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Reviews in GEOPHYSICS

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NO. 6

TEMPERATURE FOR NORTH AMERICAN AIR ROUTES

at heights of 5000, 10,000, 15,000, 20,000, 30,000, 40,000 and 53,000 feet

with supplementary surface temperatures

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R.M. WELLS

AUGUST 1962

BOEING
TRANSPORT DIVISION

REVIEWS IN GEOPHYSICS is a publication of the Transport Division Applied Physics Group. Its purpose is to convey geophysical information related to engineering, operational and scientific problems.

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TEMPERATURE FOR NORTH AMERICAN AIR ROUTES

AT HEIGHTS OF 5000, 10,000, 15,000, 20,000, 30,000,

40,000 AND 53,000 FEET

WITH SUPPLEMENTARY SURFACE TEMPERATURES

REVIEWS IN GEOPHYSICS NO. 6

RAYMOND M. WELLS

AUGUST 1962

THE BOEING COMPANY
Transport Division
Renton, Washington

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ABSTRACT

Seasonal and annual great circle route temperatures in degrees Celsius are computed for 50-, 75- and 85-per cent reliabilities of occurrence, i.e. temperatures which are not expected to be exceeded 50, 75 and 85 per cent of the time respectively. The temperatures and their standard deviations are computed over some 2000 selected air routes at the 10,000-, 20,000-, 30,000-, 40,000- and 53,000-foot levels and in addition at the 5000-, 10,000- and 15,000-foot levels for routes $\leq$ 400 nautical miles in length. The great circle distance between terminii is also tabulated. A 7090 was used to compute the route temperatures. Input data for the program consist, for each level, of a grid composed of the mean temperature and its standard deviation at the intersection of each 5° of latitude with each 10° of longitude between 60°S and 60°N and at the intersection of each 5° of latitude with each 20° of longitude south and north of 60°S and 60°N respectively.

Supplementary airport surface temperatures are tabulated by month, quarter, half year and year for the 0, 50, 75, 85, 95 and 100 per cent probability of not being exceeded. Lackey's method, adapted for the 7090, was used to compute the surface temperatures.

FORWARD

In 1962 the Transport Division of The Boeing Company published three documents on equivalent winds over commercial and military air routes. These documents are "Great Circle Equivalent Route Winds for Military Application," D6-9175; "Equivalent Winds For North American Air Routes," D6-9176; and "Equivalent Winds For World Air Routes," D6-9177. As a companion to the "wind books" three documents on route temperature and airport surface temperatures were prepared. These are "Great Circle Route Temperatures For Military Applications," D6-7175; "Temperature For North American Air Routes," D6-7176; and "Temperature For World Air Routes," D6-7177.

The industry and ingenuity of L. W. Stumpf for preparing the route temperature program and of R. C. Langan for preparing the surface temperature program, both of the Engineering Computing and Analysis Staff, are gratefully acknowledged. Thanks are also due Alice Post for preparing the route index and for assisting in preparing the input data.

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TEMPERATURE FOR NORTH AMERICAN AIR ROUTES

at heights of 5000, 10,000, 15,000,
20,000, 30,000, 40,000 and 53,000 feet

with supplementary surface temperatures

I. INTRODUCTION

Aircraft operate in a thermally dynamic environment. To determine the effect of this environment on the economic capability and carrier suitability over established and new route systems requires knowledge of the long term temperature conditions that can be expected at the terminals, during ascent and descent, and along the flight path. This document is an attempt to provide temperature data to meet some of these needs.

Route Temperature. Seasonal and annual great circle route temperatures in degrees Celsius are presented for 50-, 75- and 85-per cent reliabilities of occurrence, i.e. temperatures which are not expected to be exceeded 50, 75, and 85 per cent of the time respectively. These data are presented as the difference between the per cent reliability temperature and the International Standard Atmosphere temperature.

Airport Temperature. Surface temperatures in degrees Fahrenheit are computed for each airport. These surface data are organized by month, by quarter, by half year, and by year for the 0, 50, 75, 85, 95 and 100 per cent probability of not being exceeded.

Because of the broad coverage of route systems and of airports, the temperature tabulations are published in three documents: Great Circle Route Temperatures for Military Applications, D6-7175; Temperature for North American Air Routes, D6-7176; and Temperature for World Air Routes, D6-7177.

II. TEMPERATURE TABULATIONS

A. METHOD

1. Route Temperatures

Route temperatures were computed on the assumption that the distribution of observed temperatures about its mean at each point along a route approximates the normal or Gaussian distribution. This approximation is closely the case for winds but is generally weaker for temperature, since departures of temperature from normality in the vicinity of the polar tropopause and at levels subjected to surface based inversions are sometimes appreciable. Thus temperature estimates of extreme values and of small ranges can result in large errors at levels subjected to seasonal inversions and at mean tropopause heights. A general formula for the "abnormal" distribution of temperature, however, is not available. The mean route temperature and its standard deviation completely describe the normal distribution.

The mean route temperature is determined by first dividing the route into an integral number of segments 200 miles or less in length. Next a temperature is calculated at the mid point of these segments by averaging the four nearest temperature values which enclose each mid-point. These four temperatures in turn are assigned weighted values in proportion to their proximity to the point. The averages at points along the route are used to compute the temperature for the entire route. With reference to Figure 1, the mean route temperature, T_{AB} is given by

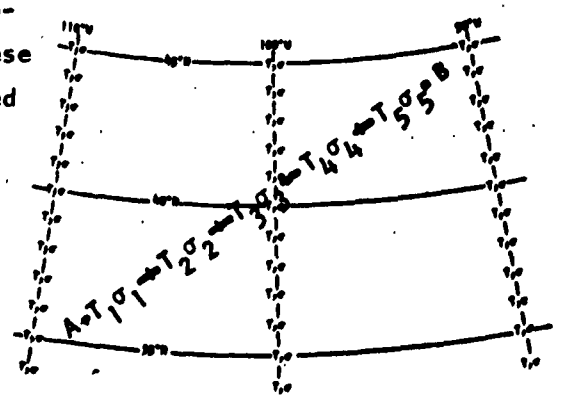


Fig. 1. Route Temperature

$$T_{AB} = \left[\bar{T}_n\right] \qquad (1)$$

where $\bar{T}_n$ is the time average temperature at the mid point of segment n. The bar denotes a mean over a long period of time while the brackets denote the mean value over the route.

2. Standard Deviation

From physical considerations the temperature at points along a route are related to one another[1]. It is therefore necessary to consider the correlation between the temperature at one point and the temperature at another point along the route. While the correlation of temperature with distance varies somewhat with height and region[1], such refinements were not incorporated in the tabulations because of the lack of published information on the variability of temperature.

As with mean route temperatures, the route standard deviation is computed by calculating the standard deviation at the mid point of each segment (Fig. 1) by averaging the four nearest standard deviation values which enclose each mid point. The four standard deviations are assigned weighted values in proportion to their proximity to the point. The averages at these points along the route are used to compute the standard deviation for the entire route. The expression for computing the route standard deviation, σ, is

$$\sigma = t \left[\sigma_n^2\right]^{1/2} \qquad (2)$$

where: σ_n = Standard deviation at point n along the route

t = Factor to convert the mean of the standard deviation at points along the route, $\left[\sigma^2\right]^{1/2}$, into the route standard deviation (Table 1).

Table 1. Correlation of Temperature with Distance

	Route Length - n. mi.								
	0	500	1000	1500	2000	2500	3000	3500	4000
t	1	0.89	0.79	0.73	0.67	0.61	0.55	0.50	0.45

Durst[1] shows that the correlation of north and south wind components with temperature is small. Consequently the point correlation of equivalent winds with temperature is also likely to be small. As a result equivalent winds and route temperatures may be used together without appreciable error.

3. Great Circle Distance

Route lengths in nautical miles are computed over the great-circle course,

i.e. the least distance on a sphere, between terminals. The expression used to compute great circle distances between terminii $P_1\ (\psi_1\lambda_1)$ and $P_2\ (\psi_2\lambda_2)$ is

$$D = 60 \cos^{-1}\left[\sin \psi_1 \sin \psi_2 + \cos \lambda_1 \cos \lambda_2 \cos\ (\lambda_1 - \lambda_2)\right] \qquad (3)$$

where: D = Great circle distance in nautical miles

ψ = Latitude

λ = Longitude

$\cos^{-1}\left[\ \right]$ = Angle expressed in minutes.

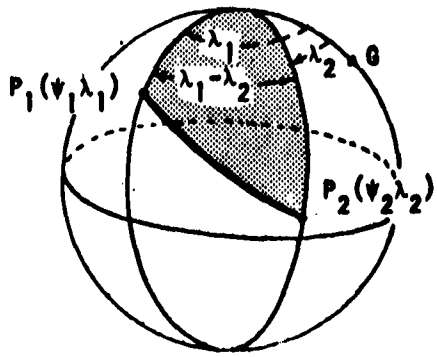


Fig. 2
Great Circle Distance

South latitudes and east longitudes are considered negative and north latitudes and west longitudes are considered positive.

4. Annual Route Temperature

Annual route temperatures are computed from the seasonal values by an iterative process in which temperatures are found such that 50, 75 and 85 per cent of the total area under all four seasonal temperature distribution curves lies to their left. For example in the hypothetical distribution of seasonal route temperatures in Figure 3, the 50-, 75- and 85-per cent annual temperatures are estimated to be -43, -36 and -32 respectively.

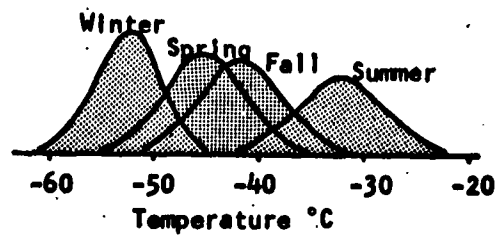


Fig. 3. Hypothetical Seasonal Temperature Distribution

5. Airport Temperature

Lackey's[2] method was used to compute surface reliability temperatures from the monthly mean, extreme minimum and the extreme maximum temperatures. This technique, as Lakcey states, "depends on the statistically demonstrated area-wide similarity of the normalized cumulative frequency curves of observed hourly temperature for given positions of the mean between the absolute extremes."

The substance of Figure 6 was integrated into a 7090 program. This program with the mean, extreme minimum and extreme maximum temperature as input

data, was used to compute surface reliability temperatures.

B. INPUT DATA

1. Route Temperatures

The input data for the 7090 program used to compute route temperatures were obtained principally from Upper Air Temperature Over The World[3]. For each level the data consist of grids composed of the mean temperature and its standard deviation at the intersection of each 5° of latitude with each 10° of longitude between 60°S and 60°N and at the intersection of each 5° of latitude with each 20° of longitude north of 60°N and south of 60°S.

The temperature grids are prepared for the 5000- (850 mb), 10,000- (700 mb), 15,000-, 20,000- (500 mb), 30,000- (300 mb), 40,000- (200 mb) and 53,000- (100 mb) foot levels for each of the four mid season months: January, April, July and October.

2. Airport Temperatures

The mean, extreme minimum and extreme maximum temperatures used to compute surface temperatures for given reliabilities of occurrence were obtained from United States[4,5], English[6], Canadian[7,8], and German[9] climatic summaries.

C. TABULATIONS

1. Route Temperature

Mid season monthly 50-, 75- and 85-per cent reliability temperatures and their standard deviations and the annual 50-, 75- and 85-per cent reliability temperatures are computed at the 10,000-, 20,000-, 30,000-, 40,000- and 53,000-foot levels for about 2000 air routes (Table 5). Supplementary temperatures at the 5000-, 10,000- and 15,000-foot levels are computed for routes of length $\leq$ 400 n. mi. (Table 6). The tabulations are arranged such that route temperatures are given as the difference between relaibility route temperatures and the International Standard Atmosphere temperature. The mean route temperature for each season is also tabulated. Across from each route pair is listed the great circle distance separating the terminals. The tabulations are ordered alphabetically by the terminals that identify each route. In the index each route is referenced under both of its terminals (Table 9).

An alphabetical listing of terminals with their airport names, geographical coordinates, elevation, and length of longest runway is presented in Table 8.

2. Airport Temperature

An alphabetical listing of airport monthly, quarterly, semi-annual and annual surface temperature for 0- (extreme minimum), 50- (mean), 75-, 85-, 95- and 100- (extreme maximum) per cent probability of not being exceeded are tabulated (Table 7). The average daily maximum temperature is also tabulated.

III. USE OF TABLES

A. ROUTE TEMPERATURE RELIABILITIES

Two methods are presented for computing route temperatures for reliability values in addition to those tabulated. While these methods apply only to observations which follow the "normal" law, as stated in Upper Air Temperatures Over The World[3], "reasonable estimates of the range of temperature can be made wherever the standard deviation does not exceed (as a rough guide) about 4°C". It is further stated that even at levels affected by surface inversions (in January: 700 and 500 mb in Alaska, Canada and the U.S.S.R. and at 700 mb in Japan and Korea) and at levels near varying polar tropopauses (in January and April: 200 and 150 mb in Canada and 200 mb in the United States, British Isles, south Scandinavia and central Europe) a rough estimate can still be made of the temperature range which includes about 80 per cent of the observations. Because of the abnormal shape of the frequency distribution, estimates of smaller ranges or of extreme values will be very badly in error.

1. Error Factor Method

Route temperature reliabilities are computed by adding the product of k times the route standard deviation (tabulated values) to the mean route temperature, where k is a factor derivable from the error function. Values of k are given in Table 2 and are illustrated in Figure 4. Use of Table 2 is illustrated in computing the 85 per cent reliability temperature over the San Francisco to New York route during summer at 40,000 feet. From Table 5 the mean July temperature is -55°C and the standard deviation is 3°C. The estimated long term route temperature which is not exceeded 85 per cent of the time is -52°C or about 5°C warmer than the ISA temperature at 40,000

feet, i.e.

$-55 + (1.04 \times 3) = -51.9°C$ and

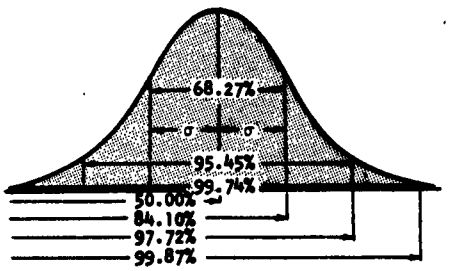
$-51.9 - (-56.5\ (ISA)) \simeq 5°C.$

For some problems it may be necessary to compute the temperature range over a route within which a given per cent of observations lie. Such route temperature ranges may be computed with aid of Table 3. In the above example 80 per cent of the route temperatures at 40,000 feet in July over the San Francisco to New York route lie within -55 ± (1.28 x 3), i.e. between -51°C and -59°C.

Table 2.

Error Factor

%	k
50	0.0
55	0.125
60	0.25
65	0.385
70	0.52
75	0.67
80	0.84
85	1.04
90	1.28
95	1.65



(a)

Table 3.

Range Factor

%	r
20	0.25
30	0.39
40	0.53
50	0.67
60	0.84
70	1.04
80	1.28
90	1.65
95	1.96
99	2.58

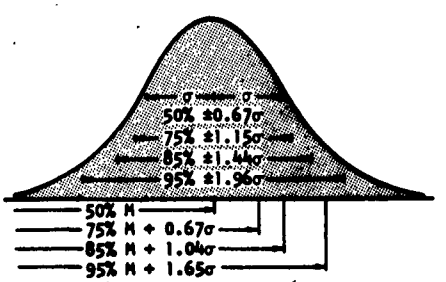


Fig. 4b. Normal Curve

2. Arithmetic Probability Paper Method

Arithmetic probability paper is arranged with the per cent cumulative frequency scale printed on the ordinate such that the integral

$$Q(x) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{x} e^{-x^2/2}\, dx \qquad (4)$$

of the normal frequency curve plots as a straight line while the abscissa has a linear scale. Thus to obtain a frequency distribution of say the route temperature during summer at 40,000 feet over the San Francisco to New York route, look up the 50 per cent (-55°C) route temperature and its standard deviation (3°C) in Table 5. Next plot -55 on the 50 per cent value of the ordinate scale and -52°C (-55 + 3) on the 84 per cent ordinate value and draw a straight line through these points. See Figure 5. Use of arithmetic probability paper is illustrated with two examples.

a. 85 per cent of route temperatures are less than -51.9°C
b. Between 10 and 90 per cent of the time route temperatures range between -58.8°C and -51.2°C.

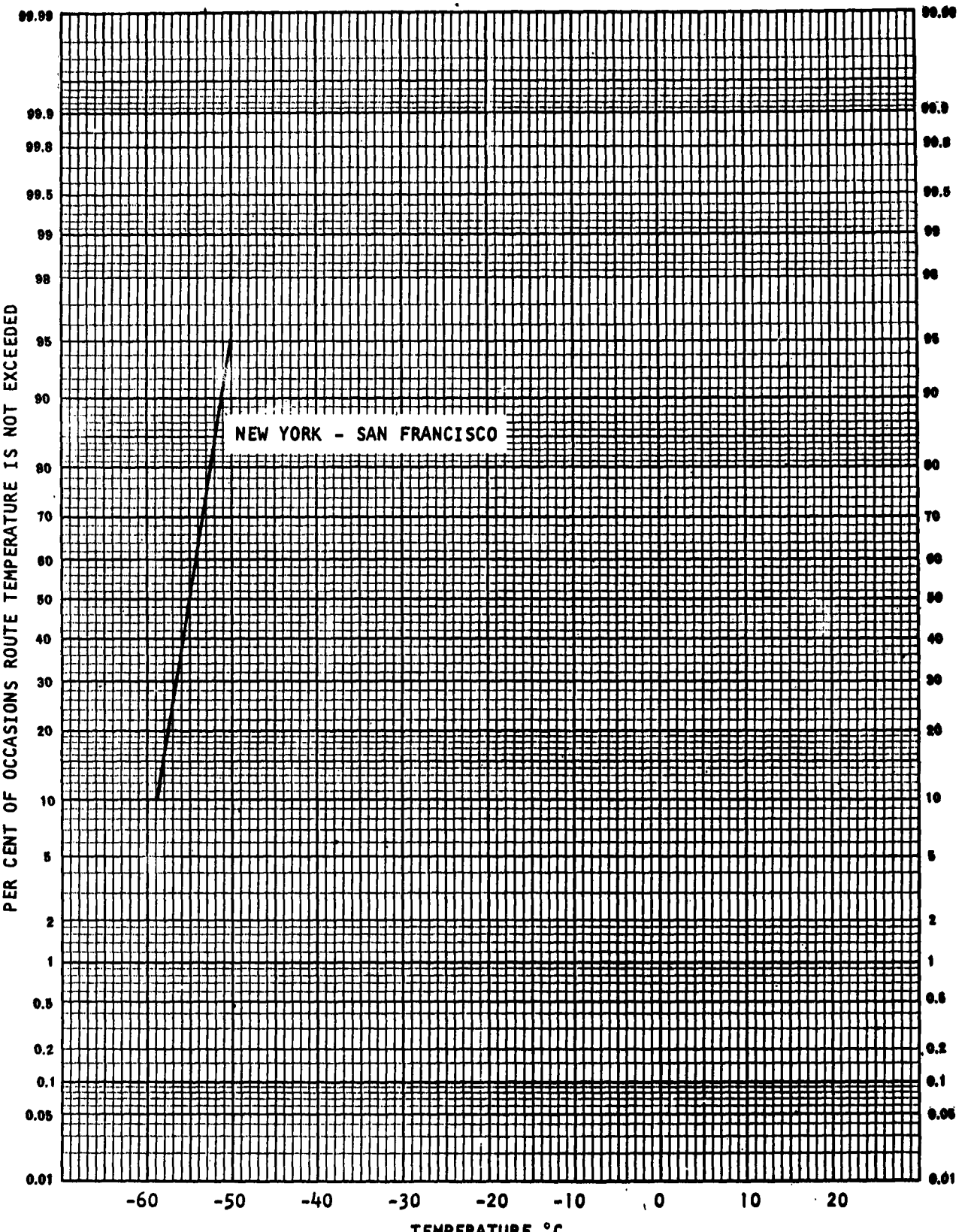


FIGURE 5. ARITHMETIC PROBABILITY PAPER

B. GREAT CIRCLE ROUTE LENGTH

The route length in nautical miles is computed over the great-circle course, i.e. the least distance on a sphere, between terminals (Fig. 6). A nautical mile is the length of one minute of arc along a great circle on the earth's surface, i.e. the earth's circumference is 360 x 60 = 21,600 n. miles. For example the great circle distance between San Francisco (+37°38', +122°23') and New York (+40°38', +73°47') may be computed from (3).

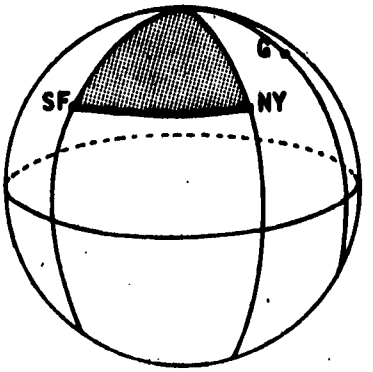


Fig.
Great Circle Route Length

$$D = 60 \cos^{-1}\left[\sin \psi_1 \sin \psi_2 + \cos \psi_1 \cos \psi_2 \cos (\lambda_1 - \lambda_2)\right] \qquad (3)$$

With the aid of Table 4,

$$D = 60 \cos^{-1}\left[\sin(40°38') \sin(37°38') + \cos(40°38') \cos(37°38') \cos(48°36')\right]$$
$$= 60 \cos^{-1}\left[.7951\right]$$
$$= 2240 \text{ n. mi.}$$

Table 4. Reference Trigonometric Relationships

$\sin (90 + \psi) = \cos \psi$ $\quad \cos (90 + \psi) = - \sin \psi$
$\sin (90 - \psi) = \cos \psi$ $\quad \cos (90 - \psi) = \sin \psi$
$\sin (- \psi) = - \sin \psi$ $\quad \cos (- \psi) = \cos \psi$

+ sin	+ sin
- cos	+ cos
- sin	- sin
- cos	+ cos

C. AIRPORT TEMPERATURES

1. Hourly Temperature Nomograph

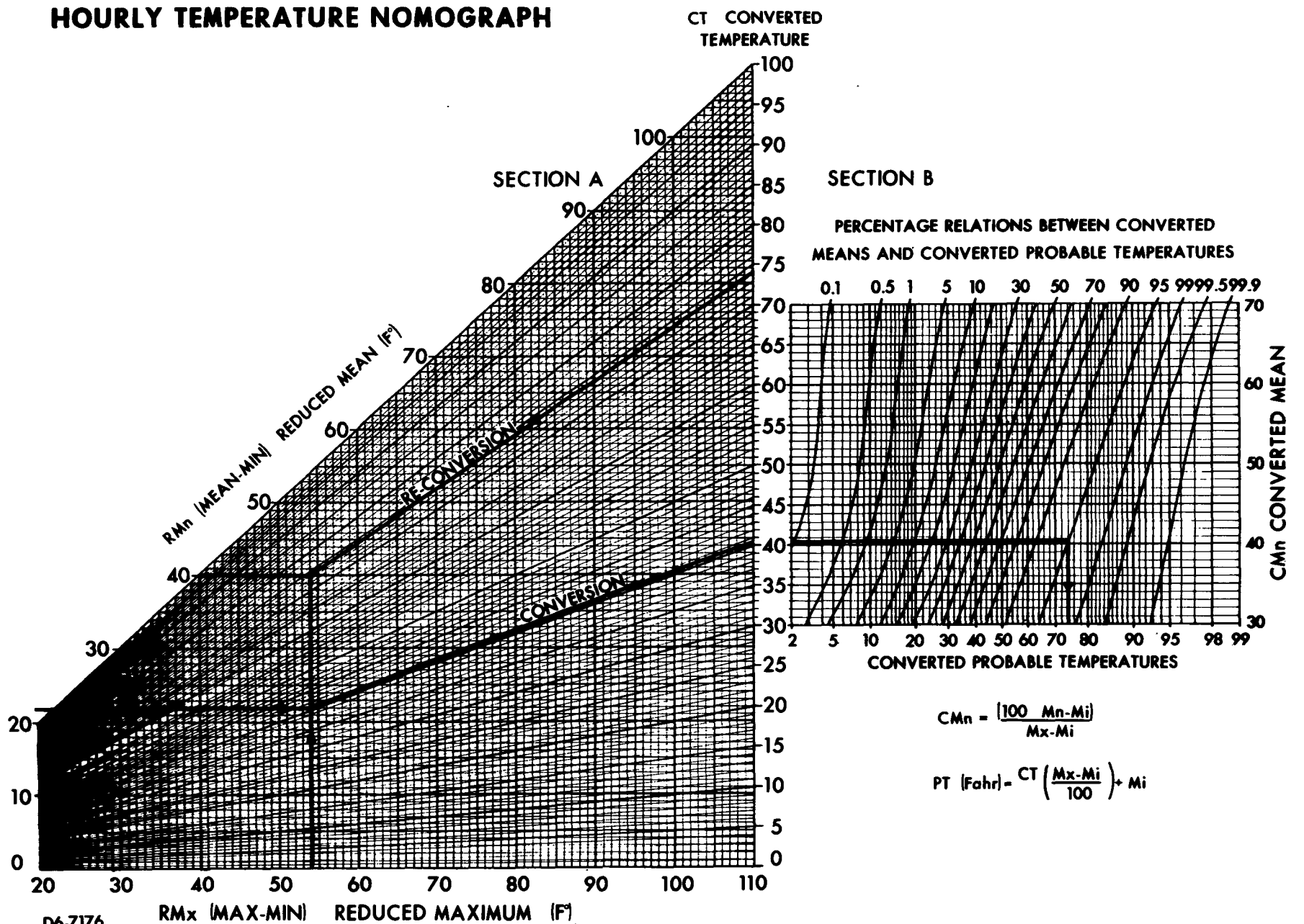
Surface temperatures for reliabilities of not being exceeded can be computed by mean of the Hourly Temperature Nomograph[2] (Fig. 7). Use of this nomograph is explained with an example. To compute the July 95 per cent reliability temperature at an airport, it is first necessary to know the July mean, extreme minimum and extreme maximum temperatures. Let these values be 72°F (mean), 50°F (minimum) and 104°F (maximum).

Step One: Normalization to a 100 - scale

Subtract the extreme minimum from the mean to obtain the reduced mean (RMn). Next subtract the mean from the extreme maximum to obtain the reduced maximum (RMx).

$$RMn = 72 - 50 = 22°F$$
$$RMx = 104 - 50 = 54°F$$

HOURLY TEMPERATURE NOMOGRAPH



$$CMn = \frac{(100\ Mn - Mi)}{Mx - Mi}$$

$$PT\ (Fahr) = CT\left(\frac{Mx - Mi}{100}\right) + Mi$$

FIG. 7. NOMOGRAPH FOR ASSESSING HOURLY-TEMPERATURE PROBABILITIES FROM THE MEAN, EXTREME MAXIMUM AND EXTREME MINIMUM TEMPERATURES.

Step Two: Converted Probable Temperature - PT

At the intersection of RMn and RMx on Section A of the nomograph draw a straight line along the sloping diagonal to obtain the converted mean (CMn) on the converted temperature scale, i.e. CMn = 40.7°.

$$CMn = \frac{100\ (Mn - Mi)}{Mx - Mi} \qquad (5)$$

$$= \frac{100\ (72 - 50)}{104 - 50} = 40.7$$

Next enter Section B of the nomogram across to the desired 95 per cent probability sloping line. Read the converted probable temperature at the bottom of Section B, i.e. CT = 74°.

Step Three: Reconversion

Next enter the converted temperature scale at 74° and follow down the sloping line to the intersection with RMx = 54° and then across to the corresponding reduced mean, i.e. RMn = 40°F. The 95 per cent reliability temperature is now obtained by adding the extreme minimum to the reduced mean, i.e. 50 + 40 = 90°F, or alternatively,

$$PT = CT \quad \frac{Mx - Mi}{100} + Mi \qquad (6)$$

$$PT(95\%) = 74 \quad \frac{104 - 50}{100} + 50 = 90°F$$

Reliability. Hourly temperature records for twenty stations ranging in latitude between 12°N and 70°N were used to prepare the Hourly Temperature Nomograph. The performance of the nomograph was then tested on 40 different and widely scattered stations. For each station, the actual three essential items for each of the four mid season months were processed by the nomograph to determine 13 percentile levels (1,5,10...99%). The hourly temperature frequencies so computed were compared with the actual recorded frequencies. The results of this test revealled that the nomograph is most accurate during summer and that 91 per cent of the divergencies were less than 3°F and 98 per cent were less than 5°F.

2. Alternate Method for Estimating Airport Reliability Temperatures

In the event that the extreme maximum and extreme minimum monthly temperatures

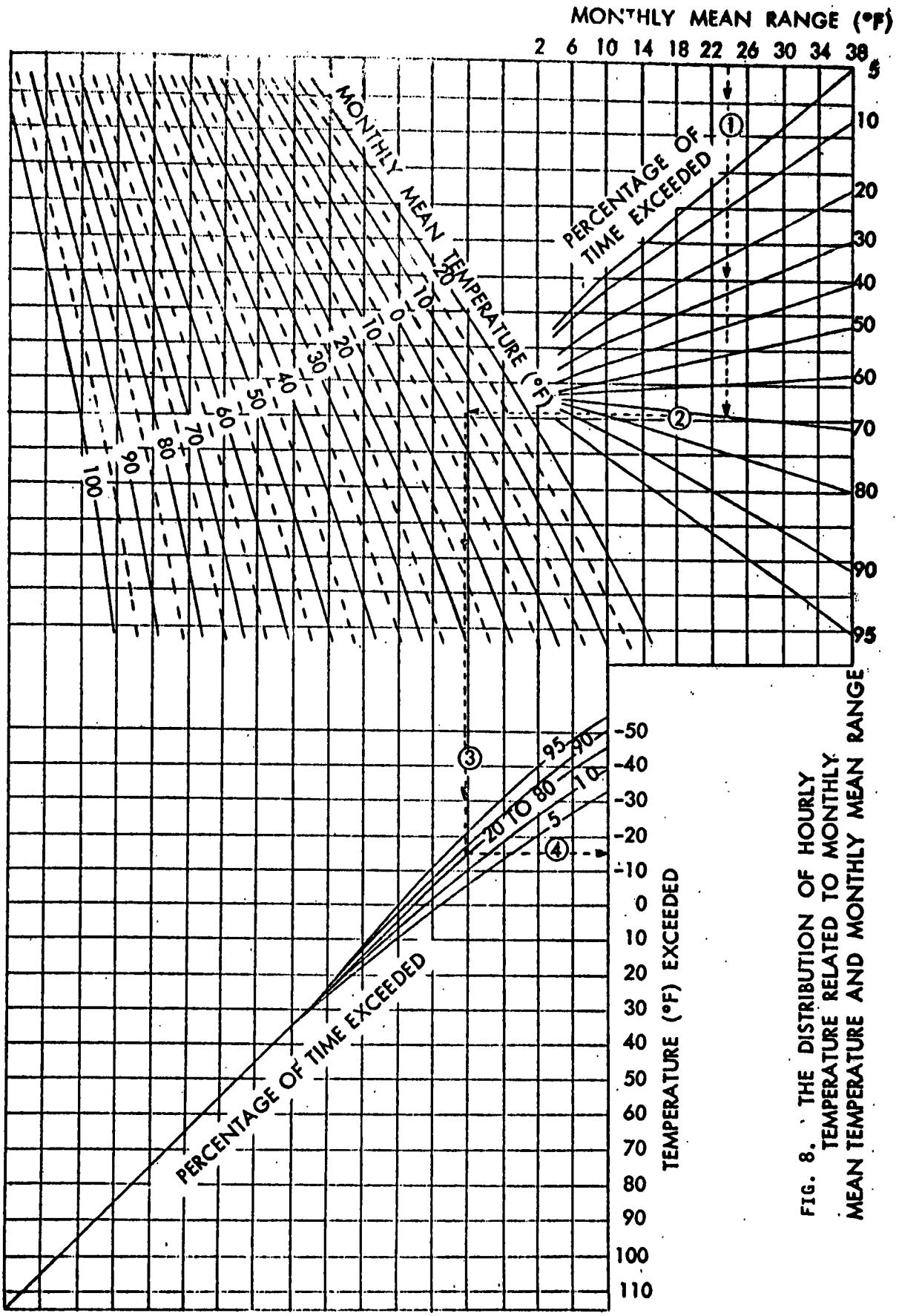


FIG. 8. THE DISTRIBUTION OF HOURLY TEMPERATURE RELATED TO MONTHLY MEAN TEMPERATURE AND MONTHLY MEAN RANGE

are not available for an airport, reliability surface temperatures can be estimated from the mohthly mean and monthly mean daily maximum (average daily maximum) temperatures by means of a nomogram[10] developed by the Air Weather Service. The nomogram is based on a graphical correlation method which was used to develop the joint functions between the mean and the monthly mean range and the distribution of hourly temperatures to avoid any assumption concerning the slope of the hourly temperature distribution. The monthly mean range in temperature is the absolute difference between the monthly mean daily maximum and mean daily minimum temperatures or twice the difference between the monthly mean daily maximum and the monthly average daily temperature.

Use of the nomogram is illustrated by estimating the temperature which is exceeded 70 per cent of the time at a station with a January mean monthly temperature of -5°F, a mean maximum temperature of 7°F and a monthly range of 24°F, $2 \times [7 - (-5)]$ °F.

Step One. Enter the graph at 24° in the monthly mean range axis and proceed vertically downward to the 70 per cent line (Fig. 8).

Step Two: From this intersection proceed horizontally to the -5°F monthly mean temperature isoplet.

Step Three: From this point proceed vertically downward to the intersection with the 20 to 80 per cent line and then go horizontally to the temperature exceeded axis where the temperature estimate of -14.8°F is obtained. Conversely, by proceeding from -14.8°F in the reverse order, the per cent of time that this temperature is exceeded is estimated to be 70 per cent.

3. Aerodrome Reference Temperature

For some purposes the Aerodrome Reference Temperature (A.R.T.) is used as a conservative measure of airport temperature. The A.R.T. is defined as

$$A.R.T. = T_1 + \frac{T_2 - T_1}{3} \qquad (7)$$

where: T_1 = the monthly mean temperature for the hottest month of the year (that which has the highest mean daily temperature).

T_2 = the monthly mean daily maximum temperature for the hottest month.

To use temperature scales, place straightedge on temperature corresponding to T_1 and T_2 on the outer scale and read A.R.T. from center scale.

With the aid of Figure 9, the A.R.T. at Boston with T_1 (July) = 72°F and T_2 = 80°F is 74.7°F, or

$$\text{A.R.T.} = 72 + \frac{80 - 72}{3} = 74.7°\text{F}$$

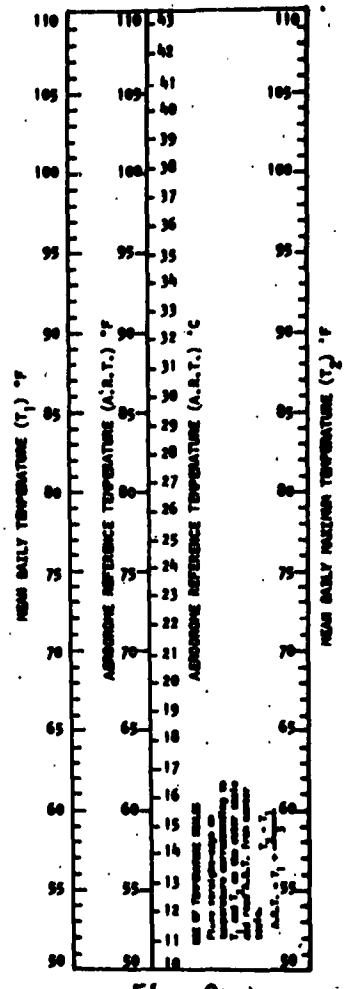


Fig. 9

IV. STANDARD ATMOSPHERES

A. INTERNATIONAL STANDARD ATMOSPHERE

A standard atmosphere is a hypothetical vertical distribution of atmospheric temperature, pressure and density which by international or national agreement is taken to be representative of the atmosphere for the purpose of altimeter calibrations, aircraft design and performance calculations, etc. The internationally accepted standard atmosphere is called the International Civil Aeronautical Organization (ICAO) standard atmosphere or the International Standard Atmosphere (ISA)(Fig. 10). It should be emphasized that this model will never completely match the actual atmosphere and only rarely will it approximate the average value at all altitudes simultaneously.

The ISA atmosphere is a self consistent model in which no water vapor is assumed and the air is assumed to obey the perfect gas law, $\rho = PM/TR$, and the hydrostatic equation, $dP = -g\,\rho\,dZ$, which when taken together yield the barometric equation which relates temperature, pressure and density variations in the vertical

$$d \ln P = - gM/TR \quad dZ \qquad (8)$$

where: ρ = mass density

P = pressure

M = mean molecular weight of air

T = temperature in degrees absolute

R = universal gas constant

g = acceleration of gravity

Z = geometric altitude

For calculating pressures below 100,000 feet, g and M are usually assumed constant.

B. EXTREME ATMOSPHERES

Atmospheres representative of extreme conditions likely to be encountered over geographical areas of the world are briefly discussed.

1. Arctic Winter Atmosphere

This atmosphere is based on the average January temperature for selected pressure surfaces between 60°N and 90°N. January is representative of the coldest month in the Arctic. The atmosphere is hydrodynamically consistent.

2. Arctic Summer Atmosphere

This atmosphere is based on the average July temperature for selected pressure surfaces between 60°N and 90°N. July is the warmest month in the Arctic. This atmosphere is also hydrodynamically consistent.

3. Tropical Atmosphere

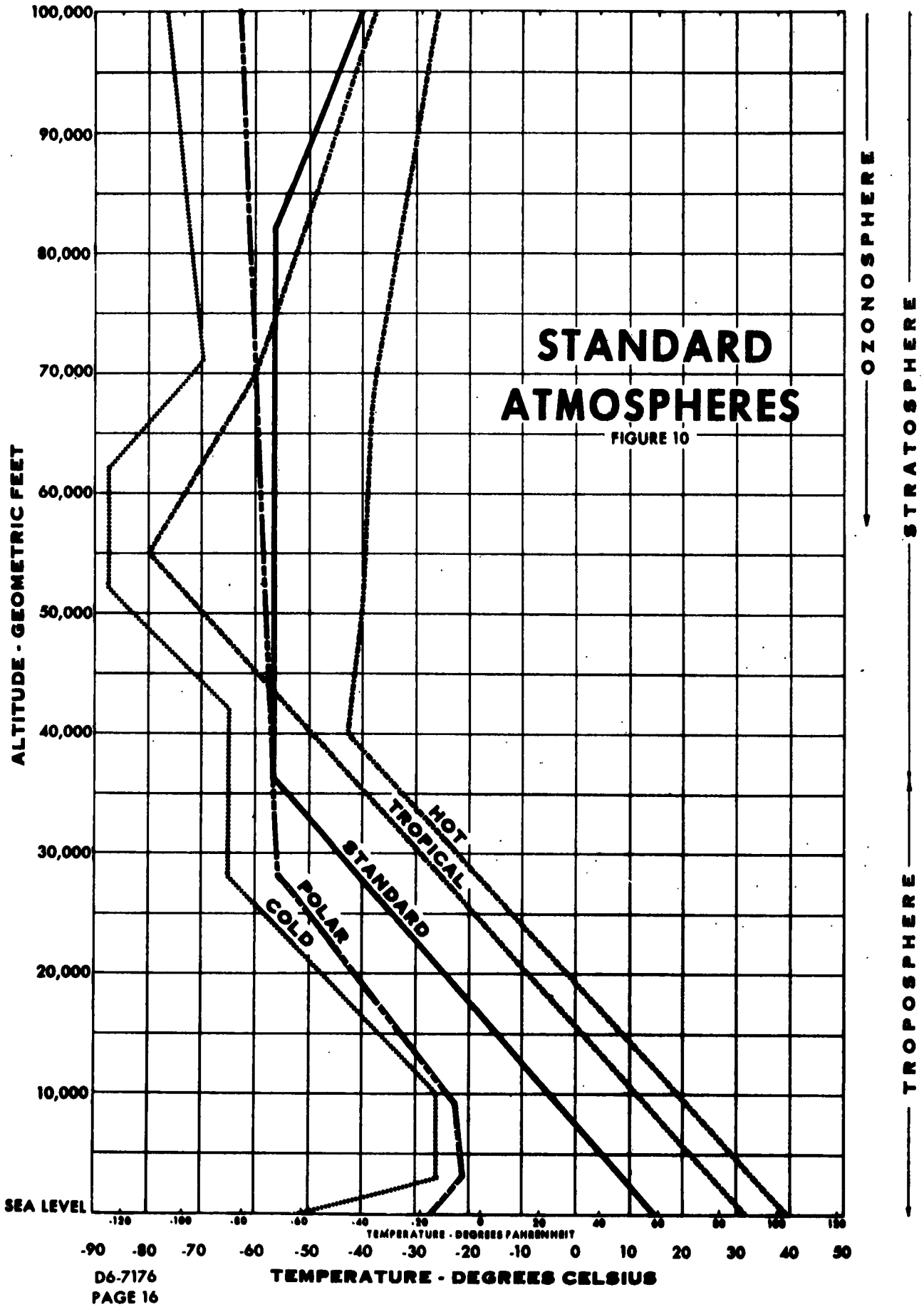
This atmosphere represents conditions which may be encountered between 30°S and 30°N except for desert areas and certain parts of the ocean.

4. Hot Atmosphere

The hot atmosphere represents temperature extremes which are exceeded only 10 per cent of the time in the hottest geographical areas.

5. Cold Atmosphere

The cold atmosphere represents temperature extremes which are exceeded 90 per cent of the time in the coldest geographical areas.


STANDARD ATMOSPHERES
FIGURE 10
ALTITUDE - GEOMETRIC FEET
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
SEA LEVEL
HOT TROPICAL
STANDARD
POLAR COLD
OZONOSPHERE
STRATOSPHERE
TROPOSPHERE
TEMPERATURE - DEGREES FAHRENHEIT
-120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120
-90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50
TEMPERATURE - DEGREES CELSIUS

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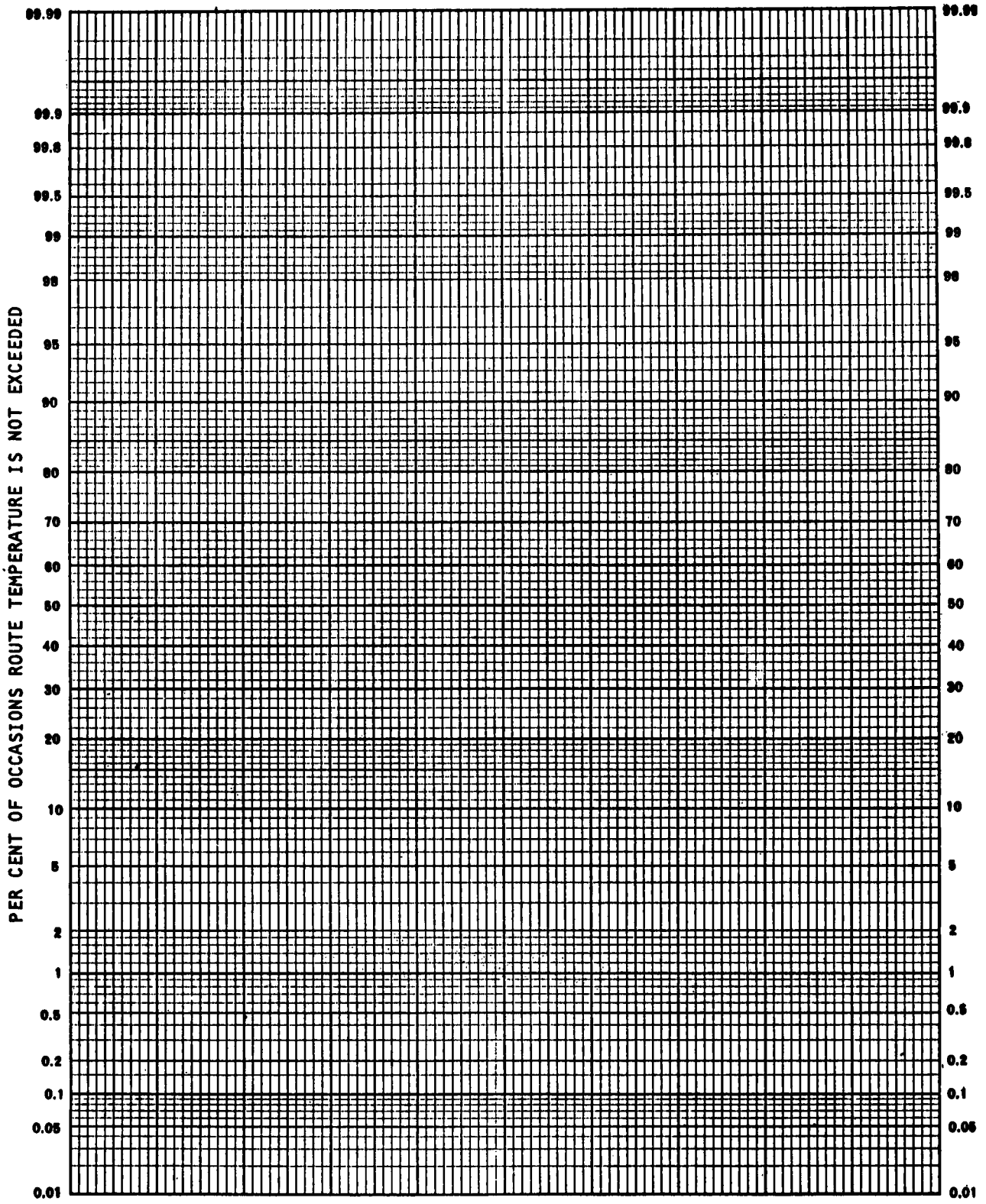
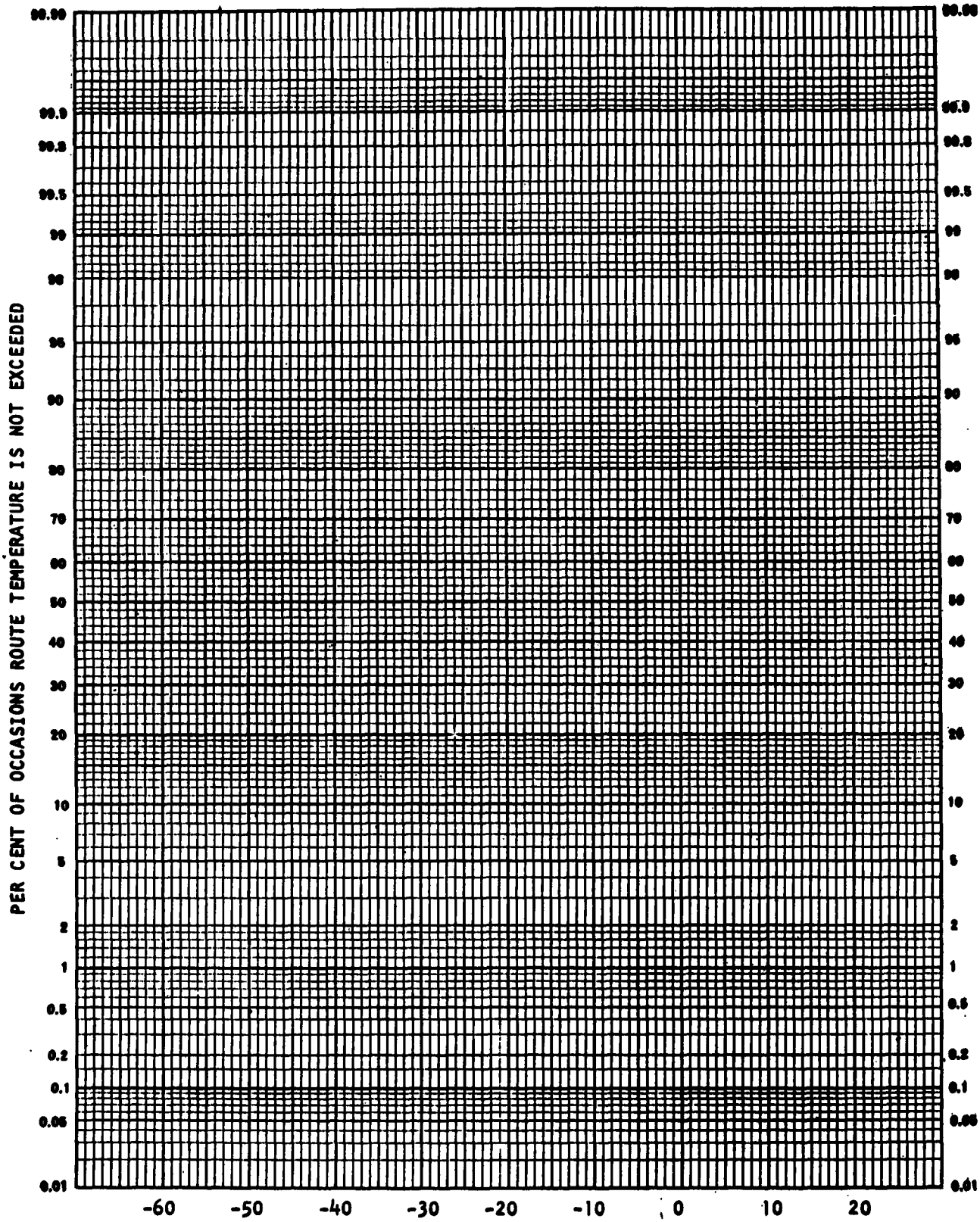


ARITHMETIC PROBABILITY PAPER



ARITHMETIC PROBABILITY PAPER

TABLE 5

ROUTE TEMPERATURES AT THE 10,000–, 20,000–, 30,000–, 40,000– AND 53,000–FOOT LEVELS

TABLE 5. ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
ABILENE TO BIG SPRING							**94 N.MI.**
53,000	-56.5	-67 -11 -8 -7	-65 -9 -6 -5	-70 -13 -11 -10	-71 -15 -12 -11	-68 -12 -9 -7	3 4 3 3
40,000	-56.5	-57 -0 3 5	-58 -2 1 3	-54 2 4 4	-55 1 3 4	-56 1 2 3	5 4 2 3
30,000	-44.5	-43 2 3 4	-41 3 5 6	-32 12 13 14	-37 7 9 10	-38 6 8 10	3 2 2 3
20,000	-21.2	-17 5 7 9	-14 8 10 11	-6 15 16 17	-10 12 13 14	-11 10 12 13	4 3 1 3
10,000	- 4.6	-0 4 7 9	5 10 13 14	11 16 17 18	7 12 14 15	6 10 13 14	4 4 2 3
ABILENE TO DALLAS							**146 N.MI.**
53,000	-56.5	-67 -11 -8 -7	-65 -8 -6 -5	-69 -13 -11 -10	-71 -14 -12 -11	-68 -12 -9 -7	3 4 3 3
40,000	-56.5	-57 -0 3 5	-58 -2 1 2	-54 2 4 4	-55 1 3 4	-56 0 2 3	5 4 2 3
30,000	-44.5	-43 2 3 4	-41 3 5 6	-32 12 13 14	-37 7 9 10	-38 6 8 10	3 3 2 3
20,000	-21.2	-17 5 7 8	-14 8 10 11	-6 15 16 17	-10 12 13 14	-11 10 12 13	4 3 2 3
10,000	- 4.6	-1 4 7 8	5 10 12 14	11 15 16 17	7 12 14 15	6 10 12 14	4 4 2 3
ABILENETO EL PASO							**342 N.MI.**
53,000	-56.5	-67 -11 -8 -7	-65 -9 -6 -5	-70 -13 -11 -11	-71 -15 -12 -11	-68 -12 -9 -7	3 4 3 3
40,000	-56.5	-56 0 3 5	-58 -1 1 3	-54 2 4 4	-55 1 3 4	-56 1 2 3	5 4 2 3
30,000	-44.5	-43 1 3 4	-42 3 5 5	-32 12 13 14	-37 7 9 10	-39 6 8 10	3 2 2 3
20,000	-21.2	-17 5 7 9	-14 7 10 11	-6 15 16 17	-10 12 13 14	-11 10 12 13	4 3 1 3
10,000	- 4.6	-0 4 8 9	5 10 13 14	12 16 18 18	7 12 14 15	6 11 13 14	5 4 2 3
ABILENE TO HOUSTON							**281 N.MI.**
53,000	-56.5	-68 -12 -10 -9	-66 -10 -7 -6	-70 -14 -12 -11	-72 -16 -14 -13	-69 -13 -10 -8	3 4 2 3
40,000	-56.5	-57 -0 2 4	-58 -1 1 3	-54 2 3 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-42 3 5 5	-40 4 6 7	-32 12 13 14	-36 8 10 11	-38 7 9 10	2 2 2 3
20,000	-21.2	-15 6 8 10	-13 8 11 12	-6 15 16 17	-9 12 14 15	-11 11 13 14	3 3 1 3
10,000	- 4.6	1 6 8 10	6 10 13 14	11 15 16 17	8 12 14 15	6 11 13 14	4 4 1 3
ABILENE TO FT. WORTH							**135 N.MI.**
53,000	-56.5	-67 -11 -8 -7	-65 -8 -6 -5	-69 -13 -11 -10	-71 -14 -12 -11	-68 -12 -9 -7	3 4 3 3
40,000	-56.5	-57 -0 3 5	-58 -2 1 2	-54 2 4 4	-55 1 3 4	-56 0 2 3	5 4 2 3
30,000	-44.5	-43 2 3 4	-41 3 5 6	-32 12 13 14	-37 7 9 10	-38 6 8 10	3 3 2 3
20,000	-21.2	-17 5 7 8	-14 8 10 11	-6 15 16 17	-10 12 13 14	-11 10 12 13	4 3 2 3
10,000	- 4.6	-1 4 7 8	5 10 12 14	11 15 16 17	7 12 14 15	6 10 12 14	4 4 2 3
ABILENE TO LUBBOCK							**131 N.MI.**
53,000	-56.5	-67 -10 -8 -7	-64 -8 -5 -4	-69 -13 -11 -10	-71 -14 -12 -11	-68 -11 -8 -7	3 4 3 3
40,000	-56.5	-56 0 3 5	-58 -2 1 3	-54 2 4 4	-55 1 3 4	-56 1 2 3	5 4 2 3
30,000	-44.5	-44 1 3 4	-42 3 4 5	-32 12 13 14	-38 7 9 10	-39 6 8 10	3 3 2 3
20,000	-21.2	-17 4 7 8	-14 7 9 11	-6 15 16 17	-10 11 13 14	-12 9 12 13	4 3 2 3
10,000	- 4.6	-1 4 7 8	5 10 12 14	11 16 17 18	7 12 14 15	6 10 13 14	5 4 2 3
ABILENE TO MIDLAND							**131 N.MI.**
53,000	-56.5	-67 -11 -9 -7	-65 -9 -6 -5	-70 -13 -11 -11	-71 -15 -13 -11	-68 -12 -9 -7	3 4 3 3
40,000	-56.5	-57 -0 3 5	-58 -1 1 3	-54 2 4 4	-55 1 3 4	-56 1 2 3	5 4 2 3
30,000	-44.5	-43 2 3 4	-41 3 5 6	-32 12 13 14	-37 7 9 10	-38 6 8 10	3 2 2 3
20,000	-21.2	-16 5 7 9	-14 8 10 11	-6 15 16 17	-10 12 13 14	-11 10 12 13	4 3 1 3
10,000	- 4.6	-0 4 7 9	6 10 13 14	11 16 17 18	7 12 14 15	6 11 13 14	4 4 2 3
AKRON TO CHARLESTON, W. VA.							**153 N.MI.**
53,000	-56.5	-62 -5 -2 -1	-60 -3 -0 1	-63 -7 -5 -3	-65 -8 -6 -4	-62 -6 -3 -1	4 4 3 4
40,000	-56.5	-57 -1 3 5	-57 -1 3 5	-54 2 4 5	-56 1 4 5	-56 0 2 4	5 5 3 4
30,000	-44.5	-46 -2 1 2	-45 -0 2 3	-35 9 11 12	-40 4 7 8	-42 3 6 8	3 3 3 4
20,000	-21.2	-21 -0 3 5	-18 3 6 8	-9 13 14 15	-13 8 11 12	-15 6 9 11	5 4 2 4
10,000	- 4.6	-8 -3 1 3	-3 1 5 6	7 11 13 14	2 7 10 11	-1 4 7 9	6 5 2 4
AKRON TO CHICAGO							**297 N.MI.**
53,000	-56.5	-60 -4 -1 1	-59 -2 1 2	-62 -5 -3 -2	-63 -7 -4 -2	-61 -4 -1 0	4 4 4 4
40,000	-56.5	-56 0 4 6	-57 -0 3 5	-54 3 5 6	-56 1 4 6	-56 1 3 5	6 6 3 5
30,000	-44.5	-48 -3 -1 1	-46 -1 1 2	-36 9 11 12	-41 3 6 7	-43 2 5 7	4 3 3 4
20,000	-21.2	-24 -3 1 3	-19 2 5 6	-9 12 14 15	-14 7 10 11	-17 5 8 10	5 4 3 4
10,000	- 4.6	-10 -5 -1 1	-4 0 4 5	6 11 13 14	1 6 9 11	-2 3 6 8	6 5 3 5
AKRON TO CINCINNATI							**185 N.MI.**
53,000	-56.5	-61 -5 -2 -1	-60 -3 -0 1	-63 -7 -4 -3	-64 -8 -5 -4	-62 -6 -2 -1	4 4 3 4
40,000	-56.5	-57 -0 3 5	-57 -1 3 5	-54 3 4 5	-56 1 4 5	-56 0 3 4	5 5 3 4
30,000	-44.5	-46 -2 0 2	-45 -0 2 3	-35 9 11 12	-41 4 6 8	-42 3 6 8	3 3 3 4
20,000	-21.2	-22 -1 2 4	-18 3 6 8	-9 13 14 15	-13 8 11 12	-15 6 9 11	5 4 2 4
10,000	- 4.6	-8 -4 0 2	-3 1 5 6	7 11 13 14	2 7 10 12	-1 4 7 9	6 5 2 5
AKRON TO CLEVELAND							**35 N.MI.**
53,000	-56.5	-60 -4 -1 0	-59 -2 1 2	-62 -5 -3 -2	-63 -7 -4 -3	-61 -5 -1 0	4 4 4 4
40,000	-56.5	-57 -0 4 6	-57 -0 4 6	-54 3 5 6	-55 1 4 6	-56 1 3 5	5 6 3 4
30,000	-44.5	-47 -3 -0 1	-46 -1 1 2	-36 9 11 12	-41 3 6 7	-42 2 5 7	4 3 3 4
20,000	-21.2	-23 -2 1 4	-19 2 5 6	-9 12 14 15	-14 7 10 11	-16 5 8 10	5 4 3 4
10,000	- 4.6	-10 -5 -1 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
AKRON TO COLUMBUS, OHIO							**85 N.MI.**
53,000	-56.5	-61 -4 -2 -0	-59 -3 0 2	-63 -6 -4 -3	-64 -8 -5 -3	-62 -5 -2 -0	4 4 4 4
40,000	-56.5	-57 -0 3 5	-57 -1 3 5	-54 3 4 6	-56 1 4 5	-56 1 3 4	5 6 3 4
30,000	-44.5	-47 -2 0 1	-45 -1 2 3	-36 9 11 12	-41 4 6 8	-42 2 6 8	4 3 3 4
20,000	-21.2	-22 -1 2 4	-18 3 6 7	-9 12 14 15	-14 8 10 12	-16 5 9 10	5 4 3 4
10,000	- 4.6	-9 -4 -0 2	-4 1 4 6	6 11 13 14	2 6 10 11	-1 3 7 9	6 5 3 5
AKRON TO DAYTON							**140 N.MI.**
53,000	-56.5	-61 -4 -2 -0	-59 -3 0 2	-63 -6 -4 -3	-64 -8 -5 -3	-62 -5 -2 -0	4 4 3 4
40,000	-56.5	-57 -0 3 5	-57 -1 3 5	-54 3 4 5	-56 1 4 5	-56 1 3 4	5 5 3 4
30,000	-44.5	-47 -2 0 1	-45 -1 2 3	-35 9 11 12	-41 4 6 7	-42 2 6 8	3 3 3 4
20,000	-21.2	-22 -1 2 4	-18 3 6 7	-9 12 14 15	-14 8 10 12	-16 5 9 10	5 4 3 4
10,000	- 4.6	-9 -4 -0 2	-4 1 4 6	6 11 13 14	2 7 10 11	-1 4 7 9	6 5 3 5
AKRON TO DETROIT							**116 N.MI.**
53,000	-56.5	-60 -4 -1 1	-58 -2 1 2	-61 -5 -3 -1	-63 -6 -4 -2	-61 -4 -1 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-57 -0 4 6	-54 3 5 6	-55 1 4 6	-56 1 4 5	6 6 3 5
30,000	-44.5	-48 -3 -1 1	-46 -1 1 2	-36 8 11 12	-41 3 6 7	-43 2 5 7	4 3 3 4
20,000	-21.2	-24 -3 1 3	-20 2 4 6	-9 12 14 15	-15 7 10 11	-17 4 8 10	5 4 3 4
10,000	- 4.6	-10 -6 -2 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY ΔD50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
AKRON TO NEW YORK																									349 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
AKRON TO PITTSBURGH																									62 N.MI.
53,000	-56.5	-61	-4	-1	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-1	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	3	5
AKRON TO TOLEDO																									113 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	3	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	6	-9	12	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	0	3	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
AKRON TO WASHINGTON, D. C.																									238 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
AKRON TO YOUNGSTOWN																									41 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-19	2	5	6	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
ALAMOGORDO TO ALBUQUERQUE																									134 N.MI.
53,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-3	-69	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	1	2	3	6	4	2	3
30,000	-44.5	-45	-0	1	3	-43	2	3	4	-33	12	13	14	-38	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	8	10	-6	15	16	17	-11	11	13	14	-12	9	11	13	5	3	2	3
10,000	- 4.6	-1	3	7	9	4	9	12	13	13	18	19	20	6	11	13	15	6	10	13	15	5	4	2	4
ALAMOGORDO TO EL PASO																									65 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-5	-70	-13	-11	-10	-71	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-33	12	13	14	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	1	3
10,000	- 4.6	-0	4	8	9	5	10	12	14	13	17	19	19	7	12	14	15	6	11	13	15	5	4	2	3
ALBANY, GA. TO ATLANTA																									128 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-9	-7	-5	-68	-12	-10	-9	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	2	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	12	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
ALBANY, GA. TO MACON																									74 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-69	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	4	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	11	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	4	3	2	3
ALBANY, GA. TO TALLAHASSEE																									68 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-8	-7	-69	-13	-11	-10	-72	-16	-14	-12	-70	-13	-10	-9	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	6	9	10	4	9	11	12	8	13	14	15	7	12	13	14	5	10	12	13	3	3	1	3
ALBANY, GA. TO TAMPA																									231 N.MI.
53,000	-56.5	-71	-14	-12	-11	-68	-12	-9	-8	-70	-13	-12	-11	-73	-17	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	1	3	-56	0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	6	7	8	-33	11	12	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-10	12	13	14	3	3	1	2
10,000	- 4.6	3	7	9	11	4	9	11	12	8	13	14	14	8	12	14	15	6	10	12	13	3	3	1	2
ALBANY, N. Y. TO BINGHAMPTON																									102 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	1	-62	-5	-2	-0	-60	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	4	7	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-3	-0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
ALBANY, N. Y. TO BOSTON																									126 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	3	-60	-3	-1	1	-62	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	3	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-3	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
ALBANY, N.Y. TO BUFFALO																									217 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-1	2	4	-60	-3	-0	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	0	2	-22	-1	3	4	-11	11	13	14	-16	6	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
ALBANY, N.Y. TO GLENS FALLS																									37 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	8	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	0	2	-22	-1	2	4	-11	10	13	14	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	4	6	6	5	3	5
ALBANY, N.Y. TO HARTFORD																									80 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-24	-2	1	3	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
ALBANY, N.Y. TO NEW YORK																									127 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	6	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	4	-21	1	4	5	-10	11	13	14	-15	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	5	7	6	5	3	5
ALBANY, N.Y. TO ROCHESTER, N.Y.																									171 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-60	-3	-0	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	0	2	-22	-1	2	4	-11	11	13	14	-16	6	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
ALBANY, N.Y. TO SYRACUSE																									104 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-2	0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	0	2	-22	-1	2	4	-11	11	13	14	-16	6	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
ALBUQUERQUE TO AMARILLO																									241 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-6	-4	-2	-68	-12	-10	-9	-68	-12	-10	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	0	2	4	6	4	2	3
30,000	-44.5	-46	-1	1	2	-43	1	3	4	-33	12	13	14	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	8	9	-6	15	16	17	-11	10	12	14	-13	8	11	12	5	4	2	3
10,000	- 4.6	-3	2	6	8	3	8	11	13	12	17	18	19	6	10	13	15	5	9	12	14	5	4	2	4
ALBUQUERQUE TO CHICAGO																									969 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	-0	-65	-9	-7	-6	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-34	10	12	13	-40	4	6	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-22	-1	2	4	-17	4	7	8	-7	14	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	-0	5	8	10	10	14	16	17	4	8	11	13	2	6	10	12	6	5	2	5
ALBUQUERQUE TO DALLAS																									503 N.MI.
53,000	-56.5	-66	-9	-7	-6	-64	-7	-5	-3	-69	-12	-10	-9	-70	-13	-11	-10	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-56	0	4	5	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-42	2	4	5	-33	12	13	14	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	8	4	9	12	13	12	16	18	18	6	11	13	15	5	10	12	14	5	4	2	4
ALBUQUERQUE TO DENVER																									295 N.MI.
53,000	-56.5	-63	-7	-4	-2	-61	-5	-2	-1	-66	-10	-8	-7	-66	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	5	7	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-34	11	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	0	4	6	-17	4	7	8	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-5	0	4	6	2	6	10	11	15	17	19	20	5	9	12	14	4	8	12	14	6	5	2	4
ALBUQUERQUE TO EL PASO																									195 N.MI.
53,000	-56.5	-66	-9	-7	-6	-64	-8	-5	-4	-69	-12	-11	-10	-70	-13	-11	-10	-67	-11	-8	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-45	-0	2	3	-43	2	4	4	-33	12	13	14	-38	7	9	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	7	8	-15	6	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	5	3	2	3
10,000	- 4.6	-1	4	7	9	4	9	12	13	13	18	19	20	7	11	14	15	6	10	13	15	5	4	2	4
ALBUQUERQUE TO LAS VEGAS																									423 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-6	-3	-2	-67	-11	-9	-8	-67	-11	-9	-7	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-56	0	4	7	-58	-2	1	3	-54	2	4	5	-56	1	3	4	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	2	-44	0	2	3	-34	11	12	13	-39	5	7	9	-41	4	7	8	3	3	2	3
20,000	-21.2	-19	2	6	7	-16	5	7	9	-6	15	16	17	-11	10	12	13	-13	8	11	12	5	4	2	4
10,000	- 4.6	-2	3	6	8	2	7	10	12	14	18	20	20	5	10	13	14	5	9	13	15	6	5	2	4
ALBUQUERQUE TO LOS ANGELES																									587 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-3	-68	-11	-10	-9	-68	-11	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-34	11	12	13	-39	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-6	15	16	17	-11	10	13	14	-13	8	11	12	5	4	2	3
10,000	- 4.6	-1	4	8	9	5	7	10	12	13	18	19	20	6	10	13	14	5	10	13	15	5	4	2	4
ALBUQUERQUE TO LUBBOCK																									251 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-7	-4	-3	-69	-12	-10	-9	-69	-12	-10	-9	-67	-10	-7	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-45	-1	1	2	-43	2	3	4	-33	12	13	14	-38	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	8	10	-6	15	16	17	-11	11	13	14	-13	9	11	12	5	3	2	3
10,000	- 4.6	-2	3	6	8	4	9	11	13	12	17	18	19	6	11	13	15	5	10	13	14	5	4	2	4
ALBUQUERQUE TO PHOENIX																									286 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-7	-4	-3	-68	-12	-10	-9	-69	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	1	3	4	6	4	2	3
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-33	11	13	13	-38	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	6	8	9	-6	15	16	17	-11	10	13	14	-13	9	11	12	5	4	2	3
10,000	- 4.6	-1	4	7	9	4	8	11	13	14	18	20	20	6	11	13	15	6	10	13	15	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
ALBUQUERQUE TO ROSWELL							**141 N.MI.**
53,000	-56.5	-65 -9 -6 -5	-63 -7 -4 -3	-69 -12 -10 -9	-69 -12 -10 -9	-67 -10 -7 -5	4 4 3 3
40,000	-56.5	-56 0 4 6	-58 -2 1 3	-54 3 4 5	-56 1 3 4	-56 1 2 3	6 4 2 3
30,000	-44.5	-45 -1 1 2	-43 1 3 4	-33 12 13 14	-38 6 8 9	-40 5 7 9	3 3 2 3
20,000	-21.2	-18 3 6 8	-15 6 8 10	-6 15 16 17	-11 11 13 14	-13 9 11 12	5 3 2 3
10,000	- 4.6	-2 3 7 8	4 9 11 13	13 17 19 19	6 11 13 15	5 10 13 14	5 4 2 4
ALBUQUERQUE TO SAN FRANCISCO							**777 N.MI.**
53,000	-56.5	-63 -7 -4 -2	-61 -5 -2 -1	-66 -10 -8 -7	-66 -10 -8 -6	-64 -8 -5 -3	4 4 3 3
40,000	-56.5	-57 -0 4 6	-58 -2 2 3	-54 2 4 5	-56 1 3 5	-56 0 2 4	6 5 2 4
30,000	-44.5	-46 -2 0 2	-44 0 2 3	-35 10 11 12	-39 5 7 8	-41 3 6 8	3 3 2 3
20,000	-21.2	-19 2 5 7	-17 4 7 8	-7 14 15 16	-12 9 12 13	-14 7 10 12	5 4 2 4
10,000	- 4.6	-2 2 6 8	1 6 9 11	13 17 19 20	5 9 12 14	4 9 12 14	6 5 2 4
ALBUQUERQUE TO SANTA FE							**42 N.MI.**
53,000	-56.5	-64 -8 -5 -4	-63 -6 -4 -2	-68 -11 -10 -9	-68 -11 -9 -8	-66 -9 -6 -5	4 4 3 3
40,000	-56.5	-56 0 4 6	-58 -2 1 3	-54 3 4 5	-56 1 3 4	-56 0 2 4	6 5 2 3
30,000	-44.5	-46 -1 1 2	-44 1 3 4	-33 11 13 13	-39 6 8 9	-40 4 7 8	3 3 2 3
20,000	-21.2	-19 2 5 7	-16 5 8 9	-6 15 16 17	-11 10 12 14	-13 8 11 12	5 4 2 3
10,000	- 4.6	-2 2 6 8	3 8 11 12	13 18 19 20	6 10 13 14	5 10 13 14	5 5 2 4
ALBUQUERQUE TO WICHITA							**477 N.MI.**
53,000	-56.5	-64 -7 -5 -3	-62 -5 -3 -2	-67 -11 -9 -8	-67 -11 -9 -7	-65 -9 -6 -4	4 4 3 3
40,000	-56.5	-56 0 4 6	-58 -2 1 3	-54 2 4 5	-56 1 3 5	-56 0 2 4	6 5 2 4
30,000	-44.5	-46 -1 1 2	-44 1 3 4	-33 11 13 13	-39 5 7 9	-40 4 7 8	3 3 2 3
20,000	-21.2	-20 1 4 6	-16 5 8 9	-7 15 16 16	-11 10 12 13	-14 8 10 12	5 4 2 3
10,000	- 4.6	-4 1 4 6	3 7 10 12	12 16 18 18	5 10 13 14	4 8 12 13	5 5 2 4
ALEXANDRIA TO BATON ROUGE							**87 N.MI.**
53,000	-56.5	-69 -13 -11 -10	-67 -10 -8 -7	-70 -13 -12 -11	-73 -16 -14 -13	-70 -13 -10 -9	3 3 2 3
40,000	-56.5	-57 -1 2 3	-58 -1 1 2	-55 2 3 3	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-41 4 6 6	-40 5 6 7	-33 12 13 13	-36 8 10 11	-37 7 9 10	2 2 2 3
20,000	-21.2	-14 7 9 10	-12 9 11 12	-6 15 16 16	-9 13 14 15	-10 11 13 14	3 3 1 2
10,000	- 4.6	2 6 9 10	5 10 12 13	10 14 15 16	8 12 14 15	6 11 12 13	3 3 1 3
ALEXANDRIA TO SHREVEPORT							**93 N.MI.**
53,000	-56.5	-68 -12 -10 -8	-66 -9 -7 -6	-70 -13 -11 -10	-72 -15 -13 -12	-69 -12 -9 -8	3 4 3 3
40,000	-56.5	-57 -1 2 3	-58 -1 1 2	-55 2 3 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-41 3 5 6	-40 4 6 7	-33 12 13 14	-37 8 10 11	-38 7 9 10	3 2 2 3
20,000	-21.2	-15 6 8 10	-13 8 11 12	-6 15 16 16	-9 12 14 15	-11 10 12 13	3 3 2 3
10,000	- 4.6	0 5 8 9	5 9 12 13	10 14 15 16	7 12 14 15	6 10 12 13	4 4 2 3
ALLENTOWN TO CLEVELAND							**294 N.MI.**
53,000	-56.5	-60 -4 -1 0	-59 -2 1 2	-62 -5 -3 -2	-63 -7 -4 -2	-61 -5 -1 0	4 4 4 4
40,000	-56.5	-57 -0 4 6	-57 -0 4 6	-54 3 5 6	-55 1 4 6	-56 1 3 5	5 6 3 4
30,000	-44.5	-47 -3 -0 1	-46 -1 1 3	-36 9 11 12	-41 4 6 7	-42 2 5 7	4 3 3 4
20,000	-21.2	-23 -1 2 4	-19 2 5 6	-9 12 14 15	-14 7 10 12	-16 5 8 10	5 4 3 4
10,000	- 4.6	-10 -5 -1 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
ALLENTOWN TO HARRISBURG							**70 N.MI.**
53,000	-56.5	-61 -4 -2 -0	-59 -2 0 2	-62 -6 -3 -2	-64 -7 -4 -3	-61 -5 -2 -0	4 4 4 4
40,000	-56.5	-57 -0 3 5	-57 -0 3 5	-54 2 4 5	-55 1 4 6	-56 1 3 4	5 6 3 4
30,000	-44.5	-46 -2 1 2	-45 -1 2 3	-36 9 11 12	-41 4 6 8	-42 3 6 8	4 3 3 4
20,000	-21.2	-22 -0 3 5	-19 2 5 7	-9 12 14 15	-14 8 10 12	-16 5 9 10	5 4 3 4
10,000	- 4.6	-9 -4 -0 2	-4 0 4 5	6 11 12 13	2 6 9 11	-1 3 7 8	6 5 2 5
ALLENTOWN TO NEW YORK							**75 N.MI.**
53,000	-56.5	-61 -4 -1 -0	-59 -2 0 2	-62 -6 -3 -2	-64 -7 -4 -3	-61 -5 -2 0	4 4 4 4
40,000	-56.5	-57 -0 3 5	-57 -0 3 5	-54 2 4 5	-55 1 4 6	-56 1 3 4	5 6 3 4
30,000	-44.5	-47 -2 0 2	-45 -1 2 3	-36 9 11 12	-41 4 6 8	-42 2 6 7	4 3 3 4
20,000	-21.2	-22 -1 3 5	-19 2 5 6	-9 12 14 15	-14 7 10 12	-16 5 8 10	5 4 3 4
10,000	- 4.6	-9 -4 -0 2	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 2 5
ALLENTOWN TO PHILADELPHIA							**87 N.MI.**
53,000	-56.5	-61 -4 -2 -0	-59 -3 0 2	-62 -6 -4 -2	-64 -7 -5 -3	-62 -5 -2 -0	4 4 4 4
40,000	-56.5	-57 -1 3 5	-57 -1 3 5	-54 2 4 5	-55 1 4 6	-56 1 3 4	5 6 3 4
30,000	-44.5	-46 -2 1 2	-45 -1 2 3	-36 9 11 12	-40 4 7 8	-42 3 6 8	4 3 3 4
20,000	-21.2	-21 -0 3 5	-19 2 5 7	-9 12 14 15	-13 8 11 12	-16 6 9 10	5 4 3 4
10,000	- 4.6	-8 -4 0 2	-4 0 4 5	6 11 12 13	2 6 9 11	-1 3 7 8	6 5 2 4
ALLENTOWN TO PITTSBURGH							**218 N.MI.**
53,000	-56.5	-61 -4 -2 -0	-59 -2 0 2	-62 -6 -3 -2	-64 -7 -4 -3	-61 -5 -2 0	4 4 4 4
40,000	-56.5	-57 -0 3 5	-57 -0 3 5	-54 2 4 5	-55 1 4 6	-56 1 3 4	5 6 3 4
30,000	-44.5	-47 -2 0 2	-45 -1 2 3	-36 9 11 12	-41 4 6 8	-42 2 6 7	4 3 3 4
20,000	-21.2	-22 -1 3 4	-19 2 5 7	-9 12 14 15	-14 7 10 12	-16 5 8 10	5 4 3 4
10,000	- 4.6	-9 -4 -0 2	-4 0 4 5	6 11 12 13	2 6 9 11	-1 3 6 8	6 5 2 5
ALLENTOWN TO READING							**29 N.MI.**
53,000	-56.5	-61 -4 -2 -0	-59 -2 0 2	-62 -6 -3 -2	-64 -7 -4 -3	-61 -5 -2 -0	4 4 4 4
40,000	-56.5	-57 -0 3 5	-57 -0 3 5	-54 2 4 5	-55 1 4 6	-56 1 3 4	5 6 3 4
30,000	-44.5	-46 -2 0 2	-45 -1 2 3	-36 9 11 12	-41 4 6 8	-42 2 6 8	4 3 3 4
20,000	-21.2	-22 -0 3 5	-19 2 5 7	-9 12 14 15	-14 8 10 12	-16 5 8 10	5 4 3 4
10,000	- 4.6	-9 -4 -0 2	-4 0 3 5	6 11 12 13	2 6 9 11	-1 3 6 8	6 5 2 5
ALLENTOWN TO SCRANTON							**52 N.MI.**
53,000	-56.5	-60 -4 -1 0	-58 -2 1 2	-62 -5 -3 -1	-63 -7 -4 -2	-61 -4 -1 0	4 4 4 4
40,000	-56.5	-57 -0 4 6	-57 -0 4 6	-54 2 4 5	-55 1 4 6	-56 1 3 5	6 6 3 4
30,000	-44.5	-47 -2 0 1	-46 -1 1 3	-36 8 11 12	-41 4 6 8	-42 2 6 7	4 3 3 4
20,000	-21.2	-22 -1 2 4	-20 2 4 6	-10 12 13 14	-14 7 10 12	-16 5 8 10	5 4 3 4
10,000	- 4.6	-9 -5 -1 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
ALLENTOWN TO SYRACUSE							**151 N.MI.**
53,000	-56.5	-60 -3 -0 1	-58 -1 1 3	-61 -4 -2 -0	-62 -6 -3 -1	-60 -4 -0 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-56 1 4 6	-54 3 5 6	-55 2 5 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-48 -3 -0 1	-46 -2 1 2	-36 8 10 11	-41 3 6 7	-43 2 5 7	4 4 3 4
20,000	-21.2	-23 -2 1 3	-21 1 4 5	-10 11 13 14	-15 6 9 11	-17 4 7 9	5 4 3 5
10,000	- 4.6	-11 -6 -2 0	-6 -1 2 4	5 10 12 12	0 5 8 10	-3 2 5 7	6 5 3 5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ALLENTOWN TO WASHINGTON, D.C.																									131 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
AMARILLO TO COLORADO SPRINGS																									259 N.MI.
53,000	-56.5	-64	-7	-4	-3	-62	-5	-3	-1	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	0	2	3	-34	11	12	13	-40	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-21	0	4	6	-17	5	7	8	-7	14	16	16	-12	9	12	13	-14	7	10	11	5	4	2	3
10,000	- 4.6	-5	0	4	6	2	7	10	12	12	17	18	19	5	9	12	14	4	8	12	13	5	5	2	4
AMARILLO TO DALLAS																									280 N.MI.
53,000	-56.5	-66	-9	-7	-6	-64	-7	-5	-3	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-7	-6	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-42	2	4	5	-33	12	13	14	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	4	9	12	13	11	16	17	17	6	11	13	15	5	10	12	13	5	4	2	4
AMARILLO TO DENVER																									311 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-1	-66	-10	-8	-7	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	4	7	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-2	-0	1	-44	0	2	3	-34	11	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	0	4	5	-17	4	7	8	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-5	-0	3	5	2	6	10	11	12	16	18	19	5	9	12	14	3	8	11	13	6	5	2	4
AMARILLO TO LUBBOCK																									94 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-7	-4	-3	-69	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-33	12	13	14	-38	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-19	3	6	7	-15	6	9	10	-6	15	16	17	-11	11	13	14	-13	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	6	7	4	9	12	13	12	16	18	18	6	11	13	15	5	10	12	14	5	4	2	4
AMARILLO TO OKLAHOMA CITY																									200 N.MI.
53,000	-56.5	-65	-8	-6	-5	-63	-6	-4	-2	-68	-12	-10	-9	-68	-12	-10	-8	-66	-10	-6	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-45	-1	1	2	-43	2	4	4	-33	12	13	14	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	8	10	-6	15	16	16	-11	10	12	14	-13	8	11	12	5	4	2	3
10,000	- 4.6	-3	1	5	6	3	8	11	13	11	16	17	18	6	10	13	14	4	9	12	13	5	4	2	4
AMARILLO TO WICHITA																									258 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-67	-11	-9	-8	-68	-11	-9	-8	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-46	-1	1	2	-43	1	3	4	-33	11	13	13	-39	5	7	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-7	14	16	16	-11	10	12	13	-14	8	10	12	5	4	2	3
10,000	- 4.6	-4	0	4	6	3	7	10	12	11	15	17	18	5	10	13	14	4	8	11	13	5	5	2	4
ANCHORAGE TO CHICAGO																									2465 N.MI.
53,000	-56.5	-55	1	5	7	-52	4	7	8	-52	5	7	8	-55	1	4	5	-54	3	6	7	5	4	3	4
40,000	-56.5	-54	2	6	9	-53	3	7	9	-52	5	8	9	-54	3	6	8	-53	3	7	8	6	6	4	5
30,000	-44.5	-53	-8	-5	-4	-50	-5	-3	-2	-41	3	5	6	-47	-2	0	2	-48	-3	0	2	4	4	3	4
20,000	-21.2	-32	-11	-6	-4	-26	-5	-2	0	-15	6	9	10	-23	-1	2	4	-24	-3	1	4	7	5	3	5
10,000	- 4.6	-18	-13	-8	-6	-11	-6	-3	-1	1	6	8	9	-7	-2	1	3	-9	-4	0	3	7	5	4	5
ANCHORAGE TO EDMONTON, CANADA																									1253 N.MI.
53,000	-56.5	-53	3	7	9	-50	6	9	10	-48	8	10	11	-53	4	6	7	-51	5	8	9	6	4	3	4
40,000	-56.5	-54	2	7	9	-52	5	8	10	-51	6	9	11	-53	4	7	9	-52	4	8	10	6	5	5	5
30,000	-44.5	-53	-8	-5	-4	-51	-6	-4	-2	-44	1	3	4	-48	-4	-1	1	-49	-4	-1	1	4	4	3	4
20,000	-21.2	-32	-11	-6	-4	-28	-7	-4	-2	-17	4	7	8	-25	-4	0	2	-25	-4	0	2	7	5	4	6
10,000	- 4.6	-17	-13	-8	-5	-12	-8	-5	-3	-1	3	6	7	-9	-4	-1	0	-10	-5	-1	1	7	4	3	5
ANCHORAGE TO FAIRBANKS																									226 N.MI.
53,000	-56.5	-52	4	8	10	-49	8	10	12	-47	10	11	12	-50	6	8	10	-50	7	9	11	6	4	3	3
40,000	-56.5	-54	3	7	10	-50	6	9	11	-49	7	11	13	-51	5	8	10	-51	5	9	11	7	5	5	4
30,000	-44.5	-53	-8	-6	-4	-52	-8	-5	-4	-44	0	3	4	-51	-6	-3	-2	-50	-5	-2	-0	4	4	3	4
20,000	-21.2	-32	-11	-7	-4	-31	-9	-6	-4	-18	3	6	7	-28	-7	-4	-2	-27	-6	-2	1	6	5	3	5
10,000	- 4.6	-17	-13	-8	-6	-15	-10	-7	-6	-2	2	4	6	-12	-7	-5	-3	-11	-7	-3	-1	7	4	3	4
ANCHORAGE TO JUNEAU																									494 N.MI.
53,000	-56.5	-51	5	9	11	-50	7	9	11	-48	9	11	12	-51	5	8	9	-50	6	9	10	6	4	3	4
40,000	-56.5	-54	3	8	10	-51	6	9	11	-50	7	10	12	-52	5	8	10	-52	5	9	11	7	5	5	5
30,000	-44.5	-52	-7	-5	-3	-51	-6	-4	-3	-44	0	3	4	-49	-5	-2	-1	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-31	-10	-5	-3	-29	-8	-5	-3	-17	4	7	8	-26	-5	-1	1	-26	-5	-0	2	6	5	4	5
10,000	- 4.6	-16	-11	-7	-5	-13	-9	-6	-5	-2	3	5	6	-10	-6	-3	-1	-10	-6	-2	0	6	4	3	4
ANCHORAGE TO KING SALMON																									250 N.MI.
53,000	-56.5	-50	7	11	13	-50	7	9	11	-48	9	11	12	-50	7	9	10	-49	7	10	11	6	4	3	4
40,000	-56.5	-53	3	8	11	-50	6	10	11	-50	7	10	12	-51	5	8	10	-51	5	9	11	7	5	5	5
30,000	-44.5	-51	-7	-4	-3	-51	-7	-4	-3	-44	1	3	5	-50	-5	-3	-1	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-30	-9	-6	-4	-18	4	6	8	-27	-6	-3	-1	-26	-5	-1	2	6	5	4	5
10,000	- 4.6	-15	-10	-6	-3	-15	-10	-7	-6	-2	2	5	6	-11	-7	-4	-3	-11	-6	-2	-0	7	4	3	4
ANCHORAGE TO LOS ANGELES																									2036 N.MI.
53,000	-56.5	-56	0	3	5	-54	2	5	6	-55	2	4	5	-58	-1	2	3	-56	1	4	5	5	4	3	4
40,000	-56.5	-55	1	6	8	-55	2	6	8	-52	4	7	8	-54	3	6	8	-54	2	6	7	7	6	4	5
30,000	-44.5	-49	-4	-2	-0	-47	-3	-0	1	-41	4	6	7	-44	0	3	4	-45	-1	2	4	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-24	-2	1	3	-13	8	10	12	-20	1	5	7	-20	1	5	7	6	5	3	5
10,000	- 4.6	-9	-5	-1	2	-8	-3	-0	1	3	8	10	11	-4	1	4	6	-4	0	4	6	6	4	3	5
ANCHORAGE TO MINNEAPOLIS																									2181 N.MI.
53,000	-56.5	-55	2	6	8	-52	5	7	9	-51	6	8	9	-55	2	4	5	-53	3	6	8	6	4	3	4
40,000	-56.5	-54	2	6	9	-53	3	7	9	-52	5	8	10	-54	3	6	8	-53	3	7	9	6	5	5	5
30,000	-44.5	-53	-8	-6	-4	-50	-6	-3	-2	-42	3	5	6	-47	-3	0	1	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-32	-11	-7	-4	-27	-5	-2	-0	-15	6	8	9	-23	-2	2	4	-24	-3	1	3	7	5	3	5
10,000	- 4.6	-18	-13	-8	-6	-11	-6	-3	-1	1	5	8	9	-7	-3	1	3	-9	-4	0	2	7	5	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	ΔISA 50	Δ75 50	Δ85 50	APRIL 50	ΔISA 50	Δ75 50	Δ85 50	JULY 50	ΔISA 50	Δ75 50	Δ85 50	OCTOBER 50	ΔISA 50	Δ75 50	Δ85 50	ANNUAL 50	ΔISA 50	Δ75 50	Δ85 50	STANDARD DEVIATION JAN	APR	JUL	OCT
ANCHORAGE TO NEW YORK																									2932 N.MI.
53,000	-56.5	-55	1	5	7	-52	5	7	9	-51	6	8	9	-55	2	4	5	-53	3	6	8	5	4	3	4
40,000	-56.5	-54	2	6	9	-53	4	8	10	-51	5	8	10	-53	4	7	9	-53	4	7	9	6	5	5	5
30,000	-44.5	-53	-9	-6	-4	-50	-6	-3	-2	-42	3	5	6	-47	-3	0	1	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-33	-12	-8	-5	-27	-6	-3	-1	-16	6	8	9	-23	-2	2	4	-25	-4	1	3	6	5	4	6
10,000	- 4.6	-20	-15	-10	-8	-12	-8	-4	-3	-0	4	7	8	-8	-3	1	3	-10	-5	-1	1	7	5	4	6
ANCHORAGE TO SEATTLE																									1255 N.MI.
53,000	-56.5	-53	3	7	9	-51	5	8	10	-50	7	9	10	-54	3	6	7	-52	5	7	9	5	4	3	4
40,000	-56.5	-54	2	7	9	-53	4	8	10	-51	5	9	10	-53	4	7	9	-53	4	7	9	7	6	5	5
30,000	-44.5	-51	-6	-4	-2	-49	-5	-2	-1	-43	1	4	5	-47	-2	0	2	-48	-3	0	2	4	3	4	4
20,000	-21.2	-29	-8	-4	-1	-27	-6	-2	-0	-16	5	8	9	-24	-2	1	3	-24	-3	2	4	6	5	4	5
10,000	- 4.6	-15	-9	-4	-2	-11	-7	-4	-2	-1	4	6	7	-8	-3	0	2	-8	-4	0	2	6	4	3	5
ANDERSON TO ATLANTA																									99 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-5	-4	-68	-11	-9	-8	-69	-13	-10	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	2	6	9	10	8	13	14	14	6	10	12	13	4	8	10	11	4	4	2	3
ANDERSON TO GREENVILLE																									28 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-67	-11	-9	-8	-69	-12	-10	-8	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
ANNETTE ISL., ALASKA TO JUNEAU																									222 N.MI.
53,000	-56.5	-53	4	7	9	-50	6	9	10	-49	8	10	11	-53	4	7	8	-51	5	8	10	6	4	3	4
40,000	-56.5	-54	3	7	9	-52	4	8	10	-51	6	9	11	-52	4	7	9	-52	4	8	10	7	6	5	5
30,000	-44.5	-52	-7	-4	-3	-50	-5	-3	-2	-44	1	3	5	-48	-3	-0	1	-48	-4	-0	2	4	4	4	4
20,000	-21.2	-31	-10	-5	-3	-28	-6	-3	-1	-17	5	7	9	-24	-3	0	2	-25	-4	1	3	7	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-12	-7	-5	-3	-1	3	5	7	-8	-4	-1	1	-9	-4	-1	2	7	4	3	4
ANNETTE ISL., ALASKA TO SEATTLE																									571 N.MI.
53,000	-56.5	-55	1	5	7	-52	4	7	8	-51	5	7	9	-56	1	3	5	-54	3	6	7	5	4	3	4
40,000	-56.5	-55	1	6	8	-54	3	7	9	-52	4	8	9	-54	2	6	7	-54	3	6	8	6	6	5	5
30,000	-44.5	-51	-6	-3	-2	-48	-4	-2	-0	-42	3	5	6	-45	-1	2	4	-47	-2	1	3	4	3	4	4
20,000	-21.2	-28	-7	-3	-0	-25	-4	-0	2	-15	6	9	10	-22	-0	3	5	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-13	-8	-3	-1	-9	-5	-2	-0	1	5	8	9	-5	-1	2	4	-7	-2	2	4	7	4	3	5
ASHEVILLE TO ATLANTA																									142 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-67	-11	-9	-8	-69	-12	-10	-8	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
ASHEVILLE TO BRISTOL																									63 N.MI.
53,000	-56.5	-65	-9	-7	-5	-63	-6	-3	-2	-66	-10	-8	-7	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	8	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	0	5	8	9	8	12	13	14	4	9	11	13	2	7	9	11	4	4	2	4
ASHEVILLE TO CHARLOTTE, N. C.																									79 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-3	-67	-10	-8	-7	-68	-12	-9	-8	-66	-10	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	5	-42	3	5	6	-34	11	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	7	1	5	8	10	8	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
ASHEVILLE TO GREENSBORO																									132 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-66	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	5	6	-34	10	12	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	0	5	8	9	7	12	13	14	4	9	11	13	2	7	9	11	4	4	2	4
ASHEVILLE TO KNOXVILLE																									74 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-67	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	11	12	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	5	8	10	8	12	14	14	5	9	12	13	3	7	10	11	4	4	2	4
ATLANTA TO AUGUSTA, GA.																									123 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-4	-68	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	7	9	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	6	8	9	-14	8	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	2	7	9	11	8	13	14	14	6	10	12	14	4	8	10	12	4	4	2	3
ATLANTA TO BALTIMORE																									500 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	5	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	6	8	9	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	6	9	10	5	4	2	4
ATLANTA TO BIRMINGHAM																									116 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-4	-68	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-33	11	12	13	-37	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	8	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	2	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
ATLANTA TO CHARLESTON, S.C.																									225 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-68	-11	-9	-8	-70	-13	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-55	1	2	3	-55	1	3	4	-57	-0	1	2	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-7	14	15	16	-10	11	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	7	9	11	8	13	14	14	6	10	12	14	4	8	10	12	4	4	2	3
ATLANTA TO CHARLESTON, W.VA.																									315 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-6	-3	-2	-66	-10	-8	-7	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	0	5	8	9	8	12	13	14	4	9	11	13	2	7	9	11	5	4	2	4
ATLANTA TO CHARLOTTE																									197 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-67	-11	-9	-8	-69	-12	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
ATLANTA TO CHATTANOOGA																									91 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-68	-11	-9	-8	-69	-13	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	6	9	11	8	13	14	15	6	10	12	14	3	8	10	12	4	4	2	3
ATLANTA TO CHICAGO																									526 N.MI.
53,000	-56.5	-64	-7	-4	-3	-61	-5	-2	-1	-65	-9	-6	-5	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	4	7	8	8	12	14	14	4	8	11	13	1	6	9	10	5	5	2	4
ATLANTA TO CINCINNATI																									324 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-66	-10	-8	-6	-67	-11	-8	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	5	7	-15	6	8	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	0	5	8	9	8	12	14	14	4	9	12	13	2	7	9	11	5	4	2	4
ATLANTA TO CLEVELAND																									482 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-65	-9	-6	-5	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	10	12	13	-39	5	8	9	-40	4	7	8	3	3	3	3
20,000	-21.2	-20	2	5	6	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-1	3	4	-1	3	7	8	7	12	13	14	4	8	11	12	1	6	8	10	5	5	2	4
ATLANTA TO COLUMBIA																									166 N.MI.
53,000	-56.5	-68	-11	-9	-8	-64	-8	-5	-4	-68	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	7	-34	11	12	13	-37	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	2	7	9	10	8	13	14	14	6	10	12	13	4	8	10	11	4	4	2	3
ATLANTA TO COLUMBUS, GA.																									73 N.MI.
53,000	-56.5	-68	-12	-9	-8	-65	-9	-6	-5	-68	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-33	11	12	13	-37	7	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
ATLANTA TO DALLAS																									625 N.MI.
53,000	-56.5	-67	-11	-9	-7	-65	-8	-6	-4	-69	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-33	11	13	13	-37	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-13	8	10	11	-7	15	16	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	3	8	11	12	9	14	15	16	7	11	13	14	5	9	11	13	4	4	2	3
ATLANTA TO DETROIT																									518 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-0	-65	-8	-6	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	10	12	12	-40	5	7	9	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	6	-17	5	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
ATLANTA TO GREENSBORO																									265 N.MI.
53,000	-56.5	-67	-10	-8	-6	-63	-7	-4	-3	-67	-10	-8	-7	-69	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	6	8	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
ATLANTA TO GREENVILLE																									126 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-5	-4	-67	-11	-9	-8	-69	-13	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	2	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
ATLANTA TO HOUSTON																									603 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-69	-13	-11	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	4	3	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	4	6	7	-33	12	13	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	9	11	12	-7	15	16	16	-9	12	14	15	-11	11	12	14	3	3	2	3
10,000	- 4.6	1	5	8	9	4	9	11	13	9	14	15	15	7	12	14	15	5	10	12	13	4	4	1	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ATLANTA TO INDIANAPOLIS																									376 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-1	-66	-9	-7	-6	-67	-11	-8	-7	-65	-8	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	8	10	-8	14	15	16	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	3	5	-0	5	7	9	8	12	14	14	4	9	11	13	2	7	9	11	5	4	2	4
ATLANTA TO JACKSONVILLE																									241 N.MI.
53,000	-56.5	-69	-13	-10	-9	-66	-10	-7	-6	-68	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	4	3	2	3
ATLANTA TO KNOXVILLE																									132 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-4	-3	-67	-11	-9	-8	-69	-12	-10	-8	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
ATLANTA TO LOS ANGELES																									1686 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-7	-4	-3	-68	-12	-10	-9	-69	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-33	11	13	13	-38	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	9	10	-6	15	16	16	-11	11	13	14	-13	9	11	12	5	4	2	3
10,000	- 4.6	-2	3	6	8	3	8	10	12	11	16	17	18	6	11	13	14	5	9	12	13	5	4	2	4
ATLANTA TO LOUISVILLE																									279 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	3	4	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
ATLANTA TO MACON																									70 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-68	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	7	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
ATLANTA TO MELBOURNE																									386 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-8	-7	-69	-12	-11	-10	-72	-16	-13	-12	-70	-13	-10	-9	3	3	2	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	3	-56	0	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	6	9	10	4	8	10	12	8	13	14	14	7	12	13	14	5	10	11	12	3	3	1	3
ATLANTA TO MEMPHIS																									288 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-68	-11	-9	-8	-69	-13	-10	-9	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	7	9	11	9	13	14	15	6	10	13	14	4	8	11	12	4	4	2	3
ATLANTA TO MIAMI																									518 N.MI.
53,000	-56.5	-71	-14	-12	-11	-68	-11	-9	-8	-69	-13	-11	-10	-73	-16	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-1	2	3	-56	0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	6	7	8	-33	11	12	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-10	11	13	14	3	3	1	2
10,000	- 4.6	3	7	9	10	4	9	11	12	8	13	14	14	7	12	14	14	6	10	12	13	3	3	1	2
ATLANTA TO MOBILE																									263 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-69	-12	-11	-10	-71	-15	-12	-11	-69	-12	-9	-8	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	12	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	8	11	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	8	10	12	9	13	14	15	7	11	13	14	5	9	11	12	4	4	2	3
ATLANTA TO MONTGOMERY																									128 N.MI.
53,000	-56.5	-68	-12	-9	-8	-65	-9	-6	-5	-68	-12	-10	-9	-70	-14	-12	-10	-68	-11	-9	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-41	4	6	7	-33	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
ATLANTA TO NASHVILLE																									186 N.MI.
53,000	-56.5	-66	-10	-8	-6	-63	-7	-4	-3	-67	-11	-9	-8	-69	-12	-10	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3
ATLANTA TO NEW ORLEANS																									369 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-69	-13	-11	-10	-72	-15	-13	-12	-69	-12	-10	-8	3	4	3	3
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-55	1	3	3	-55	1	3	4	-56	0	2	2	3	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	13	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-7	14	16	16	-9	12	14	15	-11	11	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	12	13	4	4	1	3
ATLANTA TO NEW YORK																									659 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-65	-9	-6	-5	-67	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	1	4	5	-35	10	12	12	-39	6	8	9	-40	4	7	9	3	3	3	5
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	12	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY *D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ATLANTA TO NORFOLK																									448 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-3	-66	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-5	3	4	5	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	5	4	4	2	5
30,000	-44.5	-43	1	4	5	-42	3	5	6	-34	10	12	13	-38	7	9	10	-39	5	8	9	5	5	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	7	1	5	8	9	7	12	13	14	5	9	11	13	5	7	9	11	4	4	2	5
ATLANTA TO ORLANDO																									545 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-10	-8	-7	-69	-12	-11	-10	-72	-15	-13	-12	-69	-13	-10	-9	3	5	2	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	3	-56	1	2	2	-55	1	5	4	-57	-0	2	5	5	4	2	3
30,000	-44.5	-40	4	6	7	-40	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	5	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	5	3	2	2
10,000	- 4.6	2	6	8	10	4	8	10	12	8	13	14	14	7	12	13	14	5	10	11	12	5	5	1	5
ATLANTA TO PHILADELPHIA																									579 N.MI.
53,000	-56.5	-64	-8	-6	-4	-62	-5	-3	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	3	-55	2	3	4	-56	1	3	5	-56	0	2	5	5	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	4	7	9	5	5	2	5
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	5
10,000	- 4.6	-4	0	3	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
ATLANTA TO PITTSBURGH																									457 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-54	2	4	4	-56	1	3	5	-56	0	2	5	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	5	2	5
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	8	10	12	4	4	2	5
10,000	- 4.6	-5	-0	3	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
ATLANTA TO RALEIGH																									309 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-67	-10	-8	-7	-69	-12	-10	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	5	4	4	2	5
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	5	2	5
20,000	-21.2	-17	5	7	9	-14	7	9	10	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
ATLANTA TO ROME																									56 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-5	-4	-68	-11	-9	-8	-69	-13	-10	-9	-67	-11	-8	-6	3	4	5	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-57	-0	2	3	4	4	2	5
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	5	5	2	5
20,000	-21.2	-16	5	8	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	5	2	5
10,000	- 4.6	-1	3	6	7	2	7	9	11	8	13	14	15	6	10	13	14	4	8	10	12	4	4	2	3
ATLANTA TO ST. LOUIS																									420 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-7	-65	-9	-6	-4	4	4	5	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	5	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	5	5	2	5
20,000	-21.2	-19	3	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	5
10,000	- 4.6	-4	1	4	6	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
ATLANTA TO ST. PETERSBURG																									355 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-8	-7	-69	-13	-11	-10	-72	-16	-13	-12	-70	-13	-10	-9	3	5	2	5
40,000	-56.5	-58	-1	1	2	-57	-1	1	3	-56	1	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	5	5	2	5
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	6	9	10	4	8	11	12	8	13	14	14	7	12	13	14	5	10	12	12	3	3	1	5
ATLANTA TO SAN ANTONIO																									758 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-69	-13	-11	-10	-72	-15	-13	-12	-69	-12	-10	-8	3	4	5	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	5	4	4	2	5
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	12	13	14	-37	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-15	6	9	10	-13	8	11	12	-6	15	16	16	-9	12	14	15	-11	10	12	13	5	3	2	5
10,000	- 4.6	1	5	8	9	5	9	12	13	9	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
ATLANTA TO SAN FRANCISCO																									1853 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-5	-3	-1	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-4	4	4	5	4
40,000	-56.5	-57	-0	3	6	-58	-2	1	5	-54	2	4	5	-56	1	3	5	-56	0	2	5	6	5	2	4
30,000	-44.5	-45	-1	1	2	-44	1	5	4	-34	10	12	12	-39	5	7	8	-41	4	7	8	5	3	2	5
20,000	-21.2	-20	2	5	7	-16	5	7	9	-7	14	15	16	-12	9	12	13	-14	8	10	12	5	4	2	5
10,000	- 4.6	-4	1	4	6	1	6	9	11	11	16	17	18	5	9	12	14	5	8	11	13	5	5	2	4
ATLANTA TO SAVANNAH																									193 N.MI.
53,000	-56.5	-68	-12	-10	-8	-65	-9	-6	-5	-68	-12	-10	-9	-70	-14	-11	-10	-68	-12	-9	-7	3	4	5	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-55	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	5
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	5	5	2	5
20,000	-21.2	-15	6	9	10	-13	8	10	11	-7	14	15	16	-10	12	14	14	-11	10	12	13	3	5	2	5
10,000	- 4.6	-0	5	7	8	3	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	5
ATLANTA TO SHREVEPORT																									477 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-69	-12	-10	-9	-70	-14	-12	-10	-68	-11	-8	-7	3	4	5	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-55	2	5	4	-55	1	3	4	-56	0	2	3	4	4	2	5
30,000	-44.5	-42	3	5	6	-41	4	6	7	-33	11	13	13	-37	7	9	10	-38	6	9	10	3	5	2	3
20,000	-21.2	-16	5	8	9	-15	8	10	11	-7	14	16	16	-10	12	15	14	-11	10	12	15	4	5	2	5
10,000	- 4.6	-1	4	7	8	3	8	10	12	9	14	15	15	7	11	13	14	5	9	11	12	4	4	2	5
ATLANTA TO TALLAHASSEE																									195 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-69	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	5	5	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	5	4	4	2	5
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	5
20,000	-21.2	-14	7	9	10	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	5	5	2	3
10,000	- 4.6	1	5	8	9	3	8	10	11	8	13	14	15	7	11	13	14	5	9	11	12	4	5	2	5
ATLANTA TO TAMPA																									355 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-8	-7	-69	-13	-11	-10	-72	-16	-13	-12	-70	-13	-10	-9	5	5	2	5
40,000	-56.5	-58	-1	1	2	-58	-1	1	3	-56	1	2	2	-55	1	5	4	-57	-0	2	5	3	3	2	5
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	5	2	5
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	5	5	2	2
10,000	- 4.6	2	6	9	10	4	8	11	12	8	13	14	14	7	12	13	14	5	10	12	12	5	5	1	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
ATLANTA TO WASHINGTON, D.C.																									475 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	8	10	-8	13	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	6	9	10	5	4	2	4
ATLANTIC CITY TO NEW YORK																									80 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-6	-4	-2	-64	-8	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	2	4	5	-55	1	4	6	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	3	5	-19	3	5	7	-9	12	14	15	-13	8	11	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	1	4	5	6	11	12	13	2	6	9	11	-1	4	7	8	6	5	2	4
ATLANTIC CITY TO WASHINGTON, D.C.																									120 N.MI.
53,000	-56.5	-62	-5	-3	-2	-60	-3	-1	1	-63	-7	-5	-3	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	4	-55	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	3	-44	0	2	4	-35	9	11	12	-40	5	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-3	1	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
AUGUSTA, GA. TO CHARLESTON, S.C.																									101 N.MI.
53,000	-56.5	-68	-12	-10	-8	-65	-9	-6	-5	-68	-11	-9	-8	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	7	9	10	8	12	13	14	6	10	12	13	4	8	10	12	4	4	2	3
AUGUSTA, GA. TO COLUMBIA																									55 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-4	-68	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-55	1	2	3	-55	1	3	4	-57	-0	1	2	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	6	7	-34	11	12	13	-37	7	9	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	6	8	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	2	6	9	10	8	12	14	14	6	10	12	13	4	8	10	11	4	4	2	3
AUGUSTA, GA. TO JACKSONVILLE																									178 N.MI.
53,000	-56.5	-69	-13	-11	-9	-66	-10	-7	-6	-68	-12	-10	-9	-71	-15	-12	-11	-69	-12	-10	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	2	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	11	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	12	13	3	3	2	3
10,000	- 4.6	1	6	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	3	3	1	3
AUGUSTA, GA. TO SAVANNAH																									91 N.MI.
53,000	-56.5	-69	-12	-10	-9	-65	-9	-7	-5	-68	-11	-10	-9	-71	-14	-12	-10	-68	-12	-9	-7	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	8	10	11	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	2	7	9	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
AUGUSTA, ME. TO BANGOR																									50 N.MI.
53,000	-56.5	-57	-1	2	4	-55	2	4	6	-58	-1	2	3	-59	-3	1	2	-57	-1	2	4	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	3	7	9	-54	3	5	7	-54	2	6	7	-54	2	6	9	6	6	4	5
30,000	-44.5	-49	-4	-2	-0	-48	-3	-0	1	-38	7	9	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	2	-12	9	12	13	-17	4	8	10	-20	1	5	8	6	5	3	5
10,000	- 4.6	-14	-9	-5	-2	-9	-5	-1	1	3	8	10	11	-2	3	7	9	-5	-1	3	5	7	5	3	6
AUGUSTA, ME. TO LEWISTON																									21 N.MI.
53,000	-56.5	-57	-1	2	3	-55	1	4	5	-58	-2	1	3	-60	-3	0	2	-58	-1	2	4	4	4	4	5
40,000	-56.5	-55	1	6	8	-54	3	7	9	-54	3	5	6	-54	2	6	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-49	-4	-2	-0	-47	-3	-0	1	-38	7	9	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	3	-12	10	12	13	-17	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-1	3	5	7	5	3	6
AUGUSTA, ME. TO ROCKLAND																									33 N.MI.
53,000	-56.5	-57	-1	2	3	-55	1	4	5	-58	-2	1	3	-60	-3	0	2	-58	-1	2	4	4	4	4	5
40,000	-56.5	-55	1	6	8	-54	3	7	9	-54	3	5	6	-54	2	6	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-38	7	9	11	-42	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-2	1	3	-12	10	12	13	-17	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-1	3	6	7	5	3	6
AUSTIN TO DALLAS																									159 N.MI.
53,000	-56.5	-68	-12	-9	-8	-66	-9	-7	-6	-70	-13	-12	-11	-72	-15	-13	-12	-69	-12	-9	-8	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	5	6	-32	12	13	14	-37	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	13	3	3	1	3
10,000	- 4.6	1	5	8	9	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	2	3
AUSTIN TO FT. WORTH																									156 N.MI.
53,000	-56.5	-68	-12	-9	-8	-66	-9	-7	-6	-70	-13	-12	-11	-72	-16	-13	-12	-69	-12	-9	-8	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	5	6	-32	12	13	14	-37	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	13	3	3	1	3
10,000	- 4.6	1	5	8	9	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	2	3
AUSTIN TO HOUSTON																									132 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-11	-8	-7	-71	-14	-13	-12	-74	-17	-15	-14	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-0	2	3	-58	-1	1	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	3	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-32	12	13	14	-36	9	11	12	-37	7	10	11	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-6	15	16	17	-8	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	11	6	11	13	15	10	15	16	16	8	13	14	15	7	11	13	14	4	4	1	3
AUSTIN TO SAN ANGELO																									158 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-10	-7	-6	-70	-14	-12	-11	-73	-16	-14	-13	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	1	2	3	4	4	2	3
30,000	-44.5	-42	3	5	5	-41	4	6	6	-32	12	14	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	12	-6	15	16	17	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	9	10	6	11	13	15	11	15	16	17	8	12	14	15	7	11	13	14	4	4	1	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
AUSTIN TO SAN ANTONIO																									61 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-11	-8	-7	-71	-14	-13	-12	-73	-17	-15	-14	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-0	2	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	1	2	3	4	3	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-32	12	14	14	-36	9	11	12	-37	7	9	11	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-6	16	16	17	-9	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	11	7	11	14	15	11	15	16	17	8	13	15	15	7	12	13	14	4	4	1	3
AUSTIN TO WACO																									83 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-70	-14	-12	-11	-73	-16	-14	-13	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-0	2	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-32	12	13	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	10	-13	8	11	12	-6	15	16	17	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	8	10	6	11	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	1	3
BAKERSFIELD TO FRESNO																									86 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-66	-10	-8	-7	-66	-10	-7	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-57	-0	2	3	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	9	10	11	-39	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-19	3	6	8	-17	4	7	8	-7	14	15	16	-12	9	12	13	-14	8	10	12	5	4	2	4
10,000	- 4.6	-1	3	7	9	0	5	8	10	11	16	17	18	4	9	12	13	4	8	11	13	6	5	2	4
BAKERSFIELD TO LOS ANGELES																									96 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-6	-3	-2	-67	-11	-9	-8	-67	-11	-9	-7	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-1	2	3	-43	1	3	4	-35	10	11	12	-39	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-18	3	7	9	-16	5	8	9	-7	14	16	16	-11	10	12	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	-0	5	8	10	1	6	9	11	12	16	18	18	5	10	12	14	4	9	12	14	5	5	2	4
BAKERSFIELD TO VISALIA																									56 N.MI.
53,000	-56.5	-63	-7	-4	-2	-62	-5	-3	-1	-66	-10	-8	-7	-66	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-35	9	11	11	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-17	5	7	9	-7	14	15	16	-12	9	12	13	-14	8	10	12	5	4	2	4
10,000	- 4.6	-1	4	7	9	0	5	8	10	11	16	18	18	4	9	12	14	4	8	12	13	6	5	2	4
BALTIMORE TO BOSTON																									321 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	4	-20	2	5	6	-10	12	13	14	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-1	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
BALTIMORE TO BUFFALO																									245 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	3	-36	8	11	12	-41	4	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-20	2	5	6	-10	12	13	14	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
BALTIMORE TO CHARLOTTE																									313 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-65	-9	-6	-5	-67	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	3	-55	2	3	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	1	4	5	-35	10	12	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	3	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	12	13	14	3	8	11	12	1	6	8	10	5	4	2	4
BALTIMORE TO CHICAGO																									539 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-62	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	6	-56	1	4	5	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-19	3	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	9	11	-1	3	7	9	6	5	3	5
BALTIMORE TO DALLAS																									1048 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-66	-10	-8	-7	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	8	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
BALTIMORE TO DENVER																									1502 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-64	-7	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-35	10	11	12	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-23	-1	2	4	-18	3	6	7	-8	13	15	15	-13	8	11	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-2	3	6	8	8	13	15	16	3	7	10	12	0	5	8	10	6	5	3	5
BALTIMORE TO DETROIT																									355 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	3	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-1	2	-4	0	4	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
BALTIMORE TO HARRISBURG																									64 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
BALTIMORE TO HOUSTON																									1080 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-67	-11	-9	-8	-69	-13	-10	-9	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	1	3	-55	2	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BALTIMORE TO KANSAS CITY																									833 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	1	-64	-8	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-35	10	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-22	-0	3	4	-17	4	7	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-2	2	6	7	7	12	14	14	3	7	10	12	0	5	8	10	5	5	2	4
BALTIMORE TO LANCASTER																									59 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
BALTIMORE TO LOS ANGELES																									2018 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-0	-66	-9	-7	-6	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-46	-2	0	2	-44	0	2	3	-34	10	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	0	4	6	-17	4	7	8	-7	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-5	-0	3	5	0	5	8	10	10	15	16	17	4	9	12	13	2	7	10	12	6	5	2	4
BALTIMORE TO MIAMI																									822 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-9	-7	-6	-67	-11	-9	-8	-70	-14	-11	-10	-68	-11	-9	-7	3	3	3	4
40,000	-56.5	-58	-1	1	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	8	10	11	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	8	2	7	9	10	8	12	13	14	6	10	12	13	4	8	10	11	4	3	2	3
BALTIMORE TO MONTREAL																									399 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	4	6	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-5	1	3	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
BALTIMORE TO NEW YORK																									159 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-3	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	3	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	9	11	-1	4	7	9	6	5	2	4
BALTIMORE TO NORFOLK																									138 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-5	-4	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	10	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	8	10	12	0	5	8	9	5	4	2	4
BALTIMORE TO PHILADELPHIA																									79 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-0	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-21	1	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
BALTIMORE TO PHOENIX																									1732 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-1	-66	-10	-8	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-34	11	12	13	-39	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	7	9	-7	14	15	16	-12	9	12	13	-14	7	10	12	5	4	2	4
10,000	- 4.6	-5	-0	3	5	1	5	8	10	10	14	16	17	4	9	12	13	3	7	10	12	5	5	2	4
BALTIMORE TO PITTSBURGH																									182 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	3	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
BALTIMORE TO PROVIDENCE																									284 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-0	3	5	-19	2	5	6	-9	12	14	15	-14	8	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-5	0	3	5	6	10	12	13	1	6	9	11	-1	3	6	8	6	5	2	4
BALTIMORE TO RICHMOND																									105 N.MI.
53,000	-56.5	-63	-6	-4	-3	-61	-4	-2	-0	-64	-8	-5	-4	-66	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	4	4	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	9	11	12	-39	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	2	5	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	5	2	4
BALTIMORE TO ROCHESTER, N.Y.																									241 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	3	-36	8	11	12	-41	4	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-20	1	4	6	-10	12	13	14	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
BALTIMORE TO ST. LOUIS																									639 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	1	-64	-8	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	2	4	-35	10	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	2	6	7	7	12	13	14	3	7	10	12	0	5	8	10	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BALTIMORE TO SAN FRANCISCO																									2129 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-35	9	11	12	-41	4	6	7	-42	2	5	7	3	3	3	3
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-8	13	14	15	-13	8	10	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-2	3	6	8	10	14	16	17	3	7	11	12	1	6	9	11	6	5	3	5
BALTIMORE TO SYRACUSE																									238 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-2	-1	-63	-7	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	3	-36	8	11	12	-41	4	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-20	1	4	6	-10	12	13	14	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
BALTIMORE TO TAMPA																									733 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-67	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	3	-56	1	2	3	-55	1	3	4	-57	-0	2	4	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-34	11	12	13	-37	7	10	11	-39	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	1	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
BALTIMORE TO WASHINGTON, D.C.																									26 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	1	-64	-7	-5	-4	-65	-9	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-55	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	1	3	-44	0	2	4	-35	9	11	12	-40	5	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-18	4	6	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-3	2	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
BALTIMORE TO WILMINGTON, DEL.																									58 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	5	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
BANGOR TO BOSTON																									174 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	3	5	-59	-2	1	2	-60	-4	-1	1	-58	-2	1	3	4	4	4	5
40,000	-56.5	-55	1	5	7	-54	2	6	8	-54	2	5	6	-54	2	5	7	-55	2	5	6	6	6	4	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-23	-2	1	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-8	-4	-0	2	4	9	11	12	-1	4	7	9	-5	0	4	6	7	5	3	5
BANGOR TO HOULTON																									90 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-57	-0	3	4	-59	-2	1	3	-57	-0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	8	-53	3	7	9	-54	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-48	-3	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-25	-4	-0	2	-12	9	11	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-11	-6	-3	-10	-5	-2	0	3	7	10	11	-3	2	6	8	-6	-2	2	5	7	5	3	6
BANGOR TO PORTLAND, ME.																									94 N.MI.
53,000	-56.5	-57	-1	2	3	-55	1	4	5	-58	-1	1	3	-60	-3	0	2	-58	-1	2	4	4	4	4	5
40,000	-56.5	-55	1	6	8	-54	3	7	9	-54	3	5	6	-54	2	6	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-38	7	9	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	3	-12	10	12	13	-17	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-1	3	6	7	5	3	6
BANGOR TO PRESQUE ISLE																									117 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-56	0	3	4	-58	-2	2	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	9	-53	3	7	10	-53	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-4	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-6	-2	0	-25	-4	-0	2	-12	9	11	12	-18	3	7	9	-21	1	5	7	6	5	4	5
10,000	- 4.6	-16	-11	-6	-3	-10	-6	-2	-0	3	7	9	11	-3	2	6	8	-7	-2	2	4	7	5	3	6
BATON ROUGE TO LAFAYETTE																									48 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-7	-70	-14	-12	-11	-73	-17	-15	-13	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-1	1	3	-58	-1	1	3	-55	2	3	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	12	13	13	-36	9	11	12	-37	7	9	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-6	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	5	10	12	13	10	14	15	16	8	12	14	15	6	11	13	13	3	3	1	3
BATON ROUGE TO LAKE CHARLES																									106 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-8	-7	-70	-14	-12	-11	-73	-17	-15	-13	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	3	-55	2	3	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	7	-33	12	13	14	-36	9	11	12	-37	7	9	11	2	2	2	3
20,000	-21.2	-14	8	10	11	-12	9	11	12	-6	15	16	16	-8	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	5	10	12	14	10	14	15	16	8	13	14	15	6	11	13	14	3	3	1	3
BATON ROUGE TO NEW ORLEANS																									57 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-8	-70	-14	-12	-11	-73	-17	-15	-14	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-1	1	3	-55	1	3	3	-55	1	3	4	-56	0	2	2	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	12	13	13	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-6	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	5	10	12	13	9	14	15	15	8	13	14	15	6	11	13	13	3	3	1	2
BEAUMONT TO HOUSTON																									68 N.MI.
53,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-8	-71	-14	-13	-12	-74	-17	-15	-14	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-1	2	3	-57	-1	1	3	-55	2	3	3	-55	1	3	4	-56	0	2	3	4	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	7	-32	12	13	14	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-6	15	16	17	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	3	7	9	11	6	11	13	14	10	15	16	16	8	13	14	15	7	11	13	14	3	3	1	2
BEAUMONT TO LAKE CHARLES																									47 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-7	-70	-14	-12	-12	-74	-17	-15	-14	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-1	2	3	-57	-1	1	3	-55	2	3	3	-55	1	3	4	-56	0	2	3	4	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	7	-32	12	13	14	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-14	8	10	11	-12	9	11	12	-6	15	16	17	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	11	6	10	13	14	10	15	15	16	8	13	14	15	7	11	13	14	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY ΔISA	JANUARY D75	JANUARY D85	APRIL 50	APRIL ΔISA	APRIL D75	APRIL D85	JULY 50	JULY ΔISA	JULY D75	JULY D85	OCTOBER 50	OCTOBER ΔISA	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL ΔISA	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BEAUMONT TO SHREVEPORT																									150 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-8	-6	-70	-13	-12	-11	-72	-16	-14	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	12	13	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	7	9	10	-13	9	11	12	-6	15	16	17	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	8	10	5	10	12	14	10	15	16	16	8	12	14	15	6	11	12	14	4	4	1	3
BERMUDA TO WASHINGTON																									717 N.MI.
53,000	-56.5	-65	-9	-7	-5	-63	-6	-4	-3	-65	-8	-6	-5	-67	-11	-8	-7	-65	-9	-6	-4	3	3	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	1	3	-56	1	2	3	-56	1	3	5	-57	-0	2	4	5	4	2	3
30,000	-44.5	-43	1	3	5	-42	2	4	5	-35	10	11	12	-38	7	9	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	8	10	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	-0	4	7	8	7	11	13	13	4	9	11	12	2	7	9	10	4	4	2	3
BIG MOUNTAIN TO KING SALMON																									60 N.MI.
53,000	-56.5	-49	8	12	14	-50	7	10	11	-48	9	11	12	-50	7	9	10	-49	7	10	11	6	4	3	4
40,000	-56.5	-53	4	8	11	-50	6	10	11	-50	7	10	12	-51	5	8	10	-51	5	9	11	7	5	5	5
30,000	-44.5	-51	-6	-4	-2	-51	-6	-4	-3	-44	1	4	5	-50	-5	-3	-1	-49	-4	-1	1	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-30	-9	-6	-4	-17	4	7	8	-27	-6	-3	-1	-26	-5	-0	2	7	5	4	5
10,000	- 4.6	-15	-10	-5	-3	-15	-10	-8	-6	-2	2	5	6	-11	-7	-4	-2	-11	-6	-2	-0	7	4	3	4
BIG SPRINGS TO MIDLAND																									38 N.MI.
53,000	-56.5	-67	-11	-8	-7	-65	-9	-6	-5	-70	-13	-12	-11	-71	-15	-13	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-56	0	3	5	-58	-1	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	2	3	4	-41	3	5	6	-32	12	13	14	-37	7	9	10	-38	6	8	10	3	2	2	3
20,000	-21.2	-16	5	7	9	-14	8	10	11	-6	15	16	17	-10	12	13	14	-11	10	12	13	4	3	1	3
10,000	- 4.6	-0	4	8	9	6	10	13	14	12	16	17	18	7	12	14	15	6	11	13	14	5	4	2	3
BILLINGS TO BISMARK																									328 N.MI.
53,000	-56.5	-58	-1	2	4	-56	1	3	5	-58	-2	1	2	-60	-4	-1	0	-58	-1	1	3	5	4	3	4
40,000	-56.5	-55	1	6	8	-56	0	4	6	-54	2	5	6	-56	0	4	5	-56	1	4	5	7	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-38	7	9	10	-43	1	4	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-29	-7	-3	-0	-22	-1	2	4	-11	10	12	13	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-13	-9	-4	-1	-6	-1	3	5	8	12	15	16	-1	3	7	9	-3	1	6	9	7	6	4	6
BILLINGS TO BOZEMAN																									109 N.MI.
53,000	-56.5	-58	-2	1	3	-56	1	3	4	-58	-2	0	1	-61	-4	-2	-0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-56	1	5	8	-57	-0	4	6	-54	2	5	6	-56	0	3	5	-56	1	3	5	7	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	-0	-38	7	8	9	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-27	-6	-1	1	-22	-0	3	4	-11	11	12	13	-18	3	7	8	-19	2	6	7	7	4	3	5
10,000	- 4.6	-12	-7	-3	-0	-5	-0	3	5	9	14	16	17	-1	4	8	10	-2	2	7	10	7	5	3	6
BILLINGS TO CASPER																									194 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	3	-60	-3	-1	-0	-62	-5	-3	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-56	1	5	8	-57	-1	3	5	-55	2	4	5	-56	0	3	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-37	7	9	10	-42	2	4	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-27	-5	-1	2	-21	0	3	5	-10	11	13	14	-17	5	8	9	-18	3	6	8	7	4	3	5
10,000	- 4.6	-11	-6	-2	1	-4	1	4	6	10	14	17	18	0	5	9	11	-1	3	8	10	7	5	3	6
BILLINGS TO GREAT FALLS																									154 N.MI.
53,000	-56.5	-58	-1	2	4	-56	1	3	5	-57	-1	1	2	-60	-4	-1	0	-58	-1	2	4	5	4	3	4
40,000	-56.5	-56	1	5	8	-56	0	4	6	-54	2	5	6	-56	0	3	5	-56	1	4	5	7	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-2	-0	-38	6	8	9	-43	1	4	5	-45	-1	2	4	4	3	3	4
20,000	-21.2	-28	-7	-2	1	-22	-1	2	4	-11	10	12	13	-18	3	6	8	-20	1	5	7	7	4	3	5
10,000	- 4.6	-13	-8	-3	-1	-5	-1	3	5	8	13	15	16	-2	3	7	9	-3	2	6	9	7	5	4	6
BILLINGS TO SHERIDAN																									90 N.MI.
53,000	-56.5	-58	-2	1	3	-56	0	3	4	-59	-3	-0	1	-61	-5	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-56	1	5	8	-57	-0	3	5	-54	2	4	6	-56	0	3	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	-0	-38	7	9	10	-43	2	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-27	-6	-1	1	-21	-0	3	4	-10	11	13	14	-17	4	7	9	-19	2	6	8	7	4	3	5
10,000	- 4.6	-12	-7	-2	0	-5	0	4	6	9	14	16	17	-0	4	8	10	-2	3	7	10	7	6	3	6
BINGHAMPTON TO PITTSBURGH																									217 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-56	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-20	1	4	6	-10	12	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	2	6	8	6	5	3	5
BINGHAMPTON TO SCRANTON																									45 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-0	1	-46	-2	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-21	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	5	7	6	5	3	5
BINGHAMPTON TO SYRACUSE																									54 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	1	-62	-5	-2	-0	-59	-3	0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-22	-0	3	4	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	5	9	11	12	-0	5	8	10	-4	1	5	7	6	5	3	5
BIRMINGHAM TO CHARLOTTE																									304 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-67	-11	-9	-8	-69	-12	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
BIRMINGHAM TO CHATTANOOGA																									117 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-68	-11	-9	-8	-69	-13	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	7	9	11	8	13	14	15	6	10	13	14	4	8	10	12	4	4	2	3

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BIRMINGHAM TO CHICAGO																									508 N.MI.
53,000	-56.5	-64	-7	-4	-3	-61	-5	-2	-1	-65	-9	-7	-5	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	5	-16	5	8	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	4	7	9	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
BIRMINGHAM TO GREENSBORO																									368 N.MI.
53,000	-56.5	-67	-10	-8	-6	-63	-7	-4	-3	-67	-11	-9	-8	-69	-12	-10	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
BIRMINGHAM TO HUNTSVILLE																									68 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-5	-4	-68	-11	-10	-8	-69	-13	-10	-9	-67	-11	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	7	9	11	8	13	14	15	6	11	13	14	4	8	11	12	4	4	2	3
BIRMINGHAM TO JACKSON																									190 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-69	-12	-10	-9	-71	-14	-12	-10	-68	-12	-9	-7	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-41	4	6	7	-33	11	13	13	-37	7	9	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	3	8	10	12	9	13	15	15	7	11	13	14	5	9	11	12	4	4	2	3
BIRMINGHAM TO KNOXVILLE																									192 N.MI.
53,000	-56.5	-67	-10	-8	-6	-64	-7	-4	-3	-67	-11	-9	-8	-69	-12	-10	-8	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3
BIRMINGHAM TO MEMPHIS																									184 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-68	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	7	10	11	9	13	14	15	6	11	13	14	4	8	11	12	4	4	2	3
BIRMINGHAM TO MERIDIAN																									101 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-4	-68	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-33	11	12	13	-37	7	9	10	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-7	14	15	16	-10	11	13	14	-11	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	3	7	10	11	9	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
BIRMINGHAM TO MOBILE																									189 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-69	-12	-11	-10	-71	-15	-13	-11	-69	-12	-9	-8	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-55	1	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	9	11	12	-7	14	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	11	13	4	4	2	3
BIRMINGHAM TO MONTGOMERY																									78 N.MI.
53,000	-56.5	-68	-12	-9	-8	-65	-9	-6	-5	-68	-12	-10	-9	-71	-14	-12	-10	-68	-12	-9	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	12	13	-37	7	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	3	8	10	11	9	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
BIRMINGHAM TO MUSCLE SHOALS																									83 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-3	-68	-11	-10	-9	-69	-13	-10	-9	-67	-11	-7	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	2	7	10	11	9	13	14	15	6	11	13	14	4	8	11	12	4	4	2	3
BIRMINGHAM TO NEW ORLEANS																									279 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-69	-13	-11	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	4	3	3
40,000	-56.5	-57	-1	1	3	-58	-1	1	2	-55	2	3	3	-55	1	3	4	-56	0	2	3	3	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	13	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-7	15	16	16	-9	12	14	15	-11	11	12	14	3	3	2	3
10,000	- 4.6	1	5	8	9	4	9	11	12	9	14	15	15	7	12	14	15	5	10	12	13	4	4	1	3
BIRMINGHAM TO NEW YORK																									750 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-65	-9	-6	-5	-67	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-55	2	4	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	1	4	5	-35	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	4	6	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
BIRMINGHAM TO PENSACOLA																									187 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-69	-12	-11	-10	-71	-15	-13	-11	-69	-12	-9	-8	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-55	1	3	3	-55	1	3	4	-56	0	2	2	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	9	11	12	-7	14	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	11	12	4	4	2	3
BIRMINGHAM TO PITTSBURGH																									519 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	4	7	9	7	12	13	14	4	9	11	13	1	6	9	10	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BIRMINGHAM TO WASHINGTON, D.C.																									567 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-56	0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	8	10	-8	13	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	13	2	7	9	10	5	4	2	4
BISBEE TO EL PASO																									166 N.MI.
53,000	-56.5	-67	-11	-8	-7	-65	-9	-7	-5	-70	-13	-12	-11	-71	-14	-12	-11	-68	-12	-9	-7	3	3	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	2	4	5	-33	12	13	14	-37	7	9	10	-39	6	8	10	3	2	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-6	15	16	17	-10	11	13	15	-12	10	12	13	4	3	1	3
10,000	- 4.6	0	5	8	10	5	10	13	14	13	18	19	19	7	12	14	15	6	11	14	15	5	4	2	3
BISBEE TO TUCSON																									79 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-9	-6	-5	-70	-13	-11	-11	-70	-14	-12	-11	-68	-12	-9	-7	3	3	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	4	-55	1	3	4	-56	1	3	4	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-33	12	13	14	-37	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	5	8	9	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	5	3	1	3
10,000	- 4.6	0	5	8	10	5	10	12	14	14	18	19	20	7	12	14	15	6	11	14	15	5	4	2	3
BISMARK TO FARGO																									162 N.MI.
53,000	-56.5	-57	-1	2	4	-56	1	3	5	-57	-1	1	3	-59	-3	-0	1	-57	-1	2	3	5	4	3	4
40,000	-56.5	-55	2	6	9	-56	1	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	-0	-38	7	9	10	-44	1	3	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-30	-8	-4	-2	-23	-1	2	4	-11	10	12	13	-19	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-6	-3	-7	-2	2	4	6	10	13	15	-2	3	7	9	-4	0	5	8	7	6	4	6
BISMARK TO JAMESTOWN																									85 N.MI.
53,000	-56.5	-57	-1	2	4	-56	1	3	5	-58	-1	1	2	-60	-3	-1	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-55	2	6	9	-56	0	4	6	-54	2	5	6	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	-0	-38	7	9	10	-44	1	3	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-30	-8	-4	-2	-22	-1	2	4	-11	10	12	13	-19	3	6	8	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-5	-3	-6	-2	2	4	6	11	13	15	-2	3	7	9	-4	0	5	8	7	6	4	6
BISMARK TO MINNEAPOLIS																									335 N.MI.
53,000	-56.5	-58	-1	2	3	-56	0	3	4	-58	-2	1	2	-60	-3	-1	0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-55	2	6	8	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-3	-48	-3	-1	0	-37	7	9	11	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-29	-7	-3	-1	-22	-1	2	4	-10	11	13	14	-18	3	7	8	-20	1	5	8	6	5	3	5
10,000	- 4.6	-14	-9	-5	-2	-6	-2	2	4	6	11	13	15	-1	4	8	10	-4	1	6	8	7	6	4	6
BOISE TO DENVER																									556 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-4	-2	-1	-47	-2	0	1	-36	8	10	11	-41	3	5	7	-43	1	4	6	3	3	2	3
20,000	-21.2	-24	-3	1	4	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	8	9	6	4	2	4
10,000	- 4.6	-8	-4	0	3	-2	3	6	8	12	16	18	19	2	6	10	12	1	5	10	12	6	5	3	5
BOISE TO PENDLETON																									169 N.MI.
53,000	-56.5	-59	-2	1	3	-56	0	3	4	-58	-2	0	1	-61	-5	-2	-1	-59	-2	1	3	5	4	3	4
40,000	-56.5	-57	-1	4	6	-57	-0	3	6	-55	2	4	6	-57	-0	3	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-38	6	8	9	-42	2	5	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-25	-4	1	3	-21	-0	3	5	-11	10	12	13	-17	4	7	9	-19	3	6	8	7	5	3	5
10,000	- 4.6	-10	-5	-1	2	-5	-0	3	5	8	12	14	16	-1	4	8	10	-2	3	7	9	7	5	3	5
BOISE TO PORTLAND, ORE.																									298 N.MI.
53,000	-56.5	-59	-2	1	3	-56	0	3	4	-58	-2	1	2	-61	-4	-2	-0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-0	4	6	-55	2	4	6	-56	0	3	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-39	6	8	9	-42	2	5	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-25	-4	1	3	-22	-0	3	5	-11	10	12	13	-17	4	7	9	-19	3	6	8	7	5	3	5
10,000	- 4.6	-10	-5	-0	2	-5	-1	3	5	7	12	14	15	-1	4	7	9	-2	2	7	9	7	5	3	5
BOISE TO RENO																									291 N.MI.
53,000	-56.5	-61	-4	-1	1	-58	-2	1	2	-61	-5	-3	-2	-63	-6	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-58	-1	4	6	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-57	-0	3	4	7	5	3	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-37	7	9	10	-41	3	6	7	-43	1	4	6	4	3	3	3
20,000	-21.2	-23	-1	3	5	-20	1	4	6	-9	12	13	14	-15	6	9	11	-17	5	8	9	6	4	2	5
10,000	- 4.6	-7	-2	2	4	-3	2	5	7	10	15	17	18	1	6	9	11	0	5	9	11	6	5	3	5
BOISE TO SALT LAKE CITY																									252 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-1	1	2	-61	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	1	4	4	3	4
40,000	-56.5	-57	-0	4	7	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	6	3	4
30,000	-44.5	-49	-4	-2	-1	-47	-2	-0	1	-37	7	9	10	-41	3	5	7	-44	1	4	6	3	3	3	3
20,000	-21.2	-24	-3	2	4	-20	1	4	5	-9	12	13	14	-15	6	9	11	-17	4	7	9	7	4	2	4
10,000	- 4.6	-8	-4	1	3	-3	2	5	7	11	15	18	19	1	6	10	11	0	5	9	11	6	5	3	5
BOISE TO SAN FRANCISCO																									453 N.MI.
53,000	-56.5	-61	-4	-2	0	-59	-2	1	2	-62	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-48	-3	-1	1	-45	-1	1	2	-37	7	9	10	-41	4	6	7	-43	2	5	6	4	3	3	3
20,000	-21.2	-22	-0	4	6	-19	2	5	6	-9	12	14	14	-14	7	10	11	-16	5	8	10	6	4	2	4
10,000	- 4.6	-6	-1	3	5	-3	2	5	7	10	15	17	18	2	6	10	12	1	5	9	11	6	5	3	5
BOISE TO SEATTLE																									346 N.MI.
53,000	-56.5	-58	-2	1	3	-56	1	3	5	-57	-1	2	3	-60	-4	-1	0	-58	-1	2	3	5	4	3	4
40,000	-56.5	-57	-1	4	7	-57	-0	4	6	-54	2	5	6	-56	0	3	5	-56	0	4	5	7	6	4	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-39	6	7	8	-43	2	4	6	-45	-0	3	5	4	3	3	4
20,000	-21.2	-26	-4	0	3	-22	-1	2	4	-11	10	12	13	-18	3	7	9	-19	2	6	8	7	5	3	5
10,000	- 4.6	-10	-6	-1	1	-6	-1	2	4	6	11	13	14	-1	3	7	9	-3	2	6	8	7	5	3	5
BOSTON TO BUFFALO																									383 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-22	-0	3	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BOSTON TO BURLINGTON																									157 N.MI.
53,000	-56.5	-58	-2	1	2	-56	0	3	4	-59	-2	0	2	-61	-4	-1	1	-58	-2	1	3	4	4	4	5
40,000	-56.5	-55	1	5	7	-55	2	6	8	-54	3	5	6	-54	2	5	7	-55	2	5	6	6	6	4	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-23	-2	2	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
BOSTON TO CHICAGO																									751 N.MI.
53,000	-56.5	-59	-3	-0	1	-58	-1	2	3	-60	-4	-1	-0	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	4	7	-56	1	4	7	-54	3	5	6	-55	1	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	5	7	6	5	3	5
BOSTON TO CLEVELAND																									488 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-0	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	4	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-24	-2	1	3	-21	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	5	7	6	5	3	5
BOSTON TO CONCORD																									55 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-60	-3	-0	1	-61	-5	-1	0	-59	-3	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	2	4	-11	10	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
BOSTON TO DALLAS																									1348 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	2	4	5	-55	1	4	5	-56	1	3	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-1	3	6	8	7	12	14	14	3	8	11	12	1	5	8	10	5	5	2	4
BOSTON TO DENVER																									1530 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-57	-0	4	6	-54	2	5	6	-56	1	4	6	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-25	-3	0	2	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-1	1	-4	0	4	6	7	12	14	15	1	6	9	11	-2	3	7	9	6	5	3	5
BOSTON TO DETROIT																									548 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	4	7	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
BOSTON TO FITCHBURG																									35 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	3	-60	-3	-1	1	-62	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	4	6	-55	2	5	7	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-0	3	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-7	-2	1	3	5	9	11	12	-0	5	8	10	-3	1	5	7	6	5	3	5
BOSTON TO HARTFORD																									83 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-6	-2	-1	-60	-3	-0	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	4	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-47	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
BOSTON TO HYANNIS																									53 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	4	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
BOSTON TO LEBANON																									95 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	3	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	2	5	8	-54	2	5	6	-54	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	1	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-3	0	2	-22	-1	2	4	-11	10	12	14	-16	6	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-8	-3	0	2	4	9	11	12	-0	4	8	9	-4	1	4	6	7	5	3	5
BOSTON TO LEWISTON																									111 N.MI.
53,000	-56.5	-58	-2	1	2	-56	0	3	4	-59	-3	0	2	-61	-4	-1	1	-59	-2	1	3	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	2	6	8	-54	2	5	6	-54	2	5	7	-55	2	4	6	6	6	4	5
30,000	-44.5	-48	-4	-1	1	-47	-2	0	2	-37	7	10	11	-42	3	5	7	-44	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	0	2	-23	-1	2	3	-11	10	12	13	-16	5	9	10	-19	3	6	8	6	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
BOSTON TO LOS ANGELES																									2263 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	4	7	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-35	9	11	12	-41	4	6	7	-42	2	6	7	3	3	3	3
20,000	-21.2	-23	-1	2	4	-19	2	5	7	-8	13	14	15	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-2	3	6	8	9	14	15	16	3	7	10	12	1	5	9	11	6	5	3	5
BOSTON TO MANCHESTER																									39 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-60	-3	-1	1	-61	-5	-2	0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	2	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-7	-3	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BOSTON TO MIAMI																									1094 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-66	-10	-8	-7	-69	-12	-10	-8	-67	-10	-7	-6	3	3	3	4
40,000	-56.5	-57	-1	2	3	-57	-1	2	4	-56	1	2	3	-55	1	3	5	-56	0	3	4	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	10	12	12	-37	7	9	11	-39	6	8	9	3	3	2	3
20,000	-29.2	-16	5	8	9	-15	7	9	10	-8	13	15	15	-10	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	5	8	9	7	12	13	14	5	9	11	13	3	7	9	11	4	4	2	3
BOSTON TO MONTREAL																									221 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	3	5	-58	-2	1	2	-60	-4	-0	1	-58	-2	1	3	4	4	4	5
40,000	-56.5	-55	1	5	8	-54	2	6	8	-54	3	5	6	-54	2	5	7	-54	2	5	6	6	6	4	5
30,000	-44.5	-49	-4	-2	-0	-47	-3	-0	1	-37	7	9	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	1	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-8	-4	-0	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5
BOSTON TO NEW BEDFORD																									42 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-6	-2	-1	-60	-3	-0	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	3	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
BOSTON TO NEW YORK																									163 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-4	-2	-1	-63	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-1	2	4	-20	1	4	5	-10	11	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-2	2	6	7	6	5	3	5
BOSTON TO PHILADELPHIA																									242 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-36	8	11	12	-41	4	6	8	-42	2	6	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	1	4	6	-10	11	13	14	-14	7	10	12	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
BOSTON TO PITTSBURGH																									430 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	3	-61	-5	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	6	-55	1	4	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	4	-20	1	4	6	-10	11	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
BOSTON TO PORTLAND, ME.																									83 N.MI.
53,000	-56.5	-58	-2	1	2	-56	0	3	4	-59	-3	-0	1	-61	-5	-1	1	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	2	6	8	-54	2	5	6	-54	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	1	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-22	-1	2	4	-11	10	12	14	-16	6	9	11	-18	3	7	9	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-8	-3	0	2	4	9	11	12	-1	4	8	9	-4	1	4	6	7	5	3	5
BOSTON TO PROVIDENCE																									43 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-47	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	3	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
BOSTON TO SAN FRANCISCO																									2343 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-3	-2	-61	-4	-1	1	4	4	3	4
40,000	-56.5	-56	0	5	7	-57	-0	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-36	8	10	11	-42	3	5	7	-43	1	5	6	4	4	3	4
20,000	-21.2	-24	-3	1	3	-20	1	4	5	-9	12	14	15	-15	6	9	11	-17	4	7	9	6	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	1	4	6	8	13	15	16	1	6	9	11	-1	4	8	10	6	5	3	5
BOSTON TO SYRACUSE																									230 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-60	-3	-1	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	1	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	0	2	-22	-1	2	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
BOSTON TO TAMPA																									1031 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-66	-9	-7	-6	-68	-12	-9	-8	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	4	-55	1	3	3	-55	1	4	5	-56	0	3	4	4	4	2	3
30,000	-44.5	-43	1	4	5	-42	3	5	6	-34	10	12	12	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	8	10	-8	13	15	15	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	-0	5	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	3
BOSTON TO WASHINGTON, D.C.																									346 N.MI.
53,000	-56.5	-61	-4	-1	-0	-59	-2	0	2	-62	-5	-3	-2	-63	-7	-4	-2	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	5	-19	2	5	6	-9	12	14	14	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
BOSTON TO WORCESTER																									39 N.MI.
53,000	-56.5	-59	-3	0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	4	7	-55	1	5	7	-54	2	4	6	-55	2	5	7	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-24	-2	1	3	-22	-0	3	4	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
BOWLING GREEN TO LOUISVILLE																									80 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-65	-9	-7	-6	-67	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	10	12	13	-39	5	7	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-8	13	15	16	-12	9	12	13	-14	7	10	12	4	4	2	4
10,000	- 4.6	-5	-1	3	4	-1	4	7	9	8	12	14	15	4	9	11	13	1	6	9	10	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
BOWLING GREEN TO NASHVILLE							**52 N.MI.**
53,000	-56.5	-65 -8 -6 -4	-62 -6 -3 -1	-66 -10 -8 -7	-67 -11 -8 -7	-65 -9 -5 -4	4 4 3 4
40,000	-56.5	-57 -1 2 4	-58 -2 1 3	-54 2 4 5	-56 1 3 5	-56 0 2 3	4 5 2 4
30,000	-44.5	-44 1 3 4	-43 2 4 5	-34 10 12 13	-39 6 8 9	-40 5 7 9	3 3 2 3
20,000	-21.2	-19 2 5 7	-15 6 8 10	-7 14 15 16	-11 10 12 13	-13 8 11 12	4 4 2 3
10,000	- 4.6	-4 0 4 5	0 5 8 9	8 13 14 15	5 9 12 13	2 7 9 11	5 4 2 4
BOZEMAN TO BUTTE							**57 N.MI.**
53,000	-56.5	-58 -2 2 3	-56 1 3 5	-58 -2 1 2	-61 -4 -2 -0	-58 -2 1 3	5 4 3 4
40,000	-56.5	-56 0 5 7	-57 -0 4 6	-54 2 5 6	-56 0 3 5	-56 1 4 5	7 6 4 5
30,000	-44.5	-51 -6 -4 -2	-48 -3 -1 -0	-38 6 8 9	-43 1 4 5	-45 -0 3 5	4 3 3 4
20,000	-21.2	-27 -6 -1 1	-22 -0 3 4	-11 10 12 13	-18 3 7 8	-19 2 5 7	7 4 3 5
10,000	- 4.6	-12 -7 -2 0	-5 -0 3 5	8 13 15 17	-1 4 7 10	-2 2 7 9	7 5 3 6
BRISTOL TO CHARLESTON, W. VA.							**119 N.MI.**
53,000	-56.5	-64 -7 -5 -4	-61 -5 -2 -1	-65 -9 -6 -5	-66 -10 -7 -6	-64 -8 -5 -3	4 4 3 4
40,000	-56.5	-58 -1 2 4	-58 -2 2 3	-54 2 4 5	-56 1 3 5	-56 0 2 3	5 5 2 4
30,000	-44.5	-45 -0 2 3	-43 1 3 5	-35 10 12 13	-39 5 8 9	-40 4 7 9	3 3 3 3
20,000	-21.2	-19 2 5 6	-16 5 8 9	-8 13 15 15	-12 9 12 13	-14 7 10 12	4 4 2 4
10,000	- 4.6	-5 -0 3 5	-1 3 7 8	7 12 13 14	4 8 11 12	1 6 9 10	5 5 2 4
BRISTOL TO KNOXVILLE							**87 N.MI.**
53,000	-56.5	-65 -9 -6 -5	-62 -6 -3 -2	-66 -10 -8 -7	-67 -11 -8 -7	-65 -9 -6 -4	4 4 3 4
40,000	-56.5	-58 -1 2 3	-58 -2 1 3	-55 2 3 4	-56 1 3 5	-57 -0 2 3	4 4 2 4
30,000	-44.5	-44 1 3 4	-42 2 4 5	-34 10 12 13	-39 6 8 9	-40 5 8 9	3 3 2 3
20,000	-21.2	-18 3 6 7	-15 6 8 10	-8 14 15 16	-11 10 12 13	-13 8 11 12	4 4 2 3
10,000	- 4.6	-4 1 4 6	0 5 8 9	8 12 14 14	4 9 11 13	2 7 9 11	5 4 2 4
BROWNSVILLE TO CORPUS CHRISTI							**93 N.MI.**
53,000	-56.5	-72 -15 -13 -12	-70 -13 -11 -10	-72 -15 -14 -13	-75 -19 -17 -15	-72 -16 -13 -12	3 3 2 3
40,000	-56.5	-57 -0 2 3	-57 -0 2 3	-55 1 2 3	-55 2 3 4	-56 1 2 3	3 3 2 2
30,000	-44.5	-39 5 7 7	-39 6 7 8	-32 13 13 14	-35 10 11 12	-36 8 10 11	2 2 1 2
20,000	-21.2	-12 9 11 12	-11 10 12 13	-6 15 16 17	-8 13 15 16	-9 12 14 14	3 3 1 2
10,000	- 4.6	4 9 11 12	8 12 15 16	10 15 16 16	9 14 15 16	8 12 14 15	3 3 1 2
BRUNSWICK TO JACKSONVILLE							**46 N.MI.**
53,000	-56.5	-70 -14 -12 -11	-67 -11 -9 -7	-69 -12 -11 -10	-72 -16 -13 -12	-70 -13 -11 -9	3 3 2 4
40,000	-56.5	-58 -1 1 2	-58 -1 1 2	-56 0 1 2	-55 1 3 4	-57 -0 2 3	3 3 2 3
30,000	-44.5	-40 4 6 7	-39 5 7 8	-33 11 12 13	-36 9 11 12	-37 7 9 10	3 3 2 3
20,000	-21.2	-13 8 10 11	-12 9 11 12	-7 14 15 16	-8 13 14 15	-10 11 13 14	3 3 2 2
10,000	- 4.6	2 7 9 10	4 8 10 12	8 13 14 14	7 12 13 14	5 10 11 12	3 3 1 2
BRUNSWICK TO SAVANNAH							**54 N.MI.**
53,000	-56.5	-70 -13 -11 -10	-67 -10 -8 -7	-68 -12 -10 -9	-72 -15 -13 -11	-69 -13 -10 -8	3 3 3 4
40,000	-56.5	-58 -1 1 2	-58 -1 1 2	-56 0 2 2	-55 1 3 4	-57 -0 2 3	3 4 2 3
30,000	-44.5	-41 4 6 7	-40 5 7 7	-33 11 12 13	-36 8 11 12	-37 7 9 10	3 3 2 3
20,000	-21.2	-14 8 10 11	-12 9 11 12	-7 14 15 16	-9 12 14 15	-10 11 13 14	3 3 2 3
10,000	- 4.6	1 6 8 9	3 8 10 11	8 13 14 14	7 11 13 14	5 9 11 12	3 3 1 3
BUFFALO TO CHICAGO							**410 N.MI.**
53,000	-56.5	-60 -3 -0 1	-58 -1 1 3	-61 -4 -2 -0	-62 -5 -3 -1	-60 -3 -0 1	4 4 4 4
40,000	-56.5	-56 1 5 7	-56 0 4 6	-54 3 5 6	-55 1 4 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-48 -4 -1 -0	-46 -2 1 2	-36 8 10 11	-42 3 5 7	-43 1 5 7	4 3 3 4
20,000	-21.2	-25 -4 -0 2	-21 1 4 5	-10 11 13 14	-15 6 9 11	-18 3 7 9	5 5 3 5
10,000	- 4.6	-11 -7 -3 -0	-6 -1 2 4	5 10 12 13	0 5 9 10	-3 2 6 8	6 5 3 5
BUFFALO TO CLEVELAND							**166 N.MI.**
53,000	-56.5	-60 -3 -0 1	-58 -1 1 3	-61 -4 -2 -0	-62 -6 -3 -1	-60 -4 -0 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-56 0 4 6	-54 3 5 6	-55 1 4 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-48 -4 -1 0	-46 -2 1 2	-36 8 10 11	-42 3 5 7	-43 1 5 7	4 3 3 4
20,000	-21.2	-24 -3 0 2	-21 1 4 5	-10 11 13 14	-15 6 9 11	-17 4 7 9	5 5 3 5
10,000	- 4.6	-11 -6 -2 -0	-6 -1 2 4	5 10 12 13	0 5 8 10	-3 2 5 7	6 5 3 5
BUFFALO TO DETROIT							**208 N.MI.**
53,000	-56.5	-59 -3 -0 1	-58 -1 2 3	-60 -4 -1 0	-62 -5 -2 -1	-60 -3 -0 2	4 4 4 4
40,000	-56.5	-56 1 5 7	-56 1 5 7	-54 3 5 6	-55 1 5 6	-55 1 4 6	6 6 3 5
30,000	-44.5	-48 -4 -1 -0	-46 -2 0 2	-37 8 10 11	-42 3 5 7	-43 1 5 7	4 3 3 4
20,000	-21.2	-25 -4 -0 2	-21 0 3 5	-10 11 13 14	-15 6 9 11	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -7 -3 -1	-6 -2 2 4	5 10 11 13	0 5 8 10	-3 1 5 7	6 5 3 5
BUFFALO TO ELMIRA							**94 N.MI.**
53,000	-56.5	-59 -3 -0 1	-57 -1 2 3	-60 -4 -1 0	-62 -5 -2 -1	-60 -3 0 2	4 4 4 4
40,000	-56.5	-56 1 4 7	-56 1 5 7	-54 3 5 6	-55 2 5 6	-55 1 4 6	6 6 3 5
30,000	-44.5	-48 -4 -1 0	-46 -2 1 2	-37 8 10 11	-42 3 5 7	-43 1 5 7	4 4 3 4
20,000	-21.2	-25 -3 0 2	-21 -0 3 5	-10 11 13 14	-15 6 9 11	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -7 -3 -0	-7 -2 2 3	5 9 11 12	0 5 8 10	-3 1 5 7	6 5 3 5
BUFFALO TO NEW YORK							**261 N.MI.**
53,000	-56.5	-60 -3 -1 1	-58 -1 1 3	-61 -4 -2 -0	-62 -6 -3 -1	-60 -4 -1 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-56 0 4 6	-54 3 5 6	-55 1 5 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-48 -3 -0 1	-46 -1 1 2	-36 8 10 11	-41 3 6 7	-43 2 5 7	4 4 3 4
20,000	-21.2	-23 -2 1 3	-21 1 4 5	-10 11 13 14	-15 6 9 11	-17 4 8 9	5 4 3 4
10,000	- 4.6	-11 -6 -2 0	-6 -1 2 4	5 10 12 13	1 5 8 10	-3 2 5 7	6 5 3 5
BUFFALO TO PHILADELPHIA							**241 N.MI.**
53,000	-56.5	-60 -4 -1 1	-58 -2 1 2	-61 -5 -2 -1	-63 -6 -3 -2	-61 -4 -1 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-56 0 4 6	-54 2 5 6	-55 1 4 6	-55 1 4 5	6 6 3 4
30,000	-44.5	-47 -3 -0 1	-46 -1 1 2	-36 8 10 12	-41 3 6 7	-43 2 5 7	4 3 3 4
20,000	-21.2	-23 -2 2 3	-20 1 4 6	-10 11 13 14	-14 7 10 11	-17 4 8 10	5 4 3 4
10,000	- 4.6	-10 -5 -1 1	-5 -1 3 4	5 10 12 13	1 5 9 10	-2 2 6 8	6 5 3 5
BUFFALO TO PITTSBURGH							**161 N.MI.**
53,000	-56.5	-60 -3 -1 1	-58 -2 1 3	-61 -5 -2 -1	-63 -6 -3 -2	-60 -4 -1 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-56 0 4 6	-54 3 5 6	-55 1 4 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-48 -3 -1 1	-46 -1 1 2	-36 8 10 12	-41 3 6 7	-43 2 5 7	4 3 3 4
20,000	-21.2	-24 -2 1 3	-20 1 4 6	-10 11 13 14	-15 6 9 11	-17 4 8 9	5 4 3 4
10,000	- 4.6	-10 -6 -2 0	-6 -1 3 4	5 10 12 13	1 5 9 10	-3 2 6 8	6 5 3 5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
BUFFALO TO ROCHESTER, N.Y.							**48 N.MI.**
53,000	-56.5	-59 -2 0 2	-57 -1 2 4	-59 -3 -0 1	-61 -5 -2 -0	-59 -3 0 2	4 4 4 4
40,000	-56.5	-56 1 5 7	-55 1 5 7	-54 3 5 6	-55 2 5 7	-55 2 4 6	6 6 3 5
30,000	-44.5	-49 -4 -2 -0	-47 -2 0 2	-37 8 10 11	-42 2 5 6	-44 1 5 6	4 4 3 4
20,000	-21.2	-25 -4 -0 2	-22 -1 3 4	-11 11 13 14	-16 5 9 10	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -8 -3 -1	-7 -2 1 3	4 9 11 12	-0 4 8 10	-4 1 5 7	6 5 3 5
BUFFALO TO SCRANTON							**158 N.MI.**
53,000	-56.5	-60 -3 -0 1	-58 -1 2 3	-60 -4 -1 0	-62 -6 -3 -1	-60 -3 -0 1	4 4 4 4
40,000	-56.5	-56 0 4 6	-56 1 5 7	-54 3 5 6	-55 2 5 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-48 -3 -1 1	-46 -2 1 2	-37 8 10 11	-42 3 5 7	-43 1 5 7	4 4 3 4
20,000	-21.2	-24 -3 1 3	-21 0 3 5	-10 11 13 14	-15 6 9 11	-18 4 7 9	5 5 3 5
10,000	- 4.6	-11 -7 -2 -0	-6 -2 2 4	5 9 11 12	0 5 8 10	-3 2 5 7	6 5 3 5
BUFFALO TO SYRACUSE							**115 N.MI.**
53,000	-56.5	-59 -2 0 2	-57 -0 2 4	-59 -3 -0 1	-61 -5 -2 -0	-59 -3 0 2	4 4 4 4
40,000	-56.5	-56 1 5 7	-55 1 5 7	-54 3 5 6	-55 2 5 7	-55 2 4 6	6 6 3 5
30,000	-44.5	-49 -4 -1 -0	-47 -2 0 2	-37 8 10 11	-42 2 5 6	-44 1 5 6	4 4 3 4
20,000	-21.2	-25 -4 -0 2	-22 -1 2 4	-11 11 13 14	-16 5 9 10	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -8 -3 -1	-7 -2 1 3	4 9 11 12	-0 4 8 10	-4 1 5 7	6 5 3 5
BUFFALO TO TAMPA							**917 N.MI.**
53,000	-56.5	-66 -9 -7 -6	-63 -7 -4 -3	-66 -9 -7 -6	-68 -12 -9 -8	-66 -9 -6 -5	3 4 3 4
40,000	-56.5	-57 -1 2 3	-57 -1 2 4	-55 1 3 4	-55 1 3 5	-56 0 2 3	4 4 2 4
30,000	-44.5	-43 1 3 4	-42 2 4 5	-34 10 12 13	-38 6 9 10	-39 5 8 9	3 3 2 3
20,000	-21.2	-17 4 6 8	-15 6 8 10	-8 13 15 15	-11 10 12 14	-13 8 11 12	4 4 2 3
10,000	- 4.6	-3 1 4 6	-0 5 7 9	7 12 13 14	4 9 11 13	2 7 9 10	4 4 2 4
BUFFALO TO TORONTO							**60 N.MI.**
53,000	-56.5	-59 -2 0 2	-57 -0 2 4	-59 -3 -0 1	-61 -4 -2 0	-59 -2 1 2	4 4 4 4
40,000	-56.5	-55 1 5 7	-55 1 5 7	-53 3 5 7	-55 2 5 7	-55 2 5 6	6 6 3 5
30,000	-44.5	-49 -4 -2 -0	-47 -2 0 1	-37 7 10 11	-42 2 5 6	-44 1 4 6	4 4 3 4
20,000	-21.2	-26 -4 -1 1	-22 -1 2 4	-11 10 13 14	-16 5 8 10	-19 3 6 8	5 5 3 5
10,000	- 4.6	-13 -8 -4 -1	-7 -3 1 3	4 9 11 12	-0 4 8 10	-4 1 4 7	6 5 3 5
BUFFALO TO WASHINGTON, D.C.							**257 N.MI.**
53,000	-56.5	-61 -4 -1 0	-59 -2 1 2	-62 -5 -3 -2	-63 -7 -4 -2	-61 -5 -1 0	4 4 4 4
40,000	-56.5	-57 -0 4 5	-57 -0 4 6	-54 2 4 6	-55 1 4 6	-56 1 3 5	5 6 3 4
30,000	-44.5	-47 -2 0 1	-45 -1 1 3	-36 9 11 12	-41 4 6 8	-42 2 6 7	4 3 3 4
20,000	-21.2	-22 -1 2 4	-19 2 5 6	-9 12 14 15	-14 7 10 12	-16 5 8 10	5 4 3 4
10,000	- 4.6	-9 -5 -1 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
BURBANK TO LOS ANGELES							**16 N.MI.**
53,000	-56.5	-64 -8 -5 -4	-63 -6 -4 -3	-68 -11 -9 -8	-68 -11 -9 -8	-66 -9 -6 -5	4 4 3 3
40,000	-56.5	-57 -1 3 5	-58 -2 2 3	-54 3 4 5	-56 1 3 5	-56 0 2 3	6 5 2 4
30,000	-44.5	-45 -0 2 3	-43 2 3 4	-35 10 11 12	-39 6 8 9	-40 4 7 8	3 3 2 3
20,000	-21.2	-17 4 7 9	-16 6 8 9	-7 15 16 16	-11 10 13 14	-13 9 11 12	5 4 2 4
10,000	- 4.6	0 5 8 10	2 6 9 11	11 16 17 18	5 10 13 14	5 9 12 14	5 4 2 4
BURBANK TO SAN FRANCISCO							**284 N.MI.**
53,000	-56.5	-65 -7 -4 -2	-61 -5 -2 -1	-66 -9 -8 -7	-66 -10 -7 -6	-64 -8 -5 -3	4 4 3 3
40,000	-56.5	-58 -1 3 5	-58 -2 2 4	-54 2 4 5	-56 1 3 5	-56 0 2 4	6 5 2 4
30,000	-44.5	-45 -1 1 3	-43 1 3 4	-36 9 10 11	-39 5 7 8	-41 4 6 8	3 3 2 3
20,000	-21.2	-18 3 6 8	-17 4 7 8	-7 14 15 16	-12 9 12 13	-14 8 10 12	5 4 2 4
10,000	- 4.6	-1 4 7 9	0 5 8 10	11 16 17 18	4 9 12 13	4 8 11 13	5 5 2 4
BURLINGTON TO MONTPELIER							**30 N.MI.**
53,000	-56.5	-58 -1 2 3	-55 1 4 5	-58 -1 1 3	-60 -3 0 2	-58 -1 2 3	4 4 4 5
40,000	-56.5	-55 2 6 8	-54 2 6 9	-54 3 5 7	-54 2 6 7	-54 2 5 7	6 6 4 5
30,000	-44.5	-49 -5 -2 -0	-47 -3 -0 1	-38 7 9 11	-43 2 5 6	-44 0 4 6	4 4 4 4
20,000	-21.2	-26 -5 -1 1	-24 -3 1 3	-12 10 12 13	-17 4 8 10	-20 2 6 8	6 5 3 5
10,000	- 4.6	-14 -9 -5 -2	-9 -4 -1 1	3 8 10 11	-1 3 7 9	-5 -1 3 6	7 5 3 6
BUTTE TO GREAT FALLS							**103 N.MI.**
53,000	-56.5	-58 -1 2 4	-55 1 4 5	-57 -1 2 3	-60 -4 -1 0	-58 -1 2 3	5 4 3 4
40,000	-56.5	-56 0 5 7	-56 0 4 6	-54 2 5 6	-56 0 3 5	-56 1 4 5	7 6 4 5
30,000	-44.5	-51 -6 -4 -3	-48 -4 -1 -0	-39 6 8 9	-43 1 4 5	-45 -1 2 4	4 3 3 4
20,000	-21.2	-28 -7 -2 1	-22 -1 2 4	-11 10 12 13	-18 3 6 8	-20 1 5 7	7 5 3 5
10,000	- 4.6	-13 -8 -3 -0	-6 -1 3 5	8 12 15 16	-2 3 7 9	-3 2 6 9	7 5 3 6
BUTTE TO HELENA							**45 N.MI.**
53,000	-56.5	-58 -1 2 3	-56 1 3 5	-58 -1 1 2	-60 -4 -1 0	-58 -1 2 3	5 4 3 4
40,000	-56.5	-56 0 5 7	-57 -0 4 6	-54 2 5 6	-56 0 3 5	-56 1 4 5	7 6 4 5
30,000	-44.5	-51 -6 -4 -2	-48 -4 -1 -0	-38 6 8 9	-43 1 4 5	-45 -1 3 4	4 3 3 4
20,000	-21.2	-27 -6 -1 1	-22 -1 2 4	-11 10 12 13	-18 3 6 8	-20 2 5 7	7 5 3 5
10,000	- 4.6	-12 -8 -3 -0	-5 -1 3 5	8 13 15 16	-1 3 7 9	-3 2 6 9	7 5 3 6
BUTTE TO IDAHO FALLS							**147 N.MI.**
53,000	-56.5	-59 -2 1 3	-56 0 3 4	-59 -3 -1 1	-61 -5 -2 -1	-59 -2 1 2	5 4 3 4
40,000	-56.5	-56 0 5 7	-57 -1 3 5	-55 2 4 6	-56 0 3 5	-56 0 3 5	7 6 3 5
30,000	-44.5	-50 -6 -3 -2	-48 -3 -1 0	-38 7 8 9	-43 2 4 6	-45 -0 3 5	4 3 3 4
20,000	-21.2	-26 -5 -0 2	-21 0 3 5	-10 11 13 14	-17 4 7 9	-19 3 6 8	7 4 3 5
10,000	- 4.6	-11 -6 -1 1	-4 0 4 6	9 14 16 17	-0 4 8 10	-1 3 8 10	7 5 3 6
CALGARY TO CRANBROOK							**115 N.MI.**
53,000	-56.5	-56 0 4 5	-54 3 6 7	-53 4 6 7	-58 -1 1 3	-55 1 4 6	5 4 3 4
40,000	-56.5	-56 1 5 7	-55 2 6 8	-53 3 6 8	-56 1 4 6	-55 2 5 7	6 6 4 5
30,000	-44.5	-52 -8 -5 -3	-49 -4 -2 -1	-40 4 6 7	-45 -0 2 4	-47 -2 1 3	4 3 3 4
20,000	-21.2	-30 -9 -4 -1	-24 -3 1 2	-14 7 9 10	-21 1 4 6	-22 -1 3 5	7 5 3 5
10,000	- 4.6	-15 -11 -5 -2	-8 -3 0 2	4 8 11 12	-5 -0 4 6	-6 -1 3 5	8 5 4 6
CALGARY TO EDMONTON							**134 N.MI.**
53,000	-56.5	-56 0 4 6	-53 4 6 8	-52 5 7 8	-57 -0 2 3	-54 2 5 6	5 4 3 4
40,000	-56.5	-55 1 5 7	-54 2 6 8	-53 4 7 9	-55 1 5 6	-54 2 6 7	6 6 5 5
30,000	-44.5	-53 -8 -5 -4	-49 -5 -3 -1	-41 3 6 7	-46 -1 1 3	-47 -3 1 2	4 3 3 4
20,000	-21.2	-32 -10 -5 -3	-25 -4 -0 2	-15 6 9 10	-21 -0 3 5	-23 -2 2 4	7 5 3 5
10,000	- 4.6	-17 -13 -7 -4	-9 -4 -1 1	2 7 10 11	-6 -1 3 5	-7 -3 2 4	8 5 4 6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CALGARY TO GREAT FALLS																									240 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-54	2	4	6	-58	-2	1	2	-56	1	3	5	5	4	3	4
40,000	-56.5	-56	1	5	7	-55	1	5	7	-53	3	6	7	-56	0	4	6	-55	1	5	6	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-40	5	7	8	-45	-0	3	4	-46	-2	2	3	4	3	3	4
20,000	-21.2	-30	-8	-4	-1	-23	-2	1	3	-13	8	10	11	-20	1	5	7	-21	-0	4	6	7	5	3	5
10,000	- 4.6	-15	-10	-5	-2	-7	-3	1	3	5	10	12	13	-4	1	5	7	-5	-1	4	6	8	5	4	6
CALGARY TO LETHBRIDGE																									100 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-53	3	6	7	-58	-1	1	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-56	1	5	7	-55	2	6	8	-53	3	6	8	-56	1	4	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-40	4	6	7	-45	-0	2	3	-47	-2	1	3	4	3	3	4
20,000	-21.2	-30	-9	-4	-1	-24	-3	1	2	-14	7	9	11	-21	1	4	6	-22	-1	3	5	7	5	3	5
10,000	- 4.6	-16	-11	-6	-3	-8	-3	0	2	4	9	11	12	-5	-0	4	6	-6	-1	3	6	8	5	4	6
CALGARY TO REGINA																									357 N.MI.
53,000	-56.5	-56	0	4	6	-54	3	5	7	-53	3	5	7	-58	-1	1	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-55	1	5	7	-55	2	6	8	-53	4	6	8	-55	1	4	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-3	-1	-40	4	6	8	-45	-1	2	3	-47	-2	1	3	4	3	3	4
20,000	-21.2	-32	-10	-5	-3	-24	-3	0	2	-14	7	9	11	-21	0	4	6	-23	-1	3	5	7	5	3	5
10,000	- 4.6	-17	-13	-7	-4	-8	-4	-0	2	4	8	11	12	-5	-0	4	6	-7	-2	3	5	8	5	4	6
CALGARY TO SASKATOON																									280 N.MI.
53,000	-56.5	-56	1	4	6	-53	3	6	7	-52	4	6	7	-57	-1	2	3	-55	2	4	6	5	4	3	4
40,000	-56.5	-55	1	5	7	-55	2	6	8	-53	4	7	8	-55	1	5	6	-54	2	5	7	6	6	4	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-41	4	6	7	-46	-1	1	3	-47	-3	1	3	4	3	3	4
20,000	-21.2	-32	-11	-6	-3	-24	-3	0	2	-14	7	9	10	-21	-0	4	6	-23	-2	2	4	7	5	3	5
10,000	- 4.6	-18	-13	-7	-4	-9	-4	-1	1	3	8	10	12	-6	-1	3	5	-7	-3	2	5	8	5	4	6
CALGARY TO TORONTO																									1451 N.MI.
53,000	-56.5	-57	-0	3	5	-55	2	4	6	-55	1	4	5	-58	-2	1	2	-56	0	3	5	5	4	4	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	3	6	8	-55	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-39	6	8	9	-45	-0	3	4	-46	-2	2	4	4	4	3	4
20,000	-21.2	-31	-9	-5	-3	-24	-3	1	2	-12	9	11	12	-19	2	5	7	-22	-0	4	6	6	5	3	5
10,000	- 4.6	-17	-12	-7	-5	-8	-4	0	2	4	8	11	12	-3	1	5	7	-6	-2	3	5	7	6	4	6
CALGARY TO VANCOUVER																									570 N.MI.
53,000	-56.5	-56	0	4	5	-53	3	6	7	-52	4	6	7	-58	-1	2	3	-55	2	4	6	5	4	3	4
40,000	-56.5	-56	1	5	7	-55	2	6	8	-53	4	7	8	-56	1	4	6	-55	2	5	7	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-1	-40	4	6	7	-45	-0	2	4	-46	-2	1	3	4	3	3	4
20,000	-21.2	-29	-8	-3	0	-24	-3	1	2	-14	7	9	10	-21	1	4	6	-22	-1	3	5	7	5	3	5
10,000	- 4.6	-15	-10	-5	-2	-8	-3	-0	1	3	7	10	11	-5	-0	4	6	-6	-2	3	5	8	5	4	5
CARLSBAD TO EL PASO																									115 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-9	-6	-5	-70	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-56	0	4	5	-58	-1	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-45	1	3	4	-42	3	4	5	-32	12	13	14	-37	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	9	11	-6	15	16	17	-10	11	13	14	-12	10	12	13	4	3	1	3
10,000	- 4.6	-0	4	8	9	5	10	13	14	12	17	18	19	7	12	14	15	6	11	13	15	5	4	2	3
CARLSBAD TO HOBBS																									55 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-4	-69	-13	-11	-10	-71	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-56	0	4	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-32	12	13	14	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	9	5	10	12	14	12	17	18	18	7	12	14	15	6	11	13	14	5	4	2	3
CASPER TO CHEYENNE																									129 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	1	5	8	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-36	9	10	11	-42	3	5	6	-43	1	4	6	3	3	3	3
20,000	-21.2	-25	-4	1	3	-20	1	4	6	-9	13	14	15	-15	6	9	11	-17	4	7	9	6	4	2	4
10,000	- 4.6	-9	-5	-0	2	-2	3	6	8	11	16	18	19	2	7	10	12	0	5	9	12	6	5	3	5
CASPER TO DENVER																									202 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	1	-63	-7	-5	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	8	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	1	-36	9	10	11	-41	3	5	7	-43	2	5	6	3	3	2	3
20,000	-21.2	-24	-3	1	3	-19	2	4	6	-8	13	14	15	-14	7	10	11	-17	5	8	10	6	4	2	4
10,000	- 4.6	-9	-4	0	3	-1	3	7	9	12	16	18	19	2	7	10	12	1	6	10	12	6	5	3	5
CASPER TO RAPID CITY																									164 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	1	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-3	-1	1	4	4	3	4
40,000	-56.5	-56	1	5	8	-57	-1	3	5	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-0	1	-36	8	10	11	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-1	2	-21	1	4	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	2	4
10,000	- 4.6	-10	-6	-1	1	-3	1	5	7	10	15	17	18	1	6	9	11	-1	4	8	11	7	5	3	6
CASPER TO SALT LAKE CITY																									277 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	1	5	8	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-36	8	10	11	-41	3	5	7	-43	1	4	6	3	3	2	3
20,000	-21.2	-24	-3	1	3	-20	1	4	5	-9	12	14	15	-15	6	9	11	-17	4	7	9	6	4	2	4
10,000	- 4.6	-9	-4	0	2	-2	3	6	8	12	17	19	20	2	7	10	12	1	5	10	12	6	5	3	5
CASPER TO SHERIDAN																									114 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-61	-4	-2	-1	-62	-5	-3	-2	-60	-3	-0	1	5	4	3	4
40,000	-56.5	-56	1	5	8	-57	-1	3	5	-55	2	4	5	-56	0	3	5	-56	0	3	5	7	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-1	0	-37	8	9	10	-42	2	5	6	-44	0	4	5	4	3	3	4
20,000	-21.2	-26	-5	-1	2	-21	0	3	5	-9	12	13	14	-16	5	8	10	-18	3	7	8	7	4	2	5
10,000	- 4.6	-11	-6	-1	1	-3	1	5	7	10	15	17	18	1	5	9	11	-1	4	8	11	7	5	3	6
CASTLEGAR TO CRANBROOK																									74 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-53	3	5	6	-58	-2	1	2	-55	1	4	5	5	4	3	4
40,000	-56.5	-56	0	5	7	-55	1	5	8	-53	3	6	8	-56	0	4	6	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-1	-40	5	7	8	-44	0	3	4	-46	-2	2	3	4	3	3	4
20,000	-21.2	-29	-7	-2	0	-23	-2	1	3	-14	8	10	11	-20	1	5	7	-21	-0	4	6	7	5	3	5
10,000	- 4.6	-14	-10	-4	-1	-7	-3	0	2	4	9	11	12	-4	1	4	6	-5	-1	3	6	8	5	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY •D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CASTLEGAR TO PENTICTON																									77 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-53	3	6	7	-58	-2	1	2	-55	1	4	5	5	4	5	4
40,000	-56.5	-56	0	5	7	-55	1	6	8	-53	3	6	8	-56	0	4	6	-55	1	5	7	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-2	-0	-40	5	7	8	-44	0	3	4	-46	-2	2	4	4	3	3	4
20,000	-21.2	-28	-7	-2	1	-24	-2	1	3	-14	7	10	11	-20	1	5	7	-21	-0	4	6	7	5	3	5
10,000	- 4.6	-14	-9	-4	-1	-8	-3	0	2	3	8	10	12	-4	0	4	6	-6	-1	3	6	8	5	4	5
CEDAR RAPIDS TO CHICAGO																									170 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-19	2	5	6	-9	12	14	15	-15	6	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-4	1	4	6	7	11	13	14	1	6	9	11	-2	3	7	9	6	5	3	5
CEDAR RAPIDS TO DES MOINES																									90 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-62	-6	-4	-2	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	1	4	7	-57	-1	3	5	-54	3	4	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-35	9	11	12	-42	3	5	7	-43	2	5	7	5	3	3	4
20,000	-21.2	-25	-4	-0	2	-19	2	5	6	-9	13	14	15	-15	7	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-3	1	5	7	8	12	14	15	2	6	10	12	-1	4	7	10	6	5	3	5
CEDAR RAPIDS TO MINNEAPOLIS																									192 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	1	3	-61	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	4	4	3	4
40,000	-56.5	-55	1	5	7	-57	-0	4	6	-54	3	5	6	-56	1	4	5	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	1	-36	8	10	12	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-21	1	4	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	3	5
10,000	- 4.6	-12	-7	-3	-0	-5	-0	3	5	7	11	13	15	1	5	9	11	-2	2	6	9	6	5	3	5
CEDAR RAPIDS TO MOLINE																									59 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-35	9	11	12	-42	3	5	7	-43	2	5	7	5	3	3	4
20,000	-21.2	-25	-3	-0	2	-19	2	5	7	-9	13	14	15	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	1	5	6	7	12	14	15	2	6	10	12	-1	3	7	9	6	5	3	5
CHARLESTON, S.C. TO CHARLOTTE																									146 N.MI.
53,000	-56.5	-67	-11	-9	-7	-64	-8	-5	-4	-67	-11	-9	-8	-69	-13	-10	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-2	1	2	-58	-2	1	2	-55	1	2	3	-56	1	3	4	-57	-0	1	2	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-37	7	9	11	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	8	1	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
CHARLESTON, S.C. TO COLUMBIA																									83 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-68	-11	-9	-8	-70	-13	-11	-9	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-2	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	8	10	11	-7	14	15	16	-10	11	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-1	4	7	8	2	6	9	10	8	12	13	14	6	10	12	13	4	8	10	11	4	4	2	3
CHARLESTON,S.C. TO FLORENCE																									79 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-67	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-2	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	6	7	-34	11	12	13	-37	7	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	8	2	6	9	10	8	12	13	14	5	10	12	13	4	8	10	11	4	4	2	3
CHARLESTON, S.C. TO JACKSONVILLE																									170 N.MI.
53,000	-56.5	-69	-13	-11	-10	-66	-10	-8	-7	-68	-12	-10	-9	-71	-15	-13	-11	-69	-12	-10	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	0	2	2	-55	1	3	4	-57	-0	2	3	3	4	2	3
30,000	-44.5	-41	4	6	6	-40	5	7	7	-34	11	12	13	-36	8	11	12	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	8	10	11	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	3	3	1	3
CHARLESTON, S.C. TO NORFOLK																									505 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-66	-10	-8	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-2	1	3	-58	-2	1	3	-55	1	3	3	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	10	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-15	7	9	10	-8	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	5	8	9	7	12	13	14	5	9	11	13	3	7	10	11	4	4	2	3
CHARLESTON, S.C. TO SAVANNAH																									77 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-68	-11	-10	-9	-71	-14	-12	-10	-68	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-2	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	11	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	3	7	9	11	8	12	13	14	6	11	13	14	4	9	11	12	4	3	2	3
CHARLESTON, S.C. TO WILMINGTON, N.C.																									135 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-67	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-2	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	8	2	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
CHARLESTON, W.VA. TO CHARLOTTE																									192 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-5	-3	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
CHARLESTON, W.VA. TO CINCINNATI																									149 N.MI.
53,000	-56.5	-63	-6	-3	-2	-60	-4	-1	0	-64	-8	-6	-4	-66	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	1	2	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	3	7	8	3	3	3	4
20,000	-21.2	-21	1	4	5	-17	4	7	8	-8	13	15	15	-13	9	11	13	-15	7	10	11	4	4	2	4
10,000	- 4.6	-7	-2	2	4	-2	2	6	7	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHARLESTON, W.VA. TO CLEVELAND																									183 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-65	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-0	3	4	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	0	2	-5	1	5	6	6	11	13	14	2	7	10	11	-1	4	7	9	6	5	2	5
CHARLESTON, W.VA. TO COLUMBUS, OHIO																									115 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	1	-64	-7	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	2	4	-35	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	2	5	7	7	11	13	14	3	7	10	12	-0	5	8	9	5	5	2	4
CHARLESTON, W.VA. TO GREENSBORO																									157 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-65	-9	-7	-5	-67	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	2	3	-55	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	1	4	5	-35	10	12	13	-39	5	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4
CHARLESTON, W.VA. TO HUNTINGTON																									45 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-64	-8	-6	-5	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	3	6	8	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4
CHARLESTON, W.VA. TO HUNTSVILLE																									326 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-1	-66	-10	-7	-6	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	8	10	-8	14	15	16	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	4	5	-0	5	7	9	8	12	14	14	4	9	11	13	2	7	9	11	5	4	2	4
CHARLESTON, W.VA. TO KNOXVILLE																									191 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	2	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	16	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	4	7	9	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
CHARLESTON, W.VA. TO LEXINGTON																									143 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	5	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
CHARLESTON, W.VA. TO LOUISVILLE																									195 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	5	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
CHARLESTON, W.VA. TO NEW YORK																									386 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-0	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-21	0	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
CHARLESTON, W.VA. TO PITTSBURGH																									142 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-3	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	3	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-18	4	6	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	2	5	7	7	11	13	14	2	7	10	11	-0	4	7	9	6	5	2	4
CHARLESTON, W.VA. TO ROANOKE																									100 N.MI.
53,000	-56.5	-64	-7	-4	-3	-61	-5	-2	-0	-65	-8	-6	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	10	12	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-16	5	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-1	3	4	-2	3	6	8	7	11	13	14	3	8	10	12	1	5	8	10	5	5	2	4
CHARLESTON, W.VA. TO WASHINGTON, D.C.																									216 N.MI.
53,000	-56.5	-63	-6	-4	-2	-60	-4	-1	0	-64	-8	-5	-4	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	1	3	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	3	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-13	9	11	13	-15	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	2	5	7	7	11	13	14	3	7	10	12	0	5	8	9	5	5	2	4
CHARLOTTE TO CHATTANOOGA																									210 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-3	-67	-10	-8	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	7	9	10	-7	14	15	16	-11	10	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-2	2	5	7	1	6	8	10	8	12	14	14	5	10	12	13	3	7	10	11	4	4	2	3
CHARLOTTE TO CHICAGO																									521 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-64	-8	-6	-4	-66	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-35	10	12	12	-40	5	7	8	-41	3	7	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	13	15	15	-13	9	11	12	-15	7	9	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	0	5	8	10	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHARLOTTE TO CLEVELAND																									374 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	11	12	-40	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-13	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	3	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
CHARLOTTE TO COLUMBIA																									77 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-67	-11	-9	-7	-69	-12	-10	-8	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	10	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
CHARLOTTE TO COLUMBUS, OHIO																									302 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-65	-9	-6	-5	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	10	12	13	-39	5	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	2	5	6	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-1	3	5	-1	3	6	8	7	12	13	14	3	8	11	12	1	6	8	10	5	5	2	4
CHARLOTTE TO DANVILLE																									112 N.MI.
53,000	-56.5	-66	-9	-7	-5	-63	-6	-4	-2	-66	-10	-7	-6	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	4	6	-34	10	12	13	-38	6	8	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-15	6	8	10	-8	13	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	5	6	0	5	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	4
CHARLOTTE TO GREENSBORO																									71 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-66	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	10	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	0	5	8	9	7	12	13	14	4	9	11	13	2	7	9	11	4	4	2	3
CHARLOTTE TO GREENVILLE																									73 N.MI.
53,000	-56.5	-66	-10	-8	-6	-63	-7	-4	-3	-67	-10	-8	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	7	9	10	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-2	2	5	7	1	6	8	10	8	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
CHARLOTTE TO JACKSONVILLE																									290 N.MI.
53,000	-56.5	-68	-12	-10	-9	-65	-9	-7	-5	-68	-11	-10	-9	-70	-14	-11	-10	-68	-12	-9	-7	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	11	-7	14	15	16	-10	12	14	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	8	2	7	9	11	8	12	14	14	6	11	12	14	4	9	11	12	4	4	2	3
CHARLOTTE TO MIAMI																									567 N.MI.
53,000	-56.5	-70	-14	-12	-11	-67	-11	-9	-8	-69	-12	-11	-10	-72	-16	-13	-12	-70	-13	-11	-9	3	3	2	4
40,000	-56.5	-58	-1	1	2	-57	-1	2	3	-56	0	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-8	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	4	8	10	11	8	13	14	14	7	11	13	14	5	10	11	12	3	3	1	2
CHARLOTTE TO NEW YORK																									469 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	10	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	7	7	11	13	13	3	8	10	12	1	5	8	9	5	4	2	4
CHARLOTTE TO PHILADELPHIA																									389 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-65	-8	-6	-5	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	5	-35	10	12	12	-39	5	8	9	-40	4	7	9	3	3	3	4
20,000	-21.2	-19	2	5	7	-17	5	7	9	-8	13	14	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-2	3	6	8	7	11	13	14	3	8	10	12	1	5	8	10	5	4	2	4
CHARLOTTE TO RALEIGH																									112 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-66	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	10	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	0	5	8	9	7	12	13	14	4	9	11	12	2	7	9	11	4	4	2	3
CHARLOTTE TO RICHMOND																									222 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	8	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	6	8	9	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
CHARLOTTE TO SPARTANBURG																									53 N.MI.
53,000	-56.5	-66	-10	-8	-6	-63	-7	-4	-3	-67	-10	-8	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	7	9	10	-7	14	15	16	-11	10	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-2	2	5	7	1	6	8	10	8	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
CHARLOTTE TO WASHINGTON, D.C.																									287 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-65	-9	-6	-5	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-35	10	12	13	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	3	5	-1	4	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHATTANOOGA TO CINCINNATI																								242 N.MI.	
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-16	6	8	9	-8	13	15	16	-12	10	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-0	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
CHATTANOOGA TO GREENVILLE																								141 N.MI.	
53,000	-56.5	-66	-10	-8	-6	-63	-7	-4	-3	-67	-11	-9	-8	-68	-12	-9	-8	-66	-10	-7	-5	5	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	1	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
CHATTANOOGA TO KNOXVILLE																								76 N.MI.	
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-67	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-5	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-54	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-15	7	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	8	10	8	13	14	15	5	10	12	13	3	7	10	11	4	4	2	3
CHATTANOOGA TO LEXINGTON																								182 N.MI.	
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-1	-66	-10	-8	-6	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	8	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	0	4	5	0	5	8	9	8	12	14	14	4	9	12	13	2	7	9	11	5	4	2	4
CHATTANOOGA TO MEMPHIS																								235 N.MI.	
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-2	-68	-11	-9	-8	-68	-12	-9	-8	-66	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-14	7	9	11	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	2	6	9	11	9	13	14	15	6	10	13	14	3	8	10	12	4	4	2	3
CHATTANOOGA TO NASHVILLE																								98 N.MI.	
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-67	-10	-8	-7	-68	-11	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	5	-42	3	5	6	-34	11	12	13	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	7	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	8	10	8	13	14	15	5	10	12	13	3	7	10	11	4	4	2	4
CHATTANOOGA TO ROME																								41 N.MI.	
53,000	-56.5	-67	-10	-8	-7	-64	-7	-4	-3	-67	-11	-9	-8	-69	-12	-10	-8	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3
CHATTANOOGA TO WASHINGTON, D.C.																								453 N.MI.	
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	2	3	-55	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	0	3	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
CHEYENNE TO DENVER																								83 N.MI.	
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-64	-8	-6	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-48	-4	-2	-0	-46	-1	1	2	-35	9	11	12	-41	4	6	7	-43	2	5	7	3	3	2	3
20,000	-21.2	-24	-2	2	4	-19	2	5	6	-8	13	15	15	-14	8	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-8	-3	1	3	-1	4	8	9	12	16	18	19	3	8	11	13	2	6	10	12	6	5	3	5
CHICAGO TO CINCINNATI																								230 N.MI.	
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	4	5	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-35	9	11	12	-41	4	6	7	-42	2	6	8	3	3	3	4
20,000	-21.2	-23	-2	1	3	-18	3	6	7	-9	13	14	15	-14	7	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	1	5	7	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
CHICAGO TO CLEVELAND																								273 N.MI.	
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-56	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	0	2	-20	2	5	6	-9	12	14	15	-15	7	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-5	-0	3	5	6	11	13	14	1	6	9	11	-2	3	6	8	6	5	3	5
CHICAGO TO COLUMBUS, OHIO																								256 N.MI.	
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-62	-6	-4	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	6	7	3	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	1	4	6	7	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
CHICAGO TO DALLAS																								693 N.MI.	
53,000	-56.5	-64	-7	-4	-3	-61	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-34	11	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-21	1	4	5	-16	5	8	9	-7	14	15	16	-12	9	12	13	-14	7	10	11	4	4	2	3
10,000	- 4.6	-5	-1	3	4	0	5	8	10	9	13	15	16	4	9	12	13	2	7	10	11	5	5	2	4
CHICAGO TO DAYTON																								209 N.MI.	
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-63	-6	-4	-2	-64	-7	-5	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-35	9	11	12	-41	3	6	7	-42	2	6	7	3	3	3	4
20,000	-21.2	-23	-2	1	3	-19	3	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	1	4	6	7	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHICAGO TO DENVER																									781 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-3	0	1	-63	-7	-5	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-35	9	11	12	-41	3	6	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-24	-3	1	3	-19	2	5	7	-8	13	14	15	-14	7	10	11	-16	5	8	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-2	5	6	8	9	14	15	17	2	7	10	12	0	5	9	11	6	5	3	5
CHICAGO TO DES MOINES																									259 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	3	3	3	4
20,000	-21.2	-25	-4	-0	2	-19	2	5	6	-9	12	14	15	-15	7	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	1	4	6	7	12	14	15	2	6	10	11	-1	3	7	9	6	5	3	5
CHICAGO TO DETROIT																									203 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	2	-61	-5	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	4	6	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-36	8	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-0	3	5	6	11	12	14	1	5	9	11	-2	2	6	8	6	5	3	5
CHICAGO TO EVANSVILLE																									237 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-64	-7	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	4
20,000	-21.2	-23	-1	2	3	-18	3	6	8	-8	13	15	15	-13	8	11	12	-16	6	9	11	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-3	2	5	7	7	12	14	14	3	7	10	12	-0	4	8	10	6	5	3	5
CHICAGO TO FORT LAUDERDALE																									1028 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-67	-11	-9	-8	-69	-13	-10	-9	-67	-10	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	2	3	-55	1	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	5	7	8	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
CHICAGO TO GRAND RAPIDS																									113 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-2	-0	-46	-2	1	2	-36	8	11	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	1	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-7	-2	-0	-5	-0	3	5	6	11	13	14	1	5	9	11	-2	2	6	8	6	5	3	5
CHICAGO TO GREENSBORO																									511 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-64	-7	-5	-4	-65	-9	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	3	4	-35	10	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	2	5	7	7	12	13	14	3	7	10	12	0	5	8	9	5	5	2	4
CHICAGO TO HARRISBURG																									510 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	6	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	0	4	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
CHICAGO TO HARTFORD																									681 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-1	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-2	1	2	-36	8	10	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	1	2	-20	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	1	5	9	10	-3	2	6	8	6	5	3	5
CHICAGO TO HONOLULU																									3685 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-65	-8	-6	-5	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	4	-54	2	4	5	-55	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-36	9	10	11	-39	5	7	8	-40	4	7	8	4	3	3	3
20,000	-21.2	-18	3	6	8	-16	5	7	9	-8	13	15	16	-12	9	12	13	-14	8	10	12	5	4	2	4
10,000	- 4.6	-2	2	6	7	0	5	8	9	9	14	15	16	4	9	11	13	3	7	10	12	5	4	2	4
CHICAGO TO HOUSTON																									821 N.MI.
53,000	-56.5	-65	-8	-6	-5	-63	-6	-4	-2	-67	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-1	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	1	6	9	11	9	13	15	16	5	10	12	14	3	8	10	12	5	4	2	4
CHICAGO TO INDIANAPOLIS																									154 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-3	0	2	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-35	9	11	12	-41	3	6	7	-42	2	6	7	3	3	3	4
20,000	-21.2	-23	-2	1	3	-18	3	6	7	-9	13	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
CHICAGO TO KANSAS CITY																									350 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-5	-3	-64	-8	-5	-4	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-35	9	11	12	-41	3	6	7	-42	2	6	7	3	3	3	4
20,000	-21.2	-24	-2	1	3	-18	3	6	7	-8	13	15	15	-14	7	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	2	6	7	8	12	14	15	2	7	10	12	-0	4	8	10	6	5	3	5
CHICAGO TO LAS VEGAS																									1313 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	0	-64	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	1	2	-35	10	11	12	-41	4	6	7	-42	2	6	7	3	3	2	3
20,000	-21.2	-23	-2	2	4	-18	3	6	7	-8	13	15	16	-13	8	11	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-7	-2	2	4	-1	4	7	9	11	15	17	18	3	8	11	13	2	6	10	12	6	5	3	5

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHICAGO TO LOS ANGELES																									1512 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	-0	-65	-9	-7	-6	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-35	10	11	12	-40	4	6	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-22	-1	3	5	-18	3	6	7	-7	14	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	-0	4	8	10	11	16	17	18	4	8	11	13	2	7	10	12	6	5	3	5
CHICAGO TO LOUISVILLE																									249 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-7	-5	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	4
20,000	-21.2	-23	-1	2	4	-18	3	6	8	-8	13	14	15	-13	8	10	12	-16	6	9	11	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-3	2	5	7	7	12	13	14	2	7	10	12	-0	4	8	9	6	5	3	5
CHICAGO TO MADISON																									94 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-5	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-36	8	11	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	6	-9	12	14	15	-15	6	9	11	-18	4	7	9	5	4	3	4
10,000	- 4.6	-11	-7	-2	-0	-5	-0	3	5	6	11	13	14	1	5	9	11	-2	2	6	8	6	5	3	5
CHICAGO TO MEMPHIS																									426 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	1	2	-44	1	3	4	-35	10	12	13	-40	4	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-21	-0	3	5	-17	5	7	9	-8	13	15	16	-13	9	11	12	-15	7	10	11	5	4	2	4
10,000	- 4.6	-7	-2	2	3	-1	3	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
CHICAGO TO MIAMI																									1041 N.MI.
53,000	-56.5	-67	-11	-8	-7	-65	-8	-6	-4	-67	-11	-9	-8	-69	-13	-10	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-57	-1	2	3	-55	1	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
CHICAGO TO MILWAUKEE																									58 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-2	1	3	-61	-5	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-2	-0	-46	-2	1	2	-36	8	11	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	-0	-5	-0	3	5	6	11	13	14	1	5	9	11	-2	2	6	8	6	5	3	5
CHICAGO TO MINNEAPOLIS																									290 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-4	-1	-0	-61	-5	-2	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-55	1	5	7	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	1	-36	8	10	12	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-1	0	-21	0	3	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-5	-1	3	5	6	11	13	14	0	5	9	11	-3	2	6	8	6	5	3	5
CHICAGO TO MOLINE																									121 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	3	3	3	4
20,000	-21.2	-25	-3	0	2	-19	2	5	6	-9	12	14	15	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	1	4	6	7	11	13	14	1	6	10	11	-1	3	7	9	6	5	3	5
CHICAGO TO MONTREAL																									647 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	3	4	-59	-2	0	2	-60	-4	-1	1	-59	-2	1	3	4	4	4	4
40,000	-56.5	-55	1	5	8	-55	1	5	8	-53	3	6	7	-55	2	5	7	-55	2	5	6	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-37	7	10	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-2	0	-22	-1	2	4	-11	10	13	14	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-7	-3	1	3	4	9	11	12	-1	4	8	10	-4	0	4	6	7	5	3	6
CHICAGO TO MUSKEGON																									103 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-1	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-36	8	10	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-20	1	4	6	-9	12	14	15	-15	6	9	11	-18	4	7	9	5	4	3	5
10,000	- 4.6	-11	-7	-2	-0	-5	-1	3	5	6	10	13	14	1	5	9	11	-2	2	6	8	6	5	3	5
CHICAGO TO NASHVILLE																									356 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-64	-8	-6	-4	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	3	4	-35	10	12	12	-40	4	7	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-22	-0	3	4	-17	4	7	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	3	6	8	7	12	14	15	3	8	11	12	0	5	8	10	5	5	2	4
CHICAGO TO NEW ORLEANS																									728 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-6	-4	-2	-67	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	1	5	8	10	8	13	14	15	5	10	12	13	3	7	10	11	5	4	2	4
CHICAGO TO NEW YORK																									641 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-3	-1	1	-46	-1	1	2	-36	8	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-20	2	5	6	-9	12	14	15	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
CHICAGO TO OMAHA																									405 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	5	6	5	3	4
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-35	9	11	12	-41	3	5	7	-43	2	5	7	3	3	3	4
20,000	-21.2	-25	-3	0	2	-19	2	5	7	-9	13	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	1	5	7	8	12	14	15	2	6	10	12	-1	4	8	10	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHICAGO TO PHILADELPHIA																									587 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	5	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	0	4	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
CHICAGO TO PHOENIX																									1249 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-66	-9	-7	-6	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-34	10	12	13	-40	4	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-22	-0	3	5	-17	4	7	8	-7	14	15	16	-12	9	11	13	-15	7	9	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	0	5	8	10	11	15	17	18	4	9	12	13	2	7	10	12	6	5	2	5
CHICAGO TO PITTSBURGH																									358 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-1	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	14	1	6	9	11	-2	3	7	8	6	5	3	5
CHICAGO TO PORTLAND, ORE.																									1507 N.MI.
53,000	-56.5	-59	-2	1	3	-57	-0	2	4	-59	-3	-0	1	-61	-5	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-56	1	5	7	-57	-0	4	6	-54	2	5	6	-56	0	3	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-1	1	-37	7	9	10	-43	2	4	6	-44	0	4	5	4	3	3	4
20,000	-21.2	-27	-5	-1	1	-21	0	3	5	-10	11	13	14	-17	4	7	9	-19	3	6	8	6	4	3	5
10,000	- 4.6	-11	-7	-2	0	-5	-0	3	5	8	12	14	16	-0	4	8	10	-2	2	7	9	7	5	3	6
CHICAGO TO PROVIDENCE																									735 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-2	1	2	-36	8	10	12	-42	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	1	3	-20	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	1	5	9	10	-3	2	6	8	6	5	3	5
CHICAGO TO ROCHESTER, MINN.																									233 N.MI.
53,000	-56.5	-60	-3	-0	2	-58	-1	1	3	-61	-4	-2	-1	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	2	-36	8	11	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-20	1	4	5	-9	12	14	15	-16	6	9	10	-18	3	7	9	5	4	3	5
10,000	- 4.6	-11	-7	-3	-0	-5	-0	3	5	6	11	13	14	1	5	9	11	-2	2	6	8	6	5	3	5
CHICAGO TO ROCHESTER, N.Y.																									457 N.MI.
53,000	-56.5	-59	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	7	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-37	8	10	11	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	5	7	6	5	3	5
CHICAGO TO ST. LOUIS																									224 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-5	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	3	5	6	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	4
20,000	-21.2	-23	-2	1	3	-18	3	6	8	-8	13	15	15	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	2	5	7	7	12	14	15	2	7	10	12	-0	4	8	10	6	5	3	5
CHICAGO TO SAGINAW																									192 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-60	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-36	8	10	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-21	1	4	5	-10	12	14	15	-16	6	9	10	-18	3	7	9	5	4	3	5
10,000	- 4.6	-12	-7	-3	-0	-6	-1	3	5	6	10	12	13	0	5	9	11	-3	2	6	8	6	5	3	5
CHICAGO TO SALT LAKE CITY																									1082 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-1	3	5	-54	2	4	5	-56	0	3	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	2	-36	9	11	12	-42	3	5	7	-43	1	5	7	3	3	3	3
20,000	-21.2	-25	-4	0	2	-20	2	4	6	-9	13	14	15	-15	7	9	11	-17	4	8	9	6	4	2	4
10,000	- 4.6	-9	-5	-1	2	-2	2	6	8	10	14	16	17	2	6	10	12	-0	5	9	11	6	5	3	5
CHICAGO TO SAN FRANCISCO																									1600 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	-0	1	-63	-7	-5	-4	-64	-7	-5	-3	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	2	4	-54	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-36	9	10	11	-41	3	6	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-23	-2	2	4	-19	2	5	6	-8	13	14	15	-14	7	10	11	-16	5	8	10	6	4	2	4
10,000	- 4.6	-8	-3	1	3	-2	3	6	8	10	15	17	18	2	7	10	12	1	5	9	12	6	5	3	5
CHICAGO TO SEATTLE																									1491 N.MI.
53,000	-56.5	-58	-2	1	3	-56	0	3	4	-58	-2	1	2	-60	-4	-1	-0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-56	1	5	8	-56	0	4	6	-54	2	5	6	-56	0	4	5	-56	1	4	5	7	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-38	7	9	10	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-27	-6	-2	1	-22	-0	3	4	-11	11	12	14	-18	4	7	9	-19	2	6	8	6	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-5	-1	3	5	7	11	14	15	-1	4	7	10	-3	2	6	8	7	5	3	6
CHICAGO TO SOUTH BEND																									73 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	3	6	-54	3	5	6	-56	1	4	6	-56	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-25	-3	0	2	-20	2	5	6	-9	12	14	15	-15	6	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-6	-2	0	-4	0	4	6	6	11	13	14	1	6	9	11	-2	3	6	8	6	5	3	5
CHICAGO TO SPOKANE																									1301 N.MI.
53,000	-56.5	-58	-2	1	3	-56	0	3	4	-59	-2	0	1	-61	-4	-2	-0	-58	-2	1	3	5	4	3	4
40,000	-56.5	-56	1	5	8	-56	0	4	6	-54	2	5	6	-56	0	4	5	-56	1	4	5	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-37	7	9	10	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-28	-6	-2	0	-22	-0	3	4	-10	11	13	14	-17	4	7	9	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-8	-3	-1	-5	-1	3	5	7	12	14	15	-1	4	8	10	-3	2	6	9	7	5	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE — JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHICAGO TO SPRINGFIELD, ILL.																									183 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-35	9	11	12	-41	3	6	7	-42	2	6	8	3	3	3	4
20,000	-21.2	-23	-2	1	3	-18	3	6	7	-8	13	14	15	-14	7	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	2	5	7	7	12	14	15	2	7	10	12	-1	4	7	9	6	5	3	5
CHICAGO TO TAMPA																									881 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-67	-10	-8	-7	-69	-12	-10	-8	-66	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	3	-55	2	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	10	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-15	7	9	10	-7	14	15	16	-11	10	13	14	-13	9	11	12	4	3	2	3
10,000	- 4.6	-3	2	5	6	1	6	8	10	8	12	14	14	5	10	12	13	3	7	10	11	4	4	2	3
CHICAGO TO TOLEDO																									185 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-56	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	0	2	-20	2	5	6	-9	12	14	15	-15	6	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-5	-0	4	5	6	11	13	14	1	6	9	11	-2	3	6	8	6	5	3	5
CHICAGO TO TORONTO																									378 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-53	3	5	6	-55	1	4	6	-55	1	4	6	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-37	8	10	11	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-21	0	3	5	-10	11	13	14	-16	6	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	1	5	7	6	5	3	5
CHICAGO TO TUCSON																									1247 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-1	-66	-10	-8	-7	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	0	2	3	-34	11	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	0	3	5	-17	5	7	8	-7	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-5	-0	3	5	1	6	9	11	11	15	17	18	4	9	12	14	3	7	11	12	6	5	2	4
CHICAGO TO TULSA																									508 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	3	4	5	-56	1	3	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	0	2	-44	0	2	3	-35	10	12	13	-40	4	6	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	4	-17	4	7	8	-8	13	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-1	3	7	9	8	13	15	15	3	8	11	13	1	5	9	11	5	5	2	5
CHICAGO TO WASHINGTON, D.C.																									530 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	2	3	-36	9	11	12	-41	4	6	7	-42	2	6	8	4	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	12	14	15	-14	7	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	4	7	9	6	5	3	5
CHICAGO TO WATERLOO																									203 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	2	-61	-5	-3	-1	-63	-6	-3	-2	-61	-4	-1	.	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-0	3	6	-54	3	5	6	-56	1	4	5	-56	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-2	-0	-46	-1	1	2	-36	9	11	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-20	2	4	6	-9	12	14	15	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-4	0	4	6	7	11	13	14	1	6	9	11	-2	3	7	9	6	5	3	5
CHICAGO TO WEST PALM BEACH																									995 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-67	-10	-8	-7	-69	-13	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	2	3	-55	1	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	10	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	6	8	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
CINCINNATI TO CLEVELAND																									192 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	12	14	15	-14	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	-0	2	-4	1	4	6	7	11	13	14	2	7	10	11	-1	4	7	9	6	5	3	5
CINCINNATI TO COLUMBUS, OHIO																									100 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-0	3	4	-17	4	7	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-3	2	5	7	7	12	13	14	3	7	10	12	-0	4	8	9	5	5	2	4
CINCINNATI TO DALLAS																									698 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	1	6	9	10	9	13	15	16	5	10	12	14	3	7	10	12	5	4	2	4
CINCINNATI TO DAYTON																									55 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-65	-9	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-35	10	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-22	-0	3	4	-17	4	7	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	2	5	7	7	12	13	14	3	7	10	12	-0	5	8	9	5	5	2	4
CINCINNATI TO DETROIT																									200 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	4	5	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	3	3	3	4
20,000	-21.2	-23	-2	2	3	-19	3	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CLEVELAND TO COLUMBUS, OHIO																									97 N.MI.
53,000	-56.5	-61	-4	-1	-0	-59	-2	0	2	-62	-6	-4	-2	-64	-7	-5	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-19	3	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-1	2	-4	1	4	6	6	11	13	14	2	6	9	11	-1	3	7	9	6	5	3	5
CLEVELAND TO DAYTON																									141 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-2	2	4	-19	3	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
CLEVELAND TO DETROIT																									83 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	3	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	8	10	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	1	2	-20	1	4	6	-10	12	14	15	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-1	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
CLEVELAND TO FT. WAYNE																									153 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-1	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	13	1	6	9	11	-2	3	6	8	6	5	3	5
CLEVELAND TO GRAND RAPIDS																									192 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-2	1	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-36	8	10	12	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-3	0	2	-20	1	4	6	-10	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	0	-5	-1	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
CLEVELAND TO HARTFORD																									413 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	3	-61	-5	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	6	-10	11	13	14	-15	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
CLEVELAND TO INDIANAPOLIS																									226 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-35	9	11	12	-41	4	6	7	-42	2	6	7	3	3	3	4
20,000	-21.2	-23	-2	2	3	-18	3	6	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	1	4	6	7	11	13	14	2	6	10	11	-1	4	7	9	6	5	3	5
CLEVELAND TO KNOXVILLE																									351 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-64	-8	-5	-4	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	1	3	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	3	7	8	3	3	3	4
20,000	-21.2	-21	1	4	5	-17	4	7	8	-8	13	14	15	-13	9	11	12	-15	7	9	11	4	4	2	4
10,000	- 4.6	-7	-2	2	3	-2	2	6	7	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4
CLEVELAND TO LOS ANGELES																									1779 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	-0	-65	-9	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-35	10	12	12	-40	4	6	8	-42	3	6	8	3	3	2	3
20,000	-21.2	-22	-1	3	5	-18	4	6	8	-8	14	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	-0	4	7	9	10	15	17	18	4	8	11	13	2	7	10	12	6	5	2	5
CLEVELAND TO MIAMI																									940 N.MI.
53,000	-56.5	-67	-11	-9	-7	-65	-8	-6	-5	-67	-11	-9	-8	-70	-13	-11	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-57	-1	2	3	-55	1	2	3	-55	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-34	10	12	13	-37	7	9	11	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	10	11	-8	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
CLEVELAND TO MILWAUKEE																									284 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-2	1	3	-61	-5	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-36	8	10	12	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-3	-0	2	-20	1	4	6	-10	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-1	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
CLEVELAND TO NEW YORK																									368 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
CLEVELAND TO PHILADELPHIA																									515 N.MI.
53,000	-56.5	-61	-4	-1	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	0	4	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
CLEVELAND TO PITTSBURGH																									93 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-2	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
CLEVELAND TO ROCHESTER, N.Y.																									212 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	2	3	-60	-4	-1	-0	-62	-6	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	4	6	-56	1	4	7	-54	3	5	6	-55	1	5	6	-55	1	4	5	6	6	5	5
30,000	-44.5	-48	-4	-1	0	-46	-2	1	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-24	-3	0	2	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-6	-1	2	4	5	10	11	13	0	5	8	10	-3	2	5	7	6	5	5	5
CLEVELAND TO ST. LOUIS																									422 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-7	-5	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	3	4	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	4
20,000	-21.2	-23	-1	2	4	-18	3	6	8	-8	13	14	15	-13	8	10	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-3	2	5	7	7	12	13	14	2	7	10	12	-0	4	7	9	6	5	3	5
CLEVELAND TO ST. PETERSBURG																									811 N.MI.
53,000	-56.5	-66	-10	-8	-6	-64	-7	-5	-4	-67	-10	-8	-7	-69	-12	-10	-9	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-55	1	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	10	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	7	9	10	-8	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	1	5	8	10	8	12	13	14	5	10	12	13	3	7	10	11	4	4	2	3
CLEVELAND TO TAMPA																									808 N.MI.
53,000	-56.5	-66	-10	-8	-6	-64	-7	-5	-4	-67	-10	-8	-7	-69	-12	-10	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-55	1	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	10	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	7	9	10	-8	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	1	5	8	10	8	12	13	14	5	10	12	13	3	7	10	11	4	4	2	3
CLEVELAND TO TOLEDO																									88 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-2	1	3	-20	2	5	6	-9	12	14	15	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
CLEVELAND TO TORONTO																									168 N.MI.
53,000	-56.5	-59	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	6	-55	1	5	6	-55	1	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
CLEVELAND TO WASHINGTON, D.C.																									269 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-46	-2	0	2	-45	-0	2	3	-36	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-0	3	4	-18	3	6	7	-9	12	14	15	-13	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	1	4	6	6	11	12	13	2	6	9	11	-1	4	7	9	6	5	2	5
CLOVIS TO LUBBOCK																									77 N.MI.
53,000	-56.5	-66	-9	-7	-5	-64	-7	-5	-3	-69	-12	-10	-9	-69	-13	-11	-9	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	0	2	4	5	4	2	3
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-33	12	13	14	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	8	4	9	12	13	12	16	18	18	6	11	13	15	5	10	12	14	5	4	2	4
CLOVIS TO SANTA FE																									164 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-6	-4	-2	-68	-12	-10	-9	-68	-12	-10	-8	-66	-10	-6	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	0	2	4	6	4	2	3
30,000	-44.5	-46	-1	1	2	-43	1	3	4	-33	12	13	14	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	8	9	-6	15	16	17	-11	10	12	14	-13	8	11	12	5	4	2	3
10,000	- 4.6	-2	2	6	8	4	8	11	13	13	17	19	19	6	11	13	15	5	10	13	14	5	4	2	4
COLLEGE STATION TO HOUSTON																									80 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-11	-8	-7	-71	-14	-12	-12	-73	-17	-15	-14	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	3	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-32	12	13	14	-36	9	11	12	-37	7	9	11	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-6	15	16	17	-8	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	11	6	11	13	14	10	15	16	16	8	13	14	15	7	11	13	14	4	4	1	3
COLLEGE STATION TO TEMPLE																									64 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-8	-6	-70	-14	-12	-11	-73	-16	-14	-13	-70	-13	-10	-9	3	4	2	3
40,000	-56.5	-57	-0	2	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-32	12	13	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	9	10	-13	9	11	12	-6	15	16	17	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	9	10	6	11	13	14	10	15	16	17	8	12	14	15	6	11	13	14	4	4	1	3
COLORADO SPRINGS TO DENVER																									58 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	0	-65	-9	-7	-6	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-2	2	3	-55	2	4	4	-56	0	3	5	-56	0	2	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	1	2	-35	10	11	12	-40	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-23	-1	2	4	-18	3	6	7	-8	14	15	16	-13	8	11	12	-15	6	9	10	6	4	2	4
10,000	- 4.6	-7	-2	2	4	0	5	8	10	12	17	19	19	4	8	12	13	2	7	11	13	6	5	3	5
COLORADO SPRINGS TO OKLAHOMA CITY																									397 N.MI.
53,000	-56.5	-64	-7	-4	-3	-62	-5	-2	-1	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	1	3	4	-34	11	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-21	0	4	6	-16	5	7	9	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	3
10,000	- 4.6	-5	-0	3	5	2	7	10	11	11	16	17	18	5	9	12	14	3	8	11	13	5	5	2	4
COLORADO SPRINGS TO PUEBLO																									53 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-0	-66	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-2	1	3	-55	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-3	-1	0	-45	-1	1	3	-34	10	12	12	-40	4	6	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-22	-1	3	5	-18	3	6	7	-7	14	15	16	-13	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	1	6	9	11	12	17	18	19	4	9	12	14	3	7	11	13	6	5	2	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
COLUMBIA TO FLORENCE																									71 N.MI.
53,000	-56.5	-67	-11	-9	-7	-64	-8	-5	-4	-67	-11	-9	-8	-69	-13	-10	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-2	1	2	-58	-2	1	2	-55	1	3	3	-56	1	3	4	-57	-0	1	2	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-37	7	9	11	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	8	1	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
COLUMBIA TO GREENVILLE																									82 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-7	-5	-4	-67	-11	-9	-8	-69	-12	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
COLUMBIA TO JACKSONVILLE																									214 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-68	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	3	2	3
COLUMBIA TO MERIDIAN																									395 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-68	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-33	11	12	13	-37	7	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
COLUMBIA TO MONTGOMERY																									283 N.MI.
53,000	-56.5	-68	-12	-9	-8	-65	-9	-6	-5	-68	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
COLUMBIA TO PENSACOLA																									373 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-69	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-55	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	8	10	11	8	13	14	15	7	11	13	14	5	9	11	12	4	4	2	3
COLUMBIA TO RALEIGH																									162 N.MI.
53,000	-56.5	-67	-10	-8	-7	-63	-7	-4	-3	-67	-10	-8	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-2	1	3	-58	-2	1	2	-55	1	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	5	7	9	-15	7	9	10	-8	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	5	8	10	7	12	13	14	5	9	11	13	3	7	10	11	4	4	2	3
COLUMBIA TO SAVANNAH																									116 N.MI.
53,000	-56.5	-68	-12	-10	-8	-65	-9	-6	-5	-68	-11	-9	-8	-70	-14	-11	-10	-68	-11	-9	-7	3	4	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	7	9	11	8	12	13	14	6	10	12	13	4	9	11	12	4	4	2	3
COLUMBIA TO WASHINGTON, D.C.																									354 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	6	8	9	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-1	4	7	8	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
COLUMBUS,GA. TO MONTGOMERY																									75 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-5	-69	-12	-10	-9	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-55	1	3	3	-55	1	3	4	-57	-0	2	2	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	12	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	3	8	10	11	9	13	14	15	7	11	13	14	5	9	11	12	4	4	2	3
COLUMBUS,GA. TO PENSACOLA																									168 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-10	-8	-6	-69	-13	-11	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	3	2	5
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-55	1	2	3	-55	1	3	4	-57	-0	2	3	3	4	2	5
30,000	-44.5	-41	4	6	7	-40	5	6	7	-33	11	12	13	-36	8	10	11	-37	7	9	10	5	3	2	3
20,000	-21.2	-14	7	9	11	-12	9	11	12	-7	14	16	16	-9	12	14	15	-10	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	12	13	3	3	1	5
COLUMBUS,GA. TO TALLAHASSEE																									131 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-10	-8	-7	-69	-12	-11	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	5	2	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	3	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	7	7	-33	11	12	13	-36	8	10	12	-37	7	9	10	5	3	2	3
20,000	-21.2	-14	7	10	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	4	8	11	12	8	13	14	15	7	12	13	14	5	10	11	12	3	3	1	3
COLUMBUS, OHIO TO DAYTON																									62 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-7	-5	-3	-65	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	3	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	0	2	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	0	2	-3	1	5	7	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
COLUMBUS, OHIO TO DETROIT																									136 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-65	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	0	4	6	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
COLUMBUS, OHIO TO INDIANAPOLIS																									157 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-64	-7	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	0	2	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	4	6	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	0	2	-3	2	5	7	7	12	13	14	2	7	10	12	-0	4	8	9	6	5	2	5
COLUMBUS, OHIO TO LOUISVILLE																									172 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	1	-64	-8	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	2	4	-35	10	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	2	6	7	7	12	13	14	3	7	10	12	0	5	8	10	5	5	2	4
COLUMBUS, OHIO TO NEW YORK																									418 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	5	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	3	5	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	5
COLUMBUS, OHIO TO PHILADELPHIA																									352 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-0	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-8	-3	0	2	-4	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
COLUMBUS, OHIO TO PITTSBURGH																									126 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	12	14	15	-13	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	1	4	6	6	11	13	14	2	7	10	11	-1	4	7	9	6	5	2	5
COLUMBUS, OHIO TO TAMPA																									722 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-5	-4	-67	-11	-9	-8	-69	-13	-10	-9	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	1	3	-55	1	3	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	11	12	13	-37	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
COLUMBUS, OHIO TO TOLEDO																									104 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-62	-6	-4	-2	-64	-7	-5	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-19	3	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
COLUMBUS, OHIO TO WASHINGTON, D.C.																									280 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-7	-5	-3	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	3	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-18	4	6	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	5	7	7	11	13	14	2	7	10	11	-0	4	7	9	6	5	2	4
CONCORD TO FITCHBURG																									40 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	8	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	2	4	-11	10	13	14	-16	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	4	6	6	5	3	5
CONCORD TO LACONIA																									22 N.MI.
53,000	-56.5	-58	-2	1	2	-56	0	3	4	-59	-2	0	2	-61	-4	-1	1	-58	-2	1	3	4	4	4	5
40,000	-56.5	-55	1	5	7	-55	2	6	8	-54	2	5	6	-54	2	5	7	-55	2	5	6	6	6	4	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	1	-37	7	10	11	-42	2	5	7	-44	1	5	6	4	4	4	4
20,000	-21.2	-25	-4	-0	2	-23	-2	2	3	-11	10	12	13	-16	5	9	10	-19	3	6	8	6	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
COMOX TO PORT HARDY																									111 N.MI.
53,000	-56.5	-56	1	4	6	-53	4	7	8	-52	5	7	8	-57	-0	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	1	6	8	-54	2	6	9	-53	4	7	9	-55	2	5	7	-54	2	6	8	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-4	-1	-0	-42	3	5	7	-45	-0	3	4	-46	-2	2	3	4	3	4	4
20,000	-21.2	-28	-6	-2	0	-24	-3	0	2	-15	7	9	10	-21	0	4	6	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-13	-8	-3	-1	-9	-4	-1	0	1	6	8	9	-5	-0	3	5	-6	-2	2	4	7	4	3	5
COMOX TO VANCOUVER																									75 N.MI.
53,000	-56.5	-56	0	4	5	-53	3	6	8	-52	4	6	8	-57	-1	2	3	-55	2	4	6	5	4	3	4
40,000	-56.5	-56	1	5	8	-55	2	6	8	-53	4	7	9	-55	1	5	7	-55	2	6	8	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	-0	-41	4	6	7	-44	0	3	4	-46	-1	2	4	4	3	3	4
20,000	-21.2	-27	-6	-1	1	-24	-3	1	3	-14	7	9	11	-20	1	4	6	-21	-0	4	6	7	5	3	5
10,000	- 4.6	-13	-8	-3	-1	-8	-4	-1	1	2	7	9	10	-4	0	4	5	-6	-1	3	5	7	5	3	5
CORPUS CHRISTI TO HOUSTON																									163 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-12	-10	-8	-71	-15	-13	-12	-74	-18	-16	-14	-71	-15	-12	-10	3	3	2	3
40,000	-56.5	-57	-0	2	3	-57	-1	2	3	-55	2	3	3	-55	2	3	4	-56	1	2	3	4	3	2	2
30,000	-44.5	-40	5	6	7	-39	5	7	8	-32	12	13	14	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	10	12	13	-6	15	16	17	-8	13	15	15	-10	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	7	12	14	15	10	15	16	16	8	13	15	16	7	12	13	14	3	3	1	2
CORPUS CHRISTI TO SAN ANTONIO																									118 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-12	-10	-8	-71	-15	-13	-12	-74	-18	-16	-14	-71	-15	-12	-10	3	3	2	3
40,000	-56.5	-57	-0	2	4	-57	-1	2	3	-55	2	3	3	-55	2	3	4	-56	1	2	3	4	3	2	2
30,000	-44.5	-40	4	6	7	-39	5	7	7	-32	13	14	14	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	10	11	12	-6	15	16	17	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	7	12	14	15	11	15	16	17	9	13	15	16	7	12	14	14	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DALLAS TO DENVER																									568 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-6	-3	-2	-67	-11	-9	-8	-68	-11	-9	-8	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-46	-1	1	2	-43	1	3	4	-33	11	12	13	-39	5	7	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-7	14	16	16	-11	10	12	13	-14	8	10	12	5	4	2	3
10,000	- 4.6	-4	0	4	6	3	7	10	12	11	16	17	18	5	10	13	14	4	8	11	13	5	5	2	4
DALLAS TO EL PASO																									487 N.MI.
53,000	-56.5	-67	-11	-8	-7	-65	-8	-6	-5	-70	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-56	0	3	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-32	12	13	14	-37	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	10	11	-6	15	16	17	-10	11	13	14	-12	10	12	13	4	3	1	3
10,000	- 4.6	-0	4	7	9	5	10	13	14	12	16	17	18	7	12	14	15	6	10	13	14	5	4	2	3
DALLAS TO FT. WORTH																									10 N.MI.
53,000	-56.5	-67	-11	-8	-7	-65	-8	-6	-4	-69	-13	-11	-10	-71	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	4	-41	3	5	6	-33	12	13	14	-37	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	8	-14	8	10	11	-6	15	16	17	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	8	5	9	12	13	10	15	16	17	7	12	14	15	5	10	12	13	4	4	2	3
DALLAS TO HOUSTON																									208 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-10	-7	-6	-70	-13	-12	-11	-72	-16	-14	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-0	2	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-32	12	13	14	-37	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	10	-13	8	11	12	-6	15	16	17	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	8	10	6	10	13	14	10	15	16	16	8	12	14	15	6	11	13	14	4	4	1	3
DALLAS TO JACKSON																									336 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-1	2	4	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	5	6	-33	12	13	14	-37	7	9	10	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-6	15	16	16	-9	12	14	15	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	8	4	9	11	13	10	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
DALLAS TO KANSAS CITY																									392 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	4
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-33	11	13	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-15	6	8	10	-7	14	16	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	2	7	10	11	10	14	16	17	5	10	13	14	3	8	11	12	5	4	2	4
DALLAS TO LAS VEGAS																									925 N.MI.
53,000	-56.5	-65	-8	-6	-5	-63	-7	-4	-3	-68	-12	-10	-9	-69	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	0	2	3	6	4	2	3
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-33	11	13	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	3	6	8	-15	6	8	9	-6	15	16	17	-11	10	13	14	-13	8	11	12	5	4	2	3
10,000	- 4.6	-2	3	6	8	3	8	11	13	13	17	18	19	6	11	13	15	5	10	13	14	5	4	2	4
DALLAS TO LAWTON																									129 N.MI.
53,000	-56.5	-66	-10	-8	-6	-64	-8	-5	-4	-69	-12	-11	-10	-70	-13	-11	-10	-67	-11	-8	-6	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-33	12	13	14	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-14	7	9	11	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-2	3	6	8	4	9	12	13	11	15	16	17	7	11	14	15	5	10	12	13	5	4	2	3
DALLAS TO LITTLE ROCK																									256 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-33	12	13	14	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-7	15	16	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	4	8	11	13	10	15	16	16	7	11	13	15	5	9	12	13	4	4	2	3
DALLAS TO LOS ANGELES																									1080 N.MI.
53,000	-56.5	-65	-9	-7	-5	-64	-7	-5	-3	-69	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-33	11	13	13	-38	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	7	8	-15	6	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	5	3	2	3
10,000	- 4.6	-1	4	7	9	4	8	11	13	12	17	18	19	6	11	13	15	5	10	13	14	5	4	2	4
DALLAS TO LOUISVILLE																									630 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-6	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	2	6	9	11	9	14	15	16	5	10	13	14	3	8	10	12	5	4	2	4
DALLAS TO LUBBOCK																									254 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-13	-11	-10	-70	-14	-12	-10	-68	-11	-8	-6	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-33	12	13	14	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	8	5	9	12	14	11	16	17	17	7	11	14	15	5	10	12	14	5	4	2	3
DALLAS TO MCALESTER																									133 N.MI.
53,000	-56.5	-66	-10	-8	-6	-64	-7	-5	-3	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-33	12	13	14	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-14	7	9	11	-6	15	16	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	4	9	11	13	10	15	16	17	7	11	13	15	5	9	12	13	4	4	2	3
DALLAS TO MEMPHIS																									367 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-3	-69	-12	-10	-9	-70	-13	-11	-9	-67	-11	-7	-6	3	4	3	4
40,000	-56.5	-57	-0	2	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-33	11	13	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-7	15	16	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	3	8	11	12	10	14	15	16	6	11	13	15	4	9	11	13	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DALLAS TO MIAMI																									963 N.MI.
53,000	-56.5	-71	-14	-12	-11	-68	-12	-9	-8	-70	-14	-12	-11	-73	-17	-15	-14	-71	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-1	2	3	-57	-0	2	3	-56	1	2	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	6	7	8	-33	12	13	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-11	10	12	13	-6	15	16	16	-8	13	15	16	-10	12	13	14	3	3	1	2
10,000	- 4.6	3	7	9	11	5	10	12	13	9	14	15	15	8	12	14	15	6	11	12	13	3	3	1	2
DALLAS TO MIDLAND																									276 N.MI.
53,000	-56.5	-67	-11	-8	-7	-65	-9	-6	-5	-70	-13	-11	-10	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	2	3	4	-41	3	5	6	-32	12	13	14	-37	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	8	10	11	-6	15	16	17	-10	12	13	14	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	9	5	10	13	14	11	16	17	17	7	12	14	15	6	10	13	14	4	4	2	3
DALLAS TO MONROE																									244 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	2	4	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-33	12	13	14	-37	7	9	10	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-6	15	16	16	-10	12	14	15	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	8	4	9	12	13	10	15	16	16	7	12	14	15	5	10	12	13	4	4	2	3
DALLAS TO NEW ORLEANS																									379 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-70	-13	-12	-11	-72	-16	-13	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	12	13	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	9	10	-13	9	11	12	-6	15	16	16	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	8	9	5	10	12	13	10	15	16	16	7	12	14	15	6	10	12	13	4	4	1	3
DALLAS TO NEW YORK																									1199 N.MI.
53,000	-56.5	-64	-7	-5	-4	-62	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	1	3	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-16	5	8	9	-8	13	15	16	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-0	4	7	9	8	13	14	15	4	9	11	13	2	6	9	11	5	5	2	4
DALLAS TO OKLAHOMA CITY																									158 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-7	-6	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-33	12	13	14	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-14	7	9	10	-6	15	16	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	6	7	4	9	11	13	10	15	16	17	6	11	13	15	5	9	12	13	5	4	2	4
DALLAS TO ORLANDO																									840 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-10	-8	-7	-70	-13	-12	-11	-73	-16	-14	-13	-70	-13	-10	-9	3	3	2	3
40,000	-56.5	-57	-1	1	3	-58	-1	1	3	-55	1	2	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-41	4	6	7	-40	5	7	7	-33	12	13	13	-36	8	10	12	-37	7	9	10	2	2	2	3
20,000	-21.2	-14	7	10	11	-12	9	11	12	-6	15	16	16	-9	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	6	9	10	5	9	12	13	9	14	15	15	7	12	14	15	6	10	12	13	3	3	1	3
DALLAS TO ST. LOUIS																									474 N.MI.
53,000	-56.5	-65	-8	-6	-5	-63	-6	-3	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	4
30,000	-44.5	-44	0	2	3	-43	2	4	5	-33	11	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	2	7	10	11	9	14	15	16	5	10	13	14	3	8	11	12	5	4	2	4
DALLAS TO SAN ANTONIO																									216 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-10	-7	-6	-70	-14	-12	-11	-72	-16	-14	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	5	-41	4	6	6	-32	12	13	14	-37	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	12	-6	15	16	17	-9	12	14	15	-11	10	12	14	3	3	1	3
10,000	- 4.6	1	5	8	10	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	2	3
DALLAS TO SAN FRANCISCO																									1279 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-6	-3	-2	-67	-11	-9	-8	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	4	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-34	10	12	13	-39	6	8	9	-41	4	7	8	3	3	2	3
20,000	-21.2	-19	2	6	7	-16	5	8	9	-7	15	16	16	-11	10	12	13	-13	8	10	12	5	4	2	3
10,000	- 4.6	-2	2	6	8	2	7	10	12	12	17	18	19	5	10	13	14	4	9	12	14	5	5	2	4
DALLAS TO SEATTLE																									1449 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-4	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-1	2	4	-54	2	4	5	-56	0	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	10	11	-41	4	6	7	-43	2	5	7	3	3	2	3
20,000	-21.2	-23	-2	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	6	4	2	4
10,000	- 4.6	-7	-3	1	4	-1	4	7	9	10	15	17	18	2	7	10	12	1	6	9	11	6	5	3	5
DALLAS TO SHREVEPORT																									155 N.MI.
53,000	-56.5	-67	-11	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	2	4	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-33	12	13	14	-37	7	9	10	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-13	8	10	11	-6	15	16	17	-10	12	13	14	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	8	5	9	12	13	10	15	16	16	7	12	14	15	5	10	12	13	4	4	2	3
DALLAS TO TUCSON																									714 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-5	-69	-13	-11	-10	-71	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-56	0	4	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-33	12	13	14	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-14	7	9	11	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	9	5	10	12	14	12	17	18	18	7	12	14	15	6	10	13	14	5	4	2	3
DALLAS TO TULSA																									207 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-68	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-33	12	13	14	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-14	7	9	10	-7	15	16	16	-10	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	3	8	11	12	10	15	16	17	6	11	13	15	4	9	12	13	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DALLAS TO WACO																									**77 N.MI.**
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-70	-13	-11	-10	-71	-15	-13	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-32	12	13	14	-37	7	9	11	-38	6	9	10	3	2	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	9	5	10	12	14	10	15	16	17	7	12	14	15	6	10	12	14	4	4	2	3
DALLAS TO WASHINGTON, D.C.																									**1026 N.MI.**
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	8	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
DALLAS TO WICHITA FALLS																									**107 N.MI.**
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-13	-11	-10	-70	-14	-11	-10	-68	-11	-8	-6	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-33	12	13	14	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	8	4	9	12	13	11	15	16	17	7	11	14	15	5	10	12	13	4	4	2	3
DANVILLE TO GREENSBORO																									**41 N.MI.**
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	8	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	6	8	10	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
DANVILLE TO RICHMOND																									**112 N.MI.**
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-65	-9	-6	-5	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-35	10	12	12	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	3	5	-1	3	6	8	7	11	13	14	3	8	11	12	1	6	8	10	5	4	2	4
DAWSON CITY TO MAYO																									**89 N.MI.**
53,000	-56.5	-54	3	7	9	-48	8	11	12	-47	10	12	13	-51	5	7	9	-50	6	9	10	6	4	3	3
40,000	-56.5	-54	3	7	10	-50	6	9	11	-49	7	11	12	-52	4	7	9	-51	5	9	11	7	5	5	4
30,000	-44.5	-54	-9	-7	-5	-52	-8	-5	-4	-44	1	3	4	-50	-6	-3	-2	-50	-6	-2	-0	4	4	3	4
20,000	-21.2	-34	-13	-8	-6	-30	-9	-6	-4	-18	4	6	7	-27	-6	-3	-1	-27	-6	-2	0	6	5	3	5
10,000	- 4.6	-20	-15	-11	-8	-14	-9	-7	-5	-2	3	5	6	-12	-7	-4	-3	-12	-7	-3	-1	7	4	3	4
DAYTON TO FT. WAYNE																									**79 N.MI.**
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-7	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	6	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-35	9	11	12	-41	4	6	7	-42	2	6	8	3	3	3	4
20,000	-21.2	-23	-1	2	4	-18	3	6	7	-9	13	14	15	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
DAYTON TO HARTFORD																									**536 N.MI.**
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
DAYTON TO INDIANAPOLIS																									**96 N.MI.**
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-64	-7	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	0	2	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	4	6	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	0	3	-3	2	5	7	7	12	13	14	3	7	10	12	-0	4	8	9	6	5	2	5
DAYTON TO LOS ANGELES																									**1668 N.MI.**
53,000	-56.5	-63	-6	-3	-2	-61	-5	-2	-1	-66	-9	-7	-6	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	0	2	3	-34	10	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	0	4	5	-17	4	7	8	-7	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-5	-0	3	6	0	5	8	10	11	15	17	18	4	9	12	13	3	7	11	12	6	5	2	4
DAYTON TO NEW YORK																									**479 N.MI.**
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-8	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	3	6	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	1	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	5
DAYTON TO PITTSBURGH																									**187 N.MI.**
53,000	-56.5	-61	-5	-2	-0	-59	-3	0	2	-63	-7	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	2	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	12	14	15	-13	8	11	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-4	1	4	6	6	11	13	14	2	7	10	11	-1	4	7	9	6	5	2	5
DAYTON TO ST. LOUIS																									**294 N.MI.**
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	1	-64	-8	-6	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-35	10	12	13	-40	4	6	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-17	4	7	8	-8	13	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	0	5	8	10	5	5	2	4
DAYTON TO WASHINGTON, D.C.																									**339 N.MI.**
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-18	4	6	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	2	5	7	7	11	13	14	2	7	10	12	-0	4	7	9	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DAYTONA BEACH TO JACKSONVILLE																									80 N.MI.
53,000	-56.5	-71	-14	-13	-11	-68	-12	-10	-8	-69	-13	-11	-10	-73	-17	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	1	2	-57	-0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	6	7	8	-33	11	12	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-10	12	13	14	3	3	1	2
10,000	- 4.6	3	7	10	11	4	9	11	12	8	13	14	14	7	12	14	14	6	10	12	13	3	3	1	2
DAYTONA BEACH TO LAKELAND																									87 N.MI.
53,000	-56.5	-72	-15	-13	-12	-69	-13	-11	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	10	12	13	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
DAYTONA BEACH TO MELBOURNE																									69 N.MI.
53,000	-56.5	-72	-15	-13	-12	-69	-12	-11	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	1	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	10	12	13	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
DAYTONA BEACH TO MIAMI																									207 N.MI.
53,000	-56.5	-73	-16	-14	-13	-70	-13	-11	-10	-70	-14	-12	-12	-74	-18	-16	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	1	2	-56	0	2	3	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	5	10	12	13	8	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
DAYTONA BEACH TO ORLANDO																									41 N.MI.
53,000	-56.5	-72	-15	-13	-12	-69	-12	-10	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-12	10	11	12	-11	10	12	13	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
DAYTONA BEACH TO TAMPA																									107 N.MI.
53,000	-56.5	-72	-15	-13	-12	-69	-13	-11	-10	-70	-13	-12	-11	-74	-17	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	10	12	13	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
DAYTONA BEACH TO WEST PALM BEACH																									158 N.MI.
53,000	-56.5	-72	-16	-14	-13	-70	-13	-11	-10	-70	-13	-12	-11	-74	-18	-15	-14	-71	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-10	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	10	11	5	10	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
DENVER TO EL PASO																									484 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-6	-3	-2	-67	-11	-9	-8	-68	-11	-9	-8	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	4	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-33	11	12	13	-39	5	8	9	-41	4	7	8	3	3	2	3
20,000	-21.2	-20	2	5	7	-16	5	7	9	-7	15	16	16	-11	10	12	13	-13	8	10	12	5	4	2	3
10,000	- 4.6	-3	1	5	7	3	7	10	12	13	17	19	20	5	10	13	14	4	9	12	14	5	5	2	4
DENVER TO GRAND JUNCTION																									174 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	0	-65	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-2	2	3	-55	2	4	4	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-48	-3	-1	-0	-46	-1	1	2	-35	10	11	12	-41	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-23	-2	2	5	-19	3	5	7	-8	14	15	15	-13	8	11	12	-16	6	9	10	6	4	2	4
10,000	- 4.6	-7	-2	2	4	0	5	8	10	13	18	19	20	3	8	11	13	2	7	11	13	6	5	3	5
DENVER TO KANSAS CITY																									478 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	0	-65	-9	-6	-5	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-2	2	4	-55	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-3	-1	0	-45	-1	2	3	-34	10	12	13	-41	4	6	7	-42	3	6	7	3	3	2	3
20,000	-21.2	-23	-2	2	4	-18	3	6	7	-8	14	15	16	-13	8	11	12	-15	6	9	10	5	4	2	4
10,000	- 4.6	-7	-2	2	4	-0	5	8	10	10	15	17	18	3	8	11	13	2	6	10	12	6	5	3	5
DENVER TO LAS VEGAS																									534 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-1	-66	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-3	4	4	3	3
40,000	-56.5	-56	0	5	7	-58	-2	2	3	-54	2	4	5	-56	0	3	5	-56	0	2	4	7	5	2	4
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-35	10	11	12	-40	5	7	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-21	-0	4	6	-18	3	6	7	-7	14	15	16	-13	9	11	13	-15	6	9	11	6	4	2	4
10,000	- 4.6	-5	-0	4	6	1	5	9	10	13	18	20	20	4	9	12	14	3	8	12	14	6	5	2	5
DENVER TO LINCOLN																									377 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-3	-1	1	-64	-8	-6	-5	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	-0	-46	-1	1	2	-35	10	11	12	-41	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-24	-2	1	3	-18	3	5	7	-8	13	15	15	-14	8	10	12	-16	5	8	10	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-1	4	7	9	11	15	17	18	3	8	11	13	1	6	10	12	6	5	3	5
DENVER TO LOS ANGELES																									736 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-66	-10	-8	-7	-66	-10	-7	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	4	7	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	10	11	12	-40	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-20	1	5	7	-17	4	6	8	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-3	1	5	7	1	6	9	11	13	18	19	20	4	9	12	14	4	8	12	14	6	5	2	5
DENVER TO LUBBOCK																									395 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-5	-3	-1	-67	-10	-9	-8	-67	-11	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	1	2	3	-34	11	12	13	-39	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	7	9	-7	14	16	16	-12	10	12	13	-14	7	10	11	5	4	2	3
10,000	- 4.6	-4	0	4	6	2	7	10	12	12	17	18	19	5	10	12	14	4	8	12	13	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DENVER TO MILWAUKEE																									787 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-48	-4	-2	-0	-46	-1	1	2	-35	9	11	12	-41	3	5	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-25	-4	0	2	-19	2	5	6	-9	13	14	15	-14	7	10	11	-17	4	8	10	5	4	2	4
10,000	- 4.6	-9	-5	-1	2	-2	2	6	8	9	13	15	16	2	7	10	12	-0	4	8	10	6	5	3	5
DENVER TO MINNEAPOLIS																									601 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	2	-62	-6	-3	-2	-63	-6	-4	-2	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	5	8	-57	-1	3	5	-54	2	4	5	-56	0	3	5	-56	1	3	4	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-46	-2	0	1	-36	9	11	12	-42	3	5	6	-43	1	5	6	3	3	3	4
20,000	-21.2	-26	-4	-0	2	-20	1	4	6	-9	12	14	15	-15	6	9	10	-17	4	7	9	6	4	2	4
10,000	- 4.6	-10	-5	-1	1	-3	2	5	7	9	14	16	17	2	6	10	12	-1	4	8	10	6	5	3	5
DENVER TO NEW YORK																									1419 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	1	-45	-1	1	2	-35	9	11	12	-41	3	6	7	-42	2	5	7	3	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	7	-9	13	14	15	-14	7	10	12	-16	5	8	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	2	5	7	8	12	14	15	2	7	10	12	-1	4	8	10	6	5	3	5
DENVER TO OMAHA																									377 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-3	-1	1	-64	-8	-6	-5	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	-0	-46	-1	1	2	-35	10	11	12	-41	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-24	-2	1	3	-18	3	5	7	-8	13	15	15	-14	8	10	12	-16	5	8	10	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-1	4	7	9	11	15	17	18	3	8	11	13	1	6	10	12	6	5	3	5
DENVER TO PHOENIX																									512 N.MI.
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-2	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-56	1	5	7	-58	-2	1	3	-54	2	4	5	-56	1	3	4	-56	0	3	4	6	5	2	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-34	11	12	13	-39	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-20	1	5	7	-17	4	7	8	-7	14	16	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-4	1	5	7	2	7	10	11	14	18	20	20	5	10	12	14	4	9	12	14	6	5	2	4
DENVER TO PORTLAND, ORE.																									854 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	2	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-57	-0	5	7	-58	-1	3	5	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-37	7	9	10	-42	3	5	6	-44	1	4	5	4	3	3	4
20,000	-21.2	-25	-5	1	3	-21	1	4	5	-10	12	13	14	-16	5	9	10	-18	4	7	9	7	4	2	5
10,000	- 4.6	-9	-4	-0	2	-3	1	5	7	10	14	16	18	1	5	9	11	-0	4	8	11	7	5	3	5
DENVER TO RAPID CITY																									270 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	8	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	1	-36	9	11	11	-42	3	5	7	-43	1	5	6	3	3	3	3
20,000	-21.2	-25	-4	0	3	-20	2	4	6	-9	13	14	15	-15	6	9	11	-17	4	8	9	6	4	2	4
10,000	- 4.6	-9	-5	-0	2	-2	3	6	8	11	15	17	18	2	7	10	12	0	5	9	12	6	5	3	5
DENVER TO RENO																									687 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-8	-6	-5	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	4	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	10	11	-41	4	6	7	-43	2	5	6	3	3	2	3
20,000	-21.2	-22	-1	3	5	-19	2	5	6	-8	13	14	15	-13	8	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-6	-2	2	4	-1	4	7	9	13	17	19	20	3	8	11	13	2	7	11	13	6	5	3	5
DENVER TO SALT LAKE CITY																									330 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-3	-1	1	-64	-8	-6	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	5	8	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-48	-4	-2	-0	-46	-2	0	1	-36	9	10	11	-41	4	6	7	-43	2	5	6	3	3	2	3
20,000	-21.2	-23	-2	2	4	-19	2	5	6	-8	13	14	15	-14	8	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-8	-3	1	3	-1	4	8	9	13	17	19	20	3	8	11	13	2	7	11	13	6	5	3	5
DENVER TO SAN FRANCISCO																									828 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	0	-64	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-57	-0	4	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-56	0	2	4	7	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-36	9	10	11	-40	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-21	-0	4	6	-19	3	5	7	-8	13	15	15	-13	8	11	12	-15	6	9	10	6	4	2	4
10,000	- 4.6	-5	-1	3	5	-0	4	7	9	12	17	19	20	3	8	11	13	2	7	11	13	6	5	3	5
DENVER TO SEATTLE																									884 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	-0	-62	-5	-3	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-57	-0	5	7	-57	-1	3	5	-55	2	4	6	-56	0	3	5	-56	0	3	5	7	6	3	5
30,000	-44.5	-49	-5	-3	-1	-47	-3	-0	1	-38	7	9	10	-42	2	5	6	-44	0	4	5	4	3	3	4
20,000	-21.2	-25	-4	1	3	-21	0	3	5	-10	11	13	14	-16	5	8	10	-18	3	7	8	7	4	3	5
10,000	- 4.6	-10	-5	-1	2	-4	1	4	6	9	14	16	17	0	5	8	10	-1	4	8	10	7	5	3	5
DENVER TO SIOUX FALLS																									430 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	8	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	2	-35	9	11	12	-41	3	5	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-25	-4	0	2	-19	2	5	6	-8	13	14	15	-15	7	9	11	-17	4	8	10	6	4	2	4
10,000	- 4.6	-9	-5	-0	2	-2	3	6	8	10	14	17	18	2	7	10	12	0	5	9	11	6	5	3	5
DENVER TO TULSA																									476 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-66	-10	-8	-7	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-2	0	1	-44	0	2	3	-34	11	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-22	-0	3	5	-17	4	7	8	-7	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	1	6	9	11	11	15	17	18	4	9	12	14	3	7	11	12	6	5	2	5
DENVER TO WASHINGTON, D.C.																									1289 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-8	-5	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-35	10	11	12	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-23	-1	2	4	-18	3	6	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-2	3	6	8	8	13	15	16	3	7	11	12	0	5	8	10	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DENVER TO WICHITA																									579 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-0	-66	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-34	10	12	13	-40	4	6	8	-42	3	6	8	3	3	2	3
20,000	-21.2	-22	-1	2	4	-17	4	6	8	-7	14	15	16	-13	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	1	5	9	10	11	16	17	18	4	9	12	13	2	7	10	12	6	5	2	5
DES MOINES TO KANSAS CITY																									151 N.MI.
53,000	-56.5	-61	-5	-2	-0	-60	-3	-0	1	-64	-7	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	2	3	-35	10	12	13	-41	4	6	7	-42	2	6	7	3	3	3	3
20,000	-21.2	-24	-2	1	3	-18	3	6	7	-8	13	15	16	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-8	-3	0	2	-2	3	6	8	9	13	15	16	3	7	11	12	0	5	9	10	6	5	3	5
DES MOINES TO LOS ANGELES																									1254 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-0	-66	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-35	10	11	12	-40	4	7	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-22	-0	3	5	-18	4	6	8	-7	14	15	16	-13	9	11	13	-15	6	9	11	5	4	2	4
10,000	- 4.6	-5	-0	3	6	0	5	8	10	12	16	18	19	4	9	12	13	3	7	11	13	6	5	2	5
DES MOINES TO MINNEAPOLIS																									202 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	1	3	-61	-4	-2	-1	-62	-5	-3	-1	-60	-3	-0	1	4	4	3	4
40,000	-56.5	-55	1	5	7	-57	-0	4	6	-54	3	5	6	-56	1	4	5	-56	1	4	5	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-46	-2	0	1	-36	8	11	12	-42	2	5	6	-44	1	5	6	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-20	1	4	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	3	5
10,000	- 4.6	-11	-7	-2	-0	-5	0	4	6	7	12	14	15	1	5	9	11	-2	3	7	9	6	5	3	5
DES MOINES TO OMAHA																									147 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	1	-63	-7	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-35	9	11	12	-41	3	6	7	-42	2	5	7	3	3	3	3
20,000	-21.2	-24	-3	0	2	-19	2	5	7	-8	13	14	15	-14	7	10	11	-16	5	8	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-2	2	6	8	8	13	15	16	2	7	10	12	-0	4	8	10	6	5	3	5
DES MOINES TO ST. LOUIS																									225 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-64	-7	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-35	10	12	13	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	3	-18	3	6	8	-8	13	15	16	-13	8	10	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-8	-3	0	2	-2	3	6	8	8	13	14	15	3	7	11	12	0	5	8	10	6	5	3	5
DES MOINES TO WATERLOO																									83 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-6	-3	-2	-63	-6	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-2	-0	-46	-1	1	2	-36	9	11	12	-42	3	5	6	-43	2	5	7	3	3	3	4
20,000	-21.2	-25	-4	-0	2	-19	2	5	6	-9	12	14	15	-15	6	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-6	-1	1	-4	1	5	7	7	12	14	15	2	6	10	11	-1	3	7	9	6	5	3	5
DETROIT TO FLINT																									47 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-60	-4	-1	-0	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-36	8	10	11	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	0	4	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-3	-0	-6	-1	2	4	5	10	12	13	0	5	9	10	-3	2	5	8	6	5	3	5
DETROIT TO GRAND RAPIDS																									110 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-2	-0	-46	-2	1	2	-36	8	10	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	1	4	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	4	3	5
10,000	- 4.6	-11	-7	-3	-0	-6	-1	3	4	5	10	12	13	0	5	9	11	-3	2	6	8	6	5	3	5
DETROIT TO INDIANAPOLIS																									200 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-62	-6	-4	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
DETROIT TO LAND O LAKES																									344 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-2	0	1	-60	-4	-1	0	-59	-2	1	2	4	4	4	4
40,000	-56.5	-55	1	5	7	-56	1	5	7	-53	3	5	7	-55	1	5	6	-55	2	4	6	6	6	3	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-0	1	-37	7	10	11	-43	2	4	6	-44	0	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	-0	-22	-1	2	4	-10	11	13	14	-17	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-7	-2	2	3	5	9	12	13	-1	4	8	10	-4	1	5	7	7	5	3	6
DETROIT TO LANSING																									64 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-36	8	10	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-21	1	4	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	4	3	5
10,000	- 4.6	-11	-7	-3	-0	-6	-1	3	4	5	10	12	13	0	5	9	10	-3	2	6	8	6	5	3	5
DETROIT TO LAS VEGAS																									1516 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	1	-64	-8	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	1	2	-35	10	11	12	-41	4	6	7	-42	2	5	7	3	3	3	3
20,000	-21.2	-23	-2	2	4	-18	3	5	7	-8	13	15	15	-13	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-1	3	7	9	10	15	17	17	3	7	11	13	1	6	9	11	6	5	3	5
DETROIT TO LOS ANGELES																									1715 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-4	-1	0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-35	10	11	12	-40	4	6	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-22	-1	3	4	-18	3	6	7	-8	14	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	-1	4	7	9	10	15	17	18	5	8	11	13	2	6	10	12	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DETROIT TO LOUISVILLE																									266 N.MI.
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	13	14	15	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-8	-4	-0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
DETROIT TO MIAMI																									998 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-6	-4	-67	-10	-8	-7	-69	-13	-10	-9	-67	-10	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-57	-1	2	3	-55	1	3	3	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	10	12	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	11	-8	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
DETROIT TO MILWAUKEE																									206 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-5	-3	-1	-60	-4	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	1	2	-36	8	10	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	1	-20	1	4	5	-10	12	14	15	-15	6	9	11	-18	4	7	9	5	4	3	5
10,000	- 4.6	-11	-7	-3	-0	-5	-1	3	5	6	10	12	13	1	5	9	11	-3	2	6	8	6	5	3	5
DETROIT TO MINNEAPOLIS																									457 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	0	-61	-5	-2	-1	-59	-3	0	2	4	4	4	4
40,000	-56.5	-55	1	5	7	-56	0	5	7	-54	3	5	6	-56	1	4	6	-55	1	4	6	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	1	-37	8	10	11	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-2	0	-21	0	3	5	-10	11	13	15	-16	5	8	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-6	-1	2	4	6	10	12	14	0	5	8	10	-3	1	6	8	6	5	3	5
DETROIT TO NEW YORK																									441 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	6	-10	12	13	14	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
DETROIT TO OMAHA																									608 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-36	9	11	12	-42	3	5	7	-43	2	5	7	3	3	3	4
20,000	-21.2	-25	-3	0	2	-19	2	5	6	-9	12	14	15	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	1	4	6	7	12	14	15	2	6	10	11	-1	3	7	9	6	5	3	5
DETROIT TO PHILADELPHIA																									393 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-2	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	4	-19	2	5	6	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
DETROIT TO PITTSBURGH																									176 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-1	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-19	2	5	6	-9	12	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
DETROIT TO ROCHESTER, N.Y.																									256 N.MI.
53,000	-56.5	-59	-3	-0	2	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	6	-55	1	4	5	-55	1	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	-0	2	-21	0	3	5	-10	11	13	14	-16	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
DETROIT TO ST. LOUIS																									382 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	2	3	-35	9	11	12	-41	4	6	7	-42	2	6	8	3	3	3	4
20,000	-21.2	-23	-2	1	3	-18	3	6	7	-9	13	14	15	-14	7	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	1	5	7	7	12	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
DETROIT TO ST. PETERSBURG																									860 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-66	-10	-8	-7	-69	-12	-10	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	2	3	-55	2	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	10	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	14	15	16	-11	10	13	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	5	8	9	8	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
DETROIT TO SAN FRANCISCO																									1801 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	3	4	-54	2	4	5	-56	0	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-4	-1	-0	-46	-1	1	2	-36	9	10	11	-41	3	6	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-24	-2	1	3	-19	2	5	6	-9	13	14	15	-14	7	10	11	-16	5	8	10	6	4	2	4
10,000	- 4.6	-8	-4	0	3	-2	2	6	8	10	14	16	17	2	7	10	12	0	5	9	11	6	5	3	5
DETROIT TO TOLEDO																									44 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	8	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	6	-10	12	14	15	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-0	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
DETROIT TO WASHINGTON, D.C.																									352 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-62	-6	-3	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	3	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DOTHAN TO MONTGOMERY																									80 N.MI.
53,000	-56.5	-69	-13	-10	-9	-66	-10	-7	-6	-69	-12	-11	-10	-72	-15	-13	-12	-69	-12	-10	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-55	1	2	3	-55	1	3	4	-57	-0	2	3	3	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	12	14	3	3	2	3
10,000	- 4.6	1	6	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	11	12	3	3	1	3
DOTHAN TO TALLAHASSEE																									76 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-8	-7	-69	-13	-11	-10	-73	-16	-14	-12	-70	-13	-11	-9	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	16	16	-8	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	4	9	11	12	9	13	14	15	7	12	14	15	5	10	12	13	3	3	1	3
EDMONTON TO GRAND PRAIRIE																									217 N.MI.
53,000	-56.5	-56	0	4	6	-52	5	7	8	-50	6	8	10	-56	0	3	4	-54	3	6	7	6	4	3	4
40,000	-56.5	-55	2	5	8	-54	3	7	9	-52	5	8	9	-55	2	5	7	-54	3	6	8	6	6	5	5
30,000	-44.5	-53	-9	-6	-4	-50	-5	-3	-2	-42	2	4	5	-47	-2	1	2	-48	-4	-0	2	4	4	3	4
20,000	-21.2	-33	-12	-6	-4	-26	-5	-1	0	-16	5	8	9	-22	-1	2	4	-24	-3	1	3	7	5	3	6
10,000	- 4.6	-18	-14	-8	-5	-10	-5	-2	-0	1	5	8	9	-7	-2	1	3	-9	-4	0	3	8	5	4	5
EDMONTON TO MINNEAPOLIS																									942 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-55	2	4	5	-58	-2	1	2	-56	1	3	5	5	4	3	4
40,000	-56.5	-55	2	6	8	-55	1	5	7	-53	3	6	8	-55	1	5	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-1	-39	5	8	9	-45	-0	2	4	-46	-2	2	4	4	3	3	4
20,000	-21.2	-31	-10	-5	-3	-24	-2	1	3	-13	8	11	12	-20	1	5	7	-22	-1	3	6	7	5	3	5
10,000	- 4.6	-17	-12	-7	-4	-8	-3	0	2	4	9	11	13	-4	1	5	7	-6	-2	3	6	8	6	4	6
EDMONTON TO MONTREAL																									1602 N.MI.
53,000	-56.5	-56	0	4	6	-53	3	6	7	-53	4	6	8	-57	-0	3	4	-55	2	5	6	5	4	4	4
40,000	-56.5	-54	3	6	9	-54	3	7	9	-52	4	7	9	-54	3	6	8	-53	3	6	8	6	6	4	5
30,000	-44.5	-53	-8	-6	-4	-50	-5	-3	-1	-40	4	7	8	-46	-1	1	3	-47	-3	1	3	4	4	4	4
20,000	-21.2	-33	-12	-7	-5	-26	-5	-1	1	-14	7	10	11	-21	0	4	6	-24	-2	2	5	7	5	4	6
10,000	- 4.6	-20	-15	-10	-7	-11	-6	-2	-0	1	6	9	10	-6	-1	3	6	-9	-4	1	3	8	6	4	6
EDMONTON TO REGINA																									372 N.MI.
53,000	-56.5	-56	1	4	6	-53	3	6	7	-52	4	6	7	-57	-1	2	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-55	1	5	8	-54	2	6	8	-53	4	7	8	-55	1	5	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-53	-9	-6	-4	-50	-5	-3	-2	-41	4	6	7	-46	-1	1	3	-47	-3	1	2	4	3	3	4
20,000	-21.2	-32	-11	-6	-4	-25	-3	-0	2	-14	7	9	10	-21	-0	3	5	-23	-2	2	4	7	5	3	5
10,000	- 4.6	-18	-13	-8	-5	-9	-4	-1	1	3	8	10	11	-6	-1	3	5	-7	-3	2	4	8	5	4	6
EDMONTON TO SASKATOON																									260 N.MI.
53,000	-56.5	-56	1	4	6	-53	4	6	8	-52	5	7	8	-57	-0	2	4	-54	2	5	6	5	4	3	4
40,000	-56.5	-55	1	5	7	-54	2	6	8	-52	4	7	9	-55	2	5	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-53	-9	-6	-4	-50	-5	-3	-2	-41	3	5	7	-46	-2	1	2	-48	-3	0	2	4	4	3	4
20,000	-21.2	-33	-12	-7	-4	-25	-4	-1	1	-15	6	8	10	-22	-1	3	5	-24	-2	2	4	7	5	3	5
10,000	- 4.6	-18	-14	-8	-5	-9	-5	-1	1	2	7	10	11	-6	-2	2	4	-8	-3	1	4	8	5	4	6
EDMONTON TO TORONTO																									1451 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-54	2	5	6	-58	-1	1	3	-56	1	4	5	5	4	4	4
40,000	-56.5	-54	2	6	8	-54	2	6	8	-53	4	7	8	-54	2	6	7	-54	3	6	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-39	5	8	9	-45	-1	2	3	-46	-2	2	4	4	4	4	4
20,000	-21.2	-32	-10	-6	-4	-25	-3	0	2	-13	8	10	12	-20	1	5	7	-22	-1	3	5	7	5	3	5
10,000	- 4.6	-18	-14	-8	-6	-9	-5	-1	1	3	7	10	11	-4	0	4	7	-7	-3	2	5	7	6	4	6
EDMONTON TO VANCOUVER																									437 N.MI.
53,000	-56.5	-56	0	4	6	-53	4	6	8	-52	5	7	8	-57	-1	2	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-56	1	5	7	-54	2	6	8	-53	4	7	9	-55	1	4	6	-55	2	6	8	6	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-41	4	6	7	-45	-1	2	3	-47	-2	1	3	4	3	3	4
20,000	-21.2	-30	-8	-4	-1	-24	-3	0	2	-15	6	9	10	-21	0	4	6	-22	-1	3	5	7	5	3	5
10,000	- 4.6	-15	-11	-5	-2	-9	-4	-1	1	2	7	9	10	-5	-1	3	5	-7	-2	2	4	8	5	4	5
EDMONTON TO WINNIPEG																									641 N.MI.
53,000	-56.5	-56	1	4	6	-53	3	6	7	-53	4	6	7	-57	-0	2	3	-55	2	5	6	5	4	3	4
40,000	-56.5	-55	2	6	8	-54	2	6	8	-53	4	7	8	-55	2	5	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-53	-9	-6	-4	-50	-5	-3	-2	-40	4	6	7	-46	-1	1	2	-47	-3	1	3	4	4	3	4
20,000	-21.2	-33	-12	-7	-4	-25	-4	-0	2	-14	7	9	10	-21	-0	3	5	-23	-2	2	4	7	5	3	5
10,000	- 4.6	-19	-14	-9	-6	-9	-5	-1	1	3	7	10	11	-6	-1	3	5	-8	-3	2	4	8	5	4	6
ELKO TO ELY																									102 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-5	-4	-64	-7	-5	-4	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	4	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-37	8	10	10	-41	4	6	7	-43	2	5	6	3	3	2	3
20,000	-21.2	-22	-1	3	6	-19	2	5	6	-8	13	14	15	-14	7	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-6	-2	2	5	-1	3	7	8	12	17	19	20	3	7	11	12	2	6	10	13	6	5	3	5
ELKO TO RENO																									199 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-2	0	1	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-58	-1	4	6	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-48	-3	-1	1	-45	-1	1	2	-37	8	9	10	-41	4	6	7	-43	2	5	6	3	3	3	3
20,000	-21.2	-21	-0	4	6	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-6	-1	3	5	-2	2	6	8	11	16	18	19	2	7	10	12	1	6	10	12	6	5	3	5
ELMIRA TO ROCHESTER, N.Y.																									67 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	1	-62	-5	-2	-1	-59	-3	0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-3	0	2	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-2	1	3	5	9	11	12	-0	5	8	10	-3	1	5	7	6	5	3	5
ELMIRA TO WILLIAMSPORT																									55 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	3	-61	-4	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	6	-10	11	13	14	-15	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-3	2	6	7	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
EL PASO TO FT. WORTH																									**477 N.MI.**
53,000	-56.5	-67	-11	-8	-7	-65	-8	-6	-5	-70	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	5	4	3	3
40,000	-56.5	-56	0	3	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	5	-32	12	13	14	-37	7	9	10	-39	6	8	10	5	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	10	11	-6	15	16	17	-10	11	13	14	-12	10	12	13	4	3	1	3
10,000	- 4.6	-0	4	7	9	5	10	13	14	12	16	17	18	7	12	14	15	6	10	13	14	5	4	2	3
EL PASO TO HOUSTON																									**587 N.MI.**
53,000	-56.5	-68	-12	-10	-9	-66	-10	-8	-6	-70	-14	-12	-11	-72	-16	-14	-13	-69	-13	-10	-8	3	3	2	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	1	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	5	6	-32	12	13	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	13	14	3	3	1	3
10,000	- 4.6	1	6	9	10	6	11	13	15	11	16	17	17	8	12	14	15	7	11	13	14	4	4	2	3
EL PASO TO LOS ANGELES																									**619 N.MI.**
53,000	-56.5	-66	-9	-7	-5	-64	-8	-5	-4	-69	-12	-11	-10	-69	-13	-11	-9	-67	-10	-8	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	5	-55	1	3	4	-56	1	2	3	6	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-33	11	12	13	-38	7	9	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	6	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	5	4	2	3
10,000	- 4.6	-0	5	8	10	4	8	11	13	13	17	19	19	6	11	13	15	6	10	13	15	5	4	2	4
EL PASO TO MIDLAND																									**213 N.MI.**
53,000	-56.5	-67	-11	-8	-7	-65	-9	-6	-5	-70	-13	-12	-11	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-56	0	3	5	-58	-1	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	4	5	-32	12	13	14	-37	7	9	10	-39	6	8	10	3	2	2	3
20,000	-21.2	-16	5	8	9	-14	7	10	11	-6	15	16	17	-10	12	13	15	-11	10	12	13	4	3	1	3
10,000	- 4.6	0	5	8	10	5	10	13	14	12	17	18	18	7	12	14	15	6	11	13	15	5	4	2	3
EL PASO TO PHOENIX																									**301 N.MI.**
53,000	-56.5	-66	-10	-7	-6	-65	-8	-6	-4	-69	-13	-11	-10	-70	-13	-11	-10	-67	-11	-8	-7	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-33	12	13	14	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	5	3	2	3
10,000	- 4.6	-0	4	8	10	5	9	12	13	13	18	19	20	7	11	14	15	6	11	14	15	5	4	2	3
EL PASO TO ROSWELL																									**134 N.MI.**
53,000	-56.5	-66	-10	-8	-6	-65	-8	-6	-5	-69	-13	-11	-10	-70	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-33	12	13	14	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	9	5	10	12	14	13	17	18	19	7	12	14	15	6	11	13	15	5	4	2	3
EL PASO TO SAN ANTONIO																									**430 N.MI.**
53,000	-56.5	-68	-12	-10	-8	-66	-10	-8	-6	-70	-14	-12	-11	-72	-16	-14	-13	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-56	0	3	5	-58	-1	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	5	6	-32	12	14	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	14	4	3	1	3
10,000	- 4.6	1	6	9	10	6	11	13	15	12	16	17	18	8	12	14	15	7	11	13	15	4	4	2	3
EL PASO TO SAN DIEGO																									**551 N.MI.**
53,000	-56.5	-66	-10	-7	-6	-65	-8	-6	-5	-69	-13	-11	-10	-70	-13	-11	-10	-68	-11	-8	-7	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	5	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-33	11	13	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	8	9	-15	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	5	3	2	3
10,000	- 4.6	0	5	8	10	4	9	12	13	13	17	19	19	7	11	14	15	6	11	13	15	5	4	2	3
EL PASO TO SAN FRANCISCO																									**862 N.MI.**
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-2	-67	-11	-9	-8	-68	-11	-9	-8	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-34	10	12	12	-39	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-7	15	16	16	-11	10	12	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	-1	4	7	9	2	7	10	11	13	17	19	19	5	10	13	14	5	9	12	14	5	4	2	4
EL PASO TO TUCSON																									**233 N.MI.**
53,000	-56.5	-67	-10	-8	-7	-65	-9	-6	-5	-70	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	2	4	5	-33	12	13	14	-37	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	5	8	9	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	5	3	1	3
10,000	- 4.6	0	5	8	10	5	10	12	14	13	18	19	20	7	12	14	15	6	11	14	15	5	4	2	3
ELY TO SALT LAKE CITY																									**160 N.MI.**
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	5	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-48	-3	-1	-0	-46	-1	1	2	-36	8	10	11	-41	4	6	7	-43	2	5	6	3	3	2	3
20,000	-21.2	-22	-1	3	5	-19	2	5	6	-8	13	14	15	-14	8	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-7	-2	2	4	-1	4	7	9	13	17	19	20	3	7	11	13	2	7	11	13	6	5	3	5
EUGENE TO MEDFORD																									**106 N.MI.**
53,000	-56.5	-59	-3	0	2	-57	-0	3	4	-59	-2	0	1	-61	-5	-2	-1	-59	-2	1	2	5	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-1	3	5	-54	2	5	6	-56	0	4	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-39	6	8	9	-42	3	5	7	-44	1	4	5	4	3	3	4
20,000	-21.2	-23	-2	2	5	-21	0	3	5	-11	11	12	13	-16	5	8	10	-18	3	7	9	6	5	3	5
10,000	- 4.6	-8	-3	1	3	-5	-0	3	5	7	11	14	15	-0	4	8	10	-2	3	7	9	6	5	3	5
EUGENE TO SALEM																									**48 N.MI.**
53,000	-56.5	-59	-2	1	3	-56	1	3	5	-57	-1	1	3	-61	-4	-1	0	-58	-2	2	3	5	4	3	4
40,000	-56.5	-57	-1	4	7	-57	-0	4	6	-54	2	5	6	-56	0	4	6	-56	0	4	5	7	6	4	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	1	-39	5	7	8	-42	2	5	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-24	-3	1	4	-22	-0	3	5	-11	10	12	13	-17	4	7	9	-19	3	6	8	6	5	3	5
10,000	- 4.6	-9	-4	0	2	-6	-1	2	4	6	10	13	14	-1	4	7	9	-2	2	6	8	6	5	3	5
EVANSVILLE TO INDIANAPOLIS																									**117 N.MI.**
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-65	-8	-6	-5	-66	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	3	4	-35	10	12	13	-40	4	7	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-21	-0	3	5	-17	4	7	9	-8	13	15	16	-13	9	11	12	-15	7	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	1	5	8	10	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
EVANSVILLE TO LOUISVILLE																									85 N.MI.
53,000	-56.5	-65	-7	-4	-3	-61	-4	-2	-0	-65	-9	-6	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-21	1	4	5	-16	5	7	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	3	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
EVANSVILLE TO NASHVILLE																									122 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	2	5	6	-16	6	8	10	-8	14	15	16	-12	10	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-0	4	8	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
EVANSVILLE TO OWENSBORO																									25 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-0	-65	-9	-7	-6	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	8	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	4	7	9	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
EVANSVILLE TO PADUCAH																									83 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	10	12	13	-40	5	7	8	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-8	14	15	16	-12	9	12	13	-14	7	10	12	4	4	2	3
10,000	- 4.6	-5	-1	3	4	-0	4	7	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
EVANSVILLE TO ST. LOUIS																									140 N.MI.
53,000	-56.5	-65	-6	-4	-2	-61	-4	-2	-0	-65	-9	-6	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-1	1	2	-44	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-21	0	3	5	-16	5	7	9	-8	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	-1	4	7	9	8	13	14	15	4	8	11	13	1	6	9	10	5	5	2	4
FAIRBANKS TO JUNEAU																									540 N.MI.
53,000	-56.5	-53	4	8	10	-49	7	10	11	-47	9	11	12	-51	5	8	9	-50	6	9	10	6	4	3	4
40,000	-56.5	-54	3	7	10	-51	6	9	11	-50	7	10	12	-52	5	8	10	-51	5	9	11	7	5	5	5
30,000	-44.5	-53	-8	-6	-4	-52	-7	-5	-3	-44	0	3	4	-50	-5	-2	-1	-50	-5	-2	0	4	4	3	4
20,000	-21.2	-32	-11	-7	-4	-30	-9	-5	-3	-17	4	6	8	-27	-6	-2	-0	-26	-5	-1	1	6	5	3	5
10,000	- 4.6	-17	-13	-8	-6	-14	-9	-6	-5	-2	3	5	6	-11	-6	-3	-2	-11	-6	-2	-0	7	4	3	4
FAIRBANKS TO SAN FRANCISCO																									1862 N.MI.
53,000	-56.5	-56	1	4	6	-53	4	6	8	-52	4	6	7	-56	1	3	5	-54	2	5	6	5	4	3	4
40,000	-56.5	-55	1	6	9	-54	3	6	9	-52	5	8	9	-54	3	6	8	-54	3	6	8	7	6	5	5
30,000	-44.5	-50	-5	-3	-1	-48	-4	-2	-0	-42	3	5	6	-45	-1	2	3	-46	-2	1	3	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-25	-4	-1	1	-14	7	9	10	-22	-0	3	5	-22	-1	3	5	6	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-9	-5	-2	-0	2	6	8	9	-5	-1	2	4	-6	-2	2	4	6	4	3	5
FAIRBANKS TO SEATTLE																									1328 N.MI.
53,000	-56.5	-54	3	6	8	-51	6	9	10	-49	7	9	10	-53	3	6	7	-52	5	7	9	5	4	3	4
40,000	-56.5	-54	2	7	9	-52	4	8	10	-51	6	9	11	-53	3	7	9	-53	4	8	10	7	6	5	5
30,000	-44.5	-52	-7	-5	-3	-50	-5	-3	-2	-43	1	4	5	-47	-3	-0	1	-48	-4	-0	2	4	3	4	4
20,000	-21.2	-30	-9	-5	-2	-27	-6	-3	-1	-16	5	7	9	-24	-3	1	3	-25	-3	1	3	7	5	4	5
10,000	- 4.6	-15	-10	-6	-3	-12	-7	-4	-3	-1	4	6	7	-8	-4	-1	1	-9	-4	-0	2	7	4	3	4
FAIRBANKS TO WHITEHORSE																									427 N.MI.
53,000	-56.5	-53	3	7	9	-49	8	10	12	-47	9	11	12	-51	5	8	9	-50	7	9	10	6	4	3	3
40,000	-56.5	-54	3	7	10	-50	6	9	11	-49	7	10	12	-52	5	8	9	-51	5	9	11	7	5	5	4
30,000	-44.5	-53	-9	-6	-5	-52	-7	-5	-4	-44	1	3	4	-50	-6	-3	-2	-50	-5	-2	-0	4	4	3	4
20,000	-21.2	-33	-12	-7	-5	-30	-9	-6	-4	-17	4	6	7	-27	-6	-3	-1	-27	-6	-1	1	6	5	3	5
10,000	- 4.6	-18	-14	-9	-7	-14	-9	-7	-5	-2	3	5	6	-11	-7	-4	-3	-11	-7	-3	-1	7	4	3	4
FARGO TO GRAND FORKS																									62 N.MI.
53,000	-56.5	-57	-1	3	4	-55	1	4	5	-57	-0	2	3	-59	-2	0	2	-57	-0	2	4	5	4	3	4
40,000	-56.5	-54	2	6	9	-56	1	5	7	-54	3	6	7	-55	1	5	6	-55	2	5	6	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-48	-4	-2	-0	-38	6	9	10	-44	0	3	4	-46	-1	3	5	4	3	3	4
20,000	-21.2	-30	-9	-5	-3	-23	-2	1	3	-12	10	12	13	-19	2	6	8	-21	0	4	7	6	5	3	5
10,000	- 4.6	-16	-12	-7	-4	-7	-3	1	3	5	9	12	14	-2	2	6	8	-5	-1	4	7	7	6	4	6
FARGO TO JAMESTOWN																									76 N.MI.
53,000	-56.5	-57	-1	2	4	-56	1	3	5	-57	-1	2	3	-59	-3	-0	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-55	2	6	9	-56	1	5	7	-54	3	5	7	-56	1	4	6	-55	2	4	6	6	6	4	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-1	-0	-38	7	9	10	-44	1	3	4	-45	-1	3	5	4	3	3	4
20,000	-21.2	-30	-9	-4	-2	-23	-2	2	5	-11	10	12	13	-19	3	6	8	-21	1	5	7	6	5	3	5
10,000	- 4.6	-15	-11	-6	-3	-7	-2	2	4	6	10	13	14	-2	3	7	9	-5	-0	5	7	7	6	4	6
FARGO TO MINNEAPOLIS																									194 N.MI.
53,000	-56.5	-58	-1	2	3	-56	0	3	4	-58	-2	1	2	-60	-3	-1	1	-58	-1	1	3	5	4	3	4
40,000	-56.5	-55	2	6	8	-56	1	5	7	-54	3	5	6	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-51	-6	-4	-3	-48	-3	-1	0	-37	7	9	11	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-29	-8	-4	-1	-22	-1	2	4	-11	11	13	14	-18	3	7	8	-20	1	5	8	6	5	3	5
10,000	- 4.6	-14	-10	-5	-3	-7	-2	2	4	6	10	13	14	-1	3	7	9	-4	0	5	8	7	6	4	6
FARGO TO WINNIPEG																									180 N.MI.
53,000	-56.5	-57	-0	3	5	-55	2	4	6	-56	1	3	4	-58	-2	1	2	-56	0	3	5	5	4	3	4
40,000	-56.5	-54	2	6	9	-55	1	5	7	-53	3	6	7	-55	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-1	-39	6	8	10	-45	-0	2	4	-46	-2	2	4	4	3	3	4
20,000	-21.2	-31	-10	-6	-4	-24	-2	1	3	-12	9	11	13	-20	2	5	7	-22	-1	4	6	6	5	3	5
10,000	- 4.6	-18	-13	-8	-5	-8	-3	1	3	4	9	11	13	-3	1	5	8	-6	-2	3	6	7	6	4	6
FAYETTEVILLE TO NEW BERN																									837 N.MI.
53,000	-56.5	-66	-9	-7	-5	-63	-6	-4	-2	-67	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	5	6	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	4	5	-34	11	12	13	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	1	6	8	10	8	13	14	15	5	10	12	13	3	7	10	11	4	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
FAYETTEVILLE TO WILMINGTON, N.C.																									804 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-10	-6	-5	4	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	3	4	-56	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-45	1	3	5	-42	3	5	6	-34	11	12	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-15	7	9	10	-7	14	15	16	-11	10	13	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	13	3	8	10	11	4	4	2	4
FLINT TO GRAND RAPIDS																									84 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	7	-54	3	5	6	-55	1	4	6	-55	1	4	6	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-37	8	10	11	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-26	-4	-1	1	-21	0	3	5	-10	11	13	14	-16	6	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	5	8	6	5	3	5
FLINT TO NEW YORK																									467 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-2	1	3	-20	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	1	5	9	10	-3	2	6	8	6	5	3	5
FLINT TO SAGINAW																									37 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-3	-1	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-53	3	5	7	-55	1	5	6	-55	2	4	6	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	1	-37	8	10	11	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-21	-0	3	5	-10	11	13	14	-16	5	8	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-6	-2	2	4	5	10	12	13	-0	5	8	10	-3	1	5	7	6	5	3	5
FLORENCE TO RALEIGH																									111 N.MI.
53,000	-56.5	-67	-10	-8	-6	-63	-7	-4	-3	-67	-10	-8	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-2	1	3	-58	-2	1	2	-55	1	3	3	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	5	7	9	-15	7	9	10	-8	14	15	16	-11	10	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-2	3	5	7	1	5	8	9	7	12	13	14	5	9	11	13	3	7	10	11	4	4	2	3
FT. LAUDERDALE TO MIAMI																									17 N.MI.
53,000	-56.5	-74	-17	-15	-14	-71	-15	-13	-12	-71	-14	-13	-12	-75	-19	-17	-15	-73	-16	-14	-14	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-33	11	12	13	-34	11	12	13	-35	9	10	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-9	12	13	14	-7	14	15	16	-7	15	16	17	-8	13	15	15	2	2	1	2
10,000	- 4.6	5	10	12	12	6	10	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2
FT. LAUDERDALE TO NEW YORK																									930 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-67	-10	-8	-7	-70	-13	-11	-9	-67	-11	-8	-7	3	3	3	4
40,000	-56.5	-58	-1	2	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	4	4	4	2	3
30,000	-44.5	-42	3	4	6	-41	4	6	7	-34	10	12	13	-37	8	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	7	10	11	-8	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	1	6	8	10	7	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
FT. LAUDERDALE TO WASHINGTON, D.C.																									783 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-68	-11	-9	-8	-70	-14	-11	-10	-68	-12	-9	-7	3	3	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-36	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	7	9	10	-13	8	10	11	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	8	2	7	9	10	8	12	13	14	6	10	12	13	4	8	10	11	4	3	2	3
FT. LAUDERDALE TO WEST PALM BEACH																									37 N.MI.
53,000	-56.5	-73	-17	-15	-14	-71	-14	-12	-11	-70	-14	-13	-12	-75	-18	-16	-15	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	9	-37	7	9	10	-33	11	12	13	-34	11	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-10	12	13	14	-7	14	15	16	-7	14	16	17	-8	13	14	15	2	2	1	2
10,000	- 4.6	5	10	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
FT. MEYERS TO SARASOTA																									61 N.MI.
53,000	-56.5	-73	-16	-15	-14	-70	-14	-12	-11	-70	-14	-13	-12	-75	-18	-16	-15	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-57	-0	1	2	-55	2	3	4	-56	0	2	3	3	3	1	2
30,000	-44.5	-39	6	7	8	-37	7	9	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-7	15	15	16	-7	14	16	16	-9	13	14	15	3	3	1	2
10,000	- 4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	13	13	3	3	1	2
FT. MEYERS TO WEST PALM BEACH																									95 N.MI.
53,000	-56.5	-73	-17	-15	-14	-70	-14	-12	-11	-70	-14	-13	-12	-75	-18	-16	-15	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	8	-37	7	9	10	-33	11	12	13	-34	11	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-10	11	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-8	13	14	15	2	2	1	2
10,000	- 4.6	5	10	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
FT. NELSON TO FT. ST. JOHN																									167 N.MI.
53,000	-56.5	-55	2	6	8	-50	6	9	10	-49	8	10	11	-54	2	5	6	-52	4	7	9	6	4	3	4
40,000	-56.5	-55	2	6	8	-52	4	8	10	-51	6	9	10	-54	3	6	8	-53	4	7	9	6	6	5	5
30,000	-44.5	-54	-9	-6	-4	-51	-6	-4	-2	-44	1	3	4	-48	-3	-0	1	-49	-4	-1	0	4	4	3	4
20,000	-21.2	-34	-12	-7	-5	-28	-6	-3	-1	-17	4	7	8	-24	-3	1	3	-26	-4	-0	2	7	5	3	6
10,000	- 4.6	-19	-14	-9	-6	-12	-7	-4	-3	-1	4	6	7	-9	-4	-1	1	-10	-5	-1	1	8	4	4	5
FT. NELSON TO WATSON LAKE																									205 N.MI.
53,000	-56.5	-54	3	7	9	-49	7	10	11	-48	8	10	12	-53	4	6	7	-51	6	8	10	6	4	3	4
40,000	-56.5	-54	2	6	9	-52	5	8	10	-50	6	9	11	-53	4	7	9	-52	4	8	10	6	5	5	5
30,000	-44.5	-53	-9	-6	-4	-51	-7	-4	-3	-44	0	2	4	-49	-4	-1	0	-49	-5	-2	-0	4	4	3	4
20,000	-21.2	-34	-13	-8	-5	-28	-7	-4	-2	-17	4	6	8	-25	-4	-0	2	-26	-5	-1	2	7	5	3	6
10,000	- 4.6	-19	-15	-10	-7	-13	-8	-6	-4	-1	3	5	7	-10	-5	-2	-0	-11	-6	-2	0	8	4	3	5
FT. NELSON TO WHITEHORSE																									393 N.MI.
53,000	-56.5	-53	3	7	9	-49	7	10	11	-48	9	11	12	-53	4	6	8	-51	6	8	10	6	4	3	4
40,000	-56.5	-54	2	7	9	-52	5	8	10	-50	6	9	11	-53	4	7	9	-52	4	8	10	7	5	5	5
30,000	-44.5	-53	-9	-6	-4	-51	-7	-4	-3	-44	0	2	4	-49	-4	-1	0	-49	-5	-2	0	4	4	3	4
20,000	-21.2	-33	-12	-7	-5	-29	-7	-4	-2	-17	4	6	8	-25	-4	-0	2	-26	-5	-1	2	7	5	3	6
10,000	- 4.6	-19	-14	-9	-7	-13	-9	-6	-4	-2	3	5	6	-10	-5	-2	-0	-11	-6	-2	0	7	4	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
FT. ST. JOHN TO GRAND PRAIRIE																									89 N.MI.
53,000	-56.5	-56	0	4	6	-51	5	8	9	-49	7	9	10	-55	1	4	5	-53	4	6	8	6	4	3	4
40,000	-56.5	-55	2	6	8	-53	4	7	10	-52	5	8	10	-54	2	6	7	-53	3	7	9	6	6	5	5
30,000	-44.5	-53	-9	-6	-4	-50	-6	-3	-2	-43	1	3	5	-47	-3	0	2	-48	-4	-1	1	4	4	3	4
20,000	-21.2	-33	-12	-7	-4	-27	-5	-2	-0	-16	5	7	8	-23	-2	2	4	-25	-4	1	3	7	5	3	6
10,000	- 4.6	-18	-14	-8	-5	-10	-6	-3	-1	-0	4	7	8	-8	-3	0	2	-9	-5	-0	2	8	4	4	5
FT. ST. JOHN TO PRINCE GEORGE																									156 N.MI.
53,000	-56.5	-56	1	4	6	-51	5	8	9	-49	7	9	10	-55	1	4	5	-53	4	6	8	6	4	3	4
40,000	-56.5	-55	2	6	8	-53	3	7	10	-52	5	8	10	-54	2	6	7	-53	3	7	9	6	6	5	5
30,000	-44.5	-53	-8	-5	-4	-50	-5	-3	-2	-43	1	4	5	-47	-2	1	2	-48	-4	-0	1	4	3	3	4
20,000	-21.2	-32	-11	-6	-3	-26	-5	-2	-0	-16	5	7	9	-23	-2	2	4	-24	-3	1	3	7	5	4	5
10,000	- 4.6	-17	-13	-7	-4	-10	-6	-3	-1	-0	4	7	8	-7	-3	1	2	-9	-4	-0	2	8	4	4	5
FT. SMITH TO LITTLE ROCK																									111 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-2	-68	-12	-10	-9	-69	-12	-10	-8	-66	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	2	-54	3	4	5	-56	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	4	5	-33	11	13	13	-39	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-14	7	9	10	-7	14	16	16	-11	11	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	3	7	10	12	10	14	15	16	6	11	13	14	4	8	11	12	5	4	2	4
FT. SMITH TO TEXARKANA																									114 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-4	-3	-68	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-33	11	13	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-14	7	9	11	-7	15	16	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	5	7	3	8	11	12	10	14	16	16	6	11	13	14	4	9	11	13	4	4	2	3
FT. SMITH TO TULSA																									90 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-68	-11	-9	-8	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-33	11	13	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	16	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	2	7	10	12	10	14	16	17	6	10	13	14	4	8	11	12	5	4	2	4
FT. WAYNE TO INDIANAPOLIS																									90 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	3	5	-54	3	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	-0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	8	3	3	3	4
20,000	-21.2	-23	-2	2	3	-18	3	6	7	-8	13	14	15	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-9	-4	-0	2	-3	1	5	7	7	12	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
FT. WAYNE TO NEW YORK																									519 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	3	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	0	3	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
FT. WAYNE TO SOUTH BEND																									66 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-1	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-48	-3	-1	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	14	1	6	9	11	-2	3	7	9	6	5	3	5
FT. WAYNE TO TOLEDO																									73 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-1	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-2	1	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	14	1	6	9	11	-2	3	7	8	6	5	3	5
FT. WILLIAM TO SAULT STE. MARIE																									227 N.MI.
53,000	-56.5	-57	-1	3	4	-55	2	4	6	-55	1	4	5	-58	-1	1	3	-56	0	3	5	5	4	4	4
40,000	-56.5	-54	2	6	9	-54	2	6	9	-53	4	7	8	-54	2	6	8	-54	3	6	8	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-0	-39	6	8	10	-45	-0	3	4	-46	-1	3	5	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-25	-3	0	2	-12	9	11	13	-19	2	6	8	-22	-1	4	6	6	5	4	5
10,000	- 4.6	-18	-13	-9	-6	-9	-5	-1	1	2	7	10	11	-3	1	5	8	-7	-3	2	5	7	6	4	6
FT. WILLIAM TO TORONTO																									492 N.MI.
53,000	-56.5	-58	-1	2	4	-55	1	4	5	-57	-0	3	4	-59	-2	1	2	-57	-1	2	4	5	4	4	4
40,000	-56.5	-54	2	6	8	-54	2	6	8	-53	4	6	8	-54	2	6	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	0	-38	6	9	10	-44	1	3	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-29	-8	-4	-2	-24	-3	1	2	-12	9	12	13	-18	3	7	8	-21	0	5	7	6	5	4	5
10,000	- 4.6	-16	-12	-7	-4	-9	-4	-0	2	3	8	10	11	-2	2	6	8	-6	-1	3	5	7	6	4	6
FT. WILLIAM TO WINNIPEG																									322 N.MI.
53,000	-56.5	-56	0	3	5	-54	2	5	6	-54	2	5	6	-57	-1	2	3	-55	1	4	5	5	4	4	4
40,000	-56.5	-54	3	7	9	-54	2	6	8	-53	4	7	8	-54	2	6	8	-54	3	6	8	6	6	4	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-2	-1	-39	5	8	9	-45	-1	2	3	-47	-2	2	4	4	4	4	4
20,000	-21.2	-33	-11	-7	-5	-25	-3	-0	2	-13	8	11	12	-20	1	5	7	-23	-1	3	6	6	5	4	6
10,000	- 4.6	-20	-15	-10	-7	-9	-5	-1	1	2	7	10	11	-4	0	4	7	-8	-3	2	4	7	6	4	6
FT. WORTH TO HOUSTON																									212 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-10	-7	-6	-70	-13	-12	-11	-72	-16	-14	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-0	2	4	-58	-1	1	3	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-32	12	13	14	-37	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	10	-13	8	11	12	-6	15	16	17	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	8	10	6	10	13	14	10	15	16	16	8	12	14	15	6	11	13	14	4	4	1	3
FT. WORTH TO LITTLE ROCK																									266 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	4	-42	3	5	6	-33	12	13	14	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-6	15	16	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	4	8	11	13	10	15	16	16	7	11	13	15	5	9	12	13	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
FT. WORTH TO LOS ANGELES																									1070 N.MI.
53,000	-56.5	-65	-9	-7	-5	-64	-7	-5	-3	-69	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-33	11	13	13	-38	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	4	7	8	-15	6	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	5	3	2	3
10,000	- 4.6	-1	4	7	9	4	8	11	13	12	17	18	19	6	11	13	15	5	10	13	14	5	4	2	4
FT. WORTH TO NEW ORLEANS																									387 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-10	-7	-6	-70	-13	-12	-11	-72	-16	-13	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	12	13	14	-36	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	9	10	-13	9	11	12	-6	15	16	16	-9	12	14	15	-11	11	13	14	3	3	1	3
10,000	- 4.6	1	6	8	9	5	10	12	13	10	15	16	16	7	12	14	15	6	10	12	13	4	4	1	3
FT. WORTH TO OKLAHOMA CITY																									157 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-7	-6	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-33	12	13	14	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-14	7	9	10	-6	15	16	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	6	7	4	9	11	13	11	15	16	17	6	11	13	15	5	9	12	13	5	4	2	4
FT. WORTH TO SHREVEPORT																									165 N.MI.
53,000	-56.5	-67	-11	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	2	4	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	12	13	14	-37	7	9	10	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-13	8	10	11	-6	15	16	17	-10	12	13	14	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	8	5	9	12	13	10	15	16	16	7	12	14	15	5	10	12	13	4	4	2	3
FT. WORTH TO WACO																									74 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-70	-13	-11	-10	-71	-15	-13	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-32	12	13	14	-37	7	9	11	-38	6	9	10	3	2	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	13	4	3	2	3
10,000	- 4.6	-0	4	7	9	5	10	12	14	11	15	16	17	7	12	14	15	6	10	12	14	4	4	2	3
FT. WORTH TO WICHITA FALLS																									100 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-13	-11	-10	-70	-14	-11	-10	-68	-11	-8	-6	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-33	12	13	14	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	10	11	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	8	4	9	12	13	11	15	16	17	7	11	14	15	5	10	12	13	4	4	2	3
FREDERICTON TO MONTREAL																									303 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-56	0	3	4	-58	-2	1	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	9	-53	3	7	10	-55	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-4	-1	1	-38	6	9	10	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-7	-2	-0	-25	-4	-0	2	-12	9	11	13	-18	3	7	9	-21	0	5	7	6	5	4	5
10,000	- 4.6	-16	-11	-6	-4	-10	-6	-2	-0	3	7	9	11	-3	2	6	8	-7	-2	2	5	7	5	3	6
FREDERICTON TO QUEBEC																									209 N.MI.
53,000	-56.5	-56	0	3	4	-54	3	5	7	-56	1	4	5	-58	-1	2	4	-56	1	4	5	4	4	4	5
40,000	-56.5	-54	3	7	9	-53	4	8	10	-53	3	6	8	-53	3	7	8	-53	3	7	9	6	6	4	5
30,000	-44.5	-50	-5	-3	-1	-48	-4	-1	0	-39	6	8	10	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-25	-4	-1	1	-13	8	11	12	-18	3	7	8	-21	0	4	6	6	5	4	5
10,000	- 4.6	-16	-12	-7	-4	-11	-6	-3	-1	2	7	9	10	-3	1	5	7	-7	-3	2	4	7	5	3	6
FREDERICTON TO ST. JOHN																									43 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-56	0	3	4	-59	-2	1	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	8	-53	3	7	9	-54	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-49	-5	-2	-0	-48	-3	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-24	-3	0	2	-12	9	11	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-5	-3	-10	-5	-1	1	3	7	9	11	-3	2	6	8	-6	-2	3	5	7	5	3	6
FRESNO TO LOS ANGELES																									182 N.MI.
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-2	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-1	1	3	-43	1	3	4	-35	9	11	12	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	7	9	-7	14	15	16	-12	10	12	14	-13	8	10	12	5	4	2	4
10,000	- 4.6	-1	4	8	10	1	5	8	10	11	16	18	18	5	9	12	14	4	9	12	13	5	5	2	4
FRESNO TO MERCED																									49 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-65	-9	-7	-6	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-2	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	3	7	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	8	10	11	-40	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	7	8	-8	14	15	15	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	2	6	8	-1	4	7	9	11	16	17	18	4	8	11	13	3	8	11	13	6	5	2	5
FRESNO TO OAKLAND																									132 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-1	-0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-2	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	8	10	11	-40	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	6	8	-8	13	15	15	-13	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	2	6	8	-1	4	7	9	11	15	17	18	3	8	11	13	3	7	11	13	6	5	2	5
FRESNO TO SAN FRANCISCO																									138 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-1	-0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-2	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	8	10	11	-40	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	6	8	-8	13	15	15	-13	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	2	6	8	-1	4	7	9	11	15	17	18	3	8	11	13	3	7	11	13	6	5	2	5
FRESNO TO VISALIA																									31 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-5	-2	-1	-66	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-57	-0	2	3	7	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	9	10	11	-39	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	7	8	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	3	7	9	-0	4	8	9	11	16	17	18	4	9	12	13	3	8	11	13	6	5	2	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50*D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
GAINESVILLE TO JACKSONVILLE							**54 N.MI.**
53,000	-56.5	-71 -14 -12 -11	-68 -11 -9 -8	-69 -13 -11 -10	-75 -17 -14 -13	-70 -14 -11 -10	3 3 2 3
40,000	-56.5	-58 -1 1 2	-58 -1 1 2	-57 -0 1 2	-55 1 3 4	-57 -0 2 3	3 3 2 3
30,000	-44.5	-40 5 6 7	-39 6 7 8	-33 11 12 13	-35 9 11 12	-37 8 10 11	2 2 2 3
20,000	-21.2	-12 9 11 12	-12 10 12 13	-7 14 15 16	-8 13 15 16	-10 12 13 14	3 3 1 2
10,000	- 4.6	3 7 9 10	4 9 11 12	8 13 14 14	7 12 14 14	6 10 12 13	3 3 1 2
GAINESVILLE TO OCALA							**32 N.MI.**
53,000	-56.5	-71 -15 -13 -12	-68 -12 -10 -9	-70 -13 -12 -11	-73 -17 -15 -13	-71 -14 -12 -10	3 3 2 3
40,000	-56.5	-58 -1 1 2	-57 -1 1 3	-57 -0 1 2	-55 1 3 4	-57 -0 2 3	3 3 2 3
30,000	-44.5	-40 5 7 7	-39 6 7 8	-33 11 12 13	-35 10 11 12	-37 8 10 11	2 2 2 3
20,000	-21.2	-12 9 11 12	-11 10 12 13	-7 14 15 16	-8 13 15 16	-9 12 13 14	3 3 1 2
10,000	- 4.6	3 8 10 11	5 9 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
GANDER TO MONTREAL							**846 N.MI.**
53,000	-56.5	-56 0 3 4	-53 3 6 7	-55 2 5 6	-57 -1 3 4	-55 1 4 6	4 4 4 5
40,000	-56.5	-53 3 7 9	-53 4 8 10	-53 4 7 8	-53 3 7 9	-53 3 8 10	6 6 4 5
30,000	-44.5	-50 -5 -2 -1	-48 -4 -1 0	-39 5 8 9	-44 1 4 5	-45 -1 3 5	4 4 4 4
20,000	-21.2	-29 -7 -3 -1	-25 -4 -1 1	-13 8 11 12	-19 2 6 8	-21 -0 4 6	7 5 4 5
10,000	- 4.6	-17 -12 -7 -4	-10 -6 -2 -0	2 6 9 10	-4 0 4 6	-7 -3 1 4	8 5 3 6
GANDER TO ST. JOHNS							**86 N.MI.**
53,000	-56.5	-56 0 3 4	-54 3 5 7	-54 2 5 6	-57 -0 3 5	-55 1 4 6	4 4 4 5
40,000	-56.5	-53 3 7 9	-54 3 7 9	-53 3 7 8	-53 3 7 9	-53 3 7 9	6 6 5 6
30,000	-44.5	-48 -4 -1 1	-48 -3 -0 1	-40 5 8 9	-44 1 4 5	-45 -0 4 6	5 4 4 4
20,000	-21.2	-27 -6 -2 1	-24 -3 1 3	-13 8 11 12	-18 3 7 8	-21 0 5 7	7 5 4 5
10,000	- 4.6	-15 -10 -5 -2	-8 -4 -0 2	2 6 8 10	-4 0 4 6	-6 -2 2 4	8 5 3 5
GANDER TO STEPHENVILLE							**199 N.MI.**
53,000	-56.5	-56 0 3 4	-53 4 6 7	-54 3 5 7	-56 0 3 5	-55 2 5 6	4 4 4 5
40,000	-56.5	-53 4 8 10	-53 4 8 10	-53 4 7 9	-53 4 7 9	-53 4 7 9	6 6 5 5
30,000	-44.5	-49 -4 -1 0	-48 -4 -1 1	-40 5 7 9	-44 0 3 5	-45 -1 3 5	5 4 4 4
20,000	-21.2	-29 -7 -3 -0	-25 -4 -0 2	-14 8 10 12	-19 2 6 8	-22 -0 4 6	7 5 4 6
10,000	- 4.6	-16 -12 -6 -4	-9 -5 -1 1	1 6 8 9	-5 -0 3 5	-7 -3 1 4	8 5 3 6
GRAND FORKS TO WINNIPEG							**118 N.MI.**
53,000	-56.5	-56 0 3 5	-54 2 5 6	-55 1 4 5	-58 -1 1 2	-56 1 3 5	5 4 3 4
40,000	-56.5	-54 2 7 9	-55 2 5 7	-53 3 6 8	-55 2 5 7	-54 2 5 7	6 6 4 5
30,000	-44.5	-53 -8 -5 -4	-49 -5 -2 -1	-39 6 8 9	-45 -0 2 3	-46 -2 2 4	4 4 4 4
20,000	-21.2	-32 -11 -6 -4	-24 -3 1 2	-12 9 11 12	-20 1 5 7	-22 -1 3 6	7 5 3 5
10,000	- 4.6	-18 -14 -9 -6	-8 -4 0 2	4 8 11 12	-4 1 5 7	-7 -2 3 5	7 6 4 6
GRAND JUNCTION TO LAS VEGAS							**363 N.MI.**
53,000	-56.5	-63 -6 -3 -2	-61 -5 -2 -1	-66 -9 -7 -6	-66 -9 -7 -6	-64 -7 -4 -3	4 4 3 3
40,000	-56.5	-56 0 5 7	-58 -2 2 3	-54 2 4 5	-56 0 3 5	-56 0 2 4	7 5 2 4
30,000	-44.5	-47 -3 -0 1	-45 -0 1 2	-35 10 11 12	-40 5 7 8	-42 3 6 7	3 3 2 3
20,000	-21.2	-21 0 4 6	-18 3 6 7	-7 14 15 16	-12 9 11 13	-15 7 9 11	6 4 2 4
10,000	- 4.6	-4 0 4 6	1 5 9 10	13 18 20 21	4 9 12 14	4 8 12 14	6 5 2 5
GRAND RAPIDS TO LAND O LAKES							**247 N.MI.**
53,000	-56.5	-59 -2 1 3	-57 -0 2 4	-59 -2 0 2	-60 -4 -1 0	-59 -2 1 2	4 4 4 4
40,000	-56.5	-55 1 5 8	-55 1 5 7	-53 3 6 7	-55 1 5 6	-55 2 5 6	6 6 3 5
30,000	-44.5	-50 -5 -3 -2	-47 -3 -0 1	-37 7 10 11	-43 2 4 5	-44 0 4 6	4 3 3 4
20,000	-21.2	-27 -6 -3 -0	-22 -1 2 4	-10 11 13 14	-17 4 8 9	-19 2 6 8	6 5 3 5
10,000	- 4.6	-14 -9 -5 -2	-7 -2 1 3	5 9 12 13	-1 4 8 10	-4 0 5 7	7 6 3 6
GRAND RAPIDS TO LANSING							**48 N.MI.**
53,000	-56.5	-59 -3 -0 2	-58 -1 2 3	-60 -4 -1 -0	-62 -5 -3 -1	-60 -3 -0 1	4 4 4 4
40,000	-56.5	-56 1 5 7	-56 0 4 6	-54 3 5 6	-55 1 4 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-49 -4 -2 -0	-46 -2 0 2	-36 8 10 11	-42 2 5 6	-43 1 5 7	4 3 3 4
20,000	-21.2	-25 -4 -1 1	-21 0 3 5	-10 11 13 14	-16 6 9 10	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -7 -3 -1	-6 -1 2 4	5 10 12 13	0 5 9 10	-3 2 6 8	6 5 3 5
GRAND RAPIDS TO MILWAUKEE							**98 N.MI.**
53,000	-56.5	-59 -3 -0 2	-58 -1 1 3	-60 -4 -1 -0	-62 -5 -3 -1	-60 -3 -0 1	4 4 4 4
40,000	-56.5	-56 1 5 7	-56 0 4 6	-54 3 5 6	-55 1 4 6	-55 1 4 5	6 6 3 5
30,000	-44.5	-49 -4 -2 -1	-46 -2 0 2	-36 8 10 12	-42 2 5 6	-43 1 5 7	4 3 3 4
20,000	-21.2	-26 -5 -1 1	-21 1 4 5	-10 12 14 15	-16 6 9 10	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -7 -3 -1	-6 -1 3 5	6 10 12 13	0 5 9 11	-3 2 6 8	6 5 3 5
GRAND RAPIDS TO MUSKEGON							**30 N.MI.**
53,000	-56.5	-59 -3 0 2	-58 -1 2 3	-60 -4 -1 0	-62 -5 -2 -1	-60 -3 -0 2	4 4 4 4
40,000	-56.5	-56 1 5 7	-56 0 4 7	-54 3 5 6	-55 1 4 6	-55 1 4 6	6 6 3 5
30,000	-44.5	-49 -4 -2 -1	-46 -2 0 2	-36 8 10 11	-42 2 5 6	-44 1 5 7	4 3 3 4
20,000	-21.2	-26 -5 -1 1	-21 0 3 5	-10 11 13 14	-16 5 9 10	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -7 -3 -1	-6 -1 2 4	5 10 12 13	0 5 8 10	-3 2 6 8	6 5 3 5
GRAND RAPIDS TO SAGINAW							**79 N.MI.**
53,000	-56.5	-59 -3 0 2	-57 -1 2 3	-60 -3 -1 1	-61 -5 -2 -1	-59 -3 0 2	4 4 4 4
40,000	-56.5	-56 1 5 7	-56 1 5 7	-53 3 5 6	-55 1 4 6	-55 1 4 6	6 6 3 5
30,000	-44.5	-49 -5 -2 -1	-47 -2 0 1	-37 8 10 11	-42 2 5 6	-44 1 5 6	4 3 3 4
20,000	-21.2	-26 -5 -1 1	-21 -0 3 5	-10 11 13 14	-16 5 8 10	-18 3 7 9	5 5 3 5
10,000	- 4.6	-12 -8 -3 -1	-6 -2 2 4	5 10 12 13	0 5 8 10	-3 1 5 7	6 5 3 5
GREAT FALLS TO HELENA							**59 N.MI.**
53,000	-56.5	-58 -1 2 4	-55 1 4 5	-57 -0 2 3	-60 -3 -1 1	-57 -1 2 4	5 4 3 4
40,000	-56.5	-56 0 5 7	-56 0 4 6	-54 2 5 6	-56 0 3 5	-56 1 4 6	7 6 4 5
30,000	-44.5	-51 -7 -4 -3	-48 -4 -2 -0	-39 6 8 9	-44 1 3 5	-45 -1 2 4	4 3 3 4
20,000	-21.2	-28 -7 -2 1	-22 -1 2 4	-12 10 11 12	-19 3 6 8	-20 1 5 7	7 5 3 5
10,000	- 4.6	-13 -8 -3 -1	-6 -1 2 4	7 12 14 16	-2 3 7 9	-3 1 6 8	7 5 3 6
GREAT FALLS TO MISSOULA							**116 N.MI.**
53,000	-56.5	-58 -1 2 4	-55 1 4 5	-56 0 2 3	-60 -3 -1 1	-57 -1 2 4	5 4 3 4
40,000	-56.5	-56 0 5 7	-56 0 4 6	-54 3 5 7	-56 0 3 5	-56 1 4 6	7 6 4 5
30,000	-44.5	-51 -7 -4 -3	-48 -4 -2 -0	-39 6 8 9	-44 1 3 5	-45 -1 2 4	4 3 3 4
20,000	-21.2	-28 -7 -2 1	-22 -1 2 4	-12 9 11 12	-19 3 6 8	-20 1 5 7	7 5 3 5
10,000	- 4.6	-13 -8 -3 -1	-6 -1 2 4	7 12 14 15	-2 2 6 8	-4 1 6 8	7 5 3 6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
GREAT FALLS TO SALT LAKE CITY																									403 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-0	2	3	-60	-3	-1	-0	-62	-5	-3	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-56	0	5	7	-57	-1	3	5	-54	2	4	5	-56	0	3	5	-56	0	3	5	7	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-1	0	-38	7	9	10	-42	2	5	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-26	-5	-0	2	-21	0	3	5	-10	11	13	14	-17	5	8	9	-18	3	6	8	7	4	2	5
10,000	- 4.6	-10	-6	-1	1	-4	1	4	6	10	15	17	18	0	5	9	11	-1	4	8	11	7	5	3	6
GREAT FALLS TO SPOKANE																									254 N.MI.
53,000	-56.5	-57	-1	2	4	-55	2	4	6	-56	1	3	4	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-56	0	5	7	-56	1	5	7	-54	3	5	7	-56	0	4	5	-56	1	4	6	7	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-39	5	7	8	-44	1	3	5	-46	-1	2	4	4	3	3	4
20,000	-21.2	-28	-7	-2	1	-23	-1	2	3	-12	9	11	12	-19	2	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-13	-8	-3	-1	-6	-2	2	4	6	11	13	14	-3	2	6	8	-4	1	5	8	8	5	3	6
GREENSBORO TO GREENVILLE																									139 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-6	-4	-2	-66	-10	-8	-7	-68	-11	-9	-8	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	5	4	-56	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	11	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	5	8	9	7	12	13	14	5	9	11	13	2	7	9	11	4	4	2	3
GREENSBORO TO LOUISVILLE																									305 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	2	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	16	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
GREENSBORO TO NEW YORK																									397 N.MI.
53,000	-56.5	-63	-6	-4	-3	-61	-4	-1	-0	-64	-7	-5	-4	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-55	2	4	4	-55	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	9	11	12	-39	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	2	5	6	-17	4	7	8	-9	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	5	2	4
GREENSBORO TO PITTSBURGH																									263 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	11	12	-40	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	6	7	7	11	13	14	3	7	10	12	0	5	8	9	5	5	2	4
GREENSBORO TO RALEIGH																									58 N.MI.
53,000	-56.5	-66	-9	-7	-5	-63	-6	-3	-2	-66	-9	-7	-6	-68	-11	-8	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	8	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-15	6	8	10	-8	13	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	4
GREENSBORO TO RICHMOND																									152 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-5	-3	-1	-65	-9	-7	-5	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-35	10	12	13	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
GREENSBORO TO ROANOKE																									73 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
GREENSBORO TO WASHINGTON, D.C.																									216 N.MI.
53,000	-56.5	-64	-7	-5	-4	-61	-5	-2	-1	-65	-8	-6	-5	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	5	-35	10	12	12	-39	5	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	2	5	7	-16	5	7	9	-8	13	14	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-2	3	6	8	7	11	13	14	3	8	10	12	1	5	8	10	5	4	2	4
GREENVILLE TO RICHMOND																									291 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	8	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-15	6	8	10	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	6	9	10	5	4	2	4
GREENVILLE TO SPARTANBURG																									19 N.MI.
53,000	-56.5	-67	-10	-8	-7	-63	-7	-4	-3	-67	-11	-9	-7	-68	-12	-9	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	2	-55	2	3	4	-56	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-7	14	15	16	-11	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	3	5	7	1	6	8	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
GREENVILLE TO WINSTON-SALEM																									129 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-66	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-45	1	3	4	-42	3	5	6	-34	11	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	5	8	9	7	12	13	14	5	9	11	13	2	7	9	11	4	4	2	3
GOOSE BAY TO MONTREAL																									700 N.MI.
53,000	-56.5	-56	0	3	5	-52	4	7	8	-53	4	6	8	-56	1	4	6	-54	2	5	7	4	4	4	5
40,000	-56.5	-53	4	8	10	-52	5	9	11	-52	5	8	10	-52	4	8	10	-52	4	8	10	6	6	5	6
30,000	-44.5	-51	-7	-4	-2	-49	-5	-2	-1	-41	4	7	8	-45	-1	3	4	-47	-2	2	4	4	4	4	5
20,000	-21.2	-31	-10	-6	-3	-27	-6	-2	-0	-14	7	10	11	-21	0	4	6	-24	-2	2	5	7	6	4	6
10,000	- 4.6	-20	-15	-10	-7	-13	-8	-4	-2	0	5	7	9	-6	-2	3	5	-10	-5	-0	2	8	6	4	6

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HALIFAX TO MONCTON																									89 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-56	0	3	4	-59	-2	1	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	3	7	9	-54	3	5	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-48	-3	-0	1	-38	6	9	10	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-3	1	2	-12	9	11	13	-17	4	8	10	-20	1	5	7	6	5	3	5
10,000	- 4.6	-14	-10	-5	-2	-9	-4	-1	1	3	7	10	11	-3	2	6	8	-6	-1	3	5	7	5	3	5
HALIFAX TO MONTREAL																									434 N.MI.
53,000	-56.5	-57	-0	2	4	-54	2	5	6	-57	-0	2	4	-59	-2	1	3	-57	-0	3	4	4	4	4	5
40,000	-56.5	-55	2	6	8	-53	3	7	9	-54	3	5	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-49	-5	-2	-0	-48	-3	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-24	-3	0	2	-12	9	11	13	-17	4	8	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-5	-3	-10	-5	-1	0	3	7	10	11	-2	2	6	8	-6	-1	3	5	7	5	3	6
HALIFAX TO ST. JOHN																									104 N.MI.
53,000	-56.5	-57	-0	2	4	-54	2	5	6	-57	-0	2	4	-59	-3	1	3	-57	-0	3	4	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	3	7	9	-54	2	5	7	-54	3	6	8	-54	2	6	8	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-38	7	9	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-0	2	-24	-3	1	3	-12	9	12	13	-17	5	8	10	-20	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-5	-2	-9	-4	-1	1	3	8	10	11	-2	2	6	8	-5	-1	3	5	7	5	3	5
HALIFAX TO SYDNEY																									165 N.MI.
53,000	-56.5	-57	-0	2	4	-54	2	5	6	-56	0	3	4	-59	-2	1	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	3	7	9	-54	2	5	7	-54	3	6	8	-54	2	6	8	6	6	4	5
30,000	-44.5	-48	-4	-1	0	-47	-3	-0	1	-38	6	9	10	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-4	-0	2	-24	-2	1	3	-12	9	11	13	-17	4	8	10	-20	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-5	-2	-8	-4	-0	2	3	8	10	11	-3	2	6	8	-6	-1	3	5	7	5	3	5
HARRISBURG TO PITTSBURGH																									155 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	3	5	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	5
HARRISBURG TO READING																									42 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-19	2	5	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
HARRISBURG TO WASHINGTON, D.C.																									82 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-0	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-21	1	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
HARRISBURG TO WILLIAMSPORT																									61 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
HARTFORD TO LOS ANGELES																									2191 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-8	-5	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-35	9	11	12	-41	4	6	7	-42	3	6	7	3	3	3	3
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-8	13	15	15	-13	8	11	12	-15	6	9	10	5	4	2	4
10,000	- 4.6	-7	-2	2	4	-2	3	6	8	9	14	16	17	3	8	11	12	1	6	9	11	6	5	3	5
HARTFORD TO NEW HAVEN																									30 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-4	-2	-1	-63	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-1	2	4	-20	1	4	5	-10	11	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-2	2	6	7	6	5	3	5
HARTFORD TO NEW YORK																									84 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-36	8	10	12	-41	4	6	8	-42	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	1	4	6	-10	11	13	14	-14	7	10	12	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
HARTFORD TO PHILADELPHIA																									161 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-2	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	4	6	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	4	-20	2	5	6	-10	12	14	14	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
HARTFORD TO PITTSBURGH																									350 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	11	12	-41	4	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-20	1	4	6	-10	12	13	14	-14	7	10	12	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
HARTFORD TO PITTSFIELD																									51 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-6	-2	-1	-60	-3	-0	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	4	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	2	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HARTFORD TO PROVIDENCE																									54 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	4	7	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	4	-21	0	3	5	-10	11	13	14	-15	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-6	-1	2	4	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
HARTFORD TO WASHINGTON, D.C.																									265 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-19	2	5	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	0	3	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
HELENA TO MISSOULA																									88 N.MI.
53,000	-56.5	-58	-1	2	4	-55	1	4	5	-57	-0	2	3	-60	-3	-1	0	-57	-1	2	4	5	4	3	4
40,000	-56.5	-56	0	5	7	-56	0	4	6	-54	2	5	6	-56	0	3	5	-56	1	4	5	7	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-1	-0	-39	6	8	9	-43	1	4	5	-45	-1	2	4	4	3	3	4
20,000	-21.2	-28	-6	-2	1	-22	-1	2	4	-12	10	12	13	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-13	-8	-3	-0	-6	-1	2	4	7	12	14	15	-2	3	7	9	-3	1	6	8	7	5	3	6
HOBBS TO MIDLAND																									71 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-5	-70	-13	-11	-10	-71	-14	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-56	0	3	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	4	5	-32	12	13	14	-37	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	5	7	9	-14	7	10	11	-6	15	16	17	-10	11	13	14	-12	10	12	13	4	3	1	3
10,000	- 4.6	-0	4	7	9	5	10	13	14	12	16	18	18	7	12	14	15	6	11	13	14	5	4	2	3
HOBBS TO ROSWELL																									78 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-8	-5	-4	-69	-13	-11	-10	-70	-14	-11	-10	-67	-11	-8	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-42	2	4	5	-33	12	13	14	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	9	5	9	12	14	12	17	18	19	7	11	14	15	6	10	13	14	5	4	2	3
HOMER TO KING SALMON																									169 N.MI.
53,000	-56.5	-49	7	12	14	-50	7	9	11	-48	9	11	12	-50	6	9	10	-49	7	10	11	6	4	3	4
40,000	-56.5	-53	3	8	11	-50	6	10	11	-50	7	10	12	-51	5	8	10	-51	5	9	11	7	5	5	5
30,000	-44.5	-51	-6	-4	-2	-51	-6	-4	-2	-44	1	3	5	-50	-5	-3	-1	-49	-4	-1	1	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-30	-9	-5	-4	-17	4	7	8	-27	-6	-3	-1	-26	-5	-0	2	6	5	4	5
10,000	- 4.6	-15	-10	-5	-3	-15	-10	-7	-6	-2	2	5	6	-11	-7	-4	-2	-11	-6	-2	0	7	4	3	4
HOMER TO KODIAK																									117 N.MI.
53,000	-56.5	-49	7	11	14	-50	6	9	11	-48	8	10	12	-50	6	9	10	-49	7	9	11	6	4	3	4
40,000	-56.5	-53	3	8	11	-51	6	9	11	-50	7	10	12	-51	5	8	10	-51	5	9	11	7	5	5	5
30,000	-44.5	-51	-6	-4	-2	-51	-6	-4	-2	-44	1	3	5	-49	-5	-2	-1	-49	-4	-0	1	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-30	-9	-5	-3	-17	4	7	8	-27	-6	-2	-0	-26	-5	-0	2	6	5	4	5
10,000	- 4.6	-14	-10	-5	-3	-14	-10	-7	-5	-2	3	5	6	-11	-6	-3	-2	-10	-6	-2	0	6	4	3	4
HONOLULU TO LOS ANGELES																									2218 N.MI.
53,000	-56.5	-68	-11	-9	-7	-65	-8	-6	-4	-68	-12	-10	-9	-70	-13	-11	-10	-68	-11	-8	-7	4	4	3	3
40,000	-56.5	-55	1	5	7	-57	-0	3	4	-54	2	4	5	-55	2	4	5	-55	1	3	4	5	4	2	3
30,000	-44.5	-40	4	7	8	-40	5	7	8	-35	10	11	12	-37	8	9	10	-38	6	9	10	4	3	2	3
20,000	-21.2	-14	8	10	11	-13	8	10	12	-7	14	16	16	-9	12	14	15	-11	10	13	14	4	3	2	3
10,000	- 4.6	3	8	10	12	3	8	10	11	9	14	15	16	6	11	13	14	5	10	12	13	4	3	2	3
HONOLULU TO NEW YORK																									4523 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-5	-4	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	2	4	5	-55	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-45	-0	2	4	-43	1	3	4	-36	9	10	11	-40	5	7	8	-41	4	6	8	4	3	3	3
20,000	-21.2	-19	2	5	7	-17	4	7	8	-8	13	15	15	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-4	1	4	6	-1	4	7	8	9	13	15	16	3	8	11	12	2	7	10	11	5	4	2	4
HONOLULU TO PORTLAND, ORE.																									2264 N.MI.
53,000	-56.5	-64	-8	-5	-3	-60	-4	-1	0	-63	-6	-4	-3	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-55	2	6	8	-57	-0	3	5	-54	3	5	6	-55	2	4	6	-55	1	4	5	6	5	3	4
30,000	-44.5	-42	2	5	6	-42	3	5	6	-37	8	10	11	-39	6	8	9	-40	5	7	9	4	3	3	3
20,000	-21.2	-16	5	8	9	-16	5	8	9	-9	12	14	15	-12	9	12	13	-13	8	11	12	4	4	3	4
10,000	- 4.6	-0	4	7	9	-0	4	7	8	7	11	13	14	3	8	10	12	2	7	9	11	4	4	2	4
HONOLULU TO SAN FRANCISCO																									2083 N.MI.
53,000	-56.5	-67	-10	-7	-6	-63	-7	-4	-3	-66	-10	-8	-7	-68	-12	-9	-8	-66	-10	-6	-5	4	4	3	3
40,000	-56.5	-55	1	5	7	-57	-0	3	4	-54	2	4	5	-55	2	4	5	-55	1	3	4	5	5	2	3
30,000	-44.5	-41	4	6	7	-40	4	6	7	-36	9	11	12	-38	7	9	10	-39	6	8	10	4	3	3	3
20,000	-21.2	-14	7	10	11	-14	7	10	11	-8	14	15	16	-10	11	13	15	-11	10	12	13	4	3	2	3
10,000	- 4.6	2	7	9	11	2	6	9	10	9	13	14	15	5	10	12	13	4	9	11	13	4	3	2	3
HONOLULU TO SEATTLE																									2329 N.MI.
53,000	-56.5	-64	-7	-4	-2	-60	-3	-1	1	-62	-5	-3	-2	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-55	2	6	8	-56	0	4	5	-54	3	5	6	-55	2	4	6	-55	2	4	5	6	5	3	4
30,000	-44.5	-43	2	4	6	-42	3	5	6	-37	8	10	11	-39	5	8	9	-40	4	7	8	4	3	3	3
20,000	-21.2	-17	4	7	9	-17	5	7	9	-9	12	14	15	-13	8	11	13	-14	7	10	12	4	4	3	4
10,000	- 4.6	-1	3	6	8	-1	4	6	8	6	11	13	13	3	7	10	11	2	6	9	10	4	4	2	4
HONOLULU TO VANCOUVER																									2354 N.MI.
53,000	-56.5	-63	-6	-3	-2	-59	-3	0	2	-61	-4	-2	-1	-64	-8	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-54	2	6	8	-56	0	4	6	-54	3	5	6	-55	2	5	6	-55	2	4	6	6	5	3	4
30,000	-44.5	-43	1	4	6	-42	2	4	5	-37	7	9	10	-39	5	7	9	-41	4	7	8	4	3	3	3
20,000	-21.2	-17	4	7	8	-17	4	7	8	-10	12	14	15	-13	8	11	12	-14	7	10	11	4	4	3	4
10,000	- 4.6	-2	3	6	8	-2	3	6	7	6	10	12	13	2	7	9	11	1	6	8	10	4	4	3	4
HOT SPRINGS TO LITTLE ROCK																									45 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-3	-68	-12	-10	-9	-69	-12	-10	-9	-67	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-33	11	13	13	-38	6	8	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-14	7	9	11	-7	14	16	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	5	7	3	7	10	12	10	14	15	16	6	11	13	14	4	9	11	12	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
HOT SPRINGS TO SHREVEPORT							**127 N.MI.**
53,000	-56.5	-67 -11 -8 -7	-64 -8 -5 -4	-69 -12 -10 -10	-70 -14 -11 -10	-68 -11 -8 -6	3 4 3 3
40,000	-56.5	-57 -1 2 4	-58 -2 1 2	-54 2 4 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-42 2 4 5	-41 3 5 6	-33 12 13 13	-38 7 9 10	-39 6 8 10	3 3 2 3
20,000	-21.2	-17 5 7 8	-14 8 10 11	-7 15 16 16	-10 11 13 14	-12 10 12 13	4 3 2 3
10,000	- 4.6	-1 3 6 8	4 8 11 12	10 14 15 16	7 11 13 15	5 9 12 13	4 4 2 3
HOULTON TO PRESQUE ISLE							**36 N.MI.**
53,000	-56.5	-56 0 3 4	-54 3 5 7	-56 1 4 5	-58 -1 2 4	-56 1 4 5	4 4 4 5
40,000	-56.5	-54 3 7 9	-53 4 8 10	-53 3 6 8	-53 3 7 8	-53 3 7 9	6 6 4 5
30,000	-44.5	-50 -5 -2 -1	-48 -4 -1 0	-39 6 8 10	-44 1 4 5	-45 -1 3 5	4 4 4 4
20,000	-21.2	-28 -7 -3 -0	-25 -4 -1 1	-13 8 11 12	-18 3 7 8	-21 0 4 7	6 5 4 5
10,000	- 4.6	-16 -12 -7 -4	-11 -6 -2 -1	2 7 9 10	-3 1 5 7	-7 -3 2 4	8 5 3 6
HOUSTON TO LAKE CHARLES							**114 N.MI.**
53,000	-56.5	-70 -13 -11 -10	-68 -11 -9 -8	-71 -14 -12 -12	-74 -17 -15 -14	-70 -14 -11 -10	3 3 2 3
40,000	-56.5	-57 -1 2 3	-57 -1 1 3	-55 2 3 3	-55 1 3 4	-56 0 2 3	4 3 2 3
30,000	-44.5	-40 4 6 7	-39 5 7 7	-32 12 13 14	-36 9 11 12	-37 8 10 11	2 2 2 3
20,000	-21.2	-14 8 10 11	-12 9 11 12	-6 15 16 17	-8 13 15 15	-10 11 13 14	3 3 1 2
10,000	- 4.6	2 7 9 11	6 11 13 14	10 15 16 16	8 13 14 15	7 11 13 14	3 3 1 2
HOUSTON TO LAS VEGAS							**1072 N.MI.**
53,000	-56.5	-66 -10 -7 -6	-64 -8 -5 -4	-69 -12 -11 -10	-70 -14 -11 -10	-67 -11 -8 -6	4 4 3 3
40,000	-56.5	-56 0 4 5	-58 -2 1 3	-54 2 4 4	-55 1 3 4	-56 0 2 3	5 4 2 3
30,000	-44.5	-44 1 2 3	-42 2 4 5	-33 12 13 14	-38 7 9 10	-39 5 8 9	3 3 2 3
20,000	-21.2	-17 4 7 9	-15 7 9 10	-6 15 16 17	-10 11 13 14	-12 9 12 13	4 3 2 3
10,000	- 4.6	-0 4 8 9	4 9 12 13	12 17 18 19	7 11 14 15	6 10 13 14	5 4 2 3
HOUSTON TO LOS ANGELES							**1205 N.MI.**
53,000	-56.5	-67 -10 -8 -7	-65 -9 -6 -5	-69 -13 -11 -10	-71 -14 -12 -11	-68 -11 -9 -7	3 4 3 3
40,000	-56.5	-57 -0 3 5	-58 -1 1 3	-54 2 4 4	-55 1 3 4	-56 1 2 3	5 4 2 3
30,000	-44.5	-43 1 3 4	-42 3 4 5	-33 12 13 14	-37 7 9 10	-39 6 8 9	3 2 2 3
20,000	-21.2	-16 5 8 9	-14 7 9 11	-6 15 16 17	-10 11 13 14	-12 10 12 13	4 3 1 3
10,000	- 4.6	0 5 8 10	5 9 12 14	12 17 18 18	7 12 14 15	6 11 13 14	5 4 2 3
HOUSTON TO MIAMI							**828 N.MI.**
53,000	-56.5	-72 -15 -13 -12	-69 -13 -11 -10	-71 -14 -13 -12	-75 -18 -16 -15	-72 -15 -13 -11	3 3 2 3
40,000	-56.5	-57 -0 2 3	-56 0 2 3	-56 1 2 2	-55 2 3 4	-56 0 2 3	3 3 2 2
30,000	-44.5	-39 5 7 8	-38 6 8 9	-33 12 13 13	-35 10 12 12	-36 8 10 11	2 2 1 3
20,000	-21.2	-12 10 11 12	-11 11 12 13	-6 15 16 16	-7 14 15 16	-9 12 14 14	3 3 1 2
10,000	- 4.6	4 9 11 12	6 11 13 14	9 14 15 15	8 13 14 15	7 11 13 13	3 3 1 2
HOUSTON TO NASHVILLE							**581 N.MI.**
53,000	-56.5	-68 -11 -9 -8	-65 -9 -6 -5	-69 -12 -11 -10	-71 -14 -12 -11	-68 -12 -8 -7	3 4 3 4
40,000	-56.5	-57 -1 2 3	-58 -1 1 3	-54 2 3 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-42 3 5 6	-41 4 6 6	-33 11 13 13	-37 7 9 10	-38 6 9 10	3 3 2 3
20,000	-21.2	-16 5 8 9	-13 8 10 11	-7 15 16 16	-10 12 13 14	-11 10 12 13	4 3 2 3
10,000	- 4.6	-1 4 7 8	4 8 11 12	9 14 15 16	7 11 13 15	5 9 11 13	4 4 2 3
HOUSTON TO NEW ORLEANS							**262 N.MI.**
53,000	-56.5	-70 -13 -11 -10	-68 -11 -9 -8	-70 -14 -12 -12	-74 -17 -15 -14	-70 -14 -11 -10	3 3 2 3
40,000	-56.5	-57 -1 2 3	-57 -1 1 3	-55 2 3 3	-55 1 3 4	-56 0 2 3	3 3 2 3
30,000	-44.5	-40 4 6 7	-39 5 7 8	-33 12 13 14	-36 9 11 12	-37 8 10 11	2 2 2 3
20,000	-21.2	-13 8 10 11	-12 9 11 12	-6 15 16 17	-8 13 15 15	-10 11 13 14	3 3 1 2
10,000	- 4.6	3 7 10 11	6 10 13 14	10 14 15 16	8 13 14 15	7 11 13 14	3 3 1 2
HOUSTON TO NEW YORK							**1238 N.MI.**
53,000	-56.5	-65 -9 -7 -5	-63 -7 -4 -2	-67 -10 -8 -7	-68 -12 -9 -8	-66 -9 -6 -5	4 4 3 4
40,000	-56.5	-57 -1 2 4	-58 -1 2 3	-54 2 3 4	-55 1 3 5	-56 0 2 3	4 4 2 3
30,000	-44.5	-43 1 3 4	-42 2 4 5	-34 11 12 13	-38 6 8 10	-39 5 8 9	3 3 2 3
20,000	-21.2	-18 4 6 8	-15 6 9 10	-7 14 15 16	-11 10 12 14	-13 8 11 12	4 4 2 3
10,000	- 4.6	-3 2 5 6	1 5 8 10	8 13 14 15	5 10 12 13	3 7 10 11	5 4 2 4
HOUSTON TO ST. LOUIS							**597 N.MI.**
53,000	-56.5	-66 -10 -7 -6	-64 -7 -5 -3	-68 -12 -10 -9	-70 -13 -11 -9	-67 -11 -7 -6	4 4 3 4
40,000	-56.5	-57 -0 2 4	-58 -2 1 3	-54 2 4 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-43 2 4 5	-42 3 5 6	-33 11 13 13	-38 7 9 10	-39 6 8 9	3 3 2 3
20,000	-21.2	-17 4 6 8	-14 7 9 11	-7 14 16 16	-10 11 13 14	-12 9 11 13	4 3 2 3
10,000	- 4.6	-2 3 6 7	3 7 10 12	9 14 15 16	6 11 13 14	4 9 11 12	4 4 2 3
HOUSTON TO SAN ANTONIO							**167 N.MI.**
53,000	-56.5	-70 -13 -11 -10	-68 -11 -9 -8	-71 -14 -13 -12	-74 -17 -15 -14	-70 -14 -11 -10	3 3 2 3
40,000	-56.5	-57 -0 2 4	-57 -1 1 3	-55 2 3 4	-55 1 3 4	-56 0 2 3	4 3 2 3
30,000	-44.5	-40 4 6 6	-40 5 6 7	-32 12 13 14	-36 9 11 12	-37 8 10 11	2 2 2 3
20,000	-21.2	-14 8 10 11	-12 9 11 12	-6 15 16 17	-8 13 14 15	-10 11 13 14	3 3 1 2
10,000	- 4.6	3 7 10 11	7 11 14 15	10 15 16 16	8 13 15 15	7 12 13 14	4 3 1 2
HOUSTON TO SAN FRANCISCO							**1431 N.MI.**
53,000	-56.5	-65 -9 -6 -5	-63 -7 -5 -3	-68 -12 -10 -9	-69 -12 -10 -9	-66 -10 -7 -5	4 4 3 3
40,000	-56.5	-57 -0 3 6	-58 -2 1 3	-54 2 4 4	-56 1 3 4	-56 0 2 3	6 4 2 3
30,000	-44.5	-44 0 2 3	-43 2 4 5	-34 11 12 13	-38 6 8 9	-40 5 7 9	3 3 2 3
20,000	-21.2	-18 4 7 8	-15 6 8 10	-6 15 16 16	-11 10 13 14	-13 9 11 12	5 4 2 3
10,000	- 4.6	-1 4 7 9	3 8 11 12	12 17 18 19	6 11 13 14	5 10 13 14	5 4 2 4
HOUSTON TO SHREVEPORT							**184 N.MI.**
53,000	-56.5	-69 -12 -10 -9	-66 -10 -8 -6	-70 -14 -12 -11	-73 -16 -14 -13	-69 -13 -10 -9	3 4 2 3
40,000	-56.5	-57 -1 2 3	-58 -1 1 3	-55 2 3 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-41 3 5 6	-40 4 6 7	-33 12 13 14	-36 8 10 11	-37 7 9 10	2 2 2 3
20,000	-21.2	-15 7 9 10	-13 9 11 12	-6 15 16 17	-9 12 14 15	-11 11 13 14	3 3 1 3
10,000	- 4.6	1 6 8 10	5 10 12 14	10 15 16 16	8 12 14 15	6 11 13 14	4 4 1 3
HOUSTON TO TULSA							**394 N.MI.**
53,000	-56.5	-67 -11 -8 -7	-65 -8 -6 -5	-69 -13 -11 -10	-71 -14 -12 -11	-68 -11 -8 -7	3 4 3 3
40,000	-56.5	-57 -0 3 4	-58 -1 1 3	-54 2 3 4	-55 1 3 4	-56 0 2 3	4 4 2 3
30,000	-44.5	-43 2 4 5	-41 3 5 6	-33 12 13 14	-37 7 9 10	-38 6 8 10	3 3 2 3
20,000	-21.2	-16 5 7 9	-14 8 10 11	-6 15 16 16	-10 11 13 14	-12 10 12 13	4 3 2 3
10,000	- 4.6	-1 4 7 8	4 9 12 13	10 15 16 16	7 11 14 15	5 10 12 13	4 4 2 3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HOUSTON TO WASHINGTON, D.C.																									1056 N.MI.
53,000	-56.5	-66	-10	-8	-6	-64	-7	-5	-3	-67	-11	-9	-8	-69	-13	-10	-9	-67	-10	-7	-5	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	1	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	5	7	2	6	9	11	8	13	14	15	6	10	12	14	3	8	10	12	4	4	2	3
HUNTINGTON TO LEXINGTON																									99 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	6	-17	5	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
HUNTINGTON TO LOUISVILLE																									150 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-17	5	7	9	-8	13	15	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
HUNTINGTON TO WASHINGTON, D.C.																									260 N.MI.
53,000	-56.5	-63	-6	-4	-2	-60	-4	-1	0	-64	-8	-5	-4	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	1	3	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	3	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-13	9	11	13	-15	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	2	5	7	7	11	13	14	3	7	10	12	0	5	8	9	5	5	2	4
HUNTSVILLE TO KNOXVILLE																									144 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-10	-6	-5	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	2	-54	2	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-14	7	9	10	-7	14	15	16	-11	10	13	14	-12	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	13	3	8	10	11	4	4	2	3
HUNTSVILLE TO LEXINGTON																									223 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-66	-10	-8	-7	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	8	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	0	5	8	9	8	13	14	15	5	9	12	13	2	7	9	11	5	4	2	4
HUNTSVILLE TO LOUISVILLE																									214 N.MI.
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-66	-10	-8	-7	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	8	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	0	5	8	9	8	13	14	15	5	9	12	13	2	7	9	11	5	4	2	4
HUNTSVILLE TO MEMPHIS																									169 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-3	-68	-11	-9	-8	-69	-12	-10	-8	-67	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	4	4	-56	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-42	3	5	6	-33	11	12	13	-38	6	8	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-2	2	5	7	2	7	9	11	9	13	14	15	6	10	13	14	3	8	10	12	4	4	2	3
HUNTSVILLE TO NASHVILLE																									87 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-10	-6	-5	4	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-14	7	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
HUNTSVILLE TO WASHINGTON, D.C.																									522 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-5	-3	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	2	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	3	5	-1	4	7	9	7	12	13	14	4	9	11	12	2	6	9	10	5	4	2	4
HURON TO PIERRE																									88 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-1	2	3	-60	-4	-1	-0	-61	-5	-2	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-55	1	6	8	-57	-0	3	5	-55	2	4	5	-56	0	3	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-36	8	10	11	-43	2	4	6	-44	0	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-21	0	3	5	-9	12	14	15	-17	4	8	9	-19	3	6	8	6	4	3	5
10,000	- 4.6	-12	-7	-3	-0	-4	0	4	6	8	13	15	16	0	5	9	11	-2	3	7	10	7	6	4	6
HURON TO SIOUX FALLS																									80 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-1	2	3	-60	-4	-2	-0	-61	-5	-2	-1	-60	-3	-0	2	4	4	3	4
40,000	-56.5	-55	1	6	8	-57	-0	3	6	-54	2	4	5	-56	0	3	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-50	-5	-3	-2	-47	-2	-0	1	-36	8	10	11	-42	2	4	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-21	0	3	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	3	5
10,000	- 4.6	-12	-7	-3	-0	-4	0	4	6	8	12	15	16	1	5	9	11	-2	3	7	9	7	6	3	6
HYANNIS TO NANTUCKET																									26 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-4	-2	-1	-63	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	4	6	-55	2	4	5	-55	2	5	6	-55	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	2	-36	8	10	12	-41	4	6	8	-42	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-21	1	4	5	-10	11	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-2	2	6	7	6	5	3	5
IDAHO FALLS TO POCATELLO																									43 N.MI.
53,000	-56.5	-60	-3	-0	2	-57	-1	2	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-3	-0	1	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	3	5	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	6	3	5
30,000	-44.5	-49	-5	-3	-1	-47	-3	-0	1	-37	7	9	10	-42	3	5	6	-44	1	4	5	4	3	3	4
20,000	-21.2	-25	-4	1	3	-21	1	3	5	-10	12	13	14	-16	5	8	10	-18	3	7	9	7	4	2	5
10,000	- 4.6	-9	-5	-0	2	-3	1	5	7	11	15	17	18	1	5	9	11	-0	4	9	11	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
IDAHO FALLS TO SALT LAKE CITY																									164 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-5	-2	-1	-47	-2	-0	1	-37	8	9	10	-42	3	5	7	-44	1	4	6	3	3	2	3
20,000	-21.2	-24	-3	1	4	-20	1	4	5	-9	12	14	14	-15	6	9	11	-17	4	7	9	7	4	2	4
10,000	- 4.6	-9	-4	0	3	-2	2	6	8	12	16	18	19	2	6	10	12	1	5	10	12	6	5	3	5
INDIANAPOLIS TO LOUISVILLE																									96 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-64	-8	-6	-5	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	3	4	-35	10	12	13	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	-0	3	5	-17	4	7	8	-8	13	15	15	-13	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	3	6	8	7	12	14	14	3	8	11	12	0	5	8	10	5	5	2	4
INDIANAPOLIS TO MEMPHIS																									331 N.MI.
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	1	3	5	-34	10	12	13	-39	5	7	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-8	14	15	16	-12	9	12	13	-14	7	10	12	4	4	2	3
10,000	- 4.6	-5	-1	3	4	-0	4	7	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
INDIANAPOLIS TO NASHVILLE																									217 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-0	-65	-9	-7	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	8	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	4	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
INDIANAPOLIS TO NEW YORK																									575 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-8	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-1	3	4	-18	3	6	7	-9	12	14	15	-14	8	10	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	1	4	6	6	11	13	13	2	6	10	11	-1	4	7	9	6	5	2	5
INDIANAPOLIS TO PITTSBURGH																									282 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-0	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	2	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	8	-9	13	14	15	-13	8	11	12	-16	6	9	11	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
INDIANAPOLIS TO ST. LOUIS																									199 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	1	-64	-8	-6	-5	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	3	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	4	-35	10	12	13	-40	4	6	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	4	-17	4	7	8	-8	13	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-5	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	0	5	8	10	5	5	2	4
INDIANAPOLIS TO TERRE HAUTE																									51 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-8	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	3	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	0	2	-45	-0	2	3	-35	10	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-17	4	7	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-2	2	6	7	7	12	14	15	3	7	10	12	0	5	8	10	5	5	2	5
JACKSON TO MEMPHIS																									164 N.MI.
53,000	-56.5	-67	-11	-8	-7	-64	-8	-5	-4	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	5	6	-33	11	13	13	-38	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-13	8	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	3	8	10	12	9	14	15	15	7	11	13	14	4	9	11	12	4	4	2	3
JACKSON TO MERIDIAN																									75 N.MI.
53,000	-56.5	-68	-12	-10	-8	-66	-9	-7	-5	-69	-13	-11	-10	-71	-15	-12	-11	-69	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	11	12	-7	15	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	4	8	11	12	9	14	15	15	7	12	14	15	5	10	12	13	4	4	2	3
JACKSON TO MONROE																									92 N.MI.
53,000	-56.5	-68	-12	-9	-8	-66	-9	-6	-5	-69	-13	-11	-10	-71	-15	-12	-11	-69	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	12	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	12	-7	15	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	4	9	11	12	9	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
JACKSON TO NEW ORLEANS																									140 N.MI.
53,000	-56.5	-69	-13	-11	-9	-67	-10	-8	-7	-70	-13	-12	-11	-73	-16	-14	-13	-70	-13	-10	-9	3	4	2	3
40,000	-56.5	-57	-1	1	3	-58	-1	1	2	-55	2	3	3	-55	1	3	4	-56	0	2	3	3	4	2	3
30,000	-44.5	-40	4	6	7	-40	5	6	7	-33	12	13	13	-36	8	10	11	-37	7	9	10	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-6	15	16	16	-9	13	14	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	1	6	8	10	5	9	12	13	9	14	15	15	8	12	14	15	6	10	12	13	3	3	1	3
JACKSON TO SHREVEPORT																									182 N.MI.
53,000	-56.5	-68	-12	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	12	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	12	-6	15	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	4	9	11	13	10	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
JACKSONVILLE TO MACON																									171 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-10	-8	-7	-69	-12	-10	-10	-72	-15	-13	-12	-69	-13	-10	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	2	-55	1	3	4	-57	-0	2	3	3	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	7	7	-33	11	12	13	-36	8	10	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-14	8	10	11	-12	9	11	12	-7	14	15	16	-9	12	14	15	-10	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	3	3	1	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
JACKSONVILLE TO MELBOURNE																									149 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-69	-13	-11	-11	-73	-17	-15	-13	-71	-14	-12	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	2	3	-57	-0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-39	5	7	8	-39	6	8	8	-33	11	12	13	-35	10	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	4	9	11	12	8	13	14	14	8	12	14	14	6	10	12	13	3	3	1	2
JACKSONVILLE TO MIAMI																									286 N.MI.
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-13	-12	-11	-74	-18	-15	-14	-71	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	9	10	11	5	10	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
JACKSONVILLE TO NEW ORLEANS																									447 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-11	-9	-8	-70	-13	-12	-11	-73	-17	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	5	7	8	-33	11	13	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	3	7	9	10	5	9	11	12	9	13	14	15	8	12	14	15	6	10	12	13	3	3	1	2
JACKSONVILLE TO NEW YORK																									722 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-66	-9	-7	-6	-68	-11	-9	-7	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-55	1	3	3	-55	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	2	4	6	-34	10	12	13	-38	7	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	8	10	-8	13	15	15	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	-0	5	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	3
JACKSONVILLE TO ORLANDO																									113 N.MI.
53,000	-56.5	-71	-15	-13	-12	-68	-12	-10	-9	-69	-13	-11	-11	-73	-17	-15	-13	-71	-14	-12	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	1	3	-57	-0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	7	7	-39	6	7	8	-33	11	12	13	-35	10	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	4	9	11	12	8	13	14	14	8	12	14	14	6	10	12	13	3	3	1	2
JACKSONVILLE TO PITTSBURGH																									608 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-66	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-55	1	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	6	-34	10	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	9	10	-8	13	15	16	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	0	5	8	9	7	12	13	14	4	9	11	13	2	7	9	11	4	4	2	3
JACKSONVILLE TO SARASOTA																									187 N.MI.
53,000	-56.5	-72	-15	-13	-12	-69	-12	-10	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-12	10	11	12	-11	10	12	13	-7	14	15	16	-8	14	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
JACKSONVILLE TO SAVANNAH																									99 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-10	-8	-7	-69	-12	-11	-10	-72	-15	-13	-12	-69	-13	-10	-9	3	3	2	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	0	1	2	-55	1	3	4	-57	-0	2	3	3	4	2	3
30,000	-44.5	-40	4	6	7	-40	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	6	8	10	3	8	10	11	8	13	14	14	7	11	13	14	5	10	11	12	3	3	1	3
JACKSONVILLE TO TALLAHASSEE																									141 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-11	-9	-8	-69	-13	-11	-10	-73	-16	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	5	7	8	-33	11	12	13	-35	9	11	12	-37	8	9	11	2	2	2	3
20,000	-21.2	-13	9	11	12	-12	9	11	12	-7	14	15	16	-8	13	15	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	4	9	11	12	8	13	14	14	7	12	14	14	6	10	12	13	3	3	1	2
JACKSONVILLE TO TAMPA																									154 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	2	3	-57	-0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-39	6	8	8	-33	11	12	13	-35	10	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
JACKSONVILLE TO WASHINGTON, D.C.																									554 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-7	-5	-4	-67	-10	-8	-7	-69	-12	-10	-8	-66	-10	-7	-5	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-2	1	3	-55	1	3	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	10	12	13	-38	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	10	-8	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	5	8	9	7	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
JACKSONVILLE TO WAYCROSS																									64 N.MI.
53,000	-56.5	-70	-14	-12	-11	-67	-11	-9	-7	-69	-12	-11	-10	-72	-16	-13	-12	-70	-13	-11	-9	3	3	2	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	12	13	-36	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-8	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	4	8	10	12	8	13	14	14	7	12	13	14	5	10	11	12	3	3	1	2
JACKSONVILLE TO WEST PALM BEACH																									238 N.MI.
53,000	-56.5	-72	-15	-13	-12	-69	-13	-11	-10	-70	-13	-12	-11	-74	-17	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	10	12	13	-7	14	15	16	-8	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
JOPLIN TO SPRINGFIELD, MO.																									54 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-5	-2	-1	-66	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	1	3	-43	1	3	4	-34	11	12	13	-40	5	7	8	-40	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-7	14	15	16	-12	9	12	13	-14	7	10	12	5	4	2	3
10,000	- 4.6	-5	-0	3	5	1	6	9	10	9	14	15	16	5	9	12	14	2	7	10	12	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
JOPLIN TO TULSA																									88 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-67	-10	-8	-7	-67	-11	-8	-7	-65	-9	-5	-4	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	11	12	13	-39	5	7	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	6	8	9	-7	14	15	16	-11	10	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	0	3	5	2	6	9	11	10	14	16	17	5	10	12	14	3	8	10	12	5	5	2	4
JUNEAU TO SEATTLE																									788 N.MI.
53,000	-56.5	-55	2	5	7	-52	5	7	9	-50	6	8	9	-55	1	4	6	-53	4	6	8	5	4	3	4
40,000	-56.5	-55	2	6	8	-53	3	7	9	-52	5	8	10	-54	3	6	8	-53	3	7	9	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-49	-4	-2	-1	-42	2	4	6	-46	-1	1	3	-47	-3	1	3	4	3	4	4
20,000	-21.2	-29	-8	-3	-1	-26	-5	-1	1	-15	6	8	10	-22	-1	2	4	-23	-2	2	4	7	5	4	5
10,000	- 4.6	-13	-9	-4	-2	-10	-5	-3	-1	0	5	7	8	-6	-2	1	3	-7	-3	1	3	7	4	3	5
JUNEAU TO WHITEHORSE																									143 N.MI.
53,000	-56.5	-52	4	8	10	-50	7	10	11	-48	9	11	12	-52	5	7	9	-50	6	9	10	6	4	3	4
40,000	-56.5	-54	3	7	10	-51	5	9	11	-50	6	10	11	-52	4	8	10	-52	5	8	10	7	5	5	5
30,000	-44.5	-52	-8	-5	-4	-51	-6	-4	-3	-44	0	3	4	-49	-4	-1	0	-49	-5	-1	1	4	4	4	4
20,000	-21.2	-32	-11	-6	-4	-29	-8	-4	-2	-17	4	7	8	-26	-4	-1	2	-26	-5	-0	2	7	5	4	6
10,000	- 4.6	-17	-12	-8	-6	-13	-8	-6	-4	-2	3	5	6	-10	-5	-2	-1	-10	-6	-2	0	7	4	3	4
KANSAS CITY TO LOS ANGELES																									1185 N.MI.
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-1	-67	-10	-8	-7	-67	-10	-8	-7	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	0	2	3	-34	10	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-17	4	7	8	-7	14	16	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-4	1	5	7	1	6	9	11	12	17	18	19	5	9	12	14	4	8	12	13	6	5	2	4
KANSAS CITY TO MINNEAPOLIS																									351 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-6	-3	-2	-63	-6	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	2	4	6	-56	1	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-4	-2	-0	-46	-1	1	2	-36	9	11	12	-42	3	5	6	-43	2	5	7	3	3	3	4
20,000	-21.2	-25	-4	-0	2	-19	2	5	6	-9	12	14	15	-15	6	9	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-3	1	5	7	8	12	14	15	2	6	10	12	-1	4	7	10	6	5	3	5
KANSAS CITY TO NEW YORK																									961 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	12	-41	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	2	4	-18	3	6	7	-9	13	14	15	-13	8	10	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-3	1	5	7	7	12	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
KANSAS CITY TO OMAHA																									144 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	1	-64	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-0	2	3	-35	10	12	13	-41	4	6	7	-42	3	6	8	3	3	3	3
20,000	-21.2	-23	-2	1	3	-18	3	6	8	-8	13	15	16	-13	8	11	12	-16	6	9	10	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-1	4	7	9	9	14	16	16	3	8	11	13	1	5	9	11	6	5	3	5
KANSAS CITY TO PHOENIX																									907 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-5	-3	-2	-67	-11	-9	-8	-67	-11	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	2	-44	1	3	4	-34	11	12	13	-39	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	7	9	-7	15	16	16	-12	10	12	13	-14	7	10	12	5	4	2	3
10,000	- 4.6	-4	1	5	7	2	7	10	12	12	17	18	19	5	10	12	14	4	8	12	13	5	5	2	4
KANSAS CITY TO ST. LOUIS																									199 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-65	-9	-6	-5	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	4	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	4	-34	10	12	13	-40	4	6	8	-41	3	6	8	3	3	3	3
20,000	-21.2	-22	-1	2	4	-17	4	7	8	-8	14	15	16	-13	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-1	4	7	9	9	13	15	16	4	8	11	13	1	6	9	11	5	5	2	5
KANSAS CITY TO SPRINGFIELD, MO.																									126 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-2	-0	-66	-9	-7	-6	-66	-10	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-57	-0	4	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-21	-0	3	5	-16	5	7	9	-7	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-6	-1	2	4	0	5	8	10	9	14	15	16	4	9	12	13	2	6	10	11	5	5	2	4
KANSAS CITY TO TULSA																									185 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-1	-66	-10	-8	-7	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	4	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-34	11	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-21	0	3	5	-16	5	8	9	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	3
10,000	- 4.6	-5	-1	3	5	1	5	9	10	10	14	16	16	4	9	12	13	2	7	10	12	5	5	2	4
KANSAS CITY TO WASHINGTON, D.C.																									818 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	1	-64	-8	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	2	3	-35	10	12	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	-0	3	5	-17	4	7	8	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	3	6	8	7	12	14	14	3	8	11	12	0	5	8	10	5	5	2	4
KANSAS CITY TO WICHITA																									154 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-2	-0	-66	-9	-7	-6	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-46	-2	0	1	-44	0	2	4	-34	10	12	13	-40	4	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-22	-1	3	4	-17	4	7	8	-7	14	15	16	-12	9	11	13	-15	7	10	11	5	4	2	4
10,000	- 4.6	-6	-1	2	4	0	5	8	10	10	14	16	17	4	9	12	13	2	7	10	12	5	5	2	4
KEENE TO NEW YORK																									152 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	4	7	-54	2	4	6	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-25	-2	2	4	-21	0	3	5	-10	11	13	14	-15	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	12	0	5	8	10	-3	2	5	7	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
KEENE TO PITTSFIELD																									**54 N.MI.**
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-60	-3	-1	1	-61	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	3	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
KEY WEST TO MIAMI																									**109 N.MI.**
53,000	-56.5	-74	-18	-16	-15	-72	-15	-13	-12	-71	-14	-13	-13	-76	-19	-17	-16	-73	-17	-15	-14	3	3	2	3
40,000	-56.5	-56	1	2	3	-55	2	3	4	-57	-0	1	1	-55	2	3	4	-56	1	3	3	2	3	1	2
30,000	-44.5	-38	7	8	9	-36	8	9	10	-33	11	12	13	-33	11	13	13	-35	9	11	11	2	2	1	2
20,000	-21.2	-10	12	13	14	-9	12	14	14	-7	15	15	16	-6	15	16	17	-8	13	15	16	2	2	1	2
10,000	- 4.6	6	10	12	13	6	11	13	14	9	13	14	14	9	13	14	15	7	12	13	13	2	3	1	2
KNOXVILLE TO LEXINGTON																									**136 N.MI.**
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-16	6	8	9	-8	13	15	16	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-5	0	3	5	-0	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
KNOXVILLE TO LOUISVILLE																									**165 N.MI.**
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-16	6	8	9	-8	14	15	16	-12	10	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-0	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
KNOXVILLE TO MEMPHIS																									**297 N.MI.**
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-10	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-14	7	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
KNOXVILLE TO NASHVILLE																									**132 N.MI.**
53,000	-56.5	-65	-9	-6	-5	-63	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
KNOXVILLE TO NEW YORK																									**560 N.MI.**
53,000	-56.5	-63	-6	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	11	12	-40	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
KNOXVILLE TO PITTSBURG																									**332 N.MI.**
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	12	-40	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	5	7	9	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
KNOXVILLE TO WASHINGTON, D.C.																									**378 N.MI.**
53,000	-56.5	-64	-7	-5	-4	-61	-5	-2	-1	-65	-9	-6	-5	-66	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	4	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	1	3	5	-35	10	12	13	-39	5	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	12	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4
KODIAK TO SEATTLE																									**1246 N.MI.**
53,000	-56.5	-53	3	7	9	-52	5	8	9	-50	6	9	10	-54	3	6	7	-52	4	7	8	5	4	3	4
40,000	-56.5	-54	2	7	9	-53	4	8	10	-52	5	8	10	-53	4	7	9	-53	4	7	9	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-49	-4	-2	-1	-43	2	4	6	-46	-2	1	3	-47	-2	1	3	4	3	4	4
20,000	-21.2	-28	-7	-3	-1	-27	-5	-2	0	-15	6	8	10	-23	-2	1	3	-23	-2	2	4	6	5	4	5
10,000	- 4.6	-12	-8	-4	-1	-11	-7	-4	-2	-0	4	7	8	-7	-2	1	2	-8	-3	1	3	6	4	3	5
LAFAYETTE TO LAKE CHARLES																									**60 N.MI.**
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-7	-70	-14	-12	-11	-73	-17	-15	-14	-70	-14	-11	-9	3	3	2	3
40,000	-56.5	-57	-1	2	3	-57	-1	1	3	-55	2	3	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	7	-33	12	13	14	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-15	8	10	11	-12	9	11	12	-6	15	16	17	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	6	10	12	14	10	14	15	16	8	13	14	15	6	11	13	14	3	3	1	3
LAFAYETTE TO NEW ORLEANS																									**92 N.MI.**
53,000	-56.5	-70	-13	-11	-10	-68	-11	-9	-8	-70	-14	-12	-11	-74	-17	-15	-14	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-1	1	3	-55	1	3	3	-55	1	3	4	-56	0	2	2	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	5	7	8	-33	12	13	13	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-15	8	10	11	-12	9	11	12	-6	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	5	7	9	11	5	10	12	13	10	14	15	16	8	13	14	15	6	11	13	14	3	3	1	2
LAKELAND TO TAMPA																									**27 N.MI.**
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-14	-12	-11	-74	-18	-15	-14	-72	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	11	5	10	12	13	9	13	14	14	8	13	14	15	6	11	12	13	3	3	1	2
LANCASTER TO READING																									**22 N.MI.**
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-19	3	5	7	-9	12	14	15	-13	8	11	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LANCASTER TO WASHINGTON, D.C.																									83 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-21	1	4	5	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
LAND O LAKES TO NEW YORK																									748 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-4	-2	0	-59	-2	1	2	4	4	4	4
40,000	-56.5	-55	1	5	7	-55	1	5	7	-54	3	5	7	-55	2	5	6	-55	2	4	6	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	4	3	4
20,000	-21.2	-26	-5	-1	1	-22	-1	2	4	-11	11	13	14	-16	5	8	10	-19	3	6	8	5	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
LAS VEGAS TO LOS ANGELES																									205 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-6	-3	-2	-67	-11	-9	-8	-67	-11	-8	-7	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-35	10	11	12	-39	6	8	9	-41	4	7	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-7	15	16	16	-11	10	12	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	-1	4	8	10	2	6	9	11	12	17	18	19	5	10	13	14	5	9	12	14	5	5	2	4
LAS VEGAS TO PALM SPRINGS																									150 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-6	-3	-2	-67	-11	-9	-8	-67	-11	-9	-7	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-57	-1	4	6	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-34	10	11	12	-39	6	8	9	-41	4	7	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-7	15	16	16	-11	10	12	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	-1	4	8	10	2	6	9	11	12	17	19	19	5	10	13	14	5	9	12	14	5	5	2	4
LAS VEGAS TO PHOENIX																									222 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-2	-68	-11	-9	-8	-68	-11	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-34	11	12	13	-39	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-16	5	8	9	-6	15	16	17	-11	10	12	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	-1	4	7	9	2	7	10	12	13	18	19	20	6	10	13	14	5	10	13	14	5	4	2	4
LAS VEGAS TO SACRAMENTO																									336 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-65	-9	-7	-6	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-36	9	10	11	-40	5	7	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-19	2	5	7	-18	4	6	8	-8	14	15	16	-13	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-3	2	6	8	-0	4	8	9	12	16	18	19	4	8	11	13	3	8	11	13	6	5	2	5
LAS VEGAS TO SALT LAKE CITY																									320 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	-0	-65	-8	-7	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	4	7	-58	-2	2	3	-54	2	4	5	-56	0	3	5	-56	0	2	4	7	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-36	9	11	11	-40	4	6	8	-42	2	5	7	3	3	2	3
20,000	-21.2	-21	0	4	6	-18	3	6	7	-8	14	15	15	-13	8	11	12	-15	6	9	11	6	4	2	4
10,000	- 4.6	-5	-0	4	6	-0	5	8	10	13	17	19	20	4	8	11	13	3	8	11	13	6	5	3	5
LAS VEGAS TO SAN FRANCISCO																									359 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-1	-65	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-3	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	7	5	2	4
30,000	-44.5	-46	-2	1	2	-44	1	2	3	-36	9	10	11	-40	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	7	8	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	2	6	8	-0	5	8	9	11	16	18	19	4	8	12	13	3	8	11	13	6	5	2	5
LAWRENCE TO MANCHESTER																									19 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-47	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	2	4	-11	10	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	5	6	6	5	3	5
LAWRENCE TO WORCESTER																									42 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	3	-60	-3	-1	1	-62	-5	-2	-0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	3	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-3	1	5	7	6	5	3	5
LAWTON TO OKLAHOMA CITY																									63 N.MI.
53,000	-56.5	-65	-9	-6	-5	-63	-6	-4	-2	-68	-12	-10	-9	-69	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	3	4	5	-56	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-45	-0	2	3	-42	2	4	5	-33	12	13	14	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-6	15	16	16	-11	11	13	14	-13	9	11	12	4	3	2	3
10,000	- 4.6	-3	2	5	7	4	8	11	13	11	15	17	17	6	11	13	15	4	9	12	13	5	4	2	4
LAWTON TO WICHITA FALLS																									35 N.MI.
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-69	-12	-10	-9	-69	-13	-11	-9	-67	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-2	1	2	-54	3	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-42	2	4	5	-33	12	13	14	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	5	7	4	9	12	13	11	15	17	17	6	11	13	15	5	9	12	13	5	4	2	4
LEBANON TO MANCHESTER																									57 N.MI.
53,000	-56.5	-58	-2	1	2	-56	0	3	4	-59	-3	0	2	-61	-4	-1	1	-59	-2	1	3	4	4	4	5
40,000	-56.5	-55	1	5	7	-55	2	6	8	-54	3	5	6	-54	2	5	7	-55	2	5	6	6	6	4	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	7	10	11	-42	2	5	7	-44	1	5	6	4	4	3	4
20,000	-21.2	-25	-4	0	2	-23	-1	2	4	-11	10	12	13	-16	5	9	10	-19	3	6	8	6	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
LEBANON TO MONTPELIER																									36 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	3	5	-58	-2	1	2	-60	-4	-0	1	-58	-2	2	3	4	4	4	5
40,000	-56.5	-55	1	5	8	-54	2	6	8	-54	3	5	6	-54	2	5	7	-54	2	5	6	6	6	4	5
30,000	-44.5	-49	-4	-2	-0	-47	-3	-0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-23	-2	1	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-9	-4	-0	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LEWISTON TO PORTLAND, ME.																									29 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-58	-2	1	2	-60	-4	-0	2	-58	-1	2	3	4	4	4	5
40,000	-56.5	-55	1	5	8	-54	2	6	8	-54	3	5	6	-54	2	6	7	-54	2	5	6	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-37	7	10	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-4	-0	2	-23	-2	1	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5
LEXINGTON TO LOUISVILLE																									54 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-65	-8	-6	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	3
20,000	-21.2	-20	1	4	5	-16	5	7	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	3	6	8	7	12	14	14	4	8	11	12	1	6	8	10	5	5	2	4
LINCOLN TO OMAHA																									0 N.MI.
53,000	-56.5	-61	-4	-2	0	-59	-3	-0	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-1	2	4	-54	2	4	5	-56	0	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	1	2	-35	10	11	12	-41	3	6	7	-42	2	5	7	3	3	3	3
20,000	-21.2	-24	-3	1	3	-18	3	5	7	-8	13	15	15	-14	7	10	11	-16	5	8	10	5	4	2	4
10,000	- 4.6	-8	-4	0	2	-2	3	6	8	9	14	16	17	3	7	11	12	0	5	9	11	6	5	3	5
LITTLE ROCK TO MEMPHIS																									113 N.MI.
53,000	-56.5	-66	-10	-7	-6	-63	-7	-4	-2	-68	-11	-10	-9	-69	-12	-10	-8	-67	-10	-7	-5	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	2	-54	2	4	5	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-33	11	13	13	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-14	7	9	11	-7	14	15	16	-10	11	13	14	-12	9	11	12	4	3	2	3
10,000	- 4.6	-3	2	5	6	2	7	10	11	9	14	15	16	6	11	13	14	4	8	11	12	4	4	2	4
LITTLE ROCK TO ST. LOUIS																									257 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-67	-10	-8	-7	-67	-11	-8	-7	-65	-9	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	11	12	13	-39	5	7	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	2	4	6	-15	6	8	10	-7	14	15	16	-11	10	12	13	-13	8	10	12	4	4	2	5
10,000	- 4.6	-5	0	3	5	1	5	8	10	9	13	15	16	5	9	12	14	2	7	10	11	5	5	2	4
LITTLE ROCK TO SHREVEPORT																									158 N.MI.
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	12	13	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	8	10	11	-7	15	16	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	8	4	8	11	12	10	14	15	16	7	11	13	15	5	9	11	13	4	4	2	3
LITTLE ROCK TO SPRINGFIELD, MO.																									161 N.MI.
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-67	-11	-9	-8	-68	-11	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	2	6	9	11	9	14	15	16	5	10	13	14	3	8	10	12	5	4	2	4
LONG BEACH TO LOS ANGELES																									14 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-3	-68	-11	-9	-8	-68	-11	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-57	-1	3	5	-58	-1	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-35	10	11	12	-38	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-16	6	8	9	-7	15	16	16	-11	10	13	14	-13	9	11	12	5	4	2	4
10,000	- 4.6	0	5	8	10	2	6	9	11	11	16	17	18	5	10	13	14	5	9	12	14	5	4	2	4
LONG BEACH TO SAN DIEGO																									81 N.MI.
53,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-3	-68	-12	-10	-9	-69	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-1	2	3	-54	3	4	5	-55	1	3	5	-56	0	2	4	6	5	2	3
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	11	12	-38	6	8	9	-40	5	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	6	8	10	-7	15	16	16	-11	10	13	14	-12	9	11	12	5	4	2	3
10,000	- 4.6	0	5	9	10	2	7	10	11	12	16	17	18	6	10	13	14	5	10	12	14	5	4	2	4
LOS ANGELES TO MIAMI																									2030 N.MI.
53,000	-56.5	-69	-12	-10	-9	-67	-10	-8	-7	-70	-13	-12	-11	-72	-15	-13	-12	-69	-13	-10	-8	3	3	2	3
40,000	-56.5	-57	-0	3	4	-57	-1	2	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-40	4	6	7	-33	12	13	13	-36	8	10	11	-38	7	9	10	3	2	2	3
20,000	-21.2	-15	7	9	10	-13	8	10	12	-6	15	16	17	-9	12	14	15	-11	11	12	14	4	3	1	3
10,000	- 4.6	2	6	9	10	5	10	12	13	11	16	17	17	7	12	14	15	6	11	13	14	4	4	1	3
LOS ANGELES TO MONTREAL																									2143 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	0	2	-62	-6	-4	-2	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-48	-4	-2	-0	-46	-2	1	2	-36	9	11	12	-41	3	5	7	-43	2	5	7	4	3	3	3
20,000	-21.2	-24	-3	1	3	-20	1	4	6	-9	12	14	15	-15	7	9	11	-17	4	8	9	6	4	3	4
10,000	- 4.6	-9	-4	-0	2	-3	1	5	7	9	13	15	16	2	6	10	12	-0	4	8	10	6	5	3	5
LOS ANGELES TO NEW ORLEANS																									1448 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-5	-69	-13	-11	-10	-71	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-1	1	3	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	4	5	-33	12	13	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-6	15	16	17	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	0	5	8	10	4	9	12	13	12	16	17	18	7	11	14	15	6	10	13	14	5	4	2	3
LOS ANGELES TO NEW YORK																									2144 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	10	11	12	-40	4	7	8	-42	3	6	8	3	3	3	3
20,000	-21.2	-22	-0	3	5	-18	4	6	8	-8	13	15	16	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	-1	4	7	9	10	14	16	17	3	8	11	13	2	6	10	11	6	5	2	5
LOS ANGELES TO OKLAHOMA CITY																									1027 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-2	-68	-11	-10	-9	-68	-12	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	3	4	5	-56	1	3	4	-56	0	2	4	6	5	2	3
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-33	11	12	13	-39	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-19	2	6	8	-16	6	8	9	-6	15	16	17	-11	10	12	14	-13	8	11	12	5	4	2	3
10,000	- 4.6	-2	3	6	8	3	8	11	12	13	17	19	19	6	10	13	14	5	9	12	14	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
LOS ANGELES TO ONTARIO																									40 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-3	-68	-11	-9	-8	-68	-11	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-57	-1	3	5	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-0	2	3	-43	2	3	4	-35	10	11	12	-38	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-16	6	8	9	-7	15	16	16	-11	10	13	14	-13	9	11	12	5	4	2	4
10,000	- 4.6	0	5	8	10	2	6	9	11	12	16	18	18	5	10	13	14	5	9	12	14	5	4	2	4
LOS ANGELES TO PALM SPRINGS																									95 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-7	-4	-3	-68	-11	-10	-9	-68	-12	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-0	2	3	-43	2	3	4	-35	10	11	12	-38	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-16	6	8	9	-7	15	16	16	-11	10	13	14	-13	9	11	12	5	4	2	4
10,000	- 4.6	0	5	8	10	2	7	10	11	12	16	18	18	6	10	13	14	5	9	12	14	5	4	2	4
LOS ANGELES TO PHILADELPHIA																									2081 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-0	-65	-9	-7	-6	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-46	-2	0	1	-44	0	2	3	-35	10	12	13	-40	4	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	14	15	16	-12	9	11	13	-15	7	10	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	-0	4	7	9	10	15	16	17	4	8	11	13	2	7	10	12	6	5	2	4
LOS ANGELES TO PHOENIX																									320 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-7	-4	-3	-68	-12	-10	-9	-68	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	6	5	2	3
30,000	-44.5	-45	-0	2	3	-43	2	3	4	-34	10	12	13	-38	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-18	4	7	9	-15	6	8	9	-6	15	16	17	-11	10	13	14	-13	9	11	12	5	4	2	3
10,000	- 4.6	-0	5	8	10	3	7	10	12	12	17	18	19	6	10	13	14	5	10	13	14	5	4	2	4
LOS ANGELES TO PITTSBURGH																									1851 N.MI.
53,000	-56.5	-62	-6	-3	-2	-61	-4	-2	-0	-65	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-56	0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	2	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-34	10	12	13	-40	4	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	-0	3	5	-17	4	7	8	-7	14	15	16	-13	9	11	13	-15	7	9	11	5	4	2	4
10,000	- 4.6	-5	-1	3	5	-0	4	8	9	10	15	17	17	4	8	11	13	2	7	10	12	6	5	2	5
LOS ANGELES TO PORTLAND, ORE.																									725 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	0	1	-62	-6	-4	-3	-64	-7	-5	-4	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-1	2	4	-54	2	4	5	-56	0	3	5	-57	-0	3	4	7	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-37	7	9	10	-41	4	6	7	-42	2	5	6	4	3	3	3
20,000	-21.2	-21	0	4	6	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-5	-0	4	6	-2	2	6	7	10	14	16	17	2	7	10	12	1	6	9	11	6	5	3	5
LOS ANGELES TO SACRAMENTO																									309 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-5	-2	-1	-66	-9	-7	-6	-66	-10	-7	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	7	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	9	10	11	-39	5	7	8	-41	3	6	7	3	3	2	3
20,000	-21.2	-19	3	6	8	-17	4	7	8	-7	14	15	16	-12	9	12	13	-14	7	10	12	5	4	2	4
10,000	- 4.6	-1	3	7	9	0	5	8	10	11	16	17	18	4	9	12	13	3	8	11	13	6	5	2	4
LOS ANGELES TO ST. LOUIS																									1380 N.MI.
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-1	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-2	0	2	-44	0	2	3	-34	11	12	13	-40	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-17	5	7	9	-7	14	16	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-4	1	4	6	1	6	9	11	12	16	18	19	5	9	12	14	3	8	11	13	6	5	2	4
LOS ANGELES TO SALT LAKE CITY																									513 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-1	-66	-9	-7	-6	-66	-9	-7	-6	-64	-7	-4	-3	4	4	3	3
40,000	-56.5	-57	-1	4	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	7	5	2	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-35	9	11	11	-40	5	7	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-20	1	5	7	-18	4	6	8	-7	14	15	16	-12	9	11	13	-14	7	10	11	6	4	2	4
10,000	- 4.6	-3	1	5	7	0	5	8	10	12	17	19	20	4	9	12	13	3	8	11	13	6	5	2	5
LOS ANGELES TO SAN DIEGO																									94 N.MI.
53,000	-56.5	-65	-8	-6	-4	-63	-7	-5	-3	-68	-12	-10	-9	-68	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-1	2	3	-54	3	4	5	-55	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-35	10	11	12	-38	6	8	9	-40	5	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	6	8	10	-7	15	16	16	-11	10	13	14	-12	9	11	12	5	4	2	5
10,000	- 4.6	0	5	9	10	2	7	10	11	11	16	17	18	6	10	13	14	5	10	12	14	5	4	2	4
LOS ANGELES TO SAN FRANCISCO																									295 N.MI.
53,000	-56.5	-63	-7	-4	-2	-61	-5	-2	-1	-66	-10	-8	-7	-66	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	1	3	-43	1	3	4	-36	9	10	11	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-17	5	7	9	-7	14	15	16	-12	9	12	13	-14	8	10	12	5	4	2	4
10,000	- 4.6	-1	4	7	9	0	5	8	10	11	16	17	18	4	9	12	13	4	8	11	13	5	5	2	4
LOS ANGELES TO SANTA BARBARA																									77 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-6	-4	-2	-67	-11	-9	-8	-68	-11	-9	-8	-65	-9	-6	-4	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-0	2	3	-43	2	3	4	-35	10	11	12	-39	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-16	5	8	9	-7	15	16	16	-11	10	13	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	0	5	8	10	2	6	9	11	11	16	17	18	5	10	13	14	5	9	12	14	5	4	2	4
LOS ANGELES TO SEATTLE																									830 N.MI.
53,000	-56.5	-61	-4	-1	0	-58	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-2	0	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-1	3	5	-54	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-37	7	9	10	-41	4	6	7	-43	2	5	6	4	3	3	3
20,000	-21.2	-22	-0	4	6	-19	2	5	6	-9	12	13	14	-15	6	9	11	-16	5	8	10	6	4	2	4
10,000	- 4.6	-6	-1	3	5	-3	2	5	7	9	14	15	16	1	6	9	11	0	5	9	11	6	5	3	5
LOS ANGELES TO SYRACUSE																									2036 N.MI.
53,000	-56.5	-61	-5	-2	-1	-60	-3	-1	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-56	0	5	7	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-45	-1	1	2	-35	9	11	12	-41	4	6	7	-42	2	5	7	3	3	3	3
20,000	-21.2	-23	-2	2	4	-19	2	5	7	-8	13	15	15	-14	8	10	12	-16	5	9	10	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-2	3	6	8	9	14	16	17	3	7	11	12	1	5	9	11	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
LOS ANGELES TO TAMPA																									1870 N.MI.
53,000	-56.5	-68	-11	-9	-8	-66	-9	-7	-6	-69	-13	-11	-10	-71	-15	-13	-11	-69	-12	-9	-8	5	3	3	3
40,000	-56.5	-57	-0	3	4	-58	-1	1	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	12	13	13	-37	8	10	11	-38	6	8	10	3	2	2	3
20,000	-21.2	-16	6	8	10	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	13	4	5	1	3
10,000	- 4.6	1	5	8	10	5	9	12	13	11	16	17	17	7	12	14	15	6	11	13	14	4	4	2	3
LOS ANGELES TO TUCSON																									390 N.MI.
53,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-4	-69	-12	-10	-9	-69	-13	-10	-9	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-1	2	3	-54	5	4	5	-55	1	3	5	-56	1	2	4	6	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	11	12	13	-38	7	8	9	-40	5	7	9	3	3	2	5
20,000	-21.2	-17	4	7	9	-15	6	8	10	-6	15	16	17	-11	11	13	14	-12	9	11	13	5	4	2	5
10,000	- 4.6	0	5	8	10	3	8	11	12	12	17	18	19	6	11	13	15	6	10	13	14	5	4	2	4
LOUISVILLE TO MEMPHIS																									277 N.MI.
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-1	-66	-10	-8	-7	-67	-11	-8	-7	-65	-9	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	11	12	13	-39	5	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-15	6	8	10	-7	14	15	16	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	3	5	0	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
LOUISVILLE TO NASHVILLE																									131 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	5	5	5	2	4
30,000	-44.5	-44	0	2	5	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-16	6	8	9	-8	14	15	16	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-0	4	7	9	8	12	14	15	4	9	11	13	2	6	9	11	5	5	2	4
LOUISVILLE TO NEW YORK																									573 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-7	-5	-3	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-18	3	6	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	5	6	7	11	13	14	2	7	10	11	-0	4	7	9	6	5	2	4
LOUISVILLE TO OWENSBORO																									73 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-0	-65	-9	-7	-5	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	5
20,000	-21.2	-20	1	4	5	-16	5	8	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-1	4	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
LOUISVILLE TO ST. LOUIS																									220 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	-0	-65	-8	-6	-5	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-1	1	2	-44	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	3	5
20,000	-21.2	-21	0	3	5	-16	5	7	9	-8	13	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	-1	3	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
LOUISVILLE TO ST. PETERSBURG																									634 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-68	-11	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	3	-55	1	3	5	-55	1	3	4	-57	-0	2	5	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	7	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-1	4	7	8	2	7	9	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
LOUISVILLE TO TAMPA																									634 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-68	-11	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	3	-55	1	3	3	-55	1	3	4	-57	-0	2	5	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	11	12	13	-37	7	10	11	-38	6	9	10	3	3	2	5
20,000	-21.2	-15	6	8	9	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	5
10,000	- 4.6	-1	4	7	8	2	7	9	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	5
LOUISVILLE TO WASHINGTON, D.C.																									410 N.MI.
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-64	-8	-6	-4	-66	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	1	3	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-13	9	11	13	-15	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	2	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
LUBBOCK TO MIDLAND																									105 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-4	-69	-13	-11	-10	-71	-14	-12	-11	-68	-11	-8	-7	3	4	3	3
40,000	-56.5	-56	0	3	5	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-44	1	3	4	-42	3	4	5	-32	12	13	14	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	7	9	11	-6	15	16	17	-10	11	13	14	-12	9	12	13	4	5	2	3
10,000	- 4.6	-1	4	7	9	5	10	12	14	12	16	17	18	7	12	14	15	6	10	13	14	5	4	2	3
LUBBOCK TO WICHITA FALLS																									166 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-69	-12	-11	-10	-70	-13	-11	-10	-67	-11	-8	-6	4	4	3	3
40,000	-56.5	-56	0	3	5	-58	-2	1	2	-54	3	4	5	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-44	0	2	3	-42	2	4	5	-33	12	13	14	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-14	7	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	8	5	9	12	14	11	16	17	18	7	11	14	15	5	10	12	14	5	4	2	4
MACON TO SAVANNAH																									154 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-68	-12	-10	-9	-71	-14	-12	-11	-68	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-2	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	3	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	3	2	3
MACON TO WAYCROSS																									107 N.MI.
53,000	-56.5	-69	-13	-10	-9	-66	-10	-7	-6	-69	-12	-10	-9	-71	-15	-12	-11	-69	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	9	11	12	-7	14	15	16	-9	12	14	15	-11	11	12	13	3	3	2	3
10,000	- 4.6	1	5	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	4	3	1	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MADISON TO MILWAUKEE																									64 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	1	3	-60	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	2	-56	8	10	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-21	1	4	5	-9	12	14	15	-16	6	9	10	-18	3	7	9	5	4	3	5
10,000	- 4.6	-12	-7	-3	-1	-5	-1	3	5	6	11	13	14	0	5	9	11	-3	2	6	8	6	5	3	5
MADISON TO ROCHESTER, MINN.																									145 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-4	-1	-0	-61	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-55	1	5	7	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-47	-2	0	1	-36	8	10	12	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-27	-5	-2	0	-21	0	3	5	-10	12	14	15	-16	5	8	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-5	-1	3	5	6	11	13	14	0	5	9	11	-3	2	6	8	6	5	3	5
MANCHESTER TO WORCESTER																									51 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-60	-3	-1	1	-61	-5	-2	0	-59	-3	0	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	2	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	0	2	-37	8	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-22	-1	2	4	-11	11	13	14	-15	6	9	11	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-7	-3	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
MARTHAS VINEYARD TO NEW BEDFORD																									22 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	4	6	-55	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	2	-36	8	10	11	-41	4	6	8	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-1	2	4	-21	1	4	5	-10	11	13	14	-14	7	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	6	7	6	5	3	5
MAYO TO WHITEHORSE																									175 N.MI.
53,000	-56.5	-53	3	7	9	-49	8	10	12	-47	9	11	12	-52	5	7	9	-50	6	9	10	6	4	3	3
40,000	-56.5	-54	3	7	10	-51	6	9	11	-50	7	10	12	-52	4	8	9	-52	5	9	11	7	5	5	5
30,000	-44.5	-53	-9	-6	-5	-52	-7	-5	-3	-44	0	3	4	-50	-5	-3	-1	-50	-5	-2	-0	4	4	3	4
20,000	-21.2	-33	-12	-8	-5	-30	-9	-5	-3	-17	4	6	7	-27	-5	-2	0	-27	-6	-1	1	6	5	3	5
10,000	- 4.6	-19	-14	-10	-7	-14	-9	-7	-5	-2	3	5	6	-11	-6	-3	-2	-11	-7	-3	-1	7	4	3	4
MEDFORD TO SACRAMENTO																									243 N.MI.
53,000	-56.5	-61	-4	-2	0	-58	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-57	-0	3	4	7	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	2	3	-38	7	9	10	-41	4	6	7	-43	2	5	6	4	3	3	3
20,000	-21.2	-21	0	4	6	-19	2	5	6	-9	12	13	14	-14	7	10	11	-16	5	8	10	6	4	2	5
10,000	- 4.6	-5	-1	3	6	-3	2	5	7	9	14	16	17	1	6	9	11	1	5	9	11	6	5	3	5
MEDFORD TO SAN FRANCISCO																									286 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-2	0	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-1	2	4	-54	2	4	5	-56	0	3	5	-57	-0	3	4	7	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-37	7	9	10	-41	4	6	7	-42	2	5	6	4	3	3	3
20,000	-21.2	-20	1	5	7	-19	2	5	7	-9	12	14	14	-14	7	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-5	-0	4	6	-3	2	5	7	9	14	16	17	2	6	10	11	1	5	9	11	6	5	3	5
MELBOURNE TO MIAMI																									139 N.MI.
53,000	-56.5	-73	-16	-15	-14	-70	-14	-12	-11	-70	-14	-12	-12	-75	-18	-16	-15	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-38	6	8	8	-37	7	9	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-9	13	14	15	3	2	1	2
10,000	- 4.6	5	9	11	12	5	10	12	13	8	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
MELBOURNE TO ORLANDO																									46 N.MI.
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-13	-12	-11	-74	-17	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	1	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
MELBOURNE TO TAMPA																									101 N.MI.
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-13	-12	-11	-74	-18	-15	-14	-71	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	9	10	11	5	10	12	13	8	13	14	14	8	13	14	15	6	11	12	13	3	3	1	2
MELBOURNE TO VERO BEACH																									29 N.MI.
53,000	-56.5	-72	-16	-14	-13	-70	-13	-11	-10	-70	-13	-12	-11	-74	-18	-15	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-10	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	11	5	10	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
MELBOURNE TO WEST PALM BEACH																									90 N.MI.
53,000	-56.5	-73	-16	-14	-13	-70	-13	-12	-11	-70	-14	-12	-12	-74	-18	-16	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	0	2	3	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-9	13	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	5	10	12	13	8	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
MEMPHIS TO NASHVILLE																									173 N.MI.
53,000	-56.5	-66	-9	-7	-5	-63	-6	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-43	2	4	5	-42	3	4	6	-34	11	12	13	-39	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	7	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	1	6	9	10	9	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
MEMPHIS TO NEW ORLEANS																									304 N.MI.
53,000	-56.5	-68	-12	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	11	12	-7	15	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	8	4	8	11	12	9	14	15	15	7	12	14	15	5	10	12	13	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY *D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MEMPHIS TO PADUCAH																									**134 N.MI.**
53,000	-56.5	-65	-9	-6	-5	-62	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-7	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-43	1	3	4	-42	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-19	3	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	1	6	9	10	9	13	14	15	5	10	12	14	3	7	10	11	5	4	2	4
MEMPHIS TO ST. LOUIS																									**222 N.MI.**
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-66	-10	-8	-7	-67	-11	-8	-7	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	3	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	11	12	13	-39	5	7	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	2	4	6	-15	6	8	10	-7	14	15	16	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	0	5	8	10	9	13	15	15	5	9	12	13	2	7	10	11	5	5	2	4
MEMPHIS TO SHREVEPORT																									**247 N.MI.**
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-69	-12	-10	-9	-70	-13	-11	-10	-67	-11	-8	-6	3	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	2	-54	2	4	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-33	11	13	13	-38	7	9	10	-39	6	8	10	3	3	2	3
20,000	-21.2	-17	4	7	8	-14	8	10	11	-7	15	16	16	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	3	6	7	3	8	11	12	9	14	15	16	7	11	13	15	4	9	11	13	4	4	2	3
MEMPHIS TO WASHINGTON, D.C.																									**660 N.MI.**
53,000	-56.5	-64	-8	-5	-4	-62	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-34	10	12	13	-39	5	8	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-16	5	8	9	-8	13	15	16	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-5	-0	3	5	-1	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
MERCED TO MODESTO																									**29 N.MI.**
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-2	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-36	8	10	11	-40	5	7	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-18	4	6	8	-8	13	15	15	-13	8	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	2	6	8	-1	4	7	9	11	15	17	18	4	8	11	13	3	7	11	13	6	5	2	5
MERIDIAN TO MONROE																									**167 N.MI.**
53,000	-56.5	-68	-12	-9	-8	-66	-9	-7	-5	-69	-13	-11	-10	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-13	8	11	12	-7	15	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	4	8	11	12	9	14	15	15	7	12	14	15	5	10	12	13	4	4	2	3
MERIDIAN TO MONTGOMERY																									**119 N.MI.**
53,000	-56.5	-68	-12	-10	-9	-66	-9	-7	-5	-69	-12	-11	-10	-71	-15	-12	-11	-69	-12	-9	-8	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	2	-55	2	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-33	11	13	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	11	12	-7	14	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	3	8	11	12	9	13	14	15	7	11	13	14	5	9	11	12	4	4	2	3
MIAMI TO MINNEAPOLIS																									**1305 N.MI.**
53,000	-56.5	-66	-9	-7	-6	-63	-7	-4	-3	-66	-10	-8	-7	-68	-12	-9	-8	-66	-9	-7	-5	4	4	3	4
40,000	-56.5	-57	-0	3	4	-57	-1	2	4	-55	2	3	4	-56	1	3	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	8	9	-40	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-15	6	9	10	-8	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	1	4	6	1	5	8	9	8	12	14	15	5	9	12	13	2	7	10	11	4	4	2	4
MIAMI TO MONTREAL																									**1221 N.MI.**
53,000	-56.5	-66	-9	-7	-5	-63	-6	-4	-3	-65	-9	-7	-5	-68	-11	-8	-7	-65	-9	-6	-4	3	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	4	-55	1	3	4	-55	1	4	5	-56	0	3	4	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-35	10	11	12	-38	6	9	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-16	5	8	9	-8	13	14	15	-11	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-1	4	7	8	7	11	13	13	4	9	11	12	2	6	9	10	5	4	2	4
MIAMI TO NEW ORLEANS																									**585 N.MI.**
53,000	-56.5	-72	-15	-14	-13	-69	-13	-11	-10	-70	-14	-13	-12	-75	-18	-16	-15	-72	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-56	0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	12	13	13	-35	10	12	13	-36	8	10	11	2	2	1	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	15	16	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	6	10	12	13	9	14	14	15	8	13	14	15	7	11	13	13	3	3	1	2
MIAMI TO NEW YORK																									**947 N.MI.**
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-67	-10	-9	-8	-70	-13	-11	-9	-67	-11	-8	-7	3	3	3	4
40,000	-56.5	-58	-1	2	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	4	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	10	12	13	-37	8	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	7	10	11	-8	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	1	6	8	10	7	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
MIAMI TO ORLANDO																									**174 N.MI.**
53,000	-56.5	-73	-16	-14	-13	-70	-14	-12	-11	-70	-14	-12	-12	-75	-18	-16	-15	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	2	4	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-37	7	9	9	-35	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-9	13	14	15	3	3	1	2
10,000	- 4.6	5	9	11	12	5	10	12	13	8	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
MIAMI TO PHILADELPHIA																									**882 N.MI.**
53,000	-56.5	-68	-12	-9	-8	-65	-9	-7	-5	-67	-11	-9	-8	-70	-14	-11	-10	-68	-11	-8	-7	3	3	3	4
40,000	-56.5	-58	-1	2	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	4	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-34	10	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-14	8	10	11	-8	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	6	9	10	8	12	13	14	6	10	12	13	4	8	10	11	4	4	2	3
MIAMI TO PITTSBURGH																									**881 N.MI.**
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-67	-11	-9	-8	-70	-13	-11	-10	-68	-11	-8	-7	3	3	3	4
40,000	-56.5	-58	-1	2	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-56	0	2	4	4	4	2	3
30,000	-44.5	-42	3	4	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	8	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	3	3	2	3
10,000	- 4.6	-1	4	6	8	2	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
MIAMI TO ST. LOUIS																									929 N.MI.
53,000	-56.5	-68	-12	-10	-9	-66	-9	-7	-6	-68	-12	-10	-9	-71	-14	-12	-11	-68	-12	-9	-8	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	2	3	-55	1	2	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-13	8	10	12	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	5	7	8	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
MIAMI TO ST. PETERSBURG																									181 N.MI.
53,000	-56.5	-73	-16	-15	-14	-70	-14	-12	-11	-70	-14	-13	-12	-75	-18	-16	-15	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	8	-37	7	9	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-9	13	14	15	3	2	1	2
10,000	- 4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
MIAMI TO SAN FRANCISCO																									2242 N.MI.
53,000	-56.5	-67	-10	-8	-7	-65	-8	-6	-5	-68	-12	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	3	3	3
40,000	-56.5	-57	-0	3	5	-58	-1	2	3	-55	2	3	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-41	3	5	6	-33	11	12	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	11	-7	15	16	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-0	5	8	9	4	8	11	12	11	16	17	17	6	11	13	14	5	10	12	14	4	4	2	3
MIAMI TO SAN JUAN																									908 N.MI.
53,000	-56.5	-75	-19	-17	-16	-74	-17	-15	-14	-71	-15	-14	-13	-76	-19	-17	-16	-74	-17	-16	-15	3	3	2	3
40,000	-56.5	-55	2	3	4	-55	2	3	4	-56	0	1	2	-54	2	4	4	-55	1	3	4	5	3	2	2
30,000	-44.5	-37	8	9	10	-35	9	10	11	-34	11	12	12	-33	12	13	14	-35	10	11	12	2	2	1	2
20,000	-21.2	-9	12	14	14	-8	13	15	15	-7	14	15	16	-6	15	16	17	-7	14	15	16	2	2	1	2
10,000	- 4.6	6	11	12	13	7	11	13	14	9	13	14	14	9	13	14	15	8	12	13	14	2	2	1	2
MIAMI TO SEATTLE																									2363 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-5	-3	-1	-65	-8	-6	-5	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	2	4	-55	2	3	4	-56	1	3	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	1	2	-44	1	3	4	-35	9	11	12	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-17	5	7	8	-8	13	14	15	-13	9	11	12	-14	7	9	11	5	4	2	4
10,000	- 4.6	-5	-0	3	5	0	5	8	9	9	14	15	16	4	8	11	13	2	7	10	11	5	4	2	4
MIAMI TO TALLAHASSEE																									350 N.MI.
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-14	-12	-11	-74	-18	-15	-14	-71	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-56	0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	9	10	11	5	10	12	13	9	13	14	14	8	13	14	15	6	11	12	13	3	3	1	2
MIAMI TO TAMPA																									177 N.MI.
53,000	-56.5	-73	-16	-15	-14	-70	-14	-12	-11	-70	-14	-13	-12	-75	-18	-16	-15	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	8	-37	7	9	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-9	13	14	15	3	2	1	2
10,000	- 4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
MIAMI TO WASHINGTON, D.C.																									800 N.MI.
53,000	-56.5	-69	-12	-10	-9	-66	-9	-7	-6	-68	-11	-9	-8	-71	-14	-12	-10	-68	-12	-9	-8	3	3	3	4
40,000	-56.5	-58	-1	1	3	-57	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-41	3	5	6	-40	4	6	7	-34	11	12	13	-36	8	10	11	-38	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-13	8	10	11	-7	14	15	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	0	5	7	9	2	7	9	10	8	12	13	14	6	10	12	13	4	9	10	11	4	3	2	3
MIAMI TO WEST PALM BEACH																									54 N.MI.
53,000	-56.5	-73	-17	-15	-14	-71	-14	-12	-11	-70	-14	-13	-12	-75	-19	-16	-15	-72	-16	-14	-13	3	3	2	3
40,000	-56.5	-56	0	2	3	-55	1	3	4	-57	-0	1	1	-55	2	3	4	-56	1	2	3	3	3	1	2
30,000	-44.5	-38	6	8	9	-37	8	9	10	-33	11	12	13	-34	11	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-10	11	13	14	-10	12	13	14	-7	14	15	16	-7	15	16	17	-8	13	15	15	2	2	1	2
10,000	- 4.6	5	10	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2
MIDLAND TO SAN ANGELO																									94 N.MI.
53,000	-56.5	-68	-11	-9	-8	-66	-9	-7	-5	-70	-13	-12	-11	-72	-15	-13	-12	-69	-12	-9	-8	3	4	3	3
40,000	-56.5	-57	-0	3	5	-58	-1	1	3	-54	2	4	4	-55	1	3	4	-56	1	2	3	5	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-32	12	13	14	-37	8	10	11	-38	6	9	10	3	2	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-6	15	16	17	-9	12	14	15	-11	10	12	13	4	3	1	3
10,000	- 4.6	0	5	8	9	6	10	13	15	11	16	17	18	8	12	14	15	6	11	13	14	4	4	2	3
MILWAUKEE TO MINNEAPOLIS																									257 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-1	2	3	-60	-3	-1	1	-61	-4	-2	-0	-59	-3	0	2	4	4	4	4
40,000	-56.5	-55	1	5	7	-56	0	4	7	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-50	-5	-3	-1	-47	-2	-0	1	-37	8	10	11	-43	2	4	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-21	-0	3	5	-10	11	14	15	-16	5	8	10	-19	3	7	9	6	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-6	-1	3	5	6	10	13	14	0	5	8	10	-3	1	6	8	7	5	3	6
MILWAUKEE TO MUSKEGON																									74 N.MI.
53,000	-56.5	-59	-3	0	2	-58	-1	2	3	-60	-4	-1	-0	-62	-5	-2	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-1	-46	-2	0	2	-36	8	10	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-21	0	3	5	-10	12	14	15	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-1	3	5	6	10	12	13	0	5	9	11	-3	2	6	8	6	5	3	5
MILWAUKEE TO NEW YORK																									646 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	3	-61	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	8	10	12	-42	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	1	3	-20	1	4	6	-10	11	13	14	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-1	3	5	5	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
MILWAUKEE TO PHILADELPHIA																									598 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-5	-3	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-1	1	2	-36	8	11	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	1	3	-20	2	5	6	-9	12	14	15	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
MILWAUKEE TO TOLEDO																									200 N.MI.
53,000	-56.5	-60	-5	-0	1	-58	-2	1	3	-61	-5	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	1	4	6	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	-0	-46	-2	1	2	-36	8	11	12	-42	3	5	7	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-0	2	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-0	3	5	6	10	12	14	1	5	9	11	-2	2	6	8	6	5	3	5
MILWAUKEE TO WASHINGTON, D.C.																									550 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	0	4	6	6	11	12	13	1	6	9	11	-2	3	7	8	6	5	3	5
MINNEAPOLIS TO NEW YORK																									889 N.MI.
53,000	-56.5	-59	-3	0	2	-57	-1	2	3	-60	-4	-1	0	-61	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	6	-55	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-37	8	10	11	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-25	-4	-1	1	-21	0	3	5	-10	11	13	14	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-7	-3	-1	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	1	5	7	6	5	3	5
MINNEAPOLIS TO OMAHA																									288 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	2	-61	-5	-3	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-0	3	5	-54	2	4	6	-56	0	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-46	-2	0	2	-36	9	11	12	-42	2	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-20	1	4	6	-9	12	14	15	-16	6	9	10	-18	4	7	9	6	4	3	4
10,000	- 4.6	-11	-6	-2	0	-4	1	4	6	8	12	14	16	1	6	9	11	-2	3	7	9	6	5	3	5
MINNEAPOLIS TO ROCHESTER, MINN.																									66 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	3	-59	-3	-1	1	-61	-4	-2	-0	-59	-2	0	2	4	4	4	4
40,000	-56.5	-55	1	6	8	-56	0	4	7	-54	3	5	6	-56	1	4	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-37	8	10	11	-43	2	4	6	-44	0	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	-0	-22	-0	3	4	-10	11	13	15	-17	4	8	9	-19	2	6	8	6	5	3	5
10,000	- 4.6	-13	-8	-4	-1	-6	-1	3	5	6	11	13	14	-0	4	8	10	-3	1	6	8	7	6	4	6
MINNEAPOLIS TO SALT LAKE CITY																									859 N.MI.
53,000	-56.5	-60	-3	-0	2	-58	-1	1	3	-61	-5	-3	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-56	1	5	8	-57	-1	3	5	-55	2	4	5	-56	0	3	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-50	-5	-3	-1	-47	-2	-0	1	-36	8	10	11	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-26	-5	-0	2	-21	1	4	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	3	4
10,000	- 4.6	-10	-6	-1	1	-3	1	5	7	10	14	16	18	1	6	9	11	-1	4	8	11	7	5	3	5
MINNEAPOLIS TO SEATTLE																									1212 N.MI.
53,000	-56.5	-58	-1	2	4	-55	1	4	5	-57	-0	2	3	-60	-3	-1	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-56	1	5	8	-56	0	4	6	-54	3	5	6	-56	0	4	5	-55	1	4	6	7	6	4	5
30,000	-44.5	-51	-6	-4	-3	-48	-4	-1	-0	-38	6	8	9	-44	1	4	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-28	-7	-2	0	-22	-1	2	4	-11	10	12	13	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-13	-9	-4	-1	-6	-2	2	4	6	11	13	15	-2	3	7	9	-4	1	5	8	7	5	4	6
MINNEAPOLIS TO SIOUX FALLS																									171 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-1	2	3	-60	-3	-1	0	-61	-5	-2	-1	-59	-3	0	2	4	4	3	4
40,000	-56.5	-55	1	6	8	-56	0	4	6	-54	2	5	6	-56	0	4	5	-55	1	4	5	6	6	3	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-0	1	-36	8	10	11	-43	2	4	6	-44	0	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-21	-0	3	5	-10	12	14	15	-17	5	8	9	-19	3	6	9	6	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-5	-1	3	5	7	12	14	15	0	5	9	11	-3	2	6	9	7	6	3	6
MINNEAPOLIS TO SPOKANE																									1022 N.MI.
53,000	-56.5	-58	-1	2	4	-56	1	3	5	-57	-1	1	3	-60	-3	-1	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-55	1	5	8	-56	0	4	6	-54	2	5	6	-56	0	4	5	-55	1	4	6	7	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-38	6	8	10	-44	1	3	5	-45	-1	3	5	4	3	3	4
20,000	-21.2	-28	-7	-3	-0	-22	-1	2	4	-11	10	12	13	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-14	-9	-4	-1	-6	-1	2	4	7	11	14	15	-2	3	7	9	-4	1	6	8	7	5	4	6
MINNEAPOLIS TO WASHINGTON, D.C.																									807 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-57	-0	4	6	-54	3	5	6	-56	1	4	6	-56	1	4	5	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-36	8	11	12	-42	3	5	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-24	-3	0	2	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-11	-6	-2	0	-5	-0	3	5	6	11	12	14	1	6	9	11	-2	2	6	8	6	5	3	5
MINNEAPOLIS TO WINNIPEG																									342 N.MI.
53,000	-56.5	-57	-1	3	4	-55	1	4	5	-56	0	2	4	-59	-2	0	2	-57	-0	2	4	5	4	3	4
40,000	-56.5	-54	2	6	8	-55	1	5	7	-53	3	6	7	-55	1	5	7	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-48	-4	-2	-0	-38	6	9	10	-44	0	3	4	-46	-1	3	5	4	3	3	4
20,000	-21.2	-30	-9	-5	-3	-23	-2	1	3	-12	10	12	13	-19	2	6	8	-21	0	4	7	6	5	3	5
10,000	- 4.6	-17	-12	-7	-4	-8	-3	1	3	4	9	12	13	-3	2	6	8	-6	-1	4	6	7	6	4	6
MISSOULA TO SPOKANE																									151 N.MI.
53,000	-56.5	-58	-1	2	4	-55	2	4	6	-56	1	3	4	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-0	4	7	-56	0	4	7	-54	3	5	7	-56	0	3	5	-56	1	4	6	7	6	4	5
30,000	-44.5	-51	-6	-4	-2	-48	-3	-1	-0	-39	5	7	8	-44	1	4	5	-45	-1	2	4	4	3	3	4
20,000	-21.2	-27	-6	-1	1	-22	-1	2	4	-12	9	11	12	-19	2	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-13	-8	-3	-0	-6	-2	2	4	6	11	13	14	-2	2	6	8	-4	1	5	8	7	5	3	6
MOBILE TO MONTGOMERY																									135 N.MI.
53,000	-56.5	-69	-13	-11	-9	-66	-10	-8	-6	-69	-13	-11	-10	-72	-16	-13	-12	-69	-13	-10	-8	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-55	1	2	3	-55	1	3	4	-56	0	2	2	3	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	6	7	-33	11	13	13	-36	8	10	11	-37	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-7	15	16	16	-9	12	14	15	-10	11	13	14	3	3	2	3
10,000	- 4.6	1	6	8	9	4	9	11	12	9	13	14	15	7	12	14	15	5	10	12	13	3	3	1	3
MOBILE TO NEW ORLEANS																									112 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-8	-70	-14	-12	-11	-73	-17	-15	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	1	2	-55	1	2	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	5	7	8	-33	12	13	13	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-6	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	5	10	12	13	9	14	15	15	8	12	14	15	6	11	12	13	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MOBILE TO PENSACOLA																									55 N.MI.
53,000	-56.5	-70	-13	-11	-10	-67	-11	-9	-7	-70	-13	-12	-11	-73	-17	-14	-13	-70	-13	-11	-9	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-55	1	2	3	-55	1	3	4	-56	0	2	3	3	3	2	3
30,000	-44.5	-40	4	6	7	-39	5	7	8	-33	11	13	13	-36	9	11	12	-37	7	9	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	5	9	11	13	9	14	15	15	8	12	14	15	6	10	12	13	5	5	1	3
MODESTO TO STOCKTON																									21 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	0	-64	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-58	-2	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-36	8	10	11	-40	5	7	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-19	2	6	8	-18	3	6	8	-8	13	14	15	-13	8	11	13	-14	7	9	11	5	4	2	4
10,000	- 4.6	-3	2	6	8	-1	3	7	8	11	15	17	18	3	8	11	13	2	7	11	12	6	5	3	5
MONCTON TO MONTREAL																									376 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-56	0	3	5	-58	-2	2	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	9	-53	3	7	10	-53	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-4	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-6	-2	-0	-25	-4	-0	2	-12	9	11	12	-18	3	7	9	-21	1	5	7	6	5	4	5
10,000	- 4.6	-16	-11	-6	-3	-10	-6	-2	-0	5	7	9	11	-3	2	6	8	-7	-2	2	5	7	5	3	6
MONCTON TO ST. JOHN																									70 N.MI.
53,000	-56.5	-57	-0	3	4	-54	3	5	6	-56	0	3	4	-59	-2	1	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	8	-53	3	7	9	-54	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-49	-5	-2	-0	-48	-3	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-1	1	-24	-3	0	2	-12	9	11	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-5	-3	-9	-5	-1	1	5	7	9	11	-3	2	6	8	-6	-2	3	5	7	5	3	6
MONCTON TO TORONTO																									651 N.MI.
53,000	-56.5	-57	-1	2	4	-55	2	4	6	-57	-1	2	4	-59	-3	1	2	-57	-1	2	4	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	3	7	9	-53	3	6	7	-54	3	6	8	-54	3	5	7	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-3	-1	1	-38	7	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-3	0	2	-12	9	12	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-5	-3	-9	-5	-1	1	3	8	10	11	-2	3	6	8	-6	-1	3	5	7	5	3	6
MONROE TO SHREVEPORT																									90 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-9	-6	-5	-69	-13	-11	-10	-71	-15	-12	-11	-68	-12	-9	-7	3	4	3	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-41	4	6	7	-33	12	13	13	-37	7	9	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	6	8	9	-13	8	10	11	-6	15	16	16	-9	12	14	15	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	9	4	9	11	13	10	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
MONTEREY TO SALINAS																									13 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-65	-9	-7	-6	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	4	7	5	3	4
30,000	-44.5	-46	-1	1	3	-44	1	3	4	-36	8	10	11	-40	5	7	8	-41	3	6	7	4	3	2	3
20,000	-21.2	-19	3	6	8	-17	4	7	8	-8	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	3	7	9	-1	4	7	9	11	15	17	18	4	8	11	13	3	8	11	13	5	5	2	5
MONTEREY TO SAN FRANCISCO																									68 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	-0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	8	10	11	-40	5	7	8	-41	3	6	7	4	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	7	8	-8	13	15	15	-13	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	3	6	8	-1	4	7	9	10	15	17	17	3	8	11	13	3	7	11	12	6	5	2	5
MONTEREY TO SANTA BARBARA																									162 N.MI.
53,000	-56.5	-63	-7	-4	-2	-62	-5	-3	-1	-66	-10	-8	-7	-66	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	2	3	-43	1	3	4	-36	9	10	11	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	7	8	-17	5	7	9	-7	14	15	16	-12	9	12	13	-13	8	10	12	5	4	2	4
10,000	- 4.6	-1	4	8	10	0	5	8	10	11	15	17	18	4	9	12	14	4	8	11	13	5	5	2	4
MONTGOMERY TO PENSACOLA																									117 N.MI.
53,000	-56.5	-69	-13	-11	-10	-67	-10	-8	-7	-69	-13	-11	-10	-72	-16	-13	-12	-69	-13	-10	-9	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-55	1	2	3	-55	1	3	4	-56	0	2	3	3	4	2	3
30,000	-44.5	-41	4	6	7	-40	5	6	7	-33	11	13	13	-36	8	10	11	-37	7	9	10	3	3	2	3
20,000	-21.2	-14	7	9	11	-12	9	11	12	-7	15	16	16	-9	12	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	1	6	8	9	4	9	11	12	9	13	14	15	7	12	14	15	5	10	12	13	3	3	1	3
MONTREAL TO NEW YORK																									290 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-1	0	-59	-2	1	2	4	4	4	5
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	3	5
30,000	-44.5	-48	-4	-1	0	-47	-2	0	2	-37	7	10	11	-42	3	5	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-25	-4	0	2	-22	-1	2	4	-11	10	13	14	-16	5	9	10	-18	3	7	9	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	6	6	5	3	5
MONTREAL TO OTTAWA																									81 N.MI.
53,000	-56.5	-57	-1	2	4	-55	2	4	6	-57	-0	3	4	-59	-2	1	3	-57	-0	3	4	4	4	4	5
40,000	-56.5	-54	2	6	8	-54	3	7	9	-53	3	6	7	-54	3	6	8	-54	3	6	7	6	6	4	5
30,000	-44.5	-50	-6	-3	-1	-48	-3	-1	0	-38	6	9	10	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-25	-3	-0	2	-12	9	11	13	-18	3	7	9	-21	1	5	7	6	5	4	5
10,000	- 4.6	-15	-11	-6	-4	-10	-5	-2	0	3	7	10	11	-2	2	6	8	-6	-2	3	5	7	5	3	6
MONTREAL TO QUEBEC																									130 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-56	1	3	5	-58	-2	2	3	-56	0	3	5	4	4	4	5
40,000	-56.5	-54	2	7	9	-53	3	7	10	-53	4	6	8	-54	3	6	8	-53	3	6	8	6	6	4	5
30,000	-44.5	-50	-6	-3	-1	-48	-4	-1	0	-39	6	8	10	-44	1	4	5	-45	-1	3	5	4	4	4	4
20,000	-21.2	-29	-7	-3	-1	-25	-4	-1	1	-13	9	11	12	-18	3	6	8	-21	-0	4	6	6	5	4	5
10,000	- 4.6	-17	-12	-7	-4	-11	-6	-3	-1	2	7	9	10	-3	1	5	8	-7	-2	2	4	7	5	3	6
MONTREAL TO SAGUENAY																									214 N.MI.
53,000	-56.5	-57	-0	3	4	-54	3	5	7	-55	1	4	6	-57	-1	2	4	-56	1	4	5	4	4	4	5
40,000	-56.5	-54	3	7	9	-53	4	8	10	-53	4	7	8	-53	3	7	9	-53	3	7	8	6	6	4	5
30,000	-44.5	-51	-6	-3	-2	-49	-4	-2	-0	-39	5	8	9	-44	0	3	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-30	-8	-4	-2	-26	-5	-1	1	-13	8	11	12	-19	2	6	8	-22	-1	4	6	6	5	4	5
10,000	- 4.6	-18	-13	-8	-5	-11	-7	-3	-1	2	6	9	10	-4	1	5	7	-8	-3	1	4	8	5	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
MONTREAL TO ST. JOHN																									**331 N.MI.**
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-57	-0	3	4	-59	-2	1	3	-57	-0	3	5	4	4	4	5
40,000	-56.5	-54	2	6	8	-53	3	7	9	-54	3	6	7	-54	3	6	8	-54	3	7	9	6	6	4	5
30,000	-44.5	-50	-5	-2	-1	-48	-3	-1	1	-38	6	9	10	-43	1	4	6	-45	-0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-25	-4	-0	2	-12	9	11	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-11	-6	-3	-10	-5	-2	0	3	7	10	11	-2	2	6	8	-6	-2	3	5	7	5	3	6
MONTREAL TO TAMPA																									**1130 N.MI.**
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-65	-8	-6	-5	-67	-10	-8	-6	-65	-8	-5	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-0	3	4	-55	2	5	4	-55	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-44	0	2	4	-43	2	4	5	-35	10	11	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	3	5	7	-17	5	7	9	-9	13	14	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	11	13	13	3	8	11	12	1	6	8	10	5	4	2	4
MONTREAL TO TORONTO																									**273 N.MI.**
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-58	-1	2	3	-60	-3	0	2	-58	-1	2	3	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	2	6	9	-53	3	6	7	-54	2	6	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-5	-3	-1	-48	-3	-1	1	-38	7	9	11	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-3	1	3	-12	10	12	13	-17	4	8	9	-20	1	5	8	6	5	3	5
10,000	- 4.6	-14	-10	-5	-3	-9	-4	-1	1	3	8	10	11	-2	3	7	9	-5	-1	3	6	7	5	3	6
MONTREAL TO VANCOUVER																									**1986 N.MI.**
53,000	-56.5	-56	0	3	5	-54	3	5	7	-54	3	5	6	-57	-1	2	3	-55	1	4	6	5	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	6	8	-53	4	7	8	-55	2	5	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-1	-40	5	7	9	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-31	-10	-5	-3	-25	-3	0	2	-13	8	10	11	-20	1	5	7	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-18	-13	-8	-5	-9	-5	-1	1	3	7	10	11	-4	0	4	7	-7	-3	2	5	8	5	4	6
MONTREAL TO WASHINGTON, D.C.																									**423 N.MI.**
53,000	-56.5	-60	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-2	2	3	5	9	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
MUSCLE SHOALS TO NASHVILLE																									**95 N.MI.**
53,000	-56.5	-66	-9	-7	-6	-63	-6	-4	-2	-67	-11	-9	-8	-68	-12	-9	-8	-66	-10	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-2	1	3	-54	2	4	4	-56	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-42	3	5	6	-34	11	12	13	-38	6	8	9	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	3	6	8	-14	7	9	10	-7	14	15	16	-11	10	12	14	-13	9	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
NASHVILLE TO NEW YORK																									**663 N.MI.**
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	0	-64	-8	-5	-4	-66	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	11	12	-40	5	7	8	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-2	2	4	-2	2	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
NASHVILLE TO ST. LOUIS																									**235 N.MI.**
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-1	3	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	5	-34	10	12	13	-39	5	7	8	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-8	14	15	16	-12	9	12	13	-14	7	10	12	4	4	2	3
10,000	- 4.6	-5	-1	3	4	-0	4	7	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
NASHVILLE TO TULSA																									**445 N.MI.**
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-67	-10	-8	-7	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-34	11	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	7	-15	6	9	10	-7	14	15	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	1	6	9	11	9	14	15	16	5	10	12	14	3	7	10	12	5	4	2	4
NASHVILLE TO WASHINGTON, D.C.																									**487 N.MI.**
53,000	-56.5	-64	-7	-5	-3	-61	-5	-2	-1	-65	-9	-6	-5	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-43	1	3	4	-35	10	12	13	-39	5	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	2	5	6	-16	5	8	9	-8	13	15	15	-12	9	12	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-1	3	5	-1	3	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	5	2	4
NEW BEDFORD TO NEW YORK																									**142 N.MI.**
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-36	8	10	12	-41	4	6	8	-42	2	6	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	1	4	6	-10	11	13	14	-14	7	10	12	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	2	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
NEW BERN TO NORFOLK																									**117 N.MI.**
53,000	-56.5	-65	-9	-7	-5	-63	-6	-4	-2	-66	-9	-7	-6	-67	-11	-8	-7	-65	-9	-6	-4	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	1	3	-55	1	3	4	-56	1	3	5	-57	-0	2	3	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	9	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	8	-15	6	8	10	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	3
NEW HAVEN TO NEW YORK																									**56 N.MI.**
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	4	3	4
20,000	-21.2	-22	-1	3	4	-20	1	4	6	-10	12	13	14	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	3	5	6	10	12	13	1	6	9	10	-2	3	6	8	6	5	3	5
NEW ORLEANS TO NEW YORK																									**1025 N.MI.**
53,000	-56.5	-66	-9	-7	-5	-63	-7	-4	-3	-66	-10	-8	-7	-68	-12	-9	-8	-66	-9	-6	-5	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-55	2	3	4	-55	1	3	5	-56	0	2	3	4	4	2	3
30,000	-44.5	-43	1	3	4	-42	2	4	5	-34	10	12	13	-38	6	9	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-17	4	6	8	-15	6	9	10	-8	14	15	16	-11	10	12	14	-13	8	11	12	4	4	2	3
10,000	- 4.6	-3	2	5	6	0	5	8	9	8	12	14	14	5	9	12	13	2	7	9	11	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
NEW ORLEANS TO ST. PETERSBURG																									416 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-70	-14	-12	-11	-74	-18	-15	-14	-71	-15	-12	-11	5	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-56	1	2	2	-55	1	3	4	-56	0	2	3	5	5	2	2
30,000	-44.5	-39	5	7	7	-38	6	8	8	-33	12	13	13	-35	9	11	12	-36	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-6	15	16	16	-8	14	15	16	-9	12	13	14	5	5	1	2
10,000	- 4.6	3	8	10	11	5	10	12	13	9	14	14	15	8	13	14	15	6	11	12	13	3	3	1	2
NEW ORLEANS TO SHREVEPORT																									235 N.MI.
53,000	-56.5	-69	-12	-10	-9	-67	-10	-8	-6	-70	-13	-12	-11	-72	-16	-14	-12	-69	-13	-10	-9	5	4	2	3
40,000	-56.5	-57	-1	2	3	-58	-1	1	2	-55	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-41	4	5	6	-40	5	6	7	-33	12	13	13	-36	8	10	11	-37	7	9	10	2	2	2	3
20,000	-21.2	-14	7	9	10	-12	9	11	12	-6	15	16	16	-9	12	14	15	-10	11	13	14	5	5	1	3
10,000	- 4.6	1	6	8	10	5	9	12	13	10	14	15	16	8	12	14	15	6	10	12	13	4	4	1	3
NEW ORLEANS TO TAMPA																									423 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-70	-14	-12	-11	-74	-18	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-56	1	2	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	7	-38	6	8	8	-33	12	13	13	-35	9	11	12	-36	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-6	15	16	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	5	10	12	13	9	14	14	15	8	13	14	15	6	11	12	13	3	3	1	2
NEWPORT NEWS TO NEW YORK																									245 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-63	-7	-5	-3	-65	-9	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	4	-55	2	4	5	-55	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	0	3	4	-35	9	11	12	-40	5	7	9	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	2	3	-3	2	5	6	6	11	12	13	2	7	10	11	-0	4	7	9	5	5	2	4
NEWPORT NEWS TO NORFOLK																									20 N.MI.
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-65	-8	-6	-5	-67	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	5	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-35	10	12	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	14	15	-12	9	12	13	-14	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	3	5	-1	3	6	8	7	11	13	14	3	8	11	12	1	6	8	10	5	4	2	4
NEWPORT NEWS TO WASHINGTON, D.C.																									106 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	10	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	7	7	11	13	13	3	8	10	12	0	5	8	9	5	4	2	4
NEW YORK TO NORFOLK																									251 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-63	-7	-5	-4	-65	-9	-6	-4	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	4	-55	2	4	4	-55	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	0	3	4	-35	9	11	12	-40	5	7	9	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	4	6	8	-9	12	14	15	-13	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	2	4	-3	2	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
NEW YORK TO PHILADELPHIA																									80 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-62	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-19	2	5	7	-9	12	14	15	-13	8	11	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
NEW YORK TO PHOENIX																									1866 N.MI.
53,000	-56.5	-63	-6	-3	-2	-61	-4	-2	-0	-65	-9	-7	-6	-66	-10	-7	-6	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-34	10	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	-0	3	5	-17	4	7	8	-8	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	-0	4	7	9	9	14	16	16	4	8	11	13	2	6	10	11	6	5	2	4
NEW YORK TO PITTSBURGH																									293 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
NEW YORK TO PORTLAND, ME.																									238 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	2	4	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-47	-3	-0	1	-46	-2	1	2	-37	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-21	-0	3	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
NEW YORK TO PROVIDENCE																									125 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-57	-0	4	6	-56	0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-36	8	10	12	-41	4	6	8	-42	2	5	7	4	4	3	4
20,000	-21.2	-22	-1	2	4	-20	1	4	6	-10	11	13	14	-14	7	10	12	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	2	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
NEW YORK TO RALEIGH																									370 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-7	-5	-4	-66	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-55	2	3	4	-55	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	9	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-17	4	7	8	-9	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	4	2	4
NEW YORK TO READING																									101 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-0	3	5	-19	2	5	7	-9	12	14	15	-14	8	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-5	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
NEW YORK TO RICHMOND																									**250 N.MI.**
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	1	-63	-7	-5	-3	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	5	-55	2	4	5	-55	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-45	-1	1	3	-44	0	2	4	-35	9	11	12	-40	5	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-3	1	5	6	6	11	12	13	2	7	10	11	-0	4	7	9	5	5	2	4
NEW YORK TO ROCHESTER, N.Y.																									**229 N.MI.**
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-21	1	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	12	0	5	8	10	-3	2	5	7	6	5	3	5
NEW YORK TO ST. LOUIS																									**773 N.MI.**
53,000	-56.5	-61	-5	-2	-1	-60	-3	-0	1	-63	-7	-5	-3	-65	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	6	8	-42	3	6	8	3	3	3	4
20,000	-21.2	-22	-1	3	4	-18	3	6	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	0	2	-3	1	5	7	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
NEW YORK TO SAN FRANCISCO																									**2240 N.MI.**
53,000	-56.5	-61	-4	-1	0	-59	-2	0	2	-63	-6	-4	-3	-64	-7	-5	-3	-62	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	0	4	7	-58	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-36	9	10	11	-41	3	6	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-23	-2	2	4	-19	2	5	6	-9	13	14	15	-14	7	10	11	-16	5	8	10	6	4	2	4
10,000	- 4.6	-8	-4	0	3	-3	2	5	7	9	14	16	17	2	7	10	12	0	5	8	11	6	5	3	5
NEW YORK TO SCRANTON																									**103 N.MI.**
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-2	0	2	-46	-1	1	3	-36	8	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-20	1	4	6	-10	12	13	14	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-1	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
NEW YORK TO SEATTLE																									**2098 N.MI.**
53,000	-56.5	-58	-2	2	3	-56	1	3	5	-58	-1	1	3	-60	-3	-1	1	-58	-1	2	3	5	4	3	4
40,000	-56.5	-56	1	5	7	-56	1	5	7	-54	3	5	7	-56	1	4	6	-55	1	4	6	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-38	7	9	10	-43	1	4	5	-45	-0	3	5	4	3	3	4
20,000	-21.2	-28	-6	-2	0	-22	-1	2	4	-11	10	12	13	-18	3	7	9	-20	2	5	7	6	5	3	5
10,000	- 4.6	-13	-9	-4	-2	-7	-2	2	4	5	10	12	14	-2	3	7	9	-4	1	5	7	7	5	3	6
NEW YORK TO SYRACUSE																									**182 N.MI.**
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-0	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	4	7	-54	2	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-0	1	-46	-2	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-25	-2	1	3	-21	0	4	5	-10	11	13	14	-15	6	9	11	-17	4	7	9	5	4	3	5
10,000	- 4.6	-11	-6	-2	0	-6	-1	2	4	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
NEW YORK TO TAMPA																									**874 N.MI.**
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-66	-10	-8	-7	-69	-12	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-56	1	2	3	-55	1	3	5	-57	-0	2	4	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	10	12	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	8	9	-14	7	9	10	-8	13	15	15	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	5	8	9	7	12	13	14	5	10	12	13	3	7	10	11	4	4	2	3
NEW YORK TO TOLEDO																									**456 N.MI.**
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	4	-20	2	5	6	-9	12	14	15	-14	7	10	11	-17	5	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
NEW YORK TO TORONTO																									**318 N.MI.**
53,000	-56.5	-60	-3	-0	1	-58	-1	2	3	-60	-4	-1	0	-62	-6	-3	-1	-60	-3	-0	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-6	-2	-0	-6	-2	2	4	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
NEW YORK TO TUCSON																									**1852 N.MI.**
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-1	-66	-9	-7	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-1	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	7	9	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-5	-1	3	5	0	5	8	10	9	14	15	16	4	9	12	13	2	7	10	11	5	5	2	4
NEW YORK TO WASHINGTON, D.C.																									**184 N.MI.**
53,000	-56.5	-61	-5	-2	-1	-59	-3	-0	1	-63	-6	-4	-3	-64	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	2	4	5	-55	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	4	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	3	4
10,000	- 4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
NEW YORK TO WEST PALM BEACH																									**894 N.MI.**
53,000	-56.5	-67	-11	-9	-7	-65	-8	-6	-5	-67	-10	-8	-7	-69	-13	-10	-9	-67	-11	-8	-6	3	3	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-56	1	2	3	-55	1	3	4	-57	-0	2	4	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	3	5	6	-34	10	12	13	-37	7	10	11	-39	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	9	-14	7	9	11	-8	14	15	15	-10	11	13	14	-12	9	12	13	4	3	2	3
10,000	- 4.6	-1	5	6	8	1	6	8	9	7	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
NEW YORK TO WILMINGTON, DEL.																									**101 N.MI.**
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	1	-63	-6	-4	-2	-64	-7	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-55	1	4	6	-56	0	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	3	5	-19	2	5	7	-9	12	14	15	-13	8	11	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
NEW YORK TO WORCESTER																								131 N.MI.	
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-5	-2	-1	-63	-6	-3	-1	-60	-4	-1	1	4	4	4	5
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	5	-55	2	5	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	0	1	-46	-1	1	2	-36	8	10	12	-41	4	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-1	2	4	-20	1	4	5	-10	11	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	7	6	5	3	5
NEW YORK TO YOUNGSTOWN																								315 N.MI.	
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-2	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	5	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
NORFOLK TO PHILADELPHIA																								185 N.MI.	
53,000	-56.5	-63	-6	-4	-2	-61	-4	-1	-0	-64	-7	-5	-4	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	9	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	2	5	6	-17	4	7	8	-9	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	11	0	5	8	9	5	5	2	4
NORFOLK TO WASHINGTON, D.C.																								123 N.MI.	
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-1	-64	-8	-6	-4	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	10	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	7	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-5	-1	3	4	-2	3	6	7	7	11	13	13	3	8	10	12	1	5	8	9	5	4	2	4
NORTH BAY TO SUDBURY																								59 N.MI.	
53,000	-56.5	-57	-1	2	4	-55	2	4	6	-56	1	4	5	-58	-2	1	3	-56	0	3	5	5	4	4	4
40,000	-56.5	-54	2	6	9	-54	3	7	9	-53	4	7	8	-54	3	6	8	-53	3	6	8	6	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-39	6	8	10	-44	0	3	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-25	-4	-1	1	-13	9	11	12	-19	2	6	8	-22	-0	4	6	6	5	4	5
10,000	- 4.6	-17	-12	-8	-5	-10	-6	-2	0	2	7	9	10	-3	1	6	8	-7	-2	2	4	7	6	4	6
NORTH BAY TO TORONTO																								161 N.MI.	
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-1	2	4	-59	-3	0	2	-57	-1	2	4	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	6	9	-53	4	6	7	-54	2	6	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-38	6	9	10	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	1	2	-12	9	12	13	-18	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-6	-3	-9	-4	-1	1	3	8	10	11	-2	3	7	9	-6	-1	3	5	7	5	3	6
OAKLAND TO PHOENIX																								560 N.MI.	
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-2	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-35	10	11	12	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-19	3	6	8	-17	5	7	9	-7	14	15	16	-12	10	12	13	-13	8	10	12	5	4	2	4
10,000	- 4.6	-1	3	7	9	1	6	9	10	12	17	18	19	5	9	12	14	4	9	12	14	6	5	2	4
OAKLAND TO RENO																								157 N.MI.	
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-58	-2	3	6	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	0	2	-44	0	2	3	-37	8	9	10	-40	4	6	8	-42	3	5	7	4	3	3	3
20,000	-21.2	-20	1	5	7	-18	3	6	7	-8	13	14	15	-13	8	11	12	-15	6	9	11	6	4	2	4
10,000	- 4.6	-4	1	5	7	-2	3	6	8	11	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
OAKLAND TO SALT LAKE CITY																								510 N.MI.	
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	4	6	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	2	-36	8	10	11	-40	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-21	0	4	6	-19	2	5	7	-8	13	14	15	-14	8	11	12	-15	6	9	10	6	4	2	4
10,000	- 4.6	-5	-1	3	6	-1	3	7	8	12	16	18	19	3	7	11	12	2	7	10	13	6	5	3	5
OAKLAND TO SAN FRANCISCO																								9 N.MI.	
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	0	-64	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-58	-1	3	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	2	4	-37	8	10	11	-40	5	7	8	-42	3	6	7	4	3	3	3
20,000	-21.2	-19	2	6	8	-18	3	6	8	-8	15	14	15	-13	8	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	2	6	8	-1	3	7	8	10	15	16	17	3	8	11	13	2	7	10	12	6	5	3	5
OCALA TO VERO BEACH																								130 N.MI.	
53,000	-56.5	-72	-15	-14	-13	-69	-13	-11	-10	-70	-13	-12	-11	-74	-17	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	10	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
OKLAHOMA CITY TO ST. LOUIS																								401 N.MI.	
53,000	-56.5	-64	-7	-5	-3	-62	-5	-2	-1	-67	-10	-8	-7	-67	-11	-8	-7	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	1	3	-43	1	3	4	-34	11	12	13	-39	5	7	8	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-7	14	15	16	-12	10	12	13	-14	7	10	12	5	4	2	3
10,000	- 4.6	-5	-0	3	5	1	6	9	10	9	14	15	16	5	9	12	14	3	7	10	12	5	5	2	4
OKLAHOMA CITY TO TULSA																								97 N.MI.	
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-2	-68	-11	-9	-8	-68	-12	-9	-8	-66	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	4	2	3
30,000	-44.5	-45	-0	2	3	-43	2	4	5	-33	11	13	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-19	2	5	6	-15	6	8	10	-7	14	16	16	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	3	7	10	12	10	15	16	17	6	10	13	14	4	8	11	13	5	4	2	4
OKLAHOMA CITY TO WICHITA																								135 N.MI.	
53,000	-56.5	-64	-8	-5	-4	-62	-5	-3	-1	-67	-11	-9	-8	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-56	0	4	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-33	11	13	13	-39	5	7	9	-40	4	7	9	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	6	8	9	-7	14	16	16	-11	10	12	13	-14	8	10	12	5	4	2	3
10,000	- 4.6	-4	0	4	6	2	7	10	12	10	15	16	17	5	10	13	14	3	8	11	12	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
OMAHA TO SIOUX CITY																									95 N.MI.
53,000	-56.5	-60	-4	-1	1	-59	-2	0	2	-63	-6	-4	-3	-63	-7	-4	-3	-61	-5	-2	-0	4	4	3	4
40,000	-56.5	-56	1	5	7	-58	-1	3	5	-54	2	4	5	-56	0	3	5	-56	1	3	4	6	5	3	4
30,000	-44.5	-48	-4	-2	-0	-46	-1	1	2	-35	9	11	12	-41	3	5	7	-43	2	5	7	3	3	3	3
20,000	-21.2	-25	-4	0	2	-19	2	5	6	-8	13	14	15	-15	7	9	11	-17	4	8	10	5	4	2	4
10,000	- 4.6	-9	-5	-1	2	-2	2	6	8	9	13	15	16	2	7	10	12	-0	4	8	10	6	5	3	5
ONTARIO TO PALM SPRINGS																									57 N.MI.
53,000	-56.5	-64	-8	-5	-4	-63	-7	-4	-3	-68	-11	-10	-9	-68	-12	-9	-8	-66	-9	-6	-5	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-2	2	3	-54	3	4	5	-56	1	3	5	-56	0	2	3	6	5	2	4
30,000	-44.5	-45	-0	2	3	-43	2	3	4	-34	10	11	12	-38	6	8	9	-40	4	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-16	6	8	9	-6	15	16	16	-11	10	13	14	-13	9	11	12	5	4	2	4
10,000	- 4.6	0	5	8	10	2	7	10	11	12	17	18	19	6	10	13	14	5	10	12	14	5	4	2	4
ONTARIO TO SAN FRANCISCO																									316 N.MI.
53,000	-56.5	-63	-7	-4	-2	-61	-5	-2	-1	-66	-10	-8	-7	-66	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	1	3	-43	1	3	4	-36	9	10	11	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-17	5	7	9	-7	14	15	16	-12	9	12	13	-14	8	10	12	5	4	2	4
10,000	- 4.6	-1	4	7	9	0	5	8	10	11	16	17	18	4	9	12	13	4	8	11	13	5	5	2	4
ORLANDO TO SARASOTA																									94 N.MI.
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-14	-12	-11	-74	-18	-15	-14	-72	-15	-13	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	11	5	10	12	13	8	13	14	14	8	13	14	15	6	11	12	13	3	3	1	2
ORLANDO TO TALLAHASSEE																									193 N.MI.
53,000	-56.5	-71	-15	-13	-12	-68	-12	-10	-9	-70	-13	-12	-11	-73	-17	-15	-13	-71	-14	-12	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-57	-1	1	3	-56	0	1	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	7	7	-39	6	7	8	-33	11	12	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	14	15	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
ORLANDO TO TAMPA																									72 N.MI.
53,000	-56.5	-72	-16	-14	-13	-69	-13	-11	-10	-70	-13	-12	-11	-74	-18	-15	-14	-71	-15	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-57	-0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	9	-33	11	12	13	-35	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-11	11	12	13	-7	14	15	16	-7	14	15	16	-9	12	14	14	3	3	1	2
10,000	- 4.6	4	9	10	11	5	10	12	13	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
ORLANDO TO WEST PALM BEACH																									130 N.MI.
53,000	-56.5	-73	-16	-14	-13	-70	-13	-11	-10	-70	-14	-12	-11	-74	-18	-16	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	1	2	-56	0	2	3	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	5	10	12	13	8	13	14	14	8	13	14	15	6	11	12	13	3	3	1	2
OTTAWA TO SYRACUSE																									133 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	3	5	-58	-2	1	3	-60	-3	-0	1	-58	-1	2	3	4	4	4	5
40,000	-56.5	-55	1	6	8	-54	2	6	8	-53	3	6	7	-54	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-47	-3	-0	1	-38	7	9	11	-43	2	5	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-27	-5	-1	1	-23	-2	1	3	-11	10	12	13	-17	4	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-5	-2	-8	-4	-0	2	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	6
OTTAWA TO TORONTO																									196 N.MI.
53,000	-56.5	-58	-1	1	3	-56	1	3	5	-58	-1	1	3	-60	-3	-0	2	-58	-1	2	3	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	2	6	8	-53	3	6	7	-54	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-5	-3	-1	-48	-3	-1	1	-38	7	9	11	-43	2	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-27	-6	-2	0	-24	-2	1	3	-11	10	12	13	-17	4	8	9	-20	1	5	8	6	5	3	5
10,000	- 4.6	-14	-10	-5	-3	-9	-4	-0	1	3	8	10	11	-1	3	7	9	-5	-1	3	6	7	5	3	6
OTTAWA TO VAL-DOR																									186 N.MI.
53,000	-56.5	-57	-0	3	4	-54	2	5	6	-55	1	4	5	-58	-1	2	3	-56	0	3	5	4	4	4	4
40,000	-56.5	-54	3	7	9	-53	3	7	10	-53	4	7	8	-53	3	7	8	-53	3	6	8	6	6	4	5
30,000	-44.5	-51	-7	-4	-2	-49	-4	-1	-0	-39	6	8	10	-44	0	4	5	-46	-1	3	5	4	4	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-4	-1	1	-13	8	11	12	-19	2	6	8	-22	-1	4	6	6	5	4	5
10,000	- 4.6	-17	-13	-8	-5	-11	-6	-2	-0	2	6	9	10	-3	1	5	8	-7	-3	2	4	7	6	4	6
PALM SPRINGS TO SAN DIEGO																									74 N.MI.
53,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-3	-68	-12	-10	-9	-69	-12	-10	-9	-66	-10	-7	-5	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-1	2	3	-54	3	4	5	-55	1	3	5	-56	0	2	4	6	5	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	10	12	12	-38	6	8	9	-40	5	7	8	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	6	8	10	-6	15	16	16	-11	10	13	14	-12	9	11	12	5	4	2	3
10,000	- 4.6	0	5	8	10	3	7	10	12	12	16	18	18	6	10	13	14	5	10	13	14	5	4	2	4
PANAMA CITY TO PENSACOLA																									80 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-11	-9	-8	-70	-13	-12	-11	-73	-17	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	3	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	5	7	8	-33	11	13	13	-36	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	5	9	11	12	9	13	14	15	8	12	14	15	6	10	12	13	3	3	1	2
PANAMA CITY TO TALLAHASSEE																									70 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-11	-9	-8	-70	-13	-11	-11	-73	-17	-14	-13	-70	-14	-11	-10	3	3	2	3
40,000	-56.5	-58	-1	1	2	-58	-1	1	2	-56	1	2	2	-55	1	3	4	-57	-0	2	3	3	3	2	3
30,000	-44.5	-40	5	6	7	-39	5	7	8	-33	11	12	13	-35	9	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	15	16	16	-8	13	15	15	-10	11	13	14	3	3	1	2
10,000	- 4.6	2	7	9	10	4	9	11	12	9	13	14	15	8	12	14	15	6	10	12	13	3	3	1	2
PANAMA CITY TO TAMPA																									213 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-0	2	3	-56	0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-38	6	8	8	-33	11	12	13	-35	10	11	12	-36	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	15	16	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	5	10	12	13	9	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
PHILADELPHIA TO PITTSBURGH																									231 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-8	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	6	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-18	3	6	7	-9	12	14	15	-13	8	11	12	-16	6	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	1	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
PHILADELPHIA TO RICHMOND																									173 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-64	-7	-5	-4	-65	-9	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-55	2	4	5	-56	1	4	5	-56	0	2	4	5	5	3	4
30,000	-44.5	-45	-1	2	3	-44	0	3	4	-35	9	11	12	-40	5	7	9	-41	3	7	8	3	3	3	4
20,000	-21.2	-20	1	4	6	-17	4	6	8	-9	13	14	15	-13	9	11	13	-15	7	9	11	5	4	2	4
10,000	- 4.6	-6	-2	2	4	-3	2	5	7	7	11	13	13	3	7	10	11	-0	5	8	9	5	5	2	4
PHILADELPHIA TO ROCHESTER, N.Y.																									223 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	5	6	-55	1	4	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-20	1	4	6	-10	11	13	14	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-6	-1	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
PHILADELPHIA TO ST. LOUIS																									705 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	-0	3	5	-18	4	6	8	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	2	5	7	7	12	13	14	3	7	10	12	-0	4	8	9	5	5	2	4
PHILADELPHIA TO SAN JUAN																									1373 N.MI.
53,000	-56.5	-70	-14	-12	-11	-68	-12	-10	-9	-68	-12	-10	-9	-72	-15	-13	-11	-69	-13	-11	-10	3	3	2	3
40,000	-56.5	-56	0	3	4	-57	-0	2	3	-56	1	2	2	-55	2	3	4	-56	0	3	4	4	3	2	3
30,000	-44.5	-40	4	6	7	-39	6	7	8	-34	10	12	12	-35	9	11	12	-37	7	9	10	3	3	2	3
20,000	-21.2	-13	8	10	11	-12	9	11	12	-7	14	15	16	-9	13	14	15	-10	11	13	14	3	3	2	2
10,000	- 4.6	2	7	9	10	3	8	10	11	8	12	13	14	6	11	12	13	5	9	11	12	3	3	2	2
PHILADELPHIA TO SCRANTON																									99 N.MI.
53,000	-56.5	-61	-4	-1	-0	-59	-2	0	2	-62	-5	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	6	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	1	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	2	5	6	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
PHILADELPHIA TO SYRACUSE																									198 N.MI.
53,000	-56.5	-60	-3	-1	1	-58	-2	1	3	-61	-5	-2	-1	-63	-6	-3	-2	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	6	-55	1	4	6	-55	1	4	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	2	4	-20	1	4	6	-10	11	13	14	-15	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
PHILADELPHIA TO WASHINGTON, D.C.																									104 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-55	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-45	-0	2	3	-35	9	11	12	-40	5	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-0	4	7	9	6	5	2	4
PHILADELPHIA TO WILLIAMSPORT																									112 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-5	0	3	5	6	10	12	13	1	6	9	11	-1	3	6	8	6	5	2	5
PHILADELPHIA TO YOUNGSTOWN																									262 N.MI.
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	6	3	4
30,000	-44.5	-47	-2	0	2	-45	-1	2	3	-36	9	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	3	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-4	-0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
PHOENIX TO SAN DIEGO																									263 N.MI.
53,000	-56.5	-65	-9	-6	-5	-64	-7	-5	-4	-69	-12	-10	-9	-69	-12	-10	-9	-67	-10	-7	-6	4	4	3	3
40,000	-56.5	-57	-0	4	6	-58	-1	2	3	-54	3	4	5	-55	1	3	5	-56	1	2	4	6	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	4	5	-34	11	12	13	-38	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	6	8	10	-6	15	16	17	-11	11	13	14	-12	9	11	13	5	4	2	3
10,000	- 4.6	0	5	8	10	3	8	11	12	12	17	18	19	6	11	15	15	6	10	13	14	5	4	2	4
PHOENIX TO SAN FRANCISCO																									565 N.MI.
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-2	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-57	-1	3	6	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-35	10	11	12	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	6	8	-17	5	7	9	-7	14	15	16	-12	10	12	13	-13	8	10	12	5	4	2	4
10,000	- 4.6	-1	3	7	9	1	6	9	10	12	17	18	19	5	9	12	14	4	9	12	14	6	5	2	4
PHOENIX TO TUCSON																									96 N.MI.
53,000	-56.5	-66	-9	-7	-6	-64	-8	-6	-4	-69	-13	-11	-10	-70	-13	-11	-10	-67	-11	-8	-6	4	4	3	3
40,000	-56.5	-56	0	4	6	-58	-1	1	3	-54	3	4	5	-55	1	3	4	-56	1	3	4	6	4	2	3
30,000	-44.5	-44	0	2	3	-43	2	5	4	-33	11	13	13	-38	7	9	10	-40	5	8	9	3	3	2	3
20,000	-21.2	-17	4	7	9	-15	6	9	10	-6	15	16	17	-10	11	13	14	-12	9	11	13	5	3	2	3
10,000	- 4.6	-0	4	8	10	4	9	12	13	13	18	19	20	7	11	14	15	6	11	13	15	5	4	2	3
PIERRE TO RAPID CITY																									121 N.MI.
53,000	-56.5	-59	-2	1	2	-57	-1	2	3	-60	-4	-2	-0	-62	-5	-3	-1	-59	-3	-0	2	5	4	3	4
40,000	-56.5	-55	1	6	8	-57	-1	3	5	-55	2	4	5	-57	-0	3	5	-56	1	3	5	7	6	3	5
30,000	-44.5	-50	-6	-3	-2	-47	-3	-1	1	-36	8	10	11	-42	2	4	6	-44	0	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	1	-21	0	3	5	-9	12	14	15	-17	5	8	9	-18	3	6	8	6	4	3	5
10,000	- 4.6	-11	-7	-2	0	-4	1	4	6	9	13	16	17	1	5	9	11	-2	3	8	10	7	6	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
PIERRE TO SIOUX FALLS																									**160 N.MI.**
53,000	-56.5	-59	-3	1	2	-57	-1	2	3	-60	-4	-2	-0	-62	-5	-3	-1	-60	-3	-0	1	5	4	3	4
40,000	-56.5	-55	1	6	8	-57	-0	3	5	-55	2	4	5	-56	0	3	5	-56	1	3	5	7	6	5	5
30,000	-44.5	-50	-5	-3	-2	-47	-2	-0	1	-36	8	10	11	-42	2	5	6	-44	1	4	6	4	3	3	4
20,000	-21.2	-27	-6	-2	0	-21	0	3	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	3	5
10,000	- 4.6	-12	-7	-2	-0	-4	0	4	6	8	13	15	16	1	5	9	11	-2	3	7	10	7	6	3	6
PITTSBURGH TO RALEIGH																									**285 N.MI.**
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	2	3	-44	1	3	4	-35	10	11	12	-39	5	7	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-20	2	4	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
PITTSBURGH TO ROANOKE																									**190 N.MI.**
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	1	-64	-7	-5	-4	-65	-9	-6	-5	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	2	4	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	3	4	-35	9	11	12	-40	5	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-20	1	4	5	-17	4	7	8	-9	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-3	2	5	7	7	11	13	13	3	7	10	12	-0	4	7	9	5	5	2	4
PITTSBURGH TO ST. PETERSBURG																									**764 N.MI.**
53,000	-56.5	-67	-10	-8	-7	-64	-8	-5	-4	-67	-10	-8	-7	-69	-13	-10	-9	-67	-10	-7	-6	3	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-1	2	3	-55	1	3	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-43	2	4	5	-41	3	5	6	-34	10	12	13	-37	7	9	10	-39	6	8	9	3	3	2	3
20,000	-21.2	-16	5	7	9	-14	7	9	11	-8	14	15	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	3	6	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
PITTSBURGH TO TOLEDO																									**175 N.MI.**
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	3	5	-54	3	5	6	-56	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	3	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-19	2	5	7	-9	12	14	15	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-4	0	4	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
PITTSBURGH TO WASHINGTON, D.C.																									**177 N.MI.**
53,000	-56.5	-62	-5	-2	-1	-60	-3	-0	1	-63	-7	-4	-3	-65	-8	-5	-4	-62	-6	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-0	2	3	-35	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	0	3	5	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-8	-3	1	3	-3	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
PITTSBURGH TO WILLIAMSPORT																									**156 N.MI.**
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-5	-3	-2	-63	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	4	6	-54	3	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
PITTSBURGH TO YOUNGSTOWN																									**52 N.MI.**
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-1	0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	3	5	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-36	9	11	12	-41	4	6	7	-42	2	6	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-19	2	5	7	-9	12	14	15	-14	7	10	12	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
POCATELLO TO SALT LAKE CITY																									**131 N.MI.**
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-62	-6	-4	-2	-63	-7	-4	-3	-61	-4	-1	0	4	4	3	4
40,000	-56.5	-56	0	5	7	-58	-1	2	4	-55	2	4	5	-56	0	3	5	-56	0	3	4	7	5	3	4
30,000	-44.5	-49	-4	-2	-1	-47	-2	-0	1	-37	8	9	10	-41	3	5	7	-43	1	4	6	3	3	2	3
20,000	-21.2	-24	-3	2	4	-20	1	4	5	-9	12	14	15	-15	6	9	11	-17	4	7	9	6	4	2	4
10,000	- 4.6	-8	-4	0	3	-2	2	6	8	12	16	18	19	2	6	10	12	1	5	10	12	6	5	3	5
PORTLAND, ME. TO WATERVILLE																									**60 N.MI.**
53,000	-56.5	-57	-1	2	3	-55	1	4	5	-58	-2	1	3	-60	-3	0	2	-58	-1	2	3	4	4	4	5
40,000	-56.5	-55	1	6	8	-54	3	6	9	-54	3	5	6	-54	2	6	7	-54	2	5	6	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-37	7	9	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	1	-24	-2	1	3	-11	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-0	3	6	7	5	3	6
PORTLAND, ORE. TO RENO																									**586 N.MI.**
53,000	-56.5	-60	-3	-0	1	-57	-1	2	3	-60	-3	-1	-0	-62	-5	-3	-2	-60	-3	-0	1	5	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-1	3	5	-55	2	4	6	-56	0	3	5	-57	-0	3	4	7	6	4	5
30,000	-44.5	-48	-4	-1	0	-46	-1	1	2	-38	6	8	9	-42	3	5	7	-43	1	4	6	4	3	3	4
20,000	-21.2	-23	-2	3	5	-20	1	4	5	-10	11	13	14	-16	5	9	10	-17	4	7	9	6	5	3	5
10,000	- 4.6	-7	-3	2	4	-4	0	4	6	8	13	15	16	0	5	8	10	-1	4	8	10	6	5	3	5
PORTLAND, ORE. TO SALEM																									**43 N.MI.**
53,000	-56.5	-58	-2	1	3	-55	1	4	5	-57	-0	2	3	-60	-4	-1	1	-58	-1	2	4	5	4	3	4
40,000	-56.5	-57	-1	4	7	-56	0	4	6	-54	2	5	6	-56	0	4	6	-56	0	4	5	7	6	4	5
30,000	-44.5	-49	-4	-2	-1	-47	-2	-0	1	-39	5	7	8	-42	2	5	6	-44	0	3	5	4	3	3	4
20,000	-21.2	-25	-4	1	3	-22	-1	2	4	-12	10	12	13	-18	3	7	9	-19	2	6	8	7	5	3	5
10,000	- 4.6	-10	-5	-1	2	-6	-2	2	4	5	10	12	13	-2	3	7	9	-3	2	6	8	7	5	3	5
PORTLAND, ORE. TO SALT LAKE CITY																									**546 N.MI.**
53,000	-56.5	-60	-3	-0	2	-57	-1	2	3	-60	-3	-1	-0	-62	-5	-3	-1	-60	-3	-0	2	5	4	3	4
40,000	-56.5	-57	-1	4	7	-57	-1	3	5	-55	2	4	5	-56	0	3	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-49	-4	-2	-1	-47	-2	-0	1	-38	7	8	9	-42	3	5	6	-44	1	4	5	4	3	3	4
20,000	-21.2	-24	-3	1	4	-21	0	3	5	-10	11	13	14	-16	5	8	10	-18	3	7	9	7	4	3	5
10,000	- 4.6	-9	-4	0	3	-4	1	4	6	9	13	16	17	0	5	9	10	-1	4	8	10	7	5	3	5
PORTLAND, ORE. TO SAN FRANCISCO																									**477 N.MI.**
53,000	-56.5	-60	-4	-1	1	-58	-1	1	3	-60	-4	-2	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-1	3	5	-54	2	4	6	-56	0	4	5	-56	0	3	4	7	6	3	5
30,000	-44.5	-47	-3	-1	1	-45	-1	1	2	-38	6	8	9	-41	3	6	7	-43	1	4	6	4	3	3	5
20,000	-21.2	-22	-1	3	6	-20	1	4	6	-10	11	13	14	-15	6	9	11	-17	4	8	9	6	5	3	5
10,000	- 4.6	-6	-2	2	5	-4	1	4	6	8	13	15	16	1	5	9	11	-0	4	8	10	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
PORTLAND, ORE. TO SEATTLE																								113 N.MI.	
53,000	-56.5	-58	-1	2	4	-55	2	4	6	-55	1	3	4	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-0	4	7	-56	0	5	7	-54	3	5	7	-56	0	4	6	-56	1	4	6	7	6	4	5
30,000	-44.5	-50	-5	-2	-1	-47	-3	-0	1	-40	5	7	8	-43	1	4	6	-45	-0	3	4	4	3	3	4
20,000	-21.2	-26	-4	0	3	-23	-1	2	4	-12	9	11	12	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-11	-6	-1	1	-7	-2	1	3	4	9	11	13	-2	2	6	8	-4	1	5	7	7	5	3	5
PORTLAND, ORE. TO SPOKANE																								239 N.MI.	
53,000	-56.5	-58	-1	2	4	-55	2	4	6	-56	1	3	4	-60	-3	-0	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-57	-1	4	7	-56	0	4	7	-54	2	5	7	-56	0	4	5	-56	1	4	6	7	6	4	5
30,000	-44.5	-50	-5	-3	-2	-47	-3	-1	0	-39	5	7	8	-43	1	4	5	-45	-0	3	4	4	3	3	4
20,000	-21.2	-26	-5	-0	2	-22	-1	2	4	-12	9	11	12	-18	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-11	-7	-2	1	-6	-2	1	3	5	10	12	13	-2	2	6	8	-4	1	5	7	7	5	3	5
PORTLAND, ORE. TO YAKIMA																								104 N.MI.	
53,000	-56.5	-58	-1	2	3	-55	1	4	5	-56	0	3	4	-60	-3	-1	1	-57	-1	2	4	5	4	3	4
40,000	-56.5	-57	-1	4	7	-56	0	4	7	-54	2	5	7	-56	0	4	5	-56	1	4	6	7	6	4	5
30,000	-44.5	-50	-5	-2	-1	-47	-3	-0	1	-39	5	7	8	-43	2	4	6	-45	-0	3	4	4	3	3	4
20,000	-21.2	-26	-4	0	3	-22	-1	2	4	-12	9	11	12	-18	3	6	8	-19	2	5	7	7	5	3	5
10,000	- 4.6	-10	-6	-1	1	-6	-2	2	5	5	10	12	13	-2	3	6	8	-3	1	5	7	7	5	3	5
PRINCE GEORGE TO QUESNEL																								48 N.MI.	
53,000	-56.5	-56	1	4	6	-52	5	7	9	-50	6	8	10	-56	1	4	5	-53	3	6	8	5	4	3	4
40,000	-56.5	-55	2	6	8	-54	3	7	9	-52	5	8	10	-55	2	5	7	-54	3	6	8	6	6	5	5
30,000	-44.5	-52	-8	-5	-3	-49	-5	-2	-1	-42	2	4	5	-46	-2	1	3	-47	-3	0	2	4	3	3	4
20,000	-21.2	-31	-10	-5	-2	-26	-4	-1	1	-16	5	8	9	-22	-1	3	5	-24	-2	2	4	7	5	4	5
10,000	- 4.6	-16	-11	-6	-3	-10	-5	-2	-1	0	5	7	9	-7	-2	1	3	-8	-3	1	3	8	4	4	5
PRINCE GEORGE TO SMITHERS																								167 N.MI.	
53,000	-56.5	-55	1	5	7	-51	5	8	9	-50	7	9	10	-55	2	4	6	-53	4	7	8	6	4	3	4
40,000	-56.5	-55	2	6	8	-53	3	7	10	-52	5	8	10	-54	3	6	8	-53	3	7	9	6	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-5	-3	-1	-43	1	4	5	-47	-2	1	2	-48	-3	0	2	4	3	3	4
20,000	-21.2	-31	-10	-5	-2	-26	-5	-2	0	-16	5	8	9	-23	-2	2	4	-24	-3	1	4	7	5	4	5
10,000	- 4.6	-15	-10	-5	-2	-10	-6	-3	-1	-0	4	7	8	-7	-2	1	3	-8	-4	0	3	8	4	4	5
PRINCE GEORGE TO VANCOUVER																								283 N.MI.	
53,000	-56.5	-56	1	4	6	-53	4	7	8	-51	5	7	9	-57	-0	3	4	-54	2	5	7	5	4	3	4
40,000	-56.5	-55	1	5	8	-54	2	7	9	-52	4	7	9	-55	2	5	7	-54	2	6	8	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-4	-2	-1	-42	3	5	6	-45	-1	2	3	-47	-2	1	3	4	3	3	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	2	-15	6	9	10	-21	-0	3	5	-23	-1	3	5	7	5	3	5
10,000	- 4.6	-14	-10	-5	-2	-9	-4	-1	0	1	6	8	9	-6	-1	2	4	-7	-2	2	4	8	4	3	5
PRINCE RUPERT TO SANDSPIT																								79 N.MI.	
53,000	-56.5	-54	3	6	8	-51	5	8	10	-50	7	9	10	-54	3	6	7	-52	4	7	9	5	4	3	4
40,000	-56.5	-54	2	7	9	-53	4	8	10	-51	5	9	10	-53	3	7	9	-53	4	7	9	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-49	-4	-2	-1	-43	1	4	5	-46	-2	1	3	-47	-3	1	2	4	3	4	4
20,000	-21.2	-29	-8	-4	-1	-26	-5	-2	0	-16	5	8	9	-23	-2	2	4	-24	-3	2	4	7	5	4	5
10,000	- 4.6	-12	-8	-3	-1	-11	-6	-3	-2	-1	4	6	7	-7	-2	1	2	-8	-3	1	3	6	4	3	5
PRINCE RUPERT TO TERRACE																								66 N.MI.	
53,000	-56.5	-54	3	6	8	-51	5	8	10	-49	7	9	11	-54	3	6	7	-52	5	7	9	5	4	3	4
40,000	-56.5	-54	2	6	9	-53	4	8	10	-51	5	9	10	-53	3	7	9	-53	4	7	9	6	6	5	5
30,000	-44.5	-51	-7	-4	-3	-49	-5	-2	-1	-43	1	4	5	-47	-2	1	2	-48	-3	0	2	4	3	4	4
20,000	-21.2	-30	-9	-4	-2	-26	-5	-2	0	-16	5	8	9	-23	-2	2	4	-24	-3	1	4	7	5	4	5
10,000	- 4.6	-13	-8	-3	-1	-11	-6	-3	-2	-1	4	6	7	-7	-2	1	2	-8	-3	1	3	7	4	3	5
PRINCE RUPERT TO VANCOUVER																								408 N.MI.	
53,000	-56.5	-55	1	5	7	-52	4	7	9	-51	6	8	9	-56	1	4	5	-53	3	6	7	5	4	3	4
40,000	-56.5	-55	2	6	8	-54	3	7	9	-52	4	8	10	-54	2	6	8	-54	3	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-48	-4	-2	-0	-42	2	5	6	-45	-1	2	3	-47	-2	1	3	4	3	4	4
20,000	-21.2	-29	-7	-3	-0	-25	-4	-0	1	-15	6	9	10	-22	-1	3	5	-23	-1	3	5	7	5	4	5
10,000	- 4.6	-13	-8	-4	-1	-10	-5	-2	-0	0	5	7	9	-6	-1	2	4	-7	-2	2	4	7	4	3	5
PROVIDENCE TO WASHINGTON, D.C.																								309 N.MI.	
53,000	-56.5	-61	-4	-2	-0	-59	-2	0	2	-62	-6	-3	-2	-64	-7	-4	-3	-61	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-0	3	5	-54	2	4	5	-55	1	4	6	-56	1	3	4	5	5	3	4
30,000	-44.5	-46	-2	1	2	-45	-1	2	3	-36	9	11	12	-40	4	7	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-21	-0	3	5	-19	2	5	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	4
PUEBLO TO SANTA FE																								178 N.MI.	
53,000	-56.5	-63	-7	-4	-3	-62	-5	-3	-1	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-3	4	4	3	3
40,000	-56.5	-56	0	5	7	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-47	-2	-0	1	-44	0	2	3	-34	11	12	13	-40	5	7	8	-41	3	6	8	3	3	2	3
20,000	-21.2	-21	1	4	6	-17	4	7	8	-7	14	16	16	-12	9	12	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-4	0	4	6	2	7	10	12	13	17	19	20	5	9	12	14	4	8	12	14	6	5	2	4
QUEBEC TO SAGUENAY																								103 N.MI.	
53,000	-56.5	-56	0	3	5	-53	3	6	7	-54	2	5	6	-57	-0	3	5	-55	1	4	6	4	4	4	5
40,000	-56.5	-53	3	7	9	-52	4	8	10	-52	4	7	9	-53	4	7	9	-53	4	8	10	6	6	4	5
30,000	-44.5	-51	-7	-4	-2	-49	-4	-2	-0	-40	5	8	9	-44	0	3	5	-46	-2	2	5	4	4	4	4
20,000	-21.2	-30	-9	-5	-2	-27	-5	-2	0	-13	8	10	12	-20	1	5	7	-23	-1	3	6	6	5	4	6
10,000	- 4.6	-19	-14	-9	-6	-12	-8	-4	-2	1	6	8	9	-5	-0	4	6	-9	-4	1	3	8	6	4	6
QUEBEC TO SEVEN ISLANDS																								285 N.MI.	
53,000	-56.5	-56	0	3	5	-53	4	6	8	-54	3	6	7	-56	0	3	5	-55	2	5	6	4	4	4	5
40,000	-56.5	-53	4	8	10	-52	4	8	11	-52	4	8	9	-53	4	8	10	-52	4	8	10	6	6	5	5
30,000	-44.5	-51	-7	-4	-2	-49	-5	-2	-1	-40	4	7	9	-45	-0	3	4	-46	-2	2	4	4	4	4	5
20,000	-21.2	-31	-10	-5	-3	-27	-6	-2	-0	-14	7	10	11	-20	1	5	7	-23	-2	3	5	7	5	4	6
10,000	- 4.6	-19	-15	-9	-7	-13	-8	-4	-2	1	5	8	9	-6	-1	3	6	-9	-5	-0	2	8	6	4	6
QUESNEL TO WILLIAM LAKE																								57 N.MI.	
53,000	-56.5	-56	1	4	6	-52	4	7	8	-51	6	8	9	-56	0	3	5	-54	3	6	7	5	4	3	4
40,000	-56.5	-55	1	6	8	-54	3	7	9	-52	4	8	9	-55	2	5	7	-54	3	6	8	6	6	5	5
30,000	-44.5	-52	-7	-5	-3	-49	-5	-2	-1	-42	2	5	6	-46	-1	1	3	-47	-3	1	2	4	3	3	4
20,000	-21.2	-30	-9	-4	-1	-25	-4	-1	1	-15	6	8	9	-22	-1	3	5	-23	-2	2	4	7	5	3	5
10,000	- 4.6	-15	-11	-5	-2	-9	-5	-2	-0	1	5	8	9	-6	-1	2	4	-7	-3	1	3	8	4	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY *D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
RALEIGH TO RICHMOND																									**121 N.MI.**
53,000	-56.5	-65	-8	-6	-5	-62	-6	-3	-2	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	1	3	4	-43	2	4	5	-35	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	1	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
RALEIGH TO WASHINGTON, D.C.																									**197 N.MI.**
53,000	-56.5	-64	-7	-5	-4	-61	-5	-2	-1	-65	-8	-6	-5	-66	-10	-7	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	3	4	-56	1	3	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-44	0	2	3	-43	1	3	5	-35	10	12	12	-39	6	8	9	-40	4	7	9	3	3	3	3
20,000	-21.2	-19	2	5	7	-16	5	7	9	-8	13	14	15	-12	9	12	13	-14	7	10	12	4	4	2	4
10,000	- 4.6	-5	-0	3	5	-1	3	6	8	7	11	13	14	3	8	10	12	1	6	8	10	5	4	2	4
READING TO SYRACUSE																									**164 N.MI.**
53,000	-56.5	-60	-3	-1	1	-58	-1	1	3	-61	-4	-2	-0	-62	-6	-3	-1	-60	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	5	6	-55	1	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	11	-41	3	6	7	-43	2	5	7	4	4	3	4
20,000	-21.2	-23	-2	1	3	-20	1	4	5	-10	11	13	14	-15	6	10	11	-17	4	8	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	6	7	6	5	3	5
REGINA TO SWIFT CURRENT																									**116 N.MI.**
53,000	-56.5	-56	0	4	6	-54	3	5	7	-54	3	5	6	-58	-1	1	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-55	1	6	8	-55	2	5	8	-53	3	6	8	-55	1	4	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-53	-8	-6	-4	-49	-5	-3	-1	-40	5	7	8	-45	-1	2	3	-47	-2	1	3	4	4	3	4
20,000	-21.2	-32	-11	-6	-3	-24	-3	1	2	-13	8	10	11	-21	0	4	6	-23	-1	3	5	7	5	3	5
10,000	- 4.6	-18	-13	-8	-5	-8	-4	0	2	4	9	11	13	-5	-0	4	6	-7	-2	3	5	8	5	4	6
REGINA TO WINNIPEG																									**287 N.MI.**
53,000	-56.5	-56	1	4	6	-54	3	5	6	-54	2	5	6	-57	-1	2	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-54	2	6	9	-55	2	5	8	-53	4	6	8	-55	2	5	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-53	-9	-6	-4	-49	-5	-3	-1	-39	5	7	9	-45	-1	2	3	-47	-2	1	3	4	4	3	4
20,000	-21.2	-33	-12	-7	-4	-24	-3	0	2	-13	8	10	11	-21	0	4	6	-23	-2	3	5	7	5	3	5
10,000	- 4.6	-19	-14	-9	-6	-9	-4	-0	2	3	8	11	12	-5	-0	4	6	-7	-3	2	5	8	6	4	6
REGINA TO YORKTON																									**97 N.MI.**
53,000	-56.5	-56	1	4	6	-54	3	5	7	-53	3	5	6	-57	-1	2	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	4	7	8	-55	2	5	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-53	-9	-6	-4	-50	-5	-3	-1	-40	5	7	8	-46	-1	1	3	-47	-3	1	3	4	3	3	4
20,000	-21.2	-33	-12	-7	-4	-24	-3	0	2	-14	8	10	11	-21	0	4	6	-23	-2	2	5	7	5	3	5
10,000	- 4.6	-19	-14	-9	-6	-9	-4	-0	2	3	8	11	12	-5	-1	4	6	-7	-3	2	5	8	6	4	6
RENO TO SACRAMENTO																									**93 N.MI.**
53,000	-56.5	-62	-5	-2	-1	-59	-3	-0	1	-63	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-58	-2	3	6	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-47	-2	0	1	-45	-0	2	3	-37	8	9	10	-40	4	6	7	-42	2	5	7	4	3	3	3
20,000	-21.2	-20	1	5	7	-18	3	6	7	-8	13	14	15	-14	8	11	12	-15	6	9	10	6	4	2	4
10,000	- 4.6	-4	1	4	7	-2	3	6	8	11	15	17	18	3	7	10	12	2	6	10	12	6	5	3	5
RENO TO SALT LAKE CITY																									**366 N.MI.**
53,000	-56.5	-61	-5	-2	-0	-59	-3	-0	1	-63	-7	-5	-4	-64	-7	-5	-4	-62	-5	-2	-1	4	4	3	4
40,000	-56.5	-57	-1	4	7	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-37	8	10	10	-41	4	6	7	-43	2	5	6	3	3	2	3
20,000	-21.2	-22	-1	3	6	-19	2	5	6	-9	13	14	15	-14	7	10	12	-16	5	8	10	6	4	2	4
10,000	- 4.6	-6	-2	2	5	-2	3	6	8	12	17	18	19	2	7	10	12	2	6	10	12	6	5	3	5
RENO TO SAN FRANCISCO																									**166 N.MI.**
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-64	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-58	-2	3	6	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	0	2	-44	0	2	3	-37	8	9	10	-40	4	6	8	-42	3	5	7	4	3	3	3
20,000	-21.2	-20	1	5	7	-18	3	6	7	-8	13	14	15	-13	8	11	12	-15	6	9	11	6	4	2	4
10,000	- 4.6	-4	1	5	7	-2	3	6	8	11	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
RENO TO SEATTLE																									**490 N.MI.**
53,000	-56.5	-59	-3	0	2	-57	-0	2	4	-59	-2	-0	1	-61	-5	-2	-1	-59	-3	0	2	5	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-1	3	5	-55	2	4	6	-56	0	3	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-49	-4	-2	-0	-46	-2	0	2	-39	6	8	9	-42	3	5	6	-44	1	4	5	4	3	3	4
20,000	-21.2	-24	-2	2	4	-21	0	3	5	-11	11	12	13	-16	5	8	10	-18	3	7	9	6	5	3	5
10,000	- 4.6	-8	-4	1	3	-5	-0	3	5	7	12	14	15	-0	4	8	10	-1	3	7	9	6	5	3	5
RICHMOND TO WASHINGTON, D.C.																									**82 N.MI.**
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-5	-4	-66	-9	-7	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	4	4	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	10	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	5	2	4
ROANOKE TO WASHINGTON, D.C.																									**166 N.MI.**
53,000	-56.5	-63	-7	-4	-3	-61	-4	-2	-0	-64	-8	-6	-4	-66	-9	-7	-5	-64	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	2	4	-58	-1	2	4	-55	2	4	5	-56	1	4	5	-56	0	2	3	5	5	2	4
30,000	-44.5	-45	-0	2	3	-44	1	3	4	-35	10	11	12	-39	5	8	9	-41	4	7	8	3	3	3	4
20,000	-21.2	-19	2	5	6	-17	4	7	8	-8	13	14	15	-12	9	11	13	-14	7	10	11	4	4	2	4
10,000	- 4.6	-6	-1	2	4	-2	3	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
ROANOKE TO WINSTON-SALEM																									**72 N.MI.**
53,000	-56.5	-65	-8	-6	-4	-62	-6	-3	-1	-65	-9	-7	-6	-67	-10	-8	-6	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-58	-1	2	3	-58	-2	2	3	-55	2	3	4	-56	1	3	5	-57	-0	2	3	4	5	2	4
30,000	-44.5	-44	0	3	4	-43	2	4	5	-34	10	12	13	-39	6	8	9	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	5	8	9	-8	13	15	15	-12	10	12	13	-13	8	10	12	4	4	2	3
10,000	- 4.6	-4	0	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
ROCHESTER, MINN. TO WATERLOO																									**81 N.MI.**
53,000	-56.5	-59	-3	0	2	-58	-1	1	3	-61	-4	-2	-1	-62	-5	-3	-1	-60	-3	-0	1	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-0	4	6	-54	3	5	6	-56	1	4	5	-55	1	4	5	6	6	4	5
30,000	-44.5	-49	-5	-2	-1	-46	-2	0	1	-36	8	10	12	-42	2	5	6	-44	1	5	6	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-20	1	4	5	-9	12	14	15	-16	5	8	10	-18	3	7	9	6	4	3	5
10,000	- 4.6	-12	-7	-3	-0	-5	-0	4	6	7	11	14	15	1	5	9	11	-2	2	6	9	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
ROCHESTER, N.Y. TO SYRACUSE																									68 N.MI.
53,000	-56.5	-59	-2	0	2	-57	-0	2	4	-59	-3	-0	1	-61	-5	-2	0	-59	-3	1	2	4	4	4	4
40,000	-56.5	-56	1	5	7	-55	1	5	7	-54	3	5	6	-55	2	5	7	-55	2	4	6	6	6	5	5
30,000	-44.5	-49	-4	-1	-0	-47	-2	0	2	-37	7	10	11	-42	2	5	6	-44	1	5	6	4	4	3	4
20,000	-21.2	-25	-4	-0	2	-22	-1	2	4	-11	10	13	14	-16	5	9	10	-18	3	6	8	5	5	3	5
10,000	- 4.6	-12	-8	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	7	6	5	3	5
ROCHESTER, N.Y. TO WASHINGTON, D.C.																									258 N.MI.
53,000	-56.5	-61	-4	-1	0	-59	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	-0	1	-45	-1	1	3	-36	8	11	12	-41	4	6	7	-42	2	5	7	4	3	3	4
20,000	-21.2	-23	-1	2	4	-20	2	5	6	-10	12	13	14	-14	7	10	11	-16	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
ROUYN-NORANDA TO VAL-DOR																									53 N.MI.
53,000	-56.5	-57	-0	3	5	-53	3	6	7	-54	3	6	7	-57	-0	3	4	-55	1	4	6	5	4	4	4
40,000	-56.5	-54	3	7	9	-53	4	8	10	-52	5	8	9	-53	4	7	9	-53	4	7	9	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-5	-2	-1	-40	5	8	9	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-32	-11	-6	-4	-27	-5	-2	0	-14	8	10	12	-20	1	5	7	-23	-2	3	5	6	5	4	6
10,000	- 4.6	-19	-15	-10	-7	-12	-7	-3	-1	1	5	8	9	-5	-0	4	6	-9	-4	0	3	8	6	4	6
SACRAMENTO TO SAN FRANCISCO																									73 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-3	-1	1	-64	-7	-5	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-58	-2	3	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-37	8	10	10	-40	4	7	8	-42	3	6	7	4	3	3	3
20,000	-21.2	-19	2	6	7	-18	3	6	8	-8	13	14	15	-13	8	11	12	-15	7	9	11	5	4	2	4
10,000	- 4.6	-3	2	5	7	-1	3	6	8	10	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
SACRAMENTO TO STOCKTON																									37 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-3	-1	1	-64	-7	-6	-4	-65	-8	-6	-4	-63	-6	-3	-1	4	4	3	4
40,000	-56.5	-58	-2	3	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-37	8	10	10	-40	4	7	8	-42	3	5	7	4	3	3	3
20,000	-21.2	-20	2	5	7	-18	3	6	7	-8	13	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-3	1	5	7	-1	3	6	8	10	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
SAGUENAY TO SEVEN ISLANDS																									207 N.MI.
53,000	-56.5	-56	1	4	5	-52	4	7	8	-53	4	7	8	-55	1	4	6	-54	2	5	7	4	4	4	4
40,000	-56.5	-52	4	8	10	-52	5	9	11	-52	5	8	10	-52	4	8	10	-52	5	8	11	6	6	5	6
30,000	-44.5	-52	-7	-4	-2	-50	-5	-2	-1	-41	4	7	8	-45	-1	2	4	-47	-2	2	4	4	4	4	5
20,000	-21.2	-32	-11	-6	-4	-28	-6	-3	-1	-14	7	10	11	-21	0	4	6	-24	-3	2	5	7	6	4	6
10,000	- 4.6	-21	-16	-10	-7	-13	-9	-5	-3	-0	5	7	9	-6	-2	3	5	-10	-5	-1	2	8	6	4	6
ST. JOHN TO YARMOUTH																									89 N.MI.
53,000	-56.5	-57	-1	2	3	-55	2	4	6	-57	-1	2	3	-59	-3	1	2	-57	-1	2	4	4	4	4	5
40,000	-56.5	-55	2	6	8	-54	3	7	9	-54	2	5	6	-54	2	6	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-49	-4	-1	0	-47	-3	-0	1	-38	7	9	11	-42	2	5	6	-44	1	4	6	4	4	4	4
20,000	-21.2	-26	-4	-0	2	-24	-2	1	3	-12	10	12	13	-16	5	8	10	-19	2	6	8	6	5	3	5
10,000	- 4.6	-14	-9	-4	-2	-9	-4	-0	1	3	8	10	11	-2	3	6	8	-5	-1	3	5	7	5	3	5
ST. JOHNS TO SYDNEY																									312 N.MI.
53,000	-56.5	-56	0	3	4	-54	3	5	7	-55	1	4	5	-58	-1	2	4	-56	1	4	5	4	4	4	5
40,000	-56.5	-54	2	7	9	-54	3	7	9	-54	3	6	8	-53	3	7	9	-54	3	6	8	6	6	4	5
30,000	-44.5	-48	-4	-1	1	-47	-3	-0	1	-39	6	8	10	-43	1	4	6	-44	0	4	6	4	4	4	4
20,000	-21.2	-26	-5	-1	2	-24	-2	1	3	-13	9	11	12	-17	4	7	9	-20	1	5	7	7	5	4	5
10,000	- 4.6	-14	-10	-4	-2	-8	-4	-0	2	2	7	9	10	-3	1	5	7	-6	-1	3	5	8	5	3	5
ST. LOUIS TO SAN FRANCISCO																									1504 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-2	2	3	-54	2	4	5	-56	0	3	5	-56	0	2	4	6	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-0	2	3	-35	9	11	12	-40	4	6	8	-42	3	6	7	3	3	2	3
20,000	-21.2	-22	-1	3	5	-18	3	6	7	-8	13	15	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-6	-1	3	5	-0	4	8	9	11	16	18	19	3	8	11	13	2	7	10	12	6	5	3	5
ST. LOUIS TO SPRINGFIELD, MO.																									169 N.MI.
53,000	-56.5	-63	-7	-4	-3	-61	-5	-2	-0	-66	-9	-7	-6	-66	-10	-7	-6	-64	-8	-4	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	3	4	5	5	2	4
30,000	-44.5	-45	-1	1	2	-44	1	3	4	-34	10	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-21	0	3	5	-16	5	8	9	-7	14	15	16	-12	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-6	-1	2	4	-0	4	8	9	9	13	15	16	4	9	12	13	2	6	9	11	5	5	2	4
ST. LOUIS TO TAMPA																									756 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-68	-11	-10	-9	-70	-14	-11	-10	-68	-11	-8	-7	3	4	3	4
40,000	-56.5	-57	-1	2	3	-58	-1	1	3	-55	1	3	3	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	6	6	-34	11	12	13	-37	7	9	10	-38	6	8	10	3	3	2	3
20,000	-21.2	-16	5	8	9	-13	8	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	2	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
ST. LOUIS TO TULSA																									304 N.MI.
53,000	-56.5	-64	-7	-4	-3	-61	-5	-2	-1	-66	-10	-8	-6	-67	-10	-8	-6	-64	-8	-5	-3	4	4	3	4
40,000	-56.5	-57	-0	3	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-34	11	12	13	-40	5	7	8	-41	4	7	8	3	3	2	3
20,000	-21.2	-21	1	4	5	-16	5	8	9	-7	14	15	16	-12	9	12	13	-14	7	10	11	5	4	2	3
10,000	- 4.6	-5	-1	3	5	1	5	8	10	9	14	15	16	4	9	12	13	2	7	10	11	5	5	2	4
ST. LOUIS TO WASHINGTON, D.C.																									623 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	0	-64	-8	-6	-4	-65	-9	-6	-5	-63	-7	-3	-2	4	4	3	4
40,000	-56.5	-57	-1	3	5	-58	-1	2	4	-54	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	2	-44	0	3	4	-35	10	11	12	-40	4	7	8	-41	3	6	8	3	3	3	4
20,000	-21.2	-21	0	3	5	-17	4	7	8	-8	13	15	15	-13	9	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-2	1	3	-2	2	6	7	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4
ST. PETERSBURG TO WASHINGTON, D.C.																									714 N.MI.
53,000	-56.5	-68	-11	-9	-8	-65	-8	-6	-5	-67	-11	-9	-8	-70	-13	-11	-10	-67	-11	-8	-7	3	4	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	3	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	6	-41	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	8	10	3	3	2	3
20,000	-21.2	-15	6	8	10	-14	7	10	11	-7	14	15	16	-10	11	13	14	-12	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	6	8	2	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
SALINAS TO SAN FRANCISCO																									69 N.MI.
53,000	-56.5	-62	-6	-3	-2	-60	-4	-1	-0	-65	-8	-6	-5	-65	-9	-6	-5	-63	-7	-4	-2	4	4	3	4
40,000	-56.5	-58	-1	3	5	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-1	1	2	-44	1	3	4	-36	8	10	11	-40	5	7	8	-41	3	6	7	4	3	2	3
20,000	-21.2	-19	2	6	8	-17	4	6	8	-8	13	15	15	-13	9	11	13	-14	7	10	11	5	4	2	4
10,000	- 4.6	-2	3	6	8	-1	4	7	9	10	15	17	18	3	8	11	13	3	7	11	12	6	5	2	5
SALINAS TO SANTA BARBARA																									159 N.MI.
53,000	-56.5	-63	-7	-4	-2	-62	-5	-3	-1	-66	-10	-8	-7	-66	-10	-8	-6	-64	-8	-5	-3	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	2	3	-43	1	3	4	-36	9	10	11	-39	5	7	8	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	7	8	-17	5	7	9	-7	14	15	16	-12	9	12	13	-13	8	10	12	5	4	2	4
10,000	- 4.6	-1	4	8	10	0	5	8	10	11	15	17	18	4	9	12	14	4	8	11	13	5	5	2	4
SALT LAKE CITY TO SAN FRANCISCO																									519 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-7	-5	-4	-64	-8	-5	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	4	6	-58	-2	2	4	-55	2	4	5	-56	0	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	2	-36	8	10	11	-40	4	6	7	-42	2	5	7	3	3	2	3
20,000	-21.2	-21	0	4	6	-19	2	5	7	-8	13	14	15	-13	8	11	12	-15	6	9	10	6	4	2	4
10,000	- 4.6	-5	-0	4	6	-1	3	7	8	12	16	18	19	3	7	11	13	2	7	10	13	6	5	3	5
SAN DIEGO TO SAN FRANCISCO																									389 N.MI.
53,000	-56.5	-64	-7	-4	-3	-62	-5	-3	-2	-67	-10	-8	-7	-67	-10	-8	-7	-65	-8	-5	-4	4	4	3	3
40,000	-56.5	-58	-1	3	5	-58	-2	2	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	6	5	2	4
30,000	-44.5	-45	-1	2	3	-43	1	3	4	-35	9	11	11	-39	6	8	9	-41	4	6	8	3	3	2	3
20,000	-21.2	-18	3	7	8	-16	5	7	9	-7	14	15	16	-12	10	12	14	-13	8	11	12	5	4	2	4
10,000	- 4.6	-1	4	8	10	1	5	8	10	11	16	17	18	5	9	12	14	4	9	12	13	5	5	2	4
SANDSPIT TO VANCOUVER																									406 N.MI.
53,000	-56.5	-55	1	5	7	-52	4	7	9	-51	5	8	9	-56	1	4	5	-54	3	6	7	5	4	3	4
40,000	-56.5	-55	2	6	8	-54	3	7	9	-52	4	8	9	-54	2	6	8	-54	3	6	8	6	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-4	-1	-0	-42	2	5	6	-45	-1	2	4	-47	-2	1	3	4	3	4	4
20,000	-21.2	-28	-7	-3	-0	-25	-4	-0	2	-15	6	9	10	-22	-0	3	5	-22	-1	3	5	7	5	4	5
10,000	- 4.6	-13	-8	-3	-1	-9	-5	-2	-0	1	5	7	9	-6	-1	2	4	-7	-2	2	4	7	4	3	5
SAN FRANCISCO TO SEATTLE																									589 N.MI.
53,000	-56.5	-60	-3	-0	1	-57	-1	2	3	-59	-3	-1	0	-62	-5	-3	-1	-60	-3	0	2	5	4	3	4
40,000	-56.5	-58	-1	4	6	-57	-1	3	5	-54	2	5	6	-56	0	4	5	-56	0	3	5	7	6	4	5
30,000	-44.5	-48	-3	-1	0	-46	-1	1	2	-38	6	8	9	-42	3	5	7	-43	1	4	6	4	3	3	4
20,000	-21.2	-23	-1	3	5	-20	1	4	6	-10	11	13	14	-16	5	8	10	-17	4	7	9	6	5	3	5
10,000	- 4.6	-7	-2	2	4	-4	0	4	5	7	12	14	15	0	5	8	10	-1	4	7	10	6	5	3	5
SAN FRANCISCO TO STOCKTON																									56 N.MI.
53,000	-56.5	-62	-6	-3	-1	-60	-4	-1	0	-64	-8	-6	-5	-65	-8	-6	-5	-63	-6	-3	-2	4	4	3	4
40,000	-56.5	-58	-2	3	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-57	-0	2	4	7	5	3	4
30,000	-44.5	-46	-2	1	2	-44	0	2	3	-37	8	10	11	-40	5	7	8	-42	3	6	7	4	3	3	3
20,000	-21.2	-19	2	6	8	-18	3	6	8	-8	13	14	15	-13	8	11	13	-14	7	9	11	5	4	2	4
10,000	- 4.6	-3	2	6	8	-1	3	7	8	10	15	17	18	3	8	11	13	2	7	10	12	6	5	3	5
SAN FRANCISCO TO WASHINGTON, D.C.																									2116 N.MI.
53,000	-56.5	-62	-5	-2	-1	-60	-3	-1	1	-64	-8	-5	-4	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-0	4	6	-58	-2	2	4	-54	2	4	5	-56	1	3	5	-56	0	3	4	6	5	3	4
30,000	-44.5	-47	-3	-0	1	-45	-1	1	3	-35	9	11	12	-41	4	6	7	-42	2	6	7	3	3	3	3
20,000	-21.2	-22	-1	3	4	-18	3	6	7	-8	13	15	15	-13	8	11	12	-15	6	9	10	5	4	2	4
10,000	- 4.6	-7	-2	2	4	-2	3	6	8	10	15	16	17	3	7	11	12	1	6	9	11	6	5	3	5
SARASOTA TO TAMPA																									34 N.MI.
53,000	-56.5	-72	-16	-14	-13	-70	-13	-11	-10	-70	-14	-12	-12	-74	-18	-16	-14	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-1	1	2	-56	0	2	3	-57	-0	1	2	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	8	10	11	2	2	2	3
20,000	-21.2	-11	10	12	13	-10	11	13	13	-7	15	15	16	-7	14	15	16	-9	12	14	15	3	3	1	2
10,000	- 4.6	4	9	11	12	5	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
SARASOTA TO WEST PALM BEACH																									138 N.MI.
53,000	-56.5	-73	-16	-15	-14	-70	-14	-12	-11	-70	-14	-12	-12	-75	-18	-16	-15	-72	-16	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	1	3	4	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-37	7	9	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	11	12	13	-10	11	13	14	-7	14	15	16	-7	14	16	16	-9	13	14	15	3	3	1	2
10,000	- 4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
SASKATOON TO WINNIPEG																									381 N.MI.
53,000	-56.5	-56	1	4	6	-54	3	5	7	-53	3	6	7	-57	-1	2	3	-55	2	4	6	5	4	3	4
40,000	-56.5	-54	2	6	8	-55	2	6	8	-53	4	7	8	-54	2	5	7	-54	2	6	8	6	6	4	5
30,000	-44.5	-53	-9	-6	-5	-50	-5	-3	-1	-40	5	7	8	-46	-1	1	3	-47	-3	1	3	4	4	3	4
20,000	-21.2	-33	-12	-7	-5	-25	-3	-0	2	-14	7	10	11	-21	-0	4	6	-23	-2	2	5	7	5	3	5
10,000	- 4.6	-19	-15	-9	-6	-9	-5	-1	1	3	7	10	11	-6	-1	3	6	-8	-3	2	4	8	6	4	6
SAULT STE. MARIE TO TORONTO																									266 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-1	2	3	-59	-3	0	2	-58	-1	2	3	4	4	4	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	3	6	7	-54	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-38	7	9	11	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-2	1	3	-11	10	12	13	-18	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-6	-3	-8	-4	-0	2	3	8	10	12	-2	3	7	9	-5	-1	3	6	7	5	3	6
SCRANTO TO SYRACUSE																									99 N.MI.
53,000	-56.5	-59	-3	-0	1	-57	-1	2	3	-60	-4	-1	0	-62	-5	-2	-1	-60	-3	-0	2	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	1	5	7	-54	3	5	6	-55	2	5	6	-55	1	4	5	6	6	3	5
30,000	-44.5	-48	-3	-1	1	-46	-2	1	2	-37	8	10	11	-42	3	6	7	-43	1	5	7	4	4	3	4
20,000	-21.2	-24	-3	1	3	-21	0	3	5	-10	11	13	14	-15	6	9	11	-18	4	7	9	5	5	3	5
10,000	- 4.6	-11	-7	-2	-0	-6	-2	2	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
SCRANTON TO WILLIAMSPORT																									54 N.MI.
53,000	-56.5	-60	-4	-1	1	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-3	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	2	4	6	-55	1	4	6	-56	1	3	5	6	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	4	-20	1	4	6	-10	11	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
SEATTLE TO SPOKANE																									190 N.MI.
53,000	-56.5	-57	-1	2	4	-55	2	5	6	-55	2	4	5	-59	-3	0	1	-56	0	3	5	5	4	3	4
40,000	-56.5	-57	-0	4	7	-56	1	5	7	-54	3	6	7	-56	0	4	6	-56	1	4	6	7	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-40	5	7	8	-44	1	4	5	-45	-1	2	4	4	3	3	4
20,000	-21.2	-27	-5	-1	2	-23	-2	2	3	-13	8	11	12	-19	2	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-12	-7	-2	0	-7	-2	1	3	4	9	11	13	-3	2	5	7	-4	0	4	7	7	5	3	5
SEATTLE TO VANCOUVER																									109 N.MI.
53,000	-56.5	-57	-0	3	5	-54	3	5	7	-54	3	5	6	-58	-2	1	2	-56	1	4	5	5	4	3	4
40,000	-56.5	-56	0	5	7	-55	1	5	8	-53	3	6	8	-56	1	4	6	-55	1	5	7	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-40	4	6	8	-44	1	3	5	-46	-1	2	4	4	3	3	4
20,000	-21.2	-27	-6	-1	2	-23	-2	1	3	-13	8	10	11	-20	2	5	7	-21	0	4	6	7	5	3	5
10,000	- 4.6	-12	-7	-3	-0	-8	-3	0	2	3	8	10	11	-4	1	4	6	-5	-0	4	6	7	5	3	5
SEATTLE TO VICTORIA																									85 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	7	-54	3	5	6	-58	-2	1	2	-56	1	3	5	5	4	3	4
40,000	-56.5	-56	0	5	7	-55	1	5	8	-53	3	6	8	-56	1	4	6	-55	1	5	7	7	6	5	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-40	4	6	8	-44	1	3	5	-45	-1	2	4	4	3	3	4
20,000	-21.2	-27	-5	-1	2	-23	-2	1	3	-13	8	10	11	-19	2	5	7	-21	1	4	6	7	5	3	5
10,000	- 4.6	-12	-7	-2	0	-7	-3	0	2	3	8	10	11	-3	1	5	7	-5	-0	4	6	7	5	3	5
SEATTLE TO YAKIMA																									90 N.MI.
53,000	-56.5	-58	-1	2	4	-55	2	4	6	-55	1	4	5	-59	-3	-0	1	-57	-0	3	5	5	4	3	4
40,000	-56.5	-57	-0	4	7	-56	1	5	7	-54	3	6	7	-56	0	4	6	-56	1	4	6	7	6	4	5
30,000	-44.5	-50	-5	-3	-1	-47	-3	-1	0	-40	5	7	8	-43	1	4	5	-45	-1	3	4	4	3	3	4
20,000	-21.2	-26	-5	-0	2	-23	-1	2	4	-13	9	11	12	-19	2	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-11	-7	-2	1	-7	-2	1	3	4	9	11	13	-3	2	6	7	-4	1	5	7	7	5	3	5
SHREVEPORT TO TEXARKANA																									61 N.MI.
53,000	-56.5	-67	-11	-9	-7	-65	-8	-6	-4	-69	-13	-11	-10	-71	-14	-12	-11	-68	-12	-8	-7	3	4	3	3
40,000	-56.5	-57	-1	2	4	-58	-2	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	2	4	5	-41	4	5	6	-33	12	13	14	-37	7	9	10	-38	6	9	10	3	3	2	3
20,000	-21.2	-16	5	7	9	-13	8	10	11	-6	15	16	16	-10	12	13	14	-11	10	12	13	4	3	2	3
10,000	- 4.6	-1	4	7	8	4	9	11	13	10	14	16	16	7	11	14	15	5	10	12	13	4	4	2	3
SHREVEPORT TO TULSA																									247 N.MI.
53,000	-56.5	-66	-10	-7	-6	-64	-7	-5	-3	-68	-12	-10	-9	-69	-13	-11	-9	-67	-10	-7	-6	4	4	3	4
40,000	-56.5	-57	-0	3	4	-58	-2	1	3	-54	2	4	4	-55	1	3	4	-56	0	2	3	5	4	2	3
30,000	-44.5	-43	1	3	4	-42	3	5	5	-33	11	13	13	-38	6	8	10	-39	5	8	9	3	3	2	3
20,000	-21.2	-18	4	6	8	-14	7	9	11	-7	15	16	16	-10	11	13	14	-12	9	11	13	4	3	2	3
10,000	- 4.6	-2	2	5	7	3	8	11	12	10	15	16	16	6	11	13	14	4	9	11	13	4	4	2	3
SIOUX CITY TO SIOUX FALLS																									73 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-1	1	3	-61	-5	-3	-1	-62	-6	-3	-2	-60	-4	-1	1	4	4	3	4
40,000	-56.5	-55	1	5	8	-57	-1	3	5	-54	2	4	5	-56	0	3	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-49	-5	-2	-1	-46	-2	0	1	-36	9	11	12	-42	2	5	6	-43	1	5	6	4	3	3	4
20,000	-21.2	-26	-5	-1	1	-20	1	4	6	-9	12	14	15	-16	6	9	10	-18	4	7	9	6	4	3	4
10,000	- 4.6	-11	-6	-2	1	-4	1	5	7	8	13	15	16	1	6	9	11	-1	3	7	10	6	5	3	5
SIOUX CITY TO WATERLOO																									177 N.MI.
53,000	-56.5	-60	-3	-0	1	-58	-2	1	2	-62	-5	-3	-2	-63	-6	-4	-2	-61	-4	-1	1	4	4	3	4
40,000	-56.5	-56	1	5	7	-57	-1	3	5	-54	2	4	6	-56	0	4	5	-56	1	3	5	6	6	3	5
30,000	-44.5	-49	-4	-2	-1	-46	-2	1	2	-36	9	11	12	-42	3	5	6	-43	1	5	7	4	3	3	4
20,000	-21.2	-26	-4	-1	1	-20	1	4	6	-9	12	14	15	-15	6	9	11	-17	4	7	9	5	4	3	4
10,000	- 4.6	-10	-6	-2	1	-4	1	5	7	8	12	14	15	1	6	9	11	-1	3	7	9	6	5	3	5
SMITHERS TO TERRACE																									53 N.MI.
53,000	-56.5	-54	2	6	8	-51	5	8	10	-49	7	9	11	-54	2	5	7	-52	4	7	9	6	4	3	4
40,000	-56.5	-54	2	6	9	-53	4	8	10	-51	5	9	10	-53	3	7	8	-53	4	7	9	6	6	5	5
30,000	-44.5	-52	-7	-4	-3	-49	-5	-2	-1	-43	1	4	5	-47	-2	1	2	-48	-3	0	2	4	3	4	4
20,000	-21.2	-31	-9	-5	-2	-27	-5	-2	-0	-16	5	8	9	-23	-2	2	4	-24	-3	1	3	7	5	4	5
10,000	- 4.6	-13	-9	-4	-2	-11	-6	-3	-2	-1	4	6	7	-7	-3	1	2	-8	-3	0	2	7	4	4	5
SPOKANE TO YAKIMA																									135 N.MI.
53,000	-56.5	-58	-1	2	4	-55	2	4	6	-55	1	3	4	-59	-3	-0	1	-57	-0	3	4	5	4	3	4
40,000	-56.5	-57	-0	4	7	-56	1	5	7	-54	2	5	7	-56	0	4	5	-56	1	4	6	7	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	0	-39	5	7	8	-43	1	4	5	-45	-1	2	4	4	3	3	4
20,000	-21.2	-27	-5	-1	2	-23	-1	2	4	-12	9	11	12	-19	3	6	8	-20	1	5	7	7	5	3	5
10,000	- 4.6	-12	-7	-2	0	-7	-2	1	3	5	10	12	13	-2	2	6	8	-4	1	5	7	7	5	3	5
STEPHENVILLE TO SYDNEY																									155 N.MI.
53,000	-56.5	-56	0	3	4	-53	3	6	7	-55	2	4	6	-57	-1	3	4	-55	1	4	6	4	4	4	5
40,000	-56.5	-54	3	7	9	-53	3	7	10	-53	3	6	8	-53	3	7	9	-53	3	7	9	6	6	5	5
30,000	-44.5	-49	-4	-1	0	-48	-3	-1	1	-39	5	8	9	-44	1	4	6	-45	-0	3	6	4	4	4	4
20,000	-21.2	-27	-6	-2	1	-25	-3	0	2	-13	8	11	12	-18	3	7	9	-21	0	5	7	7	5	4	5
10,000	- 4.6	-16	-11	-6	-3	-9	-4	-1	1	2	6	9	10	-4	0	4	6	-7	-2	2	4	8	5	3	6
SUDBURY TO TIMMINS																									119 N.MI.
53,000	-56.5	-57	-0	3	4	-54	3	5	6	-54	2	5	6	-57	-1	2	4	-56	1	4	5	5	4	4	4
40,000	-56.5	-54	3	7	9	-53	3	7	10	-52	4	7	9	-53	3	7	9	-53	3	7	8	6	6	4	5
30,000	-44.5	-52	-7	-5	-3	-49	-4	-2	-1	-39	5	8	9	-45	-0	3	4	-46	-2	2	5	4	4	4	4
20,000	-21.2	-31	-10	-6	-4	-26	-5	-1	1	-13	8	11	12	-20	1	5	7	-23	-1	3	6	6	5	4	6
10,000	- 4.6	-19	-14	-9	-6	-11	-6	-3	-1	1	6	9	10	-4	1	5	7	-8	-3	1	4	7	6	4	6
SUDBURY TO TORONTO																									183 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-1	2	4	-59	-3	0	2	-57	-1	2	4	4	4	4	4
40,000	-56.5	-55	2	6	8	-54	2	6	9	-53	4	6	8	-54	2	6	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-38	6	9	10	-43	1	4	5	-45	-0	3	6	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-3	1	2	-12	9	12	13	-18	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-11	-6	-4	-9	-4	-1	1	3	8	10	11	-2	3	7	9	-6	-1	3	5	7	5	3	6
SYRACUSE TO WASHINGTON, D.C.																									259 N.MI.
53,000	-56.5	-60	-4	-1	0	-59	-2	1	2	-62	-5	-3	-1	-63	-7	-4	-2	-61	-4	-1	0	4	4	4	4
40,000	-56.5	-57	-0	4	6	-57	-0	4	6	-54	2	4	5	-55	1	4	6	-56	1	3	5	5	6	3	4
30,000	-44.5	-47	-2	0	1	-45	-1	1	3	-36	8	11	12	-41	4	6	8	-42	2	6	7	4	3	3	4
20,000	-21.2	-22	-1	2	4	-20	2	5	6	-10	12	13	14	-14	7	10	12	-14	5	8	10	5	4	3	4
10,000	- 4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
TALLAHASSEE TO TAMPA																									174 N.MI.
53,000	-56.5	-71	-15	-13	-12	-69	-12	-10	-9	-70	-13	-12	-11	-74	-17	-15	-14	-71	-14	-12	-11	3	3	2	3
40,000	-56.5	-57	-1	1	2	-57	-1	2	3	-56	0	1	2	-55	1	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	5	7	8	-39	6	8	8	-33	11	12	13	-35	10	11	12	-37	8	10	11	2	2	2	3
20,000	-21.2	-12	9	11	12	-11	10	12	13	-7	15	15	16	-8	13	15	16	-9	12	13	14	3	3	1	2
10,000	- 4.6	3	8	10	11	5	9	11	12	9	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
TAMPA TO TORONTO																									953 N.MI.
53,000	-56.5	-65	-9	-7	-5	-63	-6	-4	-3	-66	-9	-7	-6	-68	-11	-9	-7	-65	-9	-6	-4	4	4	3	4
40,000	-56.5	-57	-1	2	4	-57	-1	2	4	-55	2	3	4	-55	1	4	5	-56	0	2	3	4	4	2	4
30,000	-44.5	-44	1	3	4	-42	2	4	5	-35	10	12	12	-38	6	8	10	-40	5	7	9	3	3	2	3
20,000	-21.2	-18	3	6	7	-16	6	8	9	-8	13	15	15	-11	10	12	13	-13	8	11	12	4	4	2	3
10,000	- 4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	13	2	6	9	10	5	4	2	4
TAMPA TO WEST PALM BEACH																									151 N.MI.
53,000	-56.5	-73	-16	-14	-13	-70	-13	-12	-11	-70	-14	-12	-12	-75	-18	-16	-15	-72	-15	-13	-12	3	3	2	3
40,000	-56.5	-57	-0	2	3	-56	0	2	3	-57	-0	1	1	-55	2	3	4	-56	0	2	3	3	3	2	2
30,000	-44.5	-39	6	7	8	-38	7	8	9	-33	11	12	13	-34	10	12	13	-36	9	10	11	2	2	1	2
20,000	-21.2	-11	10	12	13	-10	11	13	14	-7	14	15	16	-7	14	15	16	-9	13	14	15	3	3	1	2
10,000	- 4.6	5	9	11	12	5	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
TEMPLE TO WACO																									30 N.MI.
53,000	-56.5	-68	-12	-10	-8	-66	-10	-7	-6	-70	-13	-12	-11	-72	-16	-13	-12	-69	-13	-10	-8	3	4	2	3
40,000	-56.5	-57	-0	2	4	-58	-1	1	2	-54	2	3	4	-55	1	3	4	-56	0	2	3	4	4	2	3
30,000	-44.5	-42	3	4	5	-41	4	6	6	-32	12	13	14	-37	8	10	11	-38	7	9	10	2	2	2	3
20,000	-21.2	-15	6	8	9	-13	8	10	12	-6	15	16	17	-9	12	14	15	-11	10	12	14	3	3	1	3
10,000	- 4.6	1	5	8	9	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	2	3
TERRACE TO VANCOUVER																									375 N.MI.
53,000	-56.5	-55	1	5	7	-52	4	7	9	-51	6	8	9	-56	1	3	5	-54	3	6	7	5	4	3	4
40,000	-56.5	-55	1	6	8	-54	3	7	9	-52	4	8	9	-54	2	6	7	-54	3	6	8	6	6	5	5
30,000	-44.5	-51	-6	-4	-2	-49	-4	-2	-1	-42	2	5	6	-45	-1	2	3	-47	-2	1	3	4	3	4	4
20,000	-21.2	-29	-8	-3	-1	-25	-4	-0	1	-15	6	9	10	-22	-1	3	5	-23	-1	3	5	7	5	4	5
10,000	- 4.6	-13	-9	-4	-1	-9	-5	-2	-0	1	5	8	9	-6	-1	2	4	-7	-2	2	4	7	4	3	5
TOLEDO TO WASHINGTON, D.C.																									351 N.MI.
53,000	-56.5	-61	-5	-2	-0	-59	-3	0	2	-63	-6	-4	-3	-64	-8	-5	-3	-62	-5	-2	-0	4	4	4	4
40,000	-56.5	-57	-0	3	5	-57	-1	3	5	-54	2	4	5	-56	1	4	5	-56	1	3	4	5	5	3	4
30,000	-44.5	-47	-2	0	2	-45	-0	2	3	-36	9	11	12	-41	4	6	8	-42	3	6	8	4	3	3	4
20,000	-21.2	-22	-1	3	4	-18	3	6	7	-9	12	14	15	-14	8	10	12	-16	5	9	10	5	4	3	4
10,000	- 4.6	-8	-4	0	2	-4	1	4	6	6	11	12	13	2	6	10	11	-1	4	7	9	6	5	2	5
TORONTO TO VANCOUVER																									1804 N.MI.
53,000	-56.5	-57	-1	3	4	-55	2	4	6	-56	1	3	5	-59	-2	1	2	-56	0	3	4	5	4	3	4
40,000	-56.5	-55	1	6	8	-55	1	5	8	-53	3	6	7	-55	1	5	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-7	-4	-3	-48	-4	-2	-0	-39	6	8	9	-44	0	3	4	-46	-1	2	4	4	3	3	4
20,000	-21.2	-30	-8	-4	-2	-23	-2	1	3	-12	9	11	12	-19	2	6	7	-21	0	4	6	7	5	3	5
10,000	- 4.6	-16	-11	-6	-3	-8	-3	1	3	4	9	11	13	-3	2	6	8	-6	-1	4	6	7	5	4	6
TORONTO TO WASHINGTON, D.C.																									313 N.MI.
53,000	-56.5	-60	-4	-1	0	-58	-2	1	2	-61	-5	-2	-1	-63	-6	-4	-2	-61	-4	-1	1	4	4	4	4
40,000	-56.5	-56	0	4	6	-56	0	4	6	-54	3	5	6	-55	1	4	6	-55	1	4	5	5	6	3	4
30,000	-44.5	-47	-3	-0	1	-46	-1	1	2	-36	8	10	12	-41	3	6	7	-43	2	5	7	4	3	3	4
20,000	-21.2	-23	-2	2	3	-20	1	4	6	-10	12	13	14	-14	7	10	11	-17	4	8	10	5	4	3	4
10,000	- 4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	2	6	8	6	5	3	5
TORONTO TO WINDSOR																									210 N.MI.
53,000	-56.5	-58	-1	2	3	-56	1	3	5	-57	-1	2	3	-59	-3	0	2	-58	-1	2	3	4	4	4	4
40,000	-56.5	-55	2	6	8	-55	2	6	8	-53	3	6	7	-54	2	5	7	-54	2	5	7	6	6	4	5
30,000	-44.5	-50	-6	-3	-2	-48	-3	-1	1	-38	7	9	11	-43	1	4	5	-45	-0	4	6	4	4	4	4
20,000	-21.2	-28	-7	-3	-1	-24	-2	1	3	-12	10	12	13	-17	4	7	9	-20	1	5	7	6	5	3	5
10,000	- 4.6	-15	-10	-6	-3	-9	-4	-0	2	3	8	10	12	-2	3	7	9	-5	-1	3	6	7	5	3	6
TORONTO TO WINNIPEG																									811 N.MI.
53,000	-56.5	-57	-1	2	4	-55	1	4	5	-56	1	3	4	-58	-2	1	2	-57	-0	3	4	5	4	4	4
40,000	-56.5	-54	2	6	8	-55	2	6	8	-53	4	6	8	-54	2	6	7	-54	2	6	7	6	6	4	5
30,000	-44.5	-51	-7	-4	-3	-48	-4	-1	-0	-38	6	9	10	-44	0	3	4	-46	-1	3	5	4	4	4	4
20,000	-21.2	-30	-9	-5	-3	-24	-3	1	2	-12	9	12	13	-19	2	6	8	-21	-0	4	7	6	5	4	5
10,000	- 4.6	-17	-12	-8	-5	-9	-4	-0	2	3	8	10	12	-3	2	6	8	-6	-2	3	5	7	6	4	6
TULSA TO WICHITA																									109 N.MI.
53,000	-56.5	-64	-7	-5	-3	-62	-5	-3	-1	-67	-10	-8	-7	-67	-11	-8	-7	-65	-8	-5	-3	4	4	3	4
40,000	-56.5	-56	0	4	5	-58	-2	1	3	-54	2	4	5	-56	1	3	5	-56	0	2	4	5	5	2	4
30,000	-44.5	-45	-1	1	2	-43	1	3	4	-34	11	12	13	-39	5	7	8	-40	4	7	8	3	3	2	3
20,000	-21.2	-20	1	4	6	-16	5	8	9	-7	14	15	16	-12	10	12	13	-14	7	10	12	5	4	2	3
10,000	- 4.6	-5	-0	3	5	2	6	9	11	10	15	16	17	5	10	12	14	3	8	11	12	5	5	2	4
VANCOUVER TO WINNIPEG																									1006 N.MI.
53,000	-56.5	-56	0	4	5	-54	3	5	7	-54	3	5	6	-58	-1	1	3	-55	1	4	5	5	4	3	4
40,000	-56.5	-55	1	5	8	-55	2	6	8	-53	3	6	8	-55	1	4	6	-55	2	5	7	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-5	-2	-1	-40	5	7	8	-45	-0	2	3	-47	-2	1	3	4	3	3	4
20,000	-21.2	-31	-9	-5	-2	-24	-3	1	2	-14	8	10	11	-21	1	4	6	-22	-1	3	5	7	5	3	5
10,000	- 4.6	-16	-12	-6	-4	-8	-3	0	2	4	8	11	12	-5	0	4	6	-6	-2	3	5	8	5	4	6
WASHINGTON, D.C. TO WEST PALM BEACH																									746 N.MI.
53,000	-56.5	-68	-12	-10	-8	-65	-9	-7	-5	-67	-11	-9	-8	-70	-14	-11	-10	-68	-11	-9	-7	3	3	3	4
40,000	-56.5	-58	-1	1	3	-58	-1	1	3	-56	1	2	3	-55	1	3	4	-57	-0	2	3	4	4	2	3
30,000	-44.5	-42	3	5	6	-40	4	6	7	-34	11	12	13	-37	8	10	11	-38	6	9	10	3	3	2	3
20,000	-21.2	-15	6	9	10	-13	8	10	11	-7	14	15	16	-10	12	13	14	-11	10	12	13	3	3	2	3
10,000	- 4.6	-0	4	7	8	2	6	9	10	8	12	13	14	6	10	12	13	4	8	10	11	4	4	2	3
WASHINGTON, D.C. TO WILMINGTON, DEL.																									83 N.MI.
53,000	-56.5	-62	-5	-3	-1	-60	-3	-1	1	-63	-7	-5	-3	-65	-8	-6	-4	-62	-6	-3	-1	4	4	3	4
40,000	-56.5	-57	-1	3	4	-57	-1	3	5	-55	2	4	5	-56	1	4	5	-56	0	3	4	5	5	3	4
30,000	-44.5	-46	-1	1	3	-44	0	2	3	-35	9	11	12	-40	5	7	8	-41	3	6	8	4	3	3	4
20,000	-21.2	-20	1	4	6	-18	3	6	8	-9	12	14	15	-13	8	11	12	-15	6	9	11	5	4	2	4
10,000	- 4.6	-7	-3	1	3	-3	1	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
WATSON LAKE TO WHITEHORSE																									189 N.MI.
53,000	-56.5	-53	4	8	10	-49	7	10	11	-48	9	11	12	-52	5	7	8	-50	6	9	10	6	4	3	4
40,000	-56.5	-54	3	7	10	-51	5	9	11	-50	6	10	11	-52	4	7	9	-52	5	8	10	7	5	5	5
30,000	-44.5	-53	-8	-6	-4	-51	-7	-4	-3	-44	0	3	4	-49	-4	-2	-0	-49	-5	-2	0	4	4	3	4
20,000	-21.2	-33	-12	-7	-4	-29	-8	-4	-3	-17	4	6	8	-26	-4	-1	1	-26	-5	-1	1	7	5	3	6
10,000	- 4.6	-19	-14	-9	-7	-13	-9	-6	-5	-2	3	5	6	-10	-5	-2	-1	-11	-6	-2	-0	7	4	3	4
WINDSOR TO WINNIPEG																									611 N.MI.
53,000	-56.5	-57	-0	3	5	-54	2	5	6	-55	2	4	6	-58	-1	1	3	-56	1	3	5	5	4	4	4
40,000	-56.5	-54	2	7	9	-54	2	6	8	-53	4	7	8	-54	2	6	8	-54	3	6	8	6	6	4	5
30,000	-44.5	-52	-8	-5	-4	-49	-4	-2	-1	-39	6	8	10	-45	-0	2	4	-46	-2	2	4	4	4	4	4
20,000	-21.2	-32	-10	-6	-4	-25	-3	0	2	-13	9	11	12	-20	1	5	7	-22	-1	4	6	6	5	4	5
10,000	- 4.6	-19	-14	-9	-7	-9	-5	-1	1	2	7	10	11	-4	1	5	7	-7	-3	2	5	7	6	4	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

TABLE 6

ROUTE TEMPERATURES AT THE 5,000-, 10,000- AND 15,000-FOOT LEVELS

TEMPERATURES AT 5, 10 AND 15,000 FEET FOR ROUTES ≦ 400 N. MI.

TABLE 6. ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATIO JAN	APR	JUL	OCT
ABILENE TO BIG SPRING																									94 N.MI.
15,000	-14.7	-10	5	8	9	-6	8	11	12	1	15	16	17	-3	12	14	15	-5	10	12	13	4	4	2	3
10,000	-4.6	-0	4	7	9	5	10	13	14	11	16	17	18	7	12	14	15	6	10	13	14	4	4	2	3
5,000	5.1	7	2	7	9	15	9	13	15	23	18	20	21	16	11	13	15	15	10	14	16	7	5	3	4
ABILENE TO DALLAS																									146 N.MI.
15,000	-14.7	-10	5	7	9	-6	8	11	12	0	15	16	17	-3	11	13	15	-5	10	12	13	4	4	2	3
10,000	-4.6	-1	4	7	8	5	10	12	14	11	15	16	17	7	12	14	15	6	10	12	14	4	4	2	3
5,000	5.1	7	2	6	8	14	9	12	14	22	17	19	20	15	10	13	14	14	9	13	15	7	5	3	4
ABILENE TO EL PASO																									342 N.MI.
15,000	-14.7	-9	5	8	10	-6	8	11	12	1	16	17	17	-3	12	14	15	-5	10	12	14	4	4	2	3
10,000	-4.6	-0	4	8	9	5	10	13	14	12	16	18	18	7	12	14	15	6	11	13	14	5	4	2	3
5,000	5.1	8	2	7	9	15	10	14	15	24	18	20	22	17	12	14	16	16	11	14	16	6	5	3	4
ABILENE TO HOUSTON																									281 N.MI.
15,000	-14.7	-9	6	8	10	-6	9	11	13	0	15	16	17	-3	12	14	15	-4	11	13	14	4	3	1	3
10,000	-4.6	1	6	8	10	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	1	3
5,000	5.1	8	3	7	9	14	9	12	14	21	16	18	19	15	10	13	14	15	10	13	14	6	5	2	3
ABILENE TO FT. WORTH																									135 N.MI.
15,000	-14.7	-10	5	7	9	-6	8	11	12	0	15	16	17	-3	12	13	15	-5	10	12	13	4	4	2	3
10,000	-4.6	-1	4	7	8	5	10	12	14	11	15	16	17	7	12	14	15	6	10	12	14	4	4	2	3
5,000	5.1	7	2	6	9	14	9	12	14	22	17	19	20	15	10	13	14	14	9	13	15	7	5	3	4
ABILENE TO LUBBOCK																									131 N.MI.
15,000	-14.7	-11	4	7	8	-7	8	11	12	1	15	16	17	-3	11	13	14	-5	10	12	13	4	4	2	3
10,000	-4.6	-1	4	7	8	5	10	12	14	11	16	17	18	7	12	14	15	6	10	13	14	5	4	2	3
5,000	5.1	7	2	6	9	14	9	13	15	23	18	20	21	16	11	14	15	15	10	14	16	7	5	4	4
ABILENE TO MIDLAND																									131 N.MI.
15,000	-14.7	-10	5	8	9	-6	9	11	12	1	15	16	17	-3	12	14	15	-5	10	12	13	4	4	2	3
10,000	-4.6	-0	4	7	9	6	10	13	14	11	16	17	18	7	12	14	15	6	11	13	14	4	4	2	3
5,000	5.1	7	2	7	9	15	10	13	15	23	18	20	21	16	11	14	15	15	10	14	16	7	5	3	4
AKRON TO CHARLESTON																									153 N.MI.
15,000	-14.7	-16	-1	2	4	-12	3	5	7	-3	12	14	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-3	1	5	6	7	11	13	14	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-2	-7	-1	1	5	0	4	6	16	11	13	14	9	4	8	10	7	2	6	8	8	6	3	6
AKRON TO CHICAGO																									297 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-3	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-4	0	4	5	6	11	13	14	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
AKRON TO CINCINNATI																									185 N.MI.
15,000	-14.7	-16	-1	2	4	-12	2	5	7	-3	12	14	14	-8	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-4	0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	14	15	9	4	8	10	7	2	6	8	8	6	3	6
AKRON TO CLEVELAND																									35 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-3	-1	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	7	8	6	3	6
AKRON TO COLUMBUS																									85 N.MI.
15,000	-14.7	-17	-2	2	4	-13	2	5	7	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	0	5	-1	4	6	16	11	13	14	8	3	7	9	7	1	6	8	8	6	3	6
AKRON TO DAYTON																									140 N.MI.
15,000	-14.7	-17	-2	2	4	-13	2	5	7	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	5	2	4
10,000	-4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	7	10	11	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	0	5	-0	4	6	16	11	13	15	9	3	7	9	7	2	6	8	8	6	3	6
AKRON TO DETROIT																									116 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	3	5	16	10	13	14	8	3	7	9	6	1	5	7	8	6	3	6
AKRON TO NEW YORK																									349 N.MI.
15,000	-14.7	-17	-2	2	4	-14	1	4	6	-3	11	13	14	-8	7	10	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	8	6	3	6
AKRON TO PITTSBURGH																									62 N.MI.
15,000	-14.7	-17	-2	1	3	-13	1	5	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	6	5	3	4
10,000	-4.6	-9	-4	-1	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	3	5
5,000	5.1	-3	-8	-3	0	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
AKRON TO TOLEDO																									113 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	0	3	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
AKRON TO WASHINGTON, D. C.																									238 N.MI.
15,000	-14.7	-16	-1	2	4	-13	2	5	7	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	0	2	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	8	6	3	6
AKRON TO YOUNGSTOWN																									41 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-3	-1	4	-1	3	5	16	10	13	14	8	3	7	9	6	1	5	7	8	6	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
ALAMOGORDO TO ALBUQUERQUE																									134 N.MI.
15,000	-14.7	-11	4	7	9	-8	7	10	11	1	16	17	18	-4	11	13	14	-5	9	12	13	5	4	2	3
10,000	-4.6	-1	5	7	9	4	9	12	13	13	18	19	20	6	11	13	15	6	10	13	15	5	4	2	4
5,000	5.1	6	1	5	7	16	11	15	17	26	21	23	24	18	13	16	18	17	12	16	18	6	5	3	5
ALAMOGORDO TO EL PASO																									65 N.MI.
15,000	-14.7	-9	5	9	10	-7	8	10	12	1	16	17	18	-3	11	13	14	-5	10	12	14	5	4	2	3
10,000	-4.6	-0	4	8	9	5	10	12	14	13	17	19	19	7	12	14	15	6	11	13	15	5	4	2	3
5,000	5.1	8	3	7	9	16	11	15	16	25	20	22	23	18	13	16	17	17	12	15	17	6	5	3	4
ALBANY, GA. TO ATLANTA, GA.																									128 N.MI.
15,000	-14.7	-9	6	8	10	-7	8	10	11	-1	14	15	15	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	0	5	7	9	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	7	2	5	7	11	6	9	10	18	13	14	15	13	8	10	11	12	7	10	11	5	4	2	4
ALBANY, GA. TO MACON																									74 N.MI.
15,000	-14.7	-8	6	9	10	-7	8	10	12	-1	14	15	15	-3	12	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	4	3	2	3
5,000	5.1	7	2	5	7	11	6	9	10	18	13	14	15	13	8	10	11	12	7	10	11	5	4	2	3
ALBANY, GA. TO TALLAHASSEE																									68 N.MI.
15,000	-14.7	-7	7	9	11	-6	9	11	12	-1	14	15	15	-2	12	14	15	-4	11	12	13	3	3	1	2
10,000	-4.6	2	6	9	10	4	9	11	12	8	13	14	15	7	12	13	14	5	10	12	13	3	3	1	3
5,000	5.1	8	3	6	8	12	7	9	10	18	13	14	15	13	8	10	12	13	8	10	11	4	4	2	3
ALBANY, GA. TO TAMPA																									231 N.MI.
15,000	-14.7	-6	8	10	11	-5	10	12	13	-1	14	15	15	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	3	7	9	11	4	9	11	12	8	13	14	14	8	12	14	15	6	10	12	13	3	3	1	2
5,000	5.1	9	4	7	8	12	7	9	11	18	13	14	14	14	9	11	12	13	8	10	11	4	3	2	3
ALBANY, N. Y. TO BINGHAMPTON																									102 N.MI.
15,000	-14.7	-19	-4	0	2	-16	-1	2	4	-5	10	12	13	-9	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-6	-3	2	-3	1	3	14	9	11	12	7	2	6	8	4	-1	4	6	7	6	3	6
ALBANY, N. Y. TO BOSTON																									126 N.MI.
15,000	-14.7	-19	-4	0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-5	-11	-6	-3	2	-3	0	2	14	9	11	12	7	2	5	7	4	-1	3	6	7	6	3	6
ALBANY, N.Y. TO BUFFALO																									217 N.MI.
15,000	-14.7	-19	-5	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	1	3	14	9	11	12	7	1	5	7	4	-1	3	6	7	6	3	6
ALBANY, N.Y. TO GLENS FALLS																									37 N.MI.
15,000	-14.7	-19	-5	-0	2	-16	-2	2	3	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	4	6	6	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	0	2	14	9	11	12	6	1	5	7	4	-1	3	5	7	6	3	6
ALBANY, N.Y. TO HARTFORD																									80 N.MI.
15,000	-14.7	-18	-4	0	3	-16	-1	2	4	-4	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-1	4	6	7	6	3	6
ALBANY, N.Y. TO NEW YORK																									127 N.MI.
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	1	3	14	9	11	13	7	2	6	8	5	0	4	6	7	6	3	5
ALBANY, N.Y. TO ROCHESTER, N.Y.																									171 N.MI.
15,000	-14.7	-19	-5	-1	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	1	-4	0	3	14	9	11	12	6	1	5	7	4	-1	3	6	7	6	3	6
ALBANY, N.Y. TO SYRACUSE																									104 N.MI.
15,000	-14.7	-19	-5	-0	2	-16	-2	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	0	2	14	9	11	12	7	1	5	7	4	-1	3	6	7	6	3	6
ALBUQUERQUE TO AMARILLO																									241 N.MI.
15,000	-14.7	-13	2	6	7	-8	7	9	11	1	16	17	17	-4	10	13	14	-6	9	11	13	5	4	2	4
10,000	-4.6	-3	2	6	8	3	8	11	13	12	17	18	19	6	10	13	15	5	9	12	14	5	4	2	4
5,000	5.1	5	0	4	7	15	10	14	16	25	20	23	24	17	12	15	17	16	10	15	18	6	6	4	5
ALBUQUERQUE TO DENVER																									295 N.MI.
15,000	-14.7	-15	-0	4	6	-10	5	8	9	1	15	17	18	-6	9	12	13	-7	7	10	12	6	4	2	4
10,000	-4.6	-5	0	4	6	2	6	10	11	13	17	19	20	5	9	12	14	4	8	12	14	6	5	2	4
5,000	5.1	3	-2	2	4	14	9	12	14	26	21	23	25	16	11	15	17	15	9	14	17	6	6	4	6
ALBUQUERQUE TO EL PASO																									195 N.MI.
15,000	-14.7	-10	4	8	9	-7	7	10	11	1	16	17	18	-4	11	13	14	-5	10	12	13	5	4	2	3
10,000	-4.6	-1	4	7	9	4	9	12	13	13	18	19	20	7	11	14	15	6	10	13	15	5	4	2	4
5,000	5.1	7	2	6	8	16	11	15	17	26	20	23	24	18	13	16	18	17	12	16	18	6	5	3	4
ALBUQUERQUE TO LUBBOCK																									251 N.MI.
15,000	-14.7	-12	3	6	8	-8	7	10	11	1	16	17	17	-4	11	13	14	-6	9	12	13	5	4	2	3
10,000	-4.6	-2	3	6	8	4	9	11	13	12	17	18	19	6	11	13	15	5	10	13	14	5	4	2	4
5,000	5.1	6	1	5	7	15	10	14	16	25	20	22	24	17	12	15	17	16	11	15	18	6	5	4	5
ALBUQUERQUE TO PHOENIX																									286 N.MI.
15,000	-14.7	-11	4	7	9	-8	7	9	11	2	16	17	18	-4	10	13	14	-5	9	12	13	5	4	2	3
10,000	-4.6	-1	4	7	9	4	8	11	13	14	18	20	20	6	11	13	15	6	10	13	15	5	4	2	4
5,000	5.1	6	1	5	7	17	12	15	17	27	22	24	25	19	14	17	19	17	12	16	19	5	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ALBUQUERQUE TO ROSWELL																									**141 N.MI.**
15,000	-14.7	-11	3	7	8	-8	7	10	11	1	16	17	18	-4	11	13	14	-6	9	12	13	5	4	2	3
10,000	-4.6	-2	3	7	8	4	9	11	13	13	17	19	19	6	11	13	15	5	10	13	14	5	4	2	4
5,000	5.1	6	1	5	7	16	11	14	16	25	20	23	24	18	13	16	17	16	11	16	18	6	5	4	5
ALBUQUERQUE TO SANTA FE																									**42 N.MI.**
15,000	-14.7	-13	2	6	8	-8	6	9	10	1	16	17	18	-5	10	13	14	-6	9	11	13	5	4	2	4
10,000	-4.6	-2	2	6	8	3	8	11	12	13	18	19	20	6	10	13	14	5	10	13	14	5	5	2	4
5,000	5.1	5	0	4	6	16	11	15	16	26	21	24	25	18	13	16	18	16	11	16	18	6	5	4	5
ALEXANDRIA TO BATON ROUGE																									**87 N.MI.**
15,000	-14.7	-8	7	9	10	-5	9	11	13	-0	15	16	16	-2	12	14	15	-4	11	13	14	3	3	1	3
10,000	-4.6	2	6	9	10	5	10	12	13	10	14	15	16	8	12	14	15	6	11	12	13	3	3	1	3
5,000	5.1	8	3	6	8	13	8	10	12	19	14	16	16	14	9	11	12	14	9	11	13	5	4	2	3
ALEXANDRIA TO SHREVEPORT																									**93 N.MI.**
15,000	-14.7	-9	6	8	9	-6	9	11	12	-0	15	16	16	-3	12	14	15	-4	10	12	13	4	3	2	3
10,000	-4.6	0	5	8	9	5	9	12	13	10	14	15	16	7	12	14	15	6	10	12	13	4	4	2	3
5,000	5.1	7	2	6	8	13	8	11	12	20	15	16	17	14	9	11	13	13	8	11	13	5	4	2	4
ALLENTOWN TO CLEVELAND																									**294 N.MI.**
15,000	-14.7	-17	-3	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-9	-3	-1	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	8	6	3	6
ALLENTOWN TO HARRISBURG																									**70 N.MI.**
15,000	-14.7	-16	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	5	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	5
5,000	5.1	-2	-8	-3	0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
ALLENTOWN TO NEW YORK																									**75 N.MI.**
15,000	-14.7	-16	-2	2	4	-14	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
ALLENTOWN TO PHILADELPHIA																									**47 N.MI.**
15,000	-14.7	-16	-1	2	4	-13	2	5	6	-3	11	13	14	-8	7	10	11	-10	5	8	10	5	4	3	4
10,000	-4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
5,000	5.1	-2	-7	-2	0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
ALLENTOWN TO PITTSBURGH																									**218 N.MI.**
15,000	-14.7	-17	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	6	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	0	4	-1	3	5	15	10	12	14	8	3	7	9	6	1	5	7	8	6	3	6
ALLENTOWN TO READING																									**29 N.MI.**
15,000	-14.7	-16	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
ALLENTOWN TO SCRANTON																									**52 N.MI.**
15,000	-14.7	-17	-2	1	3	-14	1	4	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	1	5	7	7	6	3	5
ALLENTOWN TO SYRACUSE																									**151 N.MI.**
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-10	-5	-2	3	-2	1	4	15	9	12	13	7	2	6	8	5	-0	4	6	7	6	3	6
ALLENTOWN TO WASHINGTON, D.C.																									**131 N.MI.**
15,000	-14.7	-16	-1	3	5	-13	2	5	7	-5	12	13	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-7	-2	1	5	-0	4	6	16	10	12	13	9	4	7	9	7	2	6	8	7	6	3	5
AMARILLO TO COLORADO SPRINGS																									**259 N.MI.**
15,000	-14.7	-15	0	4	6	-9	5	8	10	0	15	16	17	-5	9	12	13	-7	8	10	12	5	4	2	4
10,000	-4.6	-5	0	4	6	2	7	10	12	12	17	18	19	5	9	12	14	4	8	12	13	5	5	2	4
5,000	5.1	3	-2	3	5	13	8	12	14	24	19	22	24	15	10	14	16	14	9	14	16	7	6	4	6
AMARILLO TO DALLAS																									**280 N.MI.**
15,000	-14.7	-12	3	6	8	-7	8	10	11	0	15	16	17	-4	11	13	14	-6	9	12	13	4	4	2	3
10,000	-4.6	-2	3	6	7	4	9	12	13	11	16	17	17	6	11	13	15	5	10	12	13	5	4	2	4
5,000	5.1	6	1	5	8	13	8	12	14	25	17	20	21	15	10	13	15	14	9	13	16	7	6	4	5
AMARILLO TO DENVER																									**311 N.MI.**
15,000	-14.7	-15	-0	3	5	-10	5	8	9	0	15	16	17	-6	9	12	13	-7	7	10	12	5	4	2	4
10,000	-4.6	-5	-0	3	5	2	6	10	11	12	16	18	19	5	9	12	14	3	8	11	13	6	5	2	4
5,000	5.1	3	-3	2	5	12	7	11	13	24	19	22	24	15	10	14	16	13	8	13	16	7	6	4	6
AMARILLO TO LUBBOCK																									**94 N.MI.**
15,000	-14.7	-12	3	6	8	-7	7	10	11	1	15	16	17	-4	11	13	14	-6	9	11	13	5	4	2	3
10,000	-4.6	-2	2	6	7	4	9	12	13	12	16	18	18	6	11	13	15	5	10	12	14	5	4	2	4
5,000	5.1	6	0	5	8	14	9	13	15	24	19	21	23	16	11	14	16	15	10	14	17	7	6	4	5
AMARILLO TO OKLAHOMA CITY																									**200 N.MI.**
15,000	-14.7	-13	2	5	7	-8	7	9	11	0	15	16	17	-4	10	13	14	-6	8	11	12	5	4	2	3
10,000	-4.6	-3	1	5	6	3	8	11	13	11	16	17	18	6	10	13	14	4	9	12	13	5	4	2	4
5,000	5.1	5	-1	4	7	13	7	12	14	23	18	21	22	15	10	13	15	14	9	13	16	7	6	4	5
AMARILLO TO WICHITA																									**258 N.MI.**
15,000	-14.7	-14	1	4	6	-9	6	9	10	-0	15	16	17	-5	10	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-4	0	4	6	3	7	10	12	11	15	17	18	5	10	13	14	4	8	11	13	5	5	2	4
5,000	5.1	3	-2	3	6	12	6	11	13	23	17	20	22	14	9	13	15	13	8	13	15	8	6	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
ANDERSON TO ATLANTA							**99 N.MI.**
15,000	-14.7	-10 5 7 9	-8 7 9 11	-1 13 14 15	-4 11 13 14	-6 9 11 12	4 3 2 3
10,000	-4.6	-1 3 6 7	2 6 9 10	8 13 14 14	6 10 12 13	4 8 10 11	4 4 2 3
5,000	5.1	6 1 4 6	10 5 8 9	18 13 14 15	12 7 10 11	11 6 9 11	5 4 2 4
ANDERSON TO GREENVILLE							**28 N.MI.**
15,000	-14.7	-10 4 7 9	-8 6 9 10	-2 13 14 15	-4 10 12 13	-6 9 11 12	4 4 2 3
10,000	-4.6	-2 3 6 7	1 6 9 10	8 12 14 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	5 0 4 6	10 4 7 9	18 13 14 15	12 7 10 11	11 6 9 11	6 5 2 4
ASHEVILLE TO ATLANTA							**142 N.MI.**
15,000	-14.7	-10 4 7 9	-8 7 9 10	-1 13 14 15	-4 10 12 14	-6 9 11 12	4 4 2 3
10,000	-4.6	-2 3 6 7	2 6 9 10	8 13 14 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	5 0 4 6	10 5 8 9	18 13 14 15	12 7 10 11	11 6 9 11	6 5 2 4
ASHEVILLE TO BRISTOL							**63 N.MI.**
15,000	-14.7	-12 3 6 8	-9 5 8 9	-2 13 14 15	-5 9 12 13	-7 8 10 11	4 4 2 3
10,000	-4.6	-3 1 4 6	0 5 8 9	8 12 13 14	4 9 11 13	2 7 9 11	4 4 2 4
5,000	5.1	4 -2 3 5	9 3 7 9	17 12 14 15	11 6 9 11	10 5 8 10	6 5 3 5
ASHEVILLE TO CHARLOTTE							**79 N.MI.**
15,000	-14.7	-11 4 7 8	-9 6 8 10	-2 13 14 15	-5 10 12 13	-7 8 10 12	4 4 2 3
10,000	-4.6	-3 2 5 7	1 5 8 10	8 12 13 14	5 9 12 13	3 7 10 11	4 4 2 3
5,000	5.1	5 -1 3 6	9 4 7 9	18 12 14 15	12 6 9 11	11 6 9 10	6 5 2 4
ASHEVILLE TO GREENSBORO							**132 N.MI.**
15,000	-14.7	-11 3 6 8	-9 6 8 9	-2 13 14 15	-5 10 12 13	-7 8 10 11	4 4 2 3
10,000	-4.6	-3 2 5 6	0 5 8 9	7 12 13 14	4 9 11 13	2 7 9 11	4 4 2 4
5,000	5.1	4 -1 3 5	9 4 7 8	17 12 14 15	11 6 9 11	10 5 8 10	6 5 3 4
ASHEVILLE TO KNOXVILLE							**74 N.MI.**
15,000	-14.7	-11 3 6 8	-9 6 8 10	-2 13 14 15	-5 10 12 13	-7 8 10 12	4 4 2 3
10,000	-4.6	-3 2 5 6	1 5 8 10	8 12 14 14	5 9 12 13	3 7 10 11	4 4 2 4
5,000	5.1	4 -1 3 5	9 4 7 9	18 13 14 15	11 6 9 11	10 5 9 10	6 5 3 5
ATLANTA TO AUGUSTA, GA.							**123 N.MI.**
15,000	-14.7	-9 5 8 9	-8 7 9 11	-1 13 14 15	-4 11 13 14	-6 9 11 12	4 3 2 3
10,000	-4.6	-1 4 6 8	2 7 9 11	8 13 14 14	6 10 12 14	4 8 10 12	4 4 2 3
5,000	5.1	6 1 5 6	10 5 8 10	18 13 14 15	12 7 10 11	12 7 9 11	5 4 2 4
ATLANTA TO BIRMINGHAM							**116 N.MI.**
15,000	-14.7	-10 5 8 9	-7 7 10 11	-1 14 15 15	-4 11 13 14	-5 9 11 12	4 3 2 3
10,000	-4.6	-1 4 6 8	2 7 10 11	8 13 14 15	6 11 13 14	4 9 11 12	4 4 2 3
5,000	5.1	6 1 4 6	10 5 8 10	18 13 15 15	13 7 10 12	12 7 10 11	5 4 2 4
ATLANTA TO CHARLESTON, S.C.							**225 N.MI.**
15,000	-14.7	-9 6 8 9	-7 7 10 11	-1 13 14 15	-4 11 13 14	-5 9 11 12	4 3 2 3
10,000	-4.6	-0 4 7 8	2 7 9 11	8 13 14 14	6 10 12 14	4 8 10 12	4 4 2 3
5,000	5.1	6 1 5 7	10 5 8 9	18 13 14 15	12 7 10 11	12 7 9 11	5 4 2 4
ATLANTA TO CHARLESTON, W.VA.							**315 N.MI.**
15,000	-14.7	-12 3 6 7	-9 5 8 9	-2 13 14 15	-5 9 12 13	-7 8 10 11	4 4 2 3
10,000	-4.6	-3 1 4 6	0 5 8 9	8 12 13 14	4 9 11 13	2 7 9 11	5 4 2 4
5,000	5.1	3 -2 2 5	8 3 7 8	17 12 14 15	11 6 9 11	10 5 8 10	6 5 3 5
ATLANTA TO CHARLOTTE							**197 N.MI.**
15,000	-14.7	-10 5 7 9	-8 7 9 10	-2 13 14 15	-4 10 12 13	-6 9 11 12	4 4 2 3
10,000	-4.6	-2 3 6 7	1 6 9 10	8 12 14 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	5 0 4 6	10 5 8 9	18 13 14 15	12 7 10 11	11 6 9 11	6 4 2 4
ATLANTA TO CHATTANOOGA							**91 N.MI.**
15,000	-14.7	-10 4 7 9	-8 7 9 10	-1 13 15 15	-4 11 13 14	-6 9 11 12	4 4 2 3
10,000	-4.6	-2 3 6 7	2 6 9 11	8 13 14 15	6 10 12 14	3 8 10 12	4 4 2 3
5,000	5.1	5 0 4 6	10 5 8 9	18 13 15 15	12 7 10 11	11 6 9 11	6 5 2 4
ATLANTA TO CINCINNATI							**324 N.MI.**
15,000	-14.7	-12 2 5 7	-9 5 8 9	-2 13 14 15	-5 9 12 13	-7 8 10 11	4 4 2 3
10,000	-4.6	-4 1 4 5	0 5 8 9	8 12 14 14	4 9 12 13	2 7 9 11	5 4 2 4
5,000	5.1	3 -2 2 4	8 3 7 8	18 13 14 15	11 6 9 11	10 5 8 10	6 5 3 5
ATLANTA TO COLUMBIA							**166 N.MI.**
15,000	-14.7	-10 5 8 9	-8 7 9 11	-1 13 14 15	-4 11 13 14	-6 9 11 12	4 3 2 3
10,000	-4.6	-1 4 6 8	2 7 9 10	8 13 14 14	6 10 12 13	4 8 10 11	4 4 2 3
5,000	5.1	6 1 4 6	10 5 8 9	18 13 14 15	12 7 10 11	12 6 9 11	5 4 2 4
ATLANTA TO COLUMBUS							**73 N.MI.**
15,000	-14.7	-9 6 8 9	-7 8 10 11	-1 14 15 15	-4 11 13 14	-5 9 11 13	4 3 2 3
10,000	-4.6	-0 4 7 8	3 7 10 11	8 13 14 15	6 11 13 14	4 9 11 12	4 4 2 3
5,000	5.1	6 1 5 7	11 6 8 10	18 13 14 15	13 8 10 11	12 7 10 11	5 4 2 4
ATLANTA TO GREENSBORO							**265 N.MI.**
15,000	-14.7	-11 4 7 8	-8 6 9 10	-2 13 14 15	-5 10 12 13	-6 8 11 12	4 4 2 3
10,000	-4.6	-2 3 5 7	1 6 8 10	8 12 14 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	5 -0 4 6	9 4 7 9	18 12 14 15	12 7 9 11	11 6 9 11	6 5 2 4
ATLANTA TO GREENVILLE							**126 N.MI.**
15,000	-14.7	-10 5 7 9	-8 7 9 10	-1 13 14 15	-4 10 13 14	-6 9 11 12	4 4 2 3
10,000	-4.6	-1 3 6 7	2 6 9 10	8 13 14 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	5 0 4 6	10 5 8 9	18 13 14 15	12 7 10 11	11 6 9 11	6 4 2 4
ATLANTA TO INDIANAPOLIS							**376 N.MI.**
15,000	-14.7	-13 2 5 7	-10 5 8 9	-2 13 14 15	-5 9 12 13	-7 7 10 11	4 4 2 4
10,000	-4.6	-4 0 3 5	-0 5 7 9	8 12 14 14	4 9 11 13	2 7 9 11	5 4 2 4
5,000	5.1	2 -3 1 4	8 3 6 8	18 13 14 15	11 6 9 11	10 5 8 10	7 5 3 5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
ATLANTA TO JACKSONVILLE																									241 N.MI.
15,000	-14.7	-8	7	9	10	-7	8	10	11	-1	14	15	15	-3	12	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	4	3	2	3
5,000	5.1	8	2	6	7	11	6	9	10	18	13	14	15	13	8	10	11	12	7	10	11	5	4	2	3
ATLANTA TO KNOXVILLE																									132 N.MI.
15,000	-14.7	-11	4	7	8	-8	6	9	10	-1	13	14	15	-4	10	12	13	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	5	7	1	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	10	4	8	9	18	13	14	15	12	7	10	11	11	6	9	11	6	5	2	4
ATLANTA TO LOUISVILLE																									279 N.MI.
15,000	-14.7	-12	3	6	7	-9	6	8	10	-2	13	14	15	-5	10	12	13	-7	8	10	12	4	4	2	3
10,000	-4.6	-3	1	4	6	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
5,000	5.1	3	-2	2	5	9	4	7	9	18	13	14	15	11	6	9	11	10	5	9	10	6	5	3	5
ATLANTA TO MACON																									70 N.MI.
15,000	-14.7	-9	6	8	9	-7	8	10	11	-1	14	15	15	-4	11	13	14	-5	9	11	13	4	3	2	3
10,000	-4.6	-0	4	7	8	2	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	6	1	5	7	11	5	8	10	18	13	14	15	13	7	10	11	12	7	10	11	5	4	2	4
ATLANTA TO MELBOURNE																									386 N.MI.
15,000	-14.7	-7	7	10	11	-6	9	11	12	-1	14	15	15	-3	12	14	15	-4	11	12	13	3	3	1	2
10,000	-4.6	2	6	9	10	4	8	10	12	8	13	14	14	7	12	13	14	5	10	11	12	3	3	1	3
5,000	5.1	8	3	6	8	12	7	9	10	18	13	14	14	13	8	10	12	13	8	10	11	4	3	2	3
ATLANTA TO MEMPHIS																									288 N.MI.
15,000	-14.7	-10	4	7	8	-8	7	9	11	-1	14	15	15	-4	11	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	2	7	9	11	9	13	14	15	6	10	13	14	4	8	11	12	4	4	2	3
5,000	5.1	5	-0	4	6	10	5	8	10	18	13	15	16	12	7	10	12	11	6	9	11	6	5	2	4
ATLANTA TO MOBILE																									263 N.MI.
15,000	-14.7	-9	6	8	10	-6	8	10	12	-1	14	15	16	-3	12	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	3	8	10	12	9	13	14	15	7	11	13	14	5	9	11	12	4	4	2	3
5,000	5.1	7	2	5	7	11	6	9	10	18	13	14	15	13	8	10	12	12	7	10	11	5	4	2	4
ATLANTA TO MONTGOMERY																									128 N.MI.
15,000	-14.7	-9	6	8	9	-7	8	10	11	-1	14	15	15	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	3	7	10	11	8	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	6	1	5	7	11	6	8	10	18	13	14	15	13	8	10	12	12	7	10	11	5	4	2	4
ATLANTA TO NASHVILLE																									186 N.MI.
15,000	-14.7	-11	4	7	8	-8	6	9	10	-1	13	15	15	-4	10	12	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3
5,000	5.1	5	-1	3	6	10	4	8	9	18	13	15	16	12	7	10	11	11	6	9	11	6	5	2	4
ATLANTA TO NEW ORLEANS																									369 N.MI.
15,000	-14.7	-8	6	9	10	-6	9	11	12	-1	14	15	16	-3	12	14	15	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	12	13	4	4	1	3
5,000	5.1	7	2	6	7	12	7	9	11	18	13	15	15	13	8	10	12	13	8	10	12	5	4	2	3
ATLANTA TO ORLANDO																									345 N.MI.
15,000	-14.7	-7	7	9	11	-6	9	11	12	-1	14	15	15	-3	12	14	15	-4	10	12	13	3	3	1	3
10,000	-4.6	2	6	8	10	4	8	10	12	8	13	14	14	7	12	13	14	5	10	11	12	3	3	1	3
5,000	5.1	8	3	6	8	12	7	9	10	18	13	14	14	13	8	10	12	13	8	10	11	4	4	2	3
ATLANTA TO RALLIGH																									309 N.MI.
15,000	-14.7	-10	4	7	8	-8	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	3	5	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	18	12	14	15	12	7	9	11	11	6	9	10	6	5	2	4
ATLANTA TO ROME																									56 N.MI.
15,000	-14.7	-10	5	7	9	-8	7	9	11	-1	13	15	15	-4	11	13	14	-6	9	11	12	4	3	2	3
10,000	-4.6	-1	3	6	7	2	7	9	11	8	13	14	15	6	10	13	14	4	8	10	12	4	4	2	3
5,000	5.1	6	0	4	6	10	5	8	10	18	13	15	15	12	7	10	11	12	6	9	11	6	4	2	4
ATLANTA TO ST. PETERSBURG																									355 N.MI.
15,000	-14.7	-7	7	10	11	-6	9	11	12	-1	14	15	15	-2	12	14	15	-4	11	12	13	3	3	1	2
10,000	-4.6	2	6	9	10	4	8	11	12	8	13	14	14	7	12	13	14	5	10	12	12	3	3	1	3
5,000	5.1	8	3	6	8	12	7	9	10	18	13	14	15	13	8	10	12	13	8	10	11	4	3	2	3
ATLANTA TO SAVANNAH																									193 N.MI.
15,000	-14.7	-9	6	8	10	-7	8	10	11	-1	13	15	15	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	5	7	8	3	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	7	2	5	7	11	6	8	10	18	13	14	15	13	8	10	11	12	7	10	11	5	4	2	4
ATLANTA TO TALLAHASSEE																									195 N.MI.
15,000	-14.7	-8	6	9	10	-6	8	10	12	-1	14	15	15	-3	12	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	3	8	10	11	8	13	14	15	7	11	13	14	5	9	11	12	4	3	2	3
5,000	5.1	7	2	5	7	11	6	9	10	18	13	14	15	13	8	10	12	12	7	10	11	5	4	2	3
ATLANTA TO TAMPA																									355 N.MI.
15,000	-14.7	-7	7	10	11	-6	9	11	12	-1	14	15	15	-3	12	14	15	-4	11	12	13	3	3	1	2
10,000	-4.6	2	6	9	10	4	8	11	12	8	13	14	14	7	12	13	14	5	10	12	12	3	3	1	3
5,000	5.1	8	3	6	8	12	7	9	10	18	13	14	15	13	8	10	12	13	8	10	11	4	3	2	3
ATLANTIC CITY TO NEW YORK																									80 N.MI.
15,000	-14.7	-16	-1	3	4	-13	2	5	6	-3	12	13	14	-8	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	0	2	-4	1	4	5	6	11	12	13	2	6	9	11	-1	4	7	8	6	5	2	4
5,000	5.1	-2	-7	-2	0	4	-1	3	5	15	10	12	13	9	4	7	9	7	2	5	7	7	6	3	5
ATLANTIC CITY TO WASHINGTON, D.C.																									120 N.MI.
15,000	-14.7	-15	-0	3	5	-12	3	5	7	-3	12	13	14	-7	8	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-2	1	3	-3	1	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
5,000	5.1	-1	-6	-1	2	5	0	4	6	16	11	12	14	9	4	7	9	7	2	6	8	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
AUGUSTA, GA. TO CHARLESTON, S.C. 101 N.MI.							
15,000	-14.7	-9 6 8 10	-7 7 10 11	-1 13 14 15	-4 11 13 14	-5 9 11 12	4 3 2 3
10,000	-4.6	-0 4 7 8	2 7 9 10	8 12 13 14	6 10 12 13	4 8 10 12	4 4 2 3
5,000	5.1	7 2 5 7	10 5 8 9	17 12 14 15	12 7 10 11	12 7 9 11	5 4 2 4
AUGUSTA, GA. TO COLUMBIA 55 N.MI.							
15,000	-14.7	-9 5 8 9	-8 7 9 11	-2 13 14 15	-4 11 13 14	-6 9 11 12	4 3 2 3
10,000	-4.6	-1 4 6 8	2 6 9 10	8 12 14 14	6 10 12 13	4 8 10 11	4 4 2 3
5,000	5.1	6 1 5 7	10 5 8 9	18 12 14 15	12 7 10 11	12 6 9 11	5 4 2 4
AUGUSTA, GA. TO JACKSONVILLE 178 N.MI.							
15,000	-14.7	-8 7 9 10	-6 8 10 11	-1 14 15 15	-3 12 13 14	-5 10 12 13	3 3 2 3
10,000	-4.6	1 6 8 9	3 8 10 11	8 13 14 14	7 11 13 14	5 9 11 12	3 3 1 3
5,000	5.1	8 3 6 7	11 6 9 10	18 13 14 14	13 8 10 11	12 7 10 11	5 4 2 3
AUGUSTA, GA. TO SAVANNAH 91 N.MI.							
15,000	-14.7	-9 6 9 10	-7 8 10 11	-1 13 14 15	-3 11 13 14	-5 10 12 13	4 3 2 3
10,000	-4.6	0 5 7 9	2 7 9 11	8 13 14 14	6 11 13 14	4 9 11 12	4 4 2 3
5,000	5.1	7 2 5 7	11 6 8 10	18 12 14 15	13 8 10 11	12 7 9 11	5 4 2 4
AUGUSTA, ME. TO BANGOR 50 N.MI.							
15,000	-14.7	-21 -6 -2 1	-18 -4 -0 2	-6 9 11 12	-11 4 7 9	-14 1 5 7	6 5 3 5
10,000	-4.6	-14 -9 -5 -2	-9 -5 -1 1	3 8 10 11	-2 3 7 9	-5 -1 3 5	7 5 3 6
5,000	5.1	-8 -13 -8 -6	-0 -5 -2 0	13 8 10 11	5 0 4 6	2 -3 2 4	7 6 3 6
AUGUSTA, ME. TO LEWISTON 21 N.MI.							
15,000	-14.7	-20 -6 -1 1	-18 -3 0 2	-6 9 11 12	-11 4 7 9	-14 1 5 7	6 5 3 5
10,000	-4.6	-14 -9 -4 -2	-9 -4 -1 1	4 8 10 11	-1 3 7 9	-5 -1 3 5	7 5 3 6
5,000	5.1	-8 -13 -8 -5	-0 -5 -1 1	13 8 10 11	6 0 4 7	3 -2 2 4	7 6 3 6
AUGUSTA, ME. TO ROCKLAND 33 N.MI.							
15,000	-14.7	-20 -6 -1 1	-18 -3 0 2	-6 9 11 12	-11 4 7 9	-14 1 5 7	6 5 3 5
10,000	-4.6	-14 -9 -4 -2	-9 -4 -1 1	4 8 10 11	-1 3 7 9	-5 -1 3 6	7 5 3 6
5,000	5.1	-8 -13 -8 -5	-0 -5 -1 1	13 8 10 11	6 1 4 7	3 -2 2 4	7 6 3 6
AUSTIN TO DALLAS 159 N.MI.							
15,000	-14.7	-9 6 8 9	-6 9 11 12	0 15 16 17	-3 12 14 15	-4 10 12 14	4 3 1 3
10,000	-4.6	1 5 8 9	6 10 13 14	11 15 16 17	8 12 14 15	6 11 13 14	4 4 2 3
5,000	5.1	8 3 7 9	14 9 12 14	21 16 18 19	15 10 12 14	15 9 13 14	6 5 3 4
AUSTIN TO FT. WORTH 156 N.MI.							
15,000	-14.7	-9 6 8 9	-6 9 11 12	0 15 16 17	-3 12 14 15	-4 10 12 14	4 3 1 3
10,000	-4.6	1 5 8 9	6 10 13 14	11 15 16 17	8 12 14 15	6 11 13 14	4 4 2 3
5,000	5.1	8 3 7 9	14 9 12 14	21 16 18 19	15 10 13 14	15 9 13 14	6 5 3 4
AUSTIN TO HOUSTON 132 N.MI.							
15,000	-14.7	-8 7 9 11	-5 10 12 13	1 15 16 17	-2 13 14 15	-4 11 13 14	3 3 1 2
10,000	-4.6	2 7 9 11	6 11 13 15	10 15 16 16	8 13 14 15	7 11 13 14	4 4 1 3
5,000	5.1	9 4 8 10	15 10 12 14	21 16 17 18	15 10 12 13	15 10 12 14	5 4 2 3
AUSTIN TO SAN ANGELO 158 N.MI.							
15,000	-14.7	-8 6 9 10	-5 9 12 13	1 15 16 17	-2 12 14 15	-4 11 13 14	4 3 1 3
10,000	-4.6	1 6 9 10	6 11 13 15	11 15 16 17	8 12 14 15	7 11 13 14	4 4 1 3
5,000	5.1	8 3 7 10	15 10 13 15	22 17 18 19	16 11 13 14	15 10 13 15	6 5 2 3
AUSTIN TO SAN ANTONIO 61 N.MI.							
15,000	-14.7	-8 7 9 11	-5 10 12 13	1 15 16 17	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	2 7 9 11	7 11 14 15	11 15 16 17	8 13 15 15	7 12 13 14	4 4 1 3
5,000	5.1	9 4 8 10	15 10 13 14	21 16 17 18	16 11 13 14	15 10 13 14	6 4 2 3
AUSTIN TO WACO 83 N.MI.							
15,000	-14.7	-9 6 9 10	-5 9 11 13	1 15 16 17	-2 12 14 15	-4 11 13 14	4 3 1 3
10,000	-4.6	1 6 8 10	6 11 13 14	11 15 16 17	8 12 14 15	6 11 13 14	4 4 1 3
5,000	5.1	8 3 7 9	14 9 12 14	21 16 18 19	15 10 13 14	15 10 13 14	6 5 2 3
BAKERSFIELD TO FRESNO 86 N.MI.							
15,000	-14.7	-12 3 7 8	-11 4 7 8	0 15 16 17	-6 9 12 13	-7 8 11 12	5 4 2 4
10,000	-4.6	-1 3 7 9	0 5 8 10	11 16 17 18	4 9 12 13	4 8 11 13	6 5 2 4
5,000	5.1	5 0 4 6	10 5 9 11	22 17 19 20	15 10 12 13	13 8 12 14	5 5 3 4
BAKERSFIELD TO LOS ANGELES 96 N.MI.							
15,000	-14.7	-11 4 7 9	-10 5 8 9	0 15 16 17	-5 10 12 14	-6 8 11 13	5 4 2 4
10,000	-4.6	-0 5 8 10	1 6 9 11	12 16 18 18	5 10 12 14	4 9 12 14	5 5 2 4
5,000	5.1	6 1 5 7	11 6 9 11	23 17 19 20	16 10 13 14	14 9 12 14	5 5 3 3
BAKERSFIELD TO VISALIA 56 N.MI.							
15,000	-14.7	-12 3 7 9	-10 4 7 9	0 15 16 17	-6 9 12 13	-7 8 11 12	5 4 2 4
10,000	-4.6	-1 4 7 9	0 5 8 10	11 16 18 18	4 9 12 14	4 8 12 13	6 5 2 4
5,000	5.1	5 0 4 6	10 5 9 11	23 17 19 21	15 10 12 14	13 8 12 14	5 5 3 4
BALTIMORE TO BOSTON 321 N.MI.							
15,000	-14.7	-17 -2 2 4	-14 1 4 5	-4 11 13 14	-8 7 9 11	-11 4 7 9	5 5 3 4
10,000	-4.6	-9 -4 -1 2	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 2 5
5,000	5.1	-3 -8 -3 -1	4 -1 2 4	15 10 12 13	8 3 7 8	6 1 5 7	7 6 3 5
BALTIMORE TO BUFFALO 245 N.MI.							
15,000	-14.7	-17 -3 1 3	-14 1 4 6	-4 11 13 14	-8 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-3 -8 -3 -1	4 -1 2 5	15 10 12 13	8 3 6 9	6 1 5 7	7 6 3 6
BALTIMORE TO CHARLOTTE 313 N.MI.							
15,000	-14.7	-13 2 5 7	-10 4 7 8	-2 12 14 14	-6 9 11 12	-8 7 9 11	5 4 2 4
10,000	-4.6	-5 -0 3 5	-1 3 6 8	7 12 13 14	3 8 11 12	1 6 8 10	5 4 2 4
5,000	5.1	2 -3 1 4	7 2 6 7	17 11 13 14	10 5 8 10	9 4 7 9	7 5 3 5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BALTIMORE TO DETROIT																									355 N.MI.
15,000	-14.7	-17	-2	1	3	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	7	9	6	5	3	4
10,000	-4.6	-9	-4	-1	2	-4	0	4	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	16	10	13	14	8	3	7	9	6	1	5	8	8	6	3	6
BALTIMORE TO HARRISBURG																									64 N.MI.
15,000	-14.7	-16	-1	3	5	-13	2	5	7	-3	12	13	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-7	-2	1	5	-0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
BALTIMORE TO LANCASTER																									59 N.MI.
15,000	-14.7	-15	-1	3	5	-13	2	5	7	-3	12	13	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-2	1	5	-0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
BALTIMORE TO MONTREAL																									399 N.MI.
15,000	-14.7	-19	-4	0	2	-16	-1	2	4	-5	10	12	13	-9	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-1	4	6	7	6	3	6
BALTIMORE TO NEW YORK																									159 N.MI.
15,000	-14.7	-16	-1	3	5	-13	2	5	6	-3	12	13	14	-8	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	9	11	-1	4	7	9	6	5	2	4
5,000	5.1	-2	-7	-2	1	5	-0	3	5	15	10	12	13	9	4	7	9	7	2	6	8	7	6	3	5
BALTIMORE TO NORFOLK																									138 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	6	8	-3	12	14	14	-6	8	11	12	-8	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	8	10	12	0	5	8	9	5	4	2	4
5,000	5.1	1	-4	0	3	6	1	5	7	16	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
BALTIMORE TO PHILADELPHIA																									79 N.MI.
15,000	-14.7	-15	-1	3	5	-12	2	5	7	-3	12	13	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	1	5	-0	4	6	16	11	12	13	9	4	7	9	7	2	6	8	7	6	3	5
BALTIMORE TO PITTSBURGH																									182 N.MI.
15,000	-14.7	-16	-1	2	4	-13	2	5	7	-3	12	13	14	-8	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	8	6	3	5
BALTIMORE TO PROVIDENCE																									284 N.MI.
15,000	-14.7	-16	-1	2	4	-14	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	0	3	5	6	10	12	13	1	6	9	11	-1	3	6	8	6	5	2	4
5,000	5.1	-2	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
BALTIMORE TO RICHMOND																									105 N.MI.
15,000	-14.7	-14	1	4	6	-11	3	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	5	2	4
5,000	5.1	0	-5	0	3	6	1	5	7	16	11	13	14	10	4	8	10	8	3	7	8	7	5	3	5
BALTIMORE TO ROCHESTER, N.Y.																									241 N.MI.
15,000	-14.7	-17	-3	1	3	-14	1	4	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-9	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	1	5	7	7	6	3	6
BALTIMORE TO SYRACUSE																									238 N.MI.
15,000	-14.7	-17	-3	1	3	-14	1	4	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-9	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	1	5	7	7	6	3	6
BALTIMORE TO WASHINGTON, D.C.																									26 N.MI.
15,000	-14.7	-15	-0	3	5	-12	3	6	7	-3	12	13	14	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	1	3	-3	2	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
5,000	5.1	-0	-6	-1	2	6	0	4	6	16	11	13	14	9	4	8	9	8	2	6	8	7	5	3	5
BALTIMORE TO WILMINGTON, DEL.																									58 N.MI.
15,000	-14.7	-15	-0	3	5	-12	2	5	7	-3	12	13	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	1	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
BANGOR TO BOSTON																									174 N.MI.
15,000	-14.7	-20	-5	-1	2	-17	-3	1	3	-5	9	11	13	-10	4	8	10	-13	2	5	7	6	5	3	5
10,000	-4.6	-13	-8	-4	-1	-8	-4	-0	2	4	9	11	12	-1	4	7	9	-5	0	4	6	7	5	3	5
5,000	5.1	-7	-12	-7	-5	1	-5	-1	1	13	8	10	12	6	1	5	7	3	-2	2	5	7	6	3	6
BANGOR TO HOULTON																									90 N.MI.
15,000	-14.7	-22	-7	-3	-0	-19	-4	-1	1	-6	8	11	12	-12	3	7	8	-15	-0	4	6	7	5	3	5
10,000	-4.6	-15	-11	-6	-3	-10	-5	-2	0	3	7	10	11	-3	2	6	8	-6	-2	2	5	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-1	-6	-2	-0	12	7	9	11	4	-1	3	6	2	-3	1	4	8	6	3	6
BANGOR TO PORTLAND, ME.																									94 N.MI.
15,000	-14.7	-20	-6	-1	1	-18	-3	0	2	-6	9	11	12	-11	4	7	9	-14	1	5	7	6	5	3	5
10,000	-4.6	-14	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-1	3	6	7	5	3	6
5,000	5.1	-8	-13	-8	-5	-0	-5	-1	1	13	8	10	11	6	0	4	6	3	-2	2	4	7	6	3	6
BANGOR TO PRESQUE ISLE																									117 N.MI.
15,000	-14.7	-22	-8	-3	-1	-19	-5	-1	1	-7	8	10	12	-12	3	6	8	-15	-0	4	6	7	5	3	6
10,000	-4.6	-16	-11	-6	-3	-10	-6	-2	-0	3	7	9	11	-3	2	6	8	-7	-2	2	4	7	5	3	6
5,000	5.1	-10	-15	-9	-7	-1	-6	-2	-0	12	7	9	10	4	-1	3	5	1	-4	1	3	8	6	3	6
BATON ROUGE TO LAFAYETTE																									48 N.MI.
15,000	-14.7	-8	7	9	10	-5	10	12	13	-0	15	16	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	5	10	12	13	10	14	15	16	8	12	14	15	6	11	13	13	3	3	1	3
5,000	5.1	9	4	7	8	13	8	11	12	19	14	15	16	14	9	11	12	14	9	11	12	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BATON ROUGE TO LAKE CHARLES																									106 N.MI.
15,000	-14.7	-8	7	9	10	-5	10	12	13	0	15	16	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	5	10	12	14	10	14	15	16	8	13	14	15	6	11	13	14	3	3	1	3
5,000	5.1	9	4	7	8	13	8	11	12	19	14	15	16	14	9	11	12	14	9	11	13	5	4	2	3
BATON ROUGE TO NEW ORLEANS																									57 N.MI.
15,000	-14.7	-8	7	9	10	-5	10	12	13	-0	15	16	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	5	10	12	13	9	14	15	15	8	13	14	15	6	11	13	13	3	3	1	2
5,000	5.1	9	4	7	8	13	8	10	12	19	14	15	16	14	9	11	12	14	9	11	12	4	4	2	3
BEAUMONT TO HOUSTON																									68 N.MI.
15,000	-14.7	-7	7	9	11	-5	10	12	13	0	15	16	16	-2	13	14	15	-3	11	13	14	3	3	1	2
10,000	-4.6	3	7	9	11	6	11	13	14	10	15	16	16	8	13	14	15	7	11	13	14	3	3	1	2
5,000	5.1	9	4	7	9	14	9	12	13	20	15	16	17	15	10	12	13	15	10	12	13	5	4	2	3
BEAUMONT TO LAKE CHARLES																									47 N.MI.
15,000	-14.7	-8	7	9	10	-5	10	12	13	0	15	16	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	11	6	10	13	14	10	15	15	16	8	13	14	15	7	11	13	14	3	3	1	2
5,000	5.1	9	4	7	9	14	9	11	13	20	15	16	17	15	10	12	13	14	9	12	13	5	4	2	3
BEAUMONT TO SHREVEPORT																									150 N.MI.
15,000	-14.7	-9	6	9	10	-6	9	11	12	0	15	16	16	-3	12	14	15	-4	11	12	14	3	3	1	3
10,000	-4.6	1	6	8	10	5	10	12	14	10	15	16	16	8	12	14	15	6	11	12	14	4	4	1	3
5,000	5.1	8	3	6	8	13	8	11	13	20	15	16	17	14	9	12	13	14	9	12	13	5	4	2	3
BIG SPRINGS TO MIDLAND																									38 N.MI.
15,000	-14.7	-10	5	8	9	-6	8	11	12	1	15	17	17	-3	12	14	15	-5	10	12	14	4	4	2	3
10,000	-4.6	-0	4	8	9	6	10	13	14	12	16	17	18	7	12	14	15	6	11	13	14	5	4	2	3
5,000	5.1	8	2	7	9	15	10	13	15	23	18	20	21	16	11	14	15	16	10	14	16	6	5	3	4
BILLINGS TO BISMARK																									328 N.MI.
15,000	-14.7	-23	-8	-4	-1	-16	-1	2	4	-4	11	13	14	-12	3	7	9	-13	1	5	8	7	5	3	5
10,000	-4.6	-13	-9	-4	-1	-6	-1	3	5	8	12	15	16	-1	3	7	9	-3	1	6	9	7	6	4	6
5,000	5.1	-7	-12	-8	-6	5	-1	4	7	20	15	18	20	8	3	8	11	7	2	7	11	5	7	5	7
BILLINGS TO BOZEMAN																									109 N.MI.
15,000	-14.7	-22	-7	-3	0	-15	-0	3	5	-3	12	14	15	-11	3	7	9	-13	2	6	8	7	5	3	5
10,000	-4.6	-12	-7	-3	-0	-5	-0	3	5	9	14	16	17	-1	4	8	10	-2	2	7	10	7	5	3	6
5,000	5.1	-5	-10	-9	-9	7	2	6	9	23	18	21	23	10	5	10	12	9	4	10	13	2	7	5	7
BILLINGS TO CASPER																									194 N.MI.
15,000	-14.7	-21	-6	-1	1	-14	0	4	5	-2	13	14	15	-10	4	8	10	-12	3	7	9	7	5	3	5
10,000	-4.6	-11	-6	-2	1	-4	1	4	6	10	14	17	18	0	5	9	11	-1	3	8	10	7	5	3	6
5,000	5.1	-4	-9	-7	-6	8	5	7	9	24	19	22	23	11	6	10	13	9	4	10	13	4	7	4	7
BILLINGS TO GREAT FALLS																									154 N.MI.
15,000	-14.7	-23	-9	-4	-1	-16	-1	2	4	-4	11	13	14	-12	3	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-13	-8	-3	-1	-5	-1	3	5	8	13	15	16	-2	3	7	9	-3	2	6	9	7	5	4	6
5,000	5.1	-6	-11	-10	-9	6	1	5	8	22	17	20	22	9	4	9	12	8	3	9	12	2	7	5	7
BILLINGS TO SHERIDAN																									90 N.MI.
15,000	-14.7	-22	-7	-2	0	-15	-0	3	5	-3	12	14	15	-11	4	7	9	-12	2	6	8	7	5	3	5
10,000	-4.6	-12	-7	-2	0	-5	0	4	6	9	14	16	17	-0	4	8	10	-2	3	7	10	7	6	3	6
5,000	5.1	-5	-10	-8	-7	7	2	6	9	23	18	21	23	10	5	10	12	9	4	10	13	3	7	5	7
BINGHAMPTON TO PITTSBURGH																									217 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	2	4	15	10	12	13	8	2	6	8	6	0	5	7	8	6	3	6
BINGHAMPTON TO SCRANTON																									45 N.MI.
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-10	-5	-2	3	-2	2	4	15	9	12	13	7	2	6	8	5	-0	4	6	7	6	3	6
BINGHAMPTON TO SYRACUSE																									54 N.MI.
15,000	-14.7	-19	-4	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	3	5	9	11	12	-0	5	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	1	3	14	9	11	12	7	2	5	8	4	-1	4	6	7	6	3	6
BIRMINGHAM TO CHARLOTTE																									304 N.MI.
15,000	-14.7	-10	5	7	9	-8	7	9	10	-1	13	14	15	-4	10	12	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	2	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	0	4	6	10	5	8	9	18	13	14	15	12	7	10	11	11	6	9	11	6	5	2	4
BIRMINGHAM TO CHATTANOOGA																									117 N.MI.
15,000	-14.7	-10	4	7	8	-8	7	9	11	-1	14	15	15	-4	11	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	2	7	9	11	8	13	14	15	6	10	13	14	4	8	10	12	4	4	2	3
5,000	5.1	5	0	4	6	10	5	8	10	18	13	15	16	12	7	10	12	11	6	9	11	6	5	2	4
BIRMINGHAM TO GREENSBORO																									368 N.MI.
15,000	-14.7	-11	4	7	8	-8	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	1	6	9	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	18	13	14	15	12	7	10	11	11	6	9	11	6	5	2	4
BIRMINGHAM TO HUNTSVILLE																									68 N.MI.
15,000	-14.7	-10	4	7	9	-8	7	9	11	-1	14	15	15	-4	11	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	2	7	9	11	8	13	14	15	6	11	13	14	4	8	11	12	4	4	2	3
5,000	5.1	5	0	4	6	10	5	8	10	18	13	15	16	12	7	10	12	12	6	10	11	6	5	2	4
BIRMINGHAM TO JACKSON																									190 N.MI.
15,000	-14.7	-9	5	8	9	-7	8	10	11	-1	14	15	16	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	3	8	10	12	9	13	15	15	7	11	13	14	5	9	11	12	4	4	2	3
5,000	5.1	6	1	5	7	11	6	9	10	19	13	15	16	13	8	10	12	12	7	10	12	5	4	2	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BIRMINGHAM TO KNOXVILLE																									192 N.MI.
15,000	-14.7	-11	4	7	8	-8	7	9	10	-1	13	15	15	-4	10	12	14	-6	9	11	12	4	4	2	5
10,000	-4.6	-2	3	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	10	5	8	9	18	13	15	16	12	7	10	11	11	6	9	11	6	5	2	4
BIRMINGHAM TO MEMPHIS																									184 N.MI.
15,000	-14.7	-11	4	7	8	-8	7	10	11	-1	14	15	15	-4	11	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	2	7	10	11	9	13	14	15	6	11	13	14	4	8	11	12	4	4	2	3
5,000	5.1	5	-0	4	6	10	5	8	10	19	14	15	16	12	7	10	12	12	6	10	11	6	5	2	4
BIRMINGHAM TO MERIDIAN																									101 N.MI.
15,000	-14.7	-10	5	7	9	-7	8	10	11	-1	14	15	16	-4	11	13	14	-5	9	11	13	4	3	2	3
10,000	-4.6	-1	4	6	8	3	7	10	11	9	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	6	1	4	6	11	6	9	10	19	13	15	16	13	8	10	12	12	7	10	11	5	4	2	4
BIRMINGHAM TO MOBILE																									189 N.MI.
15,000	-14.7	-9	6	8	10	-6	8	11	12	-1	14	15	16	-3	12	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	11	13	4	4	2	3
5,000	5.1	7	2	5	7	11	6	9	11	18	13	15	15	13	8	10	12	13	7	10	12	5	4	2	4
BIRMINGHAM TO MONTGOMERY																									78 N.MI.
15,000	-14.7	-9	5	8	9	-7	8	10	11	-1	14	15	15	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	3	8	10	11	9	13	14	15	6	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	6	1	5	7	11	6	9	10	18	13	15	15	13	8	10	12	12	7	10	11	5	4	2	4
BIRMINGHAM TO MUSCLE SHOALS																									83 N.MI.
15,000	-14.7	-10	4	7	8	-8	7	9	11	-1	14	15	15	-4	11	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	2	7	10	11	9	13	14	15	6	11	13	14	4	8	11	12	4	4	2	3
5,000	5.1	5	0	4	6	10	5	8	10	18	13	15	16	12	7	10	12	12	6	10	11	6	5	2	4
BIRMINGHAM TO NEW ORLEANS																									279 N.MI.
15,000	-14.7	-9	6	8	10	-6	9	11	12	-1	14	15	16	-3	12	14	15	-4	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	4	9	11	12	9	14	15	15	7	12	14	15	5	10	12	13	4	4	1	3
5,000	5.1	7	2	5	7	12	7	9	11	18	13	15	15	13	8	11	12	13	8	10	12	5	4	2	4
BIRMINGHAM TO PENSACOLA																									187 N.MI.
15,000	-14.7	-9	6	8	10	-6	8	11	12	-1	14	15	16	-3	12	14	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	11	12	4	4	2	3
5,000	5.1	7	2	5	7	11	6	9	10	18	13	15	15	13	8	10	12	13	7	10	11	5	4	2	4
BISBEE TO EL PASO																									166 N.MI.
15,000	-14.7	-8	7	10	11	-7	8	11	12	1	16	17	18	-3	11	13	15	-4	11	13	14	5	4	2	3
10,000	-4.6	0	5	8	10	5	10	13	14	13	18	19	19	7	12	14	15	6	11	14	15	5	4	2	3
5,000	5.1	8	3	7	9	17	12	15	17	25	20	22	23	19	14	16	18	17	12	16	18	6	5	3	4
BISBEE TO TUCSON																									79 N.MI.
15,000	-14.7	-8	7	10	12	-7	8	10	12	1	16	17	18	-3	11	13	14	-4	10	13	14	5	4	2	3
10,000	-4.6	0	5	8	10	5	10	12	14	14	18	19	20	7	12	14	15	6	11	14	15	5	4	2	3
5,000	5.1	8	3	7	9	17	12	15	17	26	21	23	24	20	15	17	18	18	13	16	18	6	5	3	4
BISMARK TO FARGO																									162 N.MI.
15,000	-14.7	-24	-9	-5	-3	-16	-2	2	4	-5	10	12	14	-12	3	6	8	-14	0	5	7	7	5	3	5
10,000	-4.6	-15	-10	-6	-3	-7	-2	2	4	6	10	13	15	-2	3	7	9	-4	0	5	8	7	6	4	6
5,000	5.1	-9	-14	-8	-5	2	-3	2	4	17	12	15	17	7	2	6	9	4	-1	5	8	9	7	5	7
BISMARK TO JAMESTOWN																									85 N.MI.
15,000	-14.7	-24	-9	-5	-2	-16	-1	2	4	-4	10	13	14	-12	3	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-15	-10	-5	-3	-6	-2	2	4	6	11	13	15	-2	3	7	9	-4	0	5	8	7	6	4	6
5,000	5.1	-8	-13	-8	-4	2	-3	2	5	17	12	15	17	7	2	7	9	5	-1	5	8	9	7	5	7
BISMARK TO MINNEAPOLIS																									335 N.MI.
15,000	-14.7	-23	-8	-4	-2	-16	-1	2	4	-4	11	13	14	-11	3	7	9	-14	1	5	8	6	5	3	5
10,000	-4.6	-14	-9	-5	-2	-6	-2	2	4	6	11	13	15	-1	4	8	10	-4	1	6	8	7	6	4	6
5,000	5.1	-8	-13	-7	-4	2	-3	2	5	17	12	15	17	7	2	7	9	5	-0	5	8	8	7	5	7
BOISE TO PENDLETON																									169 N.MI.
15,000	-14.7	-19	-5	0	3	-15	-0	3	5	-4	11	13	14	-11	4	7	9	-12	3	6	8	7	5	3	5
10,000	-4.6	-10	-5	-1	2	-5	-0	3	5	8	12	14	16	-1	4	8	10	-2	3	7	9	7	5	3	5
5,000	5.1	-2	-7	-4	-3	7	1	5	7	21	16	19	20	10	5	9	11	9	4	9	12	5	5	4	6
BOISE TO PORTLAND, ORE.																									298 N.MI.
15,000	-14.7	-19	-4	0	3	-15	-0	3	5	-4	11	13	14	-11	4	7	9	-12	3	6	8	7	5	3	5
10,000	-4.6	-10	-5	-0	2	-5	-1	3	5	7	12	14	15	-1	4	7	9	-2	2	7	9	7	5	3	5
5,000	5.1	-2	-7	-4	-2	6	1	5	6	20	14	17	19	9	4	8	10	8	3	8	11	5	5	4	6
BOISE TO RENO																									291 N.MI.
15,000	-14.7	-17	-2	2	5	-13	1	4	6	-2	13	15	16	-9	6	9	11	-10	5	8	10	6	5	3	5
10,000	-4.6	-7	-2	2	4	-3	2	5	7	10	15	17	18	1	6	9	11	0	5	9	11	6	5	3	5
5,000	5.1	0	-5	-1	0	9	4	7	9	22	17	20	22	12	7	11	13	11	6	11	13	5	5	4	6
BOISE TO SALT LAKE CITY																									252 N.MI.
15,000	-14.7	-18	-3	1	3	-13	1	4	6	-1	13	15	16	-9	6	9	11	-10	4	8	10	7	5	3	5
10,000	-4.6	-8	-4	1	3	-3	2	5	7	11	15	18	19	1	6	10	11	0	5	9	11	6	5	3	5
5,000	5.1	-1	-6	-3	-1	10	4	8	10	25	19	22	24	12	7	11	14	11	6	12	15	4	6	4	6
BOISE TO SEATTLE																									346 N.MI.
15,000	-14.7	-20	-5	-0	2	-16	-1	2	4	-5	10	12	13	-11	3	7	9	-13	2	6	8	7	5	3	5
10,000	-4.6	-10	-6	-1	1	-6	-1	2	4	6	11	13	14	-1	3	7	9	-3	2	6	8	7	5	3	5
5,000	5.1	-3	-8	-4	-3	5	0	4	5	19	14	17	18	9	4	7	9	7	2	8	10	5	5	4	6
BOSTON TO BUFFALO																									343 N.MI.
15,000	-14.7	-19	-4	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	1	3	14	9	11	12	7	2	5	8	4	-1	3	6	7	6	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
BOSTON TO BURLINGTON																									157 N.MI.
15,000	-14.7	-20	-5	-1	2	-17	-2	1	3	-5	9	12	13	-10	4	8	10	-13	2	5	7	6	5	3	5
10,000	-4.6	-13	-8	-4	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
5,000	5.1	-7	-12	-7	-4	1	-4	-0	2	14	8	11	12	6	1	5	7	3	-2	3	5	7	6	3	6
BOSTON TO CONCORD																									55 N.MI.
15,000	-14.7	-19	-4	0	2	-16	-2	2	3	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	0	2	14	9	11	12	7	2	5	7	4	-1	3	5	7	6	3	6
BOSTON TO FITCHBURG																									35 N.MI.
15,000	-14.7	-18	-4	0	2	-16	-1	2	4	-5	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-7	-2	1	3	5	9	11	12	-0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-6	-3	2	-3	0	2	14	9	11	12	7	2	6	7	4	-1	3	6	7	6	3	5
BOSTON TO HARTFORD																									83 N.MI.
15,000	-14.7	-18	-3	1	5	-15	-1	2	4	-4	10	12	13	-9	6	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-0	4	6	7	6	3	5
BOSTON TO HYANNIS																									53 N.MI.
15,000	-14.7	-18	-3	1	3	-16	-1	2	4	-4	10	12	13	-9	6	9	10	-12	3	7	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-0	4	6	7	5	3	5
BOSTON TO LEBANON																									95 N.MI.
15,000	-14.7	-19	-4	-0	2	-17	-2	1	3	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-8	-3	0	2	4	9	11	12	-0	4	8	9	-4	1	4	6	7	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	-0	2	14	9	11	12	6	1	5	7	4	-1	3	5	7	6	3	6
BOSTON TO LEWISTON																									111 N.MI.
15,000	-14.7	-19	-4	-0	2	-17	-2	1	3	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
5,000	5.1	-6	-12	-7	-4	1	-4	-0	2	14	8	11	12	6	1	5	7	4	-2	3	5	7	6	3	6
BOSTON TO MANCHESTER																									39 N.MI.
15,000	-14.7	-19	-4	0	2	-16	-2	2	3	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-7	-3	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-4	0	2	14	9	11	12	7	2	5	7	4	-1	3	5	7	6	3	6
BOSTON TO MONTREAL																									221 N.MI.
15,000	-14.7	-20	-6	-1	1	-18	-3	1	2	-6	9	11	12	-11	4	8	9	-13	1	5	7	6	5	3	5
10,000	-4.6	-13	-9	-4	-2	-8	-4	-0	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5
5,000	5.1	-7	-12	-8	-5	0	-5	-1	1	13	8	10	12	6	1	5	7	3	-2	2	5	7	6	3	6
BOSTON TO NEW BEDFORD																									42 N.MI.
15,000	-14.7	-18	-3	1	3	-16	-1	2	4	-4	10	12	13	-9	6	9	10	-12	3	7	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-0	4	6	7	6	3	5
BOSTON TO NEW YORK																									163 N.MI.
15,000	-14.7	-17	-3	1	3	-15	-0	3	5	-4	11	13	13	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-2	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	1	3	14	9	11	12	8	3	6	8	5	0	4	6	7	6	3	5
BOSTON TO PHILADELPHIA																									242 N.MI.
15,000	-14.7	-17	-2	2	4	-14	0	3	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-3	-8	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	0	4	7	7	6	3	5
BOSTON TO PORTLAND, ME.																									83 N.MI.
15,000	-14.7	-19	-4	-0	2	-17	-2	1	3	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-8	-3	0	2	4	9	11	12	-1	4	8	9	-4	1	4	6	7	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	-0	2	14	9	11	12	7	1	5	7	4	-1	3	5	7	6	3	6
BOSTON TO PROVIDENCE																									43 N.MI.
15,000	-14.7	-18	-3	1	3	-16	-1	2	4	-4	10	12	13	-9	6	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-2	1	3	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-0	4	6	7	6	3	5
BOSTON TO SYRACUSE																									230 N.MI.
15,000	-14.7	-19	-4	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-4	0	2	14	9	11	12	7	2	5	7	4	-1	3	6	7	6	3	6
BOSTON TO WASHINGTON, D.C.																									346 N.MI.
15,000	-14.7	-16	-2	2	4	-14	1	4	6	-4	11	13	14	-8	7	10	11	-10	4	7	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	2	4	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
BOSTON TO WORCESTER																									39 N.MI.
15,000	-14.7	-18	-3	0	3	-16	-1	2	4	-5	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-2	0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	4	-1	3	6	7	6	3	5
BOWLING GREEN TO LOUISVILLE																									80 N.MI.
15,000	-14.7	-13	1	4	6	-10	4	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-1	4	7	9	8	12	14	15	4	9	11	13	1	6	9	10	5	5	2	4
5,000	5.1	1	-4	1	3	7	2	6	8	18	13	15	16	11	5	9	11	9	4	8	10	7	6	3	5
BOWLING GREEN TO NASHVILLE																									52 N.MI.
15,000	-14.7	-12	2	5	7	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-4	0	4	5	0	5	8	9	8	13	14	15	5	9	12	13	2	7	9	11	5	4	2	4
5,000	5.1	2	-3	2	4	8	3	7	9	18	13	15	16	11	6	9	11	10	5	8	10	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BOZEMAN TO BUTTE																									57 N.MI.
15,000	-14.7	-22	-7	-2	0	-15	-0	3	5	-3	11	13	14	-11	3	7	9	-13	2	6	8	7	5	3	5
10,000	-4.6	-12	-7	-2	0	-5	-0	3	5	8	13	15	17	-1	4	7	10	-2	2	7	9	7	5	3	6
5,000	5.1	-5	-10	-9	-8	7	1	6	8	23	17	21	22	10	5	9	12	9	3	9	12	2	6	5	7
BRISTOL TO CHARLESTON, W. VA.																									119 N.MI.
15,000	-14.7	-13	1	3	6	-10	4	7	8	-2	13	14	15	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-1	3	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	5	2	4
5,000	5.1	2	-4	1	4	7	2	6	8	17	12	14	15	10	5	9	10	9	4	8	9	7	5	3	5
BRISTOL TO KNOXVILLE																									87 N.MI.
15,000	-14.7	-12	3	6	7	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-4	1	4	6	0	5	8	9	8	12	14	14	4	9	11	13	2	7	9	11	5	4	2	4
5,000	5.1	3	-2	2	5	8	3	7	8	18	12	14	15	11	6	9	11	10	5	8	10	6	5	3	5
BUFFALO TO CHICAGO																									410 N.MI.
15,000	-14.7	-19	-5	-0	2	-15	-0	3	5	-4	11	13	14	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-6	-1	2	4	5	10	12	13	0	5	9	10	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-5	-3	3	-3	2	4	15	10	13	14	7	2	6	8	5	-0	4	7	8	6	4	6
BROWNSVILLE TO CORPUS CHRISTI																									93 N.MI.
15,000	-14.7	-6	9	11	12	-4	11	13	14	0	15	16	16	-1	13	15	16	-3	12	14	14	3	3	1	2
10,000	-4.6	4	9	11	12	8	12	13	16	10	15	16	16	9	14	15	16	8	12	14	15	3	3	1	2
5,000	5.1	11	6	9	11	16	11	14	15	20	15	16	17	16	11	13	14	16	11	13	14	5	4	2	2
BRUNSWICK TO JACKSONVILLE																									46 N.MI.
15,000	-14.7	-7	8	10	11	-6	9	11	12	-1	14	15	15	-2	12	14	15	-4	11	12	13	3	3	1	2
10,000	-4.6	2	7	9	10	4	8	10	12	8	13	14	14	7	12	13	14	5	10	11	12	3	3	1	2
5,000	5.1	9	4	6	8	12	7	9	10	18	12	14	14	13	8	10	11	13	8	10	11	4	3	2	3
BRUNSWICK TO SAVANNAH																									54 N.MI.
15,000	-14.7	-8	7	9	11	-6	8	10	12	-1	14	15	15	-3	12	14	14	-4	10	12	13	3	3	2	3
10,000	-4.6	1	6	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	3	3	1	3
5,000	5.1	8	3	6	7	11	6	9	10	18	12	14	14	13	8	10	11	12	7	10	11	4	4	2	3
BUFFALO TO CLEVELAND																									166 N.MI.
15,000	-14.7	-19	-4	-0	2	-15	-0	3	5	-4	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-6	-2	-0	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-2	3	-2	2	4	15	10	12	13	7	2	6	8	5	-0	4	7	8	6	3	6
BUFFALO TO DETROIT																									208 N.MI.
15,000	-14.7	-19	-5	-1	2	-15	-1	3	5	-4	10	12	13	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-2	2	4	5	10	11	13	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	1	4	15	10	12	13	7	2	6	8	5	-1	4	6	8	6	3	6
BUFFALO TO ELMIRA																									94 N.MI.
15,000	-14.7	-19	-4	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-7	-2	2	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-11	-5	-3	2	-3	1	3	14	9	12	13	7	2	6	8	4	-1	4	6	8	6	3	6
BUFFALO TO NEW YORK																									261 N.MI.
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	2	4	15	10	12	13	7	2	6	8	5	-0	4	6	7	6	3	6
BUFFALO TO PHILADELPHIA																									241 N.MI.
15,000	-14.7	-18	-3	1	3	-14	0	4	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	2	4	15	10	12	13	8	2	6	8	5	0	5	7	7	6	3	6
BUFFALO TO PITTSBURGH																									161 N.MI.
15,000	-14.7	-18	-4	0	3	-14	0	3	5	-4	11	13	14	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	0	-6	-1	3	4	5	10	12	13	1	5	9	10	-3	2	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	2	4	15	10	12	13	7	2	6	8	5	0	4	7	8	6	3	6
BUFFALO TO ROCHESTER, N.Y.																									48 N.MI.
15,000	-14.7	-20	-5	-1	1	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-7	-2	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-4	1	3	14	9	11	13	6	1	5	7	4	-1	3	6	8	6	3	6
BUFFALO TO SCRANTON																									158 N.MI.
15,000	-14.7	-19	-4	0	2	-15	-1	3	4	-4	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-2	2	-3	1	3	15	9	12	13	7	2	6	8	5	-0	4	6	7	6	3	6
BUFFALO TO SYRACUSE																									115 N.MI.
15,000	-14.7	-20	-5	-1	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-7	-2	1	3	4	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-4	0	3	14	9	11	13	6	1	5	7	4	-1	3	6	7	6	3	6
BUFFALO TO TORONTO																									60 N.MI.
15,000	-14.7	-20	-6	-1	1	-16	-2	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-13	-8	-4	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	7	6	5	3	5
5,000	5.1	-7	-12	-7	-4	1	-4	0	3	14	9	11	13	6	1	5	7	4	-1	3	6	8	6	3	6
BUFFALO TO WASHINGTON, D.C.																									257 N.MI.
15,000	-14.7	-17	-2	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	6
BURBANK TO LOS ANGELES																									16 N.MI.
15,000	-14.7	-10	4	8	10	-9	5	8	9	0	15	16	17	-5	10	13	14	-6	9	11	13	5	4	2	4
10,000	-4.6	0	5	8	10	2	6	9	11	11	16	17	18	5	10	13	14	5	9	12	14	5	4	2	4
5,000	5.1	7	1	5	7	11	6	10	11	23	17	19	20	16	11	13	14	14	9	13	14	5	5	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
BURBANK TO SAN FRANCISCO																									284 N.MI.
15,000	-14.7	-12	3	7	9	-10	4	7	8	-0	15	16	17	-6	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-1	4	7	9	0	5	8	10	11	16	17	18	4	9	12	13	4	8	11	13	5	5	2	4
5,000	5.1	5	0	4	6	10	5	8	10	22	16	19	20	14	9	12	13	13	8	12	14	5	5	3	4
BURLINGTON TO MONTPELIER																									30 N.MI.
15,000	-14.7	-21	-6	-2	1	-18	-3	0	2	-6	9	11	12	-11	4	7	9	-14	1	5	7	6	5	3	5
10,000	-4.6	-14	-9	-5	-2	-9	-4	-1	1	3	8	10	11	-1	3	7	9	-5	-1	3	6	7	5	3	6
5,000	5.1	-8	-13	-8	-6	-0	-5	-1	1	13	8	10	12	5	0	4	7	3	-2	2	4	7	6	3	6
BUTTE TO GREAT FALLS																									103 N.MI.
15,000	-14.7	-23	-8	-3	-1	-16	-1	2	4	-4	11	13	14	-12	3	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-13	-8	-3	-0	-6	-1	3	5	8	12	15	16	-2	3	7	9	-3	2	6	9	7	5	3	6
5,000	5.1	-5	-10	-9	-8	6	0	5	7	21	16	19	21	9	4	9	11	8	2	8	11	2	6	5	7
BUTTE TO HELENA																									45 N.MI.
15,000	-14.7	-22	-8	-3	-0	-15	-1	3	4	-4	11	13	14	-12	3	7	8	-13	1	5	8	7	5	3	5
10,000	-4.6	-12	-8	-3	-0	-5	-1	3	5	8	13	15	16	-1	3	7	9	-3	2	6	9	7	5	3	6
5,000	5.1	-5	-10	-9	-8	6	1	5	7	22	17	20	21	9	4	9	11	8	3	9	12	2	6	5	7
BUTTE TO IDAHO FALLS																									147 N.MI.
15,000	-14.7	-20	-6	-1	2	-15	0	3	5	-3	12	14	15	-11	4	8	9	-12	3	7	9	7	5	3	5
10,000	-4.6	-11	-6	-1	1	-4	0	4	6	9	14	16	17	-0	4	8	10	-1	3	8	10	7	5	3	6
5,000	5.1	-4	-9	-7	-6	8	3	7	9	24	19	22	23	11	5	10	12	10	4	10	13	2	6	4	7
CALGARY TO CRANBROOK																									115 N.MI.
15,000	-14.7	-26	-11	-6	-3	-18	-3	0	2	-7	8	10	11	-14	0	4	6	-16	-2	3	5	8	5	3	5
10,000	-4.6	-15	-11	-5	-2	-8	-3	0	2	4	8	11	12	-5	-0	4	6	-6	-1	3	5	8	5	4	6
5,000	5.1	-7	-12	-10	-8	1	-4	-0	2	14	9	12	14	6	1	5	7	3	-2	4	7	4	6	5	6
CALGARY TO EDMONTON																									134 N.MI.
15,000	-14.7	-27	-13	-7	-5	-19	-4	-1	1	-8	7	9	10	-15	-1	3	5	-17	-3	2	4	8	5	3	6
10,000	-4.6	-17	-13	-7	-4	-9	-4	-1	1	2	7	10	11	-6	-1	3	5	-7	-3	2	4	8	5	4	6
5,000	5.1	-9	-14	-11	-9	-1	-6	-2	0	13	8	11	13	4	-1	3	6	2	-3	2	5	6	6	5	7
CALGARY TO GREAT FALLS																									240 N.MI.
15,000	-14.7	-26	-11	-6	-3	-17	-2	1	3	-6	9	11	12	-14	1	5	7	-16	-1	3	5	8	5	3	5
10,000	-4.6	-15	-10	-5	-2	-7	-3	1	3	5	10	12	13	-4	1	5	7	-5	-1	4	6	8	5	4	6
5,000	5.1	-7	-12	-10	-9	2	-3	1	4	17	12	15	17	7	2	6	9	5	-0	5	8	3	6	5	7
CALGARY TO LETHBRIDGE																									100 N.MI.
15,000	-14.7	-27	-12	-7	-4	-18	-3	0	2	-7	8	10	11	-14	0	4	6	-16	-2	2	5	8	5	3	5
10,000	-4.6	-16	-11	-6	-3	-8	-3	0	2	4	9	11	12	-5	-0	4	6	-6	-1	3	6	8	5	4	6
5,000	5.1	-8	-13	-11	-9	1	-4	0	2	15	10	13	15	6	1	5	8	3	-2	4	7	3	6	5	7
CALGARY TO REGINA																									357 N.MI.
15,000	-14.7	-28	-13	-8	-6	-18	-3	0	2	-7	8	10	11	-15	-0	4	6	-17	-2	2	4	8	5	3	6
10,000	-4.6	-17	-13	-7	-4	-8	-4	-0	2	4	8	11	12	-5	-0	4	6	-7	-2	3	5	8	5	4	6
5,000	5.1	-9	-15	-12	-10	0	-5	-0	2	15	10	13	15	6	0	5	8	3	-2	3	7	4	7	5	7
CALGARY TO SASKATOON																									280 N.MI.
15,000	-14.7	-28	-14	-8	-6	-18	-4	-0	2	-8	7	9	11	-15	-1	3	5	-17	-3	2	4	8	5	3	6
10,000	-4.6	-18	-13	-7	-4	-9	-4	-1	1	3	8	10	12	-6	-1	3	5	-7	-3	2	5	8	5	4	6
5,000	5.1	-10	-15	-12	-10	-0	-5	-1	1	14	9	12	14	5	-0	4	7	2	-3	3	6	5	7	5	7
CALGARY TO VANCOUVER																									370 N.MI.
15,000	-14.7	-24	-9	-4	-2	-18	-3	0	2	-8	7	9	10	-14	0	4	6	-16	-1	3	5	8	5	3	5
10,000	-4.6	-15	-10	-5	-2	-8	-3	-0	1	3	7	10	11	-5	-0	4	6	-6	-2	3	5	8	5	4	5
5,000	5.1	-6	-11	-8	-6	0	-5	-2	0	13	7	11	12	5	-0	4	6	3	-2	3	6	5	5	5	6
CARLSBAD TO EL PASO																									115 N.MI.
15,000	-14.7	-9	6	9	10	-7	8	11	12	1	16	17	17	-3	11	13	15	-4	10	13	14	5	4	2	3
10,000	-4.6	-0	4	8	9	5	10	13	14	12	17	18	19	7	12	14	15	6	11	13	15	5	4	2	3
5,000	5.1	8	3	7	9	16	11	14	16	24	19	21	22	18	13	15	17	17	11	15	17	6	5	3	4
CARLSBAD TO HOBBS																									55 N.MI.
15,000	-14.7	-10	5	8	9	-7	8	10	12	1	16	17	17	-3	11	13	14	-5	10	12	14	4	4	2	3
10,000	-4.6	-1	4	7	9	5	10	12	14	12	17	18	18	7	12	14	15	6	11	13	14	5	4	2	3
5,000	5.1	7	2	6	9	15	10	14	16	24	19	21	22	17	12	15	16	16	11	15	17	6	5	3	4
CASPER TO CHEYENNE																									129 N.MI.
15,000	-14.7	-19	-4	-0	2	-13	2	5	7	-1	14	15	16	-8	6	9	11	-10	4	8	10	6	5	3	5
10,000	-4.6	-9	-5	-0	2	-2	3	6	8	11	16	18	19	2	7	10	12	0	5	9	12	6	5	3	5
5,000	5.1	-2	-7	-3	-1	9	4	8	11	24	19	22	24	12	7	11	14	11	6	11	14	6	6	4	7
CASPER TO DENVER																									202 N.MI.
15,000	-14.7	-18	-4	0	3	-12	2	5	7	-1	14	16	17	-8	7	10	11	-10	5	8	10	6	4	2	5
10,000	-4.6	-9	-4	0	3	-1	3	7	9	12	16	18	19	2	7	10	12	1	6	10	12	6	5	3	5
5,000	5.1	-1	-6	-2	-0	10	5	9	11	25	20	22	24	13	8	12	14	11	6	12	15	6	6	4	7
CASPER TO RAPID CITY																									164 N.MI.
15,000	-14.7	-20	-6	-1	1	-14	1	4	6	-2	13	15	16	-9	5	9	10	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-6	-1	1	-3	1	5	7	10	15	17	18	1	6	9	11	-1	4	8	11	7	5	3	6
5,000	5.1	-4	-9	-5	-3	7	2	7	9	23	18	21	22	11	6	10	13	9	4	10	13	6	7	4	7
CASPER TO SALT LAKE CITY																									277 N.MI.
15,000	-14.7	-19	-4	0	3	-13	2	5	6	-1	14	16	17	-8	6	9	11	-10	5	8	10	6	4	2	5
10,000	-4.6	-9	-4	0	2	-2	3	6	8	12	17	19	20	2	7	10	12	1	5	10	12	6	5	3	5
5,000	5.1	-1	-6	-3	-2	10	5	9	11	26	21	24	25	13	8	12	15	12	7	13	16	4	6	4	7
CASPER TO SHERIDAN																									114 N.MI.
15,000	-14.7	-20	-6	-1	1	-14	1	4	6	-2	13	15	16	-10	5	8	10	-11	3	7	9	7	5	3	5
10,000	-4.6	-11	-6	-1	1	-3	1	5	7	10	15	17	18	1	5	9	11	-1	4	8	11	7	5	3	6
5,000	5.1	-4	-9	-6	-4	8	3	7	10	24	19	22	23	11	6	10	13	10	5	10	14	4	7	4	7

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CASTLEGAR TO CRANBROOK																									74 N.MI.
15,000	-14.7	-24	-10	-4	-2	-17	-3	1	2	-7	8	10	11	-14	1	4	6	-16	-1	3	5	8	5	3	5
10,000	-4.6	-14	-10	-4	-1	-7	-3	0	2	4	9	11	12	-4	1	4	6	-5	-1	3	6	8	5	4	6
5,000	5.1	-6	-11	-8	-7	1	-4	-0	2	14	9	12	14	6	1	5	7	4	-1	4	7	4	5	5	6
CASTLEGAR TO PENTICTON																									77 N.MI.
15,000	-14.7	-23	-8	-3	-1	-17	-3	1	2	-7	7	10	11	-14	1	4	6	-15	-1	3	5	8	5	3	5
10,000	-4.6	-14	-9	-4	-1	-8	-3	0	2	3	8	10	12	-4	0	4	6	-6	-1	3	6	8	5	4	5
5,000	5.1	-5	-10	-7	-5	1	-4	-1	1	14	8	12	13	6	1	5	7	4	-1	4	7	5	5	5	6
CEDAR RAPIDS TO CHICAGO																									170 N.MI.
15,000	-14.7	-18	-4	0	2	-14	1	4	6	-3	12	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-4	1	4	6	7	11	13	14	1	6	9	11	-2	3	7	9	6	5	3	5
5,000	5.1	-5	-10	-5	-2	4	-1	3	6	17	12	14	16	8	3	7	10	6	1	6	8	8	7	4	6
CEDAR RAPIDS TO DES MOINES																									90 N.MI.
15,000	-14.7	-18	-4	0	2	-13	2	5	6	-3	12	14	15	-8	6	9	11	-11	4	8	10	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-3	1	5	7	8	12	14	15	2	6	10	12	-1	4	7	10	6	5	3	5
5,000	5.1	-4	-9	-4	-1	5	-0	4	7	18	13	15	17	9	4	8	11	7	2	7	9	8	7	4	6
CEDAR RAPIDS TO MINNEAPOLIS																									192 N.MI.
15,000	-14.7	-20	-6	-2	1	-15	0	3	5	-4	11	13	14	-10	5	8	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-5	-0	3	5	7	11	13	15	1	5	9	11	-2	2	6	9	6	5	3	5
5,000	5.1	-6	-11	-6	-3	3	-2	3	5	17	12	15	16	8	3	7	10	5	0	6	8	8	7	4	7
CEDAR RAPIDS TO MOLINE																									59 N.MI.
15,000	-14.7	-18	-3	0	2	-13	2	5	6	-3	12	14	15	-8	6	9	11	-11	4	8	9	5	5	3	5
10,000	-4.6	-10	-5	-1	1	-4	1	5	6	7	12	14	15	2	6	10	12	-1	3	7	9	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	4	6	17	12	15	16	9	4	8	10	6	1	6	9	8	7	4	6
CHARLESTON, S.C. TO CHARLOTTE																									146 N.MI.
15,000	-14.7	-10	5	8	9	-8	7	9	10	-2	13	14	15	-4	10	12	14	-6	9	11	12	4	3	2	3
10,000	-4.6	-1	3	6	8	1	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	6	1	4	6	10	5	8	9	17	12	14	15	12	7	10	11	11	6	9	11	5	4	2	4
CHARLESTON, S.C. TO COLUMBIA																									83 N.MI.
15,000	-14.7	-9	6	8	9	-8	7	9	11	-2	13	14	15	-4	11	13	14	-6	9	11	12	4	3	2	3
10,000	-4.6	-1	4	7	8	2	6	9	10	8	12	13	14	6	10	12	13	4	8	10	11	4	4	2	3
5,000	5.1	6	1	5	7	10	5	8	9	17	12	14	15	12	7	10	11	12	6	9	11	5	4	2	4
CHARLESTON, S.C. TO FLORENCE																									79 N.MI.
15,000	-14.7	-9	6	8	9	-8	7	9	10	-2	13	14	15	-4	11	13	14	-6	9	11	12	4	3	2	3
10,000	-4.6	-1	4	7	8	2	6	9	10	8	12	13	14	5	10	12	13	4	8	10	11	4	4	2	3
5,000	5.1	6	1	5	7	10	5	8	9	17	12	14	14	12	7	10	11	12	6	9	11	5	4	2	4
CHARLESTON, S.C. TO JACKSONVILLE																									170 N.MI.
15,000	-14.7	-8	7	9	11	-6	8	10	12	-1	13	15	15	-3	12	14	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	6	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	3	3	1	3
5,000	5.1	8	3	6	7	11	6	8	10	17	12	14	14	13	8	10	11	12	7	10	11	4	4	2	3
CHARLESTON, S.C. TO NORFOLK																									305 N.MI.
15,000	-14.7	-10	4	7	9	-9	6	8	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	3	5	7	1	5	8	9	7	12	13	14	5	9	11	13	3	7	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	8	17	12	13	14	12	6	9	11	11	6	8	10	6	4	2	4
CHARLESTON, S.C. TO SAVANNAH																									77 N.MI.
15,000	-14.7	-8	6	9	10	-7	8	10	11	-1	13	14	15	-3	11	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	0	5	7	9	3	7	9	11	8	12	13	14	6	11	13	14	4	9	11	12	4	3	2	3
5,000	5.1	7	2	5	7	11	6	8	10	17	12	14	14	13	8	10	11	12	7	9	11	5	4	2	3
CHARLESTON, S.C. TO WILMINGTON, N.C.																									135 N.MI.
15,000	-14.7	-9	6	8	9	-8	7	9	10	-2	13	14	15	-4	11	13	14	-6	9	11	12	4	3	2	3
10,000	-4.6	-1	4	7	8	2	6	9	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	6	1	5	7	10	5	8	9	17	12	13	14	12	7	10	11	11	6	9	10	5	4	2	4
CHARLESTON, W.VA. TO CHARLOTTE																									192 N.MI.
15,000	-14.7	-12	2	5	7	-10	5	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	4	4	2	4
10,000	-4.6	-4	0	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
5,000	5.1	2	-3	2	4	8	3	6	8	17	12	14	15	11	5	9	10	9	4	8	10	7	5	3	5
CHARLESTON, W.VA. TO CINCINNATI																									149 N.MI.
15,000	-14.7	-15	0	3	5	-11	3	6	8	-2	12	14	15	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	2	4	-2	2	6	7	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4
5,000	5.1	-0	-5	-1	2	6	1	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	5
CHARLESTON, W.VA. TO CLEVELAND																									183 N.MI.
15,000	-14.7	-16	-1	2	4	-12	2	5	7	-3	12	13	14	-8	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	0	2	-3	1	5	6	6	11	13	14	2	7	10	11	-1	4	7	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	8	6	3	6
CHARLESTON, W.VA. TO COLUMBUS, OHIO																									115 N.MI.
15,000	-14.7	-15	-0	3	5	-12	3	6	7	-3	12	14	15	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	2	5	7	7	11	13	14	3	7	10	12	-0	5	8	9	5	5	2	4
5,000	5.1	-1	-6	-1	2	6	1	5	7	17	12	14	15	9	4	8	10	8	3	7	9	8	6	3	6
CHARLESTON, W.VA. TO GREENSBORO																									157 N.MI.
15,000	-14.7	-13	2	5	7	-10	4	7	9	-2	12	14	15	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-1	3	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4
5,000	5.1	2	-3	1	4	7	2	6	8	17	12	14	15	10	5	8	10	9	4	8	9	7	5	3	5
CHARLESTON, W.VA. TO HUNTINGTON																									45 N.MI.
15,000	-14.7	-14	0	4	5	-11	4	6	8	-2	12	14	15	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-2	2	4	-2	3	6	8	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4
5,000	5.1	0	-5	-0	3	6	1	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CHARLESTON, W.VA. TO HUNTSVILLE																									326 N.MI.
15,000	-14.7	-12	2	5	7	-10	5	8	9	-2	13	14	15	-5	9	12	13	-7	7	10	11	4	4	2	3
10,000	-4.6	-4	0	4	5	-0	5	7	9	8	12	14	14	4	9	11	13	2	7	9	11	5	4	2	4
5,000	5.1	3	-3	2	4	8	3	6	8	18	12	14	15	11	6	9	11	10	5	8	10	7	5	3	5
CHARLESTON, W.VA. TO KNOXVILLE																									191 N.MI.
15,000	-14.7	-13	2	5	7	-10	5	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-1	4	7	9	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
5,000	5.1	2	-3	1	4	8	2	6	8	17	12	14	15	11	5	9	11	9	4	8	10	7	5	3	5
CHARLESTON, W.VA. TO LEXINGTON																									143 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	7	8	-2	12	14	15	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	0	-5	0	3	7	2	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	5
CHARLESTON, W.VA. TO LOUISVILLE																									195 N.MI.
15,000	-14.7	-14	0	4	6	-11	4	7	8	-2	12	14	15	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	0	-5	-0	3	7	1	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	5
CHARLESTON, W.VA. TO NEW YORK																									386 N.MI.
15,000	-14.7	-15	-1	3	5	-12	2	5	7	-3	12	13	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	1	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
CHARLESTON, W.VA. TO PITTSBURGH																									142 N.MI.
15,000	-14.7	-16	-1	3	5	-12	3	6	7	-3	12	14	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	2	5	7	7	11	13	14	2	7	10	11	-0	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	2	5	0	4	6	16	11	13	14	9	4	8	10	7	2	6	8	8	6	3	6
CHARLESTON, W.VA. TO ROANOKE																									100 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	7	8	-2	12	14	15	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-2	3	6	8	7	11	13	14	3	8	10	12	1	5	8	10	5	5	2	4
5,000	5.1	1	-4	1	3	7	2	5	7	17	12	13	15	10	5	8	10	9	4	7	9	7	5	3	5
CHARLESTON, W.VA. TO WASHINGTON, D.C.																									216 N.MI.
15,000	-14.7	-14	0	4	5	-11	3	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-2	2	4	-2	2	5	7	7	11	13	14	3	7	10	12	0	5	8	9	5	5	2	4
5,000	5.1	-0	-5	-0	2	6	1	5	7	16	11	13	14	9	4	8	10	8	3	7	9	7	6	3	5
CHARLOTTE TO CHATTANOOGA																									210 N.MI.
15,000	-14.7	-11	4	7	8	-9	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	1	6	8	10	8	12	14	14	5	10	12	13	3	7	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	18	13	14	15	12	7	10	11	11	6	9	11	6	5	2	4
CHARLOTTE TO CLEVELAND																									374 N.MI.
15,000	-14.7	-14	0	4	6	-11	3	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-2	2	4	-2	3	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
5,000	5.1	0	-5	-0	3	6	1	5	7	17	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
CHARLOTTE TO COLUMBIA																									77 N.MI.
15,000	-14.7	-10	5	7	9	-8	6	9	10	-2	13	14	15	-5	10	12	13	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	6	7	1	6	8	10	8	12	13	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	0	4	6	9	4	7	9	17	12	14	15	12	7	9	11	11	6	9	11	6	4	2	4
CHARLOTTE TO COLUMBUS, OHIO																									302 N.MI.
15,000	-14.7	-13	1	4	6	-11	4	7	8	-2	12	14	15	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-1	3	5	-1	3	6	8	7	12	13	14	3	8	11	12	1	6	8	10	5	5	2	4
5,000	5.1	1	-4	1	3	7	2	6	8	17	12	14	15	10	5	8	10	9	4	7	9	7	5	3	5
CHARLOTTE TO DANVILLE																									112 N.MI.
15,000	-14.7	-11	3	6	8	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-3	1	5	6	0	5	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	4
5,000	5.1	4	-1	3	5	8	3	7	8	17	12	14	15	11	6	9	11	10	5	8	10	6	5	3	4
CHARLOTTE TO GREENSBORO																									71 N.MI.
15,000	-14.7	-11	4	6	8	-9	6	8	9	-2	13	14	15	-5	10	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-3	2	5	6	0	5	8	9	7	12	13	14	4	9	11	13	2	7	9	11	4	4	2	3
5,000	5.1	4	-1	3	5	9	4	7	8	17	12	14	15	11	6	9	11	10	5	8	10	6	5	2	4
CHARLOTTE TO GREENVILLE																									73 N.MI.
15,000	-14.7	-11	4	7	8	-9	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	1	6	8	10	8	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	18	12	14	15	12	7	9	11	11	6	9	11	6	5	2	4
CHARLOTTE TO JACKSONVILLE																									290 N.MI.
15,000	-14.7	-9	6	8	10	-7	8	10	11	-1	13	14	15	-4	11	13	14	-5	10	11	13	4	3	2	3
10,000	-4.6	0	5	7	8	2	7	9	11	8	12	14	14	6	11	12	14	4	9	11	12	4	4	2	3
5,000	5.1	7	2	5	7	11	5	8	9	18	12	14	15	13	7	10	11	12	7	9	11	5	4	2	4
CHARLOTTE TO PHILADELPHIA																									389 N.MI.
15,000	-14.7	-13	2	5	6	-11	4	7	8	-2	12	14	14	-6	8	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-2	3	6	8	7	11	13	14	3	8	10	12	1	5	8	10	5	4	2	4
5,000	5.1	2	-4	1	3	7	2	5	7	16	11	13	14	10	5	8	10	9	4	7	9	7	5	3	5
CHARLOTTE TO RALEIGH																									112 N.MI.
15,000	-14.7	-11	4	7	8	-9	6	8	9	-2	13	14	15	-5	10	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-3	2	5	6	0	5	8	9	7	12	13	14	4	9	11	12	2	7	9	11	4	4	2	3
5,000	5.1	4	-1	3	5	9	4	7	8	17	12	14	15	11	6	9	11	10	5	8	10	6	5	2	4
CHARLOTTE TO RICHMOND																									222 N.MI.
15,000	-14.7	-12	3	6	7	-10	5	8	9	-2	13	14	15	-6	9	11	13	-7	7	10	11	4	4	2	3
10,000	-4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	5	8	3	6	8	17	12	13	14	11	6	9	10	10	5	8	10	6	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
CHARLOTTE TO SPARTANBURG																									53 N.MI.
15,000	-14.7	-11	4	7	8	-9	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	1	6	8	10	8	12	13	14	5	9	12	13	3	7	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	18	12	14	15	12	7	9	11	11	6	9	10	6	5	2	4
CHARLOTTE TO WASHINGTON, D.C.																									287 N.MI.
15,000	-14.7	-13	2	5	7	-10	4	7	9	-2	12	14	15	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-4	0	3	5	-1	4	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4
5,000	5.1	2	-3	2	4	7	2	6	8	17	12	13	14	10	5	8	10	9	4	7	9	7	5	3	5
CHATTANOOGA TO CINCINNATI																									242 N.MI.
15,000	-14.7	-13	2	5	6	-10	5	8	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-0	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
5,000	5.1	2	-3	1	4	8	3	6	8	18	13	14	15	11	6	9	11	9	4	8	10	7	5	3	5
CHATTANOOGA TO GREENVILLE																									141 N.MI.
15,000	-14.7	-11	4	7	8	-8	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	1	6	9	10	8	13	14	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	8	9	18	13	14	15	12	7	10	11	11	6	9	11	6	5	2	4
CHATTANOOGA TO KNOXVILLE																									76 N.MI.
15,000	-14.7	-11	4	6	8	-9	6	9	10	-2	13	14	15	-5	10	12	13	-7	8	10	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	6	8	10	8	13	14	15	5	10	12	13	3	7	10	11	4	4	2	3
5,000	5.1	4	-1	3	5	9	4	7	9	18	13	15	15	12	7	10	11	11	6	9	11	6	5	3	5
CHATTANOOGA TO LEXINGTON																									182 N.MI.
15,000	-14.7	-12	2	5	7	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	7	10	11	4	4	2	3
10,000	-4.6	-4	0	4	5	0	5	8	9	8	12	14	14	4	9	12	13	2	7	9	11	5	4	2	4
5,000	5.1	2	-3	2	4	8	3	7	8	18	13	14	15	11	6	9	11	10	5	8	10	7	5	3	5
CHATTANOOGA TO MEMPHIS																									235 N.MI.
15,000	-14.7	-11	4	6	8	-8	7	9	10	-1	14	15	15	-4	10	12	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-3	2	5	6	2	6	9	11	9	13	14	15	6	10	13	14	3	8	10	12	4	4	2	3
5,000	5.1	4	-1	3	5	10	4	8	10	19	13	15	16	12	7	10	12	11	6	9	11	6	5	2	5
CHATTANOOGA TO NASHVILLE																									98 N.MI.
15,000	-14.7	-11	3	6	8	-9	6	9	10	-1	13	14	15	-5	10	12	13	-7	8	10	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	6	8	10	8	13	14	15	5	10	12	13	3	7	10	11	4	4	2	4
5,000	5.1	4	-1	3	5	9	4	7	9	18	13	15	16	12	7	10	11	11	6	9	11	6	5	3	5
CHATTANOOGA TO ROME																									41 N.MI.
15,000	-14.7	-11	4	7	8	-8	7	9	10	-1	13	15	15	-4	10	12	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	3	5	7	2	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	10	5	8	9	18	13	15	16	12	7	10	11	11	6	9	11	6	5	2	4
CHEYENNE TO DENVER																									83 N.MI.
15,000	-14.7	-18	-3	1	3	-12	3	6	7	-0	15	16	17	-7	7	10	12	-9	5	9	11	6	4	2	4
10,000	-4.6	-8	-3	1	3	-1	4	8	9	12	16	18	19	3	8	11	13	2	6	10	12	6	5	3	5
5,000	5.1	-0	-5	-1	2	10	5	9	12	25	20	22	24	13	8	12	15	12	7	12	15	7	6	4	7
CHICAGO TO CINCINNATI																									230 N.MI.
15,000	-14.7	-17	-2	2	4	-13	2	5	7	-3	12	14	15	-8	7	10	11	-10	5	8	10	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-3	1	5	7	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	-0	5	-0	4	6	17	12	14	15	9	4	8	10	7	2	6	9	8	6	3	6
CHICAGO TO CLEVELAND																									273 N.MI.
15,000	-14.7	-18	-4	0	2	-14	1	4	6	-3	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-5	-0	3	5	6	11	13	14	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-5	-10	-4	-2	3	-2	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
CHICAGO TO COLUMBUS, OHIO																									256 N.MI.
15,000	-14.7	-17	-3	1	3	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-5	-1	1	-4	1	4	6	7	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-4	-9	-3	-1	4	-1	3	6	16	11	14	15	8	3	7	10	6	1	6	8	8	6	3	6
CHICAGO TO DAYTON																									209 N.MI.
15,000	-14.7	-17	-2	1	3	-13	2	5	6	-3	12	14	14	-8	7	10	11	-10	4	8	10	5	5	3	4
10,000	-4.6	-9	-5	-1	1	-4	1	4	6	7	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-4	-9	-3	-1	4	-1	3	6	17	11	14	15	9	3	7	10	6	1	6	8	8	6	3	6
CHICAGO TO DES MOINES																									259 N.MI.
15,000	-14.7	-18	-4	0	2	-13	1	5	6	-3	12	14	15	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-4	1	4	6	7	12	14	15	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-4	-10	-4	-2	4	-1	4	6	17	12	15	16	9	4	8	10	6	1	6	9	8	7	4	6
CHICAGO TO DETROIT																									203 N.MI.
15,000	-14.7	-19	-4	-0	2	-14	0	4	5	-4	11	13	14	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-5	-0	3	5	6	11	12	14	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-5	-10	-5	-2	3	-2	2	5	16	11	13	14	8	3	7	9	5	0	5	7	8	6	4	6
CHICAGO TO EVANSVILLE																									237 N.MI.
15,000	-14.7	-16	-1	2	4	-12	3	6	7	-2	12	14	15	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-8	-4	0	2	-3	2	5	7	7	12	14	14	3	7	10	12	-0	4	8	10	6	5	3	5
5,000	5.1	-2	-7	-2	0	5	0	4	7	17	12	14	16	9	4	8	10	7	2	7	9	8	6	3	6
CHICAGO TO GRAND RAPIDS																									113 N.MI.
15,000	-14.7	-19	-4	-0	2	-14	0	4	5	-4	11	13	14	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-5	-0	3	5	6	11	13	14	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	3	-2	2	5	16	11	13	15	8	2	7	9	5	0	5	7	8	7	4	6
CHICAGO TO INDIANAPOLIS																									154 N.MI.
15,000	-14.7	-17	-2	1	3	-13	2	5	7	-3	12	14	15	-8	7	10	11	-10	5	8	10	5	5	3	4
10,000	-4.6	-9	-5	-1	1	-4	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-9	-3	-1	4	-1	4	6	17	12	14	15	9	4	8	10	7	2	6	8	8	6	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
CHICAGO TO KANSAS CITY							**350 N.MI.**
15,000	-14.7	-17 -2 1 3	-12 2 5 7	-2 12 14 15	-8 7 10 12	-10 5 8 10	5 5 3 4
10,000	-4.6	-9 -4 -0 2	-3 2 6 7	8 12 14 15	2 7 10 12	-0 4 8 10	6 5 3 5
5,000	5.1	-3 -8 -3 0	5 0 5 7	18 13 15 17	10 4 9 11	8 2 7 10	8 7 4 6
CHICAGO TO LOUISVILLE							**249 N.MI.**
15,000	-14.7	-16 -1 2 4	-12 3 6 7	-3 12 14 15	-7 7 10 12	-10 5 8 10	5 4 2 4
10,000	-4.6	-8 -4 0 2	-3 2 5 7	7 12 13 14	2 7 10 12	-0 4 8 9	6 5 3 5
5,000	5.1	-2 -8 -2 0	5 0 4 6	17 12 14 15	9 4 8 10	7 2 6 9	8 6 3 6
CHICAGO TO MADISON							**94 N.MI.**
15,000	-14.7	-19 -4 -1 1	-14 0 4 5	-4 11 13 14	-9 6 9 11	-12 3 7 9	6 5 3 5
10,000	-4.6	-11 -7 -2 -0	-5 -0 3 5	6 11 13 14	1 5 9 11	-2 2 6 8	6 5 3 5
5,000	5.1	-6 -11 -6 -3	3 -2 2 5	16 11 14 15	8 3 7 9	5 0 5 8	8 7 4 6
CHICAGO TO MILWAUKEE							**58 N.MI.**
15,000	-14.7	-19 -4 -0 2	-14 0 4 5	-4 11 13 14	-9 6 9 11	-12 3 7 9	6 5 3 5
10,000	-4.6	-11 -6 -2 -0	-5 -0 3 5	6 11 13 14	1 5 9 11	-2 2 6 8	6 5 3 5
5,000	5.1	-6 -11 -6 -3	3 -2 2 5	16 11 13 15	8 3 7 9	5 0 5 8	8 7 4 6
CHICAGO TO MINNEAPOLIS							**290 N.MI.**
15,000	-14.7	-20 -6 -2 1	-15 -0 3 5	-4 11 13 14	-10 5 8 10	-12 3 6 8	6 5 3 5
10,000	-4.6	-12 -7 -3 -1	-5 -1 3 5	6 11 13 14	0 5 9 11	-3 2 6 8	6 5 3 5
5,000	5.1	-7 -12 -7 -4	3 -2 2 5	16 11 14 15	7 2 7 9	5 -0 5 8	8 7 4 7
CHICAGO TO MOLINE							**121 N.MI.**
15,000	-14.7	-18 -3 0 2	-13 1 4 6	-3 12 13 14	-8 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-4 1 4 6	7 11 13 14	1 6 10 11	-1 3 7 9	6 5 3 5
5,000	5.1	-5 -10 -5 -2	4 -1 3 6	17 12 14 15	8 3 7 10	6 1 6 8	8 7 4 6
CHICAGO TO MUSKEGON							**103 N.MI.**
15,000	-14.7	-19 -5 -1 2	-15 0 3 5	-4 11 13 14	-9 5 9 10	-12 3 7 9	6 5 3 5
10,000	-4.6	-11 -7 -2 -0	-5 -1 3 5	6 10 13 14	1 5 9 11	-2 2 6 8	6 5 3 5
5,000	5.1	-6 -11 -6 -3	3 -2 2 4	16 11 13 15	7 2 7 9	5 0 5 7	8 7 4 6
CHICAGO TO NASHVILLE							**356 N.MI.**
15,000	-14.7	-15 -0 3 5	-11 3 6 8	-2 12 14 15	-7 8 11 12	-9 6 9 10	5 4 2 4
10,000	-4.6	-7 -2 1 3	-2 3 6 8	7 12 14 15	3 8 11 12	0 5 8 10	5 5 2 4
5,000	5.1	-1 -6 -1 1	6 1 5 7	17 12 14 16	10 5 8 11	8 3 7 9	7 6 3 6
CHICAGO TO PITTSBURGH							**358 N.MI.**
15,000	-14.7	-18 -3 1 3	-13 1 4 6	-3 11 13 14	-8 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-4 0 4 6	6 11 13 14	1 6 9 11	-2 3 7 8	6 5 3 5
5,000	5.1	-4 -9 -4 -1	4 -1 3 5	16 11 13 14	8 3 7 9	6 1 5 8	8 6 3 6
CHICAGO TO ROCHESTER, N.Y.							**457 N.MI.**
15,000	-14.7	-19 -5 -1 2	-15 -0 3 5	-4 10 12 14	-9 5 9 10	-12 3 6 8	6 5 3 5
10,000	-4.6	-12 -7 -3 -0	-6 -1 2 4	5 10 12 13	0 5 8 10	-3 2 5 7	6 5 3 5
5,000	5.1	-6 -11 -6 -3	2 -3 2 4	15 10 12 14	7 2 6 8	5 -0 4 7	8 6 4 6
CHICAGO TO ST. LOUIS							**224 N.MI.**
15,000	-14.7	-16 -2 2 4	-12 2 5 7	-2 12 14 15	-7 7 10 12	-10 5 8 10	5 5 2 4
10,000	-4.6	-9 -4 -0 2	-3 2 5 7	7 12 14 15	2 7 10 12	-0 4 8 10	6 5 3 5
5,000	5.1	-3 -8 -3 -0	5 -0 4 7	17 12 15 16	9 4 8 10	7 2 7 9	8 6 3 6
CHICAGO TO SAGINAW							**192 N.MI.**
15,000	-14.7	-20 -5 -1 1	-15 -0 3 5	-4 11 13 14	-9 5 9 10	-12 3 6 8	6 5 3 5
10,000	-4.6	-12 -7 -3 -0	-6 -1 3 5	6 10 12 13	0 5 9 11	-3 2 6 8	6 5 3 5
5,000	5.1	-6 -11 -6 -3	3 -3 2 4	16 10 13 14	7 2 6 9	5 -0 5 7	8 7 4 6
CHICAGO TO SOUTH BEND							**73 N.MI.**
15,000	-14.7	-18 -4 0 2	-14 1 4 6	-3 11 13 14	-9 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -6 -2 0	-4 0 4 6	6 11 13 14	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-5 -10 -5 -2	3 -2 3 5	16 11 14 15	8 3 7 9	6 1 5 8	8 7 4 6
CHICAGO TO SPRINGFIELD, ILL.							**183 N.MI.**
15,000	-14.7	-17 -2 2 3	-13 2 5 7	-3 12 14 15	-8 7 10 12	-10 5 8 10	5 5 3 4
10,000	-4.6	-9 -4 -0 2	-3 2 5 7	7 12 14 15	2 7 10 12	-1 4 7 9	6 5 3 5
5,000	5.1	-3 -8 -3 -1	5 -0 4 6	17 12 14 16	9 4 8 10	7 2 6 9	8 6 3 6
CHICAGO TO TOLEDO							**185 N.MI.**
15,000	-14.7	-18 -4 0 2	-14 1 4 6	-3 11 13 14	-9 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -6 -2 1	-5 -0 4 5	6 11 13 14	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-5 -10 -5 -2	3 -2 3 5	16 11 13 15	8 3 7 9	6 1 5 8	8 6 4 6
CHICAGO TO TORONTO							**378 N.MI.**
15,000	-14.7	-20 -5 -1 1	-15 -1 3 5	-4 10 12 14	-10 5 8 10	-12 2 6 8	6 5 3 5
10,000	-4.6	-12 -7 -3 -1	-6 -1 2 4	5 10 12 13	0 5 8 10	-3 1 5 7	6 5 3 5
5,000	5.1	-6 -11 -6 -3	2 -3 1 4	15 10 12 14	7 2 6 8	5 -1 4 7	8 6 4 6
CHICAGO TO WATERLOO							**203 N.MI.**
15,000	-14.7	-19 -4 -0 2	-14 1 4 6	-3 11 13 14	-9 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-11 -6 -2 0	-4 0 4 6	7 11 13 14	1 6 9 11	-2 3 7 9	6 5 3 5
5,000	5.1	-5 -10 -5 -2	4 -2 3 5	17 12 14 16	8 3 7 10	6 1 6 8	8 7 4 6
CINCINNATI TO CLEVELAND							**192 N.MI.**
15,000	-14.7	-16 -2 2 4	-13 2 5 7	-3 12 14 14	-8 7 10 11	-10 5 8 10	5 5 2 4
10,000	-4.6	-8 -4 -0 2	-4 1 4 6	7 11 13 14	2 7 10 11	-1 4 7 9	6 5 3 5
5,000	5.1	-2 -8 -2 0	5 -0 4 6	16 11 13 15	9 4 7 10	7 2 6 8	8 6 3 6
CINCINNATI TO COLUMBUS, OHIO							**100 N.MI.**
15,000	-14.7	-16 -1 3 4	-12 3 6 7	-2 12 14 15	-7 8 10 12	-9 5 8 10	5 4 2 4
10,000	-4.6	-8 -3 1 3	-3 2 5 7	7 12 13 14	3 7 10 12	-0 4 8 9	5 5 2 4
5,000	5.1	-2 -7 -1 1	6 0 5 7	17 12 14 15	9 4 8 10	7 2 7 9	8 6 3 6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CINCINNATI TO DAYTON																									55 N.MI.
15,000	-14.7	-15	-1	3	5	-12	3	6	7	-2	12	14	15	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	2	5	7	7	12	13	14	3	7	10	12	-0	5	8	9	5	5	2	4
5,000	5.1	-2	-7	-1	1	6	0	5	7	17	12	14	15	9	4	8	10	8	2	7	9	8	6	3	6
CINCINNATI TO DETROIT																									200 N.MI.
15,000	-14.7	-17	-2	1	3	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	4	8	10	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	4	6	16	11	13	15	8	3	7	9	7	1	6	8	8	6	3	6
CINCINNATI TO INDIANAPOLIS																									85 N.MI.
15,000	-14.7	-15	-1	3	5	-12	3	6	8	-2	12	14	15	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-2	2	6	7	7	12	13	14	3	7	10	12	0	5	8	10	5	5	2	4
5,000	5.1	-1	-7	-1	1	6	1	5	7	17	12	14	15	9	4	8	10	8	3	7	9	8	6	3	6
CINCINNATI TO KNOXVILLE																									197 N.MI.
15,000	-14.7	-13	1	5	6	-10	4	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	5	-1	4	7	9	8	12	14	14	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	1	-4	1	3	7	2	6	8	17	12	14	15	10	5	9	11	9	4	8	10	7	5	3	5
CINCINNATI TO LEXINGTON																									61 N.MI.
15,000	-14.7	-14	0	4	5	-11	4	7	8	-2	13	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-6	-2	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	-0	-5	+0	2	6	1	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	5
CINCINNATI TO LOUISVILLE																									72 N.MI.
15,000	-14.7	-15	0	3	5	-11	4	7	8	-2	13	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-6	-2	2	4	-2	3	6	8	7	12	14	14	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	-0	-5	-1	2	6	1	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	6
CINCINNATI TO NASHVILLE																									200 N.MI.
15,000	-14.7	-14	1	4	6	-10	4	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-1	4	7	9	8	12	14	14	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	1	-4	1	3	7	2	6	8	18	13	14	15	10	5	9	11	9	4	8	10	7	6	3	5
CINCINNATI TO PITTSBURGH																									222 N.MI.
15,000	-14.7	-16	-1	2	4	-12	2	6	7	-3	12	14	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-3	1	5	7	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	0	4	6	16	11	13	15	9	4	8	10	7	2	6	8	8	6	3	6
CINCINNATI TO ST. LOUIS																									267 N.MI.
15,000	-14.7	-15	-0	3	5	-11	4	6	8	-2	13	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-7	-2	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	-1	-6	-1	2	6	1	5	7	18	13	15	16	10	5	9	11	8	3	7	10	7	6	3	6
CINCINNATI TO WASHINGTON, D.C.																									356 N.MI.
15,000	-14.7	-15	-0	3	5	-12	3	6	8	-3	12	14	14	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	1	3	-3	2	5	7	7	11	13	14	3	7	10	12	-0	5	8	9	5	5	2	4
5,000	5.1	-1	-6	-1	2	6	1	5	7	16	11	13	14	9	4	8	10	8	3	7	9	7	6	3	5
CLEVELAND TO COLUMBUS, OHIO																									97 N.MI.
15,000	-14.7	-17	-2	1	3	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	4	8	9	6	5	3	4
10,000	-4.6	-9	-4	-1	2	-4	1	4	6	6	11	13	13	2	6	9	11	-1	3	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	6	16	11	13	14	8	3	7	9	6	1	6	8	8	6	3	6
CLEVELAND TO DAYTON																									141 N.MI.
15,000	-14.7	-17	-2	1	3	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	6	16	11	13	14	8	3	7	9	6	1	6	8	8	6	3	6
CLEVELAND TO DETROIT																									83 N.MI.
15,000	-14.7	-18	-4	0	2	-14	0	4	5	-4	11	13	14	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-5	-1	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-5	-10	-4	-2	3	-2	2	5	15	10	13	14	8	2	6	9	5	0	5	7	8	6	3	6
CLEVELAND TO FT. WAYNE																									153 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
CLEVELAND TO GRAND RAPIDS																									192 N.MI.
15,000	-14.7	-19	-4	-0	2	-14	0	3	5	-4	11	13	14	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-5	-1	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-5	-10	-5	-2	3	-2	2	4	15	10	13	14	7	2	6	9	5	0	5	7	8	6	3	6
CLEVELAND TO INDIANAPOLIS																									226 N.MI.
15,000	-14.7	-17	-2	2	4	-13	2	5	7	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	1	4	6	7	11	13	14	2	6	10	11	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	-0	5	-1	4	6	16	11	14	15	9	3	7	10	7	2	6	8	8	6	3	6
CLEVELAND TO KNOXVILLE																									351 N.MI.
15,000	-14.7	-15	0	3	5	-11	3	6	8	-2	12	14	15	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	2	3	-2	2	6	7	7	12	13	14	3	8	10	12	0	5	8	10	5	5	2	4
5,000	5.1	-0	-5	-0	2	6	1	5	7	17	12	14	15	10	4	8	10	8	3	7	9	7	6	3	5
CLEVELAND TO MILWAUKEE																									284 N.MI.
15,000	-14.7	-19	-4	-0	2	-14	0	4	5	-4	11	13	14	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-5	-1	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-5	-10	-5	-2	3	-2	2	5	16	11	13	14	8	2	7	9	5	0	5	7	8	6	4	6
CLEVELAND TO NEW YORK																									368 N.MI.
15,000	-14.7	-17	-3	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-8	-3	-1	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	8	6	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
CLEVELAND TO PHILADELPHIA							315 N.MI.
15,000	-14.7	-17 -2 2 4	-13 1 4 6	-3 11 13 14	-8 7 10 11	-10 4 8 9	6 5 3 4
10,000	-4.6	-9 -4 -0 2	-4 0 4 5	6 11 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-3 -8 -3 -0	4 -1 3 5	15 10 12 14	8 3 7 9	6 1 5 7	8 6 3 6
CLEVELAND TO PITTSBURGH							93 N.MI.
15,000	-14.7	-17 -3 1 3	-13 1 4 6	-3 11 13 14	-8 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-9 -5 -1 1	-5 0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-3 -8 -3 -0	4 -1 3 5	16 11 13 14	8 3 7 9	6 1 5 8	8 6 3 6
CLEVELAND TO ROCHESTER, N.Y.							212 N.MI.
15,000	-14.7	-19 -4 -0 2	-15 -0 3 5	-4 10 12 13	-9 5 9 10	-12 3 6 8	6 5 3 5
10,000	-4.6	-11 -7 -2 -0	-6 -1 2 4	5 10 11 13	0 5 8 10	-3 2 5 7	6 5 3 5
5,000	5.1	-5 -10 -5 -2	2 -3 2 4	15 10 12 13	7 2 6 8	5 -0 4 6	8 6 3 6
CLEVELAND TO TOLEDO							88 N.MI.
15,000	-14.7	-18 -3 1 3	-14 1 4 6	-4 11 13 14	-9 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-5 -0 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-4 -9 -4 -1	4 -2 3 5	16 11 13 14	8 3 7 9	6 1 5 7	8 6 3 6
CLEVELAND TO TORONTO							168 N.MI.
15,000	-14.7	-19 -5 -0 2	-15 -1 3 5	-4 10 12 13	-10 5 8 10	-12 3 6 8	6 5 3 5
10,000	-4.6	-12 -7 -3 -1	-6 -2 2 4	5 9 11 12	0 5 8 10	-3 1 5 7	6 5 3 5
5,000	5.1	-6 -11 -5 -3	2 -3 1 4	15 10 12 13	7 2 6 8	5 -1 4 6	8 6 3 6
CLEVELAND TO WASHINGTON, D.C.							269 N.MI.
15,000	-14.7	-16 -2 2 4	-13 2 5 7	-3 12 13 14	-8 7 10 11	-10 5 8 10	5 5 2 4
10,000	-4.6	-8 -4 0 2	-4 1 4 6	6 11 12 13	2 6 9 11	-1 4 7 9	6 5 2 5
5,000	5.1	-2 -7 -2 1	5 -0 4 6	16 11 13 14	8 3 7 9	7 2 6 8	8 6 3 6
CLOVIS TO LUBBOCK							77 N.MI.
15,000	-14.7	-12 3 6 8	-7 7 10 11	1 15 17 17	-4 11 13 14	-5 9 12 13	5 4 2 3
10,000	-4.6	-2 3 6 8	4 9 12 13	12 16 18 18	6 11 13 15	5 10 12 14	5 4 2 4
5,000	5.1	6 1 5 8	15 9 13 15	24 19 21 23	16 11 14 16	15 10 15 17	7 6 4 5
CLOVIS TO SANTA FE							164 N.MI.
15,000	-14.7	-12 2 6 8	-8 7 9 11	1 16 17 18	-4 10 13 14	-6 9 11 13	5 4 2 3
10,000	-4.6	-2 2 6 8	4 8 11 13	13 17 19 19	6 11 13 15	5 10 13 14	5 4 2 4
5,000	5.1	5 0 5 7	15 10 14 16	25 20 23 24	17 12 15 17	16 11 15 18	6 6 4 5
COLLEGE STATION TO HOUSTON							80 N.MI.
15,000	-14.7	-8 7 9 10	-5 10 12 13	0 15 16 17	-2 13 14 15	-4 11 13 14	3 3 1 2
10,000	-4.6	2 7 9 11	6 11 13 14	10 15 16 16	8 13 14 15	7 11 13 14	4 4 1 3
5,000	5.1	9 4 7 9	14 9 12 14	20 15 17 17	15 10 12 13	15 10 12 14	5 4 2 3
COLLEGE STATION TO TEMPLE							64 N.MI.
15,000	-14.7	-8 6 9 10	-5 9 11 13	0 15 16 17	-2 12 14 15	-4 11 13 14	3 3 1 3
10,000	-4.6	1 6 9 10	6 11 13 14	10 15 16 17	8 12 14 15	6 11 13 14	4 4 1 3
5,000	5.1	8 3 7 9	14 9 12 14	21 16 17 18	15 10 12 14	15 10 13 14	6 4 2 3
COLORADO SPRINGS TO DENVER							58 N.MI.
15,000	-14.7	-17 -2 2 4	-11 4 7 8	0 15 16 17	-7 8 11 13	-9 6 10 11	6 4 2 4
10,000	-4.6	-7 -2 2 4	0 5 8 10	12 17 19 19	4 8 12 13	2 7 11 13	6 5 3 5
5,000	5.1	1 -4 0 3	11 6 10 13	25 20 23 24	14 9 13 15	13 8 13 16	7 6 4 6
COLORADO SPRINGS TO OKLAHOMA CITY							397 N.MI.
15,000	-14.7	-15 0 4 5	-9 5 8 10	0 15 16 17	-5 9 12 13	-7 7 10 12	5 4 2 4
10,000	-4.6	-5 -0 3 5	2 7 10 11	11 16 17 18	5 9 12 14	3 8 11 13	5 5 2 4
5,000	5.1	3 -2 3 5	12 7 11 13	23 18 21 23	14 9 13 15	13 8 13 16	7 6 4 6
COLORADO SPRINGS TO PUEBLO							33 N.MI.
15,000	-14.7	-16 -1 2 4	-10 4 7 9	0 15 16 17	-6 9 11 13	-8 7 10 12	6 4 2 4
10,000	-4.6	-6 -1 3 5	1 6 9 11	12 17 18 19	4 9 12 14	3 7 11 13	6 5 2 5
5,000	5.1	2 -3 1 4	12 7 11 13	25 20 23 24	14 9 13 16	13 8 13 16	7 6 4 6
COLUMBIA TO FLORENCE							71 N.MI.
15,000	-14.7	-10 5 8 9	-8 7 9 10	-2 13 14 15	-4 10 12 14	-6 9 11 12	4 3 2 3
10,000	-4.6	-1 3 6 8	1 6 9 10	8 12 13 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	6 1 4 6	10 5 8 9	17 12 14 15	12 7 10 11	11 6 9 11	5 4 2 4
COLUMBIA TO GREENVILLE							82 N.MI.
15,000	-14.7	-10 5 7 9	-8 7 9 10	-2 13 14 15	-4 10 12 13	-6 9 11 12	4 4 2 3
10,000	-4.6	-2 3 6 7	1 6 9 10	8 12 14 14	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	6 0 4 6	10 5 8 9	18 12 14 15	12 7 10 11	11 6 9 11	6 4 2 4
COLUMBIA,S.C. TO JACKSONVILLE							214 N.MI.
15,000	-14.7	-8 7 9 10	-7 8 10 11	-1 13 14 15	-3 12 13 14	-5 10 12 13	3 3 2 3
10,000	-4.6	1 5 8 9	3 7 10 11	8 13 14 14	6 11 13 14	4 9 11 12	4 3 2 3
5,000	5.1	8 2 6 7	11 6 8 10	18 12 14 14	13 8 10 11	12 7 10 11	5 4 2 3
COLUMBIA TO MERIDIAN							395 N.MI.
15,000	-14.7	-9 5 8 9	-7 8 10 11	-1 14 15 15	-4 11 13 14	-5 9 11 13	4 3 2 3
10,000	-4.6	-0 4 7 8	3 7 10 11	8 13 14 15	6 11 13 14	4 9 11 12	4 4 2 3
5,000	5.1	6 1 5 7	11 6 8 10	18 13 14 15	13 8 10 11	12 7 10 11	5 4 2 4
COLUMBIA TO MONTGOMERY							283 N.MI.
15,000	-14.7	-9 6 8 9	-7 7 10 11	-1 13 15 15	-4 11 13 14	-5 9 11 13	4 3 2 3
10,000	-4.6	-0 4 7 8	2 7 10 11	8 13 14 14	6 11 13 14	4 9 11 12	4 4 2 3
5,000	5.1	6 1 5 7	11 5 8 10	18 13 14 15	13 7 10 11	12 7 10 11	5 4 2 4
COLUMBIA TO PENSACOLA							373 N.MI.
15,000	-14.7	-8 6 9 10	-7 8 10 11	-1 14 15 15	-3 12 13 14	-5 10 12 13	3 3 2 3
10,000	-4.6	1 5 8 9	3 8 10 11	8 13 14 15	7 11 13 14	5 9 11 12	4 4 2 3
5,000	5.1	7 2 5 7	11 6 9 10	18 13 14 15	13 8 10 11	12 7 10 11	5 4 2 3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
COLUMBIA, S.C. TO RALEIGH							**162 N.MI.**
15,000	-14.7	-10 4 7 9	-9 6 8 10	-2 13 14 15	-5 10 12 13	-6 8 11 12	4 4 2 3
10,000	-4.6	-2 3 5 7	1 5 8 10	7 12 13 14	5 9 11 13	3 7 10 11	4 4 2 3
5,000	5.1	5 0 4 6	9 4 7 9	17 12 14 15	12 7 9 11	11 6 9 10	6 4 2 4
COLUMBIA TO SAVANNAH							**116 N.MI.**
15,000	-14.7	-9 6 8 10	-7 7 10 11	-1 13 14 15	-4 11 13 14	-5 9 11 12	4 3 2 3
10,000	-4.6	-0 4 7 8	2 7 9 11	8 12 13 14	6 10 12 13	4 9 11 12	4 4 2 3
5,000	5.1	7 2 5 7	10 5 8 9	18 12 14 15	13 7 10 11	12 7 9 11	5 4 2 4
COLUMBIA TO WASHINGTON, D.C.							**354 N.MI.**
15,000	-14.7	-12 3 6 7	-10 5 7 9	-2 13 14 15	-6 9 11 13	-7 7 10 11	4 4 2 3
10,000	-4.6	-4 1 4 6	-1 4 7 8	7 12 13 14	4 8 11 12	2 6 9 10	5 4 2 4
5,000	5.1	3 -2 2 4	8 3 6 8	17 12 13 14	11 6 9 10	10 4 8 10	6 5 3 4
COLUMBUS, GA. TO MONTGOMERY							**75 N.MI.**
15,000	-14.7	-9 6 8 10	-7 8 10 11	-1 14 15 15	-3 12 13 14	-5 10 12 13	3 3 2 3
10,000	-4.6	0 5 7 9	3 8 10 11	9 13 14 15	7 11 13 14	5 9 11 12	4 4 2 3
5,000	5.1	7 2 5 7	11 6 9 10	18 13 14 15	13 8 10 12	12 7 10 11	5 4 2 4
COLUMBUS, GA. TO PENSACOLA							**168 N.MI.**
15,000	-14.7	-8 7 9 10	-6 9 11 12	-1 14 15 16	-3 12 14 15	-4 10 12 13	3 3 2 3
10,000	-4.6	1 6 8 9	4 8 11 12	9 13 14 15	7 12 13 14	5 10 12 13	3 3 1 3
5,000	5.1	8 3 6 7	12 7 9 11	18 13 14 15	13 8 10 12	13 8 10 11	5 4 2 3
COLUMBUS, GA. TO TALLAHASSEE							**131 N.MI.**
15,000	-14.7	-8 7 9 10	-6 9 11 12	-1 14 15 15	-3 12 14 15	-4 10 12 13	3 3 2 3
10,000	-4.6	1 6 8 9	4 8 11 12	8 13 14 15	7 12 13 14	5 10 11 12	3 3 1 3
5,000	5.1	8 3 6 7	12 7 9 10	18 13 14 15	13 8 10 12	13 8 10 11	4 4 2 3
COLUMBUS, OHIO TO DAYTON							**62 N.MI.**
15,000	-14.7	-16 -1 2 4	-12 2 6 7	-5 12 14 15	-7 7 10 12	-10 5 8 10	5 4 2 4
10,000	-4.6	-8 -3 0 2	-3 1 5 7	7 11 13 14	2 7 10 12	-1 4 7 9	6 5 2 5
5,000	5.1	-2 -7 -2 1	5 0 4 6	17 12 14 15	9 4 8 10	7 2 6 9	8 6 3 6
COLUMBUS, OHIO TO DETROIT							**136 N.MI.**
15,000	-14.7	-18 -3 1 3	-13 1 4 6	-3 11 13 14	-8 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-4 0 4 6	6 11 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-4 -9 -4 -1	4 -1 3 5	16 11 13 14	8 3 7 9	6 1 5 8	8 6 3 6
COLUMBUS, OHIO TO INDIANAPOLIS							**157 N.MI.**
15,000	-14.7	-16 -1 2 4	-12 3 6 7	-2 12 14 15	-7 7 10 12	-9 5 8 10	5 4 2 4
10,000	-4.6	-8 -3 0 2	-3 2 5 7	7 12 13 14	2 7 10 12	-0 4 8 9	6 5 2 5
5,000	5.1	-2 -7 -2 1	5 0 4 7	17 12 14 15	9 4 8 10	7 2 6 9	8 6 3 6
COLUMBUS, OHIO TO LOUISVILLE							**172 N.MI.**
15,000	-14.7	-15 -0 3 5	-12 3 6 8	-2 12 14 15	-7 8 11 12	-9 6 9 10	5 4 2 4
10,000	-4.6	-7 -2 1 3	-2 2 6 7	7 12 13 14	3 7 10 12	0 5 8 10	5 5 2 4
5,000	5.1	-1 -6 -1 2	6 1 5 7	17 12 14 15	9 4 8 10	8 3 7 9	7 6 3 6
COLUMBUS, OHIO TO PHILADELPHIA							**352 N.MI.**
15,000	-14.7	-16 -1 2 4	-13 2 5 7	-3 12 13 14	-8 7 10 12	-10 5 8 10	5 4 2 4
10,000	-4.6	-8 -3 0 2	-4 1 4 6	6 11 13 13	2 7 10 11	-1 4 7 9	6 5 2 4
5,000	5.1	-2 -7 -2 1	5 -0 4 6	16 11 13 14	9 4 7 9	7 2 6 8	8 6 3 6
COLUMBUS, OHIO TO PITTSBURGH							**126 N.MI.**
15,000	-14.7	-16 -2 2 4	-13 2 5 7	-3 12 13 14	-8 7 10 11	-10 5 8 10	5 5 2 4
10,000	-4.6	-8 -4 0 2	-4 1 4 6	6 11 13 14	2 7 10 11	-1 4 7 9	6 5 2 5
5,000	5.1	-2 -8 -2 1	5 -0 4 6	16 11 13 14	8 3 7 9	7 2 6 8	8 6 3 6
COLUMBUS, OHIO TO TOLEDO							**104 N.MI.**
15,000	-14.7	-17 -2 1 3	-13 2 5 6	-3 12 13 14	-8 7 10 11	-10 4 8 9	6 5 3 4
10,000	-4.6	-9 -5 -1 2	-4 1 4 6	6 11 13 14	2 6 10 11	-1 3 7 9	6 5 3 5
5,000	5.1	-3 -8 -3 -0	4 -1 3 6	16 11 13 14	8 3 7 9	6 1 6 8	8 6 3 6
COLUMBUS, OHIO TO WASHINGTON, D.C.							**280 N.MI.**
15,000	-14.7	-15 -1 3 5	-12 3 6 7	-3 12 14 14	-7 7 10 12	-9 5 8 10	5 4 2 4
10,000	-4.6	-7 -3 1 3	-3 1 5 7	7 11 13 14	2 7 10 11	-0 4 7 9	6 5 2 4
5,000	5.1	-1 -6 -1 2	5 0 4 6	16 11 13 14	9 4 8 10	7 2 6 8	8 6 3 5
CONCORD TO FITCHBURG							**40 N.MI.**
15,000	-14.7	-19 -4 -0 2	-16 -2 2 3	-5 10 12 13	-10 5 8 10	-12 2 6 8	6 5 3 5
10,000	-4.6	-12 -7 -3 -1	-7 -3 1 2	4 9 11 12	-0 4 8 10	-4 1 4 6	6 5 3 5
5,000	5.1	-6 -11 -6 -4	1 -4 0 2	14 9 11 12	7 1 5 7	4 -1 3 5	7 6 3 6
CONCORD TO LACONIA							**22 N.MI.**
15,000	-14.7	-19 -5 -1 2	-17 -2 1 3	-5 10 12 13	-10 4 8 10	-13 2 5 7	6 5 3 5
10,000	-4.6	-13 -8 -4 -1	-8 -3 0 2	4 9 11 12	-1 4 7 9	-4 0 4 6	7 5 3 5
5,000	5.1	-7 -12 -7 -4	1 -4 -0 2	14 8 11 12	6 1 5 7	3 -2 3 5	7 6 3 6
CUMOX TO PORT HARDY							**111 N.MI.**
15,000	-14.7	-22 -7 -3 -0	-18 -4 -0 1	-9 6 8 10	-15 -0 3 5	-16 -1 3 5	7 5 4 5
10,000	-4.6	-13 -8 -3 -1	-9 -4 -1 0	1 6 8 9	-5 -0 3 5	-6 -2 2 4	7 4 3 5
5,000	5.1	-4 -9 -6 -4	-1 -6 -4 -2	9 4 7 8	4 -1 1 3	2 -3 1 3	5 4 4 4
CUMOX TO VANCOUVER							**75 N.MI.**
15,000	-14.7	-22 -7 -2 0	-18 -3 0 2	-8 7 9 10	-14 1 4 6	-15 -1 3 5	7 5 3 5
10,000	-4.6	-13 -8 -3 -1	-8 -4 -1 1	2 7 9 10	-4 0 4 5	-6 -1 3 5	7 5 3 5
5,000	5.1	-4 -9 -6 -4	-0 -5 -2 -1	11 6 9 10	5 -1 3 4	3 -2 2 5	5 4 4 5
CORPUS CHRISTI TO HOUSTON							**163 N.MI.**
15,000	-14.7	-7 8 10 11	-4 10 12 13	0 15 16 17	-2 13 14 15	-3 12 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	7 12 14 15	10 15 16 16	8 13 15 16	7 12 13 14	3 3 1 2
5,000	5.1	10 5 8 10	15 10 13 14	20 15 16 17	16 11 12 13	15 10 13 14	5 4 2 3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY ΔD50	JANUARY D75	JANUARY D85	APRIL 50	APRIL ΔD50	APRIL D75	APRIL D85	JULY 50	JULY ΔD50	JULY D75	JULY D85	OCTOBER 50	OCTOBER ΔD50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL ΔD50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
CORPUS CHRISTI TO SAN ANTONIO																									118 N.MI.
15,000	-14.7	-7	8	10	11	-4	10	12	14	1	15	16	17	-2	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	3	8	10	11	7	12	14	15	11	15	16	17	9	13	15	16	7	12	14	14	3	3	1	2
5,000	5.1	10	5	9	11	16	11	13	15	21	16	17	18	16	11	13	14	16	11	13	14	5	4	2	3
DALLAS TO FT. WORTH																									10 N.MI.
15,000	-14.7	-10	4	7	9	-6	8	11	12	0	15	16	17	-3	11	13	14	-5	10	12	13	4	4	2	3
10,000	-4.6	-1	4	7	8	5	9	12	13	10	15	16	17	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	1	6	8	13	8	12	13	21	16	18	19	15	10	12	14	14	9	13	15	6	5	3	4
DALLAS TO HOUSTON																									208 N.MI.
15,000	-14.7	-9	6	8	10	-6	9	11	13	0	15	16	17	-3	12	14	15	-4	11	13	14	4	3	1	3
10,000	-4.6	1	6	8	10	6	10	13	14	10	15	16	16	8	12	14	15	6	11	13	14	4	4	1	3
5,000	5.1	8	3	7	9	14	9	12	13	21	16	17	18	15	10	12	13	14	9	12	14	6	4	2	3
DALLAS TO JACKSON																									336 N.MI.
15,000	-14.7	-10	5	8	9	-6	8	11	12	-0	15	16	16	-3	12	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	4	9	11	13	10	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	2	5	7	12	7	10	12	20	15	17	18	14	9	12	13	13	8	11	13	6	5	3	4
DALLAS TO KANSAS CITY																									392 N.MI.
15,000	-14.7	-13	2	5	6	-9	6	9	10	-0	14	15	16	-5	10	12	14	-7	8	11	12	5	4	2	4
10,000	-4.6	-4	1	4	6	2	7	10	11	10	14	16	17	5	10	13	14	3	8	11	12	5	4	2	4
5,000	5.1	3	-2	3	6	11	5	9	12	21	16	18	19	13	8	12	13	12	7	11	13	7	6	4	5
DALLAS TO LAWTON																									129 N.MI.
15,000	-14.7	-11	4	6	8	-7	8	10	12	0	15	16	17	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-2	3	6	8	4	9	12	13	11	15	16	17	7	11	14	15	5	10	12	13	5	4	2	3
5,000	5.1	6	1	5	8	13	8	11	13	22	17	19	20	15	10	13	14	14	9	13	15	7	5	4	4
DALLAS TO LITTLE ROCK																									256 N.MI.
15,000	-14.7	-11	4	7	8	-7	8	10	11	-0	14	16	16	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-2	3	6	7	4	8	11	13	10	15	16	16	7	11	13	15	5	9	12	13	4	4	2	3
5,000	5.1	6	0	5	7	12	7	10	12	21	16	18	19	14	9	12	13	13	8	12	14	6	5	3	4
DALLAS TO LUBBOCK																									254 N.MI.
15,000	-14.7	-11	4	7	8	-7	8	10	12	0	15	16	17	-3	11	13	14	-5	10	12	13	4	4	2	3
10,000	-4.6	-1	3	6	8	5	9	12	14	11	16	17	17	7	11	14	15	5	10	12	14	5	4	2	3
5,000	5.1	6	1	6	8	14	9	12	14	22	17	20	21	15	10	13	15	14	9	13	16	7	5	4	4
DALLAS TO MCALESTER																									133 N.MI.
15,000	-14.7	-11	4	6	8	-7	8	10	11	-0	15	16	16	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-2	3	6	7	4	9	11	13	10	15	16	17	7	11	13	15	5	9	12	13	4	4	2	3
5,000	5.1	6	1	5	7	12	7	11	13	21	16	19	20	14	9	12	14	13	8	12	14	7	5	3	4
DALLAS TO MEMPHIS																									367 N.MI.
15,000	-14.7	-11	4	7	8	-7	7	10	11	-0	14	15	16	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	3	6	7	3	8	11	12	10	14	15	16	6	11	13	15	4	9	11	13	4	4	2	3
5,000	5.1	5	0	4	7	11	6	10	12	20	15	17	18	14	8	11	13	13	8	11	13	6	5	3	4
DALLAS TO MIDLAND																									276 N.MI.
15,000	-14.7	-10	5	7	9	-6	8	11	12	1	15	16	17	-3	12	14	15	-5	10	12	13	4	4	2	3
10,000	-4.6	-0	4	7	9	5	10	13	14	11	16	17	17	7	12	14	15	6	10	13	14	4	4	2	3
5,000	5.1	7	2	6	9	14	9	13	14	22	17	19	20	16	11	13	15	15	10	13	15	7	5	3	4
DALLAS TO MONROE																									244 N.MI.
15,000	-14.7	-10	5	7	9	-6	8	11	12	-0	15	16	16	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	4	9	12	13	10	15	16	16	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	1	5	8	13	7	11	12	20	15	17	18	14	9	12	13	13	8	12	13	6	5	3	4
DALLAS TO NEW ORLEANS																									379 N.MI.
15,000	-14.7	-9	6	8	10	-6	9	11	12	0	15	16	16	-3	12	14	15	-4	10	12	13	3	3	1	3
10,000	-4.6	1	6	8	9	5	10	12	13	10	15	16	16	7	12	14	15	6	10	12	13	4	4	1	3
5,000	5.1	8	3	6	8	13	8	11	12	20	15	16	17	14	9	12	13	14	9	12	13	5	4	2	4
DALLAS TO OKLAHOMA CITY																									158 N.MI.
15,000	-14.7	-11	3	6	8	-7	8	10	11	0	15	16	16	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	2	6	7	4	9	11	13	10	15	16	17	6	11	13	15	5	9	12	13	5	4	2	4
5,000	5.1	5	0	5	7	12	7	11	13	22	17	19	20	15	9	13	14	14	8	13	15	7	6	4	5
DALLAS TO SAN ANTONIO																									216 N.MI.
15,000	-14.7	-9	6	8	10	-6	9	11	13	0	15	16	17	-3	12	14	15	-4	11	13	14	4	3	1	3
10,000	-4.6	1	5	8	10	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	2	3
5,000	5.1	8	3	7	9	14	9	12	14	21	16	18	19	15	10	13	14	15	10	13	14	6	5	3	3
DALLAS TO SHREVEPORT																									155 N.MI.
15,000	-14.7	-10	5	7	9	-6	8	11	12	0	15	16	16	-3	12	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	5	9	12	13	10	15	16	16	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	2	6	8	13	8	11	13	21	16	18	19	14	9	12	13	14	9	12	14	6	5	3	4
DALLAS TO TULSA																									207 N.MI.
15,000	-14.7	-12	3	6	7	-7	7	10	11	-0	15	16	16	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	2	5	7	3	8	11	12	10	15	16	17	6	11	13	15	4	9	12	13	5	4	2	4
5,000	5.1	5	-0	4	7	12	7	11	13	21	16	19	20	14	9	12	14	13	8	12	14	7	6	4	5
DALLAS TO WACO																									77 N.MI.
15,000	-14.7	-10	5	8	9	-6	9	11	12	0	15	16	17	-3	12	14	15	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	9	5	10	12	14	10	15	16	17	7	12	14	15	6	10	12	14	4	4	2	3
5,000	5.1	7	2	6	8	14	8	12	14	21	16	18	19	15	10	12	14	14	9	13	14	6	5	3	4
DALLAS TO WICHITA FALLS																									107 N.MI.
15,000	-14.7	-11	4	7	8	-7	8	10	12	0	15	16	17	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-1	3	6	8	4	9	12	13	11	15	16	17	7	11	14	15	5	10	12	13	4	4	2	3
5,000	5.1	6	1	6	8	13	8	12	14	22	17	19	20	15	10	13	14	14	9	13	15	7	5	3	4

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
DANVILLE TO GREENSBORO																								41 N.MI.	
15,000	-14.7	-12	3	6	7	-10	5	8	9	-2	13	14	15	-6	9	11	13	-7	7	10	11	4	4	2	3
10,000	-4.6	-4	1	4	6	-0	4	7	9	7	12	13	14	4	8	11	12	2	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	5	8	3	6	8	17	12	14	14	11	6	9	10	10	5	8	10	6	5	3	4
DANVILLE TO RICHMOND																								112 N.MI.	
15,000	-14.7	-13	2	5	7	-10	4	7	8	-2	12	14	14	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-4	0	3	5	-1	3	6	8	7	11	13	14	3	8	11	12	1	6	8	10	5	4	2	4
5,000	5.1	2	-3	2	4	7	2	6	7	17	11	13	14	10	5	8	10	9	4	7	9	6	5	3	5
DAYTON TO FT. WAYNE																								79 N.MI.	
15,000	-14.7	-17	-2	2	4	-13	2	5	7	-3	12	14	15	-8	7	10	11	-10	5	8	10	5	5	2	4
10,000	-4.6	-9	-4	-0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	0	5	-0	4	6	17	11	14	15	9	4	8	10	7	2	6	8	8	6	3	6
DAYTON TO INDIANAPOLIS																								96 N.MI.	
15,000	-14.7	-16	-1	2	4	-12	3	6	7	-2	12	14	15	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	0	3	-3	2	5	7	7	12	13	14	3	7	10	12	-0	4	8	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	0	4	7	17	12	14	15	9	4	8	10	7	2	7	9	8	6	3	6
DAYTON TO PITTSBURGH																								187 N.MI.	
15,000	-14.7	-16	-2	2	4	-13	2	5	7	-3	12	14	14	-8	7	10	11	-10	5	8	10	5	5	2	4
10,000	-4.6	-8	-4	0	2	-4	1	4	6	6	11	13	14	2	7	10	11	-1	4	7	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	13	14	9	3	7	10	7	2	6	8	8	6	3	6
DAYTON TO ST. LOUIS																								294 N.MI.	
15,000	-14.7	-15	-1	3	5	-11	3	6	8	-2	13	14	15	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	0	5	8	10	5	5	2	4
5,000	5.1	-1	-7	-2	1	6	1	5	7	17	12	15	16	10	5	8	11	8	3	7	9	8	6	3	6
DAYTON TO WASHINGTON, D.C.																								339 N.MI.	
15,000	-14.7	-15	-1	3	5	-12	3	6	7	-3	12	14	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	2	5	7	7	11	13	14	2	7	10	12	-0	4	7	9	5	5	2	4
5,000	5.1	-1	-6	-1	2	5	0	4	6	16	11	13	14	9	4	8	10	7	2	6	8	8	6	3	6
DAYTONA BEACH TO JACKSONVILLE																								80 N.MI.	
15,000	-14.7	-6	9	10	12	-5	10	11	12	-1	14	15	15	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	3	7	10	11	4	9	11	12	8	13	14	14	7	12	14	14	6	10	12	13	3	3	1	2
5,000	5.1	10	4	7	8	12	7	9	10	18	12	13	14	14	9	11	12	13	8	10	11	4	3	2	3
DAYTONA BEACH TO LAKELAND																								87 N.MI.	
15,000	-14.7	-5	9	11	12	-5	10	12	13	-1	14	15	15	-2	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	7	9	13	8	10	11	17	12	13	14	14	9	11	12	14	9	10	11	3	3	1	3
DAYTONA BEACH TO MELBOURNE																								69 N.MI.	
15,000	-14.7	-5	9	11	12	-5	10	12	13	-1	14	15	15	-2	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	7	9	13	8	10	11	17	12	13	14	14	9	11	12	14	9	10	11	3	3	1	2
DAYTONA BEACH TO MIAMI																								207 N.MI.	
15,000	-14.7	-5	10	12	13	-4	11	12	13	-1	14	15	15	-1	14	15	16	-3	12	13	14	3	3	1	2
10,000	-4.6	4	9	11	12	5	10	12	13	8	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
5,000	5.1	11	6	8	9	13	8	10	11	17	12	13	14	15	10	11	12	14	9	11	11	3	3	1	2
DAYTONA BEACH TO ORLANDO																								41 N.MI.	
15,000	-14.7	-6	9	11	12	-5	10	12	13	-1	14	15	15	-2	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	7	9	13	8	10	11	17	12	13	14	14	9	11	12	14	8	10	11	4	3	1	3
DAYTONA BEACH TO TAMPA																								107 N.MI.	
15,000	-14.7	-5	9	11	12	-5	10	12	13	-1	14	15	15	-2	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	8	9	13	8	10	11	18	12	13	14	14	9	11	12	14	9	10	11	3	3	1	3
DAYTONA BEACH TO WEST PALM BEACH																								158 N.MI.	
15,000	-14.7	-5	10	12	12	-4	10	12	13	-1	14	15	15	-1	13	15	16	-3	12	13	14	3	3	1	2
10,000	-4.6	4	9	10	11	5	10	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	11	6	8	9	13	8	10	11	17	12	13	14	14	9	11	12	14	9	10	11	3	3	1	2
DENVER TO GRAND JUNCTION																								174 N.MI.	
15,000	-14.7	-17	-2	2	4	-11	3	6	8	0	15	17	17	-7	8	11	12	-9	6	10	11	6	4	2	4
10,000	-4.6	-7	-2	2	4	0	5	8	10	13	18	19	20	3	8	11	13	2	7	11	13	6	5	3	5
5,000	5.1	1	-4	0	2	12	7	11	13	26	21	24	25	14	9	14	16	13	8	14	16	6	6	4	6
DENVER TO LINCOLN																								377 N.MI.	
15,000	-14.7	-18	-3	1	3	-12	3	6	8	-1	14	16	16	-7	8	10	12	-9	5	9	11	6	4	2	4
10,000	-4.6	-8	-3	1	3	-1	4	7	9	11	15	17	18	3	8	11	13	1	6	10	12	6	5	3	5
5,000	5.1	-1	-6	-1	2	9	4	8	11	22	17	20	22	12	7	11	14	11	5	11	14	8	7	4	7
DENVER TO LUBBOCK																								395 N.MI.	
15,000	-14.7	-14	0	4	6	-9	6	8	10	0	15	16	17	-5	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-4	0	4	6	2	7	10	12	12	17	18	19	5	10	12	14	4	8	12	13	5	5	2	4
5,000	5.1	3	-2	3	5	13	8	12	14	24	19	22	23	15	10	14	16	14	9	14	16	7	6	4	5
DENVER TO OMAHA																								377 N.MI.	
15,000	-14.7	-18	-3	1	3	-12	3	6	8	-1	14	16	16	-7	8	10	12	-9	5	9	11	6	4	2	4
10,000	-4.6	-8	-3	1	3	-1	4	7	9	11	15	17	18	3	8	11	13	1	6	10	12	6	5	3	5
5,000	5.1	-1	-6	-1	2	9	4	8	11	22	17	20	22	12	7	11	14	11	5	11	14	8	7	4	7
DENVER TO RAPID CITY																								270 N.MI.	
15,000	-14.7	-19	-4	-0	2	-13	2	5	7	-1	14	15	16	-8	6	10	11	-10	4	8	10	6	5	3	5
10,000	-4.6	-9	-5	-0	2	-2	3	6	8	11	15	17	18	2	7	10	12	0	5	9	12	6	5	5	5
5,000	5.1	-2	-7	-3	-0	9	3	8	10	23	18	21	23	12	7	11	14	10	5	11	14	7	7	4	7

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DENVER TO SALT LAKE CITY																									330 N.MI.
15,000	-14.7	-18	-3	1	3	-12	3	6	7	0	15	16	17	-7	7	10	12	-9	6	9	11	6	4	2	4
10,000	-4.6	-8	-3	1	3	-1	4	8	9	13	17	19	20	3	8	11	13	2	7	11	13	6	5	3	5
5,000	5.1	0	-5	-1	1	11	6	10	12	27	22	24	26	14	9	13	15	13	8	13	16	6	6	4	6
DENVER TO WICHITA																									379 N.MI.
15,000	-14.7	-16	-1	2	4	-10	4	7	9	-0	14	16	17	-6	8	11	13	-8	6	10	11	5	4	2	4
10,000	-4.6	-6	-2	2	4	1	5	9	10	11	16	17	18	4	9	12	13	2	7	10	12	6	5	2	5
5,000	5.1	1	-4	1	4	10	5	9	12	23	18	21	22	13	8	12	14	12	7	12	15	8	7	4	6
DES MOINES TO KANSAS CITY																									151 N.MI.
15,000	-14.7	-17	-2	1	3	-12	3	6	8	-2	13	15	16	-7	7	10	12	-9	5	9	10	5	4	2	4
10,000	-4.6	-8	-3	0	2	-2	3	6	8	9	13	15	16	3	7	11	12	0	5	9	10	6	5	3	5
5,000	5.1	-2	-7	-2	1	6	1	6	8	19	14	17	18	10	5	10	12	8	3	8	11	8	7	4	6
DES MOINES TO MINNEAPOLIS																									202 N.MI.
15,000	-14.7	-20	-5	-1	1	-14	0	4	5	-3	11	13	15	-9	5	9	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-5	0	4	6	7	12	14	15	1	5	9	11	-2	3	7	9	6	5	3	5
5,000	5.1	-6	-11	-5	-3	4	-1	3	6	18	12	15	17	8	3	8	10	6	1	6	9	8	7	4	7
DES MOINES TO OMAHA																									147 N.MI.
15,000	-14.7	-18	-3	0	2	-12	2	5	7	-2	13	14	15	-8	7	10	12	-10	5	8	10	6	5	3	4
10,000	-4.6	-9	-4	-0	2	-2	2	6	8	8	13	15	16	2	7	10	12	-0	4	8	10	6	5	3	5
5,000	5.1	-3	-8	-2	1	6	1	6	8	19	14	17	18	10	5	9	12	8	3	8	11	8	7	4	7
DES MOINES TO ST. LOUIS																									225 N.MI.
15,000	-14.7	-16	-2	2	4	-12	3	6	8	-2	13	14	15	-7	8	10	12	-9	5	9	10	5	4	2	4
10,000	-4.6	-8	-3	0	2	-2	3	6	8	8	13	14	15	3	7	11	12	0	5	8	10	6	5	3	5
5,000	5.1	-2	-7	-2	1	6	1	5	8	18	13	16	17	10	5	9	11	8	3	8	10	8	7	4	6
DES MOINES TO WATERLOO																									83 N.MI.
15,000	-14.7	-19	-4	-0	2	-13	1	5	6	-3	12	14	15	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-6	-1	1	-4	1	5	7	7	12	14	15	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-4	-10	-4	-1	5	-1	4	6	18	13	16	17	9	4	8	11	7	2	7	9	8	7	4	7
DETROIT TO FLINT																									47 N.MI.
15,000	-14.7	-19	-5	-1	2	-15	-0	3	5	-4	11	13	14	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-6	-1	2	4	5	10	12	13	0	5	9	10	-3	2	5	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	2	4	15	10	12	14	7	2	6	8	5	-0	4	7	8	6	4	6
DETROIT TO GRAND RAPIDS																									110 N.MI.
15,000	-14.7	-19	-5	-1	2	-15	-0	3	5	-4	11	13	14	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-6	-1	3	4	5	10	12	13	0	5	9	11	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	3	-3	2	4	15	10	13	14	7	2	6	9	5	-0	4	7	8	6	4	6
DETROIT TO INDIANAPOLIS																									200 N.MI.
15,000	-14.7	-17	-3	1	3	-13	1	5	6	-3	12	13	14	-8	7	10	11	-10	4	8	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-4	1	4	6	6	11	13	14	2	6	10	11	-1	3	7	9	6	5	3	5
5,000	5.1	-4	-9	-3	-1	4	-1	3	6	16	11	13	15	8	3	7	9	6	1	6	8	8	6	3	6
DETROIT TO LAND O LAKES																									344 N.MI.
15,000	-14.7	-21	-7	-2	-0	-16	-1	2	4	-5	10	12	13	-11	4	8	10	-13	1	5	8	6	5	3	5
10,000	-4.6	-13	-9	-4	-2	-7	-2	2	3	5	9	12	13	-1	4	8	10	-4	1	5	7	7	5	3	6
5,000	5.1	-8	-13	-8	-5	1	-4	1	3	15	10	12	14	6	1	5	8	4	-1	4	6	8	7	4	6
DETROIT TO LANSING																									64 N.MI.
15,000	-14.7	-19	-5	-0	2	-15	-0	3	5	-4	11	13	14	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-6	-1	3	4	5	10	12	13	0	5	9	10	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-5	-3	3	-3	2	4	15	10	13	14	7	2	6	8	5	-0	4	7	8	6	4	6
DETROIT TO LOUISVILLE																									266 N.MI.
15,000	-14.7	-16	-2	2	4	-13	2	5	7	-3	12	14	14	-8	7	10	12	-10	5	8	10	5	5	2	4
10,000	-4.6	-8	-4	-0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-2	0	5	-0	4	6	17	11	14	15	9	4	8	10	7	2	6	8	8	6	3	6
DETROIT TO MILWAUKEE																									206 N.MI.
15,000	-14.7	-19	-5	-1	2	-15	0	3	5	-4	11	13	14	-9	5	9	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-7	-3	-0	-5	-1	3	5	6	10	12	13	1	5	9	11	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	3	-2	2	4	16	11	13	14	7	2	6	9	5	-0	5	7	8	6	4	6
DETROIT TO PHILADELPHIA																									393 N.MI.
15,000	-14.7	-17	-3	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-9	-3	-1	4	-1	3	5	15	10	12	14	8	3	7	9	6	1	5	7	8	6	3	6
DETROIT TO PITTSBURGH																									176 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	3	5	16	10	13	14	8	3	7	9	6	1	5	7	8	6	3	6
DETROIT TO ROCHESTER, N.Y.																									256 N.MI.
15,000	-14.7	-20	-5	-1	2	-15	-1	3	4	-4	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-2	2	4	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	1	3	15	10	12	13	7	2	6	8	4	-1	4	6	8	6	3	6
DETROIT TO ST. LOUIS																									382 N.MI.
15,000	-14.7	-17	-2	2	4	-13	2	5	7	-3	12	14	15	-8	7	10	12	-10	5	8	10	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-3	1	5	7	7	12	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	-0	5	-0	4	6	17	12	14	15	9	4	8	10	7	2	6	9	8	6	3	6
DETROIT TO TOLEDO																									44 N.MI.
15,000	-14.7	-18	-4	0	2	-14	0	4	5	-4	11	13	14	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-5	-0	3	5	6	10	12	13	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-5	-10	-5	-2	3	-2	2	5	16	10	13	14	8	2	7	9	5	0	5	7	8	6	3	6

•D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY ΔD50	JANUARY D75	JANUARY D85	APRIL 50	APRIL ΔD50	APRIL D75	APRIL D85	JULY 50	JULY ΔD50	JULY D75	JULY D85	OCTOBER 50	OCTOBER ΔD50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL ΔD50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
DETROIT TO WASHINGTON, D.C.																									352 N.MI.
15,000	-14.7	-17	-2	2	4	-13	2	5	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	6	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	3	5
5,000	5.1	-3	-8	-5	0	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
DOTHAN TO MONTGOMERY																									80 N.MI.
15,000	-14.7	-8	6	9	10	-6	9	11	12	-1	14	15	16	-3	12	14	15	-5	10	12	13	3	3	2	3
10,000	-4.6	1	6	8	9	4	8	11	12	9	13	14	15	7	12	13	14	5	10	11	12	3	3	1	3
5,000	5.1	8	2	6	7	12	6	9	10	18	13	14	15	13	8	10	12	13	8	10	11	5	4	2	3
EDMONTON TO GRAND PRAIRIE																									217 N.MI.
15,000	-14.7	-27	-13	-7	-5	-20	-5	-2	-0	-9	5	8	9	-17	-2	2	4	-18	-4	1	3	8	5	3	5
10,000	-4.6	-18	-14	-8	-5	-10	-5	-2	-0	1	5	8	9	-7	-2	1	3	-9	-4	0	3	8	5	4	5
5,000	5.1	-10	-15	-10	-7	-3	-8	-5	-3	11	6	9	11	2	-3	1	3	-0	-5	0	3	8	5	4	6
EDMONTON TO REGINA																									372 N.MI.
15,000	-14.7	-28	-14	-9	-6	-19	-4	-0	1	-8	7	9	11	-15	-1	3	5	-17	-3	2	4	8	5	3	6
10,000	-4.6	-18	-13	-8	-5	-9	-4	-1	1	3	8	10	11	-6	-1	3	5	-7	-3	2	4	8	5	4	6
5,000	5.1	-10	-16	-12	-10	-1	-6	-1	1	14	8	12	13	4	-1	4	7	2	-3	2	5	6	7	5	7
EDMONTON TO SASKATOON																									260 N.MI.
15,000	-14.7	-29	-14	-9	-6	-19	-4	-1	1	-8	6	9	10	-16	-1	3	5	-18	-3	1	4	8	5	3	6
10,000	-4.6	-18	-14	-8	-5	-9	-5	-1	1	2	7	10	11	-6	-2	2	4	-8	-3	1	4	8	5	4	6
5,000	5.1	-11	-16	-12	-10	-1	-6	-2	0	13	8	11	12	4	-1	3	6	1	-4	1	4	6	7	5	7
ELKO TO ELY																									102 N.MI.
15,000	-14.7	-16	-1	3	5	-12	2	5	7	-0	14	16	17	-8	7	10	12	-9	6	9	11	6	4	2	5
10,000	-4.6	-6	-2	2	5	-1	3	7	8	12	17	19	20	3	7	11	12	2	6	10	13	6	5	3	5
5,000	5.1	1	-4	-0	2	11	6	9	11	25	20	22	24	14	9	12	14	13	8	13	15	5	5	4	6
ELKO TO RENO																									199 N.MI.
15,000	-14.7	-15	-1	3	6	-13	2	5	7	-1	14	15	16	-8	7	10	12	-9	5	9	11	6	4	2	5
10,000	-4.6	-6	-1	3	5	-2	2	6	8	11	16	18	19	2	7	10	12	1	6	10	12	6	5	3	5
5,000	5.1	2	-4	0	2	10	5	8	10	23	18	21	22	13	8	12	13	12	7	12	14	5	5	4	5
ELMIRA TO ROCHESTER, N.Y.																									67 N.MI.
15,000	-14.7	-19	-5	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-2	1	3	5	9	11	12	-0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	1	3	14	9	11	13	7	2	6	8	4	-1	4	6	7	6	3	6
ELMIRA TO WILLIAMSPORT																									55 N.MI.
15,000	-14.7	-18	-3	1	3	-15	0	3	5	-4	11	13	14	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-3	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	2	4	15	10	12	13	7	2	6	8	5	0	4	7	7	6	3	6
EL PASO TO MIDLAND																									213 N.MI.
15,000	-14.7	-9	6	9	10	-6	8	11	12	1	16	17	17	-3	12	14	15	-4	10	13	14	4	4	2	3
10,000	-4.6	0	5	8	10	5	10	13	14	12	17	18	18	7	12	14	15	6	11	13	15	5	4	2	3
5,000	5.1	8	3	7	9	16	11	14	16	24	19	21	22	18	12	15	16	16	11	15	17	6	5	3	4
EL PASO TO PHOENIX																									301 N.MI.
15,000	-14.7	-9	5	9	11	-7	7	10	11	1	16	17	18	-4	11	13	14	-5	10	12	14	5	4	2	3
10,000	-4.6	-0	4	8	10	5	9	12	13	13	18	19	20	7	11	14	15	6	11	14	15	5	4	2	3
5,000	5.1	8	2	6	8	17	12	15	17	26	21	23	24	19	14	17	18	17	12	16	18	6	5	3	4
EL PASO TO ROSWELL																									134 N.MI.
15,000	-14.7	-10	5	8	10	-7	8	10	12	1	16	17	17	-3	11	13	14	-5	10	12	14	5	4	2	3
10,000	-4.6	-0	4	7	9	5	10	12	14	13	17	18	19	7	12	14	15	6	11	13	15	5	4	2	3
5,000	5.1	7	2	6	9	16	11	14	16	25	20	22	23	18	13	16	17	16	11	15	17	6	5	3	4
EL PASO TO TUCSON																									233 N.MI.
15,000	-14.7	-9	6	9	11	-7	8	10	12	1	16	17	18	-3	11	13	14	-4	10	13	14	5	4	2	3
10,000	-4.6	0	5	8	10	5	10	12	14	13	18	19	20	7	12	14	15	6	11	14	15	5	4	2	3
5,000	5.1	8	3	7	9	17	12	15	17	25	20	22	23	19	14	17	18	17	12	16	18	6	5	3	4
ELY TO SALT LAKE CITY																									160 N.MI.
15,000	-14.7	-17	-2	2	5	-12	2	5	7	0	15	16	17	-7	7	10	12	-9	6	9	11	6	4	2	4
10,000	-4.6	-7	-2	2	4	-1	4	7	9	13	17	19	20	3	7	11	13	2	7	11	13	6	5	3	5
5,000	5.1	1	-4	-1	1	11	6	10	12	26	21	24	25	14	9	13	15	13	8	13	16	5	5	4	6
EUGENE TO MEDFORD																									106 N.MI.
15,000	-14.7	-17	-2	2	4	-15	0	3	5	-4	11	13	14	-10	5	8	10	-11	3	7	9	6	5	3	5
10,000	-4.6	-8	-3	1	3	-5	-0	3	5	7	11	14	15	-0	4	8	10	-2	3	7	9	6	5	3	5
5,000	5.1	-0	-5	-2	-0	6	1	4	6	18	12	15	17	9	4	7	9	8	3	8	10	5	5	4	5
EUGENE TO SALEM																									48 N.MI.
15,000	-14.7	-18	-3	1	3	-15	-1	3	4	-5	10	12	13	-11	4	7	9	-12	2	6	8	6	5	3	5
10,000	-4.6	-9	-4	0	2	-6	-1	2	4	6	10	13	14	-1	4	7	9	-2	2	6	8	6	5	3	5
5,000	5.1	-1	-6	-3	-1	5	-0	3	5	17	12	15	16	8	3	6	8	7	2	7	9	5	5	4	5
EVANSVILLE TO INDIANAPOLIS																									117 N.MI.
15,000	-14.7	-15	-0	3	5	-11	4	6	8	-2	13	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-7	-2	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	-1	-6	-1	2	6	1	5	7	18	12	15	16	10	5	9	11	8	3	7	9	7	6	3	6
EVANSVILLE TO LOUISVILLE																									85 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	7	8	-2	13	14	15	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-1	3	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	0	-5	-0	2	7	2	6	8	18	13	15	16	10	5	9	11	9	4	8	10	7	6	3	5
EVANSVILLE TO NASHVILLE																									122 N.MI.
15,000	-14.7	-13	2	5	6	-10	5	8	9	-2	13	14	15	-6	9	12	13	-7	7	10	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-0	4	8	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
5,000	5.1	2	-4	1	3	8	3	6	8	18	13	15	16	11	6	9	11	10	4	8	10	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
EVANSVILLE TO OWENSBORO																								25 N.MI.	
15,000	-14.7	-14	1	4	6	-10	4	7	9	-2	13	14	15	-6	9	11	13	-8	7	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-1	4	7	9	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	0	-5	0	3	7	2	6	8	18	13	15	16	10	5	9	11	9	4	8	10	7	6	3	5
EVANSVILLE TO PADUCAH																								83 N.MI.	
15,000	-14.7	-14	1	4	6	-10	5	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-0	4	7	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
5,000	5.1	1	-4	0	3	7	2	6	8	18	13	15	16	11	6	9	11	9	4	8	10	7	6	3	5
EVANSVILLE TO ST. LOUIS																								140 N.MI.	
15,000	-14.7	-14	0	4	5	-11	4	7	8	-2	13	14	15	-6	9	11	13	-8	6	9	11	5	4	2	4
10,000	-4.6	-6	-2	2	4	-1	4	7	9	8	13	14	15	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	-0	-5	-1	2	7	2	6	8	18	13	15	16	10	5	9	11	9	4	8	10	7	6	3	6
FARGO TO GRAND FORKS																								62 N.MI.	
15,000	-14.7	-25	-10	-6	-3	-17	-2	1	3	-5	9	12	13	-13	2	6	8	-15	-0	4	7	7	5	4	5
10,000	-4.6	-16	-12	-7	-4	-7	-3	1	3	5	9	12	14	-2	2	6	8	-5	-1	4	7	7	6	4	6
5,000	5.1	-10	-15	-9	-6	1	-4	1	3	16	11	14	15	6	1	6	8	3	-2	4	7	9	7	5	7
FARGO TO JAMESTOWN																								76 N.MI.	
15,000	-14.7	-24	-10	-5	-3	-17	-2	2	4	-5	10	12	13	-12	3	6	8	-14	0	5	7	7	5	3	5
10,000	-4.6	-15	-11	-6	-3	-7	-2	2	4	6	10	13	14	-2	3	7	9	-5	-0	5	7	7	6	4	6
5,000	5.1	-9	-14	-8	-5	2	-3	1	4	16	11	15	16	6	1	6	9	4	-1	5	8	9	7	5	7
FARGO TO MINNEAPOLIS																								194 N.MI.	
15,000	-14.7	-23	-9	-4	-2	-16	-2	2	4	-5	10	12	14	-11	3	7	9	-14	1	5	7	6	5	3	5
10,000	-4.6	-14	-10	-5	-3	-7	-2	2	4	6	10	13	14	-1	3	7	9	-4	0	5	8	7	6	4	6
5,000	5.1	-9	-14	-8	-5	2	-3	2	4	16	11	14	16	7	1	6	9	4	-1	5	8	8	7	4	7
FARGO TO WINNIPEG																								180 N.MI.	
15,000	-14.7	-26	-12	-7	-4	-18	-3	1	3	-6	9	11	12	-13	1	5	7	-16	-1	3	6	7	5	4	6
10,000	-4.6	-18	-13	-8	-5	-8	-3	1	3	4	9	11	13	-3	1	5	8	-6	-2	3	6	7	6	4	6
5,000	5.1	-11	-16	-10	-7	0	-5	-0	2	15	10	13	15	5	0	5	7	2	-3	3	6	9	7	5	7
FLINT TO GRAND RAPIDS																								84 N.MI.	
15,000	-14.7	-20	-5	-1	1	-15	-0	3	5	-4	10	12	14	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	5	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	2	4	15	10	13	14	7	2	6	8	5	-1	4	7	8	6	4	6
FLINT TO SAGINAW																								37 N.MI.	
15,000	-14.7	-20	-5	-1	1	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-6	-2	2	4	5	10	12	13	-0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-7	-12	-7	-4	2	-3	1	3	15	10	12	14	7	2	6	8	4	-1	4	6	8	6	4	6
FLORENCE TO RALEIGH																								111 N.MI.	
15,000	-14.7	-10	4	7	8	-9	6	8	10	-2	13	14	15	-5	10	12	13	-6	8	10	12	4	4	2	3
10,000	-4.6	-2	3	5	7	1	5	8	9	7	12	13	14	5	9	11	13	3	7	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	17	12	14	14	12	6	9	11	11	6	9	10	6	4	2	4
FT. LAUDERDALE TO MIAMI																								17 N.MI.	
15,000	-14.7	-4	11	13	13	-3	11	13	14	-1	14	15	15	-1	14	15	16	-2	13	14	15	2	2	1	2
10,000	-4.6	5	10	12	12	6	10	12	13	9	13	14	14	8	13	14	15	7	12	13	13	2	3	1	2
5,000	5.1	12	7	9	10	14	9	10	11	17	12	13	13	15	10	11	12	14	9	11	12	3	2	1	2
FT. LAUDERDALE TO WEST PALM BEACH																								37 N.MI.	
15,000	-14.7	-4	11	12	13	-4	11	13	14	-1	14	15	15	-1	14	15	16	-2	12	14	15	2	3	1	2
10,000	-4.6	5	10	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
5,000	5.1	12	6	8	10	14	8	10	11	17	12	13	13	15	10	11	12	14	9	11	11	3	2	1	2
FT. MLYERS TO SARASOTA																								61 N.MI.	
15,000	-14.7	-5	10	12	13	-4	11	13	14	-1	14	15	15	-1	14	15	16	-3	12	13	14	3	3	1	2
10,000	-4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	13	13	3	3	1	2
5,000	5.1	11	6	8	9	14	8	10	11	17	12	13	14	15	10	11	12	14	9	11	12	3	3	1	2
FT. MEYERS TO WEST PALM BEACH																								95 N.MI.	
15,000	-14.7	-4	10	12	13	-4	11	13	14	-1	14	15	15	-1	14	15	16	-2	12	13	14	2	3	1	2
10,000	-4.6	5	10	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	2	3	1	2
5,000	5.1	11	6	8	9	14	8	10	11	17	12	13	13	15	10	11	12	14	9	11	12	3	3	1	2
FT. NELSON TO FT. ST. JOHN																								167 N.MI.	
15,000	-14.7	-28	-13	-8	-6	-21	-7	-4	-2	-11	4	6	8	-18	-3	0	2	-20	-5	-1	2	8	5	3	5
10,000	-4.6	-19	-14	-9	-6	-12	-7	-4	-3	-1	4	6	7	-9	-4	-1	1	-10	-5	-1	1	8	4	4	5
5,000	5.1	-11	-16	-11	-8	-5	-10	-7	-5	9	4	7	8	-0	-6	-2	0	-2	-7	-2	1	8	5	4	5
FT. ST. JOHN TO GRAND PRAIRIE																								89 N.MI.	
15,000	-14.7	-27	-13	-7	-5	-20	-6	-3	-1	-10	5	7	8	-17	-3	1	3	-19	-4	0	2	8	5	3	5
10,000	-4.6	-18	-14	-8	-5	-10	-6	-3	-1	-0	4	7	8	-8	-3	0	2	-9	-5	-0	2	8	4	4	5
5,000	5.1	-11	-16	-10	-7	-4	-9	-6	-4	10	5	8	10	1	-4	-1	1	-1	-6	-1	2	8	5	4	6
FT. ST. JOHN TO PRINCE GEORGE																								156 N.MI.	
15,000	-14.7	-26	-12	-7	-4	-20	-5	-2	-1	-10	5	7	8	-17	-2	1	3	-18	-4	0	3	8	5	4	5
10,000	-4.6	-17	-13	-7	-4	-10	-6	-3	-1	-0	4	7	8	-7	-3	1	2	-9	-4	-0	2	8	4	4	5
5,000	5.1	-10	-15	-10	-7	-4	-9	-6	-4	10	5	8	9	1	-4	-1	1	-1	-6	-1	2	8	4	4	5
FT. SMITH TO LITTLE ROCK																								111 N.MI.	
15,000	-14.7	-12	3	6	7	-8	7	9	11	-1	14	15	16	-4	10	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-3	2	5	6	3	7	10	12	10	14	15	16	6	11	13	14	4	8	11	12	5	4	2	4
5,000	5.1	4	-1	4	6	11	6	9	11	20	15	17	19	13	8	11	13	12	7	11	13	7	5	3	5
FT. SMITH TO TEXARKANA																								114 N.MI.	
15,000	-14.7	-11	3	6	8	-7	7	10	11	-0	14	15	16	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	2	5	7	3	8	11	12	10	14	16	16	6	11	13	14	4	9	11	13	4	4	2	5
5,000	5.1	5	-0	4	7	11	6	10	12	21	15	18	19	14	9	12	13	13	8	11	13	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

FLIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
FT. SMITH TO TULSA																								90 N.MI.	
15,000	-14.7	-13	2	5	7	-8	6	9	10	-0	14	15	16	-5	10	12	14	-7	8	11	12	5	4	2	3
10,000	-4.6	-4	1	4	6	2	7	10	12	10	14	16	17	6	10	13	14	4	8	11	12	5	4	2	4
5,000	5.1	4	-2	3	6	11	6	9	12	21	16	18	20	13	8	12	14	12	7	11	14	7	6	4	5
FT. WAYNE TO INDIANAPOLIS																								90 N.MI.	
15,000	-14.7	-16	-2	2	4	-12	2	5	7	-3	12	14	15	-8	7	10	12	-10	5	8	10	5	5	2	4
10,000	-4.6	-9	-4	-0	2	-3	1	5	7	7	12	13	14	2	7	10	12	-1	4	7	9	6	5	3	5
5,000	5.1	-3	-8	-3	0	5	-0	4	6	17	12	14	15	9	4	8	10	7	2	6	9	8	6	3	6
FT. WAYNE TO SOUTH BEND																								66 N.MI.	
15,000	-14.7	-18	-3	1	3	-13	1	4	6	-3	12	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	14	1	6	9	11	-2	3	7	9	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	3	5	16	11	14	15	8	3	7	9	6	1	6	8	8	6	3	6
FT. WAYNE TO TOLEDO																								73 N.MI.	
15,000	-14.7	-18	-3	1	3	-14	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-4	0	4	6	6	11	13	14	1	6	9	11	-2	3	7	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	4	-1	3	5	16	11	13	15	8	3	7	9	6	1	5	8	8	6	3	6
FT. WILLIAM TO SAULT STE. MARIE																								227 N.MI.	
15,000	-14.7	-26	-11	-7	-4	-19	-4	-0	2	-7	8	10	12	-13	2	5	8	-16	-1	3	6	7	5	4	6
10,000	-4.6	-18	-13	-9	-6	-9	-5	-1	1	2	7	10	11	-3	1	5	8	-7	-3	2	5	7	6	4	6
5,000	5.1	-12	-17	-12	-9	-1	-6	-2	1	13	8	10	12	3	-2	3	5	1	-4	1	4	8	7	4	7
FT. WILLIAM TO WINNIPEG																								322 N.MI.	
15,000	-14.7	-28	-13	-8	-6	-19	-4	-0	2	-7	8	10	12	-14	1	4	7	-17	-2	2	5	7	5	4	6
10,000	-4.6	-20	-15	-10	-7	-9	-5	-1	1	2	7	10	11	-4	0	4	7	-8	-3	2	4	7	6	4	6
5,000	5.1	-13	-18	-12	-10	-1	-7	-2	1	13	8	11	13	4	-2	3	6	1	-4	1	4	8	7	5	7
FT. WORTH TO HOUSTON																								212 N.MI.	
15,000	-14.7	-9	6	8	10	-6	9	11	13	0	15	16	17	-3	12	14	15	-4	11	13	14	4	3	1	3
10,000	-4.6	1	6	8	10	6	10	13	14	10	15	16	16	8	12	14	15	6	11	13	14	4	4	1	3
5,000	5.1	8	3	7	9	14	9	12	13	21	16	17	18	15	10	12	14	14	9	12	14	6	4	2	3
FT. WORTH TO LITTLE ROCK																								266 N.MI.	
15,000	-14.7	-11	4	7	8	-7	8	10	11	-0	14	16	16	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-2	3	6	7	4	8	11	13	10	15	16	16	7	11	13	15	5	9	12	13	4	4	2	3
5,000	5.1	6	0	5	7	12	7	10	12	21	16	18	19	14	9	12	13	13	8	12	14	6	5	3	4
FT. WORTH TO NEW ORLEANS																								387 N.MI.	
15,000	-14.7	-9	6	8	10	-6	9	11	12	0	15	16	16	-3	12	14	15	-4	10	12	13	3	3	1	3
10,000	-4.6	1	6	8	9	5	10	12	13	10	15	16	16	7	12	14	15	6	10	12	13	4	4	1	3
5,000	5.1	8	3	6	8	13	8	11	12	20	15	16	17	14	9	12	13	14	9	12	13	5	4	2	4
FT. WORTH TO OKLAHOMA CITY																								157 N.MI.	
15,000	-14.7	-11	3	6	8	-7	8	10	11	0	15	16	16	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	2	6	7	4	9	11	13	11	15	16	17	6	11	13	15	5	9	12	13	5	4	2	4
5,000	5.1	5	0	5	7	12	7	11	13	22	17	19	20	15	9	13	14	14	8	13	15	7	6	4	5
FT. WORTH TO SHREVEPORT																								165 N.MI.	
15,000	-14.7	-10	5	7	9	-6	8	11	12	0	15	16	16	-3	12	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	8	5	9	12	13	10	15	16	16	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	2	6	8	13	8	11	13	21	16	18	19	14	9	12	14	14	9	12	14	6	5	3	4
FT. WORTH TO WACO																								74 N.MI.	
15,000	-14.7	-10	5	8	9	-6	9	11	12	0	15	16	17	-3	12	14	15	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	9	5	10	12	14	11	15	16	17	7	12	14	15	6	10	12	14	4	4	2	3
5,000	5.1	7	2	6	8	14	8	12	14	21	16	18	19	15	10	12	14	14	9	13	14	6	5	3	4
FT. WORTH TO WICHITA FALLS																								100 N.MI.	
15,000	-14.7	-11	4	7	8	-7	8	10	12	0	15	16	17	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-1	3	6	8	4	9	12	13	11	15	16	17	7	11	14	15	5	10	12	13	4	4	2	3
5,000	5.1	6	1	6	8	13	8	12	14	22	17	19	20	15	10	13	14	14	9	13	15	7	5	4	4
FREDERICTON TO MONTREAL																								303 N.MI.	
15,000	-14.7	-22	-8	-5	-1	-19	-5	-1	1	-7	8	10	12	-12	3	6	8	-15	-0	4	6	7	5	3	6
10,000	-4.6	-16	-11	-6	-4	-10	-6	-2	-0	3	7	9	11	-5	2	6	8	-7	-2	2	5	7	5	3	6
5,000	5.1	-10	-15	-10	-7	-1	-6	-3	-0	12	7	9	11	4	-1	3	5	1	-4	1	3	8	6	3	6
FREDERICTON TO QUEBEC																								209 N.MI.	
15,000	-14.7	-23	-9	-4	-2	-20	-5	-1	0	-7	8	10	11	-13	2	6	8	-16	-1	3	5	7	5	3	6
10,000	-4.6	-16	-12	-7	-4	-11	-6	-3	-1	2	7	9	10	-3	1	5	7	-7	-3	2	4	7	5	3	6
5,000	5.1	-10	-15	-10	-7	-2	-7	-3	-1	11	6	9	10	3	-2	2	5	1	-4	0	3	8	6	3	6
FREDERICTON TO ST. JOHN																								43 N.MI.	
15,000	-14.7	-22	-7	-3	-0	-19	-4	-0	1	-6	8	10	12	-12	3	7	8	-15	0	4	6	7	5	3	5
10,000	-4.6	-15	-10	-5	-3	-10	-5	-1	1	3	7	9	11	-3	2	6	8	-6	-2	3	5	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-0	-6	-2	0	12	7	9	11	4	-1	3	5	2	-3	1	4	8	6	3	6
FRESNO TO LOS ANGELES																								182 N.MI.	
15,000	-14.7	-11	3	7	9	-10	5	7	9	0	15	16	17	-5	9	12	14	-7	8	11	12	5	4	2	4
10,000	-4.6	-1	4	8	10	1	5	8	10	11	16	18	18	5	9	12	14	4	9	12	13	5	5	2	4
5,000	5.1	6	1	4	6	11	6	9	11	22	17	19	20	15	10	12	14	13	8	12	14	5	5	3	4
FRESNO TO MERCED																								49 N.MI.	
15,000	-14.7	-12	2	6	8	-11	4	6	8	-0	14	16	16	-6	8	11	13	-8	7	10	12	6	4	2	4
10,000	-4.6	-2	2	6	8	-1	4	7	9	11	16	17	18	4	8	11	13	3	8	11	13	6	5	2	5
5,000	5.1	4	-1	3	5	10	5	8	10	22	17	19	20	14	9	12	13	12	7	12	14	5	5	3	4
FRESNO TO OAKLAND																								132 N.MI.	
15,000	-14.7	-13	2	6	8	-11	3	6	8	-1	14	16	16	-7	8	11	13	-8	7	10	12	5	4	2	4
10,000	-4.6	-2	2	6	8	-1	4	7	9	11	15	17	18	3	8	11	13	3	7	11	13	6	5	2	5
5,000	5.1	4	-1	3	5	9	4	8	10	21	16	18	20	13	8	11	12	12	7	11	13	5	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
FRESNO TO SAN FRANCISCO																								138 N.MI.	
15,000	-14.7	-12	2	6	8	-11	3	6	8	-1	14	16	16	-7	8	11	13	-8	7	10	12	5	4	2	4
10,000	-4.6	-2	2	6	8	-1	4	7	9	11	15	17	18	3	8	11	13	3	7	11	13	6	5	2	5
5,000	5.1	4	-1	3	5	9	4	8	10	21	16	18	20	13	8	11	12	12	7	11	13	5	5	3	4
FRESNO TO VISALIA																								31 N.MI.	
15,000	-14.7	-12	3	6	8	-11	4	7	8	-0	15	16	17	-6	9	12	13	-7	7	10	12	5	4	2	4
10,000	-4.6	-2	3	7	9	-0	4	8	9	11	16	17	18	4	9	12	13	3	8	11	13	6	5	2	5
5,000	5.1	5	-0	3	5	10	5	8	10	22	17	19	21	14	9	12	13	13	8	12	14	5	5	3	4
GAINESVILLE TO JACKSONVILLE																								54 N.MI.	
15,000	-14.7	-6	8	10	11	-5	9	11	12	-1	14	15	15	-2	13	14	15	-4	11	13	13	3	3	1	2
10,000	-4.6	3	7	9	10	4	9	11	12	8	13	14	14	7	12	14	14	6	10	12	13	3	3	1	2
5,000	5.1	9	4	7	8	12	7	9	10	18	13	14	14	14	9	10	11	13	8	10	11	4	3	2	3
GAINESVILLE TO OCALA																								32 N.MI.	
15,000	-14.7	-6	9	11	12	-5	10	12	13	-1	14	15	15	-2	13	14	15	-3	11	13	14	3	3	1	2
10,000	-4.6	3	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	7	8	13	7	9	11	18	13	14	14	14	9	11	12	13	8	10	11	4	3	2	3
GANDER TO ST. JOHNS																								86 N.MI.	
15,000	-14.7	-22	-7	-2	1	-18	-3	0	2	-7	7	10	11	-13	2	5	7	-15	-0	4	6	7	5	4	5
10,000	-4.6	-15	-10	-5	-2	-8	-4	-0	2	2	6	8	10	-4	0	4	6	-6	-2	2	4	8	5	3	5
5,000	5.1	-6	-12	-6	-4	1	-4	-0	2	10	5	7	9	4	-1	3	5	2	-3	1	3	7	5	3	5
GANDER TO STEPHENVILLE																								199 N.MI.	
15,000	-14.7	-24	-9	-4	-1	-19	-4	-1	1	-8	7	9	11	-14	1	5	7	-16	-1	3	5	8	5	4	6
10,000	-4.6	-16	-12	-6	-4	-9	-5	-1	1	1	6	8	9	-5	-0	3	5	-7	-3	1	4	8	5	3	6
5,000	5.1	-8	-13	-8	-5	0	-5	-1	1	10	5	7	8	3	-2	2	4	1	-4	0	2	8	5	3	6
GRAND FORKS TO WINNIPEG																								118 N.MI.	
15,000	-14.7	-27	-12	-7	-5	-18	-3	0	2	-6	8	11	12	-14	1	5	7	-16	-1	3	5	7	5	4	6
10,000	-4.6	-18	-14	-9	-6	-8	-4	0	2	4	8	11	12	-4	1	5	7	-7	-2	3	5	7	6	4	6
5,000	5.1	-12	-17	-11	-8	-0	-5	-1	2	14	9	13	14	5	-0	4	7	2	-3	3	6	9	7	5	7
GRAND JUNCTION TO LAS VEGAS																								363 N.MI.	
15,000	-14.7	-15	0	4	6	-11	4	7	8	1	16	17	18	-6	9	11	13	-8	7	10	12	6	4	2	4
10,000	-4.6	-4	0	4	6	1	5	9	10	13	18	20	21	4	9	12	14	4	8	12	14	6	5	2	5
5,000	5.1	3	-2	2	4	14	9	12	14	27	22	24	25	16	11	15	17	15	10	15	17	5	5	3	5
GRAND RAPIDS TO LAND O LAKES																								247 N.MI.	
15,000	-14.7	-22	-7	-3	-1	-16	-2	2	4	-5	10	12	13	-11	4	7	9	-13	1	5	7	6	5	3	5
10,000	-4.6	-14	-9	-5	-2	-7	-2	1	3	5	9	12	13	-1	4	8	10	-4	0	5	7	7	6	3	6
5,000	5.1	-8	-13	-8	-6	1	-4	1	3	15	10	12	14	6	1	5	8	3	-2	3	6	8	7	4	7
GRAND RAPIDS TO LANSING																								48 N.MI.	
15,000	-14.7	-20	-5	-1	1	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-1	2	4	5	10	12	13	0	5	9	10	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	2	4	15	10	13	14	7	2	6	8	5	-0	4	7	8	6	4	6
GRAND RAPIDS TO MILWAUKEE																								98 N.MI.	
15,000	-14.7	-20	-5	-1	1	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-1	3	5	6	10	12	13	0	5	9	11	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	2	4	16	11	13	14	7	2	6	9	5	-0	5	7	8	7	4	6
GRAND RAPIDS TO MUSKEGON																								30 N.MI.	
15,000	-14.7	-20	-5	-1	1	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-1	2	4	5	10	12	13	0	5	8	10	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-4	2	-3	2	4	15	10	13	14	7	2	6	8	5	-0	4	7	8	7	4	6
GRAND RAPIDS TO SAGINAW																								79 N.MI.	
15,000	-14.7	-20	-5	-1	1	-15	-1	3	4	-4	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-6	-2	2	4	5	10	12	13	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-6	-12	-6	-4	2	-3	1	4	15	10	13	14	7	2	6	8	4	-1	4	7	8	7	4	6
GREAT FALLS TO HELENA																								59 N.MI.	
15,000	-14.7	-24	-9	-4	-1	-16	-1	2	4	-4	10	12	14	-12	2	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-13	-8	-3	-1	-6	-1	2	4	7	12	14	16	-2	3	7	9	-3	1	6	8	7	5	3	6
5,000	5.1	-6	-11	-10	-9	5	0	4	7	21	16	19	20	9	4	8	11	7	2	8	11	2	6	5	7
GREAT FALLS TO MISSOULA																								116 N.MI.	
15,000	-14.7	-23	-9	-4	-1	-16	-1	2	4	-5	10	12	13	-12	2	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-13	-8	-3	-1	-6	-1	2	4	7	12	14	15	-2	2	6	8	-4	1	6	8	7	5	3	6
5,000	5.1	-6	-11	-9	-8	5	-0	4	6	20	15	18	20	9	3	8	10	7	2	8	11	2	6	5	7
GREAT FALLS TO SALT LAKE CITY																								403 N.MI.	
15,000	-14.7	-20	-6	-1	2	-14	0	4	5	-2	13	14	15	-10	5	8	10	-12	3	7	9	7	5	3	5
10,000	-4.6	-10	-6	-1	1	-4	1	4	6	10	15	17	18	0	5	9	11	-1	4	8	11	7	5	3	6
5,000	5.1	-3	-8	-6	-5	8	3	7	9	24	19	22	24	11	6	11	13	10	5	11	14	3	6	4	7
GREAT FALLS TO SPOKANE																								254 N.MI.	
15,000	-14.7	-23	-9	-4	-1	-16	-2	2	4	-5	9	12	13	-13	2	6	8	-14	0	4	7	7	5	3	5
10,000	-4.6	-13	-8	-3	-1	-6	-2	2	4	6	11	13	14	-3	2	6	8	-4	1	5	8	8	5	3	6
5,000	5.1	-5	-10	-8	-7	4	-1	3	5	18	13	16	18	8	3	7	10	6	1	7	10	3	6	5	6
GREENSBORO TO GREENVILLE																								139 N.MI.	
15,000	-14.7	-11	4	7	8	-9	6	8	10	-2	13	14	15	-5	10	12	13	-7	8	10	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	5	8	9	7	12	13	14	5	9	11	13	2	7	9	11	4	4	2	3
5,000	5.1	4	-1	3	5	9	4	7	9	17	12	14	15	11	6	9	11	10	5	9	10	6	5	2	4
GREENSBORO TO LOUISVILLE																								305 N.MI.	
15,000	-14.7	-13	2	5	7	-10	5	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
5,000	5.1	2	-3	1	4	8	2	6	8	17	12	14	15	11	5	9	11	9	4	8	10	7	5	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50*	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
GREENSBORO TO NEW YORK																									397 N.MI.
15,000	-14.7	-14	1	4	6	-12	3	6	7	-3	12	13	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	5	2	4
5,000	5.1	0	-5	-0	2	6	1	5	6	16	11	13	14	10	4	8	10	8	3	7	8	7	5	3	5
GREENSBORO TO PITTSBURGH																									263 N.MI.
15,000	-14.7	-14	1	4	6	-11	3	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	6	7	7	11	13	14	3	7	10	12	0	5	8	9	5	5	2	4
5,000	5.1	0	-5	0	3	6	1	5	7	16	11	13	14	10	4	8	10	8	3	7	9	7	5	3	5
GREENSBORO TO RALEIGH																									58 N.MI.
15,000	-14.7	-11	3	6	8	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-3	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	4
5,000	5.1	4	-1	3	5	8	3	6	8	17	12	14	14	11	6	9	10	10	5	8	10	6	5	3	4
GREENSBORO TO RICHMOND																									152 N.MI.
15,000	-14.7	-12	2	5	7	-10	5	7	9	-2	12	14	15	-6	9	11	13	-8	7	10	11	4	4	2	4
10,000	-4.6	-4	0	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	4	8	2	6	8	17	12	13	14	10	5	8	10	9	4	8	9	6	5	3	5
GREENSBORO TO ROANOKE																									73 N.MI.
15,000	-14.7	-12	2	5	7	-10	5	7	9	-2	12	14	15	-6	9	11	13	-8	7	10	11	4	4	2	4
10,000	-4.6	-4	1	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	4	8	3	6	8	17	12	14	14	11	5	9	10	9	4	8	10	6	5	3	5
GREENSBORO TO WASHINGTON, D.C.																									216 N.MI.
15,000	-14.7	-13	2	5	6	-11	4	7	8	-2	12	14	14	-6	8	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-2	3	6	8	7	11	13	14	3	8	10	12	1	5	8	10	5	4	2	4
5,000	5.1	2	-3	1	3	7	2	5	7	16	11	13	14	10	5	8	10	9	4	7	9	7	5	3	5
GREENVILLE TO RICHMOND																									291 N.MI.
15,000	-14.7	-12	3	6	7	-10	5	8	9	-2	13	14	15	-5	9	12	13	-7	7	10	11	4	4	2	3
10,000	-4.6	-3	1	4	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	5	8	3	6	8	17	12	14	15	11	6	9	10	10	5	8	10	6	5	3	4
GREENVILLE TO SPARTANBURG																									19 N.MI.
15,000	-14.7	-10	4	7	8	-8	6	9	10	-2	13	14	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-2	3	5	7	1	6	8	10	8	12	14	14	5	10	12	13	3	8	10	11	4	4	2	3
5,000	5.1	5	-0	4	6	9	4	7	9	18	13	14	15	12	7	10	11	11	6	9	11	6	5	2	4
GREENVILLE TO WINSTON-SALEM																									129 N.MI.
15,000	-14.7	-11	4	6	8	-9	6	8	10	-2	13	14	15	-5	10	12	13	-7	8	10	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	5	8	9	7	12	13	14	5	9	11	13	2	7	9	11	4	4	2	3
5,000	5.1	4	-1	3	5	9	4	7	9	17	12	14	15	11	6	9	11	10	5	9	10	6	5	2	4
HALIFAX TO MONCTON																									89 N.MI.
15,000	-14.7	-21	-7	-2	0	-18	-3	0	2	-6	8	11	12	-12	3	7	9	-14	0	4	6	7	5	3	5
10,000	-4.6	-14	-10	-5	-2	-9	-4	-1	1	3	7	10	11	-3	2	6	8	-6	-1	3	5	7	5	3	5
5,000	5.1	-8	-14	-8	-5	0	-5	-1	1	12	7	9	11	4	-1	3	5	2	-3	1	4	8	5	3	6
HALIFAX TO ST. JOHN																									104 N.MI.
15,000	-14.7	-21	-6	-2	1	-18	-3	0	2	-6	9	11	12	-11	3	7	9	-14	1	5	7	7	5	3	5
10,000	-4.6	-14	-9	-5	-2	-9	-4	-1	1	3	8	10	11	-2	2	6	8	-5	-1	3	5	7	5	3	5
5,000	5.1	-8	-13	-8	-5	0	-5	-1	1	13	8	10	11	5	-0	4	6	2	-3	2	4	8	5	3	6
HALIFAX TO SYDNEY																									165 N.MI.
15,000	-14.7	-21	-6	-2	1	-18	-3	1	2	-6	8	11	12	-11	3	7	9	-14	1	4	7	7	5	3	5
10,000	-4.6	-14	-9	-5	-2	-8	-4	-0	2	3	8	10	11	-3	2	6	8	-6	-1	3	5	7	5	3	5
5,000	5.1	-8	-13	-8	-5	1	-4	-1	1	12	7	9	10	5	-1	3	5	2	-3	2	4	8	5	3	6
HARRISBURG TO PITTSBURGH																									155 N.MI.
15,000	-14.7	-16	-2	2	4	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	5	8	9	5	5	2	4
10,000	-4.6	-9	-4	-0	2	-4	0	4	6	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	5
5,000	5.1	-2	-8	-2	0	4	-1	3	6	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
HARRISBURG TO READING																									42 N.MI.
15,000	-14.7	-16	-1	2	4	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	5	2	4
10,000	-4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
5,000	5.1	-2	-7	-2	0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
HARRISBURG TO WASHINGTON, D.C.																									82 N.MI.
15,000	-14.7	-15	-1	3	5	-12	2	5	7	-3	12	13	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	1	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
HARRISBURG TO WILLIAMSPORT																									61 N.MI.
15,000	-14.7	-17	-2	2	4	-14	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	7	9	6	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	8	6	3	6
HARTFORD TO NEW HAVEN																									30 N.MI.
15,000	-14.7	-17	-3	1	3	-15	-0	3	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-2	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	1	4	14	9	11	12	8	2	6	8	5	0	4	6	7	6	3	5
HARTFORD TO NEW YORK																									84 N.MI.
15,000	-14.7	-17	-2	2	4	-14	0	3	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-3	-9	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	0	4	7	7	6	3	5
HARTFORD TO PHILADELPHIA																									161 N.MI.
15,000	-14.7	-17	-2	2	4	-14	1	4	6	-4	11	13	14	-8	7	10	11	-11	4	7	9	5	5	3	4
10,000	-4.6	-9	-5	-1	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-1	4	-1	2	4	15	10	12	13	8	3	7	8	6	1	5	7	7	6	3	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
HARTFORD TO PITTSBURGH							**350 N.MI.**
15,000	-14.7	-17 -3 1 3	-14 1 4 5	-4 11 13 14	-8 6 9 11	-11 4 7 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-5 -1 3 5	6 10 12 13	1 6 9 11	-2 3 6 8	6 5 3 5
5,000	5.1	-3 -9 -4 -1	3 -2 2 4	15 10 12 13	8 3 6 8	6 1 5 7	7 6 3 6
HARTFORD TO PITTSFIELD							**51 N.MI.**
15,000	-14.7	-18 -3 1 3	-15 -1 2 4	-4 10 12 13	-9 6 9 10	-12 3 6 8	6 5 3 5
10,000	-4.6	-11 -6 -2 0	-6 -2 2 3	5 10 11 12	0 5 8 10	-3 2 5 7	6 5 3 5
5,000	5.1	-5 -10 -5 -2	2 -3 1 3	14 9 11 12	7 2 6 8	5 -0 4 6	7 6 3 5
HARTFORD TO PROVIDENCE							**54 N.MI.**
15,000	-14.7	-17 -3 1 3	-15 -0 3 4	-4 11 12 13	-9 6 9 11	-11 3 7 9	6 5 3 5
10,000	-4.6	-10 -6 -2 1	-6 -1 2 4	5 10 11 12	0 5 8 10	-3 2 5 7	6 5 3 5
5,000	5.1	-4 -9 -5 -2	3 -3 1 3	14 9 11 12	7 2 6 8	5 -0 4 6	7 6 3 5
HARTFORD TO WASHINGTON, D.C.							**265 N.MI.**
15,000	-14.7	-16 -1 2 4	-13 1 4 6	-3 11 13 14	-8 7 10 11	-10 5 8 9	5 4 3 4
10,000	-4.6	-8 -4 0 2	-4 0 3 5	6 11 12 13	2 6 9 11	-1 3 7 8	6 5 2 4
5,000	5.1	-2 -7 -3 0	4 -1 3 5	15 10 12 13	8 3 7 9	6 1 5 7	7 6 3 5
HELENA TO MISSOULA							**88 N.MI.**
15,000	-14.7	-23 -8 -3 -0	-16 -1 2 4	-4 10 12 14	-12 3 6 8	-14 1 5 7	7 5 3 5
10,000	-4.6	-13 -8 -3 -0	-6 -1 2 4	7 12 14 15	-2 3 7 9	-3 1 6 8	7 5 3 6
5,000	5.1	-5 -10 -9 -8	5 0 4 7	20 15 18 20	9 4 8 11	7 2 8 11	2 6 5 7
HOBBS TO MIDLAND, TEX.							**71 N.MI.**
15,000	-14.7	-10 5 8 9	-6 8 11 12	1 16 17 17	-3 11 13 15	-5 10 12 14	4 4 2 3
10,000	-4.6	-0 4 7 9	5 10 13 14	12 16 18 18	7 12 14 15	6 11 13 14	5 4 2 3
5,000	5.1	7 2 7 9	15 10 14 15	23 18 20 22	17 12 14 16	16 11 14 16	6 5 3 4
HOBBS TO ROSWELL							**78 N.MI.**
15,000	-14.7	-10 4 7 9	-7 8 10 12	1 16 17 17	-4 11 13 14	-5 10 12 13	5 4 2 3
10,000	-4.6	-1 4 7 9	5 9 12 14	12 17 18 19	7 11 14 15	6 10 13 14	5 4 2 3
5,000	5.1	7 2 6 8	15 10 14 16	24 19 21 23	17 12 15 16	16 11 15 17	6 5 3 4
HOT SPRINGS TO LITTLE ROCK							**45 N.MI.**
15,000	-14.7	-11 3 6 8	-8 7 10 11	-1 14 15 16	-4 11 13 14	-6 9 11 12	4 4 2 3
10,000	-4.6	-2 2 5 7	3 7 10 12	10 14 15 16	6 11 13 14	4 9 11 12	4 4 2 3
5,000	5.1	5 -0 4 6	11 6 9 11	20 15 17 18	13 8 11 13	12 7 11 13	6 5 3 5
HOT SPRINGS TO SHREVEPORT							**127 N.MI.**
15,000	-14.7	-10 4 7 8	-7 8 10 11	-0 14 15 16	-4 11 13 14	-5 9 12 13	4 4 2 3
10,000	-4.6	-1 3 6 8	4 8 11 12	10 14 15 16	7 11 13 15	5 9 12 13	4 4 2 3
5,000	5.1	6 1 5 7	12 7 10 12	20 15 17 18	14 9 12 13	13 8 11 13	6 5 3 4
HOULTON TO PRESQUE ISLE							**36 N.MI.**
15,000	-14.7	-23 -9 -4 -2	-20 -5 -1 1	-7 8 10 11	-13 2 6 8	-16 -1 3 5	7 5 3 6
10,000	-4.6	-16 -12 -7 -4	-11 -6 -2 -1	2 7 9 10	-3 1 5 7	-7 -3 2 4	8 5 3 6
5,000	5.1	-10 -15 -10 -7	-2 -7 -3 -1	11 6 9 10	3 -2 2 5	1 -4 0 3	8 6 3 6
HOUSTON TO LAKE CHARLES							**114 N.MI.**
15,000	-14.7	-7 7 9 11	-5 10 12 13	0 15 16 16	-2 13 14 15	-4 11 13 14	3 3 1 2
10,000	-4.6	2 7 9 11	6 11 13 14	10 15 16 16	8 13 14 15	7 11 13 14	3 3 1 2
5,000	5.1	9 4 7 9	14 9 12 13	20 15 16 17	15 10 12 13	15 9 12 13	5 4 2 3
HOUSTON TO NEW ORLEANS							**262 N.MI.**
15,000	-14.7	-7 7 9 11	-5 10 12 13	0 15 16 16	-2 13 14 15	-4 11 13 14	3 3 1 2
10,000	-4.6	3 7 10 11	6 10 13 14	10 14 15 16	8 13 14 15	7 11 13 14	3 3 1 2
5,000	5.1	9 4 7 9	14 9 11 13	19 14 16 16	15 10 11 13	14 9 12 13	5 4 2 3
HOUSTON TO SAN ANTONIO							**167 N.MI.**
15,000	-14.7	-7 7 10 11	-5 10 12 13	1 15 16 17	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 7 10 11	7 11 14 15	10 15 16 16	8 13 15 15	7 12 13 14	4 3 1 2
5,000	5.1	9 4 8 10	15 10 13 14	21 16 17 18	16 10 12 13	15 10 13 14	5 4 2 3
HOUSTON TO SHREVEPORT							**184 N.MI.**
15,000	-14.7	-8 6 9 10	-6 9 11 13	0 15 16 16	-3 12 14 15	-4 11 13 14	3 3 1 3
10,000	-4.6	1 6 8 10	5 10 12 14	10 15 16 16	8 12 14 15	6 11 13 14	4 4 1 3
5,000	5.1	8 3 7 9	14 8 11 13	20 15 17 17	15 10 12 13	14 9 12 13	5 4 2 3
HOUSTON TO TULSA							**394 N.MI.**
15,000	-14.7	-10 4 7 9	-7 8 10 12	-0 15 16 16	-3 11 13 14	-5 10 12 13	4 4 2 3
10,000	-4.6	-1 4 7 8	4 9 12 13	10 15 16 16	7 11 14 15	5 10 12 13	4 4 2 3
5,000	5.1	6 1 5 8	13 8 11 13	21 16 18 19	14 9 12 13	14 8 12 14	6 5 3 4
HUNTINGTON TO LEXINGTON							**99 N.MI.**
15,000	-14.7	-14 1 4 6	-11 4 7 8	-2 12 14 15	-6 8 11 12	-8 6 9 11	5 4 2 4
10,000	-4.6	-6 -1 2 4	-2 3 6 8	7 12 13 14	3 8 11 12	1 5 8 10	5 5 2 4
5,000	5.1	0 -5 0 3	7 2 5 7	17 12 14 15	10 5 8 10	9 3 7 9	7 6 3 5
HUNTINGTON TO LOUISVILLE							**150 N.MI.**
15,000	-14.7	-14 1 4 6	-11 4 7 8	-2 13 14 15	-6 8 11 12	-8 6 9 11	5 4 2 4
10,000	-4.6	-6 -1 2 4	-2 3 6 8	7 12 13 14	3 8 11 12	1 5 8 10	5 5 2 4
5,000	5.1	0 -5 -0 2	7 2 5 7	17 12 14 15	10 5 8 10	8 3 7 9	7 6 3 5
HUNTSVILLE TO KNOXVILLE							**144 N.MI.**
15,000	-14.7	-11 4 6 8	-8 6 9 10	-1 13 14 15	-5 10 12 13	-6 8 11 12	4 4 2 3
10,000	-4.6	-3 2 5 6	1 6 9 10	8 13 14 15	5 10 12 13	3 8 10 11	4 4 2 3
5,000	5.1	4 -1 3 5	9 4 7 9	18 13 15 16	12 7 10 11	11 6 9 11	6 5 2 5
HUNTSVILLE TO LEXINGTON							**223 N.MI.**
15,000	-14.7	-12 2 5 7	-9 5 8 9	-2 13 14 15	-5 9 12 13	-7 8 10 11	4 4 2 3
10,000	-4.6	-4 1 4 5	0 5 8 9	8 13 14 15	5 9 12 13	2 7 9 11	5 4 2 4
5,000	5.1	3 -2 2 4	8 3 7 9	18 13 15 16	11 6 9 11	10 5 8 10	6 5 3 5

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ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
HUNTSVILLE TO LOUISVILLE																									214 N.MI.
15,000	-14.7	-12	2	5	7	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-4	1	4	5	0	5	8	9	8	13	14	15	5	9	12	13	2	7	9	11	5	4	2	4
5,000	5.1	2	-3	2	4	8	3	7	9	18	13	15	16	11	6	9	11	10	5	8	10	7	5	3	5
HUNTSVILLE TO MEMPHIS																									169 N.MI.
15,000	-14.7	-11	4	6	8	-8	7	9	11	-1	14	15	15	-4	10	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-2	2	5	7	2	7	9	11	9	13	14	15	6	10	13	14	3	8	10	12	4	4	2	3
5,000	5.1	4	-1	3	5	10	5	8	10	19	14	15	16	12	7	10	12	11	6	9	11	6	5	2	5
HUNTSVILLE TO NASHVILLE																									87 N.MI.
15,000	-14.7	-11	3	6	8	-9	6	9	10	-1	13	15	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
5,000	5.1	4	-1	3	5	9	4	7	9	18	13	15	16	12	7	10	12	11	6	9	11	6	5	3	5
HUNTSVILLE TO WASHINGTON, D.C.																									522 N.MI.
15,000	-14.7	-13	2	5	7	-10	5	7	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-4	0	3	5	-1	4	7	9	7	12	13	14	4	9	11	12	2	6	9	10	5	4	2	4
5,000	5.1	2	-3	2	4	8	3	6	8	17	12	14	15	11	6	9	11	9	4	8	10	7	5	3	5
HURON TO PIERRE																									88 N.MI.
15,000	-14.7	-21	-7	-2	-0	-15	0	3	5	-3	12	14	15	-10	5	8	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-4	0	4	6	8	13	15	16	0	5	9	11	-2	3	7	10	7	6	4	6
5,000	5.1	-6	-11	-5	-2	5	-1	4	7	19	14	17	19	9	4	8	11	7	2	7	10	9	7	5	7
HURON TO SIOUX FALLS																									80 N.MI.
15,000	-14.7	-21	-6	-2	0	-14	0	4	5	-3	12	14	15	-10	5	8	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-4	0	4	6	8	12	15	16	1	5	9	11	-2	3	7	9	7	6	3	6
5,000	5.1	-6	-11	-5	-2	4	-1	4	7	19	14	17	18	9	3	8	11	6	1	7	10	9	7	4	7
HYANNIS TO NANTUCKET																									26 N.MI.
15,000	-14.7	-17	-2	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-2	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	1	3	14	9	11	12	8	3	6	8	5	0	4	6	7	5	3	5
IDAHO FALLS TO POCATELLO																									43 N.MI.
15,000	-14.7	-19	-4	0	3	-14	1	4	6	-2	13	15	16	-10	5	8	10	-11	4	7	9	7	5	3	5
10,000	-4.6	-9	-5	-0	2	-3	1	5	7	11	15	17	18	1	5	9	11	-0	4	9	11	7	5	3	5
5,000	5.1	-2	-7	-5	-4	9	4	8	10	25	20	23	24	12	7	11	13	11	6	11	14	3	6	4	6
IDAHO FALLS TO SALT LAKE CITY																									164 N.MI.
15,000	-14.7	-18	-4	1	3	-13	1	4	6	-1	14	15	16	-9	6	9	11	-10	4	8	10	7	4	3	5
10,000	-4.6	-9	-4	0	3	-2	2	6	8	12	16	18	19	2	6	10	12	1	5	10	12	6	5	3	5
5,000	5.1	-1	-6	-4	-2	10	5	9	11	26	21	23	25	13	8	12	14	12	7	12	15	4	6	4	6
INDIANAPOLIS TO LOUISVILLE																									96 N.MI.
15,000	-14.7	-15	-0	3	5	-11	3	6	8	-2	13	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-7	-2	1	3	-2	3	6	8	7	12	14	14	3	8	11	12	0	5	8	10	5	5	2	4
5,000	5.1	-1	-6	-1	2	6	1	5	7	17	12	14	15	10	5	8	11	8	3	7	9	7	6	3	6
INDIANAPOLIS TO MEMPHIS																									331 N.MI.
15,000	-14.7	-13	1	4	6	-10	5	8	9	-2	13	14	15	-6	9	12	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-0	4	7	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
5,000	5.1	1	-4	1	3	8	2	6	8	18	13	15	16	11	6	9	11	9	4	8	10	7	6	3	5
INDIANAPOLIS TO NASHVILLE																									217 N.MI.
15,000	-14.7	-14	1	4	6	-10	4	7	9	-2	13	14	15	-6	9	11	13	-8	7	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-1	4	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	0	-5	0	3	7	2	6	8	18	13	15	16	10	5	9	11	9	4	8	10	7	6	3	5
INDIANAPOLIS TO PITTSBURGH																									282 N.MI.
15,000	-14.7	-16	-2	2	4	-12	2	5	7	-3	12	14	15	-8	7	10	12	-10	5	8	10	5	5	2	4
10,000	-4.6	-8	-4	0	2	-3	1	5	6	7	11	13	14	2	7	10	12	-1	4	7	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	14	15	9	4	8	10	7	2	6	8	8	6	3	6
INDIANAPOLIS TO ST. LOUIS																									199 N.MI.
15,000	-14.7	-15	-0	3	5	-11	3	6	8	-2	13	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-7	-3	1	3	-2	3	6	8	8	12	14	15	3	8	11	12	0	5	8	10	5	5	2	4
5,000	5.1	-1	-7	-1	1	6	1	5	7	18	13	15	16	10	5	9	11	8	3	7	10	7	6	3	6
INDIANAPOLIS TO TERRE HAUTE																									51 N.MI.
15,000	-14.7	-16	-1	3	4	-12	3	6	8	-2	12	14	15	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-2	2	6	7	7	12	14	15	3	7	10	12	0	5	8	10	5	5	2	5
5,000	5.1	-2	-7	-2	1	6	0	5	7	17	12	14	16	9	4	8	10	8	3	7	9	8	6	3	6
JACKSON TO MEMPHIS																									164 N.MI.
15,000	-14.7	-10	4	7	8	-7	8	10	11	-1	14	15	16	-4	11	13	14	-5	9	11	13	4	4	2	3
10,000	-4.6	-1	3	6	7	3	8	10	12	9	14	15	15	7	11	13	14	4	9	11	12	4	4	2	3
5,000	5.1	5	0	4	6	11	6	9	10	19	14	15	16	13	8	11	12	12	7	10	12	6	5	2	4
JACKSON TO MERIDIAN																									75 N.MI.
15,000	-14.7	-9	6	8	9	-6	8	11	12	-1	14	15	16	-3	12	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	0	5	7	9	4	8	11	12	9	14	15	15	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	2	5	7	11	6	9	11	19	14	15	16	13	8	11	12	13	7	10	12	5	4	2	4
JACKSON TO MONROE																									92 N.MI.
15,000	-14.7	-9	5	8	9	-6	8	11	12	-0	14	15	16	-3	12	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	0	5	7	9	4	9	11	12	9	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	2	5	7	12	7	10	11	19	14	16	16	13	8	11	12	13	8	11	12	5	4	2	4
JACKSON TO NEW ORLEANS																									140 N.MI.
15,000	-14.7	-8	6	9	10	-6	9	11	12	-0	14	15	16	-3	12	14	15	-4	11	12	13	3	3	1	3
10,000	-4.6	1	6	8	10	5	9	12	13	9	14	15	15	8	12	14	15	6	10	12	13	3	3	1	3
5,000	5.1	8	3	6	8	12	7	10	11	19	14	15	16	14	9	11	12	13	8	11	12	5	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
JACKSON TO SHREVEPORT							**182 N.MI.**
15,000	-14.7	-9 5 8 9	-6 8 11 12	-0 14 15 16	-3 12 14 15	-5 10 12 13	4 3 2 3
10,000	-4.6	0 5 7 9	4 9 11 13	10 14 15 16	7 12 14 15	5 10 12 13	4 4 2 3
5,000	5.1	7 2 5 7	12 7 10 12	19 14 16 17	14 9 11 13	13 8 11 13	5 4 2 4
JACKSONVILLE TO MACON							**171 N.MI.**
15,000	-14.7	-8 7 9 10	-6 8 11 12	-1 14 15 15	-3 12 14 15	-4 10 12 13	3 3 2 3
10,000	-4.6	1 6 8 9	3 8 10 11	8 13 14 14	7 11 13 14	5 9 11 12	3 3 1 3
5,000	5.1	8 3 6 7	11 6 9 10	18 13 14 15	13 8 10 11	13 7 10 11	4 4 2 3
JACKSONVILLE TO MELBOURNE							**149 N.MI.**
15,000	-14.7	-6 9 11 12	-5 10 12 13	-1 14 15 15	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	4 9 11 12	8 13 14 14	8 12 14 14	6 10 12 13	3 3 1 2
5,000	5.1	10 5 7 8	12 7 9 10	17 12 13 14	14 9 11 12	13 8 10 11	4 3 1 3
JACKSONVILLE TO MIAMI							**286 N.MI.**
15,000	-14.7	-5 10 11 12	-4 10 12 13	-1 14 15 15	-1 13 15 15	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 10 11	5 10 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	11 5 8 9	13 8 10 11	17 12 13 14	14 9 11 12	14 9 10 11	3 3 1 2
JACKSONVILLE TO ORLANDO							**113 N.MI.**
15,000	-14.7	-6 9 11 12	-5 10 12 13	-1 14 15 15	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	4 9 11 12	8 13 14 14	8 12 14 14	6 10 12 13	3 3 1 2
5,000	5.1	10 5 7 8	12 7 9 10	18 12 13 14	14 9 11 12	13 8 10 11	4 3 2 3
JACKSONVILLE TO SARASOTA							**187 N.MI.**
15,000	-14.7	-6 9 11 12	-5 10 12 13	-1 14 15 15	-2 13 15 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	5 9 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 7 9	13 8 10 11	18 12 13 14	14 9 11 12	14 9 10 11	4 3 1 3
JACKSONVILLE TO SAVANNAH							**99 N.MI.**
15,000	-14.7	-7 7 10 11	-6 9 11 12	-1 14 15 15	-3 12 14 15	-4 10 12 13	3 3 1 2
10,000	-4.6	2 6 8 10	3 8 10 11	8 13 14 14	7 11 13 14	5 10 11 12	3 3 1 3
5,000	5.1	8 3 6 8	12 6 9 10	18 12 14 14	13 8 10 11	13 8 10 11	4 3 2 3
JACKSONVILLE TO TALLAHASSEE							**141 N.MI.**
15,000	-14.7	-7 8 10 11	-5 9 11 12	-1 14 15 15	-2 12 14 15	-4 11 13 13	3 3 1 2
10,000	-4.6	2 7 9 10	4 9 11 12	8 13 14 14	7 12 14 14	6 10 12 13	3 3 1 2
5,000	5.1	9 4 7 8	12 7 9 10	18 13 14 14	14 9 10 12	13 8 10 11	4 3 2 3
JACKSONVILLE TO TAMPA							**154 N.MI.**
15,000	-14.7	-6 9 11 12	-5 10 12 13	-1 14 15 15	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	5 9 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 7 9	13 8 10 11	18 12 13 14	14 9 11 12	14 8 10 11	4 3 1 3
JACKSONVILLE TO WAYCROSS							**64 N.MI.**
15,000	-14.7	-7 8 10 11	-6 9 11 12	-1 14 15 15	-2 12 14 15	-4 11 12 13	3 3 1 2
10,000	-4.6	2 7 9 10	4 8 10 12	8 13 14 14	7 12 13 14	5 10 11 12	3 3 1 2
5,000	5.1	9 4 6 8	12 7 9 10	18 13 14 14	13 8 10 11	13 8 10 11	4 3 2 3
JACKSONVILLE TO WEST PALM BEACH							**238 N.MI.**
15,000	-14.7	-5 9 11 12	-5 10 12 13	-1 14 15 15	-2 13 15 15	-3 12 13 14	3 3 1 2
10,000	-4.6	4 8 10 11	5 9 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 7 9	13 8 10 11	17 12 13 14	14 9 11 12	14 9 10 11	3 3 1 2
JOPLIN TO SPRINGFIELD, MO.							**54 N.MI.**
15,000	-14.7	-14 1 4 6	-9 5 8 9	-1 14 15 16	-5 9 12 13	-7 7 10 12	5 4 2 4
10,000	-4.6	-5 -0 3 5	1 6 9 10	9 14 15 16	5 9 12 14	2 7 10 12	5 5 2 4
5,000	5.1	2 -3 1 4	9 4 8 10	20 15 17 19	12 7 11 13	11 6 10 12	7 6 4 6
JOPLIN TO TULSA							**88 N.MI.**
15,000	-14.7	-14 1 4 6	-9 6 8 10	-1 14 15 16	-5 10 12 13	-7 8 10 12	5 4 2 4
10,000	-4.6	-5 0 3 5	2 6 9 11	10 14 16 17	5 10 12 14	3 8 10 12	5 5 2 4
5,000	5.1	2 -3 2 5	10 5 9 11	21 16 18 19	13 8 11 13	11 6 11 13	7 6 4 5
KANSAS CITY TO MINNEAPOLIS							**351 N.MI.**
15,000	-14.7	-19 -4 -0 2	-13 1 5 6	-3 12 14 15	-9 6 9 11	-11 4 8 9	6 5 3 5
10,000	-4.6	-10 -5 -1 1	-3 1 5 7	8 12 14 15	2 6 10 12	-1 4 7 10	6 5 3 5
5,000	5.1	-4 -9 -4 -1	5 -0 4 7	18 13 16 17	9 4 8 11	7 2 7 10	8 7 4 7
KANSAS CITY TO OMAHA							**144 N.MI.**
15,000	-14.7	-17 -2 1 3	-11 3 6 8	-1 13 15 16	-7 8 11 12	-9 6 9 11	5 4 2 4
10,000	-4.6	-8 -3 1 3	-1 4 7 9	9 14 16 16	3 8 11 13	1 5 9 11	6 5 3 5
5,000	5.1	-1 -6 -1 2	7 2 7 9	20 15 18 19	11 6 10 12	9 4 9 12	8 7 4 6
KANSAS CITY TO ST. LOUIS							**199 N.MI.**
15,000	-14.7	-15 -1 3 5	-11 4 7 8	-1 13 15 16	-6 8 11 12	-8 6 9 11	5 4 2 4
10,000	-4.6	-7 -2 1 3	-1 4 7 9	9 13 15 16	4 8 11 13	1 6 9 11	5 5 2 5
5,000	5.1	-1 -6 -1 2	7 2 6 9	19 14 16 18	11 6 10 12	9 4 8 11	8 6 3 6
KANSAS CITY TO SPRINGFIELD, MO.							**126 N.MI.**
15,000	-14.7	-15 -0 3 5	-10 5 7 9	-1 14 15 16	-6 9 11 13	-8 7 10 11	5 4 2 4
10,000	-4.6	-6 -1 2 4	0 5 8 10	9 14 15 16	4 9 12 13	2 6 10 11	5 5 2 4
5,000	5.1	0 -5 0 3	8 3 7 10	20 15 17 18	12 7 10 13	10 5 9 12	8 6 4 6
KANSAS CITY TO TULSA							**185 N.MI.**
15,000	-14.7	-14 0 3 5	-10 5 8 9	-1 14 15 16	-6 9 12 13	-8 7 10 11	5 4 2 4
10,000	-4.6	-5 -1 3 5	1 5 9 10	10 14 16 16	4 9 12 13	2 7 10 12	5 5 2 4
5,000	5.1	1 -4 1 4	9 4 8 10	21 15 18 19	12 7 11 13	11 6 10 13	8 6 4 6
KANSAS CITY TO WICHITA							**154 N.MI.**
15,000	-14.7	-15 -1 3 5	-10 5 7 9	-1 14 15 16	-6 9 11 13	-8 7 10 11	5 4 2 4
10,000	-4.6	-6 -1 2 4	0 5 8 10	10 14 16 17	4 9 12 13	2 7 10 12	5 5 2 4
5,000	5.1	1 -5 1 4	9 4 8 10	21 16 18 20	12 7 11 13	10 5 10 13	8 6 4 6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
KEENE TO NEW YORK																									152 N.MI.
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-9	-5	-2	3	-3	1	3	14	9	11	12	7	2	6	8	5	-0	4	6	7	6	3	5
KEENE TO PITTSFIELD																									54 N.MI.
15,000	-14.7	-19	-4	-0	2	-16	-1	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-3	0	2	14	9	11	12	7	2	5	7	4	-1	3	6	7	6	3	6
KEY WEST TO MIAMI																									109 N.MI.
15,000	-14.7	-3	11	13	14	-3	12	13	14	-1	14	15	15	-0	14	16	16	-2	13	14	15	2	2	1	2
10,000	-4.6	6	10	12	13	6	11	13	14	9	13	14	14	9	13	14	15	7	12	13	13	2	3	1	2
5,000	5.1	12	7	9	10	14	9	11	11	17	12	13	13	15	10	12	12	15	10	11	12	3	2	1	2
KNOXVILLE TO LEXINGTON																									136 N.MI.
15,000	-14.7	-13	2	5	7	-10	5	8	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	4	4	2	4
10,000	-4.6	-5	0	3	5	-0	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
5,000	5.1	2	-3	1	4	8	3	6	8	18	12	14	15	11	6	9	11	10	4	8	10	7	5	3	5
KNOXVILLE TO LOUISVILLE																									165 N.MI.
15,000	-14.7	-13	2	5	7	-10	5	8	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-0	4	7	9	8	12	14	14	4	9	11	13	2	6	9	10	5	4	2	4
5,000	5.1	2	-3	1	4	8	3	6	8	18	13	14	15	11	6	9	11	10	4	8	10	7	5	3	5
KNOXVILLE TO MEMPHIS																									297 N.MI.
15,000	-14.7	-11	3	6	8	-8	6	9	10	-1	13	15	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
5,000	5.1	4	-1	3	5	9	4	7	9	18	13	15	16	12	7	10	12	11	6	9	11	6	5	3	5
KNOXVILLE TO NASHVILLE																									132 N.MI.
15,000	-14.7	-12	3	6	7	-9	6	8	10	-2	13	14	15	-5	10	12	13	-7	8	10	12	4	4	2	3
10,000	-4.6	-3	1	4	6	1	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
5,000	5.1	3	-2	2	5	9	4	7	9	18	13	15	16	11	6	10	11	10	5	9	10	6	5	3	5
KNOXVILLE TO PITTSBURG																									332 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	7	8	-2	12	14	15	-7	8	11	12	-9	6	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	3	6	8	7	12	13	14	3	8	11	12	1	5	8	10	5	5	2	4
5,000	5.1	0	-5	0	3	7	2	5	7	17	12	14	15	10	5	8	10	8	3	7	9	7	6	3	5
KNOXVILLE TO WASHINGTON, D.C.																									378 N.MI.
15,000	-14.7	-13	2	5	6	-10	4	7	8	-2	12	14	15	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-1	3	6	8	7	12	13	14	4	8	11	12	1	6	8	10	5	4	2	4
5,000	5.1	2	-3	1	4	7	2	6	8	17	12	14	15	10	5	8	10	9	4	7	9	7	5	3	5
LAFAYETTE TO LAKE CHARLES																									60 N.MI.
15,000	-14.7	-8	7	9	10	-5	10	12	13	0	15	16	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	6	10	12	14	10	14	15	16	8	13	14	15	6	11	13	14	3	3	1	3
5,000	5.1	9	4	7	9	14	8	11	12	19	14	16	16	14	9	11	12	14	9	11	13	5	4	2	3
LAFAYETTE TO NEW ORLEANS																									92 N.MI.
15,000	-14.7	-7	7	9	10	-5	10	12	13	-0	15	16	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	3	7	9	11	5	10	12	13	10	14	15	16	8	13	14	15	6	11	13	14	3	3	1	2
5,000	5.1	9	4	7	8	13	8	11	12	19	14	15	16	14	9	11	12	14	9	11	12	4	4	2	3
LAKELAND TO TAMPA																									27 N.MI.
15,000	-14.7	-5	9	11	12	-4	10	12	13	-1	14	15	15	-1	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	4	9	11	11	5	10	12	13	9	13	14	14	8	13	14	15	6	11	12	13	3	3	1	2
5,000	5.1	11	6	8	9	13	8	10	11	18	12	13	14	15	9	11	12	14	9	11	11	3	3	1	2
LANCASTER TO READING																									22 N.MI.
15,000	-14.7	-16	-1	2	4	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	5	2	4
10,000	-4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
5,000	5.1	-2	-7	-2	0	4	-1	3	5	15	10	12	13	8	3	7	9	7	1	5	7	7	6	3	5
LANCASTER TO WASHINGTON																									83 N.MI.
15,000	-14.7	-15	-1	3	5	-12	2	5	7	-3	12	13	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	1	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
LAS VEGAS TO LOS ANGELES																									205 N.MI.
15,000	-14.7	-11	3	7	9	-10	5	8	9	1	15	17	17	-5	10	12	14	-6	8	11	13	5	4	2	4
10,000	-4.6	-1	4	8	10	2	6	9	11	12	17	18	19	5	10	13	14	5	9	12	14	5	5	2	4
5,000	5.1	6	1	4	6	13	7	11	13	24	19	21	22	16	11	14	15	15	10	13	15	5	5	3	4
LAS VEGAS TO PALM SPRINGS																									150 N.MI.
15,000	-14.7	-11	3	7	9	-9	5	8	9	1	16	17	17	-5	10	12	14	-6	8	11	13	5	4	2	4
10,000	-4.6	-1	4	8	10	2	6	9	11	12	17	19	19	5	10	13	14	5	9	12	14	5	5	2	4
5,000	5.1	6	1	4	6	13	8	12	13	24	19	21	22	17	12	14	16	15	10	14	16	5	5	3	4
LAS VEGAS TO PHOENIX																									222 N.MI.
15,000	-14.7	-11	3	7	9	-9	6	8	10	1	16	17	18	-5	10	12	14	-6	9	12	13	5	4	2	4
10,000	-4.6	-1	4	7	9	2	7	10	12	13	18	19	20	6	10	13	14	5	10	13	14	5	4	2	4
5,000	5.1	6	1	5	6	15	10	13	15	26	21	23	24	18	13	16	17	16	11	15	17	5	5	3	4
LAS VEGAS TO SACRAMENTO																									336 N.MI.
15,000	-14.7	-13	2	6	8	-11	4	6	8	-0	15	16	17	-6	8	11	13	-8	7	10	12	6	4	2	4
10,000	-4.6	-3	2	6	8	-0	4	8	9	12	16	18	19	4	8	11	13	3	8	11	13	6	5	2	5
5,000	5.1	4	-1	3	5	11	6	9	11	23	18	20	21	15	9	12	14	13	8	12	15	5	5	3	4
LAS VEGAS TO SALT LAKE CITY																									320 N.MI.
15,000	-14.7	-15	-0	4	6	-11	5	6	8	0	15	17	17	-7	8	11	13	-8	7	10	12	6	4	2	4
10,000	-4.6	-5	-0	4	6	-0	5	8	10	13	17	19	20	4	8	11	13	3	8	11	13	6	5	3	5
5,000	5.1	3	-2	1	3	13	7	11	13	26	21	23	25	15	10	14	16	14	9	14	16	5	5	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
LAS VEGAS TO SAN FRANCISCO																									359 N.MI.
15,000	-14.7	-13	2	6	8	-11	4	7	8	-0	15	16	17	-6	9	11	13	-7	7	10	12	6	4	2	4
10,000	-4.6	-2	2	6	8	-0	5	8	9	11	16	18	19	4	8	12	13	3	8	11	13	6	5	2	5
5,000	5.1	4	-1	3	5	11	6	9	11	23	18	20	21	15	9	12	14	13	8	12	14	5	5	3	4
LAWRENCE TO MANCHESTER																									19 N.MI.
15,000	-14.7	-19	-4	-0	2	-16	-2	2	3	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-7	-3	1	2	4	9	11	12	-0	4	8	10	-4	1	5	6	6	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	0	2	14	9	11	12	7	2	5	7	4	-1	3	5	7	6	3	6
LAWRENCE TO WORCESTER																									42 N.MI.
15,000	-14.7	-18	-4	0	2	-16	-1	2	4	-5	10	12	13	-9	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-7	-2	1	3	5	9	11	12	-0	4	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-6	-3	2	-3	0	2	14	9	11	12	7	2	5	7	4	-1	3	6	7	6	3	5
LAWTON TO OKLAHOMA CITY																									63 N.MI.
15,000	-14.7	-12	2	5	7	-8	7	10	11	-0	15	16	16	-4	10	13	14	-6	9	11	12	5	4	2	3
10,000	-4.6	-3	2	5	7	4	8	11	13	11	15	17	17	6	11	13	15	4	9	12	13	5	4	2	4
5,000	5.1	5	-0	4	7	12	7	11	13	22	17	20	21	15	9	13	15	13	8	13	15	7	6	4	5
LAWTON TO WICHITA FALLS																									35 N.MI.
15,000	-14.7	-12	3	6	8	-7	8	10	11	0	15	16	17	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	2	5	7	4	9	12	13	11	15	17	17	6	11	13	15	5	9	12	13	5	4	2	4
5,000	5.1	5	0	5	8	13	8	12	14	22	17	20	21	15	10	13	15	14	9	13	16	7	6	4	5
LEBANON TO MANCHESTER																									57 N.MI.
15,000	-14.7	-19	-5	-1	2	-17	-2	1	3	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-8	-3	0	2	4	9	11	12	-1	4	7	9	-4	0	4	6	7	5	3	5
5,000	5.1	-6	-12	-7	-4	1	-4	-0	2	14	9	11	12	6	1	5	7	4	-2	3	5	7	6	3	6
LEBANON TO MONTPELIER																									36 N.MI.
15,000	-14.7	-20	-6	-1	1	-18	-3	1	2	-5	9	11	12	-11	4	8	9	-13	1	5	7	6	5	3	5
10,000	-4.6	-13	-9	-4	-2	-9	-4	-0	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5
5,000	5.1	-7	-12	-8	-5	0	-5	-1	1	13	8	10	12	6	1	5	7	3	-2	2	5	7	6	3	6
LEWISTON, TO PORTLAND, ME.																									29 N.MI.
15,000	-14.7	-20	-5	-1	1	-18	-3	0	2	-6	9	11	12	-11	4	8	9	-13	1	5	7	6	5	3	5
10,000	-4.6	-13	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-0	4	6	7	5	3	5
5,000	5.1	-7	-12	-8	-5	0	-5	-1	1	13	8	10	11	6	1	5	7	3	-2	2	5	7	6	3	6
LEXINGTON TO LOUISVILLE																									54 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	7	8	-2	13	14	15	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-1	3	6	8	7	12	14	14	4	8	11	12	1	6	8	10	5	5	2	4
5,000	5.1	0	-5	0	3	7	2	6	8	17	12	14	15	10	5	9	11	9	4	7	10	7	6	3	5
LINCOLN TO OMAHA																									0 N.MI.
15,000	-14.7	-18	-3	1	3	-12	3	6	7	-2	13	15	16	-8	7	10	12	-10	5	8	10	6	4	2	4
10,000	-4.6	-8	-4	0	2	-2	3	6	8	9	14	16	17	3	7	11	12	0	5	9	11	6	5	3	5
5,000	5.1	-2	-7	-2	1	7	2	6	9	20	15	18	19	11	6	10	12	9	4	9	12	8	7	4	7
LITTLE ROCK TO MEMPHIS																									113 N.MI.
15,000	-14.7	-11	3	6	8	-8	7	9	11	-1	14	15	16	-4	11	13	14	-6	9	11	12	4	4	2	3
10,000	-4.6	-3	2	5	6	2	7	10	11	9	14	15	16	6	11	13	14	4	8	11	12	4	4	2	4
5,000	5.1	4	-1	3	6	10	5	9	10	19	14	16	17	13	8	11	13	12	7	10	12	6	5	3	5
LITTLE ROCK TO ST. LOUIS																									257 N.MI.
15,000	-14.7	-13	2	5	6	-9	5	8	10	-1	14	15	16	-5	10	12	13	-7	8	10	12	4	4	2	4
10,000	-4.6	-5	0	3	5	1	5	8	10	9	13	15	16	5	9	12	14	2	7	10	11	5	5	2	4
5,000	5.1	2	-3	1	4	9	4	7	9	19	14	16	17	12	7	10	12	10	5	9	11	7	6	3	5
LITTLE ROCK TO SHREVEPORT																									158 N.MI.
15,000	-14.7	-10	4	7	8	-7	8	10	11	-0	14	15	16	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-1	3	6	8	4	8	11	12	10	14	15	16	7	11	13	15	5	9	11	13	4	4	2	3
5,000	5.1	6	1	5	7	12	6	10	12	20	15	17	18	14	8	11	13	13	8	11	13	6	5	3	4
LITTLE ROCK TO SPRINGFIELD, MO.																									161 N.MI.
15,000	-14.7	-13	2	5	7	-9	6	9	10	-1	14	15	16	-5	10	12	14	-7	8	11	12	4	4	2	3
10,000	-4.6	-4	1	4	6	2	6	9	11	9	14	15	16	5	10	13	14	3	8	10	12	5	4	2	4
5,000	5.1	3	-2	3	5	10	5	8	10	20	15	17	18	13	7	11	13	11	6	10	12	7	6	3	5
LONG BEACH TO LOS ANGELES																									14 N.MI.
15,000	-14.7	-10	4	8	10	-9	6	8	10	0	15	16	17	-5	10	13	14	-6	9	11	13	5	4	2	4
10,000	-4.6	0	5	8	10	2	6	9	11	11	16	17	18	5	10	13	14	5	9	12	14	5	4	2	4
5,000	5.1	7	2	5	7	11	6	10	11	25	17	19	20	16	11	13	14	14	9	13	15	5	5	3	3
LONG BEACH TO SAN DIEGO																									81 N.MI.
15,000	-14.7	-10	5	8	10	-9	6	9	10	0	15	16	17	-4	10	13	14	-6	9	12	13	5	4	2	4
10,000	-4.6	0	5	9	10	2	7	10	11	12	16	17	18	6	10	13	14	5	10	12	14	5	4	2	4
5,000	5.1	7	2	6	8	12	7	10	12	23	18	19	20	16	11	13	14	14	9	13	15	5	5	3	3
LOS ANGELES TO ONTARIO																									40 N.MI.
15,000	-14.7	-10	4	8	10	-9	6	8	10	0	15	16	17	-5	10	13	14	-6	9	11	13	5	4	2	4
10,000	-4.6	0	5	8	10	2	6	9	11	12	16	18	18	5	10	13	14	5	9	12	14	5	4	2	4
5,000	5.1	7	2	5	7	12	6	10	12	25	18	19	20	16	11	13	14	14	9	13	15	5	5	3	3
LOS ANGELES TO PALM SPRINGS																									95 N.MI.
15,000	-14.7	-10	4	8	10	-9	6	8	10	1	15	16	17	-5	10	13	14	-6	9	11	13	5	4	2	4
10,000	-4.6	0	5	8	10	2	7	10	11	12	16	18	18	6	10	13	14	5	9	12	14	5	4	2	4
5,000	5.1	7	2	5	7	12	7	10	12	23	18	20	21	16	11	13	15	14	9	13	15	5	5	3	3
LOS ANGELES TO PHOENIX																									320 N.MI.
15,000	-14.7	-10	4	8	10	-9	6	9	10	1	16	17	17	-4	10	13	14	-6	9	12	13	5	4	2	4
10,000	-4.6	-0	5	8	10	3	7	10	12	12	17	18	19	6	10	13	14	5	10	13	14	5	4	2	4
5,000	5.1	7	2	5	7	14	9	12	14	24	19	21	22	17	12	15	16	16	10	14	16	5	5	3	4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
LOS ANGELES TO SACRAMENTO																									309 N.MI.
15,000	-14.7	-12	3	6	8	-11	4	7	8	-0	14	16	17	-6	9	12	13	-7	8	10	12	5	4	2	4
10,000	-4.6	-1	3	7	9	0	5	8	10	11	16	17	18	4	9	12	13	3	8	11	13	6	5	2	4
5,000	5.1	5	-0	4	6	10	5	8	10	22	17	19	20	14	9	12	13	13	8	12	14	5	5	3	4
LOS ANGELES TO SAN DIEGO																									94 N.MI.
15,000	-14.7	-10	5	8	10	-9	6	9	10	0	15	16	17	-4	10	13	14	-6	9	12	13	5	4	2	4
10,000	-4.6	0	5	9	10	2	7	10	11	11	16	17	18	6	10	13	14	5	10	12	14	5	4	2	4
5,000	5.1	7	2	6	8	12	7	10	12	23	17	19	20	16	11	13	14	14	9	13	15	5	5	3	3
LOS ANGELES TO SAN FRANCISCO																									295 N.MI.
15,000	-14.7	-12	3	7	9	-10	4	7	9	-0	15	16	17	-6	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-1	4	7	9	0	5	8	10	11	16	17	18	4	9	12	13	4	8	11	13	5	5	2	4
5,000	5.1	5	0	4	6	10	5	8	10	22	16	18	20	14	9	12	13	13	8	12	14	5	5	3	4
LOS ANGELES TO SANTA BARBARA																									77 N.MI.
15,000	-14.7	-10	4	8	9	-9	5	8	9	0	15	16	17	-5	10	12	14	-6	9	11	13	5	4	2	4
10,000	-4.6	0	5	8	10	2	6	9	11	11	16	17	18	5	10	13	14	5	9	12	14	5	4	2	4
5,000	5.1	6	1	5	7	11	6	9	11	22	17	19	20	15	10	12	14	14	9	12	14	5	5	3	3
LOS ANGELES TO TUCSON																									390 N.MI.
15,000	-14.7	-10	5	8	10	-8	7	9	10	1	16	17	17	-4	11	13	14	-5	9	12	13	5	4	2	3
10,000	-4.6	0	5	8	10	3	8	11	12	12	17	18	19	6	11	13	15	6	10	13	14	5	4	2	4
5,000	5.1	7	2	6	8	14	9	12	14	24	19	21	22	18	13	15	16	16	11	14	16	5	5	3	4
LOUISVILLE TO MEMPHIS																									277 N.MI.
15,000	-14.7	-13	2	5	7	-9	5	8	9	-1	13	15	15	-5	9	12	13	-7	8	10	11	4	4	2	4
10,000	-4.6	-4	0	3	5	0	5	8	10	8	13	14	15	5	9	12	13	2	7	10	11	5	4	2	4
5,000	5.1	2	-3	1	4	8	3	7	9	18	13	15	16	11	6	10	11	10	5	9	10	7	5	3	5
LOUISVILLE TO NASHVILLE																									131 N.MI.
15,000	-14.7	-13	2	5	6	-10	5	8	9	-2	13	14	15	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-0	4	7	9	8	12	14	15	4	9	11	13	2	6	9	11	5	5	2	4
5,000	5.1	2	-4	1	3	8	3	6	8	18	13	15	16	11	6	9	11	9	4	8	10	7	5	3	5
LOUISVILLE TO OWENSBORO																									73 N.MI.
15,000	-14.7	-14	1	4	6	-10	4	7	9	-2	13	14	15	-6	9	11	13	-8	7	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-1	4	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	0	-5	0	3	7	2	6	8	18	13	15	16	10	5	9	11	9	4	8	10	7	6	3	5
LOUISVILLE TO ST. LOUIS																									220 N.MI.
15,000	-14.7	-14	0	4	5	-11	4	7	8	-2	13	14	15	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-6	-2	2	4	-1	3	7	8	8	12	14	15	4	8	11	13	1	6	9	10	5	5	2	4
5,000	5.1	-0	-5	-1	2	7	2	6	8	18	13	15	16	10	5	9	11	9	3	8	10	7	6	3	6
LUBBOCK TO MIDLAND																									105 N.MI.
15,000	-14.7	-10	4	7	9	-7	8	11	12	1	15	17	17	-3	11	13	14	-5	10	12	13	4	4	2	3
10,000	-4.6	-1	4	7	9	5	10	12	14	12	16	17	18	7	12	14	15	6	10	13	14	5	4	2	3
5,000	5.1	7	2	6	9	15	10	13	15	23	18	21	22	16	11	14	16	15	10	14	16	7	5	3	4
LUBBOCK TO WICHITA FALLS																									166 N.MI.
15,000	-14.7	-11	3	6	8	-7	8	10	12	0	15	16	17	-4	11	13	14	-5	9	12	13	4	4	2	3
10,000	-4.6	-2	3	6	8	5	9	12	14	11	16	17	18	7	11	14	15	5	10	12	14	5	4	2	4
5,000	5.1	6	1	6	8	14	9	12	14	23	18	20	22	16	10	13	15	14	9	14	16	7	6	4	5
MACON TO SAVANNAH																									134 N.MI.
15,000	-14.7	-8	6	9	10	-7	8	10	11	-1	14	15	15	-3	11	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	0	5	7	9	3	7	10	11	8	13	14	14	6	11	13	14	4	9	11	12	4	3	2	3
5,000	5.1	7	2	5	7	11	6	8	10	18	13	14	15	13	8	10	11	12	7	10	11	5	4	2	3
MACON TO WAYCROSS																									107 N.MI.
15,000	-14.7	-8	7	9	10	-6	8	10	12	-1	14	15	15	-3	12	13	14	-5	10	12	13	3	3	2	3
10,000	-4.6	1	5	8	9	3	8	10	11	8	13	14	14	7	11	13	14	5	9	11	12	4	3	1	3
5,000	5.1	8	2	6	7	11	6	9	10	18	13	14	15	13	8	10	11	12	7	10	11	5	4	2	3
MADISON TO MILWAUKEE																									64 N.MI.
15,000	-14.7	-20	-5	-1	1	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-5	-1	3	5	6	11	13	14	0	5	9	11	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-4	3	-3	2	4	16	11	13	15	7	2	7	9	5	-0	5	7	8	7	4	6
MADISON TO ROCHESTER, MINN.																									145 N.MI.
15,000	-14.7	-20	-6	-2	0	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-5	-1	3	5	6	11	13	14	0	5	9	11	-3	2	6	8	6	5	3	5
5,000	5.1	-7	-12	-7	-4	3	-3	2	5	16	11	14	15	7	2	7	9	5	-0	5	8	8	7	4	7
MANCHESTER TO WORCESTER																									51 N.MI.
15,000	-14.7	-19	-4	0	2	-16	-2	2	4	-5	10	12	13	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-7	-3	1	3	5	9	11	12	-0	4	8	10	-4	1	5	7	6	5	3	5
5,000	5.1	-6	-11	-6	-3	2	-4	0	2	14	9	11	12	7	2	5	7	4	-1	3	5	7	6	3	6
MARTHAS VINEYARD TO NEW BEDFORD																									22 N.MI.
15,000	-14.7	-17	-2	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	1	3	14	9	11	12	8	3	6	8	5	0	4	6	7	5	3	5
MEDFORD TO SACRAMENTO																									283 N.MI.
15,000	-14.7	-15	-0	4	6	-13	2	5	6	-2	13	14	15	-8	6	9	11	-10	5	8	10	6	5	3	5
10,000	-4.6	-5	-1	3	6	-3	2	5	7	9	14	16	17	1	6	9	11	1	5	9	11	6	5	3	5
5,000	5.1	2	-3	0	2	8	3	6	8	20	15	17	19	11	6	9	11	10	5	10	12	5	5	4	5
MEDFORD TO SAN FRANCISCO																									286 N.MI.
15,000	-14.7	-14	0	4	6	-13	2	5	7	-2	13	14	15	-8	6	10	11	-9	5	9	10	6	4	3	5
10,000	-4.6	-5	-0	4	6	-3	2	5	7	9	14	16	17	2	6	10	11	1	5	9	11	6	5	3	5
5,000	5.1	2	-3	1	2	8	2	6	8	20	14	17	18	11	6	9	11	10	5	10	12	5	5	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
MELBOURNE TO MIAMI							139 N.MI.
15,000	-14.7	-4 10 12 13	-4 11 13 13	-1 14 15 15	-1 14 15 16	-2 12 13 14	2 3 1 2
10,000	-4.6	5 9 11 12	5 10 12 13	8 13 14 14	8 13 14 15	7 11 12 13	2 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 13	15 10 11 12	14 9 11 11	3 3 1 2
MELBOURNE TO ORLANDO							46 N.MI.
15,000	-14.7	-5 9 11 12	-5 10 12 13	-1 14 15 15	-1 13 15 15	-3 12 13 14	3 3 1 2
10,000	-4.6	4 8 10 11	5 9 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 8 9	13 8 10 11	17 12 13 14	14 9 11 12	14 9 10 11	3 3 1 2
MELBOURNE TO TAMPA							101 N.MI.
15,000	-14.7	-5 10 11 12	-4 10 12 13	-1 14 15 15	-1 13 15 16	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 10 11	5 10 12 13	8 13 14 14	8 13 14 15	6 11 12 13	3 3 1 2
5,000	5.1	11 5 8 9	13 8 10 11	17 12 13 14	14 9 11 12	14 9 11 11	3 3 1 2
MELBOURNE TO VERO BEACH							29 N.MI.
15,000	-14.7	-5 10 12 13	-4 10 12 13	-1 14 15 15	-1 13 15 16	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 11 11	5 10 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 14	14 9 11 12	14 9 10 11	3 3 1 2
MELBOURNE TO WEST PALM BEACH							90 N.MI.
15,000	-14.7	-5 10 12 13	-4 11 12 13	-1 14 15 15	-1 14 15 16	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 11 12	5 10 12 13	8 13 14 14	8 13 14 15	7 11 12 13	3 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 14	15 10 11 12	14 9 11 11	3 3 1 2
MEMPHIS TO NASHVILLE							173 N.MI.
15,000	-14.7	-12 3 6 7	-9 6 9 10	-1 14 15 15	-5 10 12 13	-7 8 11 12	4 4 2 3
10,000	-4.6	-3 1 4 6	1 6 9 10	9 13 14 15	5 10 12 14	3 8 10 11	4 4 2 4
5,000	5.1	3 -2 3 5	9 4 7 9	19 13 15 16	12 7 10 12	11 6 9 11	6 5 3 5
MEMPHIS TO NEW ORLEANS							304 N.MI.
15,000	-14.7	-9 5 8 9	-6 8 11 12	-0 14 15 16	-3 12 13 14	-5 10 12 13	4 3 2 3
10,000	-4.6	0 5 7 8	4 8 11 12	9 14 15 15	7 12 14 15	5 10 12 13	4 4 2 3
5,000	5.1	7 1 5 7	11 6 9 11	19 14 15 16	13 8 11 12	12 7 10 12	5 4 2 4
MEMPHIS TO PADUCAH							134 N.MI.
15,000	-14.7	-12 3 5 7	-9 6 9 10	-1 14 15 15	-5 10 12 13	-7 8 10 12	4 4 2 3
10,000	-4.6	-4 1 4 6	1 6 9 10	9 13 14 15	5 10 12 14	3 7 10 11	5 4 2 4
5,000	5.1	3 -2 2 4	9 4 7 9	19 14 15 16	12 7 10 12	10 5 9 11	6 5 3 5
MEMPHIS TO ST. LOUIS							222 N.MI.
15,000	-14.7	-13 2 5 6	-9 5 8 9	-1 13 15 15	-5 9 12 13	-7 7 10 12	4 4 2 4
10,000	-4.6	-5 -0 3 5	0 5 8 10	9 13 15 15	5 9 12 13	2 7 10 11	5 5 2 4
5,000	5.1	2 -4 1 3	8 3 7 9	19 14 15 16	11 6 10 12	10 5 9 11	7 6 3 5
MEMPHIS TO SHREVEPORT							247 N.MI.
15,000	-14.7	-10 4 7 8	-7 8 10 11	-1 14 15 16	-4 11 13 14	-5 9 11 13	4 4 2 3
10,000	-4.6	-1 3 6 7	3 8 11 12	9 14 15 16	7 11 13 15	4 9 11 13	4 4 2 3
5,000	5.1	5 0 4 6	11 6 9 11	20 14 16 17	13 8 11 13	12 7 11 12	6 5 3 4
MERCED TO MODESTO							29 N.MI.
15,000	-14.7	-13 2 6 8	-11 3 6 8	-1 14 16 16	-7 8 11 13	-8 7 10 11	6 4 2 4
10,000	-4.6	-2 2 6 8	-1 4 7 9	11 15 17 18	3 8 11 13	3 7 11 13	6 5 2 5
5,000	5.1	4 -1 3 5	9 4 8 10	22 16 19 20	13 8 11 13	12 7 11 13	5 5 3 4
MERIDIAN TO MONROE							167 N.MI.
15,000	-14.7	-9 5 8 9	-6 8 11 12	-0 14 15 16	-3 12 13 14	-5 10 12 13	4 3 2 3
10,000	-4.6	0 5 7 9	4 8 11 12	9 14 15 15	7 12 14 15	5 10 12 13	4 4 2 3
5,000	5.1	7 2 5 7	12 7 9 11	19 14 15 16	13 8 11 12	13 8 10 12	5 4 2 4
MERIDIAN TO MONTGOMERY							119 N.MI.
15,000	-14.7	-9 6 8 9	-6 8 10 12	-1 14 15 16	-3 12 13 14	-5 10 12 13	3 3 2 3
10,000	-4.6	0 5 7 9	5 8 11 12	9 13 14 15	7 11 13 14	5 9 11 12	4 4 2 3
5,000	5.1	7 2 5 7	11 6 9 10	18 13 15 15	13 8 10 12	12 7 10 11	5 4 2 4
MIAMI TO ORLANDO							174 N.MI.
15,000	-14.7	-5 10 12 13	-4 11 12 13	-1 14 15 15	-1 14 15 16	-3 12 13 14	3 3 1 2
10,000	-4.6	5 9 11 12	5 10 12 13	8 13 14 14	8 13 14 15	7 11 12 13	3 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 14	15 10 11 12	14 9 11 11	3 3 1 2
MIAMI TO ST. PETERSBURG							181 N.MI.
15,000	-14.7	-4 10 12 13	-4 11 13 14	-1 14 15 15	-1 14 15 16	-2 12 13 14	2 3 1 2
10,000	-4.6	5 9 11 12	6 10 12 13	9 13 14 14	8 13 14 15	7 11 12 13	2 3 1 2
5,000	5.1	11 6 8 9	14 8 10 11	17 12 13 14	15 10 11 12	14 9 11 12	3 3 1 2
MIAMI TO TALLAHASSEE							350 N.MI.
15,000	-14.7	-5 9 11 12	-4 10 12 13	-1 14 15 15	-1 13 15 15	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 10 11	5 10 12 13	9 13 14 14	8 13 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 8 9	13 8 10 11	18 12 13 14	14 9 11 12	14 9 11 11	3 3 1 2
MIAMI TO TAMPA							177 N.MI.
15,000	-14.7	-4 10 12 13	-4 11 13 14	-1 14 15 15	-1 14 15 16	-2 12 13 14	2 3 1 2
10,000	-4.6	5 9 11 12	6 10 12 13	9 13 14 14	8 13 14 15	7 11 12 13	2 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 14	15 10 11 12	14 9 11 12	3 3 1 2
MIAMI TO WEST PALM BEACH							54 N.MI.
15,000	-14.7	-4 11 12 13	-4 11 13 14	-1 14 15 15	-1 14 15 16	-2 12 14 15	2 3 1 2
10,000	-4.6	5 10 11 12	6 10 12 13	9 13 14 14	8 13 14 15	7 12 13 13	2 3 1 2
5,000	5.1	12 7 8 10	14 9 10 11	17 12 13 13	15 10 11 12	14 9 11 11	3 2 1 2
MIDLAND TO SAN ANGELO							94 N.MI.
15,000	-14.7	-9 6 8 10	-6 9 11 12	1 15 17 17	-3 12 14 15	-4 10 13 14	4 4 2 3
10,000	-4.6	0 5 8 9	6 10 13 15	11 16 17 18	8 12 14 15	6 11 13 14	4 4 2 3
5,000	5.1	8 3 7 9	15 10 13 15	25 18 20 21	16 11 14 15	16 10 14 16	6 5 3 4

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	JANUARY D50	JANUARY D75	JANUARY D85	APRIL 50	APRIL D50	APRIL D75	APRIL D85	JULY 50	JULY D50	JULY D75	JULY D85	OCTOBER 50	OCTOBER D50	OCTOBER D75	OCTOBER D85	ANNUAL 50	ANNUAL D50	ANNUAL D75	ANNUAL D85	STANDARD DEVIATION JAN	APR	JUL	OCT
MILWAUKEE TO MINNEAPOLIS																									257 N.MI.
15,000	-14.7	-21	-6	-2	0	-15	-1	3	5	-4	11	13	14	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-13	-8	-4	-1	-6	-1	3	5	6	10	13	14	0	5	8	10	-3	1	6	8	7	5	3	6
5,000	5.1	-7	-12	-7	-4	2	-3	2	4	16	11	14	15	7	2	6	9	5	-1	5	7	8	7	4	7
MILWAUKEE TO MUSKEGON																									74 N.MI.
15,000	-14.7	-20	-5	-1	1	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-12	-7	-3	-1	-6	-1	3	5	6	10	12	13	0	5	9	11	-3	2	6	8	6	5	3	5
5,000	5.1	-6	-11	-6	-4	2	-3	2	4	16	11	13	14	7	2	6	9	5	-0	4	7	8	7	4	6
MILWAUKEE TO TOLEDO																									200 N.MI.
15,000	-14.7	-19	-4	-0	2	-14	0	4	5	-4	11	13	14	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-5	-0	3	5	6	10	12	14	1	5	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-5	-10	-5	-2	3	-2	2	5	16	11	13	14	8	2	7	9	5	0	5	7	8	6	4	6
MINNEAPOLIS TO OMAHA																									288 N.MI.
15,000	-14.7	-20	-5	-1	1	-14	1	4	6	-3	12	14	15	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-4	1	4	6	8	12	14	16	1	6	9	11	-2	3	7	9	6	5	3	5
5,000	5.1	-5	-10	-5	-2	4	-1	4	7	18	13	16	18	9	4	8	11	7	2	7	10	8	7	4	7
MINNEAPOLIS TO ROCHESTER, MINN.																									66 N.MI.
15,000	-14.7	-21	-7	-3	-0	-15	-1	3	4	-4	11	13	14	-10	4	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-13	-8	-4	-1	-6	-1	3	5	6	11	13	14	-0	4	8	10	-3	1	6	8	7	6	4	6
5,000	5.1	-7	-12	-7	-4	2	-3	2	5	17	12	14	16	7	2	7	9	5	-0	5	8	8	7	4	7
MINNEAPOLIS TO SIOUX FALLS																									171 N.MI.
15,000	-14.7	-21	-7	-2	-0	-15	-0	3	5	-4	11	13	14	-10	5	8	10	-12	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-5	-1	3	5	7	12	14	15	0	5	9	11	-3	2	6	9	7	6	3	6
5,000	5.1	-7	-12	-6	-3	3	-2	3	6	18	12	15	17	8	3	7	10	6	0	6	9	8	7	4	7
MINNEAPOLIS TO WINNIPEG																									342 N.MI.
15,000	-14.7	-25	-10	-6	-4	-17	-2	1	3	-6	9	11	13	-13	2	6	8	-15	-0	4	6	7	5	4	6
10,000	-4.6	-17	-12	-7	-4	-8	-3	1	3	4	9	12	13	-3	2	6	8	-6	-1	4	6	7	6	4	6
5,000	5.1	-10	-15	-10	-7	0	-5	0	3	15	10	13	15	5	0	5	8	3	-2	3	6	8	7	5	7
MISSOULA TO SPOKANE																									151 N.MI.
15,000	-14.7	-22	-8	-3	-0	-16	-1	2	4	-5	9	12	13	-12	2	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-13	-8	-3	-0	-6	-2	2	4	6	11	13	14	-2	2	6	8	-4	1	5	8	7	5	3	6
5,000	5.1	-5	-10	-7	-6	4	-1	3	5	18	13	16	18	8	3	7	9	6	1	7	10	4	6	5	6
MOBILE TO MONTGOMERY																									135 N.MI.
15,000	-14.7	-8	7	9	10	-6	9	11	12	-1	14	15	16	-3	12	14	15	-4	10	12	13	3	3	1	3
10,000	-4.6	1	6	8	9	4	9	11	12	9	13	14	15	7	12	14	15	5	10	12	13	3	3	1	3
5,000	5.1	8	3	6	7	12	7	9	11	18	13	15	15	13	8	11	12	13	8	10	12	5	4	2	3
MOBILE TO NEW ORLEANS																									112 N.MI.
15,000	-14.7	-7	7	9	10	-5	10	12	13	-0	14	15	16	-2	13	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	5	10	12	13	9	14	15	15	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	9	4	6	8	13	8	10	11	18	13	15	15	14	9	11	12	13	8	11	12	4	4	2	3
MOBILE TO PENSACOLA																									55 N.MI.
15,000	-14.7	-7	7	9	10	-5	9	11	12	-0	14	15	16	-2	12	14	15	-4	11	13	14	3	3	1	2
10,000	-4.6	2	7	9	10	5	9	11	13	9	14	15	15	8	12	14	15	6	10	12	13	3	3	1	3
5,000	5.1	9	4	6	8	12	7	10	11	18	13	14	15	14	9	11	12	13	8	10	12	4	4	2	3
MODESTO TO STOCKTON																									21 N.MI.
15,000	-14.7	-13	2	6	8	-12	3	6	8	-1	14	15	16	-7	8	11	12	-8	7	10	11	6	4	2	4
10,000	-4.6	-3	2	6	8	-1	3	7	8	11	15	17	18	3	8	11	13	2	7	11	12	5	5	3	5
5,000	5.1	4	-1	2	4	9	4	7	9	21	16	18	20	13	8	11	12	12	7	11	13	7	5	3	4
MONCTON TO MONTREAL																									376 N.MI.
15,000	-14.7	-22	-8	-3	-1	-19	-4	-1	1	-7	8	10	12	-12	3	6	8	-15	-0	4	6	7	5	3	6
10,000	-4.6	-16	-11	-6	-3	-10	-6	-2	-0	3	7	9	11	-3	2	6	8	-7	-2	2	5	7	5	3	6
5,000	5.1	-10	-15	-9	-7	-1	-6	-2	-0	12	7	9	10	4	-1	3	5	1	-4	1	3	8	6	3	6
MONCTON TO ST. JOHN																									70 N.MI.
15,000	-14.7	-22	-7	-3	-0	-19	-4	-0	2	-7	8	10	12	-12	3	6	8	-15	0	4	6	7	5	3	5
10,000	-4.6	-15	-10	-5	-3	-9	-5	-1	1	3	7	9	11	-3	2	6	8	-6	-2	3	5	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-0	-5	-2	0	12	7	9	10	4	-1	3	5	2	-3	1	3	8	5	3	6
MONROE TO SHREVEPORT																									90 N.MI.
15,000	-14.7	-10	5	8	9	-6	8	11	12	-0	15	16	16	-3	12	13	15	-5	10	12	13	4	3	2	3
10,000	-4.6	-0	4	7	9	4	9	11	13	10	14	15	16	7	12	14	15	5	10	12	13	4	4	2	3
5,000	5.1	7	2	5	7	12	7	10	12	20	15	16	17	14	9	11	13	13	8	11	13	6	5	2	4
MONTEREY TO SALINAS																									13 N.MI.
15,000	-14.7	-12	3	6	8	-11	4	7	8	-1	14	16	16	-6	8	11	13	-7	7	10	12	5	4	2	4
10,000	-4.6	-2	3	7	9	-1	4	7	9	11	15	17	18	4	8	11	13	3	8	11	13	5	5	2	5
5,000	5.1	5	-0	3	5	9	4	7	9	21	16	18	19	13	8	11	12	12	7	11	13	5	5	3	4
MONTEREY TO SAN FRANCISCO																									68 N.MI.
15,000	-14.7	-12	2	6	8	-11	3	6	8	-1	14	15	16	-7	8	11	13	-8	7	10	12	5	4	2	4
10,000	-4.6	-2	3	6	8	-1	4	7	9	10	15	17	17	3	8	11	13	3	7	11	12	6	5	2	5
5,000	5.1	4	-1	3	5	9	4	7	9	20	15	18	19	13	8	10	12	12	7	11	13	5	5	3	4
MONTEREY TO SANTA BARBARA																									162 N.MI.
15,000	-14.7	-11	3	7	9	-10	4	7	9	-0	15	16	17	-6	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-1	4	8	10	0	5	8	10	11	15	17	18	4	9	12	14	4	8	11	13	5	5	2	4
5,000	5.1	6	1	4	6	10	4	8	10	21	16	18	19	14	9	11	13	13	8	11	13	5	5	3	3
MONTGOMERY TO PENSACOLA																									117 N.MI.
15,000	-14.7	-8	7	9	10	-6	9	11	12	-1	14	15	16	-3	12	14	15	-4	10	12	13	3	3	1	3
10,000	-4.6	1	6	8	9	4	9	11	12	9	13	14	15	7	12	14	15	5	10	12	13	3	3	1	3
5,000	5.1	8	3	6	7	12	7	9	11	18	13	14	15	13	8	10	12	13	8	10	12	4	4	2	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
MONTREAL TO NEW YORK																									290 N.MI.
15,000	-14.7	-19	-5	-1	2	-16	-2	2	3	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	6	6	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	0	2	14	9	11	12	6	1	5	7	4	-1	3	5	7	6	3	6
MONTREAL TO OTTAWA																									81 N.MI.
15,000	-14.7	-22	-8	-3	-1	-19	-4	-1	1	-6	8	11	12	-12	3	7	9	-15	-0	4	6	7	5	3	6
10,000	-4.6	-15	-11	-6	-4	-10	-5	-2	0	3	7	10	11	-2	2	6	8	-6	-2	3	5	7	5	3	6
5,000	5.1	-9	-15	-9	-7	-1	-6	-2	0	13	7	10	11	4	-1	4	6	2	-3	1	4	7	6	4	6
MONTREAL TO QUEBEC																									130 N.MI.
15,000	-14.7	-23	-9	-4	-2	-20	-5	-1	1	-7	8	10	11	-13	2	6	8	-16	-1	3	6	7	5	4	6
10,000	-4.6	-17	-12	-7	-4	-11	-6	-3	-1	2	7	9	10	-3	1	5	8	-7	-2	2	4	7	5	3	6
5,000	5.1	-10	-16	-10	-7	-2	-7	-3	-1	12	7	9	10	3	-2	3	5	1	-4	0	3	8	6	4	6
MONTREAL TO SAGUENAY																									214 N.MI.
15,000	-14.7	-25	-10	-5	-3	-20	-6	-2	-0	-7	7	10	11	-13	1	5	7	-16	-2	3	5	7	5	4	6
10,000	-4.6	-18	-13	-8	-5	-11	-7	-3	-1	2	6	9	10	-4	1	5	7	-8	-3	1	4	8	5	4	6
5,000	5.1	-11	-16	-11	-8	-3	-8	-4	-2	11	6	8	10	2	-3	2	4	-0	-5	-1	2	8	6	4	7
MONTREAL TO ST. JOHN																									331 N.MI.
15,000	-14.7	-22	-7	-3	-0	-19	-4	-1	1	-6	8	11	12	-12	3	7	9	-15	-0	4	6	7	5	3	6
10,000	-4.6	-15	-11	-6	-3	-10	-5	-2	0	3	7	10	11	-2	2	6	8	-6	-2	3	5	7	5	3	6
5,000	5.1	-9	-14	-9	-7	-1	-6	-2	-0	12	7	10	11	4	-1	3	6	2	-3	1	4	8	6	3	6
MONTREAL TO TORONTO																									273 N.MI.
15,000	-14.7	-22	-7	-2	0	-18	-3	0	2	-6	9	11	12	-11	4	7	9	-14	1	5	7	7	5	3	5
10,000	-4.6	-14	-10	-5	-3	-9	-4	-1	1	3	8	10	11	-2	3	7	9	-5	-1	3	6	7	5	3	6
5,000	5.1	-8	-13	-8	-6	-0	-5	-1	1	13	8	10	12	5	0	4	6	2	-3	2	5	7	6	4	6
MUSCLE SHOALS TO NASHVILLE																									95 N.MI.
15,000	-14.7	-11	3	6	8	-8	6	9	10	-1	13	15	15	-5	10	12	13	-6	8	11	12	4	4	2	3
10,000	-4.6	-3	2	5	6	1	6	9	10	8	13	14	15	5	10	12	14	3	8	10	11	4	4	2	4
5,000	5.1	4	-1	3	5	9	4	7	9	18	13	15	16	12	7	10	12	11	6	9	11	6	5	3	5
NASHVILLE TO ST. LOUIS																									235 N.MI.
15,000	-14.7	-13	1	4	6	-10	5	8	9	-2	13	15	15	-6	9	12	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-0	4	7	9	8	13	14	15	4	9	12	13	2	6	9	11	5	5	2	4
5,000	5.1	1	-4	1	3	8	2	6	8	18	13	15	16	11	6	9	11	9	4	8	10	7	6	3	5
NEW BEDFORD TO NEW YORK																									142 N.MI.
15,000	-14.7	-17	-2	2	4	-14	0	3	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-10	-5	-1	1	-5	-1	2	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-3	-8	-4	-1	3	-2	2	4	15	9	11	13	8	3	6	8	6	0	4	7	7	6	3	5
NEW BERN TO NORFOLK																									117 N.MI.
15,000	-14.7	-11	3	6	8	-9	5	8	9	-2	13	14	15	-5	9	12	13	-7	8	10	11	4	4	2	3
10,000	-4.6	-3	2	5	6	-0	4	7	9	7	12	13	14	4	9	11	12	2	7	9	10	4	4	2	3
5,000	5.1	4	-1	3	5	8	3	6	8	17	11	13	14	11	6	9	10	10	5	8	9	6	5	2	4
NEW HAVEN TO NEW YORK																									56 N.MI.
15,000	-14.7	-17	-2	2	4	-14	1	4	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	5	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-1	3	5	6	10	12	13	1	6	9	10	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	1	5	7	7	6	3	5
NEW ORLEANS TO SHREVEPORT																									235 N.MI.
15,000	-14.7	-8	6	9	10	-6	9	11	12	-0	15	16	16	-3	12	14	15	-4	11	12	13	3	3	1	3
10,000	-4.6	1	6	8	10	5	9	12	13	10	14	15	16	8	12	14	15	6	10	12	13	4	4	1	3
5,000	5.1	8	3	6	8	13	8	10	12	19	14	16	16	14	9	11	12	14	8	11	13	5	4	2	3
NEWPORT NEWS TO NEW YORK																									245 N.MI.
15,000	-14.7	-14	0	4	5	-12	3	6	7	-3	12	13	14	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	2	3	-3	2	5	6	6	11	12	13	2	7	10	11	-0	4	7	9	5	5	2	4
5,000	5.1	-0	-5	-1	2	6	0	4	6	16	11	12	13	9	4	7	9	8	2	6	8	7	5	3	5
NEWPORT NEWS TO NORFOLK																									20 N.MI.
15,000	-14.7	-12	2	5	7	-10	4	7	8	-2	12	14	14	-6	9	11	12	-8	7	10	11	5	4	2	4
10,000	-4.6	-4	0	3	5	-1	3	6	8	7	11	13	14	3	8	11	12	1	6	8	10	5	4	2	4
5,000	5.1	2	-3	2	4	7	2	5	7	16	11	13	14	10	5	8	10	9	4	7	9	6	5	2	4
NEWPORT NEWS TO WASHINGTON, D.C.																									106 N.MI.
15,000	-14.7	-14	1	4	6	-11	4	6	8	-3	12	14	14	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	3	6	7	7	11	13	13	3	8	10	12	0	5	8	9	5	4	2	4
5,000	5.1	1	-4	0	3	6	1	5	7	16	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
NEW YORK TO NORFOLK																									251 N.MI.
15,000	-14.7	-14	0	4	6	-12	3	6	7	-3	12	13	14	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	2	4	-3	2	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
5,000	5.1	-0	-5	-1	2	6	1	4	6	16	11	12	13	9	4	8	9	8	3	6	8	7	5	3	5
NEW YORK TO PHILADELPHIA																									80 N.MI.
15,000	-14.7	-16	-1	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	5	8	10	5	4	3	4
10,000	-4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
5,000	5.1	-2	-7	-2	0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
NEW YORK TO PROVIDENCE																									125 N.MI.
15,000	-14.7	-17	-2	2	4	-14	0	3	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-10	-5	-1	1	-5	-1	2	4	5	10	12	13	1	6	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-3	-9	-4	-1	3	-2	2	4	15	9	11	13	8	3	6	8	6	0	4	7	7	6	3	5
NEW YORK TO PITTSBURGH																									293 N.MI.
15,000	-14.7	-17	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	8	6	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
NEW YORK TO PORTLAND, ME.																								**238 N.MI.**	
15,000	-14.7	-18	-3	1	3	-16	-1	2	4	-4	10	12	13	-9	6	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-7	-2	1	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	12	7	2	6	8	5	-0	4	6	7	6	3	5
NEW YORK TO RALEIGH																								**370 N.MI.**	
15,000	-14.7	-14	1	4	6	-11	3	6	8	-3	12	13	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	4	2	4
5,000	5.1	1	-4	0	2	6	1	5	6	16	11	13	14	10	5	8	10	8	3	7	8	7	5	3	5
NEW YORK TO READING																								**101 N.MI.**	
15,000	-14.7	-16	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
NEW YORK TO RICHMOND																								**250 N.MI.**	
15,000	-14.7	-15	0	3	5	-12	3	5	7	-3	12	13	14	-7	8	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-2	1	3	-3	1	5	6	6	11	12	13	2	7	10	11	-0	4	7	9	5	5	2	4
5,000	5.1	-1	-6	-1	2	5	0	4	6	16	11	12	13	9	4	7	9	7	2	6	8	7	5	3	5
NEW YORK TO ROCHESTER, N.Y.																								**229 N.MI.**	
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-1	2	4	5	10	12	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-10	-5	-2	3	-2	1	4	15	9	12	13	7	2	6	8	5	-0	4	6	7	6	3	6
NEW YORK TO SCRANTON																								**103 N.MI.**	
15,000	-14.7	-17	-2	2	4	-14	1	4	5	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-1	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	1	5	7	7	6	3	5
NEW YORK TO SYRACUSE																								**182 N.MI.**	
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	10	12	13	-9	6	9	11	-12	3	7	8	6	5	3	5
10,000	-4.6	-11	-6	-2	0	-6	-1	2	4	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-4	-10	-5	-2	3	-3	1	3	14	9	11	13	7	2	6	8	5	-0	4	6	7	6	3	6
NEW YORK TO TORONTO																								**318 N.MI.**	
15,000	-14.7	-19	-4	0	2	-15	-1	3	4	-4	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-6	-2	-0	-6	-2	2	4	5	10	11	12	0	5	8	10	-3	2	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-2	2	-3	1	3	14	9	12	13	7	2	6	8	5	-0	4	6	7	6	3	6
NEW YORK TO WASHINGTON, D.C.																								**184 N.MI.**	
15,000	-14.7	-15	-1	3	5	-13	2	5	7	-3	12	13	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-4	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-7	-2	1	5	-0	3	5	15	10	12	13	9	4	7	9	7	2	6	8	7	6	3	5
NEW YORK TO WILMINGTON, DEL.																								**101 N.MI.**	
15,000	-14.7	-16	-1	2	4	-13	2	5	6	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-4	0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	7	8	6	5	2	4
5,000	5.1	-2	-7	-2	0	4	-1	3	5	15	10	12	13	9	3	7	9	7	1	5	7	7	6	3	5
NEW YORK TO WORCESTER																								**131 N.MI.**	
15,000	-14.7	-17	-3	1	3	-15	-0	3	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	2	4	14	9	11	12	8	3	6	8	5	0	4	6	7	6	3	5
NEW YORK TO YOUNGSTOWN																								**315 N.MI.**	
15,000	-14.7	-17	-2	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-1	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	8	6	3	6
NORFOLK TO PHILADELPHIA																								**185 N.MI.**	
15,000	-14.7	-14	1	4	6	-12	3	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	11	0	5	8	9	5	5	2	4
5,000	5.1	0	-5	-0	2	6	1	4	6	16	11	13	14	10	4	8	9	8	3	6	8	7	5	3	5
NORFOLK TO WASHINGTON, D.C.																								**123 N.MI.**	
15,000	-14.7	-13	1	4	6	-11	4	6	8	-3	12	14	14	-6	8	11	12	-8	6	9	11	5	4	2	4
10,000	-4.6	-5	-1	3	4	-2	3	6	7	7	11	13	13	3	8	10	12	1	5	8	9	5	4	2	4
5,000	5.1	1	-4	1	3	7	1	5	7	16	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
NORTH BAY TO SUDBURY																								**59 N.MI.**	
15,000	-14.7	-25	-10	-5	-3	-19	-5	-1	1	-7	8	10	12	-13	2	6	8	-16	-1	3	6	7	5	4	6
10,000	-4.6	-17	-12	-8	-5	-10	-6	-2	0	2	7	9	10	-3	1	6	8	-7	-2	2	4	7	6	4	6
5,000	5.1	-11	-16	-11	-8	-2	-7	-3	-0	12	7	9	11	3	-2	2	5	0	-5	0	3	8	6	4	7
NORTH BAY TO TORONTO																								**161 N.MI.**	
15,000	-14.7	-23	-8	-3	-1	-18	-3	0	2	-6	9	11	12	-11	3	7	9	-15	0	4	7	7	5	3	5
10,000	-4.6	-15	-10	-6	-3	-9	-4	-1	1	3	8	10	11	-2	3	7	9	-6	-1	3	5	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-0	-6	-1	1	13	8	10	12	5	-0	4	6	2	-3	2	4	7	6	4	6
OAKLAND TO RENO																								**157 N.MI.**	
15,000	-14.7	-14	1	5	7	-12	3	6	7	-1	14	15	16	-7	7	10	12	-8	6	9	11	6	4	2	4
10,000	-4.6	-4	1	5	7	-2	3	6	8	11	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
5,000	5.1	3	-2	2	4	9	4	7	9	21	16	19	20	13	8	11	12	12	6	11	13	5	5	4	4
OAKLAND TO SAN FRANCISCO																								**9 N.MI.**	
15,000	-14.7	-13	2	6	8	-12	3	6	8	-1	14	15	16	-7	8	11	12	-8	7	10	11	5	4	2	4
10,000	-4.6	-2	2	6	8	-1	3	7	8	10	15	16	17	3	8	11	13	2	7	10	12	6	5	3	5
5,000	5.1	4	-1	2	4	8	3	7	9	20	15	17	19	13	8	10	12	11	6	10	13	5	5	3	4
OCALA TO VERO BEACH																								**130 N.MI.**	
15,000	-14.7	-5	9	11	12	-5	10	12	13	-1	14	15	15	-1	13	15	15	-3	12	13	14	3	3	1	2
10,000	-4.6	4	8	10	11	5	9	11	12	8	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	8	9	13	8	10	11	17	12	13	14	14	9	11	12	14	9	10	11	3	3	1	2

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50 *D50 D75 D85	APRIL 50 D50 D75 D85	JULY 50 D50 D75 D85	OCTOBER 50 D50 D75 D85	ANNUAL 50 D50 D75 D85	STANDARD DEVIATION JAN APR JUL OCT
OKLAHOMA CITY TO TULSA							**97 N.MI.**
15,000	-14.7	-13 2 5 7	-8 6 9 10	-0 14 16 16	-5 10 12 14	-7 8 11 12	5 4 2 3
10,000	-4.6	-4 1 4 6	3 7 10 12	10 15 16 17	6 10 13 14	4 8 11 13	5 4 2 4
5,000	5.1	4 -1 3 6	11 6 10 12	22 16 19 21	14 9 12 14	13 7 12 14	7 6 4 5
OKLAHOMA CITY TO WICHITA							**135 N.MI.**
15,000	-14.7	-14 1 4 6	-9 6 9 10	-0 14 16 16	-5 10 12 13	-7 8 10 12	5 4 2 4
10,000	-4.6	-4 0 4 6	2 7 10 12	10 15 16 17	5 10 13 14	3 8 11 12	5 5 2 4
5,000	5.1	3 -2 3 6	11 6 10 12	22 17 19 21	14 8 12 14	12 7 12 14	8 6 4 5
OMAHA TO SIOUX CITY							**95 N.MI.**
15,000	-14.7	-19 -4 -0 2	-13 2 5 7	-2 13 15 15	-8 7 10 11	-10 4 8 10	6 5 3 5
10,000	-4.6	-9 -5 -1 2	-2 2 6 8	9 13 15 16	2 7 10 12	-0 4 8 10	6 5 3 5
5,000	5.1	-3 -8 -3 1	6 1 6 8	20 15 17 19	10 5 9 12	8 3 8 11	8 7 4 7
ONTARIO TO PALM SPRINGS							**57 N.MI.**
15,000	-14.7	-10 4 8 10	-9 6 8 10	1 15 16 17	-5 10 13 14	-6 9 11 13	5 4 2 4
10,000	-4.6	0 5 8 10	2 7 10 11	12 17 18 19	6 10 13 14	5 10 12 14	5 4 2 4
5,000	5.1	7 2 5 7	12 7 11 12	23 18 20 21	16 11 14 15	15 10 13 15	5 5 3 3
ONTARIO TO SAN FRANCISCO							**316 N.MI.**
15,000	-14.7	-12 3 7 9	-10 4 7 9	-0 15 16 17	-6 9 12 13	-7 8 11 12	5 4 2 4
10,000	-4.6	-1 4 7 9	0 5 8 10	11 16 17 18	4 9 12 13	4 8 11 13	5 5 2 4
5,000	5.1	5 0 4 6	10 5 8 10	22 17 19 20	14 9 12 13	13 8 12 14	5 5 3 4
ORLANDO TO SARASOTA							**94 N.MI.**
15,000	-14.7	-5 10 11 12	-4 10 12 13	-1 14 15 15	-1 13 15 16	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 11 11	5 10 12 13	8 13 14 14	8 13 14 15	6 11 12 13	3 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 14	15 9 11 12	14 9 11 11	3 3 1 2
ORLANDO TO TALLAHASSEE							**193 N.MI.**
15,000	-14.7	-6 9 10 12	-5 10 12 13	-1 14 15 15	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	5 9 11 12	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 7 8	13 7 10 11	18 13 14 14	14 9 11 12	13 8 10 11	4 3 2 3
ORLANDO TO TAMPA							**72 N.MI.**
15,000	-14.7	-5 9 11 12	-4 10 12 13	-1 14 15 15	-1 13 15 15	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 10 11	5 10 12 13	8 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 8 9	13 8 10 11	18 12 13 14	14 9 11 12	14 9 10 11	3 3 1 2
ORLANDO TO WEST PALM BEACH							**130 N.MI.**
15,000	-14.7	-5 10 12 13	-4 11 12 13	-1 14 15 15	-1 14 15 16	-3 12 13 14	3 3 1 2
10,000	-4.6	4 9 11 12	5 10 12 13	8 13 14 14	8 13 14 15	6 11 12 13	3 3 1 2
5,000	5.1	11 6 8 9	13 8 10 11	17 12 13 14	15 9 11 12	14 9 11 11	3 3 1 2
OTTAWA TO SYRACUSE							**133 N.MI.**
15,000	-14.7	-21 -6 -2 0	-18 -3 1 2	-6 9 11 12	-11 4 7 9	-14 1 5 7	7 5 3 5
10,000	-4.6	-14 -9 -5 -2	-8 -4 -0 2	4 8 10 11	-1 3 7 9	-5 -0 4 6	7 5 3 6
5,000	5.1	-8 -13 -8 -5	0 -5 -1 1	13 8 11 12	6 0 4 7	3 -2 2 5	7 6 3 6
OTTAWA TO TORONTO							**196 N.MI.**
15,000	-14.7	-22 -7 -2 0	-18 -3 0 2	-6 9 11 12	-11 4 7 9	-14 1 5 7	7 5 3 5
10,000	-4.6	-14 -10 -5 -3	-9 -4 -0 1	3 8 10 11	-1 3 7 9	-5 -1 3 6	7 5 3 6
5,000	5.1	-8 -13 -8 -6	-0 -5 -1 1	13 8 11 12	5 0 4 7	3 -3 2 5	7 6 4 6
OTTAWA TO VAL-DOR							**186 N.MI.**
15,000	-14.7	-25 -10 -5 -3	-20 -5 -1 1	-7 8 10 11	-13 2 6 8	-16 -1 3 5	7 5 4 6
10,000	-4.6	-17 -13 -8 -5	-11 -6 -2 -0	2 6 9 10	-3 1 5 8	-7 -3 2 4	7 6 4 6
5,000	5.1	-11 -16 -11 -8	-2 -7 -3 -1	11 6 9 10	3 -3 2 4	0 -5 -0 3	8 6 4 7
PALM SPRINGS TO SAN DIEGO							**74 N.MI.**
15,000	-14.7	-10 5 8 10	-9 6 9 10	1 15 16 17	-4 10 13 14	-6 9 12 13	5 4 2 4
10,000	-4.6	0 5 8 10	3 7 10 12	12 16 18 18	6 10 13 14	5 10 13 14	5 4 2 4
5,000	5.1	7 2 6 8	12 7 11 12	23 18 20 21	17 11 14 15	15 10 13 15	5 5 3 3
PANAMA CITY TO PENSACOLA							**80 N.MI.**
15,000	-14.7	-7 8 10 11	-5 9 11 13	-0 14 15 16	-2 13 14 15	-4 11 13 14	3 3 1 2
10,000	-4.6	2 7 9 10	5 9 11 12	9 13 14 15	8 12 14 15	6 10 12 13	3 3 1 2
5,000	5.1	9 4 7 8	12 7 10 11	18 13 14 15	14 9 11 12	13 8 10 12	4 3 2 3
PANAMA CITY TO TALLAHASSEE							**70 N.MI.**
15,000	-14.7	-7 8 10 11	-5 9 11 12	-1 14 15 16	-2 13 14 15	-4 11 13 14	3 3 1 2
10,000	-4.6	2 7 9 10	4 9 11 12	9 13 14 15	8 12 14 15	6 10 12 13	3 3 1 2
5,000	5.1	9 4 7 8	12 7 10 11	18 13 14 15	14 9 11 12	13 8 10 12	4 3 2 3
PANAMA CITY TO TAMPA							**213 N.MI.**
15,000	-14.7	-6 9 11 12	-5 10 12 13	-1 14 15 15	-2 13 14 15	-3 11 13 14	3 3 1 2
10,000	-4.6	3 8 10 11	5 10 12 13	9 13 14 14	8 12 14 15	6 11 12 13	3 3 1 2
5,000	5.1	10 5 7 9	13 8 10 11	18 13 14 14	14 9 11 12	14 9 11 12	4 3 2 3
PHILADELPHIA TO PITTSBURGH							**231 N.MI.**
15,000	-14.7	-16 -2 2 4	-13 2 5 6	-3 12 13 14	-8 7 10 11	-10 5 8 10	5 5 2 4
10,000	-4.6	-8 -4 0 2	-4 1 4 6	6 11 12 13	2 6 9 11	-1 3 7 8	6 5 2 4
5,000	5.1	-2 -7 -2 1	5 -1 3 6	16 11 13 14	8 3 7 9	7 2 6 8	8 6 3 6
PHILADELPHIA TO RICHMOND							**173 N.MI.**
15,000	-14.7	-14 0 4 6	-12 3 6 7	-3 12 13 14	-7 8 11 12	-9 6 9 10	5 4 2 4
10,000	-4.6	-6 -2 2 4	-3 2 5 7	7 11 13 13	3 7 10 11	-0 5 8 9	5 5 2 4
5,000	5.1	0 -5 -0 2	6 1 4 6	16 11 13 14	9 4 8 9	8 3 6 8	7 5 3 5
PHILADELPHIA TO ROCHESTER, N.Y.							**223 N.MI.**
15,000	-14.7	-18 -3 1 3	-14 0 3 5	-4 11 13 14	-9 6 9 11	-11 3 7 9	6 5 3 5
10,000	-4.6	-10 -6 -1 1	-6 -1 2 4	5 10 12 13	1 5 9 10	-2 2 6 8	6 5 3 5
5,000	5.1	-4 -9 -4 -1	3 -2 2 4	15 10 12 13	8 2 6 8	5 0 4 7	7 6 3 6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																		STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
PHILADELPHIA TO SCRANTON																									**99 N.MI.**
15,000	-14.7	-17	-2	2	4	-14	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
PHILADELPHIA TO SYRACUSE																									**198 N.MI.**
15,000	-14.7	-18	-3	1	3	-15	0	3	5	-4	11	13	14	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-6	-1	2	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	2	4	15	10	12	13	8	2	6	8	5	0	4	7	7	6	3	6
PHILADELPHIA TO WASHINGTON, D.C.																									**104 N.MI.**
15,000	-14.7	-15	-0	3	5	-12	2	5	7	-3	12	13	14	-7	7	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	1	4	6	6	11	13	13	2	7	10	11	-0	4	7	9	6	5	2	4
5,000	5.1	-1	-6	-1	1	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5
PHILADELPHIA TO WILLIAMSPORT																									**112 N.MI.**
15,000	-14.7	-16	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	5	5	3	4
10,000	-4.6	-9	-4	-0	2	-5	0	3	5	6	10	12	13	1	6	9	11	-1	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
PHILADELPHIA TO YOUNGSTOWN																									**262 N.MI.**
15,000	-14.7	-17	-2	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	4	8	9	6	5	3	4
10,000	-4.6	-9	-4	-0	2	-4	0	4	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	5
5,000	5.1	-3	-8	-3	0	4	-1	3	5	15	10	12	14	8	3	7	9	6	1	5	7	8	6	3	6
PHOENIX TO SAN DIEGO																									**263 N.MI.**
15,000	-14.7	-10	5	8	10	-8	7	9	10	1	16	17	17	-4	11	13	14	-5	9	12	13	5	4	2	3
10,000	-4.6	0	5	8	10	3	8	11	12	12	17	18	19	6	11	13	15	6	10	13	14	5	4	2	4
5,000	5.1	7	2	6	8	14	9	12	14	24	19	21	22	18	13	15	16	16	11	14	16	5	5	3	4
PHOENIX TO TUCSON																									**96 N.MI.**
15,000	-14.7	-9	5	9	11	-8	7	10	11	1	16	17	18	-4	11	13	14	-5	10	12	14	5	4	2	3
10,000	-4.6	-0	4	8	10	4	9	12	13	13	18	19	20	7	11	14	15	6	11	13	15	5	4	2	3
5,000	5.1	8	2	6	8	17	11	15	16	26	21	23	24	19	14	17	18	17	12	16	18	5	5	3	4
PIERRE TO RAPID CITY																									**121 N.MI.**
15,000	-14.7	-21	-6	-2	0	-14	0	4	5	-2	12	14	15	-10	5	8	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-11	-7	-2	0	-4	1	4	6	9	13	16	17	1	5	9	11	-2	3	8	10	7	6	4	6
5,000	5.1	-5	-10	-5	-2	6	0	5	8	21	15	19	20	9	4	9	12	8	3	8	12	8	7	5	7
PIERRE TO SIOUX FALLS																									**160 N.MI.**
15,000	-14.7	-21	-6	-2	0	-14	0	4	5	-3	12	14	15	-10	5	8	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-12	-7	-2	-0	-4	0	4	6	8	13	15	16	1	5	9	11	-2	3	7	10	7	6	3	6
5,000	5.1	-5	-10	-5	-1	5	-0	4	7	19	14	17	19	9	4	8	11	7	2	7	10	9	7	5	7
PITTSBURGH TO RALEIGH																									**285 N.MI.**
15,000	-14.7	-14	1	4	6	-11	4	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
5,000	5.1	1	-4	0	3	6	1	5	7	16	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
PITTSBURGH TO ROANOKE																									**190 N.MI.**
15,000	-14.7	-15	-0	3	5	-12	3	6	7	-3	12	14	14	-7	8	10	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-7	-2	1	3	-3	2	5	7	7	11	13	13	3	7	10	12	-0	4	7	9	5	5	2	4
5,000	5.1	-0	-6	-1	2	6	1	5	7	16	11	13	14	9	4	8	10	8	3	6	9	7	6	3	5
PITTSBURGH TO TOLEDO																									**175 N.MI.**
15,000	-14.7	-17	-3	1	3	-13	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-9	-5	-1	1	-4	0	4	5	6	11	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-4	-9	-3	-0	4	-1	3	5	16	11	13	14	8	3	7	9	6	1	5	8	8	6	3	6
PITTSBURGH TO WASHINGTON, D.C.																									**177 N.MI.**
15,000	-14.7	-16	-1	3	4	-12	2	5	7	-3	12	13	14	-7	7	10	12	-10	5	8	10	5	4	2	4
10,000	-4.6	-8	-3	1	3	-3	1	4	6	6	11	12	13	2	7	10	11	-1	4	7	9	6	5	2	4
5,000	5.1	-1	-7	-1	1	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	8	6	3	5
PITTSBURGH TO WILLIAMSPORT																									**156 N.MI.**
15,000	-14.7	-17	-2	1	3	-14	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	15	10	12	14	8	3	7	9	6	1	5	7	8	6	3	6
PITTSBURGH TO YOUNGSTOWN																									**52 N.MI.**
15,000	-14.7	-17	-3	1	3	-13	1	4	6	-3	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-9	-5	-1	1	-5	0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-0	4	-1	3	5	16	10	13	14	8	3	7	9	6	1	5	8	8	6	3	6
POCATELLO TO SALT LAKE CITY																									**131 N.MI.**
15,000	-14.7	-18	-3	1	3	-13	2	5	6	-1	14	16	16	-9	6	9	11	-10	5	8	10	6	4	2	5
10,000	-4.6	-8	-4	0	3	-2	2	6	8	12	16	18	19	2	6	10	12	1	5	10	12	6	5	3	5
5,000	5.1	-1	-6	-3	-2	10	5	9	11	26	21	23	25	13	8	12	14	12	7	12	15	4	6	4	6
PORTLAND, ME. TO WATERVILLE																									**60 N.MI.**
15,000	-14.7	-20	-5	-1	1	-18	-5	0	2	-6	9	11	12	-11	4	7	9	-14	1	5	7	6	5	3	5
10,000	-4.6	-14	-9	-4	-2	-9	-4	-1	1	4	8	10	11	-1	3	7	9	-5	-0	3	6	7	5	3	6
5,000	5.1	-8	-13	-8	-5	-0	-5	-1	1	13	8	10	11	6	1	4	7	3	-2	2	4	7	6	3	6
PORTLAND, ORE. TO RENO																									**386 N.MI.**
15,000	-14.7	-17	-2	2	4	-14	1	4	5	-3	12	13	14	-10	5	8	10	-11	4	7	9	6	5	3	5
10,000	-4.6	-7	-3	2	4	-4	0	4	6	8	13	15	16	0	5	8	10	-1	4	8	10	6	5	3	5
5,000	5.1	0	-5	-1	1	7	2	5	7	20	14	17	19	10	5	9	11	9	4	9	12	5	5	4	5
PORTLAND, ORE. TO SALEM																									**43 N.MI.**
15,000	-14.7	-19	-4	0	3	-16	-1	2	4	-5	9	12	13	-11	3	7	9	-13	2	6	8	7	5	3	5
10,000	-4.6	-10	-5	-1	2	-6	-2	2	4	5	10	12	13	-2	3	7	9	-3	2	6	8	7	5	3	5
5,000	5.1	-2	-7	-4	-2	4	-1	3	5	16	11	14	16	8	3	6	8	7	2	7	9	5	5	4	5

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50*	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
PORTLAND, ORE. TO SEATTLE																								113 N.MI.	
15,000	-14.7	-20	-5	-1	2	-16	-2	2	4	-6	9	11	12	-12	3	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-11	-6	-1	1	-7	-2	1	3	4	9	11	13	-2	2	6	8	-4	1	5	7	7	5	3	5
5,000	5.1	-3	-8	-4	-2	3	-2	1	3	15	10	13	15	7	2	5	7	6	1	5	8	5	5	4	5
PORTLAND, ORE. TO SPOKANE																								239 N.MI.	
15,000	-14.7	-20	-6	-1	2	-16	-1	2	4	-6	9	11	12	-12	3	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-11	-7	-2	1	-6	-2	1	3	5	10	12	13	-2	2	6	8	-4	1	5	7	7	5	3	5
5,000	5.1	-3	-8	-5	-3	4	-1	2	4	17	11	15	16	8	2	6	8	6	1	6	9	5	5	5	6
PORTLAND, ORE. TO YAKIMA																								104 N.MI.	
15,000	-14.7	-20	-5	-0	2	-16	-1	2	4	-6	9	11	13	-12	3	6	8	-13	1	5	7	7	5	3	5
10,000	-4.6	-10	-6	-1	1	-6	-2	2	3	5	10	12	13	-2	3	6	8	-3	1	5	7	7	5	3	5
5,000	5.1	-3	-8	-4	-2	4	-1	2	4	16	11	14	16	8	3	6	8	6	1	6	9	5	5	5	5
PRINCE GEORGE TO QUESNEL																								48 N.MI.	
15,000	-14.7	-25	-10	-5	-3	-19	-5	-2	-0	-10	5	7	9	-16	-2	2	4	-18	-3	1	3	7	5	4	5
10,000	-4.6	-16	-11	-6	-3	-10	-5	-2	-1	0	5	7	9	-7	-2	1	3	-8	-3	1	3	8	4	4	5
5,000	5.1	-8	-13	-8	-6	-3	-8	-5	-4	10	5	8	10	2	-3	0	2	0	-5	0	3	7	4	4	5
PRINCE GEORGE TO SMITHERS																								167 N.MI.	
15,000	-14.7	-25	-10	-5	-3	-20	-5	-2	-1	-10	5	7	8	-17	-2	1	3	-18	-3	1	3	7	5	4	5
10,000	-4.6	-15	-10	-5	-2	-10	-6	-3	-1	-0	4	7	8	-7	-2	1	3	-8	-4	0	3	8	4	4	5
5,000	5.1	-8	-13	-9	-6	-4	-9	-6	-4	9	4	7	8	1	-4	-1	1	-0	-6	-1	2	7	4	4	5
PRINCE GEORGE TO VANCOUVER																								283 N.MI.	
15,000	-14.7	-23	-9	-4	-1	-19	-4	-1	1	-9	6	8	9	-15	-1	3	5	-17	-2	2	4	7	5	3	5
10,000	-4.6	-14	-10	-5	-2	-9	-4	-1	0	1	6	8	9	-6	-1	2	4	-7	-2	2	4	8	4	3	5
5,000	5.1	-6	-11	-7	-5	-2	-7	-4	-2	10	5	8	10	3	-2	2	3	2	-4	1	4	6	4	4	5
PRINCE RUPERT TO SANDSPIT																								79 N.MI.	
15,000	-14.7	-23	-8	-4	-1	-20	-6	-2	-1	-10	4	7	8	-17	-2	1	3	-18	-3	1	3	7	5	4	5
10,000	-4.6	-12	-8	-3	-1	-11	-6	-3	-2	-1	4	6	7	-7	-2	1	2	-8	-3	1	3	6	4	3	5
5,000	5.1	-6	-11	-8	-6	-4	-9	-6	-5	7	2	4	6	0	-5	-2	-1	-1	-6	-2	1	5	4	4	4
PRINCE RUPERT TO TERRACE																								66 N.MI.	
15,000	-14.7	-23	-9	-4	-2	-20	-6	-3	-1	-11	4	7	8	-17	-2	1	3	-18	-3	1	3	7	5	4	5
10,000	-4.6	-13	-8	-3	-1	-11	-6	-3	-2	-1	4	6	7	-7	-2	1	2	-8	-3	1	3	7	4	3	5
5,000	5.1	-7	-12	-8	-6	-4	-9	-6	-5	7	2	5	6	0	-5	-2	-1	-1	-6	-2	1	6	4	4	4
PROVIDENCE TO WASHINGTON, D.C.																								309 N.MI.	
15,000	-14.7	-16	-1	2	4	-13	1	4	6	-3	11	13	14	-8	7	10	11	-10	5	8	9	5	4	3	4
10,000	-4.6	-8	-4	0	2	-4	0	3	5	6	11	12	13	2	6	9	11	-1	3	6	8	6	5	2	4
5,000	5.1	-2	-7	-3	0	4	-1	3	5	15	10	12	13	8	3	7	9	6	1	5	7	7	6	3	5
PUEBLO TO SANTA FE																								178 N.MI.	
15,000	-14.7	-14	0	4	6	-9	5	8	9	1	15	17	17	-5	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-4	0	4	6	2	7	10	12	13	17	19	20	5	9	12	14	4	8	12	14	6	5	2	4
5,000	5.1	3	-2	3	5	14	9	13	15	26	20	23	25	16	11	15	17	15	10	14	17	6	6	4	6
QUEBEC TO SAGUENAY																								103 N.MI.	
15,000	-14.7	-26	-11	-6	-4	-21	-6	-3	-1	-8	7	9	11	-14	1	5	7	-17	-2	2	4	7	5	4	6
10,000	-4.6	-19	-14	-9	-6	-12	-8	-4	-2	1	6	8	9	-5	-0	4	6	-9	-4	1	3	8	6	4	6
5,000	5.1	-12	-17	-12	-9	-3	-9	-5	-3	10	5	8	9	1	-4	1	3	-1	-6	-1	1	8	6	4	7
QUEBEC TO SEVEN ISLANDS																								285 N.MI.	
15,000	-14.7	-27	-12	-7	-5	-21	-7	-3	-1	-8	6	9	10	-15	-0	4	6	-18	-3	2	4	7	6	4	6
10,000	-4.6	-19	-15	-9	-7	-13	-8	-4	-2	1	5	8	9	-6	-1	3	6	-9	-5	-0	2	8	6	4	6
5,000	5.1	-13	-18	-12	-8	-4	-9	-5	-3	9	4	7	8	1	-4	0	3	-2	-7	-2	1	9	6	4	7
QUESNEL TO WILLIAM LAKE																								57 N.MI.	
15,000	-14.7	-24	-10	-5	-2	-19	-4	-1	0	-9	5	8	9	-16	-1	2	4	-17	-2	2	4	7	5	3	5
10,000	-4.6	-15	-11	-5	-2	-9	-5	-2	-0	1	5	8	9	-6	-1	2	4	-7	-3	1	3	8	4	4	5
5,000	5.1	-7	-12	-8	-6	-2	-7	-4	-3	10	5	8	10	3	-2	1	3	1	-4	1	3	7	4	5	5
RALEIGH TO RICHMOND																								121 N.MI.	
15,000	-14.7	-12	3	6	7	-10	5	7	9	-2	12	14	15	-6	9	11	13	-8	7	10	11	4	4	2	3
10,000	-4.6	-4	1	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	4	8	3	6	8	17	12	13	14	11	5	8	10	9	4	8	9	6	5	3	5
RALEIGH TO WASHINGTON, D.C.																								197 N.MI.	
15,000	-14.7	-13	2	5	7	-11	4	7	8	-2	12	14	14	-6	9	11	12	-8	7	9	11	5	4	2	4
10,000	-4.6	-5	-0	3	5	-1	3	6	8	7	11	13	14	3	8	10	12	1	6	8	10	5	4	2	4
5,000	5.1	2	-3	1	4	7	2	5	7	16	11	13	14	10	5	8	10	9	4	7	9	7	5	3	5
READING TO SYRACUSE																								164 N.MI.	
15,000	-14.7	-18	-3	1	3	-15	-0	3	5	-4	11	12	13	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-6	-1	2	4	5	10	12	13	1	5	8	10	-3	2	6	7	6	5	3	5
5,000	5.1	-4	-9	-4	-2	3	-2	2	4	15	10	12	13	7	2	6	8	5	0	4	6	7	6	3	6
REGINA TO SWIFT CURRENT																								116 N.MI.	
15,000	-14.7	-28	-14	-9	-6	-18	-3	0	2	-7	8	10	12	-15	0	4	6	-17	-2	2	5	8	5	3	6
10,000	-4.6	-18	-13	-8	-5	-8	-4	0	2	4	9	11	13	-5	-0	4	6	-7	-2	3	5	8	5	4	6
5,000	5.1	-10	-15	-12	-11	1	-4	0	3	15	10	13	15	6	1	5	8	3	-2	4	7	4	7	5	7
REGINA TO WINNIPEG																								287 N.MI.	
15,000	-14.7	-28	-13	-8	-6	-18	-3	0	2	-7	8	10	12	-15	0	4	6	-17	-2	2	5	7	5	4	6
10,000	-4.6	-19	-14	-9	-6	-9	-4	-0	2	3	8	11	12	-5	-0	4	6	-7	-3	2	5	8	6	4	6
5,000	5.1	-12	-17	-12	-9	-1	-6	-1	2	14	9	12	14	5	-0	4	7	2	-4	2	6	8	7	5	7
REGINA TO YORKTON																								97 N.MI.	
15,000	-14.7	-28	-14	-9	-6	-18	-4	0	2	-7	8	10	11	-15	-0	4	6	-17	-2	2	4	7	5	3	6
10,000	-4.6	-19	-14	-9	-6	-9	-4	-0	2	3	8	11	12	-5	-1	4	6	-7	-3	2	5	8	6	4	6
5,000	5.1	-11	-16	-12	-10	-0	-5	-1	2	14	9	12	14	5	-0	4	7	2	-3	2	5	6	7	5	7

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE																STANDARD DEVIATION			
		JANUARY				APRIL				JULY				OCTOBER				ANNUAL							
		50	*D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	50	D50	D75	D85	JAN	APR	JUL	OCT
RENO TO SACRAMENTO																								93 N.MI.	
15,000	-14.7	-14	1	5	7	-12	3	5	7	-1	14	15	16	-8	7	10	12	-9	6	9	11	6	4	2	5
10,000	-4.6	-4	1	4	7	-2	3	6	8	11	15	17	18	3	7	10	12	2	6	10	12	6	5	3	5
5,000	5.1	3	-2	1	3	9	4	8	10	22	17	19	20	13	8	11	13	12	7	11	13	5	5	4	5
RENO TO SALT LAKE CITY																								366 N.MI.	
15,000	-14.7	-16	-1	3	5	-13	2	5	7	-0	14	16	17	-8	7	10	12	-9	6	9	11	6	4	2	5
10,000	-4.6	-6	-2	2	5	-2	3	6	8	12	17	18	19	2	7	10	12	2	6	10	12	6	5	3	5
5,000	5.1	1	-4	-0	2	10	5	9	11	25	20	22	23	15	8	12	14	12	7	12	15	5	5	4	6
RENO TO SAN FRANCISCO																								166 N.MI.	
15,000	-14.7	-14	1	5	7	-12	3	6	7	-1	14	15	16	-7	7	10	12	-8	6	9	11	6	4	2	4
10,000	-4.6	-4	1	5	7	-2	3	6	8	11	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
5,000	5.1	3	-2	2	4	9	4	7	9	21	16	19	20	13	8	11	12	12	6	11	13	5	5	4	4
RICHMOND TO WASHINGTON, D.C.																								82 N.MI.	
15,000	-14.7	-14	1	4	6	-11	3	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	2	5	7	7	11	13	13	3	7	10	12	0	5	8	9	5	5	2	4
5,000	5.1	1	-4	0	3	6	1	5	7	16	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
ROANOKE TO WASHINGTON, D.C.																								166 N.MI.	
15,000	-14.7	-14	1	4	6	-11	4	6	8	-3	12	14	14	-7	8	11	12	-9	6	9	10	5	4	2	4
10,000	-4.6	-6	-1	2	4	-2	3	6	7	7	11	13	14	3	8	10	12	0	5	8	9	5	5	2	4
5,000	5.1	1	-4	0	3	6	1	5	7	16	11	13	14	10	5	8	10	8	3	7	9	7	5	3	5
ROANOKE TO WINSTON-SALEM																								72 N.MI.	
15,000	-14.7	-12	2	5	7	-10	5	7	9	-2	12	14	15	-6	9	11	13	-8	7	10	11	4	4	2	4
10,000	-4.6	-4	0	4	5	-1	4	7	8	7	12	13	14	4	8	11	12	1	6	9	10	5	4	2	4
5,000	5.1	3	-2	2	4	8	3	6	8	17	12	14	15	11	5	9	10	9	4	8	10	6	5	3	5
ROCHESTER, MINN. TO WATERLOO																								81 N.MI.	
15,000	-14.7	-20	-5	-1	1	-14	0	4	5	-3	11	13	14	-9	5	9	10	-12	3	7	9	6	5	3	5
10,000	-4.6	-12	-7	-3	-0	-5	-0	4	6	7	11	14	15	1	5	9	11	-2	2	6	9	6	5	3	5
5,000	5.1	-6	-11	-6	-3	3	-2	3	5	17	12	15	16	8	3	7	10	6	0	6	8	8	7	4	7
ROCHESTER, N.Y. TO SYRACUSE																								68 N.MI.	
15,000	-14.7	-20	-5	-1	1	-16	-2	2	4	-5	10	12	13	-10	5	8	10	-13	2	6	8	6	5	3	5
10,000	-4.6	-12	-8	-3	-1	-7	-3	1	3	4	9	11	12	-0	4	8	10	-4	1	4	7	6	5	3	5
5,000	5.1	-6	-11	-6	-4	1	-4	0	3	14	9	11	12	6	1	5	7	4	-1	3	6	7	6	3	6
ROCHESTER, N.Y. TO WASHINGTON, D.C.																								258 N.MI.	
15,000	-14.7	-17	-2	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-1	4	-1	2	5	15	10	12	13	8	3	6	9	6	1	5	7	7	6	3	6
ROUYN-NORANDA TO VAL-DOR																								53 N.MI.	
15,000	-14.7	-27	-12	-7	-5	-21	-6	-2	-0	-8	7	9	11	-14	0	5	7	-17	-3	2	4	7	5	4	6
10,000	-4.6	-19	-15	-10	-7	-12	-7	-3	-1	1	5	8	9	-5	-0	4	6	-9	-4	0	3	8	6	4	6
5,000	5.1	-13	-18	-13	-10	-3	-8	-4	-2	10	5	7	9	0	-5	-0	2	-2	-7	-2	1	8	6	4	7
SACRAMENTO TO SAN FRANCISCO																								73 N.MI.	
15,000	-14.7	-13	2	5	7	-12	3	6	7	-1	14	15	16	-7	8	11	12	-8	6	10	11	6	4	2	4
10,000	-4.6	-3	2	5	7	-1	3	6	8	10	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
5,000	5.1	4	-1	2	4	9	3	7	9	21	16	18	19	13	8	10	12	11	6	11	13	5	5	4	4
SACRAMENTO TO STOCKTON																								37 N.MI.	
15,000	-14.7	-13	2	5	7	-12	3	6	7	-1	14	15	16	-7	8	11	12	-8	6	10	11	6	4	2	4
10,000	-4.6	-3	1	5	7	-1	3	6	8	10	15	17	18	3	7	11	12	2	7	10	12	6	5	3	5
5,000	5.1	4	-2	2	4	9	4	7	9	21	16	18	20	13	8	11	12	12	6	11	13	5	5	4	4
SAGUENAY TO SEVEN ISLANDS																								207 N.MI.	
15,000	-14.7	-28	-13	-8	-6	-22	-7	-4	-2	-9	6	9	10	-16	-1	3	5	-19	-4	1	3	7	6	4	6
10,000	-4.6	-21	-16	-10	-7	-13	-9	-5	-3	-0	5	7	9	-6	-2	3	5	-10	-5	-1	2	8	6	4	6
5,000	5.1	-13	-19	-12	-9	-5	-10	-6	-4	9	4	6	7	-0	-5	-1	2	-2	-8	-3	0	9	6	4	7
ST. JOHN TO YARMOUTH																								89 N.MI.	
15,000	-14.7	-20	-6	-1	1	-18	-3	0	2	-6	9	11	12	-11	4	7	9	-14	1	5	7	6	5	3	5
10,000	-4.6	-14	-9	-4	-2	-9	-4	-0	1	3	8	10	11	-2	3	6	8	-5	-1	3	5	7	5	3	5
5,000	5.1	-8	-13	-8	-5	1	-5	-1	1	13	8	10	11	5	0	4	6	3	-2	2	4	8	5	3	6
ST. JOHNS TO SYDNEY																								312 N.MI.	
15,000	-14.7	-21	-7	-2	1	-18	-3	1	2	-7	8	10	11	-12	3	6	8	-15	0	4	6	7	5	3	5
10,000	-4.6	-14	-10	-4	-2	-8	-4	-0	2	2	7	9	10	-3	1	5	7	-6	-1	3	5	8	5	3	5
5,000	5.1	-6	-12	-6	-3	1	-4	-0	2	11	6	8	10	4	-1	3	5	3	-2	2	4	8	5	3	5
ST. LOUIS TO SPRINGFIELD, MO.																								169 N.MI.	
15,000	-14.7	-14	0	4	5	-10	5	7	9	-1	13	15	16	-6	9	11	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-6	-1	2	4	-0	4	8	9	9	13	15	16	4	9	12	13	2	6	9	11	5	5	2	4
5,000	5.1	0	-5	0	3	8	3	7	9	19	14	16	17	11	6	10	12	10	4	9	11	7	6	3	6
ST. LOUIS TO TULSA																								304 N.MI.	
15,000	-14.7	-14	1	4	6	-10	5	8	9	-1	14	15	16	-6	9	12	13	-8	7	10	11	5	4	2	4
10,000	-4.6	-5	-1	3	5	1	5	8	10	9	14	15	16	4	9	12	13	2	7	10	11	5	5	2	4
5,000	5.1	1	-4	1	4	9	3	8	10	20	15	17	18	12	7	10	12	10	5	10	12	7	6	3	6
SALINAS TO SAN FRANCISCO																								69 N.MI.	
15,000	-14.7	-12	2	6	8	-11	3	6	8	-1	14	15	16	-7	8	11	13	-8	7	10	12	5	4	2	4
10,000	-4.6	-2	3	6	8	-1	4	7	9	10	15	17	18	3	8	11	13	3	7	11	12	6	5	2	5
5,000	5.1	4	-1	3	5	9	4	7	9	20	15	18	19	13	8	10	12	12	7	11	13	5	5	3	4
SALINAS TO SANTA BARBARA																								159 N.MI.	
15,000	-14.7	-11	5	7	9	-10	4	7	9	-0	15	16	17	-6	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-1	4	8	10	0	5	8	10	11	15	17	18	4	9	12	14	4	8	11	13	5	5	2	4
5,000	5.1	6	0	4	6	10	4	8	10	21	16	18	19	14	9	11	13	13	8	11	13	5	5	3	3

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	*D50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
SAN DIEGO TO SAN FRANCISCO																								389 N.MI.	
15,000	-14.7	-11	4	7	9	-10	5	7	9	-0	15	16	17	-5	9	12	13	-7	8	11	12	5	4	2	4
10,000	-4.6	-1	4	8	10	1	5	8	10	11	16	17	18	5	9	12	14	4	9	12	13	5	5	2	4
5,000	5.1	6	1	4	6	10	5	9	10	22	17	19	20	15	10	12	13	13	8	12	14	5	5	3	3
SAN FRANCISCO TO STOCKTON																								56 N.MI.	
15,000	-14.7	-13	2	6	8	-12	3	6	8	-1	14	15	16	-7	8	11	12	-8	7	10	11	5	4	2	4
10,000	-4.6	-3	2	6	8	-1	3	7	8	10	15	17	18	3	8	11	13	2	7	10	12	6	5	3	5
5,000	5.1	4	-1	2	4	9	4	7	9	21	16	18	19	13	8	10	12	12	6	11	13	5	5	3	4
SARASOTA TO TAMPA																								34 N.MI.	
15,000	-14.7	-5	10	11	12	-4	11	12	13	-1	14	15	15	-1	13	15	16	-3	12	13	14	3	3	1	2
10,000	-4.6	4	9	11	12	5	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
5,000	5.1	11	6	8	9	13	8	10	11	18	12	13	14	15	10	11	12	14	9	11	12	3	3	1	2
SARASOTA TO WEST PALM BEACH																								138 N.MI.	
15,000	-14.7	-5	10	12	13	-4	11	13	13	-1	14	15	15	-1	14	15	16	-3	12	13	14	3	3	1	2
10,000	-4.6	5	9	11	12	6	10	12	13	9	13	14	14	8	13	14	15	7	11	12	13	3	3	1	2
5,000	5.1	11	6	8	9	13	8	10	11	17	12	13	14	15	10	11	12	14	9	11	11	3	3	1	2
SASKATOON TO WINNIPEG																								381 N.MI.	
15,000	-14.7	-28	-14	-9	-6	-19	-4	-0	2	-7	7	10	11	-15	-0	3	5	-17	-3	2	4	7	5	4	6
10,000	-4.6	-19	-15	-9	-6	-9	-5	-1	1	3	7	10	11	-6	-1	3	6	-8	-3	2	4	8	6	4	6
5,000	5.1	-12	-17	-12	-9	-1	-6	-1	1	13	8	11	13	4	-1	4	6	1	-4	2	5	7	7	5	7
SAULT STE. MARIE TO TORONTO																								266 N.MI.	
15,000	-14.7	-23	-8	-3	-1	-18	-3	1	2	-6	9	11	12	-11	3	7	9	-14	0	4	7	7	5	3	5
10,000	-4.6	-15	-10	-6	-3	-8	-4	-0	2	3	8	10	12	-2	3	7	9	-5	-1	3	6	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-0	-5	-1	1	13	8	11	12	5	-0	4	6	2	-3	2	5	7	6	4	6
SCRANTON TO SYRACUSE																								99 N.MI.	
15,000	-14.7	-19	-4	0	2	-15	-1	3	4	-4	10	12	13	-9	5	9	10	-12	3	6	8	6	5	3	5
10,000	-4.6	-11	-7	-2	-0	-6	-2	2	3	5	9	11	12	0	5	8	10	-3	1	5	7	6	5	3	5
5,000	5.1	-5	-10	-5	-3	2	-3	1	3	14	9	11	13	7	2	6	8	5	-0	4	6	7	6	3	6
SCRANTON TO WILLIAMSPORT																								54 N.MI.	
15,000	-14.7	-18	-3	1	3	-14	0	4	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-1	3	4	5	10	12	13	1	5	9	10	-2	2	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	5	0	5	7	7	6	3	6
SEATTLE TO SPOKANE																								190 N.MI.	
15,000	-14.7	-21	-6	-2	1	-17	-2	1	3	-6	8	11	12	-13	2	6	7	-14	1	4	7	7	5	3	5
10,000	-4.6	-12	-7	-2	0	-7	-2	1	3	4	9	11	13	-3	2	5	7	-4	0	4	7	7	5	3	5
5,000	5.1	-4	-9	-5	-3	3	-2	1	3	15	10	13	15	7	2	6	8	5	0	5	8	5	5	5	6
SEATTLE TO VANCOUVER																								109 N.MI.	
15,000	-14.7	-21	-6	-2	1	-17	-2	1	3	-7	8	10	11	-13	1	5	7	-15	0	4	6	7	5	3	5
10,000	-4.6	-12	-7	-3	-0	-8	-3	0	2	3	8	10	11	-4	1	4	6	-5	-0	4	6	7	5	3	5
5,000	5.1	-4	-9	-5	-3	1	-4	-1	1	13	8	11	12	6	1	4	6	4	-1	4	6	5	5	4	5
SEATTLE TO VICTORIA																								85 N.MI.	
15,000	-14.7	-21	-6	-2	1	-17	-2	1	3	-7	8	10	11	-13	2	5	7	-15	0	4	6	7	5	3	5
10,000	-4.6	-12	-7	-2	0	-7	-3	0	2	3	8	10	11	-3	1	5	7	-5	-0	4	6	7	5	3	5
5,000	5.1	-4	-9	-5	-3	1	-4	-0	1	13	8	11	13	6	1	4	6	4	-1	4	6	5	5	4	5
SEATTLE TO YAKIMA																								90 N.MI.	
15,000	-14.7	-20	-6	-1	2	-16	-2	2	3	-6	9	11	12	-12	2	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-11	-7	-2	1	-7	-2	1	3	4	9	11	13	-3	2	6	7	-4	1	5	7	7	5	3	5
5,000	5.1	-3	-8	-5	-3	3	-2	1	3	15	10	13	15	7	2	6	7	6	0	5	8	5	5	5	5
SHREVEPORT TO TEXARKANA																								61 N.MI.	
15,000	-14.7	-10	5	7	9	-7	8	10	12	-0	15	16	16	-3	11	13	14	-5	10	12	13	4	3	2	3
10,000	-4.6	-1	4	7	8	4	9	11	13	10	14	16	16	7	11	14	15	5	10	12	13	4	4	2	3
5,000	5.1	6	1	5	7	12	7	10	12	20	15	17	18	14	9	12	13	13	8	11	13	6	5	3	4
SHREVEPORT TO TULSA																								247 N.MI.	
15,000	-14.7	-11	3	6	8	-7	7	10	11	-0	14	16	16	-4	11	13	14	-6	9	11	13	4	4	2	3
10,000	-4.6	-2	2	5	7	3	8	11	12	10	15	16	16	6	11	13	14	4	9	11	13	4	4	2	3
5,000	5.1	5	-0	4	7	12	6	10	12	21	16	18	19	14	9	12	13	13	8	12	14	7	5	3	5
SIOUX CITY TO SIOUX FALLS																								73 N.MI.	
15,000	-14.7	-20	-5	-1	1	-14	1	4	6	-3	12	14	15	-9	6	9	11	-11	3	7	9	6	5	3	5
10,000	-4.6	-11	-6	-2	1	-4	1	5	7	8	13	15	16	1	6	9	11	-1	3	7	10	6	5	3	5
5,000	5.1	-5	-10	-4	-1	5	-0	5	7	19	14	17	18	9	4	9	11	7	2	7	10	8	7	4	7
SIOUX CITY TO WATERLOO																								177 N.MI.	
15,000	-14.7	-19	-5	-1	1	-14	1	4	6	-3	12	14	15	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-6	-2	1	-4	1	5	7	8	12	14	15	1	6	9	11	-1	3	7	9	6	5	3	5
5,000	5.1	-5	-10	-4	-1	5	-1	4	7	18	13	16	17	9	4	8	11	7	2	7	10	8	7	4	7
SMITHERS TO TERRACE																								53 N.MI.	
15,000	-14.7	-24	-9	-5	-2	-20	-6	-3	-1	-11	4	7	8	-17	-2	1	3	-18	-3	1	3	7	5	4	5
10,000	-4.6	-13	-9	-4	-2	-11	-6	-3	-2	-1	4	6	7	-7	-3	1	2	-8	-3	0	2	7	4	4	5
5,000	5.1	-8	-13	-9	-6	-4	-9	-6	-5	8	3	5	7	0	-5	-2	-0	-1	-6	-1	1	6	4	4	4
SPOKANE TO YAKIMA																								135 N.MI.	
15,000	-14.7	-21	-6	-2	1	-16	-2	2	3	-6	9	11	12	-12	2	6	8	-14	1	5	7	7	5	3	5
10,000	-4.6	-12	-7	-2	0	-7	-2	1	3	5	10	12	13	-2	2	6	8	-4	1	5	7	7	5	3	5
5,000	5.1	-4	-9	-5	-3	4	-2	2	4	17	12	15	16	7	2	6	8	6	1	6	9	5	5	5	6
STEPHENVILLE TO SYDNEY																								155 N.MI.	
15,000	-14.7	-23	-8	-4	-1	-19	-4	-0	2	-7	7	10	11	-13	2	6	8	-15	-1	3	6	7	5	4	5
10,000	-4.6	-16	-11	-6	-3	-9	-4	-1	1	2	6	9	10	-4	0	4	6	-7	-2	2	4	8	5	3	6
5,000	5.1	-8	-13	-8	-5	0	-5	-1	1	11	6	8	9	4	-1	2	5	2	-3	1	3	8	5	3	6

*D--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

ENROUTE TEMPERATURES AND STANDARD DEVIATION IN DEGREES CELSIUS FOR GREAT CIRCLE AIR ROUTES

HEIGHT IN FEET	ISA TEMP.	ENROUTE TEMPERATURE JANUARY 50	ΔD50	D75	D85	APRIL 50	D50	D75	D85	JULY 50	D50	D75	D85	OCTOBER 50	D50	D75	D85	ANNUAL 50	D50	D75	D85	STANDARD DEVIATION JAN	APR	JUL	OCT
SUDBURY TO TIMMINS																									119 N.MI.
15,000	-14.7	-26	-11	-7	-4	-20	-5	-2	0	-8	7	10	11	-14	1	5	7	-17	-2	2	5	7	5	4	6
10,000	-4.6	-19	-14	-9	-6	-11	-6	-3	-1	1	6	9	10	-4	1	5	7	-8	-3	1	4	7	6	4	6
5,000	5.1	-12	-17	-12	-9	-2	-8	-3	-1	11	6	8	10	1	-4	1	3	-1	-6	-1	2	8	6	4	7
SUDBURY TO TORONTO																									183 N.MI.
15,000	-14.7	-23	-8	-3	-1	-18	-3	0	2	-6	9	11	12	-12	3	7	9	-15	0	4	7	7	5	3	5
10,000	-4.6	-15	-11	-6	-4	-9	-4	-1	1	3	8	10	11	-2	3	7	9	-6	-1	3	5	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-1	-6	-1	1	13	8	10	12	5	-1	4	6	2	-3	2	4	7	6	4	6
SYRACUSE TO WASHINGTON, D.C.																									259 N.MI.
15,000	-14.7	-17	-2	1	3	-14	1	4	6	-4	11	13	14	-8	6	9	11	-11	4	7	9	6	5	3	4
10,000	-4.6	-9	-5	-1	1	-5	-0	3	5	6	10	12	13	1	6	9	11	-2	3	6	8	6	5	3	5
5,000	5.1	-3	-8	-3	-1	4	-2	2	4	15	10	12	13	8	3	6	8	6	1	5	7	7	6	3	6
TALLAHASSEE TO TAMPA																									174 N.MI.
15,000	-14.7	-6	9	11	12	-5	10	12	13	-1	14	15	15	-2	13	14	15	-3	11	13	14	3	3	1	2
10,000	-4.6	3	8	10	11	5	9	11	12	9	13	14	14	8	12	14	15	6	11	12	13	3	3	1	2
5,000	5.1	10	5	7	9	13	8	10	11	18	13	14	14	14	9	11	12	14	8	10	11	4	3	2	3
TEMPLE TO WACO																									30 N.MI.
15,000	-14.7	-9	6	8	10	-6	9	11	12	0	15	16	17	-3	12	14	15	-4	10	13	14	4	3	1	3
10,000	-4.6	1	5	8	9	6	10	13	14	11	15	16	17	8	12	14	15	6	11	13	14	4	4	2	3
5,000	5.1	8	3	7	9	14	9	12	14	21	16	18	19	15	10	13	14	15	10	13	14	6	5	3	4
TERRACE TO VANCOUVER																									375 N.MI.
15,000	-14.7	-23	-8	-3	-1	-19	-4	-1	1	-9	5	8	9	-16	-1	3	5	-17	-2	2	4	7	5	4	5
10,000	-4.6	-13	-9	-4	-1	-9	-5	-2	-0	1	5	8	9	-6	-1	2	4	-7	-2	2	4	7	4	3	5
5,000	5.1	-6	-11	-7	-5	-2	-7	-4	-3	9	4	7	9	3	-2	1	2	1	-4	0	3	6	4	4	4
TOLEDO TO WASHINGTON, D.C.																									351 N.MI.
15,000	-14.7	-16	-2	2	4	-13	2	5	7	-3	12	13	14	-8	7	10	11	-10	5	8	10	5	5	2	4
10,000	-4.6	-8	-4	0	2	-4	1	4	6	6	11	12	13	2	6	10	11	-1	4	7	9	6	5	2	5
5,000	5.1	-2	-7	-2	1	5	-0	4	6	16	11	13	14	8	3	7	9	7	2	6	8	8	6	3	6
TORONTO TO WASHINGTON, D.C.																									313 N.MI.
15,000	-14.7	-18	-3	1	3	-14	1	4	5	-4	11	13	14	-9	6	9	11	-11	4	7	9	6	5	3	5
10,000	-4.6	-10	-5	-1	1	-5	-1	3	5	5	10	12	13	1	6	9	11	-2	2	6	8	6	5	3	5
5,000	5.1	-4	-9	-4	-1	3	-2	2	4	15	10	12	13	8	3	6	8	6	0	5	7	7	6	3	6
TORONTO TO WINDSOR																									210 N.MI.
15,000	-14.7	-22	-8	-3	-1	-18	-3	0	2	-6	9	11	12	-11	3	7	9	-14	0	4	7	7	5	3	5
10,000	-4.6	-15	-10	-6	-3	-9	-4	-0	2	3	8	10	12	-2	3	7	9	-5	-1	3	6	7	5	3	6
5,000	5.1	-9	-14	-9	-6	-0	-5	-1	1	13	8	11	12	5	-0	4	6	2	-3	2	5	7	6	4	6
TULSA TO WICHITA																									109 N.MI.
15,000	-14.7	-14	1	4	6	-9	6	8	10	-1	14	15	16	-5	9	12	13	-7	7	10	12	5	4	2	4
10,000	-4.6	-5	-0	3	5	2	6	9	11	10	15	16	17	5	10	12	14	3	8	11	12	5	5	2	4
5,000	5.1	2	-3	2	5	10	5	9	11	21	16	19	20	13	8	12	14	12	7	11	14	8	6	4	6
WASHINGTON, D.C. TO WILMINGTON, DEL.																									83 N.MI.
15,000	-14.7	-15	-0	3	5	-12	3	5	7	-3	12	13	14	-7	8	10	12	-9	5	8	10	5	4	2	4
10,000	-4.6	-7	-3	1	3	-3	1	5	6	6	11	13	13	2	7	10	11	-0	4	7	9	5	5	2	4
5,000	5.1	-1	-6	-1	2	5	0	4	6	16	11	13	14	9	4	7	9	7	2	6	8	7	6	3	5

*Δ--DIFFERENCE BETWEEN INDICATED PER CENT RELIABILITY TEMPERATURE AND INTERNATIONAL STANDARD ATMOSPHERE TEMPERATURE.

TABLE 7

AIRPORT TEMPERATURES FOR THE 0, 50, 75, 85, 95 AND 100 PER CENT PROBABILITY OF OCCURENCE BY MONTH, QUARTER, HALF YEAR AND YEAR

TABLE 7. SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
ABILENE, TEX.																			
0	10	-9	1	-9	7	25	38	7	-9	52	55	55	52	35	28	16	16	16	-9
50	46	43	48	46	55	65	72	64	55	80	83	83	82	76	66	54	65	74	64
75	56	56	60	59	67	74	80	77	70	87	90	90	89	85	76	63	77	87	81
85	61	62	65	65	72	79	84	82	76	90	93	93	93	89	80	68	82	91	87
95	72	73	75	75	83	87	92	92	88	97	99	100	99	96	88	77	92	100	97
100	89	89	90	90	97	99	104	104	104	106	107	109	109	106	100	91	106	109	109
ADM***	57	55	61	58	68	77	83	76	67	91	95	95	93	87	78	66	77	85	76
AKRON, OHIO.																			
0	-11	-14	-20	-20	-6	11	23	-6	-20	36	41	39	36	29	20	1	1	1	-20
50	30	27	28	29	37	47	59	47	38	68	72	71	70	65	55	40	53	62	50
75	40	38	40	41	48	57	68	61	53	77	80	79	79	74	62	50	66	76	66
85	45	44	45	46	53	62	72	66	59	80	84	83	83	78	66	55	71	81	73
95	54	55	56	57	65	72	81	78	74	88	91	91	92	86	75	65	83	91	87
100	68	73	71	73	82	89	94	94	94	100	102	104	104	99	89	79	99	104	104
ADM***	37	35	36	36	45	57	69	57	46	79	83	81	81	75	63	48	62	72	59
ALAMOGORDO, N. MEX.																			
0	0	-8	1	-8	10	20	30	10	-8	41	49	48	41	33	23	8	8	8	-8
50	44	42	47	44	53	61	70	61	52	78	80	79	79	73	63	49	62	70	61
75	54	53	57	56	63	71	80	74	67	87	88	87	88	82	73	59	74	84	78
85	58	58	62	61	68	75	84	79	74	91	91	90	92	86	77	63	79	90	84
95	67	67	70	69	78	84	92	89	86	99	99	98	100	93	86	72	89	99	96
100	78	79	80	80	91	96	104	104	104	109	110	108	110	102	98	84	102	110	110
ADM***	58	55	61	58	68	76	86	77	67	94	94	93	94	87	78	64	76	85	76
ALBANY, GA.																			
0	11	11	-2	-2	21	32	40	21	-2	48	60	60	48	45	32	15	15	15	-2
50	53	53	54	54	61	67	75	68	61	82	85	82	82	78	69	58	69	75	68
75	63	63	67	66	70	76	84	79	75	90	88	88	90	86	78	68	81	89	83
85	67	67	72	71	74	80	87	83	80	93	91	90	93	90	82	72	86	93	89
95	74	74	80	79	82	87	93	91	90	99	96	96	99	97	89	80	95	100	98
100	84	83	88	88	93	98	100	100	100	106	104	104	106	106	98	89	106	106	106
ADM***	63	63	65	64	72	79	87	79	71	93	93	92	92	88	81	70	80	86	79
ALBANY, N. Y.																			
0	-19	-26	-22	-26	-21	14	27	-21	-26	35	44	35	35	24	19	-11	-11	-11	-26
50	26	23	23	24	33	45	58	45	35	67	71	70	69	62	51	39	50	60	47
75	37	34	34	36	47	54	66	61	50	75	79	78	78	71	60	51	65	76	64
85	42	40	39	41	53	60	70	67	57	79	82	82	82	76	64	57	72	81	71
95	51	50	49	51	66	72	78	79	72	87	89	89	89	86	74	67	84	91	84
100	62	64	63	64	85	93	92	93	93	99	100	99	100	100	91	82	100	100	100
ADM***	34	31	32	32	42	56	69	56	44	79	83	81	81	73	62	47	61	71	57
ALBUQUERQUE, N. MEX.																			
0	7	1	-5	-5	8	19	34	8	-5	45	55	53	45	39	26	10	10	10	-5
50	36	34	40	36	46	56	65	56	46	75	79	77	77	70	58	44	57	67	57
75	44	42	50	47	56	65	73	67	59	82	85	83	85	78	66	52	69	80	71
85	47	46	54	51	60	69	77	73	65	86	88	86	88	81	70	56	74	85	77
95	56	55	62	60	69	77	86	83	78	92	95	92	95	88	77	64	84	94	89
100	68	67	72	72	81	88	98	98	98	101	104	100	104	98	87	74	98	104	104
ADM***	47	46	52	48	60	69	79	69	59	89	92	89	90	82	71	57	70	80	69
ALEXANDRIA, LA.																			
0	10	8	3	3	20	29	39	20	3	45	59	48	45	40	27	19	19	19	3
50	54	51	53	53	60	67	74	67	60	81	83	83	82	79	70	58	69	76	68
75	64	62	65	64	69	76	82	78	73	89	89	91	91	88	80	67	81	88	82
85	68	66	69	69	73	79	85	82	78	93	92	94	94	91	84	71	85	93	88
95	76	75	78	77	82	86	91	90	88	99	99	100	101	97	90	78	94	101	98
100	85	87	88	88	93	93	99	99	99	106	109	107	109	104	98	88	104	109	109
ADM***	63	61	63	62	70	78	84	78	70	91	93	93	92	90	82	68	80	86	78
ALLENTOWN, PA.																			
0	-4	-7	-12	-12	-5	20	30	-5	-12	39	46	41	39	31	21	3	3	3	-12
50	33	30	30	31	39	49	61	50	40	70	75	72	72	65	54	43	54	63	52
75	42	41	41	42	50	57	69	63	54	78	82	80	80	74	63	53	67	77	67
85	47	46	46	47	55	61	73	69	60	82	85	83	84	77	68	58	72	82	74
95	56	58	57	59	67	71	82	80	74	90	92	90	92	85	78	68	83	92	86
100	70	76	73	76	85	85	95	95	95	102	103	100	103	97	93	82	97	103	103
ADM***	41	38	39	39	48	60	72	60	50	81	85	83	83	76	66	53	65	74	62
AMARILLO, TEX.																			
0	5	-7	-14	-14	-3	14	28	-3	-14	42	53	49	42	33	25	3	3	3	-14
50	37	35	40	37	46	56	64	55	46	74	78	77	76	69	59	45	58	67	57
75	47	46	53	50	58	66	73	69	61	82	84	84	85	78	68	56	71	81	73
85	51	52	58	56	64	71	78	75	68	86	87	87	88	82	72	61	77	87	80
95	63	63	68	67	76	80	87	87	82	95	94	95	96	90	81	71	87	97	92
100	81	81	82	82	92	94	102	102	102	108	104	106	108	102	95	85	102	108	108
ADM***	51	49	54	51	61	70	78	69	60	88	92	90	90	83	73	60	72	81	71
ANCHORAGE, ALASKA.																			
0	-33	-35	-38	-38	-22	-21	1	-22	-38	31	35	31	31	19	-6	-21	-21	-21	-38
50	14	13	9	12	25	35	46	35	24	54	57	56	56	48	36	22	35	45	35
75	25	25	21	24	36	48	57	49	39	60	63	62	62	55	46	33	48	61	51
85	30	30	26	30	40	52	61	55	46	64	66	65	66	58	49	38	53	66	58
95	40	41	39	41	47	58	70	67	61	72	73	72	74	64	56	47	62	76	71
100	53	56	57	57	56	63	82	82	82	86	83	82	86	73	63	60	73	86	86
ADM***	20	20	27	23	34	44	55	44	33	63	65	64	64	56	43	29	43	53	43
ANDERSON, S. C.																			
0	2	0	3	0	11	25	31	11	0	45	55	53	45	41	22	11	11	11	0
50	45	45	46	46	53	61	70	61	53	78	80	78	79	74	64	53	63	71	62
75	55	56	57	57	63	70	79	74	67	87	86	85	87	82	74	63	76	85	77
85	60	61	61	61	68	74	83	78	73	90	89	88	91	86	78	67	81	90	83
95	68	70	70	70	78	83	91	88	84	97	97	95	98	94	86	76	91	98	94
100	80	81	82	82	93	94	101	101	101	106	108	105	108	105	97	87	105	108	108
ADM***	55	55	57	55	64	73	82	73	64	90	90	89	89	84	76	64	75	82	73

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
ANNETTE ISLAND, ALASKA.																			
0	2	2	2	2	1	21	32	1	1	39	44	43	39	37	29	12	12	12	1
50	36	35	36	36	38	43	49	43	39	54	57	58	56	53	47	41	47	52	46
75	43	41	43	43	46	49	54	54	49	60	61	63	62	58	51	48	55	61	57
85	46	43	46	45	49	52	58	58	54	63	64	65	65	61	53	50	59	66	62
95	50	46	49	49	54	60	65	66	64	71	72	71	73	67	57	56	67	74	72
100	53	47	52	53	58	73	78	78	78	86	86	81	86	77	63	63	77	86	86
ADM***	40	39	41	40	43	49	56	49	44	61	63	64	62	59	51	45	52	57	51
ASHEVILLE, N. C.																			
0	-4	-5	-6	-6	7	20	31	7	-6	40	46	45	40	35	20	1	1	1	-6
50	40	39	41	40	47	56	63	55	48	71	74	73	73	68	57	47	57	65	56
75	51	50	52	52	57	64	72	67	61	79	81	80	80	76	66	58	70	79	71
85	56	55	57	57	62	69	75	72	66	82	84	83	84	79	70	62	75	84	76
95	66	64	67	67	72	77	82	81	78	89	90	89	90	86	78	71	84	92	87
100	81	77	80	81	87	89	93	93	93	98	99	98	99	95	90	83	95	99	99
ADM***	50	49	51	50	57	67	75	66	58	82	84	83	83	79	69	57	68	76	67
ATLANTA, GA.																			
0	1	-2	-9	-9	8	25	38	8	-9	39	58	55	39	43	28	3	3	3	-9
50	45	45	47	45	53	62	70	61	53	78	80	79	79	74	63	52	63	71	62
75	55	56	59	58	63	71	78	74	68	87	85	85	88	82	72	63	77	86	78
85	59	60	64	62	68	75	81	78	74	90	88	87	91	86	76	67	82	90	84
95	66	68	71	70	76	82	88	87	84	96	94	93	97	92	84	74	91	97	93
100	75	79	79	79	87	93	97	97	97	102	103	102	103	102	95	82	102	103	103
ADM***	54	53	56	54	63	73	81	72	63	88	89	89	89	84	74	62	73	81	72
ATLANTIC CITY, N. J.																			
0	-7	-4	-9	-9	8	15	33	8	-9	45	52	48	45	37	29	10	10	10	-9
50	38	36	35	36	42	49	59	50	43	69	74	73	72	68	58	48	58	65	54
75	49	45	47	48	51	59	67	61	57	75	80	80	79	76	66	57	70	78	69
85	53	49	52	53	56	63	71	66	63	79	83	84	83	79	70	61	74	83	76
95	60	57	62	63	67	74	80	78	76	87	90	91	91	85	78	69	83	92	88
100	68	68	77	77	84	90	95	95	95	99	102	104	104	94	91	80	94	104	104
ADM***	45	42	42	43	48	56	65	57	50	75	79	79	78	74	65	55	65	71	60
AUGUSTA, GA.																			
0	7	6	3	3	14	29	40	14	3	46	55	55	46	41	22	11	11	11	3
50	48	47	49	48	56	63	72	63	56	79	81	80	80	76	65	54	65	72	64
75	57	58	60	59	66	72	79	75	69	87	88	86	88	84	75	64	78	86	78
85	62	62	64	63	70	75	83	80	74	90	91	89	91	88	79	68	83	91	84
95	70	71	73	72	80	83	90	89	85	97	97	96	98	96	87	76	93	98	94
100	81	84	84	84	93	94	100	100	100	105	106	105	106	106	97	86	106	106	106
ADM***	59	59	61	60	68	76	84	76	68	91	92	91	91	87	77	66	77	84	76
AUGUSTA, ME.																			
0	-12	-17	-21	-21	-10	12	26	-10	-21	35	47	44	35	30	23	4	4	4	-21
50	24	19	21	21	33	43	53	43	32	63	71	68	67	60	49	38	49	58	45
75	34	28	31	32	44	53	61	56	46	70	77	75	76	67	57	46	60	71	61
85	38	32	34	36	50	58	65	62	53	74	80	79	79	71	61	50	65	76	68
95	46	40	42	46	62	69	74	73	67	82	88	86	87	79	70	58	76	86	81
100	59	52	51	59	82	88	89	89	89	94	99	98	99	92	84	69	92	99	99
ADM***	32	28	30	30	42	53	64	53	41	74	82	79	78	70	59	45	58	68	55
AUSTIN, TEX.																			
0	16	-2	7	-2	18	36	43	18	-2	57	65	64	57	41	32	24	24	24	-2
50	52	50	54	52	60	68	75	68	60	82	84	85	83	79	71	59	70	77	68
75	62	62	66	65	71	76	83	79	74	88	89	90	90	88	80	68	81	89	84
85	66	67	70	70	75	80	86	83	79	90	92	92	93	91	83	72	85	93	90
95	76	75	80	80	84	87	91	90	88	96	99	98	100	97	89	80	93	101	99
100	90	85	93	93	96	98	98	98	98	103	109	106	109	103	96	91	103	109	109
ADM***	62	60	64	62	71	79	85	78	70	91	94	95	94	90	82	70	81	87	79
BAKERSFIELD, CALIF.																			
0	22	21	26	21	31	35	40	31	21	44	53	52	44	45	35	28	28	28	21
50	49	47	53	49	57	63	70	63	56	77	84	82	81	76	67	56	66	74	65
75	56	54	60	57	64	71	79	73	67	86	92	90	90	84	75	64	77	85	77
85	60	58	63	61	68	75	83	78	72	90	96	93	94	88	79	68	82	90	83
95	68	66	71	69	76	83	92	89	85	99	104	101	103	97	89	77	94	100	95
100	82	78	82	82	89	97	107	107	107	112	115	112	115	112	103	91	112	115	115
ADM***	59	57	64	60	70	76	85	77	69	93	101	99	97	92	81	70	81	89	79
BALTIMORE, MD.																			
0	4	-4	6	-4	14	25	33	14	-4	48	52	48	48	37	25	13	13	13	-4
50	36	34	35	35	43	52	63	53	44	72	76	74	74	68	57	46	57	65	55
75	44	44	43	45	51	60	71	63	56	79	83	81	81	76	65	54	68	78	69
85	49	48	48	50	55	65	75	68	63	82	86	84	84	80	69	58	73	82	75
95	59	57	59	60	65	74	83	79	75	89	92	91	91	87	78	66	84	91	86
100	74	70	76	76	79	90	95	95	95	99	102	100	102	99	92	77	99	102	102
ADM***	44	43	44	44	53	63	73	63	53	83	87	85	85	78	67	55	67	76	65
BANGOR, ME.																			
0	-27	-25	-32	-32	-13	8	23	-13	-32	29	37	29	29	24	11	-11	-11	-11	-32
50	20	14	18	17	29	40	52	40	29	61	67	65	64	57	47	35	46	55	42
75	31	24	30	29	40	49	60	54	44	70	75	74	74	67	56	46	61	71	60
85	35	29	34	34	46	54	64	59	51	74	79	78	78	71	60	50	67	77	67
95	44	39	41	44	59	65	74	71	66	83	86	87	87	82	70	60	80	87	81
100	56	54	49	56	79	84	88	88	88	98	98	100	100	99	84	72	99	100	100
ADM***	30	26	30	28	39	51	65	52	40	74	80	79	78	70	59	44	58	68	54
BATON ROUGE, LA.																			
0	19	26	24	19	28	40	44	28	19	55	66	60	55	54	32	25	25	25	19
50	54	52	56	54	60	67	74	67	60	80	81	81	80	78	70	59	69	75	67
75	62	59	64	63	68	74	81	76	71	86	85	86	87	85	78	67	79	86	79
85	66	65	67	66	71	77	84	80	75	89	87	89	90	86	81	71	83	90	83
95	73	70	74	74	78	83	90	88	85	95	92	94	95	90	87	77	89	96	92
100	82	82	85	85	87	92	98	98	98	103	99	102	103	97	94	85	97	103	103
ADM***	63	61	65	63	70	76	83	76	70	89	90	90	89	87	80	69	79	84	77

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
BEAUMONT, TEX.																			
0	20	12	13	12	24	37	49	24	12	61	66	62	61	48	38	27	27	27	12
50	56	55	57	56	62	69	76	69	63	83	84	84	84	80	72	61	71	77	70
75	65	65	67	66	72	77	83	79	74	88	89	90	89	87	80	69	81	89	83
85	69	69	71	70	76	81	85	83	79	90	91	92	92	90	83	73	85	92	88
95	76	75	77	77	84	87	90	90	87	95	96	98	98	95	90	80	93	99	97
100	86	83	84	86	95	97	95	97	97	101	103	106	106	102	98	89	102	106	106
ADM***	65	64	66	65	71	78	85	78	72	91	92	95	92	89	82	71	81	86	79
BIG MOUNTAIN, ALASKA																			
0	-51	-47	-46	-47	-27	-13	4	-27	-47	30	34	32	30	24	7	-20	-20	-20	-47
50	14	15	19	16	20	32	41	31	23	50	55	54	53	47	36	23	36	44	34
75	24	28	32	29	30	41	50	44	40	56	60	60	59	53	43	33	48	59	52
85	28	33	36	34	34	45	54	50	46	59	63	63	63	56	46	36	53	64	58
95	36	41	43	41	41	50	61	59	57	67	71	70	70	61	51	42	60	73	70
100	44	48	47	48	48	55	71	71	71	79	82	80	82	69	58	48	69	82	82
ADM***	21	22	26	23	28	39	49	39	31	59	62	61	61	54	42	29	42	51	41
BIG SPRINGS, TEXAS																			
0	8	-7	-1	-7	8	24	27	8	-7	42	51	51	42	33	25	3	3	3	-7
50	48	45	50	48	57	67	74	66	57	82	84	84	83	76	67	55	66	75	66
75	58	58	63	61	69	77	85	80	72	92	92	92	93	86	77	67	80	91	83
85	63	63	69	68	74	81	89	85	78	96	96	95	97	90	82	71	86	96	89
95	74	75	81	80	84	89	97	94	90	104	103	101	105	97	90	80	95	106	101
100	91	91	99	99	98	100	106	106	106	115	112	109	115	106	102	91	106	115	115
ADM***	62	59	65	62	73	82	88	81	72	95	97	97	96	90	81	70	80	88	80
BILLINGS, MONT.																			
0	-17	-30	-38	-38	-19	-5	14	-19	-38	32	42	40	32	26	4	-14	-14	-14	-38
50	27	23	26	25	34	46	56	45	35	64	73	71	69	60	49	36	48	59	47
75	38	36	41	40	47	59	67	61	53	73	81	79	79	69	60	47	64	76	67
85	43	41	47	46	52	65	71	67	61	77	85	83	83	74	65	52	70	82	75
95	54	53	57	56	62	76	81	80	76	87	94	91	93	84	74	61	83	93	89
100	69	68	69	69	75	92	96	96	96	102	106	104	106	100	86	71	100	106	106
ADM***	36	32	36	35	44	58	68	57	46	77	88	86	83	73	61	45	60	71	59
BINGHAMPTON, N. Y.																			
0	-22	-28	-26	-28	-11	7	23	-11	-28	51	40	34	31	25	17	10	10	10	-28
50	29	26	26	27	35	46	58	46	37	67	71	69	69	63	51	41	51	60	48
75	41	39	39	40	47	57	67	60	53	76	79	78	79	72	61	49	63	73	66
85	46	44	44	46	53	62	71	66	60	80	83	82	83	77	65	54	68	78	73
95	56	55	56	57	65	74	80	78	74	88	91	89	91	86	76	64	81	88	87
100	68	70	73	73	83	92	94	94	94	100	103	100	103	100	92	80	100	103	103
ADM***	36	34	35	35	44	56	69	56	46	78	85	80	80	74	62	48	61	71	58
BIRMINGHAM, ALA.																			
0	5	1	-10	-10	12	27	35	12	-10	46	52	51	46	39	27	5	5	5	-10
50	46	45	48	46	54	62	70	62	54	77	80	79	79	75	64	52	63	71	63
75	56	56	61	59	64	70	78	74	69	85	87	86	87	84	73	63	77	86	79
85	60	60	65	64	69	74	82	78	75	89	90	89	90	87	76	67	83	91	85
95	68	69	73	72	78	81	89	87	86	96	97	95	97	95	84	75	93	99	95
100	80	81	82	82	90	91	99	99	99	106	107	104	107	106	94	84	106	107	107
ADM***	56	56	58	57	65	74	82	74	65	89	90	90	90	86	77	64	76	83	74
BISBEE, ARIZ.																			
0	13	8	11	8	22	28	32	22	8	43	53	47	43	41	28	16	16	16	8
50	48	45	48	47	53	61	68	61	54	76	77	75	76	72	64	54	63	70	62
75	56	55	58	57	62	69	77	71	66	84	84	82	85	80	73	63	75	82	75
85	60	59	62	62	66	73	81	76	71	88	87	86	88	85	77	67	79	87	80
95	68	70	72	71	75	82	89	86	83	95	94	92	96	90	86	77	88	96	91
100	78	85	85	85	88	95	101	101	101	106	104	101	106	100	98	90	100	106	106
ADM***	60	57	61	59	67	75	83	75	67	91	90	88	90	86	78	67	77	83	75
BISMARCK, N. DAK.																			
0	-36	-44	-34	-44	-31	-2	19	-31	-44	33	59	57	33	16	6	-19	-19	-19	-44
50	16	9	13	12	27	43	55	42	27	64	72	69	69	59	46	28	44	56	42
75	28	22	25	26	41	55	65	59	45	73	81	78	78	70	57	40	60	74	62
85	34	28	31	33	48	61	70	66	54	77	85	83	83	75	62	46	67	81	71
95	45	39	43	45	61	73	81	80	72	85	94	93	93	86	75	57	82	94	87
100	60	54	62	62	81	92	98	98	98	99	107	109	109	103	95	73	103	109	109
ADM***	26	20	23	23	37	55	67	53	38	76	86	83	82	72	59	38	56	69	53
BOISE, IDAHO.																			
0	-1	-17	-10	-17	10	21	27	10	-17	34	41	41	34	27	20	-3	-3	-3	-17
50	31	27	34	31	42	50	58	50	40	65	75	73	71	62	53	40	52	61	51
75	39	38	44	42	50	58	67	61	55	74	83	81	80	72	61	50	65	76	67
85	43	42	48	47	54	63	71	66	61	79	87	85	85	76	65	54	71	82	75
95	51	51	56	55	63	74	80	77	75	90	95	93	95	87	74	62	84	94	89
100	62	63	66	66	76	92	95	95	95	109	106	105	109	102	88	75	102	109	109
ADM***	38	35	42	38	52	62	71	62	50	79	91	88	86	77	65	49	63	75	62
BOSTON, MASS.																			
0	-17	-15	-18	-18	-8	11	31	-8	-18	41	50	46	41	34	25	-2	-2	-2	-18
50	35	29	29	30	38	47	58	48	39	67	72	72	70	64	55	44	55	62	51
75	45	40	41	42	50	57	66	61	54	74	79	78	78	73	63	56	68	77	67
85	49	45	46	47	55	62	70	67	61	78	82	82	82	77	67	61	74	83	74
95	58	56	55	58	68	72	80	80	75	87	90	89	91	87	76	70	86	93	87
100	69	72	68	72	86	89	97	97	97	100	104	101	104	102	90	83	102	104	104
ADM***	40	37	37	38	45	55	66	55	47	76	80	79	78	73	63	52	62	70	58
BOWLING GREEN, KY.																			
0	-2	-11	-17	-17	2	19	31	2	-17	39	46	41	39	28	19	-7	-7	-7	-17
50	40	39	40	40	49	58	67	58	49	77	79	78	78	71	60	48	60	69	59
75	50	51	54	53	60	68	76	71	65	86	88	87	88	82	70	61	75	86	77
85	54	56	59	58	66	73	80	77	71	90	92	91	92	86	75	66	81	92	84
95	63	65	68	67	76	82	89	87	84	98	100	99	101	94	83	76	92	102	97
100	76	78	79	79	92	96	100	100	100	108	113	110	113	105	94	88	105	113	113
ADM***	49	48	50	49	60	70	80	70	59	89	91	89	90	84	73	58	71	81	70

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
BOZEMAN, MONT.																			
0	-35	-36	-43	-43	-27	-10	15	-27	-43	26	29	26	26	12	-4	-15	-15	-15	-43
50	25	20	23	23	30	43	51	41	32	57	66	65	63	56	46	32	44	54	43
75	38	33	39	38	44	55	61	58	50	66	76	75	73	67	58	43	59	70	64
85	43	39	44	43	49	60	66	64	58	71	80	81	79	72	63	48	66	78	72
95	52	50	54	54	60	70	77	77	73	82	90	93	91	82	72	58	79	92	89
100	62	65	66	66	75	82	94	94	94	99	104	112	112	97	85	71	97	112	112
ADM***	34	30	33	32	41	55	64	53	43	70	81	80	77	70	58	42	56	67	55
BRISTOL, TENN.																			
0	2	-10	-2	-10	3	20	30	3	-10	41	45	46	41	33	21	5	5	5	-10
50	39	39	40	39	47	56	64	56	47	72	75	74	74	69	58	46	57	65	56
75	48	50	51	51	58	65	73	68	61	80	82	80	82	77	67	56	70	79	72
85	53	55	55	56	62	70	76	73	67	83	86	83	85	81	72	60	75	84	78
95	63	65	65	66	72	79	84	82	79	90	92	90	92	89	81	68	86	93	89
100	78	79	79	79	85	93	94	94	94	99	102	98	102	100	95	80	100	102	102
ADM***	49	49	50	49	58	68	77	68	58	84	86	85	85	81	71	58	70	77	68
BROWNSVILLE, TEXAS.																			
0	29	23	22	22	32	45	53	32	22	49	68	68	49	55	43	37	37	37	22
50	52	61	64	62	68	74	79	74	68	83	84	84	83	81	76	68	75	79	74
75	70	69	74	72	77	81	85	83	79	90	88	88	91	88	83	75	84	89	85
85	74	73	78	76	81	84	88	87	83	93	90	90	94	91	86	79	88	92	89
95	80	79	85	84	88	91	93	93	91	97	95	94	98	96	90	85	95	98	96
100	88	87	94	94	99	100	100	100	100	101	105	100	103	104	95	94	104	104	104
ADM***	72	70	73	72	77	82	87	82	77	91	93	93	92	90	86	77	84	88	83
BRUNSWICK, GA.																			
0	19	17	13	13	24	35	44	24	13	57	63	63	57	51	38	21	21	21	13
50	52	52	53	52	59	67	74	67	59	81	82	81	81	77	68	58	68	74	67
75	60	61	63	62	69	74	82	77	71	87	87	86	87	83	75	67	79	86	79
85	64	65	67	66	73	78	85	81	76	89	89	88	90	86	79	71	83	90	84
95	72	72	75	74	83	84	91	89	86	95	95	94	96	92	86	79	91	97	93
100	84	83	86	86	99	94	100	100	100	104	104	103	104	101	95	89	101	104	104
ADM***	66	66	67	66	72	78	85	78	72	91	92	91	91	87	80	72	79	85	79
BUFFALO, N. Y.																			
0	-9	-14	-21	-21	-4	5	25	-4	-21	35	43	43	35	32	24	2	2	2	-21
50	29	26	25	26	33	44	55	44	35	66	71	69	68	62	51	40	51	60	47
75	39	36	36	38	43	54	64	57	50	73	78	76	77	71	59	50	64	73	64
85	44	42	41	44	49	59	68	63	57	77	81	79	80	75	64	54	69	78	70
95	54	53	52	55	61	70	78	75	72	85	87	87	88	84	74	63	81	88	83
100	70	72	68	72	81	87	94	94	94	97	96	99	99	98	92	76	98	99	99
ADM***	35	32	32	33	41	53	66	53	43	76	81	79	79	73	60	47	60	69	56
BURBANK, CALIF.																			
0	27	21	25	21	32	33	36	32	21	43	47	47	43	43	33	26	26	26	21
50	55	53	54	54	57	61	64	60	57	68	73	74	71	71	65	60	65	68	63
75	62	61	62	63	64	68	72	69	67	75	81	81	80	79	74	69	76	79	74
85	66	65	66	67	68	72	77	74	73	79	85	86	84	84	78	73	81	84	80
95	76	74	76	76	76	81	87	86	85	88	94	95	94	94	88	82	93	95	92
100	90	87	91	91	90	96	105	105	105	103	108	111	111	111	103	95	111	111	111
ADM***	67	65	66	66	69	73	76	72	69	80	87	88	85	86	79	74	80	82	76
BURLINGTON, VT.																			
0	-29	-30	-28	-30	-24	5	25	-24	-30	33	43	38	33	25	17	-3	-3	-3	-30
50	23	18	18	20	29	42	55	42	31	66	70	68	68	60	48	36	48	58	45
75	36	30	30	32	43	52	64	58	47	74	78	76	77	69	57	46	61	72	62
85	41	35	35	38	50	57	68	64	54	77	81	80	81	73	61	51	67	78	69
95	52	47	45	50	63	69	77	77	69	85	89	88	89	82	70	61	78	88	83
100	67	63	60	67	84	86	92	92	92	96	100	101	101	95	85	75	95	101	101
ADM***	31	28	28	29	39	53	67	53	41	78	82	80	80	71	59	44	58	69	55
BUTTE, MONT.																			
0	-37	-48	-52	-52	-36	-13	12	-36	-52	23	29	27	23	12	-19	-34	-34	-34	-52
50	19	14	19	17	27	38	47	37	27	55	62	60	59	50	41	28	40	49	38
75	32	28	35	33	41	51	56	55	46	63	71	69	69	60	55	42	57	68	59
85	37	34	40	39	46	56	61	61	54	68	76	75	73	65	60	48	64	75	67
95	48	43	50	50	55	66	72	73	69	77	85	83	84	75	71	57	76	87	82
100	62	54	60	62	64	79	88	88	88	93	100	99	100	91	83	68	91	100	100
ADM***	31	28	33	31	40	51	61	51	41	69	80	78	75	66	55	41	54	65	53
CALGARY, ALBERTA, CANADA.																			
0	-45	-48	-49	-49	-35	-14	12	-35	-49	26	32	28	26	8	-8	-31	-31	-31	-49
50	19	13	17	16	26	40	50	38	27	56	62	60	59	51	42	28	40	49	38
75	34	28	33	32	40	53	59	55	46	64	70	68	68	61	54	41	56	67	59
85	40	34	39	38	46	59	64	62	54	69	74	72	72	66	59	47	63	74	66
95	52	45	51	51	59	70	74	75	69	79	83	82	82	76	70	58	75	85	80
100	67	61	66	67	75	85	90	90	90	95	97	96	97	90	85	71	90	97	97
ADM***	29	24	28	27	37	53	63	51	39	69	76	74	73	64	54	38	52	63	51
CARLSBAD, N. MEX.																			
0	-2	-7	-17	-17	8	23	31	8	-17	42	52	49	42	33	22	2	2	2	-17
50	46	44	49	46	55	64	72	64	55	80	82	81	81	75	65	52	64	72	64
75	57	56	65	61	67	74	82	77	72	89	89	89	91	84	76	64	78	88	82
85	62	62	71	68	72	78	86	83	79	93	93	93	94	88	80	70	84	94	88
95	72	73	84	82	83	87	95	93	92	101	100	100	102	96	89	81	94	103	100
100	86	88	100	100	98	100	108	108	108	112	110	110	112	106	101	97	106	112	112
ADM***	61	59	65	62	72	81	89	81	71	96	97	96	96	89	81	68	79	88	80
CASPER, WYOMING.																			
0	-17	-40	-23	-40	-16	-3	16	-16	-40	28	39	36	28	15	11	-20	-20	-20	-40
50	26	22	26	25	32	43	53	43	34	62	71	69	67	58	46	33	46	57	45
75	36	36	38	39	44	54	63	57	51	71	79	77	77	69	56	46	62	74	65
85	40	41	42	44	49	59	67	63	58	76	85	81	82	73	60	50	68	80	73
95	48	49	51	53	59	68	76	74	72	86	92	88	91	82	70	58	80	92	87
100	59	57	63	63	73	81	89	89	89	101	104	99	104	95	85	68	95	104	104
ADM***	35	32	36	34	44	56	67	55	45	77	86	83	82	72	58	43	58	70	57

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
CEDAR RAPIDS, IOWA																			
0	-20	-25	-24	-25	-12	12	26	-12	-25	36	44	38	36	23	15	-2	-2	-2	-25
50	26	22	25	24	36	49	61	49	36	70	75	73	73	65	54	38	52	62	49
75	37	33	37	36	48	59	70	64	53	79	83	81	82	75	63	48	65	77	67
85	42	38	42	41	54	64	75	70	61	83	87	86	86	79	68	52	71	83	75
95	52	48	51	51	66	75	86	84	78	91	96	95	96	88	77	62	83	95	89
100	65	61	64	65	85	91	104	104	104	103	109	108	109	99	91	77	99	109	109
ADM***	34	31	34	33	45	61	72	59	46	81	87	84	84	76	65	47	63	73	60
CHARLESTON, S. C.																			
0	12	10	7	7	24	32	45	24	7	49	61	62	49	49	37	17	17	17	7
50	52	51	53	52	58	66	73	66	59	80	82	81	81	78	68	59	68	74	67
75	62	61	63	62	67	74	80	76	71	87	87	86	88	85	76	68	80	87	80
85	65	65	67	66	71	77	83	80	76	90	90	89	91	87	79	71	84	91	85
95	72	73	74	74	80	84	90	88	86	96	95	94	97	93	86	77	92	98	94
100	81	82	82	82	94	93	99	99	99	104	104	102	104	100	95	84	100	104	104
ADM***	60	59	60	60	66	73	80	73	66	86	88	87	87	84	75	66	75	81	74
CHARLESTON, W. VA.																			
0	-17	-9	-11	-17	2	18	31	2	-17	39	46	47	39	33	18	6	6	6	-17
50	38	36	38	38	45	55	64	55	46	72	75	74	74	69	57	46	57	65	56
75	51	48	50	51	56	65	72	67	61	80	83	81	83	78	67	56	70	79	73
85	56	53	55	56	62	70	76	73	68	84	87	85	87	82	72	61	76	85	80
95	66	65	66	67	74	80	85	83	81	93	95	94	95	91	82	72	87	95	92
100	79	81	80	81	92	96	98	98	98	105	108	108	108	104	96	88	104	108	108
ADM***	48	46	49	47	57	68	77	67	57	85	87	86	86	81	71	57	70	78	68
CHARLOTTE, N. C.																			
0	-5	-1	-5	-5	14	24	37	14	-5	45	55	53	45	38	26	14	14	14	-5
50	43	42	44	43	51	60	68	60	51	77	79	77	77	73	62	50	61	69	60
75	54	53	56	55	61	69	76	71	65	84	85	84	85	81	71	60	73	82	76
85	59	57	61	60	65	73	80	76	71	88	88	87	89	85	75	64	79	87	81
95	68	67	70	69	76	82	87	85	82	94	94	93	95	93	84	72	89	95	92
100	79	79	82	82	91	96	98	98	98	103	103	103	103	104	98	85	104	104	104
ADM***	53	52	55	53	62	71	80	71	62	88	89	87	88	83	73	61	73	80	71
CHATTANOOGA, TENN.																			
0	3	-7	-10	-10	2	25	36	2	-10	59	54	50	39	37	22	4	4	4	-10
50	42	42	44	43	51	60	68	59	51	76	78	77	77	73	61	49	61	69	60
75	52	53	56	55	62	69	76	73	66	85	85	84	86	81	70	60	74	83	76
85	56	58	61	60	67	73	80	78	72	88	88	88	90	85	74	64	80	89	82
95	65	67	69	68	77	81	87	87	83	95	95	95	97	93	83	72	90	97	93
100	78	78	79	79	89	93	99	99	99	104	106	105	106	104	94	83	104	106	106
ADM***	52	52	55	53	62	72	80	71	62	88	90	89	89	85	74	61	73	81	71
CHEYENNE, WYO.																			
0	-16	-27	-34	-34	-21	-6	16	-21	-34	25	38	37	25	18	2	-12	-12	-12	-34
50	29	26	28	27	32	41	50	41	34	60	68	67	65	57	46	35	46	56	45
75	40	38	42	42	44	52	59	56	51	70	76	74	75	67	57	46	60	71	63
85	45	43	48	47	50	57	64	62	57	74	80	78	79	71	62	51	66	77	70
95	55	52	58	57	60	66	74	74	71	84	88	85	88	80	70	61	77	88	84
100	69	63	70	70	73	78	89	89	89	100	100	96	100	92	82	73	92	100	100
ADM***	40	37	40	39	44	54	63	53	46	74	83	81	79	72	60	47	59	69	58
CHICAGO, ILL.																			
0	-12	-15	-15	-15	-7	19	30	-7	-15	35	49	46	35	36	20	-2	-2	-2	-15
50	28	25	27	27	37	48	59	48	37	69	75	73	72	66	54	40	53	63	50
75	38	35	38	38	48	56	67	62	51	78	81	80	81	74	63	50	67	77	66
85	43	40	43	43	54	60	71	67	58	82	85	84	85	78	67	55	73	83	73
95	52	51	54	53	65	69	80	79	72	91	92	90	93	87	77	66	84	93	86
100	65	67	69	69	82	84	94	94	94	104	103	101	104	101	91	81	101	104	104
ADM***	35	33	35	34	45	58	70	57	46	80	85	83	83	76	64	48	63	73	59
CINCINNATI, OHIO.																			
0	-13	-17	-9	-17	6	18	32	6	-17	40	50	43	40	32	20	1	1	1	-17
50	35	33	35	34	43	54	64	53	44	73	77	75	75	69	57	45	57	66	55
75	46	45	46	47	53	63	72	65	59	81	84	83	84	78	67	55	70	81	72
85	51	51	51	52	59	67	75	70	65	85	88	86	88	82	71	60	76	86	79
95	60	62	61	63	70	76	83	81	78	92	96	93	96	90	80	70	87	97	92
100	71	77	76	77	88	90	95	95	95	102	109	103	109	101	92	83	101	109	109
ADM***	42	41	43	42	53	64	74	64	53	83	87	85	85	80	68	53	67	76	64
CLEVELAND, OHIO.																			
0	-9	-9	-8	-9	-5	19	29	-5	-9	38	46	44	38	32	25	7	7	7	-9
50	31	29	29	29	37	47	59	48	39	69	74	72	72	66	54	42	54	63	51
75	41	39	38	40	48	56	67	61	51	77	81	79	80	74	62	51	66	76	65
85	46	44	43	45	53	60	71	66	57	81	84	83	84	78	67	56	72	81	72
95	55	55	53	56	65	71	79	77	71	89	92	90	92	87	76	66	83	91	85
100	69	73	69	73	83	88	92	92	92	101	103	102	103	101	90	82	101	103	103
ADM***	38	36	36	37	45	57	70	57	47	80	85	83	83	76	64	49	63	73	60
COLLEGE STATION, TEXAS.																			
0	14	-3	5	-3	17	21	43	17	-3	53	52	41	41	42	29	20	20	20	-3
50	54	52	55	54	61	68	75	68	61	82	85	85	84	80	72	60	70	77	69
75	64	65	67	67	71	79	83	80	75	89	92	95	94	88	82	70	82	90	85
85	68	70	71	71	76	82	86	84	81	93	96	98	97	92	86	74	87	94	91
95	77	78	80	80	84	89	93	92	90	99	102	104	103	98	93	82	95	102	100
100	89	88	90	90	96	96	101	101	101	108	110	110	110	105	102	94	105	110	110
ADM***	64	62	65	64	72	79	86	79	71	93	96	97	95	91	84	72	82	89	80
COLORADO SPRINGS, COLO.																			
0	-4	-26	-27	-27	-11	0	21	-11	-27	32	42	43	32	29	17	-8	-8	-8	-27
50	32	29	32	31	37	47	55	46	38	66	71	70	69	62	51	39	51	60	49
75	41	42	45	45	48	58	64	60	54	74	79	77	78	70	60	50	65	75	67
85	47	47	51	50	53	62	68	65	60	78	82	80	82	74	64	55	70	81	73
95	58	57	60	62	62	70	76	75	72	87	89	88	89	81	72	63	80	90	86
100	77	69	72	77	73	81	88	88	88	100	100	99	100	92	83	73	92	100	100
ADM***	44	41	44	43	49	59	68	58	51	79	85	83	82	75	65	52	64	73	62

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
COLUMBIA, S. C.																			
0	8	6	-2	-2	17	28	38	17	-2	47	54	54	47	42	23	16	16	16	-2
50	47	47	49	48	55	64	72	63	55	80	81	80	80	76	65	54	65	73	64
75	57	57	60	59	65	72	80	75	69	87	88	87	88	84	75	63	77	85	79
85	61	61	65	64	70	76	84	80	75	91	91	90	92	88	80	68	82	90	85
95	69	70	73	72	79	84	91	89	87	98	98	96	98	95	89	76	92	98	95
100	81	82	83	83	93	96	102	102	102	107	107	106	107	106	101	88	106	107	107
ADM***	58	58	60	59	67	76	84	76	67	91	92	90	91	87	77	66	77	84	76
COLUMBUS, GA.																			
0	15	13	12	12	21	28	42	21	12	44	59	57	44	44	24	10	10	10	10
50	48	47	50	48	55	63	72	63	56	79	81	80	80	76	66	54	65	73	64
75	56	56	59	57	63	72	79	74	67	87	87	86	88	84	76	65	78	86	77
85	60	61	63	62	67	75	82	78	72	90	89	88	91	87	80	69	82	91	82
95	68	70	70	70	75	82	89	86	82	96	95	93	97	92	87	76	90	98	92
100	79	83	81	83	87	91	97	97	97	103	104	100	104	99	96	85	99	104	104
ADM***	58	58	61	59	67	76	84	76	67	90	91	90	91	87	78	67	77	84	76
COLUMBUS, OHIO.																			
0	-14	-20	-20	-20	-1	15	28	-1	-20	39	44	42	39	31	17	-5	-5	-5	-20
50	32	30	31	31	40	50	61	50	41	71	74	72	72	67	55	42	54	63	52
75	43	42	44	43	51	60	69	63	56	79	82	80	81	75	64	53	68	79	69
85	48	47	49	49	56	64	74	69	62	83	86	84	85	80	68	58	74	85	76
95	57	59	59	59	67	74	82	80	76	90	94	92	94	88	78	67	85	95	89
100	70	74	73	74	85	90	96	96	96	102	106	103	106	100	91	80	100	106	106
ADM***	39	38	40	39	50	61	73	61	50	82	86	84	84	78	66	51	65	75	62
COMOX, B.C., CANADA																			
0	12	-6	3	-6	7	24	27	7	-6	38	41	40	38	31	26	14	14	14	-6
50	38	36	38	38	42	47	54	47	42	59	63	62	61	57	49	42	49	55	49
75	45	45	46	47	50	52	61	58	55	65	69	68	68	64	54	49	59	66	62
85	47	48	49	50	53	55	65	63	60	69	73	72	72	68	57	52	63	70	68
95	53	53	53	55	58	62	74	73	72	77	81	79	80	75	63	57	73	80	79
100	60	57	57	60	64	71	88	88	88	90	94	90	94	87	72	64	87	94	94
ADM***	43	41	44	43	49	55	63	55	49	68	73	72	71	67	56	48	57	64	57
CONCORD, N. H.																			
0	-24	-35	-37	-37	-16	7	21	-16	-37	32	38	33	32	20	16	-17	-17	-17	-37
50	24	20	21	22	32	43	55	43	32	64	69	67	67	59	48	37	48	57	45
75	36	34	35	36	45	53	64	58	50	73	77	75	75	69	57	50	63	74	64
85	41	40	41	42	51	59	69	65	58	77	81	79	80	73	62	55	70	80	71
95	51	53	53	55	64	71	80	78	74	86	89	88	89	83	74	66	82	91	85
100	65	72	68	72	85	92	98	98	98	101	102	100	102	98	92	80	98	102	102
ADM***	34	32	33	33	43	56	69	56	44	78	83	80	80	72	62	48	61	70	57
CORPUS CHRISTI, TEXAS.																			
0	24	18	18	18	28	39	50	28	18	61	68	65	61	50	40	30	30	30	18
50	59	57	60	59	65	72	77	71	65	82	84	84	83	81	75	65	73	78	72
75	67	66	71	69	74	80	84	82	76	87	88	89	89	88	82	73	83	89	84
85	71	70	75	74	78	84	87	86	81	90	91	91	91	91	86	77	87	93	88
95	78	77	85	84	85	91	92	93	90	94	96	95	97	96	91	85	94	99	96
100	88	86	98	98	94	102	98	102	102	100	104	102	104	102	98	95	102	104	104
ADM***	68	66	70	68	75	80	86	80	74	90	93	93	92	89	84	75	83	87	81
CRANBROOK, B. C., CANADA.																			
0	-22	-41	-35	-41	-21	-4	13	-21	-41	27	31	29	27	16	10	-18	-18	-18	-41
50	20	17	22	19	33	43	51	42	31	58	64	61	61	52	42	29	41	51	41
75	30	30	34	33	45	54	61	57	48	67	72	69	70	62	51	40	56	67	60
85	34	35	38	38	50	59	65	63	55	71	77	74	75	66	55	44	62	74	68
95	43	45	45	46	58	70	74	73	69	82	87	82	85	77	66	52	75	86	83
100	56	56	52	56	69	86	87	87	87	98	102	96	102	93	82	61	93	102	102
ADM***	27	25	32	28	43	56	66	55	42	74	81	79	78	67	54	37	53	65	53
DALLAS, TEXAS.																			
0	12	2	7	2	11	31	39	11	2	53	61	61	53	36	30	17	17	17	2
50	48	46	50	48	57	66	74	66	57	82	86	86	84	79	69	56	68	76	66
75	58	57	60	59	69	75	82	78	70	89	92	92	92	89	78	65	80	89	81
85	63	62	65	64	74	79	85	85	75	92	95	95	95	92	82	69	85	94	87
95	73	73	75	75	83	86	91	91	86	97	101	101	102	98	89	78	94	102	98
100	89	88	88	89	96	96	99	99	99	105	111	109	111	105	99	89	105	111	111
ADM***	58	55	60	58	68	77	84	76	67	92	95	96	94	89	80	66	78	86	77
DAWSON CITY, Y. T., CANADA																			
0	-65	-68	-75	-73	-50	-33	9	-50	-73	25	29	17	17	8	-23	-49	-49	-49	-73
50	-14	-21	-12	-16	4	29	47	26	5	57	60	55	57	42	26	2	23	40	23
75	0	-8	4	0	17	43	56	45	26	65	68	64	67	51	38	14	40	60	45
85	8	-2	11	8	25	48	61	52	35	69	72	68	72	55	43	21	47	68	55
95	26	15	26	26	35	58	71	66	55	78	81	76	81	65	54	33	61	81	72
100	55	55	48	55	52	69	85	85	85	91	95	88	95	79	68	52	79	95	95
ADM***	-8	-14	-4	-9	16	41	59	39	15	70	73	67	70	52	33	7	31	50	33
DAYTON, OHIO.																			
0	-15	-16	-16	-16	-4	18	27	-4	-16	40	49	42	40	31	21	0	0	0	-16
50	32	30	31	31	40	51	61	50	41	71	75	73	73	67	55	42	55	64	52
75	43	41	43	43	51	59	70	63	55	79	82	81	81	76	64	52	68	78	69
85	48	46	48	48	56	64	75	69	61	82	86	84	85	80	68	57	74	84	75
95	57	56	58	58	68	74	81	79	74	89	94	92	94	89	76	66	85	94	89
100	70	71	72	72	84	89	93	93	93	99	106	103	106	101	89	79	101	106	106
ADM***	39	37	39	38	49	61	71	60	49	81	85	83	83	77	65	50	64	74	61
DAYTONA BEACH, FLORIDA.																			
0	24	18	24	18	29	32	40	29	18	57	63	65	57	52	39	25	25	25	18
50	61	60	61	60	64	69	74	69	65	79	81	81	80	79	73	65	73	76	71
75	69	69	69	70	72	77	83	79	76	85	85	85	86	86	81	74	83	88	82
85	72	74	73	74	76	81	86	83	80	88	88	88	89	88	84	77	87	91	87
95	78	82	80	82	83	86	92	90	89	93	92	93	94	93	89	83	93	97	94
100	86	92	89	92	92	93	100	100	100	102	99	101	102	99	94	89	99	102	102
ADM***	70	69	71	70	74	80	85	80	75	89	90	90	89	87	82	74	81	85	80

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
DENVER, COLORADO.																			
0	-11	-24	-30	-30	-11	6	22	-11	-30	30	43	41	30	24	8	-8	-8	-8	-30
50	32	29	32	31	38	48	56	47	39	66	73	71	70	63	52	39	51	61	50
75	43	42	47	45	50	58	66	61	56	76	81	79	80	72	62	51	65	76	68
85	48	47	52	51	55	62	70	67	63	80	84	83	84	76	67	56	71	82	75
95	58	58	63	62	65	71	80	80	77	90	92	90	93	84	76	66	81	92	88
100	74	72	76	76	80	84	96	96	96	104	104	101	104	95	88	79	95	104	104
ADM***	45	42	45	44	51	61	69	60	52	81	87	85	84	77	66	53	65	75	63
DES MOINES, IOWA.																			
0	-15	-21	-15	-21	-12	17	30	-12	-21	38	49	40	38	26	16	-1	-1	-1	-21
50	26	22	26	25	37	50	61	50	37	71	76	74	74	66	55	38	53	63	50
75	37	33	37	36	49	59	69	64	52	79	83	82	82	76	64	48	66	78	67
85	42	38	42	42	55	64	73	70	59	82	87	86	86	80	69	53	72	83	74
95	53	48	52	53	66	73	82	81	73	90	94	93	94	89	78	62	84	93	88
100	69	62	68	69	82	88	94	94	94	100	105	102	105	101	92	76	101	105	105
ADM***	34	31	35	33	46	61	72	59	46	80	87	84	84	76	65	47	63	73	60
DETROIT, MICHIGAN.																			
0	-3	-9	-16	-16	-1	14	30	-1	-16	38	48	43	38	32	25	7	7	7	-16
50	30	26	27	27	35	46	58	46	37	68	73	71	71	64	53	40	52	62	49
75	38	36	38	38	45	55	66	59	51	76	80	79	79	73	61	49	64	75	65
85	42	40	43	43	51	60	70	64	57	80	84	82	85	77	65	54	70	80	72
95	51	51	53	53	63	70	79	76	72	90	92	90	92	86	74	64	82	91	86
100	64	67	68	68	82	87	93	93	93	104	105	101	105	100	89	81	100	105	105
ADM***	36	33	34	34	43	56	68	56	45	78	84	81	81	74	62	47	61	71	58
DOTHAN, ALA.																			
0	18	12	12	12	21	31	45	21	12	59	62	60	59	47	30	17	17	17	12
50	52	52	54	53	59	67	75	67	60	81	81	81	81	77	68	57	67	74	67
75	60	62	64	63	68	76	83	78	72	87	86	87	87	84	77	67	79	87	80
85	64	66	68	66	72	79	86	83	77	90	89	89	90	87	81	71	83	91	85
95	72	73	75	74	79	86	93	92	88	95	95	95	95	93	87	78	91	98	94
100	82	83	84	84	88	95	104	104	104	104	103	103	104	100	95	88	100	104	104
ADM***	63	63	65	64	71	79	87	79	71	92	92	92	92	87	81	69	79	86	78
EASTON, PA.																			
0	-8	-10	-3	-10	6	20	28	6	-10	39	48	43	39	30	24	11	11	11	-10
50	31	29	29	29	38	49	61	49	39	70	74	72	72	65	53	42	53	63	51
75	41	39	38	40	47	57	69	60	52	77	81	79	80	74	61	51	64	75	66
85	46	44	43	45	53	61	73	65	58	81	84	83	84	78	66	55	70	80	72
95	56	55	54	56	65	71	80	76	72	88	91	90	91	86	75	65	81	90	85
100	70	72	72	72	86	87	92	92	92	99	102	100	102	99	90	81	99	102	102
ADM***	39	37	37	37	48	60	72	60	49	81	86	83	83	76	65	51	64	73	61
EDMONTON, ALBERTA, CANADA																			
0	-55	-57	-57	-57	-40	-15	10	-40	-57	25	29	26	25	11	-15	-44	-44	-44	-57
50	12	8	11	10	23	40	52	38	24	58	63	60	60	51	41	24	39	49	37
75	27	23	27	26	39	53	62	57	44	67	72	68	69	61	54	40	57	70	58
85	34	29	34	33	45	59	68	64	53	72	76	73	74	65	59	47	64	77	67
95	46	41	46	45	57	72	78	77	70	82	85	82	84	75	73	59	76	88	81
100	61	57	62	62	72	90	94	94	94	99	98	96	99	90	85	74	90	99	99
ADM***	20	17	21	19	33	51	64	49	34	70	75	72	72	63	52	33	49	61	47
ELKO, NEVADA.																			
0	-38	-43	-37	-43	-9	-2	15	-9	-43	23	30	24	23	9	9	-12	-12	-12	-43
50	27	22	28	26	36	45	53	45	35	60	70	68	66	58	47	35	47	56	46
75	41	36	43	41	47	56	63	58	54	70	80	78	77	70	57	46	61	72	66
85	46	41	48	47	52	61	67	64	61	75	84	83	81	75	62	50	68	78	74
95	55	50	57	57	61	70	77	75	75	85	93	91	91	85	72	60	81	90	88
100	64	58	67	67	73	82	92	92	92	101	104	103	104	99	86	72	99	104	104
ADM***	39	35	40	38	49	60	71	60	49	79	91	89	86	79	66	49	65	76	62
ELMIRA, N. Y.																			
0	-9	-13	-18	-18	-3	6	21	-3	-18	32	41	35	32	23	18	3	3	3	-18
50	30	28	27	28	35	47	59	47	38	68	72	70	70	63	52	41	52	61	49
75	40	39	38	40	46	58	69	60	52	77	80	79	79	73	61	51	64	75	66
85	44	44	43	45	52	63	73	66	59	81	84	82	84	77	66	56	70	80	72
95	53	55	53	56	65	73	82	78	73	90	92	90	92	87	76	68	83	91	86
100	66	72	67	72	86	89	95	95	95	102	104	102	104	102	93	87	102	104	104
ADM***	37	36	36	36	44	57	71	57	47	80	85	82	82	74	63	49	62	72	59
EL PASO, TEXAS.																			
0	5	-6	8	-6	18	28	38	18	-6	50	60	59	50	41	32	16	16	16	-6
50	45	43	49	46	55	63	72	63	54	80	81	80	80	75	65	52	64	72	63
75	54	55	59	58	64	72	80	74	69	88	87	85	88	83	73	61	76	85	79
85	58	59	63	62	68	76	84	79	75	91	90	88	91	87	77	65	81	90	85
95	65	66	71	71	76	84	92	90	88	98	97	94	98	94	84	73	90	98	95
100	75	75	81	81	88	95	104	104	104	107	107	103	107	103	93	84	103	107	107
ADM***	57	56	62	58	68	77	85	77	68	94	94	92	93	87	78	66	77	85	76
ELY, NEVADA.																			
0	-22	-27	-25	-27	-13	6	7	-13	-27	19	30	27	19	16	8	-9	-9	-9	-27
50	27	23	28	26	35	44	52	44	35	60	68	66	65	58	47	35	47	56	45
75	39	35	40	39	47	55	62	57	50	70	77	76	76	68	57	46	60	71	62
85	43	41	45	44	51	57	67	63	56	75	81	79	80	72	61	50	66	76	69
95	53	52	54	54	59	65	76	73	69	85	88	86	88	81	69	59	77	87	82
100	65	68	65	68	69	77	87	87	87	99	96	95	99	93	81	71	93	99	99
ADM***	41	37	41	40	49	59	69	59	50	79	89	86	85	77	64	51	64	74	62
EUGENE, OREGON.																			
0	16	-4	-3	-4	20	27	28	20	-4	35	39	38	35	32	24	14	14	14	-4
50	41	38	43	40	47	51	56	51	46	61	67	66	65	61	53	45	53	59	52
75	47	48	53	51	54	58	64	60	58	69	75	74	73	69	61	53	64	70	67
85	50	51	57	54	57	62	68	65	64	73	79	78	78	74	64	56	69	76	73
95	56	57	63	61	64	71	77	75	75	83	89	86	88	84	73	62	82	88	86
100	65	63	69	69	74	86	91	91	91	100	105	100	105	101	87	71	101	105	105
ADM***	47	45	50	47	54	62	67	62	55	75	82	82	80	76	64	53	64	72	63

*1Q1--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
EVANSVILLE, IND.																			
0	0	-15	-23	-23	1	24	33	1	-23	41	47	46	41	31	21	-3	-3	-3	-23
50	37	35	38	36	47	57	66	56	46	75	78	76	76	71	59	46	59	67	57
75	46	47	51	50	58	66	74	69	62	83	86	84	85	80	69	58	73	83	75
85	51	52	56	55	62	69	77	74	69	87	89	87	89	84	73	62	79	88	81
95	61	62	64	65	71	77	84	83	80	94	96	93	96	92	82	71	90	97	93
100	75	76	73	76	83	89	94	94	94	104	105	102	105	103	94	82	103	105	105
ADM***	46	43	47	45	57	68	77	67	56	85	89	87	87	82	71	56	69	78	67
FAIRBANKS, ALASKA.																			
0	-59	-66	-58	-66	-49	-52	0	-49	-66	30	34	23	23	12	-28	-41	-41	-41	-66
50	-9	-10	-3	-7	9	29	47	28	11	59	61	56	59	45	28	3	25	42	26
75	5	4	11	8	23	43	59	47	30	67	68	64	68	54	40	15	42	61	48
85	13	11	17	16	29	48	64	55	40	71	72	68	72	58	45	21	49	67	56
95	30	24	31	33	40	58	75	70	60	79	80	76	80	68	54	34	63	80	73
100	58	42	50	58	55	69	90	90	90	91	93	87	93	84	64	54	84	93	93
ADM***	-1	-0	8	2	22	40	58	40	21	70	71	65	68	53	35	11	33	51	36
FARGO, N. DAK.																			
0	-28	-36	-30	-36	-34	1	17	-34	-36	53	40	37	33	20	5	-19	-19	-19	-36
50	13	7	11	10	25	42	55	41	26	65	71	69	68	59	46	28	44	56	41
75	23	18	21	22	40	53	65	58	42	73	79	78	78	69	57	39	60	74	60
85	27	24	25	27	46	59	69	65	50	77	83	82	82	74	62	45	67	80	68
95	36	35	33	38	60	71	79	78	67	86	90	91	91	84	73	56	80	92	83
100	49	53	43	53	78	90	93	93	93	99	101	105	105	99	90	73	99	105	105
ADM***	22	17	21	20	35	53	67	52	36	77	84	82	81	71	57	36	55	68	52
FAYETTEVILLE, ARK.																			
0	-1	-10	-4	-10	-5	23	34	-5	-10	44	52	49	44	31	22	9	9	9	-10
50	41	38	42	40	49	60	67	59	49	75	79	79	78	71	62	48	60	69	59
75	51	50	53	52	62	69	75	72	63	83	86	86	86	81	71	58	73	82	75
85	56	54	58	57	66	73	78	77	69	86	89	89	89	85	75	62	78	87	81
95	65	64	66	66	75	80	84	85	79	92	95	95	95	93	82	70	89	95	92
100	77	76	78	78	86	91	92	92	92	100	104	104	104	103	91	82	103	104	104
ADM***	51	48	53	50	61	71	78	70	60	85	90	90	89	83	75	59	72	80	70
FITCHBURG, MASS.																			
0	-14	-16	-17	-17	-6	6	27	-6	-17	35	41	38	35	27	16	-2	-2	-2	-17
50	29	26	26	27	36	47	59	47	37	68	73	71	70	63	53	41	52	61	49
75	40	37	37	38	47	57	67	60	51	76	81	79	79	72	62	52	65	76	65
85	44	42	42	43	53	63	72	66	58	80	84	83	83	76	67	56	71	81	72
95	53	53	51	53	66	74	82	79	74	88	92	91	91	85	76	67	83	91	85
100	66	68	64	68	86	92	97	97	97	100	103	102	103	99	91	81	99	103	103
ADM***	38	35	36	36	45	58	71	58	47	80	84	83	82	75	64	51	63	73	60
FLINT, MICHIGAN.																			
0	-11	-16	-15	-16	-10	11	26	-10	-16	35	41	40	35	27	20	-7	-7	-7	-16
50	26	23	25	24	32	44	56	44	34	67	71	69	69	62	50	38	50	59	47
75	36	33	33	35	44	54	64	57	48	76	79	76	78	71	59	49	64	75	62
85	40	38	38	40	49	58	68	63	54	79	82	80	82	75	63	54	70	80	69
95	49	49	48	50	61	69	77	74	68	86	89	88	90	84	73	64	81	90	82
100	61	65	62	65	79	86	90	90	90	97	99	101	101	97	89	79	97	101	101
ADM***	33	31	31	32	41	55	67	54	43	78	83	80	80	73	61	45	59	70	56
FLORENCE, S. C.																			
0	7	9	-1	-1	16	26	35	16	-1	48	54	54	48	38	28	16	16	16	-1
50	47	46	48	47	55	63	71	63	55	79	81	79	80	75	64	54	64	72	64
75	56	56	59	59	66	73	81	75	69	87	88	86	88	85	74	63	76	85	79
85	61	60	64	64	71	77	84	80	75	90	91	89	91	89	78	67	82	90	84
95	70	69	74	74	82	86	92	89	86	98	97	96	98	97	88	76	93	98	95
100	83	83	88	88	98	98	102	102	102	108	107	106	108	108	102	88	108	108	108
ADM***	57	56	58	57	67	75	83	75	66	90	91	90	90	86	77	66	76	83	75
FORT LAUDERDALE, FLORIDA.																			
0	29	30	28	28	32	40	49	32	28	57	65	66	57	63	44	35	35	35	28
50	70	69	68	69	70	74	77	74	71	80	82	82	81	81	78	73	77	79	75
75	78	77	77	78	79	82	84	83	81	86	86	87	87	86	85	81	87	89	86
85	81	80	80	81	82	85	86	86	85	88	88	89	90	88	88	83	90	92	89
95	86	84	85	86	88	90	91	92	91	92	92	93	94	93	92	87	95	97	95
100	90	88	90	90	94	97	96	97	97	97	99	100	100	99	95	90	99	100	100
ADM***	79	78	78	78	80	83	86	83	80	89	90	91	90	89	86	81	85	87	84
FORT MEYERS, FLORIDA.																			
0	28	31	32	28	34	39	50	34	28	61	66	65	61	63	45	34	34	34	28
50	66	65	66	65	69	73	77	73	69	81	82	83	82	81	76	69	76	79	74
75	74	72	74	74	77	81	83	82	79	86	86	87	87	86	83	77	85	88	84
85	77	75	77	77	80	84	86	85	83	88	89	89	89	88	86	80	88	92	88
95	82	81	83	83	86	89	92	92	90	93	93	93	94	91	90	85	92	97	94
100	88	87	91	91	93	95	99	99	99	100	101	100	101	96	94	91	96	101	101
ADM***	76	75	77	76	80	84	88	84	80	90	91	91	91	90	85	79	85	88	84
FORT NELSON, B. C., CANADA.																			
0	-54	-61	-55	-61	-34	-19	24	-34	-61	51	58	29	29	18	-7	-32	-32	-32	-61
50	-5	-6	2	-3	18	38	50	35	16	58	62	60	60	50	36	8	31	45	31
75	8	8	16	12	31	51	58	52	36	65	69	68	68	58	47	18	47	63	52
85	14	15	23	19	36	56	62	59	44	68	73	72	73	63	52	23	54	70	61
95	27	27	37	34	47	65	72	72	63	76	82	80	82	74	63	35	69	83	77
100	46	45	57	57	62	76	89	89	89	88	98	93	98	91	78	53	91	98	98
ADM***	2	2	11	5	31	50	62	48	26	69	74	72	72	61	45	14	40	56	41
FORT ST JOHN, B.C., CANADA																			
0	-41	-53	-44	-53	-34	-20	13	-34	-53	51	37	30	30	14	-5	-33	-33	-33	-53
50	8	5	10	7	24	37	51	37	22	57	61	59	59	50	40	20	37	48	35
75	20	19	23	22	36	50	60	54	41	64	68	66	67	59	51	33	53	66	55
85	25	25	28	28	41	55	64	60	49	67	71	70	71	63	55	39	59	72	63
95	35	35	40	40	49	63	73	72	64	75	79	79	79	72	65	50	71	82	76
100	48	49	55	55	57	71	86	86	86	87	92	92	92	86	78	65	86	92	92
ADM***	14	13	18	15	33	47	61	47	31	68	72	70	70	60	47	27	45	57	44

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
FORT SMITH, ARKANSAS.																			
0	6	5	-9	-9	7	26	35	7	-9	50	54	54	50	41	22	15	15	15	-9
50	43	40	45	42	52	63	70	61	52	78	82	82	81	75	64	51	63	72	62
75	52	49	57	55	64	71	78	74	66	85	90	89	89	84	74	60	75	85	78
85	57	54	62	60	68	75	82	79	72	89	93	92	92	87	78	64	80	90	85
95	67	65	71	69	78	82	89	88	84	95	100	99	100	95	86	73	91	100	97
100	82	81	81	82	92	92	98	98	98	105	111	109	111	106	96	86	106	111	111
ADM***	55	51	55	53	64	74	81	73	63	90	94	94	93	87	76	62	75	84	73
FORT WAYNE, IND.																			
0	-8	-9	-17	-17	-7	14	27	-7	-17	38	46	45	38	29	20	-1	-1	-1	-17
50	29	26	28	28	37	48	59	48	38	69	74	71	71	65	53	40	52	62	50
75	38	36	39	39	48	57	67	61	52	77	81	78	80	74	62	50	66	76	66
85	42	41	44	44	52	61	71	67	58	81	84	82	84	78	66	55	72	82	73
95	51	52	54	54	61	71	80	78	72	88	92	89	92	87	76	65	83	92	86
100	64	69	69	69	74	85	92	92	92	100	103	100	103	100	90	79	100	103	103
ADM***	35	33	35	35	45	58	70	58	46	79	84	82	82	75	63	47	62	72	59
FORT WILLIAM, ONTARIO, CANADA																			
0	-38	-42	-40	-42	-34	-10	16	-34	-42	37	35	31	31	17	4	-22	-22	-22	-42
50	14	8	10	10	21	35	47	35	23	57	63	62	61	53	43	27	41	51	37
75	26	20	22	23	35	47	56	51	40	64	72	70	70	63	53	39	56	68	56
85	31	25	28	28	41	53	61	58	48	68	76	74	74	67	57	44	62	75	64
95	40	35	38	39	54	65	73	72	65	79	87	83	86	76	68	55	74	88	81
100	52	48	52	52	73	83	91	91	91	97	104	96	104	89	83	69	89	104	104
ADM***	22	17	20	20	31	45	58	44	32	68	74	72	71	63	51	34	49	60	46
FORT WORTH, TEXAS.																			
0	18	13	17	13	23	30	41	23	13	54	71	61	54	53	29	23	23	23	13
50	48	45	50	48	56	66	73	65	56	81	85	85	84	78	69	56	67	76	66
75	57	54	59	57	65	75	81	75	67	88	90	91	91	85	78	64	78	88	79
85	61	58	63	62	69	78	84	79	72	91	92	94	94	87	81	68	83	92	84
95	71	68	73	72	80	85	89	86	82	96	98	99	101	93	88	77	91	100	95
100	88	82	88	88	96	95	96	96	96	103	109	107	109	102	96	89	102	109	109
ADM***	58	55	60	57	66	76	83	75	66	91	95	96	94	89	79	66	78	86	76
FREDERICTON, N BRUNS. CANADA																			
0	-26	-29	-27	-29	-9	6	20	-9	-29	32	39	36	32	27	16	2	2	2	-29
50	22	17	20	19	28	40	52	40	30	61	67	65	64	57	46	36	46	55	42
75	33	28	31	31	36	49	60	53	45	68	74	72	72	65	54	45	58	68	60
85	38	32	35	36	40	54	65	59	52	72	78	76	76	69	58	49	63	73	67
95	47	41	43	45	47	63	75	71	67	80	86	84	85	77	66	57	73	84	80
100	58	52	54	58	56	76	90	90	90	93	98	97	98	89	78	70	89	98	98
ADM***	30	25	29	28	36	50	63	50	39	72	78	76	75	68	56	43	56	66	52
FRESNO, CALIF.																			
0	23	18	24	18	26	32	38	26	18	44	50	51	44	37	30	27	27	27	18
50	46	45	51	47	56	62	69	62	55	76	82	80	79	74	64	54	64	71	63
75	52	52	58	55	63	70	77	72	65	84	90	87	88	83	73	61	74	82	75
85	55	55	61	59	67	74	81	76	70	88	94	91	92	87	77	65	79	87	80
95	62	62	69	67	75	83	90	87	83	97	101	98	100	97	86	74	92	97	93
100	72	73	80	80	87	97	103	103	103	110	111	110	111	111	100	89	111	111	111
ADM***	55	54	61	57	68	76	84	76	66	92	100	98	97	91	79	66	79	88	77
GAINESVILLE, FLORIDA.																			
0	16	15	6	6	24	32	43	24	6	54	60	60	54	48	33	22	22	22	6
50	59	59	60	59	64	69	76	70	64	80	81	81	81	79	73	64	72	76	70
75	69	69	71	71	74	78	84	80	78	87	86	86	87	86	81	73	83	88	84
85	73	73	75	75	78	81	87	84	83	90	89	89	90	89	85	77	87	92	89
95	79	80	82	82	86	88	93	92	91	96	94	93	96	94	90	83	93	98	97
100	87	89	88	89	96	95	101	101	101	104	102	100	104	99	96	90	99	104	104
ADM***	70	70	71	70	76	81	88	81	76	91	91	91	91	89	83	75	82	86	81
GANDER, NEW FOUNDLAND, CANADA																			
0	-5	-13	-15	-15	-14	4	22	-14	-15	28	36	30	28	31	22	6	6	6	-15
50	25	19	17	20	25	33	44	34	27	52	62	61	58	53	44	34	44	51	39
75	32	27	26	29	34	42	50	46	38	59	69	69	67	60	50	42	54	63	53
85	36	31	30	33	38	46	54	51	44	64	73	72	71	63	54	46	58	68	60
95	43	40	40	42	46	55	63	62	57	74	82	79	81	71	62	54	69	79	74
100	55	53	55	55	56	71	78	78	78	91	96	89	96	84	76	67	84	96	96
ADM***	30	26	25	27	32	40	53	41	34	62	72	69	67	61	51	40	51	59	47
GOOSE BAY, LABRADOR.																			
0	-25	-32	-35	-35	-32	-13	10	-32	-35	30	38	32	30	20	11	-9	-9	-9	-35
50	9	0	5	5	16	28	41	28	16	52	62	58	57	51	38	25	38	47	32
75	19	9	15	15	27	38	50	44	31	58	69	65	65	59	46	33	50	62	49
85	24	14	20	21	31	42	55	51	39	62	73	69	70	63	50	37	55	68	57
95	35	25	30	33	40	51	68	66	58	72	83	77	81	71	59	46	67	81	74
100	53	42	46	53	51	62	89	89	89	89	100	91	100	84	73	58	84	100	100
ADM***	16	8	14	13	25	37	49	37	25	61	71	67	66	59	45	31	45	56	40
GLENS FALLS, N. Y.																			
0	-30	-36	-32	-36	-15	3	20	-15	-36	32	32	38	32	24	17	-7	-7	-7	-36
50	27	27	26	26	33	46	60	46	36	69	74	71	71	62	52	39	51	61	49
75	40	41	39	41	45	58	70	61	54	78	84	79	81	71	61	50	65	77	68
85	45	46	44	46	50	63	74	68	62	82	88	83	85	75	65	56	70	82	75
95	54	55	52	55	62	75	84	80	77	91	95	91	93	83	74	66	81	92	88
100	65	64	61	65	78	92	98	98	98	102	103	102	103	94	88	82	94	103	103
ADM***	36	37	37	36	43	59	73	58	47	85	88	84	85	75	64	49	62	74	60
GRAND FORKS, N. DAK.																			
0	-30	-36	-33	-36	-38	-5	20	-38	-38	32	39	34	32	18	9	-16	-16	-16	-38
50	11	4	8	8	21	41	53	39	23	63	69	67	66	57	45	27	43	55	39
75	22	15	17	20	37	53	62	57	40	71	77	76	75	67	55	37	58	71	58
85	28	21	22	25	44	60	67	64	48	74	81	80	80	72	60	42	64	77	66
95	40	33	30	38	59	73	78	78	67	83	90	89	89	82	70	52	78	89	81
100	58	51	41	58	82	95	96	96	96	95	103	102	103	98	87	66	98	103	103
ADM***	20	14	18	17	31	52	66	49	33	74	82	80	79	69	57	36	54	66	50

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
GRAND JUNCTION, COLO.																			
0	-1	-11	-14	-14	5	20	30	5	-14	38	53	51	38	39	24	4	4	4	-14
50	29	24	32	28	41	52	62	52	40	71	78	76	75	67	54	39	53	64	52
75	37	33	43	39	50	60	70	63	54	80	84	82	84	75	62	47	66	78	68
85	41	37	47	43	54	64	74	69	60	83	87	85	87	78	66	51	71	83	74
95	50	46	55	52	63	72	83	80	74	91	93	91	94	86	74	58	82	92	86
100	64	60	65	65	75	84	95	95	95	102	101	99	102	97	86	69	97	102	102
ADM***	38	34	42	38	53	65	76	64	51	86	93	89	89	81	67	50	66	78	64
GRAND PRAIRIE, ALBERTA, CANADA																			
0	-38	-58	-55	-58	-35	-13	21	-35	-58	32	34	27	27	19	-2	-28	-28	-28	-58
50	8	4	7	6	19	37	50	35	20	57	61	58	58	51	40	20	37	47	34
75	19	18	21	21	31	48	58	51	39	63	68	66	67	59	50	31	52	65	55
85	25	24	27	27	36	53	62	58	48	67	71	71	71	63	56	36	59	71	63
95	37	35	37	40	46	63	71	70	63	75	79	80	80	73	67	45	71	82	77
100	56	50	51	56	59	76	85	85	85	87	92	94	94	88	84	58	88	94	94
ADM***	17	14	17	16	29	47	62	46	31	68	73	70	70	63	50	28	47	59	45
GRAND RAPIDS, MICH.																			
0	-11	-22	-14	-22	-13	13	23	-13	-22	32	42	40	32	29	21	-10	-10	-10	-22
50	27	24	24	25	33	45	56	45	35	67	72	70	69	62	50	38	50	60	47
75	37	35	34	36	44	54	65	58	49	76	79	77	79	71	58	50	64	75	64
85	41	40	38	42	50	59	69	64	56	80	82	81	83	75	63	55	70	81	71
95	50	51	49	52	62	69	77	75	70	89	90	89	91	84	72	66	82	91	84
100	63	66	64	66	81	87	90	90	90	102	100	100	102	97	87	81	97	102	102
ADM***	34	31	32	32	41	56	68	55	44	78	84	82	81	73	61	45	60	70	57
GREAT FALLS, MONT.																			
0	-23	-33	-35	-35	-29	-6	15	-29	-35	31	42	35	31	25	7	-23	-23	-23	-35
50	27	23	25	25	33	44	54	44	34	61	70	67	66	57	48	35	47	56	45
75	39	36	39	39	47	57	63	60	51	69	77	76	75	66	59	48	63	74	64
85	44	41	44	44	52	62	68	66	57	73	81	80	80	70	64	53	69	81	72
95	54	50	54	55	61	72	76	76	71	83	89	90	90	79	75	62	80	92	86
100	69	62	67	69	72	87	88	88	88	99	102	105	105	94	91	72	94	105	105
ADM***	35	32	35	34	43	56	66	55	44	73	84	81	79	69	59	45	58	68	56
GREENSBORO, N. C.																			
0	1	-7	-4	-7	10	21	34	10	-7	42	48	47	42	35	23	10	10	10	-7
50	40	39	41	40	48	57	66	57	49	75	77	76	76	71	59	48	59	68	58
75	50	50	52	52	58	66	75	69	62	83	84	83	84	79	68	58	71	81	73
85	54	55	57	57	63	71	78	74	68	86	87	86	87	83	73	62	76	85	79
95	64	65	67	67	74	80	86	84	81	93	94	92	94	90	82	71	86	93	89
100	77	78	81	81	90	94	98	98	98	102	102	101	102	100	95	85	100	102	102
ADM***	50	49	52	50	60	69	78	69	60	86	87	86	86	81	72	60	71	79	69
GREENVILLE, S. C.																			
0	9	4	11	4	14	26	40	14	4	51	56	54	51	42	29	11	11	11	4
50	44	43	45	44	52	60	69	60	52	77	78	77	77	73	63	51	62	70	61
75	53	53	54	54	61	69	76	71	64	83	84	83	84	81	71	61	74	83	75
85	57	57	58	58	65	73	79	76	70	86	87	86	87	84	75	65	79	88	80
95	66	66	67	67	75	81	87	85	81	93	94	92	94	91	84	73	89	96	91
100	78	79	79	79	88	92	98	98	98	102	104	101	104	101	97	84	101	104	104
ADM***	52	52	54	53	62	71	79	70	62	87	88	86	87	82	72	61	72	79	70
HALIFAX, NOVA SCOTIA, CANADA.																			
0	-14	-17	-21	-21	-10	7	24	-10	-21	32	39	39	32	29	21	4	4	4	-21
50	28	24	23	25	31	39	50	40	32	58	65	65	63	59	49	39	49	56	44
75	38	33	33	36	41	48	57	53	46	65	72	72	71	67	57	48	60	68	60
85	42	38	37	41	46	53	62	58	53	70	76	75	75	71	61	51	66	74	67
95	51	46	44	50	55	65	72	71	68	79	85	83	84	80	72	59	77	84	80
100	62	58	52	62	70	83	90	90	90	94	99	94	99	94	88	69	94	99	99
ADM***	35	32	31	33	38	47	59	48	40	68	74	74	72	67	57	46	57	64	52
HARRISBURG, PA.																			
0	0	-4	2	-4	8	21	32	8	-4	43	49	46	43	32	25	13	13	13	-4
50	34	31	32	32	41	51	62	51	42	71	75	73	73	66	55	44	55	64	53
75	43	41	41	42	50	59	71	63	54	78	82	80	81	75	64	53	66	76	67
85	47	46	46	47	55	64	75	68	61	82	85	83	84	79	69	57	72	81	73
95	57	56	57	58	67	75	83	80	75	89	92	90	91	88	79	68	84	90	85
100	71	73	75	75	86	92	97	97	97	100	101	101	101	102	97	84	102	102	102
ADM***	41	39	40	40	50	61	73	61	51	82	86	83	83	76	65	52	64	74	62
HARTFORD, CONN.																			
0	-18	-17	-24	-24	-4	11	28	-4	-24	38	48	38	38	30	18	6	6	6	-24
50	30	27	28	28	37	48	60	48	38	69	74	71	71	64	53	41	53	62	50
75	41	38	41	41	48	58	68	61	54	77	81	80	80	73	62	51	65	75	67
85	46	43	46	46	54	63	72	67	61	81	84	83	83	77	67	56	71	80	74
95	55	54	57	57	67	74	81	78	74	88	91	91	91	87	76	66	83	90	86
100	67	70	72	72	86	91	94	94	94	100	101	101	101	101	91	83	101	101	101
ADM***	39	36	38	38	47	60	72	60	49	81	86	83	83	76	65	51	64	74	61
HELENA, MONT.																			
0	-29	-42	-31	-42	-30	1	17	-30	-42	31	36	32	31	21	10	-29	-29	-29	-42
50	23	18	23	21	32	43	52	43	32	59	68	66	64	55	45	32	44	54	43
75	35	32	37	36	46	54	62	59	50	68	76	75	73	64	54	46	61	73	63
85	40	37	42	42	52	59	66	66	57	72	80	79	78	69	59	51	68	79	70
95	49	48	53	54	62	70	76	77	71	82	88	88	87	79	69	60	80	91	85
100	60	62	68	68	73	85	90	90	90	98	99	102	102	96	84	70	96	102	102
ADM***	33	28	34	31	43	56	65	55	45	72	84	82	79	69	58	42	56	68	55
HOBBS, NEW MEXICO.																			
0	1	-7	-1	-7	1	17	27	1	-7	37	47	45	37	34	12	9	9	9	-7
50	44	41	46	44	52	61	69	61	52	77	79	78	78	72	63	50	62	70	61
75	55	53	58	56	65	72	79	75	67	87	86	87	88	81	75	60	75	84	77
85	60	58	63	62	70	76	84	81	74	91	90	90	92	86	79	65	80	89	83
95	70	68	73	72	80	85	93	92	87	99	97	97	100	95	88	74	92	99	95
100	84	82	87	87	93	98	107	107	107	110	108	107	110	109	98	88	109	110	110
ADM***	60	56	62	59	68	77	84	76	68	92	92	92	92	86	78	66	76	84	76

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
HOMER, ALASKA.																			
0	-13	-17	-18	-18	-7	-9	6	-9	-18	29	34	33	29	22	10	-6	-6	-6	-18
50	23	23	27	24	28	36	42	36	30	49	53	53	52	47	39	29	38	45	37
75	32	32	37	34	36	46	51	46	41	55	58	58	58	53	45	37	48	57	50
85	35	35	40	38	39	49	54	50	46	58	61	61	61	56	48	41	52	61	56
95	41	42	46	44	44	55	60	58	56	66	68	68	68	61	53	48	59	69	66
100	48	49	52	52	50	60	68	68	68	79	79	78	79	68	60	58	68	79	79
ADM***	30	30	34	31	36	43	50	43	37	57	61	60	59	55	45	35	45	52	45
HONOLULU, HAWAII.																			
0	55	54	52	52	53	59	60	53	52	63	63	63	63	63	63	59	59	59	52
50	74	73	72	73	72	73	75	73	73	77	78	79	78	78	77	75	77	77	75
75	78	77	76	77	76	77	79	78	78	80	81	82	81	81	81	79	81	81	80
85	79	78	78	79	78	78	80	80	80	81	82	83	82	83	82	80	83	83	82
95	82	81	81	82	81	81	83	83	83	84	85	86	85	85	85	83	86	86	86
100	85	84	84	85	84	86	87	87	87	88	88	88	88	88	90	86	90	90	90
ADM***	78	76	76	77	77	78	80	78	77	81	82	83	82	83	82	80	82	82	80
HOT SPRINGS, ARKANSAS.																			
0	0	-9	-12	-12	7	26	31	7	-12	45	51	43	43	35	24	14	14	14	-12
50	46	45	47	46	55	64	71	63	54	80	83	83	82	76	66	53	65	73	64
75	57	57	61	59	66	73	81	76	70	88	91	93	91	86	76	63	78	87	81
85	61	62	66	64	71	77	85	82	76	92	94	97	95	90	80	67	83	93	88
95	70	70	74	73	80	84	93	91	88	100	101	104	104	98	88	76	94	103	100
100	81	81	84	84	93	94	103	103	103	112	111	115	115	109	99	89	109	115	115
ADM***	55	54	58	56	66	76	83	75	65	91	94	95	93	88	79	63	77	85	75
HOULTON, MAINE.																			
0	-30	-27	-35	-35	-18	11	20	-18	-35	30	38	36	30	22	16	-5	-5	-5	-35
50	19	13	12	15	26	39	51	39	27	60	66	64	64	55	45	33	44	54	40
75	31	24	23	27	37	47	60	53	43	68	74	72	72	64	53	42	56	68	58
85	36	29	28	33	42	51	64	59	50	72	77	75	76	67	56	46	62	73	65
95	46	39	37	44	51	59	74	72	66	80	85	83	85	75	65	54	72	84	79
100	59	55	48	59	63	73	89	89	89	93	97	94	97	87	79	66	87	97	97
ADM***	28	25	25	26	37	49	63	50	38	73	79	76	76	67	56	41	55	65	51
HOUSTON, TEXAS.																			
0	20	10	14	10	21	39	46	21	10	57	68	63	57	45	37	29	29	29	10
50	56	54	58	56	63	70	76	69	63	82	84	84	83	80	73	62	71	77	70
75	64	64	68	67	73	77	83	80	75	88	88	89	90	88	81	70	81	88	83
85	68	68	72	71	77	80	85	84	79	90	91	92	92	90	84	73	85	92	88
95	74	74	80	79	85	85	90	90	87	94	96	96	98	95	90	80	91	98	96
100	83	82	90	90	94	92	95	96	96	99	105	103	105	99	97	89	99	105	105
ADM***	64	62	66	64	71	78	85	78	71	90	92	93	92	89	82	71	81	86	79
HUNTINGTON, W. VA.																			
0	-6	-10	-1	-10	0	18	28	0	-10	39	47	45	39	29	22	6	6	6	-10
50	39	38	39	39	47	57	66	57	48	74	77	75	75	71	59	47	59	67	57
75	50	50	49	51	59	67	75	70	62	82	84	83	84	81	69	57	72	81	73
85	55	55	54	56	64	71	79	75	68	86	88	87	88	85	73	62	77	86	79
95	66	65	64	66	74	80	86	85	80	92	95	96	95	93	81	71	89	95	91
100	80	79	78	80	89	92	96	96	96	100	105	103	105	104	93	85	104	105	105
ADM***	44	43	44	44	54	65	75	64	54	83	86	84	84	79	68	54	67	76	65
HUNTSVILLE, ALA.																			
0	10	-7	5	-7	7	25	32	7	-7	46	49	51	46	37	25	1	1	1	-7
50	43	42	44	43	51	61	69	60	52	77	79	79	78	72	62	49	61	70	61
75	52	54	54	55	62	69	78	73	66	85	87	86	86	81	71	61	75	85	76
85	56	58	58	59	66	75	81	77	71	89	90	89	90	84	76	65	80	90	82
95	65	67	67	68	74	81	88	84	82	95	97	95	97	91	84	73	90	98	93
100	78	79	79	79	84	92	96	96	96	105	106	104	106	101	95	83	101	106	106
ADM***	53	52	54	53	63	73	82	72	63	89	91	90	90	84	76	61	74	82	72
HURON, S. DAK.																			
0	-24	-34	-29	-34	-18	10	20	-18	-34	32	40	36	32	20	13	-14	-14	-14	-34
50	20	14	18	17	32	46	58	45	31	68	75	73	72	63	50	33	48	60	46
75	31	26	29	30	45	56	68	61	48	78	84	82	82	74	60	44	64	77	65
85	37	32	35	37	52	61	73	67	56	82	89	87	87	78	66	49	70	84	73
95	51	44	45	50	66	72	83	80	73	92	97	96	96	88	78	60	84	96	89
100	71	63	61	71	89	89	98	98	98	106	110	109	110	102	97	75	102	110	110
ADM***	30	25	28	28	43	60	72	58	45	81	90	87	86	77	64	44	62	74	58
HYANNIS, MASS.																			
0	-9	-18	-12	-18	2	20	30	2	-18	39	47	45	39	32	24	11	11	11	-18
50	35	32	31	32	36	45	55	45	39	64	71	70	68	64	55	45	54	61	50
75	45	43	41	44	45	52	63	57	53	71	77	77	76	72	62	53	65	73	66
85	49	48	44	48	50	56	67	63	60	75	80	80	80	75	66	56	70	78	73
95	56	56	52	56	59	66	77	75	73	83	87	88	88	83	73	62	80	88	85
100	65	65	60	65	73	81	93	93	93	97	98	100	100	94	83	70	94	100	100
ADM***	42	39	38	40	43	53	63	53	46	71	78	78	75	71	62	52	62	69	58
IDAHO FALLS, IDAHO																			
0	-19	-35	-37	-37	-8	1	23	-8	-37	27	37	34	27	25	15	-9	-9	-9	-37
50	25	19	24	22	33	46	54	44	33	60	69	67	65	58	48	33	46	56	45
75	35	31	37	36	44	57	65	57	50	69	78	75	75	67	56	44	60	71	64
85	40	35	42	41	48	62	67	63	58	74	82	79	80	71	60	48	66	77	71
95	49	43	50	51	58	71	76	75	72	83	91	87	90	81	69	58	79	89	86
100	62	51	59	62	72	85	91	91	91	97	104	99	104	97	83	72	97	104	104
ADM***	34	28	34	32	44	59	68	57	44	75	86	84	82	74	62	44	60	71	58
INDIANAPOLIS, IND.																			
0	-15	-12	-19	-19	-6	16	29	-6	-19	39	44	42	39	28	17	-2	-2	-2	-19
50	31	29	32	30	40	51	61	51	41	71	76	74	74	67	56	42	55	64	52
75	42	39	44	43	52	60	70	64	55	80	84	82	82	77	66	52	69	79	69
85	47	44	49	48	57	64	75	70	62	83	87	85	86	81	70	57	74	85	76
95	56	55	59	58	67	74	81	80	75	91	94	91	94	89	78	67	85	94	88
100	69	71	72	72	81	88	93	93	93	102	104	100	104	100	90	81	100	104	104
ADM***	39	37	40	39	50	62	73	61	50	83	88	86	85	79	67	51	66	75	63

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
JACKSON, MISS.																			
0	16	-5	1	-5	17	30	42	17	-5	48	57	54	48	41	28	18	18	18	-5
50	49	48	51	49	57	65	72	65	57	80	82	81	81	77	66	55	66	74	65
75	58	61	62	62	66	73	80	76	71	87	88	88	89	85	76	64	78	86	81
85	62	65	67	67	70	77	83	80	77	90	91	91	92	89	79	68	82	91	87
95	71	74	74	75	78	84	90	89	87	96	96	97	98	95	87	76	91	98	96
100	84	85	82	85	88	93	99	99	99	103	104	106	106	103	96	86	103	106	106
ADM***	59	59	62	60	68	76	84	76	68	91	94	93	93	89	80	67	79	86	77
JACKSONVILLE, FLORIDA.																			
0	14	15	10	10	25	34	46	25	10	54	64	64	54	49	37	22	22	22	10
50	56	56	58	57	62	68	75	69	63	80	82	82	81	79	71	62	71	76	69
75	66	65	68	67	71	76	82	79	75	87	87	87	88	86	79	71	82	88	83
85	70	69	72	71	75	80	85	83	80	90	90	89	91	89	82	74	86	92	87
95	76	76	79	79	82	86	91	90	88	95	96	94	97	94	88	80	92	99	96
100	84	85	87	87	91	93	99	99	99	103	105	102	105	100	96	87	100	105	105
ADM***	67	66	68	67	73	79	85	79	73	90	91	91	91	88	80	72	80	85	79
JAMESTOWN, N. DAK.																			
0	-30	-36	-32	-36	-29	-5	12	-29	-36	30	35	35	30	18	6	-17	-17	-17	-36
50	13	7	11	10	23	42	53	39	25	62	69	67	66	57	46	27	43	55	40
75	24	19	21	23	37	54	64	56	41	71	78	76	76	67	56	38	58	71	58
85	30	24	25	29	44	60	69	63	49	75	82	80	80	72	61	43	65	78	66
95	42	36	33	41	58	74	79	77	67	84	91	90	90	83	72	54	80	90	83
100	61	53	44	61	80	94	95	95	95	98	104	105	105	100	87	69	100	105	105
ADM***	23	17	21	20	33	54	66	51	36	74	82	81	79	71	59	36	55	67	51
JOPLIN, MO.																			
0	-1	-8	-5	-8	-5	26	37	-5	-8	48	52	46	46	36	26	10	10	10	-8
50	38	35	38	37	44	57	67	56	46	76	78	79	78	70	61	45	59	68	57
75	48	46	49	48	55	65	74	70	60	84	85	87	86	79	70	54	71	82	73
85	53	51	53	53	60	69	77	75	66	87	88	90	89	83	74	58	77	87	79
95	62	61	62	63	69	78	85	84	78	93	95	97	96	92	82	67	88	96	91
100	76	77	74	77	81	91	95	95	95	103	104	106	106	105	93	81	105	106	106
ADM***	48	44	48	47	54	68	77	66	57	87	89	90	88	81	73	55	70	79	68
JUNEAU, ALASKA.																			
0	-21	-19	-12	-21	-11	7	25	-11	-21	31	36	27	27	26	16	-3	-3	-3	-21
50	28	26	27	27	33	40	47	40	33	54	55	54	54	49	42	33	41	48	41
75	38	36	36	38	42	47	54	52	47	60	60	61	61	55	48	41	52	60	55
85	42	39	39	41	45	51	58	57	53	63	64	65	65	58	50	44	56	64	61
95	48	44	44	48	49	57	67	68	65	71	71	72	72	63	55	50	63	73	71
100	54	48	48	54	51	66	82	82	82	83	84	83	84	72	61	56	72	84	84
ADM***	32	31	33	32	39	47	56	47	39	63	62	62	62	56	47	38	47	55	47
KANSAS CITY, MO.																			
0	-4	-13	-13	-13	-3	16	32	-3	-13	44	54	49	44	34	24	5	5	5	-13
50	34	30	35	33	44	56	66	55	44	75	81	79	78	71	60	44	58	68	56
75	44	41	46	44	56	66	74	69	59	84	88	87	87	80	69	54	72	83	73
85	48	47	51	50	61	70	79	75	66	87	92	91	91	85	74	59	78	89	80
95	59	58	62	60	72	79	88	87	81	96	100	100	100	94	83	69	91	100	94
100	74	75	76	76	89	91	103	103	103	108	112	113	113	109	98	83	109	113	113
ADM***	42	39	44	42	54	66	75	65	53	85	91	89	89	81	70	54	68	78	66
KEENE, N. H.																			
0	-29	-32	-32	-32	-21	1	21	-21	-32	27	34	27	27	19	10	-15	-15	-15	-32
50	26	23	23	24	33	45	56	45	34	65	70	68	67	60	50	38	49	58	46
75	39	36	36	37	47	56	65	60	51	74	79	77	77	70	60	51	64	75	65
85	43	41	42	43	53	62	70	66	58	78	83	81	82	75	64	56	70	81	72
95	52	52	52	53	66	73	79	78	73	87	92	89	91	83	74	66	81	92	86
100	63	66	64	66	85	91	93	93	93	98	104	100	104	95	88	80	95	104	104
ADM***	35	33	35	34	44	57	70	57	46	78	83	81	81	73	63	48	61	71	58
KEY WEST, FLA.																			
0	45	43	44	43	49	56	64	49	43	65	69	68	65	69	59	51	51	51	43
50	72	71	72	71	74	77	80	77	74	83	84	84	83	83	80	75	79	81	78
75	78	77	78	78	79	82	84	83	81	87	87	88	88	86	84	80	85	88	85
85	80	79	80	80	81	84	85	85	84	88	89	89	89	88	86	82	87	90	88
95	83	83	83	83	85	87	88	89	88	91	91	93	93	91	88	85	91	94	93
100	86	86	86	86	88	90	92	92	92	94	95	97	97	95	91	88	95	97	97
ADM***	77	76	77	76	79	82	85	82	79	88	89	89	89	88	84	79	84	86	83
KING SALMON, ALASKA.																			
0	-38	-39	-40	-40	-34	-19	4	-34	-40	30	35	33	30	16	-3	-25	-25	-25	-40
50	14	14	18	15	21	33	43	32	24	51	55	55	54	48	36	22	35	44	34
75	26	26	31	28	34	44	52	48	39	58	61	61	60	55	45	33	49	60	52
85	30	30	35	33	39	48	56	53	46	62	64	64	64	59	49	36	54	66	59
95	37	38	43	41	47	54	64	63	58	72	72	71	73	65	57	43	63	76	72
100	45	46	51	51	56	59	74	74	74	88	86	82	88	74	67	50	74	88	88
ADM***	22	22	25	23	29	41	52	41	32	61	63	62	62	55	43	29	42	52	42
KNOXVILLE, TENN.																			
0	8	7	5	5	21	27	36	21	5	47	53	48	47	44	27	9	9	9	5
50	41	43	44	42	51	59	68	59	51	76	78	77	77	71	61	48	60	69	60
75	49	52	53	52	59	67	75	69	62	84	85	84	85	78	70	58	72	82	73
85	54	56	57	56	65	71	78	73	67	87	88	87	88	81	73	62	77	87	79
95	63	65	65	65	71	78	84	81	78	94	95	93	95	88	81	70	86	96	90
100	78	78	76	78	85	88	92	92	92	103	105	100	105	97	91	81	97	105	105
ADM***	49	51	54	51	61	70	79	70	61	87	89	88	88	82	73	58	71	79	70
KODIAK, ALASKA.																			
0	7	-5	-1	-5	-3	10	20	-3	-5	34	40	40	34	32	24	9	9	9	-5
50	30	30	32	30	32	37	43	37	34	49	54	55	53	50	42	35	42	47	40
75	35	38	39	38	40	43	49	47	44	54	58	60	58	55	46	41	51	57	52
85	37	40	42	41	43	46	53	52	49	57	61	63	62	58	48	43	55	61	57
95	42	45	47	46	48	51	62	62	60	65	67	71	70	65	53	48	63	71	68
100	48	51	52	52	53	59	76	76	76	78	78	84	84	76	60	54	76	84	84
ADM***	34	34	36	35	37	41	47	41	38	54	58	60	57	54	46	39	46	52	45

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
LACONIA, N.H.																			
0	-28	-36	-40	-40	-21	5	20	-21	-40	28	57	55	28	23	10	-8	-8	-8	-40
50	24	21	21	22	31	43	56	43	33	65	70	68	68	60	49	37	49	58	45
75	37	34	35	37	45	54	65	59	51	75	79	77	78	70	59	48	62	74	65
85	42	40	40	42	51	60	70	66	59	79	83	81	82	74	64	54	68	79	73
95	51	51	49	53	65	72	81	79	75	88	91	89	91	82	74	65	80	90	87
100	64	66	59	66	85	92	97	97	97	102	103	100	103	95	90	81	95	103	103
ADM***	34	31	32	32	42	56	70	56	44	79	83	81	81	72	61	47	60	70	57
LAFAYETTE, LA.																			
0	14	10	6	6	24	32	42	24	6	53	57	53	53	41	27	21	21	21	6
50	55	54	57	55	61	68	75	68	62	81	82	82	82	78	70	59	69	75	68
75	65	65	68	67	70	76	82	78	74	88	89	89	89	86	79	69	80	87	83
85	69	69	72	71	74	79	85	82	79	91	92	92	92	89	83	73	84	92	88
95	78	78	79	79	82	86	91	89	88	97	98	97	98	95	89	81	92	99	97
100	89	89	87	89	93	93	98	98	98	106	107	103	107	101	96	92	101	107	107
ADM***	66	64	67	65	72	79	86	79	72	91	92	92	92	89	82	71	81	86	79
LAKE CHARLES, LA.																			
0	21	12	13	12	25	34	46	25	12	58	63	61	58	45	35	27	27	27	12
50	54	53	56	54	61	68	75	68	61	81	82	82	82	79	70	59	69	76	68
75	62	62	66	64	70	76	81	78	72	86	87	88	88	86	79	67	79	86	81
85	66	66	69	68	74	79	84	81	77	88	89	90	90	89	82	71	83	90	86
95	72	73	76	75	82	85	90	89	86	93	94	96	96	94	88	78	90	97	94
100	82	81	84	84	94	92	97	97	97	98	101	104	104	99	96	88	99	104	104
ADM***	64	62	65	64	70	78	84	77	70	90	91	92	91	88	82	70	80	85	78
LAKELAND, FLA.																			
0	25	28	29	25	30	40	56	30	25	63	66	63	63	61	43	30	30	30	25
50	63	62	63	63	67	72	77	72	67	80	81	82	81	80	74	67	74	77	72
75	71	70	71	71	75	79	82	81	77	85	85	86	86	85	81	75	83	88	83
85	74	73	75	75	78	82	85	85	81	87	88	88	88	87	84	78	87	91	87
95	79	78	81	81	84	87	90	91	89	92	93	92	93	91	89	83	92	96	94
100	85	85	88	88	91	94	99	99	99	100	101	98	101	97	94	89	97	101	101
ADM***	72	72	74	72	77	82	87	82	77	90	90	91	90	88	83	76	82	86	82
LANCASTER, PA.																			
0	-9	-27	-18	-27	0	11	27	0	-27	33	42	39	33	27	19	-7	-7	-7	-27
50	33	32	32	32	41	51	62	51	42	71	74	72	72	65	54	43	54	63	52
75	43	46	44	46	52	61	71	64	58	80	83	81	82	75	63	55	68	79	71
85	48	52	50	52	57	66	76	70	65	84	86	85	86	79	68	60	74	85	78
95	58	63	61	63	69	77	85	81	79	92	93	94	95	87	78	70	85	95	91
100	73	77	78	78	88	94	98	98	98	103	104	107	107	99	95	82	99	107	107
ADM***	42	41	42	42	53	65	76	64	55	83	87	84	85	78	66	54	66	75	64
LAND O LAKES, WISC.																			
0	-33	-50	-42	-50	-43	-12	14	-43	-50	23	29	26	23	12	8	-18	-18	-18	-50
50	16	10	12	12	24	38	49	37	24	58	63	62	61	53	44	28	41	51	38
75	27	23	24	27	40	50	58	55	43	67	72	71	71	63	53	40	56	67	58
85	32	28	28	32	47	56	63	62	51	71	75	75	75	67	58	46	62	73	66
95	41	36	36	41	60	69	73	74	67	79	82	84	84	76	69	57	73	85	81
100	52	44	45	52	78	88	89	89	89	90	92	98	98	89	85	74	89	98	98
ADM***	25	21	24	23	36	51	63	50	37	72	77	76	75	66	57	36	53	64	50
LANSING, MICH.																			
0	-18	-17	-25	-25	-10	8	23	-10	-25	34	42	38	34	29	19	5	5	5	-25
50	27	24	24	25	33	45	57	45	35	67	71	69	69	62	51	38	50	60	47
75	38	34	36	37	45	55	65	59	50	76	79	77	78	70	59	47	62	73	65
85	43	39	41	42	50	60	70	64	57	79	82	81	82	75	63	51	67	78	71
95	52	49	52	52	63	71	79	76	72	87	90	89	90	83	73	61	79	88	85
100	64	63	66	66	82	88	93	93	93	98	102	102	102	97	87	76	97	102	102
ADM***	33	31	32	32	42	56	68	55	43	77	82	80	80	72	60	45	59	70	56
LAS VEGAS, NEV.																			
0	14	8	17	8	19	31	38	19	8	48	56	54	48	43	32	15	15	15	8
50	47	44	50	47	57	66	74	65	56	84	91	88	87	81	67	54	67	77	67
75	55	53	59	57	66	74	83	77	69	93	99	97	97	90	76	63	80	92	81
85	59	57	63	61	70	78	87	82	75	96	102	100	101	94	80	67	86	97	87
95	67	65	71	70	78	87	96	93	89	105	109	107	108	102	88	74	97	106	100
100	78	76	82	82	89	99	109	109	109	116	117	116	117	113	100	84	113	117	117
ADM***	58	55	62	59	69	79	88	78	68	99	105	103	103	96	82	67	82	92	80
LAWRENCE, MASS.																			
0	-20	-25	-25	-25	-6	9	27	-6	-25	36	47	40	36	28	19	4	4	4	-25
50	29	26	26	27	35	46	58	46	37	67	72	70	70	63	53	41	52	61	49
75	41	38	38	40	47	56	66	60	53	75	79	78	79	72	61	51	64	75	67
85	46	44	43	45	52	61	71	66	60	79	83	82	83	76	65	56	70	80	74
95	55	54	53	55	65	72	81	79	75	88	92	89	92	84	74	66	81	91	88
100	67	69	65	69	84	89	98	98	98	101	106	100	106	97	88	81	97	106	106
ADM***	38	35	35	36	44	56	69	56	46	78	83	81	80	73	63	50	62	71	59
LAWTON, OKLA.																			
0	0	-11	-3	-11	6	23	30	6	-11	45	53	46	45	35	16	12	12	12	-11
50	45	41	45	43	53	63	71	62	53	80	84	84	82	76	65	51	64	73	63
75	54	54	58	57	65	73	81	75	68	88	92	93	92	86	77	61	77	88	80
85	59	59	64	63	70	77	85	81	75	92	95	97	96	90	82	66	83	93	87
95	69	70	76	76	82	86	94	92	88	100	103	105	104	99	91	75	94	103	100
100	83	85	95	95	98	100	106	106	106	111	114	115	115	110	103	88	110	115	115
ADM***	55	53	58	55	67	76	83	75	65	92	97	98	95	90	79	64	78	87	76
LEBANON, N. H.																			
0	-27	-29	-32	-32	-26	10	22	-26	-32	29	38	35	29	20	16	-10	-10	-10	-32
50	22	19	19	20	31	43	54	43	31	63	68	66	66	59	48	36	47	57	44
75	34	31	31	33	45	52	62	59	47	72	76	74	75	68	57	47	61	72	62
85	39	36	36	38	52	57	67	65	55	76	79	78	79	72	62	53	67	77	69
95	50	48	46	49	65	68	77	77	70	84	86	86	87	81	72	64	79	87	81
100	64	64	59	64	83	86	92	92	92	95	95	97	97	94	88	80	94	97	97
ADM***	33	30	32	32	43	55	67	55	43	77	82	79	79	72	62	45	60	69	56

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
LETHBRIDGE, ALBERTA, CANADA.																			
0	-45	-45	-44	-45	-36	-14	12	-36	-45	29	33	29	29	4	-15	-25	-25	-25	-45
50	21	16	20	19	29	42	51	41	30	64	64	63	64	53	44	31	42	53	41
75	36	31	34	34	44	56	62	59	48	73	73	71	73	64	58	44	58	71	61
85	42	37	40	40	49	61	67	66	56	77	77	75	77	69	63	50	64	77	69
95	53	49	52	52	60	73	78	79	73	86	87	84	87	78	74	60	76	89	84
100	67	65	66	67	74	88	96	96	96	98	102	97	102	91	89	74	91	102	102
ADM***	31	27	31	30	40	55	64	53	41	72	78	77	76	66	56	42	55	65	53
LEWISTON, MAINE.																			
0	-27	-28	-28	-28	-18	10	27	-18	-28	54	44	38	34	28	18	2	2	2	-28
50	25	21	22	22	31	43	55	43	33	64	70	69	68	60	50	38	49	59	46
75	37	33	33	35	44	52	63	58	49	72	77	77	77	69	59	47	61	72	63
85	42	38	38	40	50	57	68	65	57	76	81	80	81	73	63	51	67	78	70
95	51	49	47	50	63	68	80	80	74	85	89	88	89	83	74	60	79	88	84
100	63	64	59	64	82	87	101	101	101	99	102	98	102	97	90	74	97	102	102
ADM***	33	29	31	31	40	52	65	52	42	74	80	79	78	70	60	45	58	68	55
LEXINGTON, KY.																			
0	-9	-15	-20	-20	-1	15	30	-1	-20	40	47	45	40	32	21	-3	-3	-3	-20
50	36	34	36	35	44	55	64	54	45	73	77	75	75	70	58	45	57	66	55
75	47	46	49	49	56	64	73	67	60	81	84	83	84	79	67	56	72	82	73
85	51	52	54	54	61	69	77	73	67	85	88	86	88	83	71	61	78	87	80
95	60	63	64	65	71	78	85	85	79	93	96	94	96	91	80	69	89	97	93
100	71	80	76	80	86	91	96	96	96	104	108	105	108	103	93	80	103	108	108
ADM***	45	43	45	44	55	66	75	65	55	84	87	86	86	81	69	54	68	77	66
LINCOLN, NEBR.																			
0	3	-5	-1	-5	4	20	39	4	-5	45	60	52	45	36	22	11	11	11	-5
50	29	25	29	28	39	53	63	51	40	73	79	77	76	68	56	40	55	66	53
75	37	33	38	37	49	61	69	64	52	80	85	83	84	77	65	48	66	78	67
85	41	37	42	41	54	65	73	69	59	84	88	86	88	81	69	52	72	84	73
95	50	47	51	51	64	74	82	80	73	91	94	92	95	89	77	59	84	93	86
100	66	61	65	66	81	87	97	97	97	103	105	101	105	102	88	71	102	105	105
ADM***	38	34	39	37	49	64	73	62	50	84	91	88	87	80	68	50	66	77	63
LITTLE ROCK, ARK.																			
0	9	7	-5	-5	11	32	41	11	-5	52	56	57	52	37	31	17	17	17	-5
50	44	42	46	44	53	63	70	62	53	79	82	81	81	75	64	52	63	72	62
75	53	51	57	56	63	70	77	73	66	85	89	88	88	84	72	60	75	85	78
85	57	56	62	60	67	74	80	78	72	88	92	91	91	88	76	64	80	89	84
95	66	67	71	70	75	81	87	86	83	95	98	97	98	96	83	73	91	98	94
100	80	85	82	85	86	92	96	96	96	104	107	107	107	106	94	86	106	107	107
ADM***	54	51	55	53	63	73	81	72	63	89	93	92	91	86	77	62	75	83	73
LONG BEACH, CALIF.																			
0	30	21	30	21	32	30	39	30	21	42	48	47	42	44	35	31	31	31	21
50	57	55	56	56	58	61	64	61	58	66	70	71	69	70	66	61	65	67	63
75	64	63	63	65	65	69	71	69	68	73	77	78	76	77	74	69	75	77	74
85	68	67	68	69	69	73	74	74	73	76	80	81	80	82	78	73	80	82	79
95	77	76	77	78	77	83	83	83	83	83	88	88	88	92	88	83	91	92	91
100	90	89	92	92	91	99	97	99	99	95	100	99	100	108	102	98	108	108	108
ADM***	67	65	65	65	67	69	72	69	67	74	79	80	78	79	75	72	75	76	72
LOS ANGELES, CALIF.																			
0	33	25	32	23	34	39	43	34	25	48	49	51	48	47	41	34	34	34	23
50	56	53	54	54	57	59	62	59	57	65	68	68	67	67	63	59	63	65	61
75	62	61	61	63	63	65	68	67	66	70	73	74	73	74	70	67	72	74	71
85	66	65	65	67	66	69	72	71	71	74	76	77	76	78	75	71	77	79	77
95	75	73	75	76	74	77	81	81	81	84	82	85	85	89	84	80	89	90	89
100	89	86	91	91	87	90	97	97	97	100	93	98	100	108	101	95	08	108	108
ADM***	66	63	63	64	65	67	69	67	66	72	74	75	74	75	72	70	72	73	69
LOUISVILLE, KY.																			
0	-7	-20	-19	-20	3	21	33	5	-20	43	49	45	43	33	23	-1	-1	-1	-20
50	37	35	37	36	46	56	65	56	46	74	78	76	76	70	59	46	58	67	57
75	48	48	50	50	57	65	74	68	62	82	85	84	84	80	68	57	72	82	74
85	52	54	56	55	62	69	78	74	68	86	89	87	88	84	72	62	78	88	81
95	61	65	66	66	72	78	86	84	81	93	96	95	96	92	80	71	89	97	93
100	74	79	78	79	88	91	98	98	98	103	107	105	107	104	92	83	104	107	107
ADM***	46	44	46	45	56	67	77	67	56	85	89	88	87	82	71	55	69	78	67
LUBBOCK, TEXAS.																			
0	1	-9	-7	-9	2	22	33	2	-9	44	51	52	44	40	25	-1	-1	-1	-9
50	41	39	43	41	50	60	68	59	50	76	79	78	78	71	61	49	60	69	60
75	51	51	55	53	61	69	77	73	65	85	86	85	86	79	70	60	75	85	76
85	55	56	60	58	66	73	81	78	71	88	89	88	90	83	74	65	80	90	82
95	65	66	70	69	75	82	90	89	85	96	95	94	97	91	82	74	90	99	93
100	80	81	83	83	88	95	104	104	104	107	103	102	107	103	92	85	103	107	107
ADM***	53	52	57	54	64	74	81	73	63	90	92	91	91	83	74	63	73	82	73
MACON, GA.																			
0	11	7	8	7	17	31	41	17	7	46	58	55	46	44	26	10	10	10	7
50	50	50	52	50	58	66	74	66	58	81	82	82	82	78	67	56	67	74	66
75	59	60	62	60	68	74	81	77	70	89	89	88	90	86	76	67	80	88	80
85	63	64	66	65	72	78	84	81	75	92	91	91	93	89	81	71	85	93	85
95	70	72	73	72	80	85	90	89	85	98	97	97	99	96	89	79	94	100	95
100	80	82	82	82	92	94	98	98	98	106	105	105	106	105	100	88	105	106	106
ADM***	61	60	63	61	70	78	86	78	70	93	93	93	93	89	79	68	78	86	78
MADISON, WISC.																			
0	-21	-37	-25	-37	-11	10	27	-11	-37	53	42	39	33	25	14	-11	-11	-11	-37
50	23	19	22	21	33	46	58	45	33	67	73	71	70	62	50	35	49	60	47
75	34	32	33	35	44	56	66	59	51	76	81	79	80	72	60	47	64	76	66
85	38	37	38	40	49	61	70	65	58	80	84	82	83	76	64	51	70	81	73
95	47	45	47	49	61	72	79	77	73	87	92	90	91	85	73	61	82	91	86
100	60	55	58	60	78	90	93	93	93	97	102	101	102	99	87	74	99	102	102
ADM***	31	28	31	30	42	57	69	56	43	79	84	83	83	74	61	44	60	71	57

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
MANCHESTER, N. H.																			
0	-28	-18	-29	-29	-18	17	28	-18	-29	40	44	41	40	30	18	4	4	4	-29
50	28	24	25	25	34	45	56	45	35	65	71	68	68	60	50	39	50	59	47
75	40	35	37	38	46	53	64	60	51	72	78	75	75	68	58	49	61	72	65
85	45	39	41	43	51	57	69	66	59	76	81	79	79	72	62	53	66	77	72
95	53	48	50	51	62	68	79	79	74	84	89	86	87	80	70	63	77	87	84
100	61	60	59	61	76	86	96	96	96	97	100	98	100	92	82	77	92	100	100
ADM***	36	33	34	34	42	54	67	54	44	76	80	77	78	69	59	47	58	68	56
MARTHAS VINEYARD, MASS.																			
0	-9	-8	-12	-12	2	20	30	2	-12	39	47	45	39	32	24	11	11	11	-12
50	35	32	31	32	36	45	55	45	39	64	71	70	68	64	55	45	54	61	50
75	45	41	41	43	45	52	63	57	52	71	77	77	76	72	62	53	65	73	65
85	49	46	44	47	50	56	67	63	59	75	80	80	80	75	66	56	70	78	71
95	56	54	52	55	59	66	77	75	72	83	87	88	88	83	73	62	80	88	84
100	65	65	60	65	73	81	93	93	93	97	98	100	100	94	85	70	94	100	100
ADM***	42	39	38	40	43	53	63	53	46	71	78	78	75	71	62	52	62	69	58
MASSENA, N.Y.																			
0	-42	-43	-37	-43	-24	0	20	-24	-43	34	40	38	34	28	17	-7	-7	-7	-43
50	23	18	19	20	29	43	55	42	31	65	71	69	68	61	50	37	49	59	45
75	38	33	32	35	42	55	65	58	49	73	79	76	77	69	58	48	63	74	65
85	44	39	37	41	48	60	69	65	57	77	82	80	81	73	62	53	68	79	72
95	55	50	46	53	61	70	79	77	72	86	90	87	89	81	70	62	79	89	85
100	68	65	57	68	79	86	93	93	93	98	100	98	100	93	82	75	93	100	100
ADM***	32	28	28	29	37	53	67	52	41	76	82	80	79	71	59	45	59	69	55
MAYO, Y.T., CANADA																			
0	-72	-73	-67	-73	-56	-42	9	-56	-73	26	27	16	16	4	-34	-59	-59	-59	-73
50	-10	-11	-5	-8	13	30	46	30	11	56	58	53	56	43	29	4	26	41	26
75	7	5	11	8	28	46	56	50	32	64	66	62	66	53	43	19	45	63	49
85	14	12	18	15	34	52	61	57	41	69	70	66	71	58	48	25	52	70	58
95	29	28	32	31	45	60	72	72	61	79	79	75	80	67	57	36	65	83	74
100	52	50	53	53	54	68	89	89	89	95	92	86	95	80	65	50	80	95	95
ADM***	-0	-1	6	2	26	42	58	42	22	69	72	66	69	54	37	12	35	52	37
MCALESTER, OKLA.																			
0	3	-10	-7	-10	5	21	34	3	-10	47	51	50	47	33	18	11	11	11	-10
50	44	41	45	43	52	62	69	61	52	78	83	83	81	75	65	51	64	73	62
75	54	53	57	56	65	72	78	75	67	86	91	92	90	86	76	61	77	87	79
85	58	59	63	62	70	76	81	79	73	90	94	96	94	90	80	66	83	93	86
95	68	69	74	74	81	84	88	88	84	97	101	104	103	98	89	75	94	103	99
100	81	84	90	90	96	95	98	98	98	108	111	116	116	110	99	88	110	116	116
ADM***	53	52	55	53	64	74	80	73	63	89	95	96	93	88	78	62	76	85	74
MEDFORD, ORE.																			
0	3	-3	6	-3	16	21	28	16	-3	31	40	41	31	29	20	15	15	15	-3
50	39	37	43	39	47	52	59	53	46	65	72	71	69	64	55	44	54	62	54
75	47	47	52	50	56	61	67	63	59	74	81	79	80	74	64	52	66	74	69
85	50	51	55	54	60	66	72	68	65	79	86	84	85	79	69	55	72	81	76
95	57	58	63	63	70	76	83	81	79	89	97	93	97	90	80	63	85	94	92
100	65	68	74	74	86	92	100	100	100	105	115	108	115	107	97	75	107	115	115
ADM***	45	45	52	47	59	66	73	66	57	80	89	89	86	82	68	54	68	77	67
MELBOURNE, FLA.																			
0	22	24	22	22	35	40	48	33	22	59	61	64	59	56	45	30	30	30	22
50	65	64	64	64	67	72	77	72	68	81	82	82	81	81	76	69	75	78	73
75	74	73	73	74	75	79	84	81	79	86	87	87	87	86	83	77	85	89	84
85	77	76	76	77	78	82	86	84	82	89	89	89	89	88	85	80	88	92	88
95	82	82	81	83	84	87	91	90	89	94	94	93	94	91	89	85	92	97	95
100	87	89	86	89	91	93	96	96	96	101	100	98	101	95	94	89	95	101	101
ADM***	73	73	73	73	77	81	86	81	77	89	90	90	90	88	83	77	82	86	82
MEMPHIS, TENN.																			
0	2	-8	-11	-11	12	27	38	12	-11	50	52	48	48	36	25	9	9	9	-11
50	43	42	45	43	52	62	70	61	52	78	81	80	80	74	64	51	63	71	62
75	53	53	57	56	62	70	78	73	67	85	88	88	88	83	73	61	76	85	78
85	58	58	62	61	66	74	81	78	73	89	91	91	91	87	77	65	81	90	84
95	67	67	70	69	75	81	88	87	84	95	98	97	97	94	85	74	91	98	95
100	79	79	80	80	87	91	98	98	98	104	106	105	106	103	95	85	103	106	106
ADM***	53	50	53	52	62	72	80	71	62	88	91	91	90	85	76	61	74	82	72
MERCED, CALIF.																			
0	16	16	21	16	23	28	32	23	16	40	40	41	40	35	28	21	21	21	16
50	46	44	49	46	53	60	67	60	53	73	79	76	76	72	63	52	62	69	61
75	54	52	56	55	61	68	76	70	64	82	88	86	85	81	72	61	73	81	73
85	57	56	60	59	65	73	81	76	70	86	93	90	90	86	77	65	79	87	80
95	65	64	70	69	74	82	92	89	85	96	102	100	100	96	87	75	91	99	94
100	76	77	84	84	87	96	109	109	109	111	116	114	116	110	102	90	110	116	116
ADM***	55	54	60	56	66	75	83	75	65	90	97	95	94	90	79	66	79	86	76
MERIDIAN, MISS.																			
0	9	-7	-6	-7	15	28	39	15	-7	46	55	49	46	39	24	16	16	16	-7
50	48	48	51	49	57	64	72	64	56	79	81	81	80	76	65	54	65	73	64
75	58	60	64	62	67	73	79	76	71	87	87	88	88	85	75	63	77	85	80
85	62	65	68	66	71	76	83	80	77	90	90	91	91	88	79	68	82	90	86
95	70	73	76	75	80	83	89	88	86	95	96	97	97	95	86	76	91	97	95
100	81	83	85	85	93	91	98	98	98	102	105	105	105	104	97	87	104	105	105
ADM***	60	59	62	60	68	77	84	76	68	91	92	92	92	87	78	67	77	84	76
MIAMI, FLA.																			
0	30	31	27	27	34	44	50	34	27	65	65	66	65	67	52	36	36	36	27
50	70	69	69	69	71	74	77	74	71	80	82	82	81	81	78	72	77	79	75
75	78	76	77	78	79	81	83	83	81	84	86	86	85	84	83	80	86	88	85
85	80	79	80	80	81	83	85	85	84	86	87	87	87	86	85	82	88	91	88
95	84	82	83	84	85	87	89	89	89	89	91	90	90	89	88	86	91	94	93
100	85	83	85	85	88	91	92	92	92	94	95	94	95	93	91	88	93	95	95
ADM***	75	74	75	75	77	80	82	79	77	85	87	87	86	86	83	78	82	84	81

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
MIDLAND, TEXAS.																			
0	8	7	-1	-1	10	28	39	10	-1	54	56	60	54	46	32	16	16	16	-1
50	45	44	49	46	56	65	73	64	55	80	82	81	81	75	67	53	65	73	64
75	55	54	61	58	67	73	82	78	69	87	89	87	88	83	75	62	77	86	79
85	60	58	66	63	71	77	86	85	76	90	91	90	92	87	79	66	82	91	85
95	70	68	75	73	79	85	95	93	89	98	97	96	99	95	87	74	93	99	96
100	85	83	87	87	90	96	107	107	107	109	106	106	109	107	98	86	107	109	109
ADM***	58	57	62	59	70	79	86	78	68	93	94	93	93	87	79	66	77	85	77
MILWAUKEE, MISC.																			
0	-12	-24	-19	-24	-7	13	28	-7	-24	53	45	44	33	28	21	-5	-5	-5	-24
50	26	22	24	24	33	44	54	44	34	65	71	70	69	63	51	37	50	60	47
75	35	33	35	36	44	53	62	57	49	73	78	77	78	72	60	48	64	74	64
85	40	38	39	40	50	57	66	62	55	77	82	80	82	76	64	53	70	80	71
95	49	48	48	50	62	67	75	74	70	86	89	88	90	85	72	63	82	90	84
100	63	62	60	63	81	82	90	90	90	99	101	100	101	98	86	77	98	101	101
ADM***	33	29	32	31	41	53	64	52	42	75	81	79	78	72	60	45	59	69	55
MINNEAPOLIS-ST. PAUL, MINN.																			
0	-22	-31	-28	-31	-27	9	26	-27	-31	34	48	40	34	26	18	-9	-9	-9	-31
50	19	15	18	17	31	46	59	45	31	68	74	72	71	62	50	33	49	60	46
75	30	26	29	30	45	56	67	62	47	77	81	80	80	71	59	44	63	76	64
85	35	31	34	35	51	62	71	68	55	81	85	83	85	76	64	49	69	82	71
95	46	42	43	47	62	73	81	80	71	89	92	91	93	85	74	59	81	92	86
100	63	58	56	63	78	92	95	95	95	100	104	102	104	98	89	75	98	104	104
ADM***	27	23	27	26	39	56	69	55	40	79	85	82	82	73	60	41	58	70	55
MISSOULA, MONT.																			
0	-21	-33	-22	-33	-15	14	21	-13	-33	31	36	36	31	24	17	-23	-23	-23	-33
50	24	19	26	23	35	45	54	44	34	60	68	66	65	56	45	32	44	55	44
75	34	32	37	36	46	53	62	58	50	68	77	74	74	65	53	44	60	72	63
85	39	37	41	41	51	58	67	64	57	73	81	78	79	70	57	49	67	79	70
95	48	47	50	50	60	68	77	76	72	82	91	86	89	80	66	57	80	91	85
100	60	59	60	60	72	85	92	92	92	98	105	98	105	98	88	65	98	105	105
ADM***	32	29	36	32	46	58	68	57	45	75	86	84	82	71	58	41	57	69	57
MOBILE, ALA.																			
0	18	14	11	11	21	36	45	21	11	56	60	59	56	47	32	22	22	22	11
50	54	53	55	54	60	67	73	67	60	80	81	81	80	78	69	59	68	74	67
75	62	62	65	64	69	74	81	77	72	86	86	86	87	85	78	67	79	86	80
85	65	66	69	68	73	77	84	82	77	88	89	89	89	87	81	71	83	90	85
95	72	74	75	75	80	84	90	90	87	94	95	94	95	92	86	77	90	97	94
100	80	84	82	84	90	92	100	100	100	102	104	102	104	98	93	85	98	104	104
ADM***	63	62	65	63	69	76	83	76	70	89	89	90	89	87	79	69	78	84	77
MODESTO, CALIF.																			
0	15	18	24	15	28	30	37	28	15	39	46	47	39	40	29	26	26	26	15
50	46	44	49	46	54	59	66	60	53	71	76	74	74	71	63	52	62	68	60
75	54	52	57	56	61	67	74	69	64	71	84	82	83	79	72	60	72	79	72
85	59	56	62	61	65	72	78	74	70	66	88	86	87	84	77	64	77	84	78
95	68	66	73	73	73	81	88	86	83	48	97	95	97	94	88	74	90	95	91
100	84	81	92	92	87	95	105	105	105	8	111	111	111	110	106	90	110	111	111
ADM***	54	53	59	55	65	73	80	73	64	87	94	91	91	87	77	65	76	83	74
MOLINE, ILL.																			
0	-16	-20	-23	-23	-13	21	30	-13	-23	39	46	40	39	24	16	-2	-2	-2	-23
50	27	23	27	26	37	50	61	49	37	71	76	73	73	65	54	39	53	63	50
75	38	34	39	38	50	58	70	65	53	79	83	81	82	76	64	49	66	78	68
85	43	39	44	43	55	63	75	71	61	83	87	85	86	80	68	54	72	84	75
95	53	50	54	53	67	74	86	85	78	91	94	94	94	88	78	65	84	94	88
100	67	65	68	68	83	91	104	104	104	104	105	106	106	100	92	80	100	106	106
ADM***	84	81	92	86	87	95	105	96	91	108	111	111	110	110	106	90	102	106	98
MONCTON, N BRUNSWICK, CANADA																			
0	-25	-32	-33	-33	-25	4	20	-25	-33	25	35	31	25	24	14	-4	-4	-4	-33
50	22	16	16	18	27	37	50	38	28	58	66	64	63	56	46	35	46	54	41
75	35	28	28	31	39	47	58	53	44	67	74	73	72	65	55	45	58	68	59
85	39	34	34	37	44	52	63	60	51	71	77	77	77	69	59	49	64	74	66
95	50	46	44	48	53	64	74	73	67	80	85	86	86	78	68	59	75	85	80
100	65	63	59	65	66	83	91	91	91	94	96	99	99	92	83	73	92	99	99
ADM***	30	25	25	27	35	46	61	47	37	69	77	76	74	67	56	42	55	64	51
MONROE, LA.																			
0	16	5	-2	-2	15	32	42	15	-2	54	55	58	54	37	29	19	19	19	-2
50	49	48	51	49	57	65	73	65	57	80	82	83	82	76	67	55	66	74	65
75	58	58	63	61	67	73	80	77	71	87	89	89	89	86	76	64	77	86	81
85	62	63	67	65	71	77	83	81	76	89	92	92	92	89	79	68	82	91	86
95	70	71	75	74	79	84	89	88	86	94	97	98	98	95	86	75	91	99	96
100	82	83	83	83	90	93	97	97	97	101	105	107	107	103	96	86	103	107	107
ADM***	60	58	61	60	68	77	84	76	68	91	93	94	93	89	81	67	79	84	77
MONTEREY, CALIF.																			
0	19	18	22	18	25	28	29	25	18	32	35	35	32	32	26	20	20	20	18
50	50	49	51	50	54	56	59	56	53	60	62	62	61	62	60	55	59	60	57
75	59	57	59	59	62	64	67	65	63	69	70	69	70	71	69	64	70	71	68
85	63	61	63	64	66	68	72	70	68	74	75	73	75	74	75	69	75	77	73
95	71	70	74	74	77	79	83	81	80	86	85	82	86	88	86	80	88	88	84
100	84	82	90	90	93	97	100	100	100	105	102	95	105	107	105	96	107	107	107
ADM***	63	61	62	62	66	68	71	68	65	72	74	73	73	76	74	70	73	73	69
MONTGOMERY, ALA.																			
0	8	5	-5	-5	20	30	43	20	-5	48	61	58	48	45	26	13	13	13	-5
50	49	49	52	50	57	65	73	65	57	80	81	81	81	77	66	55	66	73	65
75	59	60	64	63	66	73	80	75	72	87	87	87	88	85	76	65	79	87	81
85	64	64	69	67	70	76	83	80	77	91	90	90	92	89	80	69	84	91	87
95	72	72	76	75	79	83	90	88	87	97	96	95	98	96	89	77	94	99	97
100	83	83	84	84	90	92	99	99	99	106	107	104	107	106	100	86	106	107	107
ADM***	60	60	63	61	69	77	84	76	69	91	91	91	91	88	79	67	78	84	77

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
MONTPELIER, VT.																			
0	-19	-25	-26	-26	-18	10	25	-18	-26	34	39	37	34	25	17	-7	-7	-7	-26
50	22	19	18	20	29	41	52	41	30	63	67	64	65	56	47	35	46	55	43
75	32	31	29	32	41	50	60	55	45	70	75	71	73	64	55	46	59	70	59
85	37	36	34	37	47	54	64	60	51	74	78	75	76	68	60	51	64	75	66
95	47	48	43	49	59	62	72	71	65	81	84	82	83	76	69	61	74	84	78
100	61	66	56	66	77	76	84	84	84	91	94	93	94	88	84	76	88	94	94
ADM***	31	29	29	30	39	52	64	51	40	75	80	76	77	68	59	43	57	67	54
MONTREAL, QUE.																			
0	-29	-27	-28	-29	-20	2	23	-20	-29	38	46	43	38	32	20	-18	-18	-18	-29
50	20	14	16	16	26	42	56	41	29	66	70	67	67	59	47	33	46	57	43
75	31	24	26	28	38	52	64	56	44	73	76	74	75	66	54	45	61	73	60
85	36	29	30	35	45	57	69	63	52	76	79	77	78	70	58	50	67	79	67
95	46	39	39	43	55	67	79	76	68	83	86	84	86	78	67	59	77	88	80
100	59	54	51	59	68	83	94	94	94	94	97	96	97	90	80	70	90	97	97
ADM***	26	21	23	23	33	50	64	49	36	74	78	75	76	67	54	39	53	64	50
MUSCLE SHOALS, ALA.																			
0	9	1	1	1	10	29	36	10	1	48	54	53	48	39	27	2	2	2	1
50	44	44	45	44	52	62	70	61	53	78	80	79	79	72	63	50	62	71	62
75	53	54	55	55	62	69	78	73	65	86	87	86	87	81	72	62	76	86	76
85	57	58	59	59	66	73	82	78	71	89	90	89	90	84	75	66	81	91	82
95	65	68	67	68	73	80	89	87	83	95	96	95	97	91	83	73	90	99	92
100	78	80	77	80	83	89	99	99	99	104	106	105	106	101	94	82	101	106	106
ADM***	53	53	54	53	62	72	81	72	62	89	91	90	90	83	75	61	73	81	72
MUSKEGON, MICH.																			
0	-4	-13	-11	-13	-10	15	22	-10	-13	34	40	40	34	28	22	-14	-14	-14	-14
50	29	25	25	26	32	44	54	43	35	64	70	68	68	61	50	39	50	59	47
75	38	35	33	36	43	52	63	56	47	72	77	76	76	70	58	51	65	75	62
85	42	39	37	41	49	56	66	62	53	76	80	79	79	74	62	55	71	80	68
95	50	49	45	50	60	67	74	72	66	84	87	86	87	82	70	63	82	89	80
100	63	63	57	63	77	84	86	86	86	97	95	97	97	95	83	73	95	97	97
ADM***	35	31	32	33	40	53	65	53	43	75	81	79	78	71	59	45	59	68	55
NANTUCKET, MASS.																			
0	-3	-4	-6	-6	6	15	30	6	-6	39	47	49	39	35	29	15	15	15	-6
50	35	32	31	33	37	44	52	44	38	61	67	67	65	62	53	45	53	59	49
75	44	41	40	42	45	52	59	54	50	67	73	73	72	69	60	52	63	70	62
85	47	45	44	46	48	56	63	60	56	70	76	76	76	72	63	55	67	74	68
95	54	53	51	54	56	65	72	71	69	78	82	83	83	79	70	61	76	83	79
100	61	64	60	64	68	79	88	88	88	90	92	95	95	88	82	69	88	95	95
ADM***	42	39	38	40	44	50	59	51	45	68	74	74	72	69	60	52	60	66	56
NASHVILLE, TENN.																			
0	-2	-10	-13	-13	5	25	36	5	-13	42	51	47	42	36	26	-1	-1	-1	-13
50	42	40	42	41	50	60	68	59	50	77	80	79	79	73	62	49	61	70	60
75	52	52	55	54	61	68	76	72	65	85	87	86	87	82	71	61	76	86	77
85	56	57	60	59	66	72	80	77	71	89	91	90	91	86	75	66	82	91	83
95	65	66	69	68	76	80	86	86	82	96	97	96	98	94	83	74	92	99	94
100	76	78	79	79	89	90	96	96	96	106	107	105	107	105	94	85	105	107	107
ADM***	50	49	52	50	60	71	79	70	60	88	91	89	89	85	74	59	73	81	70
NEW BEDFORD, MASS.																			
0	-11	-11	-12	-12	2	18	30	2	-12	41	45	44	41	30	22	9	9	9	-12
50	35	32	31	32	38	47	57	47	40	66	72	71	70	65	56	46	55	63	51
75	45	42	41	43	48	55	65	59	53	73	79	78	77	74	64	54	67	75	67
85	49	46	46	48	52	60	69	65	60	77	82	81	81	77	69	58	72	80	73
95	55	54	56	57	62	69	79	77	74	87	88	87	89	84	77	64	81	90	85
100	63	64	69	69	77	85	95	95	95	102	97	96	102	94	90	73	94	102	102
ADM***	41	38	37	39	45	54	65	54	47	73	79	78	77	72	63	52	62	70	58
NEW BERN, N. C.																			
0	5	4	2	2	17	27	30	17	2	48	54	51	48	41	26	15	15	15	2
50	47	47	47	47	54	63	71	62	55	78	80	79	79	75	65	55	65	72	64
75	58	58	59	58	64	72	80	73	68	86	87	86	87	83	75	65	77	85	78
85	62	62	63	63	68	76	84	78	73	89	90	89	90	86	79	69	81	89	83
95	71	71	73	73	78	85	91	87	84	96	96	95	96	93	87	77	90	97	93
100	84	83	86	86	92	98	99	99	99	105	105	103	105	101	98	87	101	105	105
ADM***	58	58	59	58	66	74	82	74	66	89	90	89	89	85	76	67	76	83	74
NEW HAVEN, CONN.																			
0	-12	-14	-15	-15	0	13	30	0	-15	40	47	45	40	32	24	2	2	2	-15
50	32	29	29	30	37	46	57	47	38	66	71	70	69	64	53	43	53	61	50
75	43	40	40	41	47	56	65	59	52	73	78	77	77	72	61	53	66	75	65
85	47	44	45	46	53	61	69	65	59	77	81	80	80	76	65	57	72	80	72
95	56	54	55	56	65	72	79	77	73	85	89	88	89	86	75	65	83	90	84
100	68	67	69	69	84	91	95	95	95	99	101	100	101	100	89	75	100	101	101
ADM***	40	37	37	38	46	55	66	56	47	75	80	79	78	73	63	52	63	70	59
NEW ORLEANS, LA.																			
0	19	15	7	7	28	38	50	28	7	58	66	63	58	54	40	29	29	29	7
50	57	56	59	57	63	70	76	70	63	82	83	83	83	80	73	63	72	77	70
75	66	65	70	68	71	77	82	79	76	88	88	88	89	86	80	71	82	88	84
85	69	69	74	72	75	80	85	83	81	90	90	90	91	89	83	74	85	91	89
95	76	75	80	79	81	85	90	89	89	95	95	95	96	93	88	80	92	97	96
100	84	83	85	85	90	91	97	97	97	102	102	100	102	99	94	89	99	102	102
ADM***	65	64	67	65	71	78	84	78	71	89	90	91	90	87	80	70	79	85	78
NEWPORT NEWS, VA.																			
0	6	5	4	4	11	22	33	11	4	47	56	55	47	46	32	15	15	15	4
50	43	42	42	42	49	57	67	57	50	76	79	78	77	73	62	52	62	70	60
75	52	51	52	52	58	66	75	69	62	83	85	84	85	79	70	61	73	82	73
85	56	56	57	57	63	70	79	74	67	86	88	86	88	82	74	65	78	86	79
95	65	65	67	67	74	79	87	84	79	93	94	92	94	89	82	73	87	94	89
100	78	78	82	82	90	95	97	97	97	102	103	100	103	98	95	85	98	103	103
ADM***	51	50	51	51	58	66	76	66	58	84	87	85	85	80	70	60	70	78	68

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
NEW YORK, N. Y.																			
0	-2	0	-7	-7	7	23	37	7	-7	45	56	53	45	42	32	17	17	17	-7
50	36	33	33	34	41	50	61	51	42	71	76	74	74	68	58	47	58	66	54
75	45	42	43	44	50	58	68	62	55	78	81	80	81	76	65	55	68	77	69
85	49	46	48	49	55	62	72	67	62	81	84	84	85	80	69	59	74	82	75
95	58	56	58	59	67	72	81	79	75	89	90	91	92	88	78	68	85	91	87
100	70	72	74	74	86	89	96	96	96	101	100	103	103	102	93	83	102	103	103
ADM***	42	39	39	40	48	58	70	59	49	80	84	82	82	76	65	53	65	73	61
NORFOLK, VA.																			
0	5	5	2	2	14	23	36	14	2	49	57	56	49	40	31	17	17	17	2
50	43	42	42	42	49	56	66	57	50	75	78	76	76	72	61	51	62	69	59
75	52	51	52	52	59	65	74	68	62	82	83	82	83	80	69	60	73	81	73
85	57	56	57	57	64	70	78	73	68	85	86	86	87	83	73	65	77	86	79
95	65	65	67	67	75	80	86	83	80	92	93	93	94	90	82	74	87	94	90
100	78	80	82	82	92	95	98	98	98	103	104	105	105	100	95	87	100	105	105
ADM***	51	50	51	51	59	66	75	67	59	84	86	85	85	80	70	60	70	77	68
NORTH BAY, ONT., CANADA.																			
0	-25	-35	-35	-35	-34	0	18	-34	-35	30	40	35	30	24	13	-6	-6	-6	-35
50	16	12	15	14	24	38	51	38	26	62	67	65	65	57	43	31	43	54	40
75	26	24	26	26	37	48	59	54	41	69	74	73	73	65	51	40	55	68	57
85	31	29	30	31	43	52	63	60	48	72	77	76	76	68	55	45	61	73	64
95	41	39	38	42	54	62	71	71	62	79	84	83	83	75	65	54	71	82	77
100	56	54	47	55	68	77	85	83	83	88	93	92	93	85	80	67	85	93	93
ADM***	24	22	25	23	34	48	62	48	36	73	78	76	76	66	49	38	51	63	49
OAKLAND, CALIF.																			
0	23	24	25	23	32	31	36	31	23	41	46	47	41	41	34	27	27	27	23
50	49	47	51	49	53	56	58	56	52	62	63	63	62	63	60	54	59	61	57
75	55	53	58	56	60	63	65	63	61	68	69	68	69	70	67	61	68	70	66
85	58	56	61	60	63	66	69	67	66	72	73	72	74	75	71	65	73	75	71
95	64	62	69	68	71	75	78	77	76	82	83	80	84	85	80	73	84	85	83
100	73	72	82	82	85	88	94	94	94	99	102	95	102	102	94	86	102	102	102
ADM***	57	56	60	58	63	66	69	66	62	72	72	72	72	74	71	64	70	71	66
OCALA, FLA.																			
0	17	17	12	12	25	30	44	25	12	51	62	60	51	53	34	22	22	22	12
50	60	60	61	60	66	71	77	71	66	81	82	82	82	80	73	64	72	77	71
75	70	70	72	71	75	80	85	82	78	88	87	87	89	86	82	74	84	89	85
85	74	73	76	75	79	83	88	86	83	91	90	90	92	89	85	78	87	93	89
95	81	80	82	82	87	89	94	93	92	97	95	95	98	94	90	85	94	99	97
100	90	87	89	90	97	96	102	102	102	105	104	103	105	101	96	94	101	105	105
ADM***	71	71	74	72	78	83	90	84	78	92	92	92	92	90	84	76	83	88	83
OKLAHOMA CITY, OKLA.																			
0	5	-10	-1	-10	1	20	32	1	-10	47	56	51	47	37	22	13	13	13	-10
50	40	37	42	40	50	60	68	59	50	78	82	82	81	74	63	49	62	71	60
75	50	49	53	52	62	70	77	73	64	85	89	89	89	83	73	58	74	85	77
85	55	54	57	58	67	75	80	77	69	88	92	93	92	87	77	62	80	90	83
95	67	65	67	69	78	83	87	86	81	95	99	99	99	95	85	71	91	99	95
100	86	80	81	86	93	95	95	95	95	105	109	107	109	107	96	84	107	109	109
ADM***	50	47	52	50	61	71	79	70	60	88	93	93	92	85	74	60	73	82	71
OMAHA, NEBR.																			
0	-12	-21	-19	-21	-16	10	29	-16	-21	39	51	43	39	30	20	-3	-3	-3	-21
50	27	23	27	26	38	52	63	51	38	73	79	76	76	67	56	39	54	65	52
75	38	34	39	38	52	63	72	67	54	81	86	84	85	77	65	50	68	81	69
85	43	40	44	43	58	68	76	73	61	85	90	88	90	81	70	55	74	87	77
95	54	52	54	55	70	77	85	85	76	93	99	97	99	90	80	65	87	99	93
100	72	69	69	72	88	91	99	99	99	105	114	110	114	104	96	80	104	114	114
ADM***	36	32	37	35	48	63	73	61	48	83	89	86	86	78	67	49	64	75	62
ONTARIO, CALIF.																			
0	24	18	25	18	28	31	33	28	18	40	49	47	40	41	34	26	26	26	18
50	52	50	52	51	55	60	64	60	55	69	76	76	74	73	65	57	65	69	62
75	61	59	59	61	63	68	73	69	66	78	84	84	83	81	74	66	75	81	74
85	66	63	63	66	68	73	78	74	72	83	88	88	88	85	78	70	81	86	81
95	77	73	73	77	78	83	88	86	84	94	98	97	98	95	88	80	92	98	94
100	90	89	89	96	96	100	105	105	105	114	115	112	115	109	104	96	109	115	115
ADM***	65	62	63	63	68	72	78	73	68	80	93	92	88	88	79	70	79	84	76
ORLANDO, FLA.																			
0	24	26	28	24	31	39	49	31	24	60	66	64	60	56	43	29	29	29	24
50	63	62	63	63	67	72	77	72	67	81	82	83	82	81	75	67	74	78	73
75	72	70	72	72	75	79	83	81	78	86	86	87	87	86	82	75	84	88	83
85	75	74	75	75	78	82	87	85	82	88	88	89	89	89	84	78	87	92	87
95	81	80	81	81	84	88	93	93	90	93	95	93	94	92	89	84	92	97	94
100	87	87	89	89	92	96	102	102	102	100	99	99	100	97	94	89	97	100	102
ADM***	74	73	75	74	78	83	88	83	78	91	91	92	91	90	85	78	84	88	83
OTTAWA, ONT., CAN.																			
0	-34	-32	-35	-35	-34	-2	21	-34	-35	33	38	35	33	24	14	-10	-10	-10	-35
50	17	12	13	14	25	41	55	40	27	65	70	66	67	58	46	33	45	56	41
75	29	23	24	26	39	52	64	58	43	73	78	74	76	68	54	43	60	71	60
85	33	28	29	31	46	58	69	65	51	77	81	78	80	73	59	48	66	77	68
95	43	39	40	41	59	69	79	78	68	85	89	87	88	84	70	57	81	89	82
100	55	54	54	55	78	86	94	94	94	97	101	100	101	102	87	71	102	102	102
ADM***	24	21	22	22	33	51	66	50	36	76	81	77	78	68	54	39	54	66	51
OWENSBORO, KY.																			
0	-14	-18	-21	-21	0	22	31	0	-21	43	44	42	42	27	21	-7	-7	-7	-21
50	37	36	38	37	46	56	66	56	46	75	78	77	77	70	59	46	58	67	57
75	49	48	52	51	58	65	74	69	62	83	87	85	85	80	69	58	73	84	75
85	54	53	57	56	63	69	78	74	69	87	90	89	89	84	73	63	79	89	81
95	63	63	67	66	74	78	86	84	81	95	97	96	97	93	81	72	90	99	93
100	75	76	79	79	89	92	96	96	96	107	107	105	107	104	92	84	104	107	107
ADM***	46	45	47	46	57	68	78	67	57	87	90	88	88	82	72	56	70	79	68

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
PADUCAH, KY.																			
0	-3	-17	-12	-17	6	25	30	6	-17	45	47	45	45	32	23	1	1	1	-17
50	38	37	39	38	47	58	67	57	48	77	79	78	78	71	61	47	60	69	58
75	48	50	51	51	58	67	76	70	63	85	87	87	87	81	70	58	74	84	76
85	53	55	56	56	65	71	80	75	69	88	91	91	91	85	75	63	80	90	83
95	63	65	65	66	74	80	87	85	82	95	98	99	99	94	83	73	91	100	96
100	78	79	77	79	90	94	98	98	98	105	109	112	112	106	95	86	106	112	112
ADM***	47	46	49	47	58	69	79	69	58	88	91	90	90	84	74	58	72	81	69
PALM SPRINGS, CALIF.																			
0	26	18	24	18	29	35	38	29	18	48	54	54	48	46	30	26	26	26	18
50	55	54	57	55	63	70	76	69	62	82	91	89	87	84	74	63	73	80	71
75	64	64	67	66	72	79	86	81	75	91	100	98	97	93	85	72	86	93	85
85	68	69	72	72	77	84	91	86	81	96	103	101	101	98	89	76	91	99	91
95	78	80	85	84	88	94	102	99	95	106	111	109	110	107	98	85	103	109	104
100	93	98	105	105	105	110	118	118	118	121	122	121	122	121	110	98	121	122	122
ADM***	70	68	71	70	79	87	94	87	78	102	108	106	105	102	91	79	91	98	88
PANAMA CITY, FLA.																			
0	17	14	4	4	24	31	43	24	4	56	60	58	56	47	33	22	22	22	4
50	56	56	57	56	62	68	75	68	62	81	82	82	82	79	71	61	70	76	69
75	65	65	68	68	70	76	83	78	75	87	88	88	88	87	80	70	82	88	84
85	69	69	72	72	74	80	86	82	80	90	90	90	91	90	83	74	86	92	89
95	76	75	78	78	81	86	92	90	89	95	95	95	96	96	89	81	95	99	97
100	85	81	83	85	89	93	99	99	99	103	103	102	103	105	96	90	105	105	105
ADM***	66	66	67	66	72	78	85	78	72	90	90	91	90	89	83	72	81	86	79
PENDLETON, ORE.																			
0	1	-22	-18	-22	10	18	25	10	-22	36	42	45	36	33	11	-6	-6	-6	-22
50	35	31	37	34	45	52	60	52	43	67	75	73	71	65	54	41	53	62	53
75	44	43	49	47	54	61	69	64	59	75	83	80	81	73	64	52	67	78	71
85	47	48	53	51	58	66	74	69	66	79	87	83	85	78	68	56	74	84	78
95	55	56	59	59	66	75	84	81	80	88	96	91	95	87	75	63	86	96	92
100	65	67	65	67	78	89	99	99	99	101	110	102	110	102	85	72	102	110	110
ADM***	41	37	44	41	55	63	72	63	52	79	89	87	85	77	64	47	63	74	63
PENSACOLA, FLA.																			
0	20	14	13	13	24	34	47	24	13	59	64	63	59	50	39	22	22	22	13
50	55	54	56	55	60	67	74	67	61	80	81	81	81	78	70	60	70	75	68
75	63	63	65	64	69	75	81	77	73	85	86	86	86	85	78	69	80	87	81
85	66	66	69	68	72	78	84	81	78	87	88	89	89	87	81	72	84	91	85
95	72	72	74	73	79	84	90	90	87	92	93	94	95	91	86	77	90	97	94
100	78	79	79	79	88	91	100	100	100	100	101	103	103	95	93	83	95	103	103
ADM***	62	61	63	62	67	73	80	73	68	86	87	87	87	85	78	68	77	82	75
PENTICTON, B. C., CANADA.																			
0	-8	-12	-12	-12	5	16	27	5	-12	32	38	32	32	22	12	1	1	1	-12
50	31	27	31	29	40	48	56	48	38	63	69	67	66	58	48	38	48	57	48
75	40	36	41	39	48	57	64	59	52	71	77	75	75	67	57	46	60	71	63
85	43	40	45	44	52	61	69	65	58	76	81	79	80	72	61	50	65	77	70
95	51	47	53	52	60	71	78	76	72	85	90	86	90	81	70	58	77	89	84
100	60	57	64	64	71	87	94	94	94	100	105	97	105	94	82	69	94	105	105
ADM***	35	32	38	35	50	61	70	60	48	77	84	81	81	71	59	44	58	69	58
PHILADELPHIA, PA.																			
0	1	2	5	1	1	24	53	7	1	44	52	50	44	36	28	15	15	15	1
50	36	33	34	34	42	52	63	52	43	72	76	74	74	68	57	46	57	65	54
75	45	42	42	43	52	60	71	64	55	79	83	80	82	76	65	54	68	77	68
85	49	47	47	48	57	64	75	69	61	83	86	84	85	80	69	58	73	82	73
95	58	57	57	58	69	75	83	80	75	90	92	90	92	88	79	66	84	91	85
100	72	74	74	74	87	92	96	96	96	100	102	101	102	100	96	79	100	102	102
ADM***	44	41	42	42	52	62	74	63	53	83	87	84	84	78	67	55	67	75	64
PHOENIX, ARIZ.																			
0	22	17	22	17	29	32	42	29	17	50	61	60	50	49	36	25	25	25	17
50	52	50	54	52	60	67	76	67	60	84	90	88	87	83	71	58	71	79	69
75	60	58	63	61	68	76	84	78	72	93	97	95	96	92	80	67	83	92	83
85	64	62	67	65	72	81	89	83	78	97	101	99	100	96	84	71	88	97	88
95	74	71	75	74	80	90	98	95	91	105	107	105	107	105	92	79	100	106	101
100	88	85	88	88	92	104	113	113	113	117	116	115	117	118	104	91	118	118	118
ADM***	68	65	70	67	76	84	94	84	76	102	105	102	103	98	88	76	87	95	85
PIERRE, S. DAK.																			
0	-27	-36	-40	-40	-18	1	20	-18	-40	35	44	39	35	19	-4	-16	-16	-16	-40
50	23	17	20	20	32	48	59	46	33	69	78	75	74	64	52	34	50	62	48
75	36	31	35	35	45	60	70	62	52	78	87	85	84	76	65	47	66	80	69
85	42	37	42	42	52	65	75	69	61	83	91	89	89	81	71	53	74	87	77
95	56	49	56	56	67	77	87	84	79	94	100	99	99	92	82	64	88	100	94
100	76	66	75	76	90	94	105	105	105	110	115	114	115	108	98	81	108	115	115
ADM***	33	28	31	31	42	60	72	58	44	81	91	89	87	78	65	45	63	75	60
PITTSBURGH, PA.																			
0	5	-6	-7	-7	12	20	32	12	-7	43	49	46	43	34	28	9	9	9	-7
50	31	29	30	30	39	49	60	49	39	69	72	70	70	65	53	41	53	62	51
75	38	38	39	40	46	57	67	59	52	75	79	77	77	73	60	49	64	74	65
85	42	41	44	44	50	61	70	63	57	78	82	80	81	77	63	53	70	79	71
95	51	49	54	54	58	71	77	73	69	85	86	87	88	85	71	61	81	88	83
100	66	60	69	69	72	87	87	87	87	94	99	97	99	97	83	72	97	99	99
ADM***	38	37	38	38	48	59	71	59	48	79	83	81	81	75	63	49	62	72	60
PITTSFIELD, MASS.																			
0	-20	-22	-25	-25	-9	11	25	-9	-25	33	41	32	32	24	18	-9	-9	-9	-25
50	25	21	22	23	31	42	54	42	32	63	68	66	65	58	48	37	48	57	44
75	36	32	33	34	42	51	62	55	47	71	74	74	74	67	56	48	61	71	61
85	40	37	38	39	48	56	66	61	54	74	77	78	77	72	60	53	67	76	67
95	49	47	47	48	60	67	75	72	68	82	83	85	84	81	69	63	79	86	80
100	61	61	60	61	81	86	88	88	88	93	92	94	94	95	84	76	95	95	95
ADM***	33	30	31	31	40	53	66	53	42	74	79	78	77	70	59	46	58	68	55

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
POCATELLO, IDAHO.																			
0	-15	-31	-27	-31	0	12	24	0	-31	32	36	35	32	25	17	-13	-13	-13	-31
50	27	22	29	26	37	46	55	46	36	63	73	70	69	60	49	36	48	58	47
75	37	34	41	39	46	56	64	58	52	72	82	79	78	69	58	47	63	75	66
85	42	38	46	44	50	60	68	64	59	76	85	83	82	73	62	52	69	81	73
95	51	46	53	53	59	70	78	75	74	87	92	90	91	83	71	60	81	91	86
100	63	55	62	63	72	86	93	93	93	103	102	101	103	97	85	70	97	103	103
ADM***	36	31	38	35	47	59	69	58	47	78	89	87	85	76	63	46	62	73	60
PORT HARDY, B.C., CANADA																			
0	6	6	16	6	9	26	30	9	6	36	37	40	36	33	28	14	14	14	6
50	46	37	38	40	41	44	49	45	43	53	57	57	55	53	48	42	48	52	47
75	57	44	43	50	48	50	55	54	53	59	62	62	62	58	53	49	56	61	58
85	62	46	46	56	50	53	59	58	58	63	65	64	65	61	56	52	59	66	63
95	73	50	50	68	55	60	67	67	70	73	71	71	74	67	62	58	67	75	73
100	89	54	56	89	60	72	81	81	89	89	80	83	89	77	72	67	77	89	89
ADM***	52	41	43	45	46	51	56	51	48	60	63	63	62	59	53	46	53	57	53
PORTLAND, ME.																			
0	-15	-21	-39	-39	-21	8	23	-21	-39	53	41	38	35	23	18	6	6	6	-39
50	25	21	22	22	32	42	52	42	32	62	68	66	65	59	48	38	48	57	44
75	35	32	36	37	46	51	61	57	50	70	75	74	74	68	57	46	59	69	64
85	39	37	41	42	52	56	65	63	57	74	78	78	78	72	61	50	65	75	71
95	48	48	51	52	66	67	75	76	72	83	86	87	87	81	71	59	77	85	84
100	60	64	64	64	86	85	92	92	92	97	98	100	100	95	87	73	95	100	100
ADM***	35	31	32	32	41	52	63	52	42	73	79	77	76	70	60	47	59	68	55
PORTLAND, ORE.																			
0	3	6	7	3	22	30	36	22	3	41	43	44	41	35	29	15	15	15	3
50	42	40	44	42	48	54	59	54	48	64	69	68	67	64	56	47	56	61	55
75	51	47	52	51	56	61	66	63	60	71	76	75	75	72	64	55	67	73	68
85	54	51	55	54	60	65	71	68	66	75	80	79	79	76	68	58	72	79	74
95	60	57	61	61	69	76	81	80	79	85	90	88	90	86	76	64	84	90	87
100	65	65	68	68	83	93	99	99	99	102	107	102	107	102	90	71	102	107	107
ADM***	47	44	50	47	56	62	69	62	54	73	79	79	77	73	64	53	63	70	62
PRESQUE ISLE, ME.																			
0	-35	-41	-36	-41	-30	-2	19	-30	-41	25	37	31	25	21	8	-15	-15	-15	-41
50	17	12	14	14	25	38	52	38	26	61	66	65	64	56	44	32	44	54	40
75	30	25	26	28	38	49	61	55	44	70	74	73	74	65	54	43	58	70	59
85	35	30	30	33	43	55	66	62	52	74	78	77	78	69	59	47	64	76	67
95	45	41	39	46	53	67	76	76	69	83	85	86	87	77	69	57	75	86	81
100	58	54	51	58	65	85	94	94	94	95	97	99	99	90	84	69	90	99	99
ADM***	26	23	25	24	35	48	64	49	37	73	78	76	76	67	54	39	53	65	51
PRINCE GEORGE, B. C., CAN.																			
0	-56	-57	-52	-57	-35	-13	12	-35	-57	24	28	25	24	6	-4	-28	-28	-28	-57
50	17	13	19	16	30	41	49	40	28	56	60	59	58	51	41	30	40	49	39
75	32	29	34	32	45	54	59	58	48	65	68	67	68	62	52	42	57	67	61
85	38	34	40	38	50	59	65	65	57	69	73	72	73	67	58	47	63	74	69
95	47	44	49	48	59	71	76	78	73	78	84	81	84	77	68	54	76	87	84
100	55	54	58	58	68	86	95	95	95	93	102	96	102	92	84	62	92	102	102
ADM***	25	23	31	26	42	54	64	53	40	70	75	74	73	65	52	38	52	62	51
PRINCE RUPERT, B. C., CAN.																			
0	1	-3	2	-3	15	22	30	15	-3	35	33	39	33	30	22	14	14	14	-3
50	36	35	37	36	39	44	48	44	40	53	56	58	55	54	48	42	48	51	45
75	44	43	45	45	46	50	54	52	51	59	62	63	62	60	54	48	56	61	58
85	47	47	49	49	49	53	58	56	56	63	66	66	66	63	57	52	60	65	63
95	53	54	56	56	56	60	67	67	67	72	74	74	74	69	63	58	68	75	73
100	60	62	66	66	68	71	84	84	84	88	87	86	88	79	71	68	79	88	88
ADM***	40	39	42	40	45	50	55	50	45	60	62	64	62	60	53	46	53	58	51
PROVIDENCE, R. I.																			
0	-12	-9	-17	-17	2	11	29	2	-17	39	49	44	39	33	25	9	9	9	-17
50	32	29	29	30	37	46	57	47	38	66	71	69	69	63	53	43	53	61	49
75	42	39	40	41	47	56	65	58	52	73	77	77	77	71	61	52	64	73	65
85	47	43	45	46	53	61	69	64	59	77	81	80	80	75	65	56	70	78	72
95	56	53	55	56	67	72	79	76	74	86	88	89	89	84	74	66	81	88	85
100	68	68	69	69	90	91	95	95	95	101	101	102	102	99	90	82	99	102	102
ADM***	39	37	37	38	45	55	66	55	47	75	80	79	78	72	62	51	62	70	58
PUEBLO, COLO.																			
0	-19	-29	-31	-31	-20	2	25	-20	-31	38	44	43	38	30	20	-11	-11	-11	-31
50	31	29	34	32	40	50	59	50	41	69	75	73	72	65	53	39	52	62	51
75	44	43	49	46	54	61	68	66	58	77	83	81	81	74	62	51	67	79	70
85	49	49	55	52	60	66	73	72	65	82	86	84	85	78	66	57	73	85	77
95	60	60	65	64	71	76	82	83	79	91	93	91	93	86	76	67	84	95	90
100	76	75	78	78	86	88	97	97	97	105	103	101	105	98	91	80	98	105	105
ADM***	47	45	49	47	55	65	73	64	56	84	90	88	87	81	69	55	68	78	67
QUEBEC, QUE., CAN.																			
0	-32	-34	-32	-34	-22	-1	20	-22	-34	31	39	37	31	27	14	-20	-20	-20	-34
50	16	10	12	13	23	37	51	37	25	62	67	64	64	56	44	30	43	54	39
75	27	21	23	24	34	47	60	52	40	70	74	71	72	63	52	42	58	70	57
85	32	26	27	29	39	52	64	58	48	74	77	75	76	67	56	47	64	76	64
95	41	37	36	39	49	63	75	72	65	82	85	83	85	75	64	57	75	86	78
100	54	52	49	54	64	80	91	91	91	94	96	97	97	88	77	71	88	97	97
ADM***	22	18	20	20	31	45	61	46	33	72	76	73	74	64	51	36	50	62	47
QUESNEL, B.C., CANADA																			
0	-40	-52	-44	-52	-38	-4	14	-38	-52	26	33	29	26	16	-6	-36	-36	-36	-52
50	18	13	20	17	30	42	51	41	29	57	61	60	60	53	42	28	41	50	40
75	31	27	35	33	45	53	61	59	48	66	69	69	69	62	54	42	58	69	61
85	36	33	40	38	50	58	66	66	56	70	73	73	73	66	58	47	65	76	68
95	45	41	49	48	59	67	75	77	71	80	83	82	83	74	67	55	75	87	82
100	54	50	59	59	67	80	90	90	90	96	98	96	98	86	78	65	86	98	98
ADM***	26	22	31	26	42	54	66	54	40	70	74	73	73	67	53	35	51	62	51

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
RALEIGH, N. C.																			
0	0	2	-2	-2	13	23	32	13	-2	44	53	49	44	37	25	14	14	14	-2
50	42	41	43	42	50	59	67	59	50	76	79	77	77	73	61	50	61	69	60
75	53	51	54	53	60	68	76	70	64	84	85	84	85	81	70	60	73	82	74
85	57	56	59	58	65	72	80	75	70	87	88	87	89	85	75	64	78	87	80
95	66	66	69	68	76	81	88	85	82	94	95	94	96	93	84	74	89	95	91
100	79	80	82	82	94	95	99	99	99	104	105	103	105	104	98	88	104	105	105
ADM***	52	51	53	52	62	71	79	71	61	87	89	88	88	84	73	62	73	80	71
RAPID CITY, S. DAK.																			
0	-18	-27	-18	-27	-15	9	18	-15	-27	31	40	40	31	25	14	-14	-14	-14	-27
50	26	21	24	24	31	45	55	43	34	64	72	71	69	61	49	35	48	59	46
75	37	34	35	37	44	54	64	58	49	72	81	79	79	70	59	47	64	76	64
85	42	40	41	43	50	59	69	64	56	77	85	83	84	75	64	53	70	82	72
95	53	53	54	55	62	71	78	76	71	86	95	92	94	86	76	63	84	94	87
100	70	74	74	74	82	89	93	93	93	101	109	106	109	103	94	77	103	109	109
ADM***	37	33	36	35	43	57	67	55	45	76	86	85	82	74	62	47	61	71	58
READING, PA.																			
0	-6	-14	-13	-14	2	12	31	2	-14	43	48	46	43	32	24	10	10	10	-14
50	35	32	33	33	42	51	63	52	43	71	76	73	73	67	56	45	56	65	54
75	45	44	44	45	52	62	71	64	57	79	83	81	81	76	65	55	68	78	70
85	49	49	50	50	58	67	75	69	63	82	86	84	85	80	69	59	74	83	76
95	58	61	61	61	69	78	83	80	76	90	93	93	93	89	79	69	85	93	89
100	71	77	77	77	87	94	95	95	95	102	103	105	105	102	94	84	102	105	105
ADM***	41	39	40	40	50	61	73	61	51	81	85	83	83	77	66	53	65	74	62
REGINA, SASK., CAN.																			
0	-55	-54	-56	-56	-44	-20	7	-44	-56	23	28	23	23	9	-15	-47	-47	-47	-56
50	8	-1	2	3	17	38	51	35	19	60	65	63	63	52	40	22	38	50	34
75	23	12	16	18	32	52	63	54	39	70	75	73	73	63	53	38	57	72	56
85	29	18	23	25	39	59	68	62	48	75	80	78	78	68	59	44	65	80	65
95	42	31	35	39	54	71	80	78	68	86	91	88	90	80	71	57	80	93	83
100	59	48	53	59	76	89	99	99	99	102	107	104	107	99	87	73	99	107	107
ADM***	16	10	13	13	27	50	65	47	30	73	79	77	76	65	52	32	50	63	47
RENO, NEV.																			
0	-5	-16	-9	-16	-2	13	20	-2	-16	25	35	32	25	21	13	7	7	7	-16
50	33	31	36	34	41	48	55	48	41	62	70	67	66	61	51	40	50	58	50
75	43	43	47	45	51	57	65	60	55	71	78	76	76	71	60	49	62	71	65
85	47	47	51	50	56	62	69	66	61	76	83	81	81	76	65	53	68	77	72
95	56	56	60	59	65	72	79	78	75	85	91	89	91	86	74	63	81	88	86
100	69	68	70	70	77	87	94	94	94	100	104	102	104	101	88	77	101	104	104
ADM***	47	46	51	48	57	66	73	65	57	81	92	90	88	82	70	57	70	79	68
RICHMOND, VA.																			
0	-1	-12	-10	-12	11	26	31	11	-12	41	51	46	41	38	23	10	10	10	-12
50	40	38	40	39	48	56	66	56	48	74	78	76	76	70	59	48	59	68	58
75	50	51	52	52	58	65	75	68	63	83	84	83	84	79	68	58	71	81	74
85	54	56	57	57	63	69	79	73	69	86	87	87	88	83	73	63	77	86	80
95	64	66	68	68	74	79	87	84	82	94	94	93	95	91	83	72	88	94	91
100	78	80	83	83	93	95	100	100	100	104	104	102	104	103	99	86	103	104	104
ADM***	49	48	50	49	59	68	78	68	59	85	88	86	86	81	70	60	70	78	69
ROANOKE, VA.																			
0	4	4	6	4	9	24	32	9	4	41	50	45	41	34	25	9	9	9	4
50	39	38	39	39	46	56	65	55	47	73	76	74	74	69	58	47	58	66	57
75	48	47	48	48	56	64	73	67	59	81	83	82	83	78	67	57	70	79	70
85	52	52	52	53	61	69	77	72	65	84	86	85	86	82	71	61	75	84	76
95	61	62	62	63	71	79	86	83	78	91	93	91	94	90	80	70	86	93	87
100	75	78	76	78	87	95	98	98	98	100	104	100	104	101	94	83	101	104	104
ADM***	48	47	49	48	57	67	77	67	57	84	87	85	85	80	70	57	69	77	67
ROCHESTER, MINN.																			
0	-31	-40	-34	-40	-29	9	24	-29	-40	31	42	33	31	22	10	-17	-17	-17	-40
50	19	14	18	17	30	45	57	44	31	67	72	69	69	61	49	33	47	58	44
75	31	27	31	31	45	55	67	62	49	76	80	78	79	71	59	45	63	76	65
85	37	33	36	37	51	60	72	70	58	81	84	82	84	75	64	50	69	82	73
95	48	44	46	48	62	70	85	85	77	90	93	90	94	84	73	60	82	94	88
100	63	58	60	63	77	87	106	106	106	105	108	100	108	98	87	75	98	108	108
ADM***	28	24	28	26	40	56	69	55	41	78	84	82	81	73	60	41	58	70	55
ROCHESTER, N. Y.																			
0	-16	-16	-22	-22	-7	7	27	-7	-22	35	44	43	35	28	19	1	1	1	-22
50	28	25	24	26	33	45	56	45	35	67	71	69	69	62	51	40	51	60	47
75	39	36	36	38	44	55	65	58	50	75	78	76	78	71	60	50	63	74	64
85	44	42	41	44	50	60	69	64	57	79	82	79	82	75	64	55	69	79	71
95	55	54	53	56	64	72	78	76	71	87	90	87	90	84	75	65	81	89	84
100	70	74	70	74	86	90	93	93	93	100	102	99	102	98	91	81	98	102	102
ADM***	35	33	33	34	42	55	68	55	44	78	83	80	80	73	61	47	60	70	57
ROCKLAND, MAINE.																			
0	-16	-16	-30	-30	-12	14	22	-12	-30	28	40	38	28	24	16	2	2	2	-30
50	27	23	24	25	32	42	52	42	33	61	67	66	65	59	49	39	49	57	45
75	37	32	36	37	44	50	60	56	49	70	74	74	74	68	58	48	61	70	63
85	42	36	40	42	49	54	65	62	56	74	78	78	78	72	63	52	66	75	70
95	50	44	46	50	60	64	75	74	71	84	85	86	87	81	73	59	78	86	83
100	60	55	52	60	77	80	92	92	92	98	96	99	99	95	88	69	95	99	99
ADM***	36	32	34	34	41	52	63	52	43	72	79	78	76	70	60	48	59	68	55
ROME, GA.																			
0	9	7	7	7	17	27	36	17	7	44	53	50	44	36	21	3	3	3	3
50	43	43	45	44	52	61	69	60	52	77	80	79	79	74	62	51	62	71	61
75	52	52	55	53	61	69	77	71	63	85	87	86	87	83	72	62	76	85	75
85	56	56	59	57	65	73	80	75	69	88	90	89	91	87	76	66	81	90	81
95	65	66	68	67	73	80	87	84	79	94	97	96	97	93	85	74	90	99	92
100	78	80	80	80	85	91	95	95	95	102	106	105	106	101	96	83	101	106	106
ADM***	54	54	57	55	65	74	83	74	64	90	92	91	91	87	77	63	76	84	74

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
ROSWELL, N. MEX.																			
0	-3	-15	-8	-15	-5	24	36	-5	-15	45	55	55	45	38	26	7	7	7	-15
50	41	40	45	42	51	60	68	59	51	77	79	78	78	71	61	48	60	69	60
75	52	52	57	55	63	69	77	74	66	85	86	84	86	80	70	59	73	83	77
85	56	58	62	61	68	73	81	80	73	89	89	87	90	84	74	63	78	88	83
95	66	67	72	71	77	82	90	91	86	97	96	94	97	92	82	73	89	98	95
100	79	79	84	84	87	94	103	103	103	108	108	104	108	103	93	86	103	108	108
ADM***	55	54	60	56	66	75	83	75	65	91	92	91	91	85	75	64	74	85	74
ROUYN-NORANDA, QUEBEC, CANADA																			
0	-30	-33	-32	-33	-20	-10	15	-20	-33	29	34	36	29	28	15	-3	-3	-3	-33
50	13	5	7	8	15	37	48	33	20	61	64	55	60	50	44	25	39	50	35
75	24	12	16	19	24	48	57	47	35	69	72	62	69	57	52	32	51	63	52
85	29	16	21	24	28	52	61	53	43	73	75	66	73	61	55	36	57	68	59
95	39	24	31	35	38	60	71	66	59	81	82	77	81	72	64	45	70	80	74
100	52	34	46	52	52	71	86	86	86	92	92	95	95	90	78	59	90	95	95
ADM***	22	14	17	18	28	48	60	45	31	73	75	70	73	60	45	31	45	59	45
SAGINAW, MICH.																			
0	-12	-17	-23	-23	-8	8	24	-8	-23	33	40	38	33	27	19	-3	-3	-3	-23
50	27	24	23	25	32	45	56	44	35	67	72	70	69	62	51	38	50	60	47
75	37	34	35	37	44	55	65	58	50	76	81	78	79	71	59	48	63	75	65
85	42	39	40	42	49	60	70	64	57	80	85	82	84	75	64	53	69	81	72
95	52	48	51	52	62	71	80	77	72	90	95	90	95	85	73	64	82	94	88
100	66	62	67	67	83	89	95	95	95	104	111	103	111	100	88	80	100	111	111
ADM***	34	31	31	32	40	55	68	54	43	78	84	81	81	72	61	45	59	70	57
ST. JOHN, N. B., CAN.																			
0	-21	-21	-20	-21	-10	6	26	-10	-21	35	41	42	35	31	20	-9	-9	-9	-21
50	25	20	20	21	29	28	49	35	28	57	62	62	60	56	48	37	47	53	41
75	35	30	29	32	39	35	56	47	42	63	67	67	67	63	55	47	60	67	56
85	39	34	33	36	43	40	60	53	48	66	70	70	70	68	59	50	66	73	62
95	47	43	41	44	51	53	70	67	63	75	78	78	78	77	69	57	77	82	75
100	56	55	50	56	62	75	87	87	87	88	89	90	90	93	84	63	93	93	93
ADM***	32	28	28	29	36	43	57	45	37	64	69	69	67	63	54	43	53	60	49
ST. JOHNS, N. F., CAN.																			
0	-4	-19	-21	-21	-14	-1	20	-14	-21	27	33	32	27	29	22	6	6	6	-21
50	29	24	22	25	28	36	43	35	30	53	60	61	58	55	47	37	46	52	41
75	37	34	32	36	38	45	50	48	43	60	67	69	66	61	54	45	56	63	56
85	41	38	37	40	43	49	54	53	49	64	70	72	70	65	59	49	61	68	63
95	49	47	45	49	53	58	64	65	62	73	78	81	79	72	69	56	72	79	75
100	60	59	56	60	67	72	81	81	81	87	90	93	93	84	87	68	87	93	93
ADM***	34	29	28	30	33	41	50	41	36	61	68	69	66	62	53	42	52	59	47
ST. LOUIS, MO.																			
0	1	-12	-8	-12	5	20	35	5	-12	48	56	54	48	36	27	7	7	7	-12
50	36	33	37	35	45	57	66	56	46	76	81	79	78	71	61	46	59	69	57
75	46	45	48	47	56	66	74	68	60	83	87	85	86	80	69	56	72	83	74
85	50	50	53	52	61	70	78	74	66	86	91	88	90	84	73	60	77	89	81
95	60	60	62	62	71	79	86	84	80	93	99	95	99	91	81	70	88	99	94
100	75	75	76	76	87	91	98	98	98	104	112	106	112	102	93	83	102	112	112
ADM***	44	41	45	43	54	66	75	65	54	85	90	88	87	80	70	54	68	78	66
ST. PETERSBURG, FLA.																			
0	30	28	32	28	30	45	56	30	28	64	63	65	63	64	48	35	35	35	28
50	65	64	65	65	68	73	78	73	69	82	83	83	83	82	77	69	76	79	74
75	73	72	72	73	77	79	84	83	78	86	87	87	87	86	83	77	85	89	84
85	77	75	75	77	80	82	86	86	82	88	89	89	89	88	86	80	88	91	88
95	83	79	80	83	84	87	89	90	88	92	93	92	93	91	90	85	92	96	93
100	91	84	85	91	89	92	94	94	94	98	97	96	98	96	95	92	96	98	98
ADM***	74	73	73	73	77	81	87	82	77	90	90	91	90	89	84	77	83	87	82
SALEM, ORE.																			
0	18	-10	-4	-10	22	26	25	22	-10	36	40	40	36	34	26	9	9	9	-10
50	41	38	43	41	47	51	57	52	46	63	68	67	66	62	55	45	54	60	53
75	47	49	53	52	54	59	66	61	60	71	76	75	75	71	62	54	66	73	69
85	50	52	56	56	58	63	70	65	66	75	80	79	79	75	66	57	72	79	75
95	55	58	62	62	66	72	80	77	78	85	91	88	90	86	75	63	84	91	89
100	64	62	67	67	80	88	95	95	95	102	108	102	108	103	89	69	103	108	108
ADM***	47	45	50	47	56	62	70	63	55	76	83	82	81	76	65	53	65	73	64
SALINAS, CALIF.																			
0	18	18	23	18	27	29	33	27	18	39	40	40	39	35	28	23	23	23	18
50	51	50	51	51	54	56	59	56	53	61	62	62	61	63	61	56	60	61	57
75	59	58	59	59	61	64	66	64	63	68	68	69	69	72	70	65	70	71	68
85	63	62	63	63	65	68	71	69	68	72	72	73	73	77	74	70	76	77	74
95	71	70	71	71	74	79	81	80	80	83	81	81	83	89	84	80	89	90	88
100	83	82	84	84	88	98	99	99	99	101	96	96	101	110	100	97	110	110	110
ADM***	62	61	62	62	65	67	69	67	64	71	71	72	71	76	74	70	73	72	68
SALT LAKE CITY, UTAH																			
0	-21	-22	-30	-30	5	14	27	5	-30	35	41	39	35	30	18	-14	-14	-14	-30
50	32	27	33	30	41	50	59	50	40	67	77	74	73	64	53	39	52	62	51
75	44	38	47	44	50	59	67	61	57	76	85	83	82	73	62	52	68	79	70
85	48	42	52	49	55	63	71	67	64	80	89	87	86	77	66	56	74	85	77
95	56	50	60	58	64	72	80	77	77	89	96	94	94	86	75	64	85	96	90
100	66	60	68	68	78	85	93	93	93	103	106	103	106	98	88	74	98	106	106
ADM***	40	36	43	40	52	63	73	62	51	82	92	90	88	79	67	50	65	77	64
SAN ANGELO, TEXAS.																			
0	8	7	1	1	13	30	41	13	1	53	60	58	53	45	29	17	17	17	1
50	49	47	52	49	58	67	74	66	58	81	83	83	82	77	68	56	67	75	66
75	59	57	64	61	69	77	82	79	72	87	89	89	89	85	77	66	79	87	81
85	64	62	69	66	73	81	86	84	78	90	91	92	92	88	81	70	84	92	86
95	75	71	78	77	81	89	94	94	90	96	97	98	98	96	89	79	94	99	96
100	91	85	90	91	92	100	106	106	106	104	105	105	105	107	100	90	107	107	107
ADM***	59	57	63	59	70	80	85	78	69	92	94	95	94	87	79	67	78	86	77

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
SAN ANTONIO, TEXAS.																			
0	14	0	6	0	21	34	44	21	0	58	65	63	58	41	34	25	25	25	0
50	53	51	55	53	61	69	76	69	61	82	84	84	84	79	71	60	70	77	69
75	63	62	67	65	71	77	84	80	75	88	89	90	90	88	80	68	81	88	84
85	67	67	71	70	76	81	87	84	80	91	92	92	93	91	83	72	85	92	89
95	77	76	80	80	85	89	93	92	90	97	97	98	98	96	89	80	93	99	98
100	90	87	91	91	97	99	101	101	101	105	106	106	106	102	95	91	102	106	106
ADH***	64	61	66	64	73	80	87	80	72	92	95	96	94	90	83	71	81	88	80
SAN DIEGO, CALIF.																			
0	36	29	36	29	41	41	48	41	29	50	55	57	50	51	45	40	40	40	29
50	57	55	56	56	58	61	63	61	58	66	69	70	68	69	65	61	65	67	62
75	63	62	62	63	63	66	69	67	67	71	73	75	74	75	71	67	72	74	72
85	66	66	66	67	67	70	72	71	71	74	76	78	77	78	74	71	77	79	76
95	73	74	74	75	74	78	81	80	81	83	81	85	85	88	82	80	87	88	87
100	85	88	88	88	86	92	96	96	96	97	89	98	98	104	94	96	104	104	104
ADH***	66	64	65	65	67	68	70	68	67	72	76	77	75	76	73	71	73	74	70
SANDSPIT, B.C., CANADA																			
0	14	7	10	7	10	27	31	10	7	37	42	42	37	35	28	22	22	22	7
50	37	34	36	36	38	42	48	42	39	53	57	58	56	55	47	41	48	52	46
75	43	40	42	43	44	46	53	51	47	57	61	63	61	60	52	46	54	59	55
85	45	43	45	45	46	49	55	54	51	60	63	65	64	62	54	49	57	63	59
95	50	48	49	50	50	55	61	61	59	66	69	71	70	66	59	53	63	70	68
100	56	54	54	56	54	66	71	71	71	77	79	80	80	71	66	60	71	80	80
ADH***	42	38	41	40	43	47	53	48	44	58	61	63	61	61	53	46	53	57	50
SAN FRANCISCO-OAKLAND, CALIF.																			
0	20	24	25	20	30	31	36	30	20	41	43	42	41	38	34	25	25	25	20
50	49	48	51	49	53	54	57	54	52	60	60	61	60	62	59	54	59	59	56
75	56	54	58	57	59	61	63	62	61	66	67	66	67	69	67	62	68	69	66
85	60	57	61	60	63	65	67	66	66	71	72	70	72	74	71	66	73	74	71
95	66	63	68	67	71	73	77	77	77	82	83	78	83	84	80	73	84	86	84
100	74	72	78	78	85	88	94	94	94	101	104	92	104	102	94	84	102	104	104
ADH***	57	56	59	57	61	63	65	63	60	69	69	70	69	72	69	64	69	69	65
SANTA BARBARA, CALIF.																			
0	28	26	31	26	33	33	39	33	26	41	45	43	41	42	37	31	31	31	26
50	53	51	53	52	55	58	60	57	55	62	65	65	64	65	61	57	61	62	59
75	60	58	59	60	61	65	66	64	63	68	71	71	70	71	69	64	69	71	68
85	64	62	63	64	65	68	69	68	67	71	74	74	74	75	73	68	74	75	72
95	73	71	71	73	73	77	77	76	76	78	83	80	83	83	83	77	83	84	83
100	87	86	84	87	87	90	90	90	90	90	97	90	97	97	99	92	99	99	99
ADH***	65	64	64	64	66	67	70	68	66	72	74	74	73	75	72	70	72	73	69
SANTA FE, N. MEXICO.																			
0	-7	-11	-16	-16	0	14	26	0	-16	39	47	45	39	31	20	-4	-4	-4	-16
50	31	29	35	32	39	49	58	49	40	67	72	70	70	64	53	39	52	61	50
75	40	39	46	43	49	58	67	61	54	74	78	77	77	72	61	49	65	75	66
85	44	43	50	47	55	62	71	66	61	77	81	80	81	75	65	53	70	80	72
95	52	52	57	55	63	70	79	77	74	84	88	85	87	82	73	61	80	89	83
100	62	64	65	65	76	82	92	92	92	95	97	94	97	92	85	71	92	97	97
ADH***	44	41	47	44	53	64	73	63	54	82	86	84	84	78	67	53	66	75	64
SARASOTA, FLORIDA.																			
0	25	24	27	24	29	38	46	29	24	57	63	66	57	59	42	28	28	28	24
50	63	62	63	63	66	70	75	70	66	79	80	80	79	79	74	67	73	76	71
75	72	71	71	72	74	78	81	79	76	84	84	84	85	84	81	75	83	86	82
85	75	74	74	75	77	81	84	83	80	86	86	85	87	85	83	78	86	90	85
95	80	80	79	81	83	86	88	88	86	90	90	89	91	89	87	83	90	94	91
100	85	88	85	88	90	93	94	94	94	96	95	94	96	93	91	88	93	96	96
ADH***	74	73	74	74	77	82	86	81	78	88	89	89	88	87	84	77	83	86	82
SASKATOON, SASK., CANADA.																			
0	-41	-55	-49	-55	-34	-9	9	-34	-55	26	31	28	26	12	-14	-31	-31	-31	-55
50	7	-1	3	3	17	38	51	35	19	60	65	62	62	51	39	22	37	49	34
75	20	13	16	18	30	50	62	52	38	69	74	71	72	61	52	35	53	68	56
85	26	19	22	24	37	56	68	60	48	74	78	75	76	66	59	40	60	75	64
95	39	32	35	38	51	70	80	76	68	86	88	85	87	76	71	52	74	88	81
100	58	50	55	58	73	91	99	99	99	104	104	100	104	92	90	68	92	104	104
ADH***	16	9	13	13	27	49	64	47	30	71	77	75	74	63	51	31	48	61	45
SAULT STE. MARIE, ONT. CANADA																			
0	-54	-42	-39	-42	-29	-40	16	-40	-42	22	30	26	22	17	8	27	8	8	-42
50	20	15	14	16	24	37	49	36	26	59	63	62	61	55	45	32	44	53	40
75	33	27	26	30	36	53	58	54	43	68	72	71	71	65	55	36	54	64	59
85	37	31	30	35	42	59	63	61	51	72	76	75	76	69	59	40	60	70	66
95	46	38	38	44	54	69	72	73	66	81	85	84	85	78	68	51	72	82	81
100	55	45	46	55	70	79	87	87	87	94	99	97	99	92	82	71	92	99	99
ADH***	28	25	24	26	33	47	62	47	36	72	76	75	74	66	55	39	53	64	50
SAVANNAH, GA.																			
0	12	12	8	8	24	33	44	24	8	49	61	60	49	46	28	15	15	15	8
50	52	52	53	52	59	66	73	66	59	79	81	80	80	77	67	58	67	74	66
75	61	61	64	63	68	74	80	76	71	86	87	86	88	84	76	67	79	87	80
85	65	65	68	67	72	77	84	80	77	89	89	89	91	87	80	71	84	91	85
95	73	73	76	75	81	84	91	89	87	95	96	95	97	94	86	78	92	98	94
100	83	84	85	85	94	94	101	101	101	103	105	104	105	102	94	86	102	105	105
ADH***	63	62	64	63	70	77	84	77	70	90	91	90	90	86	78	69	77	84	77
SCRANTON, PA.																			
0	-13	-15	-19	-19	-1	8	27	-1	-19	38	44	38	38	30	21	6	6	6	-19
50	30	27	27	28	36	47	59	47	38	68	72	70	70	63	52	41	52	61	49
75	40	38	39	40	47	57	67	60	52	76	80	78	78	72	61	50	64	74	66
85	45	43	45	45	52	63	71	65	59	79	83	82	82	76	65	55	70	79	73
95	55	53	56	57	64	74	80	77	73	87	91	90	91	86	75	65	82	90	86
100	69	69	74	74	84	91	93	93	93	99	103	102	103	100	91	81	100	103	103
ADH***	37	34	35	35	45	57	70	57	46	79	83	81	81	74	62	48	61	71	59

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADH--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
SEATTLE, WASH.																			
0	16	0	1	0	11	29	28	11	0	38	43	44	38	36	28	6	6	6	0
50	40	37	41	39	45	49	55	50	44	60	64	64	62	59	52	44	51	57	51
75	46	46	50	48	53	55	62	59	56	67	70	69	69	65	58	53	62	69	63
85	48	49	53	52	56	59	66	64	61	71	74	73	73	68	61	57	67	74	69
95	54	54	59	58	63	67	74	73	72	80	82	80	82	76	69	64	76	84	80
100	61	60	66	66	72	82	87	87	87	96	96	92	96	88	80	74	88	96	96
ADH***	45	43	48	45	52	58	65	58	52	70	75	74	73	68	59	50	59	66	59
SEVEN ISLANDS, QUE., CANADA																			
0	-33	-46	-37	-46	-25	-12	11	-25	-46	27	35	31	27	23	9	-20	-20	-20	-46
50	12	3	7	7	18	31	42	30	19	52	59	58	56	49	39	27	38	47	33
75	23	15	18	20	28	41	50	44	35	59	66	65	64	57	47	37	52	63	52
85	28	20	23	26	33	44	55	50	43	63	69	68	68	61	50	42	58	68	59
95	37	29	35	37	41	50	66	64	59	73	77	76	77	70	59	49	70	78	73
100	49	41	51	51	53	57	83	83	83	90	90	87	90	85	72	59	85	90	90
ADH***	21	14	16	17	28	39	50	39	28	61	68	67	65	58	47	34	46	56	42
SHARON PA.																			
0	-10	-12	-20	-20	-6	16	25	-6	-20	37	46	38	37	29	20	6	6	6	-20
50	32	31	30	31	39	50	62	50	41	72	76	73	74	66	55	42	54	64	52
75	42	42	42	44	51	60	71	64	56	81	85	81	83	76	66	52	67	78	70
85	47	47	48	49	56	65	75	70	62	85	87	85	87	80	68	56	72	83	77
95	56	58	59	60	69	75	83	81	76	94	95	91	96	89	77	66	84	94	90
100	68	75	76	76	87	92	95	95	95	107	108	100	108	101	90	82	101	108	108
ADH***	39	39	38	39	49	62	75	62	50	84	88	85	86	79	66	50	65	75	63
SHERIDAN, WYO.																			
0	-24	-30	-31	-31	-20	2	13	-20	-31	27	40	38	27	26	8	-18	-18	-18	-31
50	24	20	23	22	32	44	53	43	33	61	71	69	67	58	47	33	46	56	44
75	36	33	37	36	44	54	63	58	49	71	79	77	77	67	57	46	62	74	63
85	42	39	43	42	50	59	68	64	56	75	83	81	82	72	62	51	68	80	70
95	54	51	55	55	61	70	79	77	72	85	92	90	92	83	73	62	82	92	86
100	71	70	73	73	76	87	95	95	95	100	106	105	106	100	89	76	100	106	106
ADH***	37	33	36	35	43	56	66	55	45	75	86	84	82	73	61	46	60	71	58
SHREVEPORT, LA.																			
0	17	16	18	16	25	36	44	25	16	55	65	58	55	50	31	25	25	25	16
50	50	48	52	50	58	67	74	66	58	81	84	84	83	79	69	56	68	75	67
75	58	56	61	59	67	75	81	76	69	87	89	91	90	86	77	64	78	87	79
85	62	60	64	63	70	78	85	80	73	90	91	93	93	89	81	68	85	91	84
95	71	68	72	71	78	83	89	87	82	95	97	98	98	95	88	76	91	98	93
100	84	81	83	84	89	91	95	95	95	101	106	105	106	103	97	88	103	106	106
ADH***	58	56	60	58	68	77	83	76	67	91	95	95	93	89	80	66	78	86	76
SIOUX CITY, IOWA.																			
0	-18	-24	-25	-24	-19	15	26	-19	-24	38	47	37	37	24	17	-7	-7	-7	-24
50	23	19	23	22	35	49	60	48	35	70	76	74	73	64	53	36	51	62	49
75	34	31	35	34	49	59	69	64	50	79	84	83	83	74	62	46	65	78	66
85	39	36	40	39	55	63	73	70	57	83	88	86	87	79	67	52	71	84	73
95	49	49	50	51	69	74	82	81	73	92	95	94	95	88	77	62	84	95	88
100	63	68	64	68	89	90	95	95	95	106	107	104	107	101	93	78	101	107	107
ADH***	33	29	33	32	45	61	72	59	46	82	88	85	85	77	65	46	62	74	60
SIOUX FALLS, S. DAK.																			
0	-25	-26	-27	-27	-23	11	20	-23	-27	33	44	34	33	24	13	-10	-10	-10	-27
50	19	14	20	18	32	46	58	45	32	68	75	72	72	62	50	32	48	60	46
75	31	25	31	29	46	56	68	62	47	77	83	82	82	72	60	43	63	76	64
85	36	30	37	35	51	61	72	68	54	81	87	86	86	77	65	48	69	82	71
95	46	42	49	47	63	73	81	80	70	89	95	94	95	86	76	59	81	94	87
100	61	59	66	66	80	91	94	94	94	101	108	105	108	99	92	75	99	108	108
ADH***	29	24	30	28	42	59	71	57	43	80	88	85	84	75	63	43	60	72	57
SMITHERS, B.C., CANADA																			
0	-30	-47	-32	-47	-28	-1	19	-28	-47	29	30	28	28	20	4	-25	-25	-25	-47
50	19	16	21	19	31	40	49	40	29	55	59	57	57	51	40	29	40	48	39
75	31	29	33	33	43	50	57	56	47	62	67	65	65	59	49	41	55	65	58
85	35	34	37	38	47	54	62	62	55	66	70	70	69	63	53	45	61	71	66
95	42	41	44	45	53	62	72	74	69	76	79	79	78	72	61	52	72	82	79
100	50	48	52	52	58	73	88	88	88	92	92	93	93	86	72	59	86	93	93
ADH***	26	24	31	27	41	51	62	51	39	67	70	70	69	63	49	35	49	59	49
SOUTH BEND, IND.																			
0	-16	-22	-17	-22	-13	18	25	-13	-22	35	45	41	35	29	23	-7	-7	-7	-22
50	28	25	26	26	36	47	58	47	37	69	73	71	71	65	53	39	52	62	49
75	38	36	37	38	48	56	67	62	52	77	81	79	80	74	61	50	66	77	66
85	43	42	42	43	53	61	72	68	59	81	84	83	84	78	65	55	72	82	73
95	52	52	52	54	65	72	81	79	73	89	91	90	91	86	74	66	84	92	85
100	64	68	67	68	81	91	95	95	95	100	101	100	101	99	88	82	99	101	101
ADH***	35	32	34	33	44	58	70	57	45	80	85	82	82	75	63	46	61	72	58
SPARTANBURG, S. C.																			
0	9	5	9	5	14	28	39	14	5	51	55	55	51	41	29	11	11	11	5
50	44	43	45	44	52	61	69	60	52	77	79	78	78	73	62	51	62	70	61
75	53	53	54	54	61	69	76	72	64	84	85	84	85	81	71	61	74	83	75
85	57	58	58	58	65	72	80	76	70	87	88	86	88	85	75	65	79	88	80
95	65	67	67	67	74	80	87	86	81	94	94	92	94	91	83	73	89	96	90
100	78	80	78	80	87	90	98	98	98	104	103	101	104	101	95	83	101	104	104
ADH***	55	52	55	53	62	71	80	71	62	88	89	87	88	83	73	61	72	80	71
SPOKANE, WASH.																			
0	-9	-24	-12	-24	-3	21	24	-3	-24	35	40	42	35	30	20	-11	-11	-11	-24
50	29	25	30	28	38	46	55	46	37	61	70	68	66	59	49	36	48	57	47
75	38	36	39	39	48	54	63	59	52	69	77	75	75	67	56	46	62	73	64
85	41	39	43	43	52	58	67	64	59	73	81	78	79	72	60	50	68	78	71
95	47	45	49	49	59	68	76	75	72	82	89	86	87	81	68	55	80	89	84
100	54	51	55	55	68	84	90	90	90	96	100	98	100	96	80	61	96	100	100
ADH***	34	30	36	33	46	56	66	56	45	72	82	81	78	71	58	42	57	68	56

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADH--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
SPRINGFIELD, ILL.																			
0	-12	-14	-15	-15	-8	22	30	-8	-15	43	50	44	43	35	17	-2	-2	-2	-15
50	31	27	31	30	40	52	62	51	40	72	76	74	74	67	56	41	55	64	52
75	41	38	42	41	52	60	70	65	54	80	84	81	85	75	66	52	68	80	69
85	46	43	47	46	57	64	74	71	61	83	88	84	87	79	70	57	74	86	76
95	57	54	57	57	68	73	82	81	74	91	97	90	97	87	80	67	85	98	91
100	72	71	71	72	83	88	93	93	93	103	112	98	112	100	93	83	100	112	112
ADH***	38	35	39	38	50	62	73	61	50	83	87	85	85	78	67	50	65	75	62
SPRINGFIELD, MO.																			
0	-4	-4	-11	-11	-3	18	35	-3	-11	45	52	46	45	36	21	7	7	7	-11
50	36	33	37	35	45	56	64	55	45	73	78	77	76	69	58	45	57	66	56
75	46	43	49	47	57	65	71	68	59	80	85	84	84	78	68	54	70	81	72
85	51	48	54	52	62	69	74	73	64	83	89	87	88	82	72	58	76	87	79
95	61	59	64	63	72	79	81	82	76	91	98	94	98	91	80	67	87	98	93
100	77	76	79	79	86	92	92	92	92	101	113	103	113	104	92	80	104	113	113
ADH***	44	42	47	44	55	66	74	65	55	83	88	87	86	79	69	54	67	77	66
STEPHENVILLE, NFLD., CANADA																			
0	1	-15	-17	-17	-9	11	21	-9	-17	30	40	40	30	31	25	10	10	10	-17
50	26	22	18	22	25	35	44	35	28	52	60	60	57	54	45	36	45	51	40
75	33	31	27	32	34	42	51	46	41	58	65	65	64	60	51	43	54	61	54
85	37	35	31	37	38	45	55	52	47	62	69	68	68	64	54	47	59	66	59
95	46	42	40	46	48	52	65	63	60	71	76	74	75	71	61	55	68	75	71
100	60	51	53	60	63	63	81	81	81	86	87	83	87	82	72	67	82	87	87
ADH***	31	29	25	28	32	42	51	42	35	59	67	67	64	61	52	41	51	58	46
STOCKTON, CALIF.																			
0	18	20	24	18	31	31	36	31	18	40	42	40	40	44	31	25	25	25	18
50	47	46	50	48	56	61	66	61	54	71	76	75	74	71	64	53	63	68	61
75	54	52	58	56	62	69	74	69	64	80	85	83	83	78	72	61	73	79	73
85	57	55	61	60	66	73	78	74	70	84	89	87	87	82	76	65	77	84	78
95	63	61	70	69	74	82	87	85	82	93	97	94	96	91	85	73	88	95	91
100	72	69	83	83	87	96	102	102	102	108	110	105	110	104	98	87	104	110	110
ADH***	55	54	60	57	67	74	79	73	65	86	92	91	89	86	76	65	76	82	74
SUDBURY, ONT., CANADA																			
0	-28	-35	-24	-35	-13	-6	20	-13	-35	34	42	41	34	26	16	-13	-13	-13	-35
50	17	11	11	13	22	37	51	37	25	62	66	64	64	57	45	30	44	54	39
75	27	21	20	24	31	48	59	49	40	69	73	71	72	64	52	41	57	69	57
85	31	25	23	29	35	52	63	55	47	73	76	74	76	68	56	45	63	75	65
95	39	32	31	37	42	61	70	65	60	81	84	83	84	76	63	53	73	85	79
100	48	39	42	48	53	72	80	80	80	93	95	97	97	87	73	64	87	97	97
ADH***	25	21	22	23	32	48	63	47	35	74	78	75	75	67	53	37	52	64	49
SWIFT CURRENT, SASK., CAN.																			
0	-36	-46	-50	-50	-34	-6	10	-34	-50	26	34	31	26	16	-16	-32	-32	-32	-50
50	16	8	11	11	23	42	52	39	25	61	67	64	64	54	43	27	41	52	39
75	28	21	26	27	37	53	63	56	44	70	76	72	74	64	57	41	58	71	60
85	33	27	33	34	43	59	67	63	52	75	80	77	79	69	62	47	65	79	68
95	44	40	48	48	55	70	77	76	69	86	91	86	90	79	73	60	79	92	85
100	58	59	69	69	72	86	92	92	92	104	107	101	107	96	89	77	96	107	107
ADH***	24	17	20	20	33	54	65	51	35	73	81	78	77	67	54	36	52	65	50
SYDNEY, N.S., CANADA																			
0	-10	-25	-25	-25	-24	0	20	-24	-25	27	35	36	27	28	22	6	6	6	-25
50	29	23	20	24	28	37	47	37	30	56	65	65	62	58	49	39	49	55	43
75	38	34	31	35	40	47	55	52	45	64	73	73	71	66	56	47	59	67	59
85	42	39	36	40	45	52	59	58	52	69	76	76	75	70	60	51	64	73	66
95	50	47	45	49	54	63	70	71	67	78	83	85	84	78	68	60	75	83	80
100	60	58	59	60	65	81	89	89	89	94	92	98	98	90	81	72	90	98	98
ADH***	35	30	28	31	35	44	56	45	38	67	75	74	72	66	56	45	56	64	51
SYRACUSE, N. Y.																			
0	-26	-24	-24	-26	-16	7	26	-16	-26	34	44	42	34	25	19	5	5	5	-26
50	29	26	25	27	34	46	58	46	36	68	73	70	70	63	52	41	52	61	49
75	42	38	37	39	47	56	66	61	52	76	80	78	79	73	61	51	64	75	66
85	47	43	42	45	53	62	70	67	59	80	83	81	83	77	65	55	70	80	73
95	56	54	52	55	66	73	79	78	72	88	91	88	91	85	74	66	81	90	86
100	68	70	66	70	84	90	92	92	92	100	102	98	102	97	87	81	97	102	102
ADH***	37	34	34	35	43	56	69	56	45	79	84	81	81	74	63	49	62	72	59
TALLAHASSEE, FLA.																			
0	17	15	18	15	23	32	43	23	15	56	62	63	56	50	33	19	19	19	15
50	54	54	56	54	61	67	74	67	61	80	81	81	81	78	69	59	69	75	68
75	63	63	65	64	69	75	82	78	72	86	86	86	87	85	77	68	80	87	80
85	67	67	69	68	73	79	85	82	77	89	88	88	89	87	80	72	84	91	85
95	74	74	76	76	80	85	92	91	88	94	93	92	95	92	86	78	91	97	93
100	83	83	87	87	88	92	102	102	102	103	100	99	103	98	93	86	98	103	103
ADH***	66	65	68	66	73	80	86	79	73	91	91	91	91	88	81	71	80	85	79
TAMPA, FLA.																			
0	19	23	22	19	31	38	52	31	19	59	64	66	59	54	42	31	31	31	19
50	63	62	63	62	66	72	77	71	67	80	82	82	81	81	75	67	74	78	72
75	72	70	72	72	74	79	82	80	78	86	86	86	87	86	82	75	83	88	84
85	76	73	75	75	78	82	85	84	82	88	88	88	89	89	85	78	86	91	87
95	81	79	81	81	84	86	90	90	89	92	92	92	93	92	90	83	92	95	93
100	86	85	87	87	92	91	96	96	96	98	98	97	98	96	95	88	96	98	98
ADH***	72	71	72	72	75	81	86	81	76	89	90	90	89	88	83	76	83	86	81
TEMPLE, TEXAS.																			
0	9	-2	-4	-4	15	29	39	15	-4	49	56	50	49	38	26	19	19	19	-4
50	50	48	52	50	58	66	74	66	58	81	84	85	84	79	70	57	69	76	67
75	61	60	65	63	69	76	82	78	73	89	92	94	92	89	81	67	81	89	83
85	66	65	70	68	74	80	86	83	79	93	95	97	96	92	85	72	86	94	89
95	76	75	81	79	85	88	94	92	90	100	101	104	103	99	92	81	95	103	100
100	90	89	94	94	100	100	104	104	104	111	111	112	112	108	101	94	108	112	112
ADH***	62	59	63	61	71	79	85	78	70	93	96	98	96	91	83	70	81	89	79

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADH- AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
TERRACE, B.C., CANADA																			
0	-5	-11	-13	-13	-1	27	29	-1	-13	33	38	39	33	32	23	0	0	0	-13
50	28	25	29	27	37	44	52	44	36	58	61	62	60	54	45	36	45	53	44
75	35	33	37	36	45	49	59	56	49	65	68	68	68	60	51	43	55	65	58
85	38	36	40	38	48	53	63	61	55	69	71	72	72	63	53	45	60	70	64
95	42	40	43	42	52	61	73	75	69	79	80	80	80	69	58	49	69	81	77
100	45	43	45	45	57	75	90	90	90	94	93	93	94	80	65	51	80	94	94
ADM***	32	29	34	32	44	54	63	54	43	70	73	74	72	63	51	40	51	62	52
TERRE HAUTE, IND.																			
0	-9	-12	-15	-15	-6	21	29	-6	-15	40	43	40	40	31	20	0	0	0	-15
50	33	32	34	33	44	54	64	54	44	74	76	75	75	68	58	43	56	66	55
75	43	43	46	45	56	65	75	68	58	82	84	83	84	77	68	54	70	81	71
85	48	48	51	50	61	67	76	73	64	86	88	87	87	80	72	59	75	86	78
95	57	58	61	61	71	75	83	82	76	93	95	94	95	88	80	69	85	95	90
100	69	72	75	75	83	87	93	93	93	103	105	103	105	97	92	83	97	105	105
ADM***	42	41	44	42	55	66	76	66	54	86	89	88	87	80	72	54	69	78	66
TEXARKANA, ARK.																			
0	13	6	-3	-3	11	33	42	11	-3	52	59	56	52	43	30	21	21	21	-3
50	48	46	50	48	56	65	72	64	56	80	83	83	82	77	67	55	66	74	65
75	57	56	62	60	67	73	79	76	70	87	89	89	89	85	76	63	77	86	80
85	61	60	66	64	71	76	82	80	75	89	92	92	92	89	79	67	82	90	86
95	70	70	74	73	79	82	88	88	84	95	97	98	98	96	86	75	92	98	96
100	83	83	84	84	90	91	95	95	95	102	105	106	106	105	95	86	105	106	106
ADM***	58	56	60	58	68	77	83	76	67	91	95	95	93	90	80	67	79	86	77
TIMMINS, ONT., CANADA																			
0	-35	-43	-37	-43	-29	-5	12	-29	-43	28	36	32	28	24	14	-26	-26	-26	-43
50	9	2	7	6	17	35	47	33	19	59	63	61	61	52	41	28	40	51	35
75	20	12	18	18	28	46	56	48	36	67	71	68	70	59	49	40	56	68	54
85	25	17	22	23	33	51	61	55	44	71	75	72	74	63	53	45	62	74	61
95	33	25	32	32	44	62	72	69	61	80	83	80	83	72	63	54	73	85	76
100	45	36	45	45	59	79	88	88	88	95	96	93	96	86	78	65	86	96	96
ADM***	17	11	18	15	28	45	58	44	30	70	75	72	73	61	50	32	48	60	45
TOLEDO, OHIO.																			
0	-15	-16	-16	-16	-10	12	28	-10	-16	38	44	41	38	29	21	2	2	2	-16
50	29	26	27	28	36	47	58	47	37	69	73	71	71	64	53	40	52	62	49
75	40	37	38	39	48	56	67	61	51	77	81	79	79	73	61	50	65	76	65
85	45	43	44	44	53	61	71	67	58	80	85	83	84	78	66	54	71	81	72
95	55	54	55	55	65	72	80	79	73	89	93	91	92	87	76	65	83	92	86
100	70	71	71	71	83	89	95	95	95	101	105	103	105	100	92	80	100	105	105
ADM***	37	35	36	36	46	58	70	58	47	81	85	83	83	76	64	49	63	73	60
TORONTO, ONT., CAN.																			
0	-22	-26	-25	-26	-16	5	25	-16	-26	28	39	40	28	28	16	-5	-5	-5	-26
50	27	23	23	24	30	42	54	42	33	64	69	68	67	60	48	37	48	57	45
75	38	34	34	36	42	52	62	56	48	72	77	75	77	69	57	47	62	72	63
85	43	39	38	41	48	58	66	62	55	77	81	79	81	73	61	51	67	78	70
95	51	47	46	50	61	70	76	75	71	85	91	88	91	82	70	59	79	90	85
100	61	58	55	61	80	90	93	93	93	97	105	102	105	96	85	70	96	105	105
ADM***	35	30	30	31	37	50	63	50	41	73	79	77	76	69	56	43	56	66	53
TUCSON, ARIZ.																			
0	18	16	20	16	26	27	38	26	16	47	65	61	47	48	35	25	25	25	16
50	52	50	53	52	58	65	73	65	58	82	86	84	84	80	70	58	69	77	68
75	61	59	62	61	66	75	82	76	70	91	92	90	93	88	78	67	80	89	80
85	64	63	67	66	70	79	86	81	76	94	95	93	96	91	82	70	85	93	86
95	72	72	77	76	79	88	95	91	88	101	101	99	103	98	90	78	94	101	96
100	84	87	92	92	92	102	107	107	107	111	110	109	111	107	101	90	107	111	111
ADM***	66	63	67	65	75	81	89	81	73	98	99	96	98	93	84	73	83	91	82
TULSA, OKLA.																			
0	3	-8	0	-8	-3	22	36	-3	-8	49	57	53	49	35	26	11	11	11	-8
50	41	37	42	40	50	61	68	60	50	78	82	82	80	74	63	50	62	71	61
75	51	49	55	52	63	70	76	74	64	85	89	89	89	83	73	59	75	85	77
85	55	54	58	57	68	74	79	78	69	88	92	92	92	88	77	64	81	91	83
95	65	64	68	68	78	83	86	87	80	94	100	99	100	97	86	73	92	100	96
100	80	79	83	83	92	94	95	95	95	103	112	109	112	109	98	87	109	112	112
ADM***	50	47	52	50	61	71	78	70	60	88	93	93	91	85	75	60	73	82	71
VAL DOR, QUE., CANADA																			
0	-35	-46	-34	-46	-29	-13	14	-29	-46	28	34	27	27	26	12	-20	-20	-20	-46
50	10	3	4	6	18	32	48	32	19	58	62	59	60	51	39	25	38	49	34
75	21	14	15	19	29	43	57	48	36	66	70	67	68	59	47	36	53	65	53
85	27	19	20	25	35	48	61	54	44	70	74	71	72	63	52	41	59	71	61
95	38	29	31	37	46	58	70	67	60	79	82	79	81	73	62	51	72	82	75
100	55	41	49	55	62	71	85	85	85	93	94	91	94	90	78	65	90	94	94
ADM***	18	13	15	15	28	43	59	43	29	69	73	70	71	61	47	31	46	59	44
VANCOUVER, B. C., CAN.																			
0	8	2	8	2	15	27	33	15	2	35	40	39	35	30	21	10	10	10	2
50	39	37	39	38	44	49	55	49	44	61	64	64	63	57	51	44	50	56	50
75	46	44	46	46	51	55	61	58	54	68	70	70	70	64	58	52	60	68	62
85	49	47	49	49	54	59	64	62	59	71	74	73	73	67	61	56	65	72	67
95	54	53	54	55	60	66	72	70	69	79	80	81	81	74	68	63	73	81	78
100	60	59	61	61	68	79	83	83	83	92	91	92	92	85	77	74	85	92	92
ADM***	43	41	44	43	50	58	64	57	50	69	74	73	72	65	57	48	57	64	57
VERO BEACH, FLA.																			
0	34	29	30	29	34	44	52	34	29	63	67	68	63	65	48	33	33	33	29
50	65	65	65	65	69	72	77	72	69	80	81	82	81	81	76	69	75	78	73
75	72	73	73	73	77	79	82	81	78	85	85	85	86	85	82	77	85	88	84
85	75	76	76	77	80	82	85	84	81	87	87	87	88	87	85	80	88	91	87
95	80	82	82	82	85	87	89	89	88	92	91	91	93	91	88	84	93	96	93
100	85	88	89	89	91	95	95	95	95	100	98	96	100	97	92	88	97	100	100
ADM***	74	74	74	74	78	81	85	81	78	89	89	89	89	87	83	77	82	86	82

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
VICTORIA, B. C., CAN.																			
0	8	-2	5	-2	17	24	30	17	-2	36	37	37	36	30	22	14	14	14	-2
50	42	40	41	41	45	49	54	49	45	58	61	61	60	57	52	46	51	55	50
75	49	48	49	50	51	56	60	57	56	64	67	67	67	64	59	52	61	66	63
85	51	51	52	53	54	59	64	62	61	68	71	71	70	68	62	55	65	71	68
95	55	54	56	57	60	65	71	70	71	78	80	78	80	76	68	59	74	81	80
100	59	56	60	60	69	75	84	84	84	95	95	91	95	88	77	63	88	95	95
ADM***	45	43	46	45	50	56	61	56	50	65	68	68	67	64	57	49	57	62	56
VISALIA, CALIF.																			
0	20	13	21	13	22	26	29	22	13	35	32	40	32	35	30	24	24	24	13
50	48	47	52	49	56	63	70	63	56	76	82	80	79	75	66	55	66	73	64
75	56	55	60	58	65	73	80	74	68	86	94	90	91	85	76	64	77	85	77
85	60	59	64	63	69	78	85	79	74	90	98	95	95	89	80	68	82	90	83
95	70	68	74	73	77	88	94	91	87	100	106	103	104	98	90	78	93	100	96
100	86	80	89	89	89	104	108	108	108	113	115	115	115	110	104	94	110	115	115
ADM***	59	57	63	60	70	78	86	78	69	93	101	100	98	94	83	70	82	90	79
WACO, TEXAS.																			
0	15	-5	5	-5	15	33	43	15	-5	57	62	64	57	49	32	19	19	19	-5
50	50	47	52	50	58	67	75	67	58	82	85	86	84	79	69	58	69	76	67
75	60	60	63	63	69	75	82	78	73	88	91	91	91	86	78	67	80	89	83
85	64	64	68	68	74	79	85	83	78	91	94	94	94	90	82	72	85	94	89
95	75	73	77	78	83	86	91	90	88	96	99	99	100	96	89	80	94	101	98
100	91	84	90	91	96	95	99	99	99	103	108	108	108	105	98	92	105	108	108
ADM***	60	57	62	60	69	77	85	77	68	92	95	96	94	89	80	69	79	87	78
WASHINGTON, D. C.																			
0	-13	-14	-15	-15	4	15	33	4	-15	43	52	49	43	36	26	11	11	11	-15
50	38	37	38	37	46	55	65	55	46	74	78	76	76	70	58	48	59	67	57
75	50	49	51	50	57	65	73	68	61	82	85	83	84	79	67	58	71	80	73
85	55	54	56	56	62	70	77	73	68	85	88	86	88	83	72	62	76	85	80
95	63	65	68	68	74	80	85	83	80	92	95	94	95	91	81	72	88	95	92
100	74	80	84	84	93	95	97	97	97	102	106	106	106	104	96	87	104	106	106
ADM***	46	44	46	45	55	65	76	65	55	84	87	85	85	79	68	57	68	77	66
WATERLOO, IOWA.																			
0	-25	-24	-27	-27	-10	12	29	-10	-27	40	49	44	40	26	13	-2	-2	-2	-27
50	23	19	23	21	34	48	60	47	34	69	75	72	72	63	52	36	50	61	48
75	35	29	34	33	45	58	68	61	50	77	81	79	80	73	62	46	63	76	65
85	40	34	39	38	50	63	71	67	57	80	85	82	84	77	67	51	69	81	72
95	49	43	48	48	59	73	80	78	71	87	92	88	92	85	77	62	81	91	86
100	62	55	59	62	72	90	92	92	92	98	103	96	103	98	93	79	98	103	103
ADM***	32	28	32	31	43	59	71	58	44	80	86	83	83	75	63	45	61	72	58
WATERVILLE, MAINE																			
0	-12	-17	-21	-21	-10	12	26	-10	-21	35	47	44	35	30	23	4	4	4	-21
50	24	19	21	21	33	43	53	43	32	63	71	68	67	60	49	38	49	58	45
75	34	28	31	32	44	53	61	56	46	70	77	75	76	67	57	46	60	71	61
85	38	32	34	36	50	58	65	62	53	74	80	79	79	71	61	50	65	76	68
95	46	40	42	46	62	69	74	73	67	82	88	86	87	79	70	58	76	86	81
100	59	52	51	59	82	88	89	89	89	94	99	98	99	92	84	69	92	99	99
ADM***	32	28	30	30	42	53	64	53	41	74	82	79	78	70	59	45	58	68	55
WATSON LAKE, Y. T., CAN.																			
0	-62	-74	-67	-74	-44	-21	19	-44	-74	26	35	20	20	16	-12	-47	-47	-47	-74
50	-7	-8	-2	-5	15	32	46	31	13	56	59	55	56	46	34	9	29	43	28
75	6	9	14	11	28	43	54	49	34	64	65	63	66	54	45	22	47	63	51
85	12	16	20	18	33	48	59	56	45	69	69	67	70	58	49	27	54	70	60
95	23	29	31	31	42	55	69	69	62	78	77	75	79	67	58	38	66	81	75
100	38	48	44	48	51	64	87	87	87	93	90	87	93	80	71	51	80	93	93
ADM***	1	2	10	4	29	43	58	43	24	68	70	66	68	56	41	16	38	53	38
WAYCROSS, GA.																			
0	12	13	4	4	20	32	40	20	4	48	58	57	48	41	27	18	18	18	4
50	55	56	56	55	61	68	75	68	62	81	82	82	82	78	70	60	69	75	69
75	65	65	68	67	71	76	83	79	75	89	88	88	89	87	80	70	81	88	83
85	69	69	72	72	76	80	86	83	80	92	91	91	93	90	84	74	86	92	88
95	77	77	80	79	84	87	93	91	90	98	97	97	99	96	91	82	94	99	97
100	87	86	88	88	95	96	101	101	101	106	105	106	106	104	99	92	104	106	106
ADM***	68	68	69	68	74	80	88	81	75	93	93	93	93	89	83	74	82	87	81
WEST PALM BEACH, FLA.																			
0	51	51	54	51	37	45	53	37	31	64	68	65	64	65	51	36	36	36	31
50	64	67	68	68	70	74	77	74	71	81	82	82	82	81	78	72	77	79	75
75	77	75	75	76	78	81	83	82	80	85	86	86	86	85	84	80	86	89	85
85	80	78	78	79	81	83	85	85	83	87	88	88	89	87	86	82	88	92	88
95	85	83	84	84	86	89	90	90	89	91	93	92	93	91	90	87	93	97	95
100	90	89	90	90	92	96	96	96	96	98	101	97	101	96	95	91	96	101	101
ADM***	77	75	77	76	79	83	86	82	79	89	90	90	90	88	85	80	84	87	83
WHITEHORSE, Y. T., CAN.																			
0	-54	-62	-59	-62	-36	-14	19	-36	-62	30	32	24	24	15	-4	-41	-41	-41	-62
50	4	5	7	5	22	32	46	33	19	55	66	54	58	46	35	15	32	45	32
75	17	20	22	21	34	42	53	49	39	62	74	61	67	54	44	27	48	64	53
85	23	26	28	27	39	45	58	56	47	65	77	65	71	58	48	32	55	70	61
95	33	36	38	37	46	52	68	69	64	74	83	72	79	67	56	41	66	81	75
100	47	47	50	50	54	59	86	86	86	89	91	84	91	80	66	51	80	91	91
ADM***	11	13	16	13	31	41	57	43	28	66	67	64	66	55	41	21	39	52	40
WICHITA, KANSAS.																			
0	7	-1	4	-1	6	24	33	6	-1	44	59	48	44	43	23	10	10	10	-1
50	36	32	37	35	45	56	65	55	45	75	81	80	79	72	60	45	59	69	57
75	44	41	47	45	56	65	73	68	58	83	87	88	88	79	70	54	71	83	72
85	50	45	51	51	61	69	77	73	64	87	91	91	92	83	74	58	77	88	79
95	62	54	62	63	72	79	86	84	78	95	99	98	100	91	82	67	88	99	93
100	83	68	80	83	89	94	99	99	99	106	113	107	113	103	95	80	103	113	113
ADM***	45	41	48	45	56	67	75	66	55	86	92	92	90	83	71	55	70	80	68

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
WICHITA FALLS, TEX.																			
0	7	-12	-1	-12	6	28	36	6	-12	51	57	56	51	41	25	14	14	14	-12
50	44	41	46	43	55	63	71	62	53	80	84	84	83	76	65	52	64	73	63
75	54	53	57	57	65	72	79	75	68	87	91	91	90	85	75	61	77	87	80
85	59	59	62	62	70	76	83	81	75	91	94	94	94	89	80	65	82	92	86
95	70	70	73	73	80	85	92	91	87	98	100	101	101	96	89	74	93	101	98
100	88	85	87	88	95	99	104	104	104	109	110	110	110	107	101	87	107	110	110
ADM***	54	52	57	54	65	74	81	73	64	90	95	95	93	87	76	63	75	84	74
WILLIAMS LAKE, B.C., CANADA																			
0	-24	-43	-37	-43	-19	16	23	-19	-43	32	35	33	32	27	11	-18	-18	-18	-43
50	24	21	25	23	35	45	54	45	34	59	64	63	62	55	45	31	43	55	43
75	35	35	39	38	47	53	63	60	53	67	73	71	71	62	54	42	58	70	64
85	40	40	43	44	52	58	68	67	61	71	78	75	76	67	58	46	64	76	72
95	50	49	51	53	60	67	79	80	77	81	88	84	87	76	68	54	76	89	87
100	63	57	58	63	70	81	98	98	98	96	106	97	106	92	83	62	92	106	106
ADM***	31	28	35	31	47	60	70	59	45	73	80	79	77	68	56	38	54	66	55
WILLIAMSPORT, PA.																			
0	-15	-17	-18	-18	-5	8	28	-5	-18	36	43	38	36	28	19	3	3	3	-18
50	31	29	29	29	38	49	60	49	39	69	73	71	71	65	53	42	53	62	51
75	42	40	41	41	50	60	69	63	54	78	81	79	80	74	62	52	66	76	67
85	47	45	46	46	55	66	73	68	61	82	85	83	84	79	67	57	72	82	74
95	56	55	56	57	66	78	82	80	75	91	93	91	93	88	77	67	84	92	88
100	68	70	71	71	83	96	96	96	96	104	106	103	106	102	93	83	102	106	106
ADM***	38	36	38	37	48	61	72	60	49	81	85	82	83	76	64	50	63	73	61
WILMINGTON, DEL.																			
0	6	-4	2	-4	10	23	34	10	-4	45	50	48	45	37	26	14	14	14	-4
50	35	33	34	34	43	52	63	52	43	72	76	74	74	68	56	46	57	65	54
75	43	43	43	44	52	60	70	63	56	79	83	81	81	76	64	54	68	77	68
85	47	48	47	49	57	64	74	68	61	82	86	84	85	80	68	59	73	82	74
95	56	59	57	59	68	73	82	78	74	89	92	91	92	88	77	69	84	91	86
100	71	75	74	75	86	88	93	93	93	99	102	101	102	100	91	85	100	102	102
ADM***	44	42	43	43	53	63	75	64	53	83	87	85	85	79	67	55	67	76	65
WILMINGTON, N. C.																			
0	6	9	5	5	20	28	38	20	5	51	54	56	51	42	30	16	16	16	5
50	49	48	49	48	55	62	70	62	55	78	80	79	79	75	65	56	65	72	64
75	59	57	59	59	64	71	78	73	68	84	86	85	86	83	74	65	77	85	77
85	63	61	63	63	69	74	81	77	73	88	89	88	89	86	78	68	81	89	83
95	70	69	71	71	79	82	88	86	84	94	95	93	95	92	85	75	90	97	92
100	80	80	81	81	94	93	98	98	98	104	103	101	104	100	95	83	100	104	104
ADM***	59	59	60	59	66	73	81	73	66	87	89	88	88	85	76	67	76	82	74
WINDSOR, ONTARIO, CANADA																			
0	-10	-9	-8	-10	-3	15	29	-3	-10	37	42	44	37	30	25	4	4	4	-10
50	29	25	26	26	35	46	58	46	36	68	73	71	71	64	52	39	52	61	49
75	38	34	35	36	45	54	65	58	49	76	81	78	79	73	60	49	64	75	63
85	42	38	39	40	50	59	69	64	55	80	84	81	83	77	64	53	70	80	70
95	51	48	49	50	61	70	78	75	69	88	91	88	90	86	73	63	82	89	83
100	62	64	65	65	79	87	92	92	92	99	101	98	101	99	87	79	99	101	101
ADM***	35	31	32	32	42	55	67	55	44	78	83	81	81	74	61	46	60	70	57
WINNIPEG, MAN., CAN.																			
0	-54	-48	-47	-54	-38	-18	11	-38	-54	21	35	30	21	17	-5	-34	-34	-34	-54
50	6	-3	2	2	16	38	52	35	18	62	67	64	64	54	41	22	39	51	35
75	20	9	14	15	30	52	63	53	38	72	76	73	75	64	53	35	57	71	57
85	26	15	19	22	37	58	69	61	47	77	81	77	81	69	58	41	64	79	66
95	38	27	31	35	52	71	81	77	68	87	91	87	92	81	69	54	79	92	84
100	53	46	47	53	74	90	100	100	100	101	108	103	108	99	86	71	99	108	108
ADM***	15	7	12	11	27	48	65	47	29	74	79	76	76	65	51	30	49	62	46
WORCESTER, MASS.																			
0	-11	-19	-10	-19	-6	13	28	-6	-19	40	49	43	40	30	22	9	9	9	-19
50	27	24	24	25	33	44	56	44	35	65	70	68	68	61	51	40	50	59	47
75	37	35	33	36	43	52	64	57	49	73	76	75	75	70	58	48	62	71	63
85	41	40	38	41	48	57	67	62	55	76	79	78	79	74	62	53	67	76	69
95	49	51	48	52	57	67	76	73	69	85	86	86	86	84	71	63	80	86	82
100	61	67	63	67	71	83	89	89	89	98	96	97	98	99	85	79	99	99	99
ADM***	34	31	32	32	41	53	66	53	43	75	79	77	77	70	60	47	59	68	55
YAKIMA, WASH.																			
0	-2	-21	-25	-25	4	21	25	4	-25	33	35	38	33	29	17	-3	-3	-3	-25
50	31	27	34	31	44	51	59	51	41	65	71	70	69	61	51	38	50	59	50
75	39	38	47	43	54	60	68	64	57	74	80	78	78	70	59	48	63	74	68
85	42	43	52	49	58	64	73	69	64	79	84	82	82	74	63	52	69	80	75
95	49	52	60	58	67	73	83	81	78	88	92	90	91	84	72	60	82	90	87
100	59	64	69	69	79	88	98	98	98	103	103	102	103	100	84	70	100	103	103
ADM***	39	36	45	40	58	67	76	67	53	82	90	88	87	79	67	49	65	76	65
YARMOUTH, N. S., CAN.																			
0	-11	-6	-12	-12	-2	15	25	-2	-12	31	41	39	31	31	25	10	10	10	-12
50	31	27	26	28	32	40	49	40	34	56	61	62	59	57	49	41	49	54	44
75	41	35	35	38	41	47	55	50	45	62	67	67	66	63	55	48	58	64	57
85	44	39	39	41	44	50	58	55	50	65	69	70	70	66	59	51	62	68	63
95	51	45	45	49	52	59	65	63	61	71	76	75	76	73	65	57	71	76	73.
100	59	55	54	59	63	73	75	75	75	80	86	83	86	83	76	66	83	86	86
ADM***	37	34	33	35	38	46	56	47	41	63	69	69	67	64	56	47	56	61	51
YORKTON, SASK., CANADA																			
0	-42	-51	-42	-51	-34	-17	16	-34	-51	31	36	31	31	10	0	-24	-24	-24	-51
50	7	0	3	3	16	37	51	35	19	60	66	62	63	52	40	20	38	50	35
75	18	13	14	16	29	50	60	51	37	68	74	71	71	63	51	32	53	67	55
85	23	19	20	22	35	57	65	59	46	72	77	75	76	68	56	37	60	74	63
95	33	30	30	33	47	69	76	73	64	81	85	85	86	79	68	49	74	86	80
100	46	47	46	47	65	88	92	92	92	96	97	101	101	95	85	67	95	101	101
ADM***	15	9	12	12	26	46	62	45	28	70	78	74	74	63	51	27	47	60	44

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

SURFACE RELIABILITY TEMPERATURE IN DEGREES FAHRENHEIT FOR GIVEN PROBABILITIES OF NOT BEING EXCEEDED

PROB	DEC	JAN	FEB	1QT*	MAR	APR	MAY	2QT	1HF**	JUN	JUL	AUG	3QT	SEP	OCT	NOV	4QT	2HF	ANN
YOUNGSTOWN, OHIO.																			
0	-9	-12	-11	-12	-4	10	28	-4	-12	35	44	43	35	29	21	6	6	6	-12
50	30	28	28	29	37	47	58	47	38	68	72	70	70	65	54	41	53	62	50
75	40	38	38	39	47	57	66	60	51	76	80	77	79	74	62	50	65	75	65
85	44	43	43	44	52	61	70	65	57	80	83	81	83	78	66	54	71	80	71
95	53	54	52	55	63	71	78	76	70	88	90	87	90	87	75	64	82	89	83
100	66	71	65	71	79	86	90	90	90	99	100	97	100	99	87	79	99	100	100
ADM***	37	35	36	36	46	58	70	58	47	79	83	81	81	76	63	48	62	72	59

*1QT--FIRST QUARTER DEC-JAN-FEB
**1HF--FIRST HALF YEAR DEC---MAY
***ADM--AVERAGE DAILY MAXIMUM

TABLE 8

LIST OF AIRPORTS WITH GEOGRAPHICAL COORDINATES, ELEVATION AND LENGTH OF LONGEST RUNWAY

TABLE 8. LIST OF AIRPORTS

CITY	AIRPORT	CODE	LAT. ° ' N	LONG. ° ' W	ELEV. Ft.	RUNWAY Ft.
Abilene, Texas, USA	Abilene	ABI	32.25	99.41	1778	6,000
Akron, Ohio, USA	Akron-Canton	CAK	40.55	81.27	1228	5,600
Alamogordo, N. Mex., USA	Holloman AFB	ALM	32.51	106.06	4094	12,100
Albany, Ga., USA	Albany	ABY	31.32	84.12	196	5,000
Albany, N. Y., USA	Albany Mun.	ALB	42.45	73.48	288	5,000
Albuquerque, N. Mex., USA	Kirtland AFB	ABQ	35.03	106.36	5352	12,800
Alexandria, La., USA	England AFB	AEX	31.20	92.33	89	9,300
Allentown, Pa., USA	Allentown-Bethlehem-Easton	ABE	40.39	75.26	391	6,100
Amarillo, Texas, USA	Amarillo AFB/Muni	AMA	35.14	101.42	3607	13,500
Anchorage, Alaska, USA	Anchorage Int'l	ANC	61.11	150.00	124	10,600
Anderson, S. C., USA	Anderson Muni	AND	34.30	82.43	782	5,000
Annette Island, Alaska, USA	Annette	ANN	55.02	131.34	119	7,500
Asheville, N. C., USA	Asheville-Hendersonville	AVL	35.26	82.32	2161	6,500
Atlanta, Ga., USA	Atlanta Muni.	ATL	33.39	84.26	1024	7,800
Atlantic City, N. J., USA	Atlantic City NAFEC	NBB	39.27	74.35	76	10,000
Augusta, Ga., USA	Bush Field	AGS	33.22	81.58	142	5,300
Augusta, Me., USA	Augusta State	AUG	44.19	69.47	357	4,200
Austin, Texas, USA	Mueller Muni.	AUS	30.18	97.42	632	6,400
Bakersfield, Calif., USA	Meadows Field	BFL	35.26	119.03	514	5,700
Baltimore, Md., USA	Friendship Int'l	BAL	39.10	76.40	146	9,400
Bangor, Me., USA	Dow AFB	BGR	44.48	68.49	202	11,400
Baton Rouge, La., USA	Ryan	BTR	30.32	91.09	70	6,000
Beaumont, Texas, USA	Jefferson Co.	BUJ	29.57	94.01	15	5,700
Big Mountain, Alaska, USA		BMX	59.22	155.15	663	4,200
Big Spring, Texas, USA	Webb AFB	BGS	32.13	101.31	2561	8,800
Billings, Mont., USA	Logan Field	BIL	45.48	108.32	3606	8,600
Binghampton, N. Y., USA	Broome Co.	BGM	42.13	75.59	1629	5,600
Birmingham, Ala., USA	Birmingham Muni.	BGM	33.34	86.45	643	10,000
Bisbee, Ariz., USA	Bisbee-Douglas Int'l	DUG	31.28	109.36	4158	7,500
Bismark, N. Dak., USA	Bismark Muni.	BIS	46.47	100.45	1653	5,200
Boise, Idaho, USA	Boise Air Terminal	BOI	43.34	116.13	2858	9,000
Boston, Mass., USA	Logan Int'l	BOS	42.22	71.00	19	10,000
Bowling Green, Ky., USA	Warren Co. Muni.	BWG	36.58	86.26	539	5,200
Bozeman, Mont., USA	Gallatin Field	BZN	45.47	111.10	4461	5,200
Bristol, Tenn., USA	Tri-City Muni.	TRI	36.29	82.24	1519	6,600
Brownsville, Texas, USA	Harlingen AFB	HRL	26.13	97.39	35	6,000
Brunswick, Ga., USA	McKinnon	SSI	31.09	81.23	20	4,300
Buffalo, N. Y., USA	Greater Buffalo Int'l	BUF	42.56	78.44	711	5,600
Burbank, Calif., USA	Lockheed Air Terminal	BUR	34.12	118.22	775	6,500
Burlington, Vt., USA	Burlington Muni.	BTV	44.28	73.09	335	7,800
Butte, Mont., USA	Silver Bow Co. Apt.	BTM	45.57	112.30	5554	6,800
Calgary, Alb., CANADA	Calgary	YYC	51.06	114.01	3557	8,700
Carlsbad, N. Mex., USA	Carlsbad Muni.	CNM	32.30	104.16	3276	6,600
Casper, Wyo., USA	Casper Air Terminal	CPR	42.55	106.28	5348	10,600
Castlegar, B. C., CANADA		YCG	49.18	117.38	1620	4,800

CITY	AIRPORT	CODE	LAT. ° ' N	LONG. ° ' W	ELEV. Ft.	RUNWAY Ft.
Cedar Rapids, Iowa, USA	Cedar Rapids Muni.	CID	41.53	91.42	863	5,400
Charleston, S. C., USA	Charleston AFB/Muni.	CHS	32.54	80.02	45	9,000
Charleston, W. Va., USA	Kanawha Co.	CHW	38.22	81.36	982	5,600
Charlotte, N. C., USA	Douglas Muni.	CLT	35.13	80.56	748	7,500
Chattanooga, Tenn., USA	Lovell Field	CHA	35.02	85.12	682	6,200
Cheyenne, Wyo., USA	Cheyenne Muni.	CYS	41.09	104.49	6156	9,300
Chicago, Ill., USA	O'Hare Chicago Int'l	ORD	41.59	87.54	667	11,600
Cincinnati, Ohio, USA	Greater Cincinnati	CUG	39.03	84.40	890	8,600
Cleveland, Ohio, USA	Cleveland-Hopkins	CLE	41.25	81.51	789	9,000
College Station, Texas, USA	Easterwood Field	CLL	30.35	96.22	319	5,200
Colorado Springs, Colo., USA	Peterson Field	COS	38.49	104.43	6172	9,100
Columbia, S. C., USA	Columbia	CAE	33.57	81.07	244	5,200
Columbus, Ga., USA	Muscogee Co.	CSG	32.31	84.57	397	5,000
Columbus, Ohio, USA	Port Columbus	CMH	40.00	82.53	816	10,700
Comox, B. C., CANADA		YQQ	49.43	124.54	83	8,000
Concord, N. H., USA	Concord Muni.	CON	43.12	71.31	345	5,000
Corpus Christi, Texas, USA	Corpus Christi Int'l	CRP	27.46	97.30	44	5,600
Cranbrook, B. C., CANADA		YXC	49.32	115.46	2997	4,900
Dallas, Texas, USA	Love Field	DAL	32.51	96.51	485	7,700
Dawson City, Y. T., CANADA		YQD	64.03	139.05	1211	4,000
Dayton, Ohio, USA	Dayton Muni.	DAY	39.54	84.13	1008	7,000
Daytona Beach, Fla., USA	Daytona Beach Muni.	DAB	29.11	81.03	34	5,700
Denver, Colo., USA	Stapleton Airfield	DEN	39.46	104.53	5331	10,000
Des Moines, Iowa, USA	Des Moines	DSM	41.32	93.39	957	7,500
Detroit, Mich., USA	Detroit Metropolitan Wayne Co.	YIP	42.14	83.21	639	10,500
Dothan, Ala., USA	Dothan	DHN	31.14	85.27	330	4,000
Easton, Pa., USA	Easton	ABE	40.44	75.15	380	2,200
Edmonton, Alb., CANADA	Edmonton Int'l	YXD	53.19	113.35	2373	11,000
Elko, Nev., USA	Elko	EKO	40.50	115.48	5135	6,400
Elmira, N. Y., USA	Chemung Co.	ELM	42.09	76.54	951	4,700
El Paso, Texas, USA	El Paso Int'l	ELP	31.48	106.23	3939	11,000
Ely, Nev., USA	Ely	ELY	39.18	114.51	6258	6,000
Eugene, Ore., USA	Mahlon-Sweet Field	EUG	44.08	123.13	365	5,500
Evansville, Ind., USA	Dress Memorial	EVV	38.03	87.32	389	6,000
Fairbanks, Alas., USA	Fairbanks Int'l	FAI	64.49	147.51	434	10,300
Fargo, N. Dak., USA	Hector Field	FAR	46.55	96.49	900	7,100
Fayetteville, Ark., USA	Fayetteville-Drake Field	FYV	36.00	94.10	1250	5,000
Fitchburg, Mass., USA	Fitchburg Muni.	FIT	42.33	71.45	350	4,500
Flint, Mich., USA	Bishop	FNT	42.58	83.45	781	5,000
Florence, S. C., USA	Florence Muni.	FLO	34.11	79.43	146	6,000
Ft. Lauderdale, Fla., USA	Broward Co. Int'l	FLL	26.04	80.10	10	6,500
Ft. Meyers, Fla., USA	Page Field	FMY	26.35	81.52	17	5,000
Ft. Nelson, B. C., CANADA		YYE	58.50	122.35	1253	6,400
Ft. St. John, B. C., CANADA		YXJ	56.14	120.44	2280	6,700
Ft. Smith, Ark., USA	Ft. Smith Muni.	FSM	35.20	94.22	468	8,000

CITY	AIRPORT	CODE	LAT. ° ' N	LONG. ° ' W	ELEV. Ft.	RUNWAY Ft.
Ft. Wayne, Ind., USA	Baer Field	FWA	40.59	85.12	801	7,000
Ft. William, Ont., CANADA	Lakehead	YQT	48.20	89.23	653	6,200
Ft. Worth, Texas, USA	Amon Carter Field	ACF	32.50	97.03	568	8,400
Fredericton, N. Brunswick, CANADA		YFC	45.52	66.32	67	6,000
Fresno, Calif., USA	Fresno Air Terminal	FAT	36.46	119.43	331	7,100
Gainesville, Fla., USA	Gainesville	GNV	29.42	82.16	155	5,000
Gander, Nfld., CANADA	Gander Int'l	YQX	48.57	53.34	496	8,600
Glens Falls, N. Y., USA	Warren Co.	GFL	43.21	73.37	328	5,000
Goose Bay, Lab., Nfld, CAN.	Goose	YYR	53.19	60.25	150	11,000
Grand Forks, N. Dak., USA	Grand Forks Int'l	GFK	47.56	97.06	836	4,900
Grand Junction, Colo., USA	Walker Field	GJT	39.06	108.32	4858	5,400
Grand Prairie, Alb., CANADA		YQU	55.11	118.53	2193	6,500
Grand Rapids, Mich., USA	Kent Co.	GRR	42.54	85.40	692	5,700
Great Falls, Mont., USA	Great Falls Int'l	GTF	47.29	111.22	3671	9,000
Greensboro, N. C., USA	Greensboro-High Point	GSO	36.06	79.57	922	5,500
Greenville, S. C., USA	Greenville Muni.	GRL	34.51	82.21	1047	5,400
Halifax, N. S., CANADA	Halifax Int'l	YXF	44.53	63.31	476	8,800
Harrisburg, Pa., USA	Harrisburg-York State	HAR	40.13	76.51	347	5,000
Hartford, Conn., USA	Brainard	BDL	41.44	72.39	18	3,400
Helena, Mont., USA	Helena	HLN	46.36	111.59	3881	5,100
Hobbs, N. Mex., USA	Hobbs Muni.	HOB	32.46	103.13	3707	8,800
Homer, Alaska, USA	Homer Muni.	HOM	59.38	151.29	96	5,000
Honolulu, Hawaii, USA	Honolulu Int'l	HNL	21.10	157.51	13	12,380
Hot Springs, Ark., USA	Memorial Field	HOT	34.29	93.06	535	5,000
Houlton, Me., USA	Houlton Int'l	HUL	46.07	67.48	493	5,000
Houston, Texas, USA	Houston Int'l	HOU	29.39	95.16	50	7,600
Huntington, W. Va., USA	Tri-State,	HTS	38.22	82.33	828	5,300
Huntsville, Ala., USA	Huntsville Muni.	HSV	34.41	86.35	619	5,200
Huron, S. Dak., USA	Howes Muni.	HON	44.23	98.14	1287	5,100
Hyannis, Mass., USA	Barnstable Muni.	HYA	41.40	70.17	52	5,000
Idaho Falls, Idaho, USA	Fanning Field	IDA	43.31	112.04	4738	6,600
Indianapolis, Ind., USA	Weir Cook	IND	39.44	86.17	797	7,300
Jackson, Miss., USA	Hawkins Field	JAN	32.20	90.14	343	5,400
Jacksonville, Fla., USA	Imeson Field	JAX	30.25	81.38	52	7,000
Jamestown, N. Dak., USA	Jamestown Muni.	JMS	46.56	98.41	1498	5,700
Joplin, Mo., USA	Joplin	JLN	37.09	94.30	980	5,500
Juneau, Alaska, USA	Juneau Muni.	JNU	58.21	134.35	26	6,400
Kansas City, Mo., USA	Kansas City Muni	MKC	39.07	94.36	758	7,000
Keene, N. H., USA	Dillant-Hopkins	EEN	42.54	72.16	482	4,500
Key West, Fla., USA	Key West Int'l	EYW	24.34	81.46	4	4,800
King Salmon, Alaska, USA		AKN	58.41	156.39	55	7,500
Knoxville, Tenn., USA	McGhee-Tyson	TYS	35.49	83.59	989	7,500
Kodiak, Alaska, USA	Kodiak NAS	NBH	57.45	152.29	77	7,500

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Laconia, N. H., USA	Laconia Muni.	LCI	43.34	71.26	552	3,500
Lafayette, La., USA	Lafayette Muni.	LFT	30.13	92.00	41	5,000
Lake Charles, La., USA	Chennault AFB/Muni.	LKC	30.13	93.10	19	11,400
Lakeland, Fla., USA	Drane Field	LAL	28.00	82.01	142	5,000
Lancaster, Pa., USA	Lancaster	LNS	40.07	76.18	403	5,000
Land O'Lakes, Wisc., USA	Kings Gateway	LNL	46.09	89.12	1706	4,400
Lansing, Mich., USA	Capital City	LAN	42.47	84.35	859	5,000
Las Vegas, Nev., USA	McCarran Field	LAS	36.05	115.10	2171	10,000
Lawrence, Mass., USA	Lawrence	LWM	42.43	71.08	165	5,000
Lawton, Okla., USA	Lawton Muni.	LAW	34.34	98.24	1108	5,400
Lebanon, N. H., USA	Lebanon Regional	LEB	43.38	72.18	580	5,500
Lethbridge, Alberta, CANADA		YLQ	49.38	112.48	3047	6,500
Lewiston, Me., USA	College Road	LEW	44.07	70.11	210	
Lexington, Ky., USA	Blue Grass Field	LEX	38.02	84.36	978	5,500
Lincoln, Neb., USA	Lincoln AFB	LNK	40.51	96.46	1195	12,900
Little Rock, Ark., USA	Adams Field	LIT	34.44	92.14	257	7,000
Long Beach, Calif., USA	Long Beach	LGB	33.49	118.09	56	10,000
Los Angeles, Calif., USA	Los Angeles Int'l	LAX	33.56	118.24	126	12,000
Louisville, Ky., USA	Standiford	SDF	38.11	85.44	497	7,800
Lubbock, Texas, USA	Lubbock Muni.	LBB	33.40	101.49	3256	8,500
Macon, Ga., USA	Macon Muni.	MCN	32.41	83.39	354	5,000
Madison, Wisc., USA	Madison Muni.	MSN	43.09	89.20	859	7,600
Manchester, N. H., USA	Hooksett-Manchester	MHT	43.04	71.28	187	7,000
Martha's Vineyard, Vineyard Haven, Mass., USA	Martha's Vineyard	MVY	41.24	70.37	68	5,000
Massena, N. Y., USA	Richards Field	MSS	44.56	74.51	215	5,000
Mayo, Y. T., CANADA		YMA	63.37	135.52	1625	3,200
McAlester, Okla., USA	McAlester Muni.	MLC	34.53	95.47	770	4,000
Medford, Ore., USA	Medford Muni.	MFR	42.23	122.53	1330	5,400
Melbourne, Fla., USA	Melbourne-Eau Gallie	MLB	28.06	80.38	26	5,200
Memphis, Tenn., USA	Memphis Muni.	MEM	35.04	89.59	291	8,900
Merced, Calif., USA	Merced Muni.	MCE	37.17	120.31	155	4,700
Meridian, Miss., USA	Key Field	MEI	33.21	88.45	297	8,000
Miami, Fla., USA	Miami Int'l	MIA	25.48	80.17	9	10,500
Midland, Texas, USA	Midland Air Terminal	MAF	31.57	102.12	2867	6,600
Milwaukee, Wisc., USA	Gen. Mitchell Field	MKE	42.57	87.54	702	9,900
Minneapolis/St. Paul, Minn., USA	Minneapolis/St. Paul Int'l	MSP	44.53	93.13	840	8,200
Missoula, Mont., USA	Missoula Co.	MSO	46.55	114.05	3203	7,000
Mobile, Ala., USA	Bates Field	MOB	30.41	88.14	217	6,000
Modesto, Calif., USA	Modesto-City-County	MOD	37.38	120.57	96	5,000
Moline, Ill., USA	Quad-City	MLI	41.27	90.31	590	5,500
Moncton, New Bruns., CANADA		YQM	46.07	64.41	232	6,200
Monroe, La., USA	Selman Field	MLU	32.30	92.02	79	5,000
Monterey, Calif., USA	Monterey Peninsula	MRY	36.35	121.51	220	5,000
Montgomery, Ala., USA	Dannelly Field	MGM	32.18	86.24	221	8,000
Montpelier, Vt., USA	Barre-Montpelier Muni.	MPV	44.12	72.34	1157	4,500
Montreal, Que., CANADA	Montreal Int'l	YUL	45.28	73.45	117	9,600

CITY	AIRPORT	CODE	LAT. ° ' N	LONG. ° ' W	ELEV. Ft.	RUNWAY Ft.
Muscle Shoals, Ala., USA	Muscle Shoals	MSL	34.45	87.37	548	4,900
Muskegon, Mich., USA	Muskegon Co.	MKG	43.11	86.14	628	5,000
Nantucket, Mass., USA	Nantucket Memorial	ACK	41.16	70.04	48	5,000
Nashville, Tenn., USA	Nashville-Berry-Field	BNA	36.08	86.41	597	8,000
New Bedford, Mass., USA	New Bedford Muni.	EWB	41.40	70.58	79	5,000
New Bern, N. C., USA	Simmons-Nott	EWN	35.04	77.03	18	4,800
New Haven, Conn., USA	New Haven Muni.	NHV	41.16	72.53	15	4,700
New Orleans, La., USA	Moisant Int'l	MSV	20.00	90.15	3	8,500
Newport News, Va., USA	Patrick Henry	PHF	37.08	76.30	41	5,600
New York, N. Y., USA	N.Y. Int'l (Idlewild)	IDL	40.38	73.47	12	14,600
Norfolk, Va., USA	Norfolk Muni.	ORF	36.54	76.12	26	5,000
North Bay, Ont., CANADA		YYB	46.22	79.25	1215	8,200
Oakland, Calif., USA	Oakland	OAK	37.44	122.13	5	6,200
Ocala, Fla., USA	Taylor Field	OCF	29.11	82.09	84	4,000
Oklahoma City, Okla., USA	Will Rogers	OKC	35.24	97.37	1284	9,800
Omaha, Nebr., USA	Lincoln AFB	OMH	40.51	96.46	1195	12,900
Ontario, Calif., USA	Ontario Int'l	ONT	34.03	117.37	952	8,200
Orlando, Fla., USA	Orlando Muni-Herndon	ORL	28.33	81.20	113	6,000
Ottawa, Ont., CANADA		YOW	45.19	75.40	374	8,800
Owensboro, Ky., USA	Owensboro-Daviess Co.	OWB	37.45	87.10	407	5,000
Paducah, Ky., USA	Barkley Field	PUK	37.04	88.46	407	5,000
Palm Springs, Calif., USA	Palm Springs	PSP	33.50	116.30	448	7,000
Panama City, Fla., USA	Fannin	PFN	30.13	85.41	14	4,900
Pendleton, Ore., USA	Pendleton Field	PDT	45.41	118.50	1493	6,300
Pensacola, Fla., USA	Pensacola Muni.	PNS	30.28	87.12	121	5,000
Penticton, B. C., CANADA		YYF	49.28	119.36	1129	6,000
Philadelphia, Pa., USA	Philadelphia Int'l	PHL	39.53	75.14	14	9,500
Phoenix, Ariz., USA	Phoenix-Sky Harbor Muni.	PHX	33.26	112.01	1122	8,800
Pierre, S. Dak., USA	Pierre Muni.	PIR	44.23	100.17	1742	7,200
Pittsburgh, Pa., USA	Greater Pittsburgh	PIT	40.29	80.13	1168	7,500
Pittsfield, Mass., USA	Pittsfield Muni.	PSF	42.26	73.18	1170	3,500
Pocatello, Ida., USA	Pocatello Muni.	PIH	42.55	112.36	4448	8,300
Port Hardy, B. C., CANADA		YZT	50.41	127.22	80	5,000
Portland, Me., USA	Portland Muni.	PWM	43.39	70.19	66	5,000
Portland, Ore., USA	Portland Int'l	PDX	45.35	122.36	23	8,800
Presque Isle, Me., USA	Presque Isle Muni.	PQI	46.41	68.03	534	7,400
Prince George, B. C., CAN.		YXS	53.53	122.41	2268	5,700
Prince Rupert, B. C., CAN.		YPR	54.17	130.27	111	6,000
Providence, R. I., USA	Green	PVD	41.44	71.26	56	5,400
Pueblo, Colo., USA	Pueblo Memorial	PUB	38.18	104.30	4725	8,800
Quebec, Que., CANADA		YQB	46.48	71.23	239	6,000
Quesnel, B. C., CANADA		YQZ	53.05	122.31	1789	5,500
Raleigh, N. C., USA	Raleigh-Durham	RDU	35.52	78.47	435	5,500
Rapid City, S. Dak., USA	Rapid City Muni.	RAP	44.03	103.03	3181	6,200

CITY	AIRPORT	CODE	LAT. ° ' N	LONG. ° ' W	ELEV. Ft.	RUNWAY Ft.
Reading, Pa., USA	Gen. Spaatz Field	RDG	40.23	75.58	343	5,100
Regina, Sask., CANADA		YQR	50.26	104.40	1893	6,900
Reno, Nev., USA	Reno Muni.	RNO	39.30	119.46	4411	7,800
Richmond, Va., USA	Byrd Field	RIC	37.30	77.19	167	8,000
Roanoke, Va., USA	Roanoke Muni.	ROA	37.19	79.58	1174	5,400
Rochester, Minn., USA	Rochester Muni. Aprt.	RST	43.55	92.30	1310	6,400
Rochester, N. Y., USA	Rochester-Monroe	ROC	43.07	77.40	560	5,000
Rockland, Me., USA	Rockland Muni.	RKD	44.04	69.06	60	4,500
Rome, Ga., USA	Russell Field	RMG	34.21	85.10	644	4,500
Roswell, N. Mex., USA	Roswell Muni.	ROW	33.25	104.33	3623	5,600
Rouyn-Noranda, Que., CANADA		YUY	48.13	79.05	987	5,600
Sacramento, Calif., USA	Sacramento	SAC	38.31	121.19	21	
Saginaw, Mich., USA	Tri-City	MBS	43.32	84.05	667	5,600
Saguenay, Que., CANADA		YBG	48.30	71.00		
St. John, N. B., CANADA	St. John Muni.	YSJ	45.19	65.53	356	5,500
St. Johns, Nfld., CANADA	Torbay	YYT	47.47	52.45	484	7,000
St. Louis, Mo., USA	Lambert-St. Louis Muni.	STL	38.45	90.22	571	10,000
St. Petersburg, Fla., USA	St. Petersburg-Clearwater Int'l	PIE	27.55	82.42	10	8,000
Salem, Ore., USA	Salem-McNary Field	SLE	44.55	123.00	207	5,500
Salinas, Calif., USA	Salinas Muni.	SNS	36.40	121.36	84	5,000
Salt Lake City, Utah, USA	Salt Lake City Muni.	SLC	40.47	111.58	4226	10,000
San Angelo, Texas, USA	Mathis Field	SJT	31.22	100.30	1915	5,900
San Antonio, Texas, USA	San Antonio Int'l	SAT	29.32	98.28	800	8,500
San Diego, Calif., USA	Lindbergh Field	SAN	32.44	117.11	15	8,100
Sandspit, B. C., CANADA		YZP	53.15	131.49	16	5,100
San Francisco/Oakland, Calif., USA	San Francisco Int'l	SFO	37.38	122.23	10	9,500
Santa Barbara, Calif., USA	Santa Barbara Muni.	SBA	34.26	119.50	14	4,700
Santa Fe, N. Mex., USA	Santa Fe Co. Muni.	SAF	35.37	106.05	6344	8,300
Sarasota, Fla., USA	Sarasota-Branden	SRQ	27.24	82.33	24	5,000
Saskatoon, Sask., CANADA		YXE	52.10	106.41	1653	8,300
Sault Ste. Marie, Ont., CAN.			46.29	84.30	631	6,000
Savannah, Ga., USA	Hunter Field (Muni.)	SAV	32.01	81.08	40	11,400
Scranton, Pa., USA	Scranton	AVP	41.29	75.46	1179	2,400
Seattle, Wash., USA	Seattle-Tacoma Int'l	SEA	47.27	122.19	428	9,800
Seven Islands, Que., CAN.		YZV	50.13	66.16	180	6,600
Sharon, Pa., USA	Sharon	YNG	41.13	80.27	1140	2,400
Sheridan, Wyo., USA	Sheridan Co.	SHR	44.47	106.58	4021	6,000
Shreveport, La., USA	Greater Shreveport	SHV	32.27	93.49	251	6,400
Sioux City, Iowa, USA	Sioux City Muni.	SUX	42.24	96.23	1097	9,000
Sioux Falls, S. Dak., USA	Foss Field	FSD	43.35	96.45	1426	7,100
Smithers, B. C., CANADA		YZV	54.49	127.11	1719	5,000
South Bend, Ind., USA	St. Joseph Co.	SBN	41.42	86.19	778	5,000
Spartanburg, S. C., USA	Spartanburg Muni.	SPA	34.55	81.58	816	5,000
Spokane, Wash., USA	Spokane Int'l	GEG	47.38	117.38	2462	13,900
Springfield, Ill., USA	Capital	SPI	39.15	89.40	593	7,000
Springfield, Mo., USA	Springfield Muni.	SGV	37.15	93.23	1267	5,600

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Stephenville, Nfld., CAN.	Ernst Harmon AFB	YJT	48.32	58.33	86	10,000
Stockton, Calif., USA	Stockton Muni.	SCK	37.54	121.15	27	8,600
Sudbury, Ont., CANADA		YSB	46.37	80.48	1120	6,600
Swift Current, Sask., CANADA		YYN	50.17	107.41	2680	4,200
Sydney, N. S., CANADA		YQY	46.10	60.03	202	6,000
Syracuse, N. Y., USA	Hancock	SYR	43.07	76.07	421	8,000
Tallahassee, Fla., USA	Tallahassee Muni.	TLH	30.24	84.21	82	6,100
Tampa, Fla., USA	Tampa Int'l	TPA	27.58	82.32	27	8.300
Temple, Texas, USA	Draughon-Miller Muni.	TPL	31.09	97.25	698	5,000
Terrace, B. C., CANADA		YXT	54.28	128.35	713	5,200
Terre Haute, Ind., USA	Hulman Field	HUF	39.27	87.19	585	8,000
Texarkana, Ark., USA	Texarkana Muni	TXK	33.27	94.00	389	5,200
Timmins, Ont., USA		YTS	48.34	81.22	967	5,700
Toledo, Ohio, USA	Toledo Express	TOL	41.35	83.48	684	7,000
Toronto, Ont., CANADA	Toronto Int'l (Malton)	YYZ	43.41	79.38	567	11,000
Tucson, Ariz., USA	Tucson Muni.	TUS	32.07	110.57	2630	12,000
Tulsa, Okla., USA	Tulsa Muni.	TUL	36.12	95.53	674	10,000
Val D'Or, Que., CANADA		YVO	48.03	77.47	1109	8,200
Vancouver, B. C., CANADA	Sea Island	YVR	49.11	123.10	9	8,600
Vero Beach, Fla., USA	Vero Beach Muni.	VRB	27.39	80.25	24	7,200
Victoria, B. C., CANADA	Victoria Int'l	YYJ	48.39	123.26	63	5,000
Visalia, Calif., USA	Visalia Muni.	VIS	36.19	119.24	292	5,300
Waco, Texas, USA	Waco Muni.	ACT	31.37	97.14	515	5,700
Washington, D. C., USA	Washington Nat'l	DCA	38.51	77.02	15	6,900
Waterloo, Iowa, USA	Waterloo Muni.	ALO	42.34	92.24	870	5,400
Waterville, Maine, USA	Waterville Muni.	WVL	44.32	69.40	332	4,000
Watson Lake, Y. T., CANADA		YQH	60.07	128.49	2255	5,500
Waycross, Ga., USA	Waycross-Ware Co.	AYS	31.15	82.24	142	5,000
West Palm Beach, Fla., USA	Palm Beach Int'l	PBI	26.41	80.06	19	8,000
Whitehorse, Y. T., CANADA		YXE	60.43	135.04	2303	7,200
Wichita, Kan., USA	Wichita	ICT	37.39	97.26	1332	7,300
Wichita Falls, Texas, USA	Wichita Falls	SPS	33.59	98.30	1015	13,100
Williams Lake, B. C., CAN.		YWL	52.11	122.03	3085	7,000
Williamsport, Pa., USA	Williamsport-Lycoming Co.	IPT	41.14	76.55	528	5,000
Wilmington, Del., USA	Greater Wilmington	ILG	39.41	75.36	79	7,100
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Windsor, Ont., CANADA		YQG	46.16	82.58	622	6,200
Winnipeg, Man., CANADA	Winnipeg Int'l	YWG	49.54	97.14	785	8,700
Worcester, Mass., USA	Worcester Muni.	ORH	42.16	71.52	1009	5,500
Yakima, Wash., USA	Yakima Muni.	YKM	46.34	120.32	1082	5,500
Yarmouth, N. S., CANADA		YQI	43.50	66.05	157	5,800
Yorkton, Sask., CANADA		YQV	51.16	102.28	1635	4,800
Youngstown, Ohio, USA	Youngstown Muni.	YNG	41.16	80.41	1196	7,500

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Amarillo- - - - - - - 26,107
Denver- - - - - - - - 46,122
Oklahoma City - - - - 46,122
Pueblo- - - - - - - - 46,122

COLUMBIA
Atlanta - - - - - - - 28,108
Charleston, S. C. - - 39,117
Charlotte - - - - - - 41,118
Florence- - - - - - - 47,122
Greenville- - - - - - 47,122
Jacksonville- - - - - 47,122
Meridian- - - - - - - 47,122
Montgomery- - - - - - 47,122
Pensacola - - - - - - 47,122
Raleigh - - - - - - - 47,123
Savannah- - - - - - - 47,123
Washington, D. C. - - 47,123

COLUMBUS, GA.
Atlanta - - - - - - - 28,108
Montgomery- - - - - - 47,123
Pensacola - - - - - - 47,123
Tallahassee - - - - - 47,123

COLUMBUS, OHIO
Akron - - - - - - - - 23,105
Charleston, W. Va.- - 40,117
Charlotte - - - - - - 41,118
Chicago - - - - - - - 42,119
Cincinnati- - - - - - 44,120
Cleveland - - - - - - 45,121
Dayton- - - - - - - - 47,123
Detroit - - - - - - - 47,123
Indianapolis- - - - - 48,123
Louisville- - - - - - 48,123
New York- - - - - - -101
Philadelphia- - - - - 48,123
Pittsburgh- - - - - - 48,123

COLUMBUS, OHIO (Continued)
Tampa - - - - - - - -101
Toledo- - - - - - - - 48,123
Washington, D. C. - - 48,123

COMOX
Port Hardy- - - - - - 48,123
Vancouver - - - - - - 48,123

CONCORD
Boston- - - - - - - - 35,114
Fitchburg - - - - - - 48,123
Laconia - - - - - - - 48,123

CORPUS CHRISTI
Brownsville - - - - - 36,115
Houston - - - - - - - 48,123
San Antonio - - - - - 48,124

CRANBROOK
Calgary - - - - - - - 38,116
Castlegar - - - - - - 39,117

DALLAS
Abilene - - - - - - - 23,105
Albuquerque - - - - - 83
Amarillo- - - - - - - 26,107
Atlanta - - - - - - - 86
Austin- - - - - - - - 30,110
Baltimore - - - - - - 88
Boston- - - - - - - - 91
Chicago - - - - - - - 95
Cincinnati- - - - - - 99
Denver- - - - - - - -102
El Paso - - - - - - -102
Ft. Worth - - - - - - 48,124
Houston - - - - - - - 48,124
Jackson - - - - - - - 49,124
Kansas City - - - - - 49,124
Las Vegas - - - - - -102
Lawton- - - - - - - - 49,124
Little Rock - - - - - 49,124
Los Angeles - - - - -102
Louisville- - - - - -102
Lubbock - - - - - - - 49,124
McAlester - - - - - - 49,124
Memphis - - - - - - - 49,124
Miami - - - - - - - -103
Midland - - - - - - - 49,124
Monroe- - - - - - - - 49,124
New Orleans - - - - - 49,124
New York- - - - - - -103
Oklahoma City - - - - 49,124
Orlando - - - - - - -103
St. Louis - - - - - -103
San Antonio - - - - - 49,124
San Francisco - - - -103
Seattle - - - - - - -103
Shreveport- - - - - - 49,124
Tucson- - - - - - - -103
Tulsa - - - - - - - - 49,124
Waco- - - - - - - - - 50,124
Washington, D. C. - -104
Wichita Falls - - - - 50,124

DANVILLE
Charlotte - - - - - - 41,118
Greensboro- - - - - - 50,125
Richmond- - - - - - - 50,125

DAYTON
Akron - - - - - - - - 23,105
Chicago - - - - - - - 42,119
Cincinnati- - - - - - 44,121

DAYTON (Continued)
Cleveland - - - - - - 45,121
Columbus, Ohio- - - - 47,123
Ft. Wayne - - - - - - 50,125
Hartford- - - - - - -104
Indianapolis- - - - - 50,125
Los Angeles - - - - -104
New York- - - - - - -104
Pittsburgh- - - - - - 50,125
St. Louis - - - - - - 50,125
Washington, D. C. - - 50,125

DAYTONA BEACH
Jacksonville- - - - - 50,125
Lakeland- - - - - - - 50,125
Melbourne - - - - - - 50,125
Miami - - - - - - - - 50,125
Orlando - - - - - - - 50,125
Tampa - - - - - - - - 51,125
West Palm Beach - - - 51,125

DENVER
Albuquerque - - - - - 25,106
Amarillo- - - - - - - 26,107
Baltimore - - - - - - 89
Boise - - - - - - - - 91
Boston- - - - - - - - 91
Casper- - - - - - - - 39,116
Cheyenne- - - - - - - 42,119
Chicago - - - - - - - 95
Colorado Springs- - - 46,122
Dallas- - - - - - - -102
El Paso - - - - - - -104
Grand Junction- - - - 51,125
Kansas City - - - - -104
Las Vegas - - - - - -104
Lincoln - - - - - - - 51,125
Los Angeles - - - - -104
Lubbock - - - - - - - 51,125
Milwaukee - - - - - -105
Minneapolis - - - - -105
New York- - - - - - -105
Omaha - - - - - - - - 51,125
Phoenix - - - - - - -105
Portland, Ore.- - - -105
Rapid City- - - - - - 51,125
Reno- - - - - - - - -105
Salt Lake City- - - - 51,126
San Francisco - - - -105
Seattle - - - - - - -105
Sioux Falls - - - - -106
Tulsa - - - - - - - -106
Washington, D. C. - -106
Wichita - - - - - - - 51,126

DES MOINES
Cedar Rapids- - - - - 39,117
Chicago - - - - - - - 43,119
Kansas City - - - - - 51,126
Los Angeles - - - - -106
Minneapolis - - - - - 51,126
Omaha - - - - - - - - 51,126
St. Louis - - - - - - 51,126
Waterloo- - - - - - - 51,126

DETROIT
Akron - - - - - - - - 23,105
Atlanta - - - - - - - 86
Baltimore - - - - - - 31,111
Boston- - - - - - - - 92
Buffalo - - - - - - - 37,115
Chicago - - - - - - - 43,119
Cincinnati- - - - - - 44,121
Cleveland - - - - - - 45,121

DETROIT (Continued)
Columbus, Ohio- - - - 47,123
Flint - - - - - - - - - 52,126
Grand Rapids- - - - - 52,126
Indianapolis- - - - - 52,126
Land O'Lakes- - - - - 52,126
Lansing - - - - - - - 52,126
Las Vegas - - - - - -106
Los Angeles - - - - -106
Louisville- - - - - - 52,126
Miami - - - - - - - -107
Milwaukee - - - - - - 52,126
Minneapolis - - - - -107
New York- - - - - - -107
Omaha - - - - - - - -107
Philadelphia- - - - - 52,126
Pittsburgh- - - - - - 52,126
Rochester, N. Y.- - - 52,126
St. Louis - - - - - - 52,126
St. Petersburg- - - -107
San Francisco - - - -107
Toledo- - - - - - - - 52,126
Washington, D. C. - - 52,127

DOTHAN
Montgomery- - - - - - 52,127

EDMONTON
Anchorage - - - - - - 85
Calgary - - - - - - - 38,116
Grand Prairie - - - - 53,127
Minneapolis - - - - -108
Montreal- - - - - - -108
Regina- - - - - - - - 53,127
Saskatoon - - - - - - 53,127
Toronto - - - - - - -108
Vancouver - - - - - -108
Winnipeg- - - - - - -108

ELKO
Ely - - - - - - - - - 53,127
Reno- - - - - - - - - 53,127

ELMIRA
Buffalo - - - - - - - 37,115
Rochester, N. Y.- - - 53,127
Williamsport- - - - - 53,127

EL PASO
Abilene - - - - - - - 23,105
Alamogordo- - - - - - 24,106
Albuquerque - - - - - 25,106
Bisbee- - - - - - - - 34,113
Carlsbad- - - - - - - 38,116
Dallas- - - - - - - -102
Denver- - - - - - - -104
Ft. Worth - - - - - -108
Houston - - - - - - -108
Los Angeles - - - - -108
Midland - - - - - - - 53,127
Phoenix - - - - - - - 53,127
Roswell - - - - - - - 53,127
San Antonio - - - - -109
San Diego - - - - - -109
San Francisco - - - -109
Tucson- - - - - - - - 53,127

ELY
Elko- - - - - - - - - 53,127
Salt Lake City- - - - 53,127

EUGENE
Medford - - - - - - - 53,127
Salem - - - - - - - - 53,127

EVANSVILLE
Chicago - - - - - - - 43,119
Indianapolis- - - - - 54,127
Louisville- - - - - - 54,127
Nashville - - - - - - 54,127
Owensboro - - - - - - 54,128
Paducah - - - - - - - 54,128
St. Louis - - - - - - 54,128

FAIRBANKS
Anchorage - - - - - - 85
Juneau- - - - - - - -109
San Francisco - - - -109
Seattle - - - - - - -109
Whitehorse- - - - - -109

FARGO
Bismark - - - - - - - 34,113
Grand Forks - - - - - 54,128
Jamestown - - - - - - 54,128
Minneapolis - - - - - 54,128
Winnipeg- - - - - - - 54,128

FAYETTEVILLE
New Bern- - - - - - -109
Wilmington, N. C. - -109

FITCHBURG
Boston- - - - - - - - 35,114
Concord - - - - - - - 48,123

FLINT
Detroit - - - - - - - 52,126
Grand Rapids- - - - - 54,128
New York- - - - - - -109
Saginaw - - - - - - - 54,128

FLORENCE
Charleston, S. C. - - 39,117
Columbia- - - - - - - 47,122
Raleigh - - - - - - - 54,128

FT. LAUDERDALE
Chicago - - - - - - - 96
Cincinnati- - - - - - 99
Miami - - - - - - - - 54,128
New York- - - - - - -109
Washington, D. C. - -110
West Palm Beach - - - 55,128

FT. MEYERS
Sarasota- - - - - - - 55,128
West Palm Beach - - - 55,128

FT. NELSON
Ft. St. John- - - - - 55,128
Watson Lake - - - - -110
Whitehorse- - - - - -110

FT. ST. JOHN
Ft. Nelson- - - - - - 55,128
Grand Prairie - - - - 55,128
Prince George - - - - 55,128

FT. SMITH
Little Rock - - - - - 55,128
Texarkana - - - - - - 55,128
Tulsa - - - - - - - - 55,129

FT. WAYNE
Cleveland - - - - - - 45,121
Dayton- - - - - - - - 50,125
Indianapolis- - - - - 55,129
New York- - - - - - -110

FT. WAYNE (Continued)
South Bend- - - - - - 55,129
Toledo- - - - - - - - 55,129

FT. WILLIAM
Sault Ste. Marie- - - 55,129
Toronto - - - - - - -110
Winnipeg- - - - - - - 55,129

FT. WORTH
Abilene - - - - - - - 23,105
Austin- - - - - - - - 30,110
Dallas- - - - - - - - 48,124
El Paso - - - - - - -108
Houston - - - - - - - 56,129
Little Rock - - - - - 56,129
Los Angeles - - - - -110
New Orleans - - - - - 56,129
Oklahoma City - - - - 56,129
Shreveport- - - - - - 56,129
Waco- - - - - - - - - 56,129
Wichita Falls - - - - 56,129

FREDERICTON
Montreal- - - - - - - 56,129
Quebec- - - - - - - - 56,129
St. John- - - - - - - 56,129

FRESNO
Bakersfield - - - - - 30,110
Los Angeles - - - - - 56,129
Merced- - - - - - - - 56,129
Oakland - - - - - - - 56,129
San Francisco - - - - 56,130
Visalia - - - - - - - 57,130

GAINESVILLE
Jacksonville- - - - - 57,130
Ocala - - - - - - - - 57,130

GANDER
Montreal- - - - - - -111
St. Johns - - - - - - 57,130
Stephenville- - - - - 57,130

GLENS FALLS
Albany, N. Y. - - - - 25,106

GOOSE BAY
Montreal- - - - - - -111

GRAND FORKS
Fargo - - - - - - - - 54,128
Winnipeg- - - - - - - 57,130

GRAND JUNCTION
Denver- - - - - - - - 51,125
Las Vegas - - - - - - 57,130

GRAND PRAIRIE
Edmonton- - - - - - - 53,127
Ft. St. John- - - - - 55,128

GRAND RAPIDS
Chicago - - - - - - - 43,119
Cleveland - - - - - - 45,121
Detroit - - - - - - - 52,126
Flint - - - - - - - - 54,128
Land O'Lakes- - - - - 57,130
Lansing - - - - - - - 57,130
Milwaukee - - - - - - 57,130
Muskegon- - - - - - - 57,130
Saginaw - - - - - - - 57,130

GREAT FALLS
Billings- - - - - - - 33,112
Butte - - - - - - - - 38,116
Calgary - - - - - - - 38,116
Helena- - - - - - - - 57,130
Missoula- - - - - - - 57,130
Salt Lake City- - - - 58,130
Spokane - - - - - - - 58,130

GREENSBORO
Asheville - - - - - - 27,108
Atlanta - - - - - - - 28,108
Birmingham- - - - - - 33,112
Charleston, W. Va.- - 40,117
Charlotte - - - - - - 41,118
Chicago - - - - - - - 96
Danville- - - - - - - 50,125
Greenville- - - - - - 58,130
Louisville- - - - - - 58,130
New York- - - - - - - 58,131
Pittsburgh- - - - - - 58,131
Raleigh - - - - - - - 58,131
Richmond- - - - - - - 58,131
Roanoke - - - - - - - 58,131
Washington, D. C. - - 58,131

GREENVILLE
Anderson- - - - - - - 27,108
Atlanta - - - - - - - 28,108
Charlotte - - - - - - 41,118
Chattanooga - - - - - 42,119
Columbia- - - - - - - 47,122
Greensboro- - - - - - 58,130
Richmond- - - - - - - 58,131
Spartanburg - - - - - 58,131
Winston-Salem - - - - 58,131

HALIFAX
Moncton - - - - - - - 58,131
Montreal- - - - - - -112
St. John- - - - - - - 59,131
Sydney- - - - - - - - 59,131

HARRISBURG
Allentown - - - - - - 26,107
Baltimore - - - - - - 31,111
Chicago - - - - - - - 96
Pittsburgh- - - - - - 59,131
Reading - - - - - - - 59,131
Washington, D. C. - - 59,131
Williamsport- - - - - 59,131

HARTFORD
Albany, N. Y. - - - - 25,106
Boston- - - - - - - - 35,114
Chicago - - - - - - - 96
Cleveland - - - - - -100
Dayton- - - - - - - -104
Los Angeles - - - - -112
New Haven - - - - - - 59,131
New York- - - - - - - 59,131
Philadelphia- - - - - 59,131
Pittsburgh- - - - - - 59,132
Pittsfield- - - - - - 59,132
Providence- - - - - - 59,132
Washington, D. C. - - 59,132

HELENA
Butte - - - - - - - - 38,116
Great Falls - - - - - 57,130
Missoula- - - - - - - 59,132

HOBBS
Carlsbad- - - - - - - 38,116

HOBBS (Continued)
Midland - - - - - - - 60,132
Roswell - - - - - - - 60,132

HONOLULU
Chicago - - - - - - - 96
Los Angeles - - - - -112
New York- - - - - - -112
Portland, Ore.- - - -112
San Francisco - - - -112
Seattle - - - - - - -112
Vancouver - - - - - -112

HOT SPRINGS
Little Rock - - - - - 60,132
Shreveport- - - - - - 60,132

HOULTON
Bangor- - - - - - - - 32,111
Presque Isle- - - - - 60,132

HOUSTON
Abilene - - - - - - - 23,105
Atlanta - - - - - - - 86
Austin- - - - - - - - 30,110
Baltimore - - - - - - 89
Beaumont- - - - - - 32,112
Chicago - - - - - - - 96
College Station - - - 46,122
Corpus Christi- - - - 48,123
Dallas- - - - - - - - 48,124
El Paso - - - - - - -108
Ft. Worth - - - - - - 56,129
Lake Charles- - - - - 60,132
Las Vegas - - - - - -112
Los Angeles - - - - -112
Miami - - - - - - - -113
Nashville - - - - - -113
New Orleans - - - - - 60,132
New York- - - - - - -113
St. Louis - - - - - -113
San Antonio - - - - - 60,132
San Francisco - - - -113
Shreveport- - - - - - 60,132
Tulsa - - - - - - - - 60,132
Washington, D. C. - -113

HUNTINGTON
Charleston, W. Va.- - 40,117
Lexington - - - - - - 60,132
Louisville- - - - - - 60,132
Washington, D. C. - -113

HUNTSVILLE
Birmingham- - - - - - 33,112
Charleston, W. Va.- - 40,118
Knoxville - - - - - - 60,132
Lexington - - - - - - 60,132
Louisville- - - - - - 61,133
Memphis - - - - - - - 61,133
Nashville - - - - - - 61,133
Washington, D. C. - - 61,133

HURON
Pierre- - - - - - - - 61,133
Sioux Falls - - - - - 61,133

HYANNIS
Boston- - - - - - - - 35,114
Nantucket - - - - - - 61,133

IDAHO FALLS
Butte - - - - - - - - 38,116
Pocatello - - - - - - 61,133

IDAHO FALLS (Continued)
Salt Lake City- - - - 61,133

INDIANAPOLIS
Atlanta - - - - - - - 28,108
Chicago - - - - - - - 43,119
Cincinnati- - - - - - 44,121
Cleveland - - - - - - 45,121
Columbus, Ohio- - - - 48,123
Dayton- - - - - - - - 50,125
Detroit - - - - - - - 52,126
Evansville- - - - - - 54,127
Ft. Wayne - - - - - - 55,129
Louisville- - - - - - 61,133
Memphis - - - - - - - 61,133
Nashville - - - - - - 61,133
New York- - - - - - -114
Pittsburgh- - - - - - 61,133
St. Louis - - - - - - 61,133
Terre Haute - - - - - 62,133

JACKSON
Birmingham- - - - - - 33,112
Dallas- - - - - - - - 49,124
Memphis - - - - - - - 62,133
Meridian- - - - - - - 62,133
Monroe- - - - - - - - 62,133
New Orleans - - - - - 62,133
Shreveport- - - - - - 62,134

JACKSONVILLE
Atlanta - - - - - - - 28,109
Augusta, Ga.- - - - - 29,110
Brunswick - - - - - - 36,115
Charleston, S. C. - - 39,117
Charlotte - - - - - - 41,118
Columbia- - - - - - - 47,122
Daytona Beach - - - - 50,125
Gainesville - - - - - 57,130
Macon - - - - - - - - 62,134
Melbourne - - - - - - 62,134
Miami - - - - - - - - 62,134
New Orleans - - - - -114
New York- - - - - - -114
Orlando - - - - - - - 62,134
Pittsburgh- - - - - -114
Sarasota- - - - - - - 62,134
Savannah- - - - - - - 62,134
Tallahassee - - - - - 62,134
Tampa - - - - - - - - 62,134
Washington, D. C. - -114
Waycross- - - - - - - 63,134
West Palm Beach - - - 63,134

JAMESTOWN
Bismark - - - - - - - 34,113
Fargo - - - - - - - - 54,128

JOPLIN
Springfield, Mo.- - - 63,134
Tulsa - - - - - - - - 63,134

JUNEAU
Anchorage - - - - - - 85
Annette Island- - - - 85
Fairbanks - - - - - -109
Seattle - - - - - - -114

KANSAS CITY
Baltimore - - - - - - 89
Chicago - - - - - - - 43,120
Dallas- - - - - - - - 49,124
Denver- - - - - - - -104
Des Moines- - - - - - 51,126

KANSAS CITY (Continued)
Los Angeles - - - - -114
Minneapolis - - - - - 63,134
New York- - - - - - -115
Omaha - - - - - - - - 63,134
Phoenix - - - - - - -115
St. Louis - - - - - - 63,134
Springfield, Mo.- - - 63,134
Tulsa - - - - - - - - 63,134
Washington, D. C. - -115
Wichita - - - - - - - 63,134

KEENE
New York- - - - - - - 63,135
Pittsfield- - - - - - 63,135

KEY WEST
Miami - - - - - - - - 63,135

KING SALMON
Anchorage - - - - - - 85

KNOXVILLE
Asheville - - - - - - 27
Atlanta - - - - - - - 28,109
Birmingham- - - - - - 33,113
Bristol - - - - - - - 36,115
Charleston, W. Va.- - 40,118
Chattanooga - - - - - 42,119
Cincinnati- - - - - - 44,121
Cleveland - - - - - - 45,121
Huntsville- - - - - - 60,132
Lexington - - - - - - 63,135
Louisville- - - - - - 64,135
Memphis - - - - - - - 64,135
Nashville - - - - - - 64,135
New York- - - - - - -115
Pittsburgh- - - - - - 64,135
Washington, D. C. - - 64,135

KODIAK
Seattle - - - - - - -115

LACONIA
Concord - - - - - - - 48,123

LAFAYETTE
Baton Rouge - - - - - 32,111
Lake Charles- - - - - 64,135

LAKE CHARLES
Baton Rouge - - - - - 32,112
Beaumont- - - - - - - 32,112
Houston - - - - - - - 60,132
Lafayette - - - - - - 64,135

LAKELAND
Daytona Beach - - - - 50,125
Tampa - - - - - - - - 64,135

LANCASTER
Baltimore - - - - - - 31,111
Reading - - - - - - - 64,135
Washington, D. C. - - 64,135

LAND O'LAKES
Detroit - - - - - - - 52,126
Grand Rapids- - - - - 57,130
New York- - - - - - -115

LANSING
Detroit - - - - - - - 52,126
Grand Rapids- - - - - 57,130

LAS VEGAS
Albuquerque - - - - - 83
Chicago - - - - - - - 96
Dallas- - - - - - - - -102
Denver- - - - - - - -104
Detroit - - - - - - -106
Grand Junction- - - - 57,130
Houston - - - - - - -112
Los Angeles - - - - - 64,135
Palm Springs- - - - - 64,135
Phoenix - - - - - - - 64,135
Sacramento- - - - - - 64,135
Salt Lake City- - - - 65,135
San Francisco - - - - 65,136

LAWRENCE
Manchester- - - - - - 65,136
Worcester - - - - - - 65,136

LAWTON
Dallas- - - - - - - - 49,124
Oklahoma City - - - - 65,136
Wichita Falls - - - - 65,136

LEBANON
Boston- - - - - - - - 35,114
Manchester- - - - - - 65,136
Montpelier- - - - - - 65,136

LETHBRIDGE
Calgary - - - - - - - 38,116

LEWISTON
Augusta, Me.- - - - - 30,110
Boston- - - - - - - - 35
Portland, Me. - - - - 65,136

LEXINGTON
Charleston, W. Va.- - 40,118
Chattanooga - - - - - 42,119
Cincinnati- - - - - - 45,121
Huntington- - - - - - 60,132
Huntsville- - - - - - 60,132
Knoxville - - - - - - 63,135
Louisville- - - - - - 65,136

LINCOLN
Denver- - - - - - - - 51,125
Omaha - - - - - - - - 65,136

LITTLE ROCK
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- Savannah- - - - - - - 67,137
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- Chattanooga - - - - - 42,119
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- Indianapolis- - - - - 61,133
- Jackson - - - - - - - 62,133
- Knoxville - - - - - - 64,135
- Little Rock - - - - - 65,136
- Louisville- - - - - - 66,137
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- Jacksonville- - - - - 62,134
- Key West- - - - - - - 63,135
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- Melbourne - - - - - - 67,138
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- New York- - - - - - -120
- Omaha - - - - - - - - 69,139
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- Halifax - - - - - - -112
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- Nashville - - - - - - 70,140

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- Casper- - - - - - - - 39,116
- Denver- - - - - - - - 51,125
- Pierre- - - - - - - - 75,143

READING
- Allentown - - - - - - 26,107
- Harrisburg- - - - - - 59,131
- Lancaster - - - - - - 64,135
- New York- - - - - - - 72,141
- Syracuse- - - - - - - 77,144

REGINA
- Calgary - - - - - - - 38,116
- Edmonton- - - - - - - 53,127
- Swift Current - - - - 77,144
- Winnipeg- - - - - - - 77,144
- Yorkton - - - - - - - 77,144

RENO
- Boise - - - - - - - - 34,113
- Denver- - - - - - - -105
- Elko- - - - - - - - - 53,127
- Oakland - - - - - - - 73,141
- Portland, Ore.- - - - 75,143
- Sacramento- - - - - - 77,145
- Salt Lake City- - - - 77,145
- San Francisco - - - - 77,145
- Seattle - - - - - - -125

RICHMOND
- Baltimore - - - - - - 31,111
- Charlotte - - - - - - 41,118
- Danville- - - - - - - 50,125
- Greensboro- - - - - - 58,131
- Greenville- - - - - - 58,131
- New York- - - - - - - 72,141
- Philadelphia- - - - - 74,142
- Raleigh - - - - - - - 76,144
- Washington, D. C. - - 77,145

ROANOKE
- Charleston, W. Va.- - 41,118
- Greensboro- - - - - - 58,131
- Pittsburgh- - - - - - 75,143
- Washington, D. C. - - 77,145
- Winston-Salem - - - - 77,145

ROCHESTER, MINN.
- Chicago - - - - - - - 98
- Madison - - - - - - - 67,137
- Minneapolis - - - - - 69,139
- Waterloo- - - - - - - 77,145

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- Baltimore - - - - - - 31,111
- Buffalo - - - - - - - 37,115
- Chicago - - - - - - - 44,120
- Cleveland - - - - - - 46,122
- Detroit - - - - - - - 52,126
- Elmira- - - - - - - - 53,127
- New York- - - - - - - 72,141
- Philadelphia- - - - - 74,142
- Syracuse- - - - - - - 77,145
- Washington, D. C. - - 77,145

ROCKLAND
- Augusta, Me.- - - - - 30,110

ROME
- Atlanta - - - - - - - 29,109
- Chattanooga - - - - - 42,119

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- El Paso - - - - - - - 53,127
- Hobbs - - - - - - - - 60,132

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- Val D'or- - - - - - - 77,145

SACRAMENTO
- Las Vegas - - - - - - 64,135
- Los Angeles - - - - - 66,137
- Medford - - - - - - - 67,137
- Reno- - - - - - - - - 77,145
- San Francisco - - - - 78,145
- Stockton- - - - - - - 78,145

SAGINAW
- Chicago - - - - - - - 44,120
- Flint - - - - - - - - 54,128
- Grand Rapids- - - - - 57,130

SAGUENAY
- Montreal- - - - - - - 70,140
- Quebec- - - - - - - - 76,144
- Seven Islands - - - - 78,145

ST. JOHN
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- Halifax - - - - - - - 59,131
- Moncton - - - - - - - 70,139
- Montreal- - - - - - - 70,140
- Yarmouth- - - - - - - 78,145

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- Sydney- - - - - - - - 78,145

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- Cleveland - - - - - -100
- Dallas- - - - - - - -103
- Dayton- - - - - - - - 50,125
- Des Moines- - - - - - 51,126
- Detroit - - - - - - - 52,126
- Evansville- - - - - - 54,128
- Houston - - - - - - -113
- Indianapolis- - - - - 61,133
- Kansas City - - - - - 63,134
- Little Rock - - - - - 65,136
- Los Angeles - - - - -117
- Louisville- - - - - - 67,137
- Memphis - - - - - - - 68,138
- Miami - - - - - - - -119
- Nashville - - - - - - 71,140
- New York- - - - - - -122
- Oklahoma City - - - -123
- Philadelphia- - - - -124
- San Francisco - - - -125
- Springfield, Mo.- - - 78,145
- Tampa - - - - - - - -125
- Tulsa - - - - - - - - 78,145
- Washington, D. C. - -126

ST. PETERSBURG
- Atlanta - - - - - - - 29,109
- Cincinnati- - - - - - 99
- Cleveland - - - - - -101
- Detroit - - - - - - -107
- Louisville- - - - - -118
- Miami - - - - - - - - 68,138
- New Orleans - - - - -121
- Pittsburgh- - - - - -124
- Washington, D. C. - -126

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- Eugene- - - - - - - - 53,127
- Portland, Ore.- - - - 75,143

SALINAS
- Monterey- - - - - - - 70,139
- San Francisco - - - - 78,145
- Santa Barbara - - - - 78,145

SALT LAKE CITY
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- Casper- - - - - - - - 39,116
- Chicago - - - - - - - 98
- Denver- - - - - - - - 51,126
- Ely - - - - - - - - - 53,127
- Great Falls - - - - - 58,130
- Idaho Falls - - - - - 61,133
- Las Vegas - - - - - - 65,135
- Los Angeles - - - - -117
- Minneapolis - - - - -120
- Oakland - - - - - - -123
- Pocatello - - - - - - 75,143
- Portland, Ore.- - - -124
- Reno- - - - - - - - - 77,145
- San Francisco - - - -126

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- Austin- - - - - - - - 30,110
- Midland - - - - - - - 69,138

SAN ANTONIO
- Atlanta - - - - - - - 88
- Austin- - - - - - - - 30,110
- Corpus Christi- - - - 48,124
- Dallas- - - - - - - - 49,124
- El Paso - - - - - - -109
- Houston - - - - - - - 60,132

SAN DIEGO
- El Paso - - - - - - -109
- Long Beach- - - - - - 66,136
- Los Angeles - - - - - 66,137
- Palm Springs- - - - - 74,142
- Phoenix - - - - - - - 74,143
- San Francisco - - - - 78,146

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- Prince Rupert - - - - 76,144
- Vancouver - - - - - -126

SAN FRANCISCO
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- Denver- - - - - - - -105
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- Monterey- - - - - - - 70,139
- New York- - - - - - -122
- Oakland - - - - - - - 73,141
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- Phoenix - - - - - - -124
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- St. Louis - - - - - -125
- Salinas - - - - - - - 78,145
- Salt Lake City- - - -126
- San Diego - - - - - - 78,146
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- Stockton- - - - - - - 78,146
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- Salinas - - - - - - - 78,145

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- Clovis- - - - - - - - 46,122
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- Tampa - - - - - - - - 78,146
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- Winnipeg- - - - - - - 78,146

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Jacksonville- - - - - 62,134
Macon - - - - - - - - 67,137

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Philadelphia- - - - - 74,143
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Williamsport- - - - - 79,146

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Honolulu- - - - - - - -112
Juneau- - - - - - - - -114
Kodiak- - - - - - - - -115
Los Angeles - - - - - -117
Miami - - - - - - - - -119
Minneapolis - - - - - -120
New York- - - - - - - -122
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Reno- - - - - - - - - -125
San Francisco - - - - -126
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Vancouver - - - - - - 79,146
Victoria- - - - - - - 79,146
Yakima- - - - - - - - 79,146

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Saguenay- - - - - - - 78,145

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Casper- - - - - - - - 39,116

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Monroe- - - - - - - - 70,139
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Waterloo- - - - - - - 79,146

SIOUX FALLS
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Huron - - - - - - - - 61,133
Minneapolis - - - - - 69,139
Pierre- - - - - - - - 75,143
Sioux City- - - - - - 79,146

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Joplin- - - - - - - - 63,134
Kansas City - - - - - 63,134
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St. Louis - - - - - - 78,145

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San Francisco - - - - 78,146

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Toronto - - - - - - - 80,147

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Stephenville- - - - - 79,146

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Allentown - - - - - - 26,107
Baltimore - - - - - - 31,111
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Buffalo - - - - - - - 37,115
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New York- - - - - - - 72,141
Ottawa- - - - - - - - 73,142
Philadelphia- - - - - 74,143
Reading - - - - - - - 77,144
Rochester, N. Y.- - - 77,145
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Washington, D. C. - - 80,147

TALLAHASSEE
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Atlanta - - - - - - - 29,109
Columbus, Ga. - - - - 47,123
Jacksonville- - - - - 62,134
Miami - - - - - - - - 68,138
Orlando - - - - - - - 73,142
Panama City - - - - - 74,142
Tampa - - - - - - - - 80,147

TAMPA
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Boston- - - - - - - - 92
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Cleveland - - - - - -101
Columbus, Ohio- - - -101
Daytona Beach - - - - 51,125
Jacksonville- - - - - 62,134
Lakeland- - - - - - - 64,135
Los Angeles - - - - -117
Louisville- - - - - -118
Melbourne - - - - - - 67,138
Miami - - - - - - - - 68,138
Montreal- - - - - - -121
New Orleans - - - - -122
New York- - - - - - -123
Orlando - - - - - - - 73,142
Panama City - - - - - 74,142
St. Louis - - - - - -125
Sarasota- - - - - - - 78,146
Tallahassee - - - - - 80
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TEMPLE
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Waco- - - - - - - - - 80,147

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Smithers- - - - - - - 79,146
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Ft. Smith - - - - - - 55,128
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Sudbury - - - - - - - 80,147

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Chicago - - - - - - - 44,120
Cleveland - - - - - - 46,122
Columbus, Ohio- - - - 48,123
Detroit - - - - - - - 52,126
Ft. Wayne - - - - - - 55,129
Milwaukee - - - - - - 69,139
New York- - - - - - -123
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Montreal- - - - - - - 70,140
New York- - - - - - - 72,141
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Ottawa- - - - - - - - 73,142
Sault Ste. Marie- - - 79,146
Sudbury - - - - - - - 80,147
Tampa - - - - - - - -127
Vancouver - - - - - -127
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Winnipeg- - - - - - -127

TUCSON
Bisbee- - - - - - - - 34,113
Chicago - - - - - - - 98
Dallas- - - - - - - - -103
El Paso - - - - - - - 53,127
Los Angeles - - - - - 66,137
New York- - - - - - -123
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Birmingham- - - - - - 90
Boston- - - - - - - - 36,114
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Dayton- - - - - - - - 50,125
Denver- - - - - - - -106
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Huntsville- - - - - - 61,133
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Kansas City - - - - -115
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Lancaster - - - - - - 64,135
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San Francisco - - - -126
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Toledo- - - - - - - - 80,147
Toronto - - - - - - - 80,147
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Macon - - - - - - - - 67,137

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New York- - - - - - -123
Orlando - - - - - - - 73,142
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Oklahoma City - - - - 73,142
Tulsa - - - - - - - - 80,147

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Fayetteville- - - - -109

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New York- - - - - - - 72,141

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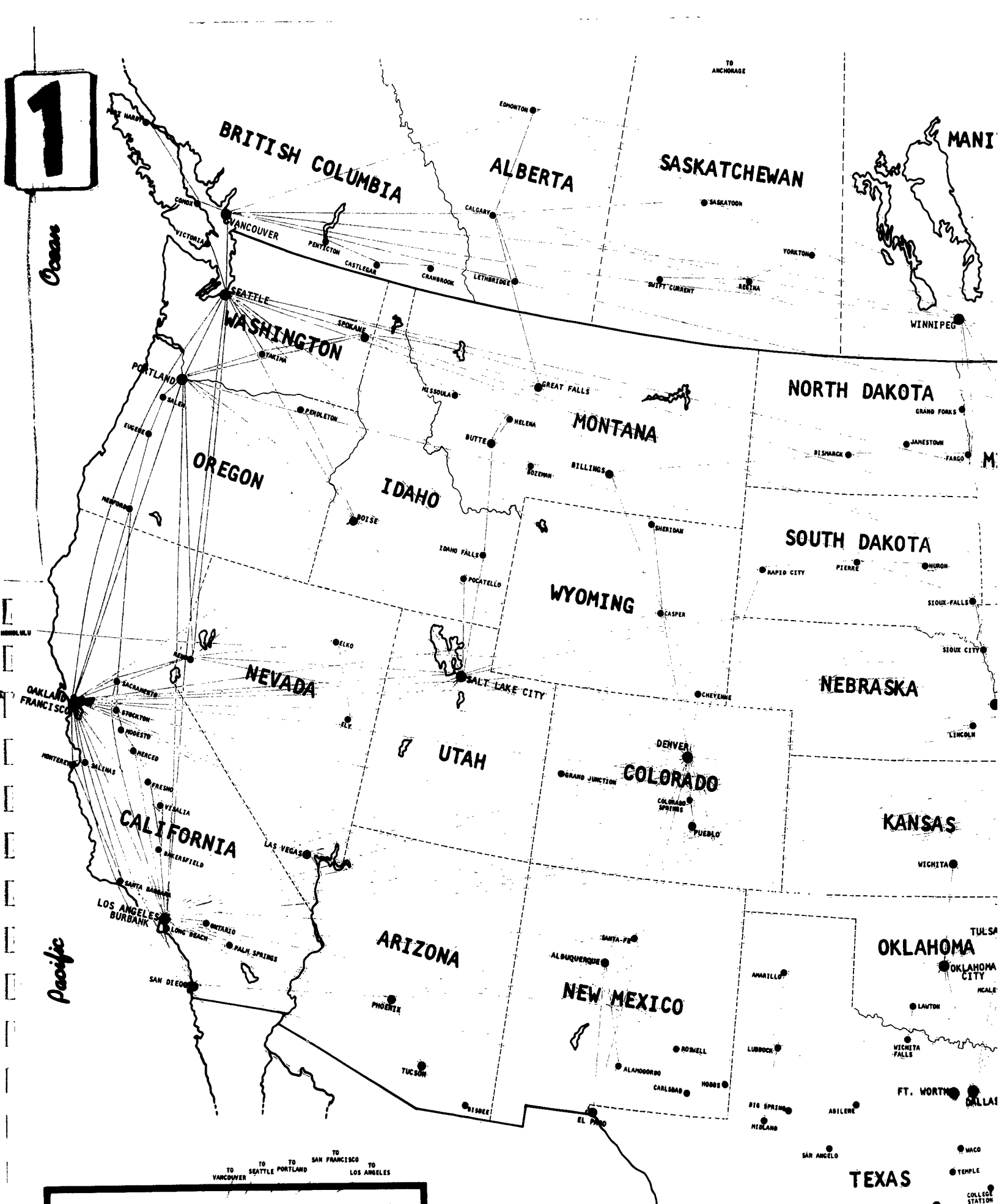
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Ocean
Pacific
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANI
WASHINGTON
OREGON
IDAHO
MONTANA
NORTH DAKOTA
SOUTH DAKOTA
WYOMING
NEVADA
UTAH
COLORADO
NEBRASKA
KANSAS
CALIFORNIA
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CASTLEGAR
CRANBROOK
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SEATTLE
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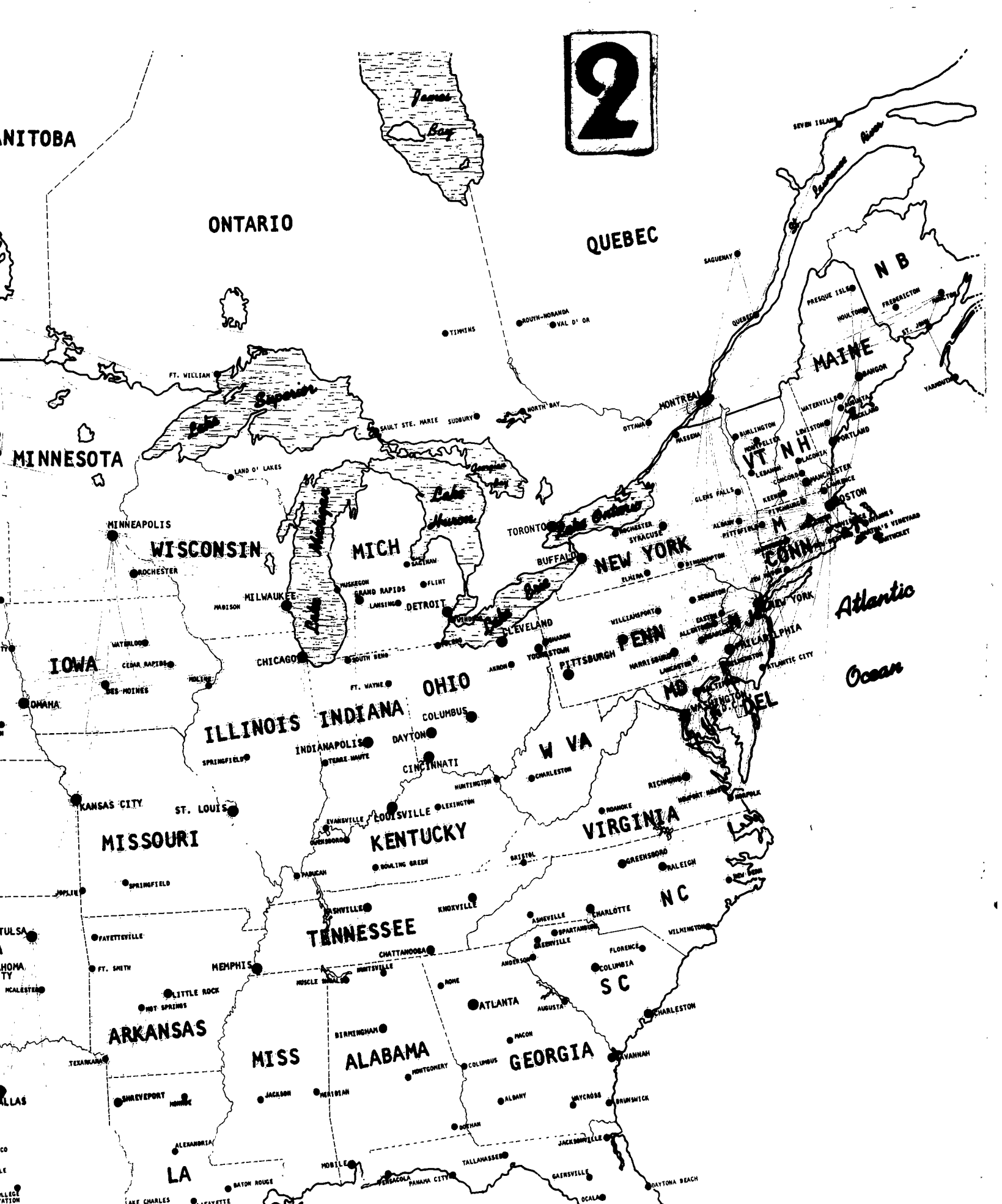
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CEDAR RAPIDS
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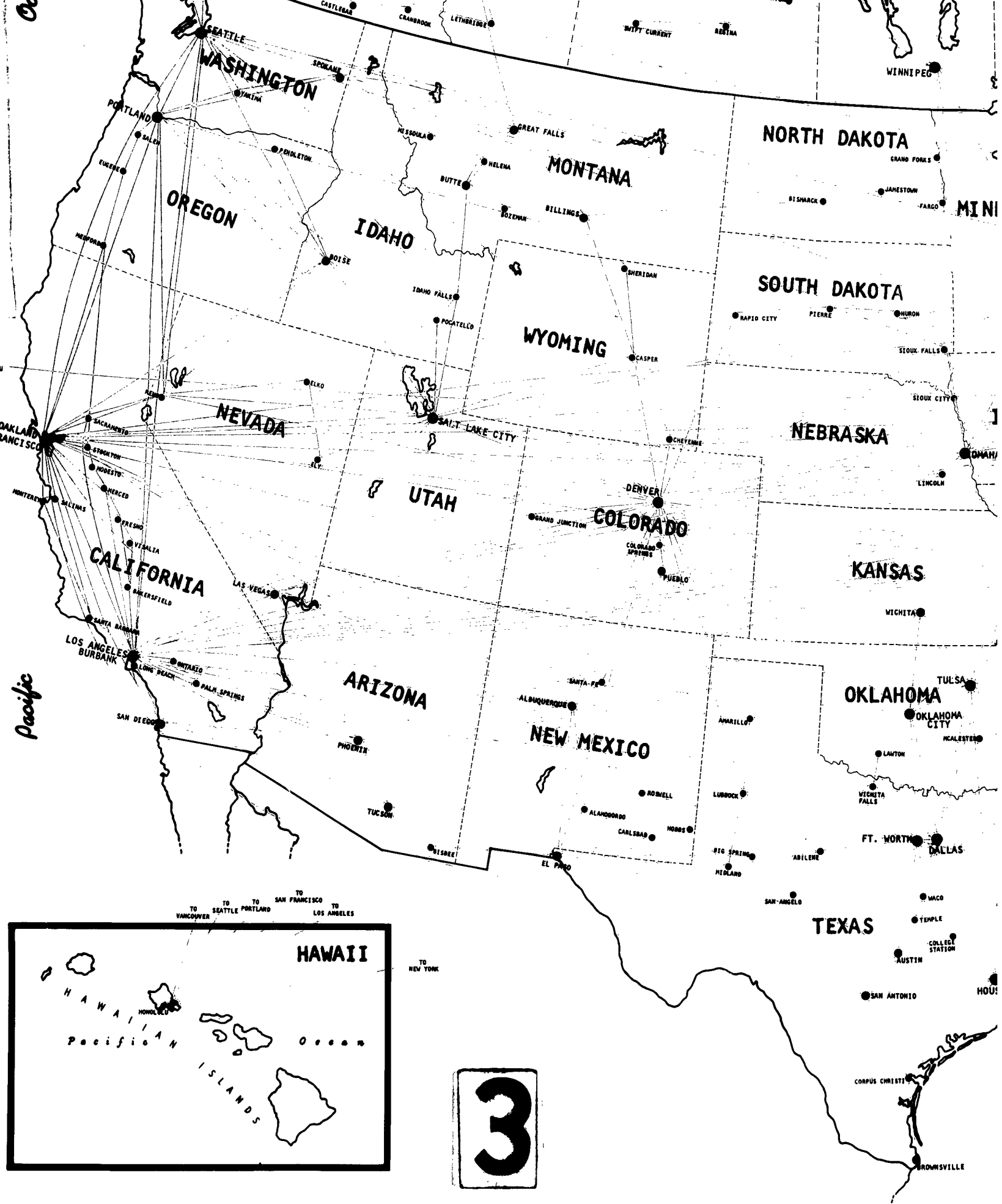
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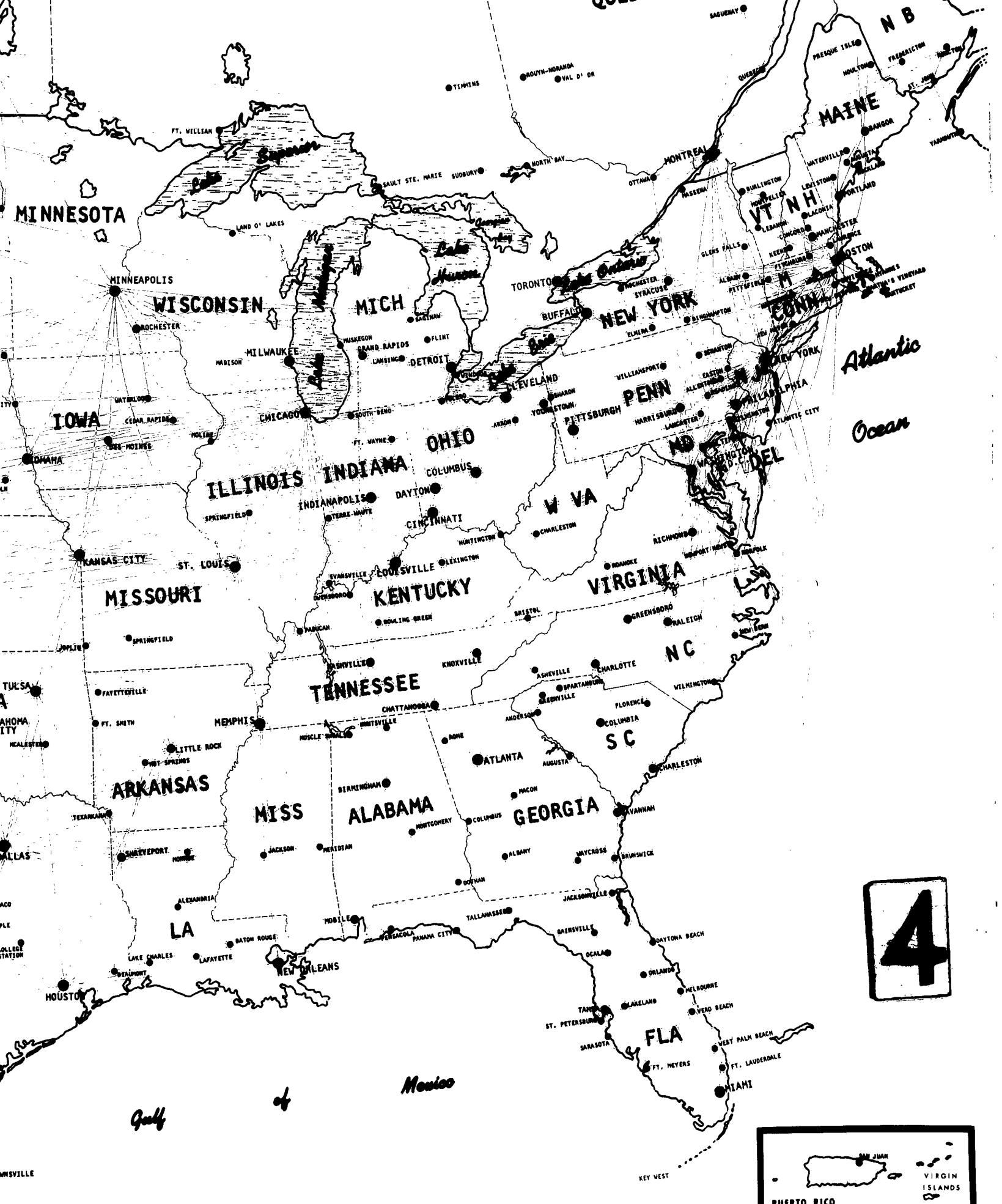
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TAMPA
ST. PETERSBURG
LAKELAND
VERO BEACH
SARASOTA
FT. MYERS
WEST PALM BEACH
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Mexico
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VIRGIN ISLANDS
PUERTO RICO
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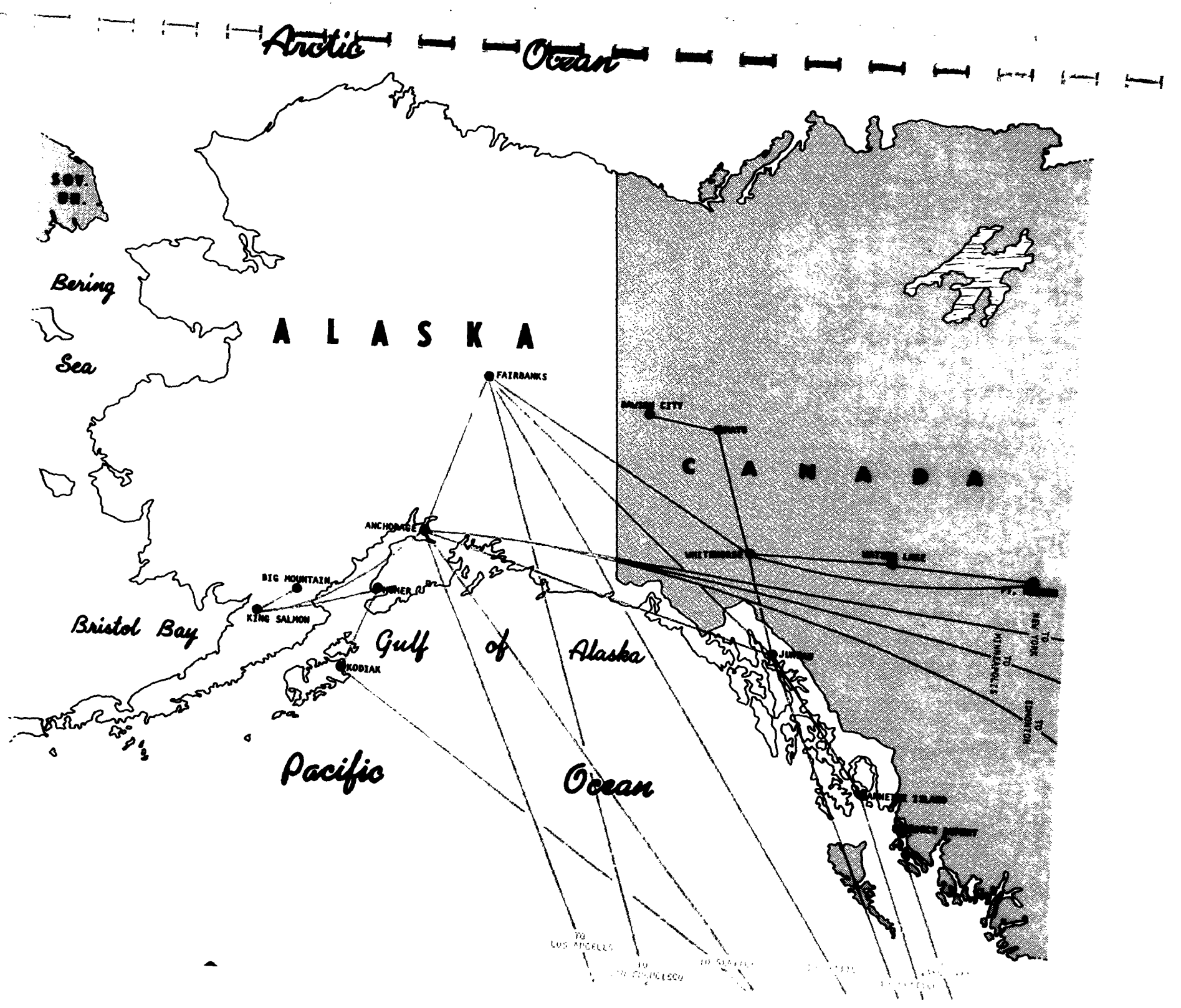
Arctic Ocean
Bering Sea
ALASKA
CANADA
FAIRBANKS
ANCHORAGE
BIG MOUNTAIN
KING SALMON
Bristol Bay
Gulf of Alaska
KODIAK
JUNEAU
Pacific Ocean
TO NEW YORK
TO MINNEAPOLIS
TO EDMONTON
TO LOS ANGELES