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BUREAU OF AERONAUTICS PROJECT AROWA (TED-UNL-MA-501)
"Applied Research; Operational Weather Analyses"

Final Report on Task 22

PART TWO

AN ESTIMATE OF THE VISIBILITY OF SELECTED STATIONS FROM HIGH ALTITUDES

BUREAU OF AERONAUTICS PROJECT AROWA
BUILDING R-48
U. S. NAVAL AIR STATION
NORFOLK 11, VIRGINIA

DEC - 1 1954

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54AA 73429

ABSTRACT

Two problems are investigated by this report: What are target "operational weather conditions" for the missile, and what is the percentage occurrence of these conditions?

Theory indicates that the desired operational weathe. conditions are: the sky coverage must be less than three tenths and the surface visibility greater than 2.2 n. miles.

The occurrence of these conditions varies widely for individual stations with the lowest percentages occurring over northwest Russia and the highest in China. The overall occurrence is 29%.

If nearly clear skies can be forecast as indicated in Part I of this report, 87% of those forecast days will have the required visibility condition. Since the results of Part I are conservative, the conclusion is that the presentation of Part I is entirely representative of the forecasting possibilities of this problem.

54AA 73429

PREFACE

Task 22, assigned to Project AROWA by the Chief, Bureau of Aeronautics, required the investigation of the meteorological suitability of a guidance system being developed for the guided missile TRITON at the Applied Physics Laboratory of Johns Hopkins University.

There were two parts to this research requirement:

a. The percentage of time during which satisfactorily clear weather EXISTS over potential target areas, as a function of time of day and time of year, and

b. The factor of probability with which clear weather conditions CAN BE PREDICTED for the above areas, based on weather data expected to be available under tactical conditions.

This part of the research is an answer to (a). It was accomplished within a six-week limit.

This study was prepared under the direction of the Officer in Charge, Commander E. T. Harding, USN, by Lieutenant Commander L. C. Clarke, USNR. The mathematical treatment of sky coverage in Appendix 1 was mainly developed by Mr. H. B. Wobus, Project Meteorologist. Assisting in preparation of the final report and in making the numerous computations were the following Project personnel:

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APPENDIX 3. DIURNAL VARIATION OF SKY COVERAGE AND VISIBILITY

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APPENDIX 5. CLOUD TYPE STRUCTURE

PROBLEMS

The TRITON is a long range surface to surface guided missile currently under research development. Under consideration for use in the terminal portion of the missile's trajectory is a guidance method dependent on good atmospheric visibility. This particular method requires that the target be optically visible from the missile at an altitude of 70, 000 feet and a slant range of approximately 50 miles. The immediate problems involved are:

a. The probability with which operational weather conditions can be predicted for potential target areas.

b. The percentage of time during which operational weather conditions exists over potential target areas.

c. What constitutes operational weather conditions?

ASSUMPTIONS

1. The optical resolution of the sensing system of the missile is approximately equal to that of the human eye.

2. The missile is assumed to approach the target along a horizontal path at an altitude of 70, 000 feet (11. 5 n. mi.), and it is desired to begin "seeing" the target at a horizontal distance (initial point) of 50 nautical miles.

3. The problem of what constitutes operational weather conditions can be treated under two main conditions.

a. No clouds present; however haze, haze layers and surface fog can occur.

b. Clouds present.

RESULTS

A. No clouds present

The following is based on the Air Force Surveys in Geophysics Number 21, Slant Visibility. Four cases of slant range visibility are discussed in the above; the inherent object contrast in these cases is about 5%.

Case I. Optically uniform atmosphere.

Case 2. and 3. Atmosphere of two layers: a fog layer adjacent to the ground, and a layer of good visibility above. The fog layer is 912 feet thick; the layer of good visibility corresponds to a visual range V_n* of 10 nautical miles for case 2, and a V_n* of 30 nautical miles for Case 3.

Case 4. A dust (or haze) layer is embedded in the atmosphere. This case is typical for a stable anticyclonic situation. The base of the layer is at 6080 feet and is 912 feet thick. The visual range V_n in the surface layer is variable, is 0.5 nautical miles in the dust layer, and is 30 nautical miles above the dust layer.

Considering the slant visibility from 70,000 feet (Fig. 1), it is seen that as long as the surface visibility remains greater than about

* The values V_n are always reduced to ground condition; at the actual altitude the horizontal visual range is much larger.

SLANT VISIBILITY from 70,000 feet (Case — 1, 2, 3, 4)

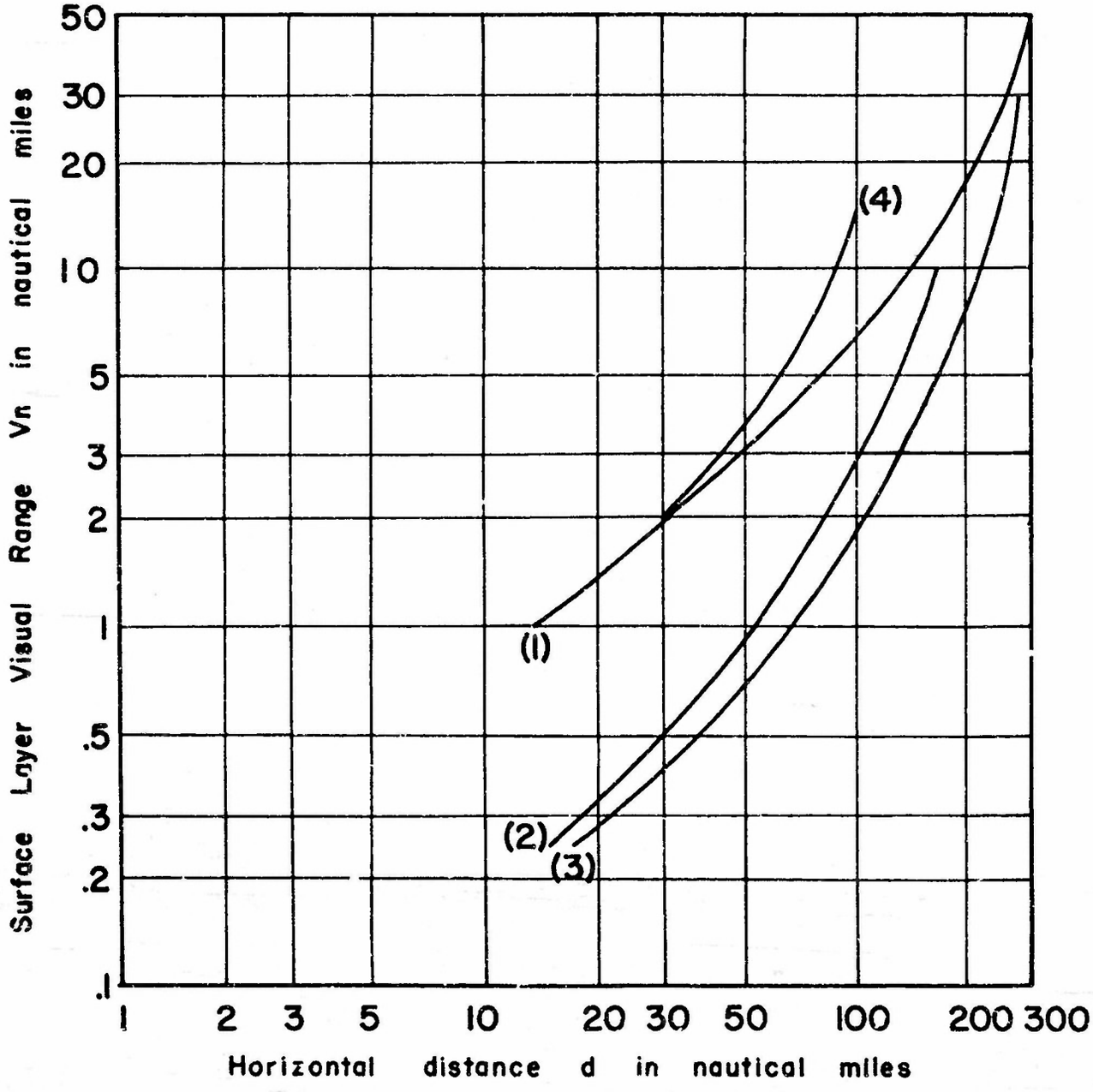

FIGURE 1

3.5 nautical miles, the slant range visibility (d)* is greater than 50 nautical miles in all cases. The approximate surface visibility required to limit the slant visibility d to 50 nautical miles is tabulated below.

TABLE I

Case 1	-	3.2 n. mi.
Case 2	-	0.9 n. mi.
Case 3	-	0.7 n. mi.
Case 4	-	3.5 n. mi.

These values indicate that a moderate to light fog with visibility less than about 3 miles will prevent homing of the missile from the initial point for Case 1 and 4. Case 1 is probably too ideal for reality as it implies a uniform decrease of the fog with height. Case 4 however approximates a stable anticyclonic situation with fog in the lower layers below a subsidence inversion wherein much haze and smoke has been trapped.

Cases 2 and 3 may represent a radiation (ground) fog layer typical of clear skies. Visibilities less than 1 mile in this layer represent moderate to dense fog conditions, which can ordinarily be expected to be dissipated by insolation during the morning. The visibility after fog dissipation can be expected to approach 10 nautical miles for Case 2, and 30 nautical miles for Case 3. Hence the slant visibility d will easily exceed 50 nautical miles provided no clouds form.

* Slant visibility is expressed in all of the following in terms of the corresponding horizontal distance d.

The influence of the sun's position relative to the line of sight is large. The visibility in the direction toward the sun (upsun) is always reduced, whereas the visibility in the semi-circle opposite the sun (downsun) remains more or less constant. This "visibility horizon" depends on two factors, namely:

a. The zenith angle of the sun.

b. The azimuth measured from the sun's vertical.

A plot of the visibility horizon resembles a cardioid curve, with the "dip" located in the upsun direction. Figure 2 is a plot of the visibility horizon from 70, 000 feet when the downsun slant visibility d is 50 n. miles. This figure corresponds to surface visual ranges for the cases given in Table I above.

The approximate percentage decrease in slant range visibility when facing directly upsun is given below, where the reduction factor is defined as the ratio: slant visibility upsun/ slant visibility downsun.

Zenith Angle of Sun	Reduction Factor
90°	0.46
80°	0.53
70°	0.60
60°	0.68
50°	0.76
40°	0.82
30°	0.89
20°	0.94
10°	0.98

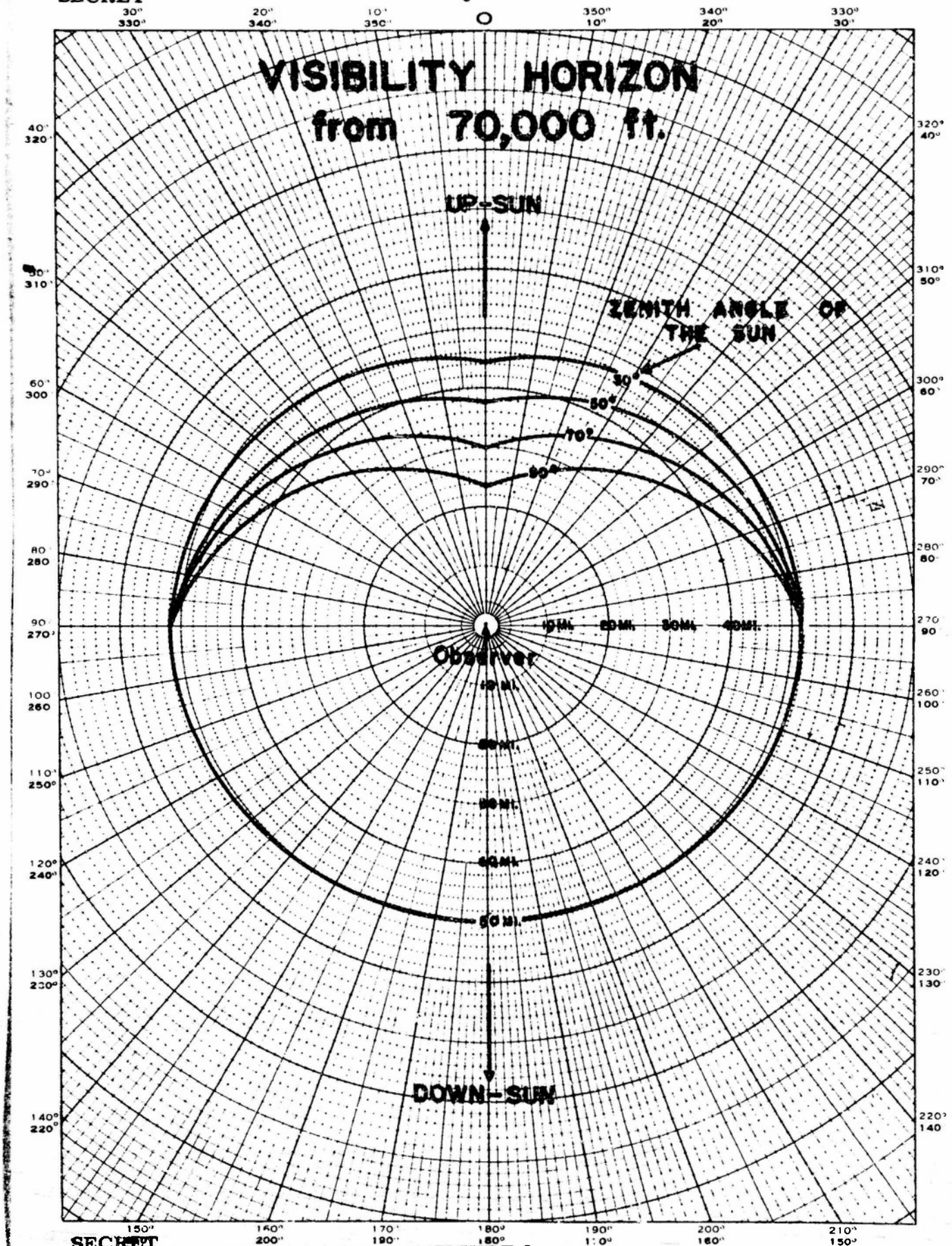
VISIBILITY HORIZON
from 70,000 ft.
UP-SUN
ZENITH ANGLE OF THE SUN
30°
50°
70°
90°
10Mi.
20Mi.
30Mi.
40Mi.
Observer
10 mi.
20mi.
30mi.
40mi.
50 mi.
DOWN-SUN

FIGURE 2

For upsun missile approaches that occur near sunrise or sunset (zenith angle approximately 80° - 90°), the slant visibility d would have to be about 100 n. miles in the downsun direction in order that the target be seen from the initial point. The corresponding surface layer visual ranges are:

Case 1	-	6.5 n. mi.
Case 2	-	2.6 n. mi.
Case 3	-	1.9 n. mi.
Case 4	-	14.3 n. mi.

For zenith angles of 40° to 50° the slant range d would have to be about 65 n. miles and little change in required minimum surface visibility results. This would require that only days of good visibility be chosen for operational consideration if sunrise or sunset upsun approaches are to be made. The general recommendation is to plan only midday or downsun approaches.

Large cities or industrial areas produce a large amount of dust and smoke. The wind carries this atmospheric pollution to the leeward side of the area, and thus the slant visibility for such an area is poor downwind. In addition, maximum visibilities usually exist in the direction perpendicular to the wind direction near the surface.

The recommended direction of approach is therefore downsun and normal to the gradient wind near the surface.

B. Clouds present

If clouds are present over the target area as well as enroute to the target from the initial point, then the problem of seeing the target can be resolved into two parts:

a. Seeing through the atmosphere (minus the clouds).

b. The obstruction of the view by the clouds.

Part a is the same as discussed in Section A. No clouds. Part b involves several related problems:

a. What is the maximum cloud coverage that can be tolerated operationally?

b. What percent of time is the target obscured by the clouds?

In an attempt to answer these problems, a theoretical equation was developed relating cloud cover "N" as reported by a ground observer at the target and the relative density of clouds overhead with 2 other parameters. A plot of these solutions is given in Fig. 3, where:

ϕ_E = angle from zenith at which sky becomes totally overcast (see appendix 1); i.e., the target cannot be seen at anytime for angles $>\phi_E$.

D/S = ratio of a representative horizontal dimension of the clouds to the mean spacing between clouds.

N = tenths of cloud cover as reported by a surface observer at the target.

Cloud density = the average density of clouds in that portion of the sky overhead as seen by the observer, i.e., for angles less than ϕ_E.

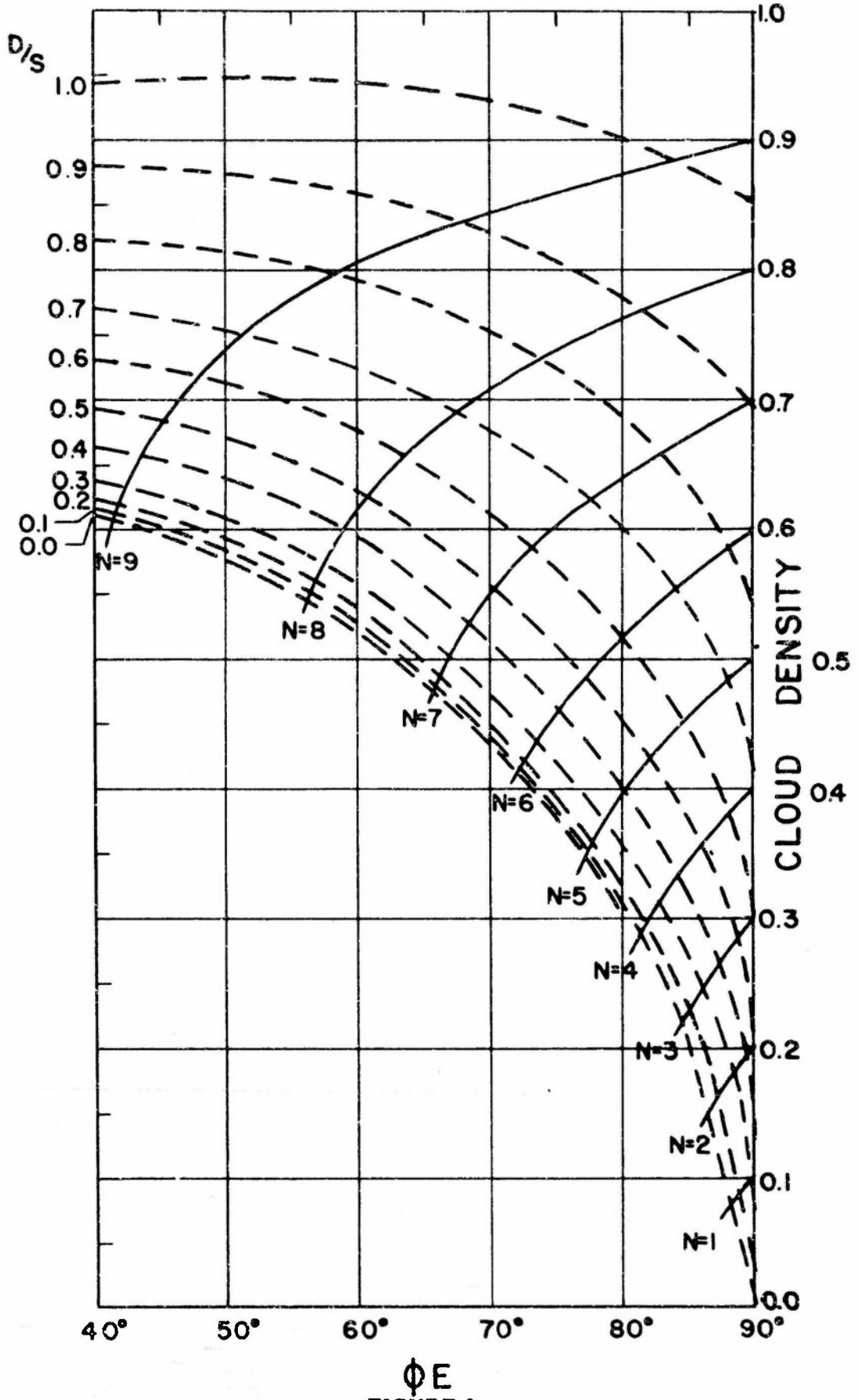
D/S
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
N=9
N=8
N=7
N=6
N=5
N=4
N=3
N=2
N=1
CLOUD DENSITY
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
40°
50°
60°
70°
80°
90°
ΦE

FIGURE 3

A complete description of the basis of the theory is given in Appendix 1. In summary, clouds having fairly uniform values of diameter, spacing, and thickness are assumed; these are arranged in some regular pattern across the sky. Cumulus of fair weather, some types of strato-cumulus, alto-cumulus, and cirrus can approach these ideal assumptions under appropriate conditions. It is felt that the solutions given below (for N = 0.5 or 0.6) are close to the best possible cases that occur naturally, and that normal synoptic conditions will yield cases where these solutions occur as an upper limit, i.e., these solutions are optimistic.

For a missile flying at constant altitude during the homing-in-stage, the cloud density represents the average portion of flight time that the target cannot be seen throughout this portion of the flight.

Estimated average values of the ratio D/S for various cloud types are given below for N $\leq$ 0.5 or 0.6.

D/S	As + Ac	St + Sc	Cb	Cu	Ci, Cs + Cc
	0.5	0.5	0.4	0.1-0.5	0.5

Now the angle ϕ_E required so that the target may first be sighted from a distance of 50 miles at 70,000 (11.5 n. mi.) feet is 77.1°, hence limiting the possible cases to be considered to those angles $\phi_E \geq 77.1°$.

Since the estimated mean value of D/S is 0.5, the angle $\phi_E = 77.1°$ limits the possible values of N to values $\leq$ 6/10 ths. Corresponding to

the above considerations, the following values of cloud density result. Values for D/S equal to 0.1 and 0.7 have been included for comparison.

TABLE III

D/S / N	0.1	0.5	0.7
0.1	.09	.10	-
0.2	.16	.19	-
0.3	.23	.28	-
0.4	.30	.35	0.40
0.5	.35	.43	.48
0.6	-	.48	-

Cloud density for $\phi_E > 77.1°$

If an operational limit of 50% obscuration can be set for the missile, N values up to 6/10 can be tolerated. The list below gives percent obscuration vs the limiting N value.

	N
50%	0.6
25%	0.2-0.3
10%	0.1

The cloud coverage climatological data has been principally summarized for N = 0 - 0.3 values which corresponds to 25% obscuration time or 75% "see-ability" as an upper limit.

For closer homing-in distances than 50 n. miles the target can begin to be seen at larger values of cloud coverage; values of N up to 8 to 9 tenths are possible. However the percentage obscuration also rises to values of 60 to 70%; values considered too large for operational use.

C. Climatology

1. Operational criterion

The foregoing theoretical discussions have set the following operationally feasible visibility and sky coverage criteria:

a. Visibility must be greater than about 2.2 n. miles on the average.

b. The sky coverage must be less than 0.3 (nearly clear skies) for mean target obscuration times of 25% or less.

c. The types of clouds that should occur with these conditions are predominantly cumulus, strato-cumulus, or cirrus.

2. Average operational conditions

Inspection of the data in the "Climatological Data" Section B reveals that the percentage occurrence of operationally feasible weather conditions varies over wide limits (65.8% to 0.0%) depending on the station and the month. Table III summarizes the highest and lowest average daily limits of occurrence of these conditions.

The figures above refer to the percentage of all days regardless whether near clear sky conditions exist or not, or whether they could be forecast. If, now, it is assumed that near clear sky conditions can be forecast accurately on certain occasions, then the percentage occurrence of operationally feasible weather conditions should be referred to a base of when only near clear sky conditions exist.

TABLE III

LIMITING PERCENTAGE OCCURRENCE OF N = 0 - 0.3 AND VISIBILITY > 2.2 NAUTICAL MILES

STATION	HIGHEST		LOWEST	
1.	January	43.8	August	18.6
2.	February	63.5	May	15.8
3.	Nov. Dec.	47.9	May	15.4
4.	January	65.8	June	11.3
5.	—	—	—	—
6.	—	—	—	—
7.	—	—	—	—
8.	—	—	—	—
9.	—	—	—	—
10.	August	61.3	November	15.5
11.	September	56.2	December	18.7
12.	September	37.0	April	19.2
13.	September	45.2	December	10.9
14.	July	51.4	December	5.3
15.	July	36.9	December	2.0
16.	July	64.6	December	13.7
17.	June	23.9	May	0.0
18.	June	34.4	December	10.4
19.	June	37.5	January	9.4
20.	June	38.2	December	5.5
21.	June	31.4	October	6.7

TABLE IV

LIMITING PERCENTAGE OCCURRENCE
OF N = 0 - 0.3 CASES THAT VISIBILITY > 2.2 NAUTICAL MILES

STATION	HIGHEST		LOWEST	
1	August	100.0	September	72.2
2	Jan., Feb., Mar., Apr., May, June, July, Sept.	100.0	November	90.3
3	June	99.2	January	86.9
4	August	97.3	May	79.2
5	———	———	———	———
6	———	———	———	———
7	———	———	———	———
8	———	———	———	———
9	———	———	———	———
10	June	91.8	April	74.5
11	July	98.2	January	79.4
12	August	97.1	December	90.6
13	May	88.2	June	77.4
14	February	100.0	January	37.6
15	April	84.2	December	10.2
16	August	94.0	January	66.5
17	April	99.3	May	0.0
18	June	99.4	September	28.7
19	November	100.0	September	95.6
20	May	97.0	March	71.9
21	May	99.2	February	55.3
22	———	———	———	———
23	———	———	———	———

On this basis, the percentage occurrence of operationally feasible weather conditions averages about 86.5%. Table IV summarizes the highest and lowest average daily limits of occurrence of these conditions.

An overall operational criterion can be defined for those days when near clear sky conditions are known to exist or can be accurately forecast as follows:

70% criterion: on 70% of nearly clear days, operational weather conditions exist.

90% criterion: on 90% of nearly clear days, operational weather conditions exist.

Using these criteria, station numbers 2 and 19 meet the 90% criterion all of the time. (Data on stations 5, 6, 7, 8, and 9 is not available.) On a monthly basis, the number of stations meeting each of the criteria are given in Table V.

TABLE V

Month	70%	90%	Month	70%	90%
Jan.	14	6	July	15	12
Feb.	14	7	Aug.	14	11
Mar.	15	9	Sept.	14	9
Apr.	15	6	Oct.	14	7
May	14	10	Nov.	16	9
June	15	11	Dec.	14	6

Total Stations = 16

On a station basis, the number of months that each of the criteria are met is given in Table VI.

TABLE VI

Station	70%	90%	Station	70%	90%
1	12	10	14	4	1
2	12	12	15	6	0
3	12	9	16	11	4
4	12	6	17	11	10
10	12	4	18	11	8
11	12	8	19	12	12
12	12	11	20	12	4
13	12	0	21	11	4

3. Diurnal variation of operational conditions

The diurnal variation of these criteria is of importance, since non-operational conditions in the morning may very well be operational by midday, etc. "Climatological Data" Section B contains data for three times of day closely corresponding to sunrise, midday, and sunset for the majority of stations. Latitudinal variations in the sun's position for different seasons must be considered however in interpreting the data.

If the diurnal variation of the percentage occurrence of operational and non-operational weather conditions are now compared for a given month, the time of day of the relative best and worst conditions can be selected for each station.

A general conclusion can be drawn that the time of day of best operational weather conditions is in the afternoon, and that the worst conditions are near sunrise. Individual stations differ widely from this however.

4. Operational Conditions Summary

The data in "Climatological Data" Section B has been summarized along the lines of the discussion above in "Results" Section C 1, 2, and 3.

5. Cloud Type Structure

"Climatological Data" Section D contains a representative sample of the diurnal variation of the percentage occurrence of various cloud types for differing values of sky coverage N.

This data has been summarized in the following two tables.

Table VII contains the time of least cloudiness when the sky is nearly clear (N = 0 - 0.3). A general conclusion is that midday has the least cloudiness and that sunrise is second best. Individual stations, however, differ widely from this conclusion.

Table VIII contains the predominant and second most predominant cloud types for clear to partly cloudy skies (N = 0 - 0.6). A shorthand notation was adopted wherein $L_1 = C_{L_1}$, $H = C_H$, $LH = C_L$ and C_H, etc., and the type listed on the left is the most predominant.

A general conclusion is that the most predominant cloud types are

TABLE VII

LCT TIME OF LEAST CLOUDINESS WHEN N = 0 - 0.3

STATION	JANUARY	APRIL	JULY	OCTOBER
1	13	13	7	13
2	19	19	19	7
3	13	13	19	13
4	07	19	07	07
5	14	14	14	14
6	14	14	06	14
7	15	06	06	15
8	14	14	14	14
9	07	07	07	07
10	07	19	07	07
11	13	13	13	13
12	07	13	07	07
13	07	13	13	07
14	13	07	13	07
15	07	13	13	07
16	08	14	14	14
17	14	14	14	14
18	08	14	14	08
19	08	14	19	08
20	13	13	13	07
21	13	19	13	13

TABLE VIII

PREDOMINANT CLOUD TYPES FOR N = 0 - 0.6

STATION	JANUARY	APRIL	JULY	OCTOBER
1	M/MH	LM/M	MH/H	LM/L_1
2	L_1/MH	H/L_1	L_1+M/-	L_1+H/MH
3	H/M	L_1/-	LH/H	H/MH
4	H/M	H/L_1	H/MH	M+LM/H
5	H/L_1	H/L_1	H/L_1	H/L_1
6	H/L_1	H/L_1	LH/L_1	H/L_1
7	H/L_2	H/M	L_2/H	L_2/H
8	L_1/H	L_1/H	L_1/H	H/L_1
9	L_2/M	L_2/LM	L_2/LH	L_2/LH
10	L_1/LM	H/LM	M/L_1	L_1/LM
11	H/L_1	H/L_1	LH/L_1	H/M
12	H/M	LH/M	L_1/LM	LM/H
13	M/H+L_1	H/L_1	LM/M	H/LH
14	L_1/LM	LH/H	LM/L_1	MH/L_1
15	L_1+H/-	LM/H	LH/L_1	MH/L_1
16	M/L_1	M/L_1	M/L_1	M/L_1
17	M/LM	LM/L_1	LM/L_1	LM/M
18	L_1/M	MH/L_1	LM/L_1	LM/M
19	L_1/M	-/H	LH/L	L_1/LH
20	H/LM	H/L_1	LH/H	L_1/LH
21	L_1/H	M/MH	-/H	L_1/LM

TABLE IX
TABLE OF MEAN CLOUD HEIGHTS
(1000 feet)

Cloud Types		Altostratus Altocumulus			Nimbostratus		
Latitude		20°	45°	70°	20°	45°	70°
Summer	Tops	17.4	13.1	9.2	13.5	10.5	7.2
	Bases	13.5	10.2	7.6	4.9	4.9	3.0
	Thickness	3.9	3.0	1.6	8.5	5.6	4.3
Winter	Tops	16.7	13.1	9.5	14.4	9.8	7.2
	Bases	14.4	9.5	7.2	5.6	3.6	2.6
	Thickness	2.3	3.6	2.3	8.9	6.2	4.6

Cloud Types		Stratus Stratocumulus			Cumulonimbus		
Latitude		20°	45°	70°	20°	45°	70°
Summer	Tops				22.3	19.0	13.1
	Bases	5.2	5.6	3.0	5.9	6.2	4.9
	Thickness				16.4	12.8	8.2
Winter	Tops				19.0	10.8	8.2
	Bases	5.9	3.9	2.6	6.6	4.9	3.3
	Thickness				12.5	5.9	4.9

Cloud Types		Cumulus			Cirrus, Cirrostratus Cirrocumulus		
Latitude		20°	45°	70°	20°	45°	70°
Summer	Tops	9.5	9.5	7.2			
	Bases	5.9	6.6	4.9	35.4	30.2	24.6
	Thickness	3.6	3.0	2.3			
Winter	Tops	9.2	6.9	5.2			
	Bases	6.6	5.2	3.9	33.8	26.6	22.3
	Thickness	2.8	1.6	1.3			

C_L and secondly C_H. Hence the results of the theoretical treatment in the previous section on cloud coverage N appear to be quite applicable since the most predominant clouds are cumulus, and stratocumulus and, secondly, cirrus.

Mean heights of the bases and tops of various cloud types at given latitudes are given in Table IX. These have been included for planning purposes in case that the missile is programmed to fly at lower altitudes in the terminal portion of its flight. The cloud type of primary interest for this programming would be cirrus; also it is the second most predominant. It should be emphasized that cirrus cloud coverage as reported by a ground observer is often much less than that reported by aircraft at cirrus altitudes, and hence that the obstruction to vision is greater than indicated by the climatological data.

D. Forecasting

The relationship between the direction of the 500-mb wind at a station and the observed cloud coverage N was investigated on a small scale (7 years data) to determine if any appreciable correlation of forecasting significance occurred. The assumption is: if the wind direction at 500 millibars can be forecast within $\pm 22\ 1/2°$ of the existing direction, does a sufficiently high probability exist (for forecasting purposes) that

the cloud coverage is 0 to 0.3. Data for the months of January, April, July, and October are presented in Appendix 2 for 7 representative stations through the area of concern.

The highest probabilities (in percent) for the occurrence of N = 0 - 0.3 and a wind direction are summarized below:

Station	January	April	July	October	August
1	W 9.9	SW 8.8	E 5.5	W 14.8	9.8
2	SW 9.6	W 11.1	NW 7.0	NW 9.1	9.2
12	NW 5.4	C 10.1	SW, NW13.5	W 9.8	9.7
18	NW 3.4	NW 13.6	W, NW 6.9	SW 4.8	7.1
16	N 7.9	S 6.7	C 14.9	E 11.4	10.2
21	S 6.0	NW 7.6	NW 4.9	N 2.8	5.3
23	W 25.2	W 11.2	C 5.7	C 9.8	13.1

These figures indicate that by forecasting the wind direction at 500 millibars, the highest probabilities of "hitting" an N = 0 - 0.3 forecast are generally below 10%. In addition, the possibility of separating an N = 0 - 0.3 forecast from an N = 0.8 to 1.0 forecast on the basis of their probability of occurrence is low: the probabilities are of the same order of magnitude except in isolated cases. The general conclusion is that attempting to forecast nearly clear skies from the 500-mb chart alone is not feasible.

Part I of the final report on Task 22 covers the probability of making a successful forecast of clear skies. The method of sampling and

test procedure indicate that the resulting probabilities are conservative, and that actually predictable clear days occur more frequently. However, poor visibility on some of these clear days will limit their operational usefulness (see "Climatological Data" Section B and D). The conclusion is that the results of Part I are truly representative of the forecasting possibilities.

CLIMATOLOGICAL DATA

A. Presentation of tables

1. Source

Data from card decks 105, 107, 191, 211, 212, and 241 of the National Weather Records Center, Weather Bureau, U. S. Department of Commerce, were utilized covering periods from five to ten years. Complete tabulations for all months were prepared for this study. The midmonth of each season was selected as representative for certain summaries in order to reduce their volume. It is felt that these months will represent the general trend of the parameters involved.

B. Diurnal variation of sky coverage tables - Appendix 3

The data is divided into two sections: visibility V summary, and sky coverage N summary. Under the visibility section, the following is listed:

Percentage occurrence (of all days) of visibility V greater than or less than 4000 meters (2.2 n. miles) for a given sky coverage N (listed at top of each column) as a function of local civil time (LCT). The division at a visibility of 2.2 n. miles was chosen as the most closely corresponding to the average of the limiting visibilities for the cases listed in "Results" Section A 1 above.

Under the sky coverage section the following is listed: Percentage occurrence (of all days) of a given sky coverage as a function of local civil time (LCT).

C. Operational conditions summary tables - Appendix 4

Explanation of these tables is given in "Results" Section C.

D. Cloud type structure tables - Appendix 5

The percentage occurrence of all days of various type clouds as a function of the cloud coverage N is tabulated. The following nomenclature is used:

C_{L1} : Low cloud types 1, 4, 5, 6, 7 only

C_{L2} : Low cloud types 2, 3 only

C_{L8} : Low cloud types 8, 9 only

C_{M} : Middle cloud types only

C_{H} : High cloud types only

Two types: Any combination of 2 cloud types only, i.e.,

$C_L C_M$, $C_M C_H$, or $C_L C_H$

Three types: 3 cloud types $C_L C_M C_H$ occurring simultaneously.

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LIST OF STATIONS

Station Number	Station	Lat.	Long.	Station Alternate	Lat.	Long.
1.	PETROPAULOVSK	53 00'N	158 39'E			
2.	OLA	59 36'N	151 17'E	NAGAEVO	59 33'N	150 47'E
3.	KHABOROUSK	48 28'N	135 03'E			
4.	VLADIVOSTOK	43 07'N	131 55'E			
5.	SHENYANG	41 28'N	123 23'E	MUKDEN	41 48'N	123 23'E
6.	DAIREN	38 56'N	121 36'E			
7.	SHANGHAI	31 12'N	121 26'E	NANTUNG	31 56'N	120 55'E
8.	HANKOW	30 35'N	114 17'E			
9.	CANTON	23 07'N	113 16'E	HONG KONG	22 18'N	114 10'E
10.	BAKU	40 21'N	49 50'E			
11.	ASTRAKHAN	46 21'N	48 02'E			
12.	BATUM	41 39'N	41 38'E			
13.	ROSTOV ON DON	47 13'N	39 43'E			
14.	SEVASTOPOL	44 37'N	33 32'E			
15.	ODESSA	46 29'N	30 44'E			
16.	CONSTANTA	44 10'N	28 40'E			
17.	KALININGRAD	54 45'N	20 30'E	KONIGSBERG	54 44'N	20 34'E
18.	RIGA	56 59'N	24 05'E			
19.	TALLINN	59 26'E	24 45'E	HELSINKI	60 15'N	25 02'N
20.	LENINGRAD	59 59'N	30 17'E			
21.	ARCHENGELSK	64 34'N	40 31'E			
22	KOLA	68 53'N	33 01'E			
23.	HONG KONG	22 18'N	114 10'E			

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METEOROLOGICAL GLOSSARY

Cloud and Sky Coverage - Amount of clouds designated by N over a given station; N expressing, in tenths of the total sky (2π), the solid angle subtended by cloud, as seen by an observer on the ground.

Surface Visibility - The mean greatest distance toward the horizon that prominent objects such as buildings, towers, etc., can be clearly seen by the naked eye from a point on the surface.

Cirrus Type Clouds (C_H) - Clouds of delicate and fibrous appearance without shading, generally white in color often of a silky appearance. Always composed of ice crystals, generally above 20,000 feet.

Middle Type Clouds (C_M) - Layers of translucidious or opaqueous clouds between 2000 and 5000 meters. Either in cumulofied or strati fied layers.

Slant Visibility - Same as above, with the exception that either the observer, or point being observed is above the ground.

Radiation Fog - Ground fog caused by the cooling of the earth, usually less than 100 ft. deep.

Low Cloud Types (C_L)

1. Fair Weather Cumulus
   Bound tufts of clouds with little vertical development bases at one level.

2. Large Cumulus Without Anvil
   Dense clouds with vertical development upper surface is dome shaped and exhibits rounded protuberances while the base is nearly horizontal.

3. Cumulonimbus
   Heavy masses of cloud with great vertical development whose upper parts have fibrous texture, and often spread out in the shape of an anvil.

4. Stratocumulus
   A layer or patches composed of globular masses or rolls, soft and grey and arranged in lines or waves.

5. Layer of Stratus or Stratocumulus
   A low uniform layer of cloud resembling fog but not touching the ground.

6. Nimbus
   A low amorphous and rainy layer of a dark grey color, usually uniform.

7. Fair Weather Cumulus and Stratocumulus
   Combination of # 4 and # 1

8. Large Cumulus and Stratocumulus
   Combination of # 2 and # 4.

9. Large Cumulus and Nimbus
   Combination of # 2 and # 6.

APPENDIX I

THEORETICAL STUDY OF SKY COVERAGE

THEORETICAL STUDY OF SKY COVERAGE

Within a vertical plane passing through a line of clouds having fairly uniform values of diameter, D, spacing, S and thickness, T, the angular distribution of visibility of sky above varies with the angle of the sight.

Overhead, the proportion of obscurement by cloud to total angle is given by D/S. Evaluations at angles ϕ, measured from the zenith, indicate that this cloudiness proportion increases to unity at an angle ϕ_C whose tangent is given by the ratio (S-D)/T. Further, these evaluations fall into an essentially linear distribution when plotted against tangent of the zenith angle ϕ.

Below the line of sight ϕ_C, the clouds appear banked one behind another closely enough that cloud sides and tops, taken together, occupy the whole view. Figure I illustrates these relationships.

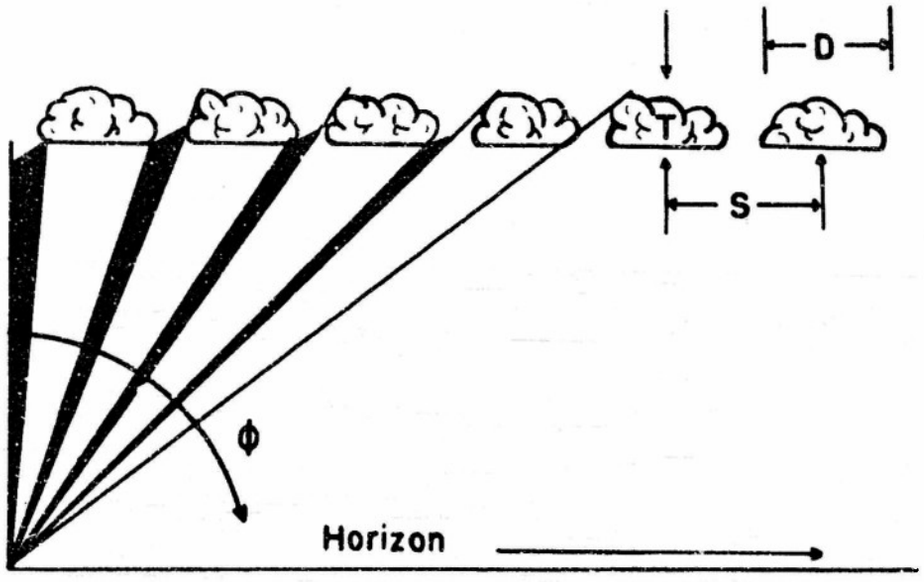


FIGURE 1

If, now, the clouds are arranged in some pattern in the sky, as at centers of quadrilaterals or hexagons, lines of sight may lie in vertical planes other than one containing the prime lines of clouds. In that case, the cloudiness within the plane, as seen by the observer, will be less for any angle ϕ than in the instance above, and will reach unity at an angle greater than that for the case above.

Treating then, an integration over the whole sky, i.e., all azimuths, a distribution is assumed as follows:

1. Cloudiness in the vertical direction is given by $C = A \frac{D^2}{S^2}$

   Where:

   S is mean spacing of neighboring clouds

   D is mean diameter of individual clouds

   A depends upon the pattern of the cloud distribution in the horizontal plane.

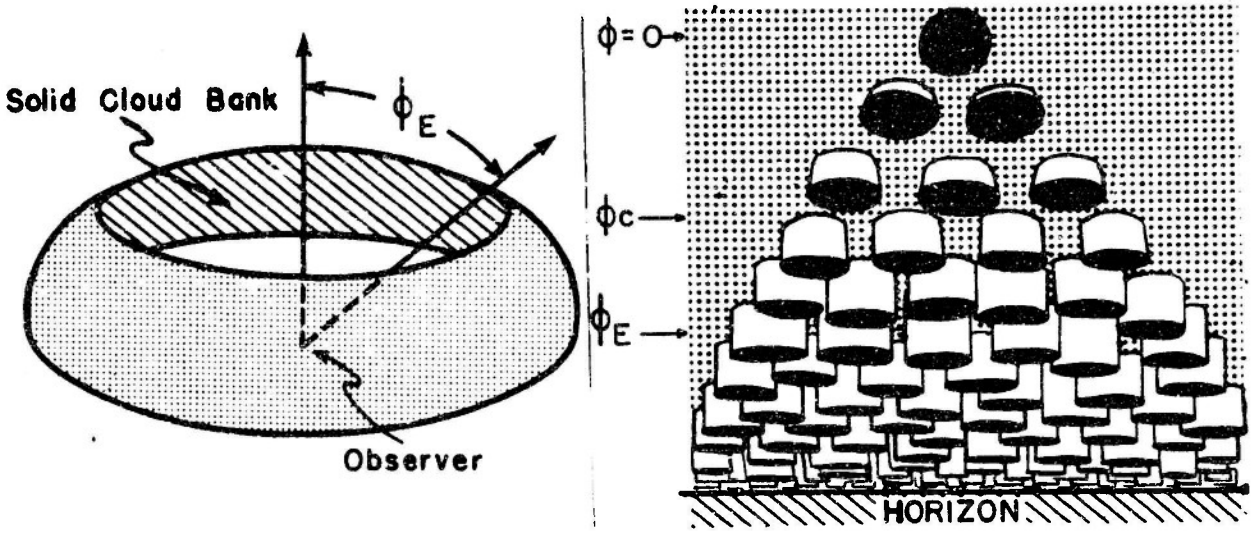
   For clouds in a square array, A is 0.79

   For clouds in a hexagon array, A is 0.91

   Mean value for A is 0.85

2. The cloud distribution extends to the horizon, and produces a banking, or blocking of view of the sky in all or virtually all azimuthal directions at a zenith angle ϕ_E. This angle ϕ_E is not so simply derived from D, T, and S, as in the initial consideration, because of non-cylindrical shape of clouds and imperfect array of distribution,

but such an angle exists, and becomes a parameter for the following.



3. Cloudiness at an angle ϕ, averaged for all azimuths, varies linearly with tan ϕ from the value given above for $\phi = 0$, to unity at $\phi = \phi_E$, where the clouds appear solidly banked; and is unity from there to the horizon.

On these assumptions, cloudiness for the sky as a whole (solid angle subtended by cloud bases or sides, compared to the value 2π for the total possible coverage) can be integrated.

$$C = \int_0^{\phi_E} \left(A \frac{D^2}{S^2} + \frac{(1 - A \frac{D^2}{S^2})}{\tan\phi_E} \tan\phi\right) \sin\phi \, d\phi + \int_{\phi_E}^{2\pi} \sin\phi \, d\phi$$

$$C = A \frac{D^2}{S^2} (1 - \cos\phi_E) + \frac{(1 - A \frac{D^2}{S^2})}{\tan\phi_E} \left[\ln \tan \frac{\phi_E}{2} \frac{\pi}{4} - \sin\phi_E \right] + \cos\phi_E$$

This equation may be written in a different order to describe its parts and to show how the total cloudiness is divided.

$$C = \cos\phi_E + (1 - \cos\phi_E)\left[A\frac{D^2}{S^2} + (1 + A\frac{D^2}{S^2})\left\{\frac{\ln\tan\left(\frac{\phi_E}{2} + \frac{\pi}{4}\right) - \sin\phi_E}{\tan\phi_E - \sin\phi_E}\right\}\right]$$

- $\cos\phi_E$ → Area of bank of complete cloudiness.
- $(1 - \cos\phi_E)$ → Area of zenith cone with mixture of sky and cloud.
- $A\frac{D^2}{S^2}$ → Fraction of conic area obscured by bases only.
- $(1 + A\frac{D^2}{S^2})$ → Fraction of conic area not obscured by bases.
- $\frac{\ln\tan\left(\frac{\phi_E}{2} + \frac{\pi}{4}\right) - \sin\phi_E}{\tan\phi_E - \sin\phi_E}$ → $= F(\phi_E)$ Of the portion not obscured by bases, within the cone, a fraction is obscured by sides of clouds.

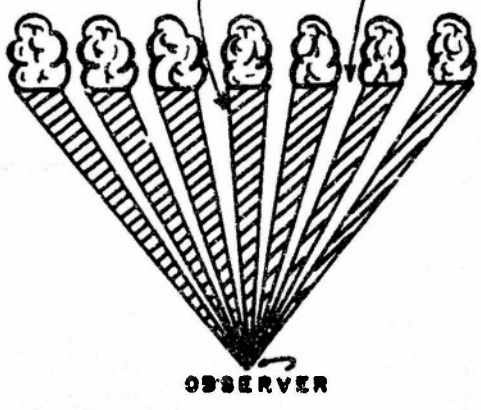


FIGURE 3

To compute total sky obscurement for model clouds other than the cylindrical clouds assumed originally, it is necessary to estimate ϕ_E from some practical measures of the cloud. If D is mean diameter of the vertical projection of the clouds (see Figure 4),

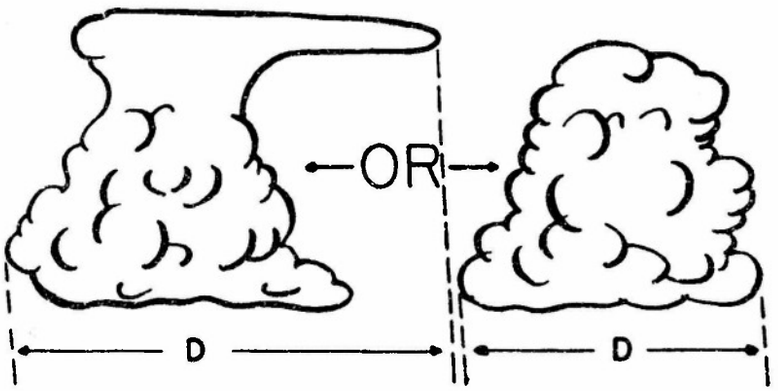


FIGURE 4

and S is mean spacing of neighboring clouds, an angle ϕ_C can be derived geometrically from the assumed shape (see Figure 5 or 6).

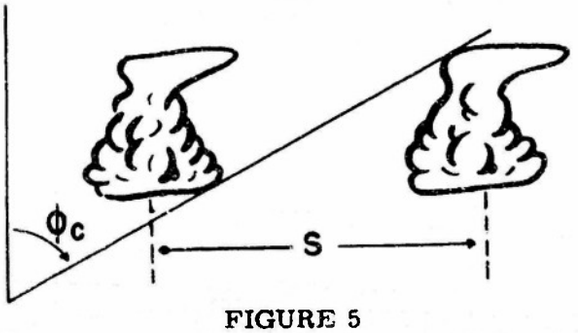


FIGURE 5

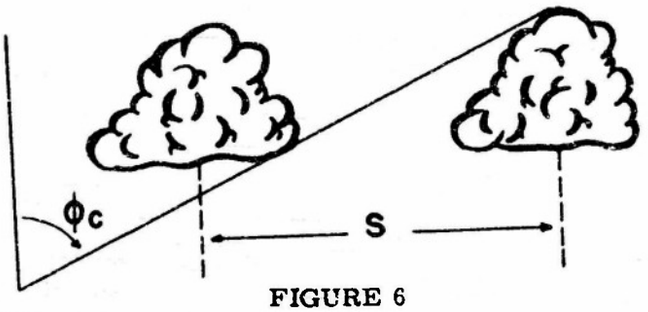


FIGURE 6

It is then a fair assumption that at the angle ϕ_C, the mean cloudiness C for all azimuths is approximately D/S. From this and from assumptions made earlier regarding linearity of C with respect to tan ϕ, one can derive an approximation for ϕ_E.

$$\frac{dc}{d\tan\phi} = \frac{\frac{D}{S} - A\frac{D^2}{S^2}}{\tan\phi_C} = \frac{1 - A\frac{D^2}{S^2}}{\tan\phi_E} \quad ; \quad \tan\phi_E = \frac{1 - A\frac{D^2}{S^2}}{\frac{D}{S} - A\frac{D^2}{S^2}} \tan\phi_C$$

For an observer aloft, looking downward at a ground location, probable cloud obscurement is given by:

$$C_\phi = \frac{1 - A\frac{D^2}{S^2}}{\tan\phi_E} \tan\phi + A\frac{D^2}{S^2}$$

But his distance from the ground location (horizontal distance) d is $H \cdot \tan\phi$ where H is altitude of observer aloft. So

$$C_\phi = \frac{1 - A\frac{D^2}{S^2}}{\tan\phi_E} \cdot \frac{d}{H} + A\frac{D^2}{S^2}$$

APPENDIX 2

FORECAST STUDY

FORECAST STUDY

Source

The U.S. Weather Bureau and Air Weather Service historical weather map series for the years 1946 to 1952 were utilized in this survey.

Method

1. Stations were selected from the basic list that would be representative of synoptic conditions over a wide area.

2. The direction of the geostrophic wind was determined from the orientation of the contours on the 500-mb chart to the nearest eight points of the compass.

3. The corresponding sky coverage was determined from the surface map station. If this station was not plotted, an alternate station within a radius of 2 degrees latitude was chosen.

4. Blanks in the tables indicate that no data was observed.

Presentation

1. The percentage occurrence of a given wind direction is tabulated in the uppermost table.

2. The percentage occurrence of various sky coverages N for a given wind direction is tabulated in the middle table. The column labeled ALL DIRECTIONS also represents the percentage occurrence of all days of

a given sky coverage. These later figures are compatible with similar tabulations given in the Climatological Data section.

3. The probability that a given sky coverage N and a given wind direction occur is given in the bottom table. These were obtained by multiplying the results of 1. above, by the results of 2. above.

4. Since it was not possible to determine the sky coverage in all cases, the computations are based on days when sky coverage was observed only.

MONTH: JANUARY

STATION: NO. 1

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	8.9	1.0	6.8	2.6	10.9	19.8	21.4	5.2	23.5

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	23.6	-	38.5	40.0	9.5	36.9	46.3	60.0	28.9	33.8
0.4 - 0.7	5.9	-	7.8	-	14.3	21.1	14.6	10.0	11.1	13.0
0.8 - 1.0	70.7	100.0	53.9	60.0	76.2	42.2	39.0	30.0	60.0	53.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.021	-	.026	.010	.010	.073	.099	.031	.068	.338
0.4 - 0.7	.005	-	.005	-	.016	.042	.031	.005	.026	.130
0.8 - 1.0	.063	.010	.037	.016	.083	.084	.083	.016	.141	.530

Based on 192 cases; 88.5 % of days surveyed.

MONTH: APRIL

STATION: NO. 1

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	12.5	3.7	8.1	8.1	8.8	20.6	15.5	15.5	7.4

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	29.4	20.0	27.3	27.3	16.7	42.9	38.2	33.3	20.0	31.6
0.4 - 0.7	29.4	-	18.2	09.1	25.0	-	28.6	14.3	10.0	15.4
0.8 - 1.0	41.2	80.0	54.6	63.7	58.4	57.2	33.3	52.5	70.0	53.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.037	.007	.022	.022	.015	.088	.059	.052	.015	.316
0.4 - 0.7	.037	-	.015	.007	.022	-	.044	.022	.007	.154
0.8 - 1.0	.052	.030	.044	.052	.051	.118	.052	.081	.052	.530

Based on 136 cases; 64.8 % of days surveyed.

MONTH: JULY

STATION: NO. 1

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	4.4	3.9	21.0	2.2	8.8	13.3	13.8	12.7	19.9

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	37.6	28.6	26.3	-	18.8	16.8	28.0	30.6	22.3	24.3
0.4 - 0.7	-	28.6	5.2	-	25.1	-	12.0	8.7	27.8	12.7
0.8 - 1.0	62.6	42.8	68.3	100.0	56.3	83.5	60.0	61.0	51.0	63.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.017	.011	.055	-	.017	.022	.039	.039	.044	.243
0.4 - 0.7	-	.011	.011	-	.022	-	.017	.011	.055	.127
0.8 - 1.0	.028	.017	.143	.002	.050	.111	.083	.077	.101	.630

Based on 181 cases; 83.5 % of days surveyed.

MONTH: OCTOBER

STATION: NO. 1

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	10.1	2.7	.67	2.0	1.3	26.2	32.9	22.2	1.3

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	75.0	-	-	-	-	30.8	44.9	42.3	50.0	40.9
0.4 - 0.7	-	-	-	33.3	-	10.1	18.4	12.1	-	12.1
0.8 - 1.0	25.0	100.0	100.0	66.6	100.0	59.0	36.7	45.6	50.0	47.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.076	-	-	-	-	.081	.148	.094	.007	.409
0.4 - 0.7	-	-	-	.007	-	.026	.061	.027	-	.121
0.8 - 1.0	.025	.027	.067	.013	.013	.155	.121	.101	.007	.470

Based on 149 cases; 68.7 % of days surveyed.

MONTH: JANUARY

STATION: NO. 2

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	4.0	1.6	4.0	9.6	20.8	24.0	9.6	8.0	18.4

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	80.0	50.0	20.0	8.3	38.5	40.0	33.2	50.0	26.1	34.8
0.4 - 0.7	-	-	-	-	3.9	13.4	-	-	8.6	5.6
0.8 - 1.0	20.0	50.0	80.0	91.6	57.9	46.6	66.6	50.0	65.0	59.2

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.032	.008	.008	.008	.080	.096	.032	0.400	.048	.348
0.4 - 0.7	-	-	-	-	.008	.032	-	-	.016	.056
0.8 - 1.0	.008	.008	.032	.088	.120	.112	.064	0.40	.120	.592

Based on 125 cases; 57.6 % of days surveyed.

MONTH: APRIL

STATION: NO. 2

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	11.1	7.4	3.7	3.7	4.6	10.1	21.2	14.8	23.1

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	74.9	37.5	25.0	25.0	60.0	54.6	52.2	56.4	28.0	47.2
0.4 - 0.7	8.3	12.5	25.0	-	-	-	4.4	-	24.0	17.6
0.8 - 1.0	16.7	50.0	50.0	75.0	40.0	45.5	43.5	43.8	48.0	51.9

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.083	.028	.009	.009	.028	.055	.111	.083	.055	.472
0.4 - 0.7	.009	.009	.009	-	-	-	.009	-	.055	.092
0.8 - 1.0	.019	.037	.019	.028	.018	.046	.092	.065	.111	.435

Based on 108 cases; 60.0 % of days surveyed.

MONTH: JULY

STATION: NO. 2

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	11.4	6.1	1.8	3.5	6.1	7.0	23.6	28.1	12.3

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	15.4	42.9	50.0	-	-	-	22.2	24.8	35.7	22.0
0.4 - 0.7	30.8	28.6	-	75.0	42.9	37.5	18.5	12.4	-	21.1
0.8 - 1.0	53.9	28.6	50.0	25.0	57.2	62.5	59.2	62.1	64.0	57.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.017	.026	.009	-	-	-	.052	.070	.044	.220
0.4 - 0.7	.035	.017	-	.026	.026	.026	.044	.035	-	.211
0.8 - 1.0	.061	.017	.009	.009	.035	.044	.140	.175	.080	.570

Based on 114 cases; 61.3 % of days surveyed.

MONTH: OCTOBER

STATION: NO. 2

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	13.7	4.6	3.6	.9	3.6	13.7	22.8	20.0	17.3

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	46.7	60.0	75.0	100.0	50.0	46.8	36.0	45.4	52.6	47.3
0.4 - 0.7	13.3	-	-	-	-	6.7	28.0	9.0	15.8	13.6
0.8 - 1.0	40.1	40.0	25.0	-	50.0	46.7	36.0	45.0	31.6	39.1

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.064	.028	.027	.090	.018	.064	.082	.091	.091	.473
0.4 - 0.7	.018	-	-	-	-	.009	.064	.018	.027	.136
0.8 - 1.0	.055	.018	.009	-	.018	.064	.082	.090	.055	.391

Based on 110 cases; 74.3 % of days surveyed.

MONTH: JANUARY

STATION NO. 12

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	8.6	3.4	1.7	1.7	1.1	16.4	35.3	23.9	9.1

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	41.5	50.1	-	-	-	17.2	9.5	22.8	39.8	23.5
0.4 - 0.7	8.3	-	33.3	66.6	50.0	6.9	12.6	18.2	20.0	14.9
0.8 - 1.0	49.8	50.1	66.6	33.3	50.0	75.9	74.9	50.0	39.8	62.4

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.036	.017	-	-	-	.028	.034	.054	.036	.235
0.4 - 0.7	.007	-	.006	.011	.006	.011	.044	.043	.182	.149
0.8 - 1.0	.043	.017	.011	.006	.006	.124	.264	.120	.036	.624

Based on 177 cases; 81.6 % of days surveyed.

MONTH: APRIL

STATION NO. 12

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	5.7	4.4	1.9	3.2	8.8	22.0	21.5	15.8	15.8

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	33.3	28.6	66.6	20.0	21.3	8.7	35.3	52.0	64.0	35.0
0.4 - 0.7	11.1	14.3	-	-	14.2	8.6	17.6	12.0	8.0	11.5
0.8 - 1.0	55.5	57.2	33.3	80.0	64.3	81.9	47.1	36.0	28.0	53.5

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.019	.013	.013	.006	.019	.019	.076	.082	.101	.350
0.4 - 0.7	.006	.006	-	-	.012	.019	.038	.019	.012	.115
0.8 - 1.0	.032	.025	.006	.026	.057	.180	.101	.057	.044	.535

Based on 157 cases; 74.8 % of days surveyed.

MONTH: JULY

STATION: NO. 12

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	3.0	-	-	.8	3.8	30.8	33.8	18.8	8.4

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	25.0	-	-	100.0	40.0	43.8	33.0	72.0	90.7	49.3
0.4 - 0.7	25.0	-	-	-	40.0	26.7	24.2	16.0	9.1	22.7
0.8 - 1.0	50.0	-	-	-	20.0	29.1	42.0	12.0	-	28.1

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.008	-	-	.080	.015	.135	.112	.135	.076	.493
0.4 - 0.7	.008	-	-	-	.015	.082	.082	.030	.008	.227
0.8 - 1.0	.015	-	-	-	.008	.090	.142	.023	-	.281

Based on 132 cases; 61.0 % of days surveyed.

MONTH: OCTOBER

STATION: NO. 12

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	5.8	.8	-	-	3.3	16.5	36.3	26.4	10.7

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	28.6	100.0	-	-	25.0	30.0	27.1	32.2	38.5	30.5
0.4 - 0.7	28.6	-	-	-	-	25.0	11.3	18.7	15.4	16.6
0.8 - 1.0	42.9	-	-	-	75.0	45.0	61.1	50.0	46.2	52.8

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.017	.080	-	-	.008	.045	.098	.085	.041	.305
0.4 - 0.7	.017	-	-	-	-	.041	.041	.048	.016	.166
0.8 - 1.0	.025	-	-	-	.025	.074	.222	.132	.048	.528

Based on 121 cases; 55.8 % of days surveyed.

MONTH: JANUARY

STATION: NO. 16

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	18.8	-	4.9	2.8	6.3	17.4	26.4	7.7	16.0

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir..	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	40.7	-	14.3	25.0	-	24.0	28.9	27.3	13.0	25.0
0.4 - 0.7	3.7	-	28.6	50.0	22.2	12.0	7.9	27.3	13.0	13.2
0.8 - 1.0	55.6	-	57.1	25.0	77.8	56.0	63.2	45.5	73.9	61.8

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.079	-	.007	.007	-	.042	.076	.021	.021	.250
0.4 - 0.7	.007	-	.014	.014	.014	.021	.021	.021	.021	.132
0.8 - 1.0	.105	-	.028	.007	.049	.097	.167	.035	.119	.618

Based on 146 cases; 82.3 % of days surveyed.

MONTH: APRIL

STATION: NO. 16

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	5.6	6.7	6.7	2.2	13.3	13.3	16.7	17.8	17.8

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	40.0	33.3	50.0	100.0	50.0	33.3	13.3	18.8	31.3	10.2
0.4 - 0.7	40.0	50.0	16.7	-	8.3	16.7	33.3	56.3	31.3	31.2
0.8 - 1.0	10.0	16.7	33.3	-	41.7	50.0	53.3	25.0	37.5	27.7

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.022	.022	.034	.022	.067	.044	.022	.033	.056	.102
0.4 - 0.7	.022	.034	.011	-	.011	.022	.056	.100	.056	.312
0.8 - 1.0	.006	.011	.022	-	.055	.067	.089	.045	.067	.277

Based on 90 cases; 42.8 % of days surveyed.

MONTH: JULY

STATION:NO. 16

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	6.9	-	21.1	8.0	3.4	3.6	10.3	8.6	33.1

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	33.3	-	48.7	21.4	33.4	53.3	50.0	59.6	44.9	45.2
0.4 - 0.7	41.6	-	29.7	28.6	33.4	20.0	27.8	33.3	24.1	28.0
0.8 - 1.0	25.0	-	21.6	50.0	33.4	26.6	22.2	6.7	31.0	32.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.023	-	.103	.017	.011	.046	.052	.051	.149	.452
0.4 - 0.7	.029	-	.063	.023	.011	.017	.029	.029	.080	.280
0.8 - 1.0	.017	-	.046	.040	.011	.023	.023	.006	.103	.320

Based on 175 cases; 80.6 % of days surveyed.

MONTH: OCTOBER

STATION: NO.16

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	7.2	5.1	3.6	2.2	11.6	19.6	21.7	23.9	43.5

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	50.0	28.5	40.0	66.7	37.5	22.2	30.0	33.3	16.7	31.9
0.4 - 0.7	-	28.5	20.0	-	12.5	29.6	23.4	27.2	16.7	21.7
0.8 - 1.0	50.0	42.7	40.0	33.3	50.0	48.2	46.7	39.5	66.7	46.4

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.036	.015	.114	.015	.044	.044	.065	.080	.073	.319
0.4 - 0.7	-	.015	.007	-	.015	.058	.051	.065	.073	.217
0.8 - 1.0	-	.022	.014	.007	.058	.094	.101	.094	.290	.464

Based on 138 cases; 63.7 % of days surveyed.

MONTH: JANUARY

STATION: NO. 18

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	10.5	4.6	3.3	2.0	6.6	24.4	19.1	22.4	7.9

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	18.8	57.2	-	33.3	10.0	13.5	17.2	15.2	16.7	17.1
0.4 - 0.7	25.0	-	-	33.3	10.0	13.5	6.8	9.1	16.7	11.9
0.8 - 1.0	56.3	42.8	100.0	33.3	80.0	73.0	76.0	75.7	76.6	71.2

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.020	.026	-	.007	.007	.033	.033	.034	.013	.171
0.4 - 0.7	.026	-	-	.007	.007	.033	.013	.020	.013	.119
0.8 - 1.0	.059	.020	.033	.007	.053	.178	.031	.170	.061	.712

Based on 152 cases; 70.1 % of days surveyed.

MONTH: APRIL

STATION: NO. 18

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	4.1	4.1	1.7	1.7	6.6	24.8	25.6	28.9	2.5

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	-	-	-	50.0	37.5	20.0	38.7	48.6	-	32.2
0.4 - 0.7	60.0	80.0	-	50.0	12.5	20.0	16.1	17.1	75.0	23.1
0.8 - 1.0	40.0	20.0	100.0	-	50.0	60.0	45.2	34.3	25.0	44.6

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	-	-	-	.009	.025	.050	.099	.136	-	.322
0.4 - 0.7	.025	.033	-	.009	.008	.050	.041	.048	.002	.231
0.8 - 1.0	.016	.008	.017	-	.033	.149	.116	.096	.001	.446

Based on 121 cases; 57.7 % of days surveyed.

MONTH: JULY

STATION: NO. 18

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	5.7	13.8	11.5	5.2	2.9	14.4	15.5	13.7	17.3

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	10.0	37.5	20.0	33.3	20.0	44.0	44.4	50.0	17.7	33.3
0.4 - 0.7	20.0	18.7	35.0	22.2	20.0	16.0	33.3	20.8	33.3	26.4
0.8 - 1.0	70.0	45.9	45.0	44.4	60.0	40.0	22.2	29.1	50.0	39.1

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.006	.052	.023	.017	.005	.063	.069	.069	.031	.333
0.4 - 0.7	.011	.023	.040	.012	.005	.023	.052	.028	.058	.264
0.8 - 1.0	.040	.063	.052	.023	.016	.058	.035	.040	.087	.391

Based on 174 cases; 80.3 % of days surveyed.

MONTH: OCTOBER

STATION: NO. 18

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	13.6	5.4	2.7	4.1	7.5	23.8	16.3	25.9	.68

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	10.0	25.0	-	16.7	9.1	20.0	12.5	5.3	-	12.3
0.4 - 0.7	15.0	12.5	50.0	-	9.1	14.3	20.8	26.3	-	18.3
0.8 - 1.0	75.0	62.5	50.0	83.3	81.8	65.7	66.7	68.4	100.0	69.4

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.014	.014	-	.007	.007	.048	.020	.014	-	.123
0.4 - 0.7	.020	.007	.014	-	.007	.034	.034	.068	-	.183
0.8 - 1.0	.102	.034	.014	.034	.061	.156	.109	.177	.068	.694

Based on 147 cases; 67.8 % of days surveyed.

MONTH: JANUARY

STATION: NO. 21

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	15.0	2.8	.6	2.2	2.8	16.7	25.0	28.9	6.1

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	29.6	-	100.0	-	20.0	24.4	11.1	13.5	9.1	16.7
0.4 - 0.7	14.8	20.0	-	25.0	-	-	4.4	1.9	18.2	6.2
0.8 - 1.0	55.5	80.0	-	75.0	80.0	76.6	84.5	84.6	72.8	77.2

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.044	-	.006	-	.060	.041	.028	.039	.006	.167
0.4 - 0.7	.022	.006	-	.006	-	-	.011	.005	.011	.062
0.8 - 1.0	.083	.022	-	.017	.022	.128	.211	.244	.044	.772

Based on 180 cases; 83.0 % of days surveyed.

MONTH: APRIL

STATION: NO. 21

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	6.9	1.3	.6	.6	2.5	23.2	36.4	21.4	6.9

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	27.3	-	100.0	-	25.0	13.5	8.2	35.3	36.4	22.6
0.4 - 0.7	18.2	-	-	-	-	21.6	18.2	17.7	9.1	17.0
0.8 - 1.0	54.6	100.0	-	100.0	75.0	64.8	65.5	47.1	54.6	60.4

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.019	-	.060	-	.006	.031	.024	.076	.025	.226
0.4 - 0.7	.013	-	-	-	-	.005	.066	.038	.006	.170
0.8 - 1.0	.038	.013	-	.060	.019	.150	.248	.101	.038	.604

Based on 159 cases; 75.9 % of days surveyed.

MONTH: JULY

STATION: NO. 21

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	18.3	3.6	5.5	1.2	5.5	13.4	18.3	16.5	18.3

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	23.3	60.0	22.2	--	11.1	9.0	20.0	29.7	23.4	21.9
0.4 - 0.7	30.0	-	11.1	50.0	33.3	27.2	33.4	22.2	16.7	25.0
0.8 - 1.0	46.6	40.0	66.6	50.0	55.5	63.6	46.7	48.1	59.9	53.0

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.043	.022	.012	-	.006	.012	.037	.049	.043	.219
0.4 - 0.7	.055	-	.006	.006	.018	.036	.061	.037	.031	.250
0.8 - 1.0	.085	.014	.037	.006	.031	.085	.085	.079	.109	.330

Based on 164 cases; 75.5 % of days surveyed.

MONTH: OCTOBER

STATION:NO. 21

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	17.3	4.9	2.8	1.4	.7	15.2	29.1	25.2	2.8

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	16.0	14.3	-	-	-	-	4.8	5.4	50.0	7.7
0.4 - 0.7	12.0	-	25.0	-	-	9.1	12.0	13.5	-	11.2
0.8 - 1.0	72.0	85.8	75.0	100.0	100.0	90.8	83.5	80.8	50.0	81.3

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.028	.006	-	-	-	-	.014	.014	.014	.077
0.4 - 0.7	.021	-	.007	-	-	.014	.035	.034	-	.112
0.8 - 1.0	.125	.037	.021	.140	.007	.038	.243	.204	.014	.813

Based on 144 cases; 66.3 % of days surveyed.

MONTH: JANUARY

STATION: NO. 23

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	-	-	-	-	.6	24.6	65.2	2.7	7.1

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	-	-	-	-	-	29.9	38.6	80.0	38.5	37.8
0.4 - 0.7	-	-	-	-	-	17.8	11.7	-	15.4	13.1
0.8 - 1.0	-	-	-	-	100.0	53.3	49.8	20.0	16.1	49.3

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	-	-	-	-	-	.074	.252	.022	.027	.378
0.4 - 0.7	-	-	-	-	-	.044	.076	-	.011	.131
0.8 - 1.0	-	-	-	-	.006	.131	.325	.005	.033	.493

Based on 183 cases; 84.2 % of days surveyed.

MONTH: APRIL

STATION: NO. 23

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	-	4.0	.8	1.6	8.0	25.6	40.8	7.2	12.0

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	-	20.0	-	50.0	10.0	12.5	22.4	55.6	26.7	24.0
0.4 - 0.7	-	40.0	-	-	30.0	15.6	5.9	22.2	6.7	12.9
0.8 - 1.0	-	40.0	100.0	50.0	60.0	71.9	62.7	22.2	66.7	68.2

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	-	.008	-	.008	.008	.032	.112	.090	.032	.240
0.4 - 0.7	-	.016	-	-	.024	.040	.024	.016	.008	.129
0.8 - 1.0	-	.016	.008	.008	.018	.181	.256	.016	.080	.682

Based on 125 cases; 59.5 % of days surveyed.

MONTH: JULY

STATION: NO. 23

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	8.8	6.9	13.8	10.7	11.3	7.6	12.0	4.4	24.6

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	21.4	36.4	18.2	35.3	16.7	41.6	15.8	14.3	23.1	23.9
0.4 - 0.7	35.7	54.6	31.8	29.4	16.7	25.0	31.6	28.6	41.1	33.3
0.8 - 1.0	42.8	9.1	50.0	35.3	66.8	33.3	52.6	57.2	35.9	42.8

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.019	.025	.025	.038	.019	.032	.019	.006	.057	.239
0.4 - 0.7	.031	.038	.044	.031	.019	.019	.038	.013	.101	.333
0.8 - 1.0	.038	.006	.007	.038	.075	.025	.063	.025	.088	.428

Based on 159 cases; 73.4 % of days surveyed.

MONTH: OCTOBER

STATION: NO. 23

PERCENTAGE OCCURRENCE OF GIVEN WIND DIRECTION

Direction	N	NE	E	SE	S	SW	W	NW	CALM
% occurrence	3.2	3.9	3.9	7.1	5.8	7.1	18.8	18.8	31.2

PERCENTAGE OCCURRENCE OF N FOR SPECIFIED WIND DIRECTION

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	20.0	-	50.0	27.3	11.1	36.4	45.0	45.0	31.3	34.4
0.4 - 0.7	60.0	33.3	33.3	9.1	33.3	27.3	3.5	24.3	18.8	20.1
0.8 - 1.0	20.0	66.6	16.7	63.6	55.6	36.4	52.2	31.3	50.0	45.4

PROBABILITY THAT GIVEN N AND GIVEN WIND DIRECTION OCCUR

N sky coverage \ Wind Dir.	N	NE	E	SE	S	SW	W	NW	CALM	ALL DIR.
0.0 - 0.3	.006	-	.020	.019	.006	.026	.085	.085	.098	.344
0.4 - 0.7	.019	.013	.013	.006	.019	.019	.007	.046	.059	.201
0.8 - 1.0	.006	.026	.007	.045	.032	.026	.098	.059	.156	.454

Based on 154 cases; 71.1 % of days surveyed.

APPENDIX 3

DIURNAL VARIATION OF SKY COVERAGE AND VISIBILITY

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 1

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	20.6	45.1		5.9		49.0			
	1300	14.0	38.4		5.8		55.8			
	1900	28.2	58.1		4.7		41.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		41.6	3.9	6.0	0.0	37.7	10.8	85.1	14.9
	1300		37.2	0.0	5.8	0.0	52.3	4.7	95.3	4.7
	1900		52.9	1.2	4.7	0.0	34.1	7.1	91.8	8.2

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	6.2	28.3		4.4		67.3			
	1300	5.6	25.2		4.7		70.1			
	1900	4.4	28.8		8.8		66.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		26.8	1.8	4.5	0.0	53.6	13.4	84.8	15.2
	1300		25.0	0.0	4.6	0.0	54.6	15.8	84.3	15.7
	1900		25.0	0.0	9.0	0.0	51.8	13.7	86.4	13.6

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	4.9	17.5		1.9		80.5			
	1300	5.5	20.2		8.2		71.6			
	1900	6.2	22.1		7.1		70.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		16.5	1.0	1.9	0.0	68.9	11.6	87.4	12.6
	1300		20.6	0.0	6.6	1.1	61.7	10.2	88.8	11.2
	1900		21.2	0.9	7.1	0.0	57.5	13.3	85.8	14.2

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	6.5	25.9		9.3		64.8			
	1300	5.3	25.0		13.5		61.6			
	1900	17.7	41.9		7.2		50.7			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		24.8	0.7	8.8	0.7	62.0	3.0	95.6	4.4
	1300		25.0	0.0	12.1	0.7	59.0	3.1	96.2	3.8
	1900		38.2	2.5	6.5	0.8	43.1	8.9	87.8	12.2

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 2

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	20.0	40.0		0.0		60.0			
	1300	0.0	0.0		0.0		100.0			
	1900	20.0	20.0		40.0		40.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		40.0	0.0	0.0	0.0	60.0	0.0	100.0	0.0
	1300		0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0
	1900		20.0	0.0	40.0	0.0	20.0	20.0	80.0	20.0

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	15.4	23.1		0.0		76.9			
	1300	13.6	36.4		0.0		63.6			
	1900	4.0	12.0		8.0		80.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		22.2	0.0	0.0	0.0	66.6	11.2	88.9	11.1
	1300		36.4	0.0	0.0	0.0	54.5	9.1	90.9	9.1
	1900		12.5	0.0	8.4	0.0	66.7	12.5	87.5	12.5

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	22.2	22.2		22.2		55.5			
	1300	8.3	25.0		8.3		66.6			
	1900	0.0	15.0		15.0		70.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		22.2	0.0	22.2	0.0	33.3	22.2	77.8	22.2
	1300		25.0	0.0	8.3	0.0	66.6	0.0	100.0	0.0
	1900		15.0	0.0	15.0	0.0	60.0	10.0	90.0	10.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	9.5	14.3		9.5		76.2			
	1300	15.4	30.8		7.6		61.5			
	1900	25.0	37.5		12.5		50.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		14.3	0.0	9.5	0.0	76.2	0.0	100.0	0.0
	1300		30.8	0.0	7.6	0.0	57.7	3.8	96.2	3.8
	1900		33.3	4.2	12.5	0.0	41.7	8.3	87.5	12.5

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 3

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	31.2	52.6		5.2		52.1			
	1300	28.8	24.9		4.4		50.6			
	1900	45.3	64.0		3.1		32.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		43.5	8.4	4.5	0.7	25.3	17.5	73.4	26.6
	1300		42.0	1.9	4.4	0.0	38.2	13.4	84.7	15.3
	1900		53.4	10.6	2.5	0.6	23.6	9.3	79.5	20.5

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	22.7	44.7		2.7		52.6			
	1300	6.5	22.1		8.4		69.4			
	1900	13.4	30.6		3.1		66.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		40.8	2.6	2.7	0.0	44.0	9.9	87.5	12.5
	1300		21.7	0.7	7.8	0.7	61.1	8.0	90.8	9.2
	1900		29.1	1.3	2.5	0.6	56.3	10.2	88.0	12.0

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	5.8	26.1		3.6		70.4			
	1300	3.1	22.1		7.7		70.2			
	1900	4.2	17.4		6.3		76.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		24.6	0.8	3.5	0.0	60.6	10.5	88.7	11.3
	1300		21.8	0.0	7.5	0.0	65.5	5.2	94.7	5.3
	1900		17.2	0.0	6.2	0.0	71.7	4.8	95.2	4.8

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	21.3	40.0		6.0		54.0			
	1300	14.5	32.9		7.9		59.2			
	1900	35.4	48.4		2.5		49.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		33.8	6.1	5.4	0.7	48.6	5.5	87.8	12.2
	1300		29.4	3.3	7.2	0.6	55.6	3.8	92.2	7.8
	1900		43.9	3.2	2.5	0.0	45.8	4.5	93.4	7.6

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 4

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	46.7	69.3		3.4		27.3			
	1300									
	1900	70.1	83.0		2.7		14.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		62.3	5.2	3.8	0.0	22.6	5.9	89.0	11.0
	1300									
	1900		69.4	12.9	2.0	0.7	10.2	4.7	81.6	18.4

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	23.0	34.1		5.9		59.9			
	1300									
	1900	12.1	33.9		8.8		57.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		27.2	6.6	5.1	0.7	43.3	16.9	75.7	24.3
	1300									
	1900		33.3	0.0	9.0	0.0	47.1	10.7	89.4	10.6

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	8.0	14.9		4.6		80.4			
	1300									
	1900	1.0	18.7		3.1		79.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		13.5	1.1	4.4	1.2	53.8	26.0	71.9	28.1
	1300									
	1900		16.5	1.0	3.1	0.0	67.0	12.3	86.6	13.4

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	26.0	50.7		7.5		41.8			
	1300									
	1900	44.3	53.7		6.0		40.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		44.6	4.7	7.5	0.0	36.6	6.6	88.5	11.5
	1300									
	1900		43.0	10.0	5.9	1.4	31.1	8.6	80.1	19.9

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 5

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	68.1	73.2		2.3		24.5			
	1400	50.0	65.5		4.5		30.0			
	2200	74.8	78.7		2.6		18.7			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	35.5	49.8		5.0		45.2			
	1400	19.1	37.5		9.7		52.8			
	2200	53.2	62.2		4.0		33.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	12.3	31.9		7.4		60.6			
	1400	4.5	22.3		12.9		64.8			
	2200	31.9	48.4		5.8		45.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	43.8	62.7		4.9		32.5			
	1400	32.0	54.4		6.5		39.2			
	2200	59.7	69.4		2.9		27.7			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 6

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	57.7	74.9		1.6		24.4			
	1400	34.5	60.3		5.8		33.9			
	2200	67.6	71.5		4.2		24.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	29.3	41.3		5.3		53.3			
	1400	23.3	40.3		6.3		53.3			
	2200	48.0	55.4		6.4		38.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	5.2	23.2		7.7		69.0			
	1400	2.3	29.0		9.0		61.9			
	2200	25.8	40.3		8.1		51.6			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	33.9	60.6		6.8		32.6			
	1400	24.8	57.1		7.7		35.2			
	2200	58.7	71.0		5.5		23.5			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 7

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	42.4	49.0		2.5		48.6			
	1500	27.5	38.1		2.0		59.0			
	2100	43.5	47.6		0.8		51.6			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1500									
	2100									

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	15.8	17.1		1.7		81.3			
	1500	14.2	18.0		2.1		79.9			
	2100	22.1	26.7		2.1		71.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1500									
	2100									

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	8.5	14.5		1.2		84.3			
	1500	2.4	15.3		4.0		80.6			
	2100	20.2	32.0		2.0		66.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1500									
	2100									

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	38.8	49.8		0.4		49.8			
	1500	18.5	33.1		3.6		63.3			
	2100	46.4	54.0		1.6		44.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1500									
	2100									

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 8

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	35.6	42.1		2.9		55.6			
	1400	24.3	34.6		7.1		58.3			
	2200	35.9	40.8		7.1		58.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	17.9	28.4		4.7		66.9			
	1400	12.8	20.9		4.4		74.7			
	2200	22.4	29.5		6.8		63.7			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	13.9	30.4		7.1		62.5			
	1400	4.8	27.4		7.1		65.5			
	2200	24.8	47.7		11.1		41.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0600	28.0	39.9		3.9		56.3			
	1400	15.8	32.5		5.8		61.7			
	2200	25.8	41.8		3.2		55.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0600									
	1400									
	2200									

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 9/23

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	7.2	20.2		7.2		72.6			
	1300	17.2	34.1		8.1		57.8			
	1900	18.8	27.3		4.5		68.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700									
	1300									
	1900									

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	5.1	11.8		7.8		80.4			
	1300	5.0	21.7		10.4		67.9			
	1900	14.0	20.7		3.3		75.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700									
	1300									
	1900									

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	1.0	14.3		18.9		66.8			
	1300	.3	14.9		18.8		66.2			
	1900	12.0	31.7		11.0		57.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700									
	1300									
	1900									

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	17.4	45.2		11.6		43.2			
	1300	19.7	53.2		10.6		36.1			
	1900	23.1	57.1		8.5		36.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700									
	1300									
	1900									

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 10

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	3.7	19.5		8.6		72.0			
	1300	5.4	22.3		5.4		72.3			
	1900	24.1	35.2		.6		64.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		14.5	4.8	7.2	1.2	45.7	26.5	67.5	32.5
	1300		21.1	1.2	5.4	.2	59.1	13.2	85.5	14.5
	1900		33.1	1.3	.6	0.0	55.1	10.0	88.8	11.2

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	5.4	29.2		6.6		64.2			
	1300	11.2	30.2		7.1		62.7			
	1900	9.6	25.3		11.4		63.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		14.7	14.1	1.8	4.7	41.8	22.9	58.2	41.8
	1300		23.8	5.4	5.4	1.7	51.2	12.5	80.4	19.6
	1900		23.6	1.9	10.3	1.2	58.2	4.8	92.1	7.9

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	26.6	49.7		8.1		42.2			
	1300	35.6	67.2		8.9		24.8			
	1900	31.8	71.7		11.0		18.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		37.4	12.9	5.8	2.3	37.3	5.2	80.5	19.5
	1300		63.1	3.4	7.4	0.6	24.9	0.6	95.5	4.5
	1900		68.8	2.3	11.0	0.0	16.8	1.2	96.5	3.5

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	7.6	26.9		5.8		67.3			
	1300	7.9	35.6		6.8		57.6			
		21.3	43.2		5.4		51.5			
			V>2.2	V<2.2	V>2.2	V<2.2	V>3.2	V<2.2	V>2.2	V<2.2
V	0700		18.0	8.7	5.2	0.6	50.0	17.5	73.3	26.7
	1300		33.0	2.2	6.7	0.0	54.8	3.3	94.4	5.6
	1900		41.3	1.1	5.2	0.6	48.2	3.6	94.8	5.2

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 11

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	22.4	26.3		1.9		71.8			
	1300	16.3	22.5		3.1		74.4			
	1900	29.7	34.2		1.9		63.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		17.9	8.4	1.2	.7	50.6	21.2	69.9	30.1
	1300		21.7	.7	3.1	0.0	67.7	6.8	92.5	7.5
	1900		26.0	8.4	1.3	0.0	43.5	20.7	70.8	29.2

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	17.0	37.1		5.0		57.9			
	1300	9.4	25.5		12.0		62.4			
	1900	11.0	29.9		7.9		62.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		31.0	5.7	4.4	0.6	52.5	5.7	88.0	12.0
	1300		24.7	0.6	12.6	0.0	57.8	4.2	95.2	4.8
	1900		26.2	3.7	7.3	0.6	54.9	7.3	88.4	11.6

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	28.5	59.9		9.9		30.2			
	1300	8.2	40.4		21.0		38.8			
	1900	13.1	48.2		15.4		36.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		57.0	2.3	8.8	1.7	29.1	1.2	94.8	5.2
	1300		39.9	0.0	21.4	0.0	37.5	1.2	98.8	1.2
	1900		47.0	0.6	14.8	0.6	37.0	0.0	98.8	1.2

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	20.6	47.3		4.2		48.5			
	1300	17.3	41.0		13.3		45.7			
	1900	45.7	60.1		7.0		33.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		38.9	7.8	3.6	0.4	42.0	7.1	84.4	15.6
	1300		40.1	1.2	13.3	0.0	43.0	2.3	96.5	3.6
	1900		55.8	4.1	6.4	0.6	30.3	2.8	92.4	7.3

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 12

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	15.3	26.7		4.0		60.3			
	1300	16.2	29.1		4.1		66.9			
	1900	28.6	37.4		3.4		48.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		24.8	0.7	4.2	0.0	61.3	9.0	90.3	9.7
	1300		27.0	1.4	3.4	0.7	59.2	7.5	90.5	9.5
	1900		34.5	2.1	3.5	0.0	45.6	14.4	83.4	16.6

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	9.7	20.6		4.5		74.9			
	1300	5.0	18.8		5.0		76.3			
	1900	6.1	23.9		3.0		73.1			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		15.8	4.5	3.1	2.0	67.1	7.6	86.1	13.9
	1300		17.6	1.3	5.0	0.0	71.7	4.4	94.3	5.7
	1900		24.1	0.0	2.5	0.6	64.8	8.0	91.4	8.6

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	19.0	38.6		8.9		52.6			
	1300	6.8	44.4		11.1		44.4			
	1900	13.8	44.9		8.5		56.7			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		34.4	3.9	7.7	1.2	46.4	6.5	88.5	11.5
	1300		41.5	3.2	10.0	0.6	41.6	3.1	93.1	6.9
	1900		33.3	2.0	8.7	0.0	52.0	4.0	94.0	6.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	21.4	37.7		7.6		54.7			
	1300	14.2	40.7		7.4		51.8			
	1900	27.5	45.0		9.4		45.7			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		35.0	1.8	8.3	0.0	49.7	5.1	93.0	7.0
	1300		36.5	2.5	8.3	0.0	46.3	7.5	89.9	10.1
	1900		39.2	5.1	6.9	2.1	39.2	7.7	85.4	14.8

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 13

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	6.5	15.7		3.3		81.1			
	1300	11.6	16.8		3.8		39.4			
	1900	21.8	25.0		5.0		70.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		11.8	3.9	2.1	1.2	46.4	34.7	60.1	39.9
	1300		13.5	3.3	3.8	0.0	50.4	28.9	67.7	32.3
	1900		22.8	1.9	4.3	0.6	56.8	13.6	84.0	16.0

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	12.0	25.9		9.5		64.5			
	1300	5.8	17.5		9.9		72.5			
	1900	8.1	24.9		8.7		66.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		16.0	8.3	5.3	3.6	39.6	27.4	60.9	39.1
	1300		16.9	0.5	9.3	0.6	60.5	12.2	86.6	13.4
	1900		21.4	3.5	6.9	1.8	52.0	14.4	80.3	19.7

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	30.1	56.8		12.5		30.7			
	1300	6.3	32.6		24.0		43.4			
	1900	12.3	35.8		16.2		48.1			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		42.1	14.1	11.8	1.1	20.8	10.1	74.7	25.3
	1300		31.8	1.1	22.6	1.1	39.3	4.0	93.6	6.4
	1900		33.3	2.3	15.3	1.1	42.4	5.6	91.0	9.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	10.4	27.3		5.1		67.6			
	1300	10.8	33.0		12.5		59.6			
	1900	37.1	53.9		2.2		43.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		13.5	13.6	3.9	1.2	39.4	28.4	56.8	43.2
	1300		30.9	1.7	12.4	0.0	44.4	10.6	87.6	12.4
	1900		49.4	4.5	2.2	0.0	37.2	6.7	88.8	11.2

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 14

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	0.0	20.7		4.6		74.7			
	1300	4.1	19.3		14.7		76.0			
	1900	15.9	25.5		7.0		67.5			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		7.1	21.5	0.0	0.0	14.2	57.2	21.4	78.6
	1300		0.0	0.0	0.0	10.0	50.0	40.0	50.0	50.0
	1900		22.2	22.2	0.0	11.1	11.1	33.3	33.3	66.7

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	14.0	29.2		4.7		66.1			
	1300	8.3	34.5		7.7		57.8			
	1900	15.1	41.3		9.3		49.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		11.1	11.1	11.1	0.0	33.3	33.3	55.6	44.4
	1300		0.0	0.0	0.0	0.0	50.0	50.0	50.0	50.0
	1900		50.0	33.3	0.0	0.0	0.0	16.7	50.0	50.0

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	39.3	71.9		7.3		20.7			
	1300	18.4	69.3		10.6		20.1			
	1900	33.7	72.8		10.7		16.6			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		63.6	27.3	0.0	0.0	9.1	0.0	72.7	27.3
	1300		30.0	40.0	0.0	0.0	20.0	10.0	50.0	50.0
	1900		57.1	21.5	0.0	14.3	7.1	0.0	64.3	35.7

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	17.3	35.3		9.2		55.5			
	1300	13.8	42.0		8.6		49.3			
	1900	42.9	59.5		3.6		36.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		14.3	14.3	0.0	0.0	28.6	42.8	42.9	57.1
	1300		40.0	0.0	0.0	10.0	30.0	20.0	70.0	30.0
	1900		33.3	44.5	0.0	0.0	0.0	22.2	33.3	66.7

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V

STATION 15

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	5.1	12.2		3.2		84.6			
	1300	5.5	13.8		5.5		80.7			
	1900	17.2	26.5		2.6		70.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		8.5	4.3	0.0	4.3	27.7	55.3	63.3	36.2
	1300		14.3	0.0	2.0	4.1	20.4	59.2	63.3	36.7
	1900		15.5	8.6	0.0	0.0	24.1	51.7	60.3	39.7

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	13.3	29.7		5.0		65.3			
	1300	3.2	24.1		10.7		65.3			
	1900	5.2	30.7		11.7		57.5			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		24.4	6.7	2.2	4.5	44.4	17.8	71.1	28.9
	1300		17.0	4.3	4.3	0.0	55.2	19.3	76.6	23.4
	1900		25.5	2.0	9.8	0.0	43.2	19.6	78.4	21.6

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	31.0	67.7		7.6		24.7			
	1300	5.2	47.4		19.5		33.1			
	1900	18.8	51.1		23.3		25.6			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		54.8	9.7	0.0	6.4	16.1	13.0	71.0	29.0
	1300		27.8	5.5	33.4	11.1	16.8	5.5	77.8	22.2
	1900		12.5	31.3	12.6	6.2	25.0	12.6	50.0	50.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	10.1	25.8		12.5		61.7			
	1300	8.1	21.7		12.5		55.9			
	1900	29.6	41.4		12.5		46.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		10.5	10.6	0.0	10.6	36.8	31.6	52.6	47.4
	1300		27.3	9.1	4.5	4.6	13.6	40.9	54.5	45.5
	1900		41.7	41.6	8.3	0.0	0.0	8.3	50.0	50.0

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 16

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	13.2	21.1		7.9		71.0			
	1400	24.4	26.7		6.6		66.7			
	1900	37.5	40.6		6.3		53.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		21.1	0.0	7.9	0.0	50.0	21.0	78.9	21.1
	1400		24.4	2.3	6.6	0.0	51.0	15.7	82.2	17.8
	1900		9.4	31.2	3.1	3.2	3.1	50.1	84.4	15.6

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	21.3	32.0		6.6		61.3			
	1400	15.7	30.1		10.8		59.0			
	1900	31.6	49.1		14.0		36.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		28.0	4.0	6.6	0.0	55.9	5.4	90.7	9.3
	1400		26.5	3.6	10.8	0.0	51.8	7.2	89.2	10.8
	1900		28.1	21.0	10.6	3.4	19.3	17.5	57.9	42.1

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	50.6	76.5		8.2		15.3			
	1400	25.6	65.4		8.9		25.6			
	1900	25.0	67.9		10.7		21.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		70.9	4.7	8.1	0.0	15.2	1.1	94.2	5.8
	1400		56.4	9.0	8.9	0.0	24.5	1.3	89.7	10.3
	1900		67.8	0.0	10.7	0.0	21.4	0.0	100.0	0.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	18.0	31.1		11.5		57.4			
	1400	12.3	24.6		13.8		61.5			
	1900	40.0	64.0		12.0		24.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		19.7	11.4	11.5	0.0	42.6	14.8	73.8	26.2
	1400		22.4	1.5	13.5	0.0	61.2	1.5	97.0	3.0
	1900		52.0	12.0	12.0	0.0	20.0	4.0	84.0	16.0

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 17

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	3.1	11.8		8.0		80.3			
	1400	5.2	15.2		5.1		79.7			
	1900	15.2	20.9		3.1		76.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		10.1	1.7	6.6	1.4	54.6	25.6	71.2	28.8
	1400		14.8	0.4	5.1	0.0	58.9	22.8	76.9	23.1
	1900		20.3	0.6	2.7	0.4	59.8	16.2	82.8	17.2

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	5.8	23.2		13.3		63.5			
	1400	1.0	11.5		18.4		70.2			
	1900	2.0	18.8		16.8		64.5			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		22.5	0.4	13.0	0.7	59.3	3.8	94.9	5.1
	1400		11.5	0.0	18.4	0.0	69.2	1.0	98.0	1.0
	1900		18.8	0.0	16.8	0.0	59.8	4.7	95.3	4.7

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	3.3	19.9		15.9		64.2			
	1400	0.3	12.1		21.5		66.3			
	1900	1.7	26.1		16.6		57.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		18.7	1.0	15.7	0.3	60.7	3.7	95.0	5.0
	1400		12.1	0.0	21.1	0.4	64.2	2.0	97.3	2.7
	1900		26.0	0.0	16.5	0.0	55.0	2.4	97.6	2.4

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	5.0	13.4		10.4		76.3			
	1400	2.3	10.9		14.2		74.8			
	1900	5.3	24.3		12.8		62.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		10.7	2.7	8.3	2.1	63.2	13.1	82.3	17.7
	1400		10.9	0.0	14.2	0.0	69.5	5.0	94.7	5.3
	1900		23.4	0.9	12.5	0.3	55.9	6.9	91.8	8.2

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 18

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	7.0	12.8		2.0		85.2			
	1400	5.9	14.0		3.3		82.6			
	1900	17.1	22.2		1.2		76.6			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		7.8	5.0	0.8	1.2	39.1	46.1	52.3	47.7
	1400		9.3	4.6	2.5	0.8	41.8	40.9	53.6	46.4
	1900		21.1	1.2	1.2	0.0	59.0	17.5	81.3	18.7

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	12.5	25.4		8.8		65.8			
	1400	4.2	18.3		14.1		67.4			
	1900	8.0	31.3		10.7		58.0			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		21.6	3.7	8.7	0.0	47.8	18.1	78.0	22.0
	1400		18.4	0.0	14.3	0.0	59.8	7.5	92.5	7.5
	1900		31.4	0.0	10.7	0.0	52.9	4.9	95.1	4.9

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	5.6	22.6		12.1		65.3			
	1400	0.0	17.7		14.6		67.8			
	1900	7.6	25.0		17.3		57.6			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		21.8	0.8	11.7	0.4	61.3	4.0	94.8	5.2
	1400		17.4	0.0	14.6	0.0	65.3	2.7	97.3	2.7
	1900		25.1	0.0	17.5	0.0	54.0	3.4	96.6	3.4

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	5.5	12.8		7.8		79.3			
	1400	3.9	14.0		7.5		78.5			
	1900	18.7	27.1		12.0		60.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		11.1	1.9	6.9	0.8	54.1	25.1	72.2	27.8
	1400		13.6	0.4	7.5	0.0	64.9	13.6	86.0	14.0
	1900		26.3	0.8	12.1	0.0	55.9	4.8	94.2	5.8

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 19

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	1.2	6.5		4.4		89.1			
	1400	3.8	8.0		2.3		89.7			
	1900	11.0	14.1		1.2		84.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		6.1	0.4	4.5	0.0	63.5	25.6	74.0	26.0
	1400		8.0	0.0	2.3	0.0	56.8	32.9	67.1	32.9
	1900		13.9	0.4	1.2	0.0	56.0	28.5	71.0	28.0

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	9.2	22.9		7.4		69.8			
	1400	4.8	19.4		9.2		71.3			
	1900	6.0	27.4		8.4		64.3			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		23.1	0.0	7.0	0.0	55.1	14.8	85.2	14.8
	1400		19.0	0.4	8.8	0.4	56.8	14.5	84.5	15.5
	1900		26.6	0.8	8.0	0.4	46.9	17.4	81.3	18.7

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	7.8	30.9		13.0		56.1			
	1400	4.3	28.3		14.6		57.0			
	1900	6.7	27.3		13.9		58.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		28.9	1.8	12.7	0.0	51.5	5.3	93.0	7.0
	1400		28.1	0.0	14.7	0.0	56.7	0.5	99.6	0.4
	1900		27.1	0.0	14.0	0.0	56.4	2.6	97.5	2.5

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0800	6.9	13.8		4.0		82.3			
	1400	4.6	15.5		5.8		78.6			
	1900	23.8	30.6		3.8		65.5			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0800		13.4	0.5	4.0	0.0	62.3	19.8	79.7	20.3
	1400		15.3	0.0	6.0	0.0	65.9	12.8	87.2	12.8
	1900		29.8	9.8	3.8	0.0	57.5	8.0	91.1	8.9

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 20

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	16.6	20.1		3.0		76.9			
	1300	5.8	8.1		2.9		89.0			
	1900	17.9	18.5		1.2		80.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		13.5	2.7	1.8	0.0	57.7	24.3	73.0	27.0
	1300		5.7	1.4	2.8	0.7	57.5	31.9	66.0	34.0
	1900		15.1	4.7	1.2	0.0	51.1	28.0	67.4	32.6

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	14.5	26.1		4.8		69.0			
	1300	9.4	25.3		7.7		67.1			
	1900	14.0	29.2		9.0		61.8			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		20.4	5.9	3.6	1.5	51.1	17.5	75.2	24.8
	1300		24.5	2.0	6.6	0.0	55.6	11.3	86.8	13.2
	1900		26.4	4.7	8.8	0.7	47.4	12.1	82.4	17.6

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	14.0	31.8		9.5		58.7			
	1300	2.8	18.0		12.9		69.1			
	1900	6.0	26.9		18.6		54.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		30.1	4.5	9.2	0.6	46.4	9.2	85.6	14.4
	1300		18.8	0.6	12.5	0.0	65.6	2.6	96.9	3.1
	1900		28.1	0.0	16.9	1.3	50.1	3.7	95.0	5.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	4.0	13.1		5.1		81.8			
	1300	4.5	16.4		3.4		80.2			
	1900	13.1	22.3		4.6		73.1			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		8.9	5.1	5.1	0.6	47.2	33.0	61.1	38.9
	1300		15.3	0.0	3.0	0.1	69.9	11.7	88.3	11.7
	1900		20.3	2.1	3.5	0.7	62.3	11.1	86.0	14.0

DIURNAL VARIATION PERCENTAGE OCCURRENCE OF SKY COVERAGE N AND VISIBILITY V
STATION 21

JANUARY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	10.6	17.6		4.1		78.2			
	1300	4.9	12.2		4.3		83.5			
	1900	3.7	17.3		1.8		80.4			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		13.4	4.0	3.5	0.6	43.6	34.9	60.5	39.5
	1300		7.3	4.8	1.2	3.0	43.0	40.6	51.5	48.5
	1900		14.2	3.1	0.6	1.9	45.1	35.1	59.9	40.1

APRIL

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	8.8	25.7		6.5		67.8			
	1300	9.3	26.7		4.7		68.7			
	1900	8.1	25.0		9.9		65.1			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		21.6	4.1	6.5	0.0	38.0	29.0	66.1	33.9
	1300		23.7	2.9	4.6	0.0	50.3	18.4	78.6	21.4
	1900		23.3	1.7	9.3	0.4	49.9	15.2	82.6	17.4

JULY

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	11.3	38.4		6.2		55.4			
	1300	5.6	29.8		11.3		59.0			
	1900	6.9	35.8		12.0		53.2			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		34.1	4.5	5.1	1.1	42.0	13.1	81.3	18.7
	1300		26.6	3.3	11.9	0.0	43.5	14.7	81.9	18.1
	1900		32.8	2.8	9.7	1.2	38.5	15.0	81.0	19.0

OCTOBER

	Time LCT	N = 0	N = 0 - 0.3		N = 0.4 - 0.6		N = 0.7 - 1.0		All N	
N	0700	.6	7.5		2.4		90.2			
	1300	.6	5.0		3.9		91.1			
	1900	6.3	13.2		6.9		79.9			
			V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2	V>2.2	V<2.2
V	0700		5.8	1.7	2.4	0.0	49.1	41.1	57.2	42.8
	1300		4.0	1.1	3.4	0.0	59.3	32.2	66.7	33.3
	1900		10.5	2.3	5.8	1.2	48.3	31.9	64.5	35.5

APPENDIX 4

OPERATIONAL CONDITIONS SUMMARY

VISIBILITY SUMMARY

MONTH JANUARY

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	43.8	96.1	13	07	yes	yes	conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8 and 9.
2	46.4	100.0	07-13-19	-	yes	yes	
3	46.4	86.9	13	19	yes	no	
4	65.8	88.0	07	19	yes	no	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	22.6	90.5	19	07	yes	yes	
11	21.9	79.4	13	07	yes	no	
12	29.1	95.7	19	07	yes	yes	
13	16.2	84.8	19	07	yes	no	
14	9.1	37.6	19	13	no	no	
15	13.0	74.3	13	19	yes	no	
16	19.1	66.5	08	19	no	no	
17	15.1	94.5	14	08	yes	yes	
18	12.9	78.9	19	08	yes	no	
19	9.4	97.0	14	08	yes	yes	
20	10.7	80.5	07	19	yes	no	
21	11.6	74.4	19	13	yes	no	
22							
23							

VISIBILITY SUMMARY

MONTH FEBRUARY

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	37.3	95.6	07	19	yes	yes	conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	63.5	100.0	07-13-19	-	yes	yes	
3	40.3	87.2	13	07	yes	no	
4	51.5	88.2	07	19	yes	no	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	20.7	87.0	13	07	yes	no	
11	22.6	82.8	13	19	yes	no	
12	20.4	96.7	13	07	yes	yes	
13	14.1	77.5	19	07	yes	no	
14	3.8	100.0	19	07 - 13	yes	yes	
15	9.6	45.5	19	13	no	no	
16	15.6	79.2	14	19	yes	no	
17	12.7	90.0	14	08	yes	yes	
18	19.5	95.4	14	08	yes	yes	
19	21.7	98.4	14	19	yes	yes	
20	13.3	80.6	13	07	yes	no	
21	11.4	55.3	07	19	no	no	
22							
23							

VISIBILITY SUMMARY

MONTH MARCH

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	26.0	95.2	19	13	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8 and 9.
2	23.3	100.0	07-13-19	-	yes	yes	
3	38.2	93.9	13	19	yes	yes	
4	44.2	96.6	07	19	yes	yes	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	18.7	81.3	13	07	yes	no	
11	33.9	90.2	13	19	yes	yes	
12	23.1	96.7	13-19	07	yes	yes	
13	22.9	79.2	19	07	yes	no	
14	8.9	82.4	13-19	07	yes	no	
15	13.5	53.4	13	19	no	no	
16	37.7	84.4	08	19	yes	no	
17	20.0	95.1	14	08	yes	yes	
18	25.6	94.0	14	08	yes	yes	
19	24.3	96.0	14	08	yes	yes	
20	14.1	71.9	13	07	yes	no	
21	17.6	83.0	13	07	yes	no	
22							
23							

VISIBILITY SUMMARY

MONTH **APRIL**

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	25.8	97.7	13-19	07	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	23.3	100.0	07-13-19	-	yes	yes	
3	30.5	95.3	13	07	yes	yes	
4	30.1	89.6	19	07	yes	no	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	20.7	74.5	19	07	yes	no	
11	27.3	89.5	13	07	yes	no	
12	19.2	91.0	19	07	yes	no	
13	18.1	81.5	13	07	yes	no	
14	19.0	57.1	19	13	no	no	
15	22.4	84.2	19	07	yes	no	
16	27.4	76.5	14	19	yes	no	
17	17.6	99.3	14-19	08	yes	yes	
18	23.6	94.7	14-19	08	yes	yes	
19	22.9	98.0	08	19	yes	yes	
20	23.9	85.4	13	07	yes	no	
21	22.9	88.8	19	07	yes	no	
22							
23							

VISIBILITY SUMMARY

MONTH **MAY**

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	22.4	87.5	13	19	yes	no	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	15.8	100.0	07-13-19	-	yes	yes	
3	15.4	90.6	13	19	yes	yes	
4	14.5	79.2	19	07	yes	no	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	35.3	90.1	19	07	yes	yes	
11	44.4	97.2	07	13	yes	yes	
12	23.0	93.5	13	07	yes	yes	
13	35.0	88.2	13	07	yes	no	
14	21.2	53.8	19	07-13	no	no	
15	31.9	77.4	19	07	yes	no	
16	34.2	90.4	08	19	yes	yes	
17	0.0	0.0	14-19	08	no	no	
18	30.1	97.8	14	08-19	yes	yes	
19	33.4	98.7	14	08	yes	yes	
20	32.5	97.0	19	07	yes	yes	
21	23.8	99.2	07-13	19	yes	yes	
22							
23							

VISIBILITY SUMMARY

MONTH JUNE

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	21.0	98.6	07-13	19	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	26.2	100.0	07-13-19	-	yes	yes	
3	23.7	99.2	13-19	07	yes	yes	
4	11.3	85.0	19	07	yes	no	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	52.5	91.8	13	07	yes	yes	
11	32.4	97.3	07	13	yes	yes	
12	36.5	92.4	19	07	yes	yes	
13	18.1	77.4	19	07	yes	no	
14	38.1	72.7	19	13	yes	no	
15	25.0	69.3	13	19	no	no	
16	45.0	88.7	19	08	yes	no	
17	23.9	98.5	08	19	yes	yes	
18	34.4	99.4	14-19	08	yes	yes	
19	37.5	98.9	14	19	yes	yes	
20	38.2	93.9	13	07	yes	yes	
21	31.4	94.9	13	07	yes	yes	
22							
23							

VISIBILITY SUMMARY

MONTH JULY

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	10.5	97.0	13	07	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	19.5	100.0	07-13-19	-	yes	yes	
3	21.2	99.0	13-19	07	yes	yes	
4	15.1	93.7	19	07	yes	yes	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	56.4	91.5	19	07	yes	yes	
11	48.0	98.2	13	07	yes	yes	
12	30.3	93.5	13	07	yes	yes	
13	35.2	85.9	13	07	yes	no	
14	51.4	64.3	19	13	no	no	
15	36.7	72.6	07	19	yes	no	
16	64.6	92.0	19	14	yes	yes	
17	18.9	98.5	14-19	08	yes	yes	
18	21.5	98.6	14-19	08	yes	yes	
19	28.1	98.1	14-19	08	yes	yes	
20	25.6	93.8	19	07	yes	yes	
21	31.1	89.6	19	13	yes	no	
22							
23							

VISIBILITY SUMMARY

MONTH AUGUST

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	18.6	100.0	07-13-19	-	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8 and 9.
2	26.2	93.9	07-19	13	yes	yes	
3	23.6	91.1	19	13	yes	yes	
4	14.2	97.3	19	07	yes	yes	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	61.3	87.0	19	07	yes	no	
11	48.9	95.7	13	07	yes	yes	
12	30.0	87.1	19	07-13	yes	yes	
13	37.0	80.6	13	07	yes	no	
14	40.0	60.0	19	13	no	no	
15	35.1	62.6	19	13	no	no	
16	51.9	94.0	19	14	yes	yes	
17	19.4	94.0	14-19	08	yes	yes	
18	23.7	97.2	14	08	yes	yes	
19	27.9	99.5	08-14	19	yes	yes	
20	24.0	90.2	19	07	yes	yes	
21	22.7	80.5	19	07	yes	no	
22							
23							

VISIBILITY SUMMARY

MONTH SEPTEMBER

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	28.2	72.2	19	07	yes	no	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	31.7	100.0	07-13-19	-	yes	yes	
3	32.7	97.9	13-19	07	yes	yes	
4	31.9	96.4	19	07	yes	yes	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	53.9	86.0	19	07	yes	no	
11	56.2	96.2	13	07	yes	yes	
12	37.0	94.1	13	19	yes	yes	
13	45.2	83.7	13	07	yes	no	
14	40.0	66.7	07	19	no	no	
15	36.5	70.3	19	13	yes	no	
16	47.4	91.2	19	14	yes	yes	
17	23.8	96.2	14	08	yes	yes	
18	26.0	28.7	14	08	no	no	
19	29.6	95.6	19	08	yes	yes	
20	23.8	89.8	07	13	yes	no	
21	15.6	92.9	13-19	07	yes	yes	
22							
23							

VISIBILITY SUMMARY

MONTH OCTOBER

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	29.1	96.7	13	19	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8 and 9.
2	26.8	95.0	07-13	19	yes	yes	
3	35.8	89.5	19	07	yes	no	
4	43.8	85.5	07	19	yes	no	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	30.8	88.5	19	07	yes	no	
11	15.0	91.3	13	07	yes	yes	
12	36.9	92.0	07	19	yes	yes	
13	32.1	83.6	13	07	yes	no	
14	30.8	61.6	13	19	no	no	
15	24.5	59.0	13	07	no	no	
16	26.1	78.5	14	08	yes	no	
17	15.0	92.5	14	08	yes	yes	
18	17.1	94.5	14	08	yes	yes	
19	19.8	98.0	14	08	yes	yes	
20	14.7	86.0	13	07	yes	no	
21	6.7	79.8	19	07	yes	no	
22							
23							

VISIBILITY SUMMARY

MONTH NOVEMBER

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	34.6	99.1	07-19	13	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	37.3	90.3	07	19	yes	yes	
3	47.9	96.2	13	07	yes	yes	
4	51.2	91.3	07	19	yes	yes	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	15.5	83.8	19	07	yes	no	
11	36.3	94.3	19	07	yes	yes	
12	28.6	92.3	13	07	yes	yes	
13	25.7	88.0	13	07	yes	no	
14	33.3	71.3	07	13	yes	no	
15	18.9	77.8	13-19	07	yes	no	
16	24.4	74.8	08	19	yes	no	
17	13.9	91.5	14	08	yes	yes	
18	12.4	82.2	19	08	yes	no	
19	11.9	100.0	08-14-19	-	yes	yes	
20	9.7	85.1	13	07	yes	no	
21	9.5	90.5	19	07	yes	yes	
22							
23							

VISIBILITY SUMMARY

MONTH DECEMBER

Station	% occurrence of operational conditions for all days	% occurrence of operational conditions for nearly clear days	Time LCT		Meets		Remarks
			best conditions	worst conditions	70% criterion	90% criterion	
1	37.7	97.4	13	07	yes	yes	Conclusions for stations 2, 14, and 15 are based on inadequate data. No data was available for stations 5, 6, 7, 8, and 9.
2	25.6	90.8	13-19	07	yes	yes	
3	47.9	90.7	13	19	yes	yes	
4	60.6	90.6	07	19	yes	yes	
5	-	-	-	-	-	-	
6	-	-	-	-	-	-	
7	-	-	-	-	-	-	
8	-	-	-	-	-	-	
9	-	-	-	-	-	-	
10	23.2	85.6	19	07	yes	no	
11	18.7	85.4	13	07	yes	no	
12	28.9	90.6	13	19	yes	yes	
13	10.9	80.1	19	07	yes	no	
14	5.3	50.5	13	07-19	no	no	
15	2.0	10.2	19	07-13	no	no	
16	13.7	78.1	14	19	yes	no	
17	12.0	89.5	19	08	yes	no	
18	10.4	88.2	14	08	yes	no	
19	9.8	99.0	08-19	14	yes	yes	
20	5.5	79.7	07	19	yes	no	
21	15.0	89.3	07	13	yes	no	
22							
23							

APPENDIX 5

CLOUD TYPE STRUCTURE

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 1

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	20.9	3.7	.4	0	9.4	4.4	6.1	.4	45.8
0.4 - 0.6		1.1	0	0	1.1	.7	2.3	.4	5.5
0.7 - 1.0		7.7	0	.4	16.1	1.8	18.1	4.8	48.7
% occurrence given type	20.9	12.5	.4	.4	26.7	7.0	26.7	5.5	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	5.4	5.1	0	0	4.5	4.5	5.4	1.2	26.1
0.4 - 0.6		.9	.3	0	1.8	.6	2.1	.3	6.0
0.7 - 1.0		18.0	.9	.3	12.0	5.1	27.0	4.5	67.8
% occurrence given type	5.4	24.0	1.2	.3	18.3	10.2	34.3	6.0	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	5.5	2.5	0	0	2.8	4.3	4.2	.6	20.6
0.4 - 0.6		.9	0	0	0	.3	4.3	.3	5.8
0.7 - 1.0		29.2	.9	0	12.3	1.8	24.0	5.9	74.2
% occurrence given type	5.5	32.6	.9	0	15.1	6.5	32.6	6.8	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	9.6	6.3	.3	0	4.3	3.3	5.8	1.0	30.6
0.4 - 0.6		2.1	.3	0	1.8	1.0	3.6	1.5	10.1
0.7 - 1.0		15.0	1.0	1.8	8.9	2.3	20.7	9.9	59.3
% occurrence given type	9.6	23.4	1.6	1.8	15.0	6.6	30.1	12.4	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 2

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	18.2	0	0	0	0	0	9.1	0	27.3
0.4 - 0.6		18.2	0	0	0	0	0	0	18.2
0.7 - 1.0		9.1	0	0	27.3	0	18.2	0	54.6
% occurrence given type	18.2	27.3	0	0	27.3	0	27.3	0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	11.0	2.7	1.4	0	0	5.5	0	2.7	23.3
0.4 - 0.6		0	0	0	1.4	0	1.4	0	1.4
0.7 - 1.0		23.3	1.4	0	17.8	14.1	26.1	1.4	74.0
% occurrence given type	11.0	26.0	2.8	0	19.2	9.6	30.1	1.4	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	7.3	4.9	0	0	4.9	2.4	0	0	19.5
0.4 - 0.6		2.4	0	0	2.4	0	7.2	2.4	14.7
0.7 - 1.0		29.3	0	0	2.4	7.3	21.9	2.8	65.9
% occurrence given type	7.3	26.6	0	0	9.8	9.8	29.2	7.3	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	16.9	4.2	0	0	1.4	5.6	0	0	28.2
0.4 - 0.6		2.8	0	0	1.4	1.4	4.2	0	9.8
0.7 - 1.0		33.8	1.4	1.4	8.4	7.0	9.8	0	62.0
% occurrence given type	16.9	40.8	1.4	1.4	11.3	14.1	14.0	0	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 3

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	35.2	.6	0	0	5.9	9.8	2.3	.0	53.9
0.4 - 0.6		.2	0	0	.6	1.5	1.5	.4	4.2
0.7 - 1.0		5.1	0	0	15.9	10.6	9.6	.4	41.8
% occurrence given type	35.2	5.9	0	0	22.5	21.9	13.6	.8	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	14.1	7.7	.7	.4	3.0	5.0	4.9	.4	32.3
0.4 - 0.6		1.1	.2	.2	.4	.2	1.8	.8	4.8
0.7 - 1.0		11.4	.6	2.4	14.5	7.4	22.8	3.7	62.9
% occurrence given type	14.1	16.3	1.5	3.0	18.0	12.6	29.4	5.0	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	4.4	2.9	.7	.0	2.2	5.3	5.8	.5	21.8
0.4 - 0.6		.2	.5	0	.2	0	4.3	.5	5.8
0.7 - 1.0		16.9	.7	2.2	5.1	5.8	30.8	10.9	72.4
% occurrence given type	4.4	20.1	1.9	2.2	7.5	11.1	41.0	11.9	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	24.0	2.8	0	0	3.7	6.5	3.2	.4	40.6
0.4 - 0.6		.9	0	0	.6	1.7	2.1	0	5.4
0.7 - 1.0		10.6	0	.6	8.8	6.0	23.9	3.8	54.0
% occurrence given type	24.0	14.3	0	.6	13.2	14.3	29.4	4.3	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 4

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	58.2	2.4	0	.3	3.7	9.1	2.4	0	76.1
0.4 - 0.6		.3	0	0	.3	2.4	0	0	3.0
0.7 - 1.0		3.6	.3	0	5.0	7.1	4.3	0	20.9
% occurrence given type	58.2	6.4	.3	.3	9.1	18.5	7.1	0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	17.8	3.5	0.4	0	1.9	8.1	2.3	0	34.0
0.4 - 0.6		1.9	0	0	0.8	2.7	2.0	0	7.3
0.7 - 1.0		17.0	.4	.4	16.2	8.5	15.4	.8	58.7
% occurrence given type	17.8	22.4	.8	.4	18.9	19.3	19.6	.8	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	4.9	0	0	0	1.6	5.5	2.2	2.7	16.4
0.4 - 0.6		.5	0	0	0	1.1	.5	1.6	3.8
0.7 - 1.0		40.4	1.6	1.6	4.4	3.3	19.0	9.2	79.8
% occurrence given type	4.9	41.0	1.6	1.6	6.0	9.8	21.9	13.7	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	35.3	2.7	.3	.3	4.1	4.4	4.7	.3	52.2
0.4 - 0.6		1.0	.3	0	2.3	1.0	1.7	.3	6.8
0.7 - 1.0		19.3	0	1.3	3.4	3.0	11.6	2.8	41.0
% occurrence given type	35.3	23.0	.7	1.8	9.8	8.5	18.0	3.4	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 5

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	64.3	1.7	0	0	1.2	5.2	.1	0	72.5
0.4 - 0.6		.3	0	0	.5	1.9	.3	0	3.1
0.7 - 1.0		13.0	0	0	3.1	5.9	2.4	0	24.4
% occurrence given type	64.3	15.1	0	0	4.8	13.0	2.8	0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	35.9	2.5	1.4	0	1.3	7.8	.8	0	49.8
0.4 - 0.6		1.8	.1	0	.9	3.2	.2	0	6.2
0.7 - 1.0		17.7	.2	0	6.6	11.6	7.7	.1	43.9
% occurrence given type	35.9	22.0	1.8	0	8.8	22.6	8.8	.1	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	16.2	3.7	3.4	.1	1.7	6.2	2.7	0	34.2
0.4 - 0.6		2.4	1.5	.1	.8	2.3	1.7	0	8.7
0.7 - 1.0		31.2	4.4	1.1	3.9	4.7	11.8	0	57.1
% occurrence given type	16.2	37.2	8.4	1.3	6.3	13.2	16.5	0	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	45.2	3.6	1.5	0	1.9	8.7	1.1	0	62.1
0.4 - 0.6		1.4	0	0	.2	1.9	1.0	.1	4.7
0.7 - 1.0		17.3	.4	.3	3.2	1.6	5.1	.2	33.1
% occurrence given type	45.2	22.2	1.9	.3	5.4	17.3	7.3	.3	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 6

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	53.2	5.9	.5	0	1.6	6.5	.7	0	68.6
0.4 - 0.6		1.1	0	0	.9	1.6	.3	0	3.9
0.7 - 1.0		11.0	0	0	7.0	1.7	4.3	.1	27.5
% occurrence given type	53.2	18.0	.6	0	7.5	15.1	5.4	.1	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	33.5	2.0	.3	0	.7	8.4	.7	.1	45.7
0.4 - 0.6		.4	0	0	.3	4.7	.5	.0	6.0
0.7 - 1.0		19.3	0	.1	7.6	13.5	7.8	.1	48.3
% occurrence given type	33.5	21.7	.3	.1	8.6	26.5	9.0	.2	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	11.1	5.1	3.9	0	1.3	4.7	4.9	0	30.9
0.4 - 0.6		2.0	.1	0	.4	2.0	3.8	0	8.3
0.7 - 1.0		38.7	1.3	1.2	1.8	3.9	13.0	.9	60.9
% occurrence given type	11.1	45.8	5.3	1.2	3.5	10.6	21.6	.9	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	39.1	7.1	5.1	.1	1.8	8.0	1.7	0	62.9
0.4 - 0.6		1.5	.2	.1	.6	2.6	1.5	0	6.7
0.7 - 1.0		13.8	.9	1.2	2.6	5.6	6.5	0	30.4
% occurrence given type	39.1	22.4	6.1	1.4	5.1	16.1	9.8	0	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 7

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	37.8	1.5	2.0	.0	1.4	1.6	.5	0	44.8
0.4 - 0.6		0	.1	0	.1	1.1	.3	0	1.8
0.7 - 1.0		31.0	1.1	0	9.2	9.2	2.7	.1	53.4
% occurrence given type	37.8	32.5	3.3	0	10.7	12.0	3.7	.1	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	17.4	0	.6	0	.6	2.1	0	0	20.6
0.4 - 0.6		.1	.1	0	.4	1.1	.1	0	1.8
0.7 - 1.0		35.5	.4	0	13.4	22.3	5.8	.1	77.5
% occurrence given type	17.4	35.6	1.1	0	14.3	25.5	5.9	.1	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	10.4	1.3	5.4	0	.7	2.3	.5	0	20.6
0.4 - 0.6		.3	.7	0	.1	.5	.8	0	2.4
0.7 - 1.0		29.7	3.6	.1	6.5	14.7	22.0	.4	77.0
% occurrence given type	10.4						23.3	.4	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	34.5	1.5	3.2	0	2.6	3.5	.2	0	45.6
0.4 - 0.6		.3	.9	0	.1	.5	0	0	1.9
0.7 - 1.0		18.2	2.0	0	13.9	9.9	8.2	.3	52.5
% occurrence given type	34.5	20.0	6.2	0	16.6	13.9	8.5	.3	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 8

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	31.9	3.3	0	0	.8	2.6	.5	0	39.2
0.4 - 0.6		1.9	.1	0	.5	1.5	.7	0	4.9
0.7 - 1.0		44.8	0	.1	3.8	3.8	3.5	0	56.0
% occurrence given type	31.9	50.1	.1	.1	5.1	7.9	4.8	0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	17.7	3.0	.5	0	.3	3.2	1.6	0	26.2
0.4 - 0.6		2.4	0	0	.6	1.1	1.2	0	5.3
0.7 - 1.0		52.8	.7	.5	3.9	5.3	5.3	0	68.5
% occurrence given type	17.7	58.2	1.1	.5	4.8	9.6	8.1	0	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	14.5	6.4	2.3	.1	2.7	6.2	2.9	.1	35.1
0.4 - 0.6		2.9	.4	0	.4	1.7	2.9	0	3.4
0.7 - 1.0		32.3	1.5	1.1	6.2	3.4	12.0	0	56.4
% occurrence given type	14.5	41.6	4.2	1.2	9.3	11.2	17.9	.1	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	23.2	4.9	1.1	0	.9	6.2	1.7	0	38.0
0.4 - 0.6		1.4	.1	0	.9	1.4	.5	0	4.3
0.7 - 1.0		40.7	.2	.3	6.5	2.6	7.4	0	57.7
% occurrence given type	23.2	47.0	1.4	.3	8.3	10.2	9.6	0	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 10

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	11.0	8.1	.2	0	2.8	1.4	2.0	0	25.6
0.4 - 0.6		1.6	.2	.2	.2	0	2.0	.6	4.8
0.7 - 1.0		26.8	.6	.4	12.1	1.8	29.1	3.4	69.6
% occurrence given type	11.0	36.6	1.0	.6	15.2	3.3	28.3	4.1	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.7	2.8	.2	0	4.6	6.6	4.8	.6	28.2
0.4 - 0.6		1.0	0	.2	.2	3.0	3.4	.6	8.4
0.7 - 1.0		16.7	.2	.6	6.4	8.5	27.2	3.8	63.4
% occurrence given type	8.7	20.5	.4	.8	11.1	18.1	35.4	5.0	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	31.4	9.4	.6	.6	14.7	1.7	4.4	0	62.7
0.4 - 0.6		1.0	0	0	2.7	.2	4.8	.4	9.0
0.7 - 1.0		4.6	.6	1.3	8.2	0	11.4	2.2	28.2
% occurrence given type	31.4	14.9	1.1	1.9	25.6	1.9	20.6	2.5	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	12.2	12.2	1.2	.2	2.9	2.1	4.1	.4	35.2
0.4 - 0.6		2.1	.2	.2	0	0	2.7	.8	6.0
0.7 - 1.0		23.8	.8	.8	5.6	1.7	21.8	4.6	58.8
% occurrence given type	12.2	38.1	1.9	1.2	8.5	3.9	28.3	5.8	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 11

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	22.7	1.5	0	0	.8	1.7	.8	0	27.6
0.4 - 0.6		.2	0	0	.6	1.3	.2	0	2.3
0.7 - 1.0		52.6	0	.8	6.8	1.7	7.5	.4	70.0
% occurrence given type	22.7	54.4	0	.8	8.3	4.7	8.8	.4	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	12.5	5.1	.2	0	1.6	9.2	2.0	0	30.7
0.4 - 0.6		1.6	.2	0	2.8	1.7	2.0	.2	8.4
0.7 - 1.0		21.7	1.6	1.8	11.2	9.4	13.8	1.0	60.9
% occurrence given type	12.5	28.5	2.0	1.8	14.8	21.3	17.9	1.2	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	16.6	9.2	1.4	.2	6.5	7.6	6.8	1.2	49.5
0.4 - 0.6		3.5	1.2	.2	2.7	.8	6.2	1.0	15.5
0.7 - 1.0		5.9	1.8	1.4	6.9	2.2	14.3	2.8	35.0
% occurrence given type	16.6	18.6	4.3	1.8	16.0	10.6	27.2	4.9	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	28.0	3.9	0	.4	5.3	8.2	3.4	.4	49.5
0.4 - 0.6		1.8	0	.0	2.4	1.8	2.0	.4	8.2
0.7 - 1.0		15.7	.8	1.2	9.0	4.1	9.9	1.6	42.3
% occurrence given type	28.0	21.3	.8	1.6	16.6	14.1	15.3	2.3	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 12

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	20.0	2.2	.2	.4	3.8	3.1	.8	.2	31.0
0.4 - 0.6		.7	0	0	.4	1.6	1.1	0	3.8
0.7 - 1.0		37.9	.9	1.1	4.7	4.0	13.4	2.8	65.1
% occurrence given type	20.0	40.9	1.9	1.5	7.9	8.8	15.5	3.1	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	6.9	1.9	.6	0	3.3	3.8	3.9	.6	21.1
0.4 - 0.6		.6	0	0	1.0	.2	1.6	.6	4.2
0.7 - 1.0		40.2	.2	.6	3.8	4.0	20.9	5.0	74.7
% occurrence given type	6.9	42.7	.8	.6	8.2	7.9	26.5	6.3	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	12.4	9.7	.9	.4	2.5	.9	5.3	.4	32.6
0.4 - 0.6		.4	0	.2	0	0	2.4	.9	4.0
0.7 - 1.0		27.4	.6	4.7	1.6	.2	23.3	5.4	63.3
% occurrence given type	12.4	37.5	1.6	5.4	4.0	1.1	31.2	6.7	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	21.0	4.0	.8	0	3.3	5.6	5.8	.6	41.2
0.4 - 0.6		1.9	.4	.6	.6	1.0	1.6	1.9	8.1
0.7 - 1.0		18.5	1.4	3.3	2.1	1.9	16.4	7.1	50.8
% occurrence given type	21.0	24.3	2.7	4.0	6.0	8.5	23.9	9.6	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 13

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	13.5	1.5	0	0	2.1	1.5	.6	0	19.2
0.4 - 0.6		.6	0	0	2.1	.6	.6	0	4.0
0.7 - 1.0		50.4	3.4	.4	13.0	.6	7.9	.8	76.7
% occurrence given type	13.5	52.6	3.4	.4	17.3	2.8	9.1	.9	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.6	2.6	.8	.2	3.4	4.6	2.2	.4	22.7
0.4 - 0.6		2.4	1.0	.2	1.2	1.8	2.0	.8	9.4
0.7 - 1.0		16.1	9.0	2.4	12.6	3.2	23.8	3.0	68.0
% occurrence given type	8.6	21.1	10.8	2.8	17.1	9.6	27.9	4.2	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	16.2	5.3	2.1	0	7.5	3.0	6.0	1.5	41.7
0.4 - 0.6		2.5	1.1	.2	2.1	.6	7.1	4.0	17.6
0.7 - 1.0		2.5	2.8	2.3	5.5	1.2	16.7	10.0	40.7
% occurrence given type	16.2	10.2	6.0	2.5	15.1	4.7	29.8	15.5	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	19.9	2.4	.2	0	2.5	6.7	1.8	.2	38.6
0.4 - 0.6		.6	.2	0	.8	1.0	3.8	.4	6.7
0.7 - 1.0		22.3	2.4	.6	9.1	2.4	16.0	2.2	54.7
% occurrence given type	19.9	25.2	2.8	.6	17.3	10.0	21.4	2.8	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 14

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	9.6	4.4	0	.2	2.4	2.2	2.8	.2	21.7
0.4 - 0.6		2.0	0	.2	.6	.8	1.2	.6	5.4
0.7 - 1.0		43.4	1.0	1.8	6.6	1.4	16.6	2.2	73.0
% occurrence given type	9.6	49.8	1.0	2.2	9.6	4.4	20.5	3.0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	12.5	5.1	0	0	2.7	6.7	9.1	1.0	35.0
0.4 - 0.6		.8	0	0	1.0	2.3	2.6	.8	7.3
0.7 - 1.0		15.5	.2	.8	10.8	5.1	22.3	3.2	57.8
% occurrence given type	12.5	26.3	.2	.8	14.5	14.1	31.9	4.9	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	30.4	11.8	3.8	.2	6.1	5.9	11.2	1.9	71.3
0.4 - 0.6		1.5	1.4	.4	.4	.6	4.8	1.6	9.5
0.7 - 1.0		3.6	.8	1.1	2.1	1.0	8.1	2.7	19.2
% occurrence given type	30.4	16.9	4.9	1.9	8.6	7.4	23.9	6.1	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	24.3	6.9	.2	.2	2.9	5.9	4.6	.4	45.3
0.4 - 0.6		2.0	.2	.0	1.6	.6	2.6	1.4	7.2
0.7 - 1.0		17.9	.4	1.6	3.9	3.3	17.0	3.4	47.4
% occurrence given type	24.3	26.7	[illegible]	1.8	7.5	9.8	24.0	5.1	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 15

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	9.3	2.2	.7	0	.9	3.3	.8	.2	17.5
0.4 - 0.6		1.5	.0	.2	0	.4	1.4	0	3.7
0.7 - 1.0		64.2	.2	1.5	2.2	.7	10.0	.2	78.7
% occurrence given type	9.3	67.9	.9	1.8	3.1	4.4	12.1	.4	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	7.2	4.3	.2	.2	1.5	7.0	6.6	1.1	28.1
0.4 - 0.6		1.3	.2	.0	.4	1.7	4.3	1.3	9.1
0.7 - 1.0		19.2	.6	1.7	5.7	5.1	24.7	5.5	62.7
% occurrence given type	7.2	24.7	1.1	1.9	7.7	13.9	35.5	7.9	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.4	9.0	.4	.4	5.6	6.7	12.6	2.5	55.7
0.4 - 0.6		2.7	1.5	.4	.4	.2	6.0	4.9	16.4
0.7 - 1.0		2.0	.9	1.3	.7	.8	12.7	9.2	27.9
% occurrence given type	8.4	13.7	2.9	2.2	6.7	7.9	31.5	16.6	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	15.7	4.7	.4	0	3.6	3.0	4.3	1.3	32.8
0.4 - 0.6		3.8	.6	.2	.8	.8	4.5	1.5	12.5
0.7 - 1.0		27.3	0	.6	1.9	2.7	17.3	4.6	54.7
% occurrence given type	15.7	35.8	1.1	.8	6.4	6.6	26.2	7.4	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 16

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	24.3	.0	.9	.0	3.5	.0	.0	.0	28.7
0.4 - 0.6		2.6	0	.0	4.3	.0		.0	6.9
0.7 - 1.0		41.7	7.0	.0	13.9	.0	1.8	.0	64.4
% occurrence given type	24.3	44.3	7.8	.0	21.7	.0	1.7	.0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	21.9	5.1	.9	.0	12.7	2.8	.5	.5	35.8
0.4 - 0.6		3.3	.0	.5	2.3	.5	3.8	.0	10.2
0.7 - 1.0		22.9	3.3	11.4	12.6	.0	14.0	0	54.0
% occurrence given type	21.9	31.2	4.2	1.9	19.5	3.3	18.2	0	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	36.6	8.9	5.2	.0	13.1	1.0	5.7	.0	70.7
0.4 - 0.6		1.0	1.0	0	4.2	.5	2.1	.0	8.9
0.7 - 1.0		7.3	.5	1.0	2.6	.0	9.3	.5	20.4
% occurrence given type	36.6	17.3	6.8	1.0	19.9	1.6	16.2	.5	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	19.2	4.0	2.6	.0	6.0	0	2.0	.0	33.8
0.4 - 0.6		4.7	.0	.0	4.6	0	3.3	.0	12.5
0.7 - 1.0		29.9	1.3	1.3	7.3	0	11.9	.0	43.6
% occurrence given type	19.2	38.4	4.0	3.3	17.9	0	17.2	.0	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 17

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	7.9	2.2	0.0	0.0	3.7	0.6	1.5	0.1	16.0
0.4 - 0.6		1.1	0.0	0.0	0.8	0.2	2.6	0.6	5.3
0.7 - 1.0		53.9	0.0	0.0	4.0	0.2	17.9	1.7	78.6
% occurrence given type	7.9	57.3	0.0	0.6	8.5	1.4	22.1	2.4	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	2.9	2.9	0.3	0.0	3.0	3.0	4.3	1.2	17.8
0.4 - 0.6		1.9	0.5	0.1	1.0	0.6	8.8	3.3	16.1
0.7 - 1.0		18.7	0.7	3.6	2.6	0.4	30.8	9.2	66.0
% occurrence given type	2.9	23.6	1.5	3.7	6.7	4.1	43.9	13.8	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	1.8	3.4	0.8	0.2	1.9	0.8	7.4	3.1	19.4
0.4 - 0.6		1.0	1.5	0.3	0.2	0.6	9.3	5.2	18.1
0.7 - 1.0		6.8	0.7	3.1	1.4	0.3	34.7	15.4	62.6
% occurrence given type	1.8	11.2	2.9	3.7	3.6	1.7	51.3	23.8	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	4.2	2.7	0.2	0.3	3.3	1.5	3.9	0.1	16.2
0.4 - 0.6		1.3	0.2	1.3	1.1	0.4	5.8	2.3	12.5
0.7 - 1.0		26.7	0.1	4.8	2.3	0.4	30.3	6.5	71.3
% occurrence given type	4.2	30.7	0.6	6.5	6.7	2.4	40.0	9.8	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 18

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	10.1	1.9	0.0	0.0	1.9	1.1	1.3	0.0	16.4
0.4 - 0.6		0.4	0.0	0.0	0.3	0.7	0.8	0.0	2.2
0.7 - 1.0		66.6	0.1	0.1	4.7	0.4	7.8	1.6	81.4
% occurrence given type	10.1	68.9	0.1	0.1	6.8	2.2	10.0	1.6	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.2	5.7	1.4	0.0	3.0	2.3	3.9	0.3	24.9
0.4 - 0.6		2.1	1.0	0.1	1.3	1.4	4.0	1.3	11.2
0.7 - 1.0		29.1	3.3	2.4	6.4	2.3	17.9	2.6	64.0
% occurrence given type	8.2	36.9	5.7	2.5	10.7	6.0	25.8	4.2	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	4.5	3.1	1.4	0.1	2.0	3.1	6.6	1.0	21.9
0.4 - 0.6		1.0	1.4	0.5	1.1	0.8	5.9	3.7	14.6
0.7 - 1.0		16.2	1.4	5.8	3.1	0.7	27.3	8.9	63.6
% occurrence given type	4.5	20.3	4.3	6.5	6.3	4.7	39.8	13.6	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	9.4	1.6	0.7	0.0	3.0	1.0	2.0	0.1	18.0
0.4 - 0.6		1.5	1.0	0.6	1.3	0.1	3.6	0.7	9.1
0.7 - 1.0		41.3	1.3	5.5	4.3	1.2	17.7	1.3	72.9
% occurrence given type	9.4	44.4	3.1	6.1	8.6	2.4	23.6	2.2	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 19

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	5.5	1.5	0.0	0.0	1.5	0.6	0.5	0.0	9.7
0.4 - 0.6		0.6	0.0	0.0	0.4	0.4	1.0	0.1	2.7
0.7 - 1.0		65.4	0.1	0.0	4.6	1.0	15.4	0.9	87.7
% occurrence given type	5.5	67.6	0.1	0.0	6.6	2.0	17.1	1.1	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	6.5	3.5	0.6	0.0	2.9	4.6	4.8	0.6	23.3
0.4 - 0.6		1.9	0.0	0.0	0.7	1.5	3.1	1.1	8.3
0.7 - 1.0		29.6	0.3	1.5	5.8	5.0	23.4	2.8	68.4
% occurrence given type	6.5	35.0	0.8	1.5	9.4	11.1	31.1	4.4	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	6.3	3.9	3.1	0.0	0.7	4.0	8.5	2.4	28.8
0.4 - 0.6		1.2	1.2	0.0	0.5	1.0	7.3	2.5	13.8
0.7 - 1.0		10.2	1.4	3.9	3.6	2.3	27.6	1.3	57.3
% occurrence given type	6.3	15.4	5.7	4.0	4.9	7.3	42.3	14.3	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	12.0	3.0	0.3	0.0	1.5	0.6	2.4	0.4	20.2
0.4 - 0.6		1.6	0.0	0.0	0.1	0.4	1.6	0.7	4.6
0.7 - 1.0		46.2	0.1	1.1	2.4	0.9	11.2	2.9	75.2
% occurrence given type	12.0	50.8	0.4	1.2	4.1	1.9	25.4	4.4	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 20

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	13.4	0	0	0	.6	1.6	0	0	15.5
0.4 - 0.6		.6	0	0	.2	.4	1.0	.2	1.3
0.7 - 1.0		45.7	0	.4	14.9	1.9	17.7	1.6	82.2
% occurrence given type	13.4	46.2	0	.4	15.7	3.9	18.7	1.7	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	12.7	3.7	.4	0	2.3	5.1	2.6	.2	26.9
0.4 - 0.6		1.2	.2	0	.6	2.9	1.8	.6	7.3
0.7 - 1.0		20.5	.8	1.0	10.7	4.3	24.5	3.9	65.8
% occurrence given type	12.7	25.3	1.4	1.0	13.6	12.3	29.0	4.7	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	7.6	1.9	1.5	0	2.8	3.9	6.9	1.1	25.6
0.4 - 0.6		.6	1.1	.4	1.1	2.4	4.4	3.9	13.7
0.7 - 1.0		9.9	1.1	5.8	5.4	1.9	29.1	7.8	60.8
% occurrence given type	7.6	12.2	3.7	6.1	9.3	8.2	40.1	12.8	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	7.2	4.5	.2	0	1.3	.8	2.6	.6	17.2
0.4 - 0.6		1.9	0	.2	.8	.4	1.0	.2	4.4
0.7 - 1.0		43.3	.8	3.8	9.0	1.7	18.5	1.2	78.3
% occurrence given type	7.2	49.6	.9	3.2	11.2	2.8	23.1	1.9	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 21

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	9.3	3.0	0.0	0.0	1.4	1.8	0.2	0.0	15.7
0.4 - 0.6		0.6	0.0	0.0	0.8	0.4	1.2	0.4	3.4
0.7 - 1.0		53.6	0.2	0.2	19.1	1.0	6.0	0.6	80.9
% occurrence given type	9.3	57.3	0.2	0.2	21.4	3.2	7.4	1.0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.7	3.1	0.0	0.0	6.8	2.9	3.9	0.4	25.8
0.4 - 0.6		0.6	0.0	0.0	1.4	1.2	3.1	0.8	7.0
0.7 - 1.0		29.3	0.6	0.0	14.2	4.3	17.2	1.8	67.2
% occurrence given type	8.7	33.0	0.6	0.0	22.3	8.3	24.1	2.9	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.0	6.3	0.8	0.0	2.8	6.6	8.4	1.9	34.7
0.4 - 0.6		1.5	0.6	0.2	0.8	1.7	3.5	1.3	9.5
0.7 - 1.0		24.1	0.6	0.9	6.6	0.8	15.3	7.4	55.9
% occurrence given type	8.0	31.8	1.9	1.1	10.2	9.1	27.2	10.6	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	3.2	1.7	0.2	0.0	0.8	1.3	1.0	0.4	8.6
0.4 - 0.6		1.7	0.2	0.0	0.2	0.0	1.8	0.6	4.4
0.7 - 1.0		55.6	0.0	1.5	10.3	0.4	16.5	3.1	87.1
% occurrence given type	3.2	58.9	0.4	1.5	11.2	1.7	19.0	4.0	100.0

CLOUD TYPE STRUCTURE
PERCENTAGE OCCURRENCE OF CLOUD TYPES FOR GIVEN N
STATION 23

JANUARY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	14.4	.7	7.3	0	2.2	1.7	1.0	0	27.2
0.4 - 0.6		.5	2.3	0	1.2	.5	2.0	0	6.6
0.7 - 1.0		36.8	20.8	.3	2.0	.1	6.2	0	66.2
% occurrence given type	14.4	38.0	30.3	.3	5.3	2.4	9.2	0	100.0

APRIL

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	8.1	.9	5.4	0	1.6	1.3	.9	0	18.1
0.4 - 0.6		.4	2.8	0	1.1	.3	2.5	0	7.2
0.7 - 1.0		44.2	25.7	0	.4	.1	4.2	0	74.7
% occurrence given type	8.1	45.5	33.9	0	3.1	1.8	7.6	0	100.0

JULY

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	4.4	0	11.4	0	0	1.7	2.8	0	20.3
0.4 - 0.6		.1	7.3	0	.2	1.2	7.5	0	16.2
0.7 - 1.0		22.0	27.3	0	.3	.4	13.3	.1	63.4
% occurrence given type	4.4	22.1	45.9	0	.5	3.4	23.6	.1	100.0

OCTOBER

N	For one type only						For two types	For three types	% occurrence given N
	No Clds	C_{L_1}	C_{L_2}	C_{L_8}	C_M	C_H			
0 - 0.3	23.4	0	22.8	0	.9	2.7	2.1	0	51.8
0.4 - 0.6		0	6.1	0	1.1	.4	2.0	0	9.6
0.7 - 1.0		14.1	17.7	0	1.1	.6	5.0	0	38.6
% occurrence given type	23.4	14.1	17.7	0	3.0	3.8	9.1	0	100.0

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