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A NEW MODEL FOR SKY COVER

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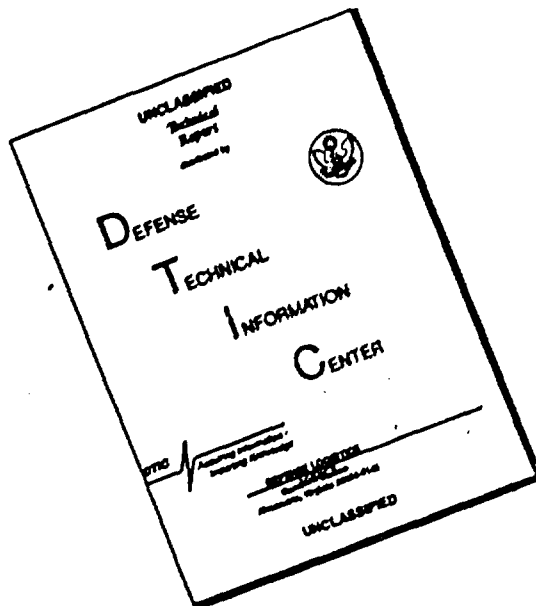
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## 1. INTRODUCTION

Sky cover records are available for many stations by month and time of day. To obtain the climatic probability of a sky cover condition at a specific location and for a given day and hour of the day, it is possible to retrieve these records and to obtain an empirical estimate. This can be a slow, cumbersome and costly process. In Scientific Report Number 2, two different models were developed so as to effectively compact the data and make possible rapid recall and reuse. The models were adapted for seven weather stations.

In this report we make use of a third model with two parameters and adapt it to 23 stations. The data used to develop the models was extracted from the "Revised Uniform Summary of Surface Weather Observations" (RUSSWO's) prepared by the Data Processing Division of the Air Weather Service, or the "Summary of Meteorological Observations, Surface" (SMOS) prepared by the Naval Weather Service Detachment. For each station 96 pairs of parameter values were found, one for each three-hour period of the day for each of the twelve months.

## 2. Modeling Skycover

A very elementary method of developing a model for data is the following. First make a histogram of the data, and then "smooth" the histogram to get a frequency distribution (probability density function). The probability of a value of the variable less than some fixed amount is then estimated by the proportion of the area under the frequency distribution to the left of that amount.

There are usually a number of curves or distributions which can be used to "fit" the data. In Scientific Report No. 2 both the Beta distribution and the Johnson  $S_\beta$  distribution were fit for sky cover data from Patrick Air Force Base. For the other six stations, only the Johnson distribution was fit. This was in spite of the fact that for Patrick Air Force Base, the Beta distribution gave a slightly better fit (in terms of the RMS of the differences between the model and the data). Obtaining probabilities using the Beta distribution is not easy. The cumulative probability density function (area under the probability density function to the left of a specified value) is not a closed form function. Thus, to obtain probabilities, tables or numerical integration or other approximate methods are required.

In this report we use what we call the  $S$ -distribution. As the authors intend to demonstrate in a later publication, almost any Beta distribution can be approximated very well with an  $S$ -distribution. Further, the  $S$  distribution has a closed-form cumulative distribution function. That is, probabilities can be obtained by direct substitution and no numerical integration or other approximations are required. The cumulative distribution function is given by

$$F(x) = 1 - (1-x^\alpha)^\beta \quad \alpha, \beta > 0, 0 \leq x \leq 1.$$

The probability density function is given by

$$f(x) = \alpha \beta x^{\alpha-1} (1-x^\alpha)^{\beta-1}$$

There are 11 categories of observed sky cover designated 0., .1, .2, ..., 1.0 in the RUSSO's. The interior boundaries between the eleven categories of skycover were taken to be .05, .15, ..., .95.

## 3. Estimation of the Parameter Values

A standard method of estimation of the parameters of a probability density function is the method of maximum likelihood. The maximum likelihood equations for the  $S$  distribution are

$$\frac{n}{\alpha} + \left[ \frac{n}{\sum \ln(1-x_i^\alpha)} + 1 \right] \sum \frac{x_i^\alpha}{1-x_i^\alpha} \ln x_i + \sum \ln x_i = 0$$

$$\beta = -n / \sum \ln(1-x_i^\alpha).$$

The first equation is solved iteratively for  $\alpha$ , after which  $\beta$  can be obtained directly.

Instead of using the method of maximum likelihood to estimate  $\alpha$  and  $\beta$ , the following method was used\*. The values of the empirical cumulative distribution function were regressed on the  $S$  cumulative distribution function. Thus the resulting values of  $\alpha$  and  $\beta$  were those which minimized the sum of the squares of the differences between the model or theoretical cumulative distribution ( $S$ ) and the empirical cumulative distribution. This is the same as choosing those values of  $\alpha$  and  $\beta$  which minimize the sum of the squares of the differences between the empirical probabilities and the model theoretical probabilities. Since our object is not to estimate  $\alpha$  and  $\beta$  for their own sake, but only as a means of obtaining probabilities, the method has considerable intuitive appeal. It does indeed have a number of desirable properties which the authors intend to develop in a separate publication at a later date.

#### 4. Goodness of Fit of the Models

The goodness of fit of an individual model (specified station), month and hour period was measured in two ways. The root mean square (RMS) of the difference between the empirical and the model cumulative distribution functions at proportions of sky cover of .05, .15, .25, .35, .45, .55, .65, .75, .85, and .95 was calculated. Tables (4.1), (4.2), (4.3) show the root mean squares values for Saigon, Christchurch, Tripoli respectively. The fits for Saigon are average while the fits for Tripoli and Christchurch represent the "best" and "worst" fits, respectively.

Also, for each station, over all months and times of day, the proportion of time that the empirical and model cumulative distribution functions differed by at least .01 was calculated. The results are shown in Table 4.4. It is worth noting that the model values in an overwhelming proportion of cases are larger than the "observed" values for the probability of sky cover of .1 or .9. This is undoubtedly due to an observer's preference for stating "clear skies" rather than 0.1, and "overcast" rather than .9. We believe the model frequencies may thus, on the average, be better values than the "observed" values. This phenomenon would inflate the values of Table 4.4.

The "under-observing" of probabilities of sky cover of .1 and .9 has been noted by Brooks and Carruthers (1953) "Handbook of Statistical Methods in Meteorology", Her Majesty's Stationary Office, London; and mentioned by Essenwanger (1976) in "Applied Statistics in Atmospheric Science, Part A. Frequencies and Curve Fitting", Elsevier Scientific Publishing Company, Amsterdam.

\* A more detailed explanation of the method is planned for Scientific Report Number 8 "Use of Non-linear Regression to Estimate a Cumulative Distribution Function".

Hour of Day

	<u>01</u>	<u>04</u>	<u>07</u>	<u>10</u>	<u>13</u>	<u>16</u>	<u>19</u>	<u>22</u>
January	.042	.043	.047	.037	.033	.035	.040	.041
February	.048	.059	.058	.036	.037	.045	.047	.050
March	.060	.062	.045	.030	.034	.048	.057	.056
April	.052	.056	.040	.034	.040	.051	.051	.051
May	.036	.045	.043	.038	.036	.043	.042	.025
June	.030	.037	.043	.036	.030	.029	.025	.026
July	.033	.039	.047	.041	.034	.044	.040	.025
August	.028	.038	.044	.044	.029	.028	.034	.030
September	.037	.040	.055	.048	.034	.036	.039	.032
October	.037	.038	.050	.045	.044	.047	.042	.042
November	.047	.047	.050	.043	.045	.049	.045	.042
December	.046	.053	.045	.037	.040	.041	.041	.044

TABLE 4.1

RMS of Individual Fits for Saigon (Sky Cover)

Hour of Day

	<u>01</u>	<u>04</u>	<u>07</u>	<u>10</u>	<u>13</u>	<u>16</u>	<u>19</u>	<u>22</u>
January	.040	.044	.061	.058	.059	.055	.062	.049
February	.029	.031	.059	.052	.059	.056	.061	.040
March	.026	.025	.061	.064	.061	.064	.060	.036
April	.029	.033	.050	.066	.054	.053	.043	.030
May	.027	.035	.050	.065	.054	.061	.040	.028
June	.026	.024	.035	.067	.062	.061	.040	.032
July	.034	.033	.043	.071	.053	.058	.042	.031
August	.033	.027	.041	.053	.055	.055	.046	.038
September	.035	.030	.055	.068	.055	.056	.052	.036
October	.030	.028	.054	.058	.058	.061	.068	.035
November	.032	.038	.057	.051	.053	.055	.065	.050
December	.032	.039	.066	.061	.050	.058	.071	.059

TABLE 4.2

RMS of Individual Fits for Christchurch (Sky Cover)

Hour of Day

	<u>01</u>	<u>04</u>	<u>07</u>	<u>10</u>	<u>13</u>	<u>16</u>	<u>19</u>	<u>22</u>
January	.014	.019	.104	.015	.009	.013	.016	.020
February	.018	.013	.010	.011	.011	.010	.012	.019
March	.017	.016	.007	.014	.009	.007	.013	.016
April	.015	.015	.016	.010	.010	.008	.013	.017
May	.016	.011	.010	.013	.012	.009	.011	.015
June	.010	.010	.010	.010	.007	.008	.008	.009
July	.008	.011	.017	.014	.007	.005	.007	.007
August	.007	.008	.012	.016	.008	.006	.003	.007
September	.010	.014	.017	.016	.007	.007	.009	.008
October	.015	.012	.015	.016	.011	.013	.013	.015
November	.012	.018	.013	.014	.016	.013	.017	.014
December	.017	.017	.018	.014	.019	.020	.017	.018

TABLE 4.3

RMS of Individual Fits for Tripoli (Sky Cover)

Ascension Island	.63
Balboa	.45
Bangor	.51
Bedford	.51
Bermuda	.65
Christchurch	.63
Furumaki	.49
Goose	.46
Hill A.F.B.	.37
Lajes Field	.47
Manila	.61
McMurdo	.51
Midway	.59
Mildenhall	.40
Nenana	.44
Okinawa	.54
Patrick A.F.B.	.57
Saigon	.63
Shemya	.37
Thule	.48
Torrejon	.39
Tripoli	.38
Wake Island	.80

TABLE 4.4

Proportion of Time that Empirical and Model  
Cumulative Distribution Functions Differ by at Least .01

Table 4.5 gives the observed and model values for the cumulative distribution function for Patrick Air Force Base for June, 1000 hours.

<u>Sky Cover Proportion</u>	<u>Observed Cumulative Frequency</u>	<u>Model Cumulative Frequency</u>	<u>Difference</u>
.05	.056	.055	.001
.15	.092	.138	-.046
.25	.181	.214	-.033
.35	.275	.288	-.013
.45	.386	.364	.022
.55	.483	.442	.041
.65	.558	.524	.034
.75	.639	.615	.024
.85	.714	.719	-.005
.95	.772	.857	-.085

TABLE 4.5

Observed and model values for the probability (cumulative frequency) that sky cover is less than the stated amount.

Patrick Air Force Base, June 1000 hours.

### 5. Use of the Models

Suppose one wishes to estimate the probability that the sky cover is less than .1, .5, .8 and .9 at Mildenhall in August at 1600 hours. Using the appropriate table in Section 6, we find that  $\alpha = 1.53069$ ,  $\beta = .38301$ . Substituting these values in the model

$$P[X \leq x] = 1 - (1-x^\alpha)^\beta$$

we estimate the required probabilities at .011, .150, .378 and .518 respectively.

It should be noted that our modeling procedure can be used to estimate  $P[X \leq x]$  for any value of  $x$  (sky cover), and not just the endpoints of the interval listed in the RUSSWO's.

6. Tables of Coefficients of the Individual Models

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

ASCENSION IS

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.644429	0.903354	1.19425	1.18696	1.32676	1.33888	1.03474	0.642569
BETA	0.774007	0.63569	0.644414	0.744712	0.97862	1.0996	0.912831	0.909909
FEB								
ALPHA	1.0976	1.23309	1.37886	1.53944	1.50704	1.44881	1.13977	1.04774
BETA	1.42677	1.34476	1.23854	1.40633	1.72745	1.74662	1.29883	1.54703
MAR								
ALPHA	1.0401	1.24686	1.38834	1.4882	1.52096	1.50097	1.13821	1.02114
BETA	1.37444	1.3614	1.04535	1.26503	1.52054	1.52479	1.29343	1.52868
APR								
ALPHA	1.19095	1.39733	1.79223	1.62882	1.62692	1.52266	1.32884	1.00985
BETA	1.08399	1.15489	1.00792	1.00386	0.981625	0.919292	0.999211	1.08717
MAY								
ALPHA	1.24188	1.35294	1.41833	1.43786	1.58386	1.48982	1.33807	1.22332
BETA	1.26821	1.34389	1.00889	1.07245	1.29438	1.21461	1.28473	1.40737
JUNE								
ALPHA	1.21311	1.25322	1.48614	1.36314	1.42888	1.40186	1.2846	1.17472
BETA	1.26878	1.04469	1.00043	1.07113	1.22489	1.18288	1.1886	1.38982
JULY								
ALPHA	1.39687	1.24838	1.32481	1.28938	1.26175	1.24176	1.07832	1.10139
BETA	1.33429	1.00812	0.804857	0.92682	1.11146	1.13383	1.12648	1.27136
AUG								
ALPHA	1.03998	1.11381	1.48823	1.37886	1.33674	1.38868	1.1849	0.989187
BETA	0.602613	0.829393	0.829988	0.62128	0.77318	0.778882	0.742387	0.681484
SEPT								
ALPHA	1.17794	1.52768	1.54812	1.88825	1.89887	1.24976	1.04492	0.988798
BETA	0.398389	0.348668	0.300093	0.408674	0.537918	0.542167	0.671849	0.428881
OCT								
ALPHA	0.978342	1.38846	1.77118	1.91774	2.009	1.64886	1.12689	0.98482
BETA	0.274886	0.281672	0.319268	0.481118	0.636828	0.688973	0.414887	0.336681
NOV								
ALPHA	1.06329	1.31788	1.67427	1.66688	1.89399	1.84892	1.18818	0.984884
BETA	0.339222	0.311488	0.338784	0.461888	0.63473	0.589881	0.448146	0.284381
DEC								
ALPHA	0.836632	0.908231	1.21388	1.48882	1.47226	1.28882	1.03948	0.788189
BETA	0.479817	0.482917	0.421864	0.897829	0.788438	0.772627	0.646689	0.57884

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

	BALBOA							
	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.156306	0.1793	0.435793	0.771715	1.35456	1.0054	0.379636	0.223279
BETA	0.689387	0.689394	0.743835	0.811699	1.02566	0.782563	0.609401	0.725474
FEB								
ALPHA	0.151707	0.189764	0.571823	0.998609	1.6827	1.21521	0.553825	0.277726
BETA	0.788438	0.789899	0.849958	1.02175	1.14592	0.883923	0.862126	0.983613
MAR								
ALPHA	0.149971	0.284263	0.554006	0.996855	1.60421	1.04709	0.431238	0.207439
BETA	0.648913	0.767417	0.688548	0.761411	0.815891	0.636796	0.676228	0.782883
APR								
ALPHA	0.232364	0.387246	0.847714	1.48251	2.26422	1.82552	0.707021	0.30815
BETA	0.579909	0.687141	0.531364	0.562037	0.586711	0.478443	0.503122	0.584678
MAY								
ALPHA	0.510929	0.453626	1.73973	2.60067	3.20612	3.57425	1.37537	0.58853
BETA	0.38455	0.414884	0.353041	0.384895	0.339939	0.268614	0.228914	0.309678
JUNE								
ALPHA	0.804804	0.98084	2.49763	2.69507	3.22077	3.80965	2.62012	0.939298
BETA	0.410437	0.416469	0.366718	0.25219	0.26423	0.214372	0.209473	0.297863
JULY								
ALPHA	0.897066	1.01386	1.87475	2.49351	3.43576	3.97942	1.88725	0.871749
BETA	0.393838	0.394185	0.242282	0.228178	0.223919	0.188614	0.159789	0.278397
AUG								
ALPHA	0.88605	0.840104	1.98798	2.57376	3.60986	4.03628	1.80385	1.11814
BETA	0.438389	0.372215	0.264082	0.238857	0.239853	0.186224	0.189828	0.329292
SEPT								
ALPHA	0.956637	1.10389	2.29519	2.78199	2.80547	4.49533	2.28129	1.38823
BETA	0.338719	0.443847	0.287395	0.281603	0.223888	0.198493	0.178272	0.306876
OCT								
ALPHA	1.02883	1.08323	1.84609	2.91944	3.13676	3.89835	1.8478	1.22441
BETA	0.408823	0.468637	0.298382	0.318778	0.287875	0.226699	0.171438	0.38898
NOV								
ALPHA	0.962389	1.03051	1.50712	2.88874	2.65626	2.82828	1.28878	0.788816
BETA	0.523862	0.587171	0.378881	0.367773	0.308164	0.241989	0.209818	0.326372
DEC								
ALPHA	0.388786	0.294198	0.628971	0.943846	1.74747	1.29868	0.511636	0.318471
BETA	0.542682	0.527419	0.483873	0.491828	0.529888	0.289841	0.343283	0.447896

PARAMETERS FOR S-DISTRIBUTION - BAY LOVER

	BANGOR								
	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	
JAN									
ALPHA	0.0130479	0.0134434	0.0844796	0.119364	0.137189	0.116424	0.0392923	0.0228279	
BETA	0.116498	0.114763	0.150392	0.157722	0.157003	0.158814	0.142633	0.130421	
FEB									
ALPHA	0.00945393	0.00895714	0.0552243	0.0885607	0.124961	0.142913	0.0493924	0.020439	
BETA	0.120434	0.109479	0.143972	0.155462	0.163496	0.17388	0.180731	0.151553	
MAR									
ALPHA	0.0142488	0.0305842	0.128801	0.194599	0.169444	0.125134	0.0478992	0.0250079	
BETA	0.125132	0.140282	0.164812	0.187421	0.172247	0.165976	0.169207	0.142489	
APR									
ALPHA	0.0216773	0.0592444	0.127096	0.271917	0.398449	0.303324	0.172542	0.0457832	
BETA	0.116344	0.132801	0.139055	0.171909	0.189484	0.185404	0.179579	0.144284	
MAY									
ALPHA	0.0418102	0.148121	0.195098	0.38228	0.544418	0.545185	0.344839	0.0442677	
BETA	0.15748	0.192492	0.173487	0.210277	0.239133	0.236548	0.237964	0.174348	
JUNE									
ALPHA	0.072486	0.250745	0.258718	0.529811	0.889337	0.751029	0.524548	0.186734	
BETA	0.192232	0.21448	0.196018	0.241934	0.315877	0.31889	0.283415	0.254097	
JULY									
ALPHA	0.0458039	0.245381	0.244237	0.550027	1.01434	0.859919	0.539532	0.184888	
BETA	0.19422	0.239738	0.221415	0.318485	0.4524	0.420471	0.347384	0.284288	
AUG									
ALPHA	0.0189305	0.0849175	0.179703	0.447739	0.825885	0.65119	0.347889	0.0832891	
BETA	0.153427	0.19105	0.204204	0.327518	0.413354	0.40045	0.348489	0.239494	
SEPT									
ALPHA	0.0189802	0.0587943	0.153482	0.354381	0.457383	0.37851	0.182019	0.0317817	
BETA	0.172771	0.201688	0.211489	0.295354	0.320604	0.324734	0.293334	0.281774	
OCT									
ALPHA	0.0174219	0.0339452	0.143313	0.212897	0.28992	0.228382	0.0849494	0.0162797	
BETA	0.148833	0.163439	0.18941	0.216944	0.281259	0.224727	0.218788	0.143841	
NOV									
ALPHA	0.0344944	0.0324043	0.152424	0.233219	0.243382	0.229982	0.0618889	0.0233889	
BETA	0.11435	0.115382	0.14448	0.148718	0.162643	0.172274	0.148731	0.119174	
DEC									
ALPHA	0.00892604	0.0188771	0.124482	0.181807	0.228915	0.148329	0.0442472	0.0168313	
BETA	0.109182	0.120193	0.178312	0.179597	0.193818	0.188431	0.168488	0.128813	

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

BEDFORD

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.00457925	0.0116937	0.0444323	0.0942554	0.146774	0.132328	0.0374595	0.0174149
BETA	0.100959	0.115449	0.142775	0.151006	0.172134	0.180113	0.150375	0.13415
FEB								
ALPHA	0.00290841	0.00409501	0.0044175	0.108272	0.146006	0.161152	0.061534	0.0184049
BETA	0.103278	0.10259	0.169437	0.167684	0.181925	0.205235	0.194131	0.148748
MAR								
ALPHA	0.0118544	0.0208157	0.0890982	0.127544	0.176109	0.196146	0.108516	0.033518
BETA	0.124782	0.141744	0.170039	0.181978	0.185614	0.197278	0.192023	0.151245
APR								
ALPHA	0.0214537	0.0517158	0.1092	0.238121	0.304364	0.338035	0.180903	0.0439927
BETA	0.129492	0.147263	0.158451	0.191709	0.202803	0.217816	0.207375	0.152516
MAY								
ALPHA	0.0470038	0.118155	0.184221	0.28534	0.490407	0.495382	0.27949	0.0945842
BETA	0.165398	0.178198	0.186749	0.219307	0.26094	0.272585	0.232922	0.196765
JUNE								
ALPHA	0.0544199	0.195419	0.148735	0.355302	0.756042	0.669861	0.427007	0.153014
BETA	0.200047	0.249678	0.210949	0.27709	0.358548	0.354563	0.314425	0.267013
JULY								
ALPHA	0.0791841	0.169124	0.228391	0.454027	0.953848	0.784216	0.48832	0.197081
BETA	0.249008	0.252538	0.243226	0.327696	0.477082	0.436973	0.376765	0.336069
AUG								
ALPHA	0.0442343	0.0991997	0.179175	0.352944	0.824581	0.599048	0.34463	0.093474
BETA	0.213803	0.229492	0.232838	0.318605	0.433173	0.425642	0.38363	0.264821
SEPT								
ALPHA	0.0153879	0.0317835	0.0851104	0.182475	0.338837	0.281091	0.131513	0.0268497
BETA	0.169298	0.186771	0.196848	0.257209	0.330553	0.331504	0.271216	0.207242
OCT								
ALPHA	0.0123881	0.0201514	0.117655	0.199405	0.195206	0.155382	0.0789177	0.028717
BETA	0.175058	0.189629	0.223319	0.247573	0.272134	0.272338	0.238448	0.195197
NOV								
ALPHA	0.00964237	0.0197534	0.137724	0.208891	0.258456	0.195726	0.0420891	0.0231888
BETA	0.122425	0.149581	0.200663	0.199349	0.215889	0.20764	0.174934	0.149284
DEC								
ALPHA	0.00871723	0.00993383	0.0784824	0.119891	0.214183	0.121481	0.0222694	0.0142737
BETA	0.125932	0.12628	0.173889	0.177967	0.217873	0.203079	0.148988	0.141421

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

BERMUDA

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.83297	0.794413	1.0585	1.10617	1.06296	1.01437	0.944685	0.857842
BETA	0.549011	0.484601	0.485964	0.455111	0.433459	0.438018	0.464161	0.541439
FEB	.	.	.	.	.	.	.	.
ALPHA	0.686316	0.712838	1.08072	1.10117	1.04985	1.10862	1.07132	0.888806
BETA	0.385051	0.35339	0.403141	0.396255	0.429346	0.407867	0.433171	0.423357
MAR	.	.	.	.	.	.	.	.
ALPHA	0.782166	0.780112	1.125	1.03534	1.04845	0.938365	1.02115	0.84109
BETA	0.417984	0.381426	0.432499	0.442901	0.464511	0.399157	0.438533	0.461011
APR	.	.	.	.	.	.	.	.
ALPHA	0.599688	0.703827	0.940066	0.870736	0.746065	0.738533	0.729907	0.592965
BETA	0.495026	0.52425	0.499364	0.508024	0.461914	0.462934	0.454289	0.498275
MAY	.	.	.	.	.	.	.	.
ALPHA	0.545532	0.638932	0.894423	0.844402	0.826116	0.763701	0.781234	0.618882
BETA	0.478154	0.460137	0.453162	0.476583	0.474939	0.417046	0.435788	0.49434
JUNE	.	.	.	.	.	.	.	.
ALPHA	0.44943	0.822281	1.15184	1.0896	1.1254	1.04948	0.988364	0.741272
BETA	0.560309	0.545516	0.503901	0.481887	0.507767	0.467721	0.478874	0.57834
JULY	.	.	.	.	.	.	.	.
ALPHA	1.00946	1.11148	1.20105	1.1817	1.1517	1.1188	0.991311	1.03682
BETA	1.53384	1.47147	1.04834	0.963101	0.878638	0.81988	0.78998	1.33976
AUG	.	.	.	.	.	.	.	.
ALPHA	0.996876	0.994594	1.11977	1.06957	1.0806	1.11983	1.04884	1.01144
BETA	1.54665	1.4551	1.01909	0.911453	0.83742	0.807582	0.822962	1.38481
SEPT	.	.	.	.	.	.	.	.
ALPHA	0.8969	0.911559	1.09994	1.106.9	1.19439	1.19839	1.08883	0.989877
BETA	1.04961	1.04605	0.766844	0.677892	0.69165	0.657324	0.728895	0.982869
OCT	.	.	.	.	.	.	.	.
ALPHA	0.690881	0.667478	0.976744	0.981275	1.08417	0.988092	0.889711	0.788844
BETA	0.566625	0.554805	0.511563	0.479441	0.508852	0.452482	0.489566	0.536623
NOV	.	.	.	.	.	.	.	.
ALPHA	0.731316	0.724871	1.04368	0.943878	1.088	0.949139	0.888753	0.798386
BETA	0.593189	0.588576	0.626183	0.463264	0.528864	0.494366	0.552895	0.68988
DEC	.	.	.	.	.	.	.	.
ALPHA	0.76868	0.714398	1.01722	1.0986	0.989143	0.993663	0.894988	0.786611
BETA	0.536627	0.58277	0.532196	0.498475	0.498821	0.467636	0.589981	0.538897

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

CHRISTCHURCH

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.300582	0.39237	0.993171	1.09582	1.09882	0.928305	0.876599	0.721648
BETA	0.263875	0.271783	0.390166	0.45985	0.505432	0.488289	0.437704	0.368313
FEB	.	.	.	.	.	.	.	.
ALPHA	0.139979	0.250846	0.750413	0.856873	0.685878	0.694366	0.64188	0.380374
BETA	0.221282	0.246696	0.334215	0.423687	0.41783	0.4253	0.359055	0.302926
MAR	.	.	.	.	.	.	.	.
ALPHA	0.173259	0.201004	0.447083	0.876824	1.0085	0.87847	0.667132	0.454794
BETA	0.217831	0.234502	0.329497	0.376023	0.449168	0.433549	0.349238	0.323131
APR	.	.	.	.	.	.	.	.
ALPHA	0.187733	0.194117	0.348408	0.593027	0.6518	0.534335	0.468894	0.282383
BETA	0.249004	0.255487	0.29249	0.373573	0.43816	0.41117	0.382338	0.322621
MAY	.	.	.	.	.	.	.	.
ALPHA	0.165208	0.202043	0.405237	0.722722	0.752695	0.62396	0.366787	0.238868
BETA	0.237331	0.251759	0.305632	0.377249	0.404662	0.38391	0.315696	0.257776
JUNE	.	.	.	.	.	.	.	.
ALPHA	0.124377	0.15022	0.216472	0.370912	0.457752	0.48056	0.316127	0.199976
BETA	0.247027	0.261024	0.28383	0.32795	0.394598	0.39729	0.338441	0.28168
JULY	.	.	.	.	.	.	.	.
ALPHA	0.121015	0.142076	0.232341	0.490029	0.545402	0.48727	0.328459	0.178946
BETA	0.230341	0.237307	0.267954	0.318271	0.359532	0.368358	0.342141	0.278487
AUG	.	.	.	.	.	.	.	.
ALPHA	0.159984	0.152556	0.271531	0.552349	0.622683	0.480593	0.35483	0.202377
BETA	0.25749	0.268247	0.295809	0.366083	0.422232	0.417766	0.368209	0.296625
SEPT	.	.	.	.	.	.	.	.
ALPHA	0.193646	0.236367	0.522542	0.644409	0.672065	0.67633	0.625465	0.308831
BETA	0.243004	0.271988	0.336572	0.359866	0.412319	0.418271	0.365468	0.296888
OCT	.	.	.	.	.	.	.	.
ALPHA	0.194209	0.246414	0.450745	0.606761	0.673626	0.559049	0.478074	0.300338
BETA	0.284406	0.330277	0.366782	0.40836	0.491117	0.455645	0.377583	0.330736
NOV	.	.	.	.	.	.	.	.
ALPHA	0.277535	0.33214	0.690724	0.684989	0.79378	0.816631	0.929151	0.556177
BETA	0.329934	0.338396	0.410253	0.428172	0.486155	0.478436	0.432119	0.379325
DEC	.	.	.	.	.	.	.	.
ALPHA	0.322769	0.468024	0.781014	0.870918	0.943892	0.984902	1.11183	0.695706
BETA	0.280992	0.317063	0.375331	0.423227	0.522871	0.484091	0.412603	0.376162

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

FURUMAI

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.417753	0.553655	0.913024	1.07498	1.32531	1.11877	0.63493	0.535161
BETA	0.24852	0.264386	0.339091	0.393457	0.396936	0.398986	0.340779	0.299649
FEB								
ALPHA	0.403134	0.442557	0.696614	0.854391	1.03759	0.924973	0.573708	0.425127
BETA	0.284442	0.270164	0.324179	0.36645	0.370385	0.372556	0.358006	0.301378
MAR								
ALPHA	0.226447	0.285043	0.510775	0.593418	0.902221	0.782772	0.452776	0.254511
BETA	0.27098	0.284526	0.291457	0.293716	0.310938	0.302133	0.28035	0.257563
APR								
ALPHA	0.0683549	0.141796	0.239463	0.334655	0.538417	0.405775	0.257846	0.181802
BETA	0.168699	0.204328	0.198335	0.203889	0.244422	0.209939	0.210315	0.187616
MAY								
ALPHA	0.0694887	0.135841	0.180093	0.319514	0.382626	0.34248	0.237619	0.0949849
BETA	0.16516	0.174463	0.165021	0.189188	0.196254	0.183732	0.19093	0.177796
JUNE								
ALPHA	0.0967586	0.245253	0.32017	0.522116	0.498951	0.472234	0.413497	0.154134
BETA	0.112008	0.122767	0.120189	0.153676	0.175583	0.168893	0.151803	0.12675
JULY								
ALPHA	0.11334	0.302818	0.644591	0.686867	0.657962	0.592579	0.582159	0.28736
BETA	0.1048	0.110165	0.12968	0.169141	0.182733	0.179562	0.166623	0.129461
AUG								
ALPHA	0.168069	0.276068	0.514201	0.870285	0.999288	0.839638	0.638144	0.251846
BETA	0.165265	0.169714	0.178734	0.227256	0.288431	0.24371	0.222216	0.191697
SEPT								
ALPHA	0.173934	0.214563	0.50515	0.854401	0.941129	0.77471	0.560881	0.268607
BETA	0.194943	0.199334	0.228057	0.267735	0.277752	0.248542	0.239724	0.221577
OCT								
ALPHA	0.155115	0.169147	0.475476	0.527261	0.638293	0.438047	0.249332	0.186172
BETA	0.267349	0.272432	0.329046	0.324883	0.346634	0.299317	0.279484	0.272883
NOV								
ALPHA	0.247126	0.244813	0.623199	0.781896	0.938062	0.788324	0.328898	0.271724
BETA	0.294234	0.279118	0.339313	0.381895	0.392383	0.37466	0.38666	0.291789
DEC								
ALPHA	0.426994	0.437928	0.766185	0.888814	1.09424	0.927673	0.573861	0.489888
BETA	0.341812	0.316697	0.382491	0.397118	0.417619	0.384969	0.347766	0.34849

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

	0008E								
	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	
JAN									
ALPHA	0.0390512	0.0251392	0.0947722	0.201094	0.254139	0.227187	0.0791505	0.0517441	
BETA	0.135119	0.113293	0.153777	0.177327	0.194259	0.178046	0.135512	0.144248	
FEB	.	.	.	.	.	.	.	.	.
ALPHA	0.0374417	0.0272414	0.151018	0.210917	0.240348	0.295141	0.135745	0.0470071	
BETA	0.141818	0.132434	0.191717	0.207834	0.219145	0.233419	0.202822	0.144815	
MAR	.	.	.	.	.	.	.	.	.
ALPHA	0.0330898	0.0507224	0.224342	0.234949	0.300187	0.330004	0.188593	0.0401228	
BETA	0.115852	0.12134	0.163403	0.144584	0.183024	0.202803	0.188674	0.138824	
APR	.	.	.	.	.	.	.	.	.
ALPHA	0.0532349	0.147808	0.309438	0.442723	0.531435	0.513477	0.395181	0.117894	
BETA	0.101447	0.128941	0.144505	0.183775	0.19882	0.1943	0.177428	0.128471	
MAY	.	.	.	.	.	.	.	.	.
ALPHA	0.219547	0.418331	0.700527	0.909572	0.743944	0.735035	0.474419	0.374138	
BETA	0.172431	0.229735	0.220499	0.270738	0.243037	0.27348	0.288431	0.209282	
JUNE	.	.	.	.	.	.	.	.	.
ALPHA	0.437678	0.744138	0.74123	1.02407	1.34441	1.4941	1.13458	0.589781	
BETA	0.244285	0.284489	0.254908	0.287035	0.350588	0.381371	0.348494	0.304727	
JULY	.	.	.	.	.	.	.	.	.
ALPHA	0.379149	0.775701	0.834575	1.24707	1.9^191	1.72377	1.38442	0.483804	
BETA	0.252447	0.294107	0.288178	0.348457	0.470939	0.488141	0.418244	0.339974	
AUG	.	.	.	.	.	.	.	.	.
ALPHA	0.250211	0.519905	0.759897	1.28052	1.8784	1.44342	1.04841	0.444897	
BETA	0.248424	0.30092	0.325707	0.408214	0.483859	0.441229	0.392414	0.304154	
SEPT	.	.	.	.	.	.	.	.	.
ALPHA	0.177874	0.235903	0.734935	1.27501	1.99004	1.88084	0.797839	0.284844	
BETA	0.218208	0.23239	0.308524	0.374597	0.443448	0.472183	0.348348	0.238878	
OCT	.	.	.	.	.	.	.	.	.
ALPHA	0.154453	0.204428	0.7228	0.94408	1.1905	0.944443	0.371794	0.17714	
BETA	0.161751	0.178044	0.259871	0.27299	0.292101	0.27098	0.289183	0.178474	
NOV	.	.	.	.	.	.	.	.	.
ALPHA	0.140208	0.144307	0.379433	0.571057	0.701983	0.882041	0.223981	0.148343	
BETA	0.134438	0.135891	0.178241	0.184303	0.202789	0.197284	0.188	0.128443	
DEC	.	.	.	.	.	.	.	.	.
ALPHA	0.0407774	0.0489785	0.144258	0.404738	0.452428	0.344488	0.132887	0.0787783	
BETA	0.157443	0.144743	0.178894	0.234444	0.289744	0.239448	0.204183	0.147889	

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

	MILL								
	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	
JAN									
ALPHA	0.0754831	0.0457983	0.101562	0.180888	0.184661	0.259137	0.193226	0.114507	
BETA	0.157873	0.134351	0.134266	0.133357	0.135461	0.154085	0.170059	0.167257	
FEB									
ALPHA	0.0489312	0.0544525	0.154572	0.245472	0.303844	0.304351	0.200653	0.116739	
BETA	0.178142	0.159068	0.170238	0.168186	0.182053	0.182851	0.19342	0.192139	
MAR									
ALPHA	0.061422	0.0559048	0.144792	0.214804	0.325346	0.342167	0.226401	0.100088	
BETA	0.196914	0.181773	0.179617	0.190192	0.208339	0.21172	0.21222	0.206696	
APR									
ALPHA	0.0450095	0.0734378	0.182408	0.227784	0.399454	0.386825	0.273804	0.141897	
BETA	0.212249	0.20581	0.204894	0.20658	0.240504	0.238024	0.221741	0.234939	
MAY									
ALPHA	0.148721	0.179842	0.20924	0.247738	0.405024	0.399969	0.311126	0.22647	
BETA	0.33721	0.32287	0.272332	0.287003	0.33337	0.299927	0.269046	0.330234	
JUNE									
ALPHA	0.0935611	0.127547	0.141879	0.148759	0.242115	0.28276	0.190882	0.132888	
BETA	0.371202	0.345677	0.334299	0.345815	0.404638	0.378333	0.322778	0.36152	
JULY									
ALPHA	0.126615	0.20033	0.20758	0.186349	0.304057	0.321133	0.214332	0.174368	
BETA	0.544583	0.655215	0.574754	0.591244	0.770029	0.667313	0.469733	0.511887	
AUG									
ALPHA	0.117507	0.154229	0.226355	0.214979	0.343928	0.366745	0.238781	0.162887	
BETA	0.492898	0.552077	0.552752	0.548337	0.706352	0.653339	0.46183	0.496834	
SEPT									
ALPHA	0.0397117	0.0451128	0.110073	0.122823	0.158181	0.197441	0.133891	0.0698218	
BETA	0.349328	0.344457	0.396848	0.434389	0.459902	0.484254	0.422911	0.398837	
OCT									
ALPHA	0.0271967	0.0307555	0.0803465	0.098111	0.137884	0.148897	0.0988823	0.0340788	
BETA	0.278884	0.288574	0.278974	0.277238	0.308821	0.295339	0.308828	0.274487	
NOV									
ALPHA	0.0402819	0.0389142	0.114512	0.138381	0.228978	0.188383	0.148488	0.0688957	
BETA	0.194928	0.198624	0.208878	0.187787	0.196773	0.184857	0.21684	0.208834	
DEC									
ALPHA	0.0547486	0.0458143	0.128119	0.293188	0.288344	0.237717	0.137938	0.0764467	
BETA	0.1373	0.132878	0.149994	0.16826	0.188986	0.148727	0.188882	0.141553	

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

LAJES FIELD

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.873188	0.913568	1.45492	1.82005	1.92205	1.91985	1.02067	0.882705
BETA	0.326824	0.331614	0.35445	0.332896	0.355198	0.353302	0.312149	0.321488
FEB								
ALPHA	0.916265	0.87611	1.48203	2.11941	2.1926	1.91027	1.101	0.848564
BETA	0.328071	0.305548	0.337178	0.348637	0.376925	0.367194	0.381249	0.313766
MAR								
ALPHA	0.773818	0.741551	1.33408	1.58202	1.59892	1.56488	1.12469	0.82073
BETA	0.327295	0.294216	0.327853	0.34052	0.361988	0.359698	0.338723	0.344144
APR								
ALPHA	0.711074	0.791952	1.45293	1.86778	1.57663	1.64766	1.08367	0.739404
BETA	0.316105	0.303846	0.337954	0.39235	0.390399	0.406999	0.338138	0.32986
MAY								
ALPHA	0.480748	0.877449	1.50447	1.58536	1.67829	1.59491	1.24682	0.761922
BETA	0.362678	0.333959	0.356357	0.462478	0.473434	0.461391	0.482844	0.36843
JUNE								
ALPHA	0.465353	0.743054	1.2742	1.50244	1.59317	1.52302	1.07687	0.546638
BETA	0.322648	0.318124	0.369884	0.444621	0.518357	0.583241	0.48388	0.349774
JULY								
ALPHA	0.372878	0.543418	0.814655	1.13741	1.27795	1.31388	0.96891	0.478827
BETA	0.342185	0.372883	0.403389	0.52189	0.632867	0.677987	0.528898	0.394611
AUG								
ALPHA	0.475086	0.580169	0.958327	1.22896	1.31122	1.28174	0.886128	0.566784
BETA	0.475981	0.477953	0.518175	0.642972	0.769294	0.773638	0.631891	0.384847
SEPT								
ALPHA	0.555154	0.702822	1.1666	1.3711	1.43117	1.26711	0.882712	0.621686
BETA	0.494467	0.566893	0.531218	0.57387	0.610293	0.596899	0.538629	0.488844
OCT								
ALPHA	0.682956	0.836302	1.59266	1.86833	2.00398	1.76071	1.0837	0.772789
BETA	0.348364	0.38442	0.487381	0.461777	0.5228	0.478694	0.384884	0.386888
NOV								
ALPHA	0.837321	0.748988	1.481	1.71329	2.09499	2.01668	1.13747	0.842386
BETA	0.338883	0.316446	0.368493	0.378846	0.438988	0.434488	0.378829	0.321914
DEC								
ALPHA	0.877284	0.98946	1.87389	2.82338	2.88867	1.84022	1.03821	0.98891
BETA	0.339889	0.348888	0.369334	0.388821	0.388224	0.381923	0.318824	0.384988

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

MANILA

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.784244	0.742847	0.898944	0.943914	0.978982	1.03313	0.784223	0.712789
BETA	0.433257	0.398989	0.511184	0.491748	0.43515	0.53813	0.518344	0.594548
FEB								
ALPHA	0.723828	0.729838	0.889884	0.931185	0.877882	0.821412	0.724499	0.697192
BETA	0.839942	0.748933	0.483484	0.488967	0.889293	0.612388	0.698989	0.849181
MAR								
ALPHA	0.782497	0.494884	0.728898	0.771847	0.818444	0.482811	0.4419	0.783188
BETA	1.12488	1.03713	0.7781	0.767182	0.778984	0.713881	0.748114	1.13174
APR								
ALPHA	0.498215	0.898111	0.823829	0.884282	0.878488	0.891484	0.718134	0.724487
BETA	1.0984	1.32672	0.934491	0.984982	0.893894	0.897281	0.878388	1.24818
MAY								
ALPHA	0.834847	1.0044	0.833414	0.949149	1.02743	0.981372	0.698437	0.742879
BETA	0.849788	1.01583	0.45884	0.784384	0.729488	0.433237	0.492194	0.788431
JUNE								
ALPHA	1.00842	1.01912	1.13882	1.29842	1.24814	1.43498	1.24982	1.03178
BETA	0.412397	0.444978	0.342384	0.341681	0.338413	0.31411	0.297284	0.388444
JULY								
ALPHA	1.22184	1.27433	1.82432	1.48745	1.89317	1.43989	1.38843	1.08981
BETA	0.312454	0.344884	0.314492	0.257189	0.242132	0.219287	0.28722	0.28838
AUG								
ALPHA	1.34131	1.26183	1.38287	1.87911	1.87841	1.4494	1.52873	1.29924
BETA	0.223251	0.238432	0.215921	0.234833	0.283989	0.162764	0.148948	0.284448
SEPT								
ALPHA	1.22841	1.37764	1.82289	2.08847	2.03811	2.04367	1.42847	1.299
BETA	0.216257	0.281982	0.238488	0.238384	0.234214	0.184421	0.144887	0.28349
OCT								
ALPHA	0.771884	0.928421	0.978284	0.972246	1.13777	1.2487	0.984843	0.778972
BETA	0.249379	0.442359	0.343413	0.348181	0.384823	0.324881	0.314811	0.388882
NOV								
ALPHA	0.724728	0.748899	0.981881	0.988482	1.23832	1.14814	0.818224	0.42818
BETA	0.538434	0.324813	0.424248	0.487484	0.484841	0.388237	0.417812	0.881342
DEC								
ALPHA	0.774344	0.742881	0.887424	1.04128	1.1394	1.04888	0.472279	0.422788
BETA	0.894878	0.539281	0.438498	0.448127	0.421117	0.417888	0.442412	0.528989

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

	MCMURDO							
	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.363512	0.37862	0.347318	0.417781	0.391827	0.37544	0.379115	0.384327
BETA	0.309223	0.297054	0.272194	0.293004	0.309331	0.322511	0.328444	0.325114
FEB	.	.	.	.	.	.	.	.
ALPHA	0.414938	0.440273	0.404254	0.440303	0.387777	0.404531	0.397977	0.418518
BETA	0.18937	0.195134	0.183978	0.188547	0.174792	0.190201	0.183995	0.194493
MAR	.	.	.	.	.	.	.	.
ALPHA	0.238479	0.300443	0.351381	0.324304	0.412059	0.417434	0.381198	0.28128
BETA	0.144203	0.172025	0.170149	0.179923	0.204063	0.194774	0.188739	0.164153
APR	.	.	.	.	.	.	.	.
ALPHA	0.128113	0.0653924	0.0850309	0.151943	0.302208	0.252194	0.218957	0.144049
BETA	0.221387	0.174452	0.174243	0.153395	0.17101	0.148888	0.168333	0.191218
MAY	.	.	.	.	.	.	.	.
ALPHA	0.0354571	0.0373284	0.0211929	0.044454	0.0884447	0.104579	0.0898974	0.0284882
BETA	0.189504	0.193438	0.144741	0.200031	0.200125	0.209534	0.212998	0.20912
JUNE	.	.	.	.	.	.	.	.
ALPHA	0.0291129	0.0418544	0.0229187	0.0730477	0.0675501	0.0771047	0.0411731	0.0394789
BETA	0.157987	0.144195	0.150204	0.195941	0.187844	0.17842	0.144419	0.178519
JULY	.	.	.	.	.	.	.	.
ALPHA	0.0350451	0.0482207	0.0258591	0.0278929	0.0413723	0.0928911	0.0379987	0.0284843
BETA	0.210547	0.217291	0.199534	0.207512	0.235847	0.239473	0.214383	0.192498
AUG	.	.	.	.	.	.	.	.
ALPHA	0.0515734	0.0491838	0.0431424	0.0447422	0.130501	0.17254	0.112212	0.042474
BETA	0.234293	0.219087	0.220774	0.200004	0.179287	0.213153	0.248888	0.208373
SEPT	.	.	.	.	.	.	.	.
ALPHA	0.0700949	0.0921788	0.107307	0.154937	0.1407	0.182488	0.128411	0.130182
BETA	0.200334	0.220201	0.180484	0.186858	0.19233	0.199872	0.19257	0.228314
OCT	.	.	.	.	.	.	.	.
ALPHA	0.182835	0.190003	0.197424	0.17512	0.185994	0.194124	0.161186	0.163835
BETA	0.223901	0.210495	0.214297	0.204088	0.21733	0.224993	0.213848	0.214837
NOV	.	.	.	.	.	.	.	.
ALPHA	0.353844	0.310833	0.285909	0.284878	0.287227	0.319975	0.308494	0.312484
BETA	0.301332	0.284795	0.264223	0.289539	0.279728	0.288895	0.311918	0.308218
DEC	.	.	.	.	.	.	.	.
ALPHA	0.244522	0.275345	0.22334	0.301182	0.274541	0.24178	0.242122	0.228819
BETA	0.247383	0.241345	0.22311	0.251744	0.227924	0.288822	0.290884	0.248228

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

	MIDWAY								
	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	
JAN									
ALPHA	0.690794	0.738209	1.05527	1.23478	1.09738	1.15475	1.05006	0.7736	
BETA	0.504987	0.543422	0.62298	0.620966	0.565218	0.543727	0.510187	0.494846	
FEB									
ALPHA	0.761825	0.720701	1.077	1.12461	0.989517	1.08456	0.958365	0.760977	
BETA	0.581033	0.527608	0.590334	0.523102	0.523251	0.556198	0.47788	0.524524	
MAR									
ALPHA	0.729796	0.801424	1.26664	1.47004	1.21485	1.27874	1.34768	0.818375	
BETA	0.409725	0.426872	0.430515	0.458887	0.447598	0.458534	0.49051	0.448992	
APR									
ALPHA	0.682253	0.783466	1.35162	1.05044	1.09616	1.2115	1.26599	0.736147	
BETA	0.440481	0.46183	0.520058	0.470127	0.52234	0.52414	0.469366	0.447165	
MAY									
ALPHA	0.797449	0.758938	1.33476	1.13361	1.04951	1.12245	1.26806	0.860485	
BETA	0.687426	0.625849	0.616078	0.613016	0.626617	0.659498	0.676908	0.704877	
JUNE									
ALPHA	0.709346	0.803929	1.48365	1.23456	1.21498	1.2725	1.37012	0.922798	
BETA	0.636928	0.703207	0.690736	0.667166	0.678772	0.668103	0.620764	0.698741	
JULY									
ALPHA	1.11132	1.06647	1.53507	1.60603	1.70227	1.71062	1.62504	1.32949	
BETA	1.34914	1.24182	0.940918	1.03206	1.09598	1.02981	0.993492	1.41293	
AUG									
ALPHA	1.08338	1.05225	1.42549	1.41172	1.53074	1.57268	1.37755	1.25499	
BETA	1.52638	1.4639	1.13754	1.0631	1.13472	1.16913	1.01224	1.48531	
SEPT									
ALPHA	1.09416	1.04755	1.3313	1.43539	1.46452	1.53644	1.37829	1.11365	
BETA	1.52187	1.47154	1.14466	1.13525	1.14255	1.06609	1.0075	1.26781	
OCT									
ALPHA	0.949153	0.91918	1.08311	1.24444	1.27625	1.31573	1.29263	1.00827	
BETA	0.991671	1.02159	0.825809	0.886065	0.884151	0.824425	0.833387	0.899329	
NOV									
ALPHA	0.863936	0.769158	1.07372	1.18119	1.13272	1.19686	1.18876	0.863263	
BETA	0.783388	0.693438	0.690975	0.687111	0.634388	0.641789	0.642984	0.679467	
DEC									
ALPHA	0.836488	0.792968	1.09195	1.17521	1.13777	1.14813	1.08179	0.838212	
BETA	0.615868	0.586051	0.631749	0.598895	0.596497	0.567989	0.582038	0.574388	

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

		MILDENHALL							
		0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN									
ALPHA	0.0480973	0.0773906	0.195498	0.448683	0.824838	0.478922	0.137705	0.0795113	
BETA	0.10287	0.101128	0.136816	0.163452	0.157398	0.167772	0.132044	0.110509	
FEB									
ALPHA	0.0484286	0.0444924	0.267285	0.353744	0.604101	0.554382	0.200603	0.059967	
BETA	0.113366	0.117771	0.143876	0.138692	0.170291	0.174369	0.154606	0.125976	
MAR									
ALPHA	0.0353828	0.0718005	0.279819	0.867338	0.826473	0.692701	0.323915	0.0589604	
BETA	0.124279	0.134594	0.157293	0.182489	0.21204	0.219712	0.203979	0.143988	
APR									
ALPHA	0.0498331	0.172573	0.379682	0.881098	1.24995	1.02058	0.398157	0.108057	
BETA	0.167025	0.198401	0.191975	0.233261	0.287792	0.297408	0.223332	0.188494	
MAY									
ALPHA	0.0953714	0.296247	0.401514	1.05383	1.55325	1.22795	0.611827	0.21347	
BETA	0.214303	0.234978	0.213388	0.289975	0.340224	0.346191	0.298561	0.269972	
JUNE									
ALPHA	0.193844	0.309823	0.356035	0.729465	1.04774	0.819833	0.501385	0.267929	
BETA	0.281327	0.249849	0.220492	0.255059	0.292125	0.293014	0.29146	0.277318	
JULY									
ALPHA	0.179985	0.424172	0.582734	1.28415	2.0477	1.89092	1.04112	0.418422	
BETA	0.251817	0.258849	0.217602	0.288946	0.349749	0.383174	0.346278	0.291806	
AUG									
ALPHA	0.101364	0.334916	0.486005	1.12887	1.93553	1.53069	0.79651	0.24104	
BETA	0.222917	0.238867	0.222584	0.3054	0.279749	0.38301	0.336859	0.284769	
SEPT									
ALPHA	0.0902254	0.172722	0.412883	0.941536	1.50062	0.999097	0.423387	0.121317	
BETA	0.201037	0.204264	0.242739	0.298813	0.267547	0.22862	0.28288	0.222576	
OCT									
ALPHA	0.0538411	0.0939013	0.368882	0.880176	0.813199	0.492994	0.176338	0.0782634	
BETA	0.144492	0.184788	0.177812	0.188892	0.266667	0.237867	0.209283	0.164811	
NOV									
ALPHA	0.104994	0.0881495	0.271078	0.577817	0.789744	0.662137	0.143782	0.0988332	
BETA	0.146822	0.138832	0.177604	0.181268	0.197981	0.203823	0.157821	0.134678	
DEC									
ALPHA	0.0804937	0.0784782	0.216293	0.398446	0.329926	0.291241	0.109678	0.08714	
BETA	0.122072	0.119908	0.146649	0.188836	0.147689	0.163377	0.158481	0.134388	

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

NEENAWA

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.00337651	0.00327573	0.0216792	0.0519884	0.052023	0.0427714	0.0178267	0.0060126
BETA	0.114814	0.108298	0.144034	0.153548	0.153181	0.149814	0.14379	0.124068
FEB								
ALPHA	0.00977353	0.0153705	0.043544	0.077052	0.0820828	0.0750785	0.0386725	0.016199
BETA	0.132977	0.13454	0.142432	0.154949	0.16189	0.160029	0.163105	0.153294
MAR								
ALPHA	0.0219773	0.0269175	0.0647	0.062722	0.0790022	0.0889117	0.076662	0.0236457
BETA	0.192271	0.174429	0.174854	0.188844	0.201238	0.188318	0.204266	0.189391
APR								
ALPHA	0.0854377	0.154218	0.179008	0.180049	0.193921	0.217354	0.221535	0.1571
BETA	0.212915	0.187084	0.174427	0.199993	0.216608	0.199104	0.208384	0.254302
MAY								
ALPHA	0.192891	0.254449	0.191361	0.257149	0.449003	0.549224	0.35553	0.284956
BETA	0.24424	0.244548	0.206422	0.229997	0.248734	0.276502	0.304476	0.265384
JUNE								
ALPHA	0.503987	0.380444	0.351801	0.431074	1.09611	1.39775	0.99816	0.710995
BETA	0.267324	0.225083	0.224168	0.301012	0.393669	0.441051	0.344498	0.317967
JULY								
ALPHA	0.357412	0.415	0.343387	0.439597	0.797731	0.916923	0.677761	0.457074
BETA	0.2014	0.183984	0.175496	0.208484	0.280649	0.292379	0.26841	0.222747
AUG								
ALPHA	0.269299	0.381348	0.417421	0.50971	0.849004	1.00185	0.749844	0.357044
BETA	0.168132	0.1622	0.151987	0.185854	0.26968	0.283261	0.240943	0.195537
SEPT								
ALPHA	0.0826127	0.155373	0.332035	0.352894	0.414798	0.413484	0.290423	0.113145
BETA	0.141343	0.145618	0.149383	0.164612	0.174016	0.173739	0.159434	0.148485
OCT								
ALPHA	0.0610977	0.0438744	0.263429	0.292132	0.302991	0.228491	0.11892	0.0811882
BETA	0.116891	0.117837	0.133414	0.127619	0.133412	0.129376	0.139182	0.123881
NOV								
ALPHA	0.0264496	0.0237148	0.1064	0.191844	0.188824	0.0892967	0.0409842	0.0377244
BETA	0.141178	0.134302	0.158182	0.166769	0.159876	0.127742	0.127831	0.140167
DEC								
ALPHA	0.028189	0.0228238	0.0298898	0.126922	0.124774	0.0888796	0.0612149	0.037884
BETA	0.148288	0.148548	0.14384	0.177237	0.173733	0.151844	0.161438	0.158868

PARAMETERS FOR S-DISTRIBUTION - BAY COVER

OKINAWA

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.482127	0.444932	0.781221	0.916921	1.142	1.02649	0.791849	0.552153
BETA	0.253992	0.232489	0.270517	0.292226	0.327696	0.303134	0.271574	0.251852
FEB	.	.	.	.	.	.	.	.
ALPHA	0.349923	0.279472	0.42838	0.488559	0.748273	0.721052	0.484591	0.24351
BETA	0.204753	0.18268	0.201089	0.255409	0.248217	0.23194	0.192899	0.205167
MAR	.	.	.	.	.	.	.	.
ALPHA	0.253559	0.295124	0.424444	0.45051	0.782448	0.748478	0.547129	0.375095
BETA	0.171989	0.163477	0.177493	0.219217	0.243175	0.238259	0.214703	0.21042
APR	.	.	.	.	.	.	.	.
ALPHA	0.302434	0.350842	0.492758	0.48023	0.842798	0.708835	0.514119	0.275437
BETA	0.215903	0.20453	0.235401	0.283117	0.269017	0.252254	0.229538	0.21233
MAY	.	.	.	.	.	.	.	.
ALPHA	0.32089	0.396394	1.04547	1.14847	1.27709	1.34719	0.897208	0.433594
BETA	0.218123	0.227453	0.256916	0.243989	0.269341	0.273154	0.228889	0.219885
JUNE	.	.	.	.	.	.	.	.
ALPHA	0.429988	0.530529	1.24404	1.50834	1.41703	1.55882	1.21803	0.639418
BETA	0.259355	0.270874	0.255819	0.265121	0.290325	0.269057	0.236864	0.297443
JULY	.	.	.	.	.	.	.	.
ALPHA	0.542114	0.596555	0.977075	1.22834	1.25547	1.32454	1.0628	0.611677
BETA	0.430182	0.476707	0.490079	0.499657	0.477237	0.492387	0.44787	0.548883
AUG	.	.	.	.	.	.	.	.
ALPHA	0.457574	0.419479	0.87071	1.11902	.33239	1.28059	0.904491	0.587044
BETA	0.525108	0.502588	0.517917	0.494445	0.524376	0.447979	0.423161	0.538193
SEPT	.	.	.	.	.	.	.	.
ALPHA	0.381251	0.407575	0.766588	1.20854	1.34654	1.21184	0.813328	0.522245
BETA	0.588051	0.60829	0.561315	0.631447	0.671024	0.534917	0.498988	0.579984
OCT	.	.	.	.	.	.	.	.
ALPHA	0.333112	0.375933	0.691074	0.843859	0.981514	0.850102	0.600443	0.488045
BETA	0.412425	0.448324	0.477895	0.489143	0.483085	0.436883	0.422292	0.447512
NOV	.	.	.	.	.	.	.	.
ALPHA	0.29898	0.297431	0.446737	0.69752	0.922278	0.856065	0.516404	0.384473
BETA	0.300449	0.383438	0.339161	0.357444	0.382484	0.392487	0.334271	0.279674
DEC	.	.	.	.	.	.	.	.
ALPHA	0.444431	0.338149	0.482431	0.828748	0.940901	0.877825	0.548883	0.47318
BETA	0.275497	0.242487	0.381487	0.317288	0.338844	0.389448	0.28475	0.276447

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

PATRICK

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.0857347	0.0430995	0.151443	0.20497	0.347285	0.33449	0.209487	0.1253
BETA	0.289174	0.245478	0.237453	0.238988	0.301594	0.331284	0.336416	0.362986
FEB								
ALPHA	0.0538794	0.0934854	0.150049	0.13437	0.233094	0.222501	0.193274	0.0741447
BETA	0.275947	0.281127	0.258012	0.217071	0.29154	0.280499	0.303935	0.304747
MAR								
ALPHA	0.103898	0.123852	0.148058	0.213542	0.201044	0.349444	0.244137	0.0875119
BETA	0.295379	0.312905	0.24294	0.280214	0.260777	0.338449	0.307391	0.252099
APR								
ALPHA	0.14334	0.128097	0.275414	0.287422	0.353573	0.288544	0.244781	0.158627
BETA	0.494043	0.454947	0.384305	0.421627	0.53281	0.457428	0.489298	0.525705
MAY								
ALPHA	0.110149	0.27741	0.3551	0.45348	0.405941	0.333382	0.290416	0.201752
BETA	0.347475	0.345991	0.417463	0.537175	0.501847	0.349382	0.344544	0.400734
JUNE								
ALPHA	0.354441	0.433215	0.52541	0.80482	0.444534	0.443078	0.742018	0.428347
BETA	0.523738	0.449272	0.479947	0.405393	0.494961	0.387072	0.357903	0.414548
JULY								
ALPHA	0.352738	0.348394	0.510339	0.828274	0.770914	0.722788	0.467741	0.298257
BETA	0.527832	0.725017	0.477261	0.525711	0.425589	0.303422	0.238894	0.324813
AUG								
ALPHA	0.25854	0.425091	0.786379	0.884752	0.706209	0.588892	0.414909	0.311998
BETA	0.52444	0.889815	0.749977	0.715449	0.575294	0.401858	0.30891	0.444491
SEPT								
ALPHA	0.423915	0.414444	0.453349	0.790408	0.711573	0.444313	0.421788	0.240017
BETA	0.59341	0.439318	0.540453	0.517993	0.448982	0.341893	0.378309	0.444819
OCT								
ALPHA	0.153187	0.208798	0.333477	0.399884	0.388941	0.437394	0.31434	0.198809
BETA	0.389007	0.399817	0.344712	0.344798	0.385485	0.323474	0.282718	0.240739
NOV								
ALPHA	0.0948389	0.0778788	0.128188	0.149889	0.259242	0.249798	0.117768	0.0788867
BETA	0.439897	0.39761	0.388888	0.378989	0.544343	0.488873	0.341334	0.388887
DEC								
ALPHA	0.0341238	0.0410132	0.0744788	0.0418888	0.238981	0.222883	0.188894	0.0888888
BETA	0.348481	0.327833	0.309388	0.288432	0.487119	0.447487	0.278884	0.284334

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

SAIGON

	0-2	3-5	4-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	1.24167	1.2149	1.35042	1.03725	1.68333	1.8045	1.41227	1.17844
BETA	1.45216	1.40074	1.16222	1.15957	1.18293	1.15118	1.14372	1.23165
FEB								
ALPHA	1.33027	1.48451	1.5949	1.30718	1.94069	1.96742	1.76458	1.76769
BETA	2.4918	2.30534	1.64306	1.50816	1.64043	1.73779	2.37441	3.19989
MAR								
ALPHA	1.86105	1.71777	1.45234	1.34485	2.14055	1.90845	1.85843	2.34918
BETA	3.25877	2.52092	1.18973	1.239	1.57074	2.03362	2.60265	5.40649
APR								
ALPHA	1.94674	2.09177	2.09102	2.29727	3.16339	1.9454	1.69292	1.87053
BETA	1.87315	2.23164	1.57325	1.57694	1.86393	1.50323	1.33385	1.88672
MAY								
ALPHA	2.08847	2.03011	2.42374	3.59818	5.33947	4.18379	3.74143	2.09439
BETA	0.718803	0.953691	0.892649	1.25233	1.57123	0.972413	0.689222	0.831217
JUNE								
ALPHA	2.18023	2.07426	2.48984	3.80398	6.81402	8.27792	7.05837	2.47832
BETA	0.721261	0.940682	0.901102	1.30189	1.83267	1.61119	1.62049	0.596485
JULY								
ALPHA	2.11481	2.10062	3.17092	4.32151	6.19785	6.47561	6.82031	2.32853
BETA	0.65431	0.809394	0.898979	1.21703	1.52818	1.21107	0.933388	0.53717
AUG								
ALPHA	2.75463	2.52316	4.24966	6.37744	9.92711	12.2592	8.72975	3.33283
BETA	0.672824	0.782493	1.01484	1.63752	2.31819	2.33991	1.69829	0.8992
SEPT								
ALPHA	2.83386	2.42456	4.51689	6.03513	10.301	11.2607	6.27186	2.99323
BETA	0.666339	0.788994	1.0678	1.58823	2.80163	2.13977	0.879996	0.382116
OCT								
ALPHA	2.48743	2.26003	3.21309	3.21016	5.46666	7.65151	4.14188	2.81629
BETA	0.816492	0.93215	0.929847	1.10891	1.46683	1.62471	0.798823	0.788452
NOV								
ALPHA	2.14883	1.88439	1.7929	1.84831	4.02206	3.42488	2.67834	2.21676
BETA	1.28357	1.17384	0.779964	0.890965	1.38163	1.61266	0.853388	1.00938
DEC								
ALPHA	1.99821	1.61384	1.83627	1.88829	3.78887	2.86873	2.89866	1.70888
BETA	1.28844	1.39412	0.834486	1.03372	1.19815	1.08888	0.988131	1.28888

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

SHENYA

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.634403	0.489854	0.724215	1.44504	1.67312	1.56728	0.884991	0.715901
BETA	0.190712	0.180322	0.183023	0.230113	0.261318	0.252444	0.187494	0.192005
FEB								
ALPHA	0.708179	0.743479	1.04401	1.40584	1.70973	1.95402	1.3149	0.851931
BETA	0.19944	0.189034	0.218874	0.267644	0.274944	0.278448	0.21372	0.210016
MAR								
ALPHA	0.414254	0.708347	1.23075	1.40081	1.71449	1.80741	1.36727	0.727341
BETA	0.173222	0.172039	0.211304	0.244841	0.259336	0.272481	0.217604	0.184135
APR								
ALPHA	0.53253	0.913014	1.44134	1.44175	1.63907	1.72059	1.2784	0.74881
BETA	0.109271	0.126024	0.162611	0.1632	0.17963	0.19924	0.162104	0.132446
MAY								
ALPHA	0.738144	1.18824	1.75809	1.47934	1.3391	1.06904	1.16151	0.942494
BETA	0.0710025	0.0832845	0.103387	0.111137	0.126337	0.116364	0.117242	0.0880082
JUNE								
ALPHA	0.44228	1.10058	1.38447	1.91338	1.12398	1.17071	0.904242	0.744858
BETA	0.0227432	0.032001	0.0443413	0.0731988	0.0723335	0.0764261	0.0537217	0.0315421
JULY								
ALPHA	0.499937	0.81347	1.14775	1.1888	0.921775	0.698337	0.748881	0.444218
BETA	0.0245234	0.0240574	0.0293934	0.0425134	0.0482309	0.0388052	0.0393414	0.0244054
AUG								
ALPHA	0.187825	0.388897	1.12728	0.991354	0.882733	0.788485	0.618832	0.32072
BETA	0.0328432	0.0357078	0.0444738	0.0701123	0.0823326	0.0684485	0.0597598	0.0449499
SEPT								
ALPHA	0.258347	0.339317	0.674713	0.717118	0.783116	0.687882	0.614214	0.342724
BETA	0.104212	0.113224	0.148921	0.164198	0.178726	0.174013	0.186073	0.124184
OCT								
ALPHA	0.804283	0.84889	0.873434	1.23269	1.24327	1.2388	0.9949	0.677489
BETA	0.193472	0.201447	0.23338	0.271239	0.274883	0.271988	0.231395	0.223445
NOV								
ALPHA	0.788339	0.788475	0.878831	1.88779	1.69848	1.88849	0.971448	0.789422
BETA	0.246174	0.214284	0.238444	0.284944	0.298338	0.298394	0.2461	0.237119
DEC								
ALPHA	0.443834	0.488242	0.684489	1.88418	1.4388	1.4912	0.818431	0.677924
BETA	0.221548	0.20079	0.198983	0.287488	0.28222	0.288439	0.218178	0.188998

PARAMETERS FOR S-DISTRIBUTION - SAY COVER

	THULE								
	0-2	3-5	4-8	9-11	12-14	15-17	18-20	21-23	
JAN									
ALPHA	0.022431	0.020765	0.0222171	0.0552733	0.0629818	0.0592623	0.0271254	0.0277937	
BETA	0.203903	0.200415	0.201061	0.247199	0.225415	0.254504	0.21997	0.214958	
FEB	.	.	.	.	.	.	.	.	.
ALPHA	0.0220235	0.0216335	0.0592671	0.0620273	0.0609788	0.0708242	0.045577	0.0251821	
BETA	0.183982	0.192278	0.230125	0.180931	0.174633	0.195859	0.208906	0.190086	
MAR	.	.	.	.	.	.	.	.	.
ALPHA	0.0280555	0.0407468	0.0937227	0.0765441	0.0537349	0.0487362	0.0719751	0.0392428	
BETA	0.243286	0.285311	0.277459	0.235942	0.202964	0.206946	0.243487	0.240073	
APR	.	.	.	.	.	.	.	.	.
ALPHA	0.0365179	0.0461979	0.0583546	0.0471613	0.0310981	0.0449249	0.03317	0.0416614	
BETA	0.199678	0.218907	0.23672	0.20737	0.180066	0.20487	0.192932	0.20716	
MAY	.	.	.	.	.	.	.	.	.
ALPHA	0.108366	0.1005	0.105571	0.120245	0.147078	0.153821	0.152676	0.152836	
BETA	0.152451	0.147875	0.153382	0.16923	0.188866	0.194843	0.21129	0.20146	
JUNE	.	.	.	.	.	.	.	.	.
ALPHA	0.188722	0.246954	0.216607	0.223771	0.273111	0.221019	0.21275	0.146444	
BETA	0.15385	0.164374	0.159236	0.172085	0.201828	0.183919	0.183563	0.153186	
JULY	.	.	.	.	.	.	.	.	.
ALPHA	0.235024	0.212268	0.215611	0.277812	0.30786	0.339353	0.276385	0.264791	
BETA	0.149266	0.132093	0.135086	0.188273	0.173118	0.191233	0.171387	0.160914	
AUG	.	.	.	.	.	.	.	.	.
ALPHA	0.148442	0.170945	0.177057	0.21382	0.24513	0.14542	0.168787	0.178898	
BETA	0.140637	0.150102	0.153798	0.173677	0.183569	0.188139	0.168381	0.189438	
SEPT	.	.	.	.	.	.	.	.	.
ALPHA	0.0753277	0.0974516	0.146385	0.136432	0.152236	0.123006	0.0973836	0.0726385	
BETA	0.162218	0.14989	0.167283	0.169912	0.172164	0.151683	0.14179	0.138878	
OCT	.	.	.	.	.	.	.	.	.
ALPHA	0.035229	0.0616779	0.124553	0.108505	0.117939	0.131797	0.0884716	0.048887	
BETA	0.136783	0.154029	0.154176	0.127378	0.138281	0.146607	0.133469	0.138384	
NOV	.	.	.	.	.	.	.	.	.
ALPHA	0.0355546	0.0458883	0.0643982	0.118796	0.127669	0.0982844	0.0388777	0.0312438	
BETA	0.199692	0.171744	0.194663	0.28278	0.181697	0.194894	0.157896	0.18848	
DEC	.	.	.	.	.	.	.	.	.
ALPHA	0.0248862	0.0186323	0.0222436	0.036381	0.0772844	0.0398683	0.0197683	0.0881486	
BETA	0.172678	0.168842	0.187288	0.211173	0.231827	0.208816	0.178887	0.173888	

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

TORREJON

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.0722673	0.0393804	0.117978	0.127748	0.181454	0.280994	0.232032	0.118749
BETA	0.193404	0.172838	0.179238	0.149484	0.172984	0.21448	0.255937	0.242802
FEB								
ALPHA	0.0945327	0.0778587	0.13544	0.147778	0.213431	0.272099	0.218431	0.112625
BETA	0.274281	0.234871	0.235273	0.209477	0.229049	0.254221	0.292008	0.283112
MAR								
ALPHA	0.122914	0.108023	0.149734	0.194542	0.323242	0.374495	0.290888	0.283492
BETA	0.314425	0.279499	0.244293	0.227742	0.250512	0.27533	0.293167	0.370277
APR								
ALPHA	0.201079	0.247039	0.308422	0.382642	0.547443	0.654531	0.547884	0.387344
BETA	0.390399	0.415279	0.329391	0.344107	0.333824	0.37873	0.403211	0.455404
MAY								
ALPHA	0.219372	0.272777	0.252374	0.253474	0.419205	0.393833	0.449707	0.337291
BETA	0.500237	0.535444	0.385832	0.358189	0.394404	0.482988	0.409334	0.528851
JUNE								
ALPHA	0.177545	0.220739	0.222159	0.274784	0.443998	0.512408	0.38187	0.240095
BETA	0.525183	0.521113	0.404303	0.434082	0.507371	0.488791	0.430478	0.588292
JULY								
ALPHA	0.0783832	0.134392	0.128287	0.198214	0.323891	0.414194	0.304825	0.158443
BETA	0.780137	0.916145	0.791475	0.894017	1.03852	1.03123	0.908272	0.830095
AUG								
ALPHA	0.0728272	0.101298	0.194448	0.209098	0.71401	0.302448	0.233924	0.147257
BETA	0.644412	0.493484	0.748344	0.828245	0.793949	0.722433	0.498334	0.746413
SEPT								
ALPHA	0.104474	0.104897	0.219223	0.251344	0.34401	0.388128	0.341249	0.214822
BETA	0.471341	0.442822	0.44218	0.440442	0.443887	0.488237	0.514864	0.427472
OCT								
ALPHA	0.044848	0.070889	0.187138	0.241494	0.299843	0.297408	0.215774	0.0941719
BETA	0.387731	0.311988	0.322499	0.323783	0.334888	0.347899	0.374743	0.343248
NOV								
ALPHA	0.0871228	0.0474689	0.189338	0.171538	0.288728	0.38384	0.230888	0.188484
BETA	0.281884	0.234988	0.22138	0.188984	0.234884	0.240871	0.294438	0.289138
DEC								
ALPHA	0.0429818	0.0888121	0.138888	0.198872	0.2489	0.288843	0.191404	0.184784
BETA	0.219427	0.287741	0.247833	0.328744	0.388887	0.344892	0.288811	0.278344

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

TRIPOLI

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.170903	0.142583	0.332771	0.361322	0.365924	0.424559	0.308911	0.247238
BETA	0.461147	0.402044	0.484484	0.4222	0.427033	0.451531	0.478121	0.503898
FEB								
ALPHA	0.134022	0.165282	0.361032	0.294434	0.337834	0.341273	0.275267	0.207851
BETA	0.493995	0.482502	0.519698	0.442992	0.467397	0.478819	0.519027	0.571218
MAR								
ALPHA	0.164391	0.223678	0.394934	0.384138	0.376744	0.344978	0.284255	0.190921
BETA	0.503393	0.539	0.492468	0.501802	0.511617	0.47771	0.491334	0.520914
APR								
ALPHA	0.142428	0.233444	0.327519	0.270779	0.24775	0.207972	0.240754	0.171183
BETA	0.488238	0.539451	0.489145	0.441134	0.435435	0.385451	0.47438	0.509365
MAY								
ALPHA	0.10822	0.178192	0.202709	0.185525	0.183854	0.177724	0.208085	0.148314
BETA	0.516378	0.541581	0.438321	0.488988	0.475101	0.445315	0.49492	0.554601
JUNE								
ALPHA	0.0498187	0.133494	0.161475	0.129734	0.112859	0.0980144	0.130254	0.0850718
BETA	0.509138	0.580533	0.53693	0.561246	0.571421	0.530212	0.576712	0.612961
JULY								
ALPHA	0.0607976	0.107261	0.193181	0.234407	0.215324	0.116826	0.105852	0.0784512
BETA	0.799933	0.788932	0.947935	1.42181	1.61572	1.14973	1.00298	0.958728
AUG								
ALPHA	0.0920799	0.120257	0.172121	0.232838	0.19611	0.11129	0.118434	0.107542
BETA	1.12133	0.979109	1.03415	1.42031	1.57507	1.16897	1.19527	1.30039
SEPT								
ALPHA	0.11383	0.198684	0.29928	0.287934	0.231229	0.203993	0.191158	0.144884
BETA	0.832524	0.966879	0.878513	0.85739	0.806128	0.739002	0.79007	0.843399
OCT								
ALPHA	0.173333	0.283401	0.433378	0.471378	0.429859	0.398952	0.279754	0.212188
BETA	0.657839	0.638169	0.68844	0.690133	0.629619	0.58394	0.631492	0.692643
NOV								
ALPHA	0.215674	0.287866	0.387219	0.436167	0.538629	0.501972	0.347883	0.283876
BETA	0.572281	0.628132	0.569693	0.498849	0.888498	0.888983	0.612448	0.577948
DEC								
ALPHA	0.214888	0.199006	0.436737	0.373288	0.441475	0.481088	0.337482	0.249881
BETA	0.482791	0.469887	0.482448	0.417687	0.439362	0.486743	0.498484	0.58874

PARAMETERS FOR S-DISTRIBUTION - SKY COVER

NAKE ISLAND

	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23
JAN								
ALPHA	0.609177	0.595923	0.645092	0.597537	0.630580	0.644472	0.643531	0.603841
BETA	0.851074	0.759403	0.688064	0.676344	0.78894	0.863182	0.898104	0.921001
FEB	.	.	.	.	.	.	.	.
ALPHA	0.54591	0.611845	0.639254	0.620228	0.569907	0.609017	0.64844	0.838767
BETA	0.84751	0.810327	0.805927	0.819708	0.837906	0.895961	0.871483	0.844981
MAR	.	.	.	.	.	.	.	.
ALPHA	0.620394	0.650958	0.691325	0.651255	0.700258	0.721019	0.751512	0.689484
BETA	0.990052	0.908855	0.781109	0.818851	0.929488	0.921341	0.938834	1.10288
APR	.	.	.	.	.	.	.	.
ALPHA	0.676009	0.701711	0.818035	0.692655	0.706214	0.821573	0.804728	0.701422
BETA	0.893789	0.81207	0.784401	0.72227	0.744485	0.847321	0.894315	0.957017
MAY	.	.	.	.	.	.	.	.
ALPHA	0.765117	0.819331	0.781832	0.713968	0.749254	0.848333	0.834083	0.774913
BETA	1.00204	0.938195	0.728818	0.714641	0.759274	0.774564	0.804144	0.998884
JUNE	.	.	.	.	.	.	.	.
ALPHA	0.925179	0.874774	0.918502	0.851122	0.844831	0.820094	0.770071	0.841013
BETA	1.34304	1.03834	0.845002	0.82001	0.755921	0.733094	0.742881	1.15785
JULY	.	.	.	.	.	.	.	.
ALPHA	0.772193	0.7912	0.883444	0.744851	0.740688	0.762548	0.728249	0.70824
BETA	0.704747	0.611075	0.492413	0.44402	0.42598	0.398011	0.377268	0.389187
AUG	.	.	.	.	.	.	.	.
ALPHA	0.572249	0.643865	0.807131	0.732914	0.744359	0.751902	0.69248	0.574122
BETA	0.478932	0.522951	0.492778	0.435258	0.439911	0.411282	0.388614	0.489887
SEPT	.	.	.	.	.	.	.	.
ALPHA	0.695425	0.789394	0.774874	0.710027	0.783471	0.788918	0.648824	0.599499
BETA	0.645282	0.724593	0.549194	0.474111	0.488273	0.484797	0.465429	0.543534
OCT	.	.	.	.	.	.	.	.
ALPHA	0.603013	0.673048	0.743718	0.694884	0.631257	0.689497	0.63737	0.584584
BETA	0.581874	0.62991	0.5257	0.491473	0.443899	0.448129	0.474227	0.54134
NOV	.	.	.	.	.	.	.	.
ALPHA	0.742114	0.751159	0.834563	0.764925	0.749984	0.824479	0.867391	0.719989
BETA	1.0502	1.00859	0.998857	0.911319	0.884494	0.947614	1.08888	0.992637
DEC	.	.	.	.	.	.	.	.
ALPHA	0.764447	0.774184	0.770478	0.647951	0.73101	0.791969	0.772992	0.677784
BETA	1.25013	1.25432	0.987313	0.874399	0.977442	1.03631	1.0464	1.11282