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**GEOPHYSICAL OBSERVATORY  
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**OF THE GEODETIC AND GEOPHYSICAL  
RESEARCH INSTITUTE OF THE HUNGARIAN  
ACADEMY OF SCIENCES**

YEAR

1988-1989

OBSERVATORY OF NAGYCENK

SOPRON

1993



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TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA

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## PREFACE

The Reports of the Nagycenk Geophysical Observatory have been started in 1957 with earth current data. Later, from 1961 on, geomagnetic, from 1962 on, atmospheric electricity and from 1967 on, ionospheric data have been included, too. The present report for the years 1988-1989 has been compressed with respect to the earlier ones. Data series which proved to be of great value for any type of study have been preserved, others were dropped or reduced. In order to minimize delay in publication, the present volume contains data for two consecutive years.

This report has been completed with a list of yearly averages of the geomagnetic elements from the beginning of our observations.

As the railway line Sopron-Győr near the Observatory has been electrified in the year 1987, the recording of Pc1 pulsations had to be stopped since then due to severe noise in this frequency range. The noise level in other frequency range did not disturb strongly the other types of recordings, thus the series of reports will be continued.

The compilation of atmospheric electric and ionospheric data remained unchanged.

Exchange copies of these Reports can be obtained from the Geodetic and Geophysical Research Institute of the Hungarian Academy of Sciences (H-9401 Sopron, Pf. 5, Hungary).

Sopron, June 1993

P. Varga  
Director



## A. ELECTROMAGNETIC FIELD OF THE EARTH

The coordinates of the Geophysical Observatory Nagycenk are the following:

$$\begin{aligned} \varphi &= 47^{\circ}38' & \lambda &= 16^{\circ}43' \\ \phi &= 47.2^{\circ} & \Lambda &= 98.3^{\circ} \\ L &= 1.9 \end{aligned}$$

Times are given in CET (i.e. UT + 1 h), nearly corresponding to LT (- 7 min)

Tables published in this part are the following:

1. 3-hour geoelectromagnetic activity indices T-M, corresponding to the greatest of five indices:

The electric activity indices T for the  $E_x$  and  $E_y$  component, having a linear scale with a step of 1.8 mV/km. The range of values is 0 to 9.

The magnetic activity indices M for the components D, H and Z have also a linear scale with a step of 7 nT in the same range. The electric and magnetic scales are determined so, that the averages are the same in a basic interval.

2. The indices  $K_1$  and  $K_5$  refer to complete days and express the activities in the period ranges 0-2 min (pulsations) and 24-60 min (substorms). The scales of  $K_1$  and  $K_5$  are as follows:

| Period range | Limits between K/values |     |     |     |     |     |     |     |     |
|--------------|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|              | 0-1                     | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 |
| $K_1$        | 2                       | 4   | 7   | 13  | 18  | 23  | 29  | 41  | 54  |
| $K_5$        | 29                      | 43  | 67  | 88  | 110 | 131 | 191 | 234 | 339 |

These values are given in units of  $10^{-5}$  V/km.

Values in brackets mean extrapolated ones from incomplete data,

where the lacking intervals were substituted by the average of recorded intervals.

The list of disturbed (D) and quite (Q) days selected by the following rule: A day is taken as disturbed on the basis of all magnetic and earth current activity indices, if the greatest of the simultaneous character figures decreases only in one of the three hour intervals to 3, in the other intervals they are greater. A day is taken as quiet, if the greatest of all activity indices has not reached 3. Five activity indices (two of the earth currents and three of the magnetism) are always taken into account.

3. Daily variation of the three geomagnetic elements as monthly average. Values are differences in nT between the actual hourly average and the corresponding monthly mean. The monthly averages are given in absolute values (in the case of D the monthly mean is given in minute of arc).

4. Yearly means of the geomagnetic elements 1961 to 1987 in nT and minutes of arc. These values are the results of a reevaluation of previously published data, including corrections eliminating disturbances caused by construction works in the observatory. Corrected values are noted by asterisk.

5. List of special events, common table from magnetic and earth current records. Tables are given for SSC/s, SI/s and bays (substorms) and Pi2 pulsations.

6. Pulsation indices. The indices have been determined from occurrence frequency of different period pulsations, striving at a possibly uniform distribution of days in each of the five possible indices (1-5) in a basic interval.

The determination of these indices can be shortly explained as follows. The days are arranged according to the occurrence frequency of each band. Index 1 is attributed to the days with



the lowest fifth of occurrence frequencies (0 to 20 per cent) index 2 to days with occurrence frequencies in the second lowest fifth (20 to 40 per cent) etc.. index 5 to days with highest occurrence frequencies (80 to 100 per cent). It must be reminded that mainly in the lowest and highest period bands the uniform distribution could not be achieved due to insufficient occurrence of these bands of the records.

The bands are the following:

|     |    |    |         |
|-----|----|----|---------|
| P1  | 0  | to | 5 sec   |
| P2  | 5  | to | 15 sec  |
| P3  | 10 | to | 15 sec  |
| P4  | 15 | to | 20 sec  |
| P5  | 20 | to | 25 sec  |
| P6  | 25 | to | 30 sec  |
| P7  | 30 | to | 40 sec  |
| P8  | 40 | to | 60 sec  |
| P9  | 60 | to | 90 sec  |
| P10 | 90 | to | 120 sec |
| P11 | 2  | to | 5 min   |
| P12 | 5  | to | 10 min  |

For a detailed description of the method of determination of these indices, see:

L. HOLLÓ, M TÁTRALLYAY and J. VERÓ Experimental results with the characterization of geomagnetic micropulsations (Acta Geod., Geoph. Mont. Hung 7/1972/15).

A detailed description of the processing and compilation is found in the Report of the Observatory for 1966 in German and in ÁDÁM, A., VERÓ, J., Cz. MILETITS, J., HOLLÓ, L. and WALLNER, Á: The geophysical observatory near Nagycenk. I. Electromagnetic measurements and processing of data (Acta Geod. Geoph. Mont. Hung., 16/1981/333).

## 1.

Three-hour electromagnetic activity indices (T-M)  
1988.

| Day     | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |  |
|---------|----------|-----|-------|-------|----------|-----|-------|-------|--|
| January |          |     |       |       | February |     |       |       |  |
| 1.      | 01101121 | 7   | 3     | 1     | 10000001 | 2   | 0     | 0     |  |
| 2.      | 22187999 | 47  | 3     | 6     | 10010032 | 7   | 2     | 0     |  |
| 3.      | 21221111 | 11  | 4     | 1     | 10010000 | 2   | 4     | 0     |  |
| 4.      | 21111119 | 17  | 5     | 1     | 01011234 | 12  | 4     | 0     |  |
| 5.      | 92234115 | 27  | 4     | 3     | 62365384 | 37  | 5     | 6     |  |
| 6.      | 32363797 | 40  | 5     | 4     | 31222216 | 19  | 6     | 3     |  |
| 7.      | 97323246 | 36  | 7     | 6     | 51111000 | 9   | 5     | 2     |  |
| 8.      | 46125873 | 36  | 4     | 4     | 10011014 | 8   | 5     | 1     |  |
| 9.      | 13111010 | 8   | 3     | 0     | 11122444 | 19  | 5     | 3     |  |
| 10.     | 00001114 | 7   | 5     | 1     | 31314311 | 17  | 5     | 1     |  |
| 11.     | 12411101 | 11  | 4     | 0     | 00122219 | 17  | 4     | 3     |  |
| 12.     | 11179591 | 34  | 3     | 2     | 33232077 | 27  | 5     | 5     |  |
| 13.     | 01112112 | 9   | 6     | 2     | 12313453 | 22  | 5     | 2     |  |
| 14.     | 84922999 | 52  | 4     | 6     | 22254001 | 16  | 2     | 3     |  |
| 15.     | 99953735 | 50  | 3     | 8     | 12233533 | 22  | 5     | 3     |  |
| 16.     | 30111101 | 8   | 3     | 0     | 11224996 | 34  | 4     | 4     |  |
| 17.     | 00000233 | 8   | 4     | 0     | 12042338 | 23  | 5     | 2     |  |
| 18.     | 30111394 | 22  | 6     | 3     | 72262218 | 30  | 6     | 5     |  |
| 19.     | 11332222 | 16  | 7     | 0     | 11111240 | 11  | 7     | 1     |  |
| 20.     | 21232223 | 17  | 6     | 1     | 00011223 | 9   | 6     | 0     |  |
| 21.     | 32211112 | 13  | 5     | 1     | 44662269 | 39  | 6     | 6     |  |
| 22.     | 01112221 | 10  | 4     | 0     | 99969999 | 69  | 4     | 9     |  |
| 23.     | 10010000 | 2   | 4     | 0     | 99732392 | 44  | 4     | 6     |  |
| 24.     | 00001113 | 6   | 3     | 0     | 23122155 | 21  | 4     | 1     |  |
| 25.     | 01101112 | 7   | 3     | 0     | 05222245 | 22  | 5     | 3     |  |
| 26.     | 10111167 | 18  | 3     | 0     | 21111212 | 11  | 3     | 1     |  |
| 27.     | 21112124 | 14  | 3     | 1     | 03111002 | 8   | 4     | 0     |  |
| 28.     | 11111101 | 7   | 5     | 0     | 10011121 | 7   | 4     | 0     |  |
| 29.     | 11010102 | 6   | 4     | 0     | 11021210 | 8   | 4     | 0     |  |
| 30.     | 00000011 | 2   | 3     | 0     |          |     |       |       |  |
| 31.     | 01001000 | 2   | 3     | 0     |          |     |       |       |  |

T(N)= 1.571     $M_H$ = 1.70     $K_1$ = 4.16  
T(E)= 1.408     $M_D$ = 1.48     $K_5$ = 1.65  
                   $M_Z$ = 0.88

T(N)= 1.818     $M_H$ = 1.78     $K_1$ = 4.41  
T(E)= 1.480     $M_D$ = 1.81     $K_5$ = 2.41  
                   $M_Z$ = 0.33



1988.

| Day | T-M      | Sum | K <sub>1</sub> | K <sub>5</sub> | T-M      | Sum | K <sub>1</sub> | K <sub>5</sub> |
|-----|----------|-----|----------------|----------------|----------|-----|----------------|----------------|
| May |          |     |                |                | June     |     |                |                |
| 1.  | 11111102 | 8   | 3              | 2              | 12111121 | 10  | 5              | 1              |
| 2.  | 01011123 | 9   | 4              | 1              | 12112122 | 12  | 5              | 0              |
| 3.  | 10112123 | 11  | 4              | 1              | 01110011 | 5   | 4              | 0              |
| 4.  | 32123225 | 20  | 5              | 3              | 01011100 | 4   | 4              | 0              |
| 5.  | 11133213 | 15  | 3              | 3              | 11127344 | 23  | 3              | 1              |
| 6.  | 99999969 | 69  | 7              | 9              | 52131211 | 16  | 3              | 2              |
| 7.  | 11224236 | 21  | 8              | 5              | 12211112 | 11  | 3              | 0              |
| 8.  | 33223234 | 22  | 8              | 2              | 31122112 | 13  | 4              | 1              |
| 9.  | 21232211 | 14  | 8              | 2              | 00112333 | 13  | 3              | 2              |
| 10. | 42323311 | 19  | 8              | 2              | 23422211 | 17  | 3              | 2              |
| 11. | 11122211 | 11  | 6              | 2              | 22112211 | 12  | 5              | 1              |
| 12. | 22111111 | 10  | 6              | 1              | 01101010 | 4   | 3              | 0              |
| 13. | 11111110 | 7   | 5              | 1              | 22111001 | 8   | 2              | 0              |
| 14. | 00110110 | 4   | 4              | 0              | 24573236 | 32  | 4              | 3              |
| 15. | 03211112 | 11  | 3              | 2              | 31121113 | 13  | 6              | 0              |
| 16. | 22414711 | 22  | 3              | 4              | 22211111 | 11  | 3              | 0              |
| 17. | 12349934 | 35  | 5              | 3              | 12112371 | 18  | 3              | 2              |
| 18. | 98313311 | 29  | 4              | 3              | 31122992 | 29  | 6              | 2              |
| 19. | 32122201 | 13  | 5              | 2              | 33366892 | 40  | 7              | 4              |
| 20. | 11111213 | 11  | 5              | 1              | 44432100 | 18  | 7              | 1              |
| 21. | 22312312 | 16  | 7              | 3              | 10212201 | 9   | 5              | 0              |
| 22. | 62312210 | 17  | 7              | 2              | 15225231 | 21  | 7              | 2              |
| 23. | 02111223 | 12  | 6              | 1              | 23122224 | 18  | 4              | 2              |
| 24. | 20124222 | 15  | 4              | 1              | 59455644 | 42  | 6              | 3              |
| 25. | 12212124 | 15  | 3              | 1              | 44684663 | 41  | 6              | 4              |
| 26. | 15211210 | 13  | 4              | 1              | 93311295 | 33  | 5              | 3              |
| 27. | 01021011 | 6   | 3              | 0              | 65111334 | 24  | 3              | 3              |
| 28. | 01011110 | 5   | 2              | 0              | 11232311 | 14  | 5              | 1              |
| 29. | 01223312 | 14  | 4              | 1              | 17744576 | 41  | 6              | 5              |
| 30. | 14321113 | 16  | 4              | 2              | 44356652 | 35  | 6              | 5              |
| 31. | 32123112 | 15  | 4              | 2              |          |     |                |                |

T(N)= 1.625    M<sub>H</sub>= 1.45    K<sub>1</sub>= 4.90  
T(E)= 1.468    M<sub>D</sub>= 1.14    K<sub>5</sub>= 2.03  
                  M<sub>Z</sub>= 0.23

T(N)= 1.828    M<sub>H</sub>= 1.78    K<sub>1</sub>= 4.53  
T(E)= 1.696    M<sub>D</sub>= 1.17    K<sub>5</sub>= 1.67  
                  M<sub>Z</sub>= 0.30

1988.

| Day  | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |
|------|----------|-----|-------|-------|----------|-----|-------|-------|
| July |          |     |       |       | August   |     |       |       |
| 1.   | 62233223 | 23  | 7     | 2     | 13212121 | 13  | 5     | 1     |
| 2.   | 22343231 | 20  | 7     | 1     | 11211122 | 11  | 5     | 1     |
| 3.   | 11122221 | 12  | 7     | 1     | 12111210 | 9   | 2     | 1     |
| 4.   | 12111110 | 8   | 7     | 0     | 10110001 | 4   | 3     | 0     |
| 5.   | 00110232 | 9   | 4     | 0     | 01112124 | 12  | 5     | 1     |
| 6.   | 45113513 | 23  | 5     | 0     | 22411111 | 13  | 4     | 0     |
| 7.   | 11113021 | 10  | 4     | 1     | 21222121 | 13  | 2     | 2     |
| 8.   | 11213231 | 14  | 2     | 0     | 01011011 | 5   | 3     | 1     |
| 9.   | 10000001 | 2   | 4     | 0     | 11537133 | 24  | 3     | 4     |
| 10.  | 11111221 | 10  | 3     | 0     | 21212245 | 18  | 4     | 2     |
| 11.  | 74547442 | 37  | 6     | 5     | 31122114 | 15  | 4     | 3     |
| 12.  | 23535634 | 31  | 5     | 4     | 54323625 | 30  | 5     | 4     |
| 13.  | 21110221 | 10  | 4     | 0     | 35444432 | 29  | 6     | 6     |
| 14.  | 22311114 | 15  | 7     | 1     | 92554611 | 33  | 7     | 5     |
| 15.  | 22222264 | 22  | 6     | 3     | 23435432 | 26  | 5     | 3     |
| 16.  | 34459343 | 35  | 6     | 6     | 13211121 | 12  | 5     | 2     |
| 17.  | 42123322 | 19  | 5     | 1     | 11011101 | 6   | 6     | 1     |
| 18.  | 13232211 | 15  | 4     | 1     | 12211212 | 12  | 5     | 2     |
| 19.  | 11333221 | 16  | 6     | 2     | 21121313 | 14  | 7     | 2     |
| 20.  | 11110111 | 7   | 4     | 0     | 12227832 | 27  | 7     | 6     |
| 21.  | 17586621 | 36  | 6     | 6     | 11110008 | 12  | 5     | 0     |
| 22.  | 44244665 | 35  | 3     | 4     | 49322122 | 25  | 5     | 6     |
| 23.  | 43331001 | 15  | 4     | 2     | 12122233 | 16  | 6     | 2     |
| 24.  | 11212112 | 11  | 5     | 2     | 23334326 | 26  | 7     | 6     |
| 25.  | 13211121 | 12  | 5     | 1     | 12375325 | 28  | 7     | 6     |
| 26.  | 31233644 | 26  | 6     | 2     | 34214423 | 23  | 7     | 3     |
| 27.  | 44312111 | 19  | 3     | 2     | 43232233 | 22  | 7     | 3     |
| 28.  | 11222234 | 17  | 7     | 1     | 12223124 | 17  | 7     | 3     |
| 29.  | 21122106 | 15  | 6     | 1     | 33233222 | 20  | 7     | 3     |
| 30.  | 22211112 | 12  | 5     | 1     | 44222122 | 19  | 7     | 4     |
| 31.  | 12222211 | 13  | 5     | 2     | 24211644 | 24  | 7     | 3     |

$T(N) = 1.685$      $M_H = 1.54$      $K_1 = 5.10$   
 $T(E) = 1.669$      $M_D = 1.10$      $K_5 = 1.71$   
 $M_Z = 0.21$

$T(N) = 1.835$      $M_H = 1.61$      $K_1 = 5.32$   
 $T(E) = 1.621$      $M_D = 1.25$      $K_5 = 2.77$   
 $M_Z = 0.19$

1988.

| Day       | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |
|-----------|----------|-----|-------|-------|----------|-----|-------|-------|
| September |          |     |       |       | October  |     |       |       |
| 1.        | 45654343 | 34  | 7     | 5     | 32123113 | 16  | 5     | 4     |
| 2.        | 32223224 | 20  | 7     | 3     | 21102100 | 7   | 3     | 1     |
| 3.        | 22222133 | 17  | 7     | 2     | 00111211 | 7   | 5     | 0     |
| 4.        | 11222111 | 11  | 4     | 2     | 00211119 | 15  | 3     | 3     |
| 5.        | 21111000 | 6   | 5     | 0     | 45543563 | 35  | 4     | 5     |
| 6.        | 10002131 | 8   | 3     | 1     | 77577994 | 55  | 5     | 8     |
| 7.        | 11111010 | 6   | 3     | 0     | 23122113 | 15  | 6     | 1     |
| 8.        | 01222124 | 14  | 4     | 2     | 11122231 | 13  | 5     | 2     |
| 9.        | 01111021 | 7   | 4     | 0     | 12244345 | 25  | 5     | 5     |
| 10.       | 20011124 | 11  | 3     | 2     | 45999999 | 63  | 8     | 9     |
| 11.       | 24537799 | 46  | 6     | 8     | 61233111 | 18  | 6     | 2     |
| 12.       | 94332333 | 30  | 7     | 6     | 11121011 | 8   | 3     | 2     |
| 13.       | 11122144 | 16  | 6     | 3     | 11311002 | 9   | 3     | 2     |
| 14.       | 42232212 | 18  | 5     | 2     | 11122201 | 10  | 7     | 2     |
| 15.       | 14113231 | 16  | 3     | 3     | 10122211 | 10  | 4     | 1     |
| 16.       | 12123310 | 13  | 5     | 1     | 12323162 | 20  | 4     | 4     |
| 17.       | 13227276 | 30  | 2     | 6     | 22644239 | 32  | 6     | 6     |
| 18.       | 94847237 | 44  | 5     | 6     | 43297957 | 46  | 7     | 9     |
| 19.       | 93532347 | 36  | 5     | 8     | 83433243 | 30  | 5     | 6     |
| 20.       | 23433154 | 25  | 7     | 6     | 32534844 | 33  | 5     | 7     |
| 21.       | 22524126 | 24  | 7     | 6     | 32212103 | 14  | 7     | 1     |
| 22.       | 23334721 | 25  | 3     | 6     | 11110010 | 5   | 4     | 0     |
| 23.       | 22323112 | 16  | 6     | 4     | 10132110 | 9   | 4     | 2     |
| 24.       | 11233114 | 16  | 5     | 2     | 12121101 | 9   | 5     | 2     |
| 25.       | 24221126 | 20  | 4     | 4     | 11221000 | 7   | 4     | 2     |
| 26.       | 11228121 | 18  | 4     | 3     | 11122123 | 13  | 4     | 2     |
| 27.       | 11121110 | 8   | 6     | 1     | 12133171 | 19  | 4     | 4     |
| 28.       | 11121112 | 10  | 4     | 1     | 23224001 | 14  | 4     | 3     |
| 29.       | 11111100 | 6   | 3     | 0     | 11111000 | 5   | 4     | 0     |
| 30.       | 00132241 | 13  | 3     | 3     | 00000015 | 6   | 3     | 1     |
| 31.       |          |     |       |       | 12246112 | 19  | 3     | 4     |

$T(N) = 2.067$      $M_H = 1.52$      $K_1 = 4.43$   
 $T(E) = 1.562$      $M_D = 1.49$      $K_5 = 3.20$   
 $M_Z = 0.21$

$T(N) = 2.024$      $M_H = 1.55$      $K_1 = 4.67$   
 $T(E) = 1.383$      $M_D = 1.54$      $K_5 = 3.23$   
 $M_Z = 0.20$

1988.

| Day      | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |
|----------|----------|-----|-------|-------|----------|-----|-------|-------|
| November |          |     |       |       | December |     |       |       |
| 1.       | 21011332 | 13  | 3     | 2     | 00022000 | 4   | 3     | 0     |
| 2.       | 83335996 | 46  | 6     | 8     | 01337535 | 27  | 4     | 3     |
| 3.       | 46378397 | 47  | 7     | 8     | 22232293 | 25  | 5     | 4     |
| 4.       | 21332350 | 19  | 6     | 4     | 14222322 | 18  | 5     | 2     |
| 5.       | 31114411 | 16  | 5     | 3     | 00111011 | 5   | 3     | 0     |
| 6.       | 03323124 | 18  | 5     | 5     | 11011000 | 4   | 5     | 0     |
| 7.       | 13223662 | 25  | 5     | 5     | 00000000 | 0   | 3     | 0     |
| 8.       | 51121393 | 25  | 5     | 8     | 10011112 | 7   | 3     | 1     |
| 9.       | 20332413 | 18  | 4     | 3     | 10100011 | 4   | 5     | 0     |
| 10.      | 13133511 | 18  | 6     | 4     | 31114310 | 14  | 3     | 2     |
| 11.      | 01422257 | 23  | 5     | 3     | 03233784 | 30  | 4     | 5     |
| 12.      | 51157833 | 33  | 5     | 5     | 38443412 | 29  | 4     | 5     |
| 13.      | 71224112 | 20  | 7     | 4     | 23343569 | 35  | 5     | 6     |
| 14.      | 13275323 | 26  | 6     | 6     | 12113257 | 22  | 4     | 5     |
| 15.      | 24344122 | 22  | 7     | 6     | 53221110 | 15  | 3     | 3     |
| 16.      | 12253577 | 32  | 5     | 6     | 32255949 | 39  | 5     | 6     |
| 17.      | 52345122 | 24  | 5     | 4     | 32247299 | 38  | 4     | 6     |
| 18.      | 01123245 | 18  | 5     | 2     | 84945266 | 44  | 4     | 3     |
| 19.      | 20112010 | 7   | 4     | 1     | 74343772 | 37  | 4     | 5     |
| 20.      | 00001101 | 3   | 3     | 0     | 11231111 | 11  | 4     | 1     |
| 21.      | 11211001 | 7   | 4     | 1     | 12132111 | 12  | 2     | 2     |
| 22.      | 21121011 | 9   | 3     | 1     | 33192241 | 25  | 3     | 4     |
| 23.      | 01100000 | 2   | 4     | 0     | 11121011 | 8   | 4     | 0     |
| 24.      | 11101011 | 6   | 3     | 1     | 11121001 | 7   | 3     | 0     |
| 25.      | 10111123 | 10  | 3     | 2     | 11125692 | 27  | 3     | 6     |
| 26.      | 44238774 | 39  | 6     | 4     | 34287644 | 38  | 4     | 6     |
| 27.      | 34224152 | 23  | 7     | 3     | 44345433 | 30  | 5     | 5     |
| 28.      | 01125543 | 21  | 4     | 3     | 11135173 | 22  | 5     | 4     |
| 29.      | 21121121 | 11  | 5     | 2     | 53265235 | 31  | 4     | 3     |
| 30.      | 31199993 | 44  | 5     | 7     | 22143342 | 21  | 3     | 2     |
| 31.      |          |     |       |       | 11142131 | 14  | 5     | 2     |

|             |              |              |             |              |              |
|-------------|--------------|--------------|-------------|--------------|--------------|
| T(N)= 2.138 | $M_H = 1.73$ | $K_1 = 4.93$ | T(N)= 2.206 | $M_H = 1.86$ | $K_1 = 3.90$ |
| T(E)= 1.383 | $M_D = 1.77$ | $K_5 = 3.70$ | T(E)= 1.516 | $M_D = 1.72$ | $K_5 = 2.94$ |
|             | $M_Z = 0.17$ |              |             | $M_Z = 0.24$ |              |

Three-hour electromagnetic activity indices (T-M)

1989.

| Day     | T-M      | Sum | K <sub>1</sub> | K <sub>5</sub> | T-M      | Sum | K <sub>1</sub> | K <sub>5</sub> |
|---------|----------|-----|----------------|----------------|----------|-----|----------------|----------------|
| January |          |     |                |                | February |     |                |                |
| 1.      | 62313215 | 23  | 2              | 3              | 75266569 | 46  | 5              | 8              |
| 2.      | 10032122 | 11  | 4              | 1              | 33313196 | 29  | 3              | 6              |
| 3.      | 00121121 | 8   | 5              | 0              | 59667999 | 60  | 5              | 8              |
| 4.      | 11142124 | 16  | 3              | 1              | 84546328 | 40  | 6              | 6              |
| 5.      | 68453992 | 46  | 4              | 6              | 36535257 | 36  | 7              | 6              |
| 6.      | 22122111 | 12  | 4              | 2              | 53564445 | 36  | 7              | 8              |
| 7.      | 62143141 | 22  | 7              | 3              | 34366455 | 36  | 6              | 8              |
| 8.      | 01227764 | 29  | 6              | 7              | 93344122 | 28  | 5              | 6              |
| 9.      | 42244523 | 26  | 4              | 6              | 43333329 | 30  | 6              | 4              |
| 10.     | 42343231 | 22  | 4              | 3              | 43124100 | 15  | 4              | 2              |
| 11.     | 11126999 | 38  | 5              | 8              | 00223151 | 14  | 4              | 2              |
| 12.     | 94333223 | 29  | 7              | 6              | 21233377 | 28  | 4              | 6              |
| 13.     | 00114542 | 17  | 5              | 5              | 73446362 | 35  | 4              | 6              |
| 14.     | 31113149 | 23  | 6              | 5              | 23223701 | 20  | 7              | 2              |
| 15.     | 94459599 | 54  | 4              | 8              | 01111198 | 22  | 4              | 5              |
| 16.     | 96655996 | 55  | 5              | 8              | 35437214 | 29  | 4              | 6              |
| 17.     | 54466569 | 45  | 4              | 7              | 22131101 | 11  | 4              | 1              |
| 18.     | 51237113 | 23  | 2              | 4              | 11215432 | 19  | 3              | 1              |
| 19.     | 22221111 | 12  | 3              | 2              | 11223426 | 21  | 5              | 2              |
| 20.     | 21119998 | 40  | 4              | 8              | 33565682 | 38  | 6              | 3              |
| 21.     | 83455996 | 49  | 3              | 8              | 22244511 | 21  | 7              | 3              |
| 22.     | 95989644 | 54  | 5              | 8              | 12242225 | 20  | 5              | 4              |
| 23.     | 34454333 | 29  | 6              | 6              | 10112102 | 8   | 7              | 1              |
| 24.     | 32233263 | 24  | 6              | 4              | 22234201 | 16  | 4              | 5              |
| 25.     | 13133142 | 18  | 6              | 4              | 10232111 | 11  | 5              | 2              |
| 26.     | 11225131 | 16  | 5              | 3              | 10112000 | 5   | 4              | 2              |
| 27.     | 23244100 | 16  | 5              | 4              | 10112310 | 9   | 3              | 2              |
| 28.     | 03213391 | 22  | 3              | 3              | 12123156 | 21  | 6              | 3              |
| 29.     | 21132631 | 19  | 4              | 2              |          |     |                |                |
| 30.     | 02324212 | 16  | 4              | 3              |          |     |                |                |
| 31.     | 23125599 | 36  | 5              | 8              |          |     |                |                |

|             |                       |                       |             |                       |                       |
|-------------|-----------------------|-----------------------|-------------|-----------------------|-----------------------|
| T(N)= 2.883 | M <sub>H</sub> = 2.43 | K <sub>1</sub> = 4.52 | T(N)= 2.540 | M <sub>H</sub> = 2.17 | K <sub>1</sub> = 5.00 |
| T(E)= 2.203 | M <sub>D</sub> = 2.60 | K <sub>5</sub> = 4.71 | T(E)= 1.710 | M <sub>D</sub> = 2.21 | K <sub>5</sub> = 4.29 |
|             | M <sub>Z</sub> = 0.35 |                       |             | M <sub>Z</sub> = 0.26 |                       |





1989.

| Day | T-M      | Sum | K <sub>1</sub> | K <sub>5</sub> | T-M      | Sum | K <sub>1</sub> | K <sub>5</sub> |
|-----|----------|-----|----------------|----------------|----------|-----|----------------|----------------|
| May |          |     |                |                | June     |     |                |                |
| 1.  | 31112233 | 16  | 6              | 2              | 23123222 | 17  | 6              | 3              |
| 2.  | 34333354 | 28  | 8              | 5              | 22355433 | 27  | 4              | 3              |
| 3.  | 43222133 | 20  | 7              | 3              | 33213633 | 24  | 7              | 2              |
| 4.  | 34323333 | 24  | 8              | 5              | 54112311 | 18  | 5              | 3              |
| 5.  | 99993214 | 46  | 5              | 7              | 22122213 | 15  | 6              | 3              |
| 6.  | 22142237 | 23  | 6              | 1              | 12113210 | 11  | 5              | 2              |
| 7.  | 11989999 | 55  | 7              | 8              | 99779102 | 44  | 5              | 6              |
| 8.  | 11221112 | 11  | 5              | 0              | 33233299 | 34  | 7              | 6              |
| 9.  | 11211101 | 10  | 4              | 0              | 99243354 | 39  | 3              | 8              |
| 10. | 01111102 | 7   | 5              | 1              | 77959997 | 62  | 7              | 9              |
| 11. | 11111212 | 10  | 4              | 0              | 35535332 | 29  | 7              | 6              |
| 12. | 32322211 | 16  | 5              | 2              | 32422211 | 17  | 4              | 2              |
| 13. | 11123830 | 19  | 5              | 1              | 12123385 | 25  | 5              | 3              |
| 14. | 13321322 | 17  | 3              | 2              | 67599939 | 57  | 5              | 7              |
| 15. | 12423232 | 19  | 5              | 2              | 46357983 | 45  | 5              | 7              |
| 16. | 12312221 | 14  | 6              | 1              | 14410100 | 11  | 3              | 0              |
| 17. | 22221111 | 12  | 6              | 0              | 00021232 | 10  | 4              | 1              |
| 18. | 11212111 | 10  | 5              | 2              | 11222221 | 13  | 5              | 1              |
| 19. | 01112222 | 11  | 5              | 0              | 12222112 | 13  | 3              | 1              |
| 20. | 11257420 | 22  | 6              | 3              | 33448694 | 41  | 4              | 6              |
| 21. | 02123111 | 11  | 3              | 1              | 11121111 | 9   | 6              | 0              |
| 22. | 11113425 | 18  | 6              | 3              | 01111113 | 9   | 4              | 0              |
| 23. | 22219998 | 42  | 8              | 7              | 11111114 | 11  | 4              | 1              |
| 24. | 95889999 | 66  | 8              | 9              | 01235311 | 16  | 4              | 2              |
| 25. | 64553453 | 35  | 6              | 6              | 12222111 | 12  | 5              | 2              |
| 26. | 43334554 | 31  | 7              | 3              | 11223231 | 15  | 4              | 2              |
| 27. | 53242333 | 25  | 6              | 5              | 21112112 | 11  | 4              | 0              |
| 28. | 23324533 | 25  | 6              | 4              | 21111111 | 9   | 5              | 2              |
| 29. | 42224323 | 22  | 6              | 2              | 32222212 | 16  | 2              | 2              |
| 30. | 32321112 | 15  | 6              | 1              | 22211101 | 10  | 3              | 3              |
| 31. | 31113232 | 16  | 4              | 2              |          |     |                |                |

|             |                       |                       |             |                       |                       |
|-------------|-----------------------|-----------------------|-------------|-----------------------|-----------------------|
| T(N)= 2.310 | M <sub>H</sub> = 2.15 | K <sub>1</sub> = 5.71 | T(N)= 2.179 | M <sub>H</sub> = 2.30 | K <sub>1</sub> = 4.70 |
| T(E)= 1.972 | M <sub>D</sub> = 1.79 | K <sub>5</sub> = 2.84 | T(E)= 2.000 | M <sub>D</sub> = 1.65 | K <sub>5</sub> = 3.10 |
|             | M <sub>Z</sub> = 0.30 |                       |             | M <sub>Z</sub> = 0.40 |                       |

1989.

| Day  | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |
|------|----------|-----|-------|-------|----------|-----|-------|-------|
| July |          |     |       |       | August   |     |       |       |
| 1.   | 01332999 | 36  | 3     | 6     | 21111111 | 9   | 2     | 1     |
| 2.   | 33111000 | 9   | 2     | 1     | 21210101 | 8   | 5     | 2     |
| 3.   | 01010000 | 2   | 2     | 0     | 12222010 | 10  | 3     | 1     |
| 4.   | 01110200 | 5   | 3     | 0     | 00123311 | 11  | 4     | 1     |
| 5.   | 11112593 | 23  | 4     | 4     | 10001001 | 3   | 2     | 0     |
| 6.   | 23122331 | 17  | 7     | 4     | 10112143 | 13  | 5     | 3     |
| 7.   | 22312121 | 14  | 6     | 2     | 12222222 | 15  | 6     | 4     |
| 8.   | 10111101 | 6   | 3     | 0     | 13322111 | 14  | 6     | 3     |
| 9.   | 21111122 | 11  | 3     | 1     | 11122294 | 22  | 5     | 3     |
| 10.  | 26232323 | 23  | 3     | 3     | 45799528 | 49  | 5     | 6     |
| 11.  | 11121111 | 9   | 5     | 1     | 76455521 | 35  | 7     | 6     |
| 12.  | 01021111 | 7   | 3     | 1     | 31122302 | 14  | 4     | 2     |
| 13.  | 32322111 | 15  | 3     | 2     | 13114211 | 14  | 5     | 2     |
| 14.  | 01110112 | 7   | 3     | 1     | 47999547 | 54  | 7     | 9     |
| 15.  | 11111211 | 9   | 4     | 0     | 99749749 | 58  | 9     | 9     |
| 16.  | 11000000 | 2   | 3     | 0     | 99534246 | 42  | 8     | 8     |
| 17.  | 55322132 | 23  | 5     | 3     | 33322996 | 37  | 6     | 8     |
| 18.  | 35422321 | 22  | 4     | 6     | 85473457 | 43  | 6     | 8     |
| 19.  | 11211001 | 7   | 6     | 0     | 85422231 | 27  | 6     | 6     |
| 20.  | 11010111 | 6   | 3     | 1     | 22698931 | 40  | 4     | 6     |
| 21.  | 21112101 | 9   | 4     | 2     | 13122659 | 29  | 4     | 6     |
| 22.  | 11121212 | 11  | 4     | 1     | 94122111 | 21  | 3     | 4     |
| 23.  | 36346611 | 30  | 4     | 3     | 43226899 | 43  | 5     | 6     |
| 24.  | 21224222 | 17  | 7     | 2     | 33112212 | 15  | 4     | 2     |
| 25.  | 22243113 | 18  | 6     | 1     | 10312212 | 12  | 3     | 1     |
| 26.  | 33233332 | 22  | 4     | 4     | 12111101 | 8   | 3     | 1     |
| 27.  | 22221212 | 14  | 5     | 3     | 14548599 | 45  | 5     | 6     |
| 28.  | 23221212 | 15  | 5     | 0     | 71123239 | 28  | 3     | 6     |
| 29.  | 22222233 | 18  | 6     | 2     | 99975482 | 53  | 6     | 8     |
| 30.  | 22332221 | 17  | 6     | 2     | 26223363 | 27  | 5     | 6     |
| 31.  | 11111111 | 8   | 4     | 0     | 11101222 | 10  | 4     | 2     |

T(N)= 1.448     $M_H = 1.19$      $K_1 = 4.23$   
T(E)= 1.161     $M_D = 0.90$      $K_5 = 1.81$   
                   $M_Z = 0.22$

T(N)= 2.778     $M_H = 2.56$      $K_1 = 4.84$   
T(E)= 2.424     $M_D = 2.25$      $K_5 = 4.39$   
                   $M_Z = 0.45$

1989.

| Day       | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |
|-----------|----------|-----|-------|-------|----------|-----|-------|-------|
| September |          |     |       |       | October  |     |       |       |
| 1.        | 11241210 | 12  | 2     | 1     | 33222412 | 19  | 4     | 2     |
| 2.        | 11113411 | 13  | 3     | 3     | 24543312 | 24  | 6     | 2     |
| 3.        | 01211102 | 8   | 5     | 1     | 00245263 | 22  | 3     | 5     |
| 4.        | 89995111 | 43  | 5     | 5     | 11121212 | 11  | 3     | 2     |
| 5.        | 36843111 | 27  | 5     | 6     | 21011201 | 8   | 5     | 1     |
| 6.        | 13235332 | 22  | 4     | 2     | 11251330 | 16  | 5     | 4     |
| 7.        | 21125994 | 33  | 4     | 6     | 52232223 | 21  | 4     | 4     |
| 8.        | 72633311 | 26  | 7     | 4     | 32533102 | 19  | 5     | 4     |
| 9.        | 41194214 | 26  | 4     | 4     | 33433212 | 21  | 4     | 4     |
| 10.       | 11212121 | 11  | 4     | 1     | 33675312 | 30  | 5     | 2     |
| 11.       | 00021002 | 5   | 5     | 0     | 21344111 | 17  | 5     | 2     |
| 12.       | 32436313 | 25  | 4     | 1     | 01334121 | 15  | 5     | 3     |
| 13.       | 12233224 | 19  | 5     | 5     | 10000000 | 1   | 3     | 0     |
| 14.       | 12225100 | 13  | 4     | 2     | 00001000 | 1   | 3     | 0     |
| 15.       | 35545479 | 42  | 4     | 7     | 00001122 | 6   | 2     | 2     |
| 16.       | 93332111 | 23  | 3     | 5     | 11247431 | 23  | 4     | 5     |
| 17.       | 20312112 | 12  | 3     | 1     | 33232031 | 17  | 3     | 3     |
| 18.       | 61394599 | 46  | 7     | 8     | 57133132 | 25  | 3     | 3     |
| 19.       | 99945320 | 40  | 4     | 8     | 98478011 | 38  | 5     | 6     |
| 20.       | 00001012 | 4   | 3     | 0     | 11479999 | 49  | 6     | 8     |
| 21.       | 02122100 | 8   | 5     | 2     | 89999999 | 71  | 5     | 9     |
| 22.       | 22875573 | 39  | 6     | 6     | 97335999 | 54  | 5     | 8     |
| 23.       | 10111110 | 6   | 7     | 1     | 43623225 | 27  | 4     | 4     |
| 24.       | 10122223 | 13  | 5     | 2     | 24433261 | 25  | 5     | 3     |
| 25.       | 20011111 | 7   | 5     | 1     | 55351101 | 21  | 4     | 3     |
| 26.       | 00568999 | 46  | 5     | 8     | 34122994 | 34  | 5     | 6     |
| 27.       | 52222300 | 16  | 3     | 2     | 73323174 | 30  | 6     | 3     |
| 28.       | 22112051 | 14  | 4     | 2     | 01132372 | 19  | 5     | 3     |
| 29.       | 11117121 | 15  | 4     | 2     | 12312178 | 25  | 7     | 3     |
| 30.       | 31212283 | 22  | 5     | 3     | 84456378 | 45  | 7     | 6     |
| 31.       |          |     |       |       | 62435451 | 30  | 5     | 4     |

T(N)= 2.279     $M_H = 2.01$      $K_1 = 4.47$   
T(E)= 1.858     $M_D = 1.78$      $K_5 = 3.30$   
                   $M_Z = 0.33$

T(N)= 2.681     $M_H = 2.23$      $K_1 = 4.55$   
T(E)= 1.956     $M_D = 2.26$      $K_5 = 3.68$   
                   $M_Z = 0.38$

1989.

| Day      | T-M      | Sum | $K_1$ | $K_5$ | T-M      | Sum | $K_1$ | $K_5$ |
|----------|----------|-----|-------|-------|----------|-----|-------|-------|
| November |          |     |       |       | December |     |       |       |
| 1        | 11332123 | 16  | 7     | 4     | 95554499 | 50  | 7     | 8     |
| 2.       | 95322393 | 36  | 6     | 5     | 96562126 | 37  | 4     | 5     |
| 3.       | 73249545 | 39  | 6     | 8     | 74484537 | 42  | 7     | 6     |
| 4.       | 11377545 | 33  | 6     | 6     | 87525399 | 48  | 5     | 8     |
| 5.       | 73672169 | 41  | 7     | 7     | 86421121 | 25  | 3     | 4     |
| 6.       | 32333323 | 22  | 5     | 4     | 11112111 | 9   | 4     | 0     |
| 7.       | 53259423 | 33  | 4     | 7     | 11122133 | 14  | 5     | 3     |
| 8.       | 23269440 | 30  | 6     | 6     | 11113211 | 11  | 4     | 1     |
| 9.       | 46366692 | 42  | 5     | 5     | 10111110 | 6   | 6     | 0     |
| 10.      | 25325221 | 22  | 5     | 2     | 00000001 | 1   | 3     | 0     |
| 11.      | 25653695 | 41  | 7     | 4     | 01122201 | 9   | 3     | 0     |
| 12.      | 44733214 | 28  | 3     | 2     | 01112014 | 10  | 3     | 1     |
| 13.      | 65868979 | 58  | 5     | 6     | 23111021 | 11  | 2     | 2     |
| 14.      | 73232113 | 22  | 5     | 5     | 00023734 | 19  | 3     | 4     |
| 15.      | 31121100 | 9   | 2     | 2     | 33122111 | 14  | 4     | 2     |
| 16.      | 00022111 | 7   | 6     | 3     | 01134535 | 22  | 3     | 4     |
| 17.      | 41299999 | 52  | 7     | 9     | 11123312 | 15  | 5     | 2     |
| 18.      | 98943212 | 38  | 7     | 4     | 21122023 | 13  | 4     | 1     |
| 19.      | 10132165 | 19  | 3     | 5     | 22112121 | 12  | 5     | 1     |
| 20.      | 22223122 | 16  | 4     | 4     | 01110113 | 8   | 5     | 0     |
| 21.      | 52476000 | 24  | 5     | 4     | 45012221 | 17  | 5     | 2     |
| 22.      | 00132242 | 14  | 5     | 2     | 72259797 | 48  | 4     | 4     |
| 23.      | 31012101 | 9   | 4     | 2     | 14473217 | 29  | 4     | 2     |
| 24.      | 01221112 | 10  | 6     | 2     | 21245998 | 40  | 4     | 7     |
| 25.      | 01000000 | 1   | 5     | 0     | 45243126 | 27  | 5     | 4     |
| 26.      | 00033174 | 18  | 3     | 0     | 21246499 | 37  | 5     | 7     |
| 27.      | 22135348 | 28  | 4     | 6     | 56357577 | 45  | 6     | 1     |
| 28.      | 86645559 | 48  | 5     | 8     | 23223111 | 15  | 4     | 2     |
| 29.      | 64386487 | 46  | 6     | 6     | 32469999 | 51  | 6     | 6     |
| 30.      | 55133374 | 31  | 4     | 6     | 91573856 | 44  | 3     | 6     |
| 31.      |          |     |       |       | 65555551 | 37  | 4     | 7     |

$T(N) = 3.000$      $M_H = 2.60$      $K_1 = 5.03$   
 $T(E) = 2.200$      $M_D = 2.59$      $K_5 = 4.50$   
 $M_Z = 0.47$

$T(N) = 2.488$      $M_H = 2.19$      $K_1 = 4.35$   
 $T(E) = 1.742$      $M_D = 2.15$      $K_5 = 3.23$   
 $M_Z = 0.33$

2.  
Disturbed and quiet days for 1988

| Disturbed days |        | Quiet days                        |  |
|----------------|--------|-----------------------------------|--|
| January        | -      | 1, 13, 22, 23, 25, 28, 29, 30, 31 |  |
| February       | 22     | 1, 3, 26, 28                      |  |
| March          | -      | 1, 13, 18, 19, 21, 22, 23         |  |
| April          | 4, 22  | 15, 16, 18, 21, 24, 29            |  |
| May            | 6      | 1, 11, 12, 13, 14, 27, 28         |  |
| June           | 24, 25 | 1, 2, 3, 4, 7, 11, 12, 13, 16, 21 |  |
| July           | -      | 3, 4, 9, 10, 13, 20, 24, 30, 31   |  |
| August         | -      | 2, 3, 4, 7, 8, 17, 18             |  |
| September      | -      | 4, 5, 7, 9, 27, 28, 29            |  |
| October        | 6, 10  | 2, 3, 12, 14, 15, 22, 24, 25, 29  |  |
| November       | -      | 19, 20, 21, 22, 23, 24, 29        |  |
| December       | -      | 1, 5, 6, 7, 8, 9, 23, 24          |  |

Disturbed and quiet days for 1989

| Disturbed days                          | Quiet days   |
|---|--|
| January      15, 16, 17, 21, 22         | 3, 6, 19   |
| February     3, 6                       | 23, 26   |
| March        13, 14, 15, 17, 28, 29, 31 | -  |
| April        1, 4, 5, 26, 27, 28        | 19, 20   |
| May          24                         | 8, 9, 10, 11, 17, 18, 19                             |
| June         10, 14                     | 18, 19, 21, 25, 27, 28, 30                           |
| July         -                          | 3, 4, 8, 9, 11, 14, 15, 16, 19<br>20, 21, 22, 27, 31 |
| August      14, 15, 18                  | 1, 2, 3, 5, 7, 26, 31                                |
| September   15                          | 3, 10, 11, 20, 23, 25                                |
| October     21, 30                      | 4, 5, 13, 14, 15                                     |
| November    13, 28, 29                  | 16, 24, 25   |
| December    1, 3, 27                    | 6, 9, 10, 11, 19                                     |

### 3. Hourly averages of magnetic

|          | 0    | 1    | 2    | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|----------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January  |      |      |      |       |       |       |       |       |       |       |       |       |       |
| H        | +0.3 | -0.1 | +0.7 | +0.3  | +2.8  | +6.7  | +7.5  | +10.0 | +11.0 | +6.8  | +2.0  | +0.3  | +0.3  |
| D        | +9.7 | +6.5 | +4.6 | +2.5  | -1.1  | -2.8  | -2.5  | -2.8  | -0.8  | +1.8  | -3.7  | -10.3 | -13.3 |
| Z        | +0.8 | -0.1 | -0.9 | -0.9  | -1.0  | -1.7  | -1.8  | -2.5  | -2.0  | -3.8  | -5.1  | -4.5  | -3.1  |
| February |      |      |      |       |       |       |       |       |       |       |       |       |       |
| H        | +1.7 | +5.4 | +6.9 | +5.5  | +5.1  | +6.1  | +7.1  | +11.3 | +12.0 | +7.0  | +0.8  | -5.1  | -7.0  |
| D        | +7.9 | +7.9 | +1.1 | -0.3  | -3.0  | -0.8  | -0.5  | +1.5  | +8.0  | +10.8 | +5.1  | -3.4  | -12.2 |
| Z        | +1.5 | +0.1 | -0.1 | -1.6  | -1.9  | -2.3  | -2.3  | -1.7  | -0.5  | -2.8  | -5.5  | -6.5  | -6.8  |
| March    |      |      |      |       |       |       |       |       |       |       |       |       |       |
| H        | +5.8 | +5.7 | +4.1 | +5.9  | +7.6  | +9.3  | +10.4 | +9.0  | +3.9  | -3.3  | -10.5 | -12.3 | -9.7  |
| D        | +6.0 | +6.6 | +5.1 | +2.9  | +10.0 | +2.6  | +5.3  | +12.1 | +17.8 | +15.8 | +4.0  | -12.4 | -24.6 |
| Z        | +0.2 | -0.1 | -0.3 | -0.1  | -1.2  | -1.1  | +0.7  | +2.6  | +2.5  | -1.2  | -5.5  | -8.3  | -8.4  |
| April    |      |      |      |       |       |       |       |       |       |       |       |       |       |
| H        | +6.9 | +6.1 | +6.2 | +6.0  | +6.0  | +6.9  | +4.2  | +0.5  | -8.2  | -14.1 | -14.1 | -9.0  | -6.2  |
| D        | +5.9 | +7.7 | +7.2 | +7.0  | +8.2  | +12.0 | +20.3 | +27.6 | +28.4 | +18.9 | +0.9  | -19.0 | -33.5 |
| Z        | +3.7 | +2.9 | +2.2 | +1.5  | +2.2  | +3.5  | +5.0  | +4.7  | +1.1  | -3.6  | -10.0 | -16.4 | -18.1 |
| May      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| H        | +5.0 | +3.3 | +3.4 | +3.3  | +2.3  | +3.5  | -0.2  | -5.0  | -8.1  | -12.3 | -7.5  | +0.1  | +3.5  |
| D        | +5.9 | +7.2 | +8.0 | +10.2 | +15.4 | +23.9 | +27.6 | +28.0 | +22.7 | +12.3 | -4.2  | -19.7 | -32.0 |
| Z        | +3.7 | +2.8 | +3.1 | +3.9  | +5.6  | +6.4  | +5.8  | +4.3  | +0.6  | -5.2  | -12.3 | -17.3 | -18.3 |
| June     |      |      |      |       |       |       |       |       |       |       |       |       |       |
| H        | +3.5 | +3.4 | +3.8 | +4.3  | +8.2  | +8.8  | +1.2  | -6.7  | -13.1 | -17.1 | -15.5 | -7.5  | +0.3  |
| D        | +3.8 | +5.7 | +7.0 | +7.2  | +13.5 | +22.9 | +29.7 | +30.9 | +29.3 | +18.8 | +0.4  | -16.5 | -30.5 |
| Z        | +2.8 | +2.6 | +2.6 | +3.6  | +4.0  | +4.5  | +3.1  | +1.4  | +0.3  | -5.4  | -11.2 | -15.4 | -15.7 |



elements (H,D,Z) for 1988

| 13    | 14    | 15    | 16    | 17    | 18   | 19   | 20   | 21    | 22    | 23    | Monthly Averages     |
|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|----------------------|
| -1.5  | -0.4  | -0.3  | -3.0  | -6.8  | -8.7 | -8.7 | -6.3 | -6.3  | -4.5  | -2.1  | 21 046 nT            |
| -13.0 | -10.9 | -7.4  | -4.9  | -3.2  | +0.5 | +5.0 | +9.5 | +13.4 | +11.7 | +11.6 | 1 <sup>o</sup> 24.3' |
| -1.2  | +0.4  | +1.2  | +2.2  | +2.6  | +3.6 | +4.5 | +4.3 | +3.8  | +3.3  | +1.9  | 42 716 nT            |
| -6.1  | -7.4  | -9.0  | -8.2  | -10.5 | -7.4 | -3.2 | -5.0 | -1.8  | +1.0  | +0.8  | 21 048 nT            |
| -18.4 | -19.6 | -11.4 | -8.2  | -5.0  | +1.0 | +0.3 | +8.4 | +11.3 | +9.7  | +9.8  | 1 <sup>o</sup> 25.0' |
| -5.5  | -1.5  | +2.5  | +4.5  | +5.3  | +5.1 | +4.9 | +5.0 | +4.6  | +3.3  | +2.2  | 42 718 nT            |
| -5.1  | -5.7  | -4.9  | -6.3  | -7.2  | -4.0 | +0.6 | -0.3 | +1.6  | +1.3  | +4.1  | 21 053 nT            |
| -29.0 | -27.0 | -16.0 | -8.6  | -4.3  | -4.0 | +4.6 | +9.1 | +8.1  | +8.0  | +7.9  | 1 <sup>o</sup> 25.4' |
| -7.2  | -4.2  | +0.1  | +2.8  | +4.0  | +4.6 | +5.0 | +5.0 | +4.3  | +3.5  | +2.3  | 42 719 nT            |
| -2.9  | -2.2  | -3.1  | -2.6  | -2.1  | -0.2 | +2.9 | +3.5 | +3.4  | +5.7  | +6.4  | 21 053 nT            |
| -39.6 | -34.7 | -23.9 | -13.7 | -3.5  | -0.2 | +2.7 | +6.2 | +3.5  | +4.7  | +6.9  | 1 <sup>o</sup> 26.1' |
| -14.1 | -8.6  | -1.6  | +3.5  | +6.1  | +6.4 | +6.9 | +6.4 | +5.9  | +5.5  | +4.9  | 42 721 nT            |
| +0.6  | -4.5  | -7.7  | -5.8  | -1.0  | -1.7 | +3.4 | +5.7 | +6.0  | +6.9  | +6.8  | 21 059 nT            |
| -35.0 | -30.7 | -23.2 | -13.2 | -4.8  | -3.8 | -2.3 | +0.6 | +2.1  | +1.3  | +3.7  | 1 <sup>o</sup> 26.0' |
| -16.0 | -9.6  | -2.6  | +2.7  | +6.4  | +6.6 | +6.3 | +6.5 | +6.2  | +5.5  | +4.9  | 42 719 nT            |
| +1.0  | -2.0  | -1.8  | -0.5  | -0.4  | +3.0 | +7.6 | +7.5 | +5.2  | +3.5  | +3.3  | 21 066 nT            |
| -35.9 | -34.0 | -27.8 | -16.8 | -7.4  | -3.1 | +0.2 | -0.4 | +1.4  | +0.4  | +1.2  | 1 <sup>o</sup> 26.1' |
| -14.3 | -9.3  | -3.2  | +3.9  | +7.0  | +8.6 | +8.1 | +6.8 | +5.7  | +5.2  | +4.3  | 42 722 nT            |

|                   | 0     | 1    | 2    | 3    | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|-------------------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| July              |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +6.1  | +6.2 | +6.5 | +7.7 | +9.0  | +8.2  | +3.0  | -6.7  | -14.2 | -19.1 | -19.4 | -13.4 | -6.4  |
| D                 | +4.9  | +5.7 | +7.7 | +9.5 | +14.2 | +22.4 | +30.2 | +34.1 | +31.1 | +20.1 | +2.5  | -15.9 | -31.6 |
| Z                 | +3.3  | +2.7 | +2.3 | +3.1 | +4.2  | +4.8  | +3.1  | +2.6  | +0.1  | -3.8  | -9.2  | -15.2 | -16.7 |
| August            |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +5.5  | +5.7 | +6.4 | +7.4 | +8.6  | +6.9  | +0.6  | -6.3  | -17.3 | -21.2 | -18.4 | -11.1 | -2.6  |
| D                 | +5.8  | +8.3 | +7.6 | +9.0 | +10.6 | +20.3 | +26.4 | +29.9 | +27.5 | +15.1 | -2.3  | -18.3 | -32.4 |
| Z                 | +2.0  | +1.7 | +1.4 | +1.5 | +2.3  | +3.2  | +3.4  | +3.7  | +2.6  | -0.8  | -5.9  | -11.0 | -11.7 |
| September         |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +5.2  | +5.8 | +7.3 | +7.0 | +6.5  | +6.2  | +2.9  | -6.7  | -17.2 | -22.3 | -19.4 | -12.4 | -5.0  |
| D                 | +9.6  | +8.6 | +8.7 | +6.2 | +9.4  | +13.4 | +20.8 | +27.6 | +26.9 | +17.3 | -0.9  | -21.2 | -33.8 |
| Z                 | +2.1  | +1.4 | +0.8 | +0.9 | +1.2  | +2.7  | +4.4  | +5.6  | +3.5  | -0.1  | -6.5  | -11.4 | -10.9 |
| October           |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +5.4  | +6.7 | +6.6 | +8.6 | +10.2 | +10.6 | +11.5 | +7.0  | -0.4  | -8.8  | -13.7 | -13.5 | -13.9 |
| D                 | +8.6  | +6.8 | +5.4 | +5.2 | +3.5  | +4.0  | +7.0  | +16.7 | +23.5 | +22.3 | +7.5  | -12.6 | -24.9 |
| Z                 | +2.2  | +1.4 | +1.0 | +0.3 | -0.1  | +0.2  | +1.8  | +3.7  | +3.9  | -1.3  | -8.8  | -11.3 | -10.2 |
| November          |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +5.2  | +3.1 | +5.7 | +6.1 | +7.1  | +10.4 | +12.6 | +12.3 | +7.6  | +3.0  | -4.2  | -9.5  | -10.4 |
| D                 | +10.5 | +7.0 | +4.0 | +1.7 | -0.2  | -1.0  | +0.3  | +3.5  | +10.6 | +10.8 | +4.5  | -6.3  | -17.2 |
| Z                 | +1.0  | +0.6 | -0.6 | -0.9 | -1.2  | -1.4  | -1.9  | -0.6  | +0.6  | -2.5  | -6.6  | -7.7  | -6.9  |
| December          |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +4.0  | +3.3 | +3.1 | +5.0 | +7.9  | +7.8  | +10.2 | +12.2 | +12.2 | +5.8  | -5.5  | -11.2 | -8.4  |
| D                 | +7.2  | +5.4 | +3.4 | +1.9 | +1.1  | -0.2  | +1.8  | +1.9  | +5.4  | +7.8  | +2.3  | -3.8  | -11.2 |
| Z                 | +1.7  | +0.7 | +0.4 | -0.5 | -1.1  | -1.0  | -0.8  | -1.8  | -1.1  | -3.3  | -5.4  | -5.1  | -5.6  |
| 1988 Yearly means |       |      |      |      |       |       |       |       |       |       |       |       |       |
| H                 | +4.5  | +4.5 | +4.6 | +5.6 | +6.8  | +7.6  | +5.9  | +2.6  | -2.7  | -8.0  | -10.5 | -8.7  | -5.5  |
| D                 | +7.1  | +6.9 | +5.8 | +5.2 | +6.8  | +9.7  | +13.8 | +17.0 | +19.2 | +14.3 | +1.3  | -13.3 | -24.8 |
| Z                 | +2.1  | +1.4 | +1.0 | +0.9 | +1.1  | +1.5  | +1.7  | +1.8  | +0.9  | -2.8  | -7.7  | -10.9 | -11.1 |

| 13    | 14    | 15    | 16    | 17   | 18   | 19   | 20   | 21    | 22    | 23    | Monthly Averages     |
|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|----------------------|
| -5.8  | -5.1  | -2.3  | +1.4  | +2.8 | +2.0 | +6.8 | +9.0 | +8.8  | +7.6  | +7.3  | 21 064 nT            |
| -38.2 | -34.4 | -29.1 | -18.3 | -7.7 | -4.1 | -2.5 | -3.0 | -1.4  | +0.5  | +3.3  | 1 <sup>o</sup> 26,8' |
| -14.4 | -9.2  | -3.6  | +4.7  | +7.1 | +7.6 | +6.5 | +6.2 | +5.4  | +4.4  | +3.7  | 42 723 nT            |
| +2.1  | +3.3  | +0.7  | -0.8  | +0.2 | +0.4 | +3.7 | +6.9 | +7.0  | +5.4  | +6.9  | 21 060 nT            |
| -36.8 | -33.4 | -26.3 | -14.4 | -4.8 | -2.1 | -2.9 | +0.7 | +3.0  | +4.5  | +5.0  | 1 <sup>o</sup> 27.0' |
| -9.5  | -6.4  | -2.5  | +1.8  | +3.7 | +3.4 | +3.5 | +3.9 | +3.6  | +3.4  | +2.7  | 42 720 nT            |
| +0.3  | +1.8  | +2.1  | -0.9  | -1.7 | +3.6 | +7.3 | +8.2 | +7.8  | +6.9  | +6.7  | 21 054 nT            |
| -36.3 | -28.9 | -19.0 | -11.9 | -9.5 | -6.9 | -2.0 | -0.1 | +3.1  | +7.7  | +11.2 | 1 <sup>o</sup> 27.5' |
| -8.1  | -4.2  | -1.1  | +1.2  | +2.0 | +2.2 | +2.8 | +3.2 | +3.1  | +2.7  | +2.5  | 42 723 nT            |
| -9.4  | -5.9  | -6.3  | -8.2  | -5.1 | -2.7 | -0.2 | +2.2 | +5.4  | +7.6  | +6.3  | 21 046 nT            |
| -30.5 | -27.5 | -17.0 | -12.6 | -9.9 | -7.1 | -0.4 | +4.3 | +7.4  | +10.0 | +10.3 | 1 <sup>o</sup> 28.0' |
| -7.5  | -3.2  | +0.4  | +2.3  | +3.4 | +4.1 | +4.3 | +4.5 | +3.8  | +3.0  | +1.9  | 42 732 nT            |
| -10.6 | -10.1 | -10.7 | -9.9  | -8.0 | -3.8 | -1.5 | +0.9 | -0.1  | +1.4  | +3.4  | 21 041 nT            |
| -18.3 | -15.6 | -13.0 | -9.3  | -8.1 | -4.7 | +0.7 | +9.3 | +9.4  | +11.2 | +10.2 | 1 <sup>o</sup> 28.2' |
| -4.0  | -0.9  | +1.9  | +3.7  | +4.3 | +4.1 | +4.6 | +4.7 | +4.3  | +3.2  | +2.2  | 42 731 nT            |
| -7.8  | -6.4  | -9.9  | -9.1  | -7.3 | -4.4 | -0.5 | -0.6 | -2.1  | -1.4  | +3.1  | 21 033 nT            |
| -14.8 | -15.3 | -12.0 | -8.5  | -7.9 | -3.1 | +1.3 | +4.4 | +11.6 | +13.3 | +8.0  | 1 <sup>o</sup> 28.8' |
| -3.9  | -2.4  | +0.7  | +3.1  | +3.4 | +3.9 | +4.2 | +4.2 | +3.9  | +3.5  | +2.3  | 42 743 nT            |
| -3.8  | -3.8  | -4.4  | -4.5  | -4.0 | -2.0 | +1.5 | +2.6 | +2.9  | +3.4  | +4.4  | 21 052 nT            |
| -28.8 | -26.0 | -18.9 | -11.7 | -6.3 | -3.1 | +0.4 | +4.1 | +6.1  | +6.9  | +7.4  | 1 <sup>o</sup> 26.6  |
| -8.8  | -5.0  | -0.7  | +3.0  | +4.6 | +5.0 | +5.1 | +5.0 | +5.0  | +3.9  | +3.0  | 42 724 nT            |

Hourly averages of magnetic

|          | 0     | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| January  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +3.8  | +4.3  | +4.1  | +6.9  | +8.7  | +10.6 | +14.3 | +18.0 | +19.2 | +11.9 | -1.6  | -7.9  | -9.4  |
| D        | +13.0 | +12.1 | +6.1  | +1.5  | -0.2  | -2.2  | -2.4  | -0.3  | +10.2 | +16.5 | +10.9 | +1.7  | -12.3 |
| Z        | +1.7  | +0.3  | -0.5  | -1.6  | -2.3  | -2.3  | -2.1  | -2.2  | -0.1  | -3.6  | -6.6  | -6.2  | -9.1  |
| February |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +3.1  | +1.1  | +3.8  | +5.5  | +5.8  | +7.7  | +8.7  | +11.6 | +9.2  | +0.3  | -7.5  | -10.7 | -11.1 |
| D        | +14.7 | +12.1 | +11.6 | +9.2  | +6.5  | +3.8  | +3.4  | +7.6  | +16.5 | +17.1 | +8.3  | -5.3  | -15.8 |
| Z        | +2.7  | +2.3  | +1.5  | +0.6  | +0.1  | +0.2  | -0.1  | +1.5  | +2.8  | -0.4  | -3.8  | -6.9  | -9.3  |
| March    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +7.0  | -3.5  | +0.6  | +9.3  | +10.6 | +11.0 | +14.0 | +8.4  | +3.1  | -5.7  | -4.7  | -6.1  | -13.2 |
| D        | +17.8 | +20.1 | +14.5 | +8.0  | +6.9  | +3.7  | +4.8  | +14.7 | +21.8 | +22.7 | +11.1 | -12.3 | -27.5 |
| Z        | -4.7  | -6.4  | -6.2  | -7.5  | -4.2  | -3.9  | -2.2  | +1.3  | +1.1  | -3.7  | -9.2  | -13.2 | -14.1 |
| April    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +9.3  | +7.5  | +8.2  | +6.1  | +6.5  | +5.1  | +5.8  | +1.2  | -8.8  | -16.6 | -16.3 | -11.8 | -8.0  |
| D        | +7.1  | +8.0  | +8.2  | +9.9  | +12.9 | +11.0 | +17.8 | +29.6 | +32.9 | +25.9 | +10.4 | -14.1 | -35.4 |
| Z        | +4.6  | +3.2  | +2.1  | +1.5  | +1.5  | +3.0  | +5.8  | +6.3  | +3.8  | -2.9  | -10.0 | -19.4 | -24.2 |
| May      |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +5.7  | +7.0  | +6.4  | +3.4  | +3.7  | +1.1  | -2.5  | -10.4 | -16.6 | -18.1 | -14.3 | -3.6  | +3.7  |
| D        | +1.2  | +3.7  | +10.3 | +12.3 | +18.4 | +27.1 | +34.2 | +35.5 | +32.5 | +18.9 | -1.7  | -21.3 | -36.1 |
| Z        | +4.6  | +3.5  | +2.6  | +3.2  | +4.7  | +6.5  | +5.5  | +4.5  | +1.1  | -4.9  | -12.0 | -19.1 | -21.5 |
| June     |       |       |       |       |       |       |       |       |       |       |       |       |       |
| H        | +8.7  | +6.8  | +8.4  | +8.9  | +9.1  | +7.5  | -1.4  | -11.7 | -21.2 | -26.1 | -22.8 | -13.2 | -5.6  |
| D        | +1.1  | +3.3  | +6.1  | +10.9 | +18.5 | +30.5 | +42.5 | +45.1 | +39.5 | +21.1 | +2.0  | -19.7 | -36.7 |
| Z        | +4.0  | +3.5  | +2.7  | +2.7  | +4.6  | +5.7  | +5.0  | +2.8  | -1.2  | -6.5  | -12.9 | -18.6 | -19.6 |

elements (H,D,Z) for 1989

| 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | Monthly Averages     |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|
| -9.7  | -10.8 | -9.9  | -11.6 | -10.9 | -10.8 | -12.1 | -7.4  | -2.6  | +1.3  | +1.6  | 21 036 nT            |
| -21.7 | -23.6 | -22.8 | -17.5 | -14.4 | -11.6 | +1.2  | +7.4  | +12.5 | +18.1 | +17.8 | 1 <sup>0</sup> 29.6' |
| -8.4  | -4.3  | +0.8  | +3.0  | +3.8  | +5.9  | +8.7  | +9.1  | +7.5  | +5.6  | +2.9  | 42 748 nT            |
| -10.9 | -9.6  | -6.7  | -6.8  | -3.7  | -1.9  | +1.3  | +2.3  | +1.9  | +2.4  | +4.2  | 21 042 nT            |
| -23.7 | -24.5 | -20.9 | -14.3 | -17.1 | -11.6 | -6.8  | +1.3  | +4.5  | +9.2  | +14.2 | 1 <sup>0</sup> 29.7' |
| -9.6  | -5.8  | -2.0  | -0.4  | +0.8  | +2.6  | +4.3  | +4.8  | +5.1  | +5.0  | +4.0  | 42 751 nT            |
| -12.2 | -5.2  | -5.2  | -6.8  | -8.6  | -3.5  | +0.7  | +7.5  | +4.9  | -3.0  | +0.6  | 21 023 nT            |
| -40.1 | -42.4 | -31.4 | -21.0 | -10.2 | -6.4  | -0.1  | +4.2  | +11.5 | +12.6 | +17.0 | 1 <sup>0</sup> 31.1' |
| -11.4 | -5.5  | +2.3  | +10.4 | +14.3 | +14.8 | +14.6 | +13.2 | +11.2 | +9.5  | -0.5  | 42 763 nT            |
| -6.6  | -7.7  | -6.6  | -2.9  | -2.8  | +3.9  | +3.7  | +8.8  | +7.6  | +7.0  | +7.4  | 21 037 nT            |
| -42.7 | -39.4 | -31.9 | -20.8 | -9.1  | -1.4  | +4.3  | +3.7  | +1.8  | +4.1  | +7.2  | 1 <sup>0</sup> 31.2' |
| -20.8 | -13.2 | -3.9  | +3.7  | +8.2  | +9.7  | +10.6 | +9.5  | +8.3  | +7.1  | +5.5  | 42 759 nT            |
| +2.9  | -1.5  | -0.1  | +1.1  | -1.1  | +3.3  | +4.5  | +7.3  | +5.9  | +6.7  | +5.9  | 21 056 nT            |
| -42.7 | -37.7 | -31.2 | -20.0 | -6.8  | -0.7  | +1.5  | -0.3  | -0.5  | +2.0  | +1.4  | 1 <sup>0</sup> 30.9' |
| -19.3 | -12.7 | -4.7  | +3.4  | +7.0  | +8.5  | +8.4  | +8.6  | +8.3  | +7.3  | +6.5  | 42 750 nT            |
| -2.6  | -1.3  | -0.2  | +0.8  | +2.8  | +5.1  | +9.7  | +10.7 | +11.5 | +8.0  | +8.1  | 21 055 nT            |
| -45.1 | -46.3 | -38.8 | -16.8 | -9.3  | -1.0  | -1.0  | -0.5  | -1.5  | -3.2  | -0.7  | 1 <sup>0</sup> 30.8' |
| -17.3 | -12.3 | -2.5  | +5.4  | +8.4  | +11.3 | +9.7  | +7.6  | +6.9  | +6.0  | +4.6  | 42 758 nT            |

|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--|---|---|---|---|---|---|---|---|---|---|----|----|----|
|--|---|---|---|---|---|---|---|---|---|---|----|----|----|

July

|   |      |      |      |      |       |       |       |       |       |       |       |       |       |
|---|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| H | +4.9 | +5.7 | +5.2 | +7.4 | +10.7 | +11.2 | +4.3  | -9.8  | -20.2 | -25.0 | -23.6 | -15.0 | -5.4  |
| D | +2.9 | +4.9 | +7.0 | +8.2 | +13.8 | +23.5 | +32.9 | +39.1 | +38.0 | +28.0 | +8.5  | -13.4 | -29.8 |
| Z | +3.8 | +3.7 | +3.8 | +4.6 | +6.8  | +8.0  | +7.0  | +5.8  | +2.7  | -3.0  | -10.1 | -16.6 | -19.1 |

August

|   |       |       |      |      |       |       |       |       |       |       |       |       |       |
|---|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| H | +12.0 | +11.0 | +8.0 | +8.5 | +11.1 | +7.6  | +2.6  | -11.9 | -26.5 | -34.9 | -32.3 | -20.3 | -8.6  |
| D | +4.2  | +8.6  | +8.9 | +9.2 | +13.4 | +26.9 | +37.5 | +43.4 | +41.1 | +25.0 | +1.6  | -21.7 | -39.8 |
| Z | +3.1  | +2.0  | +1.9 | +1.9 | +3.4  | +6.6  | +6.5  | +5.4  | +1.3  | -4.5  | -10.1 | -15.4 | -18.3 |

September

|   |      |       |       |       |       |       |       |       |       |       |       |       |       |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| H | +8.1 | +7.6  | +8.4  | +8.4  | +9.6  | +5.6  | +0.2  | -7.1  | -20.1 | -25.4 | -22.8 | -11.4 | -4.4  |
| D | +9.9 | +11.7 | +14.4 | +14.9 | +14.4 | +17.9 | +26.2 | +30.2 | +29.8 | +14.9 | -6.1  | -26.3 | -38.7 |
| Z | +3.2 | +3.5  | +3.1  | +2.6  | +2.0  | +2.8  | +4.2  | +4.5  | +2.0  | -2.8  | -8.8  | -13.2 | -13.9 |

October

|   |       |       |       |      |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| H | +8.1  | +8.2  | +7.7  | +8.2 | +11.3 | +13.6 | +12.8 | +5.6  | -5.1  | -13.2 | -18.6 | -18.6 | -12.4 |
| D | +10.1 | +11.3 | +10.6 | +6.1 | +3.6  | +3.5  | +7.3  | +18.0 | +27.7 | +25.9 | +10.4 | -9.8  | -27.4 |
| Z | +1.2  | +0.4  | -0.9  | -0.8 | -1.9  | -1.6  | +0.1  | +2.7  | +3.7  | -1.1  | -9.5  | -13.7 | -13.1 |

November

|   |       |       |       |      |      |      |      |       |       |       |      |       |       |
|---|-------|-------|-------|------|------|------|------|-------|-------|-------|------|-------|-------|
| H | +4.3  | +4.8  | +4.7  | +6.7 | +8.2 | +9.3 | +9.6 | +11.7 | +7.2  | -1.6  | -8.5 | -9.0  | -6.6  |
| D | +11.4 | +12.0 | +10.8 | +9.0 | +5.6 | +4.0 | +4.0 | +8.0  | +17.1 | +16.0 | +7.1 | -6.5  | -19.8 |
| Z | +3.1  | -0.5  | +0.2  | -0.8 | -1.6 | -2.0 | -1.6 | -0.4  | +0.1  | -3.4  | -8.1 | -10.0 | -10.3 |

December

|   |       |       |      |      |      |      |      |       |       |      |      |      |       |
|---|-------|-------|------|------|------|------|------|-------|-------|------|------|------|-------|
| H | +1.8  | +0.2  | -0.4 | +0.9 | +3.4 | +5.4 | +8.0 | +10.9 | +13.5 | +6.8 | -1.8 | -5.7 | -4.3  |
| D | +17.5 | +13.0 | +9.0 | +0.2 | +2.2 | +0.6 | +0.6 | +1.8  | +6.6  | +8.2 | +2.7 | -5.1 | -14.2 |
| Z | +2.0  | +1.4  | +0.8 | -0.1 | -0.7 | -1.8 | -1.6 | -2.1  | -2.0  | -6.0 | -7.4 | -6.6 | -6.9  |

1989 Yearly means

|   |      |       |      |      |      |       |       |       |       |       |       |       |       |
|---|------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| H | +6.4 | +5.1  | +5.4 | +6.7 | +8.2 | +8.0  | +6.4  | +1.4  | -5.5  | -12.3 | -14.6 | -11.1 | -7.2  |
| D | +9.2 | +10.1 | +9.8 | +8.3 | +9.7 | +12.5 | +17.4 | +22.7 | +26.1 | +20.0 | +5.4  | -12.8 | -27.8 |
| Z | +2.5 | +1.4  | +1.0 | +0.6 | +1.1 | +1.8  | +2.2  | +2.5  | +1.3  | -3.5  | -9.0  | -13.2 | -14.9 |

| 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | Monthly Averages |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------|
| -0.3  | +0.3  | +0.4  | +3.7  | +5.2  | +7.2  | +5.6  | +7.0  | +7.1  | +6.8  | +6.6  | 21 066 nT        |
| -38.0 | -39.4 | -33.9 | -24.7 | -11.4 | -4.2  | -2.0  | -3.5  | -4.4  | -2.0  | -0.1  | 1° 30.2'         |
| -18.4 | -14.3 | -6.5  | +1.4  | +5.1  | +7.1  | +7.1  | +6.3  | +5.9  | +4.7  | +4.2  | 42 750 nT        |
| -2.8  | +2.4  | +3.9  | +3.7  | +3.7  | +5.5  | +10.5 | +13.6 | +10.3 | +11.1 | +11.8 | 21 050 nT        |
| -45.0 | -42.6 | -33.1 | -18.8 | -5.4  | -2.7  | -4.2  | -3.5  | -1.3  | -1.9  | +0.2  | 1° 31.0'         |
| -15.8 | -11.5 | -2.7  | +5.1  | +8.0  | +7.3  | +6.7  | +0.9  | +6.8  | +6.4  | +5.0  | 42 757 nT        |
| -0.6  | +1.5  | +2.1  | +2.3  | +2.7  | +4.1  | +6.3  | +5.8  | +6.4  | +6.6  | +6.1  | 21 042 nT        |
| -40.5 | -31.2 | -22.1 | -14.5 | -8.8  | -5.2  | -3.7  | +0.3  | +1.6  | +5.3  | +5.6  | 1° 32.3'         |
| -11.4 | -7.3  | -4.1  | -1.2  | +1.8  | +4.3  | +6.0  | +6.5  | +6.6  | +5.1  | +4.5  | 42 761 nT        |
| -5.3  | -5.6  | -6.4  | -7.5  | -5.1  | +1.8  | +1.7  | +1.0  | +3.3  | +6.7  | +7.8  | 21 035 nT        |
| -35.6 | -34.4 | -21.8 | -12.8 | -9.2  | -7.7  | -3.4  | +4.4  | +5.6  | +8.1  | +9.5  | 1° 32.6'         |
| -8.8  | -4.8  | +2.5  | +5.1  | +6.4  | +7.0  | +6.9  | +6.5  | +5.7  | +4.3  | +2.9  | 42 762 nT        |
| -4.7  | -4.4  | -3.4  | -3.7  | -4.3  | -7.1  | -9.5  | -5.4  | -1.8  | +1.0  | +2.5  | 21 026 nT        |
| -25.1 | -25.6 | -20.2 | -17.8 | -18.9 | -14.2 | -2.6  | +4.1  | +9.9  | +15.1 | +16.6 | 1° 33.7'         |
| -8.1  | -3.6  | -0.5  | +0.9  | +2.7  | +5.8  | +9.7  | +9.6  | +8.5  | +6.5  | +3.8  | 42 785 nT        |
| -4.4  | -6.0  | -6.0  | -6.5  | -5.7  | -2.9  | -2.8  | -3.2  | -2.5  | -0.4  | +1.7  | 21 022 nT        |
| -19.6 | -21.0 | -16.2 | -7.6  | -11.1 | -10.6 | -3.8  | +1.4  | +11.4 | +16.9 | +17.1 | 1° 33.1'         |
| -5.8  | -2.3  | +0.6  | +1.6  | +2.5  | +3.8  | +5.7  | +7.5  | +7.8  | +5.7  | +3.9  | 42 786 nT        |
| -4.8  | -4.0  | -3.2  | -2.8  | -2.3  | +0.4  | +1.6  | +4.0  | +4.3  | +4.5  | +5.4  | 21 041 nT        |
| -35.0 | -34.0 | -27.0 | -17.2 | -11.0 | -6.4  | -1.7  | +1.6  | +4.3  | +7.0  | +8.8  | 1° 31.3'         |
| -12.9 | -8.1  | -1.7  | +3.2  | +5.8  | +7.4  | +7.4  | +7.5  | +7.4  | +6.2  | +4.0  | 42 761 nT        |

4.  
Yearly means of geomagnetic elements

| Year | D<br>° ' , | H<br>nT | Z<br>nT | I<br>° ' , | X<br>nT | Y<br>nT | Z<br>nT |
|------|------------|---------|---------|------------|---------|---------|---------|
| 1961 | -0 23.6    | 20816   | 42077   | 63 40.7    | 20816   | - 143   | 46944   |
| 1962 | -0 19.6    | 20827   | 42093   | 63 40.5    | 20827   | - 119   | 46964   |
| 1963 | -0 14.3    | 20839   | 42116   | 63 40.4    | 20839   | - 87    | 46990   |
| 1964 | -0 10.5    | 20845   | 42126   | 63 40.4    | 20845   | - 64    | 47001   |
| 1965 | -0 08.1    | 20877   | 42137   | 63 38.6    | 20877   | - 49    | 47025   |
| 1966 | -0 06.8    | 20888   | 42156   | 63 38.5    | 20888   | - 41    | 47047   |
| 1967 | -0 06.0    | 20903   | 42179   | 63 38.3    | 20903   | - 36    | 47074   |
| 1968 | -0 03.0    | 20921   | 42196   | 63 37.7    | 20921   | - 18    | 47098   |
| 1969 | 0 00.2     | 20942   | 42214   | 63 36.9    | 20942   | 1       | 47123   |
| 1970 | 0 02.8     | 20964   | 42235   | 63 36.1    | 20964   | 17      | 47152   |
| 1971 | 0 04.3     | 20992   | 42262   | 63 35.2    | 20992   | 26      | 47188   |
| 1972 | 0 06.5     | 21011   | 42286   | 63 34.7    | 21011   | 40      | 47218   |
| 1973 | 0 10.2     | 21028   | 42317   | 63 34.6    | 21028   | 62      | 47254   |
| 1974 | 0 13.6     | 21046   | 42350   | 63 34.5    | 21046   | 83      | 47291   |
| 1975 | 0 18.5     | 21072   | 42380   | 63 33.8    | 21072   | 113     | 47330   |
| 1976 | 0 23.8     | 21084   | 42413   | 63 34.0    | 21084   | 146     | 47365   |
| 1977 | 0 28.8     | 21106   | 42443*  | 63 33.6*   | 21105   | 177     | 47401*  |
| 1978 | 0 34.6     | 21108   | 42473*  | 63 34.4*   | 21107   | 212     | 47429*  |
| 1979 | 0 41.4     | 21113*  | 42496*  | 63 34.8*   | 21112*  | 254     | 47452*  |
| 1980 | 0 46.3     | 21107*  | 42512*  | 63 35.8*   | 21105*  | 284     | 47463*  |
| 1981 | 0 52.4     | 21097*  | 42530*  | 63 37.0*   | 21095*  | 322     | 47475*  |
| 1982 | 0 57.5     | 21078   | 42549   | 63 38.8    | 21075   | 353     | 47484   |
| 1983 | 1 02.7     | 21078   | 42581   | 63 39.8    | 21074   | 384     | 47512   |
| 1984 | 1 08.1     | 21075   | 42601   | 63 40.7    | 21071   | 417     | 47529   |
| 1985 | 1 12.7     | 21073   | 42625   | 63 41.7    | 21068   | 446     | 47550   |
| 1986 | 1 17.8     | 21065   | 42660   | 63 43.1    | 21060   | 477     | 47577   |
| 1987 | 1 21.9     | 21067   | 42689   | 63 44.0    | 21061   | 502     | 47604   |
| 1988 | 1 26.6     | 21052   | 42723   | 63 46.0    | 21045   | 530     | 47628   |
| 1989 | 1 31.3     | 21041   | 42761   | 63 48.0    | 21034   | 559     | 47657   |



5.  
Special phenomena  
(magnetic and earth current data)  
SSC-s  
1988

| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Hx | Hy | End of storm |
|-------|-----|----------------|-----------------------|----|----|--------------|
| 01.   | 04. | 21.15          | 34                    | +  | +  | no storm     |
|       | 06. | 17.30          | 28                    | +  | -  | 01.07 04.00  |
|       | 14. | 00.30          | 28                    | +  | -  | 01.15 09.00  |
| 02.   | 12. | 22.30          | 42                    | +  | -  | no storm     |
|       | 21. | 03.00          | 32                    | +  | -  | 02.21 12.00  |
| 03.   | 07. | 18.30          | 35                    | +  | -  | 03.08 04.00  |
| 04.   | 03. | 17.30          | 12                    | +  | -  | 04.04 22.00  |
| 05.   | 06. | 05.30          | 55                    | +  | -  | 05.06 23.00  |
| 06.   | 05. | 13.15          | 28                    | +  | -  | no storm     |
|       | 24. | 01.30          | 28                    | +  | -  | 06.24 07.00  |
|       | 29. | 05.15          | 32                    | +  | -  | 06.29 09.00  |
| 07.   | 05. | 17.00          | 12                    | +  | -  | 07.06 06.00  |
|       | 21. | 04.15          | 42                    | +  | -  | 07.21 18.00  |
| 08.   | 09. | 06.15          | 12                    | -  | -  | 08.09 14.00  |
|       | 20. | 13.00          | 45                    | +  | -  | 08.20 17.00  |
| 08.   | 21. | 23.30          | 55                    | +  | -  | 08.22 06.00  |
|       | 25. | 10.30          | 35                    | +  | +  | 08.25 23.00  |
| 09.   | 17. | 19.45          | 40                    | +  | -  | 09.18 14.00  |
|       | 28. | 21.45          | 12                    | +  | -  | no storm     |
| 10.   | 04. | 21.15          | 28                    | +  | -  | 10.05 14.00  |
|       | 06. | 01.45          | 52                    | +  | -  | 10.06 23.00  |
|       | 10. | 03.30          | 38                    | +  | -  | 10.10 23.00  |
|       | 30. | 21.00          | 32                    | +  | -  | no storm     |
| 11.   | 11. | 08.45          | 18                    | +  | -  | no storm     |
|       | 30. | 09.00          | 35                    | +  | -  | 11.30 21.00  |
| 12.   | 11. | 19.30          | 28                    | +  | -  | no storm     |
|       | 12. | 04.00          | 38                    | +  | -  | 12.12 07.00  |
|       | 17. | 19.30          | 55                    | +  | -  | 12.18 09.00  |

SSC-s  
1989

| Month | Day   | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Hx | Hy    | End of storm |          |
|-------|-------|----------------|-----------------------|----|-------|--------------|----------|
| 01.   | 05.   | 00.00          | 30                    | +  | -     | 01.05        | 10.00    |
|       |       | 14.30          | 22                    | +  | -     | 01.05        | 23.00    |
|       | 07.   | 00.45          | 25                    | +  | -     | 01.07        | 06.00    |
|       | 11.   | 13.00          | 18                    | +  | -     | 01.12        | 03.00    |
|       | 20.   | 12.30          | 28                    | +  | -     | 01.21        | 01.00    |
| 03.   | 02.   | 03.45          | 28                    | +  | -     | 03.02        | 14.00    |
|       | 08.   | 18.45          | 72                    | +  | -     | 03.09        | 04.00    |
|       | 13.   | 02.30          | 85                    | +  | -     | 03.15        | 23.00    |
|       | 16.   | 06.30          | 45                    | +  | +     | 03.16        | 22.00    |
|       | 19.   | 05.30          | 25                    | +  | -     | 03.19        | 21.00    |
|       | 26.   | 23.45          | 60                    | +  | -     | cont'd       |          |
|       | 27.   | 14.45          | 105                   | +  | -     | 03.28        | 03.00    |
|       | 04.   | 11.            | 15.30                 | 45 | +     | -            | 04.11    |
| 04.   | 13.   | 23.30          | 28                    | +  | -     | 04.14        | 07.00    |
|       | 05.   | 05.            | 00.45                 | 85 | +     | -            | 05.05    |
| 05.   | 07.   | 06.15          | 55                    | +  | +     | 05.07        | 23.00    |
|       | 13.   | 15.45          | 32                    | +  | -     | no storm     |          |
|       | 23.   | 14.54          | 108                   | +  | -     | 05.25        | 10.00    |
| 06.   | 07.   | 00.15          | 75                    | +  | -     | 06.07        | 14.00    |
|       | 08.   | 19.00          | 32                    | +  | -     | 06.09        | 06.00    |
|       |       | 20.45          | 80                    | +  | -     | in storm     |          |
|       | 13.   | 18.45          | 52                    | +  | -     | no storm     |          |
| 07.   | 01.   | 08.15          | 14                    | +  | +     | no storm     |          |
|       | 17.   | 16.45          | 58                    | +  | -     | 07.01        | 23.00    |
|       |       | 03.00          | 42                    | +  | -     | no storm     |          |
| 08.   | 09.   | 19.30          | 40                    | +  | -     | 08.10        | 15.00    |
|       | 14.   | 02.45          | 25                    | +  | -     | 08.16        | 06.00    |
|       | 21.   | 15.15          | 32                    | +  | -     | 08.22        | 03.00    |
|       | 23.   | 01.45          | 25                    | +  | -     | 08.24        | 04.00    |
|       | 27.   | 14.30          | 65                    | +  | -     | 08.28        | 02.00    |
| 09.   | 04.   | 01.30          | 55                    | +  | -     | 09.04        | 12.00    |
|       | 07.   | 17.45          | 80                    | +  | -     | 09.08        | 03.00    |
|       | 12.   | 13.30          | 25                    | +  | -     | 09.12        | 17.00    |
|       | 15.   | 01.45          | 15                    | +  | -     | 09.16        | 07.00    |
|       | 17.   | 08.45          | 14                    | +  | +     | no storm     |          |
|       | 18.   | 11.30          | 50                    | +  | -     | 09.19        | 15.00    |
|       | 26.   | 06.45          | 12                    | +  | -     | 09.28        | 03.00    |
|       | 30.   | 18.15          | 32                    | +  | -     | 10.01        | 04.00    |
|       | 10.   | 18.            | 01.45                 | 30 | +     | -            | no storm |
| 26.   | 10.30 | 60             | +                     | -  | 10.27 | 02.00        |          |

SSC-s  
1989

| Month Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Hx | Hy | End of storm |       |
|-----------|----------------|-----------------------|----|----|--------------|-------|
| 11. 02.   | 01.30          | 38                    | +  | -  | 11.02        | 10.00 |
| 08.       | 12.30          | 65                    | +  | -  | 11.08        | 20.00 |
| 09.       | 02.00          | 30                    | +  | -  | 11.09        | 22.00 |
| 11.       | 15.15          | 35                    | +  | -  | 11.12        | 05.00 |
| 17.       | 10.30          | 65                    | +  | -  | 11.18        | 12.00 |
| 27.       | 22.30          | 55                    | +  | -  | 11.29        | 05.00 |
| 12. 01.   | 18.45          | 100                   | +  | -  | 12.02        | 12.00 |
| 29.       | 07.45          | 50                    | +  | -  | 12.30        | 02.00 |

1988

SI-s

| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
|-------|-----|----------------|-----------------------|-------|-----|----------------|-----------------------|
| 01.   | 08. | 01.45          | 16                    |       |     |                |                       |
| 02.   | 14. | 00.45          | 14                    |       |     |                |                       |
|       |     | 12.30          | 18                    |       |     |                |                       |
| 03.   | 03. | 02.30          | 14                    |       |     |                |                       |
|       | 08. | 03.00          | 32                    |       |     |                |                       |
|       | 20. | 12.30          | 14                    |       |     |                |                       |
|       | 24. | 10.00          | 11                    |       |     |                |                       |
|       | 27. | 14.45          | 25                    |       |     |                |                       |
| 04.   | 17. | 18.00          | 12                    |       |     |                |                       |
|       | 19. | 10.00          | 25                    |       |     |                |                       |
|       | 23. | 11.15          | 14                    |       |     |                |                       |
| 05.   | 05. | 11.30          | 8                     |       |     |                |                       |
|       | 16. | 06.45          | 16                    |       |     |                |                       |
|       | 24. | 11.30          | 13                    |       |     |                |                       |
|       | 29. | 15.45          | 15                    |       |     |                |                       |
| 06.   | 06. | 16.45          | 10                    |       |     |                |                       |
|       | 23. | 10.15          | 12                    |       |     |                |                       |
|       | 24. | 11.30          | 22                    |       |     |                |                       |
|       | 25. | 14.30          | 25                    |       |     |                |                       |
|       | 30. | 10.00          | 18                    |       |     |                |                       |
| 07.   | 16. | 04.00          | 12                    |       |     |                |                       |
| 08.   | 11. | 23.15          | 18                    |       |     |                |                       |
| 09.   | 16. | 14.45          | 15                    |       |     |                |                       |
| 10.   | 03. | 16.00          | 12                    |       |     |                |                       |
|       | 07. | 04.15          | 13                    |       |     |                |                       |
|       | 26. | 09.15          | 14                    |       |     |                |                       |
|       | 31. | 04.00          | 14                    |       |     |                |                       |
| 11.   | 02. | 06.15          | 12                    |       |     |                |                       |
|       | 09. | 07.30          | 7                     |       |     |                |                       |
|       | 14. | 05.30          | 22                    |       |     |                |                       |
| 12.   | 12. | 16.30          | 18                    |       |     |                |                       |

1989

SI-s

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| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
|-------|-----|----------------|-----------------------|-------|-----|----------------|-----------------------|
| 01.   | 04. | 09.45          | 18                    |       |     |                |                       |
|       | 31. | 12.15          | 22                    |       |     |                |                       |
| 03.   | 28. | 18.00          | 38                    |       |     |                |                       |
| 04.   | 11. | 17.15          | 22                    |       |     |                |                       |
|       | 13. | 00.30          | 12                    |       |     |                |                       |
| 05.   | 13. | 17.45          | 40                    |       |     |                |                       |
|       | 20. | 16.45          | 22                    |       |     |                |                       |
| 06.   | 03. | 12.15          | 12                    |       |     |                |                       |
|       |     | 20.45          | 15                    |       |     |                |                       |
|       | 04. | 12.15          | 20                    |       |     |                |                       |
|       | 06. | 14.30          | 15                    |       |     |                |                       |
|       | 14. | 02.00          | 40                    |       |     |                |                       |
|       | 16. | 09.30          | 22                    |       |     |                |                       |
|       | 17. | 23.15          | 8                     |       |     |                |                       |
|       | 22. | 23.30          | 8                     |       |     |                |                       |
| 07.   | 23. | 15.30          | 36                    |       |     |                |                       |
| 09.   | 01. | 09.15          | 22                    |       |     |                |                       |
|       | 09. | 10.00          | 38                    |       |     |                |                       |
|       | 28. | 01.00          | 15                    |       |     |                |                       |
| 10.   | 25. | 02.45          | 28                    |       |     |                |                       |
| 12.   | 04. | 12.15          | 18                    |       |     |                |                       |
|       | 22. | 02.00          | 25                    |       |     |                |                       |

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1988

| Bays  |     |                | Pl-s                  | Bays |       |     | Pl-s           |                       |   |
|-------|-----|----------------|-----------------------|------|-------|-----|----------------|-----------------------|---|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |      | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |   |
| 01.   | 01. | 23.00          |                       | +    | 02.   | 02. | 20.30          |                       | + |
|       | 02. | 00.30          |                       | +    |       | 04. | 22.15          |                       | + |
|       |     | 21.30          | 60                    |      |       | 05. | 01.45          | 48                    | + |
|       | 05. | 00.00          | 80                    | +    |       |     | 18.00          | 72                    |   |
|       |     | 22.30          | 42                    | +    |       |     | 23.30          | 30                    | + |
|       | 07. | 21.15          | 32                    | +    |       | 06. | 23.30          |                       | + |
|       |     | 22.00          |                       | +    |       |     | 23.45          | 50                    | + |
|       | 08. | 07.45          |                       | +    |       | 08. | 21.00          | 42                    | + |
|       | 10. | 21.00          |                       | +    |       | 11. | 21.30          | 62                    | + |
|       | 11. | 14.15          |                       | +    |       | 12. | 19.15          | 55                    | + |
|       | 12. | 20.15          | 55                    | +    |       | 15. | 20.15          |                       | + |
|       | 13. | 20.30          |                       | +    |       | 16. | 00.30          |                       | + |
|       | 14. | 06.00          |                       | +    |       |     | 17.45          | 105                   | + |
|       | 15. | 22.30          |                       | +    |       |     | 20.30          |                       | + |
|       |     | 23.30          |                       | +    |       | 17. | 22.15          | 68                    | + |
|       | 17. | 22.30          |                       | +    |       | 18. | 01.45          |                       | + |
|       |     | 23.45          | 40                    | +    |       |     | 02.00          |                       | + |
|       | 18. | 19.30          | 100                   | +    |       |     | 21.30          | 45                    | + |
|       |     | 23.00          |                       | +    |       | 19. | 19.45          | 32                    | + |
|       |     | 23.15          |                       | +    |       | 20. | 20.30          |                       | + |
|       |     | 23.30          |                       | +    |       |     | 21.30          |                       | + |
|       | 19. | 21.30          |                       | +    |       |     | 23.30          |                       | + |
|       | 20. | 21.00          |                       | +    |       | 21. | 21.45          | 45                    |   |
|       |     | 22.00          |                       | +    |       | 22. | 00.45          | 130                   | + |
|       | 21. | 20.15          |                       | +    |       |     | 17.30          | 110                   |   |
|       |     | 20.45          |                       | +    |       | 23. | 00.30          | 140                   |   |
|       | 23. | 02.00          |                       | +    |       |     | 19.30          | 60                    | + |
|       | 24. | 22.00          |                       | +    |       | 24. | 20.00          |                       | + |
|       |     | 22.45          | 22                    | +    |       | 25. | 03.15          | 32                    | + |
|       | 26. | 20.30          |                       | +    |       |     | 20.30          |                       | + |
|       |     | 20.45          | 60                    | +    |       |     | 21.15          |                       | + |
|       |     | 21.30          |                       | +    |       | 27. | 23.00          |                       | + |
|       | 27. | 01.45          |                       | +    |       | 28. | 20.15          |                       | + |
|       |     | 18.45          |                       | +    |       |     | 23.30          |                       | + |
|       |     | 21.30          | 30                    | +    |       | 29. | 00.15          |                       | + |
|       | 28. | 22.45          |                       | +    |       |     | 16.45          |                       | + |
|       |     | 23.15          |                       | +    |       |     | 17.30          |                       | + |
|       | 29. | 22.00          |                       | +    |       |     | 20.00          |                       | + |
|       |     | 22.30          |                       | +    | 03.   | 01. | 02.15          |                       | + |
|       | 30  | 16.30          |                       | +    |       |     | 18.45          |                       | + |
|       |     | 20.30          |                       | +    |       |     | 22.45          |                       | + |
| 02.   | 01. | 00.45          |                       | +    |       | 02. | 00.15          |                       | + |
|       |     | 01.00          |                       | +    |       |     | 23.00          | 50                    | + |
|       |     | 23.15          |                       | +    |       | 03. | 23.15          |                       | + |
|       |     | 23.30          |                       | +    |       | 04. | 02.45          | 72                    | + |

1988

| Bays  |     |                | P1-s      |             | Bays  |       |                | P1-s      |             |
|-------|-----|----------------|-----------|-------------|-------|-------|----------------|-----------|-------------|
| Month | Day | CET<br>(UT+1h) | Amplitude | in<br>H(nT) | Month | Day   | CET<br>(UT+1h) | Amplitude | in<br>H(nT) |
| 03.   | 04. | 19.00          | 62        | +           | 03.   | 23.   | 22.15          |           | +           |
|       | 05. | 19.30          |           | +           |       |       | 22.45          |           | +           |
|       |     | 19.45          |           | +           |       |       | 23.15          |           | +           |
|       |     | 21.30          |           | +           | 24.   | 01.00 |                |           | +           |
|       |     | 22.15          |           | +           |       |       | 23.00          |           | +           |
|       | 06. | 01.00          | 52        |             | 26.   | 01.30 |                |           | +           |
|       |     | 03.00          | 52        | +           |       | 01.45 |                |           | +           |
|       |     | 16.30          |           | +           |       | 23.30 | 115            |           | +           |
|       |     | 16.45          |           | +           | 27.   | 02.00 | 125            |           |             |
|       |     | 19.00          |           | +           |       | 21.30 |                |           | +           |
|       |     | 20.30          |           | +           |       | 22.30 |                |           | +           |
|       | 06. | 20.45          | 50        | +           | 28.   | 19.00 | 100            |           |             |
|       | 07. | 01.45          | 22        | +           | 29.   | 00.00 | 42             |           | +           |
|       | 09. | 01.00          |           | +           |       | 18.30 | 100            |           | +           |
|       | 10. | 20.15          |           | +           | 30.   | 22.00 | 80             |           | +           |
|       |     | 22.45          |           | +           |       | 22.30 |                |           | +           |
|       | 11. | 20.30          | 40        | +           | 31.   | 19.30 | 60             |           | +           |
|       |     | 21.00          |           | +           |       | 22.15 |                |           | +           |
|       | 12. | 16.45          |           | +           | 04.   | 01.   | 23.30          |           | +           |
|       |     | 21.45          |           | +           |       | 02.   | 22.45          |           | +           |
|       |     | 22.00          |           | +           |       | 03.   | 20.00          | 280       | +           |
|       | 13. | 00.30          |           | +           |       | 04.   | 20.30          | 180       | +           |
|       | 13. | 00.45          |           | +           |       | 05.   | 22.30          |           | +           |
|       | 14. | 00.30          |           | +           |       | 06.   | 00.30          | 72        | +           |
|       |     | 00.45          |           | +           |       | 08.   | 18.30          |           | +           |
|       |     | 01.00          |           | +           |       | 09.   | 01.30          | 48        | +           |
|       |     | 02.00          |           | +           |       | 22.45 |                |           | +           |
|       |     | 23.30          | 98        | +           | 10.   | 22.30 |                |           | +           |
|       | 15. | 19.45          |           | +           | 11.   | 17.30 | 32             |           | +           |
|       |     | 20.00          |           | +           | 12.   | 00.00 |                |           | +           |
|       |     | 20.30          | 80        | +           |       | 17.30 | 48             |           | +           |
|       | 16. | 23.30          |           | +           |       | 20.30 |                |           | +           |
|       | 17. | 23.30          |           | +           | 13.   | 22.00 |                |           | +           |
|       | 18. | 02.30          |           | +           |       | 22.15 |                |           | +           |
|       |     | 02.45          |           | +           |       | 23.00 | 45             |           | +           |
|       |     | 19.45          |           | +           | 14.   | 15.15 |                |           | +           |
|       |     | 22.30          |           | +           |       | 19.15 |                |           | +           |
|       | 19. | 20.15          |           | +           |       | 23.30 |                |           | +           |
|       |     | 21.00          |           | +           | 15.   | 02.30 |                |           | +           |
|       | 20. | 01.45          |           | +           | 18.   | 00.00 | 22             |           | +           |
|       |     | 23.30          |           | +           | 19.   | 18.30 |                |           | +           |
|       | 21. | 23.30          |           | +           | 20.   | 02.15 |                |           | +           |
|       | 22. | 00.00          |           | +           |       | 23.00 |                |           | +           |
|       |     | 21.15          |           | +           | 22.   | 00.15 | 30             |           | +           |
|       |     | 21.45          |           | +           | 23.   | 14.30 |                |           | +           |

1988

| Bays  |       |                | P1-s                  | Bays  |       |                | P1-s                  |
|-------|-------|----------------|-----------------------|-------|-------|----------------|-----------------------|
| Month | Day   | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Month | Day   | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
| 04.   | 23.   | 21.30          |                       | 05.   | 24.   | 21.15          |                       |
|       |       | 23.15          |                       |       | 25.   | 00.30          |                       |
|       | 24.   | 16.00          |                       |       |       | 19.00          |                       |
|       |       | 20.45          |                       |       |       | 20.15          |                       |
|       | 25.   | 19.45          |                       |       |       | 20.45          |                       |
|       | 26.   | 22.00          |                       |       |       | 22.15          |                       |
|       |       | 22.30          |                       | 27.   | 20.15 |                |                       |
|       | 28.   | 00.30          |                       |       | 22.45 |                |                       |
|       |       | 00.45          |                       | 28.   | 02.30 |                |                       |
|       |       | 11.30          |                       | 29.   | 21.45 |                |                       |
|       | 30.   | 23.00          |                       | 30.   | 21.00 |                |                       |
| 05.   | 01.   | 10.00          |                       | 31.   | 23.30 |                |                       |
|       |       | 22.30          |                       | 06.   | 02.   | 19.15          |                       |
|       | 02.   | 22.15          | 30                    |       | 02.   | 19.30          |                       |
|       | 03.   | 00.00          |                       |       |       | 20.00          |                       |
|       |       | 19.30          |                       |       |       | 21.30          |                       |
|       | 04.   | 02.45          |                       | 03.   | 21.30 |                |                       |
|       |       | 21.15          | 42                    | 04.   | 16.45 |                |                       |
|       | 06.   | 00.30          | 145                   | 07.   | 23.00 |                |                       |
|       |       | 17.00          | 140                   |       | 23.30 | 30             |                       |
|       |       | 21.30          | 65                    | 08.   | 17.15 |                |                       |
| 08.   | 23.00 |                | 35                    |       | 20.30 |                |                       |
| 10.   | 23.00 |                |                       |       | 20.45 |                |                       |
| 12.   | 01.30 |                |                       |       | 21.30 |                |                       |
|       | 22.30 |                |                       | 09.   | 21.00 |                |                       |
|       | 23.15 |                |                       |       | 23.00 |                |                       |
|       | 23.45 |                |                       |       | 23.30 |                |                       |
| 13.   | 00.45 |                |                       | 10.   | 08.30 |                |                       |
| 14.   | 19.30 |                |                       |       | 16.45 |                |                       |
| 15.   | 02.15 |                |                       | 11.   | 00.15 |                |                       |
|       | 17.30 |                | +(pg?)                | 13.   | 04.00 |                | pg                    |
|       | 23.15 |                |                       | 14.   | 21.15 |                |                       |
| 16.   | 17.30 | 40             |                       |       | 22.00 | 35             |                       |
|       | 22.30 |                |                       | 15.   | 01.30 | 20             |                       |
| 17.   | 20.15 |                |                       |       | 22.45 | 25             |                       |
| 18.   | 02.15 | 82             |                       | 16.   | 20.15 |                |                       |
| 20.   | 01.00 |                |                       |       | 20.30 |                |                       |
| 21.   | 03.45 |                |                       | 17.   | 13.30 |                |                       |
|       | 21.30 |                |                       |       | 20.30 |                |                       |
| 22.   | 00.30 | 45             |                       | 18.   | 20.45 |                |                       |
| 23.   | 18.45 |                |                       |       | 21.00 |                |                       |
|       | 23.15 |                |                       | 19.   | 00.45 |                |                       |
| 24.   | 14.30 |                |                       |       | 01.15 |                |                       |
|       | 20.00 |                |                       |       | 02.15 |                |                       |
|       | 20.30 |                |                       |       | 19.15 | 68             |                       |



1988

| Bays  |     |                | Pi-s                  | Bays |       |     | Pi-s           |                       |   |
|-------|-----|----------------|-----------------------|------|-------|-----|----------------|-----------------------|---|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |      | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |   |
| 06.   | 20. | 01.30          |                       | +    | 08.   | 02. | 20.45          |                       | + |
|       | 22. | 01.15          |                       | +    |       | 04. | 21.45          |                       | + |
|       |     | 02.15          |                       | +    |       |     | 23.30          |                       | + |
|       | 23. | 22.30          |                       | +    |       | 07. | 00.30          |                       | + |
|       |     | 22.45          |                       | +    |       |     | 02.15          |                       | + |
|       |     | 23.15          |                       | +    |       |     | 19.45          |                       | + |
|       | 26. | 00.30          | 30(si?)               |      |       |     | 20.45          |                       | + |
|       |     | 01.30          | 35                    | +    |       | 09. | 13.30          | 58                    |   |
|       |     | 22.45          |                       | +    |       | 10. | 01.30          |                       | + |
|       | 28. | 02.00          |                       | +    |       |     | 20.15          |                       | + |
|       |     | 02.30          |                       | +    |       |     | 23.15          |                       | + |
|       |     | 22.30          |                       | +    |       | 12. | 22.15          |                       | + |
| 07.   | 02. | 20.30          |                       | +    |       | 14. | 00.45          |                       | + |
|       | 03. | 17.15          |                       | +    |       |     | 02.15          | 50                    | + |
|       |     | 22.00          |                       | +    |       | 15. | 00.45          |                       | + |
|       |     | 23.15          |                       | +    |       | 16. | 20.00          | 25                    | + |
|       | 04. | 01.15          |                       | +    |       | 18. | 00.30          |                       | + |
|       | 06. | 19.45          |                       | +    |       |     | 23.30          |                       | + |
|       | 07. | 18.45          |                       | +    |       | 19. | 22.30          |                       | + |
|       |     | 19.30          |                       | +    |       |     | 23.15          |                       | + |
|       |     | 20.15          |                       | +    |       | 21. | 21.00          |                       | + |
|       |     | 20.30          |                       | +    |       |     | 22.30          |                       | + |
|       | 08. | 20.15          |                       | +    |       | 22. | 20.30          |                       | + |
|       | 10. | 20.45          |                       | +    |       |     | 20.45          |                       | + |
|       | 11. | 22.30          |                       | +    |       |     | 22.30          |                       | + |
|       | 12. | 23.15          | 30                    | +    |       | 23. | 20.30          |                       | + |
|       | 14. | 21.30          |                       | +    |       |     | 22.15          |                       | + |
|       | 15. | 02.30          |                       | +    |       |     | 22.30          | 30                    | + |
|       | 16. | 01.30          |                       | +    |       | 27. | 00.45          |                       | + |
|       |     | 22.00          | 15                    | +    |       |     | 02.30          | 22                    | + |
|       | 18  | 04.30          |                       | +    |       | 28. | 00.30          |                       | + |
|       | 19. | 21.15          |                       | +    |       | 31. | 00.30          |                       | + |
|       | 23. | 20.15          |                       | +    | 09.   | 02. | 22.00          |                       | + |
|       | 27. | 00.45          | 32                    |      |       | 03. | 19.45          |                       | + |
|       | 28. | 21.30          | 35                    | +    |       | 04. | 21.45          |                       | + |
|       | 29. | 21.45          |                       | +    |       |     | 22.15          |                       | + |
|       | 30. | 20.15          |                       | +    |       | 05. | 01.00          |                       | + |
|       |     | 22.15          |                       | +    |       | 06. | 01.00          |                       | + |
|       |     | 22.45          |                       | +    |       | 10. | 00.30          |                       | + |
|       |     | 22.45          |                       | +    |       | 11. | 00.15          |                       | + |
|       | 31. | 00.30          |                       | +    |       |     | 01.30          |                       | + |
| 08.   | 01. | 00.15          |                       | +    |       |     | 18.15          | 100                   | + |
|       |     | 19.00          |                       | +    |       |     | 01.30          |                       | + |
|       |     | 20.15          |                       | +    |       | 14. | 02.45          |                       | + |
|       | 02. | 01.30          |                       | +    |       | 15. | 03.30          | 30                    | + |
|       |     | 19.30          |                       | +    |       | 17. | 02.45          |                       | + |

1988

| Bays  |     |                |                    | Pi-s |    | Bays  |       |                |                    | Pi-s |  |
|-------|-----|----------------|--------------------|------|----|-------|-------|----------------|--------------------|------|--|
| Month | Day | CET<br>(UT+1h) | Amplitude<br>H(nT) |      |    | Month | Day   | CET<br>(UT+1h) | Amplitude<br>H(nT) |      |  |
| 09.   | 18. | 02.00          | 105                | +    |    | 11.   | 02.   | 01.45          | 78                 | +    |  |
|       | 19. | 21.45          | 70                 | +    |    |       |       | 19.30          |                    | +    |  |
|       | 21. | 21.15          | 45                 | +    |    | 03.   | 00.45 |                |                    | +    |  |
|       | 23. | 02.00          |                    | +    |    |       |       | 01.45          |                    | +    |  |
|       | 24. | 21.45          |                    | +    |    |       |       | 20.00          | 85                 | +    |  |
|       |     | 23.00          |                    |      |    | 04.   | 18.45 |                |                    | +    |  |
|       | 25. | 03.00          | 40                 | +    |    |       |       | 19.30          | 35                 | +    |  |
|       |     | 22.30          | 40                 | +    |    | 05.   | 00.45 |                |                    | +    |  |
|       | 26. | 21.45          |                    | +    |    |       |       | 02.00          |                    | +    |  |
|       | 26. | 22.30          |                    | +    |    | 06.   | 05.15 |                | 42                 |      |  |
|       | 27. | 19.30          |                    | +    |    |       |       | 20.45          |                    | +    |  |
| 10.   | 01. | 20.45          |                    | +    |    | 07.   | 22.45 |                | 45                 | +    |  |
|       | 02. | 00.30          |                    | +    |    | 08.   | 19.45 |                | 85                 | +    |  |
|       | 03. | 20.45          |                    | +    |    | 09.   | 00.30 |                |                    | +    |  |
|       | 05. | 18.45          |                    |      | pg |       |       | 22.30          | 28                 | +    |  |
|       | 07. | 22.00          | 22                 | +    |    | 10.   | 03.15 |                | 25                 | +    |  |
|       | 08. | 01.45          |                    | +    |    | 11.   | 00.45 |                |                    | +    |  |
|       |     | 02.30          |                    | +    |    |       |       | 01.15          |                    | +    |  |
|       | 09. | 03.30          |                    | +    |    |       |       | 22.45          |                    | +    |  |
|       | 10. | 00.30          |                    | +    |    | 12.   | 10.00 |                |                    | pg   |  |
|       | 12. | 20.30          |                    | +    |    | 13.   | 00.00 |                | 42                 |      |  |
|       | 13. | 03.15          |                    | +    |    | 14.   | 03.30 |                |                    | +    |  |
|       | 14. | 23.30          |                    | +    |    | 15.   | 02.00 |                |                    | +    |  |
|       |     | 23.45          |                    | +    |    |       |       | 22.30          |                    | +    |  |
|       | 15. | 00.30          |                    | +    |    |       |       | 23.15          |                    | +    |  |
|       | 16. | 18.30          | 38                 |      |    | 16.   | 21.45 |                |                    | +    |  |
|       | 17. | 21.00          |                    | +    |    | 17.   | 22.45 |                |                    | +    |  |
|       | 18. | 11.00          | 58                 |      |    | 18.   | 20.30 |                | 38                 |      |  |
|       |     | 20.30          |                    | +    |    | 20.   | 22.30 |                |                    | +    |  |
|       |     | 21.15          |                    | +    |    |       |       | 23.15          |                    | +    |  |
|       |     | 22.15          |                    | +    |    | 21.   | 00.15 |                |                    | +    |  |
|       | 19. | 19.45          |                    | +    |    |       |       | 01.30          |                    | +    |  |
|       | 20. | 17.00          | 55                 |      |    | 22.   | 23.45 |                |                    | +    |  |
|       |     | 19.30          |                    | +    |    | 23.   | 20.30 |                |                    | pg   |  |
|       |     | 23.45          |                    | +    |    | 25.   | 02.00 |                |                    | +    |  |
|       | 21. | 00.00          |                    | +    |    | 26.   | 20.30 |                | 42                 | +    |  |
|       |     | 21.30          |                    | +    |    | 27.   | 18.15 |                | 42                 |      |  |
|       |     | 22.15          | 28                 | +    |    |       |       | 22.15          |                    | +    |  |
|       |     | 23.15          |                    | +    |    |       |       | 22.30          |                    | +    |  |
|       | 23. | 01.00          |                    | +    |    | 28.   | 14.00 |                | 38                 |      |  |
|       | 26. | 22.30          |                    | +    |    |       |       | 19.30          |                    | +    |  |
|       | 27. | 18.45          | 42                 |      |    |       |       | 21.45          |                    | +    |  |
|       | 28. | 22.00          |                    | +    |    | 29.   | 19.45 |                | 22                 | +    |  |
|       |     | 22.45          |                    | +    |    |       |       | 23.30          |                    | +    |  |
| 11.   | 01. | 17.30          | 23                 | +    |    | 30.   | 00.15 |                |                    | +    |  |

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| Bays  |     |                | Pl-s                  | Bays |       |     | Pl-s           |                       |
|-------|-----|----------------|-----------------------|------|-------|-----|----------------|-----------------------|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |      | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
| 12.   | 02. | 23.15          |                       |      |       |     |                | +                     |
|       |     | 23.45          |                       |      |       |     |                | +                     |
|       | 03. | 18.15          | 90                    |      |       |     |                | +                     |
|       |     | 23.00          |                       |      |       |     |                | +                     |
|       | 04. | 03.30          | 32                    |      |       |     |                | +                     |
|       |     | 16.45          | 25                    |      |       |     |                | +                     |
|       |     | 22.45          |                       |      |       |     |                | +                     |
|       |     | 23.15          |                       |      |       |     |                | +                     |
|       | 05. | 23.00          |                       |      |       |     |                | +                     |
|       | 08. | 04.15          |                       |      |       |     |                | +                     |
|       |     | 23.15          |                       |      |       |     |                | +                     |
|       | 13. | 20.30          | 42                    |      |       |     |                | +                     |
|       | 16. | 02.30          | 25                    |      |       |     |                | +                     |
|       |     | 21.45          | 62                    |      |       |     |                | +                     |
|       | 17. | 20.30          | 160                   |      |       |     |                | +                     |
|       | 18. | 18.45          | 50                    |      |       |     |                | +                     |
|       |     | 23.15          |                       |      |       |     |                | +                     |
|       |     | 23.30          |                       |      |       |     |                | +                     |
|       | 19. | 20.00          | 72                    |      |       |     |                | +                     |
|       | 20. | 22.15          |                       |      |       |     |                | +                     |
|       | 22. | 02.00          |                       |      |       |     |                | +                     |
|       |     | 09.30          | 70                    |      |       |     |                | (ssc?)                |
|       | 23. | 23.30          |                       |      |       |     |                | +                     |
|       | 24. | 20.30          |                       |      |       |     |                | +                     |
|       | 26. | 00.15          |                       |      |       |     |                | +                     |
|       |     | 23.30          |                       |      |       |     |                | +                     |
|       | 28. | 20.30          |                       |      |       |     |                | +                     |
|       | 31  | 23.30          |                       |      |       |     |                | +                     |

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| Bays  |       |                | P1-s                  |       | Bays  |       |                | P1-s                  |         |   |   |
|-------|-------|----------------|-----------------------|-------|-------|-------|----------------|-----------------------|---------|---|---|
| Month | Day   | CET<br>(UT+1h) | Amplitude in<br>H(nT) |       | Month | Day   | CET<br>(UT+1h) | Amplitude in<br>H(nT) |         |   |   |
| 01.   | 01.   | 00.45          | 42                    | +     | 02.   | 09.   | 21.15          |                       | +       |   |   |
|       |       | 21.00          | 42                    | +     |       |       | 21.30          | 65                    | +       |   |   |
|       |       | 21.30          |                       | +     |       |       | 10.            | 01.30                 | 35      | + |   |
|       | 02.   | 20.00          |                       | +     |       | 11.   | 19.30          |                       | +       |   |   |
|       |       | 03.            | 19.30                 |       |       |       | +              | 19.45                 |         | + |   |
|       |       |                | 20.30                 |       |       |       | +              | 12.                   | 23.30   |   | + |
|       | 21.30 |                | +                     | 13.   |       | 02.00 |                |                       | +       |   |   |
|       | 07.   | 18.30          | 28                    |       |       |       | 14.            | 16.15                 | 52(s1?) | + |   |
|       |       | 21.30          |                       | +     |       | 15.   | 03.30          |                       | +       |   |   |
|       | 09.   | 20.45          |                       | +     |       |       | 20.00          | 70                    | +       |   |   |
|       |       | 11.            | 22.30                 | 135   |       | +     | 19.            | 23.30                 |         | + |   |
|       | 23.15 |                |                       | +     |       | 20.   |                | 18.30                 | 65      |   |   |
|       | 15.   | 22.00          | 115                   | +     |       |       | 22.            | 21.30                 | 30      |   |   |
|       |       | 22.30          |                       | +     |       | 22.15 |                |                       |         | + |   |
|       | 17.   | 00.45          |                       | +     |       | 23.   | 22.45          |                       | +       |   |   |
|       |       | 02.00          |                       | +     |       |       | 23.00          |                       |         | + |   |
|       | 18.   | 20.45          | 65                    | +     |       | 24.   | 00.15          |                       | +       |   |   |
|       |       | 01.30          |                       | +     |       |       | 21.30          |                       |         | + |   |
|       | 20.   | 22.00          |                       | +     |       | 27.   | 01.15          |                       | +       |   |   |
|       |       | 00.30          |                       | +     |       |       | 02.00          |                       |         | + |   |
|       | 22.   | 01.30          |                       | +     |       | 28.   | 22.15          |                       | +       |   |   |
|       |       | 02.15          | 85                    | +     |       |       | 03.            | 01.15                 |         | + |   |
|       | 23.   | 13.45          | 95                    |       |       | 02.00 |                |                       |         | + |   |
|       |       | 22.45          |                       | +     |       | 20.00 | 42             | +                     |         |   |   |
|       | 24.   | 23.15          |                       | +     |       | 06.   | 02.45          | 25                    | +       |   |   |
|       |       | 23.00          |                       | +     |       |       | 23.15          |                       |         | + |   |
|       | 25.   | 23.15          |                       | +     |       | 07.   | 23.15          | 22                    | +       |   |   |
|       |       | 21.15          |                       | +     |       |       | 09.            | 22.15                 |         | + |   |
|       | 26.   | 21.45          |                       | +     |       | 10.   |                | 02.00                 |         | + |   |
|       |       | 22.30          |                       | +     |       |       | 22.00          |                       |         | + |   |
|       | 27.   | 23.15          |                       | +     |       | 11.   | 22.00          |                       | +       |   |   |
| 18.00 |       | 38             | +                     | 00.15 |       |       |                | +                     |         |   |   |
| 28.   | 02.45 |                | +                     | 12.   | 02.00 |       | +              |                       |         |   |   |
|       | 19.15 | 65             | +                     |       | 20.00 | 220   | +              |                       |         |   |   |
| 29.   | 02.45 |                | +                     | 17.   | 21.00 | 40    | +              |                       |         |   |   |
|       | 02.30 |                | +                     |       | 20.   | 21.15 |                | +                     |         |   |   |
| 31.   | 02.45 | 30             | +                     | 21.   |       | 01.15 |                | +                     |         |   |   |
|       | 23.30 | 85             | +                     |       | 23.30 | 30    | +              |                       |         |   |   |
| 02.   | 02.   | 19.45          | 115                   |       | 22.   | 02.00 |                | +                     |         |   |   |
|       |       | 23.15          |                       | +     |       | 21.30 | 80             | +                     |         |   |   |
|       | 03.   | 04.00          |                       | pg    |       | 23.30 | 105            | +                     |         |   |   |
|       |       | 23.45          |                       | +     |       | 24.   | 00.00          |                       | +       |   |   |
|       | 05.   | 23.45          |                       | +     | 25.   |       | 18.45          | 65                    | +       |   |   |
|       |       | 08.            | 02.30                 |       |       | 22.30 |                |                       | +       |   |   |
|       | 09.   | 00.45          |                       | +     | 26.   | 00.15 |                | +                     |         |   |   |

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| Bays  |     |                | Pi-s                  | Bays |       |     | Pi-s           |                       |    |
|-------|-----|----------------|-----------------------|------|-------|-----|----------------|-----------------------|----|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |      | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |    |
| 03.   | 26. | 22.45          |                       | +    | 04.   | 28. | 00.15          |                       | +  |
|       | 28. | 19.00          |                       | +    |       | 28. | 21.45          |                       | +  |
|       | 29. | 01.45          | 65                    | +    |       | 29. | 20.30          |                       | +  |
|       |     | 19.15          | 95                    | +    |       |     | 21.00          |                       | +  |
|       | 30. | 19.00          | 90                    | +    |       | 30. | 07.00          |                       | pg |
|       | 31. | 00.00          | 125                   | +    |       |     | 13.15          |                       | pg |
| 04.   | 01. | 19.45          |                       | +    | 05.   | 02. | 20.15          | 38                    | +  |
|       | 02. | 18.00          | 70                    | +    |       | 03. | 21.00          |                       | +  |
|       | 03. | 21.00          | 32                    | +    |       | 04. | 02.45          |                       | +  |
|       | 04. | 00.15          | 70                    | +    |       | 06. | 22.15          | 50                    | +  |
|       |     | 19.00          |                       | +    |       | 07. | 19.30          | 80                    | +  |
|       |     | 19.30          | 90                    | +    |       |     | 21.45          | 100                   | +  |
|       |     | 22.30          | 85                    | +    |       | 08. | 22.15          |                       | +  |
|       | 05. | 02.00          | 90                    |      |       | 10. | 23.30          |                       | +  |
|       |     | 20.45          | 55                    | +    |       | 11. | 22.15          |                       | +  |
|       | 06. | 21.00          | 35                    | +    |       | 13. | 23.00          |                       | +  |
|       | 07. | 22.30          |                       | +    |       | 14. | 21.45          |                       | +  |
|       | 08. | 19.45          |                       | +    |       |     | 22.45          |                       | +  |
|       | 09. | 01.45          | 35                    | +    |       | 15. | 00.15          |                       | +  |
|       |     | 20.15          | 90                    | +    |       | 16. | 16.15          |                       | +  |
|       | 10. | 15.15          |                       | +    |       | 17. | 20.45          |                       | +  |
|       |     | 20.30          |                       | +    |       |     | 21.00          |                       | +  |
|       | 10. | 22.45          |                       | +    |       | 18. | 23.15          |                       | +  |
|       | 13. | 19.30          | 35                    | +    |       | 19. | 21.15          |                       | +  |
|       | 14. | 01.00          |                       | +    |       | 20. | 00.15          |                       | +  |
|       |     | 23.45          | 75                    | +    |       | 22. | 02.00          |                       | +  |
|       | 16. | 22.45          | 65                    | +    |       |     | 22.00          | 40                    | +  |
|       | 17. | 01.00          | 60                    | +    |       | 24. | 17.45          | 100                   | +  |
|       |     | 22.00          | 38                    | +    |       |     | 23.00          | 68                    | +  |
|       | 18. | 03.45          | 40                    | +    |       | 26. | 23.30          |                       | +  |
|       | 20. | 01.15          |                       | +    |       | 27. | 00.15          |                       | +  |
|       |     | 10.00          |                       | +    |       |     | 22.30          |                       | +  |
|       |     | 22.30          |                       | +    |       | 29. | 01.30          | 30                    | +  |
|       | 22. | 21.15          |                       | +    |       |     | 20.30          |                       | +  |
|       | 23. | 20.15          |                       | +    |       | 30. | 00.15          |                       | +  |
|       | 24. | 02.00          |                       | +    |       | 31. | 00.30          |                       | +  |
|       | 25. | 00.00          | 14                    | +    |       |     | 22.30          |                       | +  |
|       |     | 19.00          | 95                    | +    |       |     | 23.30          |                       | +  |
|       |     | 22.00          |                       | +    | 06.   | 01. | 00.30          |                       | +  |
|       | 26. | 00.00          |                       | +    |       |     | 23.00          |                       | +  |
|       |     | 01.15          |                       | +    |       | 03. | 16.45          |                       | +  |
|       |     | 20.00          | 120                   | +    |       | 04. | 01.00          | 40                    | +  |
|       |     | 22.00          | 115                   | +    |       | 05. | 21.30          |                       | +  |
|       | 27. | 00.30          | 75                    | +    |       | 09. | 16.30          |                       | +  |
|       | 28. | 00.00          |                       | +    |       |     | 23.45          |                       | +  |

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| Bays  |     |                | Pi-s                  | Bays  |     |                | Pi-s                  |
|-------|-----|----------------|-----------------------|-------|-----|----------------|-----------------------|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
| 06.   | 11. | 20.00          |                       | 07.   | 23. | 17.45          |                       |
|       |     | 22.15          | +                     |       | 25. | 17.45          | +                     |
|       | 12. | 21.45          | +                     |       |     | 21.00          | +                     |
|       | 14. | 21.30          | 45                    |       |     | 23.15          | +                     |
|       |     | 22.15          | +                     |       | 26. | 00.15          | +                     |
|       |     | 22.45          | +                     |       | 28. | 23.15          | +                     |
|       | 15. | 19.15          | 62                    |       | 29. | 21.45          | +                     |
|       | 18. | 22.15          | +                     | 08.   | 03. | 18.15          | +                     |
|       | 19. | 20.00          | +                     |       |     | 19.15          | +                     |
|       |     | 23.45          | +                     |       |     | 23.30          | +                     |
|       | 20. | 00.15          | +                     |       | 05. | 23.00          | +                     |
|       |     | 01.15          | +                     |       | 06. | 00.00          | +                     |
|       |     | 02.00          | +                     |       |     | 19.45          | +                     |
|       | 22. | 19.30          | +                     |       | 06. | 20.15          | +                     |
|       | 23. | 02.30          | pg                    |       | 07. | 21.00          | +                     |
|       |     | 22.00          | +                     |       |     | 21.45          | +                     |
|       | 26. | 19.30          | +                     |       | 08. | 22.00          | +                     |
|       | 27. | 22.30          | +                     |       | 09. | 00.30          | +                     |
|       | 28. | 02.00          | +                     |       | 10. | 21.45          | 55                    |
|       | 29. | 20.30          | +                     |       | 11. | 02.30          | 60                    |
|       |     | 21.15          | +                     |       | 12. | 01.30          | +                     |
|       | 30. | 01.15          | +                     |       |     | 22.00          | +                     |
| 07.   | 04. | 15.45          | +                     |       |     | 22.45          | +                     |
|       | 05. | 02.45          | +                     |       | 14. | 22.15          | 70                    |
|       |     | 21.00          | +                     |       | 15. | 02.30          | 95                    |
|       |     | 22.15          | +                     |       | 16. | 21.15          | 30                    |
|       | 08. | 20.15          | +                     |       |     | 22.30          | +                     |
|       | 09. | 15.45          | +                     |       |     | 23.00          | +                     |
|       |     | 22.15          | +                     |       | 17. | 15.30          | 55                    |
|       |     | 23.00          | +                     |       | 18. | 00.30          | 80                    |
|       | 13. | 00.30          | +                     |       |     | 21.30          | +                     |
|       |     | 01.00          | +                     |       | 19. | 00.30          | +                     |
|       |     | 22.00          | +                     |       | 21. | 22.30          | 85                    |
|       | 14. | 19.30          | +                     |       |     | 23.00          | +                     |
|       |     | 21.45          | +                     |       | 22. | 01.30          | 65                    |
|       | 15. | 21.00          | +                     |       | 23. | 21.30          | 72                    |
|       |     | 22.30          | +                     |       |     | 14.15          | +                     |
|       | 17. | 19.15          | +                     |       |     | 14.30          | +                     |
|       |     | 23.30          | +                     |       | 29. | 19.45          | 65                    |
|       | 18. | 03.00          | 30                    |       | 30  | 00.00          | +                     |
|       | 19. | 01.45          | +                     |       |     | 17.45          | 42                    |
|       | 21. | 00.15          | +                     |       |     | 21.30          | 25                    |
|       |     | 21.45          | +                     |       | 31. | 17.30          | +                     |
|       | 23. | 01.00          | +                     |       |     | 22.30          | +                     |
|       |     | 01.30          | +                     | 09.   | 02. | 03.00          | +                     |

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| Bays  |     |                | P1-s                  | Bays  |     |                | P1-s                  |
|-------|-----|----------------|-----------------------|-------|-----|----------------|-----------------------|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
| 09.   | 03. | 23.15          |                       | 10.   | 09. | 00.45          |                       |
|       | 04. | 22.45          |                       |       | 10. | 00.30          |                       |
|       | 09. | 00.15          |                       |       | 11. | 00.45          |                       |
|       |     | 21.30          | 40                    |       |     | 01.45          |                       |
|       |     | 21.45          |                       |       |     | 22.00          |                       |
|       | 11. | 13.15          |                       |       |     | 22.30          |                       |
|       |     | 23.00          |                       |       | 12. | 04.15          |                       |
|       | 13. | 22.15          | 35                    |       |     | 18.45          |                       |
|       | 14. | 12.00          | 28                    |       | 17. | 20.30          |                       |
|       | 15. | 21.15          | 110                   |       | 19. | 00.00          |                       |
|       |     | 23.30          | 65                    |       |     | 01.00          | 80                    |
|       | 16. | 00.45          |                       |       |     | 13.30          | 60                    |
|       | 18. | 01.30          | 45                    |       |     | 20.30          |                       |
|       | 20. | 23.00          |                       |       | 20. | 20.00          | 450                   |
|       | 22. | 00.15          |                       |       |     | 22.45          | 190                   |
|       |     | 00.30          |                       |       | 21. | 19.15          |                       |
|       |     | 04.30          |                       |       | 22. | 00.15          |                       |
|       |     | 18.30          | 60                    |       |     | 03.30          |                       |
|       |     | 22.15          |                       |       |     | 18.45          | 105                   |
|       |     | 23.15          |                       |       | 22. | 19.30          | 125                   |
|       | 24. | 00.00          |                       |       | 23. | 20.45          |                       |
|       |     | 01.00          |                       |       | 25. | 23.45          |                       |
|       |     | 21.00          |                       |       | 26. | 05.00          | 32                    |
|       |     | 21.45          |                       |       |     | 23.30          |                       |
|       |     | 22.15          |                       |       | 27. | 19.45          | 55                    |
|       | 25. | 18.15          |                       |       |     | 21.45          |                       |
|       |     | 20.00          |                       |       |     | 23.15          |                       |
|       |     | 21.15          |                       |       | 28. | 00.30          |                       |
|       |     | 22.30          |                       |       |     | 18.30          |                       |
|       | 26. | 20.30          | 80                    |       | 29. | 02.00          |                       |
|       |     | 22.30          |                       |       |     | 02.30          |                       |
|       | 28. | 18.45          | 35                    |       |     | 20.00          | 50                    |
|       | 29. | 23.30          |                       |       | 31. | 20.00          |                       |
|       | 30. | 01.30          |                       | 11.   | 01. | 00.15          |                       |
| 10.   | 02. | 22.15          |                       |       |     | 22.30          |                       |
|       |     | 23.45          |                       |       | 02. | 23.30          |                       |
|       | 03. | 19.45          | 45(s1?)               |       |     | 23.45          |                       |
|       | 04. | 22.15          |                       |       | 05. | 00.30          | 50                    |
|       |     | 22.45          |                       |       |     | 21.30          | 35                    |
|       | 05. | 00.15          |                       |       | 08. | 20.00          |                       |
|       |     | 21.45          |                       |       | 11. | 00.45          |                       |
|       | 06. | 11.00          | 35                    |       | 13. | 23.00          | 70                    |
|       | 07. | 00.30          | 30                    |       | 14. | 04.15          | 25                    |
|       |     | 22.00          |                       |       |     | 21.00          |                       |
|       | 08. | 01.00          |                       |       |     | 22.45          |                       |

1989

| Bays  |     |                | Pl-s                  | Bays |       |     | Pl-s           |                       |
|-------|-----|----------------|-----------------------|------|-------|-----|----------------|-----------------------|
| Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |      | Month | Day | CET<br>(UT+1h) | Amplitude in<br>H(nT) |
| 10.   | 14. | 23.00          |                       | +    |       |     |                |                       |
|       | 15. | 02.00          |                       | +    |       |     |                |                       |
|       | 17. | 01.15          | 35                    | +    |       |     |                |                       |
|       | 19. | 19.45          |                       | +    |       |     |                |                       |
| 11.   | 19. | 23.30          |                       | +    |       |     |                |                       |
|       | 21. | 01.45          | 50                    | +    |       |     |                |                       |
|       |     | 12.00          | 45                    |      |       |     |                |                       |
|       | 23. | 02.15          |                       | +    |       |     |                |                       |
|       | 24. | 20.45          |                       | +    |       |     |                |                       |
|       | 26. | 23.15          |                       | +    |       |     |                |                       |
|       | 29. | 21.15          |                       | +    |       |     |                |                       |
|       | 30. | 00.15          |                       | +    |       |     |                |                       |
|       |     | 19.30          |                       | +    |       |     |                |                       |
|       |     | 23.30          |                       | +    |       |     |                |                       |
| 12.   | 03. | 20.45          |                       | +    |       |     |                |                       |
|       | 04. | 01.45          |                       | +    |       |     |                |                       |
|       |     | 02.45          |                       | +    |       |     |                |                       |
|       |     | 21.30          |                       | +    |       |     |                |                       |
|       |     | 22.30          | 55                    | +    |       |     |                |                       |
|       | 07. | 21.45          |                       | +    |       |     |                |                       |
|       | 08. | 23.15          |                       | +    |       |     |                |                       |
|       | 10. | 21.00          |                       | +    |       |     |                |                       |
|       | 11. | 21.00          |                       | +    |       |     |                |                       |
|       | 14. | 16.15          |                       | +    |       |     |                |                       |
|       |     | 17.00          | 35                    | +    |       |     |                |                       |
|       |     | 21.30          | 32                    | +    |       |     |                |                       |
|       | 15. | 01.45          |                       | +    |       |     |                |                       |
|       | 16. | 21.30          | 35                    | +    |       |     |                |                       |
|       | 17. | 22.00          |                       | +    |       |     |                |                       |
|       | 18. | 02.30          |                       | +    |       |     |                |                       |
|       |     | 22.15          |                       | +    |       |     |                |                       |
|       |     | 23.30          |                       | +    |       |     |                |                       |
|       | 20. | 21.30          |                       | +    |       |     |                |                       |
|       | 21. | 02.00          | 38                    | +    |       |     |                |                       |
|       | 24. | 17.30          |                       | +    |       |     |                |                       |
|       |     | 20.30          | 60                    | +    |       |     |                |                       |
|       |     | 23.30          | 45                    | +    |       |     |                |                       |
|       | 25. | 21.45          |                       | +    |       |     |                |                       |
|       | 26. | 20.30          | 90                    |      |       |     |                |                       |
|       | 27. | 09.00          |                       | pg   |       |     |                |                       |
|       |     | 20.30          |                       | +    |       |     |                |                       |
|       | 29. | 21.30          | 300                   | +    |       |     |                |                       |
|       | 30. | 00.00          | 120                   | +    |       |     |                |                       |
|       |     | 23.30          |                       | +    |       |     |                |                       |



6.  
Activity indices for the micropulsations  
(P1 to P12)  
1988. January-December

| Day | January      | February     | March        | April        |
|-----|--------------|--------------|--------------|--------------|
| 1.  |              | 115542434521 | 115545424521 | 114554552111 |
| 2.  | 115445555554 | 115455543331 | 115443344343 | 115444554331 |
| 3.  | 115555552224 | 113455533211 | 11555543325  | 112454452235 |
| 4.  | 114355554413 | 114354543241 | 115553425545 | 115543255354 |
| 5.  | 115454554454 | 115444324223 | 113453454422 | 115552441143 |
| 6.  | 115455555355 | 113455522111 | 115434555224 | 115543244354 |
| 7.  | 113455541134 | 115355542111 | 115445555324 | 115444444225 |
| 8.  | 115444123215 | 115444554111 | 115552143135 | 114345445311 |
| 9.  | 112455531111 | 113355543121 | 113554334225 | 115553144522 |
| 10. | 112335551112 | 115554312321 | 113355454124 |              |
| 11. | 115552221124 | 115554541143 | 113453554321 |              |
| 12. | 115355542143 | 115545544124 | 113455543224 |              |
| 13. | 112455522111 | 115544431245 | 114554444111 | 112454444313 |
| 14. | 115444544355 | 115444453423 | 115552544143 | 113255354221 |
| 15. | 115433555554 | 115554131344 | 113555332245 | 115444534241 |
| 16. | 113333554111 | 115554443124 | 111355534124 | 115455232351 |
| 17. | 113235551111 | 115544244122 | 114454534332 | 111344545144 |
| 18. | 113555441121 | 115555344114 | 113344555311 | 115454242322 |
| 19. | 115554222114 | 115245521111 | 113435555511 | 114443444233 |
| 20. | 113554454112 | 113455535231 | 115344455322 | 114433355523 |
| 21. | 113555442111 | 115552454555 | 115334552331 | 114554325411 |
| 22. | 113445541221 | 115444555353 | 115445521351 | 115324555411 |
| 23. | 115234541121 | 115553553223 | 115432555331 | 115453455124 |
| 24. | 115235543311 | 115455551121 |              | 113434455221 |
| 25. | 115532455221 | 115555542112 |              | 115343555312 |
| 26. |              | 115444555111 | 115453455153 | 113432455522 |
| 27. |              | 115534555111 | 115554434232 | 115522434534 |
| 28. |              | 115444455311 | 115554343121 | 115532255513 |
| 29. |              | 115445555211 | 115553333135 | 113444455322 |
| 30. | 115344444311 |              | 115552444123 | 115444425435 |
| 31. | 115443224121 |              | 115542541114 |              |

1988

| Day | May          | June         | July         | August       |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 112234544541 | 112433545541 | 113454445125 | 112554345513 |
| 2.  | 112444545321 | 112234555551 | 115552555345 | 111444255521 |
| 3.  | 113433335521 | 112123554551 | 114454535411 | 115423455532 |
| 4.  | 114454445114 | 113422555423 | 112145555511 | 113334555541 |
| 5.  | 114533444534 | 114421445555 | 111234554424 | 111444434333 |
| 6.  | 114443345355 | 114543242423 | 112433345445 | 115544455533 |
| 7.  | 115551135223 | 113532355521 | 113432555511 | 112443455554 |
| 8.  | 113534444224 | 113454345531 | 112443455522 | 111445442355 |
| 9.  | 115454233212 | 115443252534 | 112444535411 | 111534445453 |
| 10. | 115554234221 | 112454552534 | 112523455521 | 115544355225 |
| 11. | 112554455335 | 111155455311 | 115431335535 | 112554342424 |
| 12. | 112445455521 |              | 111545355335 | 114553453155 |
| 13. | 111345553511 | 115434325151 | 112455335221 | 112454345325 |
| 14. | 111424555331 | 113434344545 | 112554444522 | 112452455433 |
| 15. | 111432553453 | 114434455321 | 114554455422 | 113432455455 |
| 16. | 112432445542 | 112444444511 | 113555334225 | 112433455523 |
| 17. | 113343454543 | 113422555521 | 111453555225 | 112454454513 |
| 18. | 112543554321 | 112553355522 | 113445555112 | 111444355532 |
| 19. | 112444554211 | 113454345334 | 112245455444 | 113554255522 |
| 20. | 111453555522 | 113553552311 | 112223555421 | 114534353524 |
| 21. | 114553445222 | 113445454341 | 115532255545 | 111333555521 |
| 22. | 111552455312 | 113543245445 | 112332455524 | 113445355245 |
| 23. | 113454443422 | 112533555514 | 113542555424 | 113444555324 |
| 24. | 112454535521 | 113442455535 | 111433555511 | 112555432233 |
| 25. | 112343555541 | 115533145245 | 112554344321 | 115544344145 |
| 26. | 112334545521 | 111443345513 | 112552355524 | 113544542345 |
| 27. | 114324555542 | 112432554411 | 115542255224 | 111355555112 |
| 28. | 115434454341 | 113433545512 | 113554354232 | 115255255222 |
| 29. | 113534533354 | 115433355454 | 111554455512 | 111554433523 |
| 30. | 113452344455 | 112454355235 | 112255555323 | 111255555211 |
| 31. | 113543323542 |              | 113554355521 | 112542355422 |

| Day | September    | October      | November     | December     |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 115454245155 |              | 112324555333 | 111335354324 |
| 2.  | 112454552232 |              | 114443455544 | 111355554145 |
| 3.  | 112554554212 |              | 112445545544 | 111345554525 |
| 4.  | 111335554522 |              | 111255552111 | 111345555122 |
| 5.  | 111234555521 |              | 111454555111 | 113334555211 |
| 6.  | 112323555521 | 115433554355 | 113355445521 | 112335554111 |
| 7.  | 111444454324 | 111225555523 | 115344555211 | 111334553311 |
| 8.  | 112343455531 | 111345555211 | 111435455422 | 111453455521 |
| 9.  | 111444554111 | 112425544432 | 111334555412 | 111255455141 |
| 10. | 111553455542 | 114442345355 | 111244555412 | 112553335523 |
| 11. | 115532345455 | 111335544421 | 112343555425 | 113444555345 |
| 12. | 111455554318 | 111334555531 | 111354455545 | 115554434355 |
| 13. | 111355553212 | 112443445521 | 112354544322 | 111454555545 |
| 14. | 111444455324 | 112244555421 | 111455442114 | 112454355233 |
| 15. | 111435455111 | 112344455523 | 112455544225 | 111445455541 |
| 16. | 112355542112 | 112453455424 | 111345555544 | 111235545545 |
| 17. | 112445353454 | 113444334435 | 111355355445 | 114355435555 |
| 18. | 114453355454 | 112345555523 | 111235555223 | 111344455255 |
| 19. | 112554433145 | 111245455525 | 111145555111 | 112343555555 |
| 20. | 113553333223 | 111344555214 | 111334555222 | 111145553424 |
| 21. | 112554344325 | 111345555223 | 111335555422 | 112445554344 |
| 22. | 113444445354 | 112245554211 | 111434555533 | 113454454335 |
| 23. | 112455245343 | 111455555211 | 112134555241 | 111224554311 |
| 24. | 111345545412 | 111355442325 | 112445554422 | 113355532521 |
| 25. | 111245554411 | 111355454221 | 113434555552 | 115533355544 |
| 26. | 111345553424 | 111345355352 | 112445455535 | 112534455355 |
| 27. | 111355455521 | 112455455521 | 111225555424 | 111255555424 |
| 28. | 111354353134 | 112455435221 | 111334555543 | 112445555522 |
| 29. |              | 111123555521 | 111444555521 | 115533544443 |
| 30. |              | 112134555553 | 112444554245 | 115523555534 |
| 31. |              | 113543454355 |              | 115553554242 |

Activity indices for the micropulsations  
(P1 to P12)  
1989. January-December

| Day | January      | February     | March        | April        |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 11425555511  | 115313454555 | 115444555543 | 112452455255 |
| 2.  | 115544555211 | 115334554555 | 115152455555 | 111454555445 |
| 3.  | 115534555132 | 115424354555 | 115342555554 | 113255453544 |
| 4.  | 115544545325 | 114534544555 | 114253555552 | 115554255455 |
| 5.  | 115323555555 | 114433555455 | 115253555555 | 111355555245 |
| 6.  | 115544555542 | 115444555554 | 115254555544 | 113355555442 |
| 7.  | 115535454443 | 114453555355 | 112153555552 | 113354555335 |
| 8.  | 115522455455 | 115533455545 | 114243555354 | 112255555544 |
| 9.  |              | 115344555444 | 115233555555 | 112244555541 |
| 10. |              | 115354555551 | 113154555554 | 112255555321 |
| 11. |              | 112145555542 | 115254455344 | 115335455544 |
| 12. | 114422555533 | 115454545554 | 114252555555 | 113354555555 |
| 13. | 112424595541 | 115432555554 | 111111134243 | 112443455555 |
| 14. | 114323555543 | 115553555532 | 115331245555 | 112354255555 |
| 15. | 113224555553 | 115334555443 | 115444555455 | 111133555554 |
| 16. | 115522255554 | 115233555555 | 115233555455 | 111354455554 |
| 17. | 112325555553 | 114334555544 | 114233555555 | 115145555541 |
| 18. | 113223555541 | 115334555553 | 115254555444 | 115255555552 |
| 19. | 113534555232 | 115433555553 | 113352555555 | 112355455244 |
| 20. | 115424555553 | 115352544255 | 112134455555 | 111335455552 |
| 21. | 115334355555 | 115254455235 | 115245455555 | 115253555542 |
| 22. | 112544553455 | 112454555444 | 115355455553 | 112254355554 |
| 23. | 113544453254 | 115354755532 | 115434555555 | 115452455554 |
| 24. | 112455555553 | 115354555531 | 112354555251 | 115455255551 |
| 25. | 115455555122 | 115354555321 | 112255455554 | 115342255555 |
| 26. | 115555554412 | 115155555122 | 115454555423 | 111423455555 |
| 27. | 115344551553 | 114255555552 | 115333455555 | 113244555555 |
| 28. | 113453555552 | 115354555352 | 114444355555 | 114543355555 |
| 29. | 114444554343 |              | 111333555455 | 115553355355 |
| 30. | 113345455343 |              | 113454455255 | 112255555245 |
| 31. | 115544455332 |              | 112335455555 |              |

1989

| Day | May          | June         | July         | August       |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 115553355544 | 114452455552 | 112342255552 | 111442555554 |
| 2.  | 113455355542 | 114552355553 | 111333455551 | 112551555552 |
| 3.  | 115354455433 | 112552255545 | 113433555541 | 113253555554 |
| 4.  | 112255555451 | 112255445524 | 115124555512 | 112252555543 |
| 5.  | 112344455554 | 114453255531 | 113352455554 | 111333555551 |
| 6.  | 114444555544 | 114455555533 | 111552355544 | 111454555551 |
| 7.  | 112353455552 | 115333555555 | 111453555544 | 111451445542 |
| 8.  | 113342555553 | 113453555555 | 111223555542 | 112451355555 |
| 9.  | 113433555545 | 113224555555 | 113442555555 | 112252355554 |
| 10. | 115254555541 |              | 111242555555 | 111223555555 |
| 11. | 115354555552 |              | 111253555551 | 111223555555 |
| 12. | 113455345553 | 111255555553 | 113233555544 | 111242555542 |
| 13. | 114455455543 | 111355554554 | 111352254555 | 111343555542 |
| 14. | 115443455555 | 111423355555 | 111142455553 | 111332555555 |
| 15. | 113453455553 | 112134355555 | 112454554554 | 111141555554 |
| 16. | 115453455551 | 111414555514 | 111342555551 | 111254555545 |
| 17. | 113354455552 | 111255455524 | 111451255554 | 111153555525 |
| 18. | 113353255553 | 112355455555 | 111132555553 | 111252455555 |
| 19. |              |              | 111154455522 | 111252555545 |
| 20. | 114234455352 |              | 113352355552 | 111152455555 |
| 21. | 115451455553 | 111555355443 | 112452554552 | 111122355555 |
| 22. | 113551445553 | 111454355543 | 111452555553 | 111251455554 |
| 23. | 115452455443 | 112455255553 | 111352355555 | 114231355555 |
| 24. | 115333455555 | 111553255551 | 111453455454 | 111351255554 |
| 25. | 111334555555 | 112455255554 | 111553455524 | 111251155554 |
| 26. | 112453555555 | 113552455555 | 111543455555 | 111141355554 |
| 27. | 112352455551 | 112533455524 | 111341555555 | 111251355555 |
| 28. | 114554455543 | 111355455541 | 111561555524 | 111142555555 |
| 29. | 111453355533 | 111233255551 | 111551455531 | 111222555555 |
| 30. | 111455555451 | 111143255541 | 111344555511 | 111241555551 |
| 31. | 112454355523 |              | 111244555522 | 111152455554 |

1989

| Day | September    | October      | November     | December     |
|-----|--------------|--------------|--------------|--------------|
| 1.  | 11122155553  | 111242555542 | 111144555544 | 112342555555 |
| 2.  | 11145135553  | 113152555555 | 115114554555 | 111121255555 |
| 3.  | 111151355533 | 111131555554 | 112141355555 | 111133355555 |
| 4.  | 111132455555 | 111144355554 | 112133555555 | 111134355554 |
| 5.  | 112254355545 | 111345555552 | 111134555555 | 111124555552 |
| 6.  | 111253455555 | 111243355553 | 111124555535 | 111134555551 |
| 7.  | 111144455555 | 111144555551 | 112142555555 | 111342555552 |
| 8.  | 112133555535 | 111442555554 | 111331555555 | 111343555554 |
| 9.  | 111153555551 | 111231555555 | 111131555555 | 111155555541 |
| 10. | 111243455552 | 111143555555 | 111123555555 | 111152455551 |
| 11. | 111255555521 | 111135555552 | 115522555555 | 111342355554 |
| 12. | 113332515555 | 111141555554 | 111224555555 | 111431255551 |
| 13. | 112433555553 | 111341555553 | 111122255555 | 111341355552 |
| 14. | 111345555522 | 114232455551 | 112542355553 | 111222455533 |
| 15. | 111332454555 | 111243455553 | 111431555555 | 111351255554 |
| 16. | 111222455554 | 112223455552 | 111151555552 | 111131455552 |
| 17. | 111232555554 | 112242555553 | 111233555554 | 111142555533 |
| 18. | 111232555555 | 111123555553 | 111242555555 | 111153555542 |
| 19. | 111122555555 | 111122555555 | 111121455553 | 111244255523 |
| 20. | 112241555541 | 111133455555 | 111143555541 | 111143555542 |
| 21. | 111152455553 | 111141355555 | 111452555532 | 111152455543 |
| 22. | 111134355552 | 111123555555 | 111152555531 | 112212455555 |
| 23. | 111254455532 | 111144555555 | 111151555551 | 112123555555 |
| 24. | 111234555523 | 111353355555 | 111254455552 | 111331455555 |
| 25. | 112135455544 | 111142555555 | 111154555511 | 111253555555 |
| 26. | 112132255554 | 111252455555 | 111153455555 | 112343455554 |
| 27. | 112231555554 | 111242555552 | 114131455555 | 111321455555 |
| 28. | 111151554554 | 111152455543 | 111211355555 | 111152555555 |
| 29. | 112242355555 | 111254555543 | 111221255555 | 112122355555 |
| 30. | 111151455554 | 113441455555 | 111132455554 | 111111355555 |
| 31. |              | 111151455554 |              | 111121555555 |

## B. ATMOSPHERIC ELECTRICITY

Atmospheric electricity data have been published since 1962. Table I contains the hourly average values of the potential gradient expressed in V/m. Hourly averages have been taken only from hours having a recording period of 30 minutes or more. If values were available only for part of an hour the average is entered in square brackets [ ]. These data have been used in the determination of the monthly and daily means. Values uncertain for some reason are entered in round brackets ( ) and have not been used in calculating monthly and daily means. Daily means of each day with 24 hours of recording are entered. However, loss of a maximum of one hour's data out of twelve (for example, on account of instrument maintenance or calibration) has not precluded entering this mean value. In hours marked by S the value of the potential gradient exceeded permanently or several times the measuring limits of the equipment making the determination of an hourly average impossible. The direction of the deviations are marked by signs. For June, 1989 data are missing on account of instrument trouble,

Table II gives the hourly means of quantities of positive and negative charges transported by point-discharge for each month. The values are expressed in  $10^{-6}$  Asec/hour.

All data are presented in universal time (GMT).

Both the equipments and methods of measurements of potential gradient and point discharge have been described in the paper by P. BENCZE and F. MÁRCZ: "Atmosphärisch-elektrische und ionosphärische Messungen im Observatorium bei Nagycenk". Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966, Sopron, 1967. Further information is given by P. BENCZE and F. MÁRCZ: "The Geophysical Observatory near Nagycenk. II. Atmospheric electric and ionospheric measurements" Acta Geod. Geoph. Mont. Hung. 16/1981, 353-357.

I. Hourly means of the

January

| Hour<br>Day       | GMT | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7     | 8     | 9     | 10    | 11    |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|
| 1.                |     | 20  | 20  | 30  | 50  | 40  | 40  | 40  | 30    | 10    | -10   | -10   | [10]  |
| 2.                |     | 0   | 30  | 70  | 30  | 30  | 30  | 10  | 20    | 30    | 40    | [10]  | 40    |
| 3.                |     | 30  | 60  | 40  | 30  | 50  | 40  | 20  | 20    | 0     | 30    | -     | 10    |
| 4.                |     | -10 | -20 | -10 | 30  | 100 | 50  | 50  | (60)  | (160) | 90    | 70    | 60    |
| 5.                |     | 40  | 30  | 40  | 40  | 40  | 60  | 100 | 110   | 100   | 90    | [110] | 90    |
| 6.                |     | 120 | 130 | 140 | 210 | 190 | 200 | 190 | 210   | 210   | [160] | [100] | 90    |
| 7.                |     | 0   | 0   | 0   | -10 | -10 | -10 | -20 | +5    | -80   | -110  | [-80] | -90   |
| 8.                |     | 40  | 40  | 60  | 60  | 40  | 60  | 60  | 60    | 80    | 80    | [60]  | -     |
| 9.                |     | 40  | 20  | 30  | 40  | 40  | 40  | 60  | 70    | [80]  | 90    | 100   | 90    |
| 10.               |     | 60  | 70  | 60  | 70  | 70  | 60  | 70  | 60    | 40    | 40    | 90    | 100   |
| 11.               |     | -10 | 0   | 0   | 20  | 0   | -30 | -20 | [-10] | -     | -40   | -50   | (-20) |
| 12.               |     | 100 | 80  | 60  | 40  | 30  | 40  | 60  | 60    | 90    | [80]  | 100   | 90    |
| 13.               |     | 10  | 30  | 30  | -10 | 0   | -50 | -60 | -10   | -10   | -20   | [-20] | -20   |
| 14.               |     | -40 | -30 | -40 | -20 | -40 | -40 | -40 | -10   | -30   | -40   | [-50] | -60   |
| 15.               |     | -40 | -40 | -50 | -60 | -50 | -50 | -40 | -10   | -20   | -10   | [-10] | -20   |
| 16.               |     | -20 | 0   | -10 | -10 | 10  | -10 | -20 | -10   | -10   | 70    | 30    | 40    |
| 17.               |     | -10 | -40 | 30  | 60  | -10 | 50  | 10  | 40    | 40    | 20    | -     | 50    |
| 18.               |     | 0   | 20  | 40  | 40  | 50  | 60  | 40  | [80]  | [90]  | 70    | 60    | 70    |
| 19.               |     | -10 | 0   | -10 | -10 | 20  | 40  | 20  | 30    | 10    | -10   | [-20] | -10   |
| 20.               |     | -10 | -10 | -10 | -10 | -10 | 0   | 0   | 0     | 0     | 10    | [20]  | 10    |
| 21.               |     | -10 | 10  | 40  | 20  | 10  | 20  | 20  | 30    | 30    | 40    | [60]  | 70    |
| 22.               |     | 20  | 10  | 30  | 60  | 60  | 50  | 40  | 30    | 40    | 30    | [20]  | 40    |
| 23.               |     | -10 | 10  | 40  | 50  | 70  | 80  | 110 | 110   | 50    | 60    | 60    | [70]  |
| 24.               |     | 30  | 30  | 30  | 30  | 30  | 40  | 50  | 50    | 60    | 80    | [70]  | -     |
| 25.               |     | 0   | -10 | 30  | 0   | 0   | 40  | 40  | [40]  | (30)  | 20    | 30    | 60    |
| 26.               |     | -40 | 60  | 130 | 110 | 60  | 80  | 110 | 100   | 140   | 130   | [140] | 80    |
| 27.               |     | 140 | 110 | 130 | +5  | 120 | 130 | 60  | 0     | 30    | 70    | [70]  | 40    |
| 28.               |     | 70  | 40  | 40  | 60  | 40  | 70  | 90  | 100   | 140   | 140   | [140] | 60    |
| 29.               |     | 110 | 90  | 30  | 40  | 40  | 30  | 110 | 170   | 20    | 20    | 40    | [70]  |
| 30.               |     | 30  | -20 | -10 | -30 | 30  | 10  | -50 | -80   | -30   | -80   | -20   | -10   |
| 31.               |     | 60  | 40  | 40  | 40  | 60  | 60  | 60  | 70    | 60    | 40    | 40    | -     |
| Means             |     | 23  | 25  | 33  | 32  | 36  | 38  | 38  | 47    | 42    | 38    | 40    | 38    |
| Number<br>of days |     | 31  | 31  | 31  | 30  | 31  | 31  | 31  | 29    | 28    | 31    | 29    | 27    |



potential gradient for 1988

| 12    | 13   | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23   | Daily means |
|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------------|
| 20    | 10   | 30  | 70  | 70  | 10  | 30  | 40  | 30  | 30  | 20  | 20   | 28          |
| 60    | 80   | 80  | 80  | 80  | 70  | 80  | 60  | 60  | 60  | 50  | 50   | 48          |
| 30    | 40   | 40  | 40  | 40  | 50  | 30  | 60  | 40  | 80  | 90  | 0    | 38          |
| 60    | 40   | 40  | 40  | 40  | 40  | 60  | 70  | 70  | 60  | 60  | 40   | -           |
| 100   | 90   | 100 | 120 | 120 | 120 | 100 | 110 | 120 | 90  | 80  | 30   | 85          |
| 90    | 80   | 60  | 10  | 0   | 30  | 20  | 30  | 60  | 30  | 30  | 20   | 100         |
| -60   | -10  | 80  | 40  | 30  | 40  | 40  | 70  | 140 | 160 | 110 | 70   | 13          |
| -     | -    | -   | -   | -   | -   | 90  | 100 | 100 | 70  | 60  | 60   | -           |
| 90    | 100  | 100 | 90  | 100 | 80  | 80  | 80  | 90  | 90  | 70  | 70   | 73          |
| [140] | 160  | 150 | 140 | 90  | 90  | 200 | -   | 180 | 110 | 40  | 20   | 92          |
| 10    | 30   | -20 | -30 | -10 | 0   | 30  | 40  | 40  | 100 | 130 | 90   | -           |
| 100   | 100  | 100 | 80  | 70  | 80  | 80  | 80  | 70  | 30  | 80  | (20) | 74          |
| -20   | -20  | -20 | -20 | -30 | -30 | -50 | -30 | -10 | -20 | -40 | -40  | -19         |
| -50   | -50  | -50 | -40 | -50 | -50 | -50 | -50 | -30 | -30 | -40 | -50  | -41         |
| -20   | 0    | -20 | -30 | -20 | -20 | 0   | -10 | -10 | -10 | -10 | -10  | -23         |
| 60    | [40] | 40  | 60  | 20  | 30  | -10 | 0   | 50  | 20  | -20 | 30   | 16          |
| 60    | 50   | 50  | 30  | 30  | 30  | 30  | 70  | 40  | 60  | 30  | 0    | 31          |
| 70    | 60   | 40  | 30  | 40  | 20  | 0   | 10  | 10  | 0   | -10 | -10  | 37          |
| 10    | 10   | 30  | 10  | 0   | -20 | -60 | -60 | -20 | -30 | -60 | -10  | -6          |
| 0     | 0    | 0   | 0   | 10  | 20  | 10  | -10 | -10 | -20 | 0   | -10  | -1          |
| 60    | 30   | 30  | 20  | -10 | 20  | -10 | 30  | 10  | 30  | 10  | 30   | 25          |
| 20    | 20   | 20  | 0   | 0   | 10  | -30 | -30 | -60 | -30 | -60 | 0    | 12          |
| 60    | 60   | 60  | 70  | 80  | 80  | 50  | 40  | 60  | 60  | 40  | 20   | 58          |
| 80    | 100  | 80  | 40  | 50  | 50  | 60  | 60  | -40 | -30 | -20 | 0    | 40          |
| 40    | 60   | 80  | 70  | 100 | 20  | -40 | -S  | -20 | -30 | -30 | -50  | 21          |
| 40    | 80   | 80  | 90  | 100 | 70  | 40  | 60  | 80  | +S  | 220 | 160  | 92          |
| 60    | 60   | 60  | 40  | 40  | 60  | 90  | 120 | 100 | 90  | 70  | 90   | 77          |
| 40    | 20   | 30  | 30  | 40  | 60  | 110 | 120 | 80  | 70  | 40  | 70   | 71          |
| 90    | 90   | 70  | 40  | 60  | 80  | 100 | 90  | 80  | 70  | 40  | 10   | 66          |
| 40    | [40] | 40  | 60  | 80  | 100 | 110 | 100 | 90  | 80  | 80  | 60   | 26          |
| -S    | +S   | 30  | +S  | 60  | 30  | 80  | 70  | 60  | 40  | 40  | 40   | -           |
| 44    | 47   | 47  | 41  | 41  | 41  | 41  | 46  | 47  | 41  | 35  | 27   |             |
| 29    | 29   | 30  | 29  | 30  | 30  | 31  | 29  | 31  | 30  | 31  | 30   |             |

## February

| Hour<br>Day       | GMT | 0    | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8     | 9   | 10    | 11   |
|-------------------|-----|------|-----|-----|-----|-----|-----|-----|------|-------|-----|-------|------|
| 1.                |     | 30   | 30  | 20  | 30  | 40  | 60  | 70  | (90) | (100) | 70  | 60    | 50   |
| 2.                |     | 40   | 40  | 30  | 40  | 0   | 20  | -10 | -20  | -10   | -90 | -60   | -40  |
| 3.                |     | 40   | 40  | 40  | 30  | 40  | 40  | 40  | 70   | 70    | 80  | [80]  | 90   |
| 4.                |     | 60   | 70  | 60  | 60  | 40  | 40  | 70  | 70   | 70    | 60  | [80]  | 80   |
| 5.                |     | 30   | 30  | 40  | 40  | 40  | 50  | 60  | 70   | 70    | 80  | [70]  | 50   |
| 6.                |     | 100  | 80  | 50  | 50  | 60  | 80  | 70  | 50   | 30    | 40  | 60    | 70   |
| 7.                |     | 10   | 20  | 10  | 10  | 20  | 20  | 30  | 40   | 40    | 40  | -     | 60   |
| 8.                |     | 0    | -60 | -70 | -80 | 0   | 30  | 40  | (40) | 30    | 40  | 40    | 30   |
| 9.                |     | 10   | 30  | 30  | 40  | 40  | 40  | 50  | 50   | 60    | 60  | [60]  | 60   |
| 10.               |     | 50   | -S  | -S  | -S  | -S  | -S  | -S  | 10   | 30    | 30  | [40]  | 40   |
| 11.               |     | 40   | 40  | 40  | 40  | 50  | 40  | 50  | 70   | 50    | 50  | 60    | [70] |
| 12.               |     | 30   | 40  | 30  | -30 | 0   | -10 | 0   | 0    | -10   | -10 | [20]  | 30   |
| 13.               |     | 40   | 20  | 20  | 10  | 0   | 40  | -40 | -S   | 70    | 50  | 50    | 40   |
| 14.               |     | 40   | 40  | 40  | 40  | 40  | 50  | 30  | 20   | 30    | 30  | 40    | 50   |
| 15.               |     | 40   | 40  | 30  | 40  | 40  | 40  | 50  | [50] | (60)  | 60  | 60    | 60   |
| 16.               |     | 0    | -10 | -20 | -40 | -30 | -20 | -70 | -80  | -70   | -60 | (-40) | -10  |
| 17.               |     | -50  | -20 | -50 | 10  | 60  | 30  | 80  | 80   | 130   | 110 | [60]  | [60] |
| 18.               |     | 30   | +S  | -S  | -S  | -S  | -S  | 20  | 40   | 50    | 50  | [40]  | 40   |
| 19.               |     | 20   | 10  | 10  | 20  | 20  | 20  | -S  | 80   | 60    | 80  | [40]  | 30   |
| 20.               |     | 30   | -S  | 60  | 40  | 40  | -S  | -S  | -S   | -S    | -S  | -S    | -S   |
| 21.               |     | 50   | 50  | 50  | 60  | 50  | 60  | 70  | 80   | 70    | 80  | [90]  | [90] |
| 22.               |     | 40   | -10 | 0   | 30  | 30  | 30  | -S  | -S   | -     | 40  | 60    | 60   |
| 23.               |     | 20   | 20  | 20  | 30  | 30  | 40  | 50  | 50   | 60    | 70  | [80]  | 90   |
| 24.               |     | 20   | 20  | 30  | 30  | 40  | 40  | 50  | 60   | 60    | 60  | 50    | [50] |
| 25.               |     | -S   | -10 | -10 | 40  | 30  | -S  | -S  | -S   | 80    | -S  | -S    | -S   |
| 26.               |     | 40   | 40  | 40  | 40  | 50  | 40  | 40  | 60   | 80    | 60  | [70]  | 60   |
| 27.               |     | -110 | -40 | -60 | -40 | 90  | 30  | 110 | [+S] | +S    | +S  | 100   | 120  |
| 28.               |     | 30   | 30  | 30  | 20  | 20  | 30  | 10  | 10   | 20    | 30  | 30    | 40   |
| 29.               |     | 70   | 50  | 30  | 40  | 40  | 50  | 40  | [50] | (50)  | 50  | 50    | 50   |
| 30.               |     |      |     |     |     |     |     |     |      |       |     |       |      |
| 31.               |     |      |     |     |     |     |     |     |      |       |     |       |      |
| Means             |     | 23   | 23  | 19  | 23  | 33  | 36  | 38  | 41   | 47    | 43  | 53    | 53   |
| Number<br>of days |     | 20   | 26  | 27  | 27  | 27  | 25  | 24  | 22   | 23    | 26  | 25    | 27   |

| 12   | 13   | 14   | 15   | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 70   | 70   | 60   | 60   | 60  | 70  | 80  | 80  | 80  | 70  | 50  | 50  | -           |
| -S   | [10] | 30   | 50   | 60  | 60  | 70  | 60  | 60  | 60  | 60  | 50  | 22          |
| 100  | 80   | 80   | 70   | 100 | 100 | 110 | 120 | 120 | 110 | 90  | 70  | 75          |
| 70   | 80   | 60   | 60   | 70  | 70  | 70  | 60  | 60  | 50  | 40  | 30  | 63          |
| 70   | 70   | 50   | 40   | 30  | 30  | 30  | 40  | 70  | 70  | 90  | 100 | 55          |
| 70   | [60] | [60] | 50   | 40  | 30  | 20  | 20  | 20  | 30  | 20  | 20  | 50          |
| 50   | 40   | 40   | 40   | 70  | 50  | 30  | 10  | 10  | 30  | -S  | 20  | 31          |
| 50   | 60   | 70   | 40   | 30  | 30  | 70  | 60  | 80  | -S  | -S  | 30  | -           |
| 60   | 50   | 60   | 60   | 60  | 70  | 70  | 80  | 70  | 50  | 40  | 40  | 52          |
| 40   | 50   | 50   | 50   | 40  | 10  | -S  | 40  | 30  | 40  | 40  | 40  | -           |
| 80   | 80   | 70   | 50   | 40  | 80  | 90  | 100 | 110 | 90  | 70  | 40  | 63          |
| 40   | 40   | 10   | -S   | -S  | -S  | -10 | 30  | 30  | -S  | -70 | 10  | -           |
| 50   | 100  | 80   | [40] | 20  | 40  | 30  | 60  | 30  | 40  | 40  | 30  | 37          |
| -    | 40   | 50   | 50   | 50  | 50  | 40  | 50  | 50  | 40  | 40  | 40  | 41          |
| 60   | 60   | 60   | 50   | 40  | 40  | 40  | 20  | 0   | 0   | -10 | 20  | 39          |
| -10  | -20  | -10  | -10  | -10 | -20 | -10 | -40 | -30 | -70 | -50 | -40 | -32         |
| 70   | 80   | 80   | 80   | 50  | 80  | 80  | 40  | 40  | 40  | 40  | 30  | 50          |
| 40   | 40   | 40   | 50   | 50  | 60  | 60  | 40  | 20  | 40  | 40  | 40  | -           |
| -S   | -S   | 40   | -S   | -S  | 40  | 30  | 40  | -S  | 60  | 30  | 40  | -           |
| -S   | [20] | 30   | 50   | 60  | 70  | 70  | 60  | 80  | 70  | 60  | 60  | -           |
| 110  | 130  | 120  | 110  | 80  | 90  | 80  | 90  | 90  | 90  | 100 | 80  | 82          |
| 60   | 60   | 60   | 60   | 60  | 60  | 80  | 70  | 70  | 60  | 40  | 30  | -           |
| 80   | 70   | 80   | 80   | 110 | 60  | 60  | 40  | 50  | 20  | 10  | 30  | 52          |
| 60   | 40   | 40   | -10  | 40  | +S  | -S  | -S  | -S  | -S  | -S  | -S  | -           |
| 70   | 60   | 80   | 50   | 70  | 60  | 70  | 60  | 60  | 70  | 60  | 50  | -           |
| 80   | 50   | 60   | 50   | 40  | 50  | 30  | 50  | -S  | -S  | -S  | -60 | -           |
| [80] | +S   | 80   | 170  | 10  | +S  | +S  | 30  | 50  | 50  | 30  | 20  | -           |
| 40   | 30   | 80   | 60   | 50  | 60  | 70  | 80  | 90  | 90  | 90  | 80  | 47          |
| 50   | 60   | 70   | 60   | 60  | 50  | 50  | 70  | 90  | 80  | 70  | 70  | 57          |
| 62   | 56   | 58   | 56   | 51  | 53  | 54  | 52  | 55  | 51  | 41  | 36  |             |
| 25   | 27   | 29   | 27   | 27  | 26  | 26  | 28  | 26  | 25  | 25  | 28  |             |

March

| Hour<br>Day       | GMT | 0   | 1   | 2  | 3   | 4   | 5   | 6    | 7    | 8    | 9    | 10   | 11   |
|-------------------|-----|-----|-----|----|-----|-----|-----|------|------|------|------|------|------|
| 1.                |     | 70  | 50  | 40 | 40  | 40  | 30  | 40   | 50   | 40   | 50   | [40] | 40   |
| 2.                |     | 40  | 10  | 0  | 0   | 30  | 30  | 40   | 0    | 10   | [60] | +S   | 50   |
| 3.                |     | 40  | 40  | 40 | 30  | 40  | 30  | 50   | 70   | 60   | 50   | -S   | +S   |
| 4.                |     | 40  | 50  | 50 | 60  | 60  | 70  | 70   | 90   | 90   | 80   | [70] | 80   |
| 5.                |     | 40  | 40  | 40 | 50  | 50  | 50  | 50   | 70   | 80   | 50   | 50   | 40   |
| 6.                |     | 60  | 30  | 40 | 40  | 40  | 40  | 40   | 40   | 40   | 40   | [40] | -    |
| 7.                |     | 20  | 20  | 30 | 30  | 30  | 50  | 50   | [20] | -    | [50] | 40   | -10  |
| 8.                |     | 40  | 30  | 30 | 30  | 40  | 50  | 60   | 50   | 50   | 40   | [50] | 50   |
| 9.                |     | 10  | 0   | 0  | 0   | 0   | 0   | 10   | 10   | 30   | 40   | [40] | 40   |
| 10.               |     | 40  | 30  | 30 | 30  | 40  | 40  | 50   | 70   | 100  | 90   | 70   | 60   |
| 11.               |     | 30  | 30  | 20 | -10 | 0   | -40 | -50  | -10  | 40   | [40] | 50   | 40   |
| 12.               |     | 50  | 40  | 40 | 0   | -20 | -20 | -S   | +S   | +S   | 90   | 50   | 40   |
| 13.               |     | +S  | -S  | -S | +S  | -S  | 30  | 10   | 10   | 30   | 50   | 50   | 0    |
| 14.               |     | 50  | 50  | 40 | 40  | 40  | 40  | 30   | -    | -    | +S   | 50   | 120  |
| 15.               |     | 50  | 50  | 50 | 50  | 40  | 10  | 30   | 30   | [70] | 70   | 30   | 50   |
| 16.               |     | 50  | 50  | 50 | 50  | 50  | 50  | 60   | 70   | 60   | 50   | 50   | 50   |
| 17.               |     | -S  | +S  | 30 | 30  | 30  | 40  | (50) | 50   | 50   | 40   | -    | 40   |
| 18.               |     | 30  | 60  | 50 | 40  | 60  | 60  | 80   | 80   | 80   | 80   | [80] | 60   |
| 19.               |     | 40  | 20  | 20 | 30  | 30  | 30  | 40   | 50   | 60   | 60   | 60   | 60   |
| 20.               |     | 30  | 20  | 20 | 30  | 30  | 30  | 40   | 50   | 70   | -S   | -    | +S   |
| 21.               |     | 100 | 40  | 30 | 30  | 40  | 30  | 40   | (70) | (40) | 20   | -20  | +S   |
| 22.               |     | -90 | -40 | 10 | 10  | -20 | -80 | 0    | 40   | 30   | 0    | [0]  | 40   |
| 23.               |     | 0   | -10 | 0  | -10 | 20  | 10  | 30   | 30   | 40   | 40   | 40   | [40] |
| 24.               |     | 70  | 50  | 40 | 40  | 50  | 50  | 50   | -S   | -S   | 20   | (30) | 30   |
| 25.               |     | -   | -   | -  | -   | -   | -   | -    | -    | 50   | [50] | 50   | 70   |
| 26.               |     | 40  | 30  | 20 | 50  | 40  | 40  | 50   | 50   | 50   | 60   | 60   | (60) |
| 27.               |     | 50  | 40  | 40 | 40  | 40  | 40  | 70   | 40   | 40   | -    | 40   | 40   |
| 28.               |     | 20  | 30  | 20 | 40  | 50  | 50  | [50] | (+S) | -S   | -S   | 20   | 30   |
| 29.               |     | 10  | 10  | 10 | 20  | 20  | 20  | 30   | 50   | 50   | 50   | [50] | 40   |
| 30.               |     | 20  | 30  | 30 | 20  | 20  | 20  | 30   | 40   | [30] | 30   | 20   | 20   |
| 31.               |     | 30  | 30  | 30 | 30  | -20 | 10  | 10   | 0    | -S   | -S   | 50   | 50   |
| Means             |     | 35  | 30  | 28 | 29  | 30  | 27  | 36   | 42   | 52   | 50   | 43   | 45   |
| Number<br>of days |     | 28  | 28  | 29 | 29  | 29  | 30  | 28   | 25   | 24   | 26   | 26   | 26   |

| 12   | 13    | 14  | 15   | 16  | 17  | 18   | 19   | 20 | 21  | 22  | 23  | Daily means |
|------|-------|-----|------|-----|-----|------|------|----|-----|-----|-----|-------------|
| 40   | 40    | 50  | 50   | 40  | 40  | 60   | 50   | 50 | 50  | 50  | 30  | 45          |
| 50   | 50    | 50  | 40   | 60  | 70  | 70   | 70   | 30 | 30  | -S  | 30  | 37          |
| 50   | 50    | 60  | 70   | 70  | 50  | 50   | 50   | 50 | 60  | 50  | 40  | -           |
| 110  | 90    | 80  | 80   | 50  | 60  | 60   | 90   | 80 | 70  | 50  | 50  | 70          |
| 30   | 10    | -60 | [-S] | -S  | -S  | -S   | -S   | +S | 170 | 100 | 20  | -           |
| 50   | 60    | 50  | 60   | 50  | 50  | 60   | 50   | 60 | 30  | 20  | 30  | 44          |
| 40   | 40    | -S  | -S   | 40  | 50  | 50   | 70   | 70 | 60  | 60  | 50  | -           |
| 50   | 60    | 70  | 40   | 60  | 50  | 50   | (50) | 40 | 40  | 30  | 20  | 45          |
| 30   | 20    | 20  | 40   | 40  | 40  | 30   | 40   | 50 | 50  | 40  | 40  | 26          |
| [70] | 70    | 50  | 50   | 50  | 50  | 50   | 70   | 70 | 70  | 60  | 40  | 56          |
| 50   | 40    | 30  | -S   | -S  | +S  | 50   | 70   | 80 | 70  | 60  | 50  | -           |
| 40   | [-60] | -S  | -S   | -S  | 80  | +S   | 10   | 40 | 50  | 40  | 40  | -           |
| 0    | -     | -S  | -20  | 10  | +S  | -100 | 10   | 30 | 50  | 50  | 50  | -           |
| 150  | 80    | 150 | 120  | 80  | 50  | 50   | 40   | 20 | +S  | +S  | 70  | -           |
| 30   | 10    | 30  | 50   | 50  | 50  | 40   | 50   | 50 | 50  | 50  | 60  | 44          |
| (50) | -S    | 0   | -10  | 30  | 40  | 50   | 50   | 50 | 50  | 50  | 40  | -           |
| 40   | 40    | 40  | 50   | 40  | 40  | 50   | 30   | 50 | 60  | 40  | 10  | -           |
| 0    | 30    | 50  | -S   | -S  | -S  | 10   | 30   | 40 | 40  | 30  | 40  | -           |
| 70   | [80]  | 80  | 80   | 80  | 70  | 70   | 80   | 70 | 60  | 50  | 50  | 56          |
| -S   | 50    | 40  | -S   | -10 | -S  | -S   | +S   | 80 | 130 | 130 | 150 | -           |
| 60   | 70    | 60  | 20   | -90 | -70 | 70   | 70   | 90 | 90  | 30  | -10 | -           |
| 30   | 40    | 40  | 40   | 40  | 20  | 10   | 10   | 10 | 10  | 0   | 0   | 6           |
| [40] | 40    | 40  | 30   | 40  | 40  | 30   | -S   | 70 | 50  | 30  | 30  | 29          |
| 30   | -     | -   | -    | -   | -   | -    | -    | -  | -   | -   | -   | -           |
| 30   | 50    | 70  | 0    | 40  | 30  | 70   | 70   | 70 | 80  | 70  | 70  | -           |
| (30) | 40    | 20  | 50   | 70  | 30  | 50   | 40   | 40 | 60  | 50  | 40  | 45          |
| 40   | 30    | 30  | 40   | 50  | 60  | 60   | 60   | 70 | 50  | 50  | 30  | 46          |
| 40   | 30    | 30  | 20   | 30  | 30  | 30   | 20   | 20 | 30  | 20  | 10  | -           |
| 40   | 50    | +S  | +S   | +S  | 50  | 50   | 50   | 40 | 40  | 30  | 30  | -           |
| 20   | 20    | 30  | 30   | 40  | 40  | 30   | 40   | 40 | 30  | 30  | 30  | 29          |
| 80   | -S    | -S  | -    | -   | -   | -    | -    | -  | -   | -   | -   | -           |
| 47   | 42    | 44  | 42   | 40  | 43  | 42   | 47   | 52 | 58  | 47  | 39  |             |
| 28   | 27    | 25  | 22   | 24  | 24  | 26   | 25   | 28 | 28  | 27  | 29  |             |

April

| Hour<br>Day       | 0  | 1   | 2   | 3   | 4   | 5     | 6    | 7    | 8    | 9    | 10   | 11   |
|-------------------|----|-----|-----|-----|-----|-------|------|------|------|------|------|------|
| 1.                | -  | -   | -   | -   | -   | -     | -    | -    | 40   | [40] | 50   | 40   |
| 2.                | 0  | 0   | 0   | 10  | 30  | 30    | 50   | 50   | 40   | 40   | 40   | [40] |
| 3.                | 20 | 30  | 20  | 30  | 40  | 40    | 40   | 60   | 70   | [70] | -    | 80   |
| 4.                | 30 | 30  | 30  | 30  | 30  | 40    | 40   | 40   | 30   | [40] | -    | 30   |
| 5.                | 20 | 20  | 10  | 0   | 0   | 10    | [20] | 0    | 10   | 10   | 30   | -10  |
| 6.                | 10 | -10 | 10  | 30  | 40  | 30    | 30   | 50   | [50] | 50   | 60   | 50   |
| 7.                | 50 | 60  | 50  | 40  | 30  | 0     | 40   | 40   | 30   | [20] | 0    | 10   |
| 8.                | 40 | 30  | -10 | 0   | 30  | 30    | 50   | 40   | 40   | [40] | 40   | 50   |
| 9.                | -  | -   | -   | -   | -   | -     | -    | -    | -    | -    | [40] | 60   |
| 10.               | -S | -S  | -80 | -80 | -50 | (-30) | 30   | 30   | 40   | -    | 50   | 50   |
| 11.               | 40 | 30  | 40  | 40  | 30  | 40    | (40) | [50] | 60   | 60   | 60   | 60   |
| 12.               | 40 | 40  | 40  | 50  | 50  | 50    | 50   | [50] | 40   | 80   | 80   | 70   |
| 13.               | 40 | 30  | 0   | 20  | -10 | -30   | 0    | 10   | [20] | 20   | 40   | 40   |
| 14.               | 40 | 40  | 50  | 40  | 50  | 50    | 50   | 50   | 40   | 30   | [30] | 30   |
| 15.               | 40 | 40  | 40  | 40  | 40  | 50    | 70   | 60   | [70] | 60   | 50   | 60   |
| 16.               | 60 | 50  | 50  | 40  | 40  | 50    | 50   | 40   | 40   | 50   | [70] | 80   |
| 17.               | 20 | 20  | 20  | 20  | 20  | 30    | 30   | 40   | 40   | -    | 30   | 30   |
| 18.               | 30 | 30  | 30  | 30  | 30  | 40    | [50] | -    | 50   | 50   | 50   | 50   |
| 19.               | 10 | 10  | 10  | 10  | 10  | 20    | 40   | 40   | [60] | 60   | 70   | 70   |
| 20.               | 20 | 20  | 20  | 30  | 30  | 40    | 40   | 40   | 40   | 30   | [30] | 30   |
| 21.               | -  | -   | -   | -   | -   | -     | 50   | 40   | 40   | [10] | 0    | 40   |
| 22.               | 40 | 30  | 30  | 20  | 30  | 40    | 40   | 50   | [50] | 40   | 30   | 40   |
| 23.               | 20 | 20  | 30  | 30  | 30  | 20    | -10  | -10  | 0    | 40   | 50   | [40] |
| 24.               | 70 | 70  | 70  | 60  | 80  | 70    | 90   | 90   | 80   | 80   | -    | 70   |
| 25.               | 40 | 40  | 40  | 40  | 40  | 50    | (70) | (50) | 50   | 50   | 40   | 40   |
| 26.               | 30 | 20  | 30  | 20  | 30  | 40    | 50   | 40   | 40   | 40   | 40   | 50   |
| 27.               | 20 | 10  | 20  | 20  | 30  | 30    | 30   | 30   | 40   | 30   | [40] | 40   |
| 28.               | 40 | 30  | 30  | 20  | 30  | 40    | 50   | 40   | [30] | 40   | 50   | 40   |
| 29.               | 30 | 30  | 20  | 10  | 20  | 30    | 30   | 40   | [40] | 40   | 40   | 50   |
| 30.               | 10 | 0   | 10  | 30  | 30  | 40    | 50   | [40] | 40   | 20   | 20   | 10   |
| 31.               |    |     |     |     |     |       |      |      |      |      |      |      |
| Means             | 31 | 28  | 23  | 23  | 28  | 32    | 41   | 40   | 42   | 42   | 42   | 45   |
| Number<br>of days | 26 | 26  | 27  | 27  | 27  | 26    | 26   | 26   | 29   | 27   | 27   | 30   |

| 12 | 13 | 14   | 15  | 16  | 17 | 18  | 19  | 20  | 21  | 22 | 23 | Daily means |
|----|----|------|-----|-----|----|-----|-----|-----|-----|----|----|-------------|
| 30 | +S | -S   | +S  | 20  | 40 | 30  | 40  | 30  | 20  | 20 | 10 | -           |
| 30 | 30 | 30   | 20  | 40  | 40 | 40  | 40  | 40  | 30  | 30 | 30 | 30          |
| 80 | 70 | 50   | 30  | 30  | 40 | 50  | 40  | 40  | 40  | 40 | 30 | 45          |
| 40 | 30 | 20   | 20  | 30  | 30 | 20  | 30  | 30  | 20  | 30 | 30 | 30          |
| 30 | 40 | 30   | 20  | 10  | 30 | -20 | 0   | -10 | 0   | 0  | 10 | 11          |
| 60 | 60 | 50   | 20  | 40  | 40 | 50  | 40  | 30  | 40  | 40 | 40 | 38          |
| 30 | 40 | 40   | 40  | 40  | 40 | 30  | 20  | 30  | 30  | 30 | 40 | 33          |
| +S | -  | -    | -   | -   | -  | -   | -   | -   | -   | -  | -  | -           |
| 70 | 70 | +S   | 70  | 60  | 60 | 50  | 50  | 60  | 40  | 10 | 30 | -           |
| 50 | 50 | 50   | 50  | 50  | 50 | 50  | 50  | 40  | 40  | 40 | 40 | -           |
| 50 | 50 | 50   | 50  | 50  | 50 | 50  | 50  | 60  | 50  | 50 | 50 | 49          |
| 60 | 60 | 50   | 50  | 40  | 40 | 40  | 50  | 50  | 50  | 50 | 50 | 51          |
| 30 | 30 | 30   | -40 | -40 | -S | -50 | -10 | 20  | -50 | 30 | 30 | 7           |
| 40 | 40 | 30   | 30  | 40  | 50 | 50  | 50  | 70  | 50  | 40 | 30 | 43          |
| 60 | 60 | 50   | 70  | 80  | 90 | 90  | 50  | 50  | 50  | 90 | 60 | 59          |
| 80 | 90 | 70   | 60  | 50  | 60 | 50  | 40  | 40  | 20  | 20 | 20 | 51          |
| 40 | 50 | 40   | 40  | 40  | 40 | 40  | 50  | 50  | 50  | 40 | 40 | 36          |
| 60 | 60 | 60   | 60  | 70  | 40 | 40  | 50  | 40  | 50  | 30 | 20 | 44          |
| 70 | 70 | 80   | 60  | 50  | 40 | 40  | 40  | 30  | 30  | 20 | 20 | 40          |
| 20 | 20 | 20   | -   | -   | -  | -   | -   | -   | -   | -  | -  | -           |
| 50 | 50 | 50   | 50  | 60  | 60 | 60  | 50  | 50  | 50  | 50 | 50 | -           |
| 30 | 70 | +S   | +S  | 30  | 40 | +S  | 30  | 40  | 40  | 40 | 30 | -           |
| 30 | 40 | 50   | 40  | 70  | 50 | 60  | 70  | 90  | 80  | 70 | 70 | 41          |
| 70 | 80 | 80   | 90  | 90  | 90 | 70  | 60  | 50  | 50  | 40 | 40 | 71          |
| 40 | 40 | 40   | 40  | 40  | 30 | 30  | 40  | 30  | 30  | 40 | 30 | -           |
| 50 | 50 | 50   | 40  | 40  | 30 | 40  | 40  | 40  | 30  | 30 | 20 | 37          |
| 40 | 40 | 40   | 50  | 40  | 50 | 40  | 50  | 50  | 40  | 50 | 40 | 36          |
| 30 | 30 | 30   | 10  | 20  | 30 | 30  | 20  | 30  | 10  | 30 | 30 | 31          |
| 40 | 50 | 50   | 60  | 50  | 50 | 50  | 50  | 50  | 50  | 30 | 30 | 39          |
| 10 | 30 | (30) | -   | -   | -  | -   | -   | -   | -   | -  | -  | -           |
| 46 | 50 | 46   | 41  | 42  | 47 | 40  | 40  | 42  | 35  | 37 | 34 |             |
| 29 | 28 | 25   | 25  | 27  | 26 | 26  | 27  | 27  | 27  | 27 | 27 |             |

May

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1    | 2    | 3   | 4   | 5  | 6    | 7    | 8    | 9    | 10   | 11   |
|---------------------------|------------|-----|------|------|-----|-----|----|------|------|------|------|------|------|
| 1.                        |            | -   | -    | -    | -   | -   | -  | -    | -    | -    | -    | -    | -    |
| 2.                        |            | 20  | 20   | 30   | 0   | -10 | 0  | 30   | (40) | 50   | 40   | 30   | 30   |
| 3.                        |            | 30  | 20   | 30   | 30  | 30  | 40 | 40   | (40) | -    | [30] | 40   | 40   |
| 4.                        |            | 40  | 30   | 30   | 30  | 30  | 40 | 50   | [40] | [50] | 40   | 40   | 40   |
| 5.                        |            | -10 | -20  | -10  | 0   | 10  | 20 | 30   | 30   | 40   | [50] | 50   | 50   |
| 6.                        |            | 20  | 20   | 30   | 30  | 30  | 40 | 40   | 40   | [40] | 40   | ‡-S  | -S   |
| 7.                        |            | 0   | 0    | 10   | 10  | 30  | 30 | 50   | 40   | 40   | 40   | [40] | 40   |
| 8.                        |            | 30  | 40   | 30   | 30  | 30  | 20 | 10   | 20   | 30   | 30   | -    | 20   |
| 9.                        |            | 20  | 20   | 20   | 10  | 20  | 30 | -    | [40] | 40   | 40   | 40   | 40   |
| 10.                       |            | 30  | 30   | 30   | 40  | 40  | 50 | 60   | 60   | 60   | 60   | 60   | 70   |
| 11.                       |            | 40  | 40   | 40   | 40  | 40  | 50 | 50   | 50   | [50] | 50   | 50   | 50   |
| 12.                       |            | 20  | 20   | 20   | 20  | 30  | 30 | 40   | 40   | [40] | [40] | 40   | 40   |
| 13.                       |            | 20  | 20   | 10   | 10  | 10  | 20 | 30   | 30   | [20] | 30   | 30   | 20   |
| 14.                       |            | 10  | 10   | 10   | 10  | 20  | 30 | 40   | 40   | 40   | 50   | 40   | [40] |
| 15.                       |            | -   | -    | -    | -   | -   | -  | -    | [40] | 50   | 40   | 30   | 30   |
| 16.                       |            | 20  | 10   | 20   | 10  | 10  | 20 | [30] | -    | [40] | 40   | 40   | 40   |
| 17.                       |            | 10  | 10   | 10   | 30  | 30  | 30 | 30   | 40   | [40] | 60   | 40   | 40   |
| 18.                       |            | -   | -    | -    | -   | -   | -  | -    | 20   | 30   | [10] | 30   | -    |
| 19.                       |            | -   | -    | -    | -   | -   | -  | -    | -    | 20   | (20) | -    | -    |
| 20.                       |            | -   | -    | -    | -   | -   | -  | 20   | 30   | 30   | 30   | 40   | [20] |
| 21.                       |            | -20 | -10  | -10  | -10 | 10  | 10 | 0    | -20  | 30   | 10   | 10   | [30] |
| 22.                       |            | 20  | 30   | 30   | 30  | 30  | 40 | 40   | -    | 40   | 40   | 40   | 30   |
| 23.                       |            | 30  | 30   | 30   | 30  | 20  | 20 | [30] | -    | 30   | 30   | 40   | 40   |
| 24.                       |            | 30  | 30   | 20   | 20  | 20  | 40 | 40   | [50] | 50   | 40   | 50   | 50   |
| 25.                       |            | 10  | 10   | 10   | 10  | 10  | 40 | 40   | [60] | 60   | 70   | 60   | 50   |
| 26.                       |            | 40  | 60   | 70   | 70  | 80  | 60 | 60   | [60] | 50   | 50   | 40   | ‡40  |
| 27.                       |            | -   | -    | -    | -   | -   | -  | -    | -    | 10   | -50  | 50   | -S   |
| 28.                       |            | 10  | (20) | (10) | -   | -   | -  | 10   | 20   | [20] | 20   | 10   | 10   |
| 29.                       |            | 20  | 10   | 0    | 10  | 10  | 20 | -    | 10   | 20   | 20   | 20   | 20   |
| 30.                       |            | -   | -    | -    | -   | -   | -  | [10] | [30] | 20   | 20   | 10   | 10   |
| 31.                       |            | 20  | 20   | 30   | 10  | 10  | 20 | +S   | [30] | 10   | 10   | 10   | 30   |
| Means                     |            | 19  | 20   | 21   | 20  | 23  | 30 | 34   | 35   | 36   | 34   | 36   | 35   |
| Number<br>of days         |            | 24  | 23   | 23   | 23  | 23  | 23 | 23   | 23   | 29   | 29   | 27   | 26   |



| 12 | 13  | 14 | 15  | 16  | 17 | 18 | 19  | 20 | 21  | 22 | 23  | Daily means |
|----|-----|----|-----|-----|----|----|-----|----|-----|----|-----|-------------|
| -  | -   | -  | -   | 30  | 30 | 40 | 30  | 30 | 10  | 10 | 20  | -           |
| 20 | 30  | 30 | 30  | 40  | 40 | 50 | 50  | 40 | 30  | 30 | 20  | 28          |
| 40 | 30  | 40 | 40  | 40  | 50 | +S | -S  | 30 | 40  | 50 | 50  | -           |
| 30 | 30  | 30 | 30  | 20  | 30 | 40 | 30  | 20 | +S  | +S | 50  | -           |
| 50 | 50  | 40 | 40  | 30  | 30 | 30 | 30  | 30 | 30  | 20 | 30  | 27          |
| 30 | 50  | 60 | 50  | 60  | 70 | 60 | 40  | 40 | 30  | 20 | 0   | -           |
| 30 | 30  | 40 | 40  | 40  | 30 | 30 | 30  | 20 | 20  | 20 | 30  | 29          |
| 30 | 30  | 30 | 30  | 30  | 30 | 30 | 30  | 20 | 20  | 30 | 20  | 27          |
| 40 | 40  | 50 | 50  | 50  | 50 | 50 | 40  | 40 | 30  | 30 | 30  | 36          |
| 70 | 70  | 70 | 70  | 60  | 50 | 40 | 50  | 30 | 30  | 40 | 30  | 50          |
| 50 | 50  | 50 | 50  | 40  | 40 | 40 | 40  | 30 | 30  | 30 | 20  | 43          |
| 40 | 30  | 30 | 30  | 20  | 30 | 30 | 30  | 40 | 40  | 30 | 20  | 31          |
| 20 | 20  | 20 | 30  | 30  | 20 | 30 | 30  | 30 | 30  | 20 | 20  | 23          |
| 40 | 30  | 30 | 30  | 20  | 30 | 30 | 30  | 30 | -   | -  | -   | -           |
| 30 | 30  | 30 | 30  | 30  | 50 | 40 | 40  | 40 | 30  | 30 | 30  | -           |
| 40 | 40  | 40 | 40  | 40  | 40 | 30 | 30  | 10 | 20  | 20 | 10  | 28          |
| -  | -   | -  | -   | -   | -  | -  | -   | -  | -   | -  | -   | -           |
| -  | -   | -  | -   | -   | -  | -  | -   | -  | -   | -  | -   | -           |
| -  | -   | -  | -   | -   | -  | -  | -   | -  | -   | -  | -   | -           |
| +S | +S  | +S | -40 | 10  | 10 | 30 | 40  | 0  | 100 | 40 | -10 | -           |
| 20 | 10  | 10 | -10 | -10 | 0  | 0  | -10 | 0  | 10  | 0  | 10  | 3           |
| 40 | 40  | 40 | 40  | 40  | 40 | 40 | 50  | 40 | 40  | 40 | 30  | 37          |
| 40 | 40  | 40 | 40  | 50  | 50 | 40 | 40  | 40 | 40  | 40 | 40  | 36          |
| 40 | 50  | 50 | 50  | 50  | 50 | 60 | 50  | 40 | 40  | 30 | 10  | 40          |
| 50 | 50  | 60 | 60  | 50  | 50 | 40 | 40  | 70 | 70  | 20 | 30  | 43          |
| 40 | 70  | +S | -50 | -   | -  | -  | -   | -  | -   | -  | -   | -           |
| -  | -40 | +S | +S  | 20  | 20 | 20 | -10 | 20 | 30  | 10 | 10  | -           |
| 10 | 10  | 20 | -30 | +S  | 30 | 40 | 10  | 20 | 20  | 30 | 30  | -           |
| 30 | -   | -  | -   | -   | -  | -  | -   | -  | -   | -  | -   | -           |
| 10 | 10  | 10 | 10  | 10  | 20 | 20 | 10  | 0  | 0   | 20 | 20  | -           |
| 40 | 40  | 30 | 20  | 30  | 30 | 40 | 40  | 40 | 50  | 40 | 40  | 28          |
| 35 | 34  | 37 | 27  | 33  | 35 | 36 | 32  | 29 | 33  | 27 | 24  |             |
| 25 | 25  | 23 | 25  | 25  | 26 | 25 | 25  | 26 | 24  | 24 | 25  |             |

June

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1  | 2              | 3              | 4              | 5   | 6              | 7              | 8    | 9    | 10             | 11             |
|---------------------------|------------|-----|----|----------------|----------------|----------------|-----|----------------|----------------|------|------|----------------|----------------|
| 1.                        |            | 30  | 10 | <sup>+</sup> S | <sup>+</sup> S | +S             | -S  | [-S]           | 0              | 80   | 110  | 120            | 70             |
| 2.                        |            | 30  | 30 | 20             | 10             | 10             | 10  | 10             | 20             | 20   | [20] | <sup>+</sup> S | 10             |
| 3.                        |            | -   | -  | -              | -              | -              | -   | -              | -              | -    | [40] | 40             | 30             |
| 4.                        |            | 20  | 20 | 20             | 20             | 20             | 20  | [20]           | 30             | (30) | 30   | 30             | 30             |
| 5.                        |            | 30  | 30 | 30             | 30             | 30             | 20  | 20             | 30             | -    | [40] | 30             | 30             |
| 6.                        |            | 0   | 0  | 10             | 10             | -30            | -60 | -10            | 20             | 80   | 30   | 90             | 60             |
| 7.                        |            | -   | -  | -              | -              | -              | -   | -              | -              | +S   | 40   | 40             | 50             |
| 8.                        |            | -   | -  | -              | -              | -              | -   | -              | [30]           | 40   | 40   | 40             | 30             |
| 9.                        |            | 30  | 30 | 40             | 20             | 30             | 40  | 40             | [50]           | 60   | 60   | 60             | 50             |
| 10.                       |            | 20  | 30 | <sup>+</sup> S | 30             | 30             | 40  | 40             | [40]           | 40   | 50   | 50             | <sup>+</sup> S |
| 11.                       |            | -10 | +S | <sup>+</sup> S | 10             | 20             | 30  | 40             | 80             | 90   | -    | -              | -S             |
| 12.                       |            | 30  | 30 | 40             | 30             | 40             | 40  | -              | [30]           | 40   | 30   | 30             | 70             |
| 13.                       |            | 30  | 40 | 40             | 40             | 50             | 70  | 80             | -              | [70] | 60   | 50             | 40             |
| 14.                       |            | 10  | 0  | 0              | 10             | 10             | 30  | 30             | [40]           | 40   | 50   | 40             | 40             |
| 15.                       |            | 10  | 10 | 10             | <sup>+</sup> S | <sup>+</sup> S | 20  | <sup>+</sup> S | [40]           | 40   | 40   | 40             | <sup>+</sup> S |
| 16.                       |            | 10  | 0  | 10             | -S             | -S             | +S  | -S             | [130]          | 120  | 110  | 70             | -S             |
| 17.                       |            | 30  | 50 | 50             | 50             | 50             | 60  | 60             | [70]           | 60   | 50   | 50             | 40             |
| 18.                       |            | 40  | 40 | 30             | 40             | 50             | 50  | [50]           | 50             | 50   | 40   | 40             | 40             |
| 19.                       |            | 20  | 20 | 30             | 30             | 40             | 40  | -              | 40             | 50   | 50   | 40             | 50             |
| 20.                       |            | 10  | 10 | 10             | 10             | 10             | 20  | [20]           | [40]           | 40   | 50   | 40             | 50             |
| 21.                       |            | 30  | 30 | 10             | 10             | 20             | 30  | [40]           | [50]           | 50   | 50   | 50             | 50             |
| 22.                       |            | 30  | 40 | 30             | 30             | 40             | 40  | [50]           | [40]           | 40   | 30   | 30             | 30             |
| 23.                       |            | 10  | 10 | 10             | 10             | -20            | 30  | -40            | [30]           | 40   | +S   | 40             | 30             |
| 24.                       |            | 40  | 40 | 40             | 40             | 40             | 40  | [50]           | 50             | 40   | 40   | 30             | 30             |
| 25.                       |            | 30  | 30 | 30             | 20             | 10             | 10  | 10             | [30]           | 40   | 30   | 20             | 20             |
| 26.                       |            | 30  | 10 | 20             | 20             | 40             | 30  | -              | <sup>+</sup> S | 40   | 40   | 40             | 30             |
| 27.                       |            | -   | -  | -              | -              | -              | -   | -              | <sup>+</sup> S | (20) | 30   | 30             | (30)           |
| 28.                       |            | 30  | 20 | 30             | 40             | 40             | 30  | 40             | 40             | 40   | [30] | (40)           | (30)           |
| 29.                       |            | -   | -  | -              | -              | -              | 30  | 40             | 40             | 40   | [40] | 40             | 40             |
| 30.                       |            | 10  | 10 | 20             | 30             | 40             | 40  | 40             | [40]           | 40   | 40   | 30             | 30             |
| 31.                       |            |     |    |                |                |                |     |                |                |      |      |                |                |
| Means                     |            | 22  | 23 | 24             | 24             | 25             | 30  | 31             | 42             | 52   | 45   | 45             | 40             |
| Number<br>of days         |            | 25  | 24 | 23             | 23             | 23             | 24  | 21             | 26             | 25   | 28   | 27             | 26             |

| 12 | 13 | 14 | 15  | 16  | 17 | 18 | 19 | 20  | 21 | 22 | 23  | Daily means |
|----|----|----|-----|-----|----|----|----|-----|----|----|-----|-------------|
| 50 | 40 | 60 | 50  | 50  | 50 | 40 | 40 | 30  | 30 | 40 | 40  | -           |
| 10 | -  | -  | -   | -   | -  | -  | -  | -   | -  | -  | -   | -           |
| 40 | 40 | 50 | 40  | 40  | 30 | 40 | 40 | 40  | 30 | 20 | 20  | -           |
| 30 | 40 | 40 | 40  | 30  | 30 | 40 | 20 | 10  | 10 | 20 | 20  | 26          |
| 60 | 40 | 30 | 10  | 30  | 10 | 10 | 30 | -10 | 30 | 20 | 10  | 26          |
| 80 | 50 | 50 | 40  | 40  | -S | -  | -  | -   | -  | -  | -   | -           |
| 50 | 40 | 40 | 50  | 40  | -  | -  | -  | -   | -  | -  | -   | -           |
| 40 | 40 | 40 | 40  | 40  | 40 | 40 | 30 | 30  | 20 | 30 | 30  | -           |
| 30 | 40 | 40 | 40  | 30  | 30 | 40 | 30 | 30  | 30 | 20 | 10  | 37          |
| +S | -S | -S | 60  | 30  | 10 | 20 | 30 | 30  | 20 | 10 | -10 | -           |
| 20 | 40 | 40 | 40  | 40  | 40 | 30 | 40 | 40  | 20 | 20 | 20  | -           |
| 20 | 50 | 50 | 40  | 30  | 30 | 20 | 10 | 0   | 0  | 20 | 20  | 30          |
| 30 | 30 | 40 | 40  | 40  | 40 | 50 | 40 | 30  | 20 | 10 | 10  | 41          |
| 30 | 30 | 20 | 30  | 20  | 30 | 20 | 20 | 10  | 10 | 10 | 10  | 23          |
| 50 | 40 | 40 | -50 | -10 | 0  | 30 | 50 | 30  | 20 | 20 | 10  | 22          |
| -S | 60 | 50 | 30  | 50  | 50 | 40 | 20 | 50  | 40 | 40 | 30  | -           |
| 40 | 40 | 40 | 40  | 50  | 40 | 50 | 30 | 30  | 40 | 40 | 40  | 46          |
| 40 | 40 | 30 | 30  | 40  | 40 | 40 | 30 | 30  | 20 | 30 | 20  | 38          |
| 30 | 10 | +S | 90  | 40  | 40 | 50 | 50 | 50  | 50 | 20 | 10  | 39          |
| 50 | 40 | 40 | 30  | 40  | 30 | 30 | 30 | 40  | 20 | 20 | 20  | 29          |
| 50 | 50 | 50 | 50  | 60  | 50 | 50 | 40 | 40  | 40 | 40 | 30  | 40          |
| 30 | 30 | 30 | 30  | 20  | 20 | 30 | 20 | 20  | 10 | 10 | 10  | 29          |
| -S | -S | -S | 30  | 50  | 40 | 40 | 50 | 50  | 40 | 40 | 30  | -           |
| 20 | 30 | 30 | 40  | 40  | 50 | 50 | 40 | 40  | 30 | 10 | 20  | 37          |
| 20 | 30 | 40 | 50  | 30  | 20 | 30 | 10 | 20  | 10 | 10 | 20  | 24          |
| -  | -  | -  | -   | -   | -  | -  | -  | -   | -  | -  | -   | -           |
| 30 | 40 | 20 | 30  | 30  | 30 | 40 | 40 | 40  | 30 | 30 | 40  | -           |
| 30 | 30 | +S | -S  | -   | -  | -  | -  | -   | -  | -  | -   | -           |
| 50 | -  | -  | -   | -   | -  | 40 | 30 | 30  | 20 | 10 | 20  | -           |
| 20 | 30 | 30 | 30  | 40  | 40 | 40 | 40 | 40  | 30 | 20 | 30  | 32          |
| 37 | 38 | 39 | 37  | 36  | 33 | 36 | 32 | 30  | 25 | 22 | 20  |             |
| 26 | 25 | 23 | 26  | 26  | 24 | 25 | 25 | 25  | 25 | 25 | 25  |             |

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1   | 2   | 3  | 4  | 5    | 6     | 7    | 8      | 9    | 10   | 11 |
|---------------------------|------------|-----|-----|-----|----|----|------|-------|------|--------|------|------|----|
| 1.                        |            | 40  | 40  | 50  | 40 | 40 | 40   | (50)  | [40] | 30     | 40   | 50   | 30 |
| 2.                        |            | 30  | 30  | 40  | 40 | 40 | 30   | 10    | -    | 50     | 40   | 20   | 0  |
| 3.                        |            | 30  | 50  | 20  | 10 | 20 | 30   | 30    | [30] | 30     | 30   | 30   | 30 |
| 4.                        |            | 40  | 40  | 40  | 30 | 40 | 50   | [50]  | [40] | 40     | 40   | 40   | 30 |
| 5.                        |            | 40  | 40  | 40  | 40 | 40 | 40   | 40    | 40   | 40     | [40] | 30   | +S |
| 6.                        |            | 40  | 30  | 30  | 30 | 30 | 30   | 30    | (30) | -      | (20) | 20   | -S |
| 7.                        |            | 20  | 30  | 30  | 30 | 30 | 40   | 40    | [50] | 40     | 40   | 50   | 60 |
| 8.                        |            | 10  | 10  | 30  | 30 | 40 | 50   | 70    | [60] | 70     | 70   | 80   | 60 |
| 9.                        |            | +S  | -S  | -S  | -S | 30 | 30   | [110] | 60   | 50     | 30   | 40   | 30 |
| 10.                       |            | 30  | 30  | 20  | 40 | 40 | 40   | 40    | -    | 50     | 70   | 50   | 50 |
| 11.                       |            | 20  | 20  | 30  | 30 | 30 | 50   | [50]  | [40] | 40     | 40   | 40   | 40 |
| 12.                       |            | 30  | 20  | 20  | 20 | 30 | 40   | 40    | 40   | 40     | 30   | [30] | +S |
| 13.                       |            | 30  | 20  | 30  | 30 | 40 | 70   | 80    | [80] | 80     | 70   | 60   | 50 |
| 14.                       |            | 30  | 40  | 30  | 20 | 30 | 30   | 30    | [30] | 50     | +S   | +S   | +S |
| 15.                       |            | 10  | 10  | 10  | 0  | 0  | 10   | 30    | 130  | 80     | 70   | +S   | -S |
| 16.                       |            | 40  | 40  | 30  | 30 | 40 | 50   | [40]  | [40] | 40     | 40   | 30   | 30 |
| 17.                       |            | 30  | 30  | 30  | 30 | 20 | 30   | [30]  | -    | 30     | 30   | 20   | 30 |
| 18.                       |            | 20  | 80  | 40  | 20 | 30 | 40   | [80]  | -    | 40     | 40   | 40   | -S |
| 19.                       |            | 30  | 30  | 20  | 30 | 40 | 30   | [60]  | 30   | 40     | (50) | 50   | 40 |
| 20.                       |            | 30  | 20  | 20  | 30 | 40 | 30   | 40    | [50] | [50]   | 50   | 50   | 50 |
| 21.                       |            | 30  | 20  | 30  | 20 | 20 | 40   | [40]  | [40] | 40     | 40   | 40   | 40 |
| 22.                       |            | 30  | 20  | 20  | 30 | 30 | 50   | 30    | [40] | 40     | 50   | 50   | 40 |
| 23.                       |            | 20  | 20  | 30  | 20 | 20 | 30   | 30    | 40   | 30     | [40] | [40] | 40 |
| 24.                       |            | 30  | 30  | 40  | 30 | 30 | 20   | 20    | -    | 20     | 40   | 40   | 30 |
| 25.                       |            | 40  | 30  | 30  | 40 | 40 | 40   | 40    | -    | [50]   | 50   | 50   | 60 |
| 26.                       |            | 30  | 20  | 30  | 40 | 40 | 30   | 50    | [60] | 60     | 60   | 50   | 40 |
| 27.                       |            | 30  | 20  | 20  | 10 | 20 | 40   | 40    | 40   | [40]   | 40   | 50   | 50 |
| 28.                       |            | 60  | 50  | 50  | 40 | 40 | [40] | 50    | 70   | 60     | 60   | 60   | 50 |
| 29.                       |            | 30  | 20  | 30  | 30 | 30 | 30   | 40    | -40  | [-160] | -50  | -10  | 10 |
| 30.                       |            | -30 | -40 | -20 | 30 | 60 | 50   | 70    | [60] | 70     | 60   | 50   | 40 |
| 31.                       |            | 30  | 20  | 20  | 20 | 30 | 30   | 30    | -    | 40     | 40   | 30   | 20 |
| Means                     |            | 28  | 27  | 28  | 28 | 33 | 37   | 45    | 47   | 39     | 43   | 41   | 38 |
| Number<br>of days         |            | 30  | 30  | 30  | 30 | 31 | 31   | 30    | 23   | 30     | 28   | 29   | 25 |

| 12  | 13              | 14              | 15              | 16              | 17              | 18 | 19              | 20              | 21              | 22 | 23              | Daily means |
|-----|-----------------|-----------------|-----------------|-----------------|-----------------|----|-----------------|-----------------|-----------------|----|-----------------|-------------|
| 40  | 10              | +S              | <sup>+</sup> S  | 10              | 30              | 30 | 40              | 40              | 40              | 40 | 30              | -           |
| 40  | 50              | 40              | 40              | 50              | 50              | 40 | 40              | 40              | 40              | 40 | 40              | 37          |
| 40  | 40              | 40              | 40              | 40              | 50              | 50 | 0               | 30              | 30              | 40 | 40              | 33          |
| 40  | 40              | 30              | 30              | 30              | 40              | 50 | 60              | 60              | 50              | 40 | 50              | 42          |
| 30  | 30              | 30              | 10              | 20              | 30              | 30 | 30              | 30              | 30              | 30 | 30              | 33          |
| -80 | 10              | 20              | 30              | <sup>+</sup> 40 | <sup>+</sup> 40 | 40 | <sup>+</sup> 40 | <sup>+</sup> 40 | <sup>+</sup> 30 | 30 | 20              | -           |
| 60  | 60              | 50              | -30             | -S              | -S              | +S | -S              | -S              | -S              | 30 | 0               | -           |
| 80  | 40              | 50              | 40              | 40              | 40              | 50 | 40              | 40              | 40              | 30 | -S              | 47          |
| 20  | 20              | 30              | 10              | 10              | 40              | 50 | 40              | 40              | 30              | 30 | 30              | -           |
| 60  | 60              | 70              | 60              | 70              | 80              | 70 | 50              | 50              | 30              | 30 | 20              | 48          |
| 40  | 40              | 50              | 40              | 40              | 40              | 30 | 30              | 30              | 40              | 30 | 30              | 36          |
| -S  | +S              | 60              | 100             | 80              | 100             | 80 | 70              | 60              | 60              | 50 | 30              | -           |
| 40  | <sup>+</sup> 30 | <sup>+</sup> 20 | <sup>+</sup> 20 | 30              | 20              | 40 | 30              | 30              | 30              | 30 | 20              | 41          |
| 80  | -S              | -S              | -S              | -S              | 40              | 30 | 40              | 10              | 10              | 10 | 10              | -           |
| 80  | 30              | 30              | 30              | 30              | 10              | 20 | 30              | 50              | 60              | 50 | 50              | -           |
| 20  | 20              | 30              | 30              | 30              | 30              | 40 | 40              | 30              | 40              | 40 | 30              | 35          |
| 30  | 30              | 30              | 30              | <sup>+</sup> 30 | 40              | 40 | 40              | 40              | 30              | 10 | 20              | 30          |
| 30  | 30              | 30              | -S              | -S              | -S              | 30 | 30              | 30              | 30              | 20 | 30              | -           |
| 40  | 30              | 30              | 30              | 30              | 40              | 50 | 40              | 30              | 30              | 40 | 30              | 36          |
| 50  | 50              | 40              | 40              | 40              | 40              | 40 | 40              | 40              | 40              | 30 | 30              | 39          |
| 40  | 30              | 30              | 30              | 30              | 30              | 30 | 40              | 40              | 40              | 40 | 30              | 34          |
| 40  | 30              | 30              | 30              | 40              | 40              | 40 | 40              | 30              | 30              | 30 | 20              | 35          |
| 40  | -               | -               | -               | 30              | 40              | 40 | 40              | 30              | 40              | 40 | 30              | -           |
| 30  | 40              | 40              | 30              | 30              | 40              | 50 | 50              | 30              | 10              | 10 | 30              | 31          |
| 60  | 50              | 50              | 50              | 60              | 50              | 50 | 50              | 50              | 50              | 40 | 40              | 47          |
| 40  | 30              | 30              | 30              | 30              | 20              | 30 | <sup>+</sup> 30 | <sup>+</sup> 30 | 30              | 20 | 20              | 35          |
| 40  | 40              | 30              | 30              | 30              | 20              | -S | -S              | -S              | 40              | 20 | 50              | -           |
| 40  | 50              | 50              | 40              | 40              | 40              | 40 | 40              | 30              | 30              | 20 | <sup>+</sup> 30 | 45          |
| -   | -               | 30              | 40              | 40              | 40              | 40 | 40              | 30              | 0               | +S | -S              | -           |
| 40  | 40              | 40              | 40              | 50              | 50              | 50 | 60              | 60              | 40              | 30 | 30              | 39          |
| 30  | 20              | 10              | 20              | 30              | 30              | 30 | 30              | 40              | 30              | 30 | 30              | 28          |
| 39  | 35              | 36              | 33              | 37              | 40              | 42 | 40              | 38              | 34              | 31 | 29              |             |
| 29  | 27              | 28              | 27              | 28              | 29              | 29 | 29              | 29              | 30              | 30 | 29              |             |

## August

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0  | 1  | 2   | 3  | 4   | 5    | 6    | 7     | 8    | 9    | 10  | 11 |
|---------------------------|------------|----|----|-----|----|-----|------|------|-------|------|------|-----|----|
| 1.                        |            | 30 | 20 | 20  | 20 | 30  | 40   | [40] | -     | (30) | 40   | 20  | 10 |
| 2.                        |            | 30 | 20 | 10  | 10 | 30  | 40   | 50   | 50    | 40   | [50] | 50  | 40 |
| 3.                        |            | 40 | 70 | 30  | 20 | 30  | 20   | 50   | +S    | [50] | 40   | 30  | 30 |
| 4.                        |            | 50 | 40 | 50  | +S | -S  | -S   | -S   | +S    | 40   | -    | 60  | -S |
| 5.                        |            | -S | -S | -20 | 40 | -10 | 30   | 10   | [50]  | 50   | 70   | 50  | 50 |
| 6.                        |            | 20 | 20 | 20  | 20 | 20  | 20   | 40   | [50]  | 50   | 50   | 50  | 50 |
| 7.                        |            | 40 | 40 | 30  | 30 | 40  | 30   | 50   | 50    | 50   | [50] | 40  | 50 |
| 8.                        |            | 10 | 0  | 0   | 0  | 0   | 30   | [30] | -     | 50   | 50   | 30  | 30 |
| 9.                        |            | 40 | 20 | +S  | 10 | 10  | 20   | 40   | [40]  | 40   | 30   | 30  | +S |
| 10.                       |            | 30 | 30 | 20  | 20 | 30  | [30] | -    | [30]  | 40   | 30   | 40  | 50 |
| 11.                       |            | 20 | 20 | 20  | 20 | 30  | 20   | 30   | [40]  | [50] | 40   | 40  | 40 |
| 12.                       |            | 40 | 30 | 30  | 30 | 20  | 30   | 40   | [40]  | 50   | 50   | 40  | 40 |
| 13.                       |            | 30 | 30 | 20  | 20 | 20  | 30   | [40] | 30    | 40   | 40   | 40  | 40 |
| 14.                       |            | 30 | 30 | 30  | 20 | 30  | 20   | 30   | [20]  | 50   | 50   | 40  | 40 |
| 15.                       |            | 20 | 20 | 20  | 10 | 20  | 30   | [30] | -     | [30] | 30   | 40  | 50 |
| 16.                       |            | 50 | 40 | 30  | 30 | 40  | 40   | 50   | 40    | 30   | 30   | 30  | 30 |
| 17.                       |            | 40 | 30 | 30  | 30 | 30  | 50   | [40] | [30]  | 60   | 60   | 60  | 50 |
| 18.                       |            | 50 | 50 | 50  | 50 | 50  | 40   | 50   | [60]  | 70   | 80   | 90  | 80 |
| 19.                       |            | 40 | 40 | 30  | 30 | 30  | 40   | 40   | [40]  | -30  | -20  | 10  | 20 |
| 20.                       |            | 60 | 50 | 50  | 50 | 50  | [60] | -    | -     | -    | -    | -   | 10 |
| 21.                       |            | -S | 0  | -30 | +S | +S  | -S   | 40   | -     | +S   | +S   | -S  | 0  |
| 22.                       |            | 50 | +S | 20  | -S | +S  | -S   | [0]  | [20]  | 70   | 30   | 100 | 60 |
| 23.                       |            | 70 | 80 | 40  | 30 | 40  | 10   | -50  | [10]  | 40   | -S   | -S  | -S |
| 24.                       |            | 50 | 60 | 50  | 50 | 40  | 50   | 60   | [100] | 100  | 110  | 90  | 80 |
| 25.                       |            | 50 | 50 | 50  | 40 | 40  | 50   | 50   | 50    | 50   | -    | 50  | 50 |
| 26.                       |            | 20 | 20 | 30  | 30 | 30  | 50   | 50   | [50]  | 50   | 50   | 40  | 40 |
| 27.                       |            | 20 | 20 | 30  | 20 | 30  | 40   | 40   | [50]  | 40   | 40   | 30  | 30 |
| 28.                       |            | 30 | 20 | 20  | 30 | 40  | 40   | 60   | [50]  | [60] | 70   | 60  | 50 |
| 29.                       |            | 40 | 30 | 30  | 30 | 20  | 30   | [40] | -     | 80   | 80   | 70  | 70 |
| 30.                       |            | 40 | 40 | 50  | 40 | 40  | 50   | 40   | [50]  | 60   | 80   | 80  | 70 |
| 31.                       |            | 30 | 20 | 20  | 20 | 10  | 20   | 20   | 30    | 30   | [30] | 40  | 30 |
| Means                     |            | 37 | 32 | 26  | 27 | 28  | 33   | 36   | 43    | 48   | 49   | 48  | 43 |
| Number<br>of days         |            | 29 | 29 | 30  | 28 | 28  | 29   | 28   | 23    | 28   | 26   | 28  | 28 |

| 12   | 13  | 14  | 15  | 16   | 17   | 18  | 19 | 20   | 21 | 22 | 23 | Daily means |
|------|-----|-----|-----|------|------|-----|----|------|----|----|----|-------------|
| -20  | -30 | -20 | -10 | 10   | 20   | 20  | 30 | 20   | 30 | 20 | 20 | -           |
| 30   | 40  | 30  | 20  | +S   | -S   | 90  | 50 | -S   | -S | 70 | 50 | -           |
| 20   | -S  | -S  | -S  | -S   | 20   | 50  | 30 | 20   | 50 | +S | 50 | -           |
| -S   | 70  | 50  | 20  | +S   | 20   | 20  | 30 | 10   | 30 | 10 | -S | -           |
| 40   | 30  | 30  | 30  | 40   | 40   | 40  | 50 | 50   | 50 | 40 | 40 | -           |
| 50   | 40  | 40  | 40  | 30   | 30   | 40  | 50 | 50   | 50 | 50 | 50 | 39          |
| 50   | 60  | 70  | 50  | 50   | 50   | 50  | 40 | [30] | 20 | 10 | 20 | 42          |
| 30   | 20  | 30  | 20  | 20   | 20   | -10 | -S | 30   | 20 | 20 | 20 | 21          |
| -S   | -S  | -   | -   | [70] | 40   | 30  | 30 | 50   | 40 | 40 | 30 | -           |
| 50   | 40  | 30  | 30  | 20   | 20   | 40  | 30 | 30   | 30 | 30 | 20 | 31          |
| 50   | 40  | 30  | 30  | 30   | 40   | 40  | 60 | +S   | -S | -S | 60 | -           |
| 40   | 30  | 30  | 30  | 30   | 40   | 40  | 40 | 40   | 40 | 50 | 40 | 37          |
| 40   | 50  | 40  | +S  | +S   | +S   | 40  | 40 | 50   | 50 | 40 | 40 | -           |
| 30   | 30  | 30  | 30  | 30   | 30   | 40  | 40 | 40   | 40 | 30 | 30 | 33          |
| -S   | -S  | 50  | 30  | 30   | 40   | 50  | -S | -S   | 40 | 50 | 50 | -           |
| [50] | -S  | -S  | 30  | +S   | -S   | -S  | -S | +S   | 50 | 50 | 40 | -           |
| 50   | 50  | 50  | 60  | 70   | 80   | 70  | 50 | 50   | 50 | 50 | 50 | 50          |
| 90   | 90  | 80  | 80  | 70   | 60   | 50  | 50 | 50   | 50 | 40 | 40 | 61          |
| 30   | 30  | 30  | 40  | 50   | 60   | 60  | 70 | 80   | 70 | 60 | 50 | 38          |
| 10   | 10  | 20  | 20  | 20   | 20   | 20  | 40 | 40   | 40 | 40 | -S | -           |
| 30   | 40  | 50  | 50  | 50   | [50] | 50  | 40 | 60   | 60 | 50 | 40 | -           |
| 70   | 40  | 50  | 40  | 50   | 50   | 60  | 60 | 70   | 70 | 70 | -  | -           |
| -S   | +S  | +S  | 20  | 0    | 30   | 30  | 10 | 20   | 30 | 50 | 50 | -           |
| 90   | 90  | 60  | 40  | 30   | 30   | 40  | 40 | 30   | 40 | 60 | 50 | 60          |
| 70   | +S  | +S  | -S  | -S   | 30   | 40  | 40 | 40   | 40 | 30 | 10 | -           |
| 40   | 40  | 50  | 60  | 60   | 50   | 50  | 60 | 40   | 40 | 50 | 40 | 43          |
| 30   | 40  | 40  | 40  | 50   | 40   | 40  | 40 | 40   | 30 | 30 | 30 | 35          |
| 50   | 40  | 40  | 50  | 40   | 40   | 40  | 40 | 40   | 30 | 30 | 30 | 42          |
| 70   | 70  | 50  | 30  | 40   | 40   | 50  | 40 | 40   | 40 | 50 | 30 | 47          |
| 60   | 70  | 60  | 70  | 60   | 40   | 30  | 20 | 30   | 40 | 30 | 30 | 49          |
| 30   | 20  | 30  | 20  | 20   | 30   | 30  | 30 | 20   | 20 | 30 | 30 | 25          |
| 44   | 42  | 40  | 36  | 39   | 38   | 41  | 41 | 40   | 41 | 41 | 37 |             |
| 27   | 25  | 26  | 27  | 25   | 28   | 30  | 28 | 27   | 29 | 29 | 28 |             |

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0  | 1  | 2   | 3  | 4   | 5    | 6    | 7    | 8    | 9    | 10  | 11   |
|---------------------------|------------|----|----|-----|----|-----|------|------|------|------|------|-----|------|
| 1.                        |            | 30 | 30 | 30  | 30 | 40  | 40   | 60   | 50   | 40   | [30] | 30  | 30   |
| 2.                        |            | 20 | 10 | 10  | 20 | 10  | 10   | 10   | [10] | 20   | 20   | 20  | 30   |
| 3.                        |            | 60 | 50 | 50  | 40 | 40  | 50   | 70   | 70   | 60   | 50   | 50  | [40] |
| 4.                        |            | 50 | 50 | 50  | 50 | 40  | 50   | 50   | [40] | -S   | 30   | 50  | 50   |
| 5.                        |            | +S | 50 | 50  | 40 | 40  | -S   | -S   | -    | -S   | -S   | 100 | 50   |
| 6.                        |            | 40 | 30 | 10  | 20 | 30  | 30   | 60   | 70   | 100  | 80   | 70  | 60   |
| 7.                        |            | 50 | 50 | 50  | 50 | 40  | 50   | 50   | [40] | 50   | 40   | 60  | 50   |
| 8.                        |            | 40 | 40 | 40  | 40 | 40  | 40   | 50   | 50   | [50] | [60] | 50  | 50   |
| 9.                        |            | 30 | 30 | 30  | 30 | 40  | 50   | 60   | 70   | 70   | [80] | 80  | 80   |
| 10.                       |            | 40 | 40 | 30  | 30 | 30  | 40   | 50   | 60   | 70   | [80] | 80  | 70   |
| 11.                       |            | 20 | 20 | 30  | 30 | 40  | 40   | 50   | 50   | [50] | 40   | 30  | 30   |
| 12.                       |            | 20 | 20 | 20  | 30 | 30  | 30   | 40   | -    | 50   | 10   | 30  | 50   |
| 13.                       |            | -S | -S | -50 | -S | -S  | -S   | -S   | +S   | -S   | -S   | -S  | -S   |
| 14.                       |            | 30 | 0  | 20  | 20 | -80 | +S   | 0    | [30] | 90   | +S   | +S  | 90   |
| 15.                       |            | 40 | 30 | 30  | 30 | 30  | 40   | 30   | [30] | [50] | 40   | 40  | 40   |
| 16.                       |            | -S | -S | -S  | -S | 30  | +S   | 20   | -S   | [60] | -30  | -S  | -S   |
| 17.                       |            | 30 | 30 | 40  | 40 | 40  | 70   | 10   | 10   | 80   | [60] | 30  | 30   |
| 18.                       |            | 50 | 50 | 50  | 40 | 30  | [30] | 40   | 50   | 30   | 50   | 30  | 10   |
| 19.                       |            | 30 | 20 | 20  | 30 | 30  | 20   | [30] | -    | -    | 50   | 60  | 50   |
| 20.                       |            | 40 | 40 | 40  | 40 | 40  | 50   | 50   | 50   | 50   | [50] | 50  | 60   |
| 21.                       |            | 20 | 10 | 20  | 20 | 20  | 20   | 30   | 40   | [40] | 30   | 30  | 30   |
| 22.                       |            | 20 | 30 | 20  | 30 | 30  | 30   | 30   | [40] | [40] | 40   | 40  | 30   |
| 23.                       |            | 20 | 20 | 0   | 0  | 10  | 0    | 0    | [10] | 20   | 20   | 20  | 20   |
| 24.                       |            | 50 | 50 | 40  | 50 | 50  | 50   | 60   | 50   | 40   | [30] | 30  | 20   |
| 25.                       |            | 30 | 40 | 50  | 50 | 50  | 40   | 40   | 30   | 30   | 20   | [0] | 40   |
| 26.                       |            | 30 | 30 | 30  | 40 | 40  | 40   | 50   | [50] | -    | -    | 30  | 30   |
| 27.                       |            | 40 | 40 | 40  | 40 | 40  | 30   | 40   | [50] | 30   | 30   | 40  | 40   |
| 28.                       |            | 30 | 30 | 30  | 40 | 60  | 90   | 170  | 120  | 70   | 30   | 30  | 50   |
| 29.                       |            | 50 | 40 | 40  | 50 | 50  | 50   | 60   | 70   | [60] | 50   | 40  | 40   |
| 30.                       |            | 40 | 40 | 40  | 40 | 80  | 100  | 110  | 80   | [60] | 40   | 40  | 40   |
| 31.                       |            |    |    |     |    |     |      |      |      |      |      |     |      |
| Means                     |            | 35 | 33 | 30  | 35 | 33  | 42   | 47   | 49   | 52   | 40   | 43  | 43   |
| Number<br>of days         |            | 27 | 28 | 29  | 28 | 29  | 26   | 28   | 25   | 25   | 26   | 27  | 28   |



| 12   | 13  | 14  | 15  | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Daily means |
|------|-----|-----|-----|----|----|----|----|----|----|----|----|-------------|
| 20   | 20  | 20  | 20  | 20 | 30 | 30 | 20 | 30 | 40 | 30 | 30 | 31          |
| 20   | 30  | -S  | -S  | -S | -S | +S | -S | +S | 50 | 30 | 30 | -           |
| 50   | 40  | 50  | 40  | 50 | 40 | 40 | 40 | 50 | 40 | 50 | 50 | 49          |
| 50   | 40  | 50  | 50  | 50 | 50 | 50 | 40 | 40 | 40 | 50 | -S | 46          |
| 40   | 50  | 40  | 40  | 40 | 30 | 30 | +S | 20 | 20 | 20 | 40 | -           |
| 70   | 60  | 60  | 40  | 40 | 40 | 30 | 50 | 60 | 50 | 50 | 40 | 50          |
| -S   | 10  | 50  | 50  | 50 | 40 | 60 | 40 | 30 | 40 | 40 | 40 | 45          |
| 50   | 50  | 50  | 50  | 60 | 70 | 60 | 60 | 60 | 50 | 40 | 40 | 49          |
| 80   | 80  | 90  | 80  | 70 | 60 | 60 | 50 | 60 | 50 | 40 | 40 | 59          |
| 60   | 50  | 40  | 30  | 30 | 40 | 40 | 40 | 30 | 30 | 30 | 30 | 45          |
| 30   | 30  | 30  | 20  | 20 | 30 | 30 | 20 | 20 | 20 | 30 | 30 | 31          |
| 40   | 20  | 30  | 40  | 10 | 20 | 10 | 30 | 30 | 30 | -S | -S | -           |
| -S   | -S  | -S  | -S  | 10 | 80 | 50 | 40 | 20 | 30 | 30 | 30 | -           |
| 30   | 40  | 70  | 50  | 40 | 50 | 50 | 40 | 40 | 50 | 50 | 40 | -           |
| 40   | 50  | 50  | 50  | 40 | -S | -S | +S | 30 | 40 | 30 | 20 | -           |
| 10   | 110 | 60  | 70  | 50 | 50 | 30 | 50 | 60 | 40 | 50 | 30 | -           |
| 0    | 10  | -30 | -10 | 10 | 20 | 20 | 20 | 20 | 30 | 40 | 50 | 27          |
| 20   | 30  | 20  | 30  | 40 | 30 | 30 | 20 | 10 | 20 | 10 | 20 | 31          |
| 50   | 40  | 50  | 50  | 50 | 60 | 50 | 50 | 40 | 40 | 40 | 40 | -           |
| 60   | 60  | 60  | 50  | 50 | 50 | 50 | 50 | 50 | 40 | 40 | 20 | 48          |
| 20   | 20  | 30  | 30  | 20 | 20 | 30 | 30 | 30 | 30 | 30 | 20 | 26          |
| 30   | 30  | 30  | 30  | 30 | 40 | 30 | 30 | 30 | 20 | 20 | 30 | 30          |
| 20   | 20  | 10  | 10  | 20 | 20 | 40 | 50 | 40 | 50 | 50 | 40 | 21          |
| 20   | 20  | 20  | 20  | 20 | 10 | 10 | 20 | 20 | 20 | 30 | 30 | 32          |
| 20   | 10  | 50  | 60  | 50 | 50 | 50 | 50 | 50 | 50 | 40 | 30 | 39          |
| 10   | 10  | 10  | 10  | 0  | 10 | 10 | 30 | 30 | 60 | 50 | 50 | -           |
| [40] | -   | 20  | 30  | 30 | 30 | 20 | 10 | 20 | 20 | 20 | 20 | 31          |
| 50   | 40  | 30  | 20  | 30 | 30 | 40 | 40 | 40 | 30 | 30 | 30 | 48          |
| 40   | 50  | 40  | 30  | 40 | 40 | 30 | 30 | 50 | 40 | 30 | 40 | 44          |
| 50   | 50  | 60  | 60  | 50 | 40 | 30 | 20 | 20 | 20 | 10 | 10 | 47          |
| 36   | 38  | 40  | 38  | 35 | 38 | 36 | 36 | 35 | 36 | 35 | 33 |             |
| 28   | 28  | 28  | 28  | 29 | 28 | 28 | 27 | 29 | 30 | 29 | 28 |             |

| <u>Hour</u><br>Day | <u>GMT</u> | 0   | 1   | 2    | 3   | 4   | 5   | 6   | 7    | 8    | 9     | 10    | 11   |
|--------------------|------------|-----|-----|------|-----|-----|-----|-----|------|------|-------|-------|------|
| 1.                 |            | 10  | 10  | 10   | 10  | 10  | 10  | 10  | [20] | 30   | 10    | 0     | 20   |
| 2.                 |            | -10 | 0   | -10  | 0   | 10  | 0   | 10  | [20] | [40] | 60    | 30    | 30   |
| 3.                 |            | 10  | 20  | [20] | -   | -   | -   | -   | [40] | -    | 50    | 70    | 50   |
| 4.                 |            | 20  | 20  | 20   | 10  | 20  | 10  | 10  | 10   | 30   | 30    | [30]  | 30   |
| 5.                 |            | 20  | 20  | 20   | 20  | 20  | 10  | 0   | -10  | 0    | 20    | [30]  | 40   |
| 6.                 |            | 0   | 40  | 60   | 60  | 50  | -30 | +S  | -S   | -S   | 20    | 0     | 0    |
| 7.                 |            | 10  | 20  | 20   | 0   | 20  | 20  | 20  | [30] | 40   | 30    | [50]  | 40   |
| 8.                 |            | +S  | -S  | -S   | -S  | -S  | -S  | 20  | 50   | 30   | 30    | 20    | [30] |
| 9.                 |            | 40  | 30  | 30   | 30  | 20  | 30  | 40  | 50   | 50   | 60    | [60]  | 70   |
| 10.                |            | 50  | 40  | 40   | 40  | 40  | 40  | 50  | [50] | [40] | 40    | 50    | 30   |
| 11.                |            | 40  | 30  | 30   | 20  | 10  | 10  | 40  | 50   | 30   | 30    | [20]  | 20   |
| 12.                |            | 20  | 30  | 30   | 30  | 40  | 50  | 40  | [50] | [30] | 20    | 30    | 40   |
| 13.                |            | 40  | 30  | 40   | 30  | 40  | 20  | 50  | 30   | 20   | 30    | [30]  | 30   |
| 14.                |            | -20 | -30 | 20   | 10  | -10 | -30 | -20 | 10   | [20] | 20    | 60    | 50   |
| 15.                |            | 30  | 20  | 30   | 20  | 10  | 20  | 30  | 10   | [40] | 40    | 40    | 40   |
| 16.                |            | 30  | 40  | 40   | 40  | 50  | 60  | 70  | 80   | 50   | [40]  | [40]  | 40   |
| 17.                |            | 0   | 10  | 10   | 30  | 30  | 30  | 30  | -    | -    | 50    | 50    | 50   |
| 18.                |            | 10  | 40  | 50   | 60  | 60  | 50  | 80  | 100  | [80] | 80    | 70    | 60   |
| 19.                |            | 70  | 60  | 50   | 50  | 50  | 50  | 50  | 90   | [50] | 30    | 0     | 50   |
| 20.                |            | -10 | -30 | -20  | -20 | -20 | -20 | -30 | -40  | -40  | -30   | -40   | -40  |
| 21.                |            | -20 | -10 | 0    | -10 | -20 | 0   | 40  | 90   | [70] | [120] | 100   | 70   |
| 22.                |            | 40  | 40  | 40   | 50  | 40  | 50  | 50  | 50   | 40   | 30    | [40]  | 30   |
| 23.                |            | 30  | 30  | 20   | 20  | 30  | 20  | 0   | -10  | -10  | -10   | [-10] | 20   |
| 24.                |            | 70  | 70  | 40   | 60  | 40  | 40  | 60  | 30   | [20] | [30]  | 30    | 30   |
| 25.                |            | 20  | 10  | 10   | -10 | 20  | 30  | 40  | 50   | -    | [50]  | 40    | 40   |
| 26.                |            | 70  | 80  | 80   | 60  | 60  | 60  | 80  | 60   | [60] | [40]  | 30    | 30   |
| 27.                |            | 50  | 40  | 30   | 40  | 30  | 40  | 10  | 0    | -10  | 10    | [50]  | 60   |
| 28.                |            | 10  | 20  | 20   | 20  | 20  | 40  | 50  | 50   | [50] | 80    | 70    | 30   |
| 29.                |            | -   | -   | -    | -   | -   | -   | -   | -    | -    | -     | -     | -    |
| 30.                |            | -   | -   | -    | -   | -   | -   | -   | -    | -    | -     | -     | -    |
| 31.                |            | 30  | 40  | 40   | 30  | 30  | 40  | 40  | 70   | -    | 80    | 70    | 70   |
| Means              |            | 24  | 26  | 28   | 26  | 26  | 24  | 32  | 38   | 32   | 38    | 37    | 37   |
| Number<br>of days  |            | 28  | 28  | 28   | 27  | 27  | 27  | 27  | 27   | 24   | 29    | 29    | 29   |

| 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21   | 22   | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-------------|
| 20  | 20  | 10  | 20  | 10  | 20  | 30  | 30  | 10  | 10   | 20   | 0   | 15          |
| 20  | 30  | 40  | 30  | 30  | 30  | 40  | 30  | 30  | 20   | 30   | 20  | 22          |
| 50  | 40  | 30  | 20  | 20  | 30  | 40  | 40  | 20  | 30   | 30   | 30  | -           |
| 30  | 30  | 30  | 30  | 30  | 40  | 30  | 20  | 20  | 20   | 30   | 30  | 24          |
| 30  | 30  | 20  | 30  | 20  | 20  | -40 | -50 | -30 | -30  | -50  | -30 | 5           |
| 30  | 40  | 50  | 50  | 60  | 50  | 50  | 60  | 60  | 60   | 60   | 50  | -           |
| 10  | -10 | 0   | -30 | -30 | -S  | -S  | -S  | -S  | -S   | -S   | -S  | -           |
| 30  | 30  | 40  | 30  | 40  | 50  | 50  | 70  | 60  | 50   | 50   | 50  | -           |
| 70  | 70  | 60  | 60  | 60  | 60  | 60  | 50  | 60  | 60   | 50   | 50  | 51          |
| 50  | 70  | 80  | 70  | 80  | 80  | 80  | 60  | 60  | 90   | 80   | 50  | 56          |
| 20  | 20  | 10  | 10  | 30  | 20  | 30  | 40  | 20  | 30   | 30   | 10  | 25          |
| 30  | 50  | 50  | 30  | 10  | 50  | 70  | 50  | 60  | 80   | 50   | 40  | 41          |
| 40  | 30  | 30  | 40  | 70  | 70  | 60  | 40  | 20  | 10   | 20   | 0   | 34          |
| 50  | 50  | 50  | 40  | 30  | 30  | 30  | 20  | 20  | 30   | 30   | 30  | 20          |
| 50  | 40  | 50  | 40  | 40  | 40  | 40  | 40  | 40  | 40   | 40   | 40  | 35          |
| 50  | 50  | 40  | 40  | 40  | 40  | 40  | 30  | 10  | 10   | 0    | 0   | 39          |
| 60  | 50  | +S  | -S  | 50  | 40  | 50  | 20  | 10  | -10  | -20  | 50  | -           |
| 70  | 80  | 70  | 70  | 80  | 90  | 90  | 100 | 90  | 80   | 50   | 50  | 69          |
| 50  | 50  | 30  | 30  | 50  | 50  | 40  | 40  | -40 | -30  | -10  | 10  | 36          |
| -40 | -50 | -30 | -30 | -20 | -40 | -50 | -40 | -50 | -40  | -100 | -30 | -36         |
| 60  | 70  | 60  | 50  | 60  | 60  | 50  | 50  | 50  | 40   | 50   | 50  | 45          |
| 40  | 30  | 10  | 0   | 30  | 20  | 30  | 20  | 30  | 30   | 10   | 20  | 32          |
| 40  | 40  | 20  | 10  | 20  | 20  | -20 | 20  | 20  | 20   | 50   | 70  | 18          |
| 10  | 20  | 10  | 10  | 20  | 30  | 50  | 30  | 50  | 40   | 30   | 30  | 35          |
| 40  | 50  | 60  | 90  | 70  | 70  | 60  | 50  | 40  | 40   | 40   | 60  | 42          |
| 30  | 30  | 40  | 50  | 50  | 30  | 40  | 40  | 40  | 50   | 50   | 60  | 51          |
| 50  | 50  | 50  | 30  | 30  | 30  | 40  | 40  | 10  | -10  | -30  | 0   | 27          |
| 20  | 40  | 40  | 40  | 40  | 60  | 60  | 70  | 80  | 50   | 70   | 100 | 47          |
| -   | -   | -   | -   | -   | -   | -   | -   | -   | -    | -    | -   | -           |
| -   | -   | -   | -   | -   | -   | -   | -   | -   | [30] | 30   | 30  | -           |
| 70  | 70  | 60  | 70  | 70  | 80  | 70  | 40  | 30  | 20   | 30   | 20  | 51          |
| 37  | 39  | 36  | 33  | 38  | 42  | 39  | 36  | 29  | 28   | 25   | 31  |             |
| 29  | 29  | 28  | 28  | 29  | 28  | 28  | 28  | 28  | 29   | 29   | 29  |             |

| <u>Hour</u><br>Day | <u>GMT</u> | 0   | 1   | 2   | 3    | 4    | 5    | 6    | 7    | 8    | 9     | 10    | 11    |
|--------------------|------------|-----|-----|-----|------|------|------|------|------|------|-------|-------|-------|
| 1.                 |            | 30  | 30  | 30  | 30   | 30   | 60   | 70   | 70   | [80] | [90]  | 70    | 60    |
| 2.                 |            | 70  | 80  | 80  | 80   | 70   | 60   | 40   | 60   | 90   | 80    | [60]  | [60]  |
| 3.                 |            | 20  | 10  | 20  | 20   | 30   | 20   | 20   | 30   | 40   | 80    | 40    | 40    |
| 4.                 |            | 60  | 60  | 60  | 40   | 40   | 30   | 30   | 40   | [70] | 70    | 80    | 90    |
| 5.                 |            | 60  | 60  | 60  | 40   | 60   | 40   | 60   | 60   | 70   | 60    | 60    | 70    |
| 6.                 |            | 50  | 40  | 50  | 40   | 60   | 60   | 70   | 80   | 70   | 80    | [70]  | 60    |
| 7.                 |            | 60  | 60  | 40  | 50   | 50   | 50   | 50   | 50   | 50   | 50    | -     | 80    |
| 8.                 |            | 40  | 40  | 30  | 30   | 30   | 30   | 20   | 30   | -    | 50    | 50    | 60    |
| 9.                 |            | 40  | 30  | 30  | 30   | 40   | 60   | 40   | 30   | [10] | -60   | -50   | -30   |
| 10.                |            | -20 | -20 | -10 | 0    | -20  | -20  | -20  | -20  | -40  | -40   | [-20] | 30    |
| 11.                |            | 10  | 0   | -20 | -50  | -30  | -10  | -10  | -70  | -70  | [-30] | -30   | -20   |
| 12.                |            | -30 | -20 | -30 | -40  | -40  | -20  | -20  | -30  | -30  | -30   | [-40] | [-20] |
| 13.                |            | 0   | 0   | 0   | 0    | -10  | -20  | 0    | -10  | -10  | 10    | 0     | [-10] |
| 14.                |            | -10 | 0   | 0   | 10   | [10] | -    | [20] | [40] | -    | 60    | 60    | 60    |
| 15.                |            | 10  | 50  | 60  | 50   | 50   | 60   | 70   | 60   | 70   | 70    | [70]  | 70    |
| 16.                |            | 80  | 70  | 60  | 50   | 50   | 50   | 70   | 80   | 90   | 70    | [60]  | 70    |
| 17.                |            | 10  | 0   | 10  | 0    | 20   | 30   | 40   | 50   | 40   | 50    | [60]  | 70    |
| 18.                |            | 210 | 190 | 160 | 120  | 220  | 250  | 210  | 180  | 110  | 60    | [90]  | 80    |
| 19.                |            | 30  | 10  | 20  | 10   | 10   | 10   | -5   | 0    | 10   | 30    | [60]  | 60    |
| 20.                |            | 30  | 20  | 10  | [20] | [20] | [10] | 20   | 20   | 40   | 50    | [60]  | 60    |
| 21.                |            | 70  | 70  | 60  | 60   | 60   | 50   | 20   | 0    | -    | 10    | 10    | 60    |
| 22.                |            | 10  | 10  | 10  | 10   | 10   | 10   | 10   | -10  | 0    | 10    | 10    | 20    |
| 23.                |            | 60  | 60  | 60  | 70   | 70   | 60   | 60   | -    | -    | 100   | [90]  | [110] |
| 24.                |            | 70  | 80  | 80  | 70   | 60   | 70   | 50   | 90   | 120  | 130   | [90]  | [50]  |
| 25.                |            | 40  | 40  | 30  | 50   | 50   | 70   | 30   | 40   | 50   | -     | -30   | -10   |
| 26.                |            | 30  | 30  | -10 | 0    | 10   | 10   | -10  | 10   | 10   | 10    | 20    | 0     |
| 27.                |            | 0   | 10  | 30  | 20   | 20   | 20   | 20   | 30   | 50   | 50    | 60    | [60]  |
| 28.                |            | 30  | 40  | 40  | 50   | 50   | 50   | 50   | 70   | -    | 90    | 90    | 90    |
| 29.                |            | 60  | 60  | 50  | 60   | 60   | 70   | 70   | 80   | 50   | 50    | [50]  | 50    |
| 30.                |            | 20  | 10  | 30  | 40   | 40   | 40   | 50   | 50   | 50   | 50    | [50]  | [50]  |
| 31.                |            |     |     |     |      |      |      |      |      |      |       |       |       |
| Means              |            | 38  | 37  | 35  | 32   | 37   | 41   | 39   | 38   | 41   | 45    | 41    | 47    |
| Number<br>of days  |            | 30  | 30  | 30  | 30   | 30   | 29   | 29   | 29   | 25   | 29    | 29    | 30    |

| 12   | 13  | 14    | 15  | 16  | 17   | 18  | 19    | 20  | 21  | 22  | 23  | Daily means |
|------|-----|-------|-----|-----|------|-----|-------|-----|-----|-----|-----|-------------|
| 60   | 60  | 60    | 70  | 60  | 40   | 60  | -     | 40  | 40  | 60  | 40  | 54          |
| 60   | 40  | 40    | 60  | 70  | 80   | 80  | 80    | 70  | 60  | 30  | 30  | 64          |
| [60] | 60  | 70    | 80  | 80  | 100  | 90  | 90    | 110 | 110 | 90  | 60  | 57          |
| 90   | 110 | 110   | 100 | 80  | 80   | 80  | 70    | 70  | 60  | 80  | 70  | 70          |
| [70] | 70  | 60    | 40  | 60  | 60   | 70  | 10    | -10 | -10 | 30  | 60  | 50          |
| 70   | 50  | 50    | 30  | 40  | 40   | 50  | 60    | 60  | 60  | 50  | 50  | 59          |
| +S   | +S  | +S    | 90  | 100 | 80   | 80  | 80    | 80  | 70  | 60  | 50  | -           |
| 60   | 50  | 50    | 60  | 60  | 60   | 70  | 80    | 50  | 80  | 50  | 40  | 49          |
| -30  | -20 | 0     | 0   | 20  | 20   | 30  | 30    | 20  | -20 | 20  | -10 | 10          |
| 40   | 60  | 20    | -30 | -50 | -10  | -20 | -20   | -10 | -20 | -40 | -20 | -13         |
| 0    | 20  | 20    | 10  | 10  | -10  | 20  | -20   | 0   | -10 | -10 | -10 | -13         |
| -30  | -30 | [-30] | -30 | -10 | -10  | -10 | 20    | 10  | 10  | -10 | -10 | -20         |
| -20  | -60 | -S    | 30  | 10  | -S   | -S  | 70    | +S  | 20  | -20 | -10 | -           |
| 70   | 70  | 60    | 60  | 70  | 70   | +S  | 10    | -10 | -S  | +S  | +S  | -           |
| 70   | 70  | 60    | 60  | 70  | 80   | 110 | 100   | 100 | 110 | 90  | 70  | 70          |
| 60   | 80  | 70    | 30  | 50  | 50   | 70  | 60    | 50  | 30  | 10  | 30  | 58          |
| 90   | 100 | 80    | 50  | 70  | 90   | 100 | 110   | 70  | 80  | 140 | 210 | 65          |
| 60   | 70  | 60    | 60  | 90  | 60   | 70  | 40    | 100 | 120 | 50  | 40  | 113         |
| 60   | 50  | 60    | 60  | 60  | 70   | 70  | 70    | 60  | 40  | 40  | 40  | 40          |
| 50   | 60  | 60    | 50  | 60  | [60] | 100 | 100   | 100 | 90  | 80  | 80  | 52          |
| 10   | -S  | -S    | 100 | -50 | +S   | -S  | -S    | -   | -10 | -10 | 0   | -           |
| 20   | 20  | 20    | 20  | 30  | 30   | 30  | 30    | -   | 60  | 60  | 60  | 21          |
| 110  | 120 | 120   | 110 | 110 | 130  | 90  | 80    | 100 | 120 | 100 | 90  | -           |
| 70   | 40  | 70    | 100 | 100 | 70   | 90  | 70    | 100 | 60  | 50  | 40  | 76          |
| -30  | 0   | 20    | +S  | 30  | 80   | 160 | 60    | 0   | -40 | -10 | 50  | 31          |
| 50   | 60  | 80    | 110 | 110 | 120  | 150 | 90    | 80  | 50  | 60  | 50  | 47          |
| 50   | 50  | 50    | 70  | 100 | 120  | 100 | [120] | 100 | 70  | 40  | 30  | 53          |
| 80   | 80  | 70    | 70  | 70  | 80   | 70  | 80    | 70  | 70  | 60  | 50  | 65          |
| 50   | 50  | 70    | 50  | 60  | 60   | 60  | 50    | 50  | 50  | 30  | 20  | 55          |
| 50   | 50  | 60    | 60  | 50  | 40   | 50  | 40    | 20  | 0   | 30  | -30 | 38          |
| 47   | 49  | 54    | 54  | 54  | 62   | 71  | 59    | 57  | 47  | 42  | 40  |             |
| 29   | 28  | 27    | 29  | 30  | 28   | 27  | 28    | 26  | 29  | 29  | 29  |             |

| Hour<br>Day       | GMT | 0   | 1              | 2              | 3              | 4              | 5              | 6   | 7              | 8    | 9              | 10             | 11    |
|-------------------|-----|-----|----------------|----------------|----------------|----------------|----------------|-----|----------------|------|----------------|----------------|-------|
| 1.                |     | -40 | -50            | -50            | -60            | -50            | -20            | -20 | -30            | -20  | -20            | [-30]          | -20   |
| 2.                |     | -30 | -20            | 20             | 20             | 40             | 30             | 30  | 10             | [60] | 110            | 90             | -20   |
| 3.                |     | -10 | 50             | 20             | 40             | 60             | 70             | 80  | [70]           | [70] | 80             | 60             | 50    |
| 4.                |     | 60  | 40             | 20             | 30             | 40             | 50             | 50  | 30             | 40   | [50]           | 50             | 70    |
| 5.                |     | 30  | 50             | <sup>+</sup> S | <sup>+</sup> S | -S             | 60             | 50  | [60]           | [60] | 70             | 70             | 70    |
| 6.                |     | 0   | 30             | <sup>+</sup> S | -S             | 50             | 50             | 50  | 60             | 80   | 60             | 70             | [70]  |
| 7.                |     | 30  | 20             | -20            | -20            | 20             | 10             | 30  | 0              | 30   | 80             | [50]           | [50]  |
| 8.                |     | -S  | <sup>+</sup> S | 30             | 20             | 10             | 10             | 10  | 40             | 60   | 50             | [50]           | 50    |
| 9.                |     | 20  | 20             | 20             | 40             | 60             | 110            | +S  | +S             | +S   | 30             | -              | 10    |
| 10.               |     | 50  | 50             | 40             | 40             | 40             | 50             | 50  | 70             | 80   | 80             | [40]           | 20    |
| 11.               |     | 0   | 10             | 10             | 10             | 10             | 20             | 20  | 20             | 20   | 30             | [30]           | [10]  |
| 12.               |     | 50  | 40             | 40             | 40             | 100            | 100            | 30  | [30]           | -    | 60             | 30             | 40    |
| 13.               |     | 30  | 40             | 30             | 20             | 30             | 40             | 40  | 30             | 30   | 50             | 50             | 60    |
| 14.               |     | 50  | 30             | 30             | 40             | <sup>+</sup> S | <sup>+</sup> S | 50  | 40             | [40] | [70]           | 110            | 70    |
| 15.               |     | 50  | 50             | 60             | 60             | 60             | 60             | 60  | 60             | 90   | [70]           | 70             | 60    |
| 16.               |     | -S  | -S             | 20             | 50             | 60             | 80             | 100 | 100            | 90   | [90]           | 100            | 90    |
| 17.               |     | 80  | 60             | 50             | 40             | 50             | 40             | 30  | 40             | 50   | 70             | 90             | [100] |
| 18.               |     | 40  | 60             | 60             | 70             | 70             | 60             | 50  | 30             | +S   | 0              | -              | 50    |
| 19.               |     | 40  | 0              | -50            | -50            | -20            | -70            | -S  | <sup>+</sup> S | -S   | -S             | -S             | -10   |
| 20.               |     | 50  | 50             | 50             | 40             | 50             | 40             | 60  | 30             | -S   | <sup>+</sup> S | <sup>+</sup> S | [40]  |
| 21.               |     | 40  | 40             | 60             | 70             | 80             | 90             | 80  | 70             | 70   | 60             | 80             | [80]  |
| 22.               |     | 0   | 20             | 60             | 50             | 60             | 70             | 60  | 50             | [80] | [90]           | 110            | 120   |
| 23.               |     | 60  | 60             | 50             | 60             | 70             | 70             | 60  | 90             | 110  | 100            | [130]          | 140   |
| 24.               |     | 40  | 30             | 40             | 40             | 50             | 40             | 50  | 50             | 40   | 50             | 60             | 70    |
| 25.               |     | 20  | 30             | 60             | 50             | 50             | 50             | 50  | 50             | [60] | 60             | 70             | 80    |
| 26.               |     | 60  | 70             | 60             | 60             | 50             | 60             | 80  | 90             | 110  | -              | [130]          | 160   |
| 27.               |     | 50  | 50             | 50             | 50             | 40             | 50             | 80  | 60             | 60   | 60             | 70             | [80]  |
| 28.               |     | 50  | 0              | 0              | 20             | 30             | 40             | 50  | 70             | 60   | 70             | [60]           | 60    |
| 29.               |     | 60  | 60             | 50             | 60             | 60             | 60             | 50  | 40             | 60   | [80]           | 70             | 60    |
| 30.               |     | 60  | 60             | 50             | 40             | 50             | 60             | 60  | 60             | 80   | 70             | [60]           | 60    |
| 31.               |     | 160 | 160            | +S             | +S             | +S             | 160            | +S  | 160            | 120  | 80             | [80]           | 80    |
| Means             |     | 38  | 38             | 31             | 33             | 44             | 51             | 50  | 51             | 63   | 63             | 69             | 60    |
| Number<br>of days |     | 29  | 29             | 28             | 28             | 28             | 30             | 28  | 29             | 26   | 28             | 27             | 31    |

| 12   | 13    | 14  | 15  | 16  | 17  | 18    | 19    | 20  | 21   | 22   | 23  | Daily means |
|------|-------|-----|-----|-----|-----|-------|-------|-----|------|------|-----|-------------|
| -20  | -30   | 0   | 10  | -30 | 0   | 20    | -30   | -20 | -10  | 0    | 20  | -21         |
| -S   | -S    | -S  | -S  | -S  | -S  | -S    | 0     | 50  | 50   | 40   | -10 | -           |
| 50   | 50    | 50  | 50  | 60  | 80  | 70    | 60    | 70  | 70   | 60   | 50  | 57          |
| 70   | 50    | 10  | -10 | 0   | -10 | -30   | [-20] | -30 | -70  | -50  | -10 | 18          |
| 70   | 80    | 80  | 90  | 80  | 90  | 80    | 20    | -70 | -110 | -20  | 0   | -           |
| [60] | 70    | 60  | 60  | 60  | 70  | 70    | 70    | 70  | 40   | 30   | 30  | -           |
| 40   | 50    | 50  | 30  | 30  | 40  | 40    | 60    | 90  | 50   | 30   | 70  | 36          |
| 50   | 50    | 60  | 70  | 80  | 80  | 80    | 70    | 60  | 50   | 40   | 30  | -           |
| 50   | 20    | 50  | 50  | 60  | 80  | 100   | 90    | 70  | 60   | 50   | 60  | -           |
| 20   | 30    | 20  | -10 | -30 | -60 | 10    | 0     | 10  | -20  | -20  | -50 | 21          |
| 20   | 50    | 60  | 60  | 70  | 70  | 60    | 60    | 50  | 50   | [40] | -   | 34          |
| 30   | 50    | 50  | 50  | 50  | 50  | 50    | 40    | 50  | 60   | 40   | 40  | 49          |
| -    | [50]  | -   | 50  | 80  | 90  | 80    | 80    | 80  | 60   | 60   | 60  | -           |
| 60   | 50    | 50  | 40  | 50  | 60  | 60    | 50    | 50  | 20   | 20   | 30  | -           |
| 60   | 40    | 40  | 40  | 20  | 10  | 30    | 40    | 10  | 20   | -S   | -S  | -           |
| 90   | 90    | 80  | 70  | 60  | 50  | 50    | 70    | 80  | 90   | 70   | 60  | -           |
| 90   | 50    | 60  | 70  | 80  | 100 | 100   | 120   | 140 | 120  | 70   | 20  | 72          |
| 30   | 70    | 70  | 50  | 50  | 50  | 50    | 40    | 40  | 50   | 40   | 40  | -           |
| 60   | 70    | 100 | 100 | 100 | 90  | 100   | 100   | 50  | 50   | 50   | 50  | -           |
| 80   | 90    | 70  | 60  | 80  | 90  | 90    | 90    | 80  | 60   | 50   | 50  | -           |
| [80] | 90    | 100 | 100 | 100 | 100 | 90    | 40    | 20  | 40   | 20   | 10  | 67          |
| 120  | 110   | 100 | 100 | 140 | 120 | 100   | 120   | 100 | 90   | 80   | 60  | 84          |
| 140  | 130   | 100 | 130 | 150 | -S  | 60    | 120   | 140 | 140  | 90   | 60  | 98          |
| 90   | [100] | 80  | 90  | 100 | 70  | 60    | -S    | -S  | -S   | -S   | -S  | -           |
| 80   | 90    | 100 | 90  | 100 | 90  | 110   | 100   | 90  | 80   | 100  | 80  | 73          |
| 110  | 100   | 70  | 90  | 100 | 110 | [100] | 80    | 100 | 100  | 80   | 60  | 88          |
| 70   | 70    | 50  | 60  | 60  | 80  | 90    | 110   | 110 | 80   | 10   | 30  | 63          |
| 70   | 70    | 90  | 80  | 70  | 80  | 90    | 70    | 70  | 70   | 70   | 40  | 58          |
| 60   | 60    | 60  | 60  | 80  | 130 | 140   | 130   | 110 | 110  | 80   | 60  | 75          |
| 70   | 70    | 80  | 80  | 90  | 110 | 80    | 100   | 120 | 110  | 170  | 160 | 81          |
| 90   | 80    | 80  | 70  | 50  | 40  | 40    | 30    | 40  | 40   | 40   | 40  | -           |
| 66   | 65    | 65  | 63  | 66  | 68  | 69    | 64    | 61  | 52   | 46   | 41  |             |
| 28   | 30    | 29  | 30  | 30  | 29  | 30    | 30    | 30  | 30   | 29   | 28  |             |

I. Hourly means of the

January

| Hour<br>Day       | GMT | 0    | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9     | 10    | 11   |
|-------------------|-----|------|-----|-----|-----|-----|-----|-----|------|------|-------|-------|------|
| 1.                |     | 40   | 40  | 40  | 40  | 40  | 40  | 40  | 40   | [40] | 60    | 60    | 50   |
| 2.                |     | 20   | 10  | 0   | 20  | 30  | 10  | 0   | [30] | 70   | 80    | 80    | 60   |
| 3.                |     | 60   | 50  | 40  | 70  | 30  | 20  | 50  | 40   | 30   | 50    | [60]  | [60] |
| 4.                |     | 10   | -20 | 10  | 0   | 80  | 50  | 30  | 20   | 80   | 140   | [100] | 180  |
| 5.                |     | 150  | 100 | 130 | 160 | 170 | 140 | 120 | 90   | 80   | 100   | [70]  | 80   |
| 6.                |     | 50   | 30  | 10  | 0   | 50  | 20  | 40  | 40   | 20   | 20    | 50    | 50   |
| 7.                |     | 20   | 30  | 50  | 60  | 60  | 50  | 50  | 60   | 60   | 60    | [40]  | 10   |
| 8.                |     | [30] | -   | -   | -   | -   | -   | -   | -    | -    | -     | [50]  | 10   |
| 9.                |     | 50   | 30  | 40  | 60  | 60  | 60  | 70  | [80] | -    | 50    | 60    | 60   |
| 10.               |     | 60   | 40  | 40  | 20  | 20  | -60 | 50  | 10   | 100  | [110] | 50    | 100  |
| 11.               |     | 30   | 20  | 0   | 10  | 10  | 30  | 60  | 70   | 40   | -     | 30    | 70   |
| 12.               |     | 50   | 40  | 30  | 30  | 30  | 30  | 50  | 40   | [40] | -     | 20    | -40  |
| 13.               |     | -20  | 0   | 0   | -20 | 20  | 40  | 50  | 20   | 30   | 30    | 90    | [70] |
| 14.               |     | 60   | 90  | 70  | 50  | 50  | 40  | 50  | 60   | 70   | 70    | 70    | [80] |
| 15.               |     | 20   | 30  | 30  | 40  | 40  | 50  | 50  | 50   | 60   | 60    | -     | 60   |
| 16.               |     | 60   | 50  | 60  | 60  | 70  | 100 | 90  | [90] | -    | -     | 80    | 80   |
| 17.               |     | 50   | 50  | 50  | 60  | 70  | 80  | 90  | 110  | 120  | 110   | [80]  | 80   |
| 18.               |     | 70   | 80  | 60  | 60  | 60  | 60  | 30  | 0    | 50   | 30    | [40]  | 70   |
| 19.               |     | 70   | 60  | 60  | 70  | 80  | 70  | 100 | 90   | 90   | [110] | 100   | 80   |
| 20.               |     | 70   | 80  | 70  | 70  | 70  | 50  | 110 | 120  | 120  | [40]  | [50]  | 40   |
| 21.               |     | 0    | 10  | -10 | -10 | -30 | -50 | 0   | 0    | -20  | -40   | -50   | -    |
| 22.               |     | -10  | 0   | 20  | 20  | 50  | 50  | 70  | 50   | 30   | 20    | 30    | [50] |
| 23.               |     | 90   | 70  | 70  | 60  | 70  | 70  | 60  | [50] | -    | 30    | 60    | 70   |
| 24.               |     | 70   | 60  | 50  | 60  | 70  | 60  | 70  | 50   | 70   | 70    | 50    | 40   |
| 25.               |     | 40   | 50  | 40  | 40  | 40  | 40  | 40  | 40   | [30] | 50    | 60    | 40   |
| 26.               |     | 30   | 30  | 20  | 20  | 30  | 20  | 20  | 20   | 10   | 20    | [30]  | [40] |
| 27.               |     | 60   | 70  | 80  | 60  | 60  | 70  | 60  | 70   | 90   | 70    | [60]  | 40   |
| 28.               |     | -20  | -20 | -20 | -50 | -20 | -20 | -20 | 10   | -20  | 10    | 10    | -10  |
| 29.               |     | 50   | 110 | 70  | 60  | 30  | 30  | 40  | 40   | 20   | 30    | [20]  | 20   |
| 30.               |     | 70   | 70  | 30  | 20  | 50  | 80  | 70  | [50] | 30   | 20    | 20    | 50   |
| 31.               |     | 80   | 80  | 80  | 90  | 10  | 120 | 170 | +S   | 120  | 120   | [90]  | 70   |
| Means             |     | 46   | 45  | 41  | 41  | 47  | 45  | 57  | 50   | 54   | 56    | 52    | 55   |
| Number<br>of days |     | 31   | 30  | 30  | 30  | 30  | 30  | 30  | 29   | 27   | 27    | 30    | 30   |



potential gradient for 1989

| 12   | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 50   | 50  | 60  | 70  | 60  | 80  | 80  | 60  | 50  | 40  | 20  | 10  | 48          |
| [70] | 70  | 80  | 50  | 90  | 100 | 120 | 120 | 110 | 90  | 60  | 50  | 59          |
| 70   | 80  | 40  | 50  | 50  | 40  | 20  | 20  | 20  | 40  | 20  | 20  | 43          |
| 70   | 50  | 90  | 60  | 70  | 60  | 30  | 40  | 20  | 50  | 90  | 70  | 58          |
| 70   | 30  | 20  | 30  | 10  | 60  | 20  | 60  | 80  | 100 | 60  | 40  | 82          |
| 10   | -60 | -60 | 60  | ±S  | 20  | 10  | 60  | 70  | 70  | 40  | 30  | 27          |
| +S   | +S  | ±S  | ±S  | 10  | 10  | 50  | -10 | 10  | 20  | 10  | 20  | -           |
| -    | -   | -   | -   | 40  | 40  | 50  | 30  | 80  | 30  | 20  | 20  | -           |
| 60   | 50  | 30  | 40  | 60  | 50  | 60  | 80  | 80  | 70  | 70  | 70  | 58          |
| 90   | 110 | 120 | 130 | 140 | 150 | 70  | 60  | 20  | 20  | 60  | 30  | 64          |
| 80   | 90  | 90  | 90  | 90  | 90  | 80  | 100 | 60  | 70  | 50  | 50  | 57          |
| -30  | 90  | 90  | 90  | 20  | 70  | 60  | 20  | 20  | 20  | 70  | 30  | 38          |
| [70] | 50  | 50  | 60  | 70  | 70  | 100 | 110 | 90  | 80  | 70  | 50  | 49          |
| 70   | 110 | 130 | 170 | +S  | +S  | +S  | +S  | 130 | 130 | 100 | 30  | -           |
| 70   | 60  | 70  | 90  | 80  | 100 | 90  | 110 | 80  | 70  | 70  | 70  | 63          |
| 70   | 80  | 60  | 60  | 100 | 140 | 130 | 90  | 80  | 60  | 50  | 50  | -           |
| 100  | 100 | 100 | 90  | 90  | 100 | 100 | 90  | 80  | 90  | 90  | 60  | 85          |
| 60   | 70  | 60  | 50  | 50  | 70  | 80  | 70  | 70  | 70  | 80  | 70  | 59          |
| 70   | 70  | 60  | 90  | 90  | 110 | 120 | 110 | 120 | 110 | 90  | 70  | 87          |
| 30   | 20  | 0   | 10  | 0   | 70  | 50  | 10  | 40  | 90  | 40  | 30  | 53          |
| 10   | 30  | 10  | 50  | 90  | 90  | 30  | 20  | 10  | 0   | -10 | 10  | 60          |
| 50   | 50  | 50  | 40  | 50  | 80  | 50  | 50  | 50  | 50  | 60  | 60  | 43          |
| 70   | 80  | 70  | 80  | 100 | 80  | 120 | 130 | 120 | 120 | 100 | 80  | 80          |
| [20] | 30  | 30  | 50  | 30  | 10  | 10  | 20  | 30  | 30  | 50  | 40  | 45          |
| 40   | 50  | 50  | 50  | 50  | 40  | 50  | 70  | 40  | 40  | 40  | 30  | 44          |
| 50   | 50  | 40  | 40  | 40  | 40  | 40  | 20  | 30  | 40  | 20  | 30  | 30          |
| 60   | 80  | 80  | 60  | 50  | 40  | 30  | 30  | 20  | 10  | 0   | -10 | 52          |
| -    | 20  | 40  | 20  | 20  | 80  | 130 | 50  | 50  | 50  | 20  | 90  | 17          |
| 40   | 50  | 50  | 40  | 50  | 80  | 90  | 80  | 60  | 60  | 40  | 60  | 51          |
| 80   | 80  | 70  | 70  | 60  | 80  | 90  | 110 | 80  | 120 | 100 | 90  | 66          |
| 80   | 100 | 110 | 100 | 80  | 90  | 80  | 60  | 50  | 80  | 40  | 40  | 81          |
| 56   | 60  | 58  | 65  | 60  | 71  | 68  | 62  | 60  | 64  | 55  | 45  |             |
| 28   | 29  | 29  | 29  | 29  | 30  | 30  | 30  | 31  | 30  | 31  | 31  |             |

## February

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10    | 11   |
|---------------------------|------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|------|
| 1.                        |            | 50  | 30  | 30  | 40  | 30  | 20  | 30  | 20   | 40   | 60   | [40]  | 50   |
| 2.                        |            | 0   | 20  | 0   | 0   | -20 | -40 | -40 | -60  | -40  | -30  | [-40] | -30  |
| 3.                        |            | 10  | -10 | 10  | -30 | 10  | 60  | 30  | 40   | 40   | 50   | [50]  | 40   |
| 4.                        |            | 60  | 60  | 50  | 40  | 40  | 40  | 40  | 50   | 30   | 0    | [20]  | [20] |
| 5.                        |            | 20  | 50  | 20  | 20  | 50  | 50  | 40  | 40   | 40   | 40   | -     | 50   |
| 6.                        |            | 20  | 20  | 20  | 30  | 30  | 10  | 30  | [10] | -    | 50   | 40    | 50   |
| 7.                        |            | 50  | 60  | 50  | 50  | 50  | 60  | 70  | 80   | 90   | 90   | 80    | 60   |
| 8.                        |            | 180 | 170 | 140 | 180 | +S  | +S  | +S  | +S   | +S   | +S   | +S    | 120  |
| 9.                        |            | 20  | 10  | 30  | 40  | -20 | 10  | 20  | 40   | 50   | [10] | [50]  | 20   |
| 10.                       |            | 40  | 40  | 20  | 20  | 30  | 30  | 30  | 30   | 20   | [20] | 40    | 50   |
| 11.                       |            | 30  | 30  | 20  | 20  | 40  | 20  | 10  | 10   | 20   | 40   | [50]  | 60   |
| 12.                       |            | 60  | 80  | 70  | 60  | 40  | 20  | 30  | 0    | 30   | 10   | [30]  | [50] |
| 13.                       |            | 20  | 20  | 30  | 40  | 50  | 40  | 50  | [50] | -    | 40   | 40    | 40   |
| 14.                       |            | 40  | 40  | 30  | 30  | 40  | 40  | 40  | 50   | 20   | 20   | [30]  | 20   |
| 15.                       |            | ±S  | +S  | 40  | 50  | 60  | ±S  | 60  | ±S   | +S   | 30   | [10]  | 50   |
| 16.                       |            | 30  | 40  | 40  | 40  | 40  | 30  | 30  | 40   | 40   | 40   | -     | 40   |
| 17.                       |            | 30  | 30  | 30  | 40  | 40  | 40  | 40  | 50   | 50   | 50   | 50    | -    |
| 18.                       |            | 20  | 30  | 20  | 30  | 20  | 30  | 70  | 60   | [60] | 60   | 70    | 80   |
| 19.                       |            | 30  | -10 | -10 | 20  | -20 | 30  | -20 | -80  | 30   | +S   | +S    | -    |
| 20.                       |            | 20  | 20  | 20  | 40  | 40  | 50  | 50  | 50   | -    | 50   | 30    | 40   |
| 21.                       |            | 50  | 30  | 40  | 40  | 40  | -50 | -10 | 40   | -S   | ±S   | [80]  | 50   |
| 22.                       |            | 90  | 100 | 80  | 70  | 50  | 40  | 60  | 60   | 80   | 60   | [50]  | 50   |
| 23.                       |            | 20  | 20  | 20  | 20  | 10  | -10 | 0   | 20   | 30   | 10   | [20]  | 40   |
| 24.                       |            | 90  | 160 | +S  | 120 | -10 | 0   | 30  | 40   | 40   | 50   | [60]  | 60   |
| 25.                       |            | 40  | 40  | 30  | 30  | 40  | 30  | 30  | 40   | 50   | 50   | [50]  | 50   |
| 26.                       |            | 40  | 40  | 40  | 40  | 30  | ±S  | -S  | -10  | -S   | -S   | -S    | -20  |
| 27.                       |            | 40  | 40  | 30  | 30  | 30  | 50  | 50  | 70   | -    | 60   | 60    | 50   |
| 28.                       |            | 50  | 50  | 40  | 30  | 40  | 50  | 50  | 90   | [70] | 80   | 70    | 60   |
| 29.                       |            |     |     |     |     |     |     |     |      |      |      |       |      |
| 30.                       |            |     |     |     |     |     |     |     |      |      |      |       |      |
| 31.                       |            |     |     |     |     |     |     |     |      |      |      |       |      |
| Means                     |            | 43  | 45  | 35  | 41  | 29  | 26  | 32  | 32   | 38   | 39   | 43    | 44   |
| Number<br>of days         |            | 27  | 27  | 27  | 28  | 27  | 25  | 26  | 26   | 21   | 24   | 23    | 26   |

| 12  | 13   | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21 | 22  | 23  | Daily means |
|-----|------|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-------------|
| 50  | 70   | 70  | 10  | 40  | 50  | 0   | 0   | 30  | 0  | 10  | 10  | 33          |
| -10 | 0    | 10  | 0   | 10  | 10  | 50  | 30  | 30  | 20 | 30  | 30  | -3          |
| 50  | 50   | 50  | 30  | 50  | 50  | 50  | 70  | 80  | 70 | 80  | 80  | 42          |
| 40  | 40   | 30  | 40  | 50  | 40  | 40  | 20  | 20  | 30 | 10  | 40  | 35          |
| 60  | 60   | 60  | 50  | 40  | 60  | 40  | 50  | 30  | 20 | 30  | 30  | 41          |
| 60  | 70   | 80  | 80  | 100 | 100 | 110 | 120 | 110 | 90 | 70  | 60  | 59          |
| 60  | 60   | 60  | 60  | 60  | 70  | 90  | 90  | 90  | 70 | 60  | 120 | 70          |
| 80  | +S   | 90  | 110 | 170 | 170 | 110 | 100 | 70  | 30 | 70  | 20  | -           |
| 20  | 40   | 50  | 50  | 40  | 10  | 40  | 40  | 40  | 50 | 40  | 40  | 31          |
| 50  | [40] | 40  | 50  | 50  | 40  | 30  | 30  | 20  | 10 | 0   | 20  | 31          |
| 70  | 70   | 60  | 50  | 30  | 30  | 20  | 30  | 60  | 40 | 50  | 60  | 38          |
| 60  | 60   | 50  | 50  | 40  | 40  | 50  | 30  | 50  | 40 | 60  | 30  | 43          |
| 50  | ±S   | ±S  | 20  | 20  | 50  | 60  | 60  | 60  | 50 | 40  | 40  | 41          |
| 40  | 60   | 50  | 50  | 70  | 140 | 80  | 60  | 70  | 60 | 60  | 60  | 50          |
| 50  | 60   | 60  | 60  | 60  | 70  | 70  | 60  | 50  | 60 | 50  | 30  | -           |
| 40  | 60   | 60  | 60  | 70  | 60  | 60  | 60  | 60  | 60 | 50  | 40  | 47          |
| 60  | 50   | 40  | 30  | 30  | 50  | 70  | 50  | 30  | 40 | 40  | 40  | 43          |
| 80  | 60   | 80  | 60  | 50  | 90  | 80  | 50  | 50  | 0  | 10  | 60  | 51          |
| 10  | 60   | 60  | 40  | 20  | 10  | 60  | 60  | 50  | 50 | 40  | 40  | -           |
| 40  | 50   | 70  | 60  | 60  | 70  | 70  | 60  | 70  | 40 | 10  | 30  | 45          |
| -10 | -30  | -40 | -20 | 0   | 60  | 70  | 40  | 20  | 80 | 100 | 100 | -           |
| 50  | 50   | 40  | 40  | 40  | 30  | 30  | 10  | 10  | 40 | 30  | 40  | 50          |
| 50  | 40   | 40  | 30  | 50  | 50  | 40  | 40  | 40  | 40 | 30  | 40  | 29          |
| 60  | 70   | 50  | 50  | 60  | 70  | 70  | 70  | 60  | 50 | 40  | 40  | 58          |
| 50  | 10   | -S  | -S  | ±S  | 10  | 20  | 30  | 30  | 30 | 30  | 40  | -           |
| ±S  | 50   | 50  | 40  | 40  | 50  | 60  | 50  | 50  | 40 | 50  | 40  | -           |
| 60  | 60   | 50  | 60  | 60  | 70  | 80  | 70  | 70  | 60 | 60  | 60  | 55          |
| 40  | 40   | 30  | 20  | 20  | 50  | 40  | 40  | 30  | 60 | 50  | 50  | 48          |
| 47  | 48   | 50  | 44  | 49  | 57  | 57  | 51  | 49  | 44 | 43  | 46  |             |
| 27  | 26   | 26  | 27  | 27  | 28  | 28  | 28  | 28  | 28 | 28  | 28  |             |

| Hour<br>Day       | GMT | 0    | 1   | 2   | 3   | 4  | 5  | 6   | 7     | 8     | 9     | 10   | 11   |
|-------------------|-----|------|-----|-----|-----|----|----|-----|-------|-------|-------|------|------|
| 1.                |     | 50   | 30  | 40  | 40  | 50 | 60 | 60  | 100   | 80    | [50]  | [50] | 50   |
| 2.                |     | 0    | 30  | 40  | 50  | 70 | 60 | 50  | 60    | -     | 50    | 40   | 50   |
| 3.                |     | 40   | 40  | 40  | 40  | 30 | 40 | 50  | 20    | [10]  | [80]  | 60   | 20   |
| 4.                |     | -100 | -20 | ±S  | ±S  | ±S | ±S | ±S  | -S    | 20    | -     | 20   | 50   |
| 5.                |     | 40   | 50  | 50  | 50  | 40 | 60 | 70  | 80    | -     | 80    | 100  | 90   |
| 6.                |     | 30   | 30  | 30  | 40  | 40 | 40 | 40  | [40]  | -     | 70    | 70   | 70   |
| 7.                |     | 30   | 20  | 30  | 40  | 40 | 40 | 50  | 70    | 70    | [60]  | 70   | 60   |
| 8.                |     | 60   | 40  | 40  | 40  | 40 | 50 | 50  | 50    | 60    | 50    | [30] | 90   |
| 9.                |     | 30   | 30  | 30  | 40  | 40 | 40 | 30  | 20    | 30    | 40    | 20   | [30] |
| 10.               |     | 20   | 20  | 30  | 30  | 40 | 40 | 60  | 50    | [60]  | 60    | 60   | 70   |
| 11.               |     | 40   | 40  | 40  | 30  | 40 | 20 | 40  | 40    | 40    | 40    | 30   | [40] |
| 12.               |     | 20   | 20  | 20  | 0   | 0  | 10 | 0   | -10   | 0     | 20    | 20   | [20] |
| 13.               |     | 40   | 40  | 100 | 100 | 50 | 10 | 30  | 20    | [0]   | [20]  | 30   | 40   |
| 14.               |     | ±S   | ±S  | ±S  | -S  | 40 | ±S | 40  | 40    | 50    | 50    | [50] | 50   |
| 15.               |     | 30   | 40  | 40  | 30  | 30 | 40 | 50  | 40    | 50    | 60    | 50   | [60] |
| 16.               |     | 50   | 60  | 50  | 50  | 50 | 60 | 70  | 80    | 70    | 60    | 60   | [60] |
| 17.               |     | 40   | 30  | 20  | 20  | 30 | 40 | 40  | 40    | 60    | [50]  | 60   | 50   |
| 18.               |     | 20   | 30  | 30  | 30  | 20 | 10 | 0   | 10    | 20    | 20    | [30] | 30   |
| 19.               |     | 30   | 30  | 40  | 80  | 20 | 50 | 50  | 60    | -     | 80    | 90   | 90   |
| 20.               |     | 40   | 60  | 60  | 40  | 0  | 10 | 10  | [0]   | [-10] | -30   | -20  | -10  |
| 21.               |     | 40   | 90  | 80  | 80  | +S | +S | 30  | 40    | 20    | -90   | 20   | 120  |
| 22.               |     | 70   | 80  | 80  | 80  | 80 | 80 | 90  | 120   | [100] | [100] | [70] | 60   |
| 23.               |     | 60   | 60  | 40  | 40  | 60 | 40 | 40  | 40    | [90]  | [60]  | [60] | +S   |
| 24.               |     | 40   | 40  | 40  | 60  | 60 | 80 | 80  | 110   | [90]  | 70    | 70   | 70   |
| 25.               |     | 70   | 60  | 60  | 60  | 60 | 70 | 80  | 70    | 60    | -     | [60] | 70   |
| 26.               |     | -60  | 20  | 20  | 20  | 20 | 40 | 90  | 110   | [110] | [110] | 110  | 100  |
| 27.               |     | 60   | 50  | 50  | 60  | 50 | 50 | 60  | 60    | 60    | 60    | [60] | [70] |
| 28.               |     | 30   | 30  | 30  | 30  | 30 | 30 | 50  | 60    | 60    | 60    | 70   | 80   |
| 29.               |     | 40   | 70  | 80  | 80  | 60 | 70 | 110 | [100] | [70]  | 80    | 70   | 60   |
| 30.               |     | 40   | 10  | -10 | 20  | 30 | 60 | 70  | 70    | 40    | 30    | 40   | [50] |
| 31.               |     | 30   | 20  | 20  | 20  | 20 | 40 | 50  | 50    | 50    | [60]  | 50   | 50   |
| Means             |     | 31   | 38  | 42  | 45  | 39 | 44 | 51  | 55    | 49    | 51    | 52   | 58   |
| Number<br>of days |     | 30   | 30  | 29  | 29  | 29 | 28 | 30  | 30    | 27    | 29    | 31   | 30   |

| 12   | 13   | 14   | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23   | Daily means |
|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-------------|
| 40   | 40   | 30   | 20  | 20  | 40  | 60  | 60  | 60  | 50  | 20  | 50   | 48          |
| 50   | [50] | [40] | 50  | 50  | 80  | 80  | 120 | 120 | 50  | 40  | 50   | 56          |
| ±S   | ±S   | -S   | -30 | 30  | -90 | 50  | 90  | 70  | 130 | 70  | -100 | -           |
| 60   | 60   | 20   | ±S  | 30  | 50  | 60  | ±S  | 50  | 60  | 50  | 50   | -           |
| 70   | 70   | 70   | 60  | 70  | 70  | 80  | 90  | 70  | 40  | 40  | 40   | 64          |
| 50   | 40   | 40   | 40  | 40  | 50  | 60  | 40  | 40  | 40  | 30  | 30   | 44          |
| 60   | 60   | 50   | 40  | 40  | 50  | 90  | 80  | 70  | 70  | 50  | 40   | 53          |
| -20  | 0    | ±S   | ±S  | 20  | 80  | 20  | 40  | 40  | 30  | 30  | 20   | -           |
| 20   | 30   | 30   | 40  | 40  | 40  | 40  | 20  | 20  | 20  | -20 | -10  | 27          |
| 90   | 100  | 90   | 100 | 100 | 110 | 100 | 90  | 60  | 50  | 40  | 50   | 63          |
| [40] | 0    | 30   | 30  | 20  | 10  | -10 | -10 | -20 | -20 | -20 | 10   | 21          |
| [30] | 40   | 80   | -30 | 0   | 0   | -40 | -20 | -50 | -20 | -60 | -20  | 1           |
| 60   | 50   | 50   | 50  | 50  | 60  | 60  | 50  | 40  | ±S  | ±S  | ±S   | -           |
| 50   | 60   | 50   | 50  | 50  | 70  | 70  | 80  | 60  | 40  | 30  | 30   | -           |
| 70   | 60   | 50   | 40  | 40  | 30  | 30  | 60  | 70  | +S  | 50  | 60   | 47          |
| 70   | 70   | 50   | 30  | 40  | 30  | 30  | 40  | 40  | 30  | 40  | 30   | 51          |
| 40   | 30   | 30   | 30  | 40  | 50  | 40  | 50  | 40  | 20  | 20  | 30   | 38          |
| 10   | 40   | 0    | 20  | 10  | 10  | 20  | 10  | 20  | 20  | 40  | 20   | 20          |
| 90   | 90   | 100  | 110 | 120 | 110 | 120 | 80  | 80  | 60  | 50  | 50   | 74          |
| 20   | 30   | 30   | 30  | 30  | 40  | 0   | 30  | 40  | 90  | 0   | 10   | 21          |
| -30  | -30  | -110 | 0   | 20  | 80  | 90  | 110 | 90  | 70  | 60  | 80   | -           |
| 40   | 60   | 70   | 80  | 80  | 80  | 130 | 110 | 90  | 70  | 60  | 60   | 81          |
| ±S   | ±S   | 0    | 20  | 10  | 60  | 70  | 60  | 70  | 70  | 60  | 70   | -           |
| 70   | 70   | 70   | 60  | 70  | 70  | 80  | 80  | 80  | 70  | 70  | 70   | 70          |
| 70   | 60   | 60   | 70  | 70  | 80  | 60  | 30  | -S  | -S  | -60 | -S   | -           |
| 100  | 100  | 100  | 120 | 100 | 70  | 60  | 90  | 80  | 80  | 70  | 70   | 72          |
| 90   | 90   | 80   | 80  | 80  | 80  | 80  | 80  | 70  | 60  | 50  | 50   | 66          |
| 80   | 80   | 70   | 70  | 70  | 70  | 60  | 60  | 10  | 20  | 20  | 30   | 50          |
| 60   | 40   | 30   | ±S  | ±S  | +S  | ±S  | 40  | 50  | 20  | 10  | 30   | -           |
| 50   | 60   | 30   | 30  | 40  | 60  | 40  | 30  | 40  | 40  | 30  | 30   | 39          |
| 50   | 50   | 40   | 40  | 60  | 60  | 60  | 60  | 60  | 50  | 50  | 50   | 45          |
| 51   | 52   | 44   | 45  | 48  | 53  | 56  | 58  | 52  | 47  | 31  | 34   |             |
| 29   | 29   | 29   | 28  | 30  | 30  | 30  | 30  | 30  | 28  | 30  | 29   |             |

April

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1   | 2   | 3   | 4   | 5  | 6    | 7    | 8    | 9    | 10   | 11   |
|---------------------------|------------|-----|-----|-----|-----|-----|----|------|------|------|------|------|------|
| 1.                        |            | 50  | 50  | 50  | 50  | 50  | 60 | [60] | -    | 90   | 90   | 90   | 50   |
| 2.                        |            | -30 | -50 | 0   | 30  | 40  | 50 | 60   | 40   | 10   | 40   | [60] | 30   |
| 3.                        |            | 30  | 30  | 20  | 10  | 0   | 0  | 0    | -20  | -    | -10  | -30  | 20   |
| 4.                        |            | -S  | 30  | 40  | 20  | 20  | 50 | 30   | [30] | 20   | 40   | 10   | 30   |
| 5.                        |            | 80  | 80  | 70  | 90  | 70  | 40 | 100  | [60] | 30   | ±S   | +S   | 50   |
| 6.                        |            | 20  | 30  | 30  | 40  | 40  | 50 | 60   | [60] | 50   | 60   | 60   | 40   |
| 7.                        |            | 40  | 50  | 40  | 50  | 50  | 40 | 30   | -    | 30   | -40  | 40   | 50   |
| 8.                        |            | 30  | 30  | 20  | 30  | 40  | 40 | 40   | 60   | -    | 60   | 60   | 60   |
| 9.                        |            | 40  | 30  | 30  | 30  | 30  | 40 | 40   | 50   | 50   | [30] | 40   | 40   |
| 10.                       |            | 30  | 20  | 20  | 30  | 40  | 40 | 60   | 60   | -    | 60   | 60   | 60   |
| 11.                       |            | 60  | 60  | 60  | 60  | 50  | 70 | 70   | 80   | -    | [70] | 60   | 50   |
| 12.                       |            | 20  | 20  | 30  | 30  | 40  | 50 | 50   | 50   | [50] | 50   | 40   | 30   |
| 13.                       |            | 30  | 30  | 20  | 20  | 20  | 30 | 30   | 30   | 40   | -    | 30   | 30   |
| 14.                       |            | 10  | 20  | 10  | 20  | 30  | 30 | 40   | 30   | 20   | [10] | -10  | 0    |
| 15.                       |            | ±S  | +S  | -S  | 10  | 10  | -S | 20   | -20  | ±S   | +S   | -20  | 20   |
| 16.                       |            | -10 | -10 | -10 | -10 | -10 | 0  | -    | -    | -    | -    | -    | [50] |
| 17.                       |            | 10  | 0   | 10  | 20  | 20  | 30 | 40   | -    | [40] | 30   | 40   | 50   |
| 18.                       |            | 30  | 30  | 40  | 30  | 40  | 20 | 80   | +S   | 10   | 50   | 40   | 40   |
| 19.                       |            | 30  | 30  | 30  | 30  | 20  | 30 | 20   | 20   | -    | -10  | 10   | 0    |
| 20.                       |            | 10  | 20  | 30  | 20  | 20  | +S | 30   | 50   | 50   | [30] | 40   | 40   |
| 21.                       |            | -   | -   | -   | -   | -   | -  | -    | -    | -    | 50   | 60   | 60   |
| 22.                       |            | 30  | 10  | 20  | 30  | 40  | 40 | 50   | [50] | -S   | ±S   | -S   | 70   |
| 23.                       |            | 50  | 30  | 30  | 30  | 30  | 30 | 60   | 40   | 60   | [40] | 30   | 20   |
| 24.                       |            | 30  | 20  | 20  | 20  | 20  | 20 | 30   | -    | [60] | 60   | 60   | 60   |
| 25.                       |            | 40  | 30  | 30  | 20  | 30  | 30 | 10   | 20   | [20] | [20] | 20   | 30   |
| 26.                       |            | 40  | 40  | 50  | 60  | 60  | 50 | 60   | 60   | [50] | 50   | 50   | 50   |
| 27.                       |            | -   | -   | -   | -   | -   | -  | -    | -    | -    | -    | -    | -    |
| 28.                       |            | -   | -   | -   | -   | -   | -  | -    | -    | -    | -    | -    | -    |
| 29.                       |            | -   | -   | -   | -   | -   | -  | -    | -    | -    | -    | -    | -    |
| 30.                       |            | -   | -   | -   | -   | -   | -  | -    | -    | -    | 30   | +S   | ±S   |
| 31.                       |            |     |     |     |     |     |    |      |      |      |      |      |      |
| Means                     |            | 29  | 26  | 29  | 31  | 32  | 37 | 45   | 38   | 40   | 37   | 38   | 40   |
| Number<br>of days         |            | 23  | 24  | 24  | 25  | 25  | 23 | 24   | 20   | 17   | 22   | 23   | 26   |

| 12 | 13  | 14  | 15  | 16 | 17 | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-------------|
| 60 | ±S  | ±S  | ±S  | ±S | ±S | ±S  | ±S  | ±S  | -S  | ±S  | +S  | -           |
| 60 | 60  | 60  | 60  | 60 | 60 | 40  | 50  | 50  | 40  | 30  | 30  | 37          |
| 30 | 10  | -10 | -10 | 60 | 50 | 30  | 10  | 40  | -40 | 10  | 10  | 10          |
| 40 | 50  | 50  | 60  | 60 | 60 | 50  | 60  | 60  | 50  | 60  | 70  | 43          |
| 50 | 50  | 50  | 50  | 60 | 60 | 60  | 60  | 60  | 50  | 50  | 40  | -           |
| 50 | 50  | 50  | 50  | 50 | 60 | 60  | 50  | 60  | 60  | 50  | 50  | 49          |
| 50 | 50  | +S  | +S  | 50 | 50 | 60  | 60  | 40  | 40  | 40  | 40  | -           |
| 40 | 40  | 40  | 40  | 40 | 50 | 50  | 50  | 60  | 50  | 40  | 40  | 44          |
| 40 | 40  | 30  | 30  | 30 | 30 | 50  | 60  | 50  | 40  | 40  | 40  | 39          |
| 60 | 60  | 60  | 60  | 60 | 50 | 60  | 60  | 60  | 60  | 60  | 60  | 52          |
| 40 | 40  | 40  | 40  | 40 | 50 | 50  | 50  | 40  | 30  | 30  | 30  | 51          |
| 40 | 40  | 30  | 30  | 40 | 40 | 40  | 40  | 40  | 30  | 40  | 30  | 38          |
| 30 | 30  | 20  | 20  | 20 | 10 | 20  | 10  | 20  | 20  | 20  | 20  | 24          |
| 10 | 20  | 40  | 30  | 30 | 30 | ±S  | -S  | ±S  | ±S  | -S  | +S  | -           |
| 20 | 30  | 10  | +S  | ±S | -S | -30 | -10 | -20 | -20 | -20 | -20 | -           |
| 40 | 50  | 60  | 50  | 50 | 40 | 20  | 20  | 20  | 0   | -10 | 10  | -           |
| 60 | 50  | 60  | 50  | 40 | 10 | 0   | 20  | 10  | 20  | 30  | 40  | 30          |
| 60 | 50  | 40  | 40  | 50 | 60 | 60  | 60  | 50  | 30  | 20  | 20  | 41          |
| 0  | 10  | 10  | 10  | 20 | 10 | 20  | 20  | 10  | 20  | 30  | 10  | 17          |
| 40 | 40  | 30  | 20  | 40 | 30 | 20  | 20  | 20  | 10  | 30  | 20  | 29          |
| 50 | 40  | 50  | ±S  | 40 | 50 | 30  | 40  | +S  | 20  | 20  | 40  | -           |
| +S | +S  | 50  | ±S  | ±S | ±S | ±S  | ±S  | 30  | 40  | +S  | ±S  | -           |
| 10 | 20  | 20  | 20  | 10 | 20 | 20  | 20  | 20  | 20  | 20  | 20  | 30          |
| 50 | 60  | 60  | 60  | 60 | 40 | 50  | 40  | 40  | 30  | 30  | 30  | 41          |
| 30 | 40  | 40  | 40  | 40 | 40 | 40  | 30  | 20  | 20  | 30  | 30  | 29          |
| 50 | 60  | 60  | 60  | 60 | 60 | 60  | 60  | -   | -   | -   | -   | -           |
| -  | -   | -   | -   | -  | -  | -   | -   | -   | -   | -   | -   | -           |
| -  | -   | -   | -   | -  | -  | -   | -   | -   | -   | -   | -   | -           |
| -  | -   | -   | -   | -  | -  | -   | -   | -   | -   | -   | -   | -           |
| 10 | -20 | -10 | 0   | ±S | ±S | ±S  | ±S  | ±S  | -90 | -70 | -60 | -           |
| 39 | 39  | 38  | 37  | 44 | 42 | 37  | 38  | 35  | 22  | 25  | 26  |             |
| 26 | 25  | 25  | 22  | 23 | 23 | 23  | 23  | 22  | 24  | 23  | 23  |             |

May

| Hour<br>Day       | GMI | 0   | 1   | 2   | 3   | 4   | 5  | 6    | 7     | 8    | 9  | 10 | 11  |
|-------------------|-----|-----|-----|-----|-----|-----|----|------|-------|------|----|----|-----|
| 1.                |     | -60 | -70 | -S  | -S  | -S  | -S | -40  | -10   | -10  | ±S | -S | -S  |
| 2.                |     | -S  | ±S  | ±S  | ±S  | -20 | +S | ±S   | -     | [20] | 0  | 30 | ±S  |
| 3.                |     | ±S  | ±S  | 40  | 60  | 60  | 70 | 80   | [100] | [80] | 60 | 60 | 100 |
| 4.                |     | 20  | 10  | 0   | 20  | 40  | 50 | 70   | [90]  | 100  | 80 | 60 | 80  |
| 5.                |     | 40  | 20  | 20  | 30  | 30  | 20 | 50   | [60]  | [60] | 80 | 80 | 80  |
| 6.                |     | 20  | 10  | +S  | -20 | ±S  | ±S | +S   | ±S    | -S   | 60 | 60 | ±S  |
| 7.                |     | 30  | 70  | 50  | 50  | 60  | 60 | 50   | -     | 60   | +S | 90 | 70  |
| 8.                |     | 70  | 70  | 70  | 70  | 70  | 80 | 90   | [80]  | [60] | 50 | 40 | 40  |
| 9.                |     | 30  | 30  | 30  | 30  | 40  | 50 | [60] | 60    | 90   | 80 | 70 | 60  |
| 10.               |     | 10  | 20  | -10 | 30  | 50  | 60 | 60   | [60]  | 50   | 50 | 50 | 40  |
| 11.               |     | 0   | 0   | -10 | 0   | 20  | 40 | 40   | -     | 20   | 20 | 20 | 20  |
| 12.               |     | 10  | 10  | 10  | 20  | 20  | 40 | 90   | 60    | [50] | 40 | 30 | 40  |
| 13.               |     | 40  | 40  | 40  | 40  | 40  | 50 | 40   | [40]  | 40   | 30 | 30 | 30  |
| 14.               |     | 0   | 0   | 0   | -10 | 10  | -  | -    | -     | 80   | 60 | 50 | 30  |
| 15.               |     | -10 | -10 | -10 | -10 | -S  | -S | ±S   | -     | 10   | 20 | 20 | 10  |
| 16.               |     | ±S  | +S  | 50  | ±S  | -50 | 20 | 30   | -     | 20   | 10 | ±S | -S  |
| 17.               |     | 30  | 30  | 20  | 20  | 20  | 30 | 40   | [50]  | [60] | 50 | 50 | 40  |
| 18.               |     | 20  | 10  | 10  | 10  | 10  | 20 | 10   | 30    | 40   | 40 | 40 | 40  |
| 19.               |     | 0   | 10  | 10  | 10  | ±S  | -S | ±S   | 50    | -    | -  | -  | -   |
| 20.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 21.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 22.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 23.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 24.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 25.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 26.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 27.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 28.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 29.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 30.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| 31.               |     | -   | -   | -   | -   | -   | -  | -    | -     | -    | -  | -  | -   |
| Means             |     | 16  | 16  | 20  | 22  | 27  | 45 | 48   | 56    | 49   | 46 | 49 | 49  |
| Number<br>of days |     | 16  | 16  | 16  | 16  | 15  | 13 | 14   | 12    | 17   | 16 | 16 | 14  |





July

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1   | 2   | 3   | 4   | 5   | 6    | 7     | 8    | 9    | 10   | 11    |
|---------------------------|------------|-----|-----|-----|-----|-----|-----|------|-------|------|------|------|-------|
| 1.                        |            | -   | -   | -   | -   | -   | -   | -    | -     | -    | -    | -    | -     |
| 2.                        |            | -   | -   | -   | -   | -   | -   | -    | -     | -    | -    | -    | -     |
| 3.                        |            | -   | -   | -   | -   | -   | -   | -    | -     | (30) | 40   | 40   | 60    |
| 4.                        |            | -30 | -30 | -10 | 0   | 0   | 10  | (30) | (40)  | 30   | [60] | 60   | +S    |
| 5.                        |            | 20  | 30  | 10  | 20  | 20  | 30  | 30   | [60]  | 60   | 70   | 80   | 80    |
| 6.                        |            | 10  | 20  | 30  | 30  | 40  | 60  | 60   | -     | 60   | 60   | 60   | 70    |
| 7.                        |            | 10  | 20  | 20  | 10  | 20  | 40  | 40   | (40)  | [30] | 0    | -10  | -10   |
| 8.                        |            | -10 | 0   | 10  | 10  | 20  | 20  | 10   | -10   | 0    | 30   | 30   | 40    |
| 9.                        |            | 20  | 30  | 30  | 20  | 30  | 30  | [40] | -     | 50   | 60   | 60   | 60    |
| 10.                       |            | 70  | 30  | 30  | 40  | 40  | 40  | 60   | (40)  | 30   | 40   | 70   | 80    |
| 11.                       |            | -   | -   | -   | 50  | 0   | -60 | 100  | [100] | 110  | 110  | 110  | 80    |
| 12.                       |            | 20  | 30  | 20  | 10  | 0   | 30  | 40   | 70    | 80   | [80] | -S   | +S    |
| 13.                       |            | 30  | 30  | 20  | 20  | 20  | 20  | 40   | 40    | 40   | 40   | [50] | [40]  |
| 14.                       |            | -10 | -10 | -10 | 0   | 20  | 50  | 50   | 40    | [30] | ±S   | 40   | +S    |
| 15.                       |            | 40  | 40  | 30  | 40  | 40  | 50  | [50] | 60    | 60   | 50   | 40   | 40    |
| 16.                       |            | 20  | 20  | 30  | 30  | 20  | 20  | 30   | -     | 30   | 40   | 40   | 50    |
| 17.                       |            | 30  | 20  | 20  | 20  | 20  | 30  | (30) | (30)  | 50   | 60   | 60   | 60    |
| 18.                       |            | 20  | 20  | 10  | 10  | 10  | 20  | 20   | [30]  | 40   | 50   | 40   | 40    |
| 19.                       |            | 50  | 50  | 50  | 40  | 60  | 80  | 80   | 70    | 70   | [50] | 60   | 40    |
| 20.                       |            | 0   | 0   | -10 | 0   | 10  | 10  | 20   | 30    | [50] | 50   | 40   | 50    |
| 21.                       |            | 10  | 0   | -10 | 10  | 20  | 30  | 30   | [30]  | 50   | 70   | 60   | 60    |
| 22.                       |            | 10  | 0   | 0   | 10  | 0   | 10  | 30   | 20    | 30   | [30] | 40   | 50    |
| 23.                       |            | 10  | 20  | 30  | 40  | 40  | 40  | 30   | -     | 30   | 40   | 40   | 50    |
| 24.                       |            | 20  | 10  | 20  | 30  | -S  | 30  | 20   | -     | 60   | ±S   | 10   | 80    |
| 25.                       |            | ±S  | 80  | 80  | 70  | 30  | 60  | 80   | 90    | [80] | 70   | 60   | 70    |
| 26.                       |            | -10 | -60 | 10  | -10 | 0   | -10 | 10   | 0     | 20   | 0    | [70] | [140] |
| 27.                       |            | 50  | 50  | 50  | 50  | 60  | 70  | 80   | [70]  | [80] | 90   | 90   | 80    |
| 28.                       |            | 20  | 20  | 10  | 20  | 20  | 30  | 40   | 30    | [30] | 50   | 50   | 40    |
| 29.                       |            | -10 | -10 | -10 | -10 | 10  | 0   | 20   | [30]  | 30   | 40   | 40   | 50    |
| 30.                       |            | 10  | 10  | 10  | 10  | 20  | 30  | [30] | [30]  | 30   | 30   | 40   | 40    |
| 31.                       |            | +S  | 30  | 20  | 0   | -10 | 0   | +S   | ±S    | +S   | ±S   | ±S   | ±S    |
| Means                     |            | 16  | 17  | 18  | 20  | 21  | 28  | 42   | 44    | 47   | 50   | 51   | 58    |
| Number<br>of days         |            | 25  | 27  | 27  | 28  | 27  | 28  | 25   | 18    | 27   | 26   | 27   | 25    |

| 12  | 13  | 14 | 15  | 16  | 17  | 18   | 19  | 20  | 21  | 22  | 23  | Daily means |
|-----|-----|----|-----|-----|-----|------|-----|-----|-----|-----|-----|-------------|
| -   | -   | -  | -   | -   | -   | -    | -   | -   | -   | -   | -   | -           |
| -   | -   | -  | -   | -   | -   | -    | -   | -   | -   | -   | -   | -           |
| 40  | +S  | ±S | ±S  | 30  | -10 | -10  | -20 | -30 | -30 | -20 | -20 | -           |
| 70  | ±S  | 0  | -S  | ±S  | 20  | +S   | 70  | 0   | 10  | 20  | 10  | -           |
| 80  | 90  | 80 | 90  | 80  | 70  | 60   | 40  | 40  | 30  | 20  | 10  | 50          |
| 80  | 70  | 70 | 70  | 40  | 50  | 30   | 20  | 20  | 20  | 20  | 20  | 44          |
| 0   | 10  | 10 | -10 | -10 | -10 | 0    | 10  | 0   | -20 | -10 | -10 | 6           |
| 30  | 40  | 50 | 40  | 30  | 30  | 40   | 40  | 30  | 20  | 20  | 10  | 22          |
| 50  | +S  | 40 | 50  | 30  | 40  | 40   | 40  | 50  | 40  | 40  | 50  | 41          |
| 70  | 70  | 80 | 70  | 70  | 40  | 40   | 30  | ±S  | ±S  | +S  | ±S  | -           |
| 70  | 80  | 90 | 80  | +S  | ±S  | ±S   | ±S  | ±S  | ±S  | 10  | -40 | -           |
| 70  | 60  | 50 | 60  | 50  | 40  | 30   | 30  | 40  | 40  | 60  | 40  | -           |
| 20  | 20  | 30 | 10  | 30  | 20  | 0    | -10 | -10 | -20 | -20 | -10 | 19          |
| ±S  | ±S  | 50 | 40  | 50  | 60  | 60   | 50  | 50  | 40  | 40  | 40  | -           |
| 30  | 20  | 20 | 30  | 30  | 30  | 30   | 30  | 20  | 10  | 10  | 0   | 33          |
| 40  | 40  | 30 | 30  | 20  | 20  | 20   | 30  | 20  | 30  | 10  | 30  | 28          |
| 50  | 50  | 50 | 50  | 40  | 60  | 50   | 50  | 40  | 20  | 20  | 20  | -           |
| ±S  | 70  | ±S | 10  | 40  | ±S  | ±S   | 30  | 30  | 30  | 30  | 40  | -           |
| 30  | 30  | 20 | 30  | 30  | 30  | 20   | 20  | 20  | 20  | 10  | 0   | 40          |
| 50  | 40  | 40 | 30  | 20  | 20  | 20   | 10  | -10 | 0   | 10  | 0   | 20          |
| 50  | 40  | 40 | 30  | 30  | 40  | 20   | 10  | 10  | 10  | 10  | 20  | 28          |
| 60  | 60  | 70 | 80  | 80  | 50  | 30   | 20  | 30  | 30  | 20  | 30  | 33          |
| 60  | 60  | 50 | 40  | 40  | 30  | 10   | 10  | 10  | +S  | 0   | 10  | 31          |
| 70  | 70  | 80 | 30  | 10  | 20  | 30   | 40  | 40  | ±S  | ±S  | ±S  | -           |
| 60  | ±S  | ±S | ±S  | ±S  | -80 | -20  | 0   | -30 | -20 | 0   | 10  | -           |
| 160 | 110 | 60 | 70  | 80  | 60  | 60   | 40  | 50  | 50  | 50  | 40  | 41          |
| 80  | 80  | 70 | 60  | 60  | 40  | 40   | 20  | 10  | 10  | 0   | 20  | 55          |
| 30  | 20  | 20 | 30  | 20  | 10  | 10   | 10  | 0   | 0   | 0   | 0   | 21          |
| 50  | 40  | 50 | 60  | 50  | 40  | 20   | 10  | 10  | 10  | 10  | 0   | 22          |
| 60  | 60  | 60 | 60  | 60  | 60  | [70] | -   | -S  | ±S  | -30 | 30  | -           |
| ±S  | ±S  | +S | ±S  | ±S  | ±S  | ±S   | ±S  | 30  | 20  | 30  | 20  | -           |
| 56  | 53  | 48 | 46  | 40  | 30  | 28   | 24  | 18  | 15  | 13  | 14  |             |
| 26  | 23  | 25 | 25  | 25  | 26  | 25   | 26  | 26  | 24  | 27  | 27  |             |

## August

| <u>Hour</u><br>Day | <u>GMT</u> | 0   | 1   | 2    | 3    | 4   | 5   | 6    | 7     | 8     | 9    | 10   | 11  |
|--------------------|------------|-----|-----|------|------|-----|-----|------|-------|-------|------|------|-----|
| 1.                 |            | 30  | 30  | 30   | 20   | 20  | 30  | 60   | [90]  | 90    | 90   | ±S   | ±S  |
| 2.                 |            | 40  | 30  | 40   | 30   | 50  | 50  | 40   | [40]  | 30    | 40   | 30   | 40  |
| 3.                 |            | 40  | 40  | 40   | 30   | 30  | 40  | 30   | [10]  | 30    | 30   | 40   | 40  |
| 4.                 |            | 30  | 10  | 10   | 20   | 20  | 30  | 50   | [10]  | -40   | 10   | 80   | 100 |
| 5.                 |            | 30  | 30  | 20   | 10   | 20  | 20  | [30] | 20    | 30    | 40   | 40   | 40  |
| 6.                 |            | 30  | 20  | 20   | 20   | 20  | 30  | 60   | -     | 30    | 40   | 30   | 40  |
| 7.                 |            | 0   | 10  | 10   | 10   | 10  | 20  | [30] | -     | 40    | 40   | 50   | 70  |
| 8.                 |            | 30  | 20  | 30   | 20   | 30  | 40  | 50   | [40]  | 40    | 60   | 70   | 60  |
| 9.                 |            | 0   | -10 | 20   | 40   | 40  | -10 | -110 | -120  | -70   | -40  | -S   | ±S  |
| 10.                |            | -10 | -10 | -10  | -10  | 0   | 20  | 40   | 50    | 60    | 70   | [70] | 70  |
| 11.                |            | 10  | 20  | 20   | 20   | 30  | 50  | 50   | [40]  | [50]  | 60   | 60   | 50  |
| 12.                |            | 20  | 20  | 20   | 0    | 10  | 20  | 50   | [60]  | 70    | 70   | 70   | 70  |
| 13.                |            | 80  | 30  | 30   | 10   | -10 | -10 | -20  | -10   | 10    | 30   | 30   | 40  |
| 14.                |            | 20  | 20  | 20   | 20   | 40  | 40  | [60] | -     | 50    | 60   | 70   | 80  |
| 15.                |            | 20  | 30  | 30   | 30   | 40  | 80  | 110  | [40]  | 40    | 60   | 50   | 60  |
| 16.                |            | 10  | 10  | 20   | 10   | 20  | 30  | 40   | [40]  | 50    | 50   | 60   | 50  |
| 17.                |            | 20  | 10  | 10   | 30   | 20  | 40  | 60   | [50]  | 50    | 70   | 60   | 70  |
| 18.                |            | -20 | 10  | 10   | 0    | 10  | 20  | 40   | [10]  | 40    | 70   | 40   | 50  |
| 19.                |            | 30  | ±S  | ±S   | ±S   | ±S  | ±S  | 80   | [80]  | 120   | 80   | 40   | 20  |
| 20.                |            | ±S  | 30  | 20   | ±S   | ±S  | ±S  | ±S   | 70    | 120   | 90   | 70   | 70  |
| 21.                |            | -   | -   | -    | -    | -   | -   | 40   | [50]  | 30    | 30   | 40   | 60  |
| 22.                |            | -   | -   | -    | -    | -   | -   | -    | -     | -     | -    | -    | -   |
| 23.                |            | -   | -   | -    | -    | -   | -   | -    | -     | -     | -    | -    | -   |
| 24.                |            | -   | -   | -    | -    | -   | -   | -    | -     | -     | -    | -    | -   |
| 25.                |            | 10  | 10  | 0    | 10   | 10  | 10  | 20   | 30    | [40]  | 40   | 50   | ±S  |
| 26.                |            | 30  | 20  | 20   | 0    | 40  | -80 | [30] | [70]  | 30    | 40   | 40   | 50  |
| 27.                |            | 40  | 40  | 30   | 30   | 20  | 20  | 20   | [20]  | 40    | 60   | 70   | 60  |
| 28.                |            | 30  | 30  | 40   | 50   | 40  | 50  | [40] | -     | 10    | 90   | 90   | 90  |
| 29.                |            | 40  | 30  | 30   | 40   | 40  | 20  | 30   | 40    | [30]  | 30   | 30   | 30  |
| 30.                |            | ±S  | ±S  | ±S   | -100 | -S  | -S  | -170 | [-150 | -100] | -160 | -80  | 0   |
| 31.                |            | -30 | -50 | -100 | -20  | -40 | 0   | 50   | [70]  | 80    | 60   | 40   | 40  |
| Means              |            | 21  | 17  | 16   | 13   | 21  | 23  | 30   | 27    | 36    | 43   | 48   | 54  |
| Number<br>of days  |            | 25  | 25  | 25   | 25   | 24  | 24  | 27   | 24    | 28    | 28   | 26   | 25  |

| 12 | 13 | 14 | 15 | 16  | 17  | 18 | 19 | 20 | 21  | 22  | 23 | Daily means |
|----|----|----|----|-----|-----|----|----|----|-----|-----|----|-------------|
| ±S | ±S | 40 | 60 | 50  | 50  | 40 | 30 | 40 | 30  | 30  | 30 | -           |
| 30 | 40 | 40 | 40 | 30  | 30  | 40 | 40 | 50 | 40  | 40  | 50 | 39          |
| 30 | 30 | 40 | 30 | 40  | 40  | 50 | 50 | 40 | +S  | +S  | 30 | -           |
| 80 | 70 | 60 | 70 | 40  | 30  | 30 | 30 | 40 | 20  | 30  | 20 | 35          |
| 40 | 50 | 40 | 30 | 30  | 30  | 40 | 30 | 30 | 30  | 20  | 30 | 30          |
| 50 | 40 | 40 | 30 | -10 | -10 | 10 | 10 | 0  | 10  | 0   | 0  | 22          |
| 80 | 70 | 80 | 60 | 40  | 30  | 20 | 40 | 20 | 30  | 30  | 30 | 36          |
| 50 | 60 | 80 | -S | ±S  | ±S  | ±S | ±S | ±S | -10 | -40 | 0  | -           |
| 20 | +S | +S | 80 | 40  | 30  | 20 | 20 | 20 | 20  | 0   | 0  | -           |
| 70 | 60 | 70 | 50 | 30  | 40  | 30 | 20 | 30 | 30  | 20  | 10 | 33          |
| 60 | 60 | 50 | 50 | -S  | ±S  | ±S | -S | 50 | 20  | 20  | 20 | -           |
| 80 | 70 | 70 | 40 | 40  | 40  | 40 | 50 | 40 | 10  | 30  | 70 | 44          |
| 70 | 60 | 50 | 60 | 30  | 40  | 30 | 30 | 30 | 30  | 20  | 30 | 29          |
| 80 | 90 | 80 | 70 | 80  | 50  | 40 | 50 | 40 | 40  | 40  | 30 | 51          |
| 60 | 70 | 70 | 60 | 50  | 40  | 30 | 30 | 30 | 30  | 20  | 10 | 45          |
| 40 | 40 | 40 | 40 | 30  | 40  | 30 | 40 | 20 | 20  | 20  | 20 | 32          |
| 80 | 80 | 70 | 80 | 70  | 50  | 40 | 40 | 40 | 30  | 30  | 20 | 47          |
| 70 | 70 | 80 | 80 | 70  | 40  | 30 | 40 | 30 | +S  | ±S  | ±S | -           |
| 40 | 30 | 70 | ±S | ±S  | ±S  | ±S | ±S | ±S | +S  | 0   | ±S | -           |
| 60 | 80 | -  | -  | -   | -   | -  | -  | -  | -   | -   | -  | -           |
| 70 | 70 | 70 | 70 | 40  | 40  | 40 | 40 | 40 | -   | -   | -  | -           |
| -  | -  | -  | -  | -   | -   | -  | -  | -  | -   | -   | -  | -           |
| -  | -  | -  | -  | -   | -   | -  | -  | -  | -   | -   | -  | -           |
| 10 | 10 | 10 | 20 | 30  | 20  | 30 | 10 | 20 | 30  | 30  | 20 | -           |
| -S | 40 | 40 | 40 | 20  | 10  | 30 | 40 | 40 | 40  | 40  | 40 | 28          |
| 30 | 30 | 30 | 40 | 40  | 40  | 40 | 50 | 50 | 50  | 50  | 50 | 33          |
| 60 | 60 | 60 | 60 | 50  | 50  | +S | ±S | ±S | +S  | 30  | 30 | -           |
| 80 | 70 | 60 | 60 | 60  | 60  | 60 | 60 | 60 | 40  | 40  | 50 | 55          |
| 30 | 40 | 30 | 20 | 10  | 30  | 30 | 20 | 30 | 30  | 40  | 30 | 30          |
| 0  | 20 | 20 | 0  | 0   | -50 | +S | ±S | ±S | -60 | -20 | 0  | -           |
| 40 | 40 | 50 | 40 | 40  | 50  | 40 | 30 | 30 | 30  | 30  | 40 | 23          |
| 52 | 54 | 53 | 49 | 38  | 33  | 34 | 35 | 34 | 23  | 22  | 26 |             |
| 27 | 27 | 27 | 26 | 25  | 25  | 23 | 23 | 24 | 23  | 25  | 25 |             |

## September

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1  | 2   | 3   | 4  | 5   | 6    | 7    | 8    | 9    | 10   | 11   |
|---------------------------|------------|-----|----|-----|-----|----|-----|------|------|------|------|------|------|
| 1.                        |            | 30  | 40 | 40  | 40  | 40 | 60  | [90] | [90] | 90   | 90   | 70   | 70   |
| 2.                        |            | 40  | 40 | 30  | 30  | 40 | 40  | 50   | 50   | 50   | 60   | 50   | [60] |
| 3.                        |            | 40  | 20 | 0   | -10 | ±S | +S  | +S   | -80  | -120 | -    | +S   | +S   |
| 4.                        |            | 30  | 40 | 40  | 40  | 40 | 50  | [60] | -    | 20   | 0    | 10   | 10   |
| 5.                        |            | -70 | ±S | -70 | ±S  | ±S | 20  | 50   | 70   | [80] | 70   | 80   | 20   |
| 6.                        |            | 40  | 30 | 30  | 30  | 30 | 40  | 50   | 60   | [60] | 60   | 50   | 40   |
| 7.                        |            | 40  | 30 | 30  | 30  | 30 | 30  | 70   | 70   | [60] | [80] | 80   | 70   |
| 8.                        |            | 20  | 10 | 10  | 10  | 20 | 30  | 40   | 50   | 50   | 40   | [60] | 50   |
| 9.                        |            | 20  | 20 | 20  | 20  | 20 | 30  | 40   | 30   | 20   | 30   | [30] | 40   |
| 10.                       |            | 20  | 30 | 30  | 30  | 20 | 30  | 50   | -    | 50   | 50   | 50   | 70   |
| 11.                       |            | 10  | 10 | 20  | 20  | 20 | 30  | 50   | -    | 50   | 60   | 70   | 70   |
| 12.                       |            | 10  | ±S | +S  | 30  | 50 | 50  | 50   | 50   | [40] | 70   | 40   | 30   |
| 13.                       |            | 30  | 20 | 20  | 20  | 30 | 40  | 30   | 30   | 20   | [30] | 40   | 40   |
| 14.                       |            | 10  | 10 | 20  | 30  | 30 | 30  | 50   | 60   | [50] | 50   | 50   | 50   |
| 15.                       |            | 40  | 40 | 30  | 30  | 30 | 30  | [40] | 40   | 40   | 40   | 50   | 40   |
| 16.                       |            | 20  | 0  | -30 | -30 | 0  | -10 | -30  | [40] | 60   | 60   | 60   | 50   |
| 17.                       |            | 30  | 20 | 30  | 30  | 20 | 30  | 40   | -    | 40   | 50   | 40   | 50   |
| 18.                       |            | 50  | 50 | 40  | 50  | 40 | 60  | (80) | (70) | 70   | 60   | 70   | 70   |
| 19.                       |            | 30  | 20 | 20  | 30  | 40 | 30  | 30   | 20   | 40   | 30   | 40   | 50   |
| 20.                       |            | 10  | 30 | 20  | 30  | 30 | 50  | [60] | 40   | 50   | 60   | 60   | 50   |
| 21.                       |            | 30  | 30 | 30  | 30  | 30 | 30  | [60] | [70] | 80   | 40   | 40   | 30   |
| 22.                       |            | 30  | 30 | 30  | 30  | 20 | 30  | 20   | 20   | 30   | 30   | 50   | 40   |
| 23.                       |            | 30  | 30 | 30  | 40  | 40 | 40  | [30] | 30   | 40   | 40   | 40   | 40   |
| 24.                       |            | 20  | 10 | 20  | 20  | 30 | 30  | 40   | 50   | -    | [40] | 50   | 50   |
| 25.                       |            | 30  | 40 | 40  | 30  | 40 | 40  | 50   | 50   | [40] | [50] | 50   | 60   |
| 26.                       |            | 50  | 40 | 50  | 50  | 50 | 40  | 60   | 80   | [70] | 50   | 50   | 60   |
| 27.                       |            | 20  | 20 | 10  | 10  | 20 | 40  | 40   | 40   | 10   | [0]  | 0    | 0    |
| 28.                       |            | -S  | 20 | 10  | 10  | 20 | 10  | -20  | 0    | 40   | 50   | [50] | 50   |
| 29.                       |            | 20  | 10 | 10  | 20  | ±S | +S  | 20   | 20   | 20   | 20   | 40   | [40] |
| 30.                       |            | 50  | 50 | 50  | 50  | 60 | 60  | 70   | 60   | 70   | [80] | 80   | 70   |
| 31.                       |            |     |    |     |     |    |     |      |      |      |      |      |      |
| Means                     |            | 25  | 26 | 21  | 26  | 31 | 35  | 43   | 42   | 42   | 48   | 50   | 47   |
| Number<br>of days         |            | 29  | 28 | 29  | 29  | 27 | 28  | 28   | 25   | 29   | 29   | 29   | 29   |

| 12  | 13  | 14  | 15   | 16   | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-------------|
| 80  | 80  | 70  | 70   | 60   | 50  | 40  | 50  | 50  | 40  | 40  | 40  | 59          |
| 60  | 70  | 70  | 80   | 70   | 60  | 80  | 50  | 60  | 40  | 50  | 50  | 53          |
| +S  | -40 | -10 | -110 | -100 | -60 | 20  | 50  | 50  | 40  | 40  | 40  | -           |
| 10  | 10  | 20  | 10   | -10  | 0   | -10 | -10 | -10 | 10  | -10 | -70 | 12          |
| 20  | 30  | 30  | 40   | 60   | 60  | 50  | 60  | 50  | 50  | 60  | 40  | -           |
| 40  | 50  | 40  | 40   | 50   | 40  | 30  | 30  | 40  | 40  | 40  | 40  | 42          |
| 70  | 70  | 70  | 60   | 60   | 50  | 30  | 30  | 20  | 20  | 20  | 10  | 47          |
| 50  | 40  | 30  | 30   | 30   | 20  | 30  | 20  | 20  | 20  | 20  | 20  | 30          |
| 30  | 30  | 40  | 40   | 40   | 40  | 40  | 40  | 50  | 60  | 40  | 30  | 33          |
| 70  | 70  | 80  | 60   | 50   | 40  | 50  | 40  | 30  | 30  | 20  | 10  | 43          |
| 70  | 70  | 70  | 50   | 50   | 40  | 40  | 40  | 30  | 30  | 30  | 30  | 42          |
| 20  | 30  | 50  | 0    | 50   | 50  | 50  | 40  | 40  | 30  | 30  | 30  | -           |
| 40  | 30  | 30  | 30   | 20   | 30  | 40  | 40  | 50  | -   | 30  | 20  | 31          |
| 40  | 40  | 40  | 30   | 30   | 30  | 40  | 40  | 50  | 40  | 40  | 40  | 38          |
| 40  | 40  | 30  | 30   | 30   | 30  | 30  | 20  | -10 | 0   | 20  | 30  | 31          |
| 60  | 50  | 50  | 50   | 40   | 50  | 40  | 40  | 40  | 50  | 40  | 40  | 31          |
| 50  | 50  | 40  | 40   | 40   | 30  | 30  | 20  | 30  | 30  | 40  | 40  | 36          |
| 70  | 80  | 70  | 50   | 40   | 30  | 30  | 20  | 30  | 40  | 30  | 20  | -           |
| 70  | 70  | 50  | 50   | 40   | 10  | 0   | 0   | 10  | 10  | 0   | 0   | 29          |
| 70  | 70  | 60  | 70   | 60   | 60  | 60  | 50  | 50  | 40  | 40  | 30  | 48          |
| 40  | 40  | 20  | 0    | 10   | 30  | 30  | 30  | 30  | 30  | 40  | 30  | 35          |
| 40  | 50  | 50  | 50   | 50   | 40  | 40  | 40  | 40  | 40  | 40  | 30  | 36          |
| 40  | 50  | 40  | 40   | 40   | 40  | 30  | 20  | 30  | 30  | 20  | 20  | 35          |
| 60  | 60  | 50  | 40   | 30   | 20  | 30  | 30  | 30  | 40  | 40  | 30  | 36          |
| 70  | 70  | 70  | 60   | 40   | 50  | 60  | 50  | 50  | 40  | 50  | 60  | 50          |
| 70  | 70  | 60  | 70   | 50   | 40  | 50  | 50  | 50  | 40  | 40  | 40  | 53          |
| -10 | -10 | 20  | ±S   | ±S   | +S  | 0   | ±S  | -S  | -20 | ±S  | -S  | -           |
| 40  | 20  | 20  | 20   | 40   | 40  | 20  | 40  | 40  | 20  | 0   | 10  | 24          |
| 50  | 20  | -10 | 50   | 50   | 50  | 60  | 60  | 60  | 60  | 60  | 60  | -           |
| 70  | -   | -   | -    | -    | -   | -   | -   | -   | -   | -   | -   | -           |
| 49  | 45  | 43  | 38   | 36   | 35  | 36  | 35  | 36  | 32  | 33  | 28  |             |
| 29  | 29  | 29  | 28   | 28   | 28  | 29  | 28  | 28  | 28  | 28  | 28  |             |

October

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0  | 1  | 2   | 3   | 4   | 5   | 6    | 7     | 8    | 9   | 10    | 11    |
|---------------------------|------------|----|----|-----|-----|-----|-----|------|-------|------|-----|-------|-------|
| 1.                        | -          | -  | -  | -   | -   | -   | -   | -    | -     | -    | -   | 80    | 90    |
| 2.                        | 40         | 50 | 50 | 50  | 40  | 40  | 60  | [50] | -     | [30] | 30  | 40    | 40    |
| 3.                        | 0          | 10 | 20 | 30  | 30  | 20  | ±S  | ±S   | [+S]  | 50   | 70  | 60    | 60    |
| 4.                        | 70         | 80 | 70 | 70  | 90  | 110 | 100 | 120  | [120] | 100  | 80  | 70    | 70    |
| 5.                        | 70         | 60 | 70 | 70  | 70  | 80  | 120 | 100  | [90]  | 90   | 80  | 70    | 70    |
| 6.                        | 40         | 40 | 40 | 50  | 40  | 40  | 60  | 70   | [70]  | 70   | 70  | 70    | 70    |
| 7.                        | 30         | 10 | 20 | 30  | 30  | 30  | 30  | [40] | [40]  | 40   | 40  | 30    | 30    |
| 8.                        | 30         | 30 | 30 | 40  | 40  | 40  | 50  | 70   | 60    | 80   | 70  | (80)  | 80    |
| 9.                        | 20         | 20 | 20 | 30  | 20  | 10  | 10  | [20] | (40)  | 40   | 40  | 30    | 30    |
| 10.                       | 30         | 20 | 20 | 30  | 40  | 30  | 30  | 20   | [40]  | 50   | 50  | 60    | 60    |
| 11.                       | 40         | 40 | 40 | 40  | 40  | 40  | 60  | [50] | [50]  | 40   | 40  | 40    | 40    |
| 12.                       | 30         | 30 | 30 | 20  | 30  | 10  | 10  | -20  | [10]  | 30   | 40  | 60    | 60    |
| 13.                       | 50         | 40 | 40 | 30  | 40  | 50  | 50  | [60] | [70]  | 60   | 70  | 60    | 60    |
| 14.                       | 40         | 40 | 40 | 30  | 30  | 40  | 80  | 120  | [90]  | 70   | 60  | 60    | 60    |
| 15.                       | +S         | ±S | ±S | 0   | -   | -   | -   | -    | -     | -    | -   | -     | [30]  |
| 16.                       | 40         | 40 | 40 | 40  | 40  | 40  | 40  | [40] | [50]  | 70   | 80  | 70    | 70    |
| 17.                       | 40         | 40 | 40 | 30  | 30  | 40  | 50  | [70] | 70    | 40   | 50  | 50    | 50    |
| 18.                       | 50         | 40 | 30 | 30  | 30  | 40  | 60  | [80] | 70    | 40   | 50  | 60    | 60    |
| 19.                       | 30         | 30 | 20 | 70  | 60  | 80  | 100 | 100  | [80]  | 40   | 40  | 50    | 50    |
| 20.                       | 30         | 10 | 20 | -10 | -10 | -20 | 30  | 30   | [-10] | -20  | 10  | 40    | 40    |
| 21.                       | 80         | 70 | 50 | 60  | 50  | 40  | 40  | 50   | [60]  | 50   | 50  | 60    | 60    |
| 22.                       | 30         | 20 | 60 | 60  | 60  | 50  | 80  | 80   | 90    | 90   | -   | 80    | 80    |
| 23.                       | 0          | 10 | 10 | 20  | 30  | 20  | 30  | 30   | (10)  | (40) | 40  | 40    | 40    |
| 24.                       | 20         | 0  | 10 | 10  | 10  | 10  | 20  | 40   | [70]  | 70   | 60  | 60    | 60    |
| 25.                       | 20         | 10 | 10 | 10  | 20  | 20  | 30  | [40] | 70    | 50   | 60  | 60    | 60    |
| 26.                       | 50         | 60 | 70 | 70  | 80  | 80  | 80  | (80) | (100) | 100  | 100 | 90    | 90    |
| 27.                       | 40         | 70 | 70 | 70  | 140 | 70  | 40  | [80] | [+S]  | 180  | 160 | 130   | 130   |
| 28.                       | -10        | 10 | 0  | -20 | -20 | -80 | -60 | -50  | -30   | -30  | -20 | [-10] | [-10] |
| 29.                       | 20         | 20 | 30 | 30  | 40  | 30  | 30  | 30   | 40    | 30   | 10  | -     | -     |
| 30.                       | 40         | 40 | 40 | 40  | 50  | 40  | 50  | [30] | (30)  | 60   | 80  | 80    | 80    |
| 31.                       | 20         | 10 | 10 | +S  | 20  | 30  | 30  | 40   | 40    | 50   | 40  | [20]  | [20]  |
| Means                     |            | 34 | 33 | 34  | 36  | 40  | 36  | 47   | 51    | 56   | 56  | 56    | 57    |
| Number<br>of days         |            | 29 | 29 | 29  | 29  | 29  | 29  | 28   | 27    | 22   | 28  | 29    | 29    |



| 12    | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 90    | 80  | 70  | 60  | 60  | 50  | 60  | 50  | 50  | 50  | 40  | 40  | -           |
| 30    | 30  | 20  | 30  | 40  | 50  | 60  | 50  | 40  | 20  | -10 | -10 | 36          |
| 60    | 50  | 40  | 40  | 50  | 70  | 80  | 70  | 70  | 70  | 60  | 60  | -           |
| 70    | 90  | 80  | 70  | 60  | 70  | 90  | 90  | 90  | 80  | 80  | 60  | 84          |
| 60    | 80  | 70  | 90  | 70  | 60  | 80  | 80  | 70  | 50  | 40  | 40  | 73          |
| 60    | 60  | 30  | 30  | 20  | 10  | 10  | 20  | 30  | 40  | -40 | 30  | 40          |
| 30    | 30  | 20  | 40  | 40  | 50  | 40  | 60  | 40  | 40  | 20  | 30  | 34          |
| 80    | 90  | 90  | 90  | 90  | 80  | 50  | 30  | 30  | 40  | 30  | 20  | 55          |
| 60    | 60  | 60  | 50  | 40  | 50  | 40  | 50  | 40  | 40  | 40  | 30  | 36          |
| 70    | 60  | 60  | 80  | 70  | 60  | 50  | 40  | 50  | 60  | 60  | 50  | 47          |
| 50    | 40  | 0   | 0   | -50 | -40 | 20  | 20  | 20  | 20  | 30  | 20  | 27          |
| 80    | 80  | 70  | 80  | 70  | 80  | 60  | 50  | 60  | 60  | 50  | 40  | 44          |
| 60    | 50  | 50  | 40  | 10  | 20  | 40  | 40  | 40  | 40  | 40  | 40  | 45          |
| 60    | 60  | 50  | 40  | 40  | 50  | 40  | 20  | 10  | 30  | 40  | 40  | 49          |
| 30    | 30  | ±S  | ±S  | 40  | 50  | 60  | 60  | 60  | 60  | 60  | 50  | -           |
| 80    | 90  | 90  | 90  | 80  | 80  | 70  | 70  | 50  | 40  | 30  | 40  | 58          |
| 70    | 80  | 80  | 60  | 60  | 80  | 80  | 70  | 50  | 50  | 40  | 40  | 55          |
| 60    | 90  | 80  | 70  | 60  | 50  | 40  | 60  | 50  | 40  | 30  | 30  | 52          |
| 70    | 60  | 50  | 40  | 30  | 10  | 20  | 10  | 10  | 30  | 30  | 20  | 45          |
| 50    | 60  | 60  | 50  | 60  | 70  | 70  | 80  | 70  | 40  | 60  | 80  | 35          |
| 50    | 60  | 60  | 60  | 50  | 60  | 70  | 80  | 70  | 50  | 40  | 50  | 57          |
| 70    | 70  | 70  | 70  | 50  | 50  | 70  | 30  | 10  | -10 | -10 | -10 | 54          |
| 50    | 50  | 40  | 40  | 40  | 40  | 30  | 70  | 50  | 40  | 30  | 10  | -           |
| 70    | 70  | 60  | 50  | 60  | 60  | 70  | 40  | 30  | 30  | 20  | 10  | 40          |
| 60    | 70  | 60  | 40  | 50  | 60  | 80  | 70  | 70  | 70  | 70  | 50  | 48          |
| 90    | 90  | 90  | 80  | 100 | 80  | 70  | 80  | 90  | 80  | 70  | 70  | -           |
| 80    | 70  | 60  | 60  | 50  | 50  | 50  | 30  | 30  | 20  | 0   | -20 | 67          |
| [-30] | -20 | -40 | -70 | -60 | -50 | -40 | -30 | -90 | -30 | -10 | 10  | -33         |
| 20    | 20  | 20  | 20  | 40  | 50  | 50  | 70  | 80  | 70  | 50  | 40  | 37          |
| 70    | 60  | 50  | 60  | 40  | +S  | -S  | -S  | 50  | 30  | 10  | 30  | -           |
| 20    | ±S  | -S  | -10 | 20  | -20 | -30 | -20 | -20 | 0   | 10  | 20  | -           |
| 57    | 60  | 53  | 48  | 45  | 46  | 49  | 48  | 42  | 40  | 33  | 33  |             |
| 31    | 30  | 29  | 30  | 31  | 30  | 30  | 30  | 31  | 31  | 31  | 31  |             |

## November

| <u>Hour</u><br><u>Day</u> | <u>GMT</u> | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9     | 10    | 11   |
|---------------------------|------------|-----|-----|-----|-----|-----|-----|-----|------|------|-------|-------|------|
| 1.                        |            | -10 | ±S  | ±S  | 60  | 50  | 50  | 60  | 60   | 40   | (60)  | [70]  | 60   |
| 2.                        |            | 30  | 40  | 30  | 60  | 40  | 50  | 60  | 90   | 70   | [80]  | 70    | 60   |
| 3.                        |            | 40  | 40  | 40  | 40  | 60  | 60  | 60  | 60   | 40   | 10    | [20]  | 30   |
| 4.                        |            | 0   | -10 | 10  | -10 | 0   | 0   | 0   | 0    | [0]  | 10    | 10    | 10   |
| 5.                        |            | 20  | 30  | 30  | 30  | 40  | 40  | -   | 40   | 50   | 50    | 50    | 50   |
| 6.                        |            | 70  | 60  | 50  | 50  | 60  | 50  | 30  | 20   | -    | [90]  | 30    | -40  |
| 7.                        |            | -S  | 0   | 0   | 30  | 40  | 30  | 30  | 60   | 70   | [60]  | 60    | 40   |
| 8.                        |            | 20  | 20  | 20  | 20  | 10  | -10 | 0   | 10   | (10) | 0     | [20]  | 30   |
| 9.                        |            | 0   | 40  | 40  | 40  | 60  | 40  | 30  | 70   | 70   | 70    | [60]  | 60   |
| 10.                       |            | 20  | 20  | 20  | 20  | 30  | 40  | 60  | 70   | [90] | 90    | 100   | 110  |
| 11.                       |            | 30  | 20  | 30  | 30  | 20  | 30  | 80  | [80] | [90] | 90    | 100   | 110  |
| 12.                       |            | 60  | 80  | 30  | 20  | 20  | 30  | 30  | -    | -    | -     | -     | -    |
| 13.                       |            | -   | -   | -   | -   | -   | -   | -   | -    | -    | -     | 40    | 70   |
| 14.                       |            | 80  | 80  | 60  | 80  | 70  | 70  | 90  | 120  | 100  | (100) | 80    | 110  |
| 15.                       |            | 80  | 80  | 70  | 70  | 90  | 80  | 80  | 70   | 80   | 20    | [-10] | 20   |
| 16.                       |            | 10  | 20  | 20  | 40  | 50  | 40  | 50  | 50   | 60   | 70    | 50    | [50] |
| 17.                       |            | 70  | 60  | 50  | 50  | 60  | 50  | 40  | 60   | 80   | 80    | [70]  | 50   |
| 18.                       |            | 0   | 10  | 10  | 0   | 10  | -10 | -30 | -10  | 30   | 40    | 50    | 50   |
| 19.                       |            | 0   | 0   | 0   | 0   | 30  | 20  | 20  | -    | -    | -     | -     | 50   |
| 20.                       |            | -40 | -30 | -50 | -30 | -20 | 0   | 0   | 0    | (0)  | -30   | -30   | -30  |
| 21.                       |            | 0   | -20 | 40  | 40  | 40  | 30  | 30  | -50  | 70   | 70    | [50]  | 70   |
| 22.                       |            | 70  | 50  | 60  | 60  | 40  | 30  | 30  | -10  | -20  | -20   | [-30] | 50   |
| 23.                       |            | 20  | 30  | 30  | 30  | 30  | 20  | 20  | 30   | 60   | 50    | [50]  | 50   |
| 24.                       |            | 40  | 40  | 40  | 40  | 40  | 40  | 50  | 50   | 50   | 60    | [50]  | 60   |
| 25.                       |            | 80  | 70  | 30  | 40  | 20  | 0   | 0   | 0    | 40   | 60    | [60]  | 40   |
| 26.                       |            | 50  | 50  | 50  | 50  | 50  | 50  | 40  | 40   | 40   | 50    | [50]  | -    |
| 27.                       |            | 10  | 10  | 10  | 10  | +S  | 30  | 40  | [40] | (40) | 30    | 60    | 40   |
| 28.                       |            | 30  | 20  | 30  | 40  | 60  | +S  | ±S  | -    | -    | -     | -     | 40   |
| 29.                       |            | 50  | 60  | 50  | 100 | 110 | 80  | 70  | 120  | 130  | 110   | [110] | 100  |
| 30.                       |            | 40  | 40  | 40  | 50  | 60  | 70  | 90  | 110  | 120  | 110   | [100] | 100  |
| 31.                       |            |     |     |     |     |     |     |     |      |      |       |       |      |
| Means                     |            | 31  | 33  | 30  | 37  | 42  | 36  | 39  | 45   | 62   | 52    | 50    | 51   |
| Number<br>of days         |            | 28  | 28  | 28  | 29  | 28  | 28  | 27  | 26   | 22   | 24    | 27    | 28   |

| 12  | 13  | 14   | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | Daily means |
|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 60  | 50  | 40   | 30  | 30  | 20  | 10  | 10  | 30  | 10  | 30  | 40  | -           |
| 50  | 40  | 40   | 80  | 80  | 80  | 80  | 70  | 70  | 80  | 60  | 40  | 60          |
| 20  | 30  | 40   | 20  | 10  | 10  | 10  | 10  | 0   | 0   | 0   | 10  | 28          |
| 20  | 40  | 30   | 10  | -20 | 20  | 10  | 30  | 20  | 20  | 10  | 10  | 9           |
| 40  | 50  | 60   | 60  | 70  | 80  | 60  | 40  | 70  | 80  | 70  | 70  | 51          |
| 20  | 20  | 30   | 30  | 30  | -10 | -50 | +5  | -50 | +5  | -10 | 0   | -           |
| 40  | 40  | 40   | 40  | 30  | 40  | 40  | 40  | 30  | 40  | 30  | 10  | 37          |
| 30  | 30  | -10  | 30  | 60  | 30  | 30  | 20  | 10  | 0   | -10 | 30  | 17          |
| 40  | 40  | 40   | 90  | 100 | 80  | 70  | 60  | 40  | 40  | 30  | 30  | 52          |
| 110 | 90  | 100  | 80  | 140 | 110 | 80  | 40  | 40  | 40  | 40  | 30  | 65          |
| 120 | 150 | 120  | 140 | 110 | 90  | 90  | 150 | 150 | 100 | 40  | 90  | 85          |
| -   | -   | -    | -   | -   | -   | -   | -   | -   | -   | -   | -   | -           |
| 60  | 70  | 80   | 80  | 90  | 60  | 90  | 80  | 90  | 80  | 90  | 100 | -           |
| 110 | 80  | 90   | 90  | 90  | 80  | 100 | 90  | 70  | 80  | 60  | 80  | 85          |
| 30  | 30  | 40   | 40  | 50  | 40  | 40  | 10  | 10  | 20  | 10  | 0   | 44          |
| 50  | 60  | 50   | 70  | 70  | 70  | 90  | 110 | 90  | 80  | 70  | 80  | 58          |
| 50  | 50  | 40   | 30  | 40  | 40  | 40  | 20  | 20  | 10  | 0   | 20  | 45          |
| 50  | 50  | [50] | 50  | 50  | 40  | 30  | 30  | 50  | 40  | 20  | 0   | 25          |
| 60  | 40  | 40   | 30  | 10  | -20 | -10 | -20 | -10 | -30 | -20 | -20 | -           |
| -50 | -50 | -30  | 0   | 10  | -10 | 0   | 0   | -30 | -10 | 0   | 0   | -19         |
| 90  | 100 | 90   | 110 | 110 | 110 | 110 | 50  | 70  | 50  | -10 | 30  | 53          |
| 70  | 110 | 80   | 70  | 40  | 10  | 0   | 0   | 0   | 0   | -10 | -10 | 28          |
| 60  | 60  | 60   | 50  | 60  | 80  | 80  | 60  | 50  | 50  | 50  | 50  | 47          |
| 60  | 70  | 70   | 60  | 70  | 70  | 70  | 70  | 110 | 100 | 110 | 100 | 63          |
| 40  | 70  | 50   | 60  | 60  | 60  | 50  | 60  | 60  | 60  | 50  | 50  | 46          |
| 50  | 40  | 30   | 30  | +S  | ±S  | +S  | 40  | -30 | 0   | 0   | 10  | -           |
| 50  | 70  | 70   | 80  | 110 | 120 | 100 | 80  | 110 | 90  | 80  | 60  | -           |
| 70  | 60  | 50   | 50  | 70  | 90  | 120 | 110 | 90  | 110 | 100 | 70  | -           |
| 90  | 70  | 40   | 40  | 110 | 120 | 100 | 80  | 60  | 50  | 50  | 40  | 81          |
| 110 | 110 | 90   | 100 | 110 | 80  | 70  | 80  | 70  | 60  | 40  | 50  | 79          |
| 55  | 58  | 52   | 57  | 64  | 57  | 54  | 51  | 44  | 45  | 34  | 37  |             |
| 29  | 29  | 29   | 29  | 28  | 28  | 28  | 28  | 29  | 28  | 29  | 29  |             |

## December

| Hour<br>Day       | GMT | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7    | 8    | 9    | 10    | 11    |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------|-------|
| 1.                |     | 40  | 30  | 50  | 40  | 60  | 80  | 80  | 110  | 130  | 140  | [140] | 140   |
| 2.                |     | 50  | 80  | 70  | 50  | 70  | 70  | 60  | 70   | 110  | 100  | [130] | 120   |
| 3.                |     | 60  | 60  | 70  | 60  | 50  | 60  | 70  | 80   | 80   | 80   | -     | 100   |
| 4.                |     | 130 | 80  | 60  | 90  | 70  | 70  | 80  | 70   | [40] | 40   | 40    | 50    |
| 5.                |     | 110 | 40  | 30  | 20  | 30  | 30  | 30  | 10   | 30   | 50   | [60]  | 50    |
| 6.                |     | 30  | 20  | 30  | 30  | 20  | 30  | 40  | 40   | 40   | 30   | [10]  | -10   |
| 7.                |     | 10  | 0   | 10  | 0   | 0   | -10 | 10  | 30   | 40   | 40   | -     | 50    |
| 8.                |     | 20  | 20  | 30  | 30  | 40  | 50  | 60  | 30   | 40   | 50   | [50]  | 30    |
| 9.                |     | 50  | 40  | -10 | 20  | 40  | 60  | 80  | 70   | 40   | [60] | 60    | 60    |
| 10.               |     | 50  | 50  | 50  | 50  | 50  | 50  | 60  | 70   | 80   | -    | 70    | 80    |
| 11.               |     | 30  | 40  | 30  | 10  | 10  | 0   | 30  | 70   | 60   | 60   | -     | 80    |
| 12.               |     | 90  | 80  | 100 | 70  | 40  | 50  | 50  | 60   | 80   | 70   | [70]  | 80    |
| 13.               |     | 70  | 50  | 10  | 50  | 70  | 90  | 120 | 100  | 90   | 130  | [160] | [120] |
| 14.               |     | 30  | 40  | 40  | 50  | 40  | 40  | 50  | 60   | 60   | 60   | [70]  | 60    |
| 15.               |     | 20  | 10  | 10  | 10  | 20  | 30  | 40  | 40   | 50   | 40   | [40]  | 40    |
| 16.               |     | 70  | 50  | 60  | 80  | 40  | 40  | 40  | 40   | 60   | 70   | [60]  | 50    |
| 17.               |     | -20 | 20  | 30  | 30  | 30  | 30  | 20  | 10   | 20   | -    | -     | 40    |
| 18.               |     | ±5  | ±5  | 0   | 20  | 10  | 20  | 20  | [30] | -    | 50   | 0     | -20   |
| 19.               |     | 0   | 10  | 10  | 20  | 20  | 30  | 40  | 40   | 60   | 50   | [50]  | 30    |
| 20.               |     | 10  | 20  | 20  | 20  | 30  | 30  | 40  | 30   | 50   | 40   | 50    | [50]  |
| 21.               |     | 30  | 40  | 40  | 40  | 40  | 50  | 50  | 60   | 50   | 80   | [80]  | 80    |
| 22.               |     | 90  | 80  | 40  | 60  | 100 | 160 | 190 | 190  | 180  | 180  | [90]  | 80    |
| 23.               |     | 60  | 30  | 0   | 0   | 10  | 30  | 40  | 40   | [40] | 40   | 30    | 40    |
| 24.               |     | 40  | 40  | 30  | 20  | -60 | 20  | 50  | 50   | ±5   | 50   | 10    | -     |
| 25.               |     | 40  | 70  | 50  | 50  | 70  | 80  | 70  | 90   | 100  | [90] | 90    | 90    |
| 26.               |     | 30  | 20  | 0   | 0   | 20  | 10  | 10  | 20   | 20   | 30   | [20]  | 10    |
| 27.               |     | 10  | 10  | 10  | 0   | 10  | 0   | -10 | -10  | -20  | -10  | 0     | [-20] |
| 28.               |     | -10 | -10 | 0   | 10  | 20  | 10  | 0   | 0    | -10  | -10  | 0     | [30]  |
| 29.               |     | 80  | 70  | 60  | 80  | 70  | 70  | 70  | 80   | 80   | 60   | [80]  | 70    |
| 30.               |     | -10 | 0   | 10  | 10  | 30  | 30  | 40  | 30   | 30   | 30   | [30]  | 50    |
| 31.               |     | -10 | -10 | -10 | -10 | -10 | -30 | -30 | -50  | -40  | -30  | -     | -30   |
| Means             |     | 41  | 36  | 30  | 33  | 34  | 41  | 48  | 50   | 55   | 58   | 57    | 53    |
| Number<br>of days |     | 30  | 30  | 31  | 31  | 31  | 31  | 31  | 31   | 29   | 29   | 26    | 30    |

| 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20   | 21  | 22  | 23  | Daily means |
|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-------------|
| 150 | +5  | 170 | 170 | 150 | 140 | 140 | 150 | 130  | 120 | 80  | 100 | 110         |
| 110 | 120 | 120 | 120 | 180 | 160 | 150 | 150 | 130  | 120 | 70  | 60  | 105         |
| 110 | 120 | 130 | 140 | 110 | 140 | 130 | 120 | 150  | 120 | 120 | 120 | 99          |
| 70  | 70  | 20  | 50  | 60  | 110 | 130 | 70  | 120  | 140 | 120 | 120 | 79          |
| 70  | 60  | 50  | 40  | 50  | 60  | 70  | 60  | 60   | 40  | 40  | 40  | 47          |
| -20 | 20  | 40  | 60  | 70  | 40  | 30  | 30  | 40   | 70  | 70  | 10  | 32          |
| 50  | 40  | 40  | 30  | 30  | 20  | 10  | 30  | 30   | 30  | 30  | 30  | 24          |
| 30  | 40  | 40  | 40  | 50  | 30  | 40  | 50  | 50   | 50  | 50  | 30  | 40          |
| 60  | 50  | 40  | 10  | 10  | -20 | -10 | 10  | 50   | 50  | 40  | 50  | 38          |
| 90  | 100 | 90  | 70  | 100 | 130 | 120 | 80  | 60   | 0   | 20  | 30  | 67          |
| 80  | 90  | 100 | 80  | 80  | 80  | 110 | 100 | 110  | 90  | 70  | 90  | 65          |
| 80  | 80  | 70  | 30  | 10  | -20 | -50 | -70 | 10   | -10 | 40  | 40  | 44          |
| 80  | 90  | 80  | 50  | 60  | 80  | 90  | 80  | 60   | 70  | 40  | 40  | 78          |
| 60  | 50  | 60  | 50  | 30  | 40  | 40  | 40  | 40   | 30  | 30  | 10  | 45          |
| 40  | 50  | 40  | 70  | 50  | 20  | 50  | 60  | 70   | 60  | 50  | 50  | 40          |
| 50  | 70  | 80  | 50  | 40  | 20  | 20  | -   | (30) | 30  | 30  | 30  | -           |
| 30  | 30  | 30  | 40  | 60  | 50  | 60  | 40  | 40   | 40  | 50  | 0   | -           |
| -10 | 0   | 0   | 20  | 20  | 30  | 30  | 20  | 10   | 20  | 10  | 0   | -           |
| 40  | 40  | -5  | ±5  | ±5  | ±5  | ±5  | ±5  | ±5   | 40  | 20  | 30  | -           |
| 50  | 30  | 10  | -10 | 0   | 40  | 40  | 40  | 40   | 40  | 20  | 20  | 30          |
| 70  | 70  | 80  | 60  | 80  | 80  | 60  | 50  | 40   | 80  | 30  | 80  | 59          |
| 80  | 60  | 60  | 110 | 130 | 120 | 100 | 80  | 40   | 70  | 70  | 80  | 102         |
| 50  | 50  | 60  | 70  | 60  | 60  | 60  | 50  | 60   | 50  | 60  | 50  | 43          |
| 40  | 60  | 40  | 40  | 50  | 80  | 90  | 80  | 80   | 100 | 80  | 40  | -           |
| 70  | 50  | 30  | 70  | 80  | 80  | 160 | 180 | 20   | 30  | 50  | 30  | 73          |
| 10  | 20  | 10  | 10  | 10  | 20  | 10  | 20  | 20   | 10  | 10  | 10  | 15          |
| -20 | -20 | -10 | -10 | -20 | -10 | 10  | 0   | 0    | 0   | 10  | 0   | -4          |
| 30  | 40  | 40  | 20  | 10  | 30  | 50  | 70  | 80   | 70  | 80  | 80  | 26          |
| 90  | 90  | 70  | 80  | 80  | 80  | 50  | 80  | 60   | 30  | 10  | 10  | 67          |
| 20  | 0   | 20  | 10  | 30  | 10  | 20  | 0   | -10  | 10  | -10 | -10 | 15          |
| -30 | -30 | -20 | -10 | -20 | -10 | -10 | -10 | -20  | -30 | -40 | -20 | -24         |
| 53  | 51  | 53  | 52  | 55  | 56  | 60  | 57  | 54   | 51  | 44  | 40  |             |
| 31  | 30  | 30  | 30  | 30  | 30  | 30  | 29  | 29   | 31  | 31  | 31  |             |

II. Hourly means of the quantities of positive and negative

| <u>Hour</u> <u>GMI</u> |   | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 |
|------------------------|---|----|----|----|----|----|----|----|----|----|----|----|----|
| <u>Day</u>             |   |    |    |    |    |    |    |    |    |    |    |    |    |
| January                | + | 0  | 0  | 0  | 1  | 2  | 4  | 2  | 6  | 1  | 0  | 0  | 0  |
|                        | - | 0  | 0  | 1  | 2  | 1  | 4  | 5  | 1  | 1  | 1  | 0  | 0  |
| February               | + | 0  | 1  | 1  | 0  | 7  | 5  | 15 | 24 | 3  | 6  | 7  | 0  |
|                        | - | 5  | 1  | 7  | 23 | 7  | 7  | 34 | 23 | 1  | 7  | 4  | 1  |
| March                  | + | 0  | 4  | 4  | 0  | 0  | 0  | 0  | 0  | 3  | 0  | 2  | 1  |
|                        | - | 0  | 8  | 6  | 0  | 1  | 0  | 0  | 0  | 1  | 0  | 2  | 0  |
| April                  | + | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|                        | - | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| May                    | + | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7  | 0  |
|                        | - | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  |
| June                   | + | 0  | 4  | 3  | 4  | 6  | 0  | 0  | 0  | 0  | 0  | 0  | 4  |
|                        | - | 0  | 0  | 5  | 4  | 15 | 3  | 2  | 0  | 0  | 0  | 0  | 1  |
| July                   | + | 2  | 6  | 6  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 14 | 3  |
|                        | - | 23 | 19 | 13 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 16 | 3  |
| August                 | + | 23 | 16 | 0  | 16 | 14 | 16 | 7  | 16 | 24 | 37 | 23 | 47 |
|                        | - | 33 | 7  | 0  | 29 | 30 | 28 | 13 | 0  | 16 | 54 | 19 | 60 |
| September              | + | 3  | 34 | 0  | 2  | 5  | 0  | 10 | 0  | 27 | 11 | 5  | 31 |
|                        | - | 16 | 9  | 0  | 0  | 4  | 0  | 3  | 18 | 24 | 16 | 9  | 19 |
| October                | + | 25 | 3  | 1  | 0  | 10 | 5  | 4  | 0  | 1  | 1  | 0  | 0  |
|                        | - | 10 | 4  | 5  | 1  | 6  | 6  | 1  | 0  | 1  | 2  | 0  | 0  |
| November               | + | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|                        | - | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| December               | + | 0  | 2  | 4  | 4  | 5  | 0  | 0  | 0  | 0  | 2  | 2  | 0  |
|                        | - | 0  | 4  | 3  | 2  | 2  | 1  | 0  | 0  | 0  | 0  | 0  | 0  |

charges transported by point-discharge for each month in 1988

| 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Means |
|----|----|----|----|-----|----|----|----|----|----|----|----|-------|
| 2  | 1  | 0  | 1  | 0   | 0  | 0  | 0  | 0  | 0  | 1  | 3  | 1.0   |
| 2  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 0  | 0  | 1  | 2  | 0.9   |
| 0  | 19 | 0  | 0  | 0   | 0  | 8  | 0  | 0  | 4  | 0  | 3  | 4.3   |
| 0  | 5  | 0  | 0  | 0   | 0  | 7  | 1  | 1  | 2  | 1  | 6  | 6.0   |
| 0  | 0  | 0  | 3  | 12  | 5  | 4  | 0  | 0  | 0  | 0  | 0  | 1.6   |
| 0  | 2  | 1  | 12 | 9   | 6  | 2  | 0  | 0  | 0  | 0  | 0  | 2.1   |
| 1  | 5  | 2  | 2  | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0.5   |
| 0  | 8  | 6  | 2  | 0   | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0.8   |
| 1  | 7  | 9  | 1  | 1   | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 1.2   |
| 16 | 32 | 1  | 1  | 6   | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 2.5   |
| 2  | 10 | 9  | 0  | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1.8   |
| 0  | 13 | 6  | 6  | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.3   |
| 24 | 12 | 11 | 2  | 20  | 0  | 1  | 21 | 9  | 2  | 0  | 1  | 5.6   |
| 18 | 2  | 14 | 3  | 48  | 4  | 0  | 29 | 5  | 2  | 0  | 5  | 8.5   |
| 7  | 46 | 16 | 43 | 17  | 29 | 16 | 0  | 25 | 9  | 6  | 0  | 18.9  |
| 13 | 69 | 31 | 52 | 21  | 39 | 16 | 6  | 47 | 30 | 0  | 16 | 26.2  |
| 15 | 0  | 9  | 22 | 16  | 4  | 2  | 40 | 17 | 0  | 4  | 9  | 11.1  |
| 6  | 3  | 4  | 62 | 135 | 12 | 0  | 20 | 0  | 0  | 5  | 5  | 15.4  |
| 0  | 0  | 3  | 2  | 0   | 0  | 0  | 4  | 13 | 0  | 11 | 0  | 3.5   |
| 0  | 0  | 0  | 0  | 0   | 0  | 0  | 0  | 14 | 9  | 23 | 7  | 3.7   |
| 0  | 2  | 6  | 3  | 0   | 9  | 1  | 4  | 0  | 0  | 2  | 1  | 1.2   |
| 0  | 0  | 0  | 0  | 0   | 10 | 3  | 1  | 1  | 0  | 0  | 0  | 0.6   |
| 4  | 0  | 0  | 0  | 0   | 0  | 0  | 3  | 16 | 3  | 11 | 4  | 2.5   |
| 0  | 0  | 0  | 0  | 0   | 0  | 0  | 2  | 0  | 1  | 25 | 7  | 2.0   |

II. Hourly means of the quantities of positive and negative

| <u>Hour</u> | <u>GMI</u> | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9  | 10 | 11 |
|-------------|------------|----|----|----|----|----|----|----|----|---|----|----|----|
| Day         |            |    |    |    |    |    |    |    |    |   |    |    |    |
| January     | +          | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 8 | 7  | 0  | 0  |
|             | -          | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  |
| February    | +          | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 5  | 0 | 0  | 0  | 0  |
|             | -          | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0 | 0  | 0  | 0  |
| March       | +          | 1  | 1  | 0  | 0  | 7  | 1  | 4  | 0  | 0 | 0  | 0  | 0  |
|             | -          | 0  | 1  | 0  | 1  | 7  | 0  | 3  | 0  | 0 | 0  | 0  | 0  |
| April       | +          | 3  | 0  | 0  | 6  | 9  | 4  | 1  | 0  | 0 | 6  | 4  | 6  |
|             | -          | 12 | 2  | 0  | 17 | 13 | 3  | 0  | 0  | 0 | 23 | 0  | 2  |
| May         | +          | 7  | 21 | 20 | 0  | 17 | 10 | 15 | 1  | 0 | 0  | 0  | 3  |
|             | -          | 9  | 40 | 20 | 8  | 27 | 21 | 31 | 4  | 4 | 0  | 3  | 4  |
| June        | +          | 0  | 0  | 3  | 29 | 31 | 10 | 0  | 0  | 0 | 0  | 0  | 0  |
|             | -          | 0  | 0  | 0  | 20 | 10 | 0  | 0  | 0  | 0 | 0  | 0  | 6  |
| July        | +          | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0 | 16 | 15 | 52 |
|             | -          | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3  | 0 | 26 | 64 | 2  |
| August      | +          | 7  | 5  | 5  | 22 | 10 | 10 | 0  | 0  | 0 | 0  | 5  | 9  |
|             | -          | 7  | 15 | 38 | 31 | 25 | 0  | 6  | 0  | 0 | 0  | 0  | 10 |
| September   | +          | 0  | 1  | 1  | 0  | 2  | 3  | 1  | 0  | 0 | 0  | 1  | 0  |
|             | -          | 0  | 1  | 0  | 4  | 3  | 0  | 0  | 0  | 0 | 1  | 0  | 0  |
| October     | +          | 0  | 0  | 0  | 0  | 0  | 1  | 15 | 45 | 9 | 0  | 0  | 0  |
|             | -          | 0  | 0  | 0  | 0  | 0  | 1  | 18 | 32 | 5 | 0  | 0  | 0  |
| November    | +          | 0  | 2  | 1  | 0  | 0  | 3  | 9  | 2  | 0 | 1  | 0  | 0  |
|             | -          | 0  | 1  | 0  | 0  | 0  | 0  | 7  | 0  | 0 | 5  | 0  | 0  |
| December    | +          | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  |
|             | -          | 10 | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  |



charges transported by point-discharge for each month in 1989

| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | Means |
|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0.6   |
| 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0.0   |
| 0  | 4  | 4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0.5   |
| 0  | 4  | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0.3   |
| 6  | 0  | 1  | 14 | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 1.5   |
| 16 | 7  | 18 | 23 | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 4  | 3.4   |
| 0  | 1  | 0  | 6  | 42 | 31 | 24 | 29 | 0  | 2  | 0  | 1  | 7.3   |
| 0  | 4  | 1  | 3  | 12 | 41 | 49 | 40 | 26 | 0  | 0  | 0  | 10.3  |
| 40 | 45 | 49 | 56 | 36 | 20 | 16 | 14 | 7  | 1  | 5  | 8  | 16.3  |
| 48 | 35 | 67 | 55 | 22 | 13 | 13 | 35 | 12 | 6  | 18 | 4  | 20.8  |
| 0  | 53 | 23 | 25 | 27 | 16 | 28 | 12 | 10 | 0  | 3  | 1  | 11.3  |
| 7  | 32 | 88 | 43 | 28 | 80 | 21 | 0  | 8  | 0  | 8  | 0  | 14.6  |
| 40 | 38 | 32 | 34 | 26 | 69 | 30 | 18 | 10 | 7  | 6  | 15 | 17.0  |
| 27 | 53 | 22 | 34 | 36 | 83 | 80 | 21 | 34 | 22 | 2  | 14 | 21.8  |
| 29 | 1  | 0  | 1  | 12 | 15 | 30 | 49 | 17 | 2  | 0  | 0  | 9.5   |
| 4  | 11 | 0  | 10 | 45 | 22 | 29 | 61 | 51 | 0  | 0  | 0  | 15.2  |
| 0  | 0  | 0  | 2  | 1  | 0  | 0  | 6  | 0  | 0  | 0  | 0  | 0.8   |
| 0  | 0  | 0  | 2  | 0  | 0  | 0  | 6  | 0  | 0  | 0  | 0  | 0.7   |
| 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2.9   |
| 0  | 0  | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 2.4   |
| 0  | 0  | 0  | 0  | 0  | 0  | 1  | 2  | 0  | 11 | 0  | 0  | 1.3   |
| 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4  | 0  | 0  | 0.7   |
| 0  | 0  | 0  | 0  | 2  | 3  | 3  | 1  | 13 | 0  | 0  | 0  | 0.9   |
| 0  | 0  | 0  | 0  | 7  | 2  | 5  | 11 | 11 | 0  | 0  | 0  | 2.0   |

## C. IONOSPHERE

The following tables give the values of mean ionospheric absorption at oblique incidence (A3) for certain zenith distances of the Sun ( $\kappa$ ) expressed in decibels (dB). Values for ground sunset (SS) and ground sunrise (SR) are given for periods of 20 minutes centered on the times of  $\kappa = 90^\circ$ . Night values have been determined by taking the periods ranging from  $\kappa = 100^\circ$  to 23 00 GMT.

The sky wave of the transmitter Československo ( $f = 272$  kHz) has been recorded since January 1967. The geographical coordinates of the reflection point are  $48.4^\circ$  N,  $17.1^\circ$  E. Because of reconstruction works on the transmitter Československo, the absorption measurement at 272 kHz and the publication of data were suspended from April 1975 till September 1978.

The equipment and the method have been described in the papers by P. BENCZE and F. MÁRCZ: "Atmosphärisch-elektrische und ionosphärische Messungen im Observatorium bei Nagycenk". Observatoriumsberichte des Geophysikalischen Forschungslaboratoriums der Ungarischen Akademie der Wissenschaften vom Jahre 1966, Sopron, 1967, as well as by P. BENCZE, J. HORVÁTH and F. MÁRCZ: "A new equipment for the measurement of ionospheric absorption" Geophysical Observatory Report of the Geodetic and Geophysical Research Institute of the Hungarian Academy of Sciences, Year 1975. Observatory of Nagycenk, Sopron, 1976. Further information is given by P. BENCZE and F. MÁRCZ: "The Geophysical Observatory near Nagycenk II. Atmospheric electric and ionospheric measurements". Acta Geod. Geoph. Mont. Hung. 16(1981), 353-357.

Mean Ionospheric Absorption L' (dB) at Oblique Incidence (A3)

f=272 kHz

for 1988

January

| Date of the night | SS   | Night  | SR   |
|-------------------|------|--------|------|
| 1/2               | 33.2 | 20.6   | 28.2 |
| 2/3               | 31.7 | 22.7   | 27.2 |
| 3/4               | 35.2 | 18.6   | 29.2 |
| 4/5               | 21.0 | 22.2   | 26.4 |
| 5/6               | 17.1 | 18.1   | 25.7 |
| 6/7               | 18.9 | 21.4   | 23.2 |
| 7/8               | 37.7 | 19.2   | 22.7 |
| 8/9               | X    | (20.2) | 31.7 |
| 9/10              | 35.2 | 25.0   | X    |
| 10/11             | 41.2 | 18.3   | 41.2 |
| 11/12             | 41.2 | 20.6   | 24.4 |
| 12/13             | 33.2 | 24.4   | 25.7 |
| 13/14             | 41.2 | 15.7   | 23.8 |
| 14/15             | 21.4 | 24.4   | 30.3 |
| 15/16             | 30.3 | 21.4   | 27.2 |
| 16/17             | 31.7 | 23.2   | 27.2 |
| 17/18             | 33.2 | 21.4   | 25.7 |
| 18/19             | 41.2 | 27.2   | 35.2 |
| 19/20             | 24.4 | 29.2   | 33.2 |
| 20/21             | 41.2 | 24.4   | 24.4 |
| 21/22             | 33.2 | 21.8   | 26.4 |
| 22/23             | 41.2 | 20.6   | 27.2 |
| 23/24             | 31.7 | 21.4   | 23.8 |
| 24/25             | 41.2 | 27.2   | 31.7 |
| 25/26             | 30.3 | 18.6   | 25.7 |
| 26/27             | 30.3 | 21.4   | 33.2 |
| 27/28             | 37.7 | 24.4   | 29.2 |
| 28/29             | 35.2 | 18.9   | 29.2 |
| 29/30             | 41.2 | 21.8   | 30.3 |
| 30/31             | 41.2 | 23.2   | 22.2 |
| 31/1              | 27.2 | 17.6   | 30.3 |
| Median values     | 33.2 | 21.4   | 27.2 |

February

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 37.7 | 25.7  | 18.3 |
| 2/3               | 31.7 | 23.2  | 25.0 |
| 3/4               | 33.2 | 21.4  | 26.4 |
| 4/5               | 41.2 | 23.8  | 24.4 |
| 5/6               | 41.2 | 25.0  | 28.2 |
| 6/7               | 25.0 | 25.0  | 24.4 |
| 7/8               | 41.2 | 21.0  | 23.2 |
| 8/9               | 31.7 | 22.2  | 25.7 |
| 9/10              | 24.4 | 21.8  | 23.2 |
| 10/11             | 35.2 | 16.3  | 22.2 |
| 11/12             | 23.8 | 16.5  | 24.4 |
| 12/13             | 29.2 | 19.2  | 26.4 |
| 13/14             | 29.2 | 17.6  | 29.2 |
| 14/15             | 30.3 | 17.8  | 33.2 |
| 15/16             | 41.2 | 21.0  | 25.0 |
| 16/17             | 30.3 | 22.7  | 26.4 |
| 17/18             | 41.2 | 27.2  | 28.2 |
| 18/19             | 35.2 | 21.4  | 30.3 |
| 19/20             | 37.7 | 18.9  | 26.4 |
| 20/21             | 41.2 | 18.3  | 31.7 |
| 21/22             | 37.7 | 20.2  | 29.2 |
| 22/23             | 35.2 | 26.4  | 27.2 |
| 23/24             | 25.7 | 21.8  | X    |
| 24/25             | 33.2 | 19.5  | X    |
| 25/26             | 35.2 | 20.6  | 30.3 |
| 26/27             | 35.2 | 23.8  | 21.8 |
| 27/28             | X    | X     | X    |
| 28/29             | 35.2 | 16.9  | 19.9 |
| 29/1              | 25.7 | 17.6  | 19.9 |
| Median values     | 35.2 | 21.2  | 26.1 |

March

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 24.4 | 19.9  | 21.4 |
| 2/3               | 30.3 | 22.7  | 23.2 |
| 3/4               | 26.4 | 21.4  | 17.8 |
| 4/5               | 24.4 | 20.2  | 27.2 |
| 5/6               | 30.3 | 18.9  | 25.0 |
| 6/7               | 18.3 | 20.2  | 19.9 |
| 7/8               | 22.7 | 20.2  | X    |
| 8/9               | 28.2 | 20.6  | 26.4 |
| 9/10              | 28.2 | 23.2  | 28.2 |
| 10/11             | 25.0 | 17.3  | 30.3 |
| 11/12             | 25.0 | 18.1  | 23.8 |
| 12/13             | 29.2 | 19.5  | 26.4 |
| 13/14             | 28.2 | 16.9  | 25.7 |
| 14/15             | 29.2 | 17.8  | 31.7 |
| 15/16             | 35.2 | 18.1  | 31.7 |
| 16/17             | 25.7 | 20.2  | 29.2 |
| 17/18             | 21.0 | 21.4  | 30.3 |
| 18/19             | 28.2 | 18.9  | 26.4 |
| 19/20             | 27.2 | 18.6  | 23.2 |
| 20/21             | 23.8 | 19.5  | 31.7 |
| 21/22             | 27.2 | 18.1  | 24.4 |
| 22/23             | 30.3 | 16.3  | 22.7 |
| 23/24             | 23.8 | 21.4  | 23.2 |
| 24/25             | X    | X     | X    |
| 25/26             | 19.2 | 20.6  | 22.7 |
| 26/27             | 19.2 | 19.9  | 21.4 |
| 27/28             | 23.8 | 19.9  | 19.9 |
| 28/29             | 29.2 | 20.6  | 24.4 |
| 29/30             | 26.4 | 21.8  | 35.2 |
| 30/31             | 27.2 | 17.8  | 27.2 |
| 31/1              | X    | X     | X    |
| Median values     | 26.4 | 19.9  | 25.4 |

April

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 33.2 | 17.3  | 27.2 |
| 2/3               | 33.2 | 16.5  | 16.9 |
| 3/4               | 20.6 | 16.1  | 17.1 |
| 4/5               | 31.7 | 20.2  | 22.2 |
| 5/6               | 19.9 | 18.6  | 20.2 |
| 6/7               | 28.2 | 18.3  | 20.2 |
| 7/8               | 21.4 | 19.2  | 22.7 |
| 8/9               | X    | X     | X    |
| 9/10              | 19.5 | 18.3  | 26.4 |
| 10/11             | 35.2 | 18.3  | 20.2 |
| 11/12             | 23.8 | 21.4  | 18.1 |
| 12/13             | 25.0 | 17.1  | 21.8 |
| 13/14             | 28.2 | 14.9  | 25.0 |
| 14/15             | 37.1 | 16.1  | 26.4 |
| 15/16             | 29.2 | 15.7  | 22.2 |
| 16/17             | 19.9 | 18.3  | 19.5 |
| 17/18             | 22.2 | 16.1  | 19.9 |
| 18/19             | 25.7 | 18.1  | 16.5 |
| 19/20             | 20.6 | 19.2  | 19.9 |
| 20/21             | X    | X     | X    |
| 21/22             | 22.7 | 18.9  | 18.9 |
| 22/23             | 28.2 | 22.7  | 22.7 |
| 23/24             | 31.7 | 19.9  | 27.2 |
| 24/25             | 24.4 | 23.8  | 20.2 |
| 25/26             | 17.6 | 23.2  | 22.7 |
| 26/27             | 15.7 | 23.8  | 35.2 |
| 27/28             | 28.2 | 22.7  | 21.4 |
| 28/29             | 25.0 | 19.9  | 21.4 |
| 29/30             | 19.5 | 19.5  | 20.6 |
| 30/1              | 24.4 | 18.9  | 21.4 |
| Median values     | 24.7 | 18.8  | 21.4 |

May

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 21.0 | 23.2  | 21.4 |
| 2/3               | 17.3 | 17.1  | 20.2 |
| 3/4               | 29.2 | 23.2  | 27.2 |
| 4/5               | 31.7 | 23.8  | 19.2 |
| 5/6               | 23.8 | 25.7  | 28.2 |
| 6/7               | 24.4 | 22.7  | 26.4 |
| 7/8               | 26.4 | 18.1  | 27.2 |
| 8/9               | 27.2 | 21.4  | 27.2 |
| 9/10              | 33.2 | 23.8  | 33.2 |
| 10/11             | 31.7 | 18.6  | 31.7 |
| 11/12             | 29.2 | 18.3  | 25.0 |
| 12/13             | 30.3 | 16.7  | 27.2 |
| 13/14             | 29.2 | 18.3  | 26.4 |
| 14/15             | 21.0 | 17.8  | 24.4 |
| 15/16             | 23.8 | 18.3  | 22.2 |
| 16/17             | 25.7 | 20.2  | 26.4 |
| 17/18             | X    | X     | X    |
| 18/19             | X    | X     | X    |
| 19/20             | X    | X     | X    |
| 20/21             | 27.2 | 18.1  | 23.2 |
| 21/22             | 27.2 | 21.0  | 29.2 |
| 22/23             | 28.2 | 18.9  | 31.7 |
| 23/24             | 27.2 | 25.0  | 29.2 |
| 24/25             | 25.0 | 21.0  | 33.2 |
| 25/26             | 28.2 | 22.2  | 23.8 |
| 26/27             | X    | X     | X    |
| 27/28             | 31.7 | 21.4  | X    |
| 28/29             | 25.0 | 18.9  | 26.4 |
| 29/30             | X    | X     | X    |
| 30/31             | 33.2 | 17.8  | 23.2 |
| 31/1              | 26.4 | 22.2  | 23.8 |
| Median values     | 27.2 | 20.6  | 26.4 |

June

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 25.7 | 21.0  | 33.2 |
| 2/3               | X    | X     | X    |
| 3/4               | 19.5 | 15.9  | 28.2 |
| 4/5               | 22.2 | 21.8  | 27.2 |
| 5/6               | 23.8 | 22.2  | 30.3 |
| 6/7               | X    | X     | X    |
| 7/8               | X    | X     | X    |
| 8/9               | 30.3 | 22.7  | 30.3 |
| 9/10              | 22.2 | 20.6  | 29.2 |
| 10/11             | 31.7 | 26.4  | 25.0 |
| 11/12             | 30.3 | 18.9  | 27.2 |
| 12/13             | 28.2 | 22.7  | 33.2 |
| 13/14             | 22.7 | 25.0  | 29.2 |
| 14/15             | 29.2 | 23.8  | 26.4 |
| 15/16             | 21.0 | 22.2  | 21.4 |
| 16/17             | 21.4 | 20.2  | 28.2 |
| 17/18             | 18.1 | 21.0  | 28.2 |
| 18/19             | 25.0 | 22.2  | 22.2 |
| 19/20             | 24.4 | 22.7  | 27.2 |
| 20/21             | 27.2 | 24.4  | 26.4 |
| 21/22             | 35.2 | 23.2  | 25.7 |
| 22/23             | 35.2 | 24.4  | 23.2 |
| 23/24             | 28.2 | 18.1  | 24.4 |
| 24/25             | 29.2 | 26.4  | 27.2 |
| 25/26             | 17.3 | 23.2  | 30.3 |
| 26/27             | X    | X     | X    |
| 27/28             | 25.0 | 19.2  | 21.8 |
| 28/29             | X    | X     | X    |
| 29/30             | 30.3 | 23.2  | 26.4 |
| 30/1              | 24.4 | 21.0  | 21.4 |
| Median values     | 25.0 | 22.2  | 27.2 |



July

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 25.7 | 21.4  | 25.7 |
| 2/3               | 21.0 | 21.4  | 25.7 |
| 3/4               | 23.8 | 22.7  | X    |
| 4/5               | X    | X     | X    |
| 5/6               | X    | X     | X    |
| 6/7               | X    | X     | X    |
| 7/8               | X    | X     | X    |
| 8/9               | X    | X     | X    |
| 9/10              | 21.4 | 20.2  | 29.2 |
| 10/11             | 30.3 | 23.8  | 25.0 |
| 11/12             | 23.8 | 24.4  | 21.8 |
| 12/13             | 25.7 | 21.4  | 29.2 |
| 13/14             | 18.3 | 21.4  | 19.5 |
| 14/15             | 31.7 | 19.2  | 28.2 |
| 15/16             | 22.2 | 19.2  | 25.7 |
| 16/17             | 27.2 | 19.9  | 23.8 |
| 17/18             | 28.2 | 16.7  | 29.2 |
| 18/19             | 28.2 | 21.0  | 23.2 |
| 19/20             | 28.2 | 23.2  | 22.2 |
| 20/21             | 30.3 | 19.5  | 23.2 |
| 21/22             | 26.4 | 21.0  | 24.4 |
| 22/23             | 26.4 | 23.2  | 24.4 |
| 23/24             | 22.7 | 20.6  | 24.4 |
| 24/25             | 22.7 | 24.4  | 27.2 |
| 25/26             | 35.2 | 19.5  | 19.2 |
| 26/27             | 23.2 | 16.9  | X    |
| 27/28             | 21.0 | 24.4  | 25.7 |
| 28/29             | 29.2 | 18.6  | 21.8 |
| 29/30             | 25.7 | 21.8  | 18.6 |
| 30/31             | 20.2 | 19.2  | 20.6 |
| 31/1              | 33.2 | 22.2  | 18.6 |
| Median values     | 25.7 | 21.2  | 24.4 |

August

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | X    | X     | X    |
| 2/3               | 25.0 | 21.0  | 29.2 |
| 3/4               | 21.8 | 19.2  | 25.7 |
| 4/5               | 22.2 | 19.5  | 25.0 |
| 5/6               | 29.2 | 19.5  | 22.2 |
| 6/7               | 22.2 | 18.6  | 25.0 |
| 7/8               | 26.4 | 19.9  | 23.8 |
| 8/9               | 18.6 | 18.6  | 21.0 |
| 9/10              | 24.4 | 21.8  | 22.7 |
| 10/11             | 28.2 | 25.0  | 24.4 |
| 11/12             | 28.2 | 17.6  | 25.7 |
| 12/13             | 23.2 | 19.5  | 23.2 |
| 13/14             | 20.2 | 20.2  | 25.0 |
| 14/15             | 22.7 | 19.5  | 24.4 |
| 15/16             | 24.4 | 23.2  | 22.2 |
| 16/17             | 25.7 | 23.8  | 35.2 |
| 17/18             | 20.6 | 16.9  | 24.4 |
| 18/19             | 24.4 | 21.4  | 25.7 |
| 19/20             | 27.2 | 20.6  | 23.2 |
| 20/21             | 19.2 | 17.8  | 25.7 |
| 21/22             | X    | 16.7  | 27.2 |
| 22/23             | 21.8 | 16.1  | 24.4 |
| 23/24             | 28.2 | 18.1  | 24.4 |
| 24/25             | 25.0 | 15.4  | 23.2 |
| 25/26             | 23.8 | 19.2  | 24.4 |
| 26/27             | 17.8 | 17.1  | 28.2 |
| 27/28             | 17.1 | 21.0  | 25.0 |
| 28/29             | 23.8 | 16.3  | 23.2 |
| 29/30             | 27.2 | 16.9  | 29.2 |
| 30/31             | 29.2 | 21.4  | 29.2 |
| 31/1              | 30.3 | 23.2  | 28.2 |
| Median values     | 24.4 | 19.5  | 25.0 |

September

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 21.0 | 18.3  | 41.2 |
| 2/3               | 27.2 | 20.2  | 25.7 |
| 3/4               | 30.3 | 23.8  | 30.3 |
| 4/5               | 19.9 | 19.9  | 26.4 |
| 5/6               | 21.4 | 18.1  | 22.2 |
| 6/7               | 19.9 | 15.1  | 22.7 |
| 7/8               | 22.7 | 20.2  | 23.8 |
| 8/9               | 26.4 | 18.6  | 29.2 |
| 9/10              | 19.9 | 18.1  | 24.4 |
| 10/11             | 31.7 | 17.6  | 31.7 |
| 11/12             | 25.7 | 19.2  | 33.2 |
| 12/13             | 24.4 | 19.9  | 33.2 |
| 13/14             | 23.8 | 15.7  | 31.7 |
| 14/15             | 19.9 | 16.3  | 25.7 |
| 15/16             | 24.4 | 19.5  | 27.2 |
| 16/17             | 20.2 | 15.9  | 28.2 |
| 17/18             | 23.2 | 17.8  | 30.3 |
| 18/19             | 25.0 | 17.3  | 28.2 |
| 19/20             | 17.1 | 16.1  | 28.2 |
| 20/21             | 25.7 | 19.5  | 21.8 |
| 21/22             | 23.8 | 15.7  | X    |
| 22/23             | 25.0 | 18.3  | 23.8 |
| 23/24             | 17.6 | 14.1  | X    |
| 24/25             | 25.7 | 16.3  | 28.2 |
| 25/26             | 19.9 | 18.1  | 23.8 |
| 26/27             | 25.0 | 18.1  | 21.8 |
| 27/28             | 41.2 | 17.3  | 28.2 |
| 28/29             | 21.4 | 18.1  | 26.4 |
| 29/30             | 21.8 | 16.3  | 19.9 |
| 30/1              | 21.4 | 15.9  | 21.4 |
| Median values     | 23.5 | 18.1  | 26.8 |

October

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 17.6 | 18.1  | 30.3 |
| 2/3               | 15.7 | 18.9  | X    |
| 3/4               | 25.0 | 15.9  | 24.4 |
| 4/5               | 25.0 | 17.3  | 27.2 |
| 5/6               | 33.2 | 14.4  | 22.2 |
| 6/7               | 26.4 | 18.6  | 20.6 |
| 7/8               | 19.5 | 16.3  | 22.7 |
| 8/9               | 23.8 | 15.7  | 23.2 |
| 9/10              | 25.0 | 15.2  | 23.8 |
| 10/11             | 28.2 | 19.9  | 20.6 |
| 11/12             | 23.8 | 15.4  | 33.2 |
| 12/13             | 30.3 | 15.1  | 21.8 |
| 13/14             | 24.4 | 17.3  | 15.9 |
| 14/15             | 16.5 | 16.9  | 25.0 |
| 15/16             | 20.6 | 17.8  | 28.2 |
| 16/17             | 21.8 | 15.4  | 22.7 |
| 17/18             | 37.7 | 16.3  | 23.8 |
| 18/19             | 28.2 | 15.2  | 25.0 |
| 19/20             | 26.4 | 18.6  | 25.7 |
| 20/21             | 17.8 | 15.9  | 22.7 |
| 21/22             | 24.4 | 16.1  | 22.7 |
| 22/23             | 18.9 | X     | X    |
| 23/24             | 24.4 | 16.9  | 21.4 |
| 24/25             | 18.9 | 16.3  | 23.8 |
| 25/26             | 24.4 | 15.4  | 31.7 |
| 26/27             | 19.5 | 14.5  | 19.9 |
| 27/28             | 24.4 | 16.3  | 24.4 |
| 28/29             | 18.9 | 21.4  | 30.3 |
| 29/30             | 18.6 | 17.6  | 29.2 |
| 30/31             | 16.3 | 19.9  | 23.8 |
| 31/1              | 21.8 | 17.1  | 25.0 |
| Median values     | 23.8 | 16.3  | 23.8 |

## November

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 24.4 | 16.5  | 25.0 |
| 2/3               | 19.5 | 17.8  | 29.2 |
| 3/4               | 29.2 | 17.8  | 31.7 |
| 4/5               | 20.2 | 17.3  | 26.4 |
| 5/6               | 20.6 | 19.2  | 21.4 |
| 6/7               | 24.4 | X     | X    |
| 7/8               | 33.2 | 18.3  | 22.7 |
| 8/9               | 26.4 | 19.5  | 22.7 |
| 9/10              | 29.2 | 16.7  | 24.4 |
| 10/11             | 25.0 | 16.9  | 25.7 |
| 11/12             | 18.9 | 17.8  | 29.2 |
| 12/13             | 22.7 | 18.9  | 28.2 |
| 13/14             | 16.7 | 16.7  | X    |
| 14/15             | 37.7 | 18.6  | 18.9 |
| 15/16             | 35.2 | 16.7  | 30.3 |
| 16/17             | 25.7 | 18.1  | 25.0 |
| 17/18             | 19.9 | 20.6  | 23.8 |
| 18/19             | 18.1 | 16.5  | 31.7 |
| 19/20             | 29.2 | 18.9  | 47.2 |
| 20/21             | 27.2 | 21.0  | 37.7 |
| 21/22             | 47.2 | 20.6  | 37.7 |
| 22/23             | 41.2 | 18.9  | 33.2 |
| 23/24             | 31.7 | 22.2  | 37.7 |
| 24/25             | 35.2 | 23.8  | 31.7 |
| 25/26             | 30.3 | 25.7  | 33.2 |
| 26/27             | 37.7 | 30.3  | 30.3 |
| 27/28             | 30.3 | 27.2  | 29.2 |
| 28/29             | 29.2 | 22.7  | 26.4 |
| 29/30             | 35.2 | 21.0  | 33.2 |
| 30/1              | 29.2 | 22.2  | 35.2 |
| Median values     | 29.2 | 18.9  | 29.2 |

December

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 35.2 | 23.2  | 35.2 |
| 2/3               | 29.2 | 22.2  | 33.2 |
| 3/4               | 33.2 | 29.2  | 35.2 |
| 4/5               | 35.2 | 22.2  | 25.7 |
| 5/6               | 33.2 | 19.5  | 30.3 |
| 6/7               | 41.2 | 19.5  | 29.2 |
| 7/8               | 41.2 | 23.2  | 31.7 |
| 8/9               | 25.0 | 25.0  | 25.7 |
| 9/10              | 41.2 | 25.0  | 31.7 |
| 10/11             | 31.7 | 25.7  | 30.3 |
| 11/12             | 35.2 | 22.2  | 31.7 |
| 12/13             | 31.7 | 18.3  | 23.8 |
| 13/14             | X    | 15.5  | 27.2 |
| 14/15             | 29.2 | 18.9  | 31.7 |
| 15/16             | 27.2 | 20.2  | 41.2 |
| 16/17             | 33.2 | 26.4  | 29.2 |
| 17/18             | 37.7 | 22.2  | 35.2 |
| 18/19             | 33.2 | 25.7  | 29.2 |
| 19/20             | 33.2 | 26.4  | 33.2 |
| 20/21             | 35.2 | 27.2  | 41.2 |
| 21/22             | 37.7 | 22.7  | 41.2 |
| 22/23             | 35.2 | 30.3  | 35.2 |
| 23/24             | 41.2 | 23.8  | 47.2 |
| 24/25             | 47.2 | 25.0  | 41.2 |
| 25/26             | 47.2 | 33.2  | 30.3 |
| 26/27             | X    | 20.6  | 24.4 |
| 27/28             | 33.2 | 25.0  | 35.2 |
| 28/29             | X    | 20.6  | 23.8 |
| 29/30             | 47.2 | 25.0  | 37.7 |
| 30/31             | 47.2 | 20.2  | 25.7 |
| 31/1              | 47.2 | 22.2  | 24.4 |
| Median values     | 35.2 | 23.2  | 31.7 |

Mean Ionospheric Absorption L'(dB) at Oblique Incidence (A3)

f=272 kHz

for 1989

January

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 31.7 | 20.6  | 27.2 |
| 2/3               | X    | 28.2  | 29.2 |
| 3/4               | 25.0 | 20.6  | 29.2 |
| 4/5               | 35.2 | 21.8  | 25.0 |
| 5/6               | 37.7 | 22.7  | 41.2 |
| 6/7               | 26.4 | 21.8  | 28.2 |
| 7/8               | 35.2 | 30.3  | 35.2 |
| 8/9               | 35.2 | 25.0  | 41.2 |
| 9/10              | X    | 27.2  | 35.2 |
| 10/11             | 31.7 | 24.4  | 47.2 |
| 11/12             | 29.2 | 22.7  | 29.2 |
| 12/13             | 33.2 | 29.2  | 47.2 |
| 13/14             | 47.2 | 27.2  | 37.7 |
| 14/15             | X    | 21.0  | 35.2 |
| 15/16             | X    | 21.4  | 31.7 |
| 16/17             | 26.4 | 22.7  | 31.7 |
| 17/18             | 31.7 | 24.4  | 37.7 |
| 18/19             | 35.2 | 29.2  | 35.2 |
| 19/20             | 37.7 | 22.2  | 27.2 |
| 20/21             | 31.7 | 25.0  | 30.3 |
| 21/22             | 35.2 | 22.2  | 35.2 |
| 22/23             | 31.7 | 25.7  | 29.2 |
| 23/24             | 37.7 | 22.2  | 25.0 |
| 24/25             | 47.2 | 26.4  | 35.2 |
| 25/26             | 37.7 | 22.7  | 33.2 |
| 26/27             | 35.2 | 20.2  | 25.7 |
| 27/28             | 41.2 | 22.2  | 27.2 |
| 28/29             | 33.2 | 22.2  | 26.4 |
| 29/30             | 25.7 | 23.2  | 25.7 |
| 30/31             | 41.2 | 20.6  | 25.7 |
| 31/1              | 28.2 | 22.2  | 25.7 |
| Median values     | 35.2 | 22.7  | 30.3 |

February

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 33.2 | 22.2  | 30.3 |
| 2/3               | X    | 20.6  | 29.2 |
| 3/4               | 37.7 | 22.2  | 30.3 |
| 4/5               | 23.2 | 22.7  | 21.8 |
| 5/6               | 31.7 | 21.0  | 26.4 |
| 6/7               | 23.2 | 22.7  | 27.2 |
| 7/8               | 37.7 | 16.3  | 25.0 |
| 8/9               | 31.7 | 21.8  | 25.7 |
| 9/10              | 33.2 | 23.2  | 33.2 |
| 10/11             | 47.2 | 20.2  | 41.2 |
| 11/12             | 47.2 | 20.2  | 41.2 |
| 12/13             | 33.2 | 25.0  | 29.2 |
| 13/14             | 33.2 | 24.4  | 31.7 |
| 14/15             | 33.2 | 19.2  | 35.2 |
| 15/16             | 35.2 | 30.3  | 37.7 |
| 16/17             | 31.7 | 23.8  | 35.2 |
| 17/18             | 33.2 | 21.4  | 37.7 |
| 18/19             | 33.2 | 23.8  | 41.2 |
| 19/20             | 41.2 | 16.1  | 22.2 |
| 20/21             | 31.7 | 20.6  | 33.2 |
| 21/22             | 28.2 | 23.8  | X    |
| 22/23             | X    | 23.2  | 31.7 |
| 23/24             | 25.7 | 20.2  | 37.7 |
| 24/25             | 18.9 | 25.7  | 28.2 |
| 25/26             | 30.3 | 17.1  | 28.2 |
| 26/27             | 25.0 | 15.9  | 25.7 |
| 27/28             | 35.2 | 16.7  | 21.8 |
| 28/1              | 30.3 | 18.3  | 25.0 |
| Median values     | 33.2 | 21.6  | 30.3 |



March

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | X    | X     | X    |
| 2/3               | 25.0 | 18.6  | 25.0 |
| 3/4               | 25.7 | 16.7  | 25.7 |
| 4/5               | 22.2 | 19.2  | 28.2 |
| 5/6               | 21.0 | 16.1  | 28.2 |
| 6/7               | 28.2 | 17.8  | X    |
| 7/8               | 29.2 | 20.6  | 25.7 |
| 8/9               | 16.9 | 18.1  | 21.4 |
| 9/10              | 18.9 | 18.3  | 27.2 |
| 10/11             | 31.7 | 20.6  | 25.0 |
| 11/12             | 26.4 | 19.2  | 22.7 |
| 12/13             | X    | X     | X    |
| 13/14             | X    | X     | X    |
| 14/15             | X    | X     | X    |
| 15/16             | X    | X     | X    |
| 16/17             | X    | X     | X    |
| 17/18             | 21.0 | 16.5  | 25.7 |
| 18/19             | 24.4 | 16.3  | 30.3 |
| 19/20             | 33.2 | 21.8  | 25.0 |
| 20/21             | 30.3 | 17.3  | 29.2 |
| 21/22             | 35.2 | 16.5  | 35.2 |
| 22/23             | 33.2 | 16.3  | 25.0 |
| 23/24             | 29.2 | 16.7  | 33.2 |
| 24/25             | 33.2 | 15.2  | 25.0 |
| 25/26             | 19.9 | 16.5  | 22.2 |
| 26/27             | 22.2 | 18.6  | 24.4 |
| 27/28             | 25.7 | 17.6  | 17.3 |
| 28/29             | 28.2 | 15.1  | 19.9 |
| 29/30             | 24.4 | 23.8  | 25.7 |
| 30/31             | 28.2 | 15.2  | 25.0 |
| 31/1              | 24.4 | 17.3  | X    |
| Median values     | 25.7 | 17.3  | 25.0 |

April

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 28.2 | 21.0  | 25.0 |
| 2/3               | 25.0 | 20.6  | 25.0 |
| 3/4               | 30.3 | 15.9  | 18.6 |
| 4/5               | 21.8 | 16.9  | 21.0 |
| 5/6               | 23.2 | 16.1  | 19.5 |
| 6/7               | 28.2 | 19.9  | 20.6 |
| 7/8               | 22.2 | 16.5  | 24.4 |
| 8/9               | 15.7 | 18.3  | 25.0 |
| 9/10              | 24.4 | 18.9  | 25.0 |
| 10/11             | 25.7 | 19.5  | 19.2 |
| 11/12             | 21.8 | 17.8  | 23.2 |
| 12/13             | 23.2 | 18.3  | 19.5 |
| 13/14             | 26.4 | 15.5  | 21.4 |
| 14/15             | 24.4 | 22.2  | 26.4 |
| 15/16             | 26.4 | 16.9  | 24.4 |
| 16/17             | 25.7 | 16.5  | 27.2 |
| 17/18             | 22.7 | 24.4  | 17.8 |
| 18/19             | 28.2 | 16.7  | 23.8 |
| 19/20             | 35.2 | 20.2  | 25.0 |
| 20/21             | 23.2 | 22.7  | 23.8 |
| 21/22             | 26.4 | 21.8  | 27.2 |
| 22/23             | 30.3 | 23.2  | 33.2 |
| 23/24             | 30.3 | 18.1  | 20.2 |
| 24/25             | 30.3 | 19.5  | 27.2 |
| 25/26             | 21.4 | 21.0  | 33.2 |
| 26/27             | 27.2 | 21.0  | 21.0 |
| 27/28             | 30.3 | 26.4  | 26.4 |
| 28/29             | 28.2 | 27.2  | 21.8 |
| 29/30             | 31.7 | 25.0  | 28.2 |
| 30/1              | 31.7 | 26.4  | 21.4 |
| Median values     | 26.4 | 19.7  | 24.1 |

May

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 33.2 | 16.9  | 21.4 |
| 2/3               | 27.2 | 19.2  | 30.3 |
| 3/4               | 26.4 | 24.4  | 19.9 |
| 4/5               | 23.8 | 19.5  | 33.2 |
| 5/6               | 26.4 | 18.3  | 25.0 |
| 6/7               | 27.2 | 17.6  | 24.4 |
| 7/8               | 26.4 | 21.8  | 29.2 |
| 8/9               | 23.2 | 19.2  | 28.2 |
| 9/10              | 41.2 | 22.2  | 24.4 |
| 10/11             | 31.7 | 22.7  | 26.4 |
| 11/12             | 35.2 | 18.9  | 25.7 |
| 12/13             | 30.3 | 22.2  | 24.4 |
| 13/14             | 35.2 | 22.7  | 23.8 |
| 14/15             | 29.2 | 20.6  | 24.4 |
| 15/16             | 26.4 | 25.7  | 29.2 |
| 16/17             | 37.7 | 22.2  | 30.3 |
| 17/18             | 22.2 | 21.8  | 26.4 |
| 18/19             | 30.3 | 23.2  | 23.8 |
| 19/20             | 33.2 | 23.8  | 29.2 |
| 20/21             | 30.3 | 23.8  | 28.2 |
| 21/22             | 37.7 | 21.8  | 30.3 |
| 22/23             | 30.3 | 23.2  | 35.2 |
| 23/24             | 33.2 | 23.8  | 23.8 |
| 24/25             | 27.2 | 26.4  | 30.3 |
| 25/26             | 29.2 | 20.6  | 25.0 |
| 26/27             | 21.4 | 24.4  | 25.0 |
| 27/28             | 27.2 | 22.2  | 28.2 |
| 28/29             | 29.2 | 23.2  | 29.2 |
| 29/30             | 26.4 | 19.2  | 22.2 |
| 30/31             | 28.2 | 22.7  | 41.2 |
| 31/1              | 21.4 | 20.2  | 21.8 |
| Median values     | 28.7 | 22.2  | 26.0 |

June

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 26.4 | 17.8  | 26.4 |
| 2/3               | 29.2 | 21.0  | 24.4 |
| 3/4               | 41.2 | 23.2  | 30.3 |
| 4/5               | 37.7 | 17.3  | 25.7 |
| 5/6               | 35.2 | 21.8  | 22.2 |
| 6/7               | 30.3 | 20.6  | 25.0 |
| 7/8               | 25.0 | 19.2  | 20.6 |
| 8/9               | 37.7 | 19.5  | 26.4 |
| 9/10              | 21.8 | 25.0  | 21.4 |
| 10/11             | X    | X     | X    |
| 11/12             | 30.3 | 20.6  | 24.4 |
| 12/13             | 31.7 | 23.8  | 28.2 |
| 13/14             | 31.7 | 22.7  | 30.3 |
| 14/15             | 19.5 | 21.4  | 30.3 |
| 15/16             | 27.2 | 25.7  | 20.2 |
| 16/17             | 27.2 | 22.7  | 28.2 |
| 17/18             | 28.2 | 25.7  | 25.0 |
| 18/19             | 31.7 | 18.9  | 22.2 |
| 19/20             | 27.2 | 19.2  | 22.2 |
| 20/21             | 30.3 | 24.4  | 26.4 |
| 21/22             | 27.2 | 26.4  | 24.4 |
| 22/23             | 25.7 | 21.8  | 25.7 |
| 23/24             | 21.8 | 20.6  | 24.4 |
| 24/25             | 31.7 | 18.1  | 30.3 |
| 25/26             | 29.2 | 25.0  | 23.8 |
| 26/27             | 26.4 | 22.2  | 24.4 |
| 27/28             | 21.0 | 21.0  | 23.8 |
| 28/29             | 29.2 | 19.5  | 25.7 |
| 29/30             | 28.2 | 22.7  | 30.3 |
| 30/1              | 33.2 | 25.7  | 25.7 |
| Median values     | 29.2 | 21.8  | 25.0 |

July

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 25.7 | 23.2  | 26.4 |
| 2/3               | 19.2 | 22.7  | 27.2 |
| 3/4               | 17.8 | 19.5  | 21.4 |
| 4/5               | 28.2 | 22.7  | 21.0 |
| 5/6               | 23.2 | 22.7  | 24.4 |
| 6/7               | 30.3 | 24.4  | 28.2 |
| 7/8               | 25.0 | 21.4  | 23.2 |
| 8/9               | 22.2 | 21.8  | 22.7 |
| 9/10              | 25.0 | 21.0  | 23.8 |
| 10/11             | 27.2 | 22.2  | 29.2 |
| 11/12             | 29.2 | 26.4  | 30.3 |
| 12/13             | 19.5 | 21.0  | 29.2 |
| 13/14             | 26.4 | 22.2  | 28.2 |
| 14/15             | 22.7 | 19.5  | 22.2 |
| 15/16             | 31.7 | 21.0  | 28.2 |
| 16/17             | 30.3 | 21.8  | 26.4 |
| 17/18             | 28.2 | 23.8  | 16.7 |
| 18/19             | 27.2 | 19.2  | 23.8 |
| 19/20             | 33.2 | 23.8  | 25.7 |
| 20/21             | 22.2 | 22.2  | 23.2 |
| 21/22             | 30.3 | 25.7  | 23.8 |
| 22/23             | 27.2 | 25.7  | 26.4 |
| 23/24             | 26.4 | 25.7  | 27.2 |
| 24/25             | 30.3 | 24.4  | 26.4 |
| 25/26             | 35.2 | 23.8  | X    |
| 26/27             | 29.2 | 23.2  | 28.2 |
| 27/28             | 31.7 | 23.2  | 28.2 |
| 28/29             | 29.2 | 21.0  | 28.2 |
| 29/30             | 24.4 | 21.8  | 29.2 |
| 30/31             | 25.0 | 22.2  | 30.3 |
| 31/1              | 26.4 | 21.0  | 23.2 |
| Median values     | 27.2 | 22.2  | 26.4 |

August

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 27.2 | 20.6  | 29.2 |
| 2/3               | 31.7 | 18.3  | 22.7 |
| 3/4               | 35.2 | 22.2  | 25.0 |
| 4/5               | 29.2 | 22.2  | 23.8 |
| 5/6               | 31.7 | 22.2  | 27.2 |
| 6/7               | 29.2 | 24.4  | 27.2 |
| 7/8               | 31.7 | 21.8  | 30.3 |
| 8/9               | 28.2 | 21.0  | 31.7 |
| 9/10              | 31.7 | 21.0  | 37.7 |
| 10/11             | 31.7 | 20.6  | 27.2 |
| 11/12             | 25.7 | 21.4  | 25.0 |
| 12/13             | 27.2 | 20.6  | 27.2 |
| 13/14             | 23.2 | 21.0  | 27.2 |
| 14/15             | 23.2 | 23.8  | 33.2 |
| 15/16             | 30.3 | 22.7  | 37.7 |
| 16/17             | 31.7 | 18.3  | 33.2 |
| 17/18             | 35.2 | 21.0  | 29.2 |
| 18/19             | 26.4 | 20.6  | 30.3 |
| 19/20             | 30.3 | 17.6  | 25.7 |
| 20/21             | 25.0 | 23.2  | 25.0 |
| 21/22             | 30.3 | 21.8  | 28.2 |
| 22/23             | 25.0 | 20.6  | 22.7 |
| 23/24             | 30.3 | 26.4  | 26.4 |
| 24/25             | 30.3 | 21.0  | 22.7 |
| 25/26             | 21.4 | 21.0  | 21.8 |
| 26/27             | 23.8 | 18.9  | 24.4 |
| 27/28             | 30.3 | 23.2  | X    |
| 28/29             | 26.4 | 22.7  | 29.2 |
| 29/30             | 33.2 | 21.8  | X    |
| 30/31             | 26.4 | 22.2  | X    |
| 31/1              | 28.2 | 23.2  | 27.2 |
| Median values     | 29.2 | 21.4  | 27.2 |

September

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 27.2 | 20.2  | 21.8 |
| 2/3               | 22.7 | 21.0  | 28.2 |
| 3/4               | 33.2 | 17.6  | 33.2 |
| 4/5               | 30.3 | 21.4  | 26.4 |
| 5/6               | 24.4 | 19.9  | 31.7 |
| 6/7               | 26.4 | 19.2  | 33.2 |
| 7/8               | 26.4 | 18.3  | 27.2 |
| 8/9               | 24.4 | 21.8  | 25.0 |
| 9/10              | 24.4 | 19.9  | 23.2 |
| 10/11             | 21.8 | 16.3  | 26.4 |
| 11/12             | 22.7 | 15.4  | 33.2 |
| 12/13             | 23.2 | 19.2  | 29.2 |
| 13/14             | 23.2 | 17.8  | 33.2 |
| 14/15             | 21.8 | 22.7  | 21.8 |
| 15/16             | 23.8 | 16.9  | 31.7 |
| 16/17             | 19.5 | 21.4  | 26.4 |
| 17/18             | 18.9 | 15.9  | X    |
| 18/19             | X    | X     | X    |
| 19/20             | X    | X     | X    |
| 20/21             | X    | X     | X    |
| 21/22             | X    | X     | X    |
| 22/23             | X    | X     | X    |
| 23/24             | X    | X     | X    |
| 24/25             | X    | X     | X    |
| 25/26             | X    | X     | X    |
| 26/27             | X    | X     | X    |
| 27/28             | X    | X     | X    |
| 28/29             | X    | X     | X    |
| 29/30             | X    | X     | X    |
| 30/1              | X    | X     | X    |
| Median values     | 23.8 | 19.2  | 27.7 |

October

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | X    | X     | X    |
| 2/3               | X    | X     | X    |
| 3/4               | X    | X     | X    |
| 4/5               | X    | X     | X    |
| 5/6               | X    | X     | X    |
| 6/7               | X    | X     | X    |
| 7/8               | X    | X     | X    |
| 8/9               | X    | X     | X    |
| 9/10              | X    | X     | X    |
| 10/11             | X    | X     | X    |
| 11/12             | X    | 18.6  | 23.2 |
| 12/13             | 30.3 | 15.9  | 25.7 |
| 13/14             | 22.2 | 17.1  | 19.5 |
| 14/15             | 31.7 | 16.7  | 27.2 |
| 15/16             | 27.2 | 19.5  | 20.2 |
| 16/17             | 26.4 | 17.1  | 23.2 |
| 17/18             | X    | X     | X    |
| 18/19             | X    | X     | X    |
| 19/20             | 35.2 | 18.3  | 21.8 |
| 20/21             | 35.2 | 21.4  | 24.4 |
| 21/22             | 23.2 | 28.2  | 21.8 |
| 22/23             | 29.2 | 21.4  | 28.2 |
| 23/24             | 27.2 | 19.2  | 20.2 |
| 24/25             | 21.4 | 12.8  | 27.2 |
| 25/26             | 21.4 | 12.6  | 27.2 |
| 26/27             | 24.4 | 19.5  | 25.0 |
| 27/28             | 28.2 | 18.9  | 21.0 |
| 28/29             | 35.2 | 17.6  | 26.4 |
| 29/30             | 31.7 | 18.3  | 23.2 |
| 30/31             | 25.0 | 16.5  | 22.2 |
| 31/1              | 26.4 | 23.2  | 27.2 |
| Median values     | 27.2 | 18.3  | 23.2 |

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## November

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| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | 21.0 | 21.4  | 28.2 |
| 2/3               | 27.2 | 17.8  | 31.7 |
| 3/4               | 30.3 | 19.5  | 29.2 |
| 4/5               | 19.9 | 18.1  | 29.2 |
| 5/6               | 26.4 | 18.3  | 30.3 |
| 6/7               | 20.6 | 19.2  | 29.2 |
| 7/8               | 26.4 | 18.1  | 27.2 |
| 8/9               | 23.8 | 18.1  | 27.2 |
| 9/10              | 21.8 | 17.8  | 30.3 |
| 10/11             | 28.2 | 19.5  | 30.3 |
| 11/12             | 23.2 | 22.2  | 47.2 |
| 12/13             | 30.3 | 22.2  | 33.2 |
| 13/14             | 33.2 | 23.2  | 27.2 |
| 14/15             | 27.2 | 19.5  | 29.2 |
| 15/16             | 24.4 | 16.1  | 21.8 |
| 16/17             | 41.2 | 17.3  | 24.4 |
| 17/18             | 26.4 | 25.7  | 33.2 |
| 18/19             | 35.2 | 20.2  | 25.7 |
| 19/20             | 21.4 | 23.2  | 24.4 |
| 20/21             | 31.7 | 25.0  | 31.7 |
| 21/22             | 27.2 | 19.5  | 33.2 |
| 22/23             | 27.2 | 22.2  | 24.4 |
| 23/24             | 41.2 | 21.8  | 25.7 |
| 24/25             | 30.3 | 18.1  | 31.7 |
| 25/26             | 29.2 | 19.5  | 29.2 |
| 26/27             | 35.2 | 25.0  | 30.3 |
| 27/28             | 29.2 | 23.2  | 33.2 |
| 28/29             | 31.7 | 24.4  | 25.7 |
| 29/30             | 27.2 | 20.2  | 24.4 |
| 30/1              | 33.2 | 27.2  | 30.3 |
| Median values     | 27.2 | 19.9  | 29.2 |

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## December

| Date of the night | SS   | Night | SR   |
|-------------------|------|-------|------|
| 1/2               | X    | X     | X    |
| 2/3               | X    | X     | X    |
| 3/4               | 41.2 | 26.4  | 47.2 |
| 4/5               | X    | 25.7  | 35.2 |
| 5/6               | 33.2 | 23.2  | 24.4 |
| 6/7               | 33.2 | 23.2  | 28.2 |
| 7/8               | 35.2 | 28.2  | 31.7 |
| 8/9               | 37.7 | 25.7  | 33.2 |
| 9/10              | 41.2 | 24.4  | 30.3 |
| 10/11             | 31.7 | 20.2  | 30.3 |
| 11/12             | 28.2 | 23.8  | 37.7 |
| 12/13             | 35.2 | 19.5  | X    |
| 13/14             | 33.2 | 23.8  | 47.2 |
| 14/15             | 41.2 | 21.4  | X    |
| 15/16             | 31.7 | 23.8  | 41.2 |
| 16/17             | 35.2 | 24.4  | 41.2 |
| 17/18             | 25.7 | 21.8  | 28.2 |
| 18/19             | 28.2 | 20.6  | 28.2 |
| 19/20             | 25.7 | 23.2  | 27.2 |
| 20/21             | 31.7 | X     | X    |
| 21/22             | 41.2 | 23.8  | 35.2 |
| 22/23             | 37.7 | 23.8  | 41.2 |
| 23/24             | 35.2 | 23.8  | 29.2 |
| 24/25             | 29.2 | 25.7  | 37.7 |
| 25/26             | 35.2 | 22.7  | 37.7 |
| 26/27             | 35.2 | 23.2  | X    |
| 27/28             | 21.4 | 25.0  | 33.2 |
| 28/29             | 35.2 | 19.9  | 28.2 |
| 29/30             | 28.2 | 23.8  | 35.2 |
| 30/31             | 30.3 | 25.0  | 29.2 |
| 31/1              | 37.7 | 24.4  | 27.2 |
| Median values     | 34.2 | 23.8  | 33.2 |



