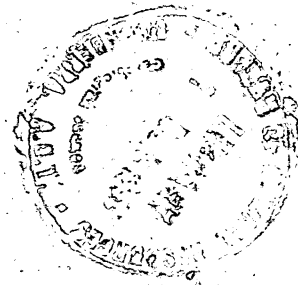


COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

REPORT No. 40



MAGNETIC RESULTS
FROM
MAWSON, ANTARCTICA, 1956

by

P. M. MCGREGOR

NON-LENDING COPY

NOT TO BE REMOVED
FROM LIBRARY



Issued under the Authority of Senator the Hon. W. H. Spooner, M.M.,
Minister for National Development
1959.

LIST OF REPORTS

1. Preliminary Report on the Geophysical Survey of the Collie Coal Basin - N.G. Chamberlain, 1948.
2. Observations on Stratigraphy and Palaeontology of Devonian, Western Portion of Kimberley Division, Western Australia - Curt Teichert, 1949.
3. Preliminary Report on Geology and Coal Resources of Oaklands-Coorabin Coalfield, New South Wales - E. K. Sturmfels, 1950.
4. Geology of the Nerrima Dome, Kimberley Division, Western Australia - D. J. Cuppy, J. O. Cuthbert and A. W. Lindner, 1950.
5. Observations of Terrestrial Magnetism at Heard, Kerguelen and Macquarie Islands, 1947 - 1948 (Carried out in co-operation with the Australian National Antarctic Research Expedition, 1947 - 1948) - N. G. Chamberlain, 1952.
6. Geology of New Occidental, New Cobar and Chesney Mines, Cobar, New South Wales - C. J. Sullivan, 1951.
7. Mount Chalmers Copper and Gold Mine, Queensland - N. H. Fisher and H. B. Owen, 1952.
8. Geological and Geophysical Surveys, Ashford Coal Field, New South Wales - H. B. Owen, G. M. Burton and L. W. Williams, 1954.
9. The Mineral Deposits and Mining Industry of Papua-New Guinea - P. B. Nye and N. H. Fisher, 1954.
10. Geological Reconnaissance of South-Western Portion of Northern Territory - G. F. Joklik, 1952.
11. The Nelson Bore, South-Western Victoria; Micropalaeontology and Stratigraphical Succession - I. Crespin, 1954.
12. Stratigraphy and Micropalaeontology of the Marine Tertiary Rocks between Adelaide and Aldinga, South Australia - I. Crespin, 1954.
13. The Geology of Dampier Peninsula, Western Australia - R. O. Brunnschweiler, 1957.
14. A Provisional Isogonic Map of Australia and New Guinea Showing Predicted Values for the Epoch 1955-5 - F. W. Wood and I. B. Everingham, 1953.
15. Progress Report on the Stratigraphy and Structure of the Carnarvon Basin, Western Australia - M. A. Condon, 1954.
16. Seismic Reflection Survey at Roma, Queensland - J. C. Dooley, 1954.
17. Mount Philp Iron Deposit, Cloncurry District, Queensland - E. K. Carter and J. H. Brooks, 1955.
18. Petrology and Petrography of Limestones from the Fitzroy Basin, Western Australia - J. E. Glover, 1955.
19. Seismic Reflection Survey, Darriman, Gippsland, Victoria - M. J. Garrett, 1955.
20. Micropalaeontological Investigations in the Bureau of Mineral Resources, Geology and Geophysics, 1927-52 - I. Crespin, 1956.
21. Magnetic Results from Heard Island, 1952 - L. N. Ingall, 1955.
22. Oil in Glauconitic Sandstone at Lakes Entrance, Victoria - R. F. Thyer and L. C. Noakes, 1955.
23. Seismic Reflection Survey at Roma, Queensland, 1952-53 - L. W. Williams, 1955.
24. Sedimentary Environment as a Control of Uranium Mineralization in the Katherine - Darwin Region, Northern Territory - M. A. Condon and B. P. Walpole, 1955.

COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

REPORT No. 40

**MAGNETIC RESULTS
FROM
MAWSON, ANTARCTICA, 1956**

by

P. M. McGREGOR



Issued under the Authority of Senator the Hon. W. H. Spooner, M.M.,
Minister for National Development
1959.

Department Of National Development

Minister—SENATOR THE HON. W. H. SPOONER, M.M.

Secretary—H. G. RAGGATT C.B.E.

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Director: J. M. RAYNER.

Deputy Director: H. TEMPLE WATTS.

THIS REPORT WAS PREPARED IN THE GEOPHYSICAL SECTION

Chief Geophysicist: R. F. THYER.

P R E F A C E

The geomagnetic work at Mawson in 1956, described in this report, was planned and carried out by the Bureau of Mineral Resources, Geology and Geophysics, Department of National Development, and was made possible by the Australian National Antarctic Research Expeditions (A.N.A.R.E.) which established a scientific research station on the Antarctic continent in 1954. The instruments used in making the geomagnetic observations were supplied by the Bureau of Mineral Resources, but the observatory buildings and living accommodation were provided by the A.N.A.R.E., which is responsible for the general administration of the research station.

CONTENTS

	<u>Page</u>
ABSTRACT	(vi)
INTRODUCTION	1
OBSERVATORY SITE AND BUILDINGS	1
PROGRAMME OF INVESTIGATION	1
SEMI-ABSOLUTE INSTRUMENTS	1
Quartz horizontal-force magnetometers (Q.H.M.)	1
Magnetometric zero balance (B.M.Z.)	2
ABSOLUTE TIME-MARKER	3
COMPARISON OF SEMI-ABSOLUTE INSTRUMENTS	3
Quartz horizontal-force magnetometers	3
Magnetometric zero balances	3
VARIATION INSTRUMENTS	4
Declination variometer	4
Horizontal-intensity variometer	5
Vertical-intensity variometer	6
Magnetogram scalings	6
Shrinkage correction	6
BASIC HOURLY VALUES AND ASSOCIATED MEANS	7
Basic hourly values	7
Maxima and minima	7
Computed means	7
MONTHLY AND ANNUAL MEANS	7
MAGNETIC ACTIVITY	7
ACKNOWLEDGEMENTS	8
REFERENCES	8

TABLES

	<u>Table</u>
Observed and adopted D scale values	1
Observed and adopted H scale values	2
Abrupt changes in the adopted H scale value	3
Observed and adopted Z scale values	4
Abrupt changes in the adopted Z scale value	5
Observed and adopted baseline values for the D variometer	6
Abrupt changes in the adopted D baseline values	7
Observed and adopted baseline values for the H variometer	8
Abrupt changes in the adopted baseline values	9
Observed and adopted baseline values for the Z variometer	10
Abrupt changes in the adopted Z baseline values	11
Summary of monthly mean values	12
Summary of annual mean values	13
Principal magnetic storms	14
Sudden commencements	15
Hourly values of declination	16-27
Hourly values of horizontal intensity	28-39
Hourly values of vertical intensity	40-51

ILLUSTRATIONS

- Plate 1. Magnetogram illustrating storm sudden commencements (sscX).
- Plate 2. Magnetogram illustrating series of oscillations (pt).
- Plate 3. Magnetogram illustrating polar bay, sharp commencement (bs).
- Plate 4. Magnetogram illustrating polar bay with pulsations (bp).

ABSTRACT

The control and operation of the magnetic observatory at Mawson, Antarctica, during 1956 is described in this report. The work done at the observatory is part of the research programme of the Australian National Antarctic Research Expeditions and is planned and conducted by the Bureau of Mineral Resources, Geology and Geophysics, Department of National Development, Commonwealth of Australia.

The major part of the report consists of the presentation in tabular form of the values of the magnetic elements - declination, horizontal intensity and vertical intensity - determined during the period January to December, 1956.

INTRODUCTION

The year 1956 was the second year of operation of a magnetic observatory at the A.N.A.R.E. station at Mawson, Antarctica, where the geomagnetic work is conducted by the Geophysical Section of the Commonwealth Bureau of Mineral Resources, Geology and Geophysics.

The magnetic observatory was established after the observatory at Heard Island was closed (Lodwick, 1957), and came into full scale operation in August, 1955 (Oldham, 1958).

The writer maintained and operated the observatory from March, 1956 to February, 1957.

OBSERVATORY SITE AND BUILDINGS

The observatory site is near the area tested for magnetic uniformity by R. Dovers in 1954 and is described by Oldham (1958). The absolute hut is slightly to the south of the area tested; the variometer hut is about 300 feet to the north-west of the absolute hut, and nearer to the main station buildings. The proximity of the variometer hut to the main buildings is a most desirable feature in blizzard conditions. The closest possible source of artificial disturbance is a 70-foot steel radio mast about 450 feet from the variometer hut.

The observatory buildings were transferred from Heard Island and have been described in detail by Ingall (1955). The layout of the absolute piers and the magnetograph at Mawson has been described by Oldham (1958).

PROGRAMME OF INVESTIGATION

Measurements of the absolute values of the magnetic elements (D, H and Z) have been made at regular intervals since 4th May, 1955. Continuous recording of variations in these elements commenced in August, 1955, the variometers being of normal sensitivity. Control of the baseline values was maintained by weekly absolute observations and by less frequent scale-value determinations. Preliminary results, obtained by standard observatory techniques, are forwarded by radiogram to the head office of the Bureau in Melbourne for monthly publication. Final reduced values are computed on the return of the observer and the year's records to Australia.

SEMI-ABSOLUTE INSTRUMENTS

QUARTZ HORIZONTAL-FORCE MAGNETOMETERS (Q.H.M.)

Control of the values of horizontal intensity recorded in 1956 was made with Q.H.M. Nos. 300, 301 and 302. Declination values were controlled throughout by Q.H.M. No. 300.

Annual comparisons using intermediary instruments are made against the Toolangi Observatory International Magnetic Standard (I.M.S.), allowing checks to be made on drift. Sudden changes in a Q.H.M. are detected by use of all three instruments each week.

Procedure for the determination of D.

The general procedure for the determination of declination (D) with the Q.H.M. has been described by McGregor (1956). Observations were made concurrently with the determinations of horizontal intensity (H), using Q.H.M. No.300. A set of observations consisted of two azimuth mark settings and four magnet settings; a set was made before and after the H observation with this Q.H.M., the two results being combined for base-line control.

Two undesirable features of the Q.H.M. for D measurements were observed during the year. Firstly, measurements of the angular differences between the three azimuth marks differed from those determined with a theodolite by as much as 1.8 minutes. This was probably due to non-verticality of the Q.H.M. cross-hair. Secondly, the term " α " (the angle by which the magnet is turned out of the meridian due to residual torsion) was found to be not constant (see Oldham, 1958). The value of α was computed each week from the H observations; the results for quiet days fell into two groups, the first group (March to November, 1956) averaging -6.4 minutes and the second (December, 1956 and January, 1957) averaging -4.9 minutes. This discontinuity corresponded exactly with the results of the intercomparisons in February, 1956 and February, 1957, which are summarised later in this report.

Procedure for the determination of H.

The general procedure for the measurement of horizontal intensity has been described by McGregor (1956). Observations were made about once a week. Usually, all three Q.H.M. were used, each giving two values of H over an interval of about 45 minutes. However, during the summer months of January and February observations were restricted to Q.H.M. 300, the temperature then being above the upper limit of the thermometers of Q.H.M. 301 and 302. For this interval two determinations (4 values of H) were made with Q.H.M. 300. Observed values were corrected to I.M.S. for reduction of final values. Details concerning corrections to I.M.S. are given below. No significant drift occurred in any of the instruments.

MAGNETOMETRIC ZERO BALANCE (B.M.Z.)

B.M.Z. 115 was used during January and February, 1956 (Oldham, 1958) and B.M.Z. 62 for the remainder of the year to measure directly the vertical intensity (Z). It was necessary to use supplementary magnet No.62/2 with B.M.Z. 62 in order to neutralise the vertical intensity when the turn-magnet was near the centre of its adjustment.

The weekly observations consisted of two sets, each comprising a determination of the neutral division (when possible) and three magnet settings. To ensure that the B.M.Z. was at room temperature the two sets were made, at a short interval apart, immediately before the H and D observations, and the B.M.Z. removed to an external shelter for the succeeding measurements.

The corrections to I.M.S. for the two instruments were determined from comparison observations in February, 1956 and February, 1957. A change of correction was found necessary after extensive use of B.M.Z. 62 in the field in May, 1956.

ABSOLUTE TIME-MARKER

In April, 1956 a device was installed in the absolute hut to enable time marks to be recorded on the magnetogram at the precise times of the absolute observations. This method is particularly useful with the La Cour magnetograph as no parallax error exists between the time marks and the corresponding points on the trace. Thus reliable baseline values could be determined from absolute observations even if these were made on days when the magnetic disturbance level was high.

COMPARISON OF SEMI-ABSOLUTE INSTRUMENTS

QUARTZ HORIZONTAL-FORCE MAGNETOMETERS

Declination

Q.H.M. 300 was related to the Toolangi standard through comparisons with Askania magnetometer No. 508813 in February, 1956 and February, 1957. When the Q.H.M. observations were uncorrected for collimation and residual torsion errors the results were:-

$$D_{IMS} - D_{300} = +26.9 \text{ minutes} = \psi_1 \quad (1956)$$

$$D_{IMS} - D_{300} = +25.4 \text{ minutes} = \psi_2 \quad (1957)$$

The angle (α) due to residual torsion was -6.4 minutes from January to November, 1956, and -4.9 minutes from December, 1956 to February, 1957 (see Plate 2). Application of these values to the values ψ_1 and ψ_2 gave the error due to collimation (c) as 20.5 minutes in both cases. This value was adopted and differs from the maker's figure by 2.0 minutes. After the magnet readings were corrected by the adopted values of c and α , no corrections on I.M.S. were required for the D observations.

Horizontal Intensity.

Comparisons of the Mawson magnetometers were made with Q.H.M. 174 (March, 1956) and Q.H.M. 172 and 174 (February, 1957). These were compared, before and after travelling to Mawson, with the Toolangi standard (Ruska magnetometer No. 4813). The resulting corrections on I.M.S. showed that there was no change in the instrument for the year. The corrections were:-

$$H_{IMS} = H_{300} + 3 \text{ gammas}$$

$$= H_{301} + 3 \text{ gammas}$$

$$= H_{302} + 4 \text{ gammas}$$

MAGNETOMETRIC ZERO BALANCES.

In February, 1956, long-range B.M.Z. No. 121 was compared with B.M.Z. 115 and B.M.Z. 62 at Mawson. B.M.Z. 115 and 121, after their return to Australia, were compared with the Toolangi standard earth inductor Schultz No. 49 (through the magnetograph baselines.) B.M.Z. 62 was again compared with the Toolangi standard in February, 1957 by comparisons made with B.M.Z. 115. The adopted results for B.M.Z. 115 and B.M.Z. 62 were:-

Z_{IMS} = Z₁₁₅ - 2 gammas (January and February, 1956)
= Z₆₂ - 11 gammas (February to May, 1956)
= Z₆₂ - 4 gammas (May, 1956 to February, 1957)

The discontinuity of 7 gammas in May, 1956 was revealed in the variometer baselines following field use of B.M.Z. 62 during that month.

VARIATION INSTRUMENTS

The magnetograph was installed in 1955 and is described by Oldham (1958).

DECLINATION VARIOMETER

Scale value

One determination of the scale value of the variometer made in January, 1957 by Helmholtz-Gaugain coil deflections gave a scale value of 0.903 minutes of arc per mm. The scale value adopted for 1956 was determined by the direct method, namely by least squares analysis of the ordinates on the magnetogram at the time of absolute observations (Olsen, 1927).

The data used for the interval May to September covered a range of ordinates of 58mm and so the method may be applied. The adopted value (Table 1) of 0.890 minutes of arc per mm differs considerably from the value (0.853 minutes per mm) determined in 1955 and is nearer the value (0.912 minutes per mm) determined for the same variometer at Heard Island in 1952 (Ingall, 1955).

Orientation

The alignment of the D variometer magnet was measured in January, 1957 by applying a reversal field of 1500 gammas in the direction of the magnetic meridian using the H scale-value coil. The recorded deflections showed the magnet to be 0.9 degrees west of the meridian.

Base lines

Table 6 lists the observed and adopted D base-line values.

The adopted values show a change of 1.3 minutes at the beginning of March. This could not be connected with Q.H.M. 300, and has been attributed to the variometer. On 9th May, the torsion head was adjusted to reduce the ordinate and thereafter the baseline showed no appreciable change.

The probable error of ± 0.2 minutes for a single baseline determination indicates that the Q.H.M. is satisfactory for control of a declinometer provided annual comparisons are made against a standard and a check is kept on the value of α .

HORIZONTAL INTENSITY VARIOMETER

Scale values

These were determined by the Helmholtz-Gaugain coil method. Determinations were made on the quieter days in order to obtain reasonably reliable values, and for that reason were made at irregular intervals. Thirty-seven determinations were made in 1956, and the results are listed in Table 2.

Temperature compensation

The optical compensating device was in reasonable adjustment until late in September, the baseline temperature co-efficient being about +0.4 gammas per degree Centigrade. On 28th September, the temperature of the variometer room was raised artificially by 12 degrees to check the compensation of the Z variometer, and from then onwards the H baseline co-efficient was +1.8 gammas per degree. The temperature trace calibrations show a change of sensitivity and of base of the compensator following the test, but this change accounts for only about one quarter of the baseline co-efficient change. It appears that the temperature co-efficient of the magnet also changed.

The compensator strip was adjusted to the calculated correct length in December, but its sensitivity remained the same as previously until 1st January, 1957, when, for no obvious reason, it altered to a value closer to that required for compensation.

All values derived from the magnetogram have been corrected for temperature by calibration of the temperature trace in terms of corrections (in gammas). For hourly values, the temperature trace was scaled at four-hourly intervals and the intervening values interpolated.

Orientation

The alignment of the H variometer magnet was measured in January, 1957 in a manner similar to that described for D, but with the applied field in the direction of the magnetic prime vertical of the absolute pier. The recorded deflections showed the magnet to be within 0.2 degrees of the desired orientation.

Base lines

The observed and adopted H baseline values corrected to I.M.S. and 0°C, are given in Table 8.

On 9th May, the baseline mirror was adjusted to record the time marks, and on 23rd July the mirror was replaced. The change of baseline on 28th September corresponds to the change of temperature co-efficient described above and that on 6th December resulted from the adjustment of the compensator.

The adopted values are the means of the observed values for the periods between adjustments. The observed values show that the probable error of a single determination of the baseline value is ± 2 gammas.

VERTICAL INTENSITY VARIOMETER

Scale values

The scale values, determined in the same manner as those for H and on the same days, are given in Table 4. A small change occurred after the adjustment of the compensator on 5th October, and another after a heater test on 4th December.

Temperature compensation

Observed baselines to October showed the Z balance to be undercompensated for temperature effects, the baseline temperature co-efficient being +1.3 gammas per degree Centigrade. The compensator strip was adjusted on 5th October, and a subsequent test by artificial heating of the variometer room on 4th December showed a negligible effect.

Temperature corrections to magnetogram values were made (as for H) by scalings of the temperature trace calibrated directly in gammas.

Orientation

No precise determination could be made of the horizontality of the Z magnet. The Helmholtz Gaugain coils could not be fitted over the variometer, and the situation of the pier and variometer close to the south wall of the hut (Oldham, 1958) precluded the use of a bar magnet as a deflector. However, a comparison of baselines with horizontal intensity indicated that the Z magnet was not far from a horizontal position.

Base lines

Table 10 shows the observed and adopted I.M.S. baseline values for the Z variometer. Unexplained changes in July and November have been attributed to the variometer. The compensator was adjusted on 5th October, and a change occurred after the heater test on 4th December. Adopted values are the means of the observed values between changes.

The probable error of a single baseline determination is ± 2 gammas and shows the B.M.Z. to be satisfactory for variometer control provided sufficient comparisons against a standard are made.

MAGNETOGRAM SCALINGS

Mean ordinate scalings of all elements were made for intervals bounded by successive hour marks. Greenwich mean time was used and the results were tabulated on standard forms. Scalings were also made of the instantaneous maximum and minimum values for each Greenwich day and their times of occurrence. All scalings were made in millimetres.

SHRINKAGE CORRECTION

All ordinate scalings are corrected for shrinkage of the photographic paper. The corrections were determined in the usual manner.

BASIC HOURLY VALUES AND ASSOCIATED MEANS

BASIC HOURLY VALUES

Tables 16 to 27, 28 to 39 and 40 to 51 give the hourly values of declination, horizontal intensity and vertical intensity respectively. The values are the means for successive hourly periods commencing at 00 hours G.M.T.

The values of vertical intensity are expressed in a numerical sense without sign; the vertical intensity is algebraically negative at Mawson. Declination is westerly and the listed values are in a numerical sense only.

Original scalings and tabulations were made by the writer at Mawson, and were checked later by the computing staff at the Bureau's head office in Melbourne. Base-line and scale-value computations were made and checked in a similar manner. Temperature co-efficients determined at Mawson were re-computed by the writer in Melbourne after adoption of I.M.S. corrections and final checking of the data used. Baselines were reduced to standard temperature (where necessary) and final values were adopted by the writer.

MAXIMA AND MINIMA

The extreme values of the elements, their time of occurrence and the range for the Greenwich day are shown on the tables of basic hourly values. In some instances when record was lost for several hours due to the recorder stopping, it was still possible to determine maxima and minima because the vertical line produced on the magnetogram after the failure indicated the extreme movements during the unrecorded interval.

COMPUTED MEANS

Tables 16 to 51 list, as well as the mean hourly values for "all days", the means of the ten least disturbed days, the five international quiet days and the five international disturbed days. Daily mean values are listed before the maximum and minimum values.

MONTHLY AND ANNUAL MEANS

Monthly means, computed from the mean hourly values, are summarised in Table 12. The annual means (Table 13) were computed from the monthly means.

MAGNETIC ACTIVITY

Lists of K-indices have been published in the monthly "Geophysical Observatory Report" of the Bureau of Mineral Resources. The K-indices were scaled monthly at Mawson and were based upon quiet day variations for the particular month.

The disturbances level at Mawson is such that in some months it was impossible to obtain reliable quiet day data, in which case the indices were based on the previous month's variations. The K-indices are not repeated in this report.

Principal magnetic storms are given in Table 14 and sudden commencements and other phenomena are listed in Table 15. In the latter table, only exceptional cases of bay types, sudden impulses and pulsations have been included; none of the many examples occurring during magnetic storms is listed. Magnetograms illustrating the various types of magnetic phenomena are shown on Plates 1 to 4.

ACKNOWLEDGEMENTS

Assistance rendered at Mawson by several members of the A.N.A.R.E., especially R.M. Jacklyn, is hereby acknowledged. The I.M.S. corrections to the Quartz Horizontal Magnetometers and Magnetometric Zero Balances are dependent on comparison observations made at Toolangi by I.B. Everingham, and the reduction of the tables in final form was carried out by C.A. van der Waal and the computing staff at the Bureau's head office in Melbourne.

REFERENCES

- | | | |
|----------------------|---|--|
| Ingall, L.N., 1955 | - | Magnetic Results from Heard Island, 1952.
<u>Bur. Min. Resour. Aust., Rep. 21.</u> |
| Lodwick, K.B., 1957 | - | Magnetic Results from Heard Island, 1954.
<u>Bur. Min. Resour. Aust., Rep. 34.</u> |
| McGregor, P.M., 1956 | - | Magnetic Results from Macquarie Island, 1952.
<u>Bur. Min. Resour. Aust., Rep. 27.</u> |
| Oldham, W.H., 1958 | - | Magnetic Results from Mawson, Antarctica,
1955. <u>Bur. Min. Resour. Aust., Rep. 39.</u> |
| Olsen, J., 1927 | - | Direct determination of scale values at the
magnetic observatory at Godhavn.
<u>Danish Met. Inst., Mag. Comms. No.2.</u> |

TABLE 1

Observed and adopted D scale-values

Date	Observed	Adopted	Method used for determination
1956	'/mm	'/mm	
May - Sept.	0.890	0.890	Ordinates at times of absolutes

TABLE 2

Observed and adopted H scale-values

(Determinations with Helmholtz coil)

Date	Observed	Adopted	Adopted value used to	Date	Observed	Adopted	Adopted value used to
1956	Y/mm	Y/mm		1956	Y/mm	Y/mm	
January 15	9.55	9.50		August 6	9.37	9.40	
" 23	9.49	9.50		" 16	9.45	9.40	
February 8	9.54	9.50		" 20	9.30	9.40	
" 15	9.51	9.50		" 31	9.48	9.40	
March 7	(9.39)	9.50		September 14	9.35	9.40	
April 21	(9.25)	9.50		" 19	9.37	9.40	
" 26	9.44	9.50		" 27	9.34	9.40	
May 5	9.56	9.50		" 28	9.41	9.40	Obs Sept. 28
" 8	9.53	9.50	09h May 9	October 14	9.50	9.52	
" 10	9.42	9.40		" 17	9.59	9.52	
" 29	9.41	9.40		" 19	9.30	9.52	
" 31	9.38	9.40		" 24	9.48	9.52	
June 7	9.30	9.40		November 21	9.55	9.52	
" 20	(9.81)	9.40		" 27	9.49	9.52	
" 21	9.28	9.40		" 30	(9.77)	9.52	
July 12	9.42	9.40		December 12	(9.78)	9.52	
" 19	9.47	9.40		" 19	9.65	9.52	
" 23	9.36	9.40		" 19	9.43	9.52	
				" 27	9.41	9.52	

() disturbed values - omitted from means

TABLE 3

Abrupt changes in the adopted H scale-values

Date	Change from preceding value	Cause of change
1956	Y/mm	
May 9	-0.10	Adjustment of base mirror.
September 28	+0.12	Variometer heater test.

TABLE 4

Observed and adopted Z scale-values
(Determinations with Helmholtz coil)

Date	Observed	Adopted	Adopted value used to	Date	Observed	Adopted	Adopted value used to
1956	Y/mm	Y/mm		1956	Y/mm	Y/mm	
January 15	9.92	9.92		August 6	9.83	9.86	
" 23	9.93	9.92		" 16	9.82	9.86	
February 8	9.91	9.92		" 20	9.93	9.86	
" 15	9.91	9.92		" 31	9.93	9.86	
March 7	9.85	9.92		September 14	9.91	9.86	
" 16	(9.51)	9.92		" 19	9.80	9.86	
April 21	(9.65)	9.92		" 27	9.87	9.86	
" 26	9.94	9.92		" 28	9.84	9.86	09h Oct. 5
May 5	9.97	9.92		October 10	9.79	9.83	
" 8	9.87	9.92		" 14	9.91	9.83	
" 10	9.92	9.92		" 17	9.91	9.83	
" 29	9.94	9.92	24h May 30	" 19	9.81	9.83	
" 31	9.98	9.90	24h June 1	" 24	9.76	9.83	
		9.88	24h June 4	November 21	(10.24)	9.83	
June 7	9.89	9.86		" 27	9.84	9.83	
" 20	9.87	9.86		" 30	9.77	9.83	09h Dec. 4
" 21	9.87	9.86		December 12	9.91	9.90	
July 12	9.86	9.86		" 19	9.84	9.90	
" 19	9.78	9.86		" 19	9.93	9.90	
" 23	9.89	9.86		" 27	9.97	9.90	

() disturbed values - omitted from means

TABLE 5

Abrupt changes in the adopted Z scale-values

Date	Change from preceding value	Cause of change
1956	Y/mm	
May 31	-0.02	
June 2	-0.02	
" 5	-0.02	
October 5	-0.03	Compensator adjusted
December 4	+0.07	Variometer heater test

Observed and adopted base-line values for D variometer

(West declination)

x half sets

Abrupt changes in the adopted D base-line values

Date	Change from preceding value	Cause of change
1956	'	
March 3	+0.4	Unknown
March 6	+0.4	"
March 9	+0.5	"
May 9	-42.3	Torsion head adjustment

TABLE 8

Observed and adopted base-line values (at 0°C) for H variometer
(Observed values determined with QHM Nos. 300, 301 & 302 except where noted)

Date	Observed	Adopted	Adopted value used to	Date	Observed	Adopted	Adopted value used to
1956	Y	Y		1956	Y	Y	
January 9	17682 +	17678		July 5	17823	17822	
" 15	17682 +	17678		" 12	17819 /	17822	
" 23	17676 +	17678		" 19	17824	17822	09h July 23
February 2	17677 +	17678		" 26	17973	17976	
" 8	17678 +	17678		August 2	17971	17976	
" 15	17674 +	17678		" 8	17976	17976	
" 23	17675 +	17678		" 16	17973	17976	
March 2	17678 +	17678		" 30	17975	17976	
" 13	17583 +	17678		September 6	17977	17976	
" 16	17678 x	17678		" 14	17981	17976	
April 7	17679	17678		" 21	17977	17976	
" 14	17678	17678		" 28	17982 Ø	17976	08h Sept. 28
" 21	17678	17678		October 10	17959	17963	
" 30	17679	17678		" 17	17964	17963	
May 8	17675 *	17678	09h May 9	" 24	17963	17963	
" 10	17824	17822		November 4	17959	17963	
" 17	17816	17822		" 13	17961	17963	
" 25	17821	17822		" 20	17967 +	17963	
" 31	17824	17822		" 27	17966	17963	
June 8	17828	17822		December 4	17962 *	17963	09h Dec. 6
" 14	17825	17822		" 12	17841 +	17840	
" 21	17819	17822		" 19	17841 +	17840	
" 30	17821	17822		" 27	17839 +	17840	

* 1 value QHM No. 300

+ 2 values QHM No. 300 x 2 values QHM No. 301

Ø 2 values QHM Nos. 300 & 301

/ 2 values QHM Nos. 301 & 302

TABLE 9

Abrupt changes in the adopted H base-line values
(Horizontal intensity is reckoned as positive; changes below taken algebraically)

Date	Change from preceding value	Cause of change
1956	Y	
May 9	+144	Adjustment of H base mirror
July 23	+154	Replacement of H base mirror
September 28	- 13	Variometer heater test
December 6	-123	Adjustment of compensator

TABLE 10

Observed and adopted base-line values for Z variometer

(Corrected to 0°C Jan. 1 to Oct. 5; no correction applied after Oct.5)

(Observed values determined with BMZ No.115 until Feb.24; values determined with BMZ No.62 for remainder of year)

Date	Observed	Adopted	Adopted value used to	Date	Observed	Adopted	Adopted value used to
1956	Y	Y		1956	Y	Y	
January 9	-48650	-48648		July 5	-48648	-48648	
" 15	48654	48648		" 19	48650	48648	00h July 23
" 23	48650	48648		" 26	48656	48655	
February 2	48648	48648		August 2	(48664)	48655	
" 8	48650	48648		" 8	48656	48655	
" 15	48644	48648		" 16	48654	48655	
" 23	48648	48648		" 30	48662	48655	
" 24	48648	48648		September 6	48654	48655	
" 27	48646	48648		" 8	48654	48655	
March 16	48643	48648		" 14	48654	48655	
April 7	48647	48648		" 21	48660	48655	
" 14	48652	48648		" 28	48652	48655	09h Oct. 5
" 21	48645	48648		October 10	48728	48727	
" 30	48648	48648		" 17	48728	48727	
May 8	48648	48648		" 24	(48720)	48727	
" 10	48650	48648		November 4	48727	48727	06h Nov. 12
" 17	(48640)	48648		" 13	48733	48733	
" 25	48648	48648		" 20	48730	48733	
" 31	48648	48648		" 27	48736	48733	
June 8	48646	48648		December 4	(48741)	48733	09h Dec. 4
" 14	48650	48648		" 12	48746	48751	
" 21	48652	48648		" 19	48748	48751	
" 30	48651	48648		" 27	48754	48751	

() omitted from means .

TABLE 11

Abrupt changes in the adopted Z base-line values

(Vertical intensity is reckoned as negative; changes below taken algebraically)

Date	Change from preceding value	Cause of change
1956	Y	
July 23	- 7	Unexplained
October 5	-72	Adjustment of compensator
November 12	- 6	Unexplained
December 4	-18	Variometer heater test

TABLE 12

Summary of monthly mean values

Month	D		H	Z	D		H	Z
1956	°	'	Y	Y	°	'	Y	Y
	All days				Ten least disturbed days			
January	-58	43.2	18273	-49026	-58	43.8	18291	-49029
February	-58	46.1	18276	-49037	-58	45.7	18287	-49024
March	-58	47.3	18257	-49074		+	+	+
April	-58	49.9	18254	-49059	-58	49.0	18267	-49030
May	-58	52.8	18239	-49043	-58	49.6	18268	-49031
June	-58	53.0	18252	-49011		+	+	+
July	-58	53.9	18263	-48981	-58	52.9	18274	-48994
August	-58	56.3	18262	-49001	-58	55.7	18279	-48997
September	-58	58.0	18261	-49011	-58	57.0	18274	-48999
October	-58	57.6	18287	-48996	-58	57.8	18294	-48988
November	-58	56.8	18300	-49009	-58	57.3	18289	-49004
December	-58	57.7	18311	-48983	-59	00.3	18294	-48978
	Five international quiet days				Five international disturbed days			
January	-58	44.6	18288	-49030	-58	46.4	18236	-48993
February	-58	45.6	18285	-49028	-58	48.8	18243	-49068
March		+	+	+	-58	49.1	18218	-49118
April	-58	49.1	18270	-49024	-58	54.4	18214	-49123
May	-58	51.0	18281	-49024	-58	59.0	18143	-49115
June		+	+	+	-58	55.1	18233	-49029
July	-58	52.8	18277	-48994	-58	55.6	18236	-48993
August	-58	55.8	18276	-48996	-58	58.4	18210	-49008
September	-58	56.7	18278	-48997	-59	00.9	18245	-49035
October	-58	57.7	18296	-48990	-58	56.5	18286	-49001
November	-58	58.0	18288	-49001	-59	00.5	18282	-49063
December	-59	01.2	18280	-48979	-58	57.2	18332	-48959

+ Insufficient data

TABLE 13

Summary of annual mean values

Year	D		H	Z
1956	°	'	Y	Y
All days	-58	52.7	18270	-49019
Ten least disturbed days	-58	52.9	18282	-49007
Five international quiet days	-58	53.2	18282	-49006
Five international disturbed days	-58	55.2	18240	-49042

TABLE 14
Principal magnetic storms

Greenwich Date	Storm time				Type	Sudden commencement			Degree of activity ϕ	Maximal activity on K-scale 0-9			Ranges			
	G.M.T. of beginning		G.M.T. of ending			Amplitudes				Gr. day	Gr. 3-hour period	K-index	D	H	Z	
						D	H	Z								
1956		h	m	d	h		'	Y	Y					'	Y	Y
January	10	11	..	13	07	....	...	...	...	B	11	3	7	166	944	822
	18	00	15	20	08	....	...	...	...	B	18	2	7	128	967	707
	23	17	..	25	09	....	...	...	...	A	24	7	8	192	1234	1119
	27	10	..	01	09	....	...	...	...	A	28	2	8	142	1252	1138
February	25	03	07			ssc*	+39	+203	-212	A	25	4	8	204	1648	1234
March	2	17	..	04	17	....	...	...	...	A	3	3,8	8	134	1432	946
	21	00	15	23	08	....	...	...	...	A	22	1,2	8	147	1104	1324
a April	20	19	..	22	12	....	...	...	...	B	22	1,2,3	7	106	816	1155
	26	20	30	28	10	....	...	...	...	A	27	2	8	202	1276	1254
	28	19	..	01	19	....	...	...	...	A	29	2	8	204	1269	1397
May	11	22	40	13	14	....	...	...	...	B	13	2	7	117	653	776
	13	22	55	17	15	....	...	...	...	A	15	5	8	171	1439	1174
	20	06	37	21	09	ssc*	+27	+197	-173	B	20	8	7	81	863	838
	23	07	..	25	11	....	...	...	...	A	24	8	8	195	1642	1423
June									N i l							
July	25	20	30	29	11	....	...	...	...	B	26	8	7	211	1070	1012
											28	7,8				
											29	3				
August	22	19	..	26	21	....	...	...	...	A	24	1	8	199	1205	1464
											25	8				
September	2	02	..	03	20	....	...	...	...	A	2	2,3	8	168	1191	1513
	20	03	45	22	20	....	...	...	...	B	20	2	7	126	762	797
											22	7				
October	2	04	45	04	05	....	...	...	...	B	2	8	6	98	583	847
											3	6				
											6					
b	20	(03	30)	22	05	Commencement uncertain				B	20	2,3	7	130	988	700
	26	13	11	28	15	ssc	+8	-44	-2	B	26	8	6	123	579	749
											27	2,7				
											28	3				
c d e	November	9	14	30	13 (05)	....	...	...	...	A	10	8	8	290	1332	1235
		14	unknown	18	16	unknown	...	...	...	A	14	3	8	(221)	(1492)	(1330)
		20	06	..	23	..		...	...	...	B	23	2	7	169	677	924
December	10	03	30	11	04	....	...	...	...	B	10	2,4,5	6	120	978	822
	24	18	..	26	12	....	...	...	...	B	25	7	7	171	733	921
											26	2,3				
	27	10	30	31	05	....	...	...	...	B	27	6	7	126	821	1048

ϕ Severe storm classified A. Moderately severe storm classified B.
a Record incomplete on April 27.
b Record incomplete to 03h October 20.
c Record incomplete November 12 and 13.
d Record incomplete November 14.
e Record incomplete November 23.

TABLE 15

Sudden Commencements

Date	G.M. Time		Type	Duration	Date	G.M. Time		Type	Duration
1956	h	m		hrs	1956	h	m		hrs
January	21	16 44	ssc		July	28	04 00	pt	11
February	19	02 20	ssc *		August	9	10 40	ssc *	
"	24	21 04	bps		"	11	00 44	ssc	
"	25	03 07	ssc		"	18	04 30	pt	4
March	19	21 08	b		"	21	05 08	ssc	
"	25	17 52	bs		"	21	12 59	sfe	
"	25	22 06	bs		"	28	05 00	pt	2
April	2	07 21	ssc		"	29	05 30	pt	3 5
"	7	00 39	bs		"	31	10 16	ssc	
"	12	06 00	pt	3.5	September	5	03 10	sfe	
"	14	21 30	bps		"	15	22 35	b	
"	21	11 01	ssc		"	21	06 30	pt	3
May	2	05 00	pt	2.5	"	23	07 00	pt	2.5
"	7	19 30	b		"	24	20 25	bs	
"	19	21 35	bp		October	7	05 30	pt	1.5
"	20	06 37	ssc *		"	8	03 00	pt	6.5
"	26	18 56	bs		"	8	20 11	bs	
"	29	13 15	si		"	9	04 30	pt	4
June	10	04 30	pt	2.5	"	26	13 11	ssc	
"	16	05 50	pt	3	November	4	04 00	pt	2.5
"	21	20 40	bps		"	9	20 30	ssc	
"	23	18 07	ssc		"	29	08 00	pt	1
"	26	22 30	bs		"	30	07 00	pt	5.5
"	29	06 00	pt	3.5	December	3	07 00	pt	1
"	30	06 30	pt	2.5	"	4	05 30	pt	3
July	1	04 30	pt	9	"	9	04 00	pt	4
"	11	04 30	pt	4	"	13	07 14	si	
"	12	06 00	pt	3	"	26	10 30	pt	1
					"	29	07 00	pt	8.5

HOURLY VALUES OF DECLINATION

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range				
1	347	441	498		646	765	772	595	454	429	429	391	383	366	367	333	272	349	292	380	320	108	251	168	302	402	h	m	h	m			
2	365	441	498		488	699	579	506	469	447	403	385	388	378	388	383	341	406	359	334	199	111	266	352	348	397	04	06	20	53	-225	1210	
3	411	344	435		439	665	663	568	476	450	457	397	394	401	398	401	375	343	306	334	379	342	297	321	360	415	04	50	809	21	48	042	767
4	407	396	571		578	588	586	592	503	498	458	450	464	383	393	360	388	388	332	245	423	331	251	272	278	425	19	03	923	22	56	-056	979
5	458	447	462		560	640	628	601	489	452	443	422	387	368	362	362	369	375	384	(517)	300	300	352	432	369	437	18	48	1322	19	28	156	1166
6	409	345	443		525	525	536	506	473	455	437	417	391	396	396	340	313	(216)	374	330	313	327	433	332	332	398				16	22	-692	
7 *	371	436	405		437	561	515	457	448	442	434	437	409	402	384	336	347	385	308	417	401	383	318	375	276	404	22	58	822	22	16	165	657
8 *	357	476	489		528	636	538	480	458	447	417	422	401	401	369	376	397	410	409	364	411	401	352	338	376	427	04	33	716	21	52	231	485
9 *	393	402	454		641	825	658	526	451	468	514	551	495	579	409	378	335	374	355	387	371	365	354	391	409	462	04	20	1047	21	38	295	752
10	444	441	444		595	587	888	693	476	393	435	454	488	507	483	393	220	298	231	212	292	266	159	213	193	409	05	14	982	21	02	037	945
11	329	401	571		713	868	817	282	832	752	(672)	763	789	578	547	425	393	304	214	063	040	280	376	347	335	545	06	52	1675	18	56	-058	1733
12	382	393	489		559	612	592	515	429	461	425	471	489	429	470	399	325	419	203	044	117	160	245	320	292	385	05	31	669	17	56	-058	727
13 *	369	517	572		582	797	756	596	536	482	439	401	387	400	392	393	410	432	432	410	392	401	387	382	346	467	04	38	949	01	00	285	664
14 *	312	378	425		596	741	818	553	484	454	416	416	376	380	401	379	409	374	387	373	343	336	262	352	381	431	05	05	947	21	24	031	916
15 *	417	490	568		592	587	567	536	495	458	416	377	374	367	369	401	418	417	417	418	399	401	393	357	368	442	02	50	615	23	03	327	288
16 *	391	442	565		611	591	535	530	488	478	474	412	375	381	393	390	407	407	403	393	371	393	389	386	410	442	02	59	642	19	17	336	306
17 *	410	472	489		467	668	629	535	441	403	388	441	420	380	369	316	274	320	370	379	359	357	334	341	337	411	04	47	709	15	35	203	506
18	339	387	515		896	960	756	601	628	499	458	398	390	338	353	368	455	381	352	195	135	060	127	205	293	420	03	41	1273	20	25	-062	1335
19	555	534	624		619	752	752	515	607	563	506	507	513	559	364	473	272	284	367	190	247	318	331	312	330	466	05	16	966	18	16	050	916
20 *	382	433	650		618	692	652	591	530	481	469	435	417	409	406	419	404	411	405	409	246	433	417	390	(390)	465	(05	10	772)	(00	10	355)	(417)
21 *								423	423	426	426	390	384	362	325	383				390	341	363	290	441	312								
22	(424)	811	476		464	681	927	619	472	360	362	348	370	369	376	380	391										(01	14	1587)	(00	01	019)	(1568)
23								416	430	432	434	425	423	409	393	340				349	278	267	175	329	352	433	(05	47	975)	(19	47	-832)	(1807)
24	401	460	629		632	623	747	714	711	613	490	584	666	584	373	349	312	298	296	124	000	069	204	221	290	443	06	28	1165	19	42	097	1068
25	330	369	463		666	547	791	944	601	441	458	442	434	394	386	393	409	396	380	355	272	340	374	408	423	459	06	28	1165	19	42	097	1068
26 *	426	443	498		474	550	636	538	483	461	441	435	421	408	408	409	415	417	421	333	435	344	427	423	401	452	05	13	708	23	47	358	350
27	390	458	587		675	680	703	548	460	451	534	494	359	385	386	246	392	351	262	162	049	229	304	384	409	412	05	24	765	19	35	-244	1009
28	414	489	422		540	850	(659)	565	545	512	453	413	463	538	409	337	385	410	401	382	432	406	252	289	411	457	04	58	1242	05	56	025	1217
29	444	348	416		566	616	522	542	458	459	320	360	400	400	393	417	332	376	355	454	245	187	341	393	369	388	18	05	870	18	22	-341	1211
30	417	444	463		543	510	570	570	507	481	(402)	449	423	416	400	374	396	395	246	423	377	334	354	344	336	424	17	16	847	17	45	-066	913
31	417	405	401		486	596	645	495	498	441	481	455	462	388	358	402	385	409	474	396	406	364	325	257	360	429	05	10	814	21	54	-098	912
Mean	396	430	448		581	668	668	600	522	478	452	448	441	426	397	377	362	369	348	311	302	301	321	332	347	432	DESIGNATIONS				918		
Mean *	382	454	507		545	647	627	536	485	456	432	416	398	392	388	380	386	397	395	400	393	393	364	372	365	438	*	Ten least disturbed days				510	
Mean /	395	457	534		565	611	586	536	491	465	441	416	398	393	389	399	408	412	411	403	408	412	396	379	389	446	/	Five international quiet days				369	
Mean ≠	408	454	552		680	811	786	755	704	588	516	533	564	519	409	390	363	335	326	191	171	227	258	275	332	464	≠	Five international disturbed days				1402	
	a Means of 9 values				b Means of 8 values				c Means of 4 values																								

TABLE 17

HOURLY VALUES OF DECLINATION

FEBRUARY 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range	
1	452	498	506		376	699	622	558	657	567	473	401	414	402	400	378	377	343	359	352	257	241	316	237	317	425	h	m	h	m
2	311	382	441		535	510	709	631	534	465	417	463	388	378	378	388	369	392	577	381	276	298	334	275	364	425	17	44	21	39
3	358	498	424		531	667	702	552	500	481	503	405	409	417	414	401	423	423	423	401	521	373	306	301	329	448	05	11	22	45
4	452	497	497		614	668	619	506	446	441	439	466	458	422	425	399	418	421	440	400	433	352	328	388	405	456	20	59	860	21
5 *	428	453	476		525	619	645	512	466	444	443	429	435	432	429	417	405	414	409	409	503	218	386	344	359	442	19	51	949	20
6	401	481	587		626	573	514	521	454	439	422	441	441	414	422	432	424	427	485	452	433	431	397	405	417	460	02	38	699	00
7 *	425	448	538		567	636	544	494	458	447	435	430	416	424	436	443	447	446	445	440	419	393	328	407	455	04	14	677	22	38
8 *	425	505	552		565	538	512	490	474	450	426	432	410	399	401	415	432	432	432	434	447	432	421	418	398	452	02	48	574	00
9 *	398	383	460		506	607	569	503	467	425	421	402	404	425	432	432	432	435	434	428	414	405	410	386	424	442	04	50	639	01
10 *	433	451	534		517			490	470		430	414	413	413	422	426	429	430	423	405	366	372	339	391	374		03	02	559	21
11	355	332	490		590	685	660	555	498	466	429	451	409	405	415	320	360	320	399	388	242	218	260	239	272	407	04	59	789	22
12	311	380	534		585	816	948	046	553	648	(614)	623	462	396	400	417	425	425	429	432	449	421	405	342	383	518	06	20	1731	00
13	397	446	479		596	668	692	657	550	523	501	456	449	425	398	378	385	409	411	417	448	392	364	392	390	468	04	55	783	14
14 *	442	494	538		694	690	580	558	504	465	445	425	414	414	412	421	419	432	416	435	425	432	443	447	443	474	03	55	772	10
15 *	446	462	479		587	591	589	547	527	498	487	427	414	414	423	423	425	421	434	430	381	336	355	315	332	448	05	59	654	22
16	417	479	514		576	916	936	850	500	472	441	411	400	404	409	335	392	314	260	174	187	263	331	351	390	447	05	52	1386	18
17 *	409	498	488		594	608	589	563	504	524	(458)	417	401	410	418	412	435	437	430	444	441	435	442	436	446	468	05	24	681	00
18 *	460	501	496		583	689	737	625	565	526	483	419	415	441	435	433	401	406	439	417	428	413	413	429	454	484	05	17	797	15
19	470	485	490		538	617	681	685	550	521	494	574	472	460	447	408	351	358	412	398	409	427	430	399	458	481	05	26	788	15
20 *	466	436	484		547	557	546	545	521	490	451	437	432	389	368	321	409	392	408	441	450	444	445	449	456	454	06	51	659	14
21	448	458	497		580	657	561	530	527	567	478	458	449	421	409	428	435	435	441	445	444	413	432	422	393	472	04	23	734	13
22	409	475	392		485	661	593	539	517	482	478	438	447	403	381	402	425	421	418	418	441	418	432	405	428	454	04	11	725	03
23	460	483	494		551	548	514	499	490	494	466	490	464	439	411	409	350	369	409	358	363	388	439	450	460	450	03	43	587	15
24	463	463	508		512	503	502	495	491	485	469	481	461	451	435	434	436	435	429	458	458	476	330	350	445	457	21	07	905	21
25	440	475	547		508	781	099	259	188	093	242	868	371	639	498	550	387	159	196	307	117	188	368	443	328	585	07	48	1976	11
26	462	503	405		325	423	668	530	485	513	554	494	431	441	423	423	437	451	458	446	364	292	327	407	458	447	09	35	892	04
27	391	454	450		498	513	601	695	589	489	463	429	439	447	452	452	453	456	453	391	490	343	303	435	583	470	19	40	1417	21
28	445	479	432		537	700	684	579	506	435	478	462	399	419	425	401	451	495	416	374	287	307	479	328	241	448	18	51	999	23
29	490	645	585		556	507	806	660	596	574	492	450	476	445	412	387	434	496	375	424	288	521	374	334	277	484	20	42	1117	23
30																														
31																														
Mean	423	468	492	546	630	658	614	540	515	496	467	428	428	418	409	412	406	416	404	387	368	381	373	395	461	DESIGNATIONS			757	
Mean * a	433	464	501	574	615	590	537	498	474	450	424	416	416	417	413	423	424	428	431	437	393	412	395	413	457	* Ten least disturbed days			476	
Mean / c	422	458	522	583	618	551	511	476	447	432	422	411	416	420	428	432	436	432	436	432	422	417	395	418	456	/ Five international quiet days			364	
Mean #	408	462	518	555	698	839	820	668	643	651	571	423	461	430	415	411	379	363	385	277	331	377	337	300	488	# Five international disturbed days			1335	
a Means of 9 values			b Means of 8 values			c Means of 4 values																				() Approximate				

TABLE 18

HOURLY VALUES OF DECLINATION

MARCH 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	483	549	516		467	490(748)	794	641	565	530	506	407	417	425	431	432	430	425	318	369	373	331	414	362							
2										432	469	483	447	408	430	456	458	461		307	093	310	272	282	295	517	09 47	1258	19 15	-069	1327
3	440	453	398	315	755	450	(824	739	690)	882	046	808	748	600	518	393	462	339	307	093	310	272	282	295	466	06 40	833	06 16	144	689	
4	444	624	440	554	457	448	481	552	485	425	437	490	490	427	487	457	447	440	455	455	439	429	419	403	454	05 04	703	20 27	134	569	
5 *	405	511	534	578	594	597	536	500	488	474	463	446	438	429	428	412	403	437	332	369	310	374	412	427	478	05 04	851	21 59	230	621	
6	410	429	450	581	753	762	614	578	486	468	463	437	415	403	395	412	426	406	406	376	489	490	368	446							
7 *	458	471	492	535	543	527	533	526	506	490	477	450																			
8 *																															
9 *																															
10	451	463	494	488	590	819	676	592	503	(476	466)	458	444	437	448	447	446	448	450	453	453	449	456	460	441	05 38	935	20 40	144	791	
11	367	397	465	491	612	666	784	719	545	461	389	411	417	421	423	404	420	414	372	296	302	210	281	265	476	05 57	971	22 51	267	704	
12 *	469	520	561	601	614	639	643	558	540	439	429	430	412	432	438	444	432	439	405	313	296	339	441	432	469	06 25	693	20 17	117	576	
13 *	457	469	407	663	699	801	694	699	531	422	422	420	439	422	433	429	412	449	453	450	415	429	370	407	491	05 29	921	23 23	237	684	
14	467	468	469	555	648	554	564	545	638	514	424	373	412	370	442	473	331	452	463	439	406	366	413	450	468	04 05	717	16 35	247	470	
15 *	470	468	469	611	646	591	574	538	509	502	448	449	431	432	428	427	420	463	442	472	454	436	426	447	481	04 14	744	16 20	374	370	
16 *	437	440	519	550	539	547	575	589	519	450	444	428	430	438	448	448	441	436	449	440	400	335	428	441	465	07 10	608	21 43	392	216	
17 *	443	472	483	552	562	566	556	555	493	493	465	454	456	456	455	454	454	451	445	450	450	448	412	442	478	07 33	598	22 15	394	204	
18 *	466	475	502	534	547	582	574	558	504	456	457	447	450	449	418	421	428	461	453	445	445	408	399	429	471	06 56	589	22 59	375	214	
19 *	466	474	477	566	640	624	565	544	488	485	466	438	421	396	390	394	384	403	447	451	409	(712)	392	365	475	21 45	1650	22 12	128	1522	
20	403	440	549	599	606	566	534	503	484	484	459	458	445	442	437	436	437	439	423	424	441	453	446	428	472	04 02	683	23 58	287	396	
21	387	594	440	420	579	728	788	612	599	498	421	411	437	439	459	467	396	475	307	364	389	396	503	548	486	23 16	1035	18 59	125	910	
22	548	545	(686)	748	539	665	565	563	528	491	472	448	420	428	412	438	437	573	392	299	293	266	355	366	478	02 54	1122	03 01	-338	1460	
23	428	432	528	580	630	579	662	627	502	466	439	460	455	460	457	461	462	464	468	465	447	465	475	474	495	04 07	799	02 25	264	535	
24	469	502	473	499	627	739	551	498	456	478	539	474	424	453	450	(552)	482	411	388	413	(445)	325	404	477	480	15 50	1190	21 27	037	1153	
25	476	(708)	541	583	677	639	636	524	469	473	463	461	441	441	448	419	430	381	244	388	454	365	443	476	482	01 22	1225	18 22	-025	1250	
26	506	483	421	457	557	627	566	525	566	573	534	420	404	475	403	402	448	417	150	412	412	398	410	445	470	04 51	707	21 59	001	706	
27	457	463	490	547	623	639	557	534	507	477	467	441	399	423	429	403	422	(236)	158	307	314	333	330	351	429	17 25	791	17 39	-397	1188	
28	431	389	461	557	695	746	663	529	550	492	509	474	457	458	430	396	382	351	231	269	283	323	367	414	452	04 50	854	18 50	-355	1209	
29	473	616	470	477	579	641	583	626	646	469	458	468	454	454	475	463	417	442	436	403	428	(463)	445	448	493	21 49	1302	18 58	193	1109	
30	476	465	466	482	564	712	652	529	496	475	464	466	467	457	447	458	458	420	468	246	307	312	422	433	464	18 50	906	19 50	105	801	
31	512	607	449	465	545	647	631	604	547	467	424	449	462	462	439	385	430	445	409	260	356	404	448	448	471	01 29	770	19 19	038	732	
Mean	452	496	486	540	611	637	617	575	530	490	478	457	449	443	440	434	427	426	392	374	390	390	402	422	473	DESIGNATIONS			785		
Mean *	Insufficient data																									* Ten least disturbed days					
Mean †	Insufficient data																									† Five international quiet days					
Mean ‡	463	542	493	492	616	645	662	608	584	565	587	522	497	475	463	463	439	448	366	314	373	344	398	427	491	‡ Five international disturbed days			1192		
	a Means of 9 values					b Means of 8 values					c Means of 4 values															() Approximate					

HOURLY VALUES OF DECLINATION

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	480	424	456	447	606	648	741	665	564	501	449	436	451	450	450	463	481	477	482	485	465	426	440	499	499	h	m	870	04 31	350	520
2	459	455	472	574	603	562	514	494	512	545	501	454	422	415	429	405	439	445	348	350	294	383	401	453	455	04	01	641	20 47	211	430
3	496	485	453	475	702	666	606	563	454	432	449	477	449	430	422	428	431	420	449	452	402	419	454	483	479	04	58	801	09 11	310	491
4	508	468	466	619	546	647	588	485	517	461	466	461	476	469	468	471	441	431	469	399	387	419	438	466	482	05	51	833	20 14	186	647
5	457	493	560	563	632	683	599	520	484	477	474	472	459	449	481	485	439	364	387	401	377	422	454	490	484	04	48	757	19 32	178	579
6	474	445	485	553	572	534	538	543	518	478	476	458	440	445	448	450	455	448	454	457	409	464	423	438	475	21	42	690	22 43	324	366
7	(659	726	575	568	616	590	566	541	526	485	459	474	473	458	522	451	459	520	457	448	457	474	468	500	518	00	48	1561	00 36	350	1211
8 *	476	490	517	572	555	520	509	531	511	492	485	478	456	459	454	457	444	465	437	486	399	439	460	467	482	06	36	687	06 34	291	396
9 *	469	478	478	542	540	574	580	511	531	501	467	464	464	449	469	463	456	456	427	433	412	463	419	456	479	05	47	644	22 14	333	311
10	467	471	511	545	500	563	623	558	447	477	511	459	453	450	427	456	435	456	464	438	455	473	483	463	484	06	54	680	15 02	351	329
11	455	483	512	551	691	632	558	511	515	482	485	478	469	466	463	458	454	405	582	472	367	434	435	476	492	04	56	781	20 42	245	536
12 *	499	608	598	574	566	563	567	495	515	476	471	480	445	448	467	412	436	450	458	447	440	430	461	458	490	06	59	657	16 05	338	319
13 *	465	464	477	603	611	574	528	504	488	483	468	475	460	469	460	449	460	468	466	467	467	469	443	459	486	03	54	712	22 15	412	300
14 *	484	488	544	519	544	572	541	513	506	494	492	477	465	478	476	471	452	457	476	461	463	582	631	477	501	21	37	989	23 52	412	577
15 *	460	491	541	524	557	591	528	521	512	504	493	483	476	459	458	451	456	447	455	422	377	339	436	476	478	05	06	629	2		

TABLE 20

HOURLY VALUES OF DECLINATION

MAY 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
1	504	516	492		548	609	641	719	664	598	501	529	494	484	447	458	447	461	625	475	474	477	484	485	493	526	h	m	h	m	234	575
2 *	495	503	511		514	519	550	538	516	511	509	493	486	495	493	490	489	487	485	485	475	485	475	485	484	499	07 06	681	07 03	316	365	
3	511	570	608		582	598	561	526	513	500	499	494	477	474	466	454	438	441	472	476	475	466	457	469	425	498	05 39	691	22 21	356	335	
4	481	499	539		533	557	568	545	534	518	503	499	483	463	483	507	447	431	485	489	485	498	499	496	474	501	02 43	590	15 36	408	182	
5	466	529	560		560	556	590	671	565	506	490	486	507	476	473	474	467	490	538	611	408	422	501	472	477	512	21 55	770	20 51	331	439	
6	496	507	505		506	573	544	552	527	545	544	488	480	483	474	462	464	488	447	476	479	475	481	485	488	499	04 51	689	11 02	374	315	
7 *	528	508	528		530	629	578	554	533	520	456	445	456	491	472	465	481	481	480	477	568	(592)	437	481	475	507	19 51	1083	20 26	331	752	
8 *	501	502	508		510	512	519	527	535	520	514	503	488	485	477	485	483	484	484	485	485	482	481	475	497	498	24 00	639	21 56	464	175	
9 *	508	503	508		517	519	526	524	536	501	(489)	477	479	477	477	476	479	483	484	478	475	477	476	478	477	493	07 39	563	21 15	461	102	
10 *	487	487	(495)		486	504	502	514	507	504	503	495	491	485	485	485	484	479	479	479	485	485	478	487	492	491	06 15	536	21 49	443	093	
11 *	496	523	558		519	505	521	538	547	537	510	502	487	495	488	479	481	486	485	483	486	488	486	471	455	501	01 49	628	22 57	355	273	
12	439	537	477		450	621	(770)	717	609	554	453	510	463	454	497	520	535	517	500	465	470	416	319	398	461	506	06 09	1376	22 02	216	1160	
13	542	516	483		585	673	626	684	631	649	682	687	555	510	511	486	494	516	495	501	502	479	473	494	285	544	04 39	1182	23 24	019	1163	
14	448	498	522		513	564	520	523	557	664	607	576	497	495	489	501	523	505	470	483	404	487	474	408	409	506	21 27	924	19 49	170	754	
15	514	504	895		898	866	781	651	717	656	629	594	601	568	558	512	472	448	432	336	350	463	421	592	524	583	02 47	1509	17 59	115	1394	
16	577	(860)	446		862	(695)	686	840	868	726	734	548	543	599	592	532	452	431	435	337	310	354	372	521	555	603	02 41	1712	21 58	139	1573	
17	601	706	746		760	706	642	(646)	714	737	770	680	575	584	568	586	504	479	495	496	520	529	513	486	494	606	04 01	1187	06 28	229	958	
18 *	528	544	552		576	860	826	785	629	573	487	461	465	497	496	495	479	491	495	502	471	450	447	482	512	546	05 57	1029	20 59	347	682	
19 *	518	527	555		540	524	524	523	520	550	589	515	450	465	487	466	492	495	495	499	497	484	487	518	475	508	21 43	737	11 13	359	378	
20	509	524	576		653	638	568	550	525	498	505	594	700	469	483	474	478	489	488	510	514	432	452	520	610	532	23 33	973	21 53	170	803	
21	546	626	693		756	708	742	671	585	476	493	487	496	495	490	492	502	503	504	491	479	488	497	501	512	551	06 04	968	00 21	275	693	
22	519	499	515		577	566	575	633	668	558	622	472	487	482	477	414	445	437	430	416	517	439	479	470	508	509	19 34	1126	20 00	151	975	
23	507	513	523		528	528	528	529	548	532	536	501	479	480	470	483	538	439	453	492	461	470	433	610	673	511	(22 40)	1356	22 28	342	1014	
24	546	593	657		708	692	668	720	746	492	464	670	646	592	538	511	495	474	507	349	362	331	437	(619)	390	550	22 24	1435	20 59	002	1433	
25	612	649	680		(833)	592	726	747	755	736	738	639	584	595	548	541	513	506	512	521	502	481	(635)	505	484	610	04 00	1931	21 25	368	1563	
26	548	705	827		770	554	627	548	503	479	518	487	505	501	504	504	504	502	495	457	(993)	511	488	520	548	567	19 13	1515	18 58	387	1128	
27 *	580	592	609		613	601	561	538	528	524	505	513	510	509	509	509	509	505	503	490	541	524	460	510	637	537	23 54	1059	20 54	350	709	
28	773	639	719		749	742	596	584	545	523	508	504	496	495	496	489	483	474	488	520	494	504	487	494	499	554	02 20	1078	19 54	439	639	
29	509	521	537		521	521	554	550	529	495	467	461	469	472	467	469	488	455	427	372	382	380	341	434	549	474	22 05	738	21 42	253	485	
30	536	565	575		637	651	781	646	611	512	506	483	470	463	453	492	498	432	465	493	466	454	477	552	496	530	05 51	856	23 15	345	511	
31 *	504	536	542		572	516	531	543	519	515	505	495	485	489	489	495	495	503	504	499	503	500	497	548	601	516	23 08	1097	23 47	355	742	
Mean	527	558	598		610	610	611	608	590	555	543	525	510	501	495	491	486	478	486	472	485	468	466	499	499	528	DESIGNATIONS			721		
Mean *	514	522	537		538	569	564	558	537	526	507	490	480	489	487	484	487	489	489	488	499	497	472	494	510	510	* Ten least disturbed days			427		
Mean /	497	504	516		509	512	524	528	528	515	505	494	486	487	484	483	483	484	483	482	481	483	479	479	481	496	/ Five international quiet days			202		
Mean /	570	662	805		812	710	701	721	760	669	667	626	590	588	561	536	487	468	476	408	409	432	476	545	489	590	/ Five international disturbed days			1384		
	a Means of 9 values							b Means of 8 values							c Means of 4 values							() Approximate										

TABLE 21

HOURLY VALUES OF DECLINATION

JUNE 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum			Minimum			Range
																											h	m		h	m		
1	520	512	568	558	586	703	690	649	564	543	466	480	497	503	489	505	486	475	578	494	494	494	493	514	536	05	48	811	10	20	398	413	
2	534	556	553	547	637	641	684	496	503	501	487	451	496	486	495	476	437	437	506	507	509	502	504	505	519	06	24	826	17	01	340	486	
3 *	507	542	552	525	539	557	558	530	519	504	500	503	498	495	494	486	486	514	498	490	502	501	495	590	516	23	15	814	23	38	422	392	
4 *	476	540	584	568	539	528	536	530	542	504	482	463	503	483	479	453	470	510	471	512	512	505	504	509	508	02	40	635	15	50	398	237	
5	515	517	522	537	568	584	576	560	513	482	484	485	496	487	481	470	452	485	488	505	479	494	496	485	507	05	38	657	16	26	412	245	
6	495	515	529	525	521	547	533	528	536	523	495	494	485	470	524	460	470	495	504	505	528	423	468	480	502	20	19	880	20	54	253	627	
7 *	506	447	533	538	524	525	540	521	514	498	488	494	490	484	483	487	487	487	497	508	502	496	480	468	500	21	06	615	01	11	301	314	
8	504	601	585	504	596	578	592	560	512	495	462	458	463	479	475	445	470	476	485	465	462	585	762	499	521	21	57	1565	23	11	334	1231	
9	458	495	514	567	560	716	706	649	566	434	494	471	479	487	470	495	496	504	504	582	628	524	623	512	539	22	20	1232	00	47	239	993	
10	538	583	641	690	556	566	529	513	515	495	462	472	488	496	495	487	472	476	476	479													
11				738	671	766	652	531	541	461	477	493	486	477	504	524	476	504	522	470	468	354	479	475									
12 *	585	592	683	630	648	657	584	506	515	476	468	462	494	496	502	503	504	502	497	505	520	487	390	444	527	05	00	889	23	54	166	723	
13	431	586	603	664	630	577	555	514	513	520	495	494	471	486	494	495	498	499	485	497	483	(408)	455	618	520	(21	32)	1561	(21	40)	065	1496	
14	520	560	603	714	649	649	711	549	482	521	505	447	503	476	495	499	521	526	490	437	396	386	479	491	525	(04	56)	1078	(19	50)	-018	1096	
15	544	505	625	708	721	654	651	592	492	459	473	487	478	490	512	502	476	502	505	585	479	493	(601)	640	549	(22	55)	1153	(23	15)	-115	1268	
16	612	568	522	559	624	674	(637)	548	530	514	515	495	504	504	504	498	493	495	483	680	611	487	443	568	544	05	52	924	07	40	211	713	
17 *	502	559	547	575	612	592	571	546	523	512	495	495	503	497	495	491	495	448	523	502	459	(557)	475	479	519	21	43	1541	21	56	058	1483	
18 *	537	552	574	577	565	547	504	512	505	504	511	495	496	497	502	505	511	539	503	512	512	466											
19 *				531	523	534	539	528	521	512	509	505	505	505	504	496	490	522	539	494	496	501											
20 *				545	564	536	538	512	523	504	511	505	502	511	512	505	513	514	512	512	568	566	450	515	540	01	07	1305	20	53	110	1195	
21 *	595	844	645	556	541	645	609	557	521	508	503	504	508	495	505	503	499	503	495	496	472	424	515	520	551	03	29	826	20	42	389	437	
22 *	568	581	711	700	618	636	623	532	507	524	505	497	505	509	496	504	505	512	495	532	541	512	557	559	509	22	14	888	23	02	011	877	
23	555	594	559	550	559	539	524	522	524	522	520	504	487	497	508	514	504	504	523	547	441	353	397	461	558	21	45	1373	23	46	-257	1630	
24	537	574	957	778	727	691	734	533	520	479	505	503	487	502	565	542	576	486	527	514	450	(521)	377	315	559	06	19	1207	22	34	167	1040	
25	512	698	835	685	701	737	730	715	569	487	504	511	500	502	497	507	516	625	406	496	532	592	353	450	569	22	50	1266	23	25	103	1163	
26	521	551	560	558	609	741	754	743	585	523	479	527	552	495	487	512	471	503	512	495	483	494	581	354	548	05	02	1395	24	00	320	1075	
27	539	505	521	624	595	978	660	587	617	575	467	496	487	497	502	540	529	470	483	486	513	502	479	503	518	05	49	924	23	39	287	637	
28	443	495	536	557	584	710	584	585	585	487	470	445	501	488	486	485	492	512	505	506	503	512	511	455	533	19	42	1142	23	21	172	970	
29	549	520	577	531	574	637	619	601	583	550	555	443	458	479	505	510	514	520	479	619	495	485	496	493	543	20	08	952	00	12	284	668	
30	452	548	537	571	613	682	673	617	568	532	506	512	500	479	538	524	487	521	524	467	617	471	524	565									
31																																	
Mean	519	560	598	593	603	647	625	571	536	507	493	485	494	491	499	496	493	500	499	517	504	488	498	499	530	DESIGNATIONS						856	
Mean *	Insufficient data																									* Ten least disturbed days							
Mean †	Insufficient data																									† Five international quiet days							
Mean ‡	513	567	704	660	670	693	696	621	543	500	491	499	492	495	520	516	508	522	508	511	514	514	470	497	551	‡ Five international disturbed days						1004	
	a Means of 9 values						b Means of 8 values						c Means of 4 values												() Approximate								

TABLE 22

HOURLY VALUES OF DECLINATION

JULY 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	496	531	550	566	584	594	584	594	517	485	479	496	512	512	509	493	505	502	520	505	568	603	522	487	530	h	h	m			
2	434	453	530	552	554	548	622	710	576	500	468	468	488	488	485	487	486	479	462	514	610	521	543	502	520	00	00	896	08	15	307
3	506	601	630	673	559	676	676	637	514	476	479	487	492	493	504	485	517	521	524	532	520	532	487	426	539	05	38	877	23	21	280
4 *	518	513	533	569	657	745	632	604	536	503	487	493	513	511	511	507	505	506	513	520	524	521	476	489	537	05	02	851	22	56	398
5 *	514	546	525	532	540	548	542	552	517	484	495	515	485	506	495	501	487	502	512	506	525	493	548	488	515	22	14	726	23	02	380
6 *	532	533	535	565	551	563	586	550	539	512	497	498	512	509	503	500	509	488	497	529	515	519	487	517	523	00	43	741	22	33	350
7 *	525	526	527	527	534	532	534	534	537	531	521	514	512	503	504	495	487	489	515	544	533	441	505	500	515	20	51	641	21	11	388
8	533	530	498	621	595	601	642	600	556	523	498	485	495	504	512	515	516	514	514	499	488	512	503	546	533	23	40	988	23	53	334
9	701	673	727	579	674	604	636	608	537	502	484	495	506	513	522	523	528	531	522	502	497	529	530	537	561	06	44	934	10	20	407
10	542	524	539	543	534	532	544	539	530	514	505	503	507	519	521	524	525	524	494	(232)	336	359	477	641	500	19	05	861	19	15	-160
11	542	641	701	(757)	690	609	573	539	514	507	506	513	522	522	528	517	513	559	515	521	495	430	504	469	549	03	01	919	21	53	058
12	521	560	564	556	667	690	644	566	560	531	511	515	516	525	521	525	520	520	516	524	548	517	525	525	549	06	19	888	07	26	345
13	535	(735)	789	644	593	623	648	561	542	507	497	498	502	506	511	481	502	573	432	364	382	429	486	491	535	01	12	1003	18	59	-230
14	665	722	682	(623)	606	631	628	570				(523)	528	524	522	520	521	529	529	536	454	468	512	565		(00	30	819)	(21	02	083)
15 *	557	560	584										505	493		497	497	512	497	528	520	497	515	504							
16 *	565	580	544	627	594	649	561	564	523	528	522	515	521	525	518	530	532	536	531	528	524	584	521	528	548	21	43	799	23	00	432
17 *	552	543	556	578	635	582	563	554	549	535	532	521	520	524	526	529	530	530	525	523	537	454	506	538	539	05	01	678	21	32	338
18 *	552	556	559	564	556	534	538	539	537	534	528	520	515	513	505	495	496	512	505	453	476	477	486	514	519	20	56	656	19	46	076
19	564	594	628	696	568	566	568	534	517	512	512	516	515	515	521	523	514	522	595	512	506	515	481	493	541	03	17	834	23	55	239
20	476	628	604	608	639	637	592	524	524	513	507	504	489	496	502	511	494	495	506	471	462	497	539	507	530	20	19	1013	20	32	105
21 *	583	546	534	532	533	539	546	544	550	538	530	524	523	526	523	523	528	525	521	515	556	559	453	466	530	21	02	712	23	11	367
22 *	532	549	578	649	578	567	550	542	534	524	515	518	516	515	515	516	512	515	522	524	526	516	524	530	536	03	21	741	00	16	495
23	517	544	552	558	550	539	538	534	526	(515)	522	521	520	517	520	516	530	447	336	462	455	441	532	584	512	22	44	764	17	58	058
24	611	577	586	604	590	641	748	790	713	610	507	525	530	534	523	521	534	536	536	541	539	522	530	511	577	07	17	838	09	40	390
25	531	535	568	640	649	861	792	666	614	610	679	604	497	552	557	516	504	505	518	526	530	512	391	432	575	21	10	1192	21	48	194
26	610	573	512	559	664	786	673	633	779	743	515	564	480	512	486	504	544	511	556	555	526	508	(297	174)	553	(22	30	1175)	(23	03	-606)
27	481	614	602	641	711	793	721	690	593	512	498	504	515	498	512	511	525	528	522	525	525	616	873	450	582	22	25	1087	23	29	221
28	505	478	553	630	584	568	583	604	584	548	561	504	501	495	513	521	529	487	495	472	516	379	584	815	542	22	50	1481	20	26	050
29	550	539	537	544	592	575	576	639	566	521	533	517	516	524	532	525	(570)	557	520	472	541	654	506	543	548	16	59	1808	00	09	343
30	553	568	605	613	553	560	598	596	617	524	479	508	516	532	532	519	506	532	514	539	(517)	502	462	522	540	20	38	1023	20	53	257
31	524	550	567	553	566	588	625	641	538	523	522	539	544	534	452	503	578	526	530	544	537	540	532	535	545	16	34	829	14	23	365
Mean	538	563	577	596	596	616	608	593	560	530	513	513	510	515	513	511	518	516	509	498	511	506	511	509	539	DESIGNATIONS			713		
Mean * a	541	544	543	571	575	584	561	554	536	521	514	513	513	515	511	511	510	511	516	516	524	507	501	508	529	* Ten least disturbed days			369		
Mean †	549	544	551	570	567	551	546	543	541	532	525	519	517	516	515	512	510	514	518	512	526	489	495	510	528	† Five international quiet days			353		
Mean ‡	558	580	602	615	616	696	689	651	646	603	552	539	502	520	518	509	523	522	507	492	499	470	458	485	556	‡ Five international disturbed days			1178		
a Means of 9 values b Means of 8 values c Means of 4 values																									() Approximate						

HOURLY VALUES OF DECLINATION

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range					
1	548	604	606		621	597	594	589	576	557	558	541	529	516	514	501	505	508	523	524	585	540	528	470	477	546	25	58	25	21	320	406		
2	676	601	560		551	565	562	558	567	569	560	520	523	534	515	516	512	520	539	548	545	544	490	617	601	554	22	03	11	39	225	914		
3	584	544	537		528	551	562	601	604	533	537	534	521	521	514	512	513	515	547	546	545	544	543	532	552	542	23	51	74	16	39	458	288	
4	586	568	591		579	589	558	559	560	553	553	547	547	541	535	528	523	522	536	543	552	534	555	539	530	551	21	54	81	22	23	476	338	
5	550	594	578		577	630	631	635	555	568	543	538	531	533	525	523	529	539	543	543	541	543	535	620	603	563	23	06	80	04	49	492	312	
6	552	583	566		546	552	569	570	572	576	570	564	555	543	540	535	524	543	541	538	516	545	463	550	532	548	20	20	86	23	09	373	490	
7	589	564	565		567	648	629	584	574	562	552	551	550	550	549	544	544	543	541	539	602	504	512	481	538	558	19	48	79	22	04	394	401	
8	530	556	595		573	586	570	582	541	532	497	520	542	538	537	533	526	533	520	528	491	525	462	522	517	536	02	25	62	21	23	328	301	
9	575	584	594		657	712	719	651	556	553	545	545	552	555	506	522	495	423	528	504	456	488	374	426	441	540	17	59	94	21	46	303	646	
10	568	603	587		675	726	712	636	601	556	541	538	542	540	527	526	534	533	536	536	539	538	543	516	527	570	04	43	80	13	55	490	314	
11	542	586	589		619	670	657	637	622	576	535	536	531	524	525	511	526	502	470	105	325	487	472	551	613	530	17	56	93	18	09	-196	1126	
12	662	710	606		603	643	683	541	550	579	513	557	503	506	548	516	487	511	505	537	584	506	520	541	577	562	01	21	81	03	21	396	420	
13	585	584	563		559	560	575	584	589	576	569	552	545	548	543	522	539	544	522	526	521	(877)	450	470	586	563	20	18	130	21	02	024	1280	
14	616	628	578		598	614	601	602	569	565	565	564	558	548	542	541	534	537	541	534	547	539	530	550	593	566	23	10	77	22	59	453	318	
15	587	566	559		567	600	589	586	579	572	565	564	552	551	545	542	539	542	542	540	534	682	540	507	560	563	20	19	118	22	30	451	732	
16	557	573	572		553	572	565	568	567	569	566	557	548	535	520	510	504	484	534	540	546	540	530	504	516	543	23	26	65	16	23	452	206	
17	602	706	633		649	576	648	571	584	542	546	567	566	542	519	544	524	525	532	554	546	544	554	551	575	575	06	14	109	07	06	416	681	
18	568	576	582		576	592	587	576	564	561	560	556	552	559	553	550	547	551	547	546	547	549	561	549	546	561	05	10	62	03	03	532	091	
19	552	551	550		546	565	568	576	576	568	565	560	559	555	555	551	551	551	549	545	545	547	536	542	544	554	23	25	61	23	33	498	119	
20	556	592	595		608	600	611	559	584	569	562	553	552	553	547	537	550	547	548	544	543	540	540	541	544	563	05	32	63	15	57	530	105	
21	544	560	565		564	573	568	568	563	495	513	523	532	535	519	528	513	495	479	497	535	495	455	520	568	529	22	58	68	21	24	365	321	
22	687	637	565		632	590	566	567	559	566	555	550	550	542	541	539	536	541	538	524	475	487	487	534	536	554	00	20	78	(21	20)	453	329	
23	609	619	682		751	736	747	617	620	641	654	625	525	544	583	611	536	515	558	563	475	507	314	466	557	581	(23	44)	86	21	19	054	807	
24	(815)	765	708		691	701	705	996	725	575	673	681	484	507	589	594	537	576	361	409	395	547	567	593	558	615	00	40)	2027	(17	43)	301	1726	
25	512	467	528		574	649	856	673	602	602	759	656	577	514	547	559	487	534	496	728	606	463	576	378	342	570	21	10	14	30	31	091	1339	
26	529	(997)	748		649	682	(837)	000	015	801	609	550	512	521	531	530	574	531	487	502	437	417	444	550	560	626	01	15	16	75	20	49	004	1671
27	568	550	604		683	837	844	736	640	611	593	585	525	523	513	539	532	543	549	539	536	591	726	549	515	601	04	32	11	12	3	36	471	641
28	495	717	787		795	738	666	599	581	564	565	552	559	547	528	534	520	605	524	511	532	312	505	550	560	577	01	51	120	23	43	-016	1219	
29	592	613	623		674	626	646	662	640	568	565	560	550	549	541	560	528	500	537	528	524	579	599	471	532	573	21	14	85	22	38	362	489	
30	520	592	631		660	664	664	643	648	618	534	595	530	505	519	507	516	502	537	558	556	551	552	556	560	572	05	38	75	04	38	360	394	
31	559	568	597		614	626	624	609	604	593	549	664	641	445	520	530	603	584	479	485	496	450	520	526	542	560	10	54	79	17	46	342	449	
Mean	581	612	601		614	631	642	632	602	576	567	561	543	533	535	536	529	529	522	521	522	533	515	525	541	563	DESIGNATIONS				609			
Mean *	571	580	574		572	596	591	585	570	566	560	555	550	547	541	537	536	536	542	541	547	552	530	538	551	557	* Ten least disturbed days				311			
Mean /	567	574	576		575	606	599	590	570	564	555	550	548	546	542	539	539	540	543	543	557	534	536	545	552	558	/ Five international quiet days				255			
Mean ≠	601	687	651		657	688	760	785	717	639	646	590	526	522	555	561	532	532	474	461	448	484	475	508	526	584	≠ Five international disturbed days				1334			
	a Means of 9 values							b Means of 8 values							c Means of 4 values							() Approximate												

TABLE 24

HOURLY VALUES OF DECLINATION

SEPTEMBER 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range					
1	592	577	598		598	635	735	790	698	581	601	600	536	531	537	455	477	471	536	520	402	444	439	460	543	556	06 20	872	20 09	252	620			
2	657	533	363		(779)	705	714	(320)	947	897	200	704	863	609	580	567	564	539	556	677	530	509	534	541	474	698	06 22	1793	02 12	127	1666			
3	568	532	563		673	606	755	764	700	796	779	770	673	578	524	601	592	553	556	536	559	468	411	493	521	607	05 33	1108	21 31	254	854			
4	557	520	626		649	714	800	801	702	628	591	576	569	512	520	544	542	555	557	544	533	586	546	523	549	594	06 30	873	01 11	372	501			
5 *	511	595	604		618	582	583	600	592	584	574	569	565	557	549	550	548	549	552	545	544	545	536	532	512	562	01 31	684	23 10	422	262			
6	484	519	600		622	731	812	701	666	609	605	540	565	543	542	604	565	552	544	533	571	447	408	507	543	576	19 57	1023	20 49	256	767			
7	569	568	627		649	639	618	611	617	570	576	566	560	538	549	540	539	534	543	542	546	545	557	542	557	571	00 47	754	00 51	477	277			
8	573	575	575		601	586	599	614	648	603	544	567	550	559	568	410	459	519	395	504	434	405	529	601	601	542	07 40	766	14 55	-200	966			
9	547	577	629		602	585	595	574	567	640	568	548	528	538	537	487	481	530	525	439	460	496	557	568	639	551	18 31	835	18 38	-123	958			
10	594	649	649		618	610	586	600	603	581	568	566	559	552	550	536	542	557	591	538	561	564	503	497	568	573	17 53	735	22 15	385	350			
11	549	573	587		592	566	744	754	657	586	601	565	548	529	531	526	544	549	558	558	542	533	594	568	566	580	06 21	949	20 01	468	481			
12	570	571	586		604	596	631	618	601	591	582	577	568	560	555	552	557	559	559	537	531	332	552	532	504	568	21 51	892	21 44	133	759			
13	564	532	630		610	730	788	720	655	560	574	534	546	542	551	553	555	552	546	516	525	537	533	566	582	583	05 41	882	18 35	383	499			
14 *	579	552	575		568	649	628	622	609	588	567	569	565	555	555	554	551	557	551	550	551	554	549	554	535	570	04 26	667	24 00	492	175			
15 *	555	549	576		610	608	611	611	606	595	578	568	565	558	556	552	552	551	551	551	551	552	544	493	630	570	23 48	783	22 31	462	321			
16	597	595	569		607	611	619	622	606	609	601	585	575	561	559	530	532	553	436	537	546	495	546	537	572	567	21 46	971	17 12	272	699			
17 *	576	543	555		600	666	669	642	567	574	573	557	558	549	552	539	542	557	552	552	533	575	533	557	552	570	04 56	753	20 56	416	337			
18 *	528	530	586		621	614	611	605	597	593	585	573	569	566	562	560	558	557	555	555	554	556	559	562	558	571	02 36	644	01 05	496	148			
19 *	548	557	570		574	617	609	609	600	592	570	575	568	564	555	551	551	552	550	549	548	539	553	547	554	567	04 31	640	20 44	528	112			
20	552	544	506		605	962	047	860	652	624	596	560	531	533	507	503	536	544	516	465	386	568	512	501	533	589	04 52	1362	20 07	341	1021			
21	534	464	676		908	868	887	925	646	614	621	537	541	495	536	505	496	462	449	493	512	512	470	539	527	592	03 46	1088	07 25	230	858			
22	534	583	550		665	770	783	928	871	801	775	608	673	520	497	497	470	568	506	363	501	521	540	520	548	608	07 10	1233	(18 39)	112	1121			
23	511	525	614		692	664	705	703	682	575	576	627	533	504	514	520	542	576	560	561	560	560	559	564	451	578	07 58	921	22 54	333	588			
24 *	590	612	649		664	651	648	626	614	616	609	572	551	523	514	515	555	555	567	560	539	610	621	468	597	584	21 02	842	22 48	301	541			
25	590	609	663		756	743	655	621	613	593	584	572	551	549	527	533	546	535	550	533	545	560	453	552	611	585	19 54	822	21 05	327	495			
26	564	492	566		643	900	938	034	822	662	648	557	544	515	505	492	542	528	560	564	557	551	552	552	551	618	04 44	1500	14 54	442	1058			
27 *	556	568	644		689	684	680	640	626	613	592	581	555	520	521	512	491	549	569	515	490	474	463	527	551	567	04 59	702	20 48	370	332			
28	546	509	533		655	737	909	721	619	576	550	525	517	531	512	512	535	554	557	551	541	526	512	551	538	576	05 29	1043	23 09	475	538			
29 *	560	592	611		629	628	617	623	608	585	568	555	547	539	541	532	528	525	521	523	491	512	523	528	528	559	04 01	646	19 36	459	187			
30 *	523	538	566		727	888	770	655	586	592	581	572	541	521	534	532	532	539	550	551	551	541	512	491	563	582	04 50	963	22 27	375	588			
31																																		
Mean	559	556	588	648	685	712	717	653	621	618	592	570	542	538	529	534	543	537	532	523	527	523	532	552	580	DESIGNATIONS			603					
Mean *	553	564	594	630	659	643	623	600	593	580	569	558	545	544	540	541	549	552	545	535	546	539	526	558	570	* Ten least disturbed days			300					
Mean /	558	555	579	598	635	627	620	596	586	573	566	561	555	553	547	546	550	546	546	535	547	543	550	545	567	/ Five international quiet days			192					
Mean ≠	573	537	545	725	707	748	910	762	742	784	717	660	552	541	516	516	528	492	515	507	483	497	539	534	609	≠ Five international disturbed days			1093					
a Means of 9 values								b Means of 8 values												c Means of 4 values						() Approximate								

TABLE 25

HOURLY VALUES OF DECLINATION

OCTOBER 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range	
1	539	559	592	674	756	651	630	624	601	600	551	550	518	502	511	550	512	540	536	475	493	496	465	466	558	h m	819	h m	279	540
2	487	711	665	660	657	809	887	810	798	841	638	526	518	575	579	446	490	488	568	499	441	455	409	530	604	01 20	1147	22 31	296	851
3	533	587	647	722	722	744	657	643	690	566	530	537	522	535	493	542	496	511	228	419	537	542	515	474	558	05 43	876	18 33	057	819
4	514	585	662	795	743	703	683	662	582	607	544	533	528	533	514	542	551	505	469	441	513	416	477	523	568	03 43	834	21 52	-029	863
5	548	577	606	620	706	657	709	848	850			488	529	533	544	553	545	555	510	488	571	496	498	522						
6	544	531	552	630	588	815	723	619	578	577	573	539	566	498	507	522	557	571	552	571	544	471	456	582	569	05 20	892	19 57	326	566
7	488	559	588	627	783	700	679	606	619	530	573	531	528	515	538	515	560	578	569	495	444	510	555	527	567	05 50	915	18 10	315	600
8	596	583	677	667	759	683	828	664	569	544	550	560	542	541	550	539	555	552	550	515	463	439	531	549	584	06 19	1029	20 51	-113	1142
9	560	488	592	717	730	719	657	626	662	566	530	536	515	535	525	536	545	554	570	510	494	529	617	543	577	04 50	862	21 15	277	585
10 *	528	587	586	624	648	632	617	615	600	591	572	565	563	559	560	548	553	559	560	561	573	574	530	547	577	04 16	702	22 28	458	244
11	560	576	603	655	811	675	624	655	602	600	565	543	528	529	550	552	556	558	560	563	544	548	558	565	587	04 36	944	22 17	465	479
12 *	590	641	645	635	635	630	636	630	621	609	588	554	552	554	551	550	557	558	561	566	528	566	512	487	582	21 29	793	22 50	388	405
13 *	540	595	644	626	623	637	635	654	601	585	558	550	547	547	557	556	559	558	559	559	559	558	549	556	580	07 36	695	00 00	466	229
14 *	546	554	555	637	763	698	649	622	617	588	574	560	559	552	554	556	558	560	557	552	581	532	550	549	584	04 19	860	21 35	497	363
15 *	543	574	593	598	601	612	614	617	617	601	582	563	555	550	552	554	557	556	557	555	536	564	562	537	573	07 04	625	20 15	504	121
16 *	541	560	579	709	702	649	672	663	642	548	510	523	544	544	549	552	558	558	559	558	563	573	560	512	580	03 51	777	23 19	490	287
17 *	501	482	(515)	643	728	655	601	603	570	581	537	516	515	524	524	548	552	559	561	563	555	559	563	561	563	04 08	785	01 28	461	324
18 *	568	587	563	606	657	803	646	619	602	593	557	552	557	556	553	555	552	551	549	549	547	547	549	556	582	05 10	859	21 52	531	328
19 *	568	581	617	727	855	809	717	649	591	572	558	544	528	543	526	517	520	546	544	548	548	551				(04 45	894)			
20				655	791	050	986	901	764	788	721	652	592	550	502	511	437	342	357	340	351	412	405	382		(05 56	1501)	(15 20	219)	(1282)
21	490	520	535	719	902	965	758	641	717	639	664	618	607	534	574	480	431	433	420	488	434	491	492	532	587	05 14	1158	18 30	309	849
22	554	569	670	702	785	699	672	613	584	547	558	554	507	490	481	519	539	459	371	495	408	422	431	498	547	02 48	880	21 04	308	572
23	(463)			851	049	024	827	645	600	592	617	569	558	528	484	573	471	439	439	473	468	406	506	487		04 46	1174	17 56	272	902
24	520	620	628	708	868	819	654	595	577	576	545	534	527	537	548	553	562	576	576	520	586	536	551	565	595	04 44	925	19 46	358	567
25 *	578	584	633	695	724	717	682	642	609	577	550	537	533	541	547	550	557	560	560	551	554	557	478	512	585	21 54	751	22 01	323	428
26	560	609	656	701	806	021	820	597	622	550	539	536	533	489	498	523	317	385	271	256	293	273	394	345	525	05 27	1094	18 57	182	912
27	337	302	381	511	582	020	908	778	705	614	635	539	504	508	488	549	575	540	463	431	382	418	399	471	543	05 41	1349	01 01	249	1100
28	479	585	586	679	823	734	014	976	795	791	779	647	576	564	600	512	530	576	573	533	486	526	420	452	635	07 03	1397	23 09	342	1055
29	517	585	702	706	776	727	669	648	671	706	655	557	495	508	522	515	548	516	457	441	459	475	479	493	576	04 35	819	21 19	382	437
30	488	543	633	728	832	747	696	705	644	587	592	587	553	541	511	505	463	504	532	563	558	543	553	554	590	04 28	888	15 30	407	481
31	564	601	680	696	681	649	680	675	628	605	583	548	516	499	462	504	502	560	556	529	525	484	477	443	569	07 57	747	23 44	333	414
Mean	528	566	606	669	729	738	703	659	634	604	579	552	537	532	533	532	529	534	513	510	504	504	505	516	576	DESIGNATIONS			612	
Mean * a	548	573	590	641	676	670	639	629	609	586	559	547	547	547	550	552	556	558	558	557	555	559	539	539	578	* Ten least disturbed days			303	
Mean /	542	558	588	640	688	664	636	628	603	586	560	545	542	543	547	553	557	559	559	556	557	554	540	543	577	/ Five international quiet days			293	
Mean ≠ c	468	536	559	648	737	954	843	706	710	661	619	555	540	526	535	500	453	462	430	418	388	409	424	470	565	≠ Five international disturbed days			928	
	a Means of 9 values						b Means of 8 values						c Means of 4 values						()			Approximate								

TABLE 26

HOURLY VALUES OF DECLINATION

NOVEMBER 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	550	568	650	677	633	649	733	629	578	552	537	545	542	488	487	503	528	563	553	555	512	509	447	437	559	06 10	940	16 40	312	628	
2 *	432	599	690	717	738	736	684	647	610	578	579	503	525	524	529	534	547	550	540	476	520	496	412	445	567	05 33	840	22 32	324	516	
3	476	574	640	665	853	908	715	620	595	674	638	555	517	514	549	547	559	527	540	524	460	514	559	503	593	05 38	1015	00 15	286	729	
4 *	483	578	670	758	757	706	678	645	583	542	536	541	535	536	531	540	545	555	547	571	575	509	504	415	577	04 04	997	23 23	289	708	
5 * /	493	613	615	734	760	726	671	619	581	554	558	559	548	550	551	555	556	564	561	552	545	449	437	556	579	05 39	809	21 20	284	525	
6 *	581	581	490	574	908	814	701	675	584	603	529	525	533	533	512	508	543	514	528	471	463	531	502	432	568	05 01	990	23 50	221	769	
7 * /	552	590	627	666	732	796	697	618	590	574	570	538	527	537	540	556	561	565	551	544	563	523	546	523	587	05 21	900	00 01	462	438	
8 * /	516	580	655	627	665	690	717	667	599	587	569	550	548	504	555	565	575	576	575	558	522	541	526	518	583	06 54	761	13 43	445	316	
9	561	501	527	662	772	664	631	595	595	557	561	543	521	545	526	487	518	428	427	463	466	399	493	285	530	04 39	835	23 38	-020	855	
10	406	379	299	504	984	224	764	727	017	797	832	795	690	639	647	418	414	062	-046	331	406	426	231	538	645	07 14	2416	18 03	-481	2897	
11	301	375	471	293	730	739	708	744	928	783	711	603	579	624	564	614	486	360	253	379	213	180	261	275	507	06 46	1095	20 59	-306	1401	
12	624	627	615	559	568	704	827	979	780	659	628	601	593	591	593	572	545	521	537	538	562	443	365	439	130	288	194	275	261	(2177)	
13				689	835	876	(589)	940	926	703	182	237	555	391	702	073	813	579	530	523	462	447	336	504	475	381	260	365	517	670	
14				577	546	124	944	916	836	889	560	634	501	534	517	511	572	536	487	384	404	414	437	514	517	08 40	960	17 52	138	822	
15	343	354	444	466	(530)	738	719	731	826	624	586	564	574	519	443	414	352	226	275	331	390	366	335	370	599	06 02	1563	19 45	049	1514	
16	397	479	664	726	719	709	719	731	826	624	586	564	574	519	443	414	352	226	275	331	390	366	335	370	517	08 40	960	17 52	138	822	
17	506	512	582	630	868	946	965	112	674	567	587	555	568	465	444	552	576	550	475	584	530	492	474	499	607	07 41	1310	00 00	321	989	
18	406	485	562	630	868	946	965	112	674	567	587	555	568	465	444	552	576	550	475	584	530	492	474	499	580	03 46	704	19 41	450	254	
19 *	570	631	659	697	685	673	651	625	622	621	534	546	518	482	531	548	539	560	541	521	560	530	536	541	521	06 46	770	17 51	245	525	
20	512	505	548	722	707	637	674	671	649	559	546	495	471	471	434	468	502	303	422	459	446	449	472	371	588	04 55	1111	00 23	116	995	
21	326	374	392	560	917	993	956	915	787	900	766	708	673	552	517	420	519	485	429	370	420	370	343	409	521	06 46	770	17 51	245	525	
22	462	468	699	689	770	872	748	724	683	621	575	495	521	399	350	414	472	254	103	269	301	295	312	379	495	05 00	1148	18 22	-184	1332	
23	463	436	428	651	706	264	068	714	575	721	744	680	584	455	503	468	425	(419)	295	486	476	459	443	443	05 28	1497	13 20	223	1274		
24 *				711	764	747	676	633	612	599	618	550	556	530	470	461	453	354	473	517	513	506	504	536	567	06 52	852	14 01	261	591	
25	395	488	480	689	741	760	779	707	689	646	649	582	589	507	497	487	459	423	473	517	513	506	504	536	573	02 35	817	00 30	350	467	
26 *	395	502	707	676	739	640	613	590	572	539	535	553	558	564	576	569	565	593	592	567	572	538	514	487	573	07 06	967	21 13	140	827	
27 *	460	458	530	497	713	783	851	811	630	549	542	549	590	601	593	577	592	592	557	410	352	322	299	273	539	05 38	1107	02 23	114	993	
28	287	377	388	538	568	887	720	756	644	530	510	488	516	530	548	535	518	527	463	528	516	544	537	477	539	05 26	884	18 38	294	590	
29	574	568	533	531	666	779	609	576	544	558	557	563	557	557	566	563	555	452	403	456	*431	455	425	462	559	04 43	1060	02 58	272	788	
30	534	549	434	459	955	835	668	606	568	535	555	529	548	520	531	528	554	504	509	471	511	542	476	489	559	04 43	1060	02 58	272	788	
31																															
Mean	461	508	558	613	746	801	791	767	702	653	609	584	562	531	523	517	523	469	444	472	467	451	434	444	568	DESIGNATIONS			944		
Mean * a	498	570	627	661	746	729	696	655	597	572	550	540	542	537	546	550	558	563	555	519	519	493	475	466	573	* Ten least disturbed days			536		
Mean /	505	583	653	680	716	705	670	624	593	575	553	549	540	527	551	559	559	572	564	548	552	516	512	525	580	/ Five international quiet days			400		
Mean ≠ c	362	397	470	460	698	956	750	756	084	965	801	776	646	594	565	516	484	351	258	400	375	350	297	423	605	≠ Five international disturbed days			1918		
	a Means of 9 values						b Means of 8 values						c Means of 4 values						() Approximate												

TABLE 27

HOURLY VALUES OF DECLINATION

DECEMBER 1956

58° West plus tabular quantities expressed in tenths of minutes of arc

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range							
1	514	529	621		640	788	674	656	612	575	565	560	558	549	523	514	520	524	541	523	498	423	399	506	443	552	h	m	h	m						
2	424	431	530		791	908	934	708	603	578	537	534	568	493	521	516	522	476	440	352	261	405	467	446	363	534	04	34	20	55	248	620				
3	435	397	481		528	791	773	657	612	560	612	543	565	551	520	519	510	523	544	528	493	396	431	466	502	539	04	51	20	10	274	594				
4	501	515	487		619	843	780	685	645	595	529	516	539	540	551	575	585	539	561	549	513	415	365	495	435	557	04	32	21	21	102	844				
5	471	577	647		771	027	915	594	602	559	609	605	593	536	541	495	421	390	524	529	567	559	539	576	530	591	05	21	1109	16	38	350	759			
6	486	452	432		712	939	082	782	619	608	(570 536) 537	531	487	457	468	409	484	479	439	374	340	442	357		547	05	35	1190	21	10	006	1184				
7	391	541	634		711	827	793	749	656	621	544	527	505	500	505	503	491	466	508	490	485	472	452	450	421	532	04	56	921	21	29	194	727			
8	490	487	566		747	879	879	809	787	669	770	610	514	479	506	539	567	568	550	531	477	358	446	444	398	586	05	04	958	20	15	152	806			
9 *	505	641	719		849	881	810	769	698	646	618	572	539	508	519	485	529	530	584	566	523	470	479				(03 58 932)									
10					720	023	100	924	956	802	531	613	787	784	663	314	333	390	480	463	487	485	474(459)			507	04	39	1339	(14 53	148)	(1191)				
11 *	644	605	646		539	712	685	657	632	614	585	539	527	534	548	544	544	554	557	568	547	564	530	536	548		04	30	766							
12					652	683	672	647	656	690	631	509	501	506	523	521	382	403	267	317	342	354	271	334	410		08	11	738	17	27	166	572			
13					763	914	876	888	845	805	(646) 601	637		596	511	374	421	531	551	549	473	452	470	504	432	604	05	06	1117	15	01	164	953			
14					739	055	922	803	622	618	638	599	521	537	525	536	538	568	534	542	552	503	504	433	461	600	05	05	1226	00	10	324	902			
15 *					781	989	007	796	685	606	601 (612) 592			448	453	475	510	539	573	561	552	556	558	506	467	613	04	56	1139	12	45	395	744			
16 *					716	819	989	009	801	624	552	543	548	542	570	574	562	566	579	575	562	528	487	457	477	610	06	02	1175	00	19	431	744			
17 *					503	591	761	841	960	966	888	728	577	532	515	530	564	589	592	593	584	580	581	581	573	568	579	586	640	04	58	1012	00	11	466	546
18					599	654	731	770	886	818	725	727	624	573	530	562	512	480	441	442	471	524	543	538	516	520	506	550	593	04	37	934	14	00	300	634
19 *					579	619	646	698	705	695	708	703	655	623	534	531	543	548	560	564	523	536	539	507	489	467	436	390	575	07	55	775	23	43	296	479
20 *					471	603	771	889	093	198	811	706	619	573	565	554	513	542	553	556	554	542	554	542	505	487	448	473	630	04	51	1436	00	00	398	1038
21 *					474	568	662	824	867	750	682	667	595	566	552	530	536	536	542	552	561	544	512	516	505	454	484	550	585	04	00	931	22	05	396	535
22					548	603	679	712	838	986	746	587	661	584	561	559	550	490	511	507	535	536	534	540	514	495	495	522	596	05	39	1041	13	50	400	641
23 *					553	558	614	711	785	746	699	648	593	635	593	550	521	512	536	544	552	560	568	550	484	443	424	390	574	04	49	815	23	39	340	475
24					431	409	352	525	724	845	708	593	575	551	574	524	527	540	556	550	560	552	512	460	494	504	437	442	539	05	15	888	02	38	273	615
25					370	447	447	619	890	948	742	632	642	576	540	671	652	548	547	559	532	471	105	343	411	486	413	497	545	04	39	1049	18	46	-287	1336
26					430	431	478	699	716	817	122	882	749	624	649	559	544	552	559	555	565	568	579	584	574	539	548	535	619	06	03	1403	01	26	329	1074
27					568	590	644	646	690	799	787	666	576	558	609	611	614	537	495	541	291	204	100	314	251	478	539	619	530	05	36	832	17	31	-086	918
28					419	545	648	670	692	680	643	742	573	556	565	514	592	629	563	560	459	437	390	417	377	501	495	536	550	07	31	1169	19	49	243	926
29					480	521	536	613	647	906	948	730	710	610	617	575	568	570	560	534	575	575	593	609	493	481	488	506	602	06	21	1062	02	29	320	742
30					516	592	657	743	769	697	812	802	633	601	571	746	526	521	537	536	527	573	552	440	443	468	479	416	590	07	10	1044	23	06	278	766
31 *					448	495	496	666	687	796	684	642	613	593	573	611	576	547	544	568	584	583	591	582	561	573	550	487	594	04	46	978	00	49	415	563
Mean	490	535	599		707	843	855	767	686	625	591	566	564	541	531	525	524	513	516	492	491	464	471	478	471	577	DESIGNATIONS			795						
Mean * b	500	572	655		766	888	893	785	698	610	584	561	556	530	537	547	556	558	562	560	549	525	505	485	478	603	* Ten least disturbed days			640						
Mean / c	488	575	678		790	909	928	844	720	600	563	556	550	522	537	546	554	562	569	557	553	540	517	506	520	612	/ Five international quiet days			642						
Mean ≠ c	462	531	585		699	816	800	771	755	663	595	569	642	592	552	505	519	512	508	399	418	421	481	473	470	572	≠ Five international disturbed days			995						
	a Means of 9 values				b Means of 8 values				c Means of 4 values																	() Approximate										

TABLE 28

HOURLY VALUES OF HORIZONTAL INTENSITY

JANUARY 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
1	585	518	532	532	584	621	652	689	652	655	659	702	751	779	792	797	651	745	726	693	516	440	670	617	648	h	m	h	m	628		
2	727	774	718	788	677	693	703	684	692	664	680	664	688	703	740	802	740	702	649	569	588	715	716	648	697	03	05	870	20	47	242	480
3	604	641	758	516	509	633	687	672	688	679	674	669	685	720	719	766	800	703	661	688	653	621	574	518	660	18	31	836	19	14	369	431
4	542	522	607	646	684	505	616	665	707	695	711	749	740	736	786	747	741	748	632	437	734	736	709	469	661	14	16	827	04	00	405	632
5	603	628	656	706	660	602	656	671	657	651	687	693	707	699	702	721	728	736	642	540	699	714	732	753	677	17	53	773	19	19	195	413
6	728	373	518	674	715	727	717	699	683	676	669	675	763	851	800	726	512	775	732	699	629	614	659	670	678	13	20	889	16	16	-220	1109
7	710	770	779	722	671	707	707	689	671	699	675	659	690	737	813	779	694	808	746	716	711	575	558	526	700	14	34	851	22	04	285	566
8	618	670	668	674	690	716	709	687	679	679	710	706	679	710	707	695	699	704	707	696	716	692	694	722	693	23	31	762	00	05	443	319
9	676	715	673	455	379	617	635	673	657	707	754	816	905	802	778	759	722	741	701	701	659	693	707	703	693	12	40	983	04	20	237	746
10	711	708	697	630	588	427	510	622	647	740	775	874	868	903	693	522	593	639	555	711	632	588	551	687	661	13	14	973	05	43	365	608
11	603	817	451	423	415	259	185	358	560	602	595	736	680	601	612	653	678	634	559	646	742	747	739	697	583	01	37	864	07	00	028	836
12	742	736	741	704	691	700	684	677	637	666	679	729	791	867	851	774	668	502	555	686	471	672	699	731	694	13	16	895	20	12	200	695
13	733	538	557	546	489	584	664	667	642	668	668	668	684	690	712	735	735	738	732	723	710	693	713	718	667	18	15	759	01	01	419	340
14	739	694	699	672	600	522	665	694	650	674	694	696	717	751	779	770	743	738	706	676	661	623	674	689	689	15	22	800	05	13	450	350
15	663	626	624	662	671	677	670	674	662	663	660	674	747	759	673	655	670	689	677	692	707	726	726	669	680	13	07	799	23	40	545	254
16	717	624	674	642	698	713	694	695	677	667	667	650	673	710	696	707	706	708	710	707	698	701	693	707	689	13	15	768	03	07	580	188
17	698	698	710	670	634	592	661	693	682	652	670	721	787	829	869	826	805	782	750	754	721	715	689	681	720	14	42	887	05	36	563	324
18	640	622	539	239	286	519	704	647	689	689	722	715	732	822	879	765	802	715	755	606	547	709	684	642	653	14	20	959	03	02	125	834
19	541	669	666	591	468	515	657	687	707	798	837	865	666	576	560	795	679	603	735	698	626	653	676	703	665	11	53	1072	05	02	334	738
20	709	684	644	661	586	622	657	673	691	710	707	704	683	679	671	717	718	723	722	718	709	704	691	(681)	686	17	08	740	04	37	547	193
21										676	679	675	675	718	719	761	780	819	751	709	697	681	650	652								
22	379	429	652	842	574	239	644	720	695	693	691	699	681	690	699	703			697	685	581	671	742	747								
23										683	681	671	666	666	675	690	711	759	690	711	759	697	685	581								
24	725	704	598	577	510	290	429	418	547	684	787	726	842	861	862	710	651	555	555	491	550	661	716	703	631	14	39	884	19	38	-349	1233
25	669	724	731	596	635	447	284	580	736	748	771	766	765	751	746	689	688	722	717	612	629	723	724	722	674	02	05	789	06	24	165	624
26	713	699	687	717	676	632	664	697	690	682	677	672	675	713	722	706	699	689	691	700	700	710	710	712	693	13	55	760	05	18	595	165
27	689	641	635	596	607	618	699	699	691	674	671	719	804	728	813	812	736	725	682	485	704	738	736	767	695	14	26	924	19	18	157	767
28	793	616	699	696	(325)	173	537	658	646	671	683	713	850	806	732	749	693	717	728	567	381	649	719	709	647	12	52	887	05	05	-252	1139
29	722	776	624	627	587	598	626	648	677	699	716	698	713	773	802	795	742	614	546	695	584	716	709	731	684	15	42	852	18	03	-322	1174
30	473	610	625	607	683	566	658	685	696	695	683	703	705	804	833	740	717	484	662	708	700	557	574	633	658	13	52	865	17	15	041	824
31	595	643	772	651	428	534	662	635	681	714	677	710	720	750	763	723	743	766	671	585	549	619	635	676	663	13	53	843	04	16	339	504
Mean	667	659	653	615	577	565	621	651	668	686	699	718	740	754	754	737	705	693	675	650	640	668	681	674	673	DESIGNATIONS					611	
Mean * a	700	667	671	663	635	641	677	685	672	677	681	683	704	731	738	732	719	731	716	709	704	682	683	678	691	* Ten least disturbed days					300	
Mean /	684	661	659	671	664	672	679	685	680	680	684	681	691	714	694	696	698	703	701	703	706	707	703	698	688	/ Five international quiet days					224	
Mean #	660	686	591	505	401	351	502	554	630	689	725	755	754	733	729	734	701	645	666	601	569	684	707	691	636	# Five international disturbed days					956	
a Means of 9 values b Means of 8 values c Means of 4 values																									() Approximate							

HOURLY VALUES OF HORIZONTAL INTENSITY

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
1	610	471	566		620	702	700	693	581	653	696	662	676		701	703	768	791	785	780	706	575	572	551	577	629	657	16 05 ^h	838 ^m	19 34 ^h	268 ^m	570
2	610	639	673		760	779	604	509	615	636	682	714	711		757	742	690	727	767	635	690	703	558	637	544	674	669	04 03	815	22 26	344	471
3	714	623	633		701	634	585	682	712	676	672	676	690		698	689	698	693	693	745	718	558	728	721	632	442	667	00 13	784	23 00	319	465
4	620	658	680		622	605	634	708	691	686	676	683	709		715	727	734	726	728	730	699	673	684	553	606	690	677	13 03	791	21 00	344	447
5 *	660	672	657		643	655	643	692	692	690	679	684	681		694	679	681	705	699	711	705	551	442	520	623	756	659	15 27	786	20 27	(168)	(618)
6	660	553	634		678	727	726	666	699	686	690	700	730		705	690	700	722	728	719	742	712	712	694	703	703	695	18 46	772	01 07	491	281
7 * /	705	691	622		596	631	695	663	690	675	673	675	662		698	671	671	675	681	690	702	708	699	707	647	615	673	01 09	723	22 35	498	225
8 * /	638	627	652		690	701	694	689	676	676	671	673	691		698	725	714	690	707	717	708	710	713	696	699	716	690	13 51	740	01 30	606	134
9 * /	718	700	719		718	701	686	691	672	658	663	669	685		699	703	699	699	703	700	711	702	701	701	686	727	696	23 14	731	22 20	624	107
10 * /	719	722	699		(701)			(676)	660	653	661	672			676	681	686	686	694	721	714	671	681	691	695	738		(19 49	757)	(19 20	535)	(222)
11	762	716	511		682	691	689	700	681	671	654	677	709		758	849	838	849	827	765	728	719	620	718	654	724	719	13 47	881	02 16	408	473
12	691	666	450		577	314	430	334	597	569	(612)	667	829		756	729	696	689	681	699	698	696	692	707	714	716	634	11 17	905	06 18	-032	937
13	748	738	737		666	637	620	596	624	644	610	700	761		748	728	736	724	711	711	700	706	695	683	681	681	694	12 08	826	04 54	545	281
14 * /	676	690	645		539	605	705	700	681	673	672	673	680		680	693	690	694	690	706	710	709	699	706	708	710	681	17 45	723	03 50	510	213
15 *	735	714	705		676	691	681	680	674	661	665	655	662		681	681	708	714	731	743	735	686	682	626	656	694	689	17 24	757	21 35	502	255
16	658	662	661		594	257	331	467	647	677	667	652	709		806	793	736	740	781	633	574	764	688	691	714	720	651	15 55	857	04 34	167	690
17 *	727	737	720		683	704	719	710	700	683	(673)	675	667		686	681	693	684	691	708	704	701	699	701	704	703	698	05 26	768	08 31	636	132
18 *	708	729	731		647	586	585	614	661	667	663	671	668		681	679	680	714	761	759	733	722	708	700	691	702	687	16 15	781	05 16	547	234
19	706	709	711		706	662	587	613	640	666	664	701	731		788	726	770	718	718	719	725	710	691	696	699	701	698	12 24	838	05 26	482	356
20 *	719	711	710		680	697	711	704	700	686	673	667	669		731	794	785	757	710	706	711	685	690	692	696	694	707	13 16	835	06 50	625	210
21	691	708	691		615	566	679	691	682	672	670	664	662		677	699	697	704	709	686	693	693	675	701	681	673	678	13 37	762	04 23	493	269
22	731	736	739		699	679	664	673	680	679	673	676	676		673	717	748	757	710	712	689	683	674	668	671	683	695	03 12	787	03 43	598	189
23	674	686	686		687	694	706	706	695	676	679	687	690		679	717	744	801	719	754	714	687	700	679	691	705	702	15 37	853	19 14	647	206
24	701	702	704		708	708	700	696	691	686	(683)	711	746		716	679	682	701	730	767	786	777	712	566	671	691	704	19 04	814	21 08	385	429
25	719	702	672		648	588	407	360	703	672	332	757	979		880	703	398	549	406	559	674	668	416	626	709	757	620	11 10	1382	20 28	-245	1627
26	772	777	807		739	671	609	648	673	649	648	682	720		744	717	691	691	684	689	683	691	707	663	678	738	697	00 15	826	09 35	457	369
27	770	742	552		748	758	580	524	568	682	679	674	674		686	693	686	685	694	694	665	445	574	646	655	422	646	01 13	811	19 40	019	792
28	579	672	724		420	485	603	656	656	675	675	684	682		700	736	733	778	753	637	365	524	599	546	656	503	627	15 13	803	18 57	-159	962
29	453	404	528		727	851	502	652	663	592	668	752	793		727	713	777	541	576	570	608	493	463	587	651	436	614	04 38	940	22 57	151	789
30																																
31																																
Mean	684	675	661		660	642	624	635	666	665	658	684	712		719	716	709	711	706	702	688	666	649	656	668	664	676	DESIGNATIONS				447
Mean ^a	698	697	685		652	663	680	689	683	674	670	671	674		691	701	702	704	708	716	713	686	671	672	679	702	687	* Ten least disturbed days				236
Mean ^b	684	677	660		636	660	695	693	680	670	670	672	680		686	698	694	690	695	703	708	707	703	702	685	692	685	/ Five international quiet days				170
Mean ^c	641	644	577		611	586	526	540	660	636	588	707	798		764	746	688	681	649	646	615	620	558	637	677	627	643	≠ Five international disturbed days				958
	a Means of 9 values				b Means of 8 values				c Means of 4 values																() Approximate							

TABLE 30

HOURLY VALUES OF HORIZONTAL INTENSITY

MARCH 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
1	578	630	634		701	732	509	499	518	641	674	748	746	717	680	682	682	706	710		593	632	470	544	640	671	553	06 03	1066	21 48	-478	1544
2																																
3	488	729	832		878	848	899	664	242	420	626	452	517	419	473	509	469	544	538		401	355	485	487	379	617	724	08 15	972	23 19	441	531
4	695	736	756		756	756	890	750	709	747	660	661	741	728	756	753	795	770	700		699	691	690	687	679	583	665	15 58	779	19 34	399	380
5	629	649	670		670	652	616	664	678	665	659	660	664	689	714	727	754	710	660		630	541	669	649	659	693	648	16 16	798	05 06	361	437
6	689	544	591		543	524	459	586	644	662	695	676	679	703	729	735	768	741	697		677	607	625	655	645	678						
7	705	704	687		682	678	686	683	675	663	665	(665	668)																			
8																																
9																																
10	709	710	703		716	626	461	608	638	641	668	653	667	672	675	684	704	712	721		729	686	541	696	765	691	670	22 23	794	20 29	298	496
11	787	827	559		685	710	630	580	473	610	682	686	675	683	682	685	685	694	691		681	691	696	711	677	565	669	01 34	871	07 33	342	529
12	638	676	695		665	666	626	606	646	661	671	657	656	691	680	682	684	713	712		699	608	536	637	656	664	659	12 43	759	20 12	395	364
13	680	663	634		482	564	530	553	543	541	625	683	702	672	702	695	693	711	702		703	705	666	648	671	511	637	13 43	738	23 18	272	466
14	588	658	658		666	656	686	683	675	635	650	674	732	748	741	736	795	801	705		712	694	699	670	605	641	690	16 45	825	00 04	509	316
15	711	703	635		530	618	685	672	657	643	659	699	717	690	690	694	709	727	722		717	718	711	701	700	652	682	00 59	750	03 46	509	241
16	637	637	631		682	703	692	667	646	624	627	642	663	680	691	678	683	698	715		709	719	675	587	674	686	669	17 38	730	21 45	313	417
17	688	691	702		662	683	683	682	675	666	661	661	665	663	666	672	675	681	685		695	695	695	695	697	661	679	02 20	714	23 05	625	089
18	647	679	695		685	684	657	669	663	651	643	663	668	660	666	690	711	690	733		693	698	698	683	669	627	676	17 36	774	23 36	576	198
19	654	691	683		643	633	643	672	662	661	661	670	680	683	698	722	738	786	727		732	723	716	366	482	585	663	16 43	814	21 50	-066	880
20	646	662	662		686	686	692	684	676	677	670	671	672	674	680	685	692	695	695		697	699	702	713	705	733	686	23 47	750	00 07	505	245
21	743	532	671		696	659	578	505	689	731	638	686	691	714	744	820	693	594	617		378	579	703	702	368	424	631	14 49	892	18 23	-021	913
22	594	666	458		567	781	793	746	812	667	666	730	718	729	690	725	701	652	528		549	512	486	675	391	634	645	07 41	893	03 02	-211	1104
23	676	730	405		701	786	605	625	589	662	682	691	685	689	673	672	673	680	681		682	681	682	687	686	684	667	04 04	813	02 21	296	517
24	682	677	683		667	558	503	609	647	644	658	690	740	781	784	645	(248)	524	705		697	644	553	329	529	590	616	13 19	816	15 22	-745	1561
25	576	420	602		628	592	620	605	588	645	647	689	707	693	693	683	704	724	642		531	709	705	702	356	491	623	11 19	750	17 57	046	704
26	657	697	686		731	706	649	667	677	636	721	800	695	731	711	722	750	732	715		695	673	672	453	504	643	680	10 29	867	21 14	292	575
27	677	681	694		663	626	637	672	677	674	672	664	686	737	731	777	778	667	633		663	599	661	597	597	701	674	17 35	826	17 24	336	490
28	682	745	627		506	521	592	614	660	627	649	686	731	748	758	753	762	739	626		(473)	542	664	577	517	552	640	15 58	791	18 32	-209	1000
29	620	611	551		769	739	459	713	688	561	588	704	716	715	735	739	725	632	559		619	695	683	538	502	671	647	04 05	857	17 45	073	784
30	683	683	694		670	617	531	586	652	655	661	664	666	674	683	691	702	713	710		535	527	616	544	570	713	643	21 14	741	21 52	267	474
31	726	492	641		781	575	524	558	570	578	633	701	717	744	771	791	784	742	699		643	588	644	628	668	600	658	14 50	825	19 09	304	521
Mean	662	661	647		666	660	628	640	634	638	657	674	687	693	701	706	695	695	676		640	638	649	616	590	627	657	DESIGNATIONS				607
Mean *	Insufficient data																										* Ten least disturbed days					
Mean /	Insufficient data																										/ Five international quiet days					
Mean #	625	643	639		715	717	646	647	616	605	635	652	676	672	685	688	567	589	589		529	557	582	546	434	587	618	# Five international disturbed days				1181
	a Means of 9 values				b Means of 8 values				c Means of 4 values																		() Approximate					

TABLE 31

HOURLY VALUES OF HORIZONTAL INTENSITY

APRIL 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
																											h	m	h	m		
1	562	552	592	637	621	685	624	574	619	685	682	673	664	692	692	699	708	708	719	702	694	691	589	616	653	18	35	732	22	03	415	317
2	660	630	624	600	632	676	690	692	674	671	662	714	712	731	760	697	616	577	620	637	630	476	675	674	655	14	26	792	21	09	361	431
3	616	645	666	771	416	476	589	621	649	655	686	692	721	697	697	723	695	644	647	707	696	687	697	676	657	03	28	789	04	20	247	542
4	618	672	719	598	567	531	599	661	683	672	682	686	681	688	683	694	719	673	629	607	588	656	572	683	653	02	30	751	20	02	434	317
5	685	672	568	604	606	573	638	700	677	668	670	670	685	692	755	746	754	732	673	578	716	707	676	684	672	14	51	806	19	19	315	491
6	687	686	674	660	675	693	681	665	663	666	677	692	684	714	731	723	722	703	692	683	657	610	621	639	679	14	14	797	23	26	514	283
7	576	285	624	683	652	682	669	677	676	694	673	689	680	705	726	753	726	723	743	707	689	657	614	665	665	15	05	790	(01 05)	-008	798	
8	674	651	677	640	655	680	667	657	658	661	656	693	706	698	688	685	695	688	694	643	717	706	697	684	678	06	39	763	19	46	562	201
9	693	676	669	636	658	614	601	690	680	678	677	677	677	693	680	683	690	692	684	656	651	679	605	695	668	07	21	721	22	13	397	324
10	692	679	661	658	676	661	613	604	606	655	685	682	698	690	717	656	719	713	690	673	668	673	679	684	672	12	14	758	06	54	575	183
11	695	690	676	674	577	624	665	673	673	669	671	672	674	675	689	704	700	742	575	635	575	663	676	682	665	15	55	718	20	36	278	440
12	664	480	584	666	674	670	637	661	666	656	673	679	682	690	699	711	714	699	682	691	651	661	702	692	666	14	59	753	01	41	383	370
13	694	685	686	598	603	643	666	682	673	675	681	672	688	688	692	698	719	724	721	703	702	693	677	675	681	18	11	744	03	55	520	224
14	693	681	695	683	675	654	632	662	668	674	680	674	676	684	686	694	710	720	721	703	693	578	617	635	674	17	43	733	21	48	312	421
15	681	674	669	692	676	645	674	676	670	670	673	670	673	683	685	701	725	746	694	590	642	753	684	617	678	21	08	790	19	34	427	363
16	675	708	682	646	530	471	647	694	680	678	673	680	686	688	698	672	556	703	661	626	641	617	684	692	654	17	22	739	04	50	329	410
17	692	666	646	708	664	510	594	589	623	651	654	679	691	708	756	813	801	724	623	604	581	478	619	615	654	15	42	860	21	20	358	502
18	677	623	642	631	494	428	582	673	569	667	684	675	675	677	702	703	692	687	686	687	677	621	512	383	627	07	06	724	23	13	145	579
19	516	580	647	718	719	675	621	659	629	650	687	692	705	711	706	694	616	722	678	678	673	682	682	665	667	03	56	757	01	20	449	308
20	599	609	659	560	562	568	646	676	683	676	676	669	676	682	685	678	696	698	674	550	572	602	673	687	644	02	20	714	19	18	436	278
21	697	666	664	642	531	586	599	631	640	678	709	788	761	694	689	685	706	615	357	200	402	526	676	489	610	11	54	918	(19 25)	102	816	
22	595	769	436	437	707	718	651	573	582	644	501	644	712	694	686	674	658	626	610	525	523	685	590	571	617	05	48	837	02	55	157	680
23	639	677	613	531	629	670	676	683	670	677	662	669	677	669	674	674	676	678	684	677	667	666	663	674	661	05	58	752	02	37	459	293
24	685	674	664	649	599	598	642	663	673	673	672	671	673	675	681	676	685	702	684	663	658	567	581	601	655	17	20	709	23	26	453	256
25	666	648	596	627	647	663	668	676	678	676	675	680	681	683	690	700	717	692	697	666	621	551	628	645	661	16	08	740	21	31	398	342
26				679	507	447	477	562	583	657	671	687	715	707	713	720	700	694	675	634	599	313	342	(648)	616				21	17	074	
27				(592)	549	604	764	569	465	537	484	505	519	540	548	449	299	370	381	380	621	551	418	549	634	(03 15	864)	(04 00	-328)	(1192)		
28	683	690	542	713	733	722	663	781	595	626	702	689	689	666	673	678	680	677	667	535	518	549	521	223	634	07	34	948	23	40	-247	1195
29	485	672	608	509	498	489	595	689	591	613	696	704	718	714	700	716	707	691	690	681	659	675	678	682	644	11	56	833	04	48	-174	1007
30	501	464	302	345	722	473	484	502	610	668	673	713	713	711	738	746	718	604	382	548	640	646	715	721	597	04	49	928	03	03	-341	1269
31																																
Mean	644	638	627	627	617	604	627	653	646	664	671	685	692	693	702	703	697	690	654	627	634	623	636	631	654	DESIGNATIONS					511	
Mean *	669	646	651	628	638	640	651	673	672	672	672	675	681	684	686	690	703	704	694	654	657	646	653	660	667	* Ten least disturbed days					307	
Mean †	684	672	662	650	640	641	656	672	672	674	676	673	678	683	687	694	711	717	703	665	663	628	637	635	670	† Five international quiet days					321	
Mean ‡ c	619	647	486	534	673	625	599	622	607	654	646	708	719	691	696	696	690	630	504	452	521	602	626	501	614	‡ Five international disturbed days					990	
() Approximate																																
a Means of 9 values														b Means of 8 values												c Means of 4 values						

TABLE 32

HOURLY VALUES OF HORIZONTAL INTENSITY

MAY 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range	
	703	701	685	686	645	636	487	538	540	645	703	713	745	712	702	716	707	708	772	719	696	674	681	672	674	18 06	844	06 26	437	407
1	683	678	674	674	674	658	674	674	677	671	671	673	676	685	686	683	683	690	692	700	677	673	674	647	677	07 20	758	07 24	598	160
2	671	606	581	626	609	635	684	680	676	675	673	703	707	713	728	739	765	747	720	712	689	677	560	681	677	16 30	783	22 15	486	297
3	696	692	663	665	656	644	674	682	674	670	665	677	682	694	684	778	752	709	697	684	682	682	681	694	687	15 41	805	05 17	628	177
4	692	685	645	655	651	647	561	581	663	665	666	667	692	690	685	702	706	650	534	561	596	578	638	692	646	17 20	742	21 51	369	373
5	692	683	665	686	637	677	667	668	675	656	675	672	677	703	702	703	734	739	693	695	682	675	690	646	684	16 10	779	23 56	456	323
6	488	661	643	649	578	614	682	673	652	642	663	702	686	686	708	692	693	694	699	523	425	710	701	694	648	14 08	752	19 58	083	669
7	681	687	679	683	685	686	691	690	676	673	666	675	685	693	686	690	692	694	699	694	690	690	683	670	685	13 43	706	23 57	585	121
8	684	674	663	671	679	675	684	680	675	672	674	675	680	681	684	686	688	689	688	692	694	700	696	693	684	21 10	704	00 16	594	110
9	684	679	674	671	679	693	685	680	683	672	672	674	677	680	684	685	687	687	687	692	694	701	696	693	684	21 52	707	03 40	660	047
10	687	636	555	639	696	695	689	685	680	672	672	681	688	695	693	691	691	698	699	706	702	700	667	668	679	19 35	710	01 48	510	200
11	555	570	639	605	617	526	528	631	636	629	661	722	717	731	636	652	664	739	686	675	687	638	543	662	640	08 12	790	06 09	340	450
12	687	552	676	530	290	507	514	629	385	580	505	528	618	632	695	676	675	670	701	688	681	661	670	537	595	07 15	793	04 24	140	653
13	651	693	670	675	631	666	675	594	505	628	647	694	695	721	693	636	719	652	630	669	659	516	666	655	562	13 14	778	21 28	083	695
14	589	421	286	341	421	449	405	586	548	629	639	601	635	641	706	611	530	263	619	621	525	555	423	625	528	14 53	746	17 36	-591	1337
15	457	275	273	385	414	419	715	668	667	537	657	607	434	540	545	461	375	428	487	540	393	499	283	371	476	04 23	848	04 54	-109	957
16	391	172	407	595	507	457	155	581	604	571	532	614	574	618	645	750	729	688	667	659	673	681	635	602	563	15 03	776	00 50	-094	870
17	600	596	631	551	463	494	377	572	624	644	668	688	704	697	698	716	713	690	668	716	739	708	667	631	636	20 15	772	06 01	265	507
18	656	682	628	646	674	680	684	688	679	646	628	703	683	683	708	696	697	693	691	689	680	597	595	666	670	11 18	779	21 44	217	562
19	657	675	580	556	565	660	694	680	683	686	622	519	755	679	681	692	692	682	629	638	516	571	554	279	623	12 19	913	23 34	050	863
20	359	451	463	525	600	511	513	597	697	691	692	692	700	699	696	690	682	679	676	680	672	674	677	689	625	14 37	730	00 09	190	540
21	684	683	673	633	637	645	588	548	529	611	671	728	762	749	754	747	701	634	631	476	628	690	676	669	656	12 52	791	19 35	130	661
22	661	668	670	669	669	678	678	667	669	662	669	724	705	727	688	640	751	787	745	699	666	633	386	331	660	17 11	816	22 34	-147	963
23	440	563	630	675	611	687	548	553	658	673	660	483	592	630	507	612	559	545	628	518	399	377	269	387	550	07 54	845	22 33	-797	1642
24	502	664	661	161	253	533	713	642	658	578	621	622	633	624	667	720	705	692	685	654	631	557	588	613	599	06 51	764	03 46	-146	910
25	685	623	427	464	537	515	613	652	668	681	680	687	693	698	703	697	693	689	653	437	581	662	619	582	622	06 59	720	19 02	139	581
26	556	638	618	609	608	662	680	691	691	685	682	681	683	683	689	690	692	691	667	615	600	610	664	503	650	23 06	703	23 44	278	425
27	399	531	560	520	477	600	643	675	693	691	692	690	690	711	715	712	716	719	697	709	715	698	681	672	650	14 00	734	03 50	106	628
28	681	674	643	668	678	663	663	650	654	662	670	681	687	715	733	770	777	744	605	448	625	611	364	594	652	16 32	797	23 19	152	645
29	705	700	672	603	614	528	540	591	672	656	682	703	724	735	726	756	765	747	677	628	637	627	543	661	662	16 27	783	22 30	317	466
30	671	686	687	667	664	679	681	688	681	677	677	679	681	685	688	690	688	688	686	680	676	670	607	521	671	15 16	709	23 06	338	371
Mean	610	610	601	593	584	607	606	639	641	649	657	663	676	685	684	690	688	672	668	639	633	635	596	603	639	DESIGNATIONS			568	
Mean *	635	662	645	646	640	654	653	672	672	665	667	683	684	687	692	692	692	691	688	671	658	676	665	638	668	* Ten least disturbed days			317	
Mean †	676	671	649	668	683	681	685	682	678	672	671	676	681	687	687	687	688	692	693	697	692	692	683	673	681	† Five international quiet days			128	
Mean ‡	476	419	451	431	441	509	507	606	627	600	622	585	574	611	614	631	580	523	617	598	524	534	440	520	543	‡ Five international disturbed days			1143	
	a Means of 9 values						b Means of 8 values						c Means of 4 values						() Approximate											

TABLE 33

HOURLY VALUES OF HORIZONTAL INTENSITY

JUNE 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
																											^h m	^h m				
1	594	603	643	672	687	623	580	564	566	653	682	747	712	721	735	640	683	672	653	738	701	689	674	688	663	11	06	07	01	494	292	
2	643	636	654	652	609	598	583	721	712	699	691	711	699	709	757	758	739	719	686	719	704	693	693	688	686	16	56	06	12	509	280	
3	682	675	515	647	692	684	678	683	673	673	675	678	693	700	701	717	718	724	710	706	704	687	662	563	677	15	30	03	24	426	318	
4	645	633	654	658	667	685	693	693	670	646	684	725	688	704	721	743	788	750	759	706	685	678	673	680	693	16	45	01	13	592	253	
5	688	683	678	660	640	640	657	655	655	679	685	686	702	693	703	715	739	725	715	714	693	673	673	696	685	16	12	04	44	602	164	
6	692	677	666	668	682	658	672	673	666	665	680	677	694	729	732	768	761	733	714	696	665	728	715	693	696	20	36	20	16	445	358	
7	692	645	640	648	686	682	677	677	658	657	668	678	680	705	716	712	705	712	725	711	688	678	717	694	685	18	37	74	01	13	581	163
8	675	541	506	673	597	643	669	644	600	691	630	692	694	692	718	746	736	715	720	720	690	486	319	523	638	15	01	21	57	-115	925	
9	673	693	672	636	621	539	544	540	594	661	663	687	691	697	719	699	705	706	688	550	634	671	482	603	640	09	01	22	21	238	567	
10	650	607	614	588	642	645	680	682	676	661	664	702	706	719	730	719	703	625	668	682												
11				484	610	490	510	680	720	739	726	719	736	737	731	739	739	700	616	603	548	533	681	644	609	12	01	06	17	287	449	
12	606	492	374	541	571	483	407	603	668	681	672	698	701	695	689	700	694	696	690	681	644	558	527	553	648	14	00	21	31	207	623	
13	506	567	607	588	620	673	662	672	691	667	678	700	698	746	746	722	705	705	700	689	648	493	537	513	628	11	58	20	06	102	706	
14	622	632	451	423	579	617	509	624	662	659	674	706	745	736	726	734	710	709	657	596	608	641	605	456	616	07	54	23	01	-214	1037	
15	428	654	663	481	559	592	518	634	620	634	701	736	736	704	723	706	724	625	688	726	686	648	483	123	651	07	00	05	14	351	452	
16	489	649	695	661	602	509	606	657	679	709	700	711	710	716	705	693	705	705	625	604	639	654	596	612	661	17	39	21	34	-235	1033	
17	669	644	669	621	556	603	663	685	686	689	693	689	688	695	696	706	680	743	728	733	684	461	567	624	661	06	41	21	07	432	320	
18	611	495	575	640	656	686	690	680	685	681	678	687	689	697	694	695	704	703	699	690	651	581										
19				669	667	670	667	668	684	682	686	679	693	692	703	707	716	727	751	743	695	640										
20				669	653	696	697	689	680	680	680	688	701	701	702	702	704	705	703	694	637	532	529	663	646	(13	00	(22	10	(303)	(449)	
21	495	475	587	682	692	622	604	654	681	682	686	686	699	708	697	700	708	699	684	670	623	571	595	606	643	05	05	00	31	162	577	
22	626	655	492	530	635	616	592	639	680	689	696	693	692	698	716	711	705	695	680	595	575	617	614	595	634	14	43	20	29	416	331	
23	595	566	651	665	607	649	692	687	690	690	693	689	701	691	691	691	702	706	675	533	522	414	437	578	634	18	16	22	13	205	560	
24	662	405	297	511	583	555	475	602	649	664	694	697	704	734	620	534	502	724	723	703	687	556	524	582	599	13	21	21	50	139	642	
25	573	611	360	561	618	334	495	473	601	670	697	699	696	698	703	694	636	719	751	713	697	591	535	640	615	10	31	06	05	-002	808	
26	667	673	668	667	593	480	546	469	578	606	673	693	705	755	760	736	732	695	699	706	679	676	554	400	642	13	30	23	14	150	649	
27	673	697	676	640	415	345	583	575	569	574	594	689	735	726	733	724	773	747	716	696	677	663	668	658	648	16	26	08	05	03	-013	822
28	650	688	663	648	636	592	648	643	604	651	687	720	689	703	723	735	727	737	735	735	708	681	659	564	676	11	41	23	20	325	479	
29	647	544	548	659	650	607	578	605	585	602	665	722	756	737	710	717	719	720	690	518	676	675	668	500	646	12	16	23	17	359	492	
30	671	666	693	644	641	553	500	661	672	660	694	733	707	739	769	703	788	757	717	599	599	680	591	709	673	11	34	06	05	345	489	
31																																
Mean	623	616	589	617	618	583	593	629	644	663	678	702	705	713	716	708	711	714	701	670	661	622	591	582	652	DESIGNATIONS					527	
Mean *	Insufficient data																								* Ten least disturbed days							
Mean /	Insufficient data																								/ Five international quiet days							
Mean #	586	588	531	574	618	531	514	587	622	656	694	722	711	719	710	655	667	699	706	696	674	633	561	548	633	# Five international disturbed days					654	
	a Means of 9 values				b Means of 8 values				c Means of 4 values																() Approximate							

TABLE 34

HOURLY VALUES OF HORIZONTAL INTENSITY

JULY 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	673	674	681		664	644	657	666	635	675	666	703	703	702	708	728	757	758	717	713	693	657	701	674	563	684	^h 12 ^m 56	799	^h 23 ^m 50	065	734
2	533	650	686		674	679	694	607	493	515	647	677	712	715	725	746	762	752	735	734	628	620	618	607	649	661	^h 15 ^m 37	787	00 00	305	482
3	649	504	513		618	655	592	596	573	657	668	668	717	705	730	715	726	713	726	706	701	696	675	674	629	659	^h 13 ^m 11	817	02 54	352	465
4	685	694	680		648	594	488	569	611	629	702	687	684	695	687	676	685	700	697	699	693	687	690	719	701	667	09 09	751	05 39	443	308
5	677	666	676		668	666	667	682	673	668	667	692	672	701	701	701	692	705	708	700	699	648	607	654	672	678	12 48	734	21 00	431	303
6	663	570	655		634	675	660	661	675	681	695	684	694	689	706	702	696	707	720	730	710	699	691	681	687	682	17 55	741	01 11	478	263
7	682	675	680		680	682	686	684	683	680	675	675	677	682	684	692	716	754	739	711	692	706	732	708	670	694	16 51	783	23 49	542	241
8	646	623	641		586	651	624	578	635	673	687	693	707	700	693	692	689	691	696	692	687	678	603	579	593	656	11 37	724	21 31	290	434
9	428	494	558		660	560	556	571	519	605	700	679	713	707	704	697	694	691	691	690	689	662	652	633	634	633	11 53	741	00 41	360	381
10	645	655	617		647	664	685	684	683	682	680	682	684	691	691	690	690	691	691	676	503	599	570	571	518	650	20 49	747	19 07	276	471
11	554	573	600		586	558	636	667	683	702	692	682	691	702	698	707	725	731	731	739	693	666	611	609	695	664	16 50	762	04 29	413	349
12	686	681	666		660	592	553	547	695	694	683	679	684	702	695	700	703	697	695	695	654	607	679	689	646	666	07 25	773	05 54	384	389
13	534	265	468		620	683	631	581	601	620	657	699	706	736	731	737	736	649	584	525	461	580	498	529	577	600	12 34	809	18 56	-211	1020
14	620	525	621		622	655	622	601	663					683	687	691	694	699	678	669	675	553	475	598	626		(14 30	716)	(00 23	255)	(461)
15	637	666	644											695	704	704	715	705	657	617	712	709	654	650							
16	634	568	627		599	640	592	663	673	683	683	676	676	689	682	695	693	695	689	701	699	676	613	589	643	657	07 59	728	22 13	457	271
17	649	673	661		650	591	631	655	684	683	682	668	680	688	683	681	685	689	689	689	678	641	608	649	650	664	12 18	703	21 06	487	216
18	611	636	652		644	646	683	696	693	686	681	681	681	681	684	689	708	723	694	668	636	602	630	655	674	668	16 11	731	19 44	360	371
19	602	603	597		585	666	669	680	684	679	674	680	688	690	698	702	692	707	661	680	708	687	678	607	601	663	19 02	739	23 50	-006	745
20	342	607	659		643	574	622	642	688	696	688	688	681	691	693	737	719	708	714	682	628	511	622	626	582	643	14 29	760	00 23	287	473
21	607	676	686		675	687	697	692	684	680	676	674	682	687	687	694	688	688	688	691	683	644	663	671	640	677	22 07	711	00 44	548	163
22	662	645	662		595	668	680	691	692	692	689	685	689	689	690	692	699	701	699	698	693	691	691	688	693	682	15 43	711	03 21	546	165
23	698	689	681		644	682	689	694	695	696	(692)	695	693	696	701	702	720	725	629	725	645	511	534	589	655	670	23 59	769	20 32	372	397
24	697	697	708		693	688	656	617	577	621	705	705	690	689	691	695	702	699	701	694	693	693	692	674	690	682	09 49	805	07 06	523	282
25	684	685	673		643	563	466	544	563	539	598	576	595	690	607	735	736	721	719	702	695	594	508	623	607	628	14 26	762	21 17	379	383
26	389	659	688		697	634	541	550	671	576	398	591	617	748	743	749	737	646	687	630	712	692	655	342	314	611	12 50	873	22 58	-206	1079
27	436	491	627		665	598	578	595	658	675	716	684	741	725	722	733	740	724	712	722	691	664	614	651	578	656	22 43	845	00 21	338	507
28	693	762	690		664	691	702	693	678	656	632	688	741	765	731	719	721	712	721	696	625	556	505	503	313	661	12 14	864	23 29	-017	881
29	655	710	705		712	662	685	607	348	600	731	684	689	709	721	753	740	638	722	738	714	658	659	701	678	676	17 45	878	07 13	-003	881
30	687	659	617		594	688	715	691	654	609	656	742	686	692	720	717	731	726	714	722	706	654	717	721	711	689	10 06	797	20 38	285	512
31	697	681	668		682	686	681	643	623	682	696	702	693	694	715	793	732	697	804	750	705	703	693	684	676	699	17 03	836	07 30	581	255
Mean	614	626	646	646	644	635	636	635	653	670	680	688	702	701	713	714	705	703	696	669	644	635	631	619	663	DESIGNATIONS			463		
Mean *a	652	645	664	644	650	643	666	674	676	683	680	682	689	689	691	696	709	703	699	687	666	658	668	670	674	* Ten least disturbed days			256		
Mean /	642	661	668	649	655	675	684	687	684	681	677	682	685	686	690	699	711	702	691	676	657	665	674	665	677	/ Five international quiet days			231		
Mean ≠	599	614	645	663	652	599	597	618	602	598	652	670	726	701	727	726	685	682	649	637	623	572	534	500	636	≠ Five international disturbed days			729		
	a Means of 9 values						b Means of 8 values						c Means of 4 values														() Approximate				

TABLE 35

HOURLY VALUES OF HORIZONTAL INTENSITY

AUGUST 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	647	609	582	631	673	697	681	682	694	685	684	693	706	713	721	713	715	731	720	735	715	694	632	591	681	h	m	h	m	280	
2	477	600	686	675	684	703	710	708	694	676	718	690	711	716	702	712	718	716	706	684	649	602	464	539	664	19	23	23	50	489	
3	641	690	694	700	697	699	687	648	680	697	688	677	698	707	719	716	700	694	688	691	690	691	694	666	690	10	31	22	32	299	
4	*	605	669	656	652	669	699	697	691	687	684	681	681	685	688	692	697	717	717	707	706	700	639	639	658	20	04	21	54	488	
5	*	666	665	649	671	602	621	643	665	690	678	679	686	691	695	691	698	699	699	704	699	697	679	575	642	670	01	59	22	39	436
6	*	667	619	686	703	707	706	704	697	692	688	682	681	687	689	695	695	695	699	698	670	600	628	658	699	681	04	38	20	23	459
7	*	659	698	706	677	568	638	692	692	680	673	679	681	686	688	690	692	694	698	683	604	660	635	673	688	672	02	49	17	41	493
8	*	696	697	642	648	658	699	691	670	658	668	686	685	678	688	703	702	657	650	637	604	669	644	639	640	667	15	48	19	12	506
9		646	613	647	591	604	597	613	666	683	674	691	651	697	755	736	737	686	457	610	743	713	619	578	658	653	13	45	17	45	-141
10		684	648	660	588	585	613	674	668	676	683	678	678	685	698	711	706	705	699	703	697	693	685	689	706	676	14	23	726	04	43
11	#	715	699	714	682	652	668	648	621	656	690	702	669	692	718	742	783	741	590	574	510	612	552	599	486	655	15	38	819	17	56
12		604	605	706	613	584	566	787	725	575	680	700	708	727	724	765	734	724	698	620	642	660	663	584	661	669	07	00	858	22	24
13		673	670	670	674	686	692	693	686	681	676	679	680	681	681	692	717	707	710	705	678	441	408	536	619	656	15	35	736	20	56
14	*	674	590	614	629	651	671	666	669	685	689	685	680	684	685	687	693	696	696	678	661	684	674	675	670	670	20	12	708	23	11
15	*	608	669	677	680	652	685	697	698	694	690	685	679	681	686	689	691	691	692	696	682	596	677	690	687	678	22	27	716	20	19
16	*	681	670	680	676	686	707	699	697	691	688	681	679	681	694	699	726	742	729	717	692	685	695	698	654	694	16	17	763	23	24
17		500	499	657	670	687	680	418	652	673	671	669	687	697	717	746	715	716	715	709	694	684	680	690	695	663	14	41	780	06	08
18	*	685	670	656	681	673	665	674	680	686	679	678	678	684	686	689	690	691	696	700	694	682	662	682	680	681	18	01	709	21	20
19	*	678	680	685	688	691	693	694	688	678	673	672	675	677	679	681	683	687	688	688	689	689	682	681	615	681	03	21	701	23	40
20	*	671	635	644	650	672	680	686	693	685	677	675	675	677	684	688	689	691	688	687	687	691	688	688	687	679	07	19	700	01	03
21	*	681	670	664	676	688	694	686	688	683	678	678	675	677	695	714	772	744	701	657	667	673	593	485	678	676	15	24	806	22	21
22	#	532	667	685	622	676	665	682	681	674	667	666	670	676	684	684	687	690	692	678	640	644	667	647	660	664	01	45	712	00	19
23	#	590	557	545	467	493	534	656	677	636	635	693	711	698	640	648	729	676	691	640	542	474	424	326	522	592	17	49	777	22	38
24	#	293	431	511	665	624	649	398	590	680	642	628	722	666	595	563	396	674	655	640	593	635	662	647	663	593	11	54	809	00	48
25		590	632	660	677	643	479	673	689	672	597	570	691	748	662	692	633	679	642	478	524	554	240	626	530	608	12	31	853	21	09
26	#	598	337	514	654	637	488	316	209	476	620	656	686	707	708	738	702	768	750	620	574	670	667	691	684	603	17	34	811	07	17
27		675	686	612	496	382	429	619	682	676	710	718	722	703	739	715	704	720	729	730	694	639	628	712	694	659	13	31	779	04	39
28		503	411	314	527	629	641	705	704	696	691	703	685	684	694	695	704	735	751	720	642	594	719	704	688	647	06	46	796	02	21
29		669	603	623	632	689	671	656	660	686	682	705	701	688	721	733	751	740	721	714	675	633	646	620	656	678	15	01	790	22	31
30		534	509	627	630	652	616	674	631	636	661	688	691	707	712	724	740	766	737	732	707	699	679	686	683	672	16	55	791	00	42
31		692	682	651	651	657	666	666	652	652	662	629	577	762	738	740	736	626	630	734	724	667	692	659	698	677	12	34	810	11	12
Mean		620	615	636	641	640	642	651	660	668	673	678	682	694	696	703	701	706	689	677	659	648	629	631	648	662	DESIGNATIONS			434	
Mean *		659	656	665	671	657	676	685	687	687	682	680	680	683	687	690	695	700	700	696	678	668	666	666	668	679	* Ten least disturbed days			207	
Mean /		656	669	668	668	640	666	682	686	684	677	677	680	683	687	688	692	698	698	694	677	687	665	651	658	676	/ Five international quiet days			197	
Mean #		557	531	589	629	610	564	538	557	624	637	650	696	702	665	677	649	708	666	590	549	589	509	578	577	610	# Five international disturbed days			906	
		a Means of 9 values				b Means of 8 values				c Means of 4 values				() Approximate																	

TABLE 36

HOURLY VALUES OF HORIZONTAL INTENSITY

SEPTEMBER 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range				
1	671	568	664		681	654	603	550	566	568	631	738	752	752	736	795	794	759	716	697	619	639	678	684	672	674	h	m	h	m			
2	651	694	742		724	292	785	297	555	856	408	280	488	780	752	754	801	754	629	586	658	713	695	690	699	637	05	31	06	48	332	497	
3	678	661	737		398	725	738	733	834	746	686	625	628	663	610	591	683	660	657	659	541	523	377	553	648	640	07	00	21	13	043	877	
4	607	504	563		622	586	542	544	615	669	678	696	692	711	734	714	693	690	688	691	640	609	654	682	675	646	13	54	00	35	444	307	
5 *	677	547	582		646	703	703	701	693	681	666	663	664	665	670	674	683	688	687	691	668	683	725	711	696	674	21	37	01	20	511	239	
6 *	558	595	626		590	531	546	581	533	610	676	686	704	668	596	612	720	723	741	712	592	504	587	649	606	623	17	09	19	56	328	432	
7	515	589	625		677	702	711	707	695	684	676	665	667	676	676	683	702	701	694	704	694	681	692	692	702	675	16	39	74	00	15	438	302
8	699	684	682		686	720	713	696	672	626	630	703	771	804	692	476	348	604	570	610	655	571	658	595	678	648	12	21	84	15	00	-201	1050
9	721	679	635		656	657	658	634	640	658	695	720	777	750	782	811	785	716	626	527	610	590	639	658	518	673	14	54	84	01	34	506	234
10	656	583	618		662	695	705	703	693	676	664	659	665	673	674	687	687	689	662	682	685	697	649	594	668	668	18	56	74	01	31	506	234
11	677	675	654		665	724	457	415	601	666	705	741	734	725	703	696	687	685	683	685	685	658	622	646	676	661	10	53	76	05	26	329	440
12	688	679	682		678	677	679	695	690	683	674	667	666	668	672	675	679	683	687	685	675	612	510	503	685	662	23	39	72	22	20	155	565
13	609	582	358		595	742	612	663	649	676	665	665	674	683	674	684	682	685	631	704	696	665	664	637	619	646	04	11	83	02	24	137	699
14 *	650	654	643		665	625	676	673	665	657	646	653	658	662	671	671	672	673	673	679	681	682	672	675	680	665	24	00	694	04	12	596	098
15 *	592	562	594		583	633	692	694	679	672	664	663	663	664	666	673	677	683	687	689	690	691	693	636	449	650	00	25	718	23	08	333	385
16	622	691	702		687	714	712	696	684	674	665	664	661	666	669	680	673	630	749	731	704	683	562	663	664	677	17	15	779	21	46	282	497
17 *	687	702	694		674	611	646	626	657	661	666	680	659	662	667	684	691	693	693	684	674	636	667	678	686	670	02	25	712	04	40	561	151
18 *	689	627	639		677	708	708	695	678	666	657	653	657	665	669	674	677	682	686	686	691	692	693	696	698	678	04	50	714	01	42	506	208
19 *	703	704	710		713	704	710	701	685	675	664	661	665	670	672	676	680	685	688	691	691	689	668	678	696	687	03	24	722	21	56	643	079
20	704	711	690		627	245	289	514	685	667	662	667	668	680	701	702	644	580	636	659	659	571	600	672	674	621	07	29	742	04	57	058	684
21	712	714	501		453	547	609	534	567	651	697	730	721	738	770	736	777	706	715	704	649	679	688	605	669	659	15	34	820	02	28	265	555
22	689	688	720		636	696	693	553	492	560	575	685	651	735	729	726	590	600	653	484	575	687	679	652	638	641	05	08	772	17	20	-064	836
23	584	648	671		670	699	668	609	603	653	682	706	729	707	701	704	703	703	688	692	697	694	697	668	581	673	11	11	749	07	58	507	242
24 *	652	617	651		688	710	691	693	681	671	665	657	673	689	697	708	682	684	683	692	696	580	664	627	551	667	14	16	723	20	35	422	301
25	605	599	527		557	657	704	706	685	670	661	662	667	670	683	702	722	720	705	696	634	481	577	699	589	649	15	03	744	20	57	316	428
26 *	612	686	690		599	490	460	480	449	564	656	675	724	722	703	713	711	712	726	701	675	689	693	702	699	647	17	20	749	04	40	275	474
27 *	698	675	631		643	675	679	673	666	664	659	670	705	714	731	761	755	716	724	703	677	570	649	675	678	683	14	54	781	20	51	401	380
28	688	708	721		620	627	514	590	646	646	680	699	686	680	701	720	758	744	715	710	708	697	698	673	666	680	15	53	776	05	23	441	335
29 *	684	647	683		701	721	705	688	679	665	661	662	670	677	686	691	702	728	704	697	729	703	709	707	725	693	19	19	749	00	50	609	140
30 *	739	734	655		603	542	643	668	698	695	686	693	694	697	690	694	702	706	707	702	701	708	686	593	642	678	02	02	752	22	23	421	331
31																																	
Mean	657	647	643		636	634	642	624	644	664	657	666	681	697	693	692	692	689	683	674	665	643	646	653	651	661	DESIGNATIONS			465			
Mean *	677	647	648		659	663	685	681	678	671	663	666	671	676	682	691	692	694	693	691	690	663	683	668	650	674	* Ten least disturbed days			231			
Mean /	683	667	674		686	674	689	677	673	665	659	662	662	667	673	679	684	692	689	687	683	680	682	687	697	678	/ Five international quiet days			135			
Mean \	686	688	676		579	598	708	563	624	688	599	605	652	744	711	657	640	665	645	609	616	635	607	619	666	645	\ Five international disturbed days			902			
	a Means of 9 values						b Means of 8 values						c Means of 4 values						() Approximate														

TABLE 37

HOURLY VALUES OF HORIZONTAL INTENSITY

OCTOBER 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range	
1	664	692	663	624	672	732	705	692	678	683	691	745	774	768	687	686	745	743	689	654	548	690	687	659	690	h	m	h	m	
2	645	527	609	704	714	572	540	573	691	629	732	752	703	637	748	750	688	625	680	699	615	605	589	634	653	13	18	20	03	
3	493	566	612	638	650	612	674	686	634	669	704	756	752	735	739	724	719	485	593	683	672	689	711	676	661	14	41	01	16	
4	489	579	657	609	664	685	663	648	672	692	684	664	679	690	709	720	708	705	687	664	709	676	648	710	667	11	51	17	34	
5	719	718	708	694	678	694	655	609	558	648	662	670	660	679	688	684	694	700	683	635	522	693	728	719	667	09	53	00	49	
6	742	737	720	684	748	615	663	678	679	669	692	698	740	754	789	778	752	760	705	622	616	652	645	651	698	12	10	23	47	
7	564	492	707	751	604	685	663	678	679	690	697	684	702	751	788	784	740	679	668	688	684	546	678	706	680	15	39	21	32	
8	724	653	622	638	606	679	512	675	694	695	699	699	692	691	693	704	715	713	701	685	484	528	671	704	662	08	02	20	44	
9	737	740	698	661	683	674	700	686	663	657	679	682	711	697	691	698	706	708	704	667	652	552	564	683	679	04	49	21	13	
10	738	698	644	720	715	715	706	688	678	674	673	679	673	682	682	692	703	706	708	706	685	661	658	686	690	00	59	02	00	
11	660	685	679	623	569	682	700	675	675	682	677	670	691	692	686	683	688	692	701	702	683	688	703	677	678	23	08	04	36	
12	642	668	696	711	719	712	711	692	688	673	679	667	668	676	682	703	702	724	714	718	711	613	609	608	683	17	15	21	26	
13	686	730	716	726	732	731	721	701	693	669	663	664	674	684	691	694	698	701	705	707	711	721	720	704	702	01	11	00	00	
14	695	695	733	662	629	670	699	698	685	677	675	674	671	677	687	692	694	701	711	711	694	693	707	717	689	02	54	00	23	
15	720	704	726	744	744	740	725	708	693	676	668	665	674	683	691	701	705	708	709	715	719	720	723	713	707	03	53	01	34	
16	718	717	723	627	686	719	692	680	657	667	667	676	664	677	688	694	698	701	705	711	718	725	736	726	695	22	25	03	51	
17	741	764	(757)	683	680	712	744	704	691	677	668	672	670	680	683	686	692	696	702	705	705	710	716	731	703	(790)	03	26	03	26
18	727	738	719	682	737	587	673	692	683	694	690	675	679	686	689	691	698	701	704	705	714	719	721	729	697	04	26	05	21	
19	737	721	694	643	538	578	652	653	658	672	688	713	723	684	689	709	721	732	730	714	712	722			17	42	04	45		
20				695	454	321	380	441	662	704	706	758	652	650	694	648	580	641	633	698	712	733	748	628	683	09	12	05	54	
21	595	684	732	680	604	513	661	683	672	734	807	817	729	655	694	785	699	618	598	691	684	659	683	711	667	11	51	05	06	
22	685	537	534	544	587	694	697	710	689	676	671	672	734	786	799	755	681	666	657	614	673	669	659	625	667	14	06	03	54	
23	646			439	334	418	520	626	689	707	727	755	750	748	759	751	737	729	725	702	695	571	563	676		14	56	04	06	
24	722	701	669	633	532	556	662	682	689	662	682	689	688	689	680	687	699	697	699	666	612	700	705	716	670	00	33	04	33	
25	723	717	703	684	660	661	664	666	660	663	685	674	669	675	685	694	697	703	712	710	703	677	644	644	682	00	51	21	56	
26	647	596	716	699	701	515	572	653	677	671	672	673	690	754	783	717	786	722	643	719	753	728	753	773	692	23	22	05	40	
27	641	755	728	737	752	559	593	707	663	771	805	808	809	810	763	774	716	725	675	553	686	713	729	713	716	11	54	19	23	
28	680	730	696	537	552	591	595	633	728	782	732	789	714	703	840	758	745	714	708	713	690	647	674	638	691	10	58	07	04	
29	603	636	666	677	652	688	694	684	678	688	714	729	748	754	757	759	717	662	713	696	664	692	693	676	693	13	58	21	05	
30	657	664	686	644	604	675	685	664	664	703	747	824	861	804	672	746	775	731	696	706	713	710	719	719	711	13	05	04	28	
31	713	730	732	700	700	704	691	682	670	667	722	764	772	753	780	765	749	778	743	727	695	704	723	573	718	14	49	23	42	
Mean	669	672	687	667	663	655	666	678	677	685	699	710	712	713	721	723	715	695	690	687	674	670	684	685	687	DESIGNATIONS			370	
Mean #a	710	715	713	693	700	694	704	692	681	674	674	672	671	680	686	694	699	705	711	710	707	693	693	695	694	# Ten least disturbed days			189	
Mean #b	713	722	727	700	689	703	711	695	684	672	672	670	672	680	687	693	697	702	708	710	706	704	702	702	696	# Five international quiet days			173	
Mean #c	632	640	696	705	693	540	592	654	676	701	754	762	733	714	747	756	722	672	649	665	684	676	688	708	686	# Five international disturbed days			491	
a Means of 9 values			b Means of 8 values			c Means of 4 values																			() Approximate					

TABLE 39

HOURLY VALUES OF HORIZONTAL INTENSITY

DECEMBER 1956

17600 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range	
1	710	730	772	765	732	714	687	684	686	678	682	701	699	760	842	802	748	698	722	674	666	692	706	746	721	14 24	881	20 35	571	310
2	741	471	523	494	629	625	600	610	685	680	718	800	784	775	723	768	825	777	670	688	724	745	774	685	688	12 51	887	01 37	371	516
3	591	657	722	828	703	679	708	737	738	710	755	831	804	776	848	826	768	784	744	699	608	681	700	714	734	14 30	884	00 29	511	373
4	747	742	544	560	592	708	696	675	662	642	636	710	694	738	719	725	794	738	706	722	729	600	665	770	688	16 32	836	21 27	419	417
5	734	617	662	592	571	683	696	665	682	707	699	692	721	760	841	868	857	823	754	729	705	726	735	769	720	15 08	909	01 29	482	427
6	781	774	765	671	508	472	635	702	745	722	698	641	673	772	857	856	903	833	791	739	722	601	735	722	722	15 42	940	21 07	349	591
7	718	764	746	731	727	727	706	666	665	655	679	724	768	789	771	790	785	744	764	720	706	685	661	529	718	15 56	829	22 44	450	379
8	563	628	623	566	618	681	692	647	686	797	828	870	892	780	705	702	702	730	741	721	617	723	722	693	705	11 51	936	20 09	417	519
9 *	687	709	671	663	645	684	674	682	660	663	692	696	791	871	848	756	740	724	724	729	710	698				14 02	893	04 01	609	284
10				709	345	416	563	524	547	641	836	029	724	102	853	870	831	773	724	765	751	800	(604)			12 31	1187	04 46	209	978
11 *				883	797	743	709	691	662	661	668	678	677	679	686	691	694	699	701	711	738	731	720	722						
12	723	753	752	746	734	722	709	685	697	706	691	747	734	774	784	880	760	715	750	694	767	725	767	817	743	15 39	912	17 25	651	261
13	808	808	747	703	665	654	566	598	633	(807)	833	873	818	760	791	821	810	719	691	717	742	696	680	690	735	14 55	906	07 21	456	450
14	615	562	668	634	453	636	665	682	689	713	726	687	689	734	799	817	749	770	695	670	692	648	649	671	680	15 10	846	04 24	382	464
15 *	668	628	641	548	458	528	594	651	686	723	(794)	933	905	852	832	785	745	732	717	729	736	736	728	716	711	11 24	979	04 23	390	589
16 *	686	639	592	480	439	383	463	600	656	678	736	748	718	700	702	717	755	742	736	752	761	746	724	688	660	11 16	785	05 25	329	456
17 *	664	623	526	520	487	542	546	604	665	713	748	710	680	689	700	700	696	693	703	707	717	725	692	688	656	10 39	769	04 07	461	308
18	698	681	673	671	541	583	625	621	639	660	697	768	816	942	905	889	841	809	770	737	725	784	753	744	732	13 52	980	04 38	498	482
19 *	764	766	766	752	741	713	698	661	626	653	667	679	676	695	704	712	784	782	726	756	738	711	740	649	715	16 46	806	23 31	458	348
20 *	673	615	633	565	453	525	690	706	688	685	745	820	858	775	745	745	765	760	768	770	771	747	695	714	705	12 49	870	04 52	314	556
21 *	690	707	669	641	695	736	713	675	671	665	663	664	683	692	697	704	703	710	740	733	712	697	695	705	694	05 47	754	03 24	618	136
22	698	661	610	577	583	536	680	716	683	653	681	720	836	952	797	763	724	732	734	726	715	728	744	753	708	13 23	991	05 34	450	541
23 *	748	743	733	701	665	699	698	675	663	661	677	725	726	711	684	684	705	747	753	732	732	756	752	721	712	22 20	772	09 03	645	127
24	725	822	829	628	626	732	724	723	710	685	687	724	756	716	712	720	720	742	749	709	756	749	753	812	730	02 19	964	04 23	560	404
25	774	727	697	613	527	609	635	686	649	614	735	807	087	951	913	824	790	789	662	767	732	744	751	766	744	12 35	1315	04 35	453	862
26	858	613	596	756	775	387	344	522	668	763	780	772	696	698	716	717	712	701	717	719	712	692	727	719	682	00 48	894	06 06	161	733
27	753	771	716	717	666	614	640	664	672	673	730	793	886	962	931	983	891	564	714	784	712	766	843	809	761	15 43	1145	17 29	301	844
28	838	794	686	745	764	746	726	616	628	692	701	692	764	969	882	800	766	713	628	659	714	733	713	736	738	13 48	1122	07 25	370	752
29	754	738	527	520	618	595	514	646	684	701	724	721	739	770	854	872	739	728	750	759	634	670	612	709	691	14 09	911	02 45	345	566
30	731	634	718	699	704	707	605	489	589	589	702	886	818	754	738	798	814	767	713	685	712	683	784	753	711	11 47	1054	07 11	318	736
31 *	722	642	725	712	615	715	696	678	685	686	680	665	731	749	709	712	697	700	728	726	699	704	745	735	702	11 39	817	04 24	571	246
Mean	721	690	674	648	617	630	641	653	672	690	718	754	773	786	782	785	770	741	726	722	713	710	723	722	711	DESIGNATIONS			488	
Mean * b	702	670	661	615	569	605	637	656	668	684	714	743	747	733	722	720	731	733	734	738	733	728	721	702	694	* Ten least disturbed days			343	
Mean / c	677	649	607	547	520	547	579	632	670	697	735	764	746	733	733	726	725	719	724	730	732	726	710	699	680	/ Five international quiet days			372	
Mean ≠ c	788	741	712	690	665	679	633	597	625	676	743	814	872	858	831	811	795	747	674	707	725	714	732	736	732	≠ Five international disturbed days			700	
	a Means of 9 values				b Means of 8 values				c Means of 4 values																		() Approximate			

TABLE 41

HOURLY VALUES OF VERTICAL INTENSITY

FEBRUARY 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	702	663	832		879	776	841	738	564	482	499	540	526	547	559	551	451	422	393	495	478	565	529	607	651	595	05 35	976	19 34	-141	1117
2	687	762	719		781	665	621	543	550	528	504	540	576	580	541	539	545	490	382	369	471	533	594	580	645	573	01 01	852	17 50	-081	933
3	690	626	670		710	765	642	505	500	503	561	562	561	544	531	534	530	526	523	506	349	481	548	600	703	570	23 20	821	19 30	172	649
4	609	579	573		551	528	508	500	509	509	519	523	531	557	546	534	520	523	516	478	440	542	633	610	666	542	21 36	809	21 01	292	517
5 *	584	593	580		605	647	562	493	493	512	514	516	518	530	542	531	522	522	520	483	421	513	591	675	646	546	22 32	748	20 26	017	731
6	649	700	676		603	512	503	501	507	514	520	528	544	531	537	540	530	515	430	490	511	501	535	536	556	540	01 16	783	17 30	340	443
7 *	565	570	598		576	505	507	510	510	503	517	522	534	532	528	526	526	526	525	517	507	512	543	500	584	531	23 21	640	22 37	372	268
8 *	574	560	542		509	490	490	500	502	509	517	521	540	545	555	537	522	519	515	507	499	488	513	524	543	522	00 12	613	20 35	469	144
9 *	599	624	610		639	592	484	475	485	499	511	529	538	541	531	531	531	529	522	518	502	508	519	527	536	537	00 43	668	06 10	465	203
10 *	542	538	542		(523)			(507)	512		527	531	539	535	532	534	531	528	520	490	431	453	490	550	580	(22 08 598)	(19 23 341)	(257)			
11	553	564	648		601	531	473	472	487	501	521	534	568	561	507	487	469	410	425	464	542	560	706	679	580	535	21 42	909	16 10	345	564
12	575	619	635		733	749	857	697	565	510	(387)	250	358	487	510	530	533	530	529	531	529	520	532	536	584	554	05 35	1005	11 12	047	958
13	551	571	568		536	481	432	412	459	489	510	512	476	494	521	538	530	524	516	496	489	506	518	515	519	507	01 21	586	06 53	379	207
14 *	520	529	575		533	482	510	513	515	524	524	531	538	533	535	536	530	525	519	503	498	506	508	508	518	521	02 27	597	04 35	454	143
15 *	519	513	544		539	498	478	481	489	496	501	521	523	537	539	539	532	526	506	492	479	535	554	510	584	518	21 27	634	19 18	370	264
16	638	602	595		666	676	603	442	501	503	(512)	540	538	512	389	351	330	375	422	425	427	440	471	486	519	498	04 13	828	15 39	293	535
17 *	540	588	611		589	503	464	462	478	482	(494)	517	517	522	529	529	527	526	522	515	513	518	527	527	522	522	02 52	641	08 32	443	198
18 *	536	533	522		517	533	484	455	482	492	501	530	537	529	529	527	539	502	490	504	501	494	502	522	530	512	15 49	550	06 37	439	111
19	531	520	532		500	483	456	420	456	484	497	472	513	352	320	480	490	518	508	498	475	490	508	512	512	480	02 29	591	12 47	228	363
20 *	483	503	529		534	507	501	499	498	503	508	513	523	527	441	453	471	496	493	493	507	512	517	522	538	503	03 00	569	13 31	376	193
21	541	536	503		513	513	490	491	494	511	506	516	519	530	534	534	522	501	511	513	503	488	510	521	522	513	13 33	582	19 59	459	123
22	529	497	470		628	546	519	470	471	485	490	505	500	532	536	529	484	510	489	477	461	504	524	526	528	508	03 10	729	15 22	429	300
23	554	544	539		504	484	497	501	502	497	501	504	526	526	538	512	450	368	413	383	378	430	467	498	507	484	13 26	576	16 09	328	248
24	530	528	513		501	501	497	495	489	491	(499)	507	499	481	500	524	528	519	450	428	460	480	526	520	585	502	21 07	679	21 06	288	391
25	525	570	552		619	810	837	895	849	865	643	543	741	230	232	309	425	490	423	389	534	523	593	552	587	572	05 45	1219	13 53	-011	1230
26	702	643	587		635	749	594	512	589	545	525	578	590	528	510	535	538	535	533	523	531	557	592	558	572	573	00 20	794	09 35	418	376
27	602	751	824		769	695	609	571	618	565	507	524	535	537	541	541	541	534	530	537	437	539	479	640	808	593	01 45	919	19 40	094	825
28	672	658	712		766	619	666	522	504	538	544	585	575	559	528	547	468	374	403	467	567	516	586	708	727	575	03 10	988	18 51	088	900
29	777	660	818		795	835	740	588	514	656	618	609	520	536	559	497	380	395	468	535	441	568	547	667	754	603	00 22	1045	17 18	020	1025
30																															
31																															
Mean	591	593	610		619	596	567	524	521	525	516	520	534	515	506	511	499	490	481	483	480	512	542	560	590	537	DESIGNATIONS			490	
Mean * a	547	557	568		560	529	497	488	495	502	510	522	530	533	525	523	522	519	512	504	492	510	530	535	556	524	* Ten least disturbed days			251	
Mean / c	565	571	581		564	517	498	500	503	509	517	526	538	538	537	533	527	525	520	511	502	504	521	515	545	528	/ Five international quiet days			190	
Mean /	620	614	673		703	709	715	635	584	514	545	504	552	475	467	474	455	440	450	477	523	537	593	628	646	568	/ Five international disturbed days			935	
	a Means of 9 values						b Means of 8 values						c Means of 4 values														() Approximate				

TABLE 42

HOURLY VALUES OF VERTICAL INTENSITY

MARCH 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum		Minimum		Range			
1	647	603	629		738	692	664	496	(519	550	521	576	538	545	553	551	542	546	511															
2											518	525	495	516	534	542	533	489	339	383	520	624	697	623	650	647	06	29	1143	21	54	191	952	
3	777	827	685		672	766	704	847	658	432	459	569	612	421	442	485	454	448	537	687	881	772	776	814	804	582	05	33	992	14	36	375	617	
4	646	625	633		683	755	892	704	521	514	525	552	579	510	534	429	490	514	556	548	533	531	540	564	578	544	00	00	651	18	16	267	384	
5 *	616	602	582		554	538	521	518	537	532	544	556	566	569	571	559	547	449	431	499	524	475	546	595	614	544	00	00	651	18	16	267	384	
6	663	733	788		784	775	643	586	555	532	536	551	574	576	554	547	527	494	478	495	494	526	465	551	562	583	03	28	853	21	58	413	440	
7 *	555	552	549		539	525	522	525	524	528	528	536	553																					
8 *																																		
9 *											(533	536	542	544	547	546	542	538	535	(536)	532	531	528	525	525	525	546	23	24	926	18	31	413	513
10	527	532	523		531	542	554	499	495	496	490	525	528	539	540	540	542	519	454	442	500	668	678	649	780	546	23	24	926	18	31	413	513	
11	730	659	842		822	761	614	695	722	577	570	562	565	556	549	549	545	536	524	523	521	522	539	618	691	612	02	08	958	19	37	506	452	
12 *	599	599	564		547	522	504	483	493	512	542	542	534	538	532	544	541	533	495	503	561	581	531	536	552	537	20	16	784	21	13	387	397	
13 *	549	568	612		586	687	559	469	461	511	519	538	544	538	547	546	547	547	534	540	521	479	487	579	707	549	23	16	853	06	18	426	427	
14	667	579	577		578	554	524	514	506	494	525	575	545	471	377	362	457	490	489	508	514	524	553	580	539	521	00	08	733	13	09	326	407	
15 *	560	704	758		709	581	510	492	526	527	520	536	520	542	548	543	549	508	489	513	506	516	519	522	532	551	02	41	803	06	19	464	339	
16 *	554	542	550		522	524	512	502	495	490	512	514	531	544	537	539	540	537	511	523	501	503	562	543	557	527	21	36	656	20	31	463	193	
17 *	551	542	528		516	506	501	499	502	519	523	531	539	534	537	535	533	532	529	529	518	520	526	520	553	526	23	20	568	07	33	489	079	
18 *	528	519	529		512	506	487	481	486	503	521	522	531	530	531	545	501	439	460	521	527	518	520	543	542	513	23	20	599	17	02	392	207	
19	517	530	549		559	532	496	495	500	511	513	519	530	529	531	528	528	497	437	442	492	510	566	708	695	528	21	58	937	21	47	182	755	
20	702	676	629		606	544	504	505	507	521	525	530	534	533	539	538	534	529	522	515	514	523	517	535	540	548	00	04	764	05	47	490	274	
21	596	587	582		563	602	622	674	683	625	571	543	526	531	507	454	328	417	456	595	497	528	575	723	784	565	23	19	992	15	03	274	718	
22	895	906	965		(645)	745	736	799	786	710	686	569	530	496	519	543	534	475	251	343	551	601	761	819	809	670	03	06	1465	17	35	135	1330	
23	772	772	966		942	762	016	848	600	554	547	549	552	544	555	550	553	552	549	546	544	539	544	543	545	644	05	14	1239	12	14	528	711	
24	550	551	572		621	736	558	523	531	541	551	553	533	526	432	421	450	427	427	478	480	606	794	687	798	556	21	09	1039	(15	47)	-029	1068	
25	762	827	746		736	743	689	673	639	554	540	576	554	578	550	556	563	498	502	314	462	504	565	657	708	604	01	01	980	18	16	-022	1002	
26	690	621	669		698	700	560	510	507	556	669	569	590	513	429	549	533	527	533	506	523	557	735	638	609	583	21	42	879	13	28	332	547	
27	594	585	661		686	638	554	520	512	521	534	553	567	554	544	513	474	414	387	302	456	544	542	672	703	543	22	12	862	17	40	-041	903	
28	723	652	771		818	831	766	555	533	513	549	547	548	496	504	528	525	457	478	708	658	637	690	740	762	625	18	41	1380	19	02	287	1093	
29	858	880	007		788	739	760	849	779	756	632	585	561	560	538	537	514	521	472	324	512	567	589	678	614	651	01	42	1194	17	47	085	1109	
30	590	578	566		560	564	664	540	529	536	553	554	559	559	559	559	552	538	499	491	510	564	762	798	748	580	22	19	853	19	24	237	616	
31	699	800	833		778	826	649	607	629	609	531	543	555	520	488	448	436	475	487	537	521	497	522	603	676	595	01	23	970	19	11	227	743	
Mean	651	654	680		670	653	620	592	565	544	546	549	550	531	519	517	511	495	480	497	532	550	592	631	654	574	DESIGNATIONS						626	
Mean *	Insufficient data																																	
Mean /	Insufficient data																																	
Mean #	735	750	762		738	718	678	738	687	613	580	564	552	507	508	488	456	458	429	485	584	615	699	744	762	618	* Ten least disturbed days / Five international quiet days # Five international disturbed days () Approximate						1035	
	a Means of 9 values						b Means of 8 values						c Means of 4 values																					

TABLE 43

HOURLY VALUES OF VERTICAL INTENSITY

APRIL 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	693	750	793	830	824	773	758	659	565	530	551	561	561	556	554	548	500	499	483	525	536	551	652	662	621	h m	h m				
2	661	650	673	626	583	541	530	531	527	562	578	546	542	499	512	458	470	448	493	514	608	654	665	722	566	04 54	905	16 38	464	441	
3	734	755	754	733	825	795	653	571	530	535	545	552	544	546	559	535	498	475	477	475	536	565	546	594	597	04 18	977	18 47	448	529	
4	688	655	672	677	649	571	572	515	526	569	550	553	545	534	534	533	532	482	504	575	461	575	550	536	565	03 35	770	20 13	357	413	
5	558	604	705	706	636	509	481	511	526	529	537	538	548	531	482	510	549	457	473	421	449	497	522	527	534	03 05	751	19 28	083	(668)	
6	528	538	560	533	508	515	500	504	501	521	519	514	499	507	443	502	511	522	513	515	550	571	482	528	516	24 00	633	22 02	360	273	
7	591	641	689	575	533	507	503	504	511	528	529	509	518	497	467	507	519	485	527	524	510	500	601	579	536	01 01	810	00 50	181	629	
8*	568	589	574	565	533	517	510	503	523	518	505	555	546	538	542	543	542	526	516	463	470	492	509	515	528	12 02	620	19 48	320	300	
9*	521	528	534	534	523	483	473	511	494	517	532	543	540	537	531	532	530	523	510	504	533	609	590	542	528	22 05	670	08 44	432	238	
10	523	539	551	529	519	509	467	474	469	493	486	508	526	545	506	432	508	480	488	498	501	508	513	524	504	11 54	573	15 00	378	195	
11	526	526	540	539	549	518	506	515	512	517	518	523	526	529	520	515	514	461	380	463	539	546	534	525	514	20 30	656	20 39	285	371	
12*	549	638	560	527	517	492	488	507	515	528	521	527	511	506	521	525	453	463	492	496	497	484	481	493	512	01 22	725	06 29	421	304	
13*	516	519	550	596	528	479	482	510	514	516	527	534	536	524	524	518	520	527	526	518	509	484	503	515	520	03 49	611	22 10	427	184	
14*	518	521	517	513	507	499	480	491	508	520	519	521	516	526	527	530	529	512	508	512	503	477	550	542	514	22 04	652	21 43	191	461	
15*	532	505	520	516	511	496	488	499	509	513	519	528	530	532	531	532	505	471	444	401	349	458	464	537	495	23 35	594	20 48	144	450	
16	515	518	515	540	606	520	534	532	520	522	525	532	522	521	517	478	396	393	418	497	512	562	569	628	516	04 39	664	17 43	351	313	
17	678	731	737	679	758	709	602	521	542	550	537	538	516	518	460	449	413	449	483	537	571	627	648	643	579	04 42	866	15 57	324	542	
18	640	628	600	669	691	689	715	695	565	517	523	531	530	533	524	514	513	527	527	525	526	575	620	612	583	06 26	866	22 34	369	497	
19	699	731	725	704	632	703	737	666	585	536	513	501	515	485	461	440	404	396	447	468	505	533	537	569	562	06 57	837	17 06	320	517	
20*	589	646	613	610	575	540	511	513	514	520	525	530	538	540	541	532	523	507	505	358	417	503	630	664	539	22 55	710	19 42	168	542	
21	637	652	693	754	742	622	535	500	558	529	489	404	513	529	523	525	524	467	572	436	614	694	728	763	583	23 18	988	19 51	221	767	
22	794	713	867	957	825	780	848	706	725	531	514	599	610	575	564	547	539	524	559	599	675	690	694	720	673	05 56	1329	11 11	440	889	
23*	692	655	671	670	572	553	538	537	538	540	553	558	553	550	551	552	547	547	548	542	542	551	638	626	576	02 55	769	06 04	471	298	
24*	569	569	574	620	591	525	521	528	534	536	536	540	539	544	548	549	544	529	512	520	533	467	561	608	546	23 26	666	21 53	358	308	
25*	651	640	644	559	518	518	512	513	523	531	535	541	541	540	544	541	493	479	468	496	537	584	580	553	543	01 59	716	18 48	454	262	
26	564	569	598	632	649	570	633	697	628	492	524	495	523	544	550	516	497	508	532	546	616	653	693(832)		586	23 12	885	22 09	347	(538)	
27				905	844	777	745	668	721	708	557	537	528	495	509	529	397	541	774	614	683	749	740	864		04 05	1507	16 11	246	1261	
28	845	856	989	805	790	722	813	663	600	560	560	574	565	569	569	559	562	535	533	456	544	658	721	721	657	02 53	1238	19 52	344	894	
29	942	738	742	795	829	915	779	671	477	566	581	558	556	565	565	556	531	529	536	536	544	537	552	577	632	04 48	1494	04 45	391	1103	
30	693	638	627	878	763	669	754	591	528	494	521	550	540	540	501	531	459	473	511	357	481	562	598	587	577	03 11	1118	18 55	098	1020	
31																															
Mean	628	629	648	651	631	594	584	556	537	528	530	533	536	533	523	518	504	489	499	492	523	557	584	602	559	DESIGNATIONS			522		
Mean *	570	581	576	571	538	510	500	511	517	524	527	538	535	534	536	535	519	508	503	481	489	511	551	560	530	* Ten least disturbed days			335		
Mean †	557	551	561	561	531	503	497	508	518	523	527	533	532	533	535	534	518	504	492	489	486	494	532	551	524	† Five international quiet days			333		
Mean ‡c	742	715	794	848	780	698	738	615	603	528	521	532	557	553	539	540	521	500	544	462	578	651	685	698	623	‡ Five international disturbed days			892		
	a Means of 9 values						b Means of 8 values						c Means of 4 values														() Approximate				

TABLE 444

HOURLY VALUES OF VERTICAL INTENSITY

MAY 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	577	564	578	582	637	616	522	475	474	540	500	447	484	522	541	527	482	378	520	525	521	526	541	557	527	h	m	h	m		
2 *	573	556	552	548	541	518	523	523	524	532	537	548	544	546	544	544	543	544	539	530	514	529	543	579	541	05	13	17	19	283	
3	579	631	623	592	549	498	507	502	513	520	534	538	539	545	539	536	499	465	480	483	499	519	497	483	528	04	39	653	22	34	476
4	516	532	540	533	528	504	505	511	513	519	521	539	520	472	426	454	497	486	489	506	516	522	525	529	508	11	49	557	14	51	406
5	548	548	557	543	522	512	468	458	502	498	509	512	528	532	528	533	454	443	369	427	383	537	559	527	500	21	55	674	20	36	247
6	535	534	524	523	499	514	493	499	502	503	536	544	542	543	537	454	474	528	527	512	507	525	552	602	521	23	54	668	16	03	418
7 *	654	564	584	614	598	483	497	497	503	512	526	546	530	540	532	530	522	523	516	472	386	537	516	531	529	00	22	708	20	06	-017
8 *	529	524	519	521	523	519	515	518	516	516	520	530	535	539	528	530	526	529	519	514	522	517	524	523	523	23	52	548	24	00	424
9 *	549	513	518	515	523	513	515	512	516	(523)	529	526	527	526	527	525	523	519	520	523	514	509	509	517	520	00	08	592	00	18	468
10 *	517	520	(518)	516	510	512	510	509	511	511	516	523	520	521	520	520	518	516	516	515	514	507	508	509	515	02	11	527	04	02	496
11 *	515	545	535	520	520	514	512	508	508	505	508	523	522	526	521	520	521	517	517	512	517	511	556	490	518	01	46	580	22	47	414
12	516	572	526	443	541	414	403	483	484	485	493	544	507	473	357	388	381	471	501	482	500	616	591	668	493	21	50	843	05	45	232
13	579	672	658	683	713	698	589	620	685	582	529	508	470	464	448	462	474	478	504	508	502	502	527	611	561	04	53	1004	04	35	364
14	567	532	549	527	527	529	506	526	477	475	395	460	426	430	445	420	406	474	416	360	345	495	515	494	471	21	57	684	21	31	197
15	576	590	(684)	808	692	724	666	608	507	528	437	436	453	389	361	413	482	568	478	475	511	628	649	609	553	03	22	919	18	46	217
16	654	728	798	838	794	701	672	634	547	564	515	467	452	464	434	517	564	509	568	568	568	700	807	728	633	05	34	1379	20	49	241
17	734	785	882	835	884	857	792	819	666	590	566	486	476	478	491	528	535	527	528	439	476	497	549	504	622	01	52	1130	23	44	286
18 *	530	584	640	686	653	669	513	501	581	512	541	553	541	548	546	532	512	500	507	453	454	512	504	593	549	05	59	737	19	02	367
19 *	568	548	555	536	534	530	524	520	509	504	538	570	538	537	529	530	528	528	527	527	530	509	530	495	531	21	41	696	21	53	269
20	529	550	586	649	559	534	525	499	503	519	450	399	463	515	504	515	530	521	492	450	377	639	665	829	533	23	51	1017	20	41	177
21	781	755	805	775	702	670	487	541	560	531	549	556	543	541	541	535	531	536	533	532	519	525	529	544	588	00	16	994	06	31	408
22	564	591	590	581	569	534	499	469	459	480	543	494	443	442	467	468	458	452	520	492	533	509	554	575	512	19	32	679	19	38	103
23	533	535	534	520	522	517	514	508	496	492	529	553	510	492	355	344	307	397	443	482	484	552	567	820	500	23	53	971	22	42	122
24	774	805	790	711	720	751	667	775	628	526	410	427	398	393	409	452	444	434	459	563	569	677	(984)	831	608	22	15	1469	22	30	043
25	836	900	891	804	089	969	732	673	632	539	581	545	521	527	514	556	569	551	531	531	557	547	527	657	657	03	59	1567	21	51	093
26	651	729	667	733	752	677	573	538	530	521	534	537	536	539	536	532	528	518	540	390	640	649	712	791	598	23	38	936	19	14	064
27 *	703	668	645	580	572	553	540	530	526	531	531	537	535	536	536	536	533	525	510	476	462	526	625	627	556	00	01	838	19	45	275
28	665	741	763	782	629	561	499	517	534	535	529	535	542	545	537	537	534	509	465	480	494	518	518	537	563	03	45	887	19	00	405
29	537	542	556	534	525	510	513	514	502	506	530	538	538	535	529	483	480	456	483	477	484	600	773	549	529	22	17	952	19	26	321
30	599	564	557	588	569	613	510	455	533	504	531	548	527	512	463	437	492	448	457	488	526	522	534	541	522	23	12	676	22	32	351
31 *	559	557	551	582	531	506	501	505	510	511	516	520	520	521	522	521	518	514	509	501	506	513	556	639	529	23	34	770	23	09	397
Mean	598	612	622	619	614	601	542	540	531	520	516	516	507	506	492	496	496	496	499	490	498	548	582	596	543	DESIGNATIONS			550		
Mean *	570	558	562	562	550	532	515	512	520	516	526	538	531	534	530	529	524	522	518	502	492	517	537	550	531	* Ten least disturbed days			304		
Mean /	537	532	528	524	523	515	515	514	515	517	522	530	530	532	528	528	526	525	522	519	516	515	528	524	524	/ Five international quiet days			116		
Mean ≠	715	762	809	799	836	880	706	702	596	549	502	472	460	450	442	493	519	518	513	515	536	610	703	666	615	≠ Five international disturbed days			1117		
	a Means of 9 values						b Means of 8 values						c Means of 4 values						() Approximate												

TABLE 45

HOURLY VALUES OF VERTICAL INTENSITY

JUNE 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	570	631	605	583	578	673	633	599	512	514	494	499	485	471	424	415	425	451	400	491	494	514	524	543	522	05 51	h m	18 26	352	412	
2	593	566	521	534	564	499	484	505	499	494	506	528	501	519	485	506	511	429	432	482	493	495	498	508	506	00 48	674	17 22	400	274	
3 *	513	519	577	564	527	501	490	507	502	507	513	518	519	517	514	510	481	480	509	503	506	493	516	499	512	03 15	665	23 26	314	351	
4 *	490	568	547	544	533	500	487	498	486	501	519	520	509	513	509	507	450	422	471	479	490	498	505	509	502	01 29	584	16 29	387	197	
5	516	513	523	527	518	497	479	484	486	476	500	513	518	513	509	514	500	449	440	440	467	474	483	501	493	03 44	542	18 59	391	151	
6	507	503	506	501	506	491	497	492	481	500	493	513	520	491	440	488	488	496	481	461	350	482	484	488	486	12 36	542	20 20	174	368	
7 *	497	466	492	508	505	494	489	489	472	490	499	510	511	508	501	500	503	495	486	484	459	446	481	475	490	03 04	533	01 09	365	168	
8	486	540	588	544	469	515	478	463	451	475	495	543	511	512	511	516	520	514	513	483	444	472	178	587	492	23 10	690	22 01	-008	698	
9	520	515	525	534	510	497	629	584	421	439	501	507	517	517	510	510	507	500	444	329	398	411	352	446	484	06 25	667	22 20	095	572	
10	467	481	516	469	483	483	482	487	487	493	522	522	520	506	509	503	494	441	442	416											
11				639	616	556	638	505	472	496	506	505	499	502	436	474	497	472	501	417	556	577	531	545	534	(02 10)	808	21 41	320	488	
12 *	566	733	699	533	550	610	517	462	487	491	511	517	512	515	506	507	507	507	490	491	490	488	513	623	529	23 15	785	21 36	185	600	
13	642	579	614	598	580	512	482	492	497	486	521	511	492	513	483	483	498	507	502	487	518	535	537	627	536	23 31	808	20 30	187	621	
14	628	713	644	662	639	471	466	518	479	513	524	495	485	466	494	490	494	484	479	553	419	504	621	625	539	22 51	1093	23 11	-405	1498	
15	696	629	649	749	713	585	519	519	458	512	510	511	500	495	484	491	476	362	431	442	461	494	690(559)		539	22 51	1093	23 11	-405	1498	
16	657	632	549	529	603	589	456	461	494	497	504	527	506	502	511	504	506	501	497	542	497	477	554	603	529	00 20	762	07 06	325	437	
17 *	528	534	518	517	506	488	488	497	502	513	516	511	513	519	511	511	425	377	420	479	484	454	557	529	496	21 58	691	21 35	-147	838	
18 *	600	671	591	534	496	492	498	496	501	508	511	515	514	509	507	505	495	488	504	485	491	524				(01 08	744)	(21 01	254)	(490)	
19 *				508	503	494	478	465	481	500	504	505	507	505	501	500	501	422	438	468	463	479									
20 *				525	521	499	485	482	474	496	501	507	513	512	507	504	501	496	494	489	471	465	559	659	531	(23 15	705)	(21 30	274)	(431)	
21 *	699	648	657	581	526	483	493	472	492	503	512	513	514	518	512	513	503	479	477	488	532	542	546	552	542	(00 46	830)	(00 34	404)	(426)	
22 *	598	611	733	665	625	572	541	503	509	503	511	513	508	506	504	500	491	472	477	522	579	516	502	557	542	02 13	782	18 58	441	341	
23	610	570	521	507	495	495	482	495	500	500	500	510	501	500	505	506	504	486	416	341	352	540	663	721	509	22 22	820	19 15	159	661	
24	651	715	713	773	713	659	541	518	507	518	511	509	519	449	440	449	409	393	463	497	527	561	648	570	552	01 15	1023	22 41	202	821	
25	577	620	651	851	750	824	819	665	513	564	527	533	527	518	522	494	464	378	402	442	479	508	374	495	562	06 06	1020	22 20	074	946	
26	515	519	525	525	511	517	517	491	461	516	490	466	428	475	468	422	412	419	459	459	479	518	524	424	481	22 41	761	22 57	037	724	
27	470	500	527	614	696	549	538	513	442	493	500	503	499	508	471	421	444	498	498	470	473	451	491	512	503	04 40	829	05 04	080	749	
28	538	516	531	562	502	487	501	473	463	486	496	497	503	499	498	503	498	497	480	470	474	479	489	459	496	03 37	587	23 25	270	317	
29	517	599	571	518	510	513	429	414	461	465	436	482	483	497	500	505	506	502	472	427	439	469	508	489	488	23 20	745	19 41	193	552	
30	459	514	513	513	577	631	503	499	494	479	488	465	445	469	408	396	449	402	476	508	328	372	372	496	469	05 53	713	20 09	154	559	
31																															
Mean	562	578	580	581	568	546	518	505	483	497	503	509	501	500	489	486	479	460	465	471	465	488	504	536	511	DESIGNATIONS			544		
Mean *	Insufficient data																										* Ten least disturbed days				
Mean /	Insufficient data																										/ Five international quiet days				
Mean #	591	622	626	694	666	674	603	560	497	517	506	503	495	480	456	449	445	397	434	476	458	490	522	533	529	# Five international disturbed days			847		
	a Means of 9 values						b Means of 8 values						c Means of 4 values												() Approximate						

TABLE 46

HOURLY VALUES OF VERTICAL INTENSITY

JULY 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
1	520	525	515		523	499	491	485	480	453	501	522	510	511	502	486	446	488	494	490	476	412	431	470	503	489	^h ₂₃ ^m ₅₇	702	^h ₂₃ ^m ₅₁	156	546	
2	613	500	506		496	502	507	462	488	433	498	506	516	512	512	502	492	497	508	453	444	443	474	488	468	493	00 29	758	00 45	278	480	
3	516	577	554		591	534	468	435	443	419	459	502	501	507	507	495	507	499	499	491	493	485	455	489	473	496	02 00	640	07 44	319	321	
4 *	523	499	518		539	586	558	502	469	452	485	490	504	513	507	506	511	507	504	497	493	486	425	445	403	497	05 09	624	08 45	394	230	
5 *	501	504	506		498	486	490	495	482	488	502	514	508	509	503	506	508	508	507	496	491	482	504	397	461	494	21 41	550	21 02	295	255	
6 *	454	544	524		494	509	482	460	470	499	488	504	507	507	501	504	504	500	501	480	476	470	462	491	459	491	01 18	603	01 11	348	255	
7 *	488	491	493		495	496	495	492	492	493	494	499	505	505	505	504	506	502	468	447	415	389	450	461	465	481	16 22	519	20 46	306	213	
8	484	537	524		536	549	537	493	449	472	493	508	513	501	496	493	495	493	493	488	486	493	551	488	595	507	21 33	736	21 53	287	449	
9	585	659	616		570	602	547	427	489	516	489	493	494	489	489	490	489	491	494	489	477	483	481	503	509	515	01 29	748	06 46	275	473	
10	504	489	493		498	489	489	484	486	488	489	489	498	495	494	494	494	491	491	467	408	443	516	621	675	499	21 55	825	19 13	139	686	
11	627	629	657		(651)	563	467	474	486	492	488	496	515	508	504	496	497	463	463	474	474	505	528	501	475	518	00 00	751	22 50	323	428	
12	550	557	523		510	577	627	398	482	462	481	497	501	510	499	499	499	496	496	490	491	470	487	496	530	505	05 11	718	06 20	269	449	
13	591	641	672		606	534	492	463	428	427	453	502	517	516	498	491	464	410	428	552	463	493	539	577	654	517	01 46	787	18 57	026	761	
14	695	676	668		(603)	568	539	547	499				510	504	509	507	502	490	479	488	482	481	386	501	522		(00 21	872)	(20 24	263)	(609)	
15 *	562	550	560											512	512		507	501	494	489	440	419	472	467	497							
16 *	520	452	540		574	487	439	498	468	474	491	499	499	509	501	502	498	492	479	487	487	483	535	430	510	494	03 09	598	22 19	283	315	
17 *	508	508	517		522	519	488	474	480	475	486	494	500	500	498	498	500	498	494	490	482	485	398	494	500	492	04 10	548	21 20	205	343	
18 *	533	525	525		524	473	474	486	488	487	491	498	501	502	501	503	506	496	463	471	555	537	545	548	560	508	20 06	742	20 56	347	395	
19	576	605	626		564	529	496	476	475	481	489	496	496	494	500	503	497	484	430	452	467	486	512	593	565	512	23 49	715	23 51	164	551	
20	584	647	623		607	543	458	473	484	480	495	500	502	505	507	482	488	506	492	473	489	515	557	503	539	519	00 56	704	05 51	357	347	
21 *	582	553	522		496	495	493	489	490	490	492	497	501	500	500	500	495	497	495	491	482	487	467	447	489	498	00 46	623	22 09	403	220	
22 *	517	551	549		513	450	469	480	485	483	485	494	496	496	495	496	496	491	489	480	481	480	487	487	487	493	03 00	583	04 55	420	163	
23	488	500	518		487	468	475	477	480	481	(483)	489	490	491	492	491	498	465	453	430	373	552	633	698	669	503	22 48	783	19 29	199	584	
24	593	546	538		537	502	506	493	554	548	485	494	494	495	501	501	505	498	496	488	482	472	491	494	504	509	00 02	665	09 46	440	225	
25	502	506	513		577	533	516	532	427	425	484	444	406	408	387	443	487	488	490	488	481	489	419	530	581	482	23 56	637	21 18	123	514	
26	677	567	513		544	633	523	503	438	502	454	403	414	456	477	472	414	394	427	408	425	458	504	(468)	507	483	22 23	930	22 43	-050	980	
27	677	725	619		610	676	677	534	437	457	477	523	501	486	486	497	490	502	498	487	483	489	398	475	474	528	05 40	812	21 54	267	545	
28	476	489	554		534	511	492	478	463	452	462	470	509	509	474	489	499	489	481	458	516	317	309	583	324	472	22 46	786	23 16	-075	861	
29	542	538	554		503	492	485	534	492	486	503	488	504	511	489	465	529	403	250	489	465	409	429	450	499	480	07 01	721	17 02	-254	975	
30	503	554	620		583	508	501	481	473	448	493	500	499	511	511	502	499	471	419	411	431	424	375	451	485	486	02 46	716	20 39	187	529	
31	494	497	499		502	492	487	459	433	472	484	496	488	456	458	460	413	366	422	486	495	491	492	491	521	473	14 03	552	16 36	212	340	
Mean	524	530	531		523	508	488	465	457	458	469	477	480	480	476	476	474	463	454	460	456	454	462	486	496	481	DESIGNATIONS					468
Mean * a	514	514	522		517	500	488	486	480	482	490	499	502	505	501	502	503	499	489	482	485	478	475	467	482	494	* Ten least disturbed days					265
Mean /	526	526	521		510	487	484	484	487	486	490	496	501	501	500	500	501	497	482	476	483	476	469	487	500	494	/ Five international quiet days					267
Mean ≠	568	550	558		560	543	506	494	462	471	468	463	468	477	467	479	474	456	464	479	473	446	452	530	514	493	≠ Five international disturbed days					668
		a Means of 9 values							b Means of 8 values							c Means of 4 values							() Approximate									

TABLE 47

HOURLY VALUES OF VERTICAL INTENSITY

AUGUST 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range				
1	571	660	625	541	516	497	489	476	486	492	502	511	505	502	508	506	502	482	437	414	480	485	435	444	503	01	h	m	23	03	307	459	
2	440	497	516	495	493	490	485	477	473	482	489	490	503	506	499	499	500	476	473	475	489	531	603	580	498	22	18	826	00	44	297	529	
3	521	503	499	501	501	496	482	464	474	474	483	490	513	518	506	494	502	506	503	500	500	499	499	503	525	499	23	54	573	23	56	452	121
4 *	540	558	556	517	504	496	487	487	491	491	495	496	502	505	507	510	507	501	484	467	451	452	482	474	491	498	01	21	573	21	55	346	227
5 *	531	492	464	505	541	505	455	472	479	490	493	505	502	502	502	502	502	502	499	496	494	486	494	537	533	499	22	31	603	02	01	396	207
6 *	514	508	493	494	494	487	484	479	481	481	489	495	496	498	500	495	494	490	486	491	441	466	527	530	492	22	33	585	20	29	312	273	
7 *	576	539	529	554	536	491	475	479	480	490	496	498	499	501	501	501	499	495	476	421	420	469	510	504	497	00	41	613	19	50	246	367	
8	512	518	580	526	490	488	471	473	453	482	502	494	497	503	502	471	464	487	470	512	539	520	529	532	501	21	00	668	19	13	395	273	
9	559	573	592	571	582	582	480	465	470	479	483	432	428	467	435	472	425	366	262	384	445	544	658	602	490	17	39	707	17	51	-237	944	
10	554	578	573	597	588	497	484	498	503	500	503	504	499	506	506	502	498	494	497	492	483	480	469	486	512	01	40	667	22	14	422	245	
11	495	495	548	525	505	479	507	431	443	478	492	500	500	465	453	443	423	439	236	463	441	480	723	619	483	22	34	838	18	25	-066	904	
12	687	636	613	595	527	551	630	610	460	470	481	494	484	416	416	482	471	436	410	473	518	566	525	526	520	06	00	808	14	00	289	519	
13	537	536	522	517	501	496	495	486	493	495	504	503	505	507	507	501	492	501	493	486	470	506	560	598	509	20	57	752	20	22	149	603	
14 *	600	660	555	523	497	486	486	483	482	492	498	502	508	508	508	506	507	500	478	461	480	515	530	487	510	01	10	695	19	51	424	271	
15 *	553	512	507	508	498	479	478	485	484	490	494	500	499	502	501	499	498	497	489	487	388	473	490	509	493	00	01	616	20	25	412	474	
16 *	513	524	509	499	481	479	479	480	481	482	488	498	499	504	510	513	436	454	492	492	495	504	517	623	498	24	00	679	16	33	440	269	
17	693	660	647	575	596	595	585	511	503	482	473	482	492	498	475	491	501	487	479	481	491	498	507	508	530	00	14	797	14	40	454	343	
18 *	522	531	522	504	499	486	472	473	471	480	496	502	501	501	503	503	501	500	490	487	484	473	467	495	494	00	58	548	22	09	434	114	
19 *	495	494	494	496	485	480	482	482	481	484	491	499	500	500	500	500	497	496	493	492	488	488	497	526	493	23	31	574	23	26	468	106	
20 *	519	526	509	504	480	462	472	484	486	487	491	495	500	503	503	500	496	494	494	495	492	491	492	501	495	00	04	551	05	51	440	111	
21	508	503	493	491	485	486	468	480	499	484	486	486	497	495	400	462	456	455	446	448	495	615	657	660	498	23	00	806	14	44	375	431	
22	663	662	603	580	522	492	481	476	470	474	483	492	494	494	495	494	493	491	477	490	512	544	523	534	518	00	22	706	(23 55)	362	344	344	
23	552	569	658	614	583	526	482	456	473	459	470	454	425	381	391	483	456	414	398	352	385	669	722	749	505	22	54	903	20	20	189	714	
24	567	761	781	747	820	648	586	497	491	441	388	472	355	410	426	409	412	455	461	504	470	466	496	558	526	04	28	970	00	38	-085	1055	
25	636	589	581	572	556	494	492	470	461	403	329	424	445	377	411	434	416	452	465	458	503	(410)585	619	483	21	32	753	21	12	-489	1242		
26	704	608	867	742	664	558	574	542	487	452	527	524	519	514	482	495	473	436	464	558	382	477	478	490	542	02	30	951	01	15	-064	1015	
27	510	519	568	603	604	657	551	457	467	489	459	444	464	483	473	492	473	491	489	453	452	472	462	493	501	05	00	795	21	41	347	448	
28	679	592	583	699	601	493	498	503	503	500	494	494	495	502	476	466	413	510	478	455	447	481	470	483	513	00	34	887	20	21	177	710	
29	526	549	517	501	484	471	456	462	482	500	500	498	499	513	434	453	491	495	476	466	471	461	495	535	489	23	58	590	21	06	376	214	
30	552	535	568	573	539	462	472	459	445	490	462	494	502	498	494	477	442	427	454	466	479	480	494	490	490	00	22	663	05	39	399	264	
31	499	531	535	505	486	468	457	447	455	480	389	380	505	434	456	356	340	333	336	397	483	524	572	524	454	22	38	620	10	54	248	372	
Mean	559	562	568	554	537	509	497	482	478	480	479	486	488	484	476	481	470	469	454	468	470	502	532	540	501	DESIGNATIONS					457		
Mean *	536	534	514	510	502	485	477	480	482	487	493	500	501	503	504	503	493	491	486	477	463	486	504	520	497	* Ten least disturbed days					242		
Mean †	532	522	510	515	509	487	474	481	483	489	493	500	504	502	503	502	499	494	485	471	468	485	502	511	496	† Five international quiet days					204		
Mean ‡	591	604	687	640	626	541	528	479	471	447	441	475	449	429	433	453	436	439	405	467	436	500	601	607	508	‡ Five international disturbed days					986		
	a Means of 9 values						b Means of 8 values						c Means of 4 values						()			Approximate											

TABLE 48

HOURLY VALUES OF VERTICAL INTENSITY

SEPTEMBER 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range	
1	595	631	530	508	503	490	466	454	452	475	475	475	466	531	516	483	404	406	425	485	443	493	573	603	495	01 16	713	20 04	167	546
2	551	588	742	683	930	723	243	018	782	656	640	382	431	457	474	453	419	383	351	348	483	501	501	530	611	06 02	1679	11 15	171	1508
3	549	554	680	821	837	754	810	645	525	463	398	408	422	436	382	416	442	370	383	482	451	568	573	559	539	03 44	1089	17 19	248	841
4	584	558	566	521	488	449	430	473	476	467	475	471	493	485	505	514	507	504	496	495	494	453	499	505	496	00 33	688	00 54	346	342
5 *	539	587	534	561	523	500	493	489	491	492	494	500	506	511	511	512	508	504	500	487	440	450	447	465	502	01 04	655	23 11	378	277
6	560	486	518	624	641	574	502	538	494	486	502	425	391	412	323	373	403	444	479	488	366	507	477	525	481	04 14	722	20 01	114	608
7	600	614	603	532	494	490	487	486	499	497	499	499	511	510	514	504	487	496	488	491	479	497	498	498	511	00 50	753	16 37	413	340
8	500	510	499	494	503	482	472	501	517	492	501	481	412	350	462	471	494	503	468	479	574	526	497	575	490	14 56	738	13 24	263	475
9	543	566	563	554	550	488	541	533	552	531	490	448	448	445	458	402	390	420	463	495	522	556	614	764	514	23 31	860	18 35	058	802
10	702	658	599	562	528	500	483	484	512	499	503	508	507	506	506	508	497	391	410	437	449	454	534	559	512	00 04	794	18 01	306	488
11	543	550	576	544	655	635	626	522	514	525	465	457	471	487	492	495	505	504	495	484	482	506	510	499	523	06 31	783	21 15	369	414
12	502	512	507	491	491	467	464	473	483	493	491	497	504	504	504	502	501	497	487	479	506	645	610	700	513	21 58	854	22 19	263	591
13	665	699	824	925	812	666	505	508	535	519	520	519	514	513	509	514	510	414	386	448	458	523	552	567	567	02 50	1087	18 19	282	(805)
14 *	531	526	582	621	544	498	487	491	503	497	504	504	508	511	510	511	506	506	503	500	496	497	503	524	515	03 47	634	06 54	481	153
15 *	516	524	573	637	534	493	475	475	485	490	496	499	503	502	504	502	500	498	493	491	491	490	545	599	513	23 30	733	23 04	353	380
16	581	529	504	501	483	474	473	473	474	483	489	500	502	502	503	466	384	393	446	467	491	546	558	507	489	21 47	728	16 57	265	463
17 *	507	503	518	531	531	502	471	466	477	493	499	505	507	504	508	499	494	495	493	495	456	486	493	499	497	04 49	541	20 42	377	164
18 *	511	568	538	494	485	480	472	471	473	481	491	497	499	499	499	498	498	497	492	491	488	487	488	490	495	01 39	628	07 28	469	159
19 *	497	494	494	498	484	472	466	462	460	471	481	491	496	496	497	496	494	491	488	483	485	493	521	515	489	22 24	535	08 31	454	081
20	495	507	552	650	619	414	374	470	464	468	489	493	499	501	496	407	432	442	475	519	478	493	525	516	491	04 03	893	20 39	233	660
21	542	519	591	781	851	730	651	451	468	463	502	467	432	399	467	449	319	420	422	419	474	552	611	572	523	04 09	930	16 19	249	681
22	547	561	625	689	706	703	663	489	466	396	350	345	507	510	482	416	409	483	409	421	476	502	589	604	514	05 30	763	(18 25)	130	633
23	631	609	667	561	496	467	466	461	491	492	473	436	470	498	497	475	476	499	499	496	491	497	522	569	510	(02 50)	790	07 16	392	398
24 *	576	579	567	526	495	488	485	476	478	484	501	504	497	490	503	496	500	495	494	484	406	472	542	549	504	23 54	638	20 35	268	370
25	554	635	616	586	513	488	483	474	481	491	498	505	504	508	491	453	498	495	480	457	303	517	641	635	513	22 58	739	20 45	160	579
26	656	663	663	652	708	733	628	513	460	459	499	508	492	504	508	489	495	467	439	451	481	487	484	486	539	04 46	875	18 47	414	461
27 *	495	505	524	485	470	467	469	464	469	480	478	460	439	421	419	470	432	455	453	475	502	506	530	519	474	20 47	596	14 34	389	207
28	530	534	573	711	707	559	449	455	491	505	499	509	513	514	498	458	480	486	482	482	488	503	509	560	521	04 01	763	22 51	378	385
29 *	584	583	522	486	472	471	463	466	475	483	494	503	504	503	502	499	473	420	407	425	456	487	509	519	488	00 47	643	18 11	388	255
30 *	509	526	623	599	577	481	444	473	474	474	478	501	498	493	492	490	493	490	485	485	482	496	561	592	509	02 17	682	06 32	412	270
31																														
Mean	556	563	582	594	588	551	531	505	497	490	489	477	482	483	484	474	465	462	460	471	470	506	534	553	511	DESIGNATIONS			478	
Mean *	526	540	548	544	512	485	472	473	478	484	492	496	496	493	494	497	490	485	481	482	470	486	514	527	499	* Ten least disturbed days			232	
Mean /	526	535	531	526	503	485	472	471	478	485	494	500	503	503	503	500	493	482	477	479	476	490	503	509	497	/ Five international quiet days			162	
Mean #	538	546	627	694	765	758	768	621	552	494	478	417	441	430	453	441	417	432	407	430	492	530	554	568	535	# Five international disturbed days			828	
	a Means of 9 values						b Means of 8 values						c Means of 4 values						() Approximate											

TABLE 49

HOURLY VALUES OF VERTICAL INTENSITY

OCTOBER 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range		
1	538	569	616	673	572	486	448	445	457	474	491	444	422	394	364	323	334	414	439	470	414	472	547	638	477	h m	h m	h m	529		
2	668	619	571	513	487	453	437	450	526	425	409	465	370	366	402	430	395	407	392	483	517	502	535	621	477	00 05	828	10 00	215	613	
3	678	634	612	585	553	500	463	469	512	500	510	470	366	470	469	472	481	314	444	442	459	490	518	586	500	00 09	785	17 52	-019	804	
4	609	690	636	556	508	473	474	481	486	489	502	505	507	507	515	512	494	484	473	484	516	560	565	542	524	01 36	743	22 02	303	440	
5	511	507	489	525	486	453	437	431	496	495	493	492	495	498	498	494	492	488	483	510	458	475	474	531	488	19 59	609	20 21	227	382	
6	571	623	665	660	711	492	428	458	477	485	523	512	453	443	396	424	414	443	457	451	427	544	624	651	514	04 22	768	14 08	315	453	
7	634	616	701	677	603	504	489	479	506	530	489	499	489	502	490	474	429	304	171	379	528	560	579	546	507	01 50	728	18 06	038	690	
8	633	664	608	554	620	684	522	482	481	509	500	498	493	491	494	495	478	460	454	487	571	481	516	549	530	20 50	856	20 43	258	598	
9	545	590	645	566	509	475	453	474	491	553	532	508	513	497	489	496	482	447	425	424	502	589	619	564	516	02 12	727	19 29	341	386	
10*	551	588	584	518	487	469	468	466	474	480	483	486	493	493	493	491	484	481	471	472	479	396	518	550	495	01 56	691	21 13	307	384	
11	553	564	582	630	609	498	474	460	475	482	498	493	497	494	496	491	491	487	487	463	473	488	515	524	509	04 13	727	07 32	436	291	
12*	551	496	481	471	462	458	459	463	461	471	489	493	497	492	490	494	485	475	472	475	477	427	497	552	483	23 52	620	21 31	262	358	
13*	571	570	526	485	468	462	459	457	471	477	488	494	498	501	495	490	486	483	481	481	477	477	487	522	492	00 23	605	05 41	445	160	
14*	543	571	592	568	537	458	459	467	471	473	486	490	491	494	495	492	489	483	481	472	471	452	502	497	497	03 03	628	21 09	406	222	
15*	518	505	486	476	471	467	462	462	461	465	476	486	496	497	496	494	486	485	480	475	473	483	487	507	483	23 44	523	20 11	453	070	
16*	504	521	563	552	464	437	427	440	466	486	492	499	504	506	494	490	485	481	477	476	473	466	464	491	486	03 06	588	06 38	416	172	
17*	515	538	604	613	538	475	460	436	451	461	482	494	507	504	499	491	484	476	472	469	472	471	470	477	494	03 50	669	07 01	426	243	
18*	477	479	491	541	607	486	487	424	392	398	412	431	466	491	481	486	485	484	483	482	479	477	477	476	474	04 23	625	06 57	429	196	
19*	476	465	461	487	424	392	398	412	431	452	467	481	502	496	489	487	470	439	471	477	474	475			475	05 51	882	11 14	281	601	
20		651	662	630	564	736	799	742	648	460	506	349	340	358	337	371	383	412	514	487	531	524	507	563	671	486	04 41	786	11 21	186	600
21		578	632	682	734	569	512	482	482	485	493	494	500	505	407	391	348	337	314	314	366	465	486	500	539	484	03 20	784	17 51	256	528
22		578	632	682	734	569	512	482	482	485	493	494	500	505	407	391	348	337	314	314	366	465	486	500	539	484	03 43	781	16 14	267	514
23	(581)			660	624	508	444	484	495	497	467	454	373	326	325	310	299	331	376	411	491	571	603	572	513	04 34	716	20 08	305	411	
24		576	561	583	639	625	490	491	480	477	493	525	510	504	496	500	491	480	481	490	432	503	490	487	513	04 34	716	20 08	305	411	
25*		486	486	496	482	441	418	431	446	441	462	498	487	494	496	494	490	487	480	471	472	486	548	593	482	23 43	623	21 59	313	310	
26		618	664	629	591	586	539	389	426	441	467	487	505	505	507	387	284	394	418	515	592	549	570	523	710	512	23 53	903	15 45	230	673
27		768	687	756	728	695	603	555	446	426	472	466	322	446	467	460	487	485	486	497	456	503	532	539	531	00 20	897	12 17	223	674	
28		559	552	652	849	884	687	684	584	500	427	343	318	319	296	402	480	471	474	481	490	496	511	542	549	523	04 05	959	13 32	215	744
29		521	556	544	571	505	471	472	467	471	548	454	465	515	499	471	455	383	372	414	481	534	503	499	514	487	20 41	659	10 58	315	344
30		536	551	578	558	535	450	441	445	467	503	492	469	403	340	333	323	447	388	415	423	450	472	487	489	458	02 45	620	15 06	184	(436)
31		518	508	507	465	445	453	446	446	465	482	481	481	452	498	470	464	387	410	458	457	441	460	472	563	468	23 26	710	16 44	372	338
Mean	571	579	590	585	559	496	468	463	477	482	481	475	460	463	457	456	452	441	448	468	483	496	518	548	496	DESIGNATIONS			439		
Mean $\neq$	524	528	536	523	497	459	451	453	461	471	487	490	495	496	494	491	486	481	477	474	474	459	495	518	488	* Ten least disturbed days			235		
Mean $\neq$	527	534	541	525	491	456	454	454	459	468	486	491	496	498	496	492	487	483	479	474	473	474	495	519	490	/ Five international quiet days			201		
Mean $\neq c$	676	658	646	606	609	534	461	450	489	447	436	427	371	414	396	396	420	436	461	506	521	538	528	604	501	/ Five international disturbed days			640		
	a Means of 9 values				b Means of 8 values				c Means of 4 values																() Approximate						

TABLE 50

HOURLY VALUES OF VERTICAL INTENSITY

NOVEMBER 1956

48500 plus tabular quantities expressed in gammas

G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range			
1	558	605	588		566	668	697	450	429	460	476	490	494	504	520	442	427	349	392	472	468	483	500	555	583	507	h	m	h	m	638	
2 *	592	583	506		466	452	424	417	433	439	458	523	521	498	491	496	472	453	460	459	478	480	506	596	566	490	01 17	811	16 35	173	246	
3	576	582	587		638	545	541	441	472	467	550	504	444	483	483	479	474	485	481	429	417	433	549	589	559	509	00 12	809	18 57	221	588	
4	595	619	544		567	510	472	482	490	480	491	494	507	510	494	497	481	471	483	467	421	473	500	540	576	507	23 35	670	19 34	339	331	
5 *	541	532	535		570	546	445	452	466	479	479	480	491	492	496	496	495	495	481	460	464	476	465	500	531	494	03 51	619	21 42	324	295	
6 *	565	562	575		604	668	547	448	454	481	481	494	509	510	487	510	424	312	369	441	481	538	503	544	637	506	04 40	718	16 50	280	438	
7 *	543	562	672		660	606	513	482	483	493	486	494	503	514	516	521	497	487	487	476	466	450	508	504	488	517	03 55	770	20 44	429	341	
8 *	507	531	494		474	481	511	497	452	452	466	486	494	505	513	495	487	485	482	455	464	444	470	494	534	486	01 27	568	20 09	410	158	
9	526	507	602		568	511	458	458	451	458	473	488	522	512	487	497	494	472	405	412	473	536	591	566	548	501	23 49	718	18 14	276	442	
10	601	620	661		750	791	731	691	290	285	434	190	097	066	254	166	191	266	307	463	391	445	453	624	768	439	23 25	974	12 10	-009	983	
11	770	709	624		678	797	836	763	775	669	536	537	560	551	507	437	504	398	467	558	498	621	614	620	632	619	03 55	1218	21 14	332	886	
12	714	639	639		669	632	528																									
13					724	641	551	498	468	474	488	498	479	444	463	467	468	481	478													
14					787	880	031	810	292	369	398									471	630	767	660	615	647	600	(05 32	1165)	(06 54	094)	(1071)	
15	670	724	750		949	084	911	891	841	740	667	621	294	338	201	434	460	439	459	421	378	432	484	597	615		04 13	1292	13 27	-029	1321	
16	580	540	692		732	844	618	625	595	689	665	592	576	539	497	510	467	430	457	507	611	667	641	609	614	596	04 50	1046	06 03	305	741	
17	652	630	624		559	511	500	502	580	636	529	478	502	498	497	305	276	334	278	395	453	475	463	536	587	492	08 20	744	17 06	120	624	
18	585	599	619		690	714	898	758	528	497	497	509	515	390	390	447	468	481	480	447	411	440	448	485	530	534	05 12	1029	13 06	264	765	
19 *	570	527	490		472	470	470	472	467	463	482	510	511	524	522	473	493	493	488	486	487	445	488	497	511	492	00 12	596	20 50	401	195	
20	508	559	595		557	471	447	440	447	447	467	505	531	499	472	312	268	350	399	309	357	387	437	444	506	446	02 19	621	19 01	196	425	
21	629	626	744		783	776	763	682	684	620	443	354	337	310	325	446	405	378	382	395	402	447	463	559	553	521	03 48	897	19 29	197	700	
22	628	728	720		659	707	408	411	403	428	513	476	434	122	046	117	115	191	226	380	418	435	461	562	713	429	23 29	864	13 36	-022	886	
23	659	682	661		567	724	471	438	454	475	462	373	314	302	097	191	223	247	(302)													
24 *					536	472	427	433	447	457	471	482	521	509	469	328	387	272	288	333	380	424	464	506	485		(22 51	589)	(16 19	231)	(358)	
25	557	567	562		565	533	468	463	500	484	529	479	515	323	441	364	399	419	449	412	449	456	495	542	525	466	01 55	635	13 35	-038	673	
26 *	667	634	799		678	511	451	430	449	454	462	477	477	481	488	489	488	487	488	488	477	478	479	489	478	512	02 16	907	06 39	414	493	
27 *	434	601	570		675	700	644	569	504	494	494	505	505	483	473	480	495	487	473	480	469	461	489	579	668	530	04 06	818	20 09	314	504	
28	618	610	576		471	603	433	458	610	564	555	542	505	515	521	487	483	477	430	452	467	490	496	507	501	515	08 00	753	05 55	326	427	
29	519	511	549		678	660	599	575	545	437	451	462	473	478	485	492	496	496	465	378	402	450	489	551	587	510	03 49	714	18 49	102	612	
30	570	557	544		597	543	452	429	441	452	455	505	498	527	526	487	471	463	461	449	426	532	513	521	541	498	03 54	655	06 36	340	315	
31																																
Mean	582	593	609		632	628	569	531	512	503	502	488	473	447	433	435	429	424	430	444	449	479	500	544	574	509	DESIGNATIONS			572		
Mean * a	557	572	576		574	549	497	472	466	471	478	496	502	502	498	495	481	463	468	468	467	472	490	527	554	504	* Ten least disturbed days			333		
Mean /	566	557	598		571	523	478	467	463	468	475	489	495	503	507	495	492	489	485	473	472	459	482	497	508	501	/ Five international quiet days			296		
Mean / c	655	648	682		827	879	774	742	625	596	576	485	382	374	365	387	406	383	422	487	470	541	548	612	657	563	/ Five international disturbed days			983		
a Means of 9 values				b Means of 8 values				c Means of 4 values																			() Approximate					

HOURLY VALUES OF VERTICAL INTENSITY

48500 plus tabular quantities expressed in gammas

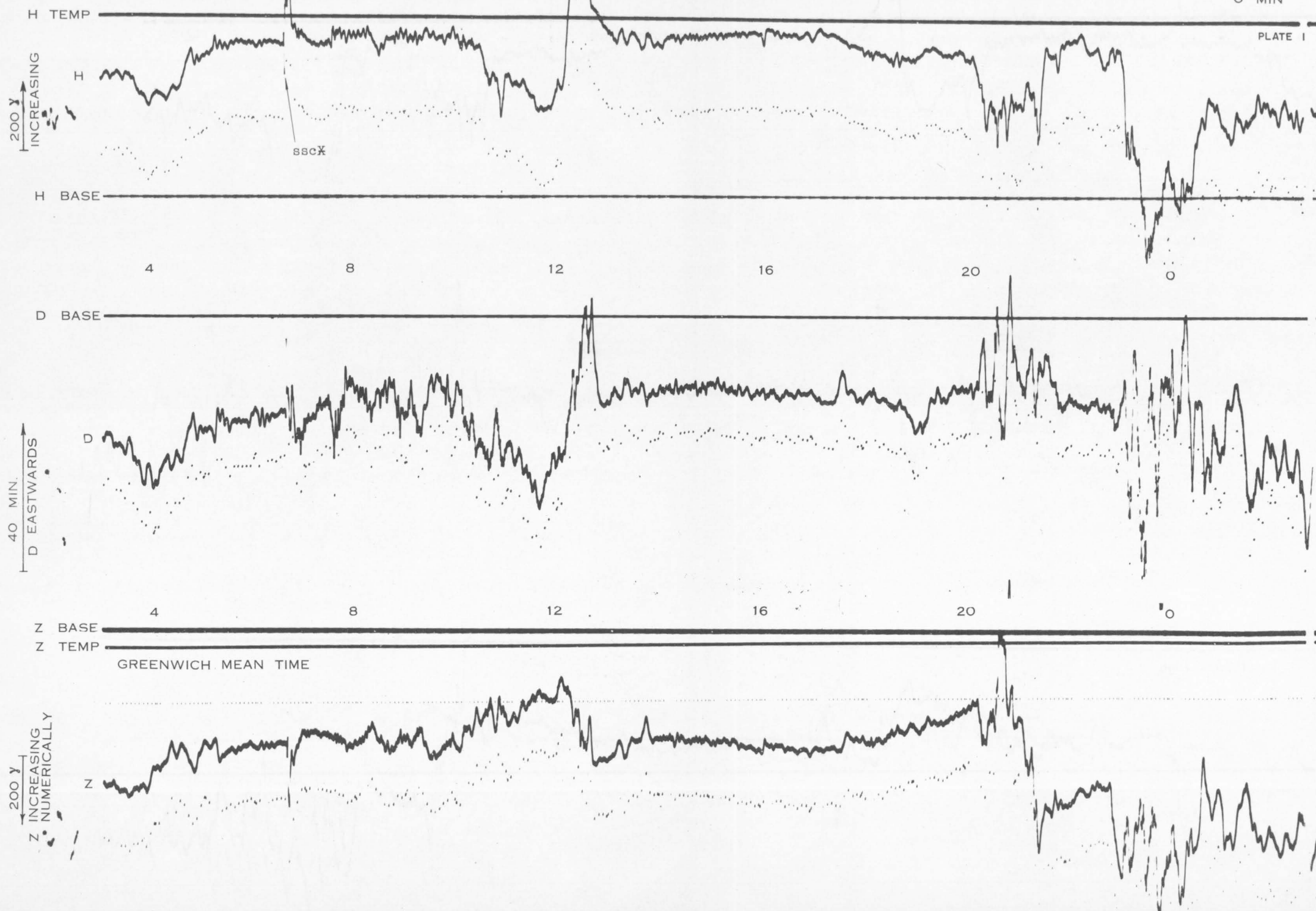
G.M.T. used

Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean	Maximum	Minimum	Range																
																											h	m	h	m															
1	565	592	572		543	476	436	444	453	449	456	477	498	505	515	480	443	467	460	465	479	452	478	491	545	489	01	34	614	20	26	333	281												
2	557	651	674		634	664	527	444	458	472	512	532	498	516	470	479	491	344	324	403	513	461	471	551	597	510	02	01	817	16	56	221	596												
3	599	701	671		587	510	502	472	457	448	458	484	469	440	457	472	434	446	442	452	444	426	469	516	515	495	01	12	754	12	34	324	430												
4	531	564	686		610	524	458	449	448	452	(475	498	505	534	513	493	491	475	428	406	448	584	552	612	580	512	02	17	793	21	25	292	501												
5	598	651	589		600	577	433	456	477	499	505	503	510	515	542	493	393	342	363	416	444	450	490	499	501	494	01	10	724	16	56	281	443												
6	508	549	577		728	641	496	457	487	500	(518	528)	488	512	511	360	312	395	394	414	414	523	588	480	590	499	03	37	809	15	37	184	625												
7	625	591	550		541	667	405	409	437	428	463	507	542	525	489	473	478	399	320	361	425	479	599	584	705	492	23	38	750	17	36	280	470												
8	700	690	629		571	560	425	398	461	460	368	241	399	350	434	486	488	490	493	468	443	452	482	460	476	476	00	05	757	10	34	120	637												
9 *	506	540	513		510	452	417	460	424	453	473	494	507	500	446	445	456	492	472	469	468	454	463																						
10					712	607	729	760	681	596	640	681	464	327	358	300	199	372	428	439	438	479	539	(498)			(03	51	947)	15	35	125	(822)												
11 *	525	502	486		472	463	456	460	458	449	505	555	529	520	521	485	393	234	316	416	455	505	533	530	536	471	10	21	582	16	22	189	393												
12	533	542	546		547	485	462	455	494	413	(443)	429	348	172	220	185	164	323	434	456	478	453	422	400	511	413	23	45	638	14	18	102	536												
13	512	525	555		561	515	427	431	456	404	479	543	522	513	522	501	463	478	464	437	430	442	429	457	486	483	04	22	619	05	07	347	272												
14	493	519	551		526	443	334	363	408	452	490	(541)	483	492	457	450	440	467	470	471	473	463	461	467	488	467	02	48	590	05	43	309	281												
15 *	493	519	551		526	443	334	363	408	452	490	(541)	483	492	457	450	440	467	470	471	473	463	461	467	488	467	02	48	590	05	43	309	281												
16 *	499	536	573		563	566	545	363	408	456	512	536	521	506	498	498	500	489	479	487	473	450	448	454	481	496	05	04	639	06	31	384	255												
17 *	511	555	541		559	482	379	355	412	510	529	542	510	511	515	501	489	490	483	487	487	484	481	477	490	489	03	34	583	06	30	324	259												
18	531	510	493		457	401	426	457	454	488	521	543	561	526	378	264	387	412	397	402	414	414	436	479	490	452	11	06	578	14	21	185	393												
19 *	499	491	488		468	457	435	363	413	443	461	507	519	509	493	487	489	492	434	390	401	422	457	475	528	465	23	30	614	18	50	356	258												
20 *	572	543	543		486	466	314	361	422	457	490	511	524	482	469	477	479	474	464	466	446	419	410	406	423	461	00	22	672	05	19	298	374												
21 *	474	472	505		456	443	430	442	443	462	481	488	495	494	493	492	491	477	467	457	433	418	430	465	470	466	00	55	517	20	49	384	133												
22	470	551	537		538	516	575	487	474	464	488	490	500	491	407	437	481	476	467	415	412	511	454	478	515	482	05	22	653	18	58	374	279												
23 *	512	532	530		517	441	420	432	442	445	452	469	515	510	509	479	471	471	470	456	441	466	484	512	548	480	23	24	620	05	38	415	205												
24	551	577	700		651	703	626	473	434	428	454	471	489	496	467	482	478	777	477	423	384	406	469	479	517	505	02	37	835	20	00	259	576												
25	505	534	628		568	646	580	426	407	482	497	478	510	393	420	446	444	441	227	145	407	459	531	469	517	465	04	50	762	18	21	-032	794												
26	542	737	753		784	659	654	582	612	549	507	455	471	462	487	501	488	491	475	469	470	453	493	513	495	546	04	53	889	10	25	362	527												
27	507	505	468		462	495	520	479	463	477	484	513	562	472	352	312	192	302	138	318	429	433	548	502	489	434	21	59	589	17	33	-100	689												
28	506	578	677		558	493	465	463	598	489	468	475	469	545	449	412	246	390	353	405	417	487	438	440	478	458	07	29	942	14	37	029	913												
29	551	653	752		572	596	602	509	456	467	516	471	503	484	490	34	426	449	459	455	455	426	540	528	539	514	02	29	947	20	13	217	730												
30	554	662	593		555	479	457	447	499	425	493	581	466	571	498	506	495	444	436	441	405	540	481	526	540	500	01	34	696	11	23	206	490												
31 *	477	561	590		618	583	461	441	439	445	463	476	493	517	500	488	493	477	479	481	463	496	492	541	498	499	03	46	687	07	58	422	265												
Mean	536	574	588		562	525	473	444	459	463	482	494	496	484	467	438	430	433	415	423	442	457	484	493	520	483	DESIGNATIONS					463													
Mean * b	505	526	540		524	478	415	405	423	459	485	509	508	503	492	484	482	480	468	459	452	452	458	475	491	478	*	Ten least disturbed days					254												
Mean / c	494	520	542		526	474	422	398	418	470	503	527	502	501	491	485	480	481	475	476	466	454	455	466	482	479	/	Five international quiet days					232												
Mean ≠ c	524	579	611		557	526	491	448	500	452	475	491	448	420	397	312	338	400	362	362	427	462	468	459	512	459	≠	Five international disturbed days					683												
a Means of 9 values																												b Means of 8 values						c Means of 4 values						() Approximate					

20/21 MAY 1956

MAGNETIC OBSERVATORY
MAWSON ANTARCTICA

CORRECTION TO
TIME MARKS
0 MIN



28/29 JULY 1956

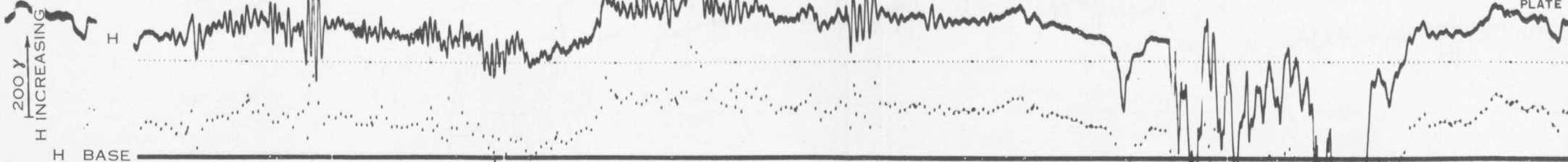
MAGNETIC OBSERVATORY
MAWSON, ANTARCTICA

CORRECTION TO
TIME MARKS

H TEMP

O MIN

PLATE 2



GREENWICH MEAN TIME

4

8

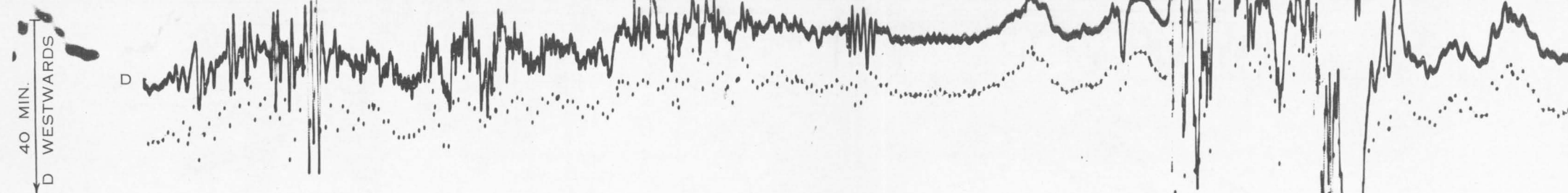
12

16

20

0

D BASE



4

8

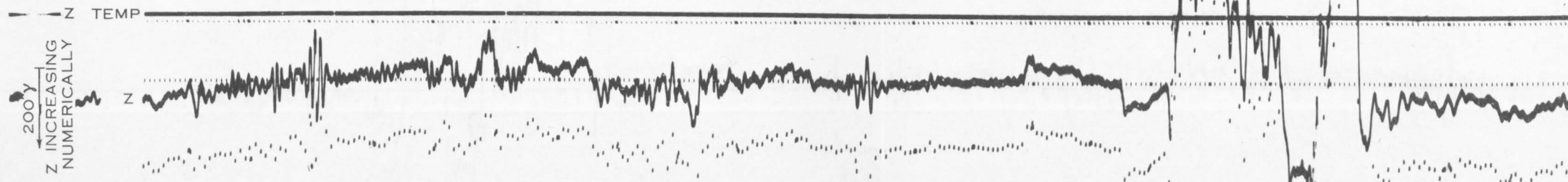
12

16

20

0

Z BASE

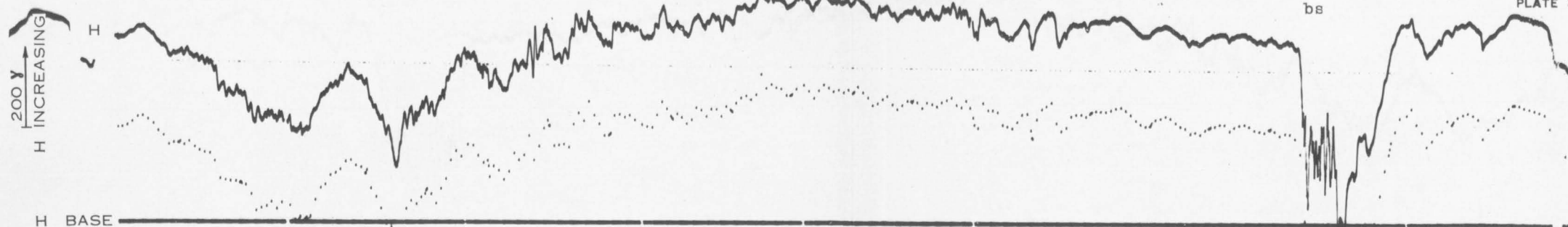


26/27 JUNE 1956

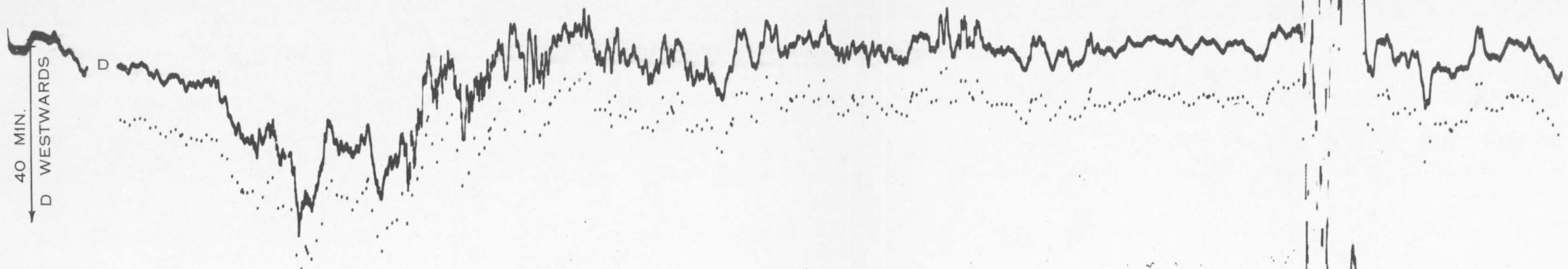
MAGNETIC OBSERVATORY
MAWSON, ANTARCTICA

CORRECTION TO
TIME MARKS
0 MIN

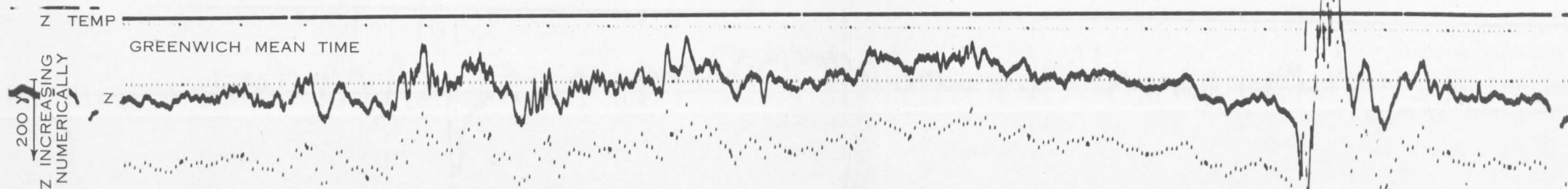
H TEMP



D BASE



Z BASE



Z TEMP

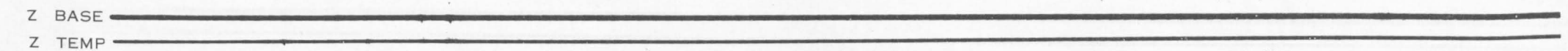
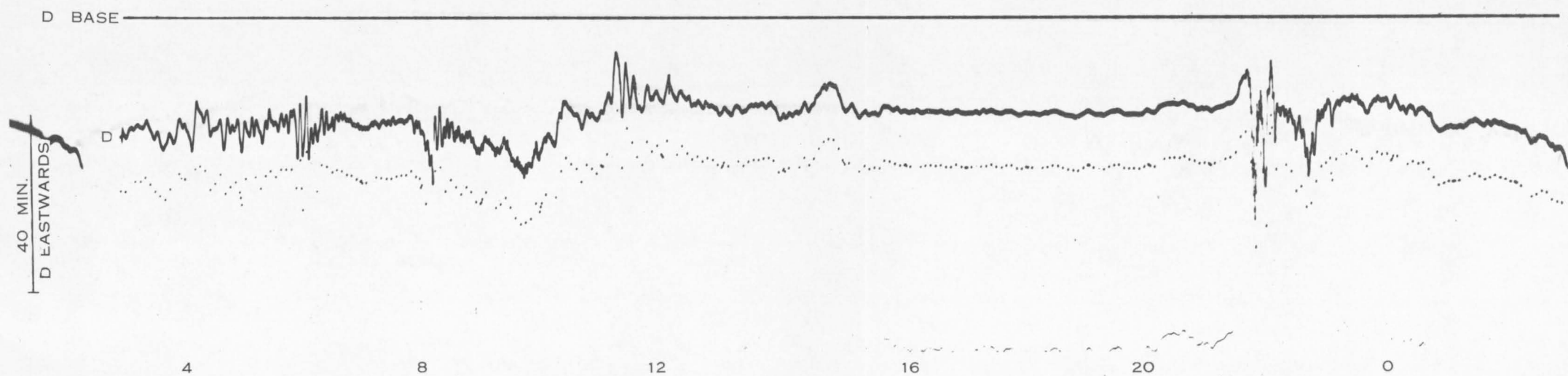
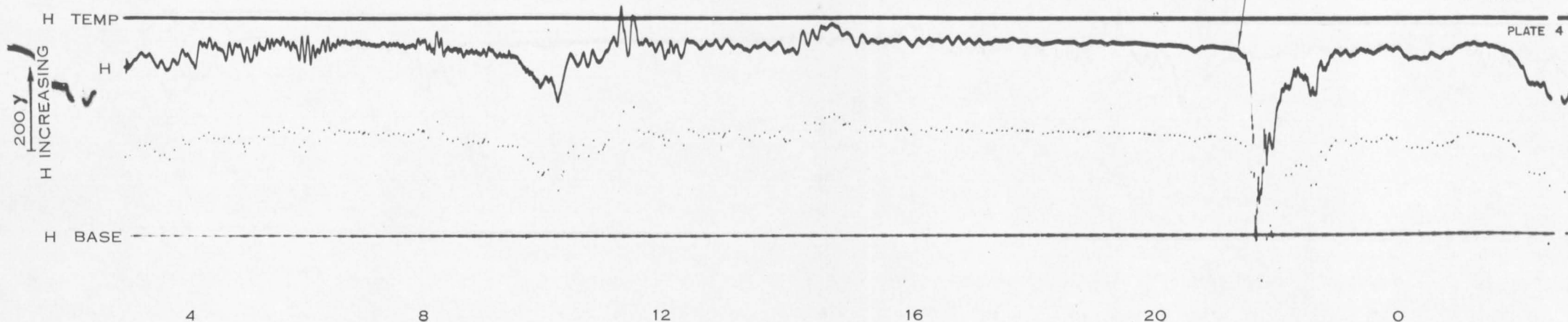
GREENWICH MEAN TIME

19/20 MAY 1956

MAGNETIC OBSERVATORY
MAWSON, ANTARCTICA

CORRECTION TO
TIME MARKS
-1.0 MIN

PLATE 4



GREENWICH MEAN TIME

