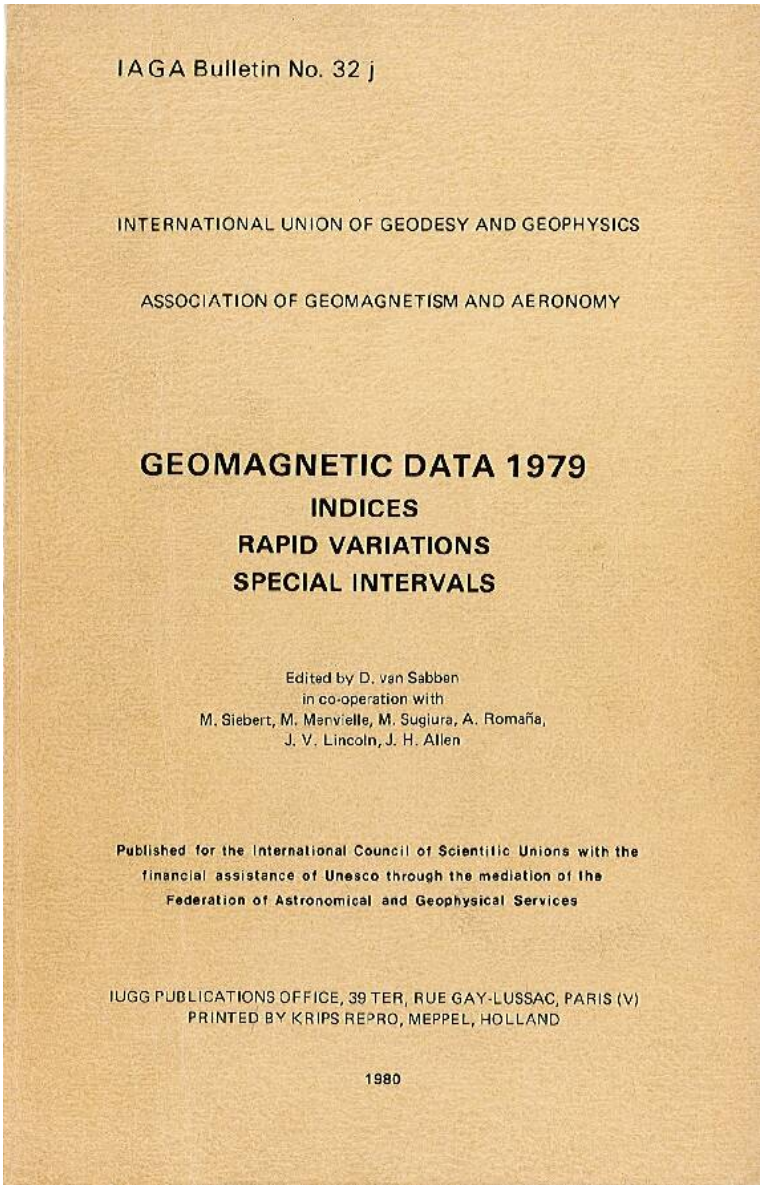

IAGA Bulletin No. 32 j

INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

ASSOCIATION OF GEOMAGNETISM AND AERONOMY

GEOMAGNETIC DATA 1979

INDICES

RAPID VARIATIONS

SPECIAL INTERVALS

Edited by D. van Sabben
in co-operation with
M. Siebert, M. Menvielle, M. Sugiura, A. Romaña,
J. V. Lincoln, J. H. Allen

Published for the International Council of Scientific Unions with the financial assistance of Unesco through the mediation of the Federation of Astronomical and Geophysical Services

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INTRODUCTION

The IAGA-Bulletin No. 32 series is a yearly compilation of magnetic indices and other geomagnetic data, based on the reports of a great number of magnetic observatories. The series is the continuation of the former IAGA-Bulletin No. 12 and is prepared for publication by the International Service of Geomagnetic Indices (ISGI) at De Bilt. The elaborated data are at present provided by the following institutes, under the responsibility of the adjoining collaborators:

Institut für Geophysik, Göttingen (M. Siebert): Kp, ap, Ap, Cp, Q- and D-days.
Institut de Physique du Globe, Paris (M.Menvielle): aa, Kn, Ks, Km, An etc.
NASA-Goddard Space Flight Center, Greenbelt (M. Sugiura): Dst.
Observatorio del Ebro, Roquetas (A. Romana): Rapid variations.
Environmental Data Service, Boulder (J.V. Lincoln): Magnetic storm data, K-tables, magnetograms; (J.H. Allen): AE-data.

The ISGI, formerly called Permanent Service or "C- and K-center", operates under the supervision of IAGA-Division V: Observatories, Instruments, Indices and Data. Since 1954 it forms part of the Federation of Astronomical and Geophysical Services. The work began in 1906 with the collection and publication of the daily character figure C (as reported by the observatories in a scale 0-2) and its daily mean value, the international character figure Ci, together with lists of selected quiet and disturbed days. In 1938, this work was extended backwards to 1890.

According to a recommendation of the IAGA-Assembly in Grenoble (1975) a new index aa is published instead of Ci since 1976 and the C-figures are no longer compiled.

The three-hourly K-index (scale 0-9) was introduced by Bartels in 1938. From the K-figures of 12 selected stations, planetary indices Kp were derived. Both K and Kp were officially adopted by the IAGA in 1951 and the series of Kp was extended backwards to 1932 during the subsequent period. The K-figures of the selected stations for these early years were published as supplementary (table 1b) in Bulletins 12g and 12l. In addition to Kp, the corresponding range figures ap and related daily indices Ap and Cp have been published regularly in the IAGA-Bulletins 12.

In accordance with recommendations of the IAGA-Assemblies in Madrid (1969) and Moscow (1971), the publication in the IAGA-Bulletins of C- and K-indices of individual observatories ended with the 1969-data, whereas planetary indices like Dst, Kn, Km and a survey of magnetic storms were included from 1970 onwards. This change marked the end of the series IAGA-Bulletin No. 12 and the beginning of the new series IAGA-Bulletin No. 32. The publication of the derived indices Ci, Kp etc. and the international quiet and disturbed days (Q- and D-days) continued in the new series (Ci up to 1976).

The K-indices of individual observatories have been put on magnetic tape for the years 1969 through 1974. These tapes are available through the World Digital Data Centers for Geomagnetism. Besides, tables of local K-indices can be found in the bulletins or yearbooks of many observatories.

The aa-indices form a series of indices beginning in the year 1868. A full description of these indices is given in the IAGA-Bulletin No. 33, which contains tables and graphs of aa for the years 1868-1967. Descriptions are also given in two short papers (Ann. Géophys., 27, 62-70, 1971 and J. Geophys. Res., 77, 6870-6874, 1972), in connection with comparisons with other indices am, ap or Ci. All data given in the tables are available on magnetic tape from the appropriate World Data Centers, using the format described in IAGA-Bulletin No. 33.

The meaning of C, Ci, K and Kp is explained in textbooks, e.g. Landolt-Börnstein, Zahlenwerte und Funktionen, Band 3. pp. 731-744 (Berlin 1952, Springer Verlag), and in Terrestrial Magnetism and Atmospheric Electricity 44, pp. 441-433 (1939) and 46, pp. 301-303 (1941). The results of an extensive study on the index K by P.N. Mayaud are given, together with practical rules for its determination, in the "Atlas of Indices K", IAGA-Bulletin No. 21 (1967). The exact definition of Kp is given in IATME-Bulletin No. 12b, reprinted at the end of the IAGA-Bulletin No. 12i, and in the Journal of Geophysical Research, Vol. 54, pp. 295-299, Sept. 1949. The indices have also been described, for use in correlation studies in other geophysical fields, in the Annals of the IGY, Vol. 4, pp. 227-236 (London, Pergamon Press 1957).

A collection of diagrams for Kp, 1932/33 and 1940 to 1950, together with diagrams for the daily characters 1884-1950, is given in: Abhandlungen Akad. Wiss. Göttingen, Math.-Phys. Klasse, Sonderheft 1 (1951). A second collection from 1937 up to 1958 has appeared in: Abhandlungen Akad. Wiss. Göttingen, Math.-Phys. Klasse, Beiträge zum Geophysikalischen Jahr, Heft 3 (1958). A discussion on time variations of geomagnetic activity, indices Kp and Ap, 1932-1961 has appeared in Annales de Géophysique, Tome 19, pp. 1-20, 1963. Tables and diagrams of these planetary indices for the whole period 1932-1961 are printed in IAGA-Bulletin No. 18.

Other planetary indices derived from the K-indices, are the three-hourly indices Kn and Ks for the Northern- and Southern hemisphere and the mondial index Km. These indices are published in the IAGA-Bulletin No. 32 from 1968 onwards. They are described in a publication of the Centre National de la Recherche Scientifique, Paris 1968: "Indices Kn, Ks et Km, 1964-1967", by P.N. Mayaud. The indices for the years 1959-1963 are published in the special IAGA-Bulletin No. 39. The complete series of these indices and the related quantities an, as etc. for the years from 1959 onwards is available on punched cards at WDC-A for Solar Terr. Physics, Boulder, in a format analogous to the one in the above publication.

The equatorial Dst-index for ring current intensity is also published in the IAGA-Bulletin 32 from 1970 onwards. A description of this index is given in the reports for earlier years. Hourly values of Dst for the years 1957-1970 based on the data of three stations, have been published by M. Sugiura and D.J. Poros in the report No. X-645-71-278 of the Goddard Space Flight Center. This report supersedes earlier Dst-publications by Sugiura and co-workers. Recently, these Dst values have been recomputed, using the data of four stations. Hourly Dst-values for the IGY, based on the data of eight stations, are given in the Annals of the IGY, Vol. 35. The same volume contains three-hourly values of Dst for the IGY as determined by W. Kertz in a somewhat different way. The hourly values from 1957 onwards are available on magnetic tape at WDC-A for Solar. Terr. Physics, Boulder.

The auroral electrojet index AE cannot be included in IAGA-Bulletin No. 32, because this index is not available in time. However, data on preliminary AE-indices for selected intervals are included in part D of this Bulletin. References to AE are given at the end of part B, together with references to the indices Q and R from individual observatories and to indices Kp, Ap and Cp of earlier years.

A description of many indices mentioned in this introduction is given by M. Siebert in "Handbuch der Physik", Vol. 49/3, pp. 206-275 (Springer Verlag 1971).

For a complete review of all these indices see: P.N. Mayaud, Derivation, meaning and use of geomagnetic indices, Geophysical Monograph 22, Am. Geoph. Union, Washington D.C., 1980.

Data on rapid variations are given less extensive than in the former IAGA-Bulletins. According to decisions made at the IAGA-Assemblies in Madrid, 1969, and in Grenoble, 1975, the lists of sudden impulses (si), bays and pulsations, minor disturbances and rejected solar-flare effects are omitted. Storm sudden commencements (ssc) are presented in a new way (see: Explanation, page X). Pulsations without bays have been published in the quarterly bulletins and their yearly supplement up to 1 January 1974.

The Bulletin 32 further contains a data survey for special intervals (mostly magnetic storms) consisting of a survey of indices over the selected time intervals, data on sc's, ranges etc. from individual observatories and magnetograms of selected stations, reduced to the same time scale and comparable intensity scales.

Most data appearing in the yearly IAGA-Bulletin 32 have been given earlier in monthly bulletins partly in a preliminary form.

The values of Kp, Ap and Cp for a calendar month are usually available, in a table and in graphical representation, before the end of the next month, and they are distributed, in time for 27-day recurrence forecasts, to about 400 institutions in many countries. This service is carried out by the Institut für Geophysik, Herzberger Landstrasse 180, D-3400 Göttingen, GFR. Requests may be directed to this address.

Monthly tables of Kn, Ks, Km and related quantities are distributed by the Institut de Physique du Globe de Paris, 4 Place Jussieu, Tour 14, 75230 Paris Cedex 05, France.

Monthly bulletins on aa, selected quiet and disturbed days and preliminary data on rapid geomagnetic variations are sent to about 190 observatories and institutions by the International Service of Geomagnetic Indices, c/o Royal Netherlands Meteorological Institute, P.O. Box 201, 3730 AE De Bilt, Netherlands.

The data on rapid variations are collected and prepared for publication at the Observatorio del Ebro, Roquetas, Spain.

Much of the data published in these bulletins can also be found in the monthly publication "Solar Geophysical Data" issued by the NOAA Environmental Data and Information Service, Boulder, Colorado 80303, USA.

IAGA-Division V: Observatories, Instruments, Indices and Data

C. Sucksdorff, Chairman

International Service of Geomagnetic Indices

D. van Sabben, Director

Koninklijk Nederlands Meteorologisch Instituut, De Bilt, Netherlands

EXPLANATION OF THE TABLES AND DIAGRAMS

Part A. List of Observatories

The observatories are arranged according to their geographic latitudes. Only those observatories are listed which have reported data on geomagnetic indices or rapid variations. For observatories which have moved over a small distance, the old name is sometimes maintained, but the coordinates correspond always with the new site.

The first column gives the three-letter code for the observatories, which replaces the former two-letter code. (A list of three-letter symbols for all observatories has been published in IAGA-Bulletin No. 32h, page 106-116. Additions and corrections to that list are given in the last pages of subsequent bulletins of this series). The last two columns contain the lower limit for K = 9 used by the observatory in scaling K-indices and the period of time for which the observatory reported K-indices. Of this period, the first and, if the reporting has ended, the last year are given. A letter indicates whether the reporting has been continuous or almost continuous (C) or with interruptions (I). Details of the reporting periods can be found in IAGA-Bulletin 12, page 12 (up to 1947) and corresponding places in later IAGA-Bulletins, up to No. 12x (1969).

Part B. Indices

B. 1, 2a: The aa-indices are derived from the K-indices of two antipodal observatories (invariant magnetic latitude 50°). They provide a quantative characterization of the magnetic activity, which is homogeneous through the whole series. Half-daily and daily values give an estimate of the activity level very close to that obtained with am-indices. Values are in nanotesla's (nT) and correspond to the activity level at an invariant magnetic latitude of 50°. In the table B1 the following values are listed

N = daily values for the Northern hemisphere

S = daily values for the Southern hemisphere

M = half-daily values of aa-indices for the Greenwich day.

Letters C and K in the tables refer to a classification of the quiet days of the month (C = really quiet, K = quiet, but with one or a few slightly disturbed three hourly intervals). The letters on the left refer to the 24 hours Greenwich day, on the right to a period of 48 hours centered on the Greenwich noon. The five international quiet days of each month are indicated by the letter Q.

Table B2a provides a survey of monthly and yearly mean values of aa for the years from 1868 onwards.

A graph of aa-indices for these years is given below table B2a. This graph is drawn from a series of points representing yearly averages of aa-indices. The ordinate of each point (one point per month) is a twelve months average such that the points plotted at the marked year intervals are in each case averages for January to December of that year. Ordinates are in nT's.

B. 2b: For explanation of the daily index Ap, see B4.

B. 3: The international quiet and disturbed days are explained below the table.

B. 4: The planetary three-hour-range index Kp is the mean standardized K-index from 13 observatories between 46° and 63° northern or southern geomagnetic latitude. The scale is 0 to 9, expressed in thirds of a unit, e.g. 5- is $4\frac{2}{3}$, 5o is 5, 5+

is $5\frac{1}{3}$. This planetary index is designed to measure solar particle radiation by its magnetic effects, especially to meet the need of research workers in the ionospheric field. Several other indices are derived from Kp, namely the 3 hour index ap (the equivalent range) and the daily indices Ap and Cp.

The Kp-stations are: Meanook (Canada), Sitka (Alaska), Lerwick (Shetlands), Eskdalemuir (Scotland), Lovö (Sweden), Rude Skov (Denmark), Wingst (Germany), Witteveen (Netherlands), Hartland (England), Ottawa (Canada), Fredericksburg (Virginia), Amberley (New Zealand), Toolangi (Australia).

The three hour equivalent amplitude ap is related to Kp as follows:

Kp =	0o	0+	1-	1o	1+	2-	2o	2+	3-	3o	3+	4-	4o	4+
ap =	0	2	3	4	5	6	7	9	12	15	18	22	27	32
Kp =	5-	5o	5+	6-	6o	6+	7-	7o	7+	8-	8o	8+	9-	9o
ap =	39	48	56	67	80	94	111	132	154	179	207	236	300	400

In order to use ap as an equivalent amplitude, it is considered in relation to the conditions at a standard station, which is a station having the lower limit of 500 nT for K = 9. At such a station the average range in nT of the most disturbed of the three force components in a three hour-interval can be taken as 2.ap (for instance, for Kp = 3+, as 36 nT). In other words ap is an equivalent amplitude in the unit 2 nT.

The column headed Ap gives the daily average for the eight valeus ap per day. Therefore, Ap may be called the "equivalent daily amplitude Ap", expressed in the unit 2 nT for a standard station.

Observatories wishing to compute, from their own K-indices, a local equivalent amplitude ak, may proceed as follows:

K =	0	1	2	3	4	5	6	7	8	9
ak =	0	3	7	15	27	48	80	140	240	400

This table is valid for all observatories. Using the values of the table, ak has the meaning of an index. If it is desired to convert the index ak into an equivalent amplitude in the unit nT, the conversion factor is obtained from the lower limit for K = 9 valid at the station by dividing the limit by 250. For instance, at Sodankylä, where the lower limit for K = 9 is 1500 nT, the factor is 6, so that, for K = 3, the equivalent amplitude is 90 nT, or, in other words the index ak for Sodankylä expresses equivalent amplitudes in the unit 6 nT. Similary, Ak is the daily average of the ak.

Use of the daily Ap (planetary) or Ak (local value) is recommended in preference to the sum of the indices Kp or K.

The last column gives the daily planetary character figure Cp, as defined in Bulletin 12e, p. 111. It should be noted that Cp, introduced for a standardization of the international character-figures Ci, has not been approved by the Association. Instead, Ap was preferred. For a rough conversion of Ci-figures (prior to 1932) into Ap, the following table (derived from Bulletin 12e, p. 111, Table 2) may be used:

10.Ci =	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ap =	2	4	5	6	8	9	11	12	14	16	19	22	26	31	37	44	52	63	80	110	160

B. 5-8: These tables give the frequencies of occurrence of Kp-values during the year,

the monthly average values of Ap and Cp and lists of magnetic storms and very quiet intervals, based on the successive occurrence of certain Kp-values.

The diagrams of Kp show the values of Kp from the table B4 in a "musical note script" as defined in the key. The arrangement in solar rotations is made in order to show the 27-day recurrence tendency.

B. 9: The three-hourly indices Kn and Ks for the Northern and Southern hemispheres are based on the amplitude-indices an and as, which are derived from the K-indices of observatories in the sub-auroral zones of the Northern and Southern hemispheres. These K-indices are standardized according to the distances of the stations to the auroral zones. The stations are arranged in groups, each group representing a longitude sector in one of the hemispheres. The mean standardized K for each sector is converted back into an equivalent amplitude and the weighted means an and as of these amplitudes are converted back into Kn and Ks. The mondial index am is the average of an and as, and Km is determined in the same way by conversion of am (this method is different from the method followed in the case of Kp, where ap is derived from Kp).

As the tables are printed mechanically by computer, the values of Kn, Ks and Km, which vary by thirds of a unit, are tabulated in the form 3Kn, 3Ks and 3Km. An, As and Am are the daily mean values of the amplitudes an, as and am, Am2 is the mean of am over a 48-hour period centered in the middle of the day. σn and σs indicate the standard deviations of the sector values of K in the N.- and S. hemispheres. They are about equal to six times these standard deviations. Monthly mean values of An, As and Am are given at the bottom of the tables.

The diagram of magnetic activity displays the variation of (an-as)/2 (upper curve), of am = (an+as)/2 (mid curve), and Dst (bottom curve). It also shows the ssc's of the year, as listed in part C of this bulletin, in two ways: Vertical bars below the am curve refer to the quality of the ssc (the length of the bar is proportional to the sum of the five code numbers attributed to the event); those below the Dst curve refer to its amplitude. See IAGA-Bulletin 39 for other details.

B. 10, 11: The equatorial Dst-index for the intensity of the ring current is the deviation of the horizontal component H from its quiet time value, averaged over a number of low latitude stations. These stations are: Honolulu (Pacific), San Juan (USA), Hermanus (South Africa) and Kakioka (Japan). The exact definition of Dst is given in earlier data publications (see Introduction for references). Monthly tables of hourly Dst-values are given, followed by a table of daily mean values and a graph of hourly values for the whole year.

Part. C. Rapid Variations

C. 1: Sudden commencements followed by a magnetic storm or by an increase in activity lasting at least one hour (ssc). This list is based upon the data as reported monthly by the observatories mentioned in the heading of the table.

The final identification of the storm sudden commencements (ssc) is made from copies of records supplied to the central bureau by five low-latitude observatories (MBO, FUQ, HON, PMG, ABG) or five supplementary observatories (TAM, EAB, API, KNY, HYB). The copies are requested for all events, also for those reported by other observatories only.

Furthermore all events are checked on the microfilm-copies of magnetograms of two low-latitude observatories. In doubtful cases, attention is especially given to the monthly reports of all observatories. See IAGA-Bulletin No.39, pp. 103-111 for a full explanation of this method, and some statistical results concerning the years 1968-1975.

The times in the column at the left are mean values obtained from all observatories; but the earliest and latest times reported by the observatories for the beginning of the event are added in parenthesis. For printing reasons only the minutes are given. These minutes generally belong to the hour of the event; but if they are underlined, they belong to the preceding hour. The next five figures indicate the qualification given to the event by the central bureau, using the above mentioned copies of low-latitude stations (if a figure is underlined, it means that the supplementary station is used). The meaning of these numbers is as follows:

2 or 3 ..... the event can be unmistakably identified as being an ssc from the single record under consideration; 3 is imposed instead of 2 when the following three features are present: very sharp change of rhythm, large amplitude of the sudden move, remarkably morphology of it;

1 ..... means that the event seen in this particular record is possibly an ssc, but is not sufficiently clear by itself for stating that it is a true ssc; one needs records from other longitudes for getting a firm judgement;

0 ..... means that, from the record under consideration, the event could escape from the attention of the observer or does not deserve to be called an ssc.

After these numbers are given the average duration of the event in minutes (time-interval between the beginning and the maximum of the sudden move) and its average amplitude in nT at the five low-latitude observatories. The next group indicate the number of observatories which have given either letter A or letter B etc. in their monthly report (The meaning of A, B, etc. is explained in Table C3. The qualification 3, 2 or 1, given by the central bureau, is independent of the qualification A. B. etc. given by the observer). The last group indicates the number of observatories which have classified the event other than ssc (si, b, pi, pg; see Table C3 for explanation of symbols).

C. 2a: Solar-flare effects (sfe) were reported by many observatories. A check of the reported cases has been made by the observatories, mentioned in the heading of the table. In some cases data from the monthly reports of other stations have also been used, in order to get a better idea of the reported effects. The symbols of such stations are included in square brackets. The times tabulated in the column at the left are mean values of the times given for the beginning of a phenomenon. In cases where a clear simultaneous disturbance from an ionospheric or solar observatory or from a radio service, which gives support to the geomagnetic solar-flare effect, has been well established, the indicated time has been underlined. The stations which reported the sfe are given behind the indicated time, grouped according to the quality-indications A, B, C, D, E in their reports (viz. Table C3).

Observatories near the subsolar point are underlined. Stations lying in the twilight-zone, which reported a clear disturbance are indicated by dotted brackets. Stations under the same circumstances in full dark have been given in parentheses. Stations on the night-side of the earth, which gave a negative or doubtful answer, have been omitted.

C. 2b: Doubtful solar-flare effects. In general, the following cases have been considered as doubtful: Those where well located stations (with respect to the subsolar point) did not report such an effect (although several other stations have reported it), and those where some stations in full dark mentioned a disturbance which, considering the hour and their geographic position, was probably no night-side bay co-existing with a sfe at the day-side of the earth. Further some cases were considered doubtful because the interpretation of the totality of data was hindered by simultaneous world wide pertubation and also when the solar, radio-electric and ionospheric records were available, but did not show any clear effect at the time of the presumed sfe. Nevertheless it is very probable that several of these cases are real solar-flare effects.

C. 3: Symbols used in lists of rapid variations. In this page the symbols used in lists C1 and C2 are explained.

A list of "very remarkable events" is no longer published because of too great differences in reporting methods of the observatories.

Part D. Data on special intervals

The data for each interval are given on four successive pages. One page contains a selection of magnetograms. On the opposite page, the first lines give a survey of indices Kp, Kn and Ks for the selected interval. Dst is given in a graphical form as follows: A single horizontal line indicates that Dst is negative, a double line means Dst < -50, a triple line means Dst < -100 etc. In the list of data from individual observatories the sign of the amplitude of an ssc is to be taken algebraically for D and Z; D reckoned positive if towards the East and Z reckoned positive if downwards. sc* means that the sc-movement (for which the amplitudes are given) was preceded by a small reverse impuls.The ranges of D, H and Z are the differences between the highest and the lowest values of these components attained during the storm. The end of the storm is indicated by the cessation time of reasonably marked disturbance movements in the traces, more specifically when the K-index diminishes to 2 or less for a reasonable period.

The stations for which K-indices are given, are selected on the basis of a representative distribution over all parts of the world.

Magnetograms are given for three groups of stations, namely for stations inside the polar caps (upper diagram), for stations in the auroral zones (middle diagram) and for stations in lower latitudes (lower diagram). The selected stations may not always be the same, depending on the availability of the magnetograms. The magnetograms have been reduced to the same time scale and comparable intensity scales. Only the H-component is shown, except for some stations near by the geomagnetic pole, where both H and D or X and Y are given. The Sq-variation has not been subtracted from the records.

Graphs of preliminary AU, AL and AE (= AU-AL) values for the selected intervals are given at the bottom of the magnetogram-pages in the same time scale. These graphs are indicative of the definite AE (11) values to be published later.

Tables of provisional one-minute values of AE for each selected interval are given on two pages following the two pages mentioned above. These tables contain the values of AE (5) in nanoTesla's (nT) for each minute of the 2-days-interval. The print-out is clustered in 3-line groups with 20 values per line, each group covering one hour U.T.

LIST OF OBSERVATORIES

Symbol	Observatory	Geographic Lat.	Geographic Long.	Geomagnetic Lat.	Geomagnetic Long.	K=9 lower limit	K rep.
ALE	Alert	+82° 30'	297° 30'				
HIS	Heiss (B. Tikhaya)	+80 37	58 03			2000	34I -
MUR	Murchison Bay	+80 30	18 15				
CCS	Cape Chelyuskin	+77 43	104 17			2500	55C -
THL	Thule	+77 29	290 50			1000	55C70
MBC	Mould Bay	+76 12	240 36				
RES	Resolute Bay	+74 41	265 10			1500	52C55
BJN	Bjornoya (Bear Island)	+74 31	19 01			2000	57C65
DIK	Dikson	+73 33	80 34			1500	34I -
MSR	Matoshkin Shar	+73 16	56 24			2500	55C56
TIK	Tiksy	+71 35	129 00			1000	55I -
BRW	Point Barrow	+71 18	203 15			2500	57C -
TRO	Tromsø	+69 40	18 57			2000	47C -
GDH	Godhavn	+69 14	306 29			1800	43I -
CBB	Cambridge Bay	+69 06	255 00				
ABK	Abisko	+68 21	18 49			1500	
MMK	Loparskaya/Murmansk	+68 15	33 05			2500	57C -
LOZ	Lovozero	+67 59	35 01				
KIR	Kiruna	+67 50	20 25			1500	52I -
SOD	Sodankylä	+67 22	26 38			1500	14I -
CWE	Cape Wellen (Welen)	+66 10	190 10			1250	52C -
COL	College	+64 52	212 10			2500	41C -
BLC	Baker Lake	+64 20	263 58			2500	52C55
LRV	Leirvogur (Reykj.)	+64 11	338 18			1500	64C -
YKC	Yellowknife	+62 28	245 32				
SRE	Srednikan	+62 26	152 19			550	40I -
DOB	Dombås	+62 04	9 07			750	25C -
YAK	Yakutsk	+62 01	129 40			550	39I -
POD	Podk. Tungusta	+61 31	90 00			650	72C -
NAQ	Narssarssuaq	+61 06	314 48				
NUR	Nurmijärvi	+60 31	24 39			750	53C -
LER	Lerwick	+60 08	358 49			1000	32C -
MGD	Magadan	+60 07	151 01			600	67C -
LNN	Leningrad	+59 57	30 42			600	55C -
LOV	Lovö	+59 21	17 50			600	30C -
FCC	Churchill	+58 48	265 54				
BOX	Borok	+58 02	38 20				
SIT	Sitka	+57 04	224 40			1000	32C -
SVD	Sverdlovsk	+56 44	61 04			550	39I -
TMK	Tomsk	+56 28	84 56			350	58C70
ARS	Arti	+56 26	58 34				
RSV	Rude Skov	+55 51	12 27			600	40C -
KNS	Zaimishe/Kazan	+55 50	48 51			550	41C -
BFE	Brorfelde	+55 37	11 40				
MOS	Moskva	+55 29	37 19			550	45I -
ESK	Eskdalemuir	+55 19	356 48			750	32C -
GWC	Great Whale River	+55 16	282 13				
NVS	Novosibirsk	+55 02	82 54			500	72C -
KNG	Kaliningrad	+54 42	20 37				
MEA	Meanook	+54 37	246 34			500	32C -

LIST OF OBSERVATORIES - continued

Symbol	Observatory	Geographic Lat.	Geographic Long.	Geomagnetic Lat.	Geomagnetic Long.	K=9 lower limit	K rep.
HLP	Helu	+54° 37'	18° 49'			550	56C -
MNK	Minsk	+54 30	27 53			550	62C -
STO	Stonyhurst	+53 51	357 32			600	60C66
WNG	Wingst	+53 45	9 04			500	40C -
PET	Petropavlovsk	+53 06	158 38			450	
WIT	Witteveen	+52 49	6 40			500	40C -
IRK	Irkutsk	+52 10	104 27			350	41C -
SWI	Swider	+52 07	21 15			500	37C -
NGK	Niemegk	+52 04	12 40			500	37C -
VAL	Valentia	+51 56	349 45			500	54C -
BEL	Belsk	+51 50	20 47			500	60C -
GTT	Göttingen	+51 33	9 58			500	
CLL	Collmberg	+51 19	13 00			500	54I67
ABN	Abinger/Greenwich (c)	+51 11	359 36				29C56
HAD	Hartland	+51 00	355 31			500	57C -
KIV	Kiev	+50 48	30 16			350	58C -
MAB	Manhay	+50 18	5 41			500	40C -
DOU	Dourbes	+50 06	4 36			500	55C -
PRU	Pruhonice	+49 59	14 32			500	53C73
LVV	Lvov	+49 54	23 45			550	55C -
KGD	Karaganda	+49 49	73 05			350	66C -
BDV	Budkov	+49 04	14 01			500	57I -
VIC	Victoria	+48 31	236 35			650	57C -
NEW	Newport	+48 16	242 53			700	68C -
WIK	Wien-Kobenzl	+48 16	16 19				57-58
FUR	Fürstenfeldbruck	+48 10	11 17			500	48C -
CLF	Chambon-la-Forêt	+48 01	2 16			500	40I -
HRB	Hurbanovo	+47 54	18 12			350	51C -
UBA	Ulaanbaatar	+47 52	107 03			300	56C -
STJ	St. Johns	+47 36	307 19			750	69C -
NTS	Nantes	+47 15	358 27			500	50C59
YSS	Yushno-Sakhalinsk	+46 57	142 43			350	54C -
TYH	Tihany/Nagycenk	+46 54	17 53				55C -
ODE	Odessa	+46 47	30 53			350	55C -
NKK	Novo Kazalinsk	+45 46	62 07			350	66C -
OTT	Ottawa	+45 24	284 27			750	68C -
SUR	Surlari	+44 41	26 15			350	57C -
GCK	Grocka	+44 38	20 46			350	58I -
ROB	Roburent/M.Capellino	+44 18	7 53				56C -
MMB	Memambetsu	+43 55	144 12			350	52C -
AGN	Agincourt (c)	+43 47	280 44			600	40C69
VLA	Ussurisk/Vladivostok	+43 41	132 10			300	52C -
AAA	Alma Ata	+43 15	76 55				64C -
PAG	Panagjuriste	+42 31	24 11			350	57C -
LGR	Logroño	+42 27	357 30			350	57C -
AQU	Aquila	+42 23	13 19			350	58C -
TFS	Tbilisi (Tiflis)	+42 05	44 42			350	40I -
TKT	Tashkent	+41 20	69 37			300	41I -
LMD	Maddalena	+41 13	9 24			350	58C63
ISK	Istanbul-Kandilli	+41 04	29 04			300	52C -

LIST OF OBSERVATORIES - continued

Symbol	Observatory	Geographic		Geomagnetic		K=9 lower limit	K rep.
		Lat.	Long.	Lat.	Long.		
EBR	Ebro	+40° 49'	0° 30'			350	42C -
CPI	Capri	+40 33	14 13				57-58
COI	Coimbra	+40 13	351 35			350	51C -
BOU	Boulder	+40 08	254 46			500	63C -
TOL	Toledo	+39 53	355 57			350	48C -
ONW	Onagawa	+38 36	141 28				57-59
FRD	Fredericksburg/Cheltenham	+38 12	282 38			500	32C -
PEN	Pendeli	+38 03	23 52			300	59C -
GIB	Gibilmanna (c)	+37 59	14 01			350	54C57
ASH	Ashkhabad	+37 57	58 06			300	58C -
SMG	San Miguel	+37 46	334 21			350	51C -
ALM	Almeria	+36 51	357 32			350	64C -
SFS	San Fernando	+36 28	353 48			350	40C -
KAK	Kakioka	+36 14	140 11			300	36C -
TEH	Teheran	+35 44	51 23			300	57I -
GUL	Gulmarg	+34 05	74 24				
KSA	Ksara	+33 50	35 54			300	49C -
SSO	Simosato	+33 34	135 56			300	54C -
AVE	Averoes	+33 18	352 35			350	70C -
HTY	Hatizyo	+33 04	139 50			300	
DAL	Dallas	+32 59	263 15				66C -
ASO	Aso	+32 53	131 01			300	57I57
TUC	Tucson	+32 15	249 10			350	38C -
KNY	Kanoya	+31 25	130 53			300	58C -
QUE	Quetta	+30 11	66 57			300	55I -
MLT	Misallat/Helwan	+29 45	30 54			300	56C -
TEN	Santa Cruz/Tenerife	+28 29	343 44			300	61C -
JAI	Jaipur	+26 55	75 48				
SHL	Shillong	+25 34	91 53				
LNP	Lunping	+25 00	121 10			300	65I -
UJJ	Ujjain	+23 11	75 47				
HVN	Havana	+22 58	277 51				64-68
TAM	Tamanrasset	+22 48	5 31			300	52I -
HON	Honolulu	+21 19	202 00			300	38C -
TEO	Teoloyucan	+19 45	260 49			300	51I -
ABG	Alibag	+18 38	72 52			300	40C -
SJG	San Juan	+18 07	293 51			300	38C -
HYB	Hyderabad	+17 25	78 33			300	69I -
MBO	M'Bour	+14 24	343 02			350	52C -
MUT	Muntinlupa	+14 22	121 01			300	64C -
GUA	Guam	+13 35	144 52			300	58C -
ANN	Annamalainagar	+11 24	79 41				57-59
AAE	Addis Ababa	+09 02	38 46			300	58-61
TRD	Trivandrum	+08 29	76 57				57C -
KOR	Koror (c)	+07 20	134 30			300	57-58
PAB	Paramaribo	+05 49	304 47				57C60
FUQ	Fuquene	+05 28	286 16			300	57C60
BNG	Bangui	+04 26	18 34			350	52I -
MFP	Moca-Fernando Poo (c)	+03 21	8 40			300	64C -
TTB	Tatuoca	-01 12	311 29				57C63
LWI	Lwiro	-02 15'	28 48			350	58C60

LIST OF OBSERVATORIES - continued

Symbol	Observatory	Geographic Lat.	Geographic Long.	Geomagnetic Lat.	Geomagnetic Long.	K=9 lower limit	K rep.
HNA	Hollandia (c)	-02° 34'	140° 31'			300	57C58
BIN	Binza	-04 23	15 16				57C69
TNG	Tangerang	-06 10	106 38			300	40I -
LUA	Luanda	-08 55	13 10			350	57C -
PMG	Port Moresby	-09 25	147 09			300	58C -
KVA	Karavia	-11 39	27 28				57-59
HUA	Huancayo	-12 02	284 41			600	37C -
API	Apia	-13 48	188 13			300	40I65
PPT	Pamatai/Papeete/Tahiti	-17 33	210 23			350	68C -
TAN	Tananarive	-18 55	47 33			300	50C -
MRI	Mauritius (c)	-20 06	57 33			500	56C60
LQA	La Quiaca	-22 06	294 24			350	64C -
VSS	Vassouras	-22 24	316 21			600	52C64
MPO	Maputo/Lourenco Marques	-25 55	32 35			300	64C68
BRS	Brisbane (c)	-27 32	152 55			500	57C64
WAT	Watheroo (c)	-30 19	115 53			350	37C59
PIL	Pilar	-31 40	296 07			300	40I -
GNA	Gnangara	-31 47	115 57			350	57C -
HER	Hermanus	-34 26	19 14			450	40C -
ACS	Las Acacias	-35 00	302 19			350	64C -
TOO	Toolangi	-37 32	145 28			500	41C -
AML	Amberley (c)	-43 09	172 43			500	37C77
TWA	Trelew	-43 15	294 41			300	57C -
EYR	Eyrewell	-43 25	172 21			500	77-
LAU	Lauder	-45 02	169 41			500	79-
CZT	Crozet	-46 26	51 52			500	72C -
KGL	Kerguelen	-49 21	70 12			750	57I -
HII	Heard Isl. (c)	-53 02	73 22				52-53
SGG	South Georgia	-54 17	323 31			350	
MCQ	Macquarie Island	-54 30	158 57			1500	52C -
ORC	Orcadas del Sur	-60 44	315 13			400	69-70
AIA	Argentine Island	-65 15	295 44			500	57C -
OAS	Oasis (c)	-66 06	92 09			2000	57C58
WIL	Wilkes (c)	-66 15	110 35			2500	57I67
MIR	Mirny	-66 33	93 01			2000	57C -
DUM	Dumont d'Urville	-66 40	140 01			1800	57C -
MOL	Molodezhnaya	-67 40	45 51				
MAW	Mawson	-67 36	62 53			1500	55C -
SYO	Syowa	-69 02	39 36				67C72
CTX	Charcot (c)	-69 23	139 01			1500	57C58
PIO	Pionerskaya (c)	-69 44	95 30			2000	57C58
SNA	Sanae	-70 19	357 40				64I70
RBD	Base Baudouin (c)	-70 26	24 19				64C66
NVL	Novolazarevskaya/Lazarev	-70 46	11 49			1500	60C -
HLL	Hallett (c)	-72 19	170 13			2500	57C62
EGS	Eights (c)	-75 14	282 50				63-65
HLY	Halley Bay	-75 30	333 09			1500	57C64
SBA	Scott Base	-77 51	166 47			2000	57C -
LAA	Little America (c)	-78 11	197 50			2500	57C58
VOS	Vostok	-78 27	106 52			2000	58I -
BYR	Byrd Island	-80 01	240 29			2500	57C -
SPA	South Pole	-90				2000	59C -

TABLE 1 INDICES aa 1979

Part B

	JAN.				FEB.				MAR.				APR.				MAY				JUNE			
	N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		N	S	M	
1	17	16	14	20	13	10	16	8 C	25	18	25	19	48	47	39	56	32	20	31	22	14	4	7	12QCC
2	37	35	18	55	18	15	18	15 C	32	26	32	27	50	52	58	45	22	17	24	15	16	4	11	10 CC
3	31	28	27	33	20	13	7	26	23	16	17	23	53	66	19	100	12	6	7	11QCC	11	6	2	15QCC
4	71	54	42	84	29	32	29	32	47	37	38	47	57	59	81	36	16	6	7	15 CC	16	8	11	13 KK
5	32	24	34	23	12	12	17	7 K	21	24	30	15	78	64	75	68	13	12	13	12 CC	14	4	13	6QCK
6	32	47	34	46	22	25	22	25	42	39	35	46	21	13	18	17	13	6	9	10QCC	51	28	9	70
7	56	50	22	84	8	14	9	14 C	15	9	13	12QC	22	15	21	17	20	18	13	25	43	25	37	33
8	14	14	18	10	16	16	16	16	13	10	12	11 C	22	18	19	22	16	9	14	11 C	28	14	20	23
9	26	42	48	21	14	17	15	16	21	21	23	19	18	12	22	9	25	20	17	28	29	20	21	29
10	7	6	7	7QCK	11	12	10	13QC	91	63	54	101	16	19	18	17 K	14	10	8	17 C	29	20	22	28
11	8	7	11	4QCK	26	14	28	13	35	13	29	19	8	8	6	11QC	34	23	27	31	22	12	16	18
12	18	21	18	21 K	30	20	33	17	7	7	8	7QCK	31	23	26	28	19	11	12	18	13	5	9	10 CK
13	6	8	8	6QCK	4	4	6	3QCK	9	9	12	6 CC	20	14	14	21	16	8	11	13 C	15	9	6	19 KC
14	12	16	12	17Q	5	4	3	5QCK	4	2	2	4QCC	30	15	12	35	23	12	13	23	18	7	13	12 CC
15	24	30	22	33	16	19	19	17	15	14	9	20	27	24	20	32	20	14	15	20	16	10	10	16 C
16	20	18	27	11	11	13	20	5 KK	21	15	22	15	24	16	27	14	15	7	13	9QCK	29	22	19	33
17	15	20	7	27Q	9	6	4	10QC	32	35	46	22	20	14	20	15Q	8	2	5	5QCC	28	24	20	34
18	18	18	17	20	37	42	45	35	13	9	14	9 C	11	7	11	7QCC	20	9	6	24	16	4	10	11QC
19	27	27	39	16	27	20	23	25	20	15	12	24 K	13	8	10	11QCC	33	34	31	36	15	8	11	13 CC
20	21	20	21	21	12	11	9	15QC	10	8	9	9QCK	4	4	3	4QCC	24	17	21	21	21	10	8	24
21	18	21	23	17	76	93	66	102	9	8	8	10QC	28	34	13	50	21	24	12	33	34	21	14	42
22	31	24	8	47	48	59	54	53	45	61	32	74	62	44	58	48	56	37	37	57	36	30	27	39
23	39	42	28	53	45	57	65	38	29	17	26	21	38	30	43	25	20	10	14	16	30	25	28	28
24	35	30	42	23	31	21	22	31	27	27	29	25	30	20	24	27	38	35	34	39	16	13	17	12
25	52	52	58	46	25	19	23	22	34	32	34	33	132	127	156	103	62	40	44	58	18	15	16	18
26	52	32	31	53	40	37	23	55	42	40	36	46	21	12	15	18	43	34	40	38	39	23	9	53
27	41	36	36	41	32	24	34	23	26	33	18	41	36	35	24	48	30	26	28	29	17	15	15	17
28	22	20	22	21	35	24	20	40	50	43	37	57	43	47	57	34	28	11	10	29	9	4	5	8QCK
29	26	25	22	29					87	74	72	89	64	56	45	75	52	18	9	61	17	10	6	21 K
30	36	22	30	29					19	14	23	12	42	31	43	30	16	18	27	8	22	9	9	23
31	22	19	21	21					31	22	17	36					14	6	7	13QCC				
	27.9				24.1				29.0				35.7				25.0				22.8			
		26.7				23.3				24.6				31.2				16.7				13.7		
			27.3				23.7				26.9				33.5				21.0				18.3	

TABLE 1 INDICES aa 1979 - continued

	JULY				AUG.				SEP.				OCT.				NOV.				DEC.			
	N	S	M		N	S	M		N	S	M		N	S	M		N	S	M		N	S	M	
1	17	9	13	13 CK	34	22	13	43	19	13	6	25	13	24	23	15	30	27	26	31	16	15	12	20
2	9	3	5	7QCK	20	15	25	11	11	10	10	11QC	18	16	7	28	19	21	24	17	16	16	21	11
3	30	11	16	25	19	21	23	18	17	14	17	15	26	19	24	22	22	20	9	33	13	14	20	7 K
4	20	8	21	7	31	19	20	31	20	18	17	22	14	21	33	2	17	16	23	10	27	23	23	28
5	18	11	11	19 K	15	7	9	13 C	33	24	20	38	16	11	5	23	3	6	4	5QCC	11	14	11	15 C
6	42	21	16	47	34	26	35	25	29	19	32	16	46	45	35	56	4	10	12	2QCC	7	11	14	5 CC
7	35	31	26	41	22	25	19	29	11	9	11	9QCK	42	56	41	56	19	28	14	34	4	8	5	6QCC
8	22	8	13	17	19	12	12	19	14	13	15	12QKC	42	42	41	43	23	25	32	17	19	24	16	27
9	15	8	8	16 KK	14	9	13	11QCK	13	10	11	12QCC	34	37	48	24	33	29	16	46	10	15	14	12 C
10	12	6	6	12 CK	15	12	5	22QKK	15	25	17	24	27	25	24	29	12	11	10	13 C	9	12	7	14 KC
11	6	4	7	4QCC	21	13	12	22	26	22	20	28	13	22	14	21	17	25	23	19	7	10	9	9 CK
12	24	12	4	32	34	29	29	35	18	9	8	19	17	17	10	25	13	21	17	18	8	7	6	10QCC
13	26	17	17	26	80	81	53	108	20	9	14	15	22	17	19	21	57	50	37	70	5	6	6	5QCC
14	26	16	9	33	15	9	12	12 C	20	13	9	24	11	13	15	10 C	14	10	20	5 K	8	10	8	11 CC
15	30	21	31	22	9	6	4	11QCC	18	13	15	16	12	19	10	22	4	7	6	6QCK	15	18	17	17
16	24	12	16	20	10	8	11	8QCC	25	17	26	17	15	11	16	10 C	20	32	31	21	24	21	23	23
17	31	23	21	33	13	11	8	16 KK	20	19	14	26	10	8	8	10QCC	12	21	24	9	24	21	22	24
18	28	16	23	22	28	13	5	36	66	97	101	63	4	4	4	4QCC	7	13	16	4 KK	11	15	13	14 C
19	23	14	20	18	55	50	67	39	11	11	9	14QC	11	10	9	13QCC	15	15	7	23 K	10	13	9	14 CC
20	31	22	19	33	87	46	33	100	35	34	20	49	13	11	11	13 CC	14	20	16	19	6	12	6	11 CC
21	17	15	15	18	33	25	32	27	38	28	45	22	20	14	13	22	10	9	12	7 CK	6	8	4	10 CK
22	15	5	11	9 CC	24	14	17	22	12	12	12	13 K	27	19	26	21	2	7	6	3QCC	27	23	22	28
23	13	6	8	11 CC	9	5	8	7QCK	9	15	11	13 C	14	13	12	15 C	8	7	5	11 CK	4	11	6	9QC
24	14	6	9	11QCC	27	14	5	36	29	25	20	33	15	22	19	18	38	39	30	48	13	21	15	19 K
25	8	3	7	4QCC	36	38	29	45	29	27	26	30	20	23	20	23	21	17	29	10	6	6	3	10QCK
26	28	22	8	43	28	17	27	19	31	28	26	34	16	14	13	17	11	8	4	15 CC	23	20	11	32
27	39	17	25	32	22	23	25	20	23	18	22	20	10	9	8	12QCK	4	7	8	3 CC	15	29	25	19
28	21	10	16	15	19	13	17	15	23	32	24	30	17	15	13	19	2	3	2	3QCC	35	35	26	44
29	50	28	26	52	79	90	59	111	25	24	22	27	21	15	19	18	6	12	5	14 C	48	56	46	58
30	20	17	20	17	23	22	34	11	26	20	26	21	9	12	16	5QCC	22	30	34	19	34	34	35	32
31	5	4	5	3QCK	19	19	13	25					12	17	7	22					15	34	19	30
	22.6				28.8				22.8				19.0				16.0				15.5			
		13.0				22.9				21.0				19.4				18.2				18.1		
			17.9				26.0				22.0				19.3				17.1				16.8	

ANNUAL MEAN N 24.10 S 20.74 M 22.49

TABLE 2a MONTHLY AND YEARLY aa 1868-1979

	J	F	M	A	M	J	J	A	S	O	N	D	year
1868	10.6	16.0	19.7	21.0	16.4	17.9	21.5	19.4	24.0	25.9	13.3	13.7	18.3
1869	19.2	23.6	22.3	29.5	23.1	19.2	17.4	19.9	29.8	17.9	14.7	14.6	20.9
1870	21.6	23.2	21.2	25.8	20.9	16.4	14.1	21.4	35.2	26.2	21.9	19.9	22.3
1871	19.3	24.8	21.4	31.2	17.2	17.1	21.5	23.5	17.7	20.0	28.1	15.7	21.5
1872	17.0	28.0	23.0	23.4	20.4	17.7	25.3	25.2	20.7	38.6	25.0	20.5	23.7
1873	29.4	20.6	24.1	20.8	20.8	25.8	20.6	18.7	19.3	16.6	14.6	12.1	20.3
1874	17.8	16.1	12.7	19.1	14.0	12.8	13.1	13.0	15.7	17.8	14.3	10.1	14.7
1875	10.0	13.5	12.7	12.7	13.0	10.1	11.8	8.7	13.1	11.9	9.8	8.5	11.3
1876	9.8	12.6	11.0	6.5	7.6	7.7	9.1	10.2	10.1	10.5	10.2	10.1	9.6
1877	9.3	9.6	10.4	8.9	13.0	8.9	7.8	7.6	7.4	6.9	11.6	6.8	9.0
1878	7.4	7.5	6.2	8.5	7.3	8.6	4.8	6.4	7.9	6.8	7.1	9.3	7.3
1879	6.2	5.8	8.6	5.5	6.2	5.9	5.8	8.0	8.9	7.0	7.1	9.3	7.0
1880	7.3	4.7	9.8	8.9	13.1	7.3	9.9	23.1	11.4	14.4	14.5	14.6	11.6
1881	15.1	12.8	13.2	11.4	8.5	10.7	12.2	7.8	17.9	14.0	20.2	20.3	13.7
1882	15.7	19.5	16.5	35.9	20.6	19.0	14.5	19.7	15.0	25.0	55.0	20.1	23.0
1883	15.4	26.7	23.3	17.8	13.9	18.5	21.5	12.4	19.5	13.7	17.6	12.0	17.7
1884	9.1	14.3	17.5	15.6	12.8	13.1	15.5	13.0	13.5	16.0	16.9	13.2	14.2
1885	13.2	15.5	13.3	14.0	21.2	14.2	13.0	17.7	22.1	15.9	13.7	12.1	15.5
1886	17.7	17.1	27.6	21.6	22.6	21.6	19.3	18.1	19.0	21.7	20.7	20.6	20.6
1887	16.9	22.9	15.2	20.6	17.3	12.6	12.5	17.2	18.9	14.1	14.5	15.2	16.5
1888	18.2	15.9	15.2	16.4	19.3	14.5	12.9	13.7	15.1	15.0	15.3	14.0	15.5
1889	9.8	11.0	13.9	11.6	10.2	9.8	13.5	12.6	14.6	13.6	18.5	11.8	12.6
1890	11.7	11.8	10.0	8.4	8.4	7.3	10.0	10.3	13.8	15.6	13.3	8.3	10.7
1891	10.4	14.2	20.6	22.5	23.7	11.7	11.2	15.0	22.3	20.7	16.5	16.2	17.1
1892	19.5	35.1	36.3	20.4	25.1	17.7	33.7	22.1	20.1	23.1	15.7	22.1	24.2
1893	18.2	19.1	18.4	14.0	12.0	17.1	14.5	18.5	19.5	20.9	18.5	13.9	17.0
1894	19.2	33.9	20.0	17.4	19.0	20.0	26.3	21.0	22.5	17.0	21.9	12.0	20.8
1895	15.4	20.8	23.0	20.7	16.6	17.6	17.9	10.5	15.9	22.7	22.5	14.5	18.2
1896	25.4	23.6	21.8	17.2	20.6	11.7	15.6	18.1	17.8	17.5	13.1	13.8	18.0
1897	12.0	14.0	14.2	22.2	14.6	12.0	9.3	10.7	11.0	13.8	12.6	17.2	13.6
1898	13.5	15.1	20.5	13.4	15.1	14.3	13.5	14.6	21.5	14.1	13.6	13.0	15.2
1899	14.3	17.8	15.6	14.2	15.9	13.5	11.6	11.4	13.5	9.4	8.7	12.1	13.2
1900	13.5	8.9	12.5	7.2	9.6	4.7	5.2	6.0	5.2	7.1	5.4	5.4	7.6
1901	7.3	7.0	6.5	5.2	6.2	6.0	5.6	6.1	6.0	5.4	5.6	6.4	6.1
1902	6.1	7.6	5.9	7.9	5.6	5.4	6.3	6.2	7.0	7.2	7.6	6.1	6.6
1903	6.5	5.9	6.7	10.3	7.8	11.3	10.8	14.1	14.0	26.3	16.3	13.5	12.0
1904	15.1	12.6	8.7	13.1	13.0	10.5	10.8	10.2	11.2	13.0	11.6	10.6	11.7
1905	16.0	20.3	16.6	16.6	10.6	13.8	11.8	16.8	16.3	11.2	20.1	10.7	15.1
1906	7.6	17.5	14.0	11.6	11.4	11.3	12.4	12.0	14.2	12.7	9.6	16.4	12.6
1907	16.5	25.3	14.3	12.1	16.8	14.8	16.9	15.5	16.8	18.5	14.6	11.5	16.1
1908	13.6	17.0	23.2	15.6	18.9	12.5	10.4	18.2	31.6	15.8	17.4	11.4	17.1
1909	24.8	17.0	19.8	12.1	18.3	11.5	12.6	17.6	27.6	19.4	11.6	13.8	17.2
1910	12.8	14.6	20.9	19.7	17.2	13.7	10.8	20.2	19.2	24.4	17.9	19.5	17.6
1911	21.3	23.7	21.5	21.1	16.6	13.6	15.3	11.9	12.2	12.5	10.6	11.0	15.9
1912	7.6	8.0	7.7	9.4	9.6	8.4	7.8	10.5	9.8	9.5	9.4	9.4	8.9
1913	10.3	9.5	9.9	9.8	9.0	7.0	7.0	6.7	10.0	10.7	7.6	6.6	8.7
1914	7.1	7.3	10.1	13.5	8.1	10.3	12.9	14.9	11.8	13.3	13.4	9.3	11.0
1915	10.9	13.5	15.0	15.3	13.9	17.9	11.2	14.7	17.0	21.3	24.9	12.4	15.7
1916	16.0	11.6	25.0	19.2	20.2	15.7	19.7	21.4	22.4	24.5	24.0	18.9	19.9
1917	25.1	19.1	16.2	16.7	15.9	12.7	14.6	28.1	16.1	20.2	14.8	19.8	18.3
1918	17.8	21.3	19.7	20.5	18.8	15.6	17.4	22.2	28.4	26.4	23.1	28.1	21.6
1919	27.8	26.5	30.7	21.3	27.5	13.9	14.9	22.7	25.3	26.9	14.3	18.4	22.5
1920	16.7	14.1	28.5	17.8	17.7	12.4	14.0	14.8	25.7	17.3	15.1	17.0	17.6
1921	11.7	10.6	15.6	17.2	40.5	12.4	13.3	14.6	12.4	16.2	16.2	17.8	16.5
1922	18.0	18.6	24.1	23.5	18.3	18.6	20.0	20.7	19.7	20.1	13.1	10.4	18.8
1923	10.2	13.7	12.1	10.0	10.1	11.1	8.4	7.3	10.7	12.6	7.8	9.6	10.3
1924	13.6	10.9	12.9	7.3	10.2	12.3	9.7	6.9	12.6	8.7	9.3	7.9	10.2
1925	9.4	8.6	8.6	10.8	11.0	17.7	11.8	13.6	18.0	21.7	13.2	12.9	13.1
1926	27.1	26.2	27.6	27.1	19.6	16.2	11.4	13.2	22.7	23.3	11.9	13.3	20.0
1927	15.5	15.2	20.7	15.6	16.8	11.2	16.5	18.5	20.9	24.7	8.0	15.8	16.6
1928	10.1	13.5	11.3	12.8	23.6	20.2	27.8	15.9	19.6	23.4	18.2	15.6	17.7
1929	13.0	24.0	26.2	13.9	16.3	14.7	18.6	15.9	21.5	25.5	22.7	21.0	19.4
1930	20.9	27.9	30.9	38.2	36.4	33.3	28.3	33.3	28.8	29.3	18.8	17.2	28.6
1931	13.0	15.4	12.9	9.9	12.0	14.7	13.1	17.7	21.2	27.3	23.7	21.1	16.8
1932	20.2	21.4	27.9	28.2	22.2	11.8	12.4	19.1	19.1	17.2	13.8	15.3	19.0
1933	15.9	18.4	19.2	21.1	17.5	13.6	12.3	14.2	18.4	16.8	16.0	13.0	16.4
1934	11.5	14.9	20.0	11.3	11.4	10.0	10.3	17.4	17.6	11.6	9.5	15.5	13.4
1935	15.6	16.5	17.8	13.6	11.6	16.4	12.5	9.9	20.7	20.2	15.6	17.7	15.7
1936	17.4	19.8	15.5	22.1	17.5	19.8	18.0	10.2	9.8	15.4	18.0	12.0	16.3
1937	12.2	22.2	18.6	26.3	18.6	18.9	18.8	14.7	14.7	27.8	19.3	16.5	19.0
1938	46.6	26.0	20.4	26.1	23.7	14.8	19.7	19.9	24.7	24.0	17.8	19.5	23.6
1939	13.5	21.7	27.0	36.1	27.8	22.8	26.1	23.0	19.2	28.4	14.5	18.6	23.2
1940	24.8	20.1	43.9	22.4	20.0	23.6	18.4	18.4	20.1	21.9	25.1	23.7	23.5
1941	21.9	27.6	42.9	21.6	19.1	17.4	27.9	22.3	38.2	17.5	23.6	19.3	24.9
1942	14.6	18.8	32.4	24.4	14.2	14.6	23.0	21.9	25.8	30.3	22.8	18.4	21.8

TABLE 2a - continued

	J	F	M	A	M	J	J	A	S	O	N	D	year
1943	18.1	17.1	21.0	21.9	24.5	21.2	24.4	41.0	35.3	32.8	29.6	23.3	25.8
1944	21.2	17.9	26.6	21.6	16.1	14.9	11.1	16.5	17.5	17.2	11.2	21.8	17.8
1945	16.1	16.4	25.0	19.1	15.4	11.1	15.3	12.1	15.6	17.9	12.0	20.2	16.3
1946	19.2	30.2	43.5	25.0	24.1	22.3	28.6	16.7	41.7	19.6	19.3	14.3	25.4
1947	20.6	17.1	37.9	23.3	19.1	21.1	21.4	32.9	39.1	31.3	20.7	17.9	25.2
1948	20.8	21.0	24.2	17.7	23.7	15.0	16.2	28.3	22.0	36.1	23.1	23.0	22.6
1949	29.8	20.4	24.7	17.6	22.4	17.9	11.8	19.2	17.8	32.7	24.6	15.1	21.2
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969*	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970*	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971*	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972*	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973*	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974*	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975*	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976*	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.8	18.0	12.5	18.5	16.0	20.5	17.0	16.5	14.1	23.0	23.8	23.8	18.6

* The values given in this table for the years 1969 through 1976 are revised indices. See page XII of IAGA-Bulletin No. 32h for explanation.

TWELVE MONTH'S RUNNING MEAN VALUES OF aa-INDICES, 1868-1979

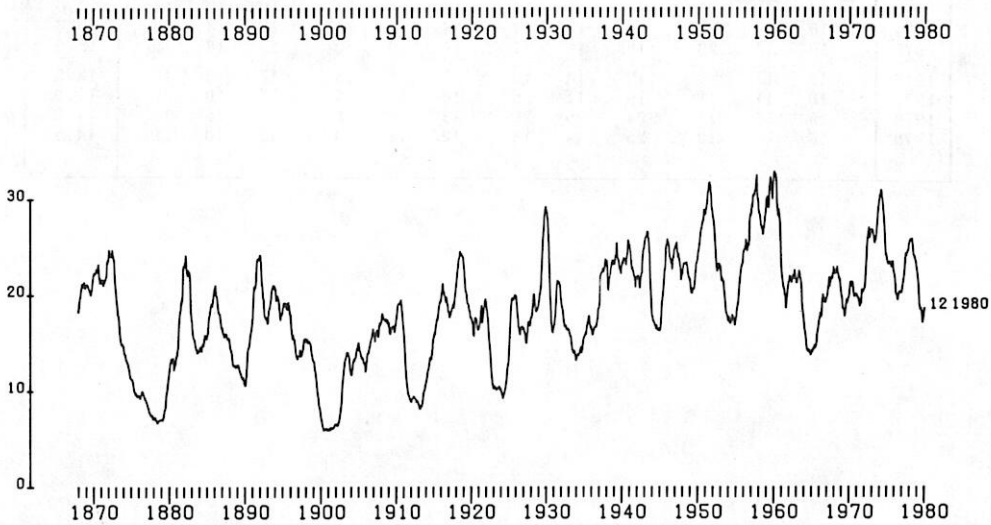


TABLE 2b MONTHLY Ap, 1932 - 1979

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
1932	11	12	18	17	15	7	7	12	12	10	8	9	11.5
1933	10	11	12	12	12	8	7	9	12	10	9	7	10.1
1934	6	8	11	6	7	5	6	9	10	6	5	8	7.2
1935	9	10	10	8	6	9	7	5	13	12	8	9	8.9
1936	9	11	9	15	10	12	11	5	5	9	10	5	9.1
1937	7	13	12	20	13	12	12	10	9	20	12	10	12.5
1938	28	16	13	18	18	9	13	12	17	16	10	11	15.3
1939	7	15	19	28	21	15	19	19	13	22	9	11	16.5
1940	15	12	36	18	13	16	12	11	14	14	16	15	16.1
1941	14	18	33	15	11	11	19	16	27	11	16	11	16.8
1942	9	12	22	17	8	8	13	13	17	22	15	11	13.8
1943	11	9	13	14	14	12	15	31	25	24	20	14	17.0
1944	13	12	17	15	9	8	6	9	10	11	6	14	10.8
1945	10	10	17	13	9	7	9	7	10	11	8	13	10.4
1946	12	22	33	20	18	16	22	11	34	13	12	9	18.6
1947	12	12	32	18	14	16	16	25	32	23	14	11	18.8
1948	12	13	17	13	19	10	10	20	15	27	16	13	15.4
1949	20	14	19	14	18	14	8	14	13	25	15	9	15.4
1950	12	18	14	18	16	14	14	25	22	28	20	16	18.1
1951	16	22	21	27	20	17	20	22	40	24	18	20	22.3
1952	19	26	33	34	27	18	15	13	23	20	12	15	21.2
1953	15	15	21	16	16	13	16	19	21	16	14	7	15.7
1954	9	16	16	14	7	6	8	10	17	15	9	6	11.0
1955	12	12	14	14	11	9	8	9	13	11	13	8	11.3
1956	18	15	20	27	26	17	13	15	18	14	24	10	18.0
1957	17	17	26	21	11	22	16	14	49	14	18	18	20.1
1958	15	27	26	20	17	24	25	18	20	16	8	15	19.2
1959	14	24	24	17	19	15	32	23	28	19	22	19	21.3
1960	15	14	18	42	24	20	20	20	20	36	32	21	23.6
1961	12	16	14	14	13	14	28	11	13	16	10	12	14.4
1962	7	11	8	14	7	9	12	15	19	20	13	13	12.3
1963	11	9	8	10	11	11	12	13	28	15	12	11	12.6
1964	12	12	13	13	10	9	9	8	11	10	7	5	9.9
1965	6	9	8	8	6	10	8	9	10	7	6	7	7.7
1966	7	8	13	7	9	6	9	11	21	11	9	11	10.2
1967	11	11	7	9	25	12	8	9	16	10	10	14	12.0
1968	11	16	13	13	13	17	10	12	14	16	17	10	13.5
1969	8	15	17	14	17	9	8	8	15	9	10	7	11.3
1970	7	7	18	15	9	10	19	13	11	12	12	9	11.9
1971	12	12	11	15	13	9	8	9	13	12	11	10	11.3
1972	13	10	12	11	10	14	8	24	13	12	14	10	12.6
1973	16	20	25	30	17	17	12	12	14	18	12	11	17.0
1974	15	16	23	21	18	17	24	19	23	26	18	15	19.6
1975	16	18	20	16	13	11	12	10	10	12	18	12	13.9
1976	13	17	23	17	14	10	9	9	13	12	9	10	12.9
1977	10	11	11	16	11	8	14	13	16	13	10	10	11.9
1978	15	16	17	24	25	20	13	17	18	12	15	13	17.0
1979	16	15	19	25	14	12	12	18	14	12	10	9	14.5

TABLE 3 INTERNATIONAL QUIET AND DISTURBED DAYS 1979

Month	Quietest Days 1-5					Quietest Days 6-10					Most Disturbed Days 1-5				
Jan	10	11	13K	17A	14A	8A	1A	12A	21A	18A	4	25	26	7	23
Feb	13	14	17	20	10	7	1	16A	8A	3A	21	22	23	27	26
Mar	14	21	20	12	7A	8A	18A	13A	15A	16A	29	10	28	22	6
Apr	20	19	11K	18	17A	9A	26A	10A	13A	7A	25	5	29	22	4
May	17	16	6	31	3	10A	4A	5A	8A	13A	22	25	24	26	19
Jun	5	3	28	1	18	2	4	19	12A	29A	7	6	22	23*	16*
Jul	31	25	2	11	24	22	10	23	9K	1A	7	29	6	27	20*
Aug	15	23	16	9	10A	17A	14A	5A	8A	11A	29	13	20	19	21
Sep	9	2	7K	8	19K	22	23A	13A	12A	15A	18	21	20	26*	25*
Oct	18	17	19	30	27	31	5	14	23	20	8	6	7	9	10*
Nov	28	5	22	6	15	23	26	29	18	27	13	24	9*	8*	1*
Dec	25	13	23	7	12	14	21	20	11	10	29	30	4*	28*	22*

These days are arranged according to their degree of quietness or disturbance, respectively.

Explanation: The selection of the quiet and disturbed days is made on the basis of three criteria: (a) the sum of the eight values of Kp. (b) the sum of the squares of these values. (c) the greatest of the eight values of Kp. According to each of these criteria, a relative "order number" is assigned to each day of a month, the three order numbers are averaged and the days with the lowest and the highest mean order numbers are selected as the five quietest, the ten quietest and the five most disturbed days.

It should be noted that these selection criteria give only a relative indication of the character of the selected days with respect to the other days of the same month. As the general disturbance level may be quite different for different years and even for different months of the same year, the selected quiet days of a month may sometimes be rather disturbed or vice versa. In order to indicate such a situation, selected days which do not satisfy certain absolute criteria are marked as follows:

A selected "quiet day" is considered not "really quiet" and marked by the letter A if for that day: $Ap > 6$, or marked by the letter K if $Ap \leqslant 6$, and one $Kp \geqslant 3o$ or two Kp values are $\geqslant 3-$.

A selected "disturbed day" is considered "not really disturbed" and marked by an asterisk if $Ap < 20$. (Ref.: P.N. Mayaud, Ann. Géophysique t. 26, 1969, pp. 901 - 921).

TABLE 4 PLANETARY THREE-HOUR-INDICES Kp, EQUIVALENT RANGES ap, DAILY AVERAGE RANGES Ap, AND PLANETARY DAILY CHARACTER FIGURES Cp.

	Kp	Sum	Jan 1979				ap				Sum	Ap	Cp
1	2o 3o 2- 2- 2+ 1o 1o 4o	17-	7	15	6	6	9	4	4	27	78	10	0.5
2	3- 1+ 2- 3+ 3+ 4- 5- 4+	25o	12	5	6	18	18	22	39	32	152	19	1.0
3	4o 4- 2+ 3+ 3o 3o 4o 3+	27-	27	22	9	18	15	15	27	18	151	19	1.0
4	4+ 5o 5- 4- 5- 5+ 6- 5+	39-	32	48	39	22	39	56	67	56	359	45	1.5
5	5+ 5o 3+ 3- 2o 3+ 3o 3-	27+	56	48	18	12	7	18	15	12	186	23	1.1
6	4- 2+ 2+ 3+ 4+ 4o 3o 2+	25+	22	9	9	18	32	27	15	9	141	18	1.0
7	1+ 1o 2+ 3+ 5- 5+ 6+ 4o	28+	5	4	9	18	39	56	94	27	252	32	1.3
8	3+ 2+ 3- 1o 1- 1+ 2o 2+	16-	18	9	12	4	3	5	7	9	67	8	0.5
9	3o 5- 3+ 2+ 3- 3- 2+ 2-	23-	15	39	18	9	12	12	9	6	120	15	0.8
10	1+ 1+ 1- 0+ 1- 0+ 2o 1o	8-	5	5	3	2	3	2	7	4	31	4	0.1
11	2o 2- 1- 2+ 2- 0+ 0o 0+	9o	7	6	3	9	6	2	0	2	35	4	0.2
12	1+ 3- 2+ 2o 3- 2o 2o 3+	18+	5	12	9	7	12	7	7	18	77	10	0.5
13	3+ 0o 1- 1o 1o 1o 1- 1-	8+	18	0	3	4	4	4	3	3	39	5	0.2
14	1- 2- 2+ 2+ 3- 3o 1+ 0+	14+	3	6	9	9	12	15	5	2	61	8	0.4
15	1o 2o 2o 4- 3+ 3o 4o 4-	23-	4	7	7	22	18	15	27	22	122	15	0.9
16	3+ 4- 3o 3- 3- 2- 1- 2-	19+	18	22	15	12	12	6	3	6	94	12	0.7
17	0+ 1o 0+ 2- 3- 2+ 2+ 3-	13+	2	4	2	6	12	9	9	12	56	7	0.4
18	3o 3o 1+ 3- 3- 3o 2+ 2o	20o	15	15	5	12	12	15	9	7	90	11	0.6
19	4+ 5o 3- 3+ 3- 2+ 2+ 3-	25+	32	48	12	18	12	9	9	12	152	19	1.0
20	3o 3o 3o 2+ 2+ 3- 3- 1+	20+	15	15	15	9	9	12	12	5	92	12	0.7
21	3o 3- 2o 3o 3o 3- 2o 2-	20o	15	12	7	15	15	12	7	6	89	11	0.6
22	0o 1- 1+ 2o 3o 1+ 4+ 5o	18-	0	3	5	7	15	5	32	48	115	14	0.8
23	3o 2o 2+ 4+ 4+ 4o 5+ 5-	30o	15	7	9	32	32	27	56	39	217	27	1.2
24	6- 5- 3- 3+ 2+ 3- 3- 3-	27-	67	39	12	18	9	12	12	12	181	23	1.1
25	6- 6- 4- 4- 4o 4- 4o 3+	34-	67	67	22	22	27	22	27	18	272	34	1.3
26	4+ 4- 3o 3+ 3o 4+ 4+ 5+	31+	32	22	15	18	15	32	32	56	222	28	1.2
27	4- 5o 4- 3- 2+ 3o 4- 4+	28+	22	48	22	12	9	15	22	32	182	23	1.1
28	2+ 3o 3- 3+ 3o 2+ 3+ 2o	22o	9	15	12	18	15	9	18	7	103	13	0.7
29	3o 3o 3- 2+ 3+ 2+ 3- 3o	22+	15	15	12	9	18	9	12	15	105	13	0.8
30	3+ 3- 3+ 3o 3+ 2+ 3o 4o	25o	18	12	18	15	18	9	15	27	132	16	0.9
31	3o 3- 3- 3+ 3o 2- 3- 3-	22-	15	12	12	18	15	6	12	12	102	13	0.7

	Kp	Sum	Feb 1979				ap				Sum	Ap	Cp
1	2+ 2+ 2o 2+ 1+ 1- 1- 2-	13+	9	9	7	9	5	3	3	6	51	6	0.3
2	3- 3- 3- 3- 2- 2- 2+ 2o	18+	12	12	12	12	6	6	9	7	76	10	0.5
3	2o 2- 0+ 0+ 1+ 2o 4o 3+	15o	7	6	2	2	5	7	27	18	74	9	0.5
4	4- 4- 3o 3+ 3+ 4+ 3o 2+	27-	22	22	15	18	18	32	15	9	151	19	1.0
5	4- 2+ 3- 3o 2- 0+ 0+ 2o	16o	22	9	12	15	6	2	2	7	75	9	0.5
6	2+ 4o 3o 3- 3o 2o 3- 4o	24-	9	27	15	12	15	7	12	27	124	16	0.9
7	2- 1o 1- 2- 2- 2o 2o 2+	13o	6	4	3	6	6	7	7	9	48	6	0.3
8	3- 2+ 2- 3- 1+ 2+ 2+ 2+	18-	12	9	6	12	5	9	9	9	71	9	0.5
9	3- 2+ 2o 3- 2+ 2+ 2- 2o	18o	12	9	7	12	9	9	6	7	71	9	0.5
10	2o 2- 2- 1+ 2o 1+ 2- 2-	13+	7	6	6	5	7	5	6	6	48	6	0.3
11	4o 4o 2- 2+ 2o 1- 2o 3-	19+	27	27	6	9	7	3	7	12	98	12	0.7
12	4- 4o 4- 4- 4o 2+ 1+ 1-	23+	22	27	22	22	27	9	5	3	137	17	0.9
13	0+ 0+ 1o 1o 1- 0+ 0+ 0+	4+	2	2	4	4	3	2	2	2	21	3	0.0
14	0+ 0o 0o 1o 0o 1- 1- 2-	4+	2	0	0	4	0	3	3	6	18	2	0.0
15	1+ 2o 4- 3o 3o 3o 2o 1-	19-	5	7	22	15	15	15	7	3	89	11	0.6
16	1+ 3+ 2o 2+ 2o 1- 1o 0+	13o	5	18	7	9	7	3	4	2	55	7	0.3
17	0+ 1- 1+ 1+ 1o 2o 1+ 2-	10-	2	3	5	5	4	7	5	6	37	5	0.2
18	2- 4+ 4- 4o 3- 2+ 4+ 4+	27+	6	32	22	27	12	9	32	32	172	22	1.1
19	4+ 3o 3- 2+ 4o 2+ 3- 2o	23+	32	15	12	9	27	9	12	7	123	15	0.9
20	2- 2- 2- 1- 1- 1+ 2o 3-	12+	6	6	6	3	3	5	7	12	48	6	0.3
21	2+ 5+ 7- 5o 4+ 5+ 6+ 6-	41o	9	56	111	48	32	56	94	67	473	59	1.7
22	4+ 4- 5- 5o 5o 5- 3+ 3+	34o	32	22	39	48	48	39	18	18	264	33	1.3
23	5o 5o 5- 4o 4o 3o 3+ 4o	33o	48	48	39	27	27	15	18	27	249	31	1.3
24	3+ 3o 3- 3+ 3o 4- 3+ 3+	26-	18	15	12	18	15	22	18	18	136	17	0.9
25	2+ 4o 4- 2o 3- 2- 3- 3+	22+	9	27	22	7	12	6	12	18	113	14	0.8
26	4- 4- 3- 3- 3+ 4+ 4+ 4o	29-	22	22	12	12	18	32	32	27	177	22	1.1
27	6- 5- 3o 3+ 4- 3+ 2+ 2o	28o	67	39	15	18	22	18	9	7	195	24	1.2
28	4- 2o 2- 3o 4- 4+ 4- 3-	25-	22	7	6	15	22	32	22	12	138	17	0.9

TABLE 4 PLANETARY THREE-HOUR-INDICES Kp, EQUIVALENT RANGES ap, DAILY AVERAGE RANGES Ap, AND PLANETARY DAILY CHARACTER FIGURES Cp.

	Kp	Sum	Mar 1979				ap				Sum	Ap	Cp
1	4o 3+ 2+ 2+ 2+ 2+ 3- 2o	21+	27	18	9	9	9	9	12	7	100	12	0.7
2	4o 4o 3o 4- 3+ 3- 3o 4-	27+	27	27	15	22	18	12	15	22	158	20	1.0
3	4- 1+ 3- 2o 3- 3+ 3o 3-	21+	22	5	12	7	12	18	15	12	103	13	0.7
4	4o 3+ 3+ 5- 4+ 3o 3+ 5o	31o	27	18	18	39	32	15	18	48	215	27	1.2
5	3o 4o 3+ 3o 2- 1+ 3- 2o	21o	15	27	18	15	6	5	12	7	105	13	0.8
6	3+ 3+ 4o 5- 5- 5- 4+ 4o	33o	18	18	27	39	39	39	32	27	239	30	1.3
7	3- 3o 1+ 0+ 0+ 1o 2- 2o	12+	12	15	5	2	2	4	6	7	53	7	0.3
8	2o 2o 1+ 3- 2o 1o 1+ 2-	14o	7	7	5	12	7	4	5	6	53	7	0.3
9	3+ 2- 3+ 4- 3o 2+ 3- 3+	23+	18	6	18	22	15	9	12	18	118	15	0.8
10	5o 5- 4+ 4+ 4o 4+ 6+ 7o	40o	48	39	32	32	27	32	94	132	436	54	1.6
11	5+ 3+ 3+ 3o 3+ 3- 2- 0o	23-	56	18	18	15	18	12	6	0	143	18	1.0
12	1o 2- 3- 2- 0+ 1+ 2+ 0+	11+	4	6	12	6	2	5	9	2	46	6	0.3
13	1+ 3o 3- 2o 1+ 2o 0+ 1-	13+	5	15	12	7	5	7	2	3	56	7	0.4
14	1- 1- 0+ 0+ 0+ 0+ 1o 1o	5-	3	3	2	2	2	2	4	4	22	3	0.0
15	1- 1+ 1o 1o 2+ 3- 3- 3-	14+	3	5	4	4	9	12	12	12	61	8	0.4
16	3o 3- 2+ 3o 3o 2+ 1+ 2o	20-	15	12	9	15	15	9	5	7	87	11	0.6
17	3o 3o 6- 4o 3o 3- 2o 3-	26o	15	15	67	27	15	12	7	12	170	21	1.1
18	2+ 3- 2o 2o 3- 1+ 0+ 0o	13+	9	12	7	7	12	5	2	0	54	7	0.3
19	0o 0+ 3- 3+ 3+ 3+ 3o 2-	18-	0	2	12	18	18	18	15	6	89	11	0.6
20	1+ 2o 2o 2- 1+ 1+ 1+ 2-	13-	5	7	7	6	5	5	5	6	46	6	0.3
21	0o 0+ 2- 1o 1+ 1o 2+ 2-	9+	0	2	6	4	5	4	9	6	36	4	0.2
22	1- 1- 4o 6- 7- 7- 4- 3o	31o	3	3	27	67	111	111	22	15	359	45	1.5
23	4- 3+ 3o 2- 2o 2+ 2+ 2+	21-	22	18	15	6	7	9	9	9	95	12	0.7
24	2+ 3- 4o 3+ 2+ 2+ 3- 4-	23+	9	12	27	18	9	9	12	22	118	15	0.8
25	3+ 4o 4- 3+ 3o 3+ 3+ 4+	28+	18	27	22	18	15	18	18	32	168	21	1.1
26	4+ 4- 4- 3+ 4- 5- 4o 4-	31o	32	22	22	18	22	39	27	22	204	26	1.2
27	1+ 3o 3o 3+ 3+ 4- 4- 4o	25+	5	15	15	18	18	22	22	27	142	18	1.0
28	4o 4- 4o 5+ 6- 5- 3o 5+	36-	27	22	27	56	67	39	15	56	309	39	1.4
29	6o 5o 6+ 5+ 5- 6o 7- 5-	45-	80	48	94	56	39	80	111	39	547	68	1.7
30	5o 4+ 3o 1+ 2+ 2- 2o 2-	21+	48	32	15	5	9	6	7	6	128	16	0.9
31	3o 3+ 2- 2- 3o 3+ 3+ 5+	25-	15	18	6	6	15	18	18	56	152	19	1.0

	Kp	Sum	Apr 1979				ap				Sum	Ap	Cp
1	4+ 5- 3o 4o 4+ 3+ 2+ 6+	32+	32	39	15	27	32	18	9	94	266	33	1.3
2	6+ 5o 3+ 4- 4- 5- 4- 4-	34o	94	48	18	22	22	39	22	22	287	36	1.4
3	3o 2+ 3- 3- 3- 5+ 7- 8o	33+	15	9	12	12	12	56	111	207	434	54	1.6
4	7- 6+ 5+ 5+ 5- 2o 2- 2+	34+	111	94	56	56	39	7	6	9	378	47	1.5
5	4+ 4o 5- 6o 7- 6+ 4- 3-	38+	32	27	39	80	111	94	22	12	417	52	1.6
6	4- 3- 3o 1+ 3- 3+ 2+ 2o	21o	22	12	15	5	12	18	9	7	100	12	0.7
7	2+ 3o 3o 3- 2- 2+ 2+ 3+	21-	9	15	15	12	6	9	9	18	93	12	0.7
8	3+ 3- 2+ 2o 2- 2+ 3o 3+	21-	18	12	9	7	6	9	15	18	94	12	0.7
9	4o 3+ 1o 1- 1+ 2- 2- 1+	15o	27	18	4	3	5	6	6	5	74	9	0.5
10	1o 3- 3+ 2+ 3o 3o 3- 2o	20o	4	12	18	9	15	15	12	7	92	12	0.7
11	1- 1o 1+ 1+ 1+ 3o 1+ 2o	12o	3	4	5	5	5	15	5	7	49	6	0.3
12	2o 3o 3o 3+ 2+ 3o 3o 4o	24-	7	15	15	18	9	15	15	27	121	15	0.9
13	2+ 2+ 2+ 3- 3+ 3+ 2- 2+	20+	9	9	9	12	18	18	6	9	90	11	0.6
14	2+ 2+ 2o 3- 3- 4- 3- 5-	23o	9	9	7	12	12	22	12	39	122	15	0.9
15	4o 3o 2o 3- 4+ 3+ 3- 3+	25+	27	15	7	12	32	18	12	18	141	18	1.0
16	4o 5- 3+ 3o 2+ 3- 2o 1o	23o	27	39	18	15	9	12	7	4	131	16	0.9
17	3o 3- 3o 2+ 2o 2- 3- 2+	20-	15	12	15	9	7	6	12	9	85	11	0.6
18	2o 2o 1+ 2+ 1o 1o 1+ 2-	13-	7	7	5	9	4	4	5	6	47	6	0.3
19	1o 2o 2- 1o 1o 2+ 1+ 1+	12-	4	7	6	4	4	9	5	5	44	6	0.2
20	1- 0o 1- 0+ 0+ 1- 1- 0+	4-	3	0	3	2	2	3	3	2	18	2	0.0
21	1o 2- 2+ 3- 4o 4+ 4o 5o	25o	4	6	9	12	27	32	27	48	165	21	1.1
22	6- 6- 4o 5o 4+ 5o 5- 4+	39-	67	67	27	48	32	48	39	32	360	45	1.5
23	5o 5o 3+ 3+ 3+ 3+ 3- 2o	28o	48	48	18	18	18	18	12	7	187	23	1.1
24	3+ 3+ 3+ 2+ 2+ 2o 2- 4o	22+	18	18	18	9	9	7	6	27	112	14	0.8
25	8- 8o 8- 7o 7o 5o 6- 6-	54-	179	207	179	132	132	48	67	67	1011	126	1.9
26	4o 2+ 1o 2o 1o 3- 3o 3o	19o	27	9	4	7	4	12	15	15	93	12	0.7
27	3+ 3+ 3o 3- 3+ 5o 5- 5o	30+	18	18	15	12	18	48	39	48	216	27	1.2
28	5- 4o 5+ 4+ 4- 3+ 4o 4o	33+	39	27	56	32	22	18	27	27	248	31	1.3
29	4o 5+ 5+ 4+ 4+ 5+ 5o 6-	39+	27	56	56	32	32	56	48	67	374	47	1.5
30	5+ 4+ 3+ 4+ 4+ 3o 3o 3-	30+	56	32	18	32	32	15	15	12	212	26	1.2

TABLE 4 PLANETARY THREE-HOUR-INDICES Kp, EQUIVALENT RANGES ap, DAILY AVERAGE RANGES Ap, AND PLANETARY DAILY CHARACTER FIGURES Cp.

	Kp	Sum	May 1979				ap				Sum	Ap	Cp
1	3+ 4+ 3+ 3+ 1+ 3- 3o 4o	25+	18	32	18	18	5	12	15	27	145	18	1.0
2	5- 4- 3- 2+ 2+ 3- 2o 1o	21+	39	22	12	9	9	12	7	4	114	14	0.8
3	2+ 2- 1- 1+ 2o 2- 2o 2o	14-	9	6	3	5	7	6	7	7	50	6	0.3
4	2+ 1o 1- 1+ 1o 2- 3o 2+	13+	9	4	3	5	4	6	15	9	55	7	0.3
5	2o 2o 1+ 2o 1+ 3- 2o 1+	15-	7	7	5	7	5	12	7	5	55	7	0.3
6	1+ 1o 2- 1+ 2o 2o 1o 2o	12+	5	4	6	5	7	7	4	7	45	6	0.3
7	2o 1+ 1+ 3o 4- 3- 3o 2o	19o	7	5	5	15	22	12	15	7	88	11	0.6
8	1o 2+ 3o 2- 2o 2o 1+ 2o	15+	4	9	15	6	7	7	5	7	60	8	0.4
9	1o 2+ 3- 3+ 3+ 3o 4o 2+	22o	4	9	12	18	18	15	27	9	112	14	0.8
10	2- 1o 1o 1+ 2o 3o 2o 2-	14-	6	4	4	5	7	15	7	6	54	7	0.3
11	3- 2+ 4+ 3o 4o 4o 3o 3+	27-	12	9	32	15	27	27	15	18	155	19	1.0
12	2+ 2+ 2- 3- 3o 2+ 2o 2o	18+	9	9	6	12	15	9	7	7	74	9	0.5
13	2o 2o 2+ 2- 2+ 3- 2o 1+	16+	7	7	9	6	9	12	7	5	62	8	0.4
14	2o 2+ 2o 2+ 4- 3+ 2+ 2o	20o	7	9	7	9	22	18	9	7	88	11	0.6
15	2+ 2+ 3- 2+ 3+ 3o 2+ 2+	21-	9	9	12	9	18	15	9	9	90	11	0.6
16	2o 2+ 2o 1- 0+ 1- 2o 1+	11+	7	9	7	3	2	3	7	5	43	5	0.2
17	2- 1o 1+ 1- 1- 0+ 1- 0o	6+	6	4	5	3	3	2	3	0	26	3	0.1
18	2- 1- 1- 1+ 2+ 2+ 4+ 4-	17o	6	3	3	5	9	9	32	22	89	11	0.6
19	5- 4o 3- 4- 4o 3+ 4- 4-	30-	39	27	12	22	27	18	22	22	189	24	1.1
20	3- 4o 3- 2+ 2+ 2+ 2+ 3o	22-	12	27	12	9	9	9	9	15	102	13	0.7
21	1- 1- 3- 2o 4- 3- 4o 3+	20-	3	3	12	7	22	12	27	18	104	13	0.7
22	4+ 4- 4o 5- 3+ 5o 5+ 5o	35+	32	22	27	39	18	48	56	48	290	36	1.4
23	3+ 3o 1o 1o 1- 1- 4- 3+	17-	18	15	4	4	3	3	22	18	87	11	0.6
24	4- 3+ 4+ 4o 4o 3+ 4+ 5o	32o	22	18	32	27	27	18	32	48	224	28	1.2
25	4+ 5+ 4o 3+ 4+ 5- 5o 4-	35-	32	56	27	18	32	39	48	22	274	34	1.4
26	5- 4+ 4- 3+ 4o 5- 3o 3o	31-	39	32	22	18	27	39	15	15	207	26	1.2
27	3o 4- 4- 3+ 3+ 3- 3o 3-	25+	15	22	22	18	18	12	15	12	134	17	0.9
28	3o 2o 2- 0+ 2o 3o 4o 2+	18+	15	7	6	2	7	15	27	9	88	11	0.6
29	2o 1o 1+ 2- 2- 2+ 6- 7o	23-	7	4	5	6	6	9	67	132	236	30	1.3
30	3+ 4- 3o 2- 2- 2- 1o 1-	17-	18	22	15	6	6	6	4	3	80	10	0.6
31	0+ 1o 0+ 2+ 2- 2o 3- 1-	11o	2	4	2	9	6	7	12	3	45	6	0.3

	Kp	Sum	Jun 1979				ap				Sum	Ap	Cp
1	1- 1o 1o 1o 1- 1+ 1o 3-	9+	3	4	4	4	3	5	4	12	39	5	0.2
2	2- 2- 1- 2o 1+ 1o 1- 3-	12-	6	6	3	7	5	4	3	12	46	6	0.3
3	1- 0+ 0+ 1o 1+ 1+ 1+ 2-	8o	3	2	2	4	5	5	5	6	32	4	0.1
4	1+ 2- 2- 2o 2o 1+ 2o 1-	13-	5	6	6	7	7	5	7	3	46	6	0.3
5	1o 1o 2- 1o 1+ 1- 1- 1-	8o	4	4	6	4	5	3	3	3	32	4	0.1
6	1o 1+ 1- 3- 4- 3o 7o 6o	25+	4	5	3	12	22	15	132	80	273	34	1.3
7	4- 5o 5- 2- 3o 4+ 4+ 3+	30o	22	48	39	6	15	32	32	18	212	26	1.2
8	3o 3- 2+ 3- 3- 3o 4- 3-	23-	15	12	9	12	12	15	22	12	109	14	0.8
9	2+ 3- 2+ 3+ 3+ 4- 4- 3-	24o	9	12	9	18	18	22	22	12	122	15	0.9
10	2+ 3- 3o 3o 3o 3+ 3+ 2+	23o	9	12	15	15	15	18	18	9	111	14	0.8
11	2+ 3o 2+ 2o 3o 3- 2- 2o	19o	9	15	9	7	15	12	6	7	80	10	0.6
12	2o 2+ 2- 1- 1o 1- 3o 2o	13+	7	9	6	3	4	3	15	7	54	7	0.3
13	1+ 1o 0+ 1+ 3- 3o 2+ 3-	15-	5	4	2	5	12	15	9	12	64	8	0.4
14	2+ 2+ 2- 2- 2- 2+ 2- 1+	15o	9	9	6	6	6	9	6	5	56	7	0.4
15	1o 2+ 3- 1+ 3- 2+ 3- 3o	18o	4	9	12	5	12	9	12	15	78	10	0.5
16	3- 3- 3+ 2+ 4o 3- 4- 3o	24+	12	12	18	9	27	12	22	15	127	16	0.9
17	2+ 3+ 2+ 2o 4- 4o 3o 2o	23-	9	18	9	7	22	27	15	7	114	14	0.8
18	1+ 2+ 2- 1+ 1o 2- 2- 1+	12+	5	9	6	5	4	6	6	5	46	6	0.3
19	1+ 3- 2o 1+ 1+ 1+ 1+ 2-	13o	5	12	7	5	5	5	5	6	50	6	0.3
20	2- 1o 2o 1o 2+ 2+ 3- 3-	16-	6	4	7	4	9	9	12	12	63	8	0.4
21	2- 2+ 3o 2+ 3o 3+ 4o 4-	23+	6	9	15	9	15	18	27	22	121	15	0.9
22	4o 2o 3+ 3- 4- 4+ 5+ 3+	29-	27	7	18	12	22	32	56	18	192	24	1.2
23	3o 4- 4o 4- 3- 3- 3- 4o	26+	15	22	27	22	12	12	12	27	149	19	1.0
24	3- 3+ 3o 2o 2- 1+ 2o 2o	18o	12	18	15	7	6	5	7	7	77	10	0.5
25	2+ 3- 2+ 2o 2- 1+ 3o 2-	17o	9	12	9	7	6	5	15	6	69	9	0.5
26	0+ 1o 2- 2o 5o 4+ 4+ 4o	23-	2	4	6	7	48	32	32	27	158	20	1.0
27	3o 3- 2+ 3- 3- 3- 1+ 0+	18-	15	12	9	12	12	12	5	2	79	10	0.6
28	0+ 1o 2o 1- 1- 1- 2- 1+	8+	2	4	7	3	3	3	6	5	33	4	0.1
29	1+ 0+ 0+ 1+ 2o 2o 3+ 2+	13o	5	2	2	5	7	7	18	9	55	7	0.3
30	2o 2- 2- 2- 2- 4- 2+ 3o	18-	7	6	6	6	6	22	9	15	77	10	0.5

TABLE 4 PLANETARY THREE-HOUR-INDICES Kp, EQUIVALENT RANGES ap, DAILY AVERAGE RANGES Ap, AND PLANETARY DAILY CHARACTER FIGURES Cp.

	Kp	Sum	Jul		1979		ap				Sum	Ap	Cp
1	2o 2- 3- 2- 1+ 2+ 2- 1+	15-	7	6	12	6	5	9	6	5	56	7	0.4
2	2- 1- 0+ 1- 1o 1o 1+ 1o	8-	6	3	2	3	4	4	5	4	31	4	0.1
3	1- 1- 2+ 4+ 4- 3o 3o 3o	21-	3	3	9	32	22	15	15	15	114	14	0.8
4	3o 3+ 3o 2- 1+ 1- 1o 1+	15+	15	18	15	6	5	3	4	5	71	9	0.5
5	1- 2- 2+ 2+ 2+ 3o 3o 2+	18-	3	6	9	9	9	15	15	9	75	9	0.5
6	1o 2o 3- 4o 3- 2+ 6o 4o	25-	4	7	12	27	12	9	80	27	178	22	1.1
7	4o 4o 3o 2+ 5+ 5+ 3+ 2+	30-	27	27	15	9	56	56	18	9	217	27	1.2
8	2o 2+ 2+ 2o 2+ 3o 2+ 2+	19-	7	9	9	7	9	15	9	9	74	9	0.5
9	1o 2- 1+ 1o 1+ 3o 1+ 1+	12o	4	6	5	4	5	15	5	5	49	6	0.3
10	1o 2- 1- 1- 2o 1+ 2+ 2o	12-	4	6	3	3	7	5	9	7	44	6	0.2
11	1o 1+ 1+ 1+ 1- 1- 1o 1o	8+	4	5	5	5	3	3	4	4	33	4	0.1
12	1- 1o 0+ 1o 3- 4o 4o 2+	16o	3	4	2	4	12	27	27	9	88	11	0.6
13	3- 3- 2+ 2+ 4- 5- 3o 2-	23o	12	12	9	9	22	39	15	6	124	16	0.9
14	2o 1+ 1o 2+ 3- 2- 5- 4+	20o	7	5	4	9	12	6	39	32	114	14	0.8
15	4- 4- 3o 3- 3- 3- 3o 2+	24-	22	22	15	12	12	12	15	9	119	15	0.8
16	3o 2+ 3- 1+ 2o 2+ 3o 3+	20o	15	9	12	5	7	9	15	18	90	11	0.6
17	3+ 3o 2- 3- 3o 2+ 2+ 4+	23-	18	15	6	12	15	9	9	32	116	14	0.8
18	3+ 3o 3+ 3- 3- 2+ 3- 4-	24-	18	15	18	12	12	9	12	22	118	15	0.8
19	4- 3+ 2+ 1o 2+ 2- 2- 3o	19o	22	18	9	4	9	6	6	15	89	11	0.6
20	1o 2+ 2o 4o 5- 3o 3+ 4o	24+	4	9	7	27	39	15	18	27	146	18	1.0
21	2+ 2+ 2- 3- 2o 2o 3- 3-	18+	9	9	6	12	7	7	12	12	74	9	0.5
22	2- 2- 2- 1o 1o 2- 2+ 1o	12o	6	6	6	4	4	6	9	4	45	6	0.3
23	1- 2+ 1+ 1o 1+ 1+ 2o 2o	12o	3	9	5	4	5	5	7	7	45	6	0.3
24	2+ 2- 1o 1- 2- 1+ 1o 2-	11+	9	6	4	3	6	5	4	6	43	5	0.2
25	1+ 1+ 1- 0+ 0+ 1- 1- 1-	6o	5	5	3	2	2	3	3	3	26	3	0.1
26	1- 1o 2- 1+ 1+ 2- 5- 6-	18o	3	4	6	5	5	6	39	67	135	17	0.9
27	5+ 4+ 2- 3o 2+ 5- 3o 3o	27+	56	32	6	15	9	39	15	15	187	23	1.1
28	4+ 3o 0+ 1- 1- 2- 2o 3o	16-	32	15	2	3	3	6	7	15	83	10	0.6
29	3- 3- 3+ 3o 4o 4o 5o 4+	29o	12	12	18	15	27	27	48	32	191	24	1.2
30	3o 2o 2- 3o 3- 2+ 2o 1o	18-	15	7	6	15	12	9	7	4	75	9	0.5
31	0+ 1+ 1- 1- 0+ 0+ 0+ 0+	4+	2	5	3	3	2	2	2	2	21	3	0.0

	Kp	Sum	Aug		1979		ap				Sum	Ap	Cp
1	0+ 0+ 1- 4- 5- 4- 3o 4-	20o	2	2	3	22	39	22	15	22	127	16	0.9
2	3o 3o 3+ 3o 1+ 2+ 2o 1-	19-	15	15	18	15	5	9	7	3	87	11	0.6
3	2o 3o 3o 3+ 2o 2- 1o 2+	18+	7	15	15	18	7	6	4	9	81	10	0.6
4	2+ 3+ 3+ 3- 3+ 3- 4o 3-	24+	9	18	18	12	18	12	27	12	126	16	0.9
5	1o 3- 2o 1+ 1- 2+ 3- 2+	15o	4	12	7	5	3	9	12	9	61	8	0.4
6	3o 3+ 4o 4o 4o 3+ 2o 2o	26-	15	18	27	27	27	18	7	7	146	18	1.0
7	2o 2o 3o 2o 2o 2+ 3+ 3-	19+	7	7	15	7	7	9	18	12	82	10	0.6
8	2o 2o 2- 2- 2o 2o 3- 2o	16o	7	7	6	6	7	7	12	7	59	7	0.4
9	2+ 2o 2- 2o 2o 2+ 1+ 0+	14o	9	7	6	7	7	9	5	2	52	6	0.3
10	1- 1+ 1o 2- 2o 2o 3o 3-	14+	3	5	4	6	7	7	15	12	59	7	0.4
11	2+ 2- 1+ 2o 2+ 2- 3+ 3+	18o	9	6	5	7	9	6	18	18	78	10	0.5
12	3o 2o 2+ 4o 2- 2- 4- 5+	24-	15	7	9	27	6	6	22	56	148	18	1.0
13	3o 1o 3+ 7- 7+ 7- 7o 6-	41-	15	4	18	111	154	111	132	67	612	76	1.8
14	3+ 2- 1+ 1o 2- 2o 2o 2-	15-	18	6	5	4	6	7	7	6	59	7	0.4
15	1- 1+ 1o 1- 1o 1+ 1+ 2o	9+	3	5	4	3	4	5	5	7	36	4	0.2
16	1+ 1+ 2+ 1+ 2- 1- 1- 1+	11-	5	5	9	5	6	3	3	5	41	5	0.2
17	2o 1+ 2o 1- 1- 3o 3+ 1o	14o	7	5	7	3	3	15	18	4	62	8	0.4
18	1+ 1- 1o 1o 2+ 2+ 2+ 5o	16o	5	3	4	4	9	9	9	48	91	11	0.7
19	6- 5o 4+ 5o 4+ 4- 3- 4-	34+	67	48	32	48	32	22	12	22	283	35	1.4
20	3+ 3- 4- 3- 3+ 7o 6+ 4+	33+	18	12	22	12	18	132	94	32	340	42	1.5
21	5o 4o 4- 3+ 3+ 3- 4- 2+	28o	48	27	22	18	18	12	22	9	176	22	1.1
22	3o 3- 3- 2+ 3o 3o 3- 2o	21+	15	12	12	9	15	15	12	7	97	12	0.7
23	0+ 1o 2- 1+ 2o 1o 2- 1o	10o	2	4	6	5	7	4	6	4	38	5	0.2
24	1- 1- 1+ 2- 2+ 5- 4o 3-	18o	3	3	5	6	9	39	27	12	104	13	0.7
25	2- 2- 3o 4+ 4- 4o 5- 4+	27+	6	6	15	32	22	27	39	32	179	22	1.1
26	4- 3o 3+ 3- 3o 2+ 4- 1+	23o	22	15	18	12	15	9	22	5	118	15	0.8
27	2- 3o 3+ 3o 2o 3+ 3- 1+	20+	6	15	18	15	7	18	12	5	96	12	0.7
28	3o 3- 2+ 3o 2+ 2o 1- 3-	19-	15	12	9	15	9	7	3	12	82	10	0.6
29	3o 5- 5+ 5+ 6o 8- 7- 6o	45-	15	39	56	56	80	179	111	80	616	77	1.8
30	5- 4o 3+ 3- 2- 2- 2- 1+	21o	39	27	18	12	6	6	6	5	119	15	0.8
31	1o 1+ 2o 3o 4o 3- 3- 3o	20-	4	5	7	15	27	12	12	15	97	12	0.7

TABLE 4 PLANETARY THREE-HOUR-INDICES Kp, EQUIVALENT RANGES ap, DAILY AVERAGE RANGES Ap, AND PLANETARY DAILY CHARACTER FIGURES Cp.

	Kp	Sum	Sep 1979				ap				Sum	Ap	Cp
1	2o 1o 1- 1+ 2- 2+ 4o 3o	16o	7	4	3	5	6	9	27	15	76	10	0.5
2	2+ 1o 1+ 1+ 1o 2- 1o 2-	11+	9	4	5	5	4	6	4	6	43	5	0.2
3	3+ 2+ 2+ 2+ 3- 1+ 2+ 1o	18-	18	9	9	9	12	5	9	4	75	9	0.5
4	1o 2+ 3o 3- 2+ 3- 3o 2o	19o	4	9	15	12	9	12	15	7	83	10	0.6
5	4- 3+ 3- 3o 3+ 3+ 4- 3-	26-	22	18	12	15	18	18	22	12	137	17	0.9
6	4- 4+ 3+ 2+ 3o 3- 1- 2-	22-	22	32	18	9	15	12	3	6	117	15	0.8
7	2o 3o 1+ 1- 1- 1- 1+ 1-	10+	7	15	5	3	3	3	5	3	44	6	0.2
8	1+ 1o 3- 2o 1+ 1o 2o 2-	13o	5	4	12	7	5	4	7	6	50	6	0.3
9	2o 1+ 2- 0+ 1o 1o 1+ 2-	10+	7	5	6	2	4	4	5	6	39	5	0.2
10	2+ 3- 1+ 2o 2- 3- 2+ 2+	17+	9	12	5	7	6	12	9	9	69	9	0.5
11	2+ 2- 3- 4o 3o 4- 2+ 2+	22o	9	6	12	27	15	22	9	9	109	14	0.8
12	3- 1o 1- 1- 1+ 2o 2+ 4-	14+	12	4	3	3	5	7	9	22	65	8	0.4
13	3o 3o 1- 1o 2+ 1+ 1+ 2+	15o	15	15	3	4	9	5	5	9	65	8	0.4
14	1+ 1+ 2o 1+ 0+ 2- 4+ 3+	16-	5	5	7	5	2	6	32	18	80	10	0.6
15	3- 2o 1o 2+ 3- 2o 2o 2-	16+	12	7	4	9	12	7	7	6	64	8	0.4
16	3+ 3o 2+ 4- 3+ 2+ 2o 3+	23+	18	15	9	22	18	9	7	18	116	14	0.8
17	3- 2+ 2- 2+ 2o 3- 2- 4o	19+	12	9	6	9	7	12	6	27	88	11	0.6
18	6- 5- 7o 6+ 6- 6o 4o 2+	42-	67	39	132	94	67	80	27	9	515	64	1.7
19	2- 1+ 1o 1o 1+ 1o 3- 3-	13-	6	5	4	4	5	4	12	12	52	6	0.3
20	3+ 2- 2o 3- 5o 5o 2+ 4o	26o	18	6	7	12	48	48	9	27	175	22	1.1
21	5o 5+ 4- 2+ 3- 2o 3+ 3-	27o	48	56	22	9	12	7	18	12	184	23	1.1
22	3- 2+ 1- 1o 2+ 2- 1+ 1o	13o	12	9	3	4	9	6	5	4	52	6	0.3
23	2- 2+ 2- 1- 2+ 3- 1+ 1o	14-	6	9	6	3	9	12	5	4	54	7	0.3
24	1- 3+ 2+ 3+ 4o 3- 2+ 4o	23-	3	18	9	18	27	12	9	27	123	15	0.9
25	4o 4o 3+ 1+ 2o 4o 4- 3+	26-	27	27	18	5	7	27	22	18	151	19	1.0
26	4- 4- 3+ 3- 3+ 3+ 4o 3+	27+	22	22	18	12	18	18	27	18	155	19	1.0
27	3+ 5- 2+ 2+ 3- 3- 3- 2o	23-	18	39	9	9	12	12	12	7	118	15	0.8
28	2+ 4o 4o 2+ 2o 3- 3+ 4-	24+	9	27	27	9	7	12	18	22	131	16	0.9
29	4- 4- 3- 2- 4- 3o 2+ 3-	23+	22	22	12	6	22	15	9	12	120	15	0.8
30	4- 4+ 4- 3- 3- 3+ 2o 3o	25+	22	32	22	12	12	18	7	15	140	18	1.0

	Kp	Sum	Oct 1979				ap				Sum	Ap	Cp
1	4- 3- 1+ 2+ 3o 3- 1- 1o	17+	22	12	5	9	15	12	3	4	82	10	0.6
2	0+ 0+ 0+ 2- 2o 2+ 3- 3o	13-	2	2	2	6	7	9	12	15	55	7	0.3
3	4o 4- 2+ 1o 2o 3+ 3- 1+	20+	27	22	9	4	7	18	12	5	104	13	0.7
4	3o 2- 3+ 4o 0+ 1- 0+ 0o	13+	15	6	18	27	2	3	2	0	73	9	0.5
5	0o 0+ 1- 1- 2+ 2o 3- 2+	11o	0	2	3	3	9	7	12	9	45	6	0.3
6	3+ 4- 4- 5o 6- 6o 3o 3-	33o	18	22	22	48	67	80	15	12	284	36	1.4
7	4- 4+ 4o 3+ 5o 4+ 5- 5-	34o	22	32	27	18	48	32	39	39	257	32	1.3
8	6- 4+ 4+ 5- 4o 5- 4- 5-	36o	67	32	32	39	27	39	22	39	297	37	1.4
9	4+ 4- 4+ 5- 3o 3o 3+ 3-	29o	32	22	32	39	15	15	18	12	185	23	1.1
10	4o 4o 3o 3o 3+ 2o 4- 2o	25o	27	27	15	15	18	7	22	7	138	17	0.9
11	1- 1o 3- 3- 3+ 3o 2o 2-	17o	3	4	12	12	18	15	7	6	77	10	0.5
12	1- 1+ 1o 2o 2o 2o 3- 4-	15+	3	5	4	7	7	7	12	22	67	8	0.5
13	3o 3- 3o 3- 2- 2+ 3o 3o	21+	15	12	15	12	6	9	15	15	99	12	0.7
14	2+ 1- 3- 2o 1o 2o 1o 1-	12+	9	3	12	7	4	7	4	3	49	6	0.3
15	0+ 0+ 1o 2o 3o 3o 2+ 2o	14o	2	2	4	7	15	15	9	7	61	8	0.4
16	3o 3- 2- 2o 2+ 1o 1+ 1o	15o	15	12	6	7	9	4	5	4	62	8	0.4
17	1o 2- 1o 1o 1+ 1- 1- 2-	9o	4	6	4	4	5	3	3	6	35	4	0.2
18	1o 1o 1o 0o 0+ 0o 1- 1+	5+	4	4	4	0	2	0	3	5	22	3	0.0
19	1o 0+ 1- 1+ 2+ 2- 1o 2-	10o	4	2	3	5	9	6	4	6	39	5	0.2
20	3- 0+ 2o 2o 1o 2+ 1+ 2-	13+	12	2	7	7	4	9	5	6	52	6	0.3
21	2- 3- 1+ 2+ 2o 3- 2+ 4-	19-	6	12	5	9	7	12	9	22	82	10	0.6
22	3+ 3+ 4- 3- 2o 3+ 2o 2-	22o	18	18	22	12	7	18	7	6	108	14	0.8
23	1+ 2o 1+ 2o 2- 2- 2o 2o	14o	5	7	5	7	6	6	7	7	50	6	0.3
24	2o 3o 3o 3+ 3o 3o 2o 1o	20+	7	15	15	18	15	15	7	4	96	12	0.7
25	2o 3o 4+ 2+ 3- 2+ 3o 3-	22+	7	15	32	9	12	9	15	12	111	14	0.8
26	2- 3+ 1+ 2- 2o 2- 2- 2+	16-	6	18	5	6	7	6	6	9	63	8	0.4
27	0+ 2- 2+ 2- 1- 2- 2o 2-	12o	2	6	9	6	3	6	7	6	45	6	0.3
28	2- 3- 2- 3- 3- 1+ 1o 3+	17o	6	12	6	12	12	5	4	18	75	9	0.5
29	4- 3+ 1+ 2- 1+ 2+ 3- 2+	19-	22	18	5	6	5	9	12	9	86	11	0.6
30	3- 2o 1+ 1+ 1o 0+ 0+ 0+	9+	12	7	5	5	4	2	2	2	39	5	0.2
31	1- 0o 1- 2o 1+ 2+ 2o 2+	11+	3	0	3	7	5	9	7	9	43	5	0.2

TABLE 4 PLANETARY THREE-HOUR-INDICES Kp, EQUIVALENT RANGES ap, DAILY AVERAGE RANGES Ap, AND PLANETARY DAILY CHARACTER FIGURES Cp.

	Kp	Sum	Nov 1979				ap				Sum	Ap	Cp
1	3o 3o 2+ 3o 3o 3+ 4- 3o	24+	15	15	9	15	15	18	22	15	124	16	0.9
2	3+ 4- 3- 3- 3o 2+ 2- 1o	20+	18	22	12	12	15	9	6	4	98	12	0.7
3	1- 0+ 1o 3- 2+ 3+ 3+ 3+	17o	3	2	4	12	9	18	18	18	84	10	0.6
4	3+ 3o 2+ 3- 2o 2- 2o 1o	18o	18	15	9	12	7	6	7	4	78	10	0.5
5	0+ 0o 0+ 1- 1o 1- 1o 0+	4+	2	0	2	3	4	3	4	2	20	2	0.0
6	1- 1o 1- 1+ 1o 0+ 0+ 0+	6-	3	4	3	5	4	2	2	2	25	3	0.1
7	1o 2o 2- 2+ 2+ 4- 4o 2+	19+	4	7	6	9	9	22	27	9	93	12	0.7
8	3- 2o 5- 4- 3o 2+ 2- 2-	22-	12	7	39	22	15	9	6	6	116	14	0.8
9	2+ 2+ 3- 1+ 4o 5- 4+ 3+	25o	9	9	12	5	27	39	32	18	151	19	1.0
10	1+ 2o 2- 1+ 1+ 1+ 2- 3-	13+	5	7	6	5	5	5	6	12	51	6	0.3
11	3o 3+ 2- 2o 2o 3o 2o 2-	19-	15	18	6	7	7	15	7	6	81	10	0.6
12	1o 1+ 2+ 2+ 2+ 2+ 2o 2-	15+	4	5	9	9	9	9	7	6	58	7	0.4
13	4o 5- 4- 4+ 4o 5o 5+ 4+	35+	27	39	22	32	27	48	56	32	283	35	1.4
14	5o 4+ 3- 1o 1- 1o 0+ 0o	15o	48	32	12	4	3	4	2	0	105	13	0.8
15	0o 1o 1- 1+ 1+ 1- 0+ 1o	6+	0	4	3	5	5	3	2	4	26	3	0.1
16	2+ 3+ 4- 2o 2o 3- 3- 2o	21-	9	18	22	7	7	12	12	7	94	12	0.7
17	3+ 2+ 3- 2o 1o 1- 2o 1o	15o	18	9	12	7	4	3	7	4	64	8	0.4
18	3- 1- 1o 1+ 1o 1o 0+ 0+	8+	12	3	4	5	4	4	2	2	36	4	0.2
19	0+ 1- 1+ 2o 2o 2o 2o 3o	13+	2	3	5	7	7	7	7	15	53	7	0.3
20	2o 1+ 2+ 3- 3o 3+ 2- 1+	18-	7	5	9	12	15	18	6	5	77	10	0.5
21	3- 2o 2o 1o 1o 1+ 2- 0+	12o	12	7	7	4	4	5	6	2	47	6	0.3
22	0o 0o 1+ 1+ 1- 1- 0+ 0o	4+	0	0	5	5	3	3	2	0	18	2	0.0
23	0+ 0o 0+ 2- 1o 1o 2- 2o	8o	2	0	2	6	4	4	6	7	31	4	0.1
24	3o 4- 4o 4o 4- 4- 4o 4o	30o	15	22	27	27	22	22	27	27	189	24	1.1
25	4+ 5o 2+ 2o 2- 1o 1+ 2-	19+	32	48	9	7	6	4	5	6	117	15	0.8
26	1o 0o 0o 0+ 1+ 1+ 2+ 2-	8o	4	0	0	2	5	5	9	6	31	4	0.1
27	2o 1o 2+ 1- 1o 1- 1- 0+	9-	7	4	9	3	4	3	3	2	35	4	0.2
28	0+ 0o 1o 0o 0+ 0+ 1- 0+	3o	2	0	4	0	2	2	3	2	15	2	0.0
29	0+ 0o 1- 1- 1- 2+ 2+ 1o	8o	2	0	3	3	3	9	9	4	33	4	0.1
30	1o 2- 5o 3+ 3+ 3- 2o 2o	21o	4	6	48	18	18	12	7	7	120	15	0.8

	Kp	Sum	Dec 1979				ap				Sum	Ap	Cp
1	2- 1o 3- 3- 2+ 3- 2+ 2o	17+	6	4	12	12	9	12	9	7	71	9	0.5
2	3+ 3o 3- 3o 2+ 2- 2- 1+	19o	18	15	12	15	9	6	6	5	86	11	0.6
3	2+ 3+ 3+ 2+ 2- 1o 1o 0+	15+	9	18	18	9	6	4	4	2	70	9	0.5
4	2o 3+ 4o 3o 3+ 4o 3- 2o	24+	7	18	27	15	18	27	12	7	131	16	0.9
5	2o 1+ 2+ 2o 2+ 2+ 1o 2-	15o	7	5	9	7	9	9	4	6	56	7	0.4
6	2+ 2o 2+ 2- 1- 0+ 1o 1o	11+	9	7	9	6	3	2	4	4	44	6	0.2
7	1+ 1o 1- 1o 1- 1- 2- 1+	8+	5	4	3	4	3	3	6	5	33	4	0.1
8	1+ 3- 2o 2o 3o 2+ 3- 2+	18+	5	12	7	7	15	9	12	9	76	10	0.5
9	2o 2o 2o 2+ 2o 1+ 2- 2-	15o	7	7	7	9	7	5	6	6	54	7	0.3
10	1o 1+ 1o 1o 1+ 3- 2- 1-	11-	4	5	4	4	5	12	6	3	43	5	0.2
11	2+ 1+ 1- 1- 1- 1- 2+ 1+	10o	9	5	3	3	3	3	9	5	40	5	0.2
12	1- 1- 0+ 1o 1o 1+ 2- 2-	8+	3	3	2	4	4	5	6	6	33	4	0.1
13	0+ 1- 1+ 1- 1+ 1- 1o 1o	7o	2	3	5	3	5	3	4	4	29	4	0.1
14	0+ 2- 1o 1o 1o 1+ 2- 1+	9+	2	6	4	4	4	5	6	5	36	4	0.2
15	1o 3o 2- 3- 2o 2+ 3- 2-	17o	4	15	6	12	7	9	12	6	71	9	0.5
16	3- 3o 2+ 2- 2o 2o 2o 3+	19o	12	15	9	6	7	7	7	18	81	10	0.6
17	4- 2+ 3o 2o 3- 3o 2+ 3-	22-	22	9	15	7	12	15	9	12	101	13	0.7
18	3- 1o 1+ 2+ 2o 2- 2- 2-	14+	12	4	5	9	7	6	6	6	55	7	0.3
19	2- 2o 2- 1+ 1o 1+ 2- 2+	13o	6	7	6	5	4	5	6	9	48	6	0.3
20	0o 1+ 1- 1o 2o 2- 1+ 1o	9o	0	5	3	4	7	6	5	4	34	4	0.1
21	0+ 0o 0+ 1- 1- 1+ 2+ 2o	8-	2	0	2	3	3	5	9	7	31	4	0.1
22	2+ 3o 2+ 4o 3o 3+ 4- 1+	23o	9	15	9	27	15	18	22	5	120	15	0.8
23	1- 0+ 1- 1- 0o 1o 1o 2o	6+	3	2	3	3	0	4	4	7	26	3	0.1
24	2+ 2- 1+ 2+ 1o 3- 1o 1+	14-	9	6	5	9	4	12	4	5	54	7	0.3
25	0o 0o 0o 0o 1+ 0+ 1o 1+	4o	0	0	0	0	5	2	4	5	16	2	0.0
26	2o 1+ 1o 2- 2o 3+ 4- 3-	18-	7	5	4	6	7	18	22	12	81	10	0.6
27	1+ 3o 3o 3o 3o 3+ 2- 1o	19+	5	15	15	15	15	18	6	4	93	12	0.7
28	1o 3- 2- 4+ 4o 3+ 2- 4o	23-	4	12	6	32	27	18	6	27	132	16	0.9
29	4o 5o 4o 4- 4o 4- 5o 4+	34-	27	48	27	22	27	22	48	32	253	32	1.3
30	5- 4+ 3+ 3+ 3- 3o 3+ 3-	27+	39	32	18	18	12	15	18	12	164	20	1.0
31	2+ 2+ 1+ 1o 1+ 2- 2+ 4-	16o	9	9	5	4	5	6	9	22	69	9	0.5

TABLE 5 FREQUENCIES OF Kp INDICES, 1979

Kp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0o	3	3	4	1	1	.	.	.	.	5	12	7
+	7	12	12	3	5	8	10	4	2	15	23	9
-	10	13	6	6	15	15	22	14	12	15	20	20
1o	10	6	9	12	15	18	24	14	19	21	29	32
+	11	12	18	11	17	27	24	21	22	18	19	30
-	12	23	17	11	18	28	26	22	19	25	18	30
2o	16	24	17	16	34	22	16	32	20	31	26	24
+	29	24	18	26	32	27	35	21	37	21	22	29
-	35	22	23	24	18	32	21	23	32	25	15	19
3o	32	14	26	22	20	21	28	25	12	22	13	15
+	25	15	30	26	20	12	9	21	22	14	13	13
-	14	17	15	8	16	12	6	12	16	12	9	6
4o	10	14	16	15	14	7	10	10	13	6	8	8
+	11	10	8	13	9	5	6	5	3	7	5	3
-	7	4	9	9	6	1	5	5	2	6	3	1
5o	5	5	4	10	4	2	1	4	3	2	4	2
+	6	2	5	8	2	1	3	3	1	.	1	
-	4	2	3	5	1	.	1	2	2	2		
6o	0	.	2	1	.	1	1	2	1	1		
+	1	1	2	4	.	.		1	1			
-		1	3	3	.	.		3	.			
7o			1	2	1	1		2	1			
+				.				1				
-				2				1				
8o				2								
+												
9- o												
	248	224	248	240	248	240	248	248	240	248	240	248

TABLE 6 MONTHLY AVERAGES OF Ap AND Cp, 1979

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Ap	16	15	19	25	14	12	12	18	14	12	10	9	14.5
Cp	0.80	0.70	0.81	0.96	0.68	0.58	0.59	0.75	0.66	0.56	0.48	0.44	0.67

TABLE 7 LIST OF MAGNETIC STORMS, 1979

Gives consecutive sequences of three-hour-intervals (Eighths E of the Greenwich day) in which at least one Kp reached or surpassed 7+, and no Kp was smaller than 5-.

Beginning			s.c. d.	GMT	Duration Eighths	Number of Eighths with Kp= 7- 7o 7+	8- 8o 8+	9- 9o
Apr	03	E6		—	8	2 . .	. 1 .	. .
	25	E1	24	23.58	8	. 2 .	2 1 .	. .
Aug	13	E4	13	06.39	5	2 1 1	. . .	. .
	29	E2	29	04.59	8	1 . .	1 . .	. .

TABLE 8 VERY QUIET INTERVALS, 1979

Kp not exceeding 1+ for at least 8 intervals
(= one day) in succession

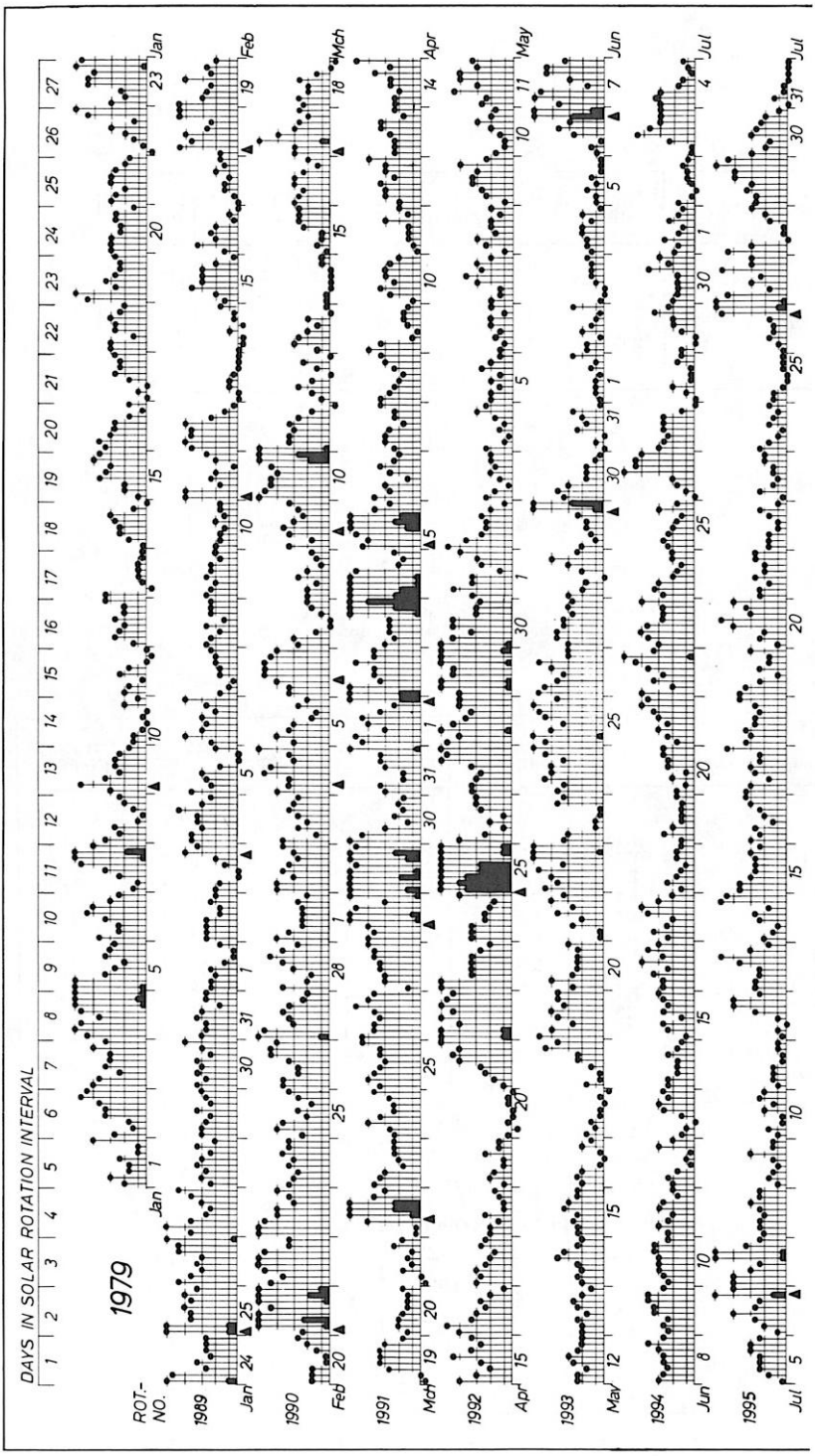
First. . . . . last Eighth						Duration Eighths
Jan	13	E2		14	E1	8
Feb	12	E7		14	E7	17
	16	E6		17	E5	8
Mar	13	E7		15	E4	14
Apr	19	E7		21	E1	11
May	31	E8	Jun	01	E7	8
Jun	05	E4		06	E3	8
Jul	02	E2		03	E2	9
	11	E1		12	E4	12
	25	E1		26	E2	10
	30	E8		31	E8	9
Sep	07	E3		08	E2	8

First. . . . . last Eighth						Duration Eighths
Oct	04	E5		05	E4	8
	18	E1		19	E4	12
	30	E3		31	E3	9
Nov	04	E8		07	E1	18
	14	E4		15	E8	13
	18	E2		19	E3	10
	21	E8		23	E3	12
	27	E4		29	E5	18
Dec	06	E5		07	E6	10
	13	E1		14	E1	9
	20	E7		21	E6	8
	22	E8		23	E7	8
	24	E7		25	E8	10

TABLE 8a LIST OF Kp', 1979

Reduction of Kp to Kp' due to solar flare effects

Month	Day	Eighth	Kp	Kp'
Mar	01	4	2+	2o
Sep	16	4	4-	3+


DAYS IN SOLAR ROTATION INTERVAL
1979
ROT.-NO.
1989
1990
1991
1992
1993
1994
1995

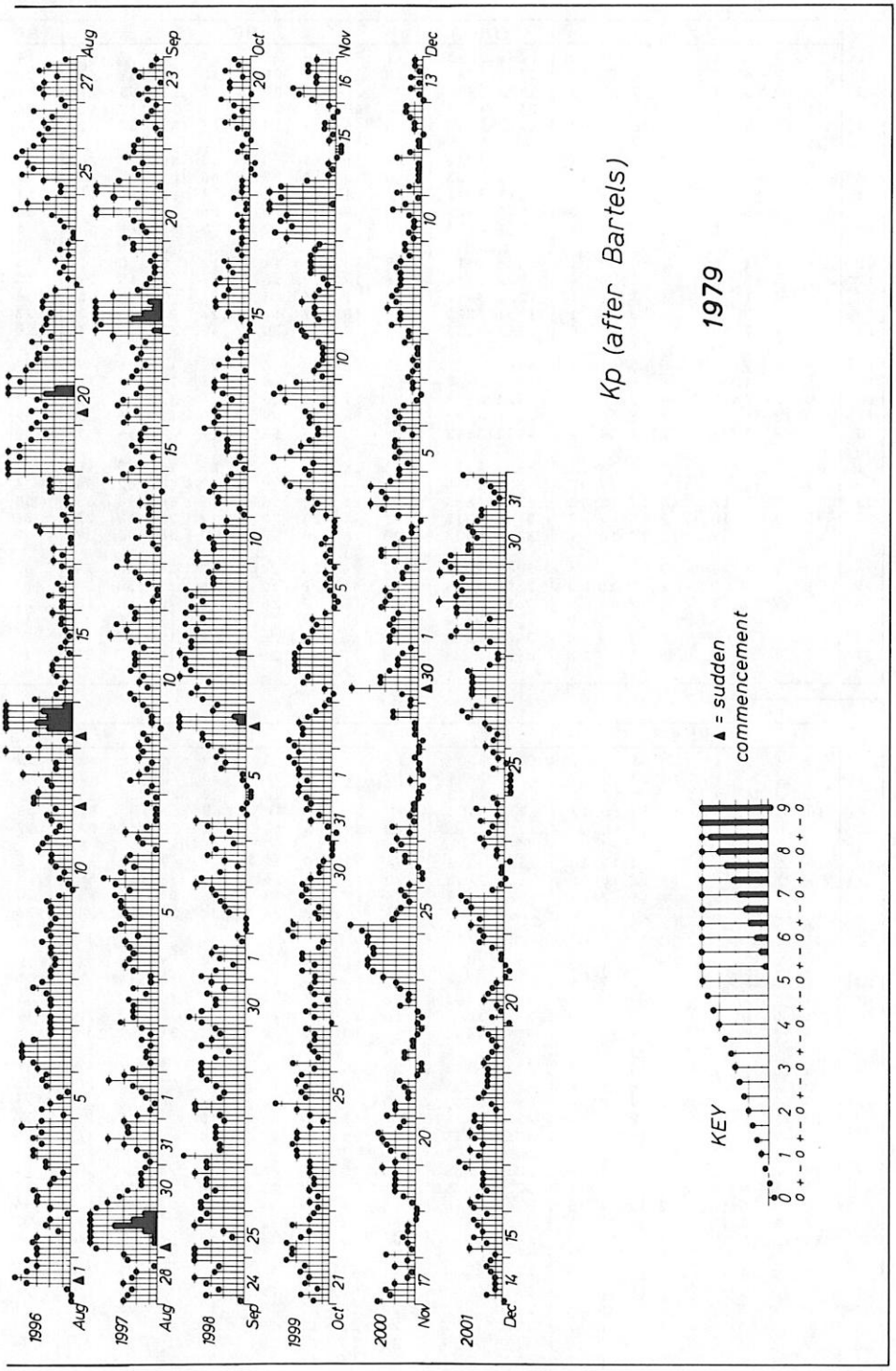

1996
1997
1998
1999
2000
2001
Aug
Sep
Oct
Nov
Dec
Kp (after Bartels)
1979
▲ = sudden commencement
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0

Table 9 Indices Kn, Ks, Km, etc.

(For explanation: see page IX)

JAN. 1979

	3 Kn								σn		an								Ân
1	5	7	4	4	7	2	3	10	1231	3223	11	20	8	8	19	4	7	36	14
2	4	2	4	9	9	12	13	11	4321	2763	10	5	8	29	30	57	69	47	32
3	9	9	6	9	9	9	12	9	5522	3352	31	27	14	29	33	28	53	29	31
4	11	11	11	10	14	14	16	15	2432	4576	42	48	41	40	71	75	112	96	66
5	12	11	8	6	5	10	9	7	4712	2335	55	46	22	15	13	37	32	17	30
6	9	5	6	9	12	12	9	7	2213	1222	31	11	16	28	55	58	27	20	31
7	4	3	6	9	13	15	17	11	3222	3423	10	6	14	29	68	101	124	41	49
8	8	5	5	3	3	5	6	6	2333	3231	26	13	13	6	6	12	16	14	13
9	7	12	8	6	8	8	7	5	3213	3121	18	52	24	14	26	25	20	12	24
10	3	3	1	1	2	1	5	4	2321	2223	7	6	3	2	5	3	11	8	6
11	4	4	1	5	5	2	0	1	3324	2311	9	8	2	11	12	5	0	2	6
12	3	5	5	4	7	6	6	9	3322	2214	6	12	12	10	19	15	15	27	15
13	8	0	1	1	3	3	1	1	4222	3431	22	1	3	3	7	7	3	3	6
14	2	4	7	6	8	8	4	1	1351	3222	4	10	19	14	26	23	8	3	13
15	2	4	7	10	10	10	12	10	2343	4333	5	9	17	38	40	37	51	36	29
16	8	8	7	6	8	5	2	4	4321	3222	24	26	18	16	22	13	4	9	17
17	1	2	1	4	6	8	8	7	1214	3352	2	5	2	9	16	22	24	19	12
18	8	5	2	8	8	9	7	5	4313	2322	21	11	5	22	24	32	18	12	18
19	10	12	5	9	7	7	6	8	2521	3222	39	55	12	29	20	19	16	22	27
20	7	7	8	7	7	9	8	4	4232	3342	19	20	24	17	19	28	24	9	20
21	7	6	4	9	9	8	6	4	3322	4313	18	14	10	27	29	25	15	10	19
22	1	2	3	4	9	5	13	13	2322	1364	2	4	6	9	29	13	62	64	24
23	7	5	5	12	14	13	15	13	2222	4673	18	11	12	58	79	66	88	68	50
24	15	11	8	10	7	8	7	8	5445	2213	101	46	23	38	17	26	18	22	36
25	15	14	9	9	11	12	10	9	3322	5433	100	78	28	32	49	56	40	29	52
26	10	8	8	9	9	12	13	14	3232	2565	39	24	23	29	27	54	65	74	42
27	8	11	9	7	6	9	10	12	2311	1354	26	42	28	17	15	32	38	57	32
28	5	7	7	9	6	7	11	5	3214	2322	13	18	17	28	16	20	42	13	21
29	7	7	5	5	9	8	7	8	2314	2422	18	18	13	11	29	21	18	22	19
30	8	6	7	7	9	7	8	10	3422	0224	25	15	19	20	29	19	23	36	23
31	7	5	5	8	8	5	7	8	3431	2133	18	11	13	25	21	11	19	21	17
																			25.6

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	3 Ks								σs		as								As
1	5	8	2	4	7	3	4	9	1322	3225	12	22	5	8	18	6	8	32	14
2	4	4	4	9	10	10	13	13	3222	2324	10	9	9	28	38	35	67	62	32
3	10	8	8	9	9	9	10	11	5334	2133	37	26	14	28	28	28	38	44	30
4	10	9	10	10	13	13	15	13	3232	4553	38	32	35	40	68	69	103	61	56
5	14	10	8	7	5	9	8	8	3212	2516	72	38	22	17	11	27	24	24	29
6	10	8	9	9	13	13	11	10	3343	3546	34	22	30	32	69	69	46	37	42
7	7	5	9	8	13	15	18	10	3232	2145	20	12	28	26	68	93	160	39	56
8	11	7	7	5	3	6	7	8	4223	3334	46	19	20	13	6	14	20	22	20
9	10	13	11	8	9	10	9	8	2344	3355	36	70	43	24	28	37	28	24	36
10	5	4	3	0	4	3	7	6	1221	4335	11	8	7	1	8	7	17	14	9
11	4	5	2	7	6	1	1	2	5231	4222	8	11	5	17	15	3	2	4	8
12	4	8	8	5	8	7	7	9	2262	3644	10	25	26	13	23	18	19	27	20
13	8	2	2	3	4	4	3	3	4221	3543	22	4	5	6	8	10	7	7	9
14	4	5	5	6	9	9	5	5	3322	1345	10	13	13	14	33	28	13	12	17
15	7	7	6	9	9	9	11	10	4445	1432	19	18	15	30	33	31	41	36	28
16	8	10	7	7	7	4	3	6	3333	4343	25	34	19	18	17	9	6	15	18
17	2	4	3	5	7	8	8	9	4233	2423	4	9	7	12	17	22	23	28	15
18	7	5	4	7	9	9	8	8	4324	5345	20	13	8	18	33	30	26	21	21
19	12	13	9	10	7	8	7	9	2312	5434	59	61	28	38	18	21	19	29	34
20	6	7	7	7	9	9	7	6	3224	3336	14	20	20	17	28	27	19	16	20
21	8	6	5	8	9	8	7	6	2231	1355	26	15	13	23	32	25	20	14	21
22	1	5	5	5	9	5	12	14	3223	2444	3	11	12	13	30	11	55	79	27
23	6	6	6	12	12	12	14	13	3323	3145	16	14	15	53	56	58	76	66	44
24	13	8	8	10	7	9	10	9	4333	1455	62	24	22	35	18	29	37	30	32
25	14	12	10	12	12	12	12	10	6224	5443	84	56	39	51	59	55	58	35	55
26	9	9	8	7	9	12	13	12	4422	1353	31	31	22	20	28	57	66	58	39
27	9	12	8	7	6	10	10	11	2313	3553	28	55	26	19	16	34	39	50	33
28	8	7	7	9	7	5	10	5	2320	2413	22	18	20	30	17	12	36	13	21
29	8	8	7	4	9	8	8	7	1323	4332	21	21	19	9	30	25	21	19	21
30	7	6	8	8	9	7	8	10	4133	2525	20	14	23	25	30	19	21	37	24
31	7	6	6	8	9	5	8	8	2322	2333	17	16	14	22	30	12	23	26	20
																			27.5

Table 9 - continued

JAN. 1979

	3 Km								Σ Km	am							Am	Am2
1	5	8	3	4	7	2	4	10	14.3	11	21	6	8	18	5	8	34	14	16
2	4	3	4	9	10	11	13	12	22.0	10	7	9	29	34	46	68	55	32	27
3	10	9	6	9	9	9	11	10	24.3	34	27	14	29	31	28	46	36	31	38
4	10	10	10	10	13	14	16	14	32.3	40	40	38	40	69	72	107	78	61	48
5	13	11	8	6	5	9	9	7	22.7	63	42	22	16	12	32	28	20	29	42
6	9	7	8	9	13	13	10	9	26.0	33	17	23	30	62	63	36	28	37	29
7	6	4	8	9	13	15	17	10	27.3	15	9	21	28	68	97	142	40	53	43
8	10	6	7	4	3	5	7	7	16.3	36	16	17	9	6	13	18	18	17	39
9	9	13	9	7	9	9	8	7	23.7	27	61	33	19	27	31	24	18	30	20
10	4	3	2	1	3	2	6	5	8.7	9	7	5	2	6	5	14	11	7	12
11	4	4	2	6	6	2	0	1	8.3	8	10	4	14	14	4	1	3	7	9
12	4	7	7	5	8	6	7	9	17.7	8	18	19	11	21	16	17	27	17	12
13	8	1	2	2	3	4	2	2	8.0	22	3	4	5	7	9	5	5	8	12
14	3	5	6	6	9	8	4	4	15.0	7	11	16	14	30	26	10	8	15	14
15	5	5	6	10	10	10	11	10	22.3	12	13	16	34	37	34	46	36	29	24
16	8	9	7	7	7	5	2	5	16.7	24	30	18	17	20	11	5	12	17	20
17	1	3	2	5	7	8	8	8	14.0	3	7	5	11	17	22	23	24	14	14
18	8	5	3	7	9	9	8	6	18.3	21	12	7	20	29	31	22	16	20	25
19	11	12	7	9	7	7	7	8	22.7	49	58	20	33	19	20	17	26	30	26
20	6	7	8	7	8	9	8	5	19.3	16	20	22	17	24	27	22	12	20	20
21	8	6	5	8	9	8	7	5	18.7	22	15	12	25	30	25	18	12	20	17
22	1	3	4	5	9	5	12	14	17.7	2	7	9	11	30	12	59	72	25	24
23	7	5	6	12	13	13	14	13	27.7	17	12	14	55	68	62	82	67	47	45
24	14	10	8	10	7	9	9	8	25.0	82	35	22	37	17	28	27	26	34	49
25	15	13	9	11	12	12	11	9	30.7	92	67	33	41	54	56	49	32	53	39
26	10	9	8	8	9	12	13	13	27.3	35	27	22	24	28	56	65	66	40	40
27	9	11	9	7	6	9	10	12	24.3	27	49	27	18	15	33	39	54	33	35
28	7	7	7	9	6	6	10	5	19.0	18	18	19	29	16	16	39	13	21	23
29	7	7	6	4	9	8	7	7	18.3	19	20	16	10	29	23	20	20	20	20
30	8	6	8	8	9	7	8	10	21.3	23	14	21	22	30	19	22	36	23	22
31	7	6	6	8	8	5	8	8	18.7	18	14	14	24	26	12	21	24	19	20
																		26.5	

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	3 Km								Σ Km	am							Am	Am2
1	8	6	5	6	3	2	2	5	12.3	21	14	11	16	7	4	4	11	11	15
2	7	7	6	7	5	5	8	6	17.0	18	19	14	17	11	11	22	14	16	11
3	5	3	1	1	4	5	13	9	13.7	11	7	3	2	8	12	61	29	17	20
4	10	10	8	9	10	13	8	7	25.0	39	34	22	28	35	66	25	18	33	29
5	9	6	7	9	6	0	0	5	14.0	28	16	18	29	14	1	1	12	15	23
6	7	9	7	9	9	7	8	10	22.0	17	33	20	31	33	17	25	40	27	17
7	4	4	4	4	5	6	6	8	13.7	8	10	9	8	11	16	15	21	12	17
8	6	6	5	7	3	8	7	6	16.0	16	15	13	20	7	22	18	15	16	16
9	7	5	5	6	7	8	5	6	16.3	18	13	12	16	19	22	11	16	16	14
10	5	3	3	2	5	5	6	4	11.0	11	7	7	5	11	12	14	10	10	16
11	11	10	5	6	5	1	5	8	17.0	41	37	11	14	12	3	12	23	19	22
12	9	10	10	11	11	7	4	2	21.3	32	36	40	46	43	19	10	4	29	19
13	2	1	2	3	1	1	0	0	3.3	4	3	4	7	3	3	1	0	3	7
14	1	0	0	1	1	2	2	4	3.7	2	1	0	3	2	4	4	10	3	7
15	4	5	8	9	7	9	6	4	17.3	8	11	24	28	20	27	16	8	18	14
16	7	7	7	6	5	1	3	1	12.3	17	20	18	14	11	3	6	2	11	11
17	1	2	3	4	4	6	5	5	10.0	2	4	6	8	9	14	13	13	9	15
18	7	12	11	11	9	8	11	11	26.7	17	54	42	41	30	22	45	43	37	27
19	10	8	7	7	11	8	7	6	21.3	35	23	18	17	47	21	20	14	24	23
20	5	4	4	1	2	4	6	8	11.3	11	10	8	3	4	10	15	22	10	28
21	4	14	16	13	12	16	18	16	36.3	10	71	111	70	53	115	169	109	89	61
22	12	11	12	13	13	13	10	12	32.0	54	46	51	65	65	66	37	55	55	70
23	14	13	11	11	11	9	10	11	30.0	80	63	45	43	43	29	37	45	48	44
24	9	7	7	8	8	10	9	9	22.3	28	19	18	24	26	37	30	33	27	29
25	6	9	8	7	8	5	8	9	20.0	16	31	23	19	22	13	22	30	22	25
26	9	9	8	8	10	12	12	11	26.3	30	30	22	22	38	56	56	42	37	34
27	14	11	8	8	9	9	7	7	24.3	71	47	25	23	29	28	17	19	32	34
28	10	6	5	8	11	11	11	9	23.7	36	14	11	25	43	49	41	29	31	26
																		24.2	

Table 9 - continued

FEB. 1979

	3 Kn								σn		an								An
1	6	5	4	6	3	2	1	4	2221	3133	15	13	9	15	7	5	3	10	10
2	6	6	6	6	5	5	8	6	3222	1431	16	15	14	15	13	13	23	14	15
3	5	3	0	0	4	5	12	9	2311	3412	11	7	1	1	8	12	51	29	15
4	9	9	7	9	9	14	9	7	3322	2412	32	29	20	28	31	73	27	17	32
5	9	7	7	10	7	0	1	5	4632	5012	27	18	17	34	18	0	2	12	16
6	6	9	7	10	10	7	9	10	2326	3234	15	32	18	40	40	17	27	40	29
7	3	3	3	3	5	7	6	7	1222	3203	7	6	6	7	12	17	15	19	11
8	6	5	4	6	4	8	7	6	2211	2323	15	12	9	15	10	21	18	15	14
9	7	5	5	6	7	8	5	7	1113	4415	18	11	13	14	19	22	12	18	16
10	4	3	3	2	4	5	6	4	2221	3342	10	6	7	5	10	13	15	10	10
11	10	10	4	6	4	2	6	8	2321	2245	36	34	9	15	10	4	15	25	19
12	9	9	11	11	11	7	4	2	3143	1112	30	31	44	46	49	20	10	4	29
13	1	1	2	3	1	1	0	0	3221	2320	3	3	4	7	3	3	1	0	3
14	0	0	0	1	1	2	2	5	2012	2325	1	0	0	3	2	5	5	13	4
15	3	4	9	9	8	9	6	3	1223	3212	6	10	27	31	21	28	14	7	18
16	5	7	6	5	5	1	3	1	6223	3213	13	19	14	13	12	3	7	3	11
17	1	2	3	3	4	6	6	5	2222	3243	2	4	6	7	10	16	15	11	9
18	5	11	9	10	9	8	12	12	2222	3343	13	47	32	37	31	22	54	51	36
19	10	8	6	7	12	8	8	6	4311	2322	38	24	16	17	54	23	22	14	26
20	4	4	3	2	2	5	6	8	2322	2423	10	8	7	4	5	12	14	22	10
21	5	12	16	13	12	16	18	15	2253	3144	11	58	113	69	53	104	148	95	81
22	12	9	11	14	12	12	9	11	2332	3112	51	28	50	72	60	60	31	45	50
23	13	12	10	10	11	9	9	11	1222	3224	63	51	37	39	48	32	33	46	44
24	9	7	7	8	9	10	9	9	3132	2434	30	17	18	24	30	38	32	33	28
25	6	9	8	7	8	5	8	9	2215	3243	15	32	26	20	22	13	22	31	23
26	10	9	8	8	11	13	12	11	2124	3453	35	28	23	24	42	62	56	47	40
27	14	11	8	8	9	9	7	8	2341	3433	76	44	25	22	30	27	18	22	33
28	10	5	4	8	10	11	11	9	3422	3463	39	13	10	24	39	50	49	27	31
																			23.7

FEB. 1979

	3 Ks								σs		as								As
1	9	6	6	6	4	1	2	5	4211	6343	28	14	14	16	8	3	4	12	12
2	8	8	6	7	4	4	8	6	2323	3334	21	23	14	18	8	8	21	14	16
3	5	3	2	1	4	5	14	9	3432	3543	12	6	5	3	9	12	71	30	19
4	11	10	8	9	10	12	8	7	3425	3115	47	39	23	28	38	58	24	20	35
5	9	6	7	8	4	0	0	5	3553	2314	28	15	20	23	10	1	1	12	14
6	7	10	8	8	9	7	8	10	3322	4733	20	34	23	22	27	17	23	39	26
7	4	6	5	4	4	6	6	8	2333	2453	10	14	13	8	10	16	16	23	14
8	7	7	6	8	2	8	7	6	2322	2316	17	19	16	25	4	22	18	15	17
9	7	6	5	7	7	8	4	6	4211	3223	19	15	12	17	18	22	10	15	16
10	5	4	4	2	5	5	5	4	1224	4433	13	9	8	5	12	12	13	10	10
11	11	10	5	6	5	1	4	8	1511	3225	45	40	13	14	13	2	10	21	20
12	10	11	10	11	10	7	4	2	4232	2243	34	41	37	47	38	18	10	4	29
13	2	1	1	4	1	2	0	0	4331	2200	5	3	3	8	2	4	0	0	3
14	1	0	0	1	0	1	1	3	2103	1224	3	1	0	3	1	3	3	7	3
15	5	5	8	8	7	8	7	4	4233	3445	11	12	21	26	20	25	18	10	18
16	8	8	8	6	4	1	3	1	6220	2253	21	22	21	15	9	3	6	2	12
17	1	2	3	4	4	5	5	6	2111	2445	3	5	7	9	9	12	11	15	9
18	8	12	12	11	9	8	10	10	4333	3632	22	60	53	46	29	22	36	36	38
19	9	8	7	7	10	7	7	6	2122	2343	33	22	20	17	40	19	19	14	23
20	5	5	4	1	1	3	6	8	2232	2232	12	11	9	3	3	7	16	21	10
21	4	14	16	14	12	17	19	17	5331	2553	9	83	109	71	53	127	191	123	96
22	12	13	12	12	14	14	11	13	4311	4447	58	64	52	58	71	71	42	64	60
23	15	14	12	11	10	8	10	11	3111	3422	98	75	52	46	38	26	40	43	52
24	9	7	7	8	8	10	9	9	4313	2244	27	20	17	23	22	36	28	32	26
25	7	9	7	7	8	5	8	9	2333	3554	17	31	20	18	21	12	22	28	21
26	8	9	8	7	9	11	12	10	3144	4245	26	32	22	20	33	49	55	38	34
27	13	12	8	8	9	9	6	6	6421	3233	65	51	25	24	29	28	16	16	32
28	9	6	5	8	11	11	9	9	4021	3435	32	15	12	26	47	49	33	31	31
																			24.9

Table 9 - continued

MAR. 1979

	3 Kn								σn		an								An
1	9	7	5	6	6	6	7	6	4214	2221	29	19	13	16	15	16	18	15	18
2	10	9	8	9	9	7	10	10	3442	2153	37	28	22	31	30	18	35	35	30
3	9	3	7	5	8	10	8	7	4235	3631	31	6	20	11	21	37	25	19	21
4	10	9	9	13	11	9	10	13	3224	2544	39	28	32	67	47	32	37	66	44
5	9	9	8	9	4	4	8	7	3324	3252	27	33	23	33	8	8	21	19	22
6	8	9	10	14	14	12	12	11	1115	6244	21	30	39	71	85	56	52	44	50
7	7	8	4	1	1	3	5	6	3222	1565	18	22	10	3	3	7	13	16	12
8	4	4	3	7	6	3	4	4	5113	2134	10	9	6	19	16	7	10	10	11
9	8	4	9	11	9	6	8	10	5303	2131	22	8	29	44	27	16	22	39	26
10	14	11	10	11	11	13	16	18	2122	2534	71	49	35	41	46	61	115	155	72
11	14	8	9	9	9	8	5	1	6123	2551	72	25	32	27	29	21	13	3	28
12	2	4	7	4	2	4	7	2	1232	2221	5	10	18	8	5	9	20	4	10
13	4	7	7	6	4	5	1	2	3213	2222	9	18	18	14	9	11	2	5	11
14	1	1	0	0	0	0	3	3	2202	1122	2	3	0	1	1	1	6	7	3
15	2	5	4	4	8	8	8	8	1222	1113	5	11	10	8	25	24	21	22	16
16	8	7	5	8	8	6	4	7	1223	2222	23	17	12	21	24	15	10	19	18
17	9	8	14	11	8	7	6	9	1222	3324	28	24	71	48	26	18	14	29	32
18	6	8	5	6	8	4	1	1	1332	3222	15	25	12	16	22	10	3	3	13
19	0	3	7	8	9	9	8	5	0433	2242	0	6	18	24	31	32	22	12	18
20	4	6	6	4	4	4	4	6	3442	2224	10	14	14	9	9	10	9	14	11
21	1	1	4	3	5	4	7	5	2222	2221	3	3	10	6	12	8	19	13	9
22	2	2	11	15	16	16	10	9	0312	2121	4	5	44	97	120	112	39	28	56
23	9	8	7	6	6	7	7	7	2122	0125	31	22	18	14	15	17	19	19	19
24	6	6	10	9	6	6	8	10	2133	2332	15	14	36	29	14	16	23	36	23
25	9	10	9	10	9	9	10	11	4223	3113	32	35	32	36	28	28	34	44	34
26	12	9	10	9	10	12	11	10	3223	3232	53	32	35	27	40	53	42	37	40
27	4	8	9	9	9	10	10	11	2241	1133	10	23	30	31	31	36	38	49	31
28	10	8	10	14	15	12	8	14	3134	4334	40	22	36	81	90	60	25	76	54
29	15	12	16	14	12	15	16	13	5366	2456	93	52	116	86	54	93	111	69	84
30	13	11	7	4	7	4	5	7	3323	1213	66	41	19	8	18	10	13	18	24
31	8	9	6	6	8	9	10	12	2254	5332	22	27	16	14	26	32	39	59	29
																			28.0

MAR. 1979

	3 Ks								σs		as								As
1	10	7	5	8	7	8	8	6	3033	4224	34	19	13	22	18	21	21	16	21
2	9	9	8	9	9	7	10	8	3132	1322	32	28	23	33	28	18	38	22	28
3	8	4	5	4	7	9	7	8	3435	4124	26	8	13	9	18	29	19	22	18
4	11	9	8	13	12	11	10	13	4313	5254	41	29	23	65	60	43	37	64	45
5	10	10	7	9	4	1	7	7	1324	4352	36	34	20	28	10	3	19	18	21
6	9	9	9	13	14	12	11	10	4423	1212	28	27	28	70	71	56	45	40	46
7	7	8	4	1	1	2	4	7	4322	2335	18	21	10	3	3	4	9	19	11
8	7	3	3	7	6	2	2	4	5233	4334	19	6	6	19	16	5	4	8	10
9	7	2	8	11	8	6	8	12	5424	4244	17	5	24	43	22	14	21	51	25
10	14	11	9	11	12	12	16	17	6431	4556	82	47	31	41	56	53	113	142	71
11	14	8	7	8	8	6	2	1	9232	4434	77	23	20	26	25	15	5	3	24
12	4	3	5	3	1	4	7	1	2323	3553	8	6	11	7	3	8	17	3	8
13	5	7	8	4	4	3	1	2	3312	4333	13	19	21	10	10	7	2	4	11
14	1	2	1	0	0	0	2	2	2121	0033	3	4	2	1	0	0	4	5	2
15	2	5	4	3	6	7	8	8	3341	4542	5	13	10	6	15	18	22	21	14
16	8	8	5	7	8	5	5	6	2222	4345	24	25	13	19	24	13	12	16	18
17	10	9	15	11	7	5	5	8	2254	3454	35	32	100	42	20	12	11	25	35
18	7	7	4	4	6	3	0	1	2323	3324	18	19	9	10	16	6	1	3	10
19	0	1	6	8	9	9	7	5	1342	2324	1	3	14	24	29	31	18	11	16
20	4	6	5	3	3	4	4	5	2431	3235	10	14	11	6	7	8	8	11	9
21	3	3	5	2	4	3	6	6	4233	3444	6	7	11	5	8	6	14	14	9
22	2	4	11	15	16	17	10	9	3320	2343	5	10	49	94	116	134	37	32	60
23	9	8	9	5	6	6	7	7	2153	3425	28	24	27	12	14	15	19	19	20
24	7	8	10	8	6	6	8	9	3223	3344	20	23	34	26	16	15	21	33	24
25	9	11	10	10	9	8	9	11	2432	0132	28	46	38	37	30	26	28	43	35
26	12	10	11	9	11	11	10	11	8340	2355	59	38	47	30	42	50	35	48	44
27	5	7	9	8	10	10	11	11	3321	3125	11	19	29	26	39	36	43	41	31
28	10	9	11	14	14	12	9	14	4532	3149	34	27	48	73	78	57	29	86	54
29	16	12	14	14	12	15	17	12	9422	3554	109	51	82	73	53	93	122	59	80
30	13	11	7	3	5	4	4	4	6436	3332	69	41	17	6	13	9	10	9	22
31	8	8	5	4	7	9	10	14	4335	4026	23	23	12	9	17	30	36	71	28
																			27.4

Table 9 - continued

MAR. 1979

	3 Km								Σ Km	am								Am	Am2
1	9	7	5	7	7	7	7	6	18.3	31	19	13	19	17	18	20	15	19	27
2	10	9	8	9	9	7	10	9	23.7	34	28	22	32	29	18	36	28	28	22
3	9	3	6	4	7	9	8	8	18.0	29	7	16	10	19	33	22	21	20	27
4	10	9	9	13	12	10	10	13	28.7	40	28	27	66	53	37	37	65	44	35
5	9	9	8	9	4	2	7	7	18.3	31	33	22	30	9	5	20	19	21	32
6	8	9	9	14	14	12	11	11	29.3	24	29	33	71	78	56	49	42	48	30
7	7	8	4	1	1	3	5	7	12.0	18	21	10	3	3	6	11	18	11	23
8	6	4	3	7	6	3	3	4	12.0	15	8	6	19	16	6	7	9	11	14
9	7	3	9	11	8	6	8	11	21.0	20	6	27	44	25	15	22	45	26	28
10	14	11	9	11	12	12	16	18	34.3	76	48	33	41	51	57	114	149	71	52
11	14	8	8	9	9	7	4	1	20.0	74	24	26	27	27	18	9	3	26	38
12	3	4	6	3	2	4	7	2	10.3	6	8	14	7	4	8	19	4	9	12
13	5	7	7	5	4	4	1	2	11.7	11	19	20	12	9	9	2	4	11	8
14	1	1	0	0	0	0	2	3	2.3	2	3	1	1	0	0	5	6	2	5
15	2	5	4	3	7	8	8	8	15.0	5	12	10	7	20	21	22	22	15	13
16	8	8	5	7	8	6	5	7	18.0	24	21	13	20	24	14	11	18	18	26
17	9	9	14	11	8	6	5	9	23.7	31	28	85	45	23	15	12	27	33	25
18	7	8	5	5	7	4	1	1	12.7	17	22	11	13	19	8	2	3	12	14
19	0	2	6	8	9	9	7	5	15.3	0	4	16	24	30	31	20	11	17	13
20	4	6	5	3	4	4	4	5	11.7	10	14	12	7	8	9	9	13	10	12
21	2	2	4	2	4	3	7	5	9.7	4	5	10	5	10	7	17	13	9	17
22	2	4	11	15	16	17	10	9	28.0	5	8	46	95	118	123	38	30	58	37
23	9	8	8	5	6	6	7	7	18.7	29	23	22	13	14	16	19	19	19	35
24	7	7	10	9	6	6	8	10	21.0	17	18	35	28	15	16	22	34	23	25
25	9	10	10	10	9	9	9	11	25.7	30	40	35	37	29	27	31	43	34	32
26	12	10	11	9	11	12	10	11	28.7	56	35	41	28	41	52	39	43	42	35
27	5	8	9	9	10	10	10	11	24.0	11	21	29	29	35	36	40	45	31	38
28	10	8	11	14	14	12	9	14	30.7	37	25	42	77	84	58	27	81	54	57
29	15	12	15	14	12	15	16	13	37.3	101	52	99	80	53	93	116	64	82	65
30	13	11	7	3	6	4	5	5	18.0	68	41	18	7	15	10	12	13	23	37
31	8	8	6	5	8	9	10	13	22.3	23	25	14	12	22	31	37	65	29	28
																		27.6	

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	3 Km								Σ Km	am								Am	Am2
1	11	12	8	11	12	10	7	15	28.7	48	51	24	49	51	34	18	103	47	49
2	17	13	9	9	9	12	9	9	29.0	137	66	27	28	32	57	31	30	51	44
3	8	7	8	8	8	15	17	19	30.0	26	17	25	24	22	90	131	180	64	65
4	17	15	14	13	14	5	5	6	29.7	122	97	81	69	71	11	11	15	60	75
5	13	12	13	16	17	16	11	8	35.3	64	58	66	108	131	109	44	23	75	49
6	9	7	7	4	6	8	6	6	17.7	29	19	19	10	16	22	15	15	18	33
7	6	7	8	8	4	6	7	9	18.3	14	18	21	23	10	15	17	27	18	18
8	8	7	7	5	5	6	10	9	19.0	24	20	17	12	11	14	34	32	21	20
9	10	9	4	3	4	4	5	4	14.3	38	32	9	6	8	9	11	8	15	19
10	3	9	9	7	8	7	7	7	19.0	6	31	30	19	22	20	17	17	20	14
11	2	3	4	4	5	7	4	5	11.3	5	7	8	9	11	18	9	11	10	15
12	4	8	8	9	6	8	8	10	20.3	9	22	26	27	15	23	21	40	23	18
13	6	6	7	6	9	8	5	6	17.7	15	14	18	15	30	22	12	16	18	19
14	6	6	5	7	6	8	8	13	19.7	15	15	13	17	14	25	23	63	23	22
15	11	8	4	7	10	9	7	9	21.7	42	22	9	18	37	28	20	30	26	30
16	11	12	8	7	6	6	6	3	19.7	44	51	26	20	15	14	16	7	24	25
17	8	6	8	8	6	4	8	6	18.0	23	16	25	23	14	9	23	15	19	16
18	5	5	4	7	3	2	4	5	11.7	12	12	9	20	7	4	9	13	11	12
19	4	7	5	4	2	6	3	3	11.3	8	17	13	8	5	16	7	7	10	8
20	1	0	1	0	0	0	2	2	2.0	3	1	2	1	1	1	4	4	2	7
21	3	4	7	7	11	10	11	14	22.3	6	10	20	20	41	35	48	73	32	31
22	14	12	10	13	10	12	12	11	31.3	76	57	38	67	35	58	54	49	54	51
23	13	12	10	9	10	9	7	6	25.3	70	59	34	29	34	30	17	14	36	37
24	10	9	8	7	6	7	5	11	21.0	34	27	25	19	16	18	11	49	25	70
25	20	19	20	19	19	13	13	14	45.7	203	188	242	199	176	63	67	85	153	87
26	10	7	4	5	3	6	8	8	17.0	39	19	9	13	6	14	24	23	18	41
27	10	11	8	8	9	12	12	13	27.7	35	41	23	24	28	58	51	66	41	39
28	12	11	13	12	9	8	10	11	28.7	58	42	66	58	31	23	34	43	44	51
29	12	13	14	12	11	13	13	14	34.0	51	66	82	53	43	61	63	76	62	52
30	13	12	10	12	11	7	8	7	26.7	61	59	38	51	45	18	22	18	39	44
																		35.3	

Table 9 - continued

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	3 Kn								σn		an								An
1	10	11	8	12	12	10	7	15	2424	2123	40	49	26	51	52	36	20	102	47
2	16	13	9	9	9	12	9	10	2342	2513	119	68	27	29	33	59	32	34	50
3	8	5	8	8	8	14	17	19	2221	3443	21	12	21	24	23	84	140	198	65
4	17	15	14	13	12	5	5	7	4352	2111	136	101	79	68	57	13	11	17	60
5	12	12	12	16	18	17	12	8	2612	2232	58	57	60	107	157	132	56	22	81
6	9	7	8	5	8	9	7	7	2413	2322	29	18	21	12	21	31	18	18	21
7	6	8	8	8	5	6	8	8	2222	1123	15	21	23	23	12	16	22	25	20
8	8	7	7	5	5	6	10	10	2232	1245	22	18	17	12	12	15	37	38	21
9	10	9	4	3	4	5	6	5	2242	2221	36	28	10	6	10	13	14	11	16
10	3	8	9	7	8	8	8	7	1412	3122	6	26	28	20	21	23	21	19	21
11	3	3	4	4	5	8	5	6	2221	4231	7	6	9	10	13	22	11	14	12
12	5	7	8	8	7	9	8	11	1332	1412	11	20	25	26	18	27	24	43	24
13	6	5	8	6	9	8	5	7	3332	1212	16	13	22	16	30	25	13	17	19
14	7	6	6	7	7	9	8	14	2232	1313	18	15	14	17	18	28	26	71	26
15	11	7	4	8	11	9	8	10	4222	3212	41	18	10	21	42	28	22	38	28
16	11	12	9	8	7	6	7	4	2132	1133	45	51	28	23	17	15	19	8	26
17	8	7	9	8	6	5	8	6	2214	2343	24	17	28	25	16	11	21	14	20
18	5	6	4	8	4	3	5	7	3322	1212	12	14	9	23	8	6	12	17	13
19	4	6	5	4	3	7	4	4	1314	1343	8	16	13	10	7	19	9	9	11
20	1	1	2	0	1	1	2	2	1221	1222	3	2	4	1	2	2	5	5	3
21	4	4	8	8	11	10	12	13	2232	2352	8	10	22	21	45	36	53	65	33
22	14	12	10	14	10	13	11	12	2323	3232	81	58	38	74	40	61	50	52	57
23	13	12	10	9	9	9	8	7	4314	1222	69	54	37	30	32	30	21	18	36
24	9	9	8	8	7	7	5	12	2232	2444	32	27	26	21	18	17	11	52	26
25	20	20	21	20	19	12	13	14	3336	3233	214	227	264	216	188	58	67	84	165
26	10	6	4	7	4	7	9	9	2233	2231	36	16	8	17	9	18	29	27	20
27	9	10	9	8	9	13	11	12	2212	3332	27	34	29	23	29	66	50	51	39
28	12	10	14	12	10	8	10	11	2344	2232	58	40	79	56	34	26	34	44	46
29	11	14	14	12	11	14	13	14	2143	1334	44	71	83	53	46	74	63	79	64
30	12	12	9	12	11	8	8	8	5514	2212	57	57	33	53	47	21	25	23	40
																			37.0

APR. 1979

	3 Ks								σs		as								As
1	12	12	8	11	11	9	6	16	6524	1233	57	53	22	47	49	32	16	104	48
2	18	13	9	9	9	12	9	8	5332	2653	154	65	27	27	30	55	30	26	52
3	9	8	9	8	7	15	17	18	6622	3234	30	22	28	23	20	96	122	161	63
4	16	15	14	14	14	4	4	5	5746	7214	108	94	82	71	85	9	10	13	59
5	14	12	14	16	16	14	9	8	4322	3556	71	58	71	110	105	86	33	25	70
6	9	7	6	3	5	6	5	5	3521	3233	29	20	16	7	12	14	13	12	15
7	5	6	7	8	4	6	5	9	3432	2335	13	15	20	23	8	14	12	29	17
8	8	8	6	5	4	5	9	8	5524	4243	25	21	16	13	10	13	31	26	19
9	11	10	4	3	3	2	3	2	4322	3431	41	35	9	6	7	5	7	5	14
10	3	10	9	7	8	7	6	6	3312	2224	7	35	32	18	22	17	14	15	20
11	2	4	3	4	4	6	3	4	2202	0231	4	8	7	8	9	14	7	8	8
12	4	8	8	9	5	7	7	10	1222	3325	8	23	26	27	12	19	18	37	21
13	6	6	6	6	9	7	4	6	2201	0222	14	14	15	14	30	19	10	15	16
14	5	6	5	7	5	8	7	12	3222	2233	13	15	11	17	11	21	20	55	20
15	11	8	3	6	9	9	7	8	3443	2322	44	26	7	15	33	29	18	22	24
16	11	12	8	6	5	5	5	3	2612	3334	43	51	24	16	13	13	12	6	22
17	8	6	8	7	5	4	8	7	2223	3277	22	14	22	20	12	8	24	17	17
18	5	4	4	7	3	1	2	4	4433	1234	11	10	8	17	6	3	5	10	9
19	4	7	5	3	1	5	2	2	1433	2314	8	17	13	6	3	13	5	5	9
20	1	0	0	0	0	0	1	1	2010	1122	2	0	1	0	1	1	3	3	1
21	2	4	7	7	10	9	11	14	2342	1126	4	9	17	19	36	33	44	82	31
22	13	12	10	13	9	12	12	11	5522	2443	70	57	38	61	30	56	58	45	52
23	14	13	9	9	10	9	6	4	6712	1021	71	63	32	28	36	30	14	10	36
24	10	9	8	6	6	7	5	11	3324	2445	37	27	24	16	14	19	11	47	24
25	19	18	20	19	18	13	13	14	5231	3455	191	150	219	182	163	68	66	86	141
26	11	8	4	4	1	4	7	7	5650	2223	43	23	9	9	3	9	19	18	17
27	11	11	7	8	8	11	12	14	2414	2216	43	47	18	26	26	49	52	82	43
28	12	11	12	12	9	7	9	11	3515	1352	57	44	52	59	28	20	33	43	42
29	12	13	14	12	10	11	13	14	4341	3236	59	61	81	52	40	48	64	72	60
30	13	13	11	11	11	6	7	5	5431	2443	64	61	43	49	43	14	19	13	38
																			33.6

Table 9 - continued

MAY 1979

	3 Kn								σn		an								An
1	9	12	9	10	6	8	8	10	2413	2324	27	51	27	35	14	21	26	37	30
2	12	9	9	7	6	7	8	4	5223	4331	56	31	28	17	16	19	21	9	25
3	7	4	3	5	7	5	5	7	1233	3312	18	10	6	11	17	11	13	17	13
4	7	2	2	4	3	5	8	8	2232	2132	17	4	5	10	7	11	23	22	12
5	6	5	5	7	6	8	6	4	0132	2322	15	12	13	18	14	21	15	10	15
6	3	3	6	6	6	6	4	6	2222	3211	7	7	14	14	16	16	9	16	12
7	6	3	5	9	11	8	8	8	2233	3333	14	7	11	30	44	25	25	21	22
8	3	5	9	6	6	7	5	7	1332	2212	6	13	28	15	16	18	12	17	16
9	4	8	9	10	9	9	10	7	2214	2132	8	22	28	39	29	32	38	18	27
10	4	4	4	5	6	8	7	6	2221	2112	10	8	10	11	16	26	19	15	14
11	8	7	12	9	11	10	8	10	2223	3312	21	20	54	27	41	39	25	35	33
12	8	7	5	9	8	7	7	6	1112	2321	21	17	13	27	24	18	17	15	19
13	6	6	7	6	7	8	6	5	1231	2322	16	14	20	16	18	21	15	13	17
14	7	7	6	6	10	9	7	6	1322	2322	17	20	15	16	36	31	19	16	21
15	7	8	9	8	9	7	7	8	2323	3323	19	23	27	22	27	20	19	24	23
16	6	6	8	4	2	2	5	4	3332	1222	14	16	21	8	5	5	11	9	11
17	4	4	5	2	2	1	2	2	2232	2232	10	9	11	5	4	3	5	4	6
18	4	2	3	5	8	7	10	11	1223	3332	10	5	6	13	23	18	39	44	20
19	12	11	9	11	12	11	10	11	1252	3534	58	48	31	43	53	43	34	44	44
20	7	11	9	8	7	8	8	8	2455	3231	20	44	30	23	20	23	23	26	26
21	3	3	8	6	10	7	10	9	2321	3352	7	7	21	15	34	20	37	31	22
22	13	9	12	13	10	12	12	12	6133	3423	64	32	51	67	37	58	57	60	53
23	10	9	4	4	3	3	8	9	2233	2132	38	29	10	9	7	7	26	27	19
24	9	9	12	10	11	10	10	12	3142	1231	28	33	58	40	46	34	40	51	41
25	11	13	11	10	11	13	12	10	3134	1542	45	68	41	38	41	70	51	37	49
26	12	12	11	9	11	12	8	8	2123	2211	56	51	41	30	42	59	26	26	41
27	8	9	10	9	9	8	8	8	1331	2333	26	32	36	33	29	26	21	21	28
28	8	6	5	2	6	8	10	8	3234	1442	26	14	13	5	15	22	40	23	20
29	6	4	5	5	7	8	16	19	1243	4242	16	9	11	12	17	23	105	175	46
30	11	11	9	7	6	6	2	3	3234	1212	45	50	32	17	14	14	5	6	23
31	1	3	4	9	6	7	6	2	2263	3232	3	6	9	31	16	20	15	5	13
																			24.5

MAY 1979

	3 Ks								σs		as								As
1	11	11	9	9	3	4	7	10	5321	3247	42	48	33	32	6	8	17	38	28
2	10	9	8	6	5	7	7	2	3522	1221	34	29	24	16	13	17	20	4	20
3	6	5	2	3	5	2	4	6	3523	2334	16	11	4	7	11	5	8	14	10
4	6	1	1	4	2	2	7	9	3223	2469	16	3	2	8	4	5	19	30	11
5	6	4	6	8	4	4	4	2	1223	2232	14	10	14	22	10	9	9	4	12
6	1	3	5	3	4	3	1	3	2232	4322	2	7	13	7	8	7	2	6	7
7	4	1	4	6	8	7	8	5	2222	3222	8	3	8	15	22	18	21	11	13
8	1	5	8	5	3	3	3	4	1322	2242	2	13	24	11	6	6	7	10	10
9	2	6	7	9	8	7	10	6	3222	2224	4	16	19	29	26	18	36	15	20
10	3	1	4	2	5	5	5	5	4222	2233	6	3	8	5	11	13	12	11	9
11	6	5	11	7	8	8	7	8	2232	1323	15	13	46	17	26	24	17	24	23
12	7	6	4	6	6	4	4	4	4112	0202	20	16	10	16	15	10	9	8	13
13	4	4	6	4	4	6	3	2	1134	3132	9	9	14	8	8	14	7	5	9
14	5	6	4	5	7	7	4	6	2231	3422	12	14	10	12	19	17	9	16	14
15	6	8	8	5	7	6	4	5	3441	2222	15	22	22	13	17	16	10	13	16
16	6	6	6	2	0	0	2	2	5312	1122	14	14	16	5	1	1	5	4	8
17	3	2	4	1	0	0	0	0	2322	1010	6	5	9	3	1	0	1	0	3
18	4	1	1	3	4	4	7	9	2221	2256	9	3	2	6	10	10	19	32	11
19	12	11	8	9	10	9	8	10	2332	2536	51	44	26	33	40	27	25	36	35
20	8	11	8	6	7	6	6	9	6420	4245	22	46	25	15	18	14	14	27	23
21	2	1	7	5	9	7	11	9	4223	3334	5	2	18	11	29	18	50	33	21
22	13	12	11	12	7	12	12	13	9853	2116	66	52	49	60	18	54	60	65	53
23	9	8	4	2	1	0	9	8	7232	3212	28	21	10	4	3	1	33	22	15
24	9	8	12	11	10	9	9	11	5242	3225	32	26	60	49	38	29	29	42	38
25	11	13	10	10	9	11	12	10	3242	2355	41	64	39	37	33	50	59	39	45
26	11	11	10	8	10	11	7	7	5212	2232	49	47	36	21	37	43	19	19	34
27	9	9	10	9	8	8	7	6	5433	3330	31	31	35	28	22	21	19	15	25
28	8	5	3	1	4	5	8	6	4322	3136	23	11	7	2	9	12	24	14	13
29	5	3	3	5	6	4	11	14	2443	4345	11	6	7	12	15	10	47	77	23
30	9	10	8	3	3	3	1	1	2221	1402	30	39	22	7	6	6	2	2	14
31	0	1	1	7	2	2	3	0	1222	2220	1	3	3	17	5	4	7	0	5
																			18.7

Table 9 - continued

MAY 1979

	3 Km								Σ Km	am								Am	Am2
1	10	11	9	9	4	6	8	10	22.3	34	49	30	33	10	14	21	37	29	28
2	11	9	8	7	6	7	8	3	19.7	45	30	26	17	14	18	21	6	22	19
3	7	5	2	4	6	4	4	6	12.7	17	11	5	9	14	8	10	15	11	11
4	7	2	1	4	3	4	8	8	12.3	17	4	3	9	6	8	21	26	12	12
5	6	5	5	7	5	6	5	3	14.0	14	11	13	20	12	15	12	7	13	13
6	2	3	5	5	5	5	2	5	10.7	5	7	13	11	12	11	5	11	9	11
7	5	2	4	8	9	8	8	6	16.7	11	5	9	22	33	21	23	16	18	15
8	2	5	8	5	5	5	4	5	13.0	4	13	26	13	11	12	10	13	13	17
9	3	7	8	10	9	8	10	7	20.7	6	19	24	34	28	25	37	17	24	17
10	4	2	4	4	5	7	6	5	12.3	8	5	9	8	13	19	15	13	11	19
11	7	7	11	8	10	9	8	9	23.0	18	17	50	22	34	32	21	30	28	22
12	8	6	5	8	7	6	5	5	16.7	21	16	12	22	19	14	13	12	16	19
13	5	5	7	5	5	7	5	4	14.3	12	12	17	12	13	17	11	9	13	14
14	6	7	5	6	9	8	6	6	17.7	14	17	12	14	27	24	14	16	17	17
15	7	8	8	7	8	7	6	7	19.3	17	22	25	17	22	18	14	18	19	18
16	6	6	7	3	1	1	4	3	10.3	14	15	18	6	3	3	8	7	9	11
17	4	3	4	2	1	0	1	1	5.3	8	7	10	4	2	1	3	2	5	5
18	4	2	2	4	7	6	9	10	14.7	10	4	4	10	17	14	29	38	16	19
19	12	11	9	10	11	10	9	10	27.3	55	46	29	38	46	35	30	40	40	33
20	8	11	9	7	7	7	7	9	21.7	21	45	27	19	19	19	19	27	25	24
21	3	2	7	5	9	7	11	9	17.7	6	4	20	13	32	19	44	32	21	30
22	13	11	11	13	9	12	12	13	31.3	65	42	50	63	28	56	58	63	53	39
23	9	8	4	3	2	2	9	8	15.0	33	25	10	7	5	4	30	25	17	32
24	9	9	12	11	11	9	10	11	27.3	30	29	59	45	42	31	34	47	40	35
25	11	13	10	10	10	12	12	10	29.3	43	66	40	37	37	60	55	38	47	43
26	12	11	10	8	10	12	8	8	26.3	52	49	39	25	39	51	22	23	38	39
27	9	9	10	9	8	8	7	7	22.3	29	32	36	30	26	23	20	18	27	25
28	8	5	4	2	5	7	9	7	15.7	24	13	10	4	12	17	32	18	16	16
29	6	4	4	5	6	7	14	17	21.0	14	8	9	12	16	17	76	126	35	30
30	10	11	9	5	4	4	2	2	15.7	38	44	27	12	10	10	4	4	19	26
31	1	2	3	8	5	5	5	1	10.0	2	5	6	24	11	12	11	2	9	8
																		21.7	

JUNE 1979

	3 Km								Σ Km	am								Am	Am2
1	2	2	3	2	1	4	2	5	7.0	5	5	7	4	2	8	5	11	6	8
2	4	7	2	5	4	2	1	7	10.7	8	17	5	13	8	5	3	18	10	7
3	3	0	0	1	3	3	4	4	6.0	6	1	1	2	7	7	8	10	5	7
4	3	4	5	6	5	3	4	2	10.7	7	9	11	14	13	7	10	4	9	8
5	1	3	3	2	3	2	2	2	6.0	3	6	7	4	7	4	5	4	5	7
6	2	5	1	7	9	8	15	15	20.7	4	11	3	20	28	21	103	94	36	31
7	12	14	11	5	8	10	9	9	26.0	52	74	48	12	23	36	29	31	38	40
8	8	8	7	7	6	7	8	7	19.3	25	22	20	17	16	17	24	19	20	23
9	7	8	7	9	7	9	9	7	21.0	18	23	19	28	19	29	33	20	24	23
10	7	7	9	9	7	8	8	6	20.3	19	18	29	29	19	21	22	15	22	21
11	5	8	7	5	7	6	4	5	15.7	13	21	18	12	19	15	9	11	15	15
12	6	6	4	2	2	2	6	5	11.0	14	16	10	5	4	4	14	11	10	10
13	4	1	2	5	7	7	5	7	12.7	8	3	4	11	18	18	11	19	12	11
14	5	7	5	6	4	6	4	3	13.3	13	19	11	14	8	14	9	7	12	14
15	2	6	8	5	7	5	7	7	15.7	5	14	24	12	17	13	18	18	15	16
16	8	8	10	7	10	8	9	8	22.7	23	24	37	19	38	22	30	25	27	23
17	7	9	6	7	8	10	8	5	20.0	20	29	16	18	24	38	23	11	22	21
18	5	7	5	2	2	3	4	2	10.0	11	17	12	5	5	6	9	5	9	14
19	4	8	6	5	4	3	2	4	12.0	9	23	16	13	8	7	5	9	11	10
20	5	3	6	4	7	6	8	7	15.3	11	6	15	9	18	14	25	19	15	14
21	5	7	10	7	9	8	10	10	22.0	12	17	35	18	27	25	36	35	26	24
22	11	5	8	8	10	11	12	11	25.3	47	13	24	25	36	44	55	45	36	36
23	9	11	12	10	7	8	8	11	25.3	31	46	54	37	19	23	22	41	34	35
24	8	9	10	5	5	4	4	6	17.0	22	30	36	13	12	8	10	16	18	20
25	5	8	7	6	5	3	8	4	15.3	13	23	20	16	13	7	21	9	15	13
26	1	3	4	8	11	10	10	10	19.0	2	6	10	21	50	35	36	40	25	21
27	8	8	7	7	8	7	2	1	16.0	21	23	18	17	24	18	5	3	16	20
28	1	2	6	1	1	3	3	4	7.0	3	4	15	3	3	6	7	8	6	8
29	3	1	1	4	4	5	9	5	10.7	6	3	2	10	10	13	28	13	11	10
30	6	6	5	5	4	8	4	8	15.3	15	14	12	12	9	23	9	22	15	15
																		17.5	

Table 9 - continued

JUNE 1979

	3 Kn								σn		an							An
1	3	3	4	3	1	5	3	6	1224	2223	7	6	8	7	3	11	7	16	8
2	4	6	4	6	5	4	3	8	2132	3132	10	14	8	16	13	8	6	22	12
3	4	0	1	2	4	4	4	5	3232	3323	8	1	3	5	9	10	10	13	7
4	4	5	6	6	7	6	6	3	3333	3222	10	12	15	16	18	14	15	7	13
5	3	4	5	4	5	3	4	3	3543	2232	6	10	12	8	11	7	9	7	9
6	3	5	3	9	10	9	17	16	3233	3322	6	11	6	27	40	29	140	109	46
7	12	14	11	6	9	11	10	10	4322	3322	55	75	49	16	31	49	37	39	44
8	8	8	8	8	8	8	9	8	2343	3443	25	25	22	21	23	24	32	25	25
9	7	9	8	9	8	10	10	8	1241	3222	19	30	22	31	25	38	38	23	28
10	7	7	9	9	9	9	8	8	1222	3433	18	18	29	29	27	27	24	22	24
11	6	8	8	6	8	7	5	7	2132	3332	14	24	21	15	24	20	12	17	18
12	7	7	5	3	3	3	7	6	2133	2332	18	18	11	7	6	7	18	14	12
13	4	2	2	6	8	8	6	8	2132	2321	8	4	5	14	25	25	15	23	15
14	6	8	6	7	5	7	6	5	3233	3322	15	21	15	17	11	18	14	11	15
15	3	6	9	6	8	7	7	8	2312	2221	6	16	28	14	23	19	20	22	19
16	7	9	10	8	11	8	9	8	2663	2223	19	27	38	22	42	23	29	26	28
17	7	9	7	7	9	11	8	5	3253	3422	18	29	20	17	32	42	25	13	25
18	5	8	6	4	4	4	5	4	3333	3332	12	22	16	9	8	10	13	8	12
19	4	8	5	5	5	4	4	4	4122	3242	9	26	13	13	11	8	8	10	12
20	4	3	7	5	8	8	8	8	3233	2133	10	6	19	12	24	22	23	24	18
21	6	7	10	7	9	9	10	10	1332	3313	14	17	38	19	28	27	37	37	27
22	11	5	9	8	10	12	13	11	3312	2234	46	13	27	24	37	51	63	49	39
23	9	11	12	10	8	8	9	11	1233	2242	31	46	58	39	26	25	27	41	37
24	7	9	10	6	6	4	6	6	2422	5241	20	29	34	14	15	10	14	16	19
25	6	8	7	7	5	5	7	5	3332	3221	14	24	20	17	13	12	19	12	16
26	2	3	4	8	12	10	10	11	2333	4342	4	7	9	22	58	39	40	46	28
27	8	8	7	8	9	7	4	2	2242	4322	24	24	20	23	27	20	8	5	19
28	2	3	7	2	3	4	4	5	3241	3323	5	7	20	5	6	9	9	11	9
29	3	2	2	5	6	7	9	6	3151	3233	7	5	5	12	15	18	30	16	14
30	6	6	5	6	5	10	6	8	3322	2332	15	15	12	14	12	35	14	26	18
																			20.5

JUNE 1979

	3 Ks								σs		as							As
1	1	1	3	0	0	2	1	3	1341	0423	3	3	7	1	0	5	3	6	4
2	3	7	1	4	1	1	0	5	2522	2103	7	19	3	10	3	2	0	13	7
3	2	0	0	0	2	2	2	3	3000	5344	5	0	0	0	5	5	5	7	3
4	2	3	3	5	3	0	2	0	3333	2131	5	7	7	13	7	1	5	1	6
5	0	0	1	0	1	0	0	0	1341	3211	1	1	3	1	3	1	1	1	2
6	1	5	0	6	6	5	13	14	2612	3222	2	11	1	14	16	12	67	79	25
7	11	14	11	4	6	8	8	8	3233	2223	49	73	47	9	15	22	21	24	33
8	8	7	7	5	4	4	7	5	4232	2333	26	19	18	12	8	10	17	13	15
9	6	7	6	8	5	8	9	7	3211	1333	16	17	16	25	13	21	28	18	19
10	7	7	9	9	5	6	7	4	3322	2102	20	19	28	29	12	16	19	8	19
11	5	7	6	4	6	4	3	2	2222	2203	11	17	15	8	14	9	7	5	11
12	4	6	4	1	1	0	4	4	3222	4124	10	14	8	3	3	1	9	8	7
13	3	1	1	4	5	5	3	6	3121	2243	7	2	3	8	11	12	7	15	8
14	4	7	4	5	3	4	2	1	5212	2322	10	17	8	11	6	10	4	3	9
15	2	5	8	4	5	3	6	6	2324	2344	4	11	21	10	11	7	16	14	12
16	9	8	10	7	10	7	9	8	6442	3334	27	22	36	17	34	20	32	24	27
17	8	9	5	7	6	9	8	4	5013	2463	22	30	12	18	15	33	22	9	20
18	4	5	4	0	1	0	2	1	2211	3222	10	13	8	1	2	1	5	3	5
19	4	7	7	5	3	2	1	4	6373	3523	9	20	20	13	6	5	3	9	11
20	5	2	5	2	5	3	9	6	4331	2454	12	5	12	5	13	6	27	14	12
21	4	7	9	7	8	8	10	9	2443	5234	10	17	32	17	26	22	36	32	24
22	11	5	8	8	10	10	11	11	4335	4447	47	13	21	26	36	37	47	41	34
23	9	11	11	10	5	7	7	10	5545	2432	32	46	50	35	12	20	17	40	32
24	8	9	10	5	4	3	3	6	5542	4424	24	31	37	12	8	7	6	16	18
25	5	8	7	6	5	1	8	3	2354	3323	11	22	20	14	12	3	23	6	14
26	0	2	5	8	11	9	9	9	1453	2464	1	5	11	21	43	31	32	33	22
27	7	8	6	5	8	6	1	0	3442	5421	19	22	16	12	22	16	3	1	14
28	0	1	4	0	0	1	2	2	1120	0323	1	2	9	0	0	3	4	4	3
29	3	1	0	3	3	4	8	4	5204	2555	6	2	0	7	6	9	25	9	8
30	6	6	5	4	2	5	2	7	5432	3335	14	14	13	9	5	11	4	18	11
																			14.5

Table 9 - continued

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	3 Kn								σn									an								An
1	6	5	9	8	4	7	5	3	1233	2223	14	11	30	25	10	18	13	7	16
2	5	3	1	3	5	3	4	4	2224	2223	11	6	3	7	12	7	9	8	8
3	3	2	10	14	10	9	8	9	1154	3231	6	5	35	75	39	28	22	32	30
4	8	9	10	6	5	2	5	5	2222	2221	25	33	34	14	11	5	11	13	18
5	3	5	6	8	6	9	8	7	1223	3222	6	11	15	26	16	29	22	19	18
6	3	7	9	11	8	6	15	12	1333	2232	7	20	28	44	24	16	91	52	35
7	12	10	9	7	13	12	9	7	1333	5312	55	35	29	20	62	56	33	20	39
8	7	7	7	8	7	8	8	7	2332	1324	19	18	19	23	19	25	22	19	21
9	4	5	4	5	5	8	4	4	2224	3522	8	13	8	11	13	25	8	9	12
10	3	6	3	3	6	5	7	5	1423	3312	6	14	6	7	16	12	17	13	11
11	4	4	6	6	3	2	4	4	2243	2222	8	8	16	14	6	5	9	9	9
12	3	4	2	4	8	11	11	7	0141	3321	6	9	4	8	24	43	42	19	19
13	8	8	7	8	9	11	8	5	3122	2323	21	26	19	26	30	45	21	12	25
14	6	4	4	7	7	6	11	12	0323	3141	15	10	8	18	20	16	44	56	23
15	10	10	8	8	8	8	9	8	3332	3302	40	34	25	26	22	21	29	25	28
16	8	7	8	7	6	6	8	10	1134	2332	26	17	26	19	15	15	26	34	22
17	8	9	6	8	9	7	8	12	2142	3321	22	27	15	25	31	20	23	54	27
18	9	9	9	8	8	7	7	10	1013	2213	30	29	33	25	22	20	20	37	27
19	10	10	7	4	7	6	6	9	3222	3123	34	35	19	10	20	14	16	31	22
20	2	7	7	11	12	9	9	11	1334	3243	5	20	19	47	51	28	30	43	30
21	7	8	6	8	6	7	7	8	2224	4435	20	23	15	25	14	18	17	21	19
22	6	5	5	4	4	6	6	3	1131	2232	14	11	12	10	8	14	14	7	11
23	3	8	4	4	5	4	5	7	1432	3223	6	25	10	9	11	10	13	18	13
24	7	5	4	3	5	5	3	5	2133	3121	17	12	10	6	13	11	7	11	11
25	5	4	4	1	0	3	2	3	2232	1422	12	8	8	3	1	6	4	7	6
26	2	3	6	6	4	4	12	14	2123	3223	4	7	14	14	9	10	57	80	24
27	14	12	6	10	8	12	8	9	3635	3414	76	57	14	37	24	59	24	28	40
28	11	8	2	4	3	6	5	9	3142	1212	43	22	4	8	7	16	12	30	18
29	8	9	11	10	11	12	12	12	3334	3333	22	32	42	36	47	52	59	60	44
30	9	7	5	9	8	7	6	3	0222	1222	29	20	13	29	22	18	14	7	19
31	0	3	1	2	1	1	2	0	1321	2231	1	6	3	5	3	3	5	1	3
																			20.9

JULY 1979

	3 Ks								σs									as								As
1	5	5	7	5	4	2	3	1	4423	5332	13	13	17	12	8	4	6	3	10
2	5	2	0	0	0	0	0	1	6210	2112	11	5	1	0	1	1	1	3	3
3	0	1	8	10	7	6	6	6	1241	1144	1	3	25	40	17	15	14	16	16
4	8	10	10	4	1	1	2	2	2632	2222	25	40	35	8	3	2	4	4	15
5	1	4	5	6	4	5	6	5	2320	2342	3	10	11	15	8	13	15	11	11
6	4	6	7	8	6	5	12	9	5433	1231	8	14	17	26	16	11	58	27	22
7	10	8	7	5	13	11	8	4	6222	3212	35	23	17	12	64	44	24	10	29
8	5	6	4	4	4	4	4	6	4323	2226	11	16	10	10	8	9	9	14	11
9	1	4	2	4	4	7	1	3	3212	3222	3	8	5	9	8	17	3	7	8
10	1	6	1	1	4	2	3	3	2622	2203	2	14	2	2	8	4	7	6	6
11	2	3	5	5	0	0	1	2	3322	1123	4	6	12	11	1	1	3	4	5
12	1	2	1	0	4	8	9	5	2411	2432	3	5	2	1	10	23	29	11	11
13	8	9	7	7	9	8	5	3	6422	3233	22	27	17	18	29	26	13	7	20
14	6	5	2	5	5	2	11	11	5432	3443	15	13	5	11	13	4	44	46	19
15	10	9	8	7	6	6	8	7	3441	2432	35	33	23	18	14	15	26	19	23
16	9	8	8	5	3	2	6	8	5533	2343	33	22	23	11	6	4	15	24	17
17	8	9	5	9	8	5	4	12	2513	3327	23	28	12	27	25	11	9	56	24
18	10	7	9	7	8	5	5	9	7342	2535	34	20	28	20	21	13	13	33	23
19	11	9	6	2	5	2	3	9	6212	1414	47	32	14	5	13	5	6	31	19
20	3	7	5	10	10	7	7	11	3314	2327	7	19	11	37	35	20	18	43	24
21	6	8	5	7	5	4	7	8	4423	1352	16	22	12	20	13	10	19	22	17
22	4	6	5	3	1	1	2	2	3533	2321	10	14	13	7	3	3	4	4	7
23	1	7	6	1	2	3	3	4	2552	1122	3	20	15	3	5	6	6	9	8
24	8	7	3	0	3	3	1	2	5731	1313	22	17	7	1	7	6	2	5	8
25	4	4	2	0	0	0	0	0	4320	0111	9	10	5	0	0	1	1	1	3
26	0	2	5	4	3	4	12	14	0224	3546	0	4	12	8	7	8	55	86	23
27	15	11	5	5	5	8	7	6	9543	2424	95	44	11	13	11	26	18	15	29
28	11	8	1	1	1	3	3	7	7632	2332	49	23	3	3	2	7	7	18	14
29	7	9	9	7	8	8	11	10	3332	2345	17	27	29	20	25	26	41	40	28
30	8	5	4	7	7	5	5	1	3223	4231	21	13	9	18	17	12	11	2	13
31	0	2	0	1	0	0	0	0	0213	1100	0	5	1	3	1	1	0	0	1
																			15.1

Table 9 - continued

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	3 Km								Σ Km	am								Am	Am2
1	5	5	8	7	4	5	4	2	13.3	13	12	24	18	9	11	9	5	13	12
2	5	2	1	1	3	2	2	2	6.0	11	5	2	3	7	4	3	5	5	11
3	2	2	9	12	9	8	7	8	19.0	4	4	30	57	28	21	18	24	23	20
4	8	10	10	5	3	2	4	4	15.3	25	36	34	11	7	4	8	9	17	17
5	2	5	5	7	5	8	7	6	15.0	4	11	13	20	12	21	19	15	14	14
6	4	7	8	10	7	5	14	10	21.7	8	17	22	35	20	13	74	39	29	26
7	11	9	8	6	13	11	9	6	24.3	45	29	23	16	63	50	28	15	34	30
8	6	7	6	6	5	7	6	7	16.7	15	17	14	16	13	17	16	17	16	20
9	3	4	3	4	4	8	2	4	10.7	6	10	6	10	10	21	5	8	10	10
10	2	6	2	2	5	4	5	4	10.0	4	14	4	4	12	8	12	9	8	9
11	3	3	6	5	1	1	3	3	8.3	6	7	14	12	3	3	6	6	7	7
12	2	3	1	2	7	9	10	6	13.3	5	7	3	4	17	33	36	15	15	14
13	8	9	7	8	9	10	7	4	20.7	22	27	18	22	29	35	17	10	23	20
14	6	5	3	6	6	4	11	12	17.7	15	11	6	14	16	10	44	51	21	23
15	10	10	8	8	7	7	9	8	22.3	37	34	24	22	18	18	28	22	25	26
16	9	7	8	6	5	4	8	9	18.7	30	19	24	15	11	9	21	29	20	21
17	8	9	5	8	9	6	6	12	21.0	22	28	13	26	28	16	16	55	26	24
18	9	8	9	8	8	6	7	10	21.7	32	25	31	23	22	16	17	35	25	26
19	11	9	7	3	7	4	5	9	18.3	41	33	17	7	17	10	11	31	21	21
20	3	7	6	11	11	8	8	11	21.7	6	20	15	42	43	24	24	43	27	23
21	7	8	5	8	6	6	7	8	18.3	18	23	13	22	14	14	18	22	18	20
22	5	5	5	4	2	4	4	3	10.7	12	13	12	9	5	8	9	6	9	12
23	2	8	5	3	4	4	4	5	11.7	4	22	12	6	8	8	9	13	10	10
24	7	6	4	1	4	4	2	4	10.7	20	14	8	3	10	8	4	8	9	9
25	4	4	3	1	0	1	1	2	5.3	10	9	6	2	1	3	3	4	5	6
26	1	3	5	5	4	4	12	14	16.0	2	6	13	11	8	9	56	83	24	23
27	14	11	5	8	7	11	8	8	24.0	85	50	12	25	17	42	21	22	34	32
28	11	8	1	3	2	5	4	8	14.0	46	22	3	6	5	11	10	24	16	21
29	7	9	10	9	10	10	11	11	25.7	19	29	35	28	36	39	50	50	36	26
30	8	6	5	8	7	6	5	2	15.7	25	16	11	24	19	15	13	4	16	20
31	0	2	1	2	1	1	1	0	2.7	1	5	2	4	2	2	2	1	2	7
																		18.0	

AUG. 1979

	3 Km								Σ Km	am								Am	Am2
1	0	0	1	10	11	8	7	10	15.7	1	0	2	35	43	23	20	35	20	18
2	8	8	10	8	4	7	5	1	17.0	25	24	40	26	9	18	11	3	20	23
3	5	8	9	9	7	5	3	8	18.0	11	26	28	30	20	11	6	21	19	18
4	7	9	9	7	9	6	10	8	21.7	20	29	30	19	31	15	34	24	25	20
5	3	8	6	5	2	5	7	7	14.3	7	21	15	11	4	12	18	17	13	22
6	8	9	12	10	10	9	5	5	22.7	24	29	57	38	35	29	13	11	30	23
7	5	6	9	7	7	6	10	8	19.3	12	15	31	20	18	15	36	24	21	20
8	6	7	5	5	5	5	8	5	15.3	14	17	12	12	13	11	21	12	14	16
9	6	5	4	5	6	5	3	1	11.7	14	12	9	11	14	13	6	2	10	11
10	2	5	4	4	7	6	8	7	14.3	4	11	8	10	19	15	23	18	14	12
11	7	5	4	5	6	4	8	8	15.7	19	13	8	11	15	9	26	26	16	19
12	9	6	7	10	4	5	11	14	22.0	28	16	20	39	10	13	42	72	30	33
13	9	4	12	16	18	16	16	14	35.0	27	10	53	120	147	110	117	72	82	54
14	11	4	4	2	2	5	6	4	12.7	41	10	8	5	5	11	15	9	13	36
15	2	5	3	2	2	3	4	4	8.3	4	11	7	4	5	7	10	10	7	9
16	4	4	7	4	4	2	1	3	9.7	10	8	18	10	9	5	3	7	9	9
17	6	4	6	2	1	7	8	4	12.7	16	10	15	4	3	20	24	8	13	10
18	4	3	3	3	6	6	7	13	15.0	9	7	6	6	16	15	19	68	18	32
19	15	13	14	14	11	10	8	11	32.0	92	67	74	73	42	36	25	46	57	45
20	10	8	13	9	9	17	16	11	31.0	37	23	61	31	29	137	115	42	59	51
21	14	11	10	10	9	8	9	7	26.0	74	45	37	38	29	22	31	17	37	44
22	8	9	7	7	8	7	7	4	19.0	24	27	20	18	24	20	20	10	20	18
23	2	3	5	3	5	1	4	3	8.7	4	7	12	7	11	3	8	7	7	10
24	2	3	2	5	6	11	10	8	15.7	4	6	5	12	14	42	34	21	17	17
25	5	6	9	11	10	10	11	11	24.3	12	15	27	50	38	36	44	44	33	31
26	9	8	10	7	8	6	9	3	20.0	32	23	40	19	22	14	32	7	24	28
27	5	9	9	9	7	8	7	4	19.3	13	31	28	30	17	25	18	9	21	20
28	7	6	6	8	6	6	2	8	16.3	20	16	16	22	15	15	5	22	16	28
29	6	13	14	15	16	18	17	15	38.0	16	61	71	97	118	155	138	97	94	61
30	13	11	9	7	5	3	3	4	18.3	66	45	29	18	12	7	7	9	24	47
31	4	4	5	8	9	6	7	8	17.0	8	8	12	22	33	15	20	26	18	13
																		25.8	

Table 9 - continued

AUG. 1979

	3 Kn								σn									An
1	1	0	1	11	12	9	8	9	1013 3333	2	0	3	42	52	31	25	33	24
2	8	8	11	9	5	8	6	2	3423 2232	23	26	46	31	11	24	14	5	23
3	5	9	9	9	8	5	4	8	1122 3212	13	28	29	32	21	13	8	24	21
4	8	9	9	8	9	7	9	8	2533 1333	21	30	33	23	33	20	33	21	27
5	4	7	6	5	4	7	8	7	2323 2231	8	20	14	13	8	17	22	20	15
6	9	10	13	11	11	10	6	6	2234 2323	31	34	63	43	43	34	16	14	35
7	5	5	10	7	7	6	10	9	2143 2132	12	13	36	20	18	14	34	28	22
8	7	7	5	5	6	6	8	7	2233 2321	17	17	13	12	14	15	21	17	16
9	7	5	5	5	6	6	4	2	3322 2312	18	13	13	12	16	14	9	4	12
10	3	5	4	5	7	7	9	7	3333 4213	6	11	9	12	19	19	29	19	16
11	7	5	5	5	7	5	9	9	1233 3225	18	12	11	12	17	12	32	30	18
12	8	6	8	11	5	7	11	15	2152 3224	26	15	22	44	13	18	46	92	35
13	8	5	12	17	18	17	16	14	2343 3244	26	11	57	124	172	138	116	80	91
14	10	5	5	3	4	6	7	5	4232 2231	35	11	11	7	10	16	18	11	15
15	2	5	4	3	4	4	5	5	2442 1222	5	12	9	7	8	10	11	12	9
16	4	4	8	5	6	3	3	5	3232 2312	10	9	22	11	14	7	6	11	11
17	6	4	7	3	2	8	9	5	2232 2312	14	10	18	6	5	23	28	11	14
18	4	4	3	3	8	7	7	13	2222 2242	9	8	7	7	21	19	19	70	20
19	15	13	14	14	11	11	9	12	5354 2321	91	65	73	86	50	43	30	58	62
20	9	8	12	10	10	18	17	12	4234 2433	28	26	60	34	37	152	121	54	64
21	14	11	10	10	10	9	10	7	3443 3232	78	47	38	39	35	27	36	20	40
22	8	9	8	8	9	8	8	5	2433 3343	24	30	25	23	31	26	26	13	25
23	2	3	6	4	7	2	5	4	3242 4442	4	7	15	9	17	5	12	10	10
24	2	3	3	6	7	11	11	8	1443 2422	5	7	7	14	18	50	42	25	21
25	5	6	9	12	10	11	12	12	1424 2212	12	15	28	57	39	45	54	56	38
26	10	8	11	8	8	7	11	4	4332 4332	34	26	44	23	24	18	41	9	27
27	6	10	9	9	7	9	8	5	2432 2323	15	35	30	31	20	32	22	12	25
28	7	7	7	9	7	7	3	8	3333 1213	20	18	17	29	18	20	7	24	19
29	7	13	14	15	17	18	17	15	5235 5466	19	66	76	98	126	171	138	91	98
30	13	10	8	7	5	5	5	4	3422 2432	61	39	24	20	12	12	12	10	24
31	3	3	6	8	10	7	9	9	1112 3252	7	7	14	26	35	19	27	27	20
																		28.9

AUG. 1979

	3 Ks								σs									As
1	0	0	0	9	9	6	6	10	0012 3225	0	0	1	27	33	15	16	37	16
2	9	8	10	8	4	5	4	0	4444 2221	27	22	35	21	8	13	9	1	17
3	4	8	8	9	7	4	2	7	2222 4444	9	25	26	29	19	10	5	17	18
4	7	9	8	6	9	4	10	9	3552 3343	18	27	26	15	28	10	35	27	23
5	2	8	6	4	0	4	6	6	3462 1244	5	21	16	9	1	8	14	14	11
6	7	8	12	10	8	8	4	3	4212 2322	17	24	52	34	26	23	10	7	24
7	5	7	8	7	7	7	10	7	4234 3445	12	17	26	19	17	17	39	19	21
8	5	7	5	5	5	3	7	3	4342 2324	11	17	12	12	11	7	20	7	12
9	5	4	2	4	5	5	1	0	3513 2331	11	10	5	9	12	13	3	1	8
10	1	4	3	4	7	5	7	7	3532 5444	2	10	7	9	19	11	17	17	12
11	7	6	3	4	5	3	7	8	3432 3455	20	14	6	10	13	7	20	22	14
12	9	6	7	10	3	4	10	12	4424 2357	30	16	18	34	6	8	39	53	26
13	9	4	11	16	17	14	16	13	4343 2357	29	10	49	115	123	82	118	64	74
14	11	4	3	1	0	3	5	3	8332 1444	46	9	6	3	1	7	12	7	11
15	1	4	2	0	1	2	4	4	2431 2245	3	10	5	1	2	4	8	8	5
16	4	4	6	4	2	1	0	1	2322 2211	10	8	14	10	4	3	1	3	7
17	7	4	5	0	0	7	7	2	3321 1232	18	9	12	1	1	17	19	4	10
18	4	3	2	2	5	5	7	13	3421 6454	10	6	4	4	11	12	19	66	17
19	15	13	14	13	10	9	7	10	7441 2425	93	68	74	61	34	28	19	35	52
20	11	7	13	9	8	17	16	9	5624 3214	45	20	62	28	21	122	110	31	55
21	14	11	10	10	8	7	8	6	6654 2234	71	44	35	38	23	17	26	15	34
22	8	8	6	6	7	5	6	4	5512 2452	24	24	16	14	17	13	14	8	16
23	1	3	4	2	2	0	2	2	2123 3122	3	6	9	5	5	1	4	4	5
24	1	3	1	4	4	9	8	7	2121 3124	2	6	3	10	10	33	26	17	13
25	5	6	8	11	10	9	10	9	3434 2334	13	16	26	42	37	27	34	32	28
26	9	8	10	6	7	4	8	2	5520 2534	29	21	36	15	19	9	23	5	20
27	5	8	8	9	5	7	6	2	2422 3234	12	26	26	30	13	18	15	5	18
28	7	6	6	6	5	4	1	7	6321 2323	20	15	14	16	12	10	3	20	14
29	5	12	13	15	16	17	17	15	4422 2449	13	56	65	96	110	139	139	102	90
30	14	12	10	6	5	1	1	3	6130 2331	71	51	34	15	12	3	3	7	25
31	4	4	5	7	9	5	5	8	2132 1223	8	9	11	19	32	12	13	25	16
																		23.0

Table 9 - continued

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	3 Kn								σn																Ân
1	5	1	2	6	5	5	10	9	2112	3331	11	3	4	14	12	13	37	30	16
2	7	2	3	4	3	6	3	5	2112	2032	17	5	7	8	6	15	7	13	10
3	9	5	6	6	8	4	7	4	3223	3221	28	13	16	15	26	9	19	8	17
4	1	7	8	8	8	9	7	7	1232	2122	3	18	25	21	23	28	19	17	19
5	9	8	7	8	9	10	11	8	6322	1143	32	22	18	21	32	34	48	26	29
6	9	11	8	8	9	8	3	5	4513	4332	28	42	25	21	27	26	7	13	24
7	6	7	3	3	2	2	4	2	2513	2323	14	20	7	6	4	5	10	5	9
8	4	3	8	7	4	5	7	5	2233	2222	8	7	26	17	10	11	17	12	14
9	5	4	4	2	3	4	4	7	2131	3344	11	8	10	4	6	9	10	18	10
10	6	7	5	7	6	8	8	6	3222	2243	14	19	11	18	16	22	25	16	18
11	5	4	8	11	9	10	7	6	3443	2231	13	9	21	44	31	40	18	15	24
12	6	2	3	2	4	6	7	10	4112	2224	16	5	6	4	10	15	18	38	14
13	7	7	3	4	7	4	4	7	4522	4332	17	17	6	8	18	10	9	17	13
14	3	3	5	4	1	5	11	9	2142	3252	7	6	12	9	3	13	42	33	16
15	7	4	3	7	7	6	5	5	3222	3121	17	8	7	20	19	14	11	13	14
16	8	7	6	8	9	7	5	7	4213	4323	25	18	16	25	27	17	13	20	20
17	5	6	6	7	7	8	6	10	2232	2112	13	15	14	20	19	21	16	37	19
18	14	12	18	18	16	15	11	8	2355	4153	77	58	161	150	119	96	43	23	91
19	5	4	4	3	4	3	7	8	3311	1232	12	8	8	6	8	7	18	26	12
20	7	3	5	8	14	13	7	10	2221	2312	20	7	13	21	75	66	18	39	32
21	12	14	9	7	7	5	8	8	4523	3321	56	72	27	19	20	12	26	24	32
22	7	5	2	3	8	4	3	4	3121	3122	17	12	4	7	24	9	7	8	11
23	4	5	5	2	6	7	4	2	3142	3432	10	13	11	4	16	19	10	5	11
24	2	8	5	9	12	8	6	10	3222	4247	4	21	13	27	55	21	15	37	24
25	9	9	9	3	4	11	11	9	4323	2242	30	28	29	6	10	41	43	32	27
26	10	8	9	7	9	9	11	9	2322	2222	34	25	30	19	28	33	43	33	31
27	8	12	4	6	8	8	8	7	1433	2233	26	51	10	15	26	21	22	18	24
28	6	10	9	7	7	8	9	10	1334	3333	16	40	31	20	20	24	32	37	28
29	10	8	6	4	10	9	7	8	1223	1322	35	26	15	9	34	32	17	24	24
30	10	10	9	6	8	9	6	9	2223	4113	35	37	30	16	21	33	16	29	27
																			22.0

SEP. 1979

	3 Ks								σs										As
1	5	2	1	4	3	4	9	7	5413	3344	11	5	2	10	7	10	31	17	12
2	7	3	2	3	2	5	1	3	2122	2324	17	6	5	6	4	11	3	7	7
3	8	5	8	5	7	2	5	2	3323	5443	26	13	24	13	18	4	12	5	14
4	1	8	9	7	5	7	7	6	2533	3422	2	21	31	19	13	19	18	15	17
5	8	8	6	7	9	8	12	9	4522	3253	23	26	14	20	32	23	53	28	27
6	9	11	10	7	8	6	1	3	6542	2223	28	42	40	20	22	16	3	7	22
7	7	8	1	2	2	2	3	2	3523	3303	18	22	3	4	5	5	7	4	9
8	3	4	9	7	4	2	4	5	3353	2322	7	9	29	20	8	4	10	11	12
9	6	5	5	0	1	3	4	5	2421	3343	14	12	12	1	2	6	9	13	9
10	7	8	5	7	5	7	8	7	3224	1244	18	24	11	18	12	20	23	17	18
11	5	4	8	11	9	10	6	5	2343	2322	13	8	24	43	29	37	14	13	23
12	7	4	2	0	3	4	7	8	3321	4236	19	8	5	1	7	10	17	24	11
13	6	5	3	3	6	3	2	5	3331	4324	16	12	6	6	14	6	5	13	10
14	4	4	4	3	1	3	11	10	3211	2623	10	8	8	7	2	7	43	38	15
15	8	6	4	7	6	3	2	4	4232	4433	25	15	9	18	15	6	5	8	13
16	9	7	6	7	8	5	4	8	1223	4325	33	18	16	20	25	12	8	23	19
17	6	7	5	6	6	6	4	11	3331	2425	14	17	11	16	14	16	10	50	19
18	14	15	18	18	17	15	9	8	3113	2544	79	100	152	147	131	102	31	21	95
19	7	4	4	2	2	1	5	8	2322	4334	17	10	8	4	5	2	12	22	10
20	8	3	6	7	11	12	7	9	5112	3324	23	6	14	18	46	58	19	31	27
21	13	13	8	7	7	4	8	8	6222	3532	61	61	23	19	18	8	23	21	29
22	8	5	1	3	7	4	3	4	3221	4444	24	11	3	6	17	8	7	9	11
23	7	7	5	1	5	7	4	2	3452	5323	18	18	11	2	12	17	9	5	12
24	3	7	6	8	9	8	5	9	2323	5329	6	20	14	25	28	24	13	28	20
25	11	9	9	2	4	11	10	10	5241	2324	42	30	29	5	9	44	36	35	29
26	9	9	9	7	9	9	11	8	3323	0422	32	28	28	20	30	27	44	26	29
27	8	10	4	6	7	7	8	5	2633	3253	26	36	10	14	20	17	22	12	20
28	6	9	9	7	7	8	8	9	4344	2221	15	32	27	18	17	21	21	32	23
29	10	9	6	4	9	8	6	9	5323	1215	35	32	14	8	33	23	16	27	24
30	11	11	9	6	8	9	5	8	3511	4433	41	45	32	16	22	29	11	26	28
																			20.5

Table 9 - continued

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	3 Km								Σ Km	am							Am	Am2
1	5	2	1	5	4	5	10	8	13.3	11	4	3	12	9	11	34	24	14	15
2	7	2	3	3	2	5	2	4	9.3	17	5	6	7	5	13	5	10	9	14
3	9	5	7	6	8	3	6	3	15.7	27	13	20	14	22	7	15	6	16	14
4	1	7	9	7	7	8	7	6	17.3	3	19	28	20	18	24	19	16	18	18
5	9	8	6	8	9	9	11	9	23.0	27	24	16	21	32	28	50	27	28	27
6	9	11	9	8	8	8	2	4	19.7	28	42	33	21	25	21	5	10	23	23
7	6	8	2	2	2	2	4	2	9.3	16	21	5	5	5	5	8	5	9	12
8	3	4	9	7	4	3	6	5	13.7	7	8	27	19	9	7	14	12	13	10
9	5	4	5	1	2	4	4	6	10.3	12	10	11	2	4	8	10	15	9	11
10	6	8	5	7	6	8	8	7	18.3	16	22	11	18	14	21	24	17	18	17
11	5	4	8	11	9	10	6	6	19.7	13	9	23	43	30	38	16	14	23	18
12	7	3	2	1	4	5	7	9	12.7	17	7	5	2	8	13	17	31	13	15
13	6	6	3	3	6	4	3	6	12.3	16	15	6	7	16	8	7	15	11	12
14	4	3	4	4	1	4	11	10	13.7	9	7	10	8	3	10	43	35	16	14
15	8	5	4	7	7	4	4	5	14.7	21	12	8	19	17	10	8	11	13	18
16	9	7	6	8	8	6	4	8	18.7	29	18	16	22	26	14	10	22	20	16
17	6	6	5	7	7	7	5	11	18.0	14	16	12	18	17	19	13	44	19	43
18	14	14	18	18	17	15	10	8	38.0	78	79	157	149	125	99	37	22	93	55
19	6	4	4	2	3	2	6	8	11.7	14	9	8	5	7	4	15	24	11	27
20	8	3	6	7	12	13	7	10	22.0	21	7	14	20	60	62	19	35	30	29
21	12	13	8	7	7	4	8	8	22.3	58	66	25	19	19	10	24	22	30	29
22	7	5	1	3	8	4	3	4	11.7	20	11	3	6	21	9	7	8	11	13
23	6	6	5	1	6	7	4	2	12.3	14	15	11	3	14	18	10	5	11	13
24	2	8	5	8	11	8	6	9	19.0	5	21	13	26	41	22	14	33	22	20
25	10	9	9	2	4	11	10	10	21.7	36	29	29	5	9	42	39	34	28	28
26	9	9	9	7	9	9	11	9	24.0	33	27	29	19	29	30	43	29	30	29
27	8	11	4	6	8	7	8	6	19.3	26	44	10	14	23	19	22	15	22	25
28	6	10	9	7	7	8	8	10	21.7	15	36	29	19	18	23	26	34	25	23
29	10	9	6	4	10	9	6	8	20.7	35	29	15	9	34	27	16	26	24	26
30	10	11	9	6	8	9	5	9	22.3	38	41	31	16	21	31	13	27	27	25
																		21.2	

OCT. 1979

	3 Km								Σ Km	am							Am	Am2
1	9	5	3	8	8	8	1	4	15.3	29	12	7	26	25	25	3	10	17	16
2	1	1	1	4	5	7	9	9	12.3	3	3	3	10	12	20	28	29	14	17
3	10	9	7	4	5	10	8	5	19.3	40	31	17	8	13	35	23	13	23	25
4	8	6	10	11	1	3	1	0	13.3	23	15	38	49	3	6	2	0	17	15
5	0	2	2	2	6	7	6	7	10.7	1	4	5	4	15	17	15	20	10	15
6	9	7	11	12	15	15	8	8	28.3	27	20	42	59	88	88	24	24	47	38
7	9	12	11	9	14	12	12	12	30.3	32	55	49	30	81	53	52	52	51	54
8	14	11	10	14	11	12	9	12	31.0	76	45	38	84	42	53	29	60	53	52
9	10	8	11	12	8	9	9	8	25.0	39	22	46	59	26	27	30	24	34	35
10	10	9	8	8	11	6	9	6	22.3	36	28	21	24	41	14	29	16	26	23
11	1	2	7	8	9	10	6	5	16.0	3	5	20	25	30	35	14	11	18	18
12	2	3	4	7	7	5	8	11	15.7	5	7	8	19	18	13	21	41	17	18
13	7	7	8	6	4	8	8	8	18.7	17	18	23	14	9	21	25	25	19	19
14	7	2	7	6	4	6	2	2	12.0	19	5	18	14	8	14	5	4	11	13
15	2	2	4	8	8	7	7	6	14.7	5	4	8	21	26	20	20	15	15	13
16	7	7	4	4	6	2	5	4	13.0	18	18	10	8	16	5	13	9	12	13
17	3	4	3	2	3	1	1	4	7.0	6	9	7	4	7	3	3	10	6	7
18	3	3	3	0	0	0	1	3	4.3	6	7	7	1	1	0	2	7	4	5
19	2	2	2	3	6	5	3	5	9.3	4	5	5	7	14	11	7	12	8	7
20	5	1	5	6	4	6	5	5	12.3	12	3	13	16	10	15	12	13	12	11
21	4	6	4	5	6	9	7	10	17.0	9	14	8	13	14	28	18	38	18	18
22	8	8	9	7	7	9	7	6	20.3	25	23	27	17	17	32	19	16	22	20
23	4	4	4	6	6	7	7	6	14.7	9	10	8	14	14	17	18	16	13	17
24	4	8	8	8	10	8	6	2	18.0	8	21	22	26	34	23	14	5	19	19
25	5	6	10	7	7	7	8	8	19.3	11	16	39	19	20	18	24	22	21	18
26	4	6	3	5	7	5	5	5	13.3	9	15	6	11	17	13	13	13	12	14
27	1	4	6	4	3	5	7	4	11.3	3	8	15	9	6	11	17	9	10	12
28	5	6	5	8	8	4	5	9	16.7	11	14	13	22	26	10	11	29	17	15
29	9	8	2	4	5	6	7	7	16.0	29	21	5	8	11	16	19	18	16	16
30	6	4	4	5	4	1	1	0	8.3	16	10	9	13	8	3	2	1	8	9
31	1	1	3	4	6	7	6	7	11.7	2	3	6	9	15	17	14	17	10	11
																		18.7	

Table 9 - continued

OCT. 1979

	3 Kn								σn		an						An
1	8	5	4	8	9	9	2	4	2113	3313	26	12	8	26	29	27	4	9	18
2	1	0	1	4	6	8	9	9	2112	3333	2	1	2	10	14	23	31	32	14
3	11	9	6	4	5	10	8	5	5512	2332	46	32	16	8	13	38	25	13	24
4	8	5	11	12	2	3	1	0	2334	3310	22	13	41	54	4	7	2	0	18
5	0	1	2	2	7	7	6	7	0333	3432	0	3	5	4	18	20	16	20	11
6	9	8	12	12	14	14	8	9	6373	2212	30	21	53	55	78	86	24	27	47
7	9	11	11	9	14	12	12	11	3321	3343	29	50	41	31	84	53	54	48	49
8	14	12	11	14	12	13	10	12	5537	3413	78	52	41	86	51	63	34	53	57
9	10	8	11	14	9	9	9	8	3243	5231	38	22	49	71	33	28	32	24	37
10	10	9	8	8	11	6	10	7	2112	4244	37	32	22	23	47	15	36	17	29
11	2	2	7	8	9	9	5	5	1232	3224	4	4	19	23	31	33	12	12	17
12	2	3	2	7	7	5	7	11	2213	4224	4	7	5	18	19	12	20	45	16
13	7	6	7	6	4	8	9	8	4323	3212	18	16	19	14	9	24	28	25	19
14	7	2	6	6	4	6	3	2	2134	2111	18	4	16	14	8	16	6	4	11
15	1	1	3	8	9	8	7	6	3224	3222	3	3	7	23	32	23	20	16	16
16	7	7	5	4	6	3	5	4	3544	3131	19	17	12	9	16	7	13	10	13
17	3	3	4	2	3	2	2	5	2334	3333	6	7	8	5	7	4	4	12	7
18	3	2	3	1	1	0	1	4	2211	1022	7	5	7	2	2	0	3	8	4
19	2	2	2	3	6	5	3	5	2333	4222	5	4	5	6	14	12	7	11	8
20	6	1	5	7	4	6	5	5	3232	2412	15	2	13	17	9	16	12	12	12
21	4	5	4	5	6	9	7	11	4324	1426	9	12	9	12	16	29	18	41	18
22	8	8	9	7	7	10	7	6	5331	3312	26	23	29	18	18	35	17	14	23
23	4	4	4	6	5	7	7	6	2333	1323	8	9	10	15	13	18	18	16	13
24	4	7	8	8	10	8	5	2	3442	3123	10	20	26	25	38	22	13	5	20
25	5	6	11	7	7	8	8	8	2364	2232	11	14	44	19	20	21	25	22	22
26	4	6	3	4	6	5	5	6	4632	3323	8	16	7	10	15	13	13	15	12
27	1	3	7	5	3	5	6	4	2433	3234	2	7	18	11	7	12	16	10	10
28	4	6	7	8	9	4	4	9	2442	2225	9	16	17	22	30	10	8	30	18
29	8	7	2	4	6	7	8	7	2323	3445	26	19	5	9	14	20	23	20	17
30	6	4	4	6	4	2	1	0	2234	4312	15	10	8	14	10	4	2	1	8
31	1	0	2	4	7	6	6	6	2134	5445	3	1	5	9	17	16	15	15	10
																			19.3

OCT. 1979

	3 Ks								σs		as						As
1	9	5	3	9	8	8	1	5	3235	3234	32	12	7	27	22	24	3	11	17
2	2	3	2	5	4	7	8	8	2433	2363	4	6	5	11	9	18	24	26	13
3	10	9	7	4	5	9	8	6	2323	3424	34	30	18	8	13	32	22	14	21
4	8	6	10	11	1	2	1	0	3241	2531	24	16	34	44	3	5	2	1	16
5	1	2	2	2	5	6	6	7	2332	3455	2	5	5	4	12	14	15	19	10
6	8	7	9	13	15	15	8	8	3361	3431	25	18	32	63	97	90	23	22	46
7	10	13	12	9	14	12	11	12	2210	4445	34	61	58	30	77	54	49	56	52
8	14	10	10	14	10	11	8	13	6422	1233	73	39	35	81	34	44	24	68	50
9	10	8	11	11	7	8	9	8	5234	2235	40	21	43	47	19	26	28	23	31
10	10	8	7	8	10	5	8	6	4322	3424	34	24	20	24	34	13	23	15	23
11	0	3	8	9	9	10	6	4	1333	0233	1	6	21	27	30	36	16	10	18
12	3	4	4	7	6	6	8	10	2342	4125	7	8	10	20	16	14	23	37	17
13	6	7	8	6	4	7	8	8	3222	2423	16	19	26	15	8	19	22	25	19
14	7	3	7	6	4	5	2	1	2222	2332	20	6	20	14	8	13	4	3	11
15	3	2	4	7	8	7	7	6	2133	3124	6	5	8	18	21	18	19	15	14
16	7	7	4	3	6	2	5	4	2540	2452	17	19	9	7	16	4	12	8	12
17	2	5	3	2	3	1	1	4	3312	2225	5	11	7	4	6	3	3	8	6
18	2	4	3	0	0	0	0	3	2311	1012	5	9	7	1	1	0	1	6	4
19	2	3	3	3	5	5	3	5	2322	3635	4	6	6	7	13	11	7	13	8
20	4	2	5	6	5	6	5	5	3320	2534	9	4	13	15	11	14	12	13	11
21	4	6	4	6	5	9	7	10	2322	4366	10	16	8	15	12	27	19	34	18
22	8	8	8	7	6	9	7	7	6335	2445	24	23	24	17	16	28	20	18	21
23	4	4	3	5	6	6	7	6	3333	5655	10	10	7	13	16	15	19	16	13
24	3	8	7	8	9	8	6	2	2232	4354	7	23	18	26	31	23	14	5	18
25	5	7	10	7	8	6	8	8	4343	3445	11	18	34	19	21	15	22	21	20
26	4	6	2	5	7	5	6	5	2331	3443	9	14	5	13	18	13	14	12	12
27	2	4	5	3	2	5	7	3	2350	2524	5	8	13	7	5	11	18	7	9
28	6	5	4	8	8	4	6	9	4334	1453	14	12	9	23	22	10	15	27	17
29	9	8	2	4	4	5	6	6	3131	4336	32	24	5	8	9	12	15	16	15
30	6	4	4	5	3	0	1	0	4234	3231	16	10	9	12	6	1	2	1	7
31	0	2	4	4	5	7	6	7	1213	5325	1	5	8	9	13	18	14	19	11
																			18.1

Table 9 - continued

NOV. 1979

	3 Kn								σn		an								An
1	7	6	6	8	9	10	10	8	5233	2424	18	16	15	22	27	39	38	26	25
2	8	8	6	8	9	8	6	3	2312	2542	22	26	15	25	32	22	14	7	20
3	1	0	1	6	6	10	10	9	2123	2353	3	1	3	15	14	37	40	30	18
4	9	6	5	7	7	5	7	3	3223	4252	27	16	12	20	17	11	19	7	16
5	2	0	1	2	3	2	4	2	2112	3333	4	1	2	4	7	5	8	4	4
6	2	4	1	4	3	1	1	1	2224	3222	4	8	3	9	6	2	2	2	5
7	3	4	4	7	8	10	11	7	3222	3243	7	10	10	19	22	39	43	18	21
8	6	4	11	12	9	7	4	6	4265	2223	14	10	43	59	31	20	10	14	25
9	5	5	6	4	13	13	11	9	1322	5334	12	11	16	10	62	70	45	31	32
10	2	4	4	3	3	4	5	8	1432	3211	4	10	8	7	6	10	13	23	10
11	8	8	4	5	5	9	7	4	2122	1132	21	22	10	12	13	28	18	9	17
12	2	4	6	7	7	8	6	5	4332	2313	5	8	16	17	18	23	14	11	14
13	10	11	9	12	11	14	14	12	3334	2365	35	48	31	56	50	75	83	56	54
14	12	10	7	3	2	3	1	1	6332	2322	56	38	17	7	5	6	2	2	17
15	0	3	1	2	3	3	1	4	1412	3232	0	6	2	5	6	6	3	8	5
16	7	8	8	5	6	9	8	6	3222	3442	19	25	25	13	16	30	25	15	21
17	8	6	7	6	3	2	7	4	3123	2251	23	15	18	15	6	4	17	8	13
18	7	3	2	4	3	3	1	1	2223	4222	19	6	4	9	6	7	2	2	7
19	1	2	4	6	7	6	5	8	1233	4123	2	4	8	15	20	14	12	23	12
20	5	3	6	8	9	10	5	4	3223	2312	12	6	14	25	28	37	11	9	18
21	6	4	7	4	4	4	5	1	4364	4222	14	8	17	9	10	9	11	3	10
22	0	1	2	5	3	2	0	0	1224	3211	0	3	5	12	6	4	1	0	4
23	0	0	1	4	4	3	5	6	1122	1142	1	0	2	8	8	7	12	15	7
24	8	8	10	12	12	12	11	11	3233	5634	23	24	36	60	58	53	49	41	43
25	11	10	5	5	5	3	4	5	3323	2232	44	39	13	11	12	7	10	11	18
26	3	0	1	1	3	4	8	4	2022	2154	6	0	2	2	7	10	21	10	7
27	4	4	7	2	4	3	1	1	1352	4322	10	8	19	4	9	7	3	2	8
28	0	0	3	0	2	2	2	2	1052	2222	0	0	7	1	4	4	5	4	3
29	0	0	2	2	2	7	7	3	1122	3241	0	0	4	5	5	20	17	7	7
30	2	4	13	10	9	8	5	4	1333	2323	5	8	70	34	27	24	11	10	24
																			16.2

NOV. 1979

	3 Ks								σs		as								As
1	6	8	7	9	8	9	10	9	3244	3444	14	24	18	33	23	31	35	28	26
2	8	8	7	8	8	7	5	3	2213	1454	24	24	17	22	26	20	12	7	19
3	3	2	1	7	6	8	8	8	2221	4433	6	5	3	18	15	25	26	25	15
4	8	8	7	8	6	4	8	2	5222	3424	24	22	20	22	15	8	23	5	17
5	2	1	1	3	2	1	2	2	3121	2323	4	2	3	6	5	3	5	4	4
6	4	5	5	4	3	0	0	1	3222	2103	8	12	11	10	7	1	0	2	6
7	4	7	5	8	9	10	10	7	3331	0225	9	17	12	26	30	36	39	18	23
8	5	6	10	12	9	6	6	7	2222	1433	12	15	38	57	33	15	14	19	25
9	8	8	6	3	11	14	12	9	2113	2447	24	26	16	7	49	71	55	33	35
10	2	6	5	3	2	4	6	9	2242	4534	4	15	11	7	5	8	14	33	12
11	12	8	7	7	7	10	9	7	3232	2454	54	26	19	17	17	38	30	17	27
12	5	7	8	5	7	8	7	6	2122	2334	12	17	24	12	17	21	18	15	17
13	10	10	10	12	12	12	14	11	3331	1334	35	35	34	52	52	59	73	49	49
14	11	10	6	3	2	4	0	0	6214	3422	46	36	16	7	4	8	1	1	15
15	1	7	2	3	3	2	1	4	2231	3324	2	17	4	6	6	4	3	8	6
16	11	10	9	7	5	8	8	7	4211	2335	47	40	32	18	13	24	23	20	27
17	6	9	8	8	3	3	8	6	2133	2333	15	32	26	21	6	6	23	14	18
18	11	5	4	3	4	4	2	2	3330	3634	41	13	8	7	8	9	4	5	12
19	0	4	2	5	7	6	6	9	1422	4334	1	9	5	12	17	14	16	28	13
20	7	5	6	9	8	9	6	3	3111	4044	20	11	16	33	25	30	15	7	20
21	5	4	5	2	4	4	5	2	1242	5244	13	8	11	5	8	8	13	4	9
22	1	3	4	5	2	1	0	1	2232	2223	3	7	9	12	4	3	1	2	5
23	1	0	1	3	3	3	6	5	1111	1432	2	1	2	6	7	6	16	11	6
24	7	9	10	11	11	10	11	10	4331	3331	18	29	38	41	46	39	47	36	37
25	10	12	7	4	6	4	5	5	5310	3333	35	58	18	9	14	8	12	11	21
26	5	0	1	0	4	5	7	5	3011	2434	12	0	2	1	9	12	20	12	9
27	6	3	6	2	4	2	1	1	3221	1422	14	7	15	5	8	5	3	2	7
28	0	0	1	0	1	2	3	4	0021	3443	0	0	2	1	3	4	6	9	3
29	0	0	4	4	4	9	9	6	1132	3433	1	1	10	10	8	28	28	16	13
30	4	6	15	12	11	8	7	5	3321	3446	10	14	96	51	44	22	17	11	33
																			17.6

Table 9 - continued

$\bar{am} = 4.8$ $\bar{am} = 5$

NOV. 1979

	3 Km								Σ Km	am								Am	Am2
1	6	7	6	9	8	10	10	9	21.7	16	20	16	27	25	35	37	27	25	22
2	8	8	6	8	9	8	5	3	18.3	23	25	16	23	29	21	13	7	20	19
3	2	1	1	6	6	9	9	9	14.3	5	3	3	16	14	31	33	28	17	18
4	8	7	6	8	6	4	8	3	16.7	26	19	16	21	16	9	21	6	17	16
5	2	0	1	2	3	2	3	2	5.0	4	1	2	5	6	4	6	4	4	7
6	3	4	3	4	3	0	0	1	6.0	6	10	7	9	6	1	1	2	5	7
7	4	5	5	8	8	10	11	7	19.3	8	13	11	23	26	38	41	18	22	20
8	5	5	10	12	9	7	5	6	19.7	13	13	40	58	32	18	12	16	25	24
9	7	7	6	4	12	13	11	9	23.0	18	19	16	9	56	70	50	32	34	24
10	2	5	4	3	3	4	6	9	12.0	4	12	10	7	6	9	14	28	11	24
11	10	8	6	6	6	9	8	5	19.3	37	24	15	15	15	33	24	13	22	18
12	4	5	7	6	7	8	6	5	16.0	8	12	20	14	18	22	16	13	15	23
13	10	11	9	12	12	13	14	12	31.0	35	41	33	54	51	67	78	53	52	37
14	12	10	6	3	2	3	1	1	12.7	51	37	16	7	4	7	2	2	16	25
15	0	5	1	3	3	2	1	4	6.3	1	11	3	6	6	5	3	8	5	10
16	9	9	9	6	6	9	8	7	21.0	33	32	28	15	14	27	24	17	24	18
17	7	8	8	7	3	2	7	5	15.7	19	23	22	18	6	5	20	11	16	16
18	9	4	3	4	3	4	1	1	9.7	30	9	6	8	7	8	3	3	9	9
19	0	3	3	5	7	6	6	8	12.7	1	6	6	13	18	14	14	26	12	12
20	6	4	6	9	8	9	5	4	17.0	16	8	15	29	26	33	13	8	19	16
21	5	4	6	3	4	4	5	2	11.0	13	8	14	7	9	8	12	4	9	11
22	1	2	3	5	2	1	0	0	4.7	2	5	7	12	5	3	1	1	5	5
23	0	0	1	3	4	3	6	5	7.3	1	1	2	7	8	7	14	13	7	12
24	7	9	10	12	12	11	11	10	27.3	20	27	37	51	52	46	48	38	40	30
25	10	11	6	4	5	3	5	5	16.3	40	49	16	10	13	7	11	11	20	22
26	4	0	1	0	4	5	8	5	9.0	9	0	2	1	8	11	21	11	8	9
27	5	3	7	2	4	3	1	1	8.7	12	7	17	5	8	6	3	2	8	7
28	0	0	2	0	2	2	3	3	4.0	0	0	5	1	4	4	6	6	3	4
29	0	0	3	4	3	8	8	5	10.3	1	1	7	8	7	24	23	11	10	15
30	4	5	14	11	10	8	6	5	21.0	8	11	83	43	36	23	14	11	29	22
																		17.0	

DEC. 1979

	3 Km								Σ Km	am								Am	Am2
1	4	4	6	7	7	8	8	7	17.0	9	9	16	17	17	21	22	18	16	18
2	7	6	7	9	7	5	5	4	16.7	20	14	20	28	20	13	12	8	17	18
3	4	7	8	8	6	4	3	2	14.0	9	17	26	21	14	8	6	4	13	16
4	5	7	9	10	9	12	8	5	21.7	11	17	31	36	32	57	21	13	27	18
5	3	2	6	6	7	6	5	7	14.0	7	4	15	14	20	15	11	17	13	18
6	7	5	7	5	1	0	4	4	11.0	17	11	19	12	3	1	9	9	10	10
7	2	3	1	2	1	1	5	5	6.7	4	6	2	5	3	3	13	12	6	8
8	3	6	6	7	10	8	10	8	19.3	6	16	16	19	35	24	36	21	22	15
9	5	4	5	5	6	5	4	5	13.0	11	8	12	11	16	13	10	13	12	15
10	4	4	3	3	5	8	6	3	12.0	8	9	6	6	13	23	14	7	11	10
11	4	4	1	2	2	4	7	4	9.3	9	8	3	5	4	9	19	8	8	9
12	3	2	2	3	4	5	5	4	9.3	6	5	4	7	9	12	13	8	8	8
13	1	3	3	2	4	2	3	2	6.7	2	6	6	5	9	5	6	5	6	7
14	2	3	4	3	4	5	6	4	10.3	5	6	8	6	8	11	15	10	9	11
15	3	8	6	10	6	8	7	6	18.0	6	23	16	34	15	22	19	16	19	16
16	7	7	6	5	8	7	7	8	18.3	18	17	16	13	21	19	20	25	19	18
17	8	6	8	6	9	9	8	8	20.7	21	16	22	14	29	29	21	22	22	19
18	6	3	4	7	7	5	5	5	14.0	14	6	8	18	18	12	12	12	13	15
19	4	4	4	4	3	6	6	7	12.7	9	8	10	9	6	14	14	19	11	11
20	1	4	4	4	8	6	4	4	11.7	2	9	9	8	23	14	8	8	10	9
21	1	0	1	2	3	4	7	6	8.0	2	0	2	5	7	10	20	16	8	13
22	5	7	7	12	9	10	10	5	21.7	11	18	17	54	28	39	40	13	28	18
23	3	3	2	1	0	3	3	7	7.3	7	6	4	3	1	7	7	18	7	15
24	8	5	4	7	4	10	4	3	15.0	22	11	9	17	10	35	9	7	15	10
25	0	0	1	0	4	2	5	6	6.0	1	0	2	1	10	4	13	15	6	10
26	6	4	4	6	6	10	10	8	18.0	15	8	10	14	15	39	37	22	20	19
27	4	10	9	9	9	9	5	4	19.7	9	38	27	27	31	32	13	9	23	24
28	3	7	5	11	12	10	5	11	21.3	7	19	11	50	53	39	13	43	29	30
29	10	11	9	11	11	11	14	11	29.3	35	44	30	43	48	44	73	45	43	40
30	11	9	8	10	9	10	10	8	25.0	42	29	25	39	32	35	40	25	33	34
31	7	7	6	3	5	6	9	11	18.0	20	20	14	6	13	16	27	41	20	25
																		16.3	

Table 9 - continued

DEC. 1979

	3 Kn								σn		an							An
1	4	3	7	8	7	8	8	7	2244	3334	9	7	19	21	19	24	22	19	18
2	8	7	6	9	7	5	6	3	3524	2362	24	19	15	28	18	13	15	7	17
3	5	7	8	8	5	4	3	1	2344	2321	12	17	24	22	13	10	7	2	13
4	4	7	10	10	10	11	9	6	2234	3745	10	19	36	36	40	50	27	15	29
5	4	2	7	5	7	6	4	5	4243	3322	8	4	17	13	20	15	8	11	12
6	6	4	7	4	2	0	2	3	2231	3112	15	10	18	10	4	1	5	7	9
7	2	2	0	2	1	1	3	4	2212	2212	4	4	1	5	2	3	7	8	4
8	2	6	5	6	9	8	8	6	2422	1332	4	15	13	14	31	23	26	16	18
9	4	3	4	4	6	5	4	5	2222	1323	9	7	9	10	16	12	10	11	11
10	3	3	2	3	5	8	4	2	1411	3631	6	7	5	6	12	26	10	5	10
11	4	2	0	2	1	3	7	4	3212	2342	10	5	1	4	3	6	19	8	7
12	2	2	1	3	3	4	5	4	2324	3253	5	4	2	6	7	8	12	10	7
13	1	2	2	1	4	2	4	3	2222	2342	2	4	5	3	10	5	8	6	5
14	2	3	2	2	4	5	5	4	1412	1321	4	7	5	4	8	11	13	8	8
15	2	6	5	10	6	8	7	5	3235	2222	4	15	13	38	15	23	19	11	17
16	6	6	6	5	8	8	7	9	2324	3324	15	16	14	13	22	21	17	27	18
17	8	6	8	5	8	9	8	7	4222	3322	26	14	22	12	25	28	21	19	21
18	5	2	3	7	7	5	5	4	3113	3233	12	5	7	18	18	11	12	10	12
19	3	4	4	4	2	5	5	8	4324	3334	7	10	8	8	5	13	13	21	11
20	0	3	3	3	8	5	4	4	1233	5341	1	6	7	7	23	12	9	8	9
21	0	0	1	2	4	6	8	6	1122	4422	0	0	2	5	9	14	21	14	8
22	6	6	6	11	9	11	12	4	5352	1541	14	16	15	47	28	45	53	9	28
23	2	1	1	1	0	3	3	5	2222	0323	5	3	3	2	0	6	6	12	5
24	7	4	4	7	4	10	3	4	2333	4713	17	10	8	20	10	39	7	8	15
25	0	0	0	0	4	1	4	5	1011	2232	0	0	0	0	9	2	10	11	4
26	5	4	3	5	6	10	10	7	4313	1252	13	8	6	11	15	39	39	20	19
27	3	8	8	8	9	10	5	4	2232	2532	7	25	25	25	31	36	13	8	21
28	2	6	4	12	12	10	5	11	1112	2223	5	14	9	56	54	37	13	48	30
29	10	11	8	11	11	11	14	12	2433	1344	36	48	26	43	49	46	80	57	48
30	11	10	8	10	9	10	10	8	4244	4242	46	34	26	40	32	35	38	22	34
31	6	5	4	2	4	7	8	11	2233	2666	14	13	9	5	10	17	24	42	17
																			15.6

DEC. 1979

	3 Ks								σs		as							As
1	4	5	5	5	6	7	8	7	3213	3546	10	11	13	13	14	19	22	18	15
2	6	4	8	9	8	5	4	4	2322	4434	16	9	25	29	22	12	9	8	16
3	3	6	9	7	6	3	2	3	4434	4544	7	16	28	20	15	6	5	6	13
4	5	6	9	10	8	13	6	5	2432	2645	12	15	27	37	24	64	15	11	26
5	3	1	5	6	7	6	5	8	4234	5145	7	3	13	15	19	14	13	24	14
6	7	5	7	6	1	0	5	4	3232	2255	19	12	20	15	3	1	12	10	12
7	2	3	1	2	2	2	7	6	3222	3433	5	7	2	5	4	4	18	15	8
8	3	6	7	8	10	8	11	8	3133	4443	7	16	19	23	40	25	46	26	25
9	6	4	6	5	7	6	5	6	2223	4421	14	9	14	12	17	15	11	16	14
10	4	5	3	3	5	8	7	4	2322	2246	10	12	7	6	13	21	18	8	12
11	4	5	2	3	2	5	7	4	1311	4534	9	11	5	6	4	11	19	8	9
12	3	3	3	4	4	6	6	3	4122	4545	7	6	6	9	10	16	14	6	9
13	1	4	3	4	4	2	1	2	2312	2423	3	8	7	8	8	5	3	4	6
14	3	3	5	3	4	5	6	5	4423	2613	7	6	11	7	8	11	16	11	10
15	4	9	7	9	6	8	7	7	3433	4233	9	30	20	31	15	21	19	20	21
16	8	7	7	5	8	7	8	8	4342	2243	21	18	19	13	21	17	22	23	19
17	6	7	8	7	9	9	8	8	2232	1443	16	17	23	17	32	31	21	24	23
18	7	4	4	7	7	5	5	6	2312	3424	17	8	9	17	18	12	11	14	13
19	4	3	5	4	4	6	6	7	2334	2421	10	7	13	9	8	15	14	17	12
20	1	5	5	4	8	6	3	4	2241	2143	2	12	11	9	22	16	7	9	11
21	1	0	1	2	3	3	7	7	2023	4452	3	0	3	5	6	7	19	18	8
22	4	8	7	13	9	10	9	7	6232	4643	9	21	19	62	28	34	28	17	27
23	4	4	2	2	1	3	4	8	2233	2334	9	8	5	4	2	7	9	23	8
24	9	5	4	6	5	9	4	3	3331	5444	27	13	10	14	11	32	10	7	16
25	0	0	2	1	5	2	6	7	1031	2453	1	0	4	2	11	5	15	19	7
26	6	3	6	6	6	10	10	8	3121	4414	16	7	14	16	16	40	36	25	21
27	4	12	9	9	9	9	5	5	2432	1153	10	52	29	30	32	28	12	11	26
28	4	8	6	11	12	11	5	10	2232	4423	10	24	14	45	52	41	12	38	30
29	10	10	10	11	11	11	13	10	2223	1233	34	40	34	44	47	43	65	34	43
30	10	8	8	10	9	10	11	9	2232	1664	38	23	23	37	32	36	41	27	32
31	8	9	7	3	7	6	9	11	5332	2452	26	28	20	7	17	16	31	41	23
																			17.1

TABLE 10 HOURLY Dst

(for explanation: see page IX)

Part B

JANUARY 1979

UNIT=GAMMAS G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-29	-27	-29	-30	-31	-31	-27	-22	-21	-20	-20	-19	-20	-22	-22	-21	-20	-18	-17	-16	-15	-10	-20	-26
2	-23	-23	-21	-21	-21	-18	-14	-11	-9	-7	-8	-9	-17	-21	-22	-25	-29	-30	-23	-24	-35	-40	-46	-51
3	-48	-44	-45	-41	-37	-31	-33	-35	-37	-42	-40	-28	-24	-26	-28	-22	-23	-24	-24	-20	-32	-39	-48	-59
4	-63	-69	-72	-73	-69	-63	-66	-69	-59	-61	-64	-65	-69	-55	-53	-57	-67	-70	-65	-65	-78	-89	-95	-96
5	-83	-79	-79	-74	-77	-75	-67	-61	-64	-60	-55	-49	-48	-49	-49	-46	-41	-45	-45	-50	-47	-45	-50	-52
6	-50	-40	-31	-24	-22	-25	-25	-25	-19	-17	-21	-27	-32	-30	-32	-35	-46	-41	-36	-38	-38	-38	-34	-23
7	-19	-20	-20	-20	-23	-19	-12	1	-3	-14	-19	-10	1	-19	-33	-42	-41	-61	-65	-80	-100	-93	-89	-86
8	-78	-70	-61	-58	-60	-59	-61	-62	-61	-59	-56	-57	-53	-51	-50	-48	-45	-41	-43	-46	-46	-45	-39	-41
9	-48	-44	-39	-27	-7	-3	-10	-23	-16	-12	-19	-23	-22	-23	-16	-9	-17	-22	-28	-25	-20	-21	-30	-24
10	-22	-25	-26	-29	-30	-27	-23	-22	-20	-21	-21	-18	-15	-15	-14	-12	-13	-14	-11	-15	-18	-17	-15	-12
11	-11	-11	-9	-10	-13	-15	-14	-15	-12	-11	-13	-8	-7	-9	-9	-9	-11	-9	-7	-6	-8	-7	-5	-3
12	-3	0	-3	-7	-5	-2	-4	-15	-10	-3	-1	1	-1	-2	-6	-5	-5	-5	-9	-9	-10	-8	-9	-13
13	-13	-10	-10	-12	-14	-13	-13	-13	-11	-12	-13	-10	-5	-3	-4	-5	-8	-7	-5	-7	-5	-4	-6	-4
14	-1	1	3	2	-1	-5	-14	-21	-21	-17	-18	-15	-21	-27	-32	-31	-23	-20	-16	-15	-14	-12	-9	-10
15	-12	-15	-13	-11	-10	-6	-5	-9	-17	-18	-21	-29	-34	-27	-20	-21	-19	-20	-17	-24	-30	-36	-35	-32
16	-34	-30	-24	-25	-30	-27	-23	-24	-28	-31	-32	-28	-23	-20	-16	-16	-16	-16	-16	-20	-24	-18	-16	-23
17	-22	-20	-17	-16	-11	-7	-5	-1	-3	-5	-10	-14	-17	-12	-9	-9	-8	-15	-16	-12	-16	-18	-23	-22
18	-26	-26	-20	-20	-20	-15	-15	-15	-13	-12	-13	-15	-15	-19	-11	-12	-12	-9	-10	-19	-18	-16	-13	-12
19	-12	-25	-36	-39	-40	-43	-32	-33	-33	-32	-36	-39	-30	-25	-26	-30	-33	-30	-22	-19	-22	-24	-30	-30
20	-32	-29	-24	-26	-26	-28	-23	-22	-25	-26	-29	-26	-21	-20	-23	-22	-13	-20	-23	-24	-25	-22	-20	-19
21	-18	-18	-17	-22	-22	-18	-14	-15	-17	-18	-14	-17	-20	-13	-14	-10	-7	-11	-7	-11	-13	-14	-16	-13
22	-12	-9	-9	-11	-12	-10	-10	-10	-10	-12	-17	-12	-12	-16	-15	-10	-11	-9	-2	-11	-27	-37	-37	-38
23	-34	-28	-28	-33	-33	-29	-28	-29	-27	-29	-30	-26	-34	-35	-48	-55	-60	-71	-68	-61	-65	-84	-83	-78
24	-88	-84	-79	-72	-73	-74	-72	-71	-68	-57	-57	-53	-45	-39	-36	-34	-31	-28	-31	-23	-31	-30	-18	-16
25	-16	-7	-25	-51	-54	-48	-42	-46	-52	-47	-54	-66	-56	-53	-51	-47	-50	-47	-52	-51	-50	-47	-44	-42
26	-48	-51	-44	-44	-47	-48	-45	-42	-47	-45	-49	-44	-37	-34	-36	-32	-27	-32	-49	-57	-49	-56	-56	-49
27	-44	-43	-48	-56	-54	-52	-52	-50	-51	-52	-51	-47	-45	-42	-39	-40	-41	-49	-47	-42	-47	-45	-35	-34
28	-39	-33	-30	-28	-28	-25	-27	-29	-31	-36	-34	-36	-33	-24	-23	-24	-23	-25	-31	-35	-33	-32	-26	-23
29	-21	-21	-23	-24	-27	-27	-25	-26	-28	-26	-25	-27	-23	-19	-19	-15	-22	-28	-26	-22	-21	-20	-22	-25
30	-32	-30	-29	-26	-24	-18	-19	-18	-18	-22	-26	-21	-20	-19	-18	-19	-19	-18	-22	-26	-22	-21	-23	-23
31	-24	-25	-24	-27	-21	-14	-17	-19	-18	-17	-22	-25	-22	-18	-17	-15	-11	-11	-15	-17	-25	-30	-37	-41

TABLE 10 Dst - continued

FEBRUARY 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							G.M.T.	
1	-41	-40	-37	-38	-30	-21	-18	-18	-14	-21	-26	-26	-27	-24	-23	-17	-14	-14	-16	-16	-17	-19	-19	-25
2	-27	-29	-34	-37	-34	-31	-30	-25	-24	-27	-28	-30	-34	-36	-30	-21	-18	-20	-23	-22	-21	-27	-35	-42
3	-40	-37	-37	-37	-36	-29	-24	-24	-22	-21	-17	-15	-14	-15	-13	-14	-15	-15	-2	1	10	8	2	-6
4	-10	-21	-26	-23	-15	-7	-12	-20	-19	-21	-20	-15	-9	-10	-25	-18	-25	-32	-30	-30	-32	-43	-51	-55
5	-54	-51	-50	-50	-49	-46	-40	-37	-36	-36	-42	-38	-40	-40	-38	-34	-33	-33	-31	-29	-26	-22	-21	-17
6	-15	-19	-24	-39	-43	-39	-36	-28	-38	-43	-40	-34	-36	-33	-32	-25	-23	-26	-24	-24	-26	-32	-33	-26
7	-24	-25	-27	-28	-26	-19	-14	-12	-7	-2	-2	-4	-5	-5	-7	-10	-15	-14	-16	-13	-10	-16	-23	-20
8	-23	-34	-39	-36	-34	-32	-31	-26	-23	-19	-16	-14	-13	-10	-9	-11	-16	-17	-17	-19	-15	-11	-10	-16
9	-24	-20	-22	-29	-30	-26	-23	-19	-16	-23	-23	-21	-23	-20	-16	-13	-14	-16	-19	-18	-15	-18	-20	-22
10	-22	-26	-27	-27	-25	-20	-17	-16	-14	-17	-16	-13	-11	-10	-12	-16	-16	-16	-14	-12	-12	-13	-17	-20
11	-16	-13	-10	-26	-15	-4	-6	-8	-7	-11	-13	-7	-7	-9	-7	-8	-10	-13	-15	-16	-19	-24	-34	-42
12	-45	-47	-49	-56	-61	-61	-66	-61	-52	-54	-46	-42	-43	-40	-35	-31	-23	-18	-14	-12	-10	-12	-12	-13
13	-13	-13	-10	-11	-16	-19	-16	-15	-14	-14	-12	-12	-16	-16	-16	-15	-12	-12	-11	-11	-10	-10	-10	-8
14	-8	-9	-10	-11	-12	-9	-6	-6	-6	-8	-9	-5	-1	-1	-1	-2	-1	-2	-4	-1	-2	-4	-3	-5
15	-3	-6	-12	-10	-6	-4	-4	-5	-4	-10	-30	-28	-20	-22	-23	-25	-24	-26	-28	-22	-19	-18	-15	-14
16	-15	-17	-17	-25	-30	-26	-23	-17	-10	-7	-9	-15	-18	-16	-12	-12	-14	-16	-14	-11	-9	-9	-13	-15
17	-14	-13	-14	-14	-13	-8	-2	2	6	8	4	2	1	-1	-2	1	4	4	8	6	4	5	8	10
18	5	5	5	27	24	20	24	20	3	15	8	5	9	5	3	-2	-4	-7	-9	-4	-6	-5	-12	-16
19	-15	-15	-15	-20	-17	-15	-14	-15	-9	-6	-5	-6	-6	-17	-25	-14	-8	-11	-20	-15	-13	-12	-12	-14
20	-16	-20	-22	-22	-23	-23	-18	-9	-4	-4	-5	-7	-11	-13	-13	-15	-16	-18	-20	-21	-24	-21	-20	-27
21	-28	-26	-25	-6	-8	-28	-49	-74	-95	-74	-55	-58	-44	-44	-39	-32	-12	-39	-36	-71	-99	-107	-101	-86
22	-97	-94	-86	-77	-73	-72	-78	-83	-86	-82	-74	-51	-29	-32	-51	-42	-63	-51	-51	-40	-40	-31	-34	-13
23	-21	-14	-31	-50	-46	-40	-40	-48	-49	-43	-38	-37	-29	-26	-28	-24	-27	-30	-27	-23	-31	-49	-59	-55
24	-51	-52	-54	-54	-50	-49	-48	-41	-37	-36	-37	-38	-39	-35	-35	-38	-42	-44	-47	-45	-37	-38	-43	-44
25	-39	-42	-48	-48	-48	-49	-41	-36	-39	-37	-34	-31	-28	-30	-28	-23	-23	-24	-25	-21	-27	-35	-40	-39
26	-39	-48	-46	-42	-43	-45	-52	-48	-42	-43	-43	-41	-38	-38	-38	-38	-46	-45	-52	-62	-63	-65	-74	-78
27	-70	-66	-72	-74	-69	-73	-68	-72	-64	-53	-49	-50	-48	-45	-48	-51	-48	-52	-50	-42	-39	-38	-44	-42
28	-44	-45	-47	-42	-40	-41	-41	-35	-29	-20	-19	-30	-30	-40	-39	-44	-54	-58	-57	-63	-64	-63	-54	-53

TABLE 10 Dst - continued

Part B

MARCH 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							G.M.T.	
1	-47	-42	-43	-38	-39	-35	-34	-37	-36	-29	-28	-30	-35	-34	-35	-40	-44	-44	-38	-36	-33	-33	-35	-31
2	-33	-36	-42	-43	-46	-44	-45	-32	-29	-26	-29	-33	-40	-42	-41	-41	-44	-38	-34	-28	-35	-33	-32	-33
3	-37	-35	-28	-25	-25	-23	-23	-22	-17	-18	-19	-18	-20	-28	-35	-36	-36	-33	-36	-33	-37	-46	-50	-47
4	-40	-41	-39	-35	-32	-26	-29	-16	-19	-44	-72	-77	-51	-56	-73	-65	-56	-51	-54	-47	-38	-33	-39	-44
5	-34	-37	-40	-54	-56	-51	-50	-42	-45	-50	-40	-36	-35	-35	-36	-36	-33	-29	-27	-24	-23	-17	-16	-15
6	-23	-20	-23	-31	-31	-30	-32	-34	-31	-47	-63	-65	-79	-75	-78	-77	-71	-74	-71	-69	-72	-65	-57	-49
7	-50	-51	-51	-45	-48	-48	-47	-43	-41	-41	-41	-41	-40	-39	-37	-36	-34	-34	-33	-33	-36	-39	-41	-40
8	-36	-31	-30	-32	-33	-35	-34	-33	-31	-34	-35	-29	-28	-28	-25	-23	-22	-24	-26	-25	-23	-22	-25	-26
9	-27	-29	-25	-24	-24	-24	-23	-23	-10	-22	-31	-28	-22	-16	-19	-23	-23	-18	-14	-7	-18	-25	-23	-8
10	-9	-7	-19	-25	-13	-20	-28	-35	-29	-35	-30	-28	-40	-35	-31	-31	-23	-11	-19	-40	-53	-80	-121	-140
11	-135	-129	-111	-107	-103	-96	-94	-89	-82	-75	-73	-64	-57	-57	-58	-62	-62	-63	-60	-57	-52	-50	-49	-48
12	-45	-44	-41	-39	-38	-37	-41	-42	-40	-38	-37	-32	-27	-26	-24	-24	-25	-26	-21	-23	-21	-16	-18	-20
13	-19	-16	-11	-20	-23	-26	-26	-21	-27	-25	-21	-19	-15	-18	-18	-21	-23	-20	-16	-14	-14	-16	-17	-21
14	-20	-16	-12	-9	0	-2	-1	-2	-2	-4	-4	-3	-4	-2	-6	-6	-6	-6	-4	-3	-3	-2	-2	-3
15	-3	-3	2	5	8	10	15	19	22	16	14	14	20	17	16	9	0	4	10	6	8	6	14	12
16	2	3	3	-3	-3	1	-3	-8	-13	-11	-17	-12	-4	-5	-8	-4	-5	-5	0	0	-2	4	7	12
17	11	4	13	20	14	4	-6	1	2	-18	-27	-23	-23	-23	-27	-25	-26	-29	-25	-23	-16	-15	-17	-23
18	-19	-17	-14	-14	-13	-16	-13	-9	-11	-13	-16	-12	-10	-8	-8	-6	-7	-9	-3	-2	-5	-5	-5	-4
19	-1	0	0	2	3	1	-2	-8	-14	-21	-33	-33	-22	-19	-17	-16	-17	-13	-8	-5	-5	-9	-6	-3
20	0	-4	-5	-8	-7	-5	-3	-4	0	-1	-1	0	-2	-4	-1	-1	-8	-5	-4	-4	-5	5	7	7
21	7	7	6	7	9	7	4	5	6	5	5	6	7	8	12	12	6	11	8	6	7	8	8	11
22	11	10	8	2	3	6	7	9	24	36	26	-23	-31	-21	-34	-57	-81	-62	-52	-55	-45	-38	-30	-27
23	-27	-29	-29	-32	-30	-33	-27	-25	-28	-32	-35	-32	-29	-30	-32	-30	-27	-28	-26	-28	-30	-27	-22	-17
24	-16	-21	-22	-20	-18	-20	-26	-26	-36	-49	-41	-38	-40	-40	-39	-30	-26	-26	-25	-23	-24	-21	-17	-19
25	-15	-16	-21	-20	-17	-16	-17	-19	-24	-29	-27	-32	-31	-31	-37	-34	-37	-44	-44	-47	-40	-38	-31	-30
26	-43	-43	-46	-44	-37	-38	-36	-32	-41	-38	-34	-32	-34	-52	-55	-56	-53	-42	-47	-61	-55	-53	-48	-38
27	-33	-32	-35	-34	-31	-30	-31	-43	-48	-47	-38	-33	-44	-48	-44	-43	-43	-55	-57	-54	-61	-55	-53	-45
28	-42	-52	-47	-43	-41	-40	-40	-43	-38	-36	-33	-29	-52	-44	-43	-44	-49	-48	-44	-40	-39	-41	-51	-56
29	-52	-62	-55	-52	-58	-60	-74	-84	-97	-90	-72	-68	-70	-76	-73	-73	-84	-86	-107	-103	-115	-129	-120	-122
30	-104	-91	-89	-88	-81	-87	-85	-82	-78	-75	-71	-68	-65	-66	-66	-68	-65	-62	-48	-44	-42	-40	-39	-38
31	-34	-29	-35	-46	-48	-42	-40	-43	-42	-37	-34	-34	-32	-32	-34	-40	-46	-50	-42	-42	-42	-46	-43	-47

TABLE 10 Dst - continued

APRIL 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 (G.M.T.)
1	-50	-57	-49	-56	-49	-42	-39	-44	-43	-47	-55	-54	-48	-57	-64	-59	-56	-57	-53	-49	-46	-42	-30	-39
2	-24	-59	-89	-82	-65	-71	-79	-76	-70	-64	-64	-60	-58	-63	-65	-64	-61	-63	-63	-58	-57	-54	-48	-47
3	-46	-43	-41	-40	-37	-36	-35	-37	-34	-29	-21	-20	-20	-13	-11	-7	-46	-66	-84	-89	-98	-112	-128	-168
4	-169	-175	-195	-202	-195	-189	-176	-165	-146	-138	-129	-122	-113	-110	-105	-101	-100	-94	-88	-83	-76	-73	-68	-66
5	-62	-62	-38	-37	-20	-8	-2	-23	-25	-7	-43	-44	-11	-3	13	-22	-28	-31	-36	-38	-46	-50	-45	-37
6	-36	-42	-45	-48	-48	-49	-50	-48	-46	-38	-37	-37	-39	-39	-38	-34	-27	-26	-22	-20	-19	-22	-24	-21
7	-17	-17	-24	-28	-28	-25	-20	-16	-18	-21	-23	-13	-13	-14	-24	-21	-20	-17	-16	-18	-18	-18	-24	-15
8	-18	-17	-16	-13	-11	-9	-5	-1	0	-6	-15	-18	-14	-13	-10	-7	-2	-7	-9	-9	-14	-18	-23	-20
9	-20	-21	-32	-32	-33	-25	-22	-22	-18	-15	-15	-13	-9	-10	-11	-10	-7	-5	-4	-3	-2	-1	1	5
10	6	3	1	-1	-5	-21	-19	-14	-13	-18	-20	-16	-17	-14	-10	-9	-4	-12	-16	-22	-24	-22	-18	-10
11	-7	-4	-3	3	3	3	3	3	1	1	-1	1	-1	-4	-1	2	2	2	-2	-3	-1	-2	-8	-6
12	-1	-2	-4	-1	6	8	-3	0	6	-3	4	-5	-7	-1	-5	-9	-8	-3	-2	-12	-17	-13	-15	-13
13	-7	-5	-5	-9	-9	-8	-7	-6	-3	-2	1	1	0	-14	-10	-6	-9	-12	-14	-12	-11	-12	-11	-10
14	-9	-11	-10	-7	-4	-5	-2	2	0	3	4	3	6	9	8	8	1	-1	-5	-1	5	4	-22	-20
15	-19	-22	-19	-29	-28	-24	-21	-18	-14	-11	-5	-4	-5	-11	-19	-21	-19	-14	-13	-11	-9	-13	-14	-16
16	-12	-18	-29	-41	-55	-43	-30	-27	-30	-25	-21	-18	-19	-25	-27	-28	-25	-26	-25	-18	-14	-11	-8	-8
17	-11	-15	-16	-15	-14	-13	-15	-12	-11	-9	-11	-12	-13	-12	-11	-12	-15	-15	-12	-14	-13	-8	-10	-13
18	-16	-15	-14	-14	-10	-5	-3	0	-1	-3	-6	-1	2	0	-2	-1	1	2	2	-1	-4	-2	-3	-7
19	-7	-7	-1	-7	-12	-7	-7	-5	-4	0	1	0	-1	1	2	1	-1	-2	-1	2	0	-2	-2	0
20	-1	1	0	-2	-4	-5	-3	0	3	4	4	3	3	1	3	5	6	7	8	11	13	13	14	15
21	12	10	9	9	8	11	12	11	8	14	25	27	20	8	-6	-15	-20	-20	-22	-28	-35	-49	-72	-63
22	-63	-77	-96	-99	-86	-75	-62	-58	-54	-50	-44	-54	-48	-46	-50	-51	-63	-62	-67	-63	-58	-65	-72	-69
23	-76	-68	-58	-60	-66	-56	-47	-47	-42	-40	-35	-38	-42	-45	-44	-47	-46	-48	-61	-42	-39	-39	-37	-31
24	-36	-36	-37	-40	-43	-42	-33	-31	-31	-29	-27	-27	-27	-29	-27	-28	-28	-30	-32	-34	-34	-33	-32	-28
25	20	0	-54	-82	-74	-114	-129	-86	-109	-101	-107	-112	-132	-136	-149	-141	-145	-143	-134	-118	-111	-92	-93	-85
26	-79	-78	-80	-80	-77	-70	-66	-63	-60	-55	-53	-56	-56	-51	-47	-47	-47	-48	-52	-55	-52	-54	-51	-47
27	-45	-45	-46	-52	-44	-37	-34	-31	-39	-47	-41	-37	-36	-34	-38	-34	-38	-55	-58	-47	-58	-70	-84	-69
28	-66	-81	-88	-76	-71	-62	-65	-54	-69	-77	-59	-59	-59	-61	-58	-59	-60	-54	-51	-54	-48	-47	-56	-60
29	-48	-38	-40	-29	-32	-54	-55	-53	-51	-61	-60	-56	-51	-48	-55	-55	-54	-58	-61	-65	-74	-70	-69	-75
30	-61	-59	-62	-58	-52	-50	-52	-50	-41	-44	-43	-41	-35	-41	-45	-43	-42	-38	-40	-40	-39	-32	-31	-30

MAY 1979

UNIT=GAMMAS

G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-30	-28	-28	-31	-34	-34	-33	-35	-32	-27	-27	-21	-18	-17	-17	-20	-20	-19	-28	-35	-37	-40	-38	-38
2	-47	-52	-49	-52	-47	-42	-40	-41	-41	-39	-37	-35	-39	-36	-35	-35	-34	-30	-31	-32	-34	-31	-27	-22
3	-20	-19	-21	-22	-22	-19	-18	-14	-15	-15	-18	-22	-23	-24	-28	-27	-22	-20	-20	-22	-20	-22	-18	-19
4	-27	-26	-22	-21	-20	-20	-16	-13	-13	-13	-17	-17	-16	-16	-15	-15	-17	-15	-15	-20	-28	-26	-26	-21
5	-13	-15	-17	-19	-18	-23	-17	-15	-15	-14	-12	-10	-10	-7	-6	-7	-8	-6	-6	1	5	8	9	8
6	6	2	1	-2	-3	-2	-3	-3	-3	-5	-4	-2	-1	2	4	0	0	-2	-3	-3	-3	0	1	1
7	0	-5	-6	-3	1	2	4	7	5	-2	-2	-3	-6	-11	-15	-14	-8	-13	-19	-16	-11	-11	-10	-8
8	-5	-4	-4	-3	-1	-2	-6	-10	-6	2	6	7	9	10	14	10	8	7	4	6	7	7	6	8
9	7	12	12	10	5	5	10	13	11	13	5	3	3	9	5	4	2	-6	-15	-17	-17	-15	-12	-8
10	-6	-4	0	0	1	0	4	4	2	4	5	9	9	10	13	8	11	7	3	3	-1	2	3	5
11	6	11	8	7	11	17	9	-12	-15	-7	-2	-3	-7	-9	-17	-15	-21	-21	-21	-21	-21	-27	-25	-17
12	-15	-12	-5	-1	0	-4	-3	-2	-3	-3	1	4	2	3	-1	-1	-1	-5	-7	-4	0	0	0	0
13	-2	1	3	1	3	2	3	2	5	9	9	11	14	12	11	6	1	4	7	11	14	14	11	9
14	8	10	8	5	0	0	3	5	5	3	4	5	2	1	-1	-3	-4	-6	-5	-5	-3	0	3	5
15	4	2	8	12	9	3	0	-4	-3	0	-1	-1	2	-1	-3	-8	-6	-5	-6	-5	-8	-7	-4	-5
16	-5	-3	-4	-5	-3	-1	-2	-4	0	2	-1	2	2	5	6	7	5	4	3	3	1	1	0	1
17	3	4	5	5	4	3	1	-2	-4	-4	-5	-6	-5	-5	-4	-2	-1	-1	4	9	11	10	13	14
18	15	17	21	24	26	24	22	26	25	23	20	18	14	9	6	11	15	14	5	2	1	-9	-26	-29
19	-20	-16	-28	-25	-29	-35	-29	-21	-21	-27	-42	-39	-30	-31	-30	-31	-31	-28	-27	-30	-38	-35	-35	-28
20	-23	-27	-31	-35	-35	-30	-28	-22	-21	-20	-18	-22	-26	-26	-23	-24	-25	-27	-31	-30	-28	-33	-26	-22
21	-18	-12	-10	-12	-7	-6	-6	-6	-12	-15	-14	-15	-12	-10	-17	-20	-23	-29	-35	-31	-32	-36	-41	-43
22	-51	-49	-39	-47	-45	-43	-41	-49	-58	-62	-74	-52	-50	-51	-45	-45	-44	-39	-50	-44	-43	-53	-43	-35
23	-39	-45	-40	-35	-36	-34	-31	-29	-26	-23	-24	-25	-25	-24	-26	-28	-27	-27	-26	-28	-30	-31	-35	-41
24	-48	-49	-45	-37	-34	-32	-45	-40	-37	-29	-34	-37	-28	-31	-32	-27	-29	-32	-31	-30	-30	-36	-37	-29
25	-29	-22	-17	-21	-34	-34	-36	-32	-31	-35	-29	-27	-30	-33	-37	-38	-40	-49	-50	-51	-43	-44	-43	-40
26	-49	-49	-34	-30	-36	-35	-33	-32	-26	-25	-22	-22	-25	-28	-25	-23	-24	-22	-23	-26	-25	-28	-29	-24
27	-22	-20	-14	-17	-24	-31	-31	-27	-33	-35	-29	-23	-23	-23	-28	-33	-33	-30	-28	-30	-29	-32	-30	-26
28	-20	-14	-12	-10	-9	-10	-12	-14	-15	-17	-14	-12	-7	-10	-12	-9	-11	-11	-11	-10	-13	-19	-24	-22
29	-16	-11	-9	-14	-15	-14	-13	-12	-8	-5	-4	-7	-8	-9	-10	-8	-9	-9	-8	14	31	42	12	41
30	31	28	17	11	5	-5	-3	-4	-6	-7	-3	-4	-6	-6	-5	-4	-2	-1	-1	1	2	0	-3	-5
31	-7	-5	-4	-3	-1	2	1	-1	1	2	9	8	7	9	4	9	6	4	3	1	0	0	-2	-2

TABLE 10 Dst - continued

Part B

TABLE 10 Dst - continued

JUNE 1979

UNIT=GAMMAS

G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-2	-1	1	0	-3	-5	-5	-4	-1	1	1	2	1	2	-1	-2	-4	-5	-2	-1	-1	-5	-11	-11
2	-9	-8	-7	-4	-4	-1	2	1	3	0	1	7	12	10	3	3	4	5	4	4	3	0	-4	-2
3	5	8	9	10	11	10	9	10	9	9	9	10	12	11	10	12	14	14	9	9	11	11	8	6
4	3	-1	3	4	7	7	4	-1	-3	-7	-8	-4	-1	-1	-1	4	10	10	11	6	9	12	14	17
5	18	19	18	17	16	20	19	18	19	19	18	16	14	13	18	21	24	26	27	29	30	25	22	21
6	22	22	20	19	19	17	15	15	15	22	25	31	28	22	16	11	14	17	20	52	48	26	14	36
7	32	22	17	3	-17	-37	-40	-36	-30	-29	-27	-26	-25	-26	-24	-21	-27	-27	-29	-23	-20	-20	-25	-19
8	-14	-19	-15	-21	-18	-13	-18	-13	-13	-15	-12	-11	-14	-18	-18	-15	-7	-3	-3	0	-3	-7	-6	-4
9	-3	-8	-13	-15	-14	-8	-5	-3	-4	-5	-11	-8	-8	-11	-14	-14	-10	-8	-8	-7	-11	-15	-9	-3
10	-3	-1	1	-9	-14	-13	-11	-14	-21	-18	-17	-14	-15	-17	-19	-15	-9	-3	-8	-8	-6	-7	-11	-13
11	-10	-9	-10	-10	-9	-7	-11	-13	-10	-7	-7	-7	-7	-8	-10	-15	-12	-4	-3	1	2	-4	-7	-6
12	-9	-12	-13	-12	-13	-12	-10	-12	-10	-9	-7	-6	-6	-2	1	2	4	4	4	5	7	7	3	1
13	1	0	-3	-4	-4	-2	-1	0	4	7	5	4	5	5	-1	-6	-7	-2	3	5	4	3	-3	-3
14	-5	-11	-10	-10	-5	1	0	-2	-6	-7	1	5	6	7	8	6	6	8	14	20	18	10	8	10
15	6	8	5	5	2	0	6	5	4	3	1	1	-1	-4	-4	-1	0	2	-1	0	1	0	-1	-1
16	-8	-7	-7	-12	-11	-16	-19	-20	-19	-16	-14	-6	-2	-6	-16	-17	-13	-10	-12	-19	-19	-22	-29	-30
17	-30	-24	-20	-22	-19	-14	-13	-5	-8	-5	-5	-3	-2	-2	-6	-19	-28	-23	-13	-9	-6	-8	-6	-2
18	-2	-4	-5	-4	-4	-3	-3	0	1	1	1	1	1	0	-1	-3	-2	-1	-4	-6	-7	-4	-3	-1
19	-1	2	2	-2	-8	-11	-11	-9	-7	-6	-6	-8	-6	-7	-7	-9	-12	-13	-13	-9	-5	-10	-12	-12
20	-13	-16	-18	-16	-11	-11	-8	-2	0	-3	-2	1	6	14	18	21	20	18	15	7	2	1	0	0
21	-1	0	3	3	2	-6	-16	-22	-13	-10	-6	-4	-7	-11	-7	-3	-5	-11	-14	-23	-22	-27	-30	-28
22	-22	-22	-17	-14	-14	-12	-9	-10	-9	-7	-1	-2	-7	-11	-11	-15	-24	-34	-46	-41	-40	-47	-46	-31
23	-26	-23	-22	-32	-37	-34	-36	-42	-28	-25	-19	-19	-19	-21	-19	-16	-20	-22	-20	-15	-14	-28	-24	-20
24	-19	-16	-21	-27	-30	-25	-24	-23	-18	-16	-13	-17	-13	-13	-14	-14	-10	-10	-12	-14	-12	-5	-8	-10
25	-9	-9	-8	-9	-10	-11	-7	-9	-8	-4	-5	-5	1	4	2	1	-1	-1	0	-3	-7	-6	-5	-3
26	-3	-3	-2	-1	-1	-3	-2	-2	-3	2	7	7	5	13	8	1	-2	-9	-8	-17	-20	-28	-39	-42
27	-30	-24	-26	-31	-32	-27	-23	-16	-15	-18	-16	-10	-6	-11	-14	-15	-18	-19	-20	-21	-19	-14	-11	-10
28	-11	-9	-10	-10	-8	-7	-5	-2	-6	-4	-3	-1	-2	-1	0	0	-1	-1	0	-5	-4	3	8	7
29	3	1	3	3	5	5	5	5	6	6	9	12	11	11	15	13	10	8	10	12	13	10	6	0
30	-5	-5	-5	-4	-5	-3	-1	-2	-2	2	4	6	5	3	4	8	12	15	11	6	4	11	22	17

TABLE 10 Dst - continued

Part B

JULY 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							G.M.T.	
1	10	6	5	6	5	4	5	10	15	15	6	3	4	4	7	7	6	6	5	6	6	7	7	9
2	8	8	9	5	5	5	6	7	8	8	8	8	8	14	21	25	29	31	33	31	29	36	29	30
3	29	27	25	25	23	21	32	48	69	57	43	31	30	24	20	15	7	6	2	3	7	4	1	4
4	7	6	5	6	10	-1	-18	-19	-20	-18	-14	-14	-17	-20	-16	-12	-11	-10	-9	-10	-7	-4	0	1
5	-2	-3	-2	-1	1	0	-2	1	5	2	4	4	5	5	4	3	4	12	13	16	9	8	9	12
6	17	19	11	9	9	8	4	0	2	-3	-7	-7	-3	-2	-5	-8	-7	-4	-5	7	17	17	20	23
7	12	5	9	9	8	6	5	5	0	0	3	3	2	-1	-16	-24	-20	-7	-15	-17	-11	-12	-6	3
8	3	3	-4	-4	-11	-6	-5	-10	-14	-12	-6	-4	-2	-1	-2	-10	-13	-8	-9	-10	-6	-5	2	6
9	9	10	12	10	6	3	0	-2	0	2	3	4	-1	-8	-13	-18	-16	-16	-15	-14	-10	-3	4	6
10	1	0	4	9	9	5	5	4	5	7	8	6	7	9	8	7	2	1	3	5	4	-1	2	9
11	13	11	11	14	14	11	9	7	4	5	3	4	1	6	12	11	11	10	9	11	13	13	16	18
12	17	17	14	13	12	17	16	15	17	18	19	18	19	28	31	34	20	19	12	2	7	12	18	16
13	3	-5	-12	-12	-14	-11	-10	-6	1	4	10	4	7	7	-1	-4	0	-4	-11	-17	-16	-15	-9	-6
14	-6	-5	-1	-3	0	3	9	11	14	15	12	11	5	1	0	-1	-2	-2	0	-2	-11	-3	8	6
15	1	-6	-12	-12	-11	-10	-11	-14	-11	-8	-3	-5	-6	-8	-12	-16	-20	-17	-10	-11	-15	-9	-5	-9
16	-8	-11	-10	-19	-17	-14	-9	-9	-6	-3	3	4	3	5	2	-2	-3	0	0	0	2	7	10	2
17	-3	-2	-4	-4	-3	0	0	4	6	11	7	5	7	12	10	7	5	7	9	13	14	12	7	1
18	-11	-8	-6	-7	-12	-13	-18	-10	-9	-3	1	-7	-9	-7	-9	-9	-8	-9	-11	-12	-11	-2	3	7
19	8	5	4	1	-5	-4	3	4	4	2	5	8	9	5	4	4	5	5	4	2	2	7	9	12
20	14	13	9	8	7	5	5	4	-1	1	3	5	1	-5	-4	-2	-10	-15	-21	-17	-12	-14	-20	-10
21	-5	-10	-7	-5	-13	-16	-14	-10	-7	-3	2	3	3	2	1	-4	-8	-6	-5	-3	-4	-3	-1	0
22	-2	-8	-12	-11	-7	-5	0	2	0	-1	4	6	7	10	15	17	16	12	8	3	-2	-4	3	10
23	12	13	13	12	13	1	-1	1	5	9	9	7	-1	0	2	2	3	6	10	11	7	1	3	6
24	9	8	6	5	5	5	2	1	1	4	8	10	11	6	5	4	6	11	8	5	2	-1	0	-1
25	-1	0	3	5	5	9	14	15	13	12	12	13	14	11	8	8	8	11	15	18	21	23	22	22
26	20	18	16	17	21	20	17	13	9	8	13	13	11	11	10	9	7	7	13	16	2	-18	-38	-64
27	-77	-86	-89	-67	-55	-46	-43	-39	-35	-27	-17	-13	-16	-22	-21	-12	-5	8	2	-3	-2	-6	-13	-16
28	-19	-26	-21	-22	-16	-12	-13	-14	-13	-11	-8	-7	-11	-14	-14	-11	-4	-2	5	6	9	28	34	32
29	37	23	18	16	23	26	37	44	37	19	17	23	20	13	19	19	12	8	-1	10	17	17	13	21
30	9	0	-3	-2	1	1	4	5	9	3	-5	-3	-4	-8	-10	-15	-19	-16	-16	-15	-11	-13	-12	-11
31	-12	-15	-14	-13	-12	-11	-9	-7	-5	-5	-7	-6	-4	-5	-7	-6	-5	-6	-9	-8	-4	-1	1	0

TABLE 10 Dst - continued

AUGUST 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							G.M.T.	
1	-3	-7	-10	-9	-4	-2	1	4	6	9	12	20	28	11	5	5	9	9	8	5	-4	-8	1	1
2	2	-8	-1	-1	-2	-8	-1	4	2	6	10	13	10	8	6	8	7	8	9	8	9	10	8	8
3	4	-4	-6	-10	-13	-8	-8	-7	-10	-7	-3	-8	-10	-11	-14	-16	-15	-10	-4	-3	-3	-2	-2	0
4	-2	-8	-13	-17	-21	-14	-18	-17	-10	-4	-6	-3	-8	-18	-19	-18	-16	-17	-22	-25	-21	-8	-1	5
5	6	-1	-10	-13	-15	-13	-12	-6	-4	0	0	3	5	7	2	1	2	3	-1	-4	-6	-4	3	7
6	5	-3	-5	-6	-11	-6	1	-1	-13	-7	-4	-4	-9	-12	-8	-5	-5	-8	-6	-6	-7	-6	-4	0
7	-1	-5	-7	-8	-4	-1	-8	-15	-10	-1	-1	-6	-6	-13	-19	-20	-20	-20	-18	-24	-24	-21	-13	-6
8	-4	-6	-7	-8	-8	-5	-5	-6	-2	-1	-2	-2	-7	-16	-15	-10	-4	0	-5	-7	-2	0	-3	-3
9	3	9	12	6	-1	0	5	7	8	10	10	6	1	-2	-3	-1	-3	-7	-4	-1	0	1	2	1
10	-3	-5	-4	-1	4	7	6	5	5	5	1	-2	1	8	14	17	19	16	17	22	17	14	11	12
11	13	8	5	8	12	17	18	14	14	17	18	14	8	17	1	5	10	12	20	23	19	9	0	-3
12	-5	-14	-12	-4	1	-2	0	6	5	9	16	25	19	3	-1	3	10	18	25	39	29	18	19	13
13	9	10	11	5	14	16	12	20	27	31	37	18	-30	-65	-63	-54	-61	-47	-63	-51	-63	-71	-66	-66
14	-64	-61	-55	-54	-53	-49	-46	-45	-41	-42	-31	-31	-35	-34	-30	-26	-26	-26	-27	-26	-25	-26	-26	-25
15	-23	-22	-23	-23	-22	-21	-16	-16	-17	-16	-13	-12	-13	-13	-18	-11	-10	-11	-16	-16	-13	-9	-11	-10
16	-13	-11	-11	-11	-11	-9	-9	-13	-9	-11	-12	-9	-9	-8	-9	-12	-12	-4	-5	-1	2	4	5	5
17	3	-4	-4	-1	1	-1	0	1	-11	-4	0	5	5	4	8	10	17	17	10	10	5	7	8	6
18	4	0	1	1	4	5	5	4	4	6	10	10	10	9	15	19	28	27	24	17	11	14	7	-6
19	-24	-39	-56	-38	-42	-48	-47	-37	-30	-37	-52	-44	-36	-24	-29	-28	-28	-21	-20	-22	-21	-15	-11	-15
20	-16	-18	-18	-23	-16	-10	8	20	24	32	30	18	12	9	9	4	13	1	-35	-36	-34	-36	-42	-44
21	-51	-51	-60	-49	-52	-51	-43	-45	-46	-35	-27	-25	-28	-26	-22	-15	-14	-18	-27	-17	-6	-6	-3	-6
22	-10	-9	-14	-14	-14	-7	-5	-2	-1	2	3	0	-4	-4	-18	-18	-12	-9	-8	-5	-10	-12	-9	-6
23	-6	-7	-7	-7	-6	-8	-6	-4	-3	1	3	4	5	5	3	4	6	7	6	4	-1	1	-1	-2
24	-2	-1	3	5	7	10	11	10	9	8	11	15	11	8	5	4	19	10	0	8	8	3	3	0
25	-2	-3	1	9	10	17	17	17	9	3	4	2	-8	-12	-13	1	-1	14	-2	-5	-8	-14	-18	-19
26	-20	-24	-29	-24	-23	-21	-21	-25	-23	-13	-6	-3	-5	-9	-12	-9	-9	-9	-15	-12	-13	-13	-11	-11
27	-12	-15	-17	-20	-13	-9	-11	-10	-14	-9	-2	-12	-14	-10	-9	-11	-12	-11	-12	-10	-7	-8	-7	-5
28	-7	-8	-7	-6	-10	-6	1	1	-5	-2	5	4	-1	-4	-5	-8	-8	-7	-3	1	4	4	0	-2
29	-3	-7	-12	-17	-18	-10	-39	-38	-35	-68	-95	-95	-95	-85	-101	-113	-117	-132	-140	-122	-127	-138	-130	-115
30	-101	-85	-79	-77	-76	-78	-74	-75	-72	-70	-62	-60	-58	-55	-51	-50	-49	-46	-47	-48	-46	-44	-38	-35
31	-37	-36	-35	-35	-32	-31	-24	-23	-23	-28	-27	-21	-17	-27	-26	-26	-21	-21	-22	-19	-18	-23	-19	-18

SEPTEMBER 1979

UNIT=GAMMAS

G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-19	-22	-25	-27	-26	-24	-23	-22	-20	-16	-13	-15	-14	-16	-18	-21	-20	-20	-18	-20	-20	-16	-12	-13
2	-19	-20	-19	-17	-18	-17	-15	-14	-18	-19	-17	-17	-16	-16	-18	-19	-19	-16	-13	-11	-9	-8	-7	-7
3	-6	-9	-18	-22	-22	-21	-22	-27	-28	-20	-16	-12	-19	-19	-17	-16	-16	-12	-8	-10	-13	-8	-4	-2
4	-1	-1	1	2	-5	-14	-24	-16	-8	-7	-6	-7	-7	-3	-5	-10	-13	-12	-11	-14	-12	-7	-3	-2
5	-4	-3	-10	-16	-22	-19	-14	-14	-17	-15	-10	-8	-14	-18	-25	-25	-21	-26	-23	-24	-25	-18	-12	-13
6	-6	-12	-16	-25	-23	-26	-35	-31	-27	-34	-34	-33	-27	-22	-15	-17	-17	-14	-12	-14	-14	-12	-9	-9
7	-5	-2	-9	-16	-14	-10	-10	-12	-14	-13	-13	-16	-14	-10	-7	-9	-10	-11	-12	-10	-13	-4	-4	-6
8	-11	-10	-8	-7	-6	-9	-12	-10	-12	-9	-8	-8	-13	-12	-8	-1	-1	-5	-5	-5	-6	-7	-8	-10
9	-9	-9	-9	-5	-4	-4	-7	-9	-9	-7	-12	-12	-11	-9	-10	-10	-8	-10	-13	-17	-19	-18	-15	-15
10	-14	-17	-16	-11	-6	-6	-6	-6	-10	-11	-13	-19	-15	-11	-5	-8	-12	-14	-17	-22	-20	-21	-22	-27
11	-30	-26	-21	-20	-22	-22	-21	-21	-25	-29	-34	-39	-36	-31	-29	-30	-34	-38	-37	-31	-25	-18	-17	-19
12	-18	-20	-14	-21	-6	-5	-3	-2	0	4	4	6	10	9	9	6	6	10	8	6	2	5	-3	-6
13	-6	-2	1	3	2	0	-2	0	4	3	2	-4	-1	4	2	2	2	2	2	1	2	5	12	11
14	11	8	7	6	8	6	7	12	18	20	13	9	10	12	12	8	11	13	10	6	-7	-13	-13	-5
15	1	2	-1	-4	-8	-8	-8	-8	-4	-6	-3	-8	-10	-5	-3	1	4	5	6	8	7	8	8	9
16	9	9	9	8	11	8	2	-1	-3	5	5	2	4	8	11	6	1	-2	-5	-4	-6	-4	0	5
17	-4	-2	1	3	5	7	3	5	9	10	14	7	8	17	22	21	19	27	25	20	20	20	22	15
18	-18	-54	-65	-46	-36	-28	-43	-81	-115	-113	-124	-142	-126	-129	-147	-158	-158	-126	-111	-101	-92	-86	-72	-64
19	-65	-69	-67	-61	-58	-58	-60	-57	-56	-51	-49	-51	-50	-50	-52	-54	-55	-54	-47	-39	-39	-39	-39	-35
20	-38	-39	-30	-23	-26	-28	-29	-27	-22	-23	-19	-17	-31	-37	-44	-50	-57	-56	-54	-50	-48	-53	-47	-37
21	-33	-15	-14	-27	-45	-49	-47	-49	-51	-46	-42	-42	-36	-33	-32	-33	-35	-32	-39	-51	-49	-42	-32	-34
22	-30	-26	-20	-17	-19	-19	-18	-14	-10	-9	-10	-9	-17	-16	-15	-13	-11	-13	-12	-13	-14	-11	-10	-9
23	-8	-9	-10	-15	-20	-24	-20	-15	-13	-11	-11	-14	-16	-17	-25	-28	-31	-23	-21	-21	-20	-15	-14	-14
24	-11	-6	-4	-6	-14	-15	-15	-17	-12	-9	-16	-28	-34	-30	-22	-20	-21	-19	-16	-17	-22	-30	-38	-41
25	-45	-45	-46	-50	-52	-50	-48	-40	-35	-28	-24	-22	-21	-20	-27	-30	-41	-51	-43	-39	-38	-39	-33	-38
26	-35	-32	-30	-31	-28	-29	-34	-33	-26	-19	-21	-23	-22	-19	-21	-20	-22	-21	-27	-35	-31	-26	-31	-39
27	-41	-38	-41	-37	-35	-35	-32	-30	-24	-17	-16	-17	-15	-13	-15	-18	-22	-23	-29	-32	-31	-31	-28	-33
28	-32	-28	-26	-22	-23	-28	-35	-35	-32	-30	-30	-25	-19	-13	-11	-17	-23	-27	-25	-24	-26	-25	-40	-36
29	-38	-43	-34	-29	-26	-31	-30	-28	-26	-22	-22	-20	-19	-27	-22	-22	-28	-28	-31	-27	-24	-23	-20	-15
30	-12	-13	-15	-20	-30	-31	-30	-31	-29	-24	-22	-20	-18	-18	-23	-26	-27	-23	-25	-24	-25	-22	-19	-16

TABLE 10 Dst - continued

Part B

OCTOBER 1979

UNIT=GAMMAS

G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-20	-24	-24	-24	-21	-17	-14	-15	-16	-14	-16	-17	-14	-15	-17	-22	-22	-20	-19	-20	-19	-14	-10	-10
2	-9	-6	-3	-4	-6	-10	-9	-6	-4	-4	-10	-11	-14	-14	-10	-12	-15	-20	-25	-23	-18	-13	-15	-18
3	-17	-20	-17	-21	-29	-32	-30	-21	-16	-14	-13	-11	-5	0	6	2	-6	-19	-19	-11	-7	-7	-6	-9
4	-4	-6	0	0	-3	0	1	-5	-8	-5	-8	-9	-6	-8	-9	-9	-8	-7	-6	-7	-8	-8	-6	-5
5	-1	1	3	4	3	3	4	3	3	3	1	1	6	7	2	-6	-11	-14	-13	-13	-15	-17	-16	-12
6	-11	-12	-12	-18	-26	-33	-30	-17	-12	-12	-14	-8	-28	-44	-37	-43	-35	-35	-32	-31	-43	-47	-42	-40
7	-39	-39	-42	-46	-45	-40	-59	-43	-33	-33	-34	-25	-22	-27	-29	-45	-41	-34	-35	-26	-41	-52	-58	-60
8	-71	-72	-67	-63	-69	-64	-61	-60	-66	-72	-79	-70	-59	-58	-57	-56	-54	-53	-46	-46	-46	-57	-73	-68
9	-61	-70	-72	-70	-74	-76	-66	-60	-58	-58	-55	-57	-53	-46	-43	-44	-48	-48	-43	-43	-42	-48	-49	-43
10	-37	-38	-44	-45	-46	-43	-47	-45	-33	-31	-31	-34	-34	-29	-27	-26	-23	-24	-23	-25	-24	-21	-23	-24
11	-23	-21	-19	-17	-15	-12	-12	-11	-15	-19	-22	-21	-31	-26	-25	-26	-36	-37	-34	-29	-32	-31	-29	-27
12	-27	-25	-25	-21	-19	-13	-10	-6	-3	-1	-1	-10	-13	-16	-15	-18	-26	-27	-29	-22	-19	-13	-16	-25
13	-24	-24	-24	-25	-25	-19	-11	-7	-6	1	1	-6	-14	-15	-18	-18	-19	-9	-7	-11	-22	-19	-17	-19
14	-13	-18	-17	-19	-18	-16	-13	-4	-1	5	2	0	-2	-6	-5	-3	-2	0	-1	-3	-4	-4	-4	-5
15	-5	-5	-8	-10	-11	-7	-2	2	-1	-3	-4	-1	-9	-14	-22	-23	-28	-29	-26	-26	-31	-32	-25	-19
16	-19	-20	-21	-19	-24	-26	-19	-12	-10	-11	-11	-10	-13	-14	-13	-10	-10	-12	-13	-18	-22	-19	-18	-15
17	-15	-10	-8	-9	-10	-9	-8	-6	-5	-3	-2	1	-2	-2	-3	-7	-7	-8	-9	-7	-6	-8	-9	-5
18	-2	0	-4	-5	-6	-7	-8	-4	-4	-4	-4	-3	-3	-6	-7	-7	-6	-7	-7	-6	-5	-7	-8	-8
19	-5	-2	-1	-2	-2	3	2	5	6	9	7	3	1	0	5	7	9	7	4	6	10	11	9	1
20	-3	-4	2	3	4	6	9	7	3	0	-5	-2	-4	-1	1	-1	1	4	3	0	2	-6	-10	-7
21	0	0	-3	-5	-10	-11	-15	-15	-12	-9	-8	-8	-5	-8	-7	-5	-9	-11	-10	-12	-18	-28	-40	-43
22	-44	-35	-34	-40	-39	-38	-47	-46	-38	-34	-26	-25	-25	-27	-26	-22	-17	-18	-17	-18	-27	-30	-25	-30
23	-26	-23	-25	-24	-23	-21	-22	-22	-22	-23	-23	-18	-20	-27	-27	-23	-20	-15	-7	-4	-10	-17	-23	-27
24	-28	-31	-28	-25	-28	-31	-26	-21	-18	-14	-17	-23	-19	-15	-26	-27	-25	-26	-22	-20	-19	-19	-20	-21
25	-21	-20	-23	-29	-36	-42	-40	-37	-38	-32	-23	-22	-29	-36	-37	-34	-34	-30	-25	-32	-40	-45	-43	-39
26	-37	-32	-26	-24	-23	-19	-16	-14	-14	-13	-11	-10	-20	-24	-21	-17	-16	-18	-16	-17	-19	-19	-18	-16
27	-14	-14	-16	-15	-16	-14	-13	-13	-10	-13	-16	-16	-15	-10	-7	-5	-4	-5	-3	-4	-8	-8	-6	-6
28	-8	-10	-11	-6	0	2	0	-10	-15	-23	-29	-36	-41	-41	-36	-29	-29	-28	-24	-23	-26	-30	-37	-43
29	-46	-42	-44	-45	-40	-34	-32	-27	-24	-22	-19	-14	-15	-15	-15	-12	-9	-15	-23	-25	-25	-27	-24	-25
30	-26	-29	-36	-32	-27	-27	-27	-25	-21	-17	-14	-10	-10	-11	-13	-12	-8	-6	-4	-3	-1	-1	-1	-5
31	-10	-12	-13	-10	-9	-5	-2	0	0	3	1	-1	-1	-2	-2	-7	-12	-15	-17	-14	-10	-11	-14	-17

TABLE 10 Dst - continued

NOVEMBER 1979

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 (G.M.T.)
1	-22	-24	-25	-29	-31	-28	-23	-17	-7	-1	1	-2	-1	3	3	0	-10	-15	-24	-19	-13	-18	-20	-27
2	-26	-32	-33	-30	-30	-27	-29	-28	-26	-30	-24	-17	-14	-16	-22	-24	-26	-25	-28	-27	-23	-23	-19	-15
3	-11	-9	-11	-11	-14	-14	-14	-11	-10	-8	-7	-11	-15	-12	-6	-4	-13	-21	-23	-21	-22	-25	-22	-23
4	-20	-23	-28	-22	-15	-14	-21	-22	-16	-11	-15	-20	-17	-14	-10	-8	-9	-10	-8	-6	-4	-4	-4	-6
5	-6	-5	-4	-4	-2	-1	-1	-1	3	5	2	1	0	3	6	9	8	6	6	4	4	2	0	-2
6	-3	-3	-2	0	5	10	6	7	7	4	4	5	7	9	10	10	10	10	9	8	6	6	6	3
7	0	1	4	4	1	4	6	8	-1	-6	-13	-11	-4	-3	5	3	-4	-22	-31	-30	-29	-30	-26	-26
8	-26	-26	-26	-26	-26	-22	-24	-28	-39	-45	-47	-34	-44	-42	-37	-31	-25	-19	-13	-8	-8	-11	-11	-8
9	-8	-16	-14	-14	-16	-19	-21	-21	-15	-12	-9	-7	-2	-18	-22	-30	-33	-38	-27	-19	-41	-35	-30	-29
10	-31	-33	-31	-24	-21	-19	-23	-26	-21	-21	-22	-24	-25	-25	-24	-21	-23	-22	-20	-23	-21	-26	-34	-30
11	-31	-35	-24	-14	-12	-7	-6	-7	-8	-5	-4	0	0	6	12	15	19	24	25	19	13	13	10	7
12	7	2	2	0	3	8	9	0	0	-1	-1	4	5	4	0	-2	-4	-4	0	3	3	0	-9	-9
13	-6	-17	-29	-46	-51	-60	-61	-59	-61	-62	-63	-67	-70	-70	-78	-84	-92	-89	-82	-81	-74	-71	-73	-73
14	-81	-90	-83	-81	-78	-75	-66	-65	-61	-60	-57	-55	-56	-57	-59	-56	-54	-52	-50	-45	-41	-37	-34	-32
15	-33	-34	-33	-29	-25	-23	-21	-22	-21	-23	-25	-25	-23	-24	-26	-24	-23	-22	-19	-15	-14	-5	-2	0
16	3	9	20	6	-8	-18	-25	-33	-31	-23	-16	-18	-19	-22	-24	-26	-26	-26	-25	-24	-21	-14	-9	-12
17	-15	-10	-9	-9	-12	-15	-16	-9	-8	-15	-13	-12	-13	-12	-11	-10	-8	-9	-8	-7	-5	-2	0	2
18	2	1	10	9	8	9	8	5	5	2	-2	-2	-1	1	2	1	-3	-3	-2	0	4	2	3	5
19	3	1	2	4	9	7	1	-5	-9	-9	-7	-6	-3	0	3	7	5	6	4	0	2	1	4	0
20	1	-3	-3	0	4	4	1	0	-6	-7	-1	-4	0	-2	1	0	-2	-1	0	2	3	3	4	6
21	6	3	0	-3	-2	-3	-6	-7	-11	-13	-12	-9	-10	-8	-6	-6	-9	-9	-11	-10	-9	-8	-5	-1
22	1	1	1	1	0	-1	1	1	-1	-1	2	4	5	1	-1	-1	-1	-1	-1	-2	-4	-4	-5	-5
23	-5	-3	1	1	0	0	0	-2	-3	-2	0	6	10	10	8	7	2	0	0	2	-1	-2	-3	-7
24	-10	-9	-13	-19	-26	-33	-39	-46	-45	-45	-32	-30	-49	-47	-31	-30	-28	-29	-38	-33	-30	-38	-41	-37
25	-44	-52	-58	-61	-55	-47	-47	-42	-41	-36	-34	-32	-32	-30	-28	-27	-27	-25	-22	-18	-14	-15	-15	-11
26	-10	-9	-10	-10	-7	-6	-6	-3	1	3	4	3	4	3	4	-2	-8	-7	-5	-10	-9	-10	-9	-8
27	-10	-10	-4	-2	-3	-8	-13	-9	-6	-4	-5	-3	-2	-1	-3	-4	-6	-5	-4	-4	-4	-4	-4	-3
28	-1	0	0	-2	-5	-5	-2	1	4	7	7	9	10	9	7	5	4	7	9	10	10	6	8	11
29	13	15	15	11	14	17	17	15	13	13	14	16	20	18	13	11	14	25	28	21	21	24	18	20
30	22	19	17	15	16	18	17	31	31	7	7	17	27	19	26	27	15	14	14	15	12	10	9	8

TABLE 10 Dst - continued

Part B

TABLE 10 Dst - continued

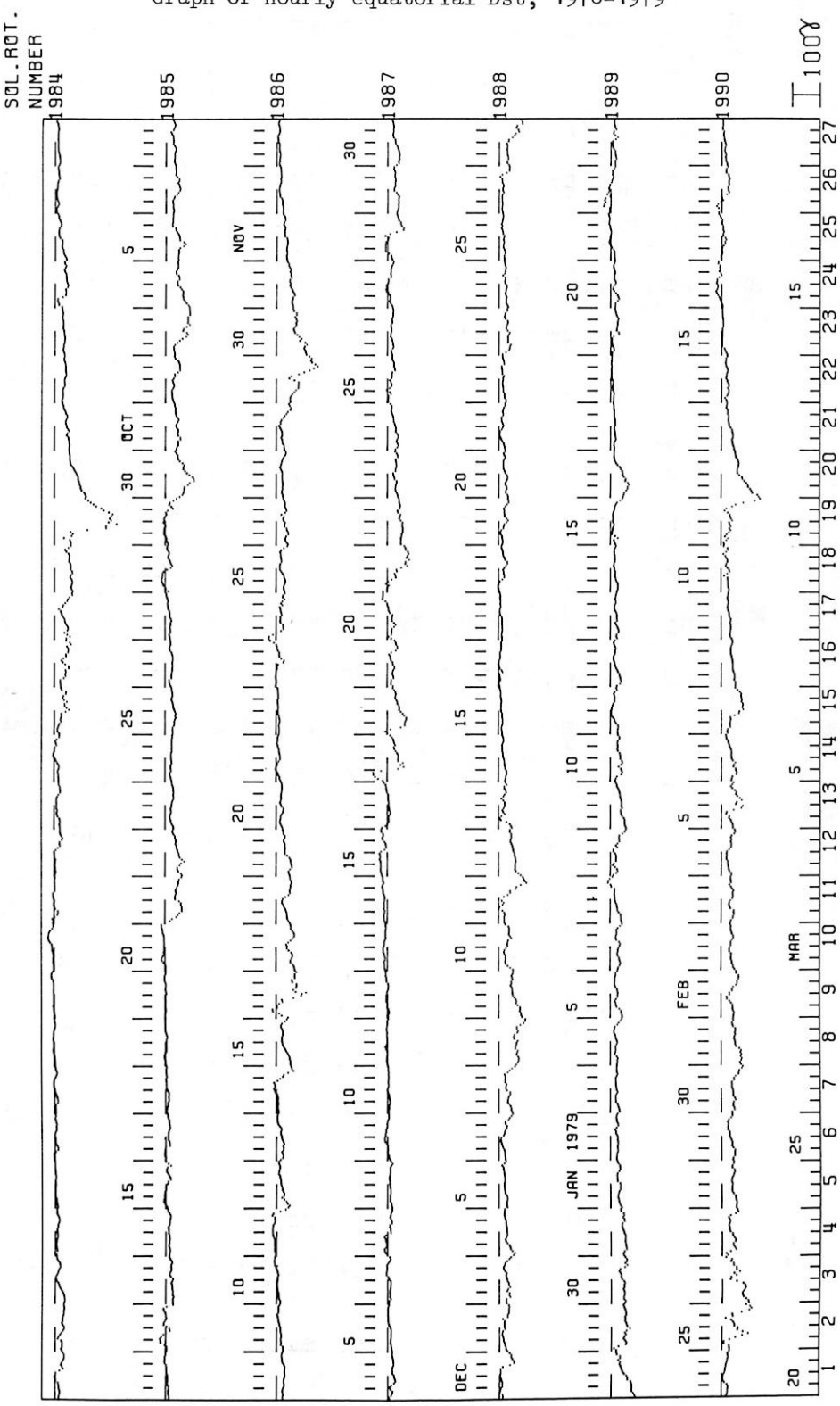
DECEMBER 1979

UNIT=GAMMAS

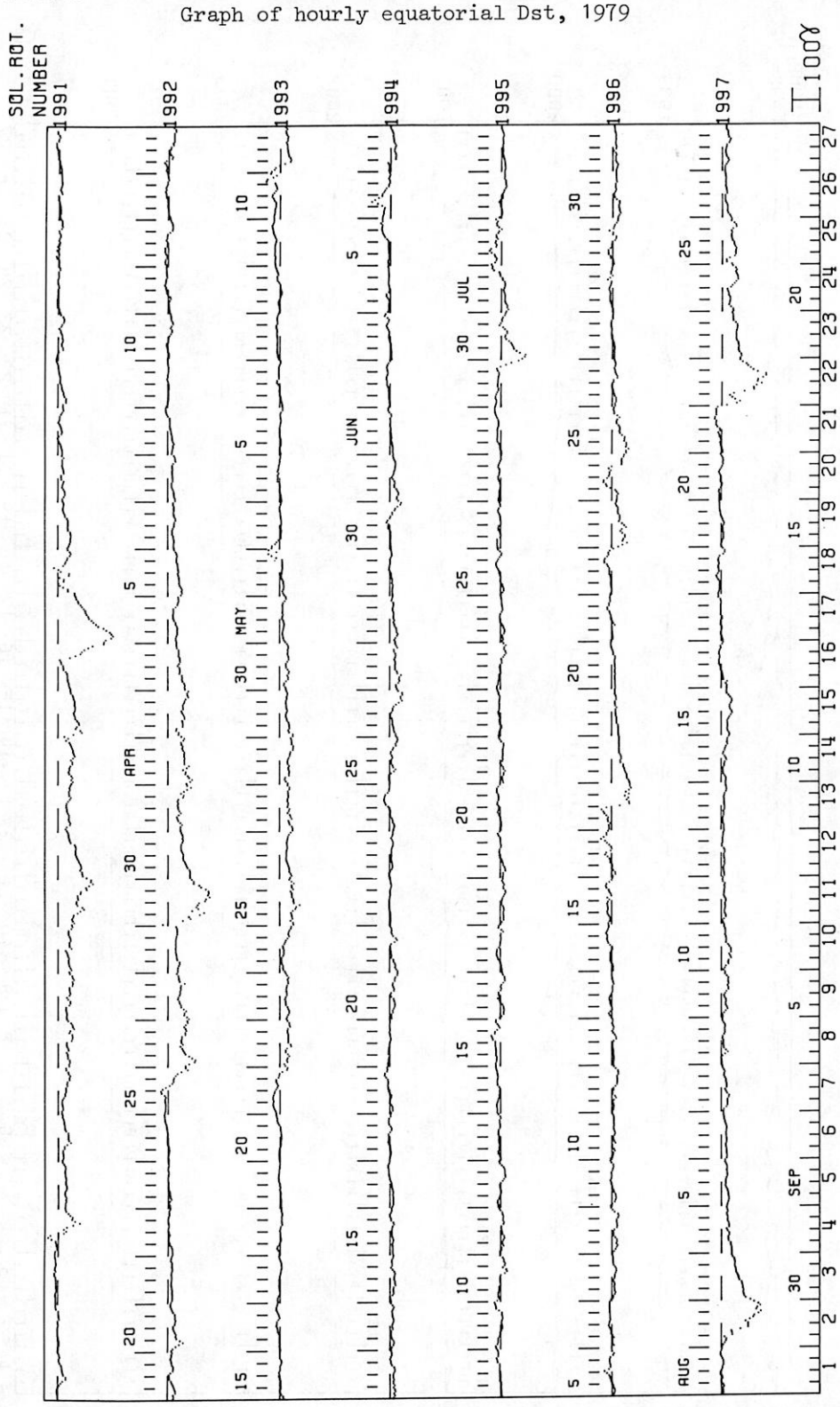
G.M.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	6	8	7	5	3	1	-5	-6	-4	-3	-2	-1	-4	-9	-11	-12	-13	-12	-12	-9	-3	-3	2	5
2	6	4	-1	-4	-7	-11	-13	-13	-11	-4	-3	-4	-2	-5	-3	-3	-1	-4	-3	2	4	7	7	9
3	7	0	-7	-16	-23	-28	-30	-31	-27	-25	-20	-14	-11	-13	-11	-8	-4	-3	-1	0	3	5	7	9
4	11	7	0	-11	-21	-28	-28	-31	-36	-29	-28	-28	-32	-38	-42	-44	-45	-39	-35	-34	-37	-35	-33	-27
5	-24	-22	-21	-21	-21	-21	-25	-32	-35	-36	-34	-29	-23	-21	-17	-16	-18	-15	-13	-12	-14	-13	-9	-9
6	-12	-17	-13	-8	-8	-7	-6	-6	-2	-4	-3	-3	-1	-2	-3	-4	-4	-5	-5	-5	-5	-8	-8	-7
7	-5	-4	-6	-7	-3	4	5	7	8	8	6	5	7	7	9	12	14	15	16	16	16	16	18	19
8	21	21	19	17	20	29	26	24	26	20	19	18	13	6	2	-3	1	4	4	6	-5	-6	-5	-7
9	-7	-7	-6	-6	-3	1	2	0	1	-1	1	2	-1	0	1	3	3	4	3	2	2	3	2	-4
10	-1	2	2	0	1	5	8	8	11	10	12	14	13	10	4	1	-3	1	3	3	5	8	1	1
11	3	4	6	5	1	2	4	11	15	15	13	14	13	14	13	10	6	1	-2	2	2	7	7	5
12	6	8	4	2	2	5	5	4	2	3	5	5	4	4	3	1	1	3	6	6	5	8	9	7
13	8	10	13	12	9	9	9	14	15	12	9	7	7	5	5	7	7	11	15	12	9	8	10	10
14	3	0	2	4	7	12	12	12	11	14	18	18	19	18	19	18	20	16	11	10	7	8	6	6
15	6	7	4	1	-2	0	3	-1	-5	-5	-6	-1	1	2	2	2	3	1	-3	-8	-11	-10	-9	-9
16	-15	-14	-11	-9	-14	-16	-17	-10	-7	-5	-3	1	9	10	5	1	3	7	5	5	4	4	1	-6
17	-9	-11	-12	-14	-12	-9	-8	-5	-3	-1	1	4	3	-2	-3	-3	-1	-7	-12	-10	-7	-9	-12	-11
18	-7	-4	-7	-9	-10	-10	-9	-13	-10	-8	-6	2	2	-1	-6	-5	-3	-2	1	4	4	-1	-3	-3
19	-3	-1	-4	-8	-9	-8	-6	-8	-12	-11	-8	-2	1	1	2	0	-1	-2	-1	1	0	-2	-4	-2
20	0	2	-1	-4	-5	-3	0	-2	-3	-2	0	2	1	-1	2	1	0	-1	-2	-8	-12	-11	-12	-9
21	-7	-5	-7	-8	-6	-4	-4	-4	-3	-3	-2	1	0	-2	-3	-2	-5	-10	-11	-11	-8	-8	-10	-8
22	-5	-1	-2	-3	6	10	10	11	12	11	8	4	14	8	3	4	4	-6	-13	-6	-1	2	4	5
23	4	6	7	6	5	3	-1	-2	-1	1	3	6	4	0	0	3	5	5	8	11	14	12	12	10
24	5	-3	3	2	3	5	10	13	16	16	15	13	14	10	7	4	1	2	7	9	9	8	6	5
25	9	11	8	7	8	11	15	19	19	19	20	19	23	27	29	32	30	26	19	16	18	19	15	12
26	15	15	11	15	20	20	23	24	23	23	23	18	16	18	20	22	17	8	2	-6	-12	-12	-10	-6
27	-1	2	1	2	9	-1	-1	1	-1	2	2	3	0	-2	-7	-13	-12	-8	-6	-9	-10	-8	-10	-12
28	-9	-4	-6	-12	-18	-19	-16	-11	-6	-6	-6	-6	-8	-8	-1	-3	-9	-10	-8	-11	-11	-15	-19	-25
29	-32	-30	-32	-36	-34	-34	-39	-41	-32	-32	-29	-23	-16	-24	-32	-37	-37	-40	-41	-36	-28	-27	-31	-32
30	-33	-32	-30	-33	-36	-36	-35	-37	-33	-32	-32	-24	-15	-18	-22	-16	-15	-18	-17	-12	-13	-10	-10	-7
31	-4	-4	-6	-7	-2	-5	-13	-14	-17	-19	-16	-10	-9	-12	-8	-4	-3	-5	-8	-18	-27	-35	-44	-34

Graph of hourly equatorial Dst, 1978-1979



Graph of hourly equatorial Dst, 1979



Graph of hourly equatorial Dst, 1979-1980

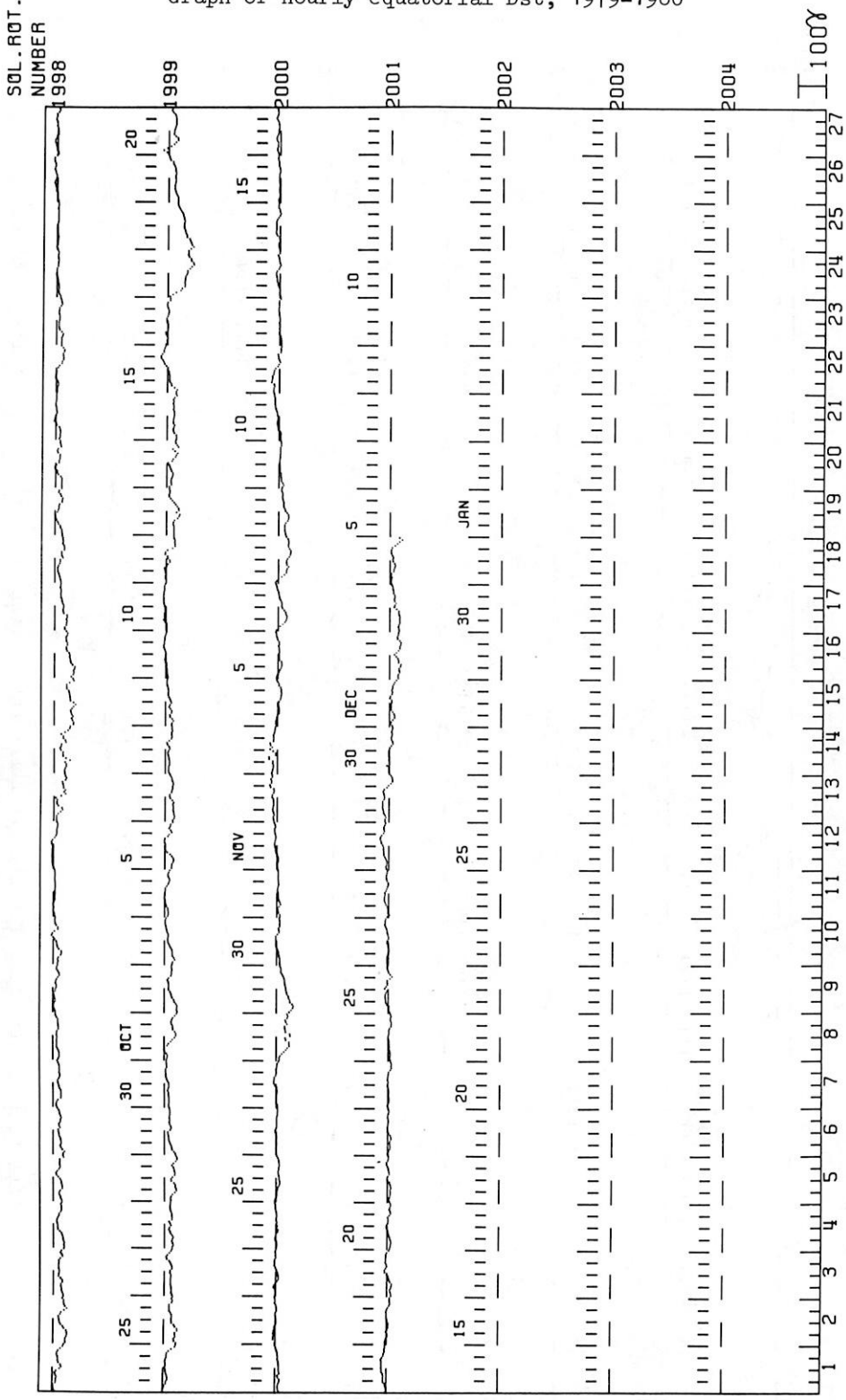


TABLE 11 MEAN VALUES OF DST - 1979

DAILY MEANS OF EQUATORIAL DST FOR 1979

DAY	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
1	-22	-23	-37	-49	-29	-2	7	4	-19	-18	-15	-3
2	-23	-29	-37	-63	-38	1	17	5	-15	-12	-25	-2
3	-35	-17	-30	-53	-20	10	23	-7	-15	-13	-14	-10
4	-69	-24	-45	-128	-19	4	-8	-13	-8	-6	-14	-28
5	-58	-37	-36	-29	-9	20	4	-2	-17	-3	1	-21
6	-31	-31	-53	-36	-1	23	5	-5	-20	-28	6	-6
7	-37	-14	-41	-20	-6	-19	-2	-11	-10	-40	-8	8
8	-54	-20	-29	-11	3	-12	-5	-5	-8	-62	-26	11
9	-22	-20	-21	-14	2	-9	-2	2	-10	-55	-21	0
10	-19	-17	-38	-12	4	-11	5	8	-14	-32	-25	5
11	-10	-14	-76	-1	-8	-8	10	12	-27	-24	0	7
12	-6	-38	-31	-4	-2	-4	17	9	-1	-17	1	5
13	-9	-13	-19	-8	7	0	-5	-20	2	-15	-63	10
14	-14	-5	-5	-2	2	3	2	-38	7	-6	-59	11
15	-20	-16	10	-16	-1	2	-10	-16	-1	-14	-21	-2
16	-23	-15	-3	-24	1	-15	-3	-7	3	-16	-16	-3
17	-13	0	-12	-13	2	-12	5	4	12	-7	-9	-6
18	-16	5	-10	-4	11	-2	-8	10	-93	-5	3	-4
19	-30	-13	-10	-2	-29	-8	4	-32	-52	4	1	-4
20	-24	-16	-2	4	-26	1	-2	-6	-37	0	0	-3
21	-15	-52	7	-6	-19	-11	-5	-30	-38	-12	-6	-5
22	-15	-60	-17	-64	-48	-21	3	-8	-15	-30	0	3
23	-46	-36	-29	-48	-31	-24	6	0	-17	-21	1	5
24	-50	-43	-28	-32	-35	-16	5	7	-19	-23	-32	8
25	-46	-35	-29	-101	-35	-5	12	0	-38	-33	-34	18
26	-45	-49	-44	-59	-29	-6	6	-15	-27	-19	-4	12
27	-46	-55	-43	-47	-27	-19	-29	-11	-27	-10	-5	-3
28	-30	-44	-43	-62	-13	-3	-5	-3	-26	-22	5	-10
29	-23		-33	-55	-2	8	20	-77	-26	-26	17	-32
30	-22		-68	-45	1	4	-5	-62	-23	-15	17	-24
31	-21		-40		2		-7	-25		-8		-14
MEAN	-29	-26	-30	-33	-13	-4	2	-11	-19	-19	-12	-2

ANNUAL MEAN -16

REFERENCES TO OTHER INDICES

Q QUARTER HOURLY DISTURBANCE INDEX FOR HIGH LATITUDE STATIONS

The Q-index was introduced in order to enable a precise correlation of geomagnetic activity with ionospheric, auroral and other observations for stations at latitudes higher than 58°. (Ref.: IAGA-resolutions Toronto 1957 and Helsinki 1960). It is a quarter hourly measure, on a quasi logarithmic scale, of the maximum deviation in γ's of the most disturbed horizontal component from its normal quiet-day value (the highest value of either ΔH and ΔD, or ΔX and ΔY). When the trace shows both positive and negative deviations during a 15 minute-interval, however, the total range is used instead.

The relation between Q and this deviation (or range) Δ is as follows:

Q =	0	1	2	3	4	5	6	7	8	9	10(T)	11(E)
$\Delta \leq$	10	20	40	80	140	240	400	660	1000	1500	2200	> 2200

The details of the scaling technique of the Q-indices are explained in:

J. Bartels and N. Fukushima, Abh. Akad. Wiss. Göttingen, Math.-Phys. Klasse, Sonderheft 3 (1956).

or: J. Bartels, Annals of the IGY, 4, 220 - 236 (1957).

Since the IGY Q-indices have been determined and published for certain periods of time by 26 stations. In recent years only Sodankylä seems to have continued this practice. Mimeographed publications are available directly from this observatory.

The following data are available through the World Data Centers for Geomagnetism: (IGY = 7.57 - 12.58).

Arctica III	5.59 - 3.60	Welen	7.57 - 11.59, 64, 65
Heiss Isl.	64, 65	College	7.57, 6 - 9.58
Tikhaya Bay	7.57 - 2.59	Baker Lake 1)	IGY
Murchison Bay	7.57 - 7.59	Yellowknife 1)	7.57 - 7.58
C. Chelyuskin	IGY, 59, 64, 65	Nurmijärvi	5 - 6.61
Thule	IGY	Lerwick	IGY
Resolute Bay 1)	IGY	Eskdalemuir	IGY
Dikson	7.57 - 9.59, 64, 65	Macquarie Isl.	IGY
Tiksy	IGY, 64, 65	Mirny	IGY, 3 - 10.59, 64, 65
P. Barrow	7.57 - 8.58	Mawson	IGY
Godhavn	IGY	Novolazarevskaja	64, 65
Kiruna 2)	7.57 - 12.61	Halley Bay	IGY, 7.60 - 10.62
Sodankylä	1.57 - today	Vostok	64, 65
		Base Roi Baudouin	5.58 - 2.59

1) Publications of the Dominion Observatory, Ottawa, Vol. 27, No. 4 (1963)
2) Kiruna Geophysical Data, Data Report No. 631 (febr. 1963)

R HOURLY DISTURBANCE INDEX FOR HIGH LATITUDE STATIONS

For some observatories in geomagnetic latitudes higher than about 65°, hourly R-indices are available. The R-index is defined as the absolute hourly range in each horizontal component, expressed in tens of gamma (Ref.: IAGA resolution, Berkeley 1963).

The hourly range in the horizontal component was introduced as a measure of magnetic activity by Russian workers (especially Nikolski).

R-indices for Canadian stations are given in the magnetic yearbooks (Publications of the Dominian Observatory, Ottawa, Canada up to and including Volume 39; thereafter Publications of the Earth Physics Branch), for the stations:

Resolute Bay and Baker Lake (IGY and from 1960 onwards).
Alert (starting 1 October 1961).
Mould Bay (starting 1 August 1962).
Fort Churchill (IGY and from 1966 onwards).
Great Whale River (starting 1 January 1967).

Prior to 1964 the hourly range was measured at the Canadian arctic observatories in the principal horizontal component only, from 1964 onwards it was measured in both components X and Y.

R-indices of the stations Thule and Godhavn (Greenland) are determined since 1964, for the components H, D and Z. They are published in the magnetic yearbooks for these stations, which are issued by the Meteorologisk Institut, Charlottenlund, Denmark.

Daily, monthly and yearly mean values of R-indices (based on the H-component) from arctic and antarctic USSR-stations for the period 1934 through 1967 are given in a publication of the Arctic and Antarctic Institute, Fontanka 34, Leningrad (1970). This concerns the following stations:

Welen (1935 - '47, 1951 - '67),
Tiksi (1944 - '67),
Dikson (1934 - '67),
C. Chelyuskin (1935 - '67),
B. Tikhaya (1934 - '58),
O. Cheisa (1958 - '67).
Arctic drifting stations:
NP 3 - 13 (1954 - '67).

Mirny (1956 - '67),
Molodezhnaya (1964 - '67),
Lazarev (1960 - '61),
Novolazarevskaya (1961 - '67),
Vostok (1958 - '67).

R-indices of the station Loparskaya (near Murmansk) from 1954 onwards are available at WDC - B2, Molodezhnaya 3, Moscow, 117-296, USSR. These indices are also given in the publication "Auroral Phenomena" of the Polar Geophysical Institute, Ac. of Sciences of the USSR, Apatity, starting with the year 1970.

AE AURORAL ELECTROJET ACTIVITY INDEX

AE, at any instant of time, is the range of deviation from quiet time reference levels of the horizontal magnetic field (H) around the auroral oval. In practice, it is defined as the largest positive deviation (AU) minus the largest negative deviation (AL) from the H-variation records of a network of northern hemisphere auroral zone magnetic observatories. The average $\frac{AU+AL}{2}$ is called AO, an auxiliary auroral electrojet index. These indices may be derived from instantaneous values of H-deviations, or from averages over any suitable time interval.

(Ref: IAGA-resolution 2, Madrid 1969 and IAGA-resolution 13, Moscow 1971. For complete definition see: Davis, T.N. and Sugiura, M., J. G. Res. Vol. 71, 3, p. 736-792, 1966).

For the period January 1966 through December 1974, 2.5-min and hourly average AE, AU, AL and AO indices have been derived by the National Geophysical and Solar-Terrestrial Data Center of NOAA in the U.S.A. A network of stations as uniformly spaced in longitude as possible, was used. The number of stations contributing data to the derivation for each month is indicated parenthetically in identifying the index, such as, AE(10) or AE(11). These indices are available on magnetic tape from World Data Center A for Solar-Terrestrial Physics, National Oceanic and Atmospheric Administration, Boulder, Colorado 80302, U.S.A. Daily graphs of the 2.5-min indices are available on 35mm microfilm. Annual summaries of the hourly average indices, explanatory text, and 2.5-min daily graphs have been published for these years in the WDC-A UAG Report series. Graphical representations of AU, AL, and AE appear for some intervals of special interest in Solar-Geophysical Data, Part II (Comprehensive Reports), published monthly by NGSDC.

For the period September 1964 through 1965, the indices AE, AU, and AL for each 2.5-min and as hourly averages were derived at the NASA Goddard Space Flight Center. For July 1957 through September 1964, hourly values of AE were derived and published by the Geophysical Institute, University of Alaska. These indices are available from WDC-A for STP on either magnetic tape or 35 mm microfilm. All AE indices have been exchanged with other WDC's as outlined in the Guide to International Data Exchange, ICSU, December 1973.

REFERENCES TO TABLES AND DIAGRAMS FOR Kp, Ap AND Cp

Year	Kp-Indices Tables Bull. No. pp.	Kp-Diagrams Bull. No. pp.	Frequencies of Kp Bull. No. p.	Stormy Intervals Bull. No. p.	Quiet Intervals Bull. No. p.
1932	12 l 222-227	12 l 258-259	12 l 252	12 l 255	12 l 255
1933	12 l 228-233	12 l 260-261	12 l 252	12 l 255	12 l 256
1934	12 l 234-239	12 l 262-263	12 l 253	12 l 255	12 l 256
1935	12 l 240-245	12 l 264-265	12 l 253	12 l 255	12 l 257
1936	12 l 246-251	12 l 266-267	12 l 254	12 l 255	12 l 257
1937	12 g 97-98	12 g 113-114	12 g 112	12 g 111	12 k 154
1938	12 g 99-100	12 g 114-116	12 g 112	12 g 111	12 k 154
1939	12 g 101-102	12 g 116-117	12 g 112	12 g 111	12 k 154
1940	12 c 104-105	12 c 114-115	12 c 131	12 c 135	12 k 154
1941	12 c 106-107	12 c 116-117	12 c 131	12 c 135	12 k 155
1942	12 c 108-109	12 c 118-119	12 c 131	12 c 135	12 k 155
1943	12 c 110-111	12 c 120-121	12 c 132	12 c 135	12 k 155
1944	12 c 112-113	12 c 122-123	12 c 132	12 c 135	12 k 155
1945	12 i 106-107	12 c 124-125	12 c 132	12 c 135	12 k 156
1946	12 i 108-109	12 c 126-127	12 c 132	12 c 135	12 k 156
1947	12 i 110-111	12 i 102-103	12 c 133	12 c 136	12 k 156
1948	12 i 112-113	12 i 104-105	12 c 133	12 c 136	12 c 137
1949	12 c 102-103	12 c 128-129	12 c 133	12 c 136	12 c 137
1950	12 e 104-105	12 e 106-107	12 c 133	12 c 136	12 f 105
1951	12 f 86-87	12 f 88-89	12 f 98	12 f 105	12 f 105
1952	12 g 103-108	12 g 118-119	12 g 112	12 g 111	12 g 110
1953	12 h 80-85	12 h 88-89	12 h 86	12 h 87	12 h 87
1954	12 i 78-83	12 i 114-115	12 i 84	12 i 87	12 i 87
1955	12 j 114-119	12 j 122-123	12 j 120	12 j 121	12 j 121

Year	Ap Daily values Bull. No. pp.	Ap Monthly and annual means Bull. No. p.	Cp Daily values Bull. No. pp.	Cp Monthly and annual means Bull. No. p.
1932	12 l 222-227	12 l 254	12 l 222-227	12 l 254
1933	12 l 228-233	12 l 254	12 l 228-233	12 l 254
1934	12 l 234-239	12 l 254	12 l 234-239	12 l 254
1935	12 l 240-245	12 l 254	12 l 240-245	12 l 254
1936	12 l 246-251	12 l 254	12 l 246-251	12 l 254
1937	12 g 109	12 g 110	12 i 85	12 i 86
1938	12 g 109	12 g 110	12 i 85	12 i 86
1939	12 g 109	12 g 110	12 i 85	12 i 86
1940	12 f 91	12 f 97	12 e 113	12 e 120
1941	12 f 92	12 f 97	12 e 113-114	12 e 120
1942	12 f 92	12 f 97	12 e 114	12 e 120
1943	12 f 93	12 f 97	12 e 115	12 e 120
1944	12 f 93	12 f 97	12 e 115-116	12 e 120
1945	12 f 94	12 f 97	12 e 116	12 e 120
1946	12 f 94	12 f 97	12 e 117	12 e 120
1947	12 f 95	12 f 97	12 e 117-118	12 e 120
1948	12 f 95	12 f 97	12 e 118	12 e 120
1949	12 f 96	12 f 97	12 e 119	12 e 120
1950	12 f 96	12 f 97	12 e 119	12 e 120
1951	12 f 97	12 f 97	12 i 86	12 i 86
1952	12 g 103-108	12 g 110	12 g 103-108	12 i 86
1953	12 h 80-85	12 h 86	12 h 80-85	12 i 86
1954	12 i 78-83	12 i 84	12 i 78-83	12 i 86
1955	12 j 114-119	12 j 120	12 j 114-119	12 j 120

The tables and diagrams of the following years up to 1970 may be found in the corresponding yearbooks of the series IAGA - Bulletin No. 12 (from 1958 onwards in the Bulletins with index 1), always in the last pages of each book, and from 1970 onwards in part B of the new series IAGA-Bulletins No. 32.

All tables and diagrams of the 30 years 1932 - 1961 are reprinted in IAGA-Bulletin No. 18.

TABLE 1 STORM SUDDEN COMMENCEMENTS (ssc) 1979

Sudden commencements followed by a storm or period of storminess, as selected from the reports of the following 51 observatories*:
SOD DOB NUR MOS ESK HLP WNG WIT IRK NGK VAL BEL HAD KIV DOU BDV VIC FUR HRB UBA OTT SUR MMB AQU TFS TKT EBR COI TOL FRD PEN ALM KAK KSA HTY KNY QUE TEN LNP BNG TNG LUA PMG HUA MPO GNA ACS TWA CZT KGL DUM
For explanation of the following data: see page IX-X.

* For explanation of the three-letter symbols: see Part A, page 0-3.

				JANUARY						
06 2331 (26-32)	11212	3.6	16	3A	4B	6C	2si			
09 0340 (39-41)	22233	5.2	37	20A	5B	2C	5si		1pi2	
25 0139 (36-41)	12221	4.3	23	9A	14B	5C	4si	1b		
				FEBRUARY						
03 1823 (19-27)	22222	3.5	24	18A	17B	4C	1si			
11 0148 (45-52)	22222	4.7	16	16A	15B	4C	3si			
18 0305 (00-07)	22232	5.4	39	27A	9B	1C	1si		1pi1	
21 0302 (00-04)	22222	4.5	26	32A	13B					
21 1551 (50-52)	33333	5.6	57	3A	4B	2C	1si	1b		
				MARCH						
04 0446 (41-50)	12222	5.7	13	12A	17B	6C	3si			
06 0818 (16-20)	21222	6.9	12	10A	9B	11G	1si			
09 0808 (03-14)	22222	9.2	17	11A	15B	12C	2si			
15 0556 (54-58)	2*2222	4.3	11	3A	8B	10C	5si			
17 0231 (27-32)	11222	3.5	16	11A	12B	9C	5si			
22 0826 (20-27)	3*2233	4.0	35	29A	14B	2C			2pi1	
28 0827 (24-32)	22222	5.7	15	8A	18B	4C	1si			
				APRIL						
01 2150 (45-54)	32222	3.3	26	21A	5B	4C	1si	1b		
03 1001 (57-05)	22222	4.1	14	7A	23B	4C	1si			
05 0156 (54-57)	33332	2.5	41	36A	8B				1pi1	1pc2
24 2358 (54-60)	33333	7.9	61	36A	6B			1b	1pi1	

TABLE 1 STORM SUDDEN COMMENCEMENTS (ssc) 1979 - continued

MAY											
29 1850 (48-54)	22222	3.9	30	27A	10B	2C					1pc
29 2058 (57-60)	33333	6.2	80	6A	1B	2C	3si				
31 0930 (28-33)	11111	4.0	10	3A	2B	1C	4si	1b	2sfe		
JUNE											
06 1927 (20-33)	33333	3.7	79	35A	6B	1C					
JULY											
06 1930 (27-31)	33223	2.8	48	32A	10B	1C					
12 1240 (36-41)	22122	5.9	12	7A	11B	7C	1si	1b	3sfe		
26 1832 (30-36)	22222	5.3	26	24A	14B	1C					
28 2101 (00-02)	11100	18.2	32	1A	6B	1C	3si	1b			
AUGUST											
01 1146 (42-48)	22222	2.1	16	14A	16B	7C					
11 1812 (09-15)	22122	5.2	23	7A	13B	8C		1b	2sfe		
13 0639 (39-40)	22222	4.7	17	5A	3B	4C	2si			1pil	
20 0625 (21-28)	3*2233	4.3	40	17A	13B	2C	1si				
29 0459 (55-61)	22122	4.2	25	18A	17B	4C					
SEPTEMBER											
none											
OCTOBER											
06 1120 (16-24)	32233	3.5	35	31A	9B	1C					
NOVEMBER											
07 1347 (43-50)	22122	7.3	12	2A	10B	4C	5si		1sfe		
09 1203 (00-05)	20122	4.6	10	4A	14B	4C	1si				
11 0225 (21-26)	22222	5.8	23	5A	5B	1C	1si				
18 0210 (08-11)	11122	3.4	16	2A	3B	2C	8si			1pil	
29 1648 (44-52)	22222	5.0	18	2A	3B		4si		2sfe		
30 0738 (38-40)	23233	3.9	45	19A	9B	3C	2si				1pg
DECEMBER											
none											

* Maputo used (M'Bour and Tamanrasset missing)

TABLE 2a SOLAR- FLARE EFFECTS (sfe) 1979

Times of commencements of solar-flare effects (sfe) checked by 65 observatories, namely: ABK SOD COL DOB YAK NUR LOV SIT SVD MOS WNG WIT NGK VAL GTT CLL KIV DOU VIC NEW FUR UBA TYH OTT MMB AAA AQU TKT ISK EBR COI TOL FRD PEN KAK HTY TUC QUE LNP HON SJG HYB MBO MUT GUA PAB BNG PMG HUA PPT VSS MPO GNA HER ACS TOO TWA CZT KGL MCQ MIR MOL MAW NVL VOS. Strong effects are marked by an asterisk. See also page X.

JANUARY

none

FEBRUARY

13 0448 A: LNP; B: UBA MUT GNA TOO MQI; C: YAK (SIT) (GTT) (NEW) MMB AAA KAK HTY HYB MPO HER VOS; D: SVD TKT QUE GUA PMG CZT KGL NVL; E: COI MIR MOL MAW

16 0146 A: LNP MUT PMG TOO; B: MMB AAA KAK HON GUA PPT GNA; C: (KIV) (ISK) HTY HYB MPO MIR; D: UBA CZT KGL MQI MOL MAW VOS; E: YAK

16 1106 A: SOD WNG GTT CMM KIV MBO HER; B: DOB SVD MOS DOU FUR TYH AAA AQU ISK EBR PEN QUE (MUT) VSS MIR; C: (YAK) (SIT) WIT (NEW) {OTT} (MMB) TKT TOL {FRD} (KAK) (HTY) (TUC) (LNP) (HON) SJG HYB (GUA) BNG (PMG) HUA MPO {GNA} ACS TRW CZT KGL MOL; D: ABK LOV VAL COI PAB MAW NVL VOS

MARCH

01 1015* A: NUR WNG CMM KIV HYB MBO BNG MPO HER KGN MIR; B: SVD WIT GTT DOU AAA EBR (MUT) ACS TRW CZT; C: (COL) (SIT) NMG NEW TYH OTT (MMB) AQU TKT ISK TOL QUE (HON) VSS GNG MOL VOS; E: MOS; D: ABK SOD LOV VAL FUR UBA PEN PAR MAW NVL

22 0323* A: PMG TOO; B: MMB KAK QUE LNP MUT GUA MQI MIR; C: SIT (WNG) {KIV} {NEW} UBA (TYH) (OTT) AAA HTY HON HYB MPO GNA HER KGL VOS; D: COL SVD TKT CZT MAW; E: MOL; X: YAK

APRIL

03 0415 A: MUT PMG; B: {WNG} MMB KAK QUE LNP HON MIR MOL; C: {SIT} NUR MOS KIV {NEW} UBA {TYH} {AQU} ISK HTY (TUC) (SJG) GUA MPO GNA; D: SVD AAA TKT TOO CZT KGL MQI MAW VOS; E: {ABK} SOD COL

MAY

06 2335 A: HON; B: (WNG) (KIV) MUT; C: YAK VIC NEW MMB KAK HTY TUC LNP GUA PMG PPT (MIR); D: COL UBA OTT FRD GNA TOO MQI

JUNE

04 0348 A: CLL; B: KAK HTY LNP HYB MUT; C: SIT KIV TYH MMB (TUC) (HER); D: ABK SOD COL DOB YAK NUR LOV SVD MOS WNG NGK VIC NEW UBA AAA TKT ISK PEN QUE HON GUA PMG GNA TOO KGL MQI

05 0508 A: CLL HYB; B: SVD KIV KAK HTY LNP MUT; C: SIT WNG MMB; D: ABK SOD COL DOB YAK NUR LOV MOS WIT NGK VAL GTT DOU FUR UBA TYH AAA AQU TKT ISK EBR PEN QUE GUA BNG PMG MPO GNA TOO CZT KGL MQI

JULY

22 1306 A: CLL; B: NUR SIT GTT KIV NEW TYH OTT AQU FRD TUC SJG (MUT) HUA; C: SOD DOB SVD WNG NGK DOU FUR (MMB) AAA PEN (KAK) (LNP) MBO BNG GNA CZT {KGL}; D: ABK COL LOV SIT MOS WIT VAL UBA EBR COI TOL QUE HYB PAB VSS MPO HER

TABLE 2a SOLAR-FLARE EFFECTS (sfe) 1979 - continued

AUGUST

18 1347* A: CLL AQU MPO; B: SVD WNG WIT GTT TYH OTT ISK EBR SJG PAB HUA VSS ACS TRW; C: SOD NUR MOS NGK VAL KIV VIC NEW (MMB) TOL FRD QUE (MUT) (GNA) HER; D: ABK DOB DOU FUR COI MBO MAW; E: PEN {HYB}

18 1403* A: CLL GTT EBR HER; B: SIT SVD WNG WIT KIV TYH OTT TKT ISK TOL FRD QUE (MUT) VSS ACS TRW; C: SOD DOB NUR LOV MOS NGK DOU VIC NEW (MMB) (KAK) TUC (HON) SJG (GUA) HUA; D: ABK VAL COI MBO; E: FUR PEN HYB

SEPTEMBER

13 1310* A: ABK SOD NUR LOV WNG GTT CLL KIV FUR TYH {AAA} AQU ISK EBR SJG MBO BNG HUA HER MOL; B: (YAK) {SIT} DOB SVD MOS WIT VAL DOU OTT (MMB) TOL FRD TUC (PMG) VSS ACS TRW CZT {MIR} {VOS}; C: NMG {NEW} (KAK) (HTY) (HON) (GUA) (GNA) (TOO) KGL NVL; D: TKT COI PEN QUE

16 0105 A: AAA HON GUA TOO; B: MMB KAK HTY LNP MIR (NVL); C: (WNG) VIC NEW (ISK) (TOL) (FRD) (PEN) TUC {QUE} (SJG) (MPO); D: UBA PMG PPT MCQ VOS; E: ABK SOD COL YAK SIT BNG

16 0939* A: LOV WNG NMG GTT CLL KIV FUR AAA AQU ISK EBR COI LNP MBO BNG VSS HER MIR; B: SOD SVD WIT VAL TYH TKT TOL HYB CRZ KGL; C: ABK (COL) (SIT) DOU (NEW) UBA (OTT) {MMB} {FRD} {KAK} (TUC) (HON) {SJG} {GUA} {ACS} NVL; D: DOB NUR GNA MAW VOS; E: YAK MOS PEN (PPT) MOL

OCTOBER

19 0417* A: AAA KAK QUE LNP MUT GUA PMG GNA TOO MAW; B: YAK MMB HTY HYB MPO {HER} MCQ; C: {COL} (SIT) SVD {MOS} TKT (FRD) HON (SJG) (HUA) CZT KGL MOL VOS; D: MIR NVL

19 1155* A: ABK NUR LOV WNG GTT CLL KIV ISK PEN QUE SJG BNG VSS MPO; B: SOD WIT NGK VAL DOU TYH AQU EBR COI FRD HER ACS MOL; C: (COL) DOB (YAK) (SIT) SVD MOS {OTT} (MMB) TKT (TUC) (HON) HYB (MUT) HUA CZT KGL MAW NVL; D: FUR AAA TOL MBO MIR VOS

NOVEMBER

05 2347* A: HON GUA PMG PPT MAW; B: SIT MMB KAK MUT GNA VOS; C: COL YAK NEW HTY TUC SJG MOL; D: HUA TOO TRW MCQ MIR

06 0506 A: LNP HYB TOO MIR; B: YAK MMB AAA KAK HTY MUT PMG VOS; C: SVD {KIV} UBA (OTT) {ISK} (TUC) {BNG} CZT NVL; D: TKT QUE GUA MPO GNA HER KGL MCQ MAW MOL

09 0304 A: YAK QUE LNP GUA PMG TOO MOL; B: (WNG) MMB HON HYB MUT {MPO}; C: {SVD} {MOS} (WIT) (NGK) GTT (KIV) (DOU) UBA {ISK} (TOL) (FRD) KAK HTY (TUC) (BNG) PPT GNA KGL NVL; D: TKT MCQ MIR VOS; E: SOD CZT MIR

10 0642* A: QUE LNP MUT GUA GNA TOO; B: YAK SVD UBA HYB (SJG) PMG MPO HER MOL NVL VOS; C: SOD (COL) NUR (SIT) MOS {WNG} WIT {GTT} KIV {DOU} {NEW} TYH MMB AAA ISK EBR (FRD) KAK HTY (TUC) (HON) BNG (HUA) VSS ACS TWA CZT MCQ MIR; D: NGK FUR TKT AQU PEN; E: KGL MAW

14 2022 A: SJG; B: FRD TUC HON HUA MIR; C: SIT NEW (MUT) VOS; D: COL VIC OTT PMG PPT VSS ACS TOO TWA MCQ

15 2025 A: HON HUA; B: SIT SJG; C: VIC NEW FRD TUC (MUT) ACS TWA; D: COL OTT PMG VSS TOO MCQ NVL VOS; E: PPT

DECEMBER

19 2211 A: GUA HUA PPT; B: NEW HON PMG MAW MOL NVL VOS; C: (SOD) COL SIT VIC {MMB} (AAA) {FRD} KAK HTY TUC (QUE) {SJG} {MUT} PAB {VSS} TWA KGL; D: GNA ACS TOO MCQ MIR

20 0613 A: UBA QUE MIR; B: LNP HYB MUT MPO GNA HER TOO VOS; C: (COL) SVD (SIT) (VIC) (NEW) MMB AAA {AQU} TKT ISK KAK HTY (TUC) MUT BNG PMG (PPT) CZT KGL MOL; D: YAK MOS PEN GUA MCQ MAW

TABLE 2b DOUBTFUL SOLAR - FLARE EFFECTS (sfe) 1979

JANUARY

14 1154 A: CLL MIR; B: GTT KIV QUE (MUT) MPO HER; C: {ABO} {SOD} DOB NUR LOV (SIT) MOS NGK VAL DOU {OTT} (MMB) AQU EBR COI FRD PEN (TUC) (HON) SJG (GUA) BNG HUA KGL MOL; D: WIT FUR TYH TOL HYB MBO PAB VSS ACS TWA MAW NVL VOS; E: ISK (COL)

16 1036* A: CLL VSS HER MIR; B: NUR SVD WNG GTT KIV TYH (OTT) QUE {LNP} {MUT} (PMG) MPO; C: (COL) (SIT) MOS WIT NGK VAL DOU (MMB) TKT (KAK) (TUC) (SJG) BNG (PPT) ACS TWA CZT KGL MOL; D: ABK SOD DOB LOV AAA EBR COI TOL MBO PAB GNA MAW NVL VOS

21 1312* A: WNG CLL MBO MIR MOL; B: AQU (MUT) HUA VSS MPO HER; C: ABK LOV (YAK) (SIT) {SVD} MOS WIT VAL GTT KIV (UBA) TYH OTT EBR TOL PEN (KAK) {TUC} (HON) SJG (GUA) PAB (PMG) ACS TWA; D: DOB NGK DOU FUR COI CZT MAW NVL VOS; E: COL NUR MMB ISK FRD HYB BNG GNA

FEBRUARY

01 0925* A: CLL AAA MIR; B: ABK SOD NUR LOV SVD MOS WNG GTT KIV (VIC) UBA TYH (OTT) AQU PEN QUE LUN HYB {PMG} MUT VSS MPO; C: (COL) DOB (YAK) WIT NGK VAL DOU FUR (MMB) (NEW) TKT EBR COI TOL (FRD) (KAK) (HTY) (TUC) HON (SJG) (GUA) BNG GNA MOL; D: MBO HER ACS TOO TWA CZT KGL MCQ MAW NVL VOS; E: (SIT) ISK (PPT)

18 0641 A: CLL MUT; B: SVD GTT HTY QUE LNP HYB PMG MPO; C: YAK {VAL} (NEW) (OTT) TKT (SJG) GUA (PAB) HER (ACS) (TWA); D: NGK GNA MAW; E: ABK SOD (COL) DOB NUR LOV (SIT) MOS WNG WIT KIV DOU FUR UBA MMB TYH AAA AQU ISK EBR (FRD) PEN KAK BNG (TUC) (PPT) TOO CZT KGL MCQ MIR MOL NVL VOS

18 0924 A: WNG KIV DOU AQU EBR EBR MBO MUT BNG VSS CZT KGL; B: SVD WIT NGK GTT QUE NVL; C: ABK LOV (SIT) VAL (NEW) UBA TKT TOL (FRD) (TUC) (SJG) {GUA} {PAB} HER; D: TYH PEN GNA MAW; E: (COL) (YAK) NUR MOS FUR (MMB) AAA ISK {KAK} {HTY} LNP (PPT) MPO {TOO} {MCQ} MIR MOL VOS

MARCH

02 0335 A: MIR; B: (WNG) QUE LNP MUT VOS; C: {COL} {NUR} {SIT} (WIT) {KIV} (DOU) (NEW) {ISK} KAK HTY HYB GUA PMG MPO GNA {HER}; D: YAK SVD UBA AAA TKT HON TOO CZT KGL MCQ MAW NVL; E: ABK SOD MMB MOL

23 0647 A: CLL; B: MOS MMB MUT; C: {COL} NGK {VAL} (NEW) FUR (OTT) TKT TOL PEN (TUC) (SJG) QUE (HON) GUA; D: NUR SVD UBA TYH BNG PMG HER TOO CZT MCQ MAW VOS; E: ABK SOD DOB YAK LOV (SIT) WNG WIT KIV DOU AAA AQU EBR (FRD) KAK HTY LNP HYB PPT MPO KGL MIR MOL NVL

25 0040* B: (DOU) LNP HON MUT MIR VOS; C: COL (WNG) (KIV) NEW MMB (TOL) (FRD) (PEN) KAK HTY TUC (SJG) GUA (MPO); D: VIC UBA PMG GNA TOO MCQ MAW; E: (ABK) (SOD) YAK SIT (MOS) (AQU) (BNG) {MOL}

26 1208 A: GTT KIV EBR MBO BNG; B: SVD WNG AQU QUE (LNP) VSS HER ACS TWA MOL {VOS}; C: NUR NGK (NEW) FUR TYH OTT TKT TOL FRD (HTY) (TUC) (HON) SJG (MUT) HUA KGL MIR; D: LOV VAL DOU UBA PAB MAW NVL; E: ABK SOD (COL) {YAK} (SIT) MOS WNG WIT AAA (MMB) ISK PEN (KAK) HYB MPO CZT

APRIL

16 0511 A: CLL {VIC} MIR; B: NUR WNG QUE LNP MUT; C: WIT NGK GTT UBA TYH TKT (EBR) KAK HTY (SJG) HYB GUA PMG (HUA) MPO; D: SVD MOS AQU ISK PEN TOO CZT MCQ MAW VOS; E: ABK SOD COL DOB YAK LOV {SIT} KIV DOU FUR {NEW} MMB AAA {PPT} GNA KGL {MOL} {NVL}

18 0957* A: MIR; B: SOD SVD WNG KIV TKT MBO; C: DOB (SIT) GTT TYH {MMB} AQU ISK EBR {KAK} {HTY} QUE LNP {SJG} MUT BNG (PMG) PPT MPO CZT MOL; D: ABK NUR LOV WIT NGK VAL DOU FUR UBA TOL PEN PMB VSS KGL MAW NVL; E: (COL) YAK AAA HYB

27 0642* A: CLL KIV LNP; B: SVD GTT AAA AQU TKT MUT HER; C: {COL} (SIT) WIT NGK VAL DOU (NEW) TYH (OTT) ISK TOL (FRD) HTY (TUC) (SJG) GUA MPO (ACS) TOO (TWA) KGL; D: FUR UBA EBR PEN KAK PMG CZT; E: ABK SOD DOB NUR LOV MOS WNG MMB HYB (PPT) GNA MIR MAW MOL {NVL}

TABLE 2b DOUBTFUL SOLAR-FLARE EFFECTS (sfe) 1979 - continued

MAY

02 1650* A: CLL HUA; B: SIT WNG TUC ACS TWA; C: KIV DOU NEW OTT (LNP) HON (MUT) (MPO); D: ABK SOD DOB NUR LOV MOS WIT NGK VAL GTT VIC FUR TYH AQU ISK EBR COI TOL FRD PEN SJG MBO PAB BNG PPT VSS; E: COL (MAW)

27 1141 A: AAA TKT PEN MBO (MOL); B: SOD SVD WNG KIV TYH (MMB) AQU ISK EBR COI QUE (LNP) HYB (MUT) BNG VSS MPO HER; C: YAK MOS (SIT) WIT NGK GTT DOU (NEW) UBA (HTY) (TUC) (HON) SJG GUA HUA KGL (MIR); D: TOL PAB; E: ABK (COL) DOB NUR LOV (VIC) FUR OTT FRD (KAK) (PPT) CZT (VOS)

JUNE

03 1432* A: CLL SJG HER; B: WNG KIV TYH (AAA) AQU EBR FRD; C: COL DOB NUR SIT SVD GTT DOU NEW FUR (MMB) ISK TOL (HTY) TUC (QUE) (HON) (HYB) (MUT) (GUA) PAB MPO ACS TWA; D: ABK SOD LOV MOS WIT NGK VIC OTT TKT COI PEN MBO HUA VSS BNG; E: (YAK)

18 0623 A: CLL; B: QUE; C: COL YAK NUR (SIT) WNG SVD WIT (NEW) (OTT) MMB KIV TYH AQU EBR KAK HTY (TUC) LNP MUT MPO HER; D: ABK SOD DOB LOV MOS NGK VAL GTT FUR UBA AAA TKT ISK TOL PEN GUA PMG GNA TOO CZT KGL; E: (VIC) HYB BNG

25 1208 A: AAA QUE; B: WNG KIV TYH TKT (KAK) HYB MBO (MUT) BNG (VOS); C: COL (SIT) MOS NGK GTT DOU (NEW) FUR OTT (MMB) ISK TOL (HTY) (TUC) (LNP) (HON) (GUA) (PMG) MPO (GNA) HER ACS (TOO); D: ABK DOB LOV WIT VAL UBA AQU EBR COI PEN PAB HUA; E: NUR

JULY

04 0607* A: CLL MUT; B: YAK KIV TKT AQU LNP BNG GNA (NVL); C: COL NUR (SIT) SVD WNG WIT NGK VAL GTT (NEW) TYH EBR (FRD) HTY (TUC) (SJG) GUA HYB HER; D: DOB LOV MOS DOU FUR UBA COI TOL PEN QUE PMG CZT KGL; E: ABK SOD (VIC) (OTT) MMB KAK (PPT) MPO TOO (MCQ) (MAW)

04 1129* A: CLL MBO; B: NUR WNG KIV TYH BNG; C: (SIT) SVD NGK GTT (NEW) FUR (MMB) FRD (TUC) (LNP) SJG HYB (MUT) MPO; D: ABK SOD DOB YAK LOV MOS VAL WIT DOU UBA OTT AAA AQU TKT ISK EBR COI TOL PEN QUE PAB VSS ACS TWA CZT KGL

AUGUST

02 0615 A: ABK NUR FUR (VSS); B: SOD DOB SVD MOS WNG VAL DOU AQU COI TKT LNP MUT MPO HER (NVL) (VOS); C: WIT GTT TYH MMB AAA KAK QUE (SJG) PMG; D: COL YAK NGK UBA ISK EBR TOL PEN HTY GUA GNA TOO KGL MIR; E: BNG CZT MAW; b: HYB

16 0456 B: MOS MUT; C: (SIT) WNG GTT DOU UBA MMB FRD KAK HTY (TUC) LNP HYB; D: ABK COL DOB YAK NUR LOV SVD WIT NGK KIV FUR TYH AAA TKT AQU ISK PEN QUE GUA PMG GNA TOO CZT KGL MCQ MIR MAW

SEPTEMBER

09 0241 A: MUT; B: SIT KAK PMG; C: (SOD) COL (KIV) (DOU)(NEW) UBA (OTT) MMB (EBR) (TOL) HTY (TUC) QUE LNP HON GUA MIR (NVL); D: YAK SVD AAA TKT PPT GNA TOO KGL MCQ MAW VOS

19 0359 A: MUT; B: TKT LNP; C: (SOD) MOS (GTT) KIV (NEW) (TYH) MMB FRD KAK HTY TUC QUE HON SJG GUA HUA MPO ACS TWA NVL; D: YAK SVD UBA AAA PMG GNA TOO CZT KGL MCQ MAW; E: COL (SIT) (OTT) (BNG) PPT MIR MOL

19 2301* A: TUC LNP HON GUA (BNG) PPT (VSS); B: NEW (TYH) OTT MMB (AQU) (ISK) FRD KAK HTY MUT PMG (MIR) (NVL) (VOS); C: SIT (KIV) (DOU) (TOL) (QUE) (SJG); D: HUA; E: ABK SOD YAK VIC GNA TOO MCQ

21 2350 B: NEW KAK HTY MUT (BNG) (NVL); C: COL SIT (WIT) (DOU) VIC (TYH) (ISK) (TOL) (TUC) (QUE) HON SJG GUA MIR; D: LNP PMG GNA VOS; E: (ABK) (SOD) YAK (WNG) MMB TOO MCQ

22 0234 A: GUA (MOL); B: (WNG) (OTT) MMB KAK QUE LNP MUT PMG GNA; C: (SOD) (NUR) SVD (MOS) (WIT) (NGK) (VAL) (GTT) (KIV) (DOU) (NEW) UBA (TYH) (ISK) (TOL) (FRD) HTY (TUC) (SJG) (HUA) (VSS) MPO HER (ACS) (TWA) KGL (MIR) NVL; D: TKT CZT MCQ MAW; E: YAK SIT (BNG) PPT TOO VOS

23 0202 B: KAK LNP MUT; C: (SOD) COL (NEW) MMB HTY (TUC) HON PMG MIR (NVL); D: YAK SIT VIC UBA AAA TKT GNA KGL; E: (BNG) PPT TOO MCQ MAW

24 0507* B: TKT LNP MUT PMG MPO MIR; C: (COL) (SIT) SVD KIV (NEW) UBA TYH MMB ISK (TUC) KAK HTY (SJG) GUA BNG HER; D: ABK SOD NUR MOS PEN QUE GNA TOO CZT KGL MAW; E: MCQ MOL

TABLE 2b DOUBTFUL SOLAR-FLARE EFFECTS (sfe) 1979 - continued

OCTOBER

20 0554* B: LNP MUT TOO; C: (COL) YAK SVD {GTT} KIV UBA MMB TKT ISK (FRD) KAK HTY (TUC) (HON) (SJG) HYB GUA PMG MPO GNA KGL VOS; D: SOD NUR MOS TYH AQU TKT HER CZT MCQ MAW NVL; E: PEN MIR MOL

NOVEMBER

04 2350* C: COL SIT NEW MMB {FRD} TUC (QUE) (SJG) KAK HTY HON MUT GUA PMG PPT MIR VOS; D: YAK VIC LNP GNA TOO MCQ MAW

05 0201* A: MIR; B: MUT PMG; C: {SIT} (GTT) (KIV) (OTT) MMB KAK HTY LNP GUA VOS; D: YAK UBA AAA TKT QUE HYB HON PPT GNA TOO CZT KGL MCQ MAW MOL NVL

06 1449* A: CLL SJG HUA VSS; B: TUC (MUT) HER; C: (COL) {SOD} {SIT} VAL GTT {KIV} {NEW} TYH OTT EBR FRD (QUE) PAB MPO ACS TWA NVL; D: DOB LOV WNG WIT NGK DOU FUR ISK COI TOL PEN MBO BNG CZT KGL MIR MAW MOL VOS

07 0102* A: MUT; B: COL SIT (KIV) {AAA} MMB (FRD) LNP GUA TOO MIR; C: YAK (GTT) {NEW} (TYH) (ISK) KAK HTY TUC HON {QUE} (SJG) PMG (HUA) (ACS) (TWA) KGL; D: UBA PPT GNA MCQ MAW MOL VOS

07 0518 B: QUE LNP MUT; C: YAK (SIT) {WNG} (NEW) UBA (OTT) MMB AAA (FRD) TKT KAK HTY (TUC) {HON} (SJG) GUA HYB MPO TOO KGL MOL; D: SVD MOS KIV ISK BNG PMG GNA HER CZT MCQ MAW NVL

09 0604 B: SVD {WNG} AAA QUE LNP (HON) GUA VSS MOL NVL; C: (COL) (SIT) MOS {WIT} {NGK} {GTT} KIV (NEW) UBA MMB TKT ISK {TOL} (FRD) KAK HTY (TUC) HYB MUT PMG (HUA) (VSS) MPO GNA TOO (ACS); D: TYH ISK HER CZT MCQ MAW VOS; E: BNG KGL

DECEMBER

12 1016 A: WNG MBO; B: GTT KIV TYH AQU PEN QUE (HON) (GUA) BNG VSS MPO HER NVL; C: SOD DOB NUR (SIT) SVD MOS NGK DOU (NEW) FUR (MMB) AAA TKT ISK TOL (KAK) HTY (TUC) {LNP} {SJG} HYB (PMG) {HUA} GNA ACS TWA CZT KGL MIR MOL VOS; D: LOV WIT VAL EBR COI MAW

23 0443 B: LNP MUT PMG MOL; C: YAK MMB {ISK} (FRD) KAK HTY (TUC) {HON} (SJG) HYB GUA {BNG} MPO HER TOO (TWA) CZT KGL MIR VOS; D: SVD UBA AAA TKT QUE GNA MCQ MAW NVL; E: (COL) {PPT}

24 0917 A: BNG; B: WNG KIV TYH AAA TKT AQU QUE LNP MUT PEN {PMG} MPO; C: {ABK} SOD COL NUR LOV SVD MOS NGK GTT DOU (NEW) (MMB) ISK EBR (FRD) (KAK) {HTY} (TUC) (SJG) (HON) {GUA} HER KGL NVL; D: DOB WIT VAL UBA TOL MBO VSS GNA ACS TOO TWA CZT MCQ MAW

TABLE 3

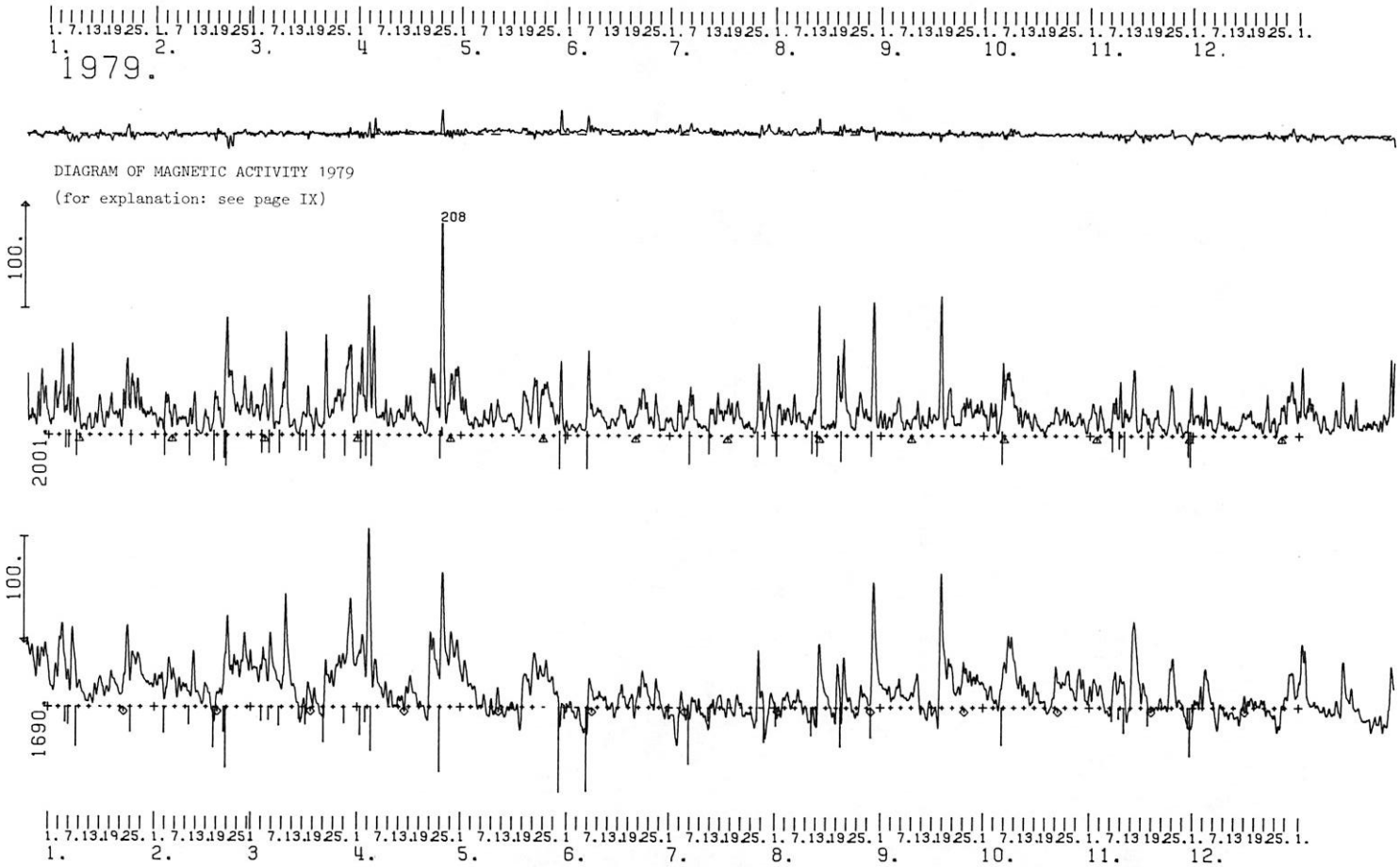
List of symbols for rapid variations

The meaning of the symbols in tables 1 and 2 is as follows:

ssc	sudden commencement, followed by a storm or a period of storminess
si	sudden magnetic change which could not be classified as ssc
pg	giant puslations, viz. exceptional pulsations of very great period and regularity, with sufficient relative amplitude
pi	train of pulsations of irregular shape, consisting of several series of oscillations, each series lasting about 10 minutes; period of the pulsations: pi1 shorter than 40 s, pi2 40-150 s, pi3 longer than 150 s
pc	pulsations of more continuous character, generally with long duration; period: pc1 0,2-5 s, pc2 5,1-10 s, pc3 10-45 s, pc4 45-150 s, pc5 150-600 s, pc6 longer than 600 s
b	bay-like disturbance in the magnetogram
ncl	no classification given in the report
cr	crochet-like disturbance

The observatories are arranged in groups with respect to the quality-indications W, A, B, etc. which have the following meaning:

W	-	extra-ordinary and very unusual
A	-	very remarkable
B	-	fair, ordinary, but unmistakable
C	-	very poor, doubtful
D	-	it was decidedly not recorded, although the records were satisfactory
E	-	the phenomenon could not be discerned because of heavy disturbance
X	-	record missing
wq	-	without quality indication


1979.
DIAGRAM OF MAGNETIC ACTIVITY 1979
(for explanation: see page IX)
208
100.
2001
100.
1690
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.

DATA ON SPECIAL INTERVALS

For explanation: see page XI

Erratum to Part D of IAGA-Bulletin No. 32i

The data of the observatory Hyderabad (HYB) have been wrongly inserted in the tables headed: "Data from individual observatories" in part D of IAGA-Bulletin No. 32i, pages 74, 78, 82, 86, 90, 94, 98, 102, 106. The following table gives the contribution of HYB to these tables as it should read.

Data from Individual Observatories, 1978

MONTH	OBS. 3 letter code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT			SC - AMPLITUDES			MAXIMUM 3 HOUR - INDEX K		RANGES			UT END	
			DAY	hr min (UT)	TYPE	D(')	H(γ)	Z(γ)	DAY(3 HOUR PERIOD)	K	D(')	H(γ)	Z(γ)	DAY	HOUR
JAN	HYB	07.6N	28	1852	SC	- .2	16	- 2	29(5,6)	6	4	171	31	29	19
FEB	HYB	07.6N	14	2145	SC	- 1	41	- 3	15(4)	8	8	308	28	16	14
APR	HYB	07.6N	30	0951	SC	- .4	27	- 3	30(6)	6	6	173	16	01	02
MAY	HYB	07.6N	02	2317	SC	.3	23	- 1	03(4,5) 04(2,3)	6	5	181	29	04	21
MAY	HYB	07.6N	08	1300	..	..	..	..	09(3)	8	7	282	36	09	23
JUN	HYB	07.6N	01	2142	SC	- .2	17	- 2		-	--	--	--		
JUN	HYB	07.6N	02	0913	SC	- 1.9	80	- 5	02(4,6)	7	9	256	30	04	03
SEP	HYB	07.6N	25	0719	SC	- .2	23	- 3	25(4,5,6) 27(2,7)	5	8	154	36	28	20

1979, FEBRUARY 20 - 23

Date	20				21				22				23			
UT	06	12	18		06	12	18		06	12	18		06	12	18	
Kp	2-	2-	2-	1-	1-	1+	2o	3-	2+	5+	7-	5o	4+	5+	6+	6-
3Kn	4	4	3	2	2	5	6	8	5	12	16	13	12	16	18	15
3Ks	5	5	4	1	1	3	6	8	4	14	16	14	12	17	19	17
Dst																

UT	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
Kp	4-	5-	5o	5o	5-	3+	3+	5o	5o	5-	4o	4o	3o	3+	4o	
3Kn	9	11	14	12	12	9	11	13	12	10	10	11	9	9	11	
3Ks	12	13	12	12	14	14	11	13	15	14	12	11	10	8	10	11

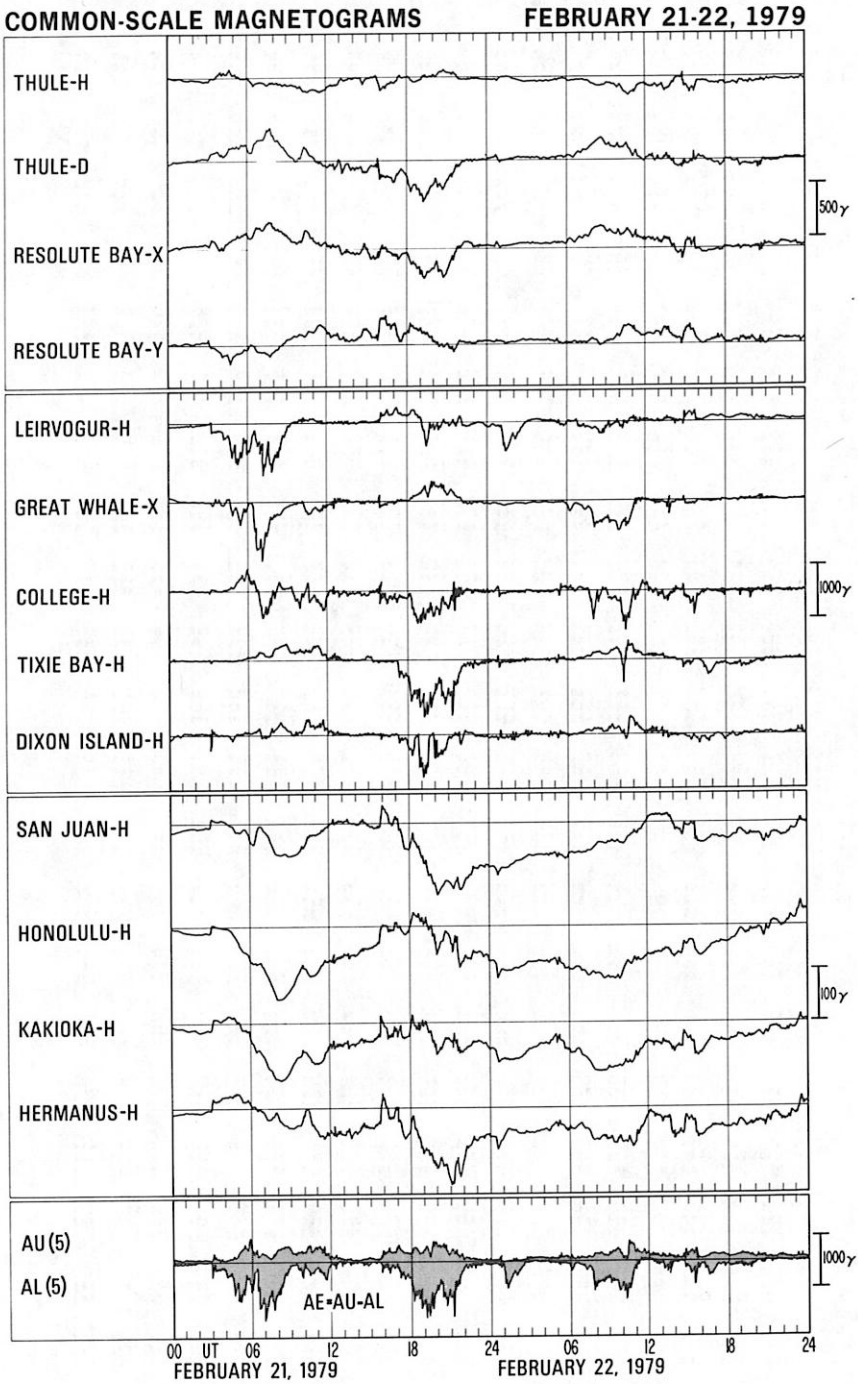
Data from Individual Observatories: FEBRUARY 1979

Values underlined are for X and Y. X, Y, H and Z are given in gammas, D in minutes.

OBS. 3 letter code	GEOMAGNETIC LATITUDE	COMMENCEMENT DAY	COMMENCEMENT hr min (UT)	COMMENCEMENT TYPE	SC - AMPLITUDES D(')	SC - AMPLITUDES H(γ)	SC - AMPLITUDES Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	RANGES H(γ)	RANGES Z(γ)	UT END DAY	UT END HOUR
MAW	73.2S	20	17--	..	..	..	..	21(2,3) 22(3) 23(2)	7	109	1030	920	23	16
RES	83.1N	21	0301	SC*	23	-28	* 10	21(7)	-	453	578	255	22	03
MBC	79.2N	21	0302	SC*	-47	* -11	6	21(6)	-	529	479	235	22	05
FCC	68.8N	21	0302	SC*	-42	-74	30	* 21(3)	-	796	1280	994	22	03
COL	64.6N	21	0301	SC*	+17	+115	+30	21(3,7,8) 22(3,4)	6	172	1210	780	24	18
MEA	61.9N	21	0302	SC*	8	* 45	6	* 21(3)	7	413	903	904	22	03
SIT	60.1N	21	0303	SC*	- 4	* +25	*+ 4	* 22(4)	7	110	650	590	28	23
STJ	58.4N	21	03--	SC*	- 9	* 28	* 14	* 21(3)	6	286	255	601	22	03
OTT	56.8N	21	0304	SC	- 7.4	36	10	21(3)	7	240	380	210	25	08
NEW	55.1N	21	0301	SC*	1	26	3	21(3) 22(4)	6	60	287	252	24	02
WIT	54.2N	21	0302	SC	- 6	45		21(3,6,7)	6	38	225	65	23	14
FRD	49.6N	21	0302	SC	+ 2	+30	- 6	21(3)	6	25	171	85	28	17
EBR	43.9N	21	0302	SC*	- 2	* 21	--	21(7,8)	6	14	174	65	25	01
IRK	41.0N	21	0301	SC*	5	-20	- 4	21(6,7,8)	6	22	184	57	23	23
MMB	34.0N	21	0302	SC*	3.2*	29	*- 8	* 21(7)	6	15	142	44	24	07
SJG	29.9N	21	0302	SC	+ .5	+18	+ 4	21(7)	7	13	173	51	23	23
KAK	26.0N	21	0301	SC*	1.8*	22	13	21(3,7)	6	13	121	90	23	24
HON	21.1N	21	0301	SC	+ 1	+ 6	+ 3	21(3,7)	6	7	143	22	23	23
KNY	20.5N	21	0302	SC*	1.6*	24	13	21(3,7)	6	11	159	86	23	24
JAI	17.3N	21	0300	SC	- 1.0	17	- 5	--	-	7	181	53	24	04
SHL	14.6N	21	0300	SC	- .4	23	2	--	-	6	159	63	24	04
UJJ	13.5N	21	0300	SC	--	--	--	--	-	5	212	50	24	04
ABG	09.5N	21	0300	SC	- .8	17	- 6	10(3)	5	6	228	50	24	04
HYB	07.6N	21	0302	SC	- .4	+15	- 1	21(7)	7	4	254	40	23	23
GUA	04.0N	21	0302	SC*	+ 1	+43	-12	23(1)	6	10	240	60	24	15
ANN	01.4N	21	0300	SC	- 1.3	21	9	--	-	5	324	108	24	04
HUA	00.6S	21	0302	SC	1	25	5	21(6,7)	8	20	806	79	23	23
TRD	01.2S	21	0300	SC	--	--	--	--	-	--	--	--	24	04
API	16.0S	21	0302	SC	1	22	-10	21(3)	6	12	175	45	24	06
PMG	18.6S	21	0301	SC	.1	22	18	21(3)	7	11	190	120	24	00
HER	33.7S	21	0302	SC*	3	27	18	21(6,7,8)	6	37	175	194	24	04
CZT	39.7S	21	0302	SC	32	10	18	21(7)	6	35	147	130	24	07
GNA	43.3S	21	0304	SC*	- 6.4*	-17	*-28	* 21(7)	6	44	120	140	23	22
TOO	46.7S	21	0302	SC*	- 5	* 31	* 8	21(3,7)	6	34	180	100	23	23
EYR	47.9S	21	0302	SC*	- 1.9	51.2	- 7.4	21(2,3,4)	5	17	158	49	24	00
KGL	56.5S	21	0302	SC	7	42	18	21(7)	8	256	608	291	24	08
MCQ	60.7S	21	0302	SC*	- 9.4*	-35	31	21(7)	7	200	1510	670	23	14
DUM	75.6S	21	0301	SC	144	185	277	21(8) 22(1)	6	694	606	797	22	10
EBR	43.9N	21	1551	SC*	- 3.1	25	* 15	21(7,8)	6	14	174	65	25	01
CZT	39.7S	21	1551	SC	20	25	12	21(7)	6				24	07
EYR	47.9S	21	1552	SC	- 2.9	63.7	17.1	21(6,7,8)	5	16	148	58	24	00
KGL	56.5S	21	1552	SC	7	120	28	21(7)	8	256	608	291	24	08

THREE-HOUR-RANGE INDICES, K

FEB	20				21				22				23			
HIS	3432	1544	3654	4555	3445	4433	4544	3235								
CCS	3320	1434	4643	3464	4436	3334	5443	3235								
DIK	3321	1656	4655	4585	5546	5555	5544	4357								
TIK	2221	1554	2566	5788	6558	6654	5545	5367								
MMK	2111	0245	3443	3476	5344	4544	5643	2255								
KIR	2111	1234	3543	3464	5424	4544	6643	2245								
CWE	1112	1223	1566	5586	4457	5643	4345	5344								
COL	1102	2111	1565	4566	3466	5543	4346	6333								
LRV	3212	1235	3784	3575	6455	5543	5664	3334								
SOD	2110	0234	3443	3565	5434	4555	5643	2245								
YAK	3211	1323	2444	4666	3336	4434	6433	5244								
LER	1111	0122	2453	3476	5233	4432	5532	3224								
NUR	1121	1223	2454	4587	4334	4433	4433	3244								
LOV	1111	0223	2454	4577	4334	4533	4543	3344								
SIT	1011	2121	1566	4555	3357	4433	4355	5333								
ARS	1210	1223	1344	3565	3344	4433	4333	3334								
RSV	2121	0223	2454	4566	4344	5533	4443	3344								
MNK	2221	1223	3354	3565	4234	4433	4333	3344								
WIT	2221	0223	2564	4665	5344	5534	4444	3345								
IRT	2221	2222	2344	4666	4445	5534	5444	5334								
VAL	1111	1223	2453	3554	4234	4433	3433	2324								
KIV	2221	2223	2454	4666	4345	5533	5443	4345								
DOU	1110	0122	1454	3565	4234	5433	4443	3334								
KGD	1210	0111	1233	2444	2223	3322	3332	2223								
VIC	1001	1002	1464	4554	3245	3433	4334	4423								
OTT	1111	1122	2575	5554	3255	4443	4333	4333								
MMB	2110	1222	1455	3565	5445	5534	5543	4333								
TKT	1122	2323	1455	4665	4455	5534	5554	4334								
PEN	1111	1112	2453	3666	6335	5434	4343	3334								
TOL	2010	2323	1120	2423	3321	1325	2121	0011								
FRD	1110	0122	2465	5555	4344	4434	5433	4333								
COI	----	----	----	-465	4234	5433	4433	3334								
KSA	1010	1233	5355	6565	2446	6555	5454	4444								
TUC	1111	1122	1565	4664	5444	4435	5433	4334								
KNY	2110	1222	1565	4565	4455	5535	5444	4333								
QUE	--32	2223	2464	3665	54-5	5534	5443	33-4								
HON	3111	0223	2565	3565	4334	4435	5333	3233								
HYB	1221	1223	1565	4676	5546	5534	5553	4333								
SJG	1100	0002	2455	3675	4345	5545	5434	3444								
GUA	2211	1211	2564	4566	5455	4435	6543	3233								
BNG	2222	1122	2446	5676	4345	5534	5454	4444								
PMG	2210	1212	1575	4565	5445	5545	5443	3333								
HUA	2222	4334	2555	6887	4443	7754	5434	5655								
GNA	2211	0223	2444	4565	4444	4433	5443	3244								
HER	0120	0123	0445	4666	4445	5534	4444	3333								
TOO	1220	1122	0465	4565	4544	4434	5544	4333								
EYR	2221	1022	1555	4555	3544	4433	6544	4233								
MCQ	2221	1222	1665	5576	5555	4543	5346	6233								
MIR	----	----	3665	4435	4665	4333	5464	4333								
MAW	4432	1344	3775	3455	5576	5544	4764	3335								
NVL	1111	1222	1775	3565	5454	4443	5553	3336								
SBA	3322	2333	3554	4555	4444	4445	5443	3444								
VOS	2332	2213	2555	5444	4456	5433	5454	4333								


COMMON-SCALE MAGNETOGRAMS
FEBRUARY 21-22, 1979
THULE-H
THULE-D
RESOLUTE BAY-X
RESOLUTE BAY-Y
500γ
LEIRVOGUR-H
GREAT WHALE-X
COLLEGE-H
TIXIE BAY-H
DIXON ISLAND-H
1000γ
SAN JUAN-H
HONOLULU-H
KAKIOKA-H
HERMANUS-H
100γ
AU(5)
AL(5)
AE=AU-AL
1000γ
00 UT 06 12 18 24 06 12 18 24
FEBRUARY 21, 1979
FEBRUARY 22, 1979

PRELIMINARY AE (5)-INDEX AT ONE MINUTE INTERVALS

1979 FEBRUARY 21, 0000 -2359 UT

00 UT	172	175	175	175	172	167	156	146	138	122	111	106	100	95	98	102	102	97	93	89
	89	85	80	80	84	80	83	79	78	78	77	81	81	79	82	78	74	74	65	58
	54	54	53	59	62	62	66	70	72	72	72	69	69	65	58	54	54	57	66	71
01 UT	74	77	84	90	93	93	92	87	87	84	84	81	77	74	71	67	67	63	63	70
	73	76	76	74	61	55	55	58	67	76	77	81	72	65	58	49	46	46	47	48
	62	62	66	69	59	59	48	48	51	59	59	55	55	51	52	54	57	56	52	49
02 UT	43	36	33	31	33	33	36	33	37	37	45	45	45	48	48	48	47	47	45	39
	36	40	40	43	46	46	53	49	52	51	55	49	40	40	40	43	43	40	40	40
	40	40	43	40	36	33	33	31	36	36	36	36	31	26	23	21	23	20	29	37
03 UT	46	57	90	81	340	343	118	197	122	157	157	222	192	188	229	272	222	192	181	181
	181	184	188	188	196	196	196	196	196	195	197	191	181	167	162	159	165	156	151	151
	154	161	174	170	164	182	180	144	123	122	129	144	140	140	140	148	154	172	172	165
04 UT	162	155	159	181	218	247	284	307	318	318	314	310	307	295	299	307	299	288	292	295
	326	324	301	278	277	284	295	277	273	267	249	280	324	344	358	366	358	425	466	506
	529	536	543	554	573	591	595	610	677	695	662	610	540	492	458	492	517	525	503	492
05 UT	632	665	677	751	832	902	906	891	891	928	954	928	873	828	821	906	976	936	899	865
	850	780	769	784	784	788	780	806	850	917	965	924	895	825	758	751	492	506	517	510
	529	540	543	551	543	558	625	658	636	617	643	665	732	776	854	854	802	762	765	777
06 UT	776	788	843	847	780	736	710	688	684	684	677	595	566	536	540	510	358	351	332	329
	336	355	377	406	418	381	321	307	344	340	411	535	629	648	637	614	585	628	643	647
	698	805	951	1029	1028	1049	1046	1035	1029	1025	1043	1038	974	953	948	884	837	843	902	911
07 UT	915	913	890	909	927	927	953	1067	1209	1265	1134	1081	1072	993	981	927	891	862	810	829
	859	877	846	763	708	703	705	723	708	678	657	636	625	595	592	600	629	641	739	817
	847	843	827	844	928	903	878	996	1028	1060	1049	1003	924	861	821	836	856	869	825	814
08 UT	831	831	812	791	806	820	821	850	868	844	833	757	728	730	794	839	875	855	813	752
	698	685	692	726	734	743	700	682	642	623	579	581	581	509	498	492	484	479	491	506
	522	526	511	514	522	527	492	502	487	461	437	418	417	408	405	373	340	336	343	325
09 UT	310	298	279	272	269	260	243	234	210	206	201	213	213	210	212	212	210	210	207	208
	206	203	202	192	185	188	180	163	160	197	249	311	308	323	331	334	334	326	300	315
	311	312	296	278	275	285	292	313	345	371	400	420	434	455	413	391	405	466	402	333
10 UT	175	206	233	259	243	241	249	247	242	254	336	319	338	354	379	396	431	443	464	468
	476	479	469	450	441	443	513	534	545	547	532	484	476	463	447	433	408	379	389	397
	397	399	404	406	424	410	419	404	424	410	388	403	411	416	419	397	392	383	376	366
11 UT	352	360	380	375	374	375	372	385	390	413	435	450	465	473	460	417	441	455	436	421
	421	433	444	436	422	413	407	411	431	437	460	486	475	520	557	576	575	575	589	569
	538	452	441	456	458	486	492	469	439	410	403	336	292	239	215	178	159	140	166	168
12 UT	137	103	115	117	111	121	132	136	153	147	124	102	83	102	127	141	127	116	70	66
	87	128	180	100	132	113	194	266	225	103	120	124	88	67	42	46	118	116	84	79
	60	73	78	85	68	41	79	63	39	22	51	74	115	122	137	154	125	72	45	33
13 UT	39	45	66	81	92	99	92	81	75	65	63	51	37	29	13	28	36	51	70	62
	59	51	39	42	25	37	53	49	44	66	87	103	125	125	109	87	67	26	22	30
	33	48	62	66	59	59	50	52	52	50	44	30	29	24	28	40	55	74	81	74
14 UT	70	58	61	50	36	30	38	33	35	40	44	48	37	37	33	27	24	32	22	40
	51	48	48	41	44	44	48	67	77	99	129	103	92	88	85	81	88	99	99	110
	110	103	96	85	90	95	87	85	92	131	152	160	160	152	144	133	130	132	126	128
15 UT	130	115	117	104	99	90	52	47	50	67	83	88	76	59	55	55	55	53	64	64
	67	52	56	56	55	47	65	78	83	78	61	44	62	71	54	31	37	32	40	39
	52	82	87	78	87	73	63	68	77	119	135	156	174	118	204	171	195	318	266	265
16 UT	285	287	280	303	292	199	220	243	273	314	273	218	209	222	238	281	292	251	214	204
	225	314	373	358	321	307	321	388	384	370	381	418	373	284	236	247	266	314	255	244
	221	251	259	259	229	225	251	314	325	295	292	314	292	292	284	277	284	277	263	296
17 UT	347	310	304	318	388	418	421	403	392	421	447	414	462	466	451	407	418	429	386	434
	458	490	507	480	450	435	422	407	387	375	371	362	381	393	395	405	440	448	459	461
	466	477	473	482	472	445	435	423	392	393	401	415	424	433	444	450	454	460	439	440
18 UT	443	446	457	475	500	533	527	534	565	608	630	628	637	736	833	910	974	1016	1029	1019
	922	885	837	827	822	815	800	831	862	867	877	891	872	842	787	763	732	716	720	723
	712	708	712	876	887	809	779	747	747	765	662	768	780	753	1031	1048	1043	1034	1024	1040
19 UT	989	945	926	999	973	960	980	1021	959	947	981	1065	1134	1168	1240	1368	1274	1226	1154	1123
	1041	991	982	976	980	981	1020	1101	1164	1119	1032	942	832	793	804	802	829	827	835	828
	971	1135	1191	1161	1191	1240	1206	1137	1078	1007	992	1000	991	968	965	958	966	974	871	840
20 UT	812	805	770	778	789	786	802	850	804	779	760	759	750	776	734	722	680	630	633	637
	656	671	690	696	674	668	738	729	813	944	965	1007	991	948	895	827	827	847	891	943
	976	1021	998	974	933	938	926	917	954	1000	1032	952	814	747	728	711	699	684	667	646
21 UT	643	659	695	758	807	815	816	834	872	903	900	865	846	824	802	790	795	838	901	1006
	1163	1236	1223	837	541	544	596	668	728	720	592	543	504	526	555	623	504	455	473	466
	508	521	540	466	415	354	350	341	360	374	392	387	375	371	375	384	369	310	312	314
22 UT	295	265	219	211	188	152	129	125	137	139	146	146	149	152	155	157	166	181	210	204
	199	191	195	184	172	156	121	93	99	118	129	114	101	111	149	169	149	127	128	124
	102	88	86	104	111	120	125	88	74	82	122	160	180	196	190	31	55	60	29	48
23 UT	118	137	127	122	98	75	75	49	51	73	92	111	118	123	92	75	65	78	62	48
	67	80	97	84	62	42	35	39	55	62	69	57	53	50	34	27	63	78	86	48
	29	52	74	92	72	77	70	70	37	36	47	44	37	55	62	51	52	59	55	72

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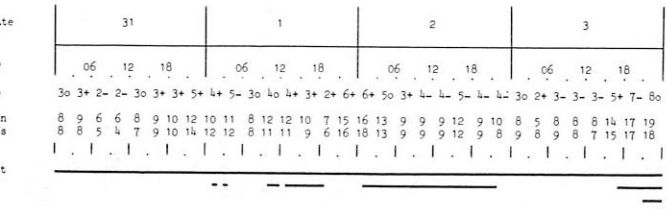
1979 FEBRUARY 22, 0000 - 2359 UT

00 UT	158	170	112	107	99	97	66	48	74	92	107	93	59	62	50	44	36	42	56	52
	52	55	55	58	63	65	67	58	58	55	43	37	19	22	26	33	44	51	74	81
	59	45	47	94	124	144	163	166	156	96	54	86	152	242	240	198	127	93	22	33
01 UT	47	59	46	17	8	24	37	58	112	128	133	208	232	259	380	407	369	349	339	356
	371	413	442	471	489	499	514	514	480	469	455	443	436	418	417	404	376	362	369	366
	358	347	333	301	304	281	273	240	233	222	280	286	264	228	218	201	192	173	192	210
02 UT	258	288	305	276	275	263	255	258	266	275	249	237	229	222	184	166	162	167	176	185
	182	176	165	161	153	145	143	141	143	142	141	140	130	120	112	105	108	107	110	109
	92	83	75	56	45	37	39	53	68	82	104	124	110	95	78	61	57	61	66	68
03 UT	118	107	104	95	76	87	87	82	82	82	82	88	103	86	62	62	66	69	77	80
	76	76	72	64	64	64	68	75	75	71	68	68	68	68	68	71	75	71	71	71
	76	76	76	76	76	80	80	88	88	88	84	88	96	96	88	92	96	96	96	92
04 UT	88	84	80	77	77	68	68	68	68	68	65	65	65	60	64	64	64	70	60	60
	57	60	60	64	68	64	64	76	65	65	65	60	57	45	42	47	72	90	80	69
	76	109	67	53	40	62	84	95	99	89	74	66	66	79	85	79	73	87	94	90
05 UT	67	62	68	63	70	77	65	53	46	54	49	56	67	81	81	112	113	99	119	118
	143	175	182	156	114	66	94	149	133	129	122	92	74	76	77	81	99	125	133	111
	110	99	96	110	118	114	118	114	122	133	144	133	111	122	122	103	110	132	121	112
06 UT	137	142	131	115	93	95	114	163	199	242	242	269	294	294	294	289	287	276	256	231
	202	171	164	158	161	163	147	127	99	96	84	85	81	88	96	94	97	84	79	72
	72	99	114	126	104	94	87	99	110	115	126	126	126	126	129	142	151	173	173	162
07 UT	162	162	157	159	162	176	165	149	144	149	165	169	163	156	165	165	183	193	198	211
	216	228	236	240	253	251	260	260	255	251	240	236	226	219	212	207	193	191	182	178
	179	179	186	184	179	192	192	206	217	217	262	228	236	274	368	430	502	569	572	565
08 UT	639	669	700	651	599	567	532	555	581	604	638	629	599	554	524	531	556	563	570	567
	555	543	541	544	540	540	547	545	550	550	533	515	512	508	505	509	523	511	515	517
	524	527	510	494	475	446	441	455	457	465	469	453	448	436	427	402	399	395	400	397
09 UT	409	425	432	430	416	415	410	412	436	432	440	449	460	454	484	535	570	556	552	563
	572	581	593	570	535	526	517	530	529	539	558	565	556	552	550	564	583	592	601	597
	602	602	590	588	597	621	633	640	662	661	650	647	653	669	694	752	746	729	713	686
10 UT	676	671	683	688	658	645	618	609	566	554	481	460	438	491	522	531	545	598	656	636
	625	577	521	484	523	529	495	584	674	936	883	849	756	792	757	762	780	802	788	810
	764	775	818	868	891	846	779	718	675	663	646	624	592	574	556	541	507	492	466	451
11 UT	414	401	385	338	310	316	346	346	348	314	280	308	351	370	318	251	202	255	284	237
	228	228	223	240	211	159	152	146	135	117	104	116	111	92	120	107	76	71	92	133
	185	171	179	166	173	181	188	154	146	146	124	108	113	119	95	86	77	79	93	113
12 UT	109	120	128	127	126	137	140	93	84	108	117	96	68	35	59	96	91	97	90	78
	104	98	88	117	124	106	127	161	94	89	134	153	161	113	116	150	146	112	111	116
	101	71	150	197	197	97	96	132	133	133	126	141	133	125	149	171	166	173	166	127
13 UT	116	102	113	124	121	108	140	157	158	133	118	128	153	126	62	55	98	166	161	154
	168	232	223	191	221	225	222	210	218	210	192	192	181	173	159	136	165	247	262	307
	233	151	182	215	221	189	151	122	103	342	133	103	122	111	150	246	132	136	110	74
14 UT	55	104	110	77	59	67	66	77	90	96	105	111	61	38	81	114	133	146	110	95
	90	84	84	74	68	45	35	29	40	54	45	37	40	44	46	57	65	55	55	57
	60	56	48	39	36	68	73	118	140	121	72	64	141	181	113	327	327	295	255	192
15 UT	166	168	231	225	218	233	262	266	255	255	240	258	277	296	284	296	310	329	362	384
	399	414	407	421	432	418	395	392	384	370	329	299	288	270	270	247	233	262	362	499
	573	640	632	562	421	362	321	207	144	109	120	136	147	153	146	143	162	199	206	215
16 UT	191	180	156	118	108	98	89	84	82	79	79	82	88	99	99	96	90	84	84	88
	88	89	110	129	149	165	194	205	227	223	205	200	182	179	179	197	206	218	244	266
	285	294	317	326	342	348	366	387	384	369	353	358	364	357	352	354	357	359	367	373
17 UT	364	356	344	336	329	324	317	307	296	282	271	267	265	261	258	252	231	224	213	201
	204	201	197	186	186	191	190	193	193	193	198	191	180	177	182	186	192	195	197	201
	204	204	193	184	179	199	192	204	213	196	180	171	244	215	217	219	210	201	185	174
18 UT	178	178	165	150	142	142	143	143	148	158	156	159	161	160	162	171	168	165	167	168
	176	183	192	187	182	170	165	162	168	173	180	175	168	170	170	176	176	178	184	189
	188	174	156	152	166	176	183	197	205	203	191	182	168	165	175	182	190	194	196	197
19 UT	197	190	181	170	174	169	162	170	154	158	174	233	165	167	188	201	239	270	270	273
	240	218	196	203	218	229	231	228	228	239	232	228	217	205	204	236	254	241	220	204
	192	182	171	171	183	181	181	214	216	216	209	190	255	136	144	150	158	162	153	172
20 UT	170	159	144	129	118	109	104	105	105	105	100	91	84	87	87	87	88	109	115	110
	123	135	135	103	86	94	97	98	90	87	79	76	82	89	101	110	143	171	128	95
	84	101	125	152	146	157	155	117	109	121	123	99	88	57	50	53	44	51	48	43
21 UT	41	55	40	38	41	40	48	60	70	35	55	68	49	59	40	51	48	59	32	65
	52	89	27	40	56	46	40	46	54	67	49	51	70	66	48	55	51	68	58	66
	50	55	66	44	51	70	87	74	72	88	88	92	96	96	100	108	116	89	75	73
22 UT	77	85	77	86	94	96	88	83	84	88	84	88	88	88	87	88	96	96	92	82
	85	89	85	82	77	74	66	66	66	66	70	70	70	75	70	67	62	62	81	62
	55	58	70	66	61	67	84	85	81	55	48	44	44	48	44	48	39	45	43	40
23 UT	37	41	48	48	48	51	55	55	66	66	62	62	59	70	81	81	59	65	110	124
	116	93	87	87	76	35	28	27	27	46	53	70	63	90	73	45	65	96	150	62
	78	35	73	104	41	77	104	82	66	55	62	67	64	59	74	44	40	48	33	25

1979, MARCH 31 - APRIL 1 - 3



Values underlined are for X and Y. X, Y, H and Z are given in gammas, D in minutes.

Data from Individual Observatories:

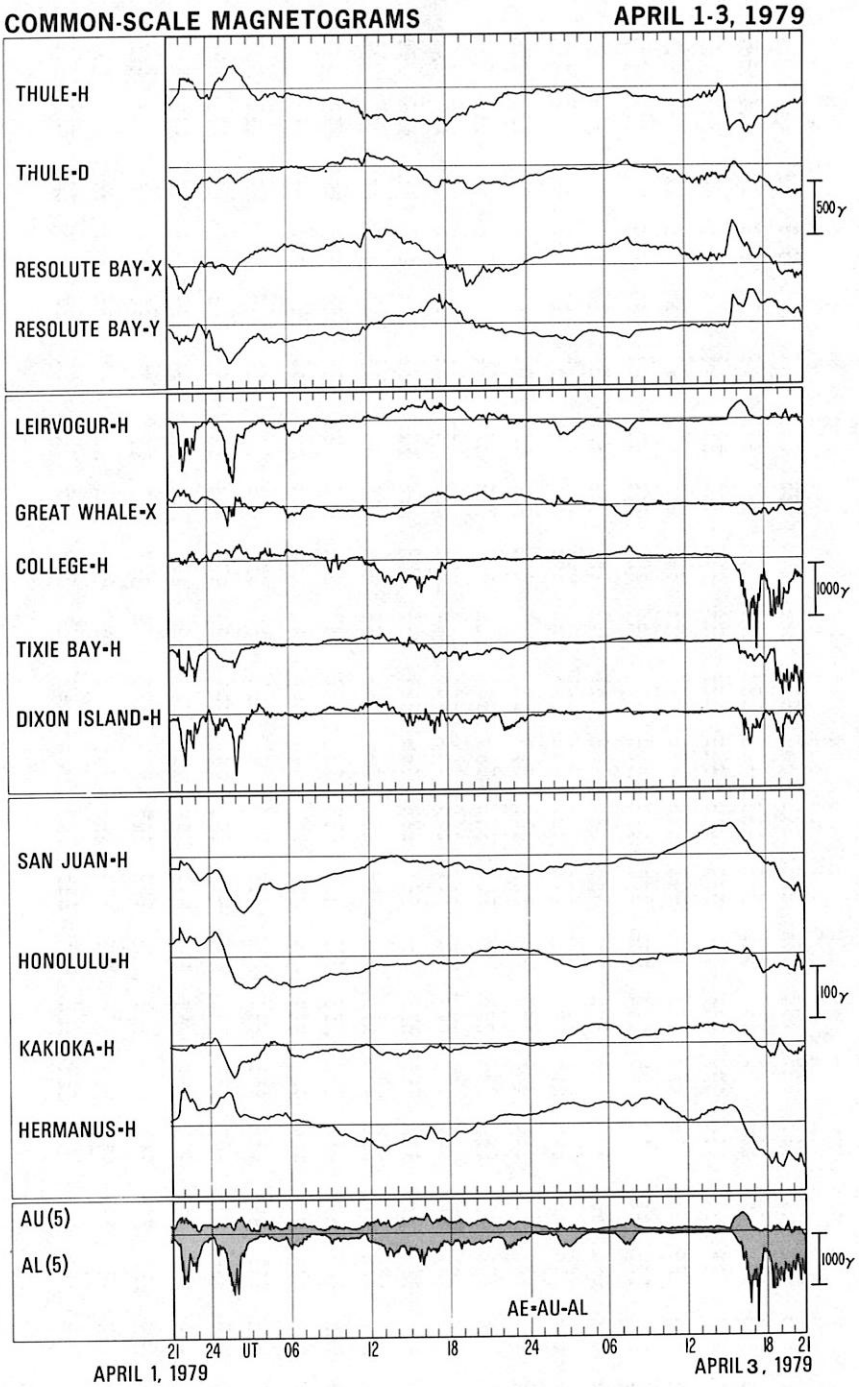
APRIL 1979

OBS. 3 letter code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	COMMENCEMENT hr min (UT)	COMMENCEMENT TYPE	SC - AMPLITUDES D(')	SC - AMPLITUDES H(γ)	SC - AMPLITUDES Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	RANGES H(γ)	RANGES Z(γ)	UT END DAY	UT END HOUR
COL	64.6N	31	13--	..	..	..	..	01(4) 02(6)	6	143	950	560	02	23
IRK	41.0N	31	16--	..	..	..	..	02(1)	5	20	146	34	02	24
HER	33.7S	31	2000	..	..	..	..	31(8) 01(1)	5	31	73	63	01	18
RES	83.1N	01	2150	SC*	9	* 18	* 5	* 21(1)	-	360	738	116	03	06
MBC	79.2N	01	2150	SC*	22	* 66	* 7	01(8) 02(1)	-	561	374	252		
FCC	68.8N	01	2151	SC	-122	-225	150	02(3)	-	555	810	562	03	05
MEA	61.9N	01	2150	SC*	-68	* -75	*-13	* 02(2)	5	220	655	405	03	05
SIT	60.0N	01	01--	..	..	..	..	04(3)	8	--	1040	520	06	09
STJ	58.4N	01	2150	SC	+20	-12	-20	01(8) 02(1)	5	355	432	510	03	06
OTT	56.8N	01	2150	SC	- 5.3	89.6	27.7	04(8)	8	360	490	600	06	08
NEW	55.1N	01	2150	SC*	4	66	6	01(8) 02(1,2)	5	27	150	161	03	05
EBR	43.9N	01	2150	SC*	0	49	* 23	01(8)	6	18	119	97	02	23
MMB	34.0N	01	2150	SC*	6.6*	-36	*-16	* 02(1)	6	16	140	38	03	06
KAK	26.0N	01	2150	SC*	3.6*	13	6	02(1)	6	11	79	83	02	24
HON	21.1N	01	2149	SC	--	9	4	01(2,4)	4	3	123	27	02	23
KNY	20.5N	01	2149	SC*	2.5*	15	6	02(1)	5	11	72	73	02	24
JAI	17.3N	01	2150	SC	- 1.3	21	- 6	--	-	4	63	24	02	23
SHL	14.7N	01	2150	SC	- .4	10	3	--	-	5	74	51	02	23
UJJ	13.5N	01	2150	SC	- .8	25	- 7	--	-	3	69	26	02	23
ABG	09.5N	01	2150	SC	- .7	13	- 6	02(2)	5	2	81	23	02	23
GUA	04.0N	01	2150	SC*	1	27	- 9	02(1)	6	10	130	20	02	18
ANN	01.5N	01	2150	SC	- 1	19	10	--	-	4	157	54	02	23
HUA	00.6S	01	1100	..	..	..	..	01(1,5,6)	5	6	289	60	01	21
HUA	00.6S	01	2150	SC	1	16	6	02(1,6)	6	10	385	42	03	04
TRD	01.1S	01	2150	SC	- .2	14	22	--	-	3	197	127	02	23
PMG	18.6S	01	2150	SC*	- 1.3*	14	7	02(1)	6	7	110	50	02	22
HER	33.7S	01	2150	SC	3	38	27	01(8) 2(1)	5	30	120	80	02	23
CZT	39.7S	01	2148	SC	16	17	6	02(1)	6	39	117	128	03	05
GNA	43.2S	01	2150	SC*	- 4.9*	-17	* 16	* 02(1)	6	23	120	100	02	23
TOO	46.7S	01	2151	SC*	-38	* -25		02(1)	6	13	160	50	02	22
EYR	47.9S	01	2151	SC*	- 4.3	-28.4	-22.9	01(8) 02(1)	5	17	137	69	02	19
KGL	56.5S	01	2150	SC	3	56	12	02(1)	8	162	831	402	03	05
MCQ	60.7S	01	2150	SC	-23	59	-30	01(4,5)	6	90	840	580	02	19
MAW	73.2S	01	2140	SC	..	-180	140	01(8) 02(1)	7	102	870	840	03	01
DUM	75.6S	01	2150	SC	24	25	42	01(8) 02(1)	6	439	688	451	02	05
RES	83.1N	02	0437	..	..	..	..		-	--	--	--		
MBC	79.2N	02	0438	SC	-83	20	- 9	02(7)	-	561	646	447	03	06
FCC	68.8N	02	0438	..	..	..	..		-	--	--	--		
MEA	61.9N	02	0438	..	..	..	..		-	--	--	--		
STJ	58.4N	02	0438	..	..	..	..		-	--	--	--		

THREE-HOUR-RANGE INDICES, K

MAR	31			1			2			3
HIS	5544	4445	5444	5436	7655	5444	4554	3546		
CCS	3333	4346	5445	4336	6534	5455	4333	2657		
DIK	4333	5567	6556	6657	8644	6666	5444	3778		
TIK	3323	5576	5357	7658	7544	6755	3--3	3799		
MMK	4432	4456	5525	5447	7534	4645	4422	3567		
KIR	5422	4457	5523	5437	7734	4655	4422	2567		
CWE	3311	5443	4457	6535	4535	6633	3232	2987		
COL	3221	5534	4436	5534	5445	5633	2232	1876		
LRV	6623	4457	4644	5437	8564	5555	5553	3656		
SOD	4322	4357	6525	5437	8634	4655	3423	3567		
YAK	3322	3445	4325	5435	6433	4543	3223	3576		
LER	3312	3336	5433	4325	6433	3534	3322	2679		
NUR	3323	3335	4434	5325	6423	3534	3222	3579		
LOV	3323	3336	4424	5325	6533	3544	3232	3579		
SIT	3211	3444	4536	6334	5444	5433	2232	2767		
ARS	2222	2334	3323	4325	5323	3533	2122	3566		
RSV	3312	3334	3323	4326	6533	3544	3132	3457		
MNK	3313	3334	3434	4325	5433	3533	3132	2456		
WIT	3322	2335	4433	4326	6533	3544	3223	3467		
IRT	3232	3354	4333	4334	6433	4533	2233	3567		
VAL	3323	4235	3333	3315	5433	4435	3232	3457		
KIV	3323	3345	3433	4326	6443	3544	3232	2556		
DOU	3322	2235	3323	3326	5423	3433	2112	3456		
KGD	2221	2223	2212	2113	4222	2322	1122	2444		
VIC	2311	1323	3434	3324	4423	2322	2032	2455		
OTT	2211	3334	4533	4435	6523	3433	3233	2478		

MAR	31			1			2			3
MMB	3332	3334	3344	4325	6533	3333	2233	3457		
TKT	3122	3345	3143	4324	4323	4433	0133	3646		
PEN	3221	3335	3322	3225	5312	3433	2123	2556		
TOL	0011	1122	3321	2121	3311	2124	1233	2254		
FRD	2311	3234	3523	4335	5423	4333	3123	2556		
COI	----	----	----	----	----	----	----	----		
KSA	1112	3345	2234	3265	3333	4533	0034	3566		
TUC	2311	1334	4434	4335	6633	3343	2233	2656		
KNY	2322	2333	3334	4324	5433	3332	2233	3557		
QUE	3321	3334	3343	3334	4432	4433	3243	2656		
HON	3321	2223	3424	2233	5332	2242	2222	2546		
HYB	2221	3334	3233	4324	4433	3433	2223	3667		
SJG	2311	0133	4333	2224	6532	2233	3123	3567		
GUA	4322	2323	5454	4314	6522	3312	3233	2546		
BNG	3323	2225	3334	4335	4323	3433	2234	3656		
PMG	2221	2333	4355	4324	6542	3432	2233	3556		
HUA	3433	3544	5434	5544	6544	5654	3332	4667		
GNA	4332	3344	4324	4425	6433	3443	3233	2555		
HER	3223	1235	5433	3215	5423	3432	4433	3655		
TOO	2220	3333	3345	4325	6323	3443	2123	3566		
EYR	1210	2333	3335	4325	5443	3322	2132	2655		
MCQ	2211	5543	4536	6434	4545	5533	2121	1886		
MIR	4443	2234	4454	4326	5555	3333	3453	3544		
MAW	5633	3436	5545	5437	7453	4655	5553	2657		
NVL	5522	2257	6633	3327	7642	3445	5433	1567		
SBA	3322	3335	4533	4336	5333	4333	3342	2445		
VOS	3322	3234	3433	4325	4333	3332	3333	2444		


COMMON-SCALE MAGNETOGRAMS
APRIL 1-3, 1979
THULE-H
THULE-D
RESOLUTE BAY-X
RESOLUTE BAY-Y
500γ
LEIRVOGUR-H
GREAT WHALE-X
COLLEGE-H
TIXIE BAY-H
DIXON ISLAND-H
1000γ
SAN JUAN-H
HONOLULU-H
KAKIOKA-H
HERMANUS-H
100γ
AU(5)
AL(5)
AE=AU-AL
1000γ
21 24 UT 06 12 18 24 06 12 18 21
APRIL 1, 1979
APRIL 3, 1979

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1979 APRIL 1, 2100 UT - APRIL 2, 2059 UT

21 UT	296	294	289	282	283	283	275	262	257	248	239	245	224	212	202	188	179	168	172	178
	178	193	205	224	233	238	245	266	279	292	288	301	327	366	386	406	428	450	454	459
	470	477	484	499	504	514	553	566	487	580	609	757	732	656	937	1002	1026	1017	812	699
22 UT	716	799	1070	1042	1099	1139	1162	1178	1193	1166	1178	1195	1181	1204	1160	1071	1077	1082	1045	1049
	1010	1817	1068	1128	1138	870	835	690	685	658	529	542	642	657	671	726	764	774	767	752
	762	747	734	715	713	719	745	756	774	704	709	729	658	660	736	750	692	773	813	762
23 UT	814	730	681	632	579	562	539	516	501	499	505	497	441	422	420	397	374	356	342	299
	298	302	296	286	273	293	312	326	323	322	368	366	350	346	332	317	307	310	308	292
	288	284	284	272	287	291	294	291	288	265	250	265	297	324	311	287	275	264	254	247
00 UT	229	232	227	218	220	213	216	222	213	188	193	206	209	189	177	191	191	187	206	218
	212	240	240	276	288	311	318	318	332	351	362	346	326	366	386	497	497	528	553	556
	528	524	492	419	372	385	392	380	408	434	468	399	416	416	422	416	422	457	464	464
01 UT	445	439	445	469	475	454	460	463	463	448	459	470	493	515	515	518	574	596	682	708
	889	874	837	819	837	923	986	986	986	949	926	875	867	975	1027	1090	1138	1171	1160	1138
	1045	1001	975	1016	1101	1149	1186	1131	1057	1023	1120	1223	1331	1346	1309	1268	1234	1197	1190	908
02 UT	878	826	849	1017	1051	1102	1168	1290	1332	1403	1411	1348	1283	1161	1093	951	964	875	851	760
	729	686	689	695	718	690	659	637	636	622	594	614	632	649	647	607	470	452	441	437
	441	444	444	418	415	403	400	381	351	333	317	328	329	325	311	307	285	270	266	255
03 UT	255	233	203	207	181	177	174	166	174	181	174	151	151	140	133	149	199	213	210	199
	170	174	151	133	111	126	140	148	165	167	156	154	147	141	151	155	160	144	131	115
	118	114	103	96	89	89	102	125	147	174	204	227	241	255	254	248	230	239	239	231
04 UT	218	161	158	160	196	207	207	196	173	173	173	158	166	177	211	228	268	253	237	219
	184	188	199	247	259	281	244	225	181	173	159	148	159	170	174	170	159	125	181	234
	323	298	262	199	163	148	138	192	218	222	233	237	244	244	237	237	240	237	251	244
05 UT	240	237	237	240	248	240	244	255	255	255	270	270	255	255	244	244	244	233	233	233
	229	229	226	226	222	218	218	214	214	211	222	207	218	218	214	200	196	192	200	211
	207	207	214	214	200	188	185	166	151	176	250	280	320	357	376	390	381	395	415	420
06 UT	433	438	444	448	437	440	448	444	452	455	474	481	455	444	366	363	363	366	359	363
	363	352	363	359	370	370	370	370	370	370	381	389	415	422	433	422	422	414	411	418
	407	400	396	392	363	329	333	344	351	359	351	359	355	333	311	309	292	279	283	274
07 UT	274	262	266	277	281	281	262	262	266	274	285	281	266	251	218	185	179	179	166	174
	177	188	188	199	199	199	211	211	207	207	188	185	166	148	129	127	127	127	138	127
	133	145	156	150	150	150	167	161	161	144	144	150	144	122	122	117	108	113	115	106
08 UT	106	109	111	111	113	113	102	100	98	86	84	84	79	79	79	91	92	104	104	95
	95	84	93	93	93	93	84	84	86	78	69	71	84	96	96	107	102	98	95	82
	68	72	83	89	100	104	110	117	124	128	130	132	148	139	141	141	144	146	157	173
09 UT	186	205	213	221	217	219	264	314	317	308	305	303	308	339	350	345	337	278	235	228
	229	225	222	214	214	228	236	237	243	249	244	227	216	208	194	186	188	186	183	175
	170	180	231	202	186	157	165	213	235	260	246	232	202	194	200	198	179	174	172	167
10 UT	169	175	182	185	188	194	197	201	210	214	221	215	210	205	202	196	201	203	205	208
	208	213	210	205	205	205	207	212	217	214	211	207	199	190	185	181	183	191	198	197
	195	189	180	178	172	172	173	173	168	168	167	167	169	169	167	167	167	165	160	155
11 UT	153	151	155	160	162	160	164	161	166	173	175	181	181	181	181	189	191	179	172	169
	168	163	167	173	173	171	181	176	163	160	158	166	165	156	150	126	112	110	112	109
	100	116	129	158	181	234	259	264	255	257	266	274	294	322	341	367	366	352	320	308
12 UT	306	307	305	298	307	284	275	332	356	378	371	364	343	326	330	346	364	382	387	382
	376	370	367	362	356	362	378	387	386	386	391	396	383	371	369	387	413	433	444	438
	436	437	435	439	443	439	415	389	370	348	362	365	370	370	358	367	390	404	413	390
13 UT	385	376	379	376	423	430	436	423	422	437	460	480	513	552	549	545	536	553	593	613
	627	627	591	580	555	550	550	547	539	528	514	479	462	445	403	399	396	392	388	410
	421	435	435	449	473	492	507	559	573	588	603	588	562	551	540	536	534	517	520	518
14 UT	544	540	540	518	507	499	522	529	533	536	566	577	570	570	566	540	525	496	474	462
	440	433	433	414	427	429	426	444	463	463	459	463	451	444	448	452	463	463	448	459
	459	470	481	477	477	481	500	518	548	559	585	633	625	607	611	633	629	622	625	629
15 UT	640	644	603	555	548	522	540	548	533	552	585	592	566	559	540	522	548	574	589	592
	585	589	581	589	592	592	581	581	566	559	566	585	585	596	603	618	611	637	577	563
	548	577	618	618	633	681	696	700	737	774	802	818	770	685	603	555	540	548	540	555
16 UT	588	644	696	722	810	855	866	866	833	810	770	733	711	700	685	696	711	715	755	826
	789	766	729	718	707	674	622	592	559	592	607	577	548	589	603	607	562	570	577	566
	537	529	544	537	518	514	507	499	492	485	474	494	499	506	508	529	548	548	551	544
17 UT	537	529	540	581	592	655	650	605	548	544	548	555	551	559	603	607	611	581	566	570
	548	533	514	493	452	415	395	426	496	596	557	559	522	492	407	396	398	415	438	476
	507	503	486	469	454	447	443	435	417	422	419	426	419	407	392	376	380	389	395	403
18 UT	403	409	406	402	401	408	408	416	423	425	425	425	425	419	419	423	420	420	426	423
	407	393	377	371	365	356	358	359	357	354	337	333	327	329	339	352	361	383	374	352
	353	358	359	353	353	367	363	354	358	379	406	402	406	423	435	483	516	543	558	552
19 UT	560	563	553	533	511	482	450	424	386	388	375	390	402	407	399	387	378	380	370	378
	377	382	375	359	335	295	285	287	278	270	273	279	266	283	295	311	317	334	380	383
	388	386	393	393	395	398	398	394	390	382	378	386	388	388	388	388	382	382	401	407
20 UT	407	401	403	399	395	396	397	395	400	411	419	421	413	401	386	380	380	380	378	384
	390	399	403	414	412	419	422	426	428	437	437	445	454	454	454	454	449	430	415	424
	435	448	462	471	465	459	448	434	428	422	419	419	411	400	381	376	376	375	356	347

PRELIMINARY AE (5)-INDEX AT ONE MINUTE INTERVALS

1979 APRIL 2, 2100 UT - APRIL 3, 2059 UT

21 UT	347	348	351	357	355	344	333	323	316	321	322	327	339	336	336	344	330	311	294	279
	260	241	219	204	203	191	193	202	210	206	215	217	219	215	204	202	206	209	200	196
	199	203	197	191	181	175	189	215	229	234	232	236	219	215	228	236	245	238	232	231
22 UT	233	242	248	239	222	209	219	232	244	244	232	244	302	312	314	316	318	348	370	396
	429	460	488	512	480	470	449	427	457	490	502	515	491	465	461	448	429	438	445	449
	452	456	472	463	454	446	426	398	373	377	384	388	392	408	355	354	352	351	353	353
23 UT	366	380	391	399	407	415	418	426	423	402	390	378	372	372	369	369	366	363	359	350
	348	345	346	349	353	359	361	346	329	315	311	308	303	301	305	293	288	290	291	285
	292	303	297	294	286	280	286	286	280	286	291	296	303	306	310	308	314	297	294	294
00 UT	280	272	266	258	250	242	234	225	222	213	207	199	192	198	198	184	186	190	182	175
	168	165	163	161	161	159	154	147	147	144	142	140	135	135	133	128	126	123	123	126
	126	125	128	134	141	149	155	161	163	155	144	138	138	141	145	151	154	154	154	154
01 UT	157	157	159	159	161	158	158	156	153	151	151	148	150	150	151	151	149	141	141	142
	142	138	136	132	132	129	123	120	112	105	98	91	84	80	78	77	80	84	86	86
	80	80	80	98	109	131	132	139	140	140	130	130	130	129	132	129	123	120	118	115
02 UT	116	118	107	74	75	72	79	91	107	114	117	111	112	107	121	132	133	138	146	152
	159	174	216	252	291	313	342	383	451	417	378	358	347	348	350	352	347	337	327	327
	335	338	341	340	329	321	315	306	292	288	278	274	263	244	243	261	273	289	290	295
03 UT	304	311	307	307	311	315	333	348	367	367	367	363	359	355	355	352	352	359	348	341
	307	307	311	322	318	295	301	310	340	344	354	333	307	302	258	268	259	253	250	241
	222	211	196	180	171	165	164	170	170	169	171	179	182	185	183	181	181	187	189	182
04 UT	178	174	171	163	163	157	153	148	136	133	135	138	134	123	117	112	110	185	103	96
	94	94	90	88	84	78	78	67	58	49	46	43	46	51	48	48	40	38	33	31
	29	29	29	28	41	39	39	39	39	48	51	55	59	59	51	44	44	44	44	44
05 UT	33	50	55	55	59	48	44	55	51	48	55	55	51	51	55	62	66	66	66	66
	66	77	81	81	81	81	92	81	81	81	81	81	81	85	85	85	85	85	96	96
	96	92	92	92	92	92	92	92	88	88	88	88	88	88	92	92	92	92	92	92
06 UT	96	96	96	107	107	107	107	107	103	103	103	103	107	111	114	114	114	111	111	103
	103	103	107	111	114	133	125	122	125	125	125	125	122	122	122	125	133	139	144	150
	157	175	180	193	198	200	207	212	219	216	216	219	223	230	248	255	269	278	301	289
07 UT	287	285	276	281	288	297	306	313	315	317	320	333	349	351	353	356	367	374	381	394
	392	388	385	370	370	356	352	345	335	340	326	333	340	338	335	351	376	394	406	398
	393	400	403	414	422	431	431	428	426	435	415	390	385	367	358	356	353	337	318	297
08 UT	280	248	241	221	212	216	214	200	196	200	179	162	155	148	144	129	125	122	118	114
	103	103	100	100	100	97	94	91	92	92	85	83	77	85	96	92	88	85	85	88
	88	96	103	92	92	88	70	66	55	61	64	66	66	77	81	85	92	85	55	55
09 UT	52	55	59	59	62	62	74	74	74	74	74	76	78	80	78	76	73	66	70	74
	77	77	81	77	77	71	64	66	70	88	85	85	74	74	70	66	53	53	59	66
	70	74	70	62	62	62	62	66	81	77	74	70	69	71	70	77	81	77	70	66
10 UT	92	101	55	81	94	108	85	78	112	100	69	62	79	75	62	62	76	76	77	77
	77	81	81	66	61	65	65	65	65	61	65	68	72	70	66	70	70	70	74	51
	66	74	70	81	92	88	85	81	81	92	92	96	103	99	99	99	99	92	96	85
11 UT	74	74	81	77	81	81	85	85	81	81	81	88	88	88	88	92	92	103	99	96
	96	96	96	85	85	85	85	74	74	74	70	70	70	81	81	81	81	81	85	99
	99	99	96	107	103	114	103	107	103	107	111	114	114	111	111	111	111	111	111	96
12 UT	99	99	99	88	88	96	96	99	114	114	103	103	103	103	114	111	111	114	114	114
	114	111	111	99	99	99	99	99	99	99	88	92	92	92	107	107	103	103	107	118
	122	122	118	114	114	114	99	99	99	99	99	99	99	103	103	99	99	99	99	103
13 UT	103	103	103	103	111	114	111	111	111	103	87	77	74	77	77	77	83	92	77	70
	70	66	83	77	81	81	77	77	77	85	88	88	88	96	82	87	88	92	88	88
	88	85	81	81	85	77	96	99	111	111	107	105	103	99	99	103	107	107	107	81
14 UT	62	74	101	96	99	103	114	111	111	107	119	107	99	111	92	88	91	89	87	84
	89	96	91	92	103	96	96	96	96	96	96	96	85	77	94	87	77	85	88	88
	85	85	85	92	92	85	77	85	81	85	85	77	88	85	74	74	62	62	62	49
15 UT	51	62	65	67	67	62	66	66	67	74	74	74	72	76	70	42	65	63	49	33
	38	53	79	86	89	106	135	163	183	202	212	230	244	247	255	259	266	281	304	318
	329	344	348	374	385	400	400	415	429	444	448	466	474	478	496	496	492	593	507	522
16 UT	533	541	555	566	574	559	555	552	552	566	589	622	692	729	822	874	903	903	837	833
	807	781	777	781	825	848	788	707	870	918	951	981	1021	866	836	933	951	918	951	1147
	1180	1136	1066	1036	959	1036	1095	1140	1180	1162	1202	1224	1265	1361	1409	1428	1376	1328	1169	976
17 UT	851	969	995	939	888	854	810	840	951	976	969	854	784	747	747	758	747	902	1102	980
	843	832	873	943	1191	1450	1657	1731	1583	1405	1235	1146	887	721	643	665	765	776	788	788
	765	691	706	569	499	458	414	333	455	469	447	414	399	384	395	421	421	388	364	371
18 UT	373	385	400	415	421	433	469	483	452	430	418	395	418	440	462	499	517	569	566	562
	562	577	599	606	621	688	913	1102	1135	1061	1010	1036	1147	1124	1051	1021	1073	1147	1176	1047
	977	769	643	662	747	832	895	936	965	1021	1117	1173	1084	958	906	873	832	777	821	858
19 UT	888	917	895	888	991	943	710	718	776	833	758	814	895	939	973	962	962	913	906	976
	995	1002	939	853	817	817	825	688	660	739	763	794	834	823	845	845	903	903	890	836
	832	807	788	773	734	775	854	845	802	838	864	886	848	802	757	691	662	611	568	543
20 UT	546	571	588	613	640	661	699	770	830	810	758	758	755	747	728	706	622	578	525	448
	564	592	618	646	680	655	627	543	569	595	620	699	765	778	801	817	851	911	975	853
	730	663	554	499	512	641	634	565	551	679	732	726	682	694	747	787	770	755	718	636

1979, APRIL 3 - 6

Date	3				4				5				6			
UT	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18
Kp	3o	2+	3-	3-	3-	5+	7-	8o	7-	6+	5+	5+	5-	2o	2-	2+
	4+	4o	5-	6o	7-	6+	4-	3-	4-	3-	3o	1+	3-	3+	2+	2o
3Kn	8	5	8	8	8	14	17	19	17	15	14	13	12	5	5	7
3Ks	9	8	9	8	7	15	17	18	16	15	14	14	14	4	4	5
	12	12	12	16	18	17	12	8	9	7	8	5	8	9	7	7
	14	12	14	16	16	14	9	8	9	7	6	3	5	6	5	5
Dst																

Values underlined are for X and Y. X, Y, H and Z are given in gammas, D in minutes.

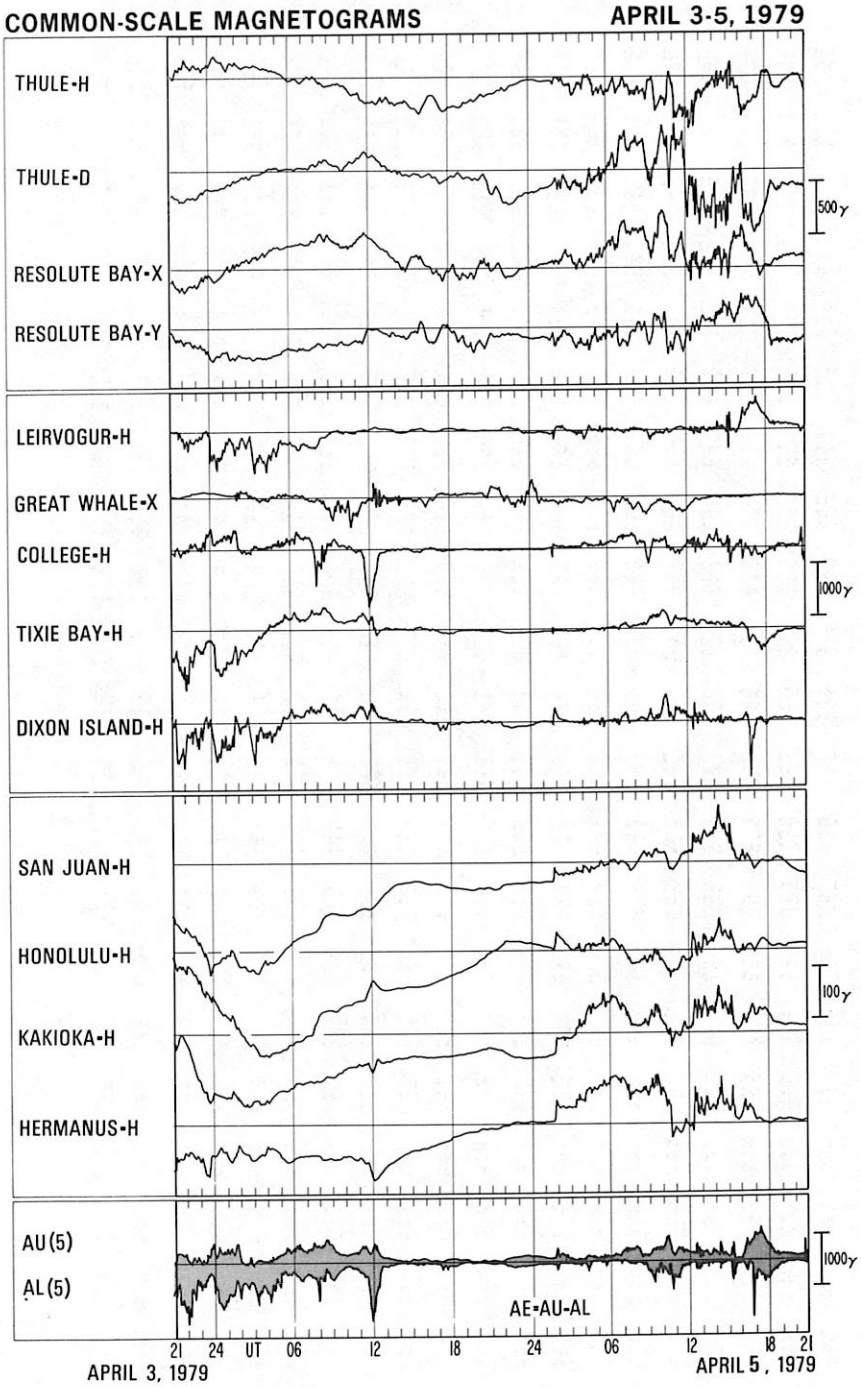
Data from Individual Observatories:

APRIL 1979

OBS. 3 letter code	GEOMAGNETIC LATITUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
RES	83.1N	03	1001	SC	- 3	-20	- 5	03(6)	-	622	625	390	04	06
MBC	79.2N	03	1001	SI	-12	-16		03(6)	-	737	640	371	04	06
FCC	68.8N	03	1001	..	..	..	..	03(6)	-	788	930	000	04	18
COL	64.6N	03	15--	..	..	..	..	03(6)	8	543	2170	320	04	13
MEA	61.9N	03	1002	SC*	-24	22	-15	* 04(3)	7	529	1017	735	04	18
STJ	58.4N	03	10--	SC*	..	6	*- 5	03(8) 04(1)	7	723	990	570	04	18
NEW	55.1N	03	1002	SC	3	22	3	03(8) 04(1,2)	7	54	485	477	05	02
WIT	54.2N	03	1001	SC*	2 *	23	*	03(8)	7	47	325	185	04	09
EBR	43.9N	03	1000	SC	1.0	9	--	03(8)	6	24	156	68	04	14
MMB	34.0N	03	1001	SC*	1.2*	16	*- 3	* 03(8)	7	21	201	48	04	18
SJG	29.9N	03	1001	SC	.5	5	2	03(8)	7	14	264	68	04	13
KAK	26.0N	03	1001	SC*	.8*	13	8	03(8)	7	16	173	80	04	21
HON	21.1N	03	1002	SC	--	4	2	03(8)	6	3	172	41	04	15
KNY	20.5N	03	1001	SC*	.6*	14	7	03(8)	7	14	184	74	04	18
JAI	17.3N	03	1000	SC	- .6	14	- 4	--	-	10	165	36	04	15
SHL	14.7N	03	1000	SC	- .4	14	3	--	-	7	188	26	04	15
UJJ	13.5N	03	1000	SC	- .4	18	- 5	--	-	9	201	34	04	15
ABG	09.5N	03	1000	SC	- .4	14	- 5	03(6,8)	6	9	185	48	04	15
GUA	04.0N	03	1001	..	..	..	..	03(8)	6	10	150	30	04	13
ANN	01.5N	03	1000	SC	- 1.1	32	9	--	-	8	245	65	04	15
HUA	00.6S	03	1001	SC	1	6	1	04(1,2)	7	9	540	56	04	18
TRD	01.1S	03	1000	SC	.1	34	38	--	-	--	--	92	04	15
PMG	18.6S	03	1001	SC	.3	14	11	03(8)	6	8	190	50	04	17
HER	33.7S	03	1002	SC	- 1	13	9	03(6)	6	29	149	140	04	15
CZT	39.7S	03	1001	SC	12	12	8	03(8)	7	62	318	223	04	15
GNA	43.2S	03	1001	SC*	1.6	17	* 6	03(6,7,8) 04(1,5)	5	23	200	170	04	14
TOO	46.7S	03	1002	SC	.9	19	4	03(7,8) 04(5)	6	37	260	90	04	13
EYR	47.9S	03	1002	SC	.6	18.2	5.1	03(6) 04(4,5)	6	29	291	170	04	13
KGL	56.5S	03	1000	SC	5	32	8	03(7) 04(1)	9	312	1197	721	04	18
MCQ	60.7S	03	15--	..	..	..	..	03(6,7)	8	210	2100	190	04	14
MAW	73.2S	03	15--	..	..	..	..	03(8)	7	90	1400	670	04	14
DUM	75.6S	03	1001	SC	8	17	38	03(6) 03(8) 04(2)	5	470	396	504	04	04
RES	83.1N	05	0156	SC*	52 *	-40	- 4	05(4)	-	607	676	642	06	10
MBC	79.2N	05	0156	SC*	99	-16	* 12	05(4)	-	688	738	304	06	10
FCC	68.8N	05	0156	SC*	-82 *	-34	-44	* 05(5)	-	565	570	420	06	10
COL	64.6N	05	0156	SC*	-26	327	--	05(4,5,6)	5	99	700	320	06	10
MEA	61.9N	05	0156	SC*	-46 *	-81	*-19	* 05(5)	6	252	666	287	06	10
STJ	58.4N	05	01--	SC	-22	32	30	05(5)	6	242	141	247	06	10
NEW	55.1N	05	0155	SC*	5	70	3	05(5,6)	6	48	203	90	06	24
WIT	54.2N	05	0156	SC*	- 9 *	34		05(4,5,6)	6	36	215	75	05	20
EBR	43.9N	05	0155	SC*	- 3.2*	28	--	05(4,5,6)	6	22	144	70	06	03
MMB	34.0N	05	0156	SC*	6.0*	23	-16	* 05(2,4,5,6)	6	12	203	50	06	10
SJG	29.9N	05	0155	SC	.5	19	8	05(5)	6	10	150	15	06	03
KAK	26.0N	05	0156	SC*	3.3*	28	14	05(4,5)	6	9	141	96	05	20
HON	21.1N	05	0155	SC	--	12	6	05(5)	6	3	114	16	06	03
KNY	20.5N	05	0155	SC*	2.6*	38	18	05(4,5)	6	11	144	80	05	21
JAI	17.3N	05	0155	SC	- 1.8	31	-11	--	-	10	150	52	05	20
SHL	14.7N	05	0155	SC	- .6	33	5	--	-	8	178	65	05	20
UJJ	13.5N	05	0155	SC	- 1	40	- 8	--	-	7	181	46	05	20
ABG	09.5N	05	0155	SC	- 1.2	28	-13	05(4)	7	7	166	50	05	20
GUA	04.0N	05	0156	SC	--	61	-18	05(4)	6	--	190	40	06	03
ANN	01.5N	05	0155	SC	- 2.8	58	21	--	-	7	280	115	05	20
HUA	00.6S	05	0157	SC	1	62	10	05(5)	8	13	525	48	06	03
TRD	01.1S	05	0155	SC	.6	63	60	--	-	4	270	235	05	20
PMG	18.6S	05	0155	SC*	- .5*	42	42	05(4)	7	6	190	160	06	03
HER	33.7S	05	0156	SC	4	39	28	05(4)	7	33	124	119	06	05
CZT	39.7S	05	0155	SC	36	40	28	05(5)	6	30	137	73	06	10
GNA	43.2S	05	0156	SC*	-11.5*	-127	*-41	* 05(4,5,6)	5	28	110	130	05	19
TOO	46.7S	05	0156	SC*	- 4 *	9	10	05(4)	6	15	140	50	05	19
EYR	47.9S	05	0157	SC*	1.5	54.1	13.7	05(4,5)	5	12	131	41	05	18
KGL	56.5S	05	0155	SC	17	117	24	05(6)	6	55	223	202	06	03
MCQ	60.7S	05	0156	SC*	7	-19	20	05(5)	6	50	570	290	05	20
DUM	75.6S	05	0156	SC	40	185	235	05(1) 05(2)	7	926	657	294	05	14

THREE-HOUR-RANGE INDICES, K

APR	3			4			5			6			APR	3			4			5			6		
HIS	4554	3546	5665	6344	5678	5643	4453	4554					MMB	2233	3457	4444	4212	4656	6642	3232	2322			
CCS	4333	2657	5555	5344	5555	4433	4342	3433					TKT	0133	3646	5444	5112	4456	7633	3223	2322			
DIK	5444	3778	7855	6544	6557	6854	4344	4755					PEN	2123	2556	5434	3222	4446	6633	3121	2222			
TIK	3--3	3799	8866	7543	5456	5763	4342	2733					TOL	1233	2254	4231	0455	5321	0221	1122	2211			
MMK	4422	3567	7845	5324	4335	6645	4221	3433					FRD	3123	2556	5444	3222	4345	6643	4331	3322			
KIR	4422	2567	7845	5334	4335	6655	4222	3434					COI	----	----	----	----	----	----	----	----			
CWE	3232	2987	6686	7323	3455	5752	3331	1522					KSA	0034	3566	54--	1014	4457	6622	1033	2221			
COL	2232	1876	5577	7322	4345	5542	4242	2522					TUC	2233	2656	5554	4112	5455	6653	3232	3233			
LRV	5553	3656	7753	4334	5545	6855	5442	3434					KNY	2233	3557	4444	4222	4556	6541	3121	2322			
SOD	3423	3567	7845	5224	5335	6655	4221	3433					QUE	3243	2656	4444	5222	4556	5533	2232	2331			
YAK	3223	3576	5553	6122	5334	5652	3332	2422					HON	2222	2546	5255	3333	4455	6522	3121	2222			
LER	3322	2679	7754	4321	3234	4564	2221	2322					HYB	2223	3667	6554	4111	5567	6632	3121	2221			
NUR	3222	3579	8734	4212	4346	6633	2122	3332					SJG	3123	3567	5554	4122	4455	6643	3121	2011			
LOV	3232	3579	7754	4213	4346	6643	2232	3332					GUA	3233	2546	5453	4111	5566	6532	4231	2312			
SIT	2232	2767	6686	7222	3346	6542	3231	2321					BNG	2234	3656	4434	3223	4467	6633	2222	3322			
ARS	2122	3566	6445	3112	4346	6642	2122	2422					PMG	2233	3556	5554	4312	5467	6532	3332	2312			
RSV	3132	3457	6634	3222	4345	6743	3221	3332					HUA	3332	4667	7764	4334	4345	8754	3333	3433			
MNK	3132	2456	6643	3112	3335	5633	2132	3332					GNA	3233	2555	5343	5221	4445	5532	3332	2222			
WIT	3223	3467	6634	4223	4446	6643	3221	3333					HER	4433	3655	4534	5112	4457	6533	2121	2212			
IRT	2233	3567	5444	5222	4457	7642	3332	3323					TOO	2123	3566	4355	6111	4456	4421	3111	1222			
VAL	3232	3457	6534	3212	3335	6633	3232	3322					EYR	2132	2655	4456	6122	4445	5422	3231	1211			
KIV	3232	2556	6643	5212	4446	6632	3232	3432					MCQ	2121	1886	4567	7221	3345	6552	4242	1411			
DOU	2112	3456	5534	3112	4335	6633	2211	2322					MIR	3453	3544	3336	4333	5677	4442	2443	2343			
KGD	1122	2444	4223	3111	3334	4431	1221	1221					MAW	5553	2657	5555	5235	5556	5644	4553	3346			
VIC	2032	2455	5555	5212	4345	6532	3221	2221					NVL	5433	1567	8773	3212	3345	5533	4431	2112			
OTT	3233	2478	7765	4222	4345	6533	3432	3322					SBA	3342	2445	4444	5343	5555	4333	3341	2333			
													VOS	3333	2444	3444	4223	5655	4432	2231	2222			


COMMON-SCALE MAGNETOGRAMS
APRIL 3-5, 1979
THULE-H
THULE-D
RESOLUTE BAY-X
RESOLUTE BAY-Y
500γ
LEIRVOGUR-H
GREAT WHALE-X
COLLEGE-H
TIXIE BAY-H
DIXON ISLAND-H
1000γ
SAN JUAN-H
HONOLULU-H
KAKIOKA-H
HERMANUS-H
100γ
AU(5)
AL(5)
AE-AU-AL
1000γ
21 24 UT 06 12 18 24 06 12 18 21
APRIL 3, 1979
APRIL 5, 1979

PRELIMINARY AE (5)-INDEX AT ONE MINUTE INTERVALS

1979 APRIL 3, 2100 UT - APRIL 4, 2059 UT

21 UT	620	607	593	576	565	543	562	540	553	546	632	709	733	749	705	671	661	640	610	581
	558	535	524	666	769	873	892	940	900	894	885	897	877	867	930	902	906	941	910	880
	841	844	850	881	929	958	976	958	952	984	1029	1043	1083	1071	1051	1076	1073	1040	964	974
22 UT	938	856	976	1001	1139	1176	1102	1001	880	859	978	970	953	971	960	961	975	976	658	631
	571	561	542	540	542	566	621	680	692	680	685	746	781	761	724	729	709	690	661	636
	563	496	453	485	473	448	441	446	434	415	429	441	453	513	505	479	425	361	356	420
23 UT	426	458	493	493	484	448	385	402	454	466	507	485	461	443	386	357	390	385	376	423
	435	429	427	396	388	409	458	503	480	458	435	405	390	380	377	361	363	360	343	421
	432	442	480	479	472	432	440	452	486	497	520	531	553	564	569	580	602	635	635	602
00 UT	722	729	859	789	682	589	522	556	611	630	648	637	574	552	661	779	933	969	987	948
	972	1015	1055	1080	1096	1067	1015	996	987	1006	994	965	936	937	938	975	1004	1006	1035	1034
	1014	979	984	1043	1071	1077	1043	1030	996	972	953	935	899	875	896	935	940	946	977	1006
01 UT	989	960	910	877	871	837	799	766	765	763	780	803	838	884	872	883	906	885	852	824
	851	884	901	856	798	752	734	723	737	745	800	765	741	723	732	736	739	760	782	803
	824	816	775	745	680	627	632	667	691	703	741	704	715	703	803	783	806	760	742	719
02 UT	652	684	543	496	488	470	462	450	432	408	396	384	361	374	369	363	351	320	327	340
	335	335	341	328	342	360	380	410	422	440	423	435	429	401	452	448	473	504	500	499
	501	506	517	525	461	429	389	350	316	321	315	309	316	323	342	312	306	294	288	311
03 UT	335	372	419	470	524	555	566	580	614	629	663	677	697	731	782	819	813	801	797	808
	838	838	804	753	715	671	623	626	667	675	634	571	534	560	571	582	586	597	541	530
	511	489	441	448	448	445	441	445	452	471	478	482	493	523	519	522	545	548	556	597
04 UT	612	623	615	582	600	619	634	612	612	608	619	708	752	775	790	801	778	819	721	697
	701	691	670	678	667	628	518	482	469	460	467	476	533	617	608	608	587	581	537	526
	515	498	499	486	392	363	378	407	444	437	411	454	491	505	493	550	584	589	598	605
05 UT	606	611	599	556	559	522	511	485	426	380	359	354	377	401	407	387	372	364	352	357
	325	300	285	304	364	410	456	476	488	522	503	487	479	475	463	439	426	429	427	436
	449	454	451	448	433	439	407	401	388	396	417	436	446	455	455	460	449	417	415	416
06 UT	428	436	438	436	427	367	385	403	421	448	462	502	522	549	569	601	592	584	571	539
	523	508	495	493	497	522	596	614	622	618	603	570	589	581	589	604	611	618	622	611
	615	615	604	592	581	570	548	548	552	541	529	515	489	481	477	459	435	427	429	440
07 UT	440	433	422	411	414	429	437	455	451	459	459	469	478	488	494	496	494	493	495	501
	498	470	472	489	496	520	519	541	572	567	575	590	609	624	658	650	641	630	625	644
	651	601	580	574	578	578	588	586	579	562	560	566	574	613	637	685	823	967	1010	864
08 UT	831	726	566	553	543	549	552	571	570	547	555	589	624	645	632	603	559	610	622	557
	563	697	726	722	700	584	548	513	538	546	544	491	492	575	620	655	596	603	603	598
	589	587	574	560	568	610	619	632	634	634	624	630	636	626	634	628	624	633	630	622
09 UT	627	627	610	621	609	605	602	589	565	541	528	523	504	497	483	466	451	446	441	434
	438	427	431	422	406	404	393	391	377	366	357	352	334	320	307	316	314	311	307	298
	296	287	285	291	284	288	284	283	281	281	285	287	285	274	265	256	245	237	218	206
10 UT	184	175	175	186	203	210	199	196	186	181	186	196	216	221	228	231	238	240	238	247
	243	241	238	242	248	243	252	266	280	283	304	313	301	292	285	285	283	287	300	312
	320	316	313	313	315	314	295	288	267	258	265	288	316	326	330	307	287	295	312	324
11 UT	340	369	401	414	425	422	422	429	438	449	457	461	478	494	510	541	521	505	492	482
	479	497	516	551	568	607	605	582	573	566	549	549	526	517	506	493	487	477	472	467
	470	468	466	462	533	565	621	720	724	717	817	862	1011	1017	1003	993	1029	1265	1265	1272
12 UT	1278	1246	1230	1283	1309	1346	1255	1233	1277	1311	1302	1237	1139	1083	992	940	921	878	904	952
	935	916	879	839	786	721	684	637	617	634	640	657	582	492	431	386	341	322	302	305
	296	280	263	258	248	236	213	190	160	144	143	140	157	173	178	180	168	151	141	137
13 UT	143	156	165	173	179	176	170	167	166	168	169	172	173	176	176	176	169	147	136	116
	118	128	135	141	139	132	115	106	98	98	103	103	95	89	94	94	101	103	106	109
	105	101	97	93	87	85	80	69	64	65	72	77	82	85	80	76	70	64	62	66
14 UT	61	55	47	43	45	45	46	41	42	39	37	35	35	37	42	46	51	46	37	34
	36	36	38	36	33	29	31	38	42	49	52	49	38	32	36	40	47	49	49	44
	44	47	47	49	52	44	44	41	38	32	27	29	31	34	38	43	50	56	58	57
15 UT	61	67	75	81	81	87	87	87	87	82	79	76	84	81	70	68	68	69	77	74
	85	84	87	90	103	106	106	103	101	100	88	88	87	78	82	84	87	87	98	96
	96	96	96	101	104	104	101	104	118	118	121	123	115	104	104	101	98	96	100	100
16 UT	103	100	85	81	77	70	72	73	72	76	79	79	76	76	72	70	66	66	62	70
	72	72	61	61	61	47	47	45	43	40	40	54	54	58	58	52	60	60	58	58
	58	56	56	56	56	56	56	47	50	56	62	62	62	76	67	70	70	64	53	38
17 UT	38	41	47	35	35	28	37	42	48	54	56	70	85	96	131	151	157	164	169	162
	145	134	123	132	141	141	102	98	96	99	110	115	122	124	130	144	161	189	195	182
	147	133	128	121	125	125	125	125	125	125	119	119	119	125	125	131	137	143	137	141
18 UT	127	124	124	121	121	125	125	125	125	122	129	129	129	135	131	133	133	127	127	127
	121	121	121	121	121	121	111	111	111	102	98	98	94	88	88	88	82	82	82	82
	78	78	78	78	78	78	76	76	70	63	63	63	63	70	70	66	66	66	70	63
19 UT	63	63	63	63	63	60	54	54	54	54	54	54	54	54	54	50	50	54	54	50
	46	43	39	39	35	38	38	38	38	31	28	28	28	24	24	24	24	24	24	22
	24	27	18	18	18	24	24	24	24	24	24	24	24	24	24	24	24	27	30	30
20 UT	33	30	30	30	30	21	15	24	24	18	18	27	30	24	17	14	26	38	44	46
	47	58	61	53	43	58	70	79	62	58	53	43	30	35	35	35	24	24	21	12
	12	21	17	33	36	47	56	44	37	37	29	29	35	35	31	31	31	43	49	43

PRELIMINARY AE (5)-INDEX AT ONE MINUTE INTERVALS

1979 APRIL 4, 2100 UT - APRIL 5, 2059 UT

21 UT	43	37	39	45	48	61	63	65	65	65	71	71	71	71	71	65	68	68	63	63
	55	52	51	51	51	47	47	44	44	44	44	37	37	37	37	37	37	37	37	37
	37	33	33	29	29	33	44	44	44	48	36	36	33	33	33	33	40	42	46	55
22 UT	66	76	86	97	107	114	122	129	137	137	135	139	137	134	135	135	139	139	145	145
	145	145	142	142	138	138	138	138	143	148	148	152	157	162	163	161	162	175	185	191
	186	194	194	194	196	198	198	201	203	200	200	197	200	197	193	185	179	173	176	176
23 UT	181	181	181	184	184	186	188	188	188	186	183	180	179	179	174	171	174	179	179	179
	179	179	179	179	184	188	188	194	198	201	203	201	201	203	206	206	206	206	206	203
	203	201	198	195	195	195	193	193	192	192	194	192	187	183	180	176	176	174	176	174
00 UT	170	170	170	170	167	169	164	161	158	155	158	159	163	166	166	166	163	163	166	163
	163	163	163	163	166	166	166	166	166	163	161	161	161	155	157	157	157	151	151	149
	147	144	134	131	137	137	140	137	137	135	133	130	126	126	126	120	120	115	113	111
01 UT	108	108	108	108	102	100	106	104	101	99	99	99	97	97	97	97	94	94	94	94
	97	97	97	97	97	97	97	94	92	92	94	97	99	99	101	101	101	104	108	112
	106	109	113	113	121	124	128	130	123	118	119	119	111	185	205	230	93	146	264	334
02 UT	329	273	323	320	246	222	152	143	120	105	102	102	99	90	111	157	179	174	177	179
	181	179	177	170	160	149	137	134	132	139	135	140	140	140	139	137	137	131	121	117
	117	119	126	134	154	163	153	152	144	137	121	83	67	76	73	79	57	67	76	94
03 UT	96	104	104	104	100	91	89	101	97	101	91	91	80	77	72	66	60	71	71	71
	71	71	71	65	55	44	78	61	60	77	53	53	53	47	70	81	71	72	75	71
	66	59	72	101	108	122	111	93	92	100	129	88	65	48	59	85	63	59	82	76
04 UT	96	111	77	70	98	104	107	100	52	48	57	116	167	183	168	155	174	192	207	203
	214	263	296	281	263	263	229	214	218	214	188	155	151	155	108	72	78	78	84	103
	70	39	89	91	103	102	108	88	61	52	69	78	91	87	51	47	74	86	57	62
05 UT	55	48	45	35	42	50	45	56	65	68	73	73	79	75	76	65	57	55	54	51
	47	44	56	56	84	126	126	87	110	106	87	113	138	63	109	88	151	134	111	140
	180	178	153	133	159	155	142	120	108	88	87	71	72	75	79	66	58	52	64	66
06 UT	100	86	86	86	86	91	88	85	94	97	94	93	104	92	75	77	94	91	108	119
	122	136	142	158	153	130	133	125	99	108	103	114	103	85	111	88	96	103	118	125
	131	128	122	122	122	111	92	88	92	107	191	134	113	137	119	183	160	165	182	184
07 UT	188	188	196	184	196	203	192	192	203	197	196	210	228	269	253	225	166	199	240	299
	281	249	225	266	277	248	240	236	229	272	277	270	261	261	268	275	281	297	302	290
	277	261	257	254	256	263	257	259	266	284	300	293	290	290	299	297	306	315	319	336
08 UT	318	300	285	271	244	227	222	213	238	244	260	267	258	247	243	248	232	230	226	215
	190	168	147	143	106	118	134	140	162	178	194	205	201	186	191	181	179	177	161	143
	144	137	150	166	173	184	213	228	290	304	306	289	298	281	272	270	288	313	338	347
09 UT	313	275	265	287	307	332	337	423	468	480	479	497	507	600	613	611	603	629	637	614
	628	653	650	598	512	431	444	457	447	444	428	385	395	397	472	475	483	467	459	438
	377	346	372	332	268	256	280	296	302	309	323	343	398	396	450	482	481	451	438	411
10 UT	408	405	402	406	412	421	429	453	470	498	511	522	556	561	579	620	656	683	687	694
	705	726	704	686	671	714	744	773	711	608	419	400	491	418	391	369	372	389	443	468
	487	600	604	596	636	675	705	565	528	455	394	356	332	337	360	386	439	471	484	501
11 UT	511	515	521	527	516	517	494	481	484	494	525	513	508	529	549	558	530	512	488	444
	410	402	391	388	378	386	394	385	323	275	243	217	228	251	292	304	312	315	296	301
	306	280	284	275	279	261	271	270	268	261	262	277	297	309	288	231	207	189	176	162
12 UT	179	166	155	189	227	252	168	160	144	150	150	171	180	199	176	153	138	125	118	129
	147	162	173	189	197	213	148	194	442	505	462	314	312	294	318	319	308	148	175	294
	279	276	330	344	280	194	171	167	246	252	298	216	224	205	236	350	340	315	133	100
13 UT	176	215	211	207	177	207	221	223	216	212	216	233	175	185	201	230	197	201	201	215
	216	220	182	144	122	135	147	142	266	274	197	138	132	86	71	109	119	135	123	122
	112	113	110	116	111	151	242	251	196	214	237	265	267	273	234	233	228	192	188	188
14 UT	183	187	194	198	185	196	170	158	167	202	167	156	145	150	141	128	150	176	148	199
	325	316	246	532	497	369	270	162	230	233	176	176	154	162	156	141	161	163	165	141
	170	165	203	223	232	198	163	139	96	126	104	110	117	97	120	133	124	93	67	86
15 UT	96	90	76	100	64	68	83	94	109	109	138	143	130	237	256	147	218	255	381	448
	337	164	385	252	285	317	355	358	319	234	161	122	82	77	50	63	77	84	106	127
	120	118	97	85	78	89	89	84	92	109	94	70	66	92	100	96	77	66	55	58
16 UT	56	69	71	74	76	88	103	121	162	211	227	209	202	236	361	399	427	442	458	471
	497	581	622	641	537	511	481	452	400	374	322	289	299	315	333	352	365	381	395	401
	399	392	400	430	445	457	485	559	593	811	1084	1541	1546	1545	1545	1120	854	820	796	781
17 UT	781	800	820	836	874	798	756	723	700	683	667	664	681	695	696	707	727	746	752	785
	850	906	898	893	897	915	881	831	798	765	725	726	728	726	731	736	738	737	730	732
	773	784	820	782	752	723	696	679	651	628	608	599	592	599	617	625	624	619	629	660
18 UT	652	628	599	578	555	563	587	572	523	487	452	410	413	420	416	409	409	409	395	378
	377	370	352	345	337	316	288	265	266	265	264	262	267	265	285	282	283	301	307	287
	253	224	216	174	189	206	213	215	223	217	205	195	185	183	158	158	173	191	200	204
19 UT	206	200	192	208	208	200	184	165	153	146	147	168	161	171	160	157	155	158	158	155
	141	137	134	124	130	130	130	125	123	124	128	138	140	143	145	141	131	122	129	129
	135	137	137	134	134	120	110	107	120	128	134	137	137	128	122	118	114	114	110	110
20 UT	101	101	98	102	102	96	96	92	88	81	71	75	79	83	102	104	103	109	111	114
	112	114	127	125	121	114	117	117	108	110	119	128	124	127	124	119	112	108	104	118
	80	129	333	429	392	129	88	164	169	136	243	223	140	149	249	320	299	246	124	107

1979, APRIL 24 - 27

Date	24				25				26				27			
UT	06	12	18		06	12	18		06	12	18		06	12	18	
Kp	3+	3+	3+	2+	2+	2o	2-	4o	8-	8o	8-	7o	7o	5o	6-	6-
3Kn	9	9	8	8	7	7	5	12	20	20	21	20	19	12	13	14
3Ka	10	9	8	6	6	7	5	11	19	18	20	19	18	13	13	14
Dst																

Date	26				27							
UT	06	12	18		06	12	18					
Kp	4o	2+	1o	2o	1o	3-	3o	3o	3+	3+	3o	3-
3Kn	10	6	4	7	4	7	9	9	9	10	9	8
3Ka	11	8	4	4	1	4	7	7	11	11	7	8
Dst												

Date	3+	5o	5-	5o
3Kn	9	13	11	12
3Ka	8	11	12	14

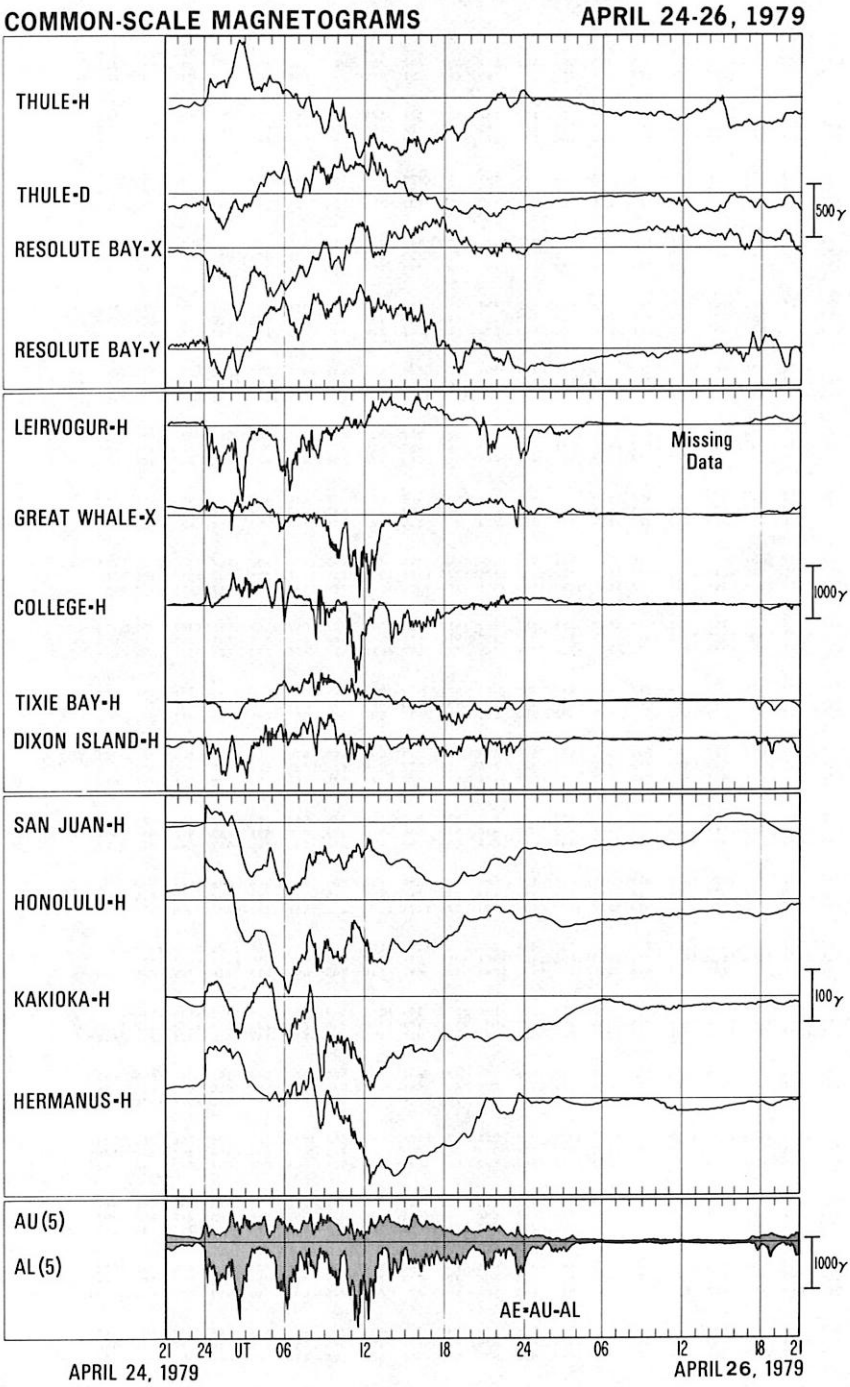
Data from Individual Observatories: APRIL 1979

Values underlined are for X and Y. X, Y, H and Z are given in gammas, D in minutes.

OBS. 3 letter code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
RES	83.1N	24	2358	SC*	60	* 120	*260	* 25(3)	-	952	890	522	26	03
MBC	79.2N	24	2358	SC*	85	* 180	4	25(7)	-	904	1008	604	26	06
FCC	68.8N	24	2358	SC*	-100	*-134	* 20	* 25(5)	-	1680	1560	600	26	06
COL	64.6N	24	2358	SC*	-17	319	51	25(3,4)	7	379	2110	420	26	02
MEA	61.9N	24	2358	SC*	-29	* -39	*-49	* 25(2)	8	1120	2850	700	26	06
SIT	60.0N	24	2359	SC*	--	--	--	25(3)	8	--	--	770	26	02
STJ	58.4N	24	23--	SC*	-62	136	54	* 25(2)	9	582	895	751	26	06
OTT	56.8N	24	2357	SC	- 4.2	-41.8	12.3	25(2,3)	9	865	720	580	26	22
NEW	55.1N	24	2357	SC*	9	119	6	25(2,3)	8	84	1138	813	26	06
WIT	54.2N	24	2358	SC*	- 9	* 94		25(1,2,3)	7	73	340	190	26	01
EBR	43.9N	24	2357	SC*	- 1.3*	53	* 34	* 25(1,2,3)	6	30	171	88	26	04
MMB	34.0N	24	2358	SC*	7.9*	-22	*-19	* 25(3)	8	20	250	86	26	05
SJG	29.9N	24	2358	SC	1	20	12	25(1)	7	16	166	50	26	03
KAK	26.0N	24	2357	SC*	4.5*	26	9	25(3)	7	20	234	120	26	03
HON	21.1N	24	2358	SC	2	12	6	25(1,3)	7	11	265	49	26	01
KNY	20.5N	24	2358	SC*	3.8*	34	19	25(1,3,4,5)	7	20	282	113	26	03
JAI	17.3N	24	2357	SC	- 1.4	33	- 9	--	-	13	309	51	26	02
SHL	14.7N	24	2357	SC	- .4	31	4	--	-	14	459	75	26	02
UJJ	13.5N	24	2357	SC	- .9	39	- 9	--	-	11	329	76	26	02
ABG	09.5N	24	2357	SC	- 1	30	- 8	25(3,4)	7	10	296	88	26	02
GUA	04.0N	24	2358	SC*	--	47	-15	25(3)	7	10	390	60	26	02
ANN	01.5N	24	2357	SC	- 1.1	43	19	--	-	12	--	113	26	02
HUA	00.6S	24	2359	SC	1	24	6	25(1,5)	7	14	356	71	26	01
TRD	01.1S	24	2357	SC		32	40	--	-	6	--	--	26	02
PMG	18.6S	24	2357	SC*	- 1.3*	55	44	25(1,2,3,4,5)	7	10	370	130	26	03
HER	33.7S	24	2358	SC*	6	48	35	25(3,4)	7	41	265	174	26	08
CZT	39.7S	24	2357	SC	46	20	34	25(1,2,3)	6	47	208	199	26	05
GNA	43.2S	24	2358	SC*	-11.3*	-32	*-44	* 25(1,4)	7	34	280	250	26	12
TOO	46.7S	24	22--	..	..	..	..	25(5)	7	54	250	160	26	00
EYR	47.9S	24	2359	SC*	- 6.2	39.9	-26.9	25(3,5)	7	53	257	262	26	02
KGL	56.5S	24	2357	SC	17	39	12	25(1)	8	140	761	637	26	05
MCQ	60.7S	24	22--	..	..	..	..	25(4)	8	280	1970	840	26	00
MAW	73.2S	24	19--	..	..	..	..	25(1)	8	175	1340	250	26	06
DUM	75.6S	24	2358	SC	140	120	220	25(1) 25(4)	6	563	786	334	25	15

THREE-HOUR-RANGE INDICES, K

APR	24			25			26			27			APR	24			25			26			27		
HIS	6555	4344	8786	5455	4533	2334	4655	5543					MMB	3233	2214	6686	6444	2222	1233	2443	2544			
CCS	4434	3536	7766	5354	3322	5455	4553	3566					TKT	2223	2123	7776	7554	2123	2232	3233	3542			
DIK	5435	4557	9878	6666	4434	2566	6654	4667					PEN	2222	2325	5555	5455	3112	1122	3223	3434			
TIK	3345	3543	6777	6776	4323	2556	3455	5878					TOL	4332	3424	4212	1232	3222	2232	2112	1334			
MMK	5423	3334	8666	6676	5312	1245	5522	3465					FRD	3332	2015	6667	6345	4212	1233	3333	4345			
KIR	5425	5555	8776	6677	5322	1345	4422	4565					COI	----	----	----	----	----	----	----	----			
CWE	3343	3423	6788	8665	3322	1333	3345	4755					KSA	2233	2027	5565	5454	2033	2032	3133	3344			
COL	3335	4314	6677	6544	3212	1232	3445	4665					TUC	4332	2105	7676	6444	4312	2134	3422	2544			
LRV	6642	3354	8886	6667	6522	3345	7643	3655					KNY	3322	2214	7677	7434	3122	1222	3332	2533			
SOD	6323	3333	8767	7577	5302	1235	5522	3466					QUE	3323	2214	6667	7553	3221	----	----	----			
YAK	4324	3333	7676	7654	4222	1233	4333	3555					HON	3332	2124	7675	5444	3212	1123	3322	2334			
LER	3332	3222	9765	5467	5312	1333	4422	3546					HYB	2231	2114	7678	8763	2123	1122	2332	3543			
NUR	3322	2224	8667	6656	4212	2222	2322	4444					SJG	3222	0001	7565	5545	3212	4223	2332	2344			
LOV	3323	3222	8766	6666	5222	2222	4423	4545					GUA	4322	2215	7677	6434	2222	1122	3333	2424			
SIT	3343	3213	8787	7545	4211	1333	3334	3545					BNG	3323	3325	6476	6354	3223	2232	2343	3344			
ARS	3322	2323	6667	6445	3113	1232	3322	3443					PMG	3223	3230	7777	7534	3132	1222	4343	2545			
RSV	3323	2224	7766	6565	4212	1233	2332	3434					HUA	4433	3322	7665	7554	3323	3443	3333	4654			
MNK	3323	2222	7655	6444	4122	2222	3433	3444					GNA	3232	2324	7667	6555	3232	1233	5433	3445			
WIT	3322	3335	7776	6565	4212	1333	3332	3545					HER	3322	2125	6677	5455	3212	1122	3433	3545			
IRT	3322	2221	8686	6444	3323	2332	2333	3543					TOO	3223	2312	5566	7544	21--	----	2223	3444			
VAL	3331	1222	6665	5355	3212	1333	3332	3544					EYR	3333	3311	5576	7534	3112	0122	3324	3443			
KIV	3332	2224	7655	7455	4222	1333	3443	3544					MCQ	3235	4411	6678	7664	2111	0143	2346	5765			
DOU	2322	2213	7665	5454	3102	1223	3332	3434					MIR	4343	3233	6665	4344	4342	2133	4443	2434			
KGD	1111	1111	5455	5333	2101	0122	2221	2322					MAW	6653	2345	8776	5477	5522	1156	6643	3565			
VIC	3343	2104	7767	6434	3201	0222	2233	2433					NVL	4532	1132	8886	4357	5312	1113	5533	1357			
OTT	3333	2222	6997	7545	3212	2333	3333	3453					SBA	4333	3224	7666	5234	4321	1223	4422	3444			
													VOS	3333	2223	5555	4234	3322	1223	3432	3344			


COMMON-SCALE MAGNETOGRAMS
APRIL 24-26, 1979
THULE-H
THULE-D
RESOLUTE BAY-X
RESOLUTE BAY-Y
500γ
LEIRVOGUR-H
Missing Data
GREAT WHALE-X
COLLEGE-H
TIXIE BAY-H
DIXON ISLAND-H
1000γ
SAN JUAN-H
HONOLULU-H
KAKIOKA-H
HERMANUS-H
100γ
AU(5)
AL(5)
AE-AU-AL
1000γ
21 24 UT 06 12 18 24 06 12 18 21
APRIL 24, 1979
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21 UT	315	312	307	301	301	298	295	292	285	282	274	265	262	264	267	271	274	282	291	296
	299	302	300	299	302	307	303	303	300	297	297	292	292	297	292	292	292	290	294	291
	288	286	283	280	275	278	278	275	271	265	262	257	251	246	249	243	241	230	227	225
22 UT	222	212	209	206	206	198	191	188	185	182	180	177	174	169	167	164	161	158	151	148
	148	151	151	156	165	168	173	173	170	168	165	167	161	165	163	163	163	163	163	163
	163	163	160	157	154	151	154	164	170	170	173	177	180	183	186	189	194	200	206	206
23 UT	200	192	178	174	177	182	180	174	168	155	145	132	126	107	104	99	91	90	90	90
	84	75	72	68	68	70	65	67	67	67	76	81	70	70	76	84	78	66	85	98
	110	116	119	125	129	137	141	153	164	182	207	233	216	229	237	245	251	242	243	234
00 UT	583	588	380	536	624	620	701	934	882	1011	1000	882	705	586	422	417	472	503	501	523
	520	524	561	623	659	689	726	745	763	772	796	734	662	647	671	676	643	611	614	610
	597	573	624	681	691	708	766	772	765	777	798	740	723	756	942	1001	1055	1027	956	916
01 UT	872	845	844	848	855	858	865	844	827	797	778	771	725	802	853	845	782	763	776	750
	757	762	767	790	814	824	831	847	862	881	898	912	778	718	689	656	646	642	672	679
	690	720	672	653	650	646	646	653	653	628	642	661	727	801	1123	1174	1193	1219	1230	1200
02 UT	1126	1071	770	865	781	760	812	831	823	860	838	890	901	938	1000	1008	1112	1163	1206	1281
	1208	1197	1185	1167	1192	1248	1274	1273	1273	1258	1266	1251	1284	1380	1484	1598	1616	1642	1620	1583
	1446	1358	1391	1299	1296	1296	1303	1366	1225	1148	1115	1089	1137	1078	1074	1078	1071	1126	1180	1144
03 UT	1122	1050	1084	1101	1104	1082	1129	1019	916	996	971	962	827	716	687	742	814	878	786	719
	640	555	535	529	433	421	435	451	484	472	461	425	409	402	412	420	515	549	494	451
	454	456	458	502	480	517	447	425	456	469	466	500	473	498	469	473	465	447	417	406
04 UT	407	452	497	485	465	465	469	473	465	414	403	414	421	436	432	447	451	465	480	510
	554	573	617	621	632	661	661	613	584	525	506	502	491	487	502	491	476	454	410	369
	354	336	291	310	299	329	354	318	304	321	336	354	363	371	374	363	358	485	512	492
05 UT	400	399	397	387	374	377	401	421	407	454	406	398	399	498	539	591	668	761	761	775
	787	835	875	1019	1141	1174	1167	1122	1207	1270	1333	1388	1337	1300	1307	1296	1252	1218	1185	1141
	1107	1167	1277	1348	1281	1161	1109	1059	1046	1050	1154	1170	1249	1289	1338	1321	1317	1278	1253	1187
06 UT	1210	982	924	904	901	895	1022	1118	1156	1213	1413	1447	1440	1472	1447	1417	1351	1347	1351	1399
	1388	1377	1358	1170	1093	1059	1015	956	867	897	976	871	866	883	846	878	867	749	680	693
	694	918	958	962	956	971	977	725	731	742	734	657	677	677	705	730	731	726	693	640
07 UT	394	404	418	431	408	417	366	347	356	369	401	439	463	524	508	525	533	655	652	716
	751	829	798	765	758	860	875	883	842	804	791	736	668	651	706	727	678	653	712	679
	659	853	994	629	635	653	619	458	500	531	567	597	594	909	987	881	805	771	926	956
08 UT	939	769	676	702	745	662	661	656	618	602	606	593	643	643	676	718	757	816	876	973
	885	867	943	943	828	802	859	937	918	839	716	537	449	600	635	678	607	602	549	646
	672	656	641	638	574	584	571	535	520	486	513	573	573	570	580	550	592	566	497	562
09 UT	638	684	748	738	620	627	709	706	553	513	531	640	653	674	653	778	724	804	824	945
	813	843	925	1067	1064	1078	946	930	956	910	848	885	976	953	962	998	1016	972	967	894
	886	883	893	959	950	963	1039	995	867	863	903	942	976	985	1132	1142	987	946	936	1027
10 UT	1072	1103	1069	1074	1083	972	914	868	775	729	659	629	587	569	556	485	438	403	382	382
	377	379	362	370	368	364	318	309	310	302	276	325	313	319	343	391	462	512	614	748
	788	837	963	976	895	951	1037	1020	898	881	1076	1171	1192	1116	1107	1142	1336	1354	1431	1388
11 UT	1206	993	985	915	1051	1206	1099	932	904	927	983	1059	1069	1081	1191	1326	1406	1433	1450	1461
	1416	1306	1144	1134	1214	1312	1403	1456	1482	1421	1415	1478	1504	1815	1800	1434	1415	1405	1426	1483
	1392	1051	1033	880	833	846	1024	1045	1136	1231	1124	994	811	695	693	733	728	749	808	966
12 UT	991	973	936	904	953	992	908	1051	1122	1196	1282	1354	1353	1143	1159	1255	1622	1644	1656	1573
	1610	1586	1563	1514	1408	1381	1384	1387	1108	1082	1133	1271	1246	1248	1214	1107	1070	1272	1310	1370
	1386	1387	1375	1332	1276	1155	1035	944	938	1002	1030	905	846	828	777	798	816	831	830	852
13 UT	851	761	737	725	744	751	767	758	725	720	720	680	652	595	588	588	590	584	586	601
	592	560	515	477	469	476	494	502	518	558	565	581	580	586	575	551	566	583	602	625
	601	642	657	668	660	668	683	697	720	757	790	805	834	820	790	842	972	1068	1075	1101
14 UT	1079	1871	1120	1038	1016	972	1009	1020	997	916	879	724	687	661	676	687	698	694	713	724
	713	691	687	694	739	790	853	912	931	916	861	842	831	842	857	864	864	857	846	839
	820	813	798	765	754	709	650	617	543	532	517	491	476	513	543	587	557	543	494	469
15 UT	446	428	406	395	384	380	380	395	402	406	413	402	402	402	398	465	513	532	561	587
	624	672	687	587	572	554	561	624	617	606	609	631	731	812	842	864	860	875	890	897
	912	927	919	849	786	757	746	742	757	783	812	842	927	919	875	816	801	790	786	757
16 UT	720	683	657	672	668	672	665	665	657	691	753	842	864	864	857	835	791	776	702	628
	606	594	594	594	594	624	609	617	643	698	720	739	761	790	805	716	698	657	624	598
	594	646	653	628	628	624	642	661	665	665	694	720	746	716	631	613	609	605	602	598
17 UT	587	598	620	650	639	594	576	554	587	628	635	716	735	761	724	668	620	609	557	483
	465	450	445	469	476	453	425	424	428	439	444	470	496	505	514	514	526	542	568	584
	600	627	660	593	658	621	621	612	535	597	565	546	522	509	497	485	487	497	486	481
18 UT	474	470	452	447	473	508	549	566	578	541	541	561	573	567	564	553	547	540	498	468
	455	446	447	449	448	483	498	543	552	550	569	580	590	606	626	628	605	585	560	539
	522	530	533	548	551	563	561	563	563	562	578	593	558	523	500	484	436	412	366	345
19 UT	340	345	357	388	424	436	470	480	531	553	550	540	524	560	570	587	601	584	588	584
	586	569	568	558	538	528	504	482	465	449	452	474	502	532	556	575	605	570	551	524
	526	530	540	531	516	500	500	486	454	429	417	395	385	378	381	378	371	378	368	358
20 UT	339	334	325	318	295	291	291	291	283	285	313	290	262	258	257	245	235	248	268	268
	293	310	337	371	381	354	340	322	328	340	354	359	362	374	367	340	343	339	346	351
	343	353	362	349	368	376	386	388	405	403	396	396	401	410	446	469	488	510	498	468

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21 UT	459	457	481	482	465	456	459	468	502	590	609	704	676	791	682	683	682	671	657	664
	679	662	627	644	662	676	728	752	749	681	636	581	545	539	529	517	501	497	541	625
	697	724	582	539	520	549	594	581	494	428	380	397	483	478	454	369	344	378	411	420
22 UT	410	435	444	441	443	468	479	498	480	470	456	432	405	431	433	439	472	489	499	543
	512	454	441	444	436	421	406	393	388	368	365	359	351	342	329	313	326	324	310	323
	395	454	470	440	425	367	290	262	242	233	235	249	265	278	275	237	230	242	255	267
23 UT	283	313	333	333	321	303	283	346	369	393	405	422	432	413	413	418	441	396	375	340
	328	380	413	391	361	336	387	406	435	487	579	696	768	783	818	848	877	904	922	929
	880	852	799	768	723	700	672	637	606	600	583	587	589	605	587	540	650	660	671	679
00 UT	697	682	671	634	642	649	638	627	638	631	594	583	550	513	476	439	417	384	332	328
	339	335	321	313	302	288	275	258	251	240	247	262	258	254	251	247	243	251	247	247
	243	225	225	210	203	199	195	206	203	203	203	192	192	192	192	192	206	210	225	241
01 UT	264	267	254	240	206	201	201	192	199	203	218	214	239	246	255	258	262	258	255	242
	233	236	251	254	269	258	258	258	258	266	243	232	224	203	195	192	186	181	177	177
	173	164	153	141	133	126	118	114	110	99	99	99	103	99	96	99	114	118	129	144
02 UT	155	166	181	199	229	221	192	199	199	203	228	236	236	228	225	206	199	169	221	228
	210	206	228	232	232	239	228	217	206	192	206	240	262	265	262	243	258	280	276	258
	247	225	206	217	228	221	206	199	188	195	192	203	195	195	206	214	203	195	180	162
03 UT	155	151	136	136	132	140	140	136	151	155	166	184	184	203	203	210	210	215	234	244
	241	233	217	206	191	188	196	202	195	187	183	175	176	180	185	181	188	188	190	183
	175	173	173	174	171	144	128	119	111	107	102	106	109	104	99	95	91	91	96	92
04 UT	88	89	85	82	74	69	64	54	52	54	53	61	60	75	75	75	75	74	74	69
	69	69	66	66	58	59	52	52	52	52	47	47	47	47	51	51	55	55	55	59
	59	59	62	62	62	62	58	57	66	66	66	66	66	55	62	63	61	66	66	55
05 UT	55	55	51	47	44	40	36	39	42	42	45	51	54	57	57	57	58	55	55	56
	57	61	79	93	94	77	64	56	53	51	51	47	44	38	37	42	50	50	46	48
	45	41	38	37	36	33	31	28	27	29	32	35	35	35	35	38	38	33	33	33
06 UT	33	33	33	33	36	28	27	22	25	25	34	37	40	36	36	36	32	37	41	41
	44	44	47	44	44	41	34	37	44	54	53	58	54	37	24	35	35	38	38	36
	39	39	38	38	40	40	40	42	46	43	47	41	51	55	61	58	55	51	51	51
07 UT	48	45	38	43	46	46	43	38	33	36	36	37	40	42	40	45	41	32	33	30
	30	28	30	35	32	35	35	38	40	34	28	27	29	35	30	28	34	37	39	44
	46	43	41	41	47	52	46	43	49	47	45	47	52	51	51	48	43	41	41	39
08 UT	39	39	39	38	41	40	40	40	43	45	48	51	49	44	44	41	44	41	44	47
	47	47	44	46	49	49	49	49	49	52	52	52	57	51	40	32	36	39	41	41
	39	41	44	47	47	49	44	42	37	37	36	39	46	46	49	49	45	45	50	33
09 UT	33	35	35	36	31	35	37	39	45	47	45	39	36	43	47	49	41	34	37	40
	40	43	52	54	57	54	45	45	56	54	51	45	47	50	50	56	55	61	53	45
	40	37	45	54	46	46	50	48	48	48	48	51	53	55	62	67	69	59	49	52
10 UT	52	53	57	57	57	59	55	52	48	48	48	48	50	55	55	52	52	52	55	52
	64	85	91	71	37	20	20	26	26	24	31	39	87	100	103	84	37	9	19	11
	29	34	43	55	64	63	83	82	84	64	50	42	58	69	50	42	29	30	39	57
11 UT	63	63	60	49	41	40	34	37	40	45	47	52	56	53	48	44	59	64	64	41
	41	36	41	56	59	59	59	67	69	69	62	49	45	42	39	41	39	39	41	44
	50	61	61	53	21	21	21	26	31	39	50	60	55	50	48	45	50	45	45	45
12 UT	36	36	41	43	43	43	48	52	54	51	40	33	33	40	43	43	36	37	37	34
	34	37	40	40	38	38	35	35	35	35	35	35	35	35	35	35	35	35	35	35
	35	35	35	35	38	35	35	35	28	28	28	30	30	30	31	33	36	38	41	45
13 UT	45	45	47	47	47	47	47	54	54	50	45	45	52	52	54	54	52	52	52	47
	52	49	49	49	42	40	40	40	40	40	40	42	42	42	42	42	42	42	42	42
	47	47	52	47	47	47	52	52	52	52	52	56	56	56	56	47	47	47	47	47
14 UT	52	54	54	54	54	51	51	51	54	45	40	38	47	47	47	47	51	51	51	51
	51	49	60	60	71	60	60	54	56	59	59	59	59	63	63	56	54	49	54	54
	54	54	54	54	56	54	54	54	64	56	56	56	51	51	51	51	54	54	54	54
15 UT	54	54	58	63	63	65	65	68	77	77	77	72	77	81	81	77	77	77	79	79
	79	79	86	91	91	91	88	88	88	83	83	83	78	78	75	79	75	75	63	63
	63	70	74	70	62	73	73	62	66	66	66	61	61	61	58	58	61	61	68	68
16 UT	66	66	66	66	66	66	66	66	69	69	69	69	69	66	64	64	60	57	53	50
	50	56	58	61	61	54	54	54	54	51	49	49	49	49	53	53	51	51	51	51
	51	42	42	42	42	42	42	44	42	40	40	35	35	35	31	31	31	35	35	35
17 UT	40	39	39	38	34	40	40	66	55	47	51	59	62	66	81	99	103	110	125	140
	147	158	162	166	155	155	155	155	151	162	158	147	132	110	103	109	116	126	129	183
	219	204	184	198	225	228	228	228	253	243	229	215	203	181	179	171	169	164	161	160
18 UT	160	161	156	155	154	154	155	154	152	155	166	180	180	184	199	203	192	180	192	192
	192	203	203	199	199	195	197	225	232	237	246	269	240	217	229	240	234	254	274	320
	394	409	427	430	432	430	426	438	431	402	357	328	328	331	339	337	324	318	312	302
19 UT	300	293	287	281	279	265	254	247	247	252	244	235	230	221	213	207	198	187	187	175
	164	152	140	136	127	125	125	119	118	111	116	115	108	96	107	92	83	86	89	92
	96	101	108	112	105	101	101	109	112	133	144	149	147	146	132	122	120	120	116	116
20 UT	129	114	97	80	71	84	107	96	88	92	92	151	188	208	191	162	122	120	153	180
	178	197	208	206	202	204	209	210	209	210	211	273	282	298	297	322	358	370	390	408
	432	444	455	452	430	415	411	401	398	398	404	408	405	407	404	407	416	428	428	429

1979, AUGUST 28 - 31

Date	28				29				30				31			
UT	06	12	18		06	12	18		06	12	18		06	12	18	
Kp	3o	3-	2+	3o	2+	2o	1-	3-	3o	5-	5+	5+	6o	8-	7-	6o
3Kn	7	7	7	9	7	7	3	8	7	13	14	15	17	18	17	15
3Ks	7	6	6	6	5	4	1	7	5	12	13	15	16	17	17	15

Date	30															
Kp	5-	4o	3+	3-	2-	2-	2-	1+	1o	1+	2o	3o	4o	3-	3-	3o
3Kn	13	10	8	7	5	5	5	4	3	3	6	8	10	7	9	9
3Ks	14	12	10	6	5	1	1	3	4	4	5	7	9	5	5	8

Dst

Data from Individual Observatories: AUGUST 1979

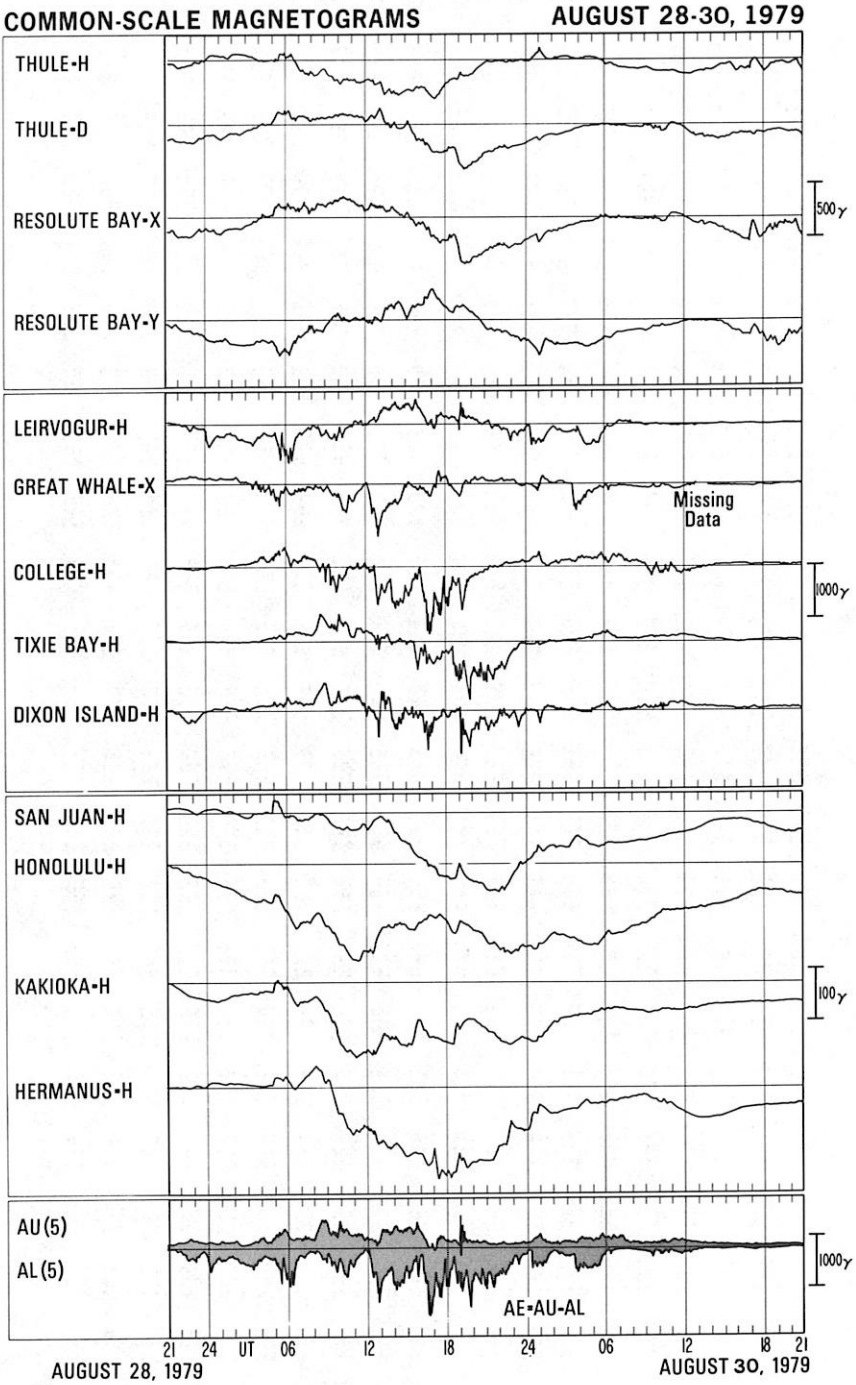
Values underlined are for X and Y. X, Y, H and Z are given in gammas, D in minutes.

OBS. 3 letter code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
OTT	56.8N	28	....	..	..	..	..	29(4,6)	7	420	380	200	30	13
NEW	55.1N	28	2325	..	..	..	..	26(3) 29(5,6)	6	46	313	400	30	12
MAW	73.2S	28	2250	SC	- 5	-300	-40	29(6)	8	140	900	940	30	14
RES	83.1N	29	0457	SC*	10	* - 9	* 2	29(6)	-	646	637	200	30	08
MBC	79.2N	29	0500	SC*	17	* -11	* 2	29(6)	-	815	621	263	30	08
FCC	68.8N	29	0459	..	..	..	..	29(5)	-	630	1252	050	30	15
COL	64.6N	29	03--	..	..	..	..	29(6)	7	345	1780	160	30	13
MEA	61.9N	29	0459	..	..	..	..	29(5)	7	600	1260	040	30	15
SIT	60.0N	29	03--	..	..	..	..	29(3)	7	80	---	800	30	12
STJ	58.4N	29	04--	SC	-14	22	-55	29(7)	7	360	682	755	30	08
WIT	54.2N	29	0459	SC*	12	- 4	*	29(6)	7	42	320	180	30	03
FRD	49.6N	29	0459	SC	- 1	+44	- 6	29(6)	6	26	210	175	01	00
EBR	43.9N	29	0459	SC*	- 1.9*	14	--	29(6,7,8) 30(1)	5	17	146	110	30	14
IRK	41.0N	29	0459	SC*	- 2.8	13	2	29(5,6,7)	6	31	179	99	30	12
MMB	34.0N	29	0459	SC*	.5	16	*- 2	29(4)	6	17	149	40	30	14
SJG	29.9N	29	0558	SC	--	26	7	29(6)	6	11	173	37	30	07
KAK	26.0N	29	0459	SC	.6	15	8	29(4)	6	12	146	74	30	14
GUL	24.5N	29	0457	SC	- .2	10	- 1		-	13	179	71	31	00
KNY	20.5N	29	0459	SC	.8	19	10	29(4)	6	11	179	78	30	12
JAI	17.3N	29	0457	SC	- .3	20	- 3		-	12	195	58	31	00
SHL	14.6N	29	0457	SC	.3	20	4		-	11	240	60	31	00
ABG	09.5N	29	0457	SC	- .3	23	- 3	29(4)	6	11	248	59	31	00
HYB	07.6N	29	0459	SC	- .2	31	- 4	29(4,5,6,7)	7	9	281	31	30	12
GUA	04.0N	29	0448	..	..	..	..	29(4)	6	10	200	40	30	11
ANN	01.5N	29	0457	SC	- 1.5	62	17		-	9	348	91	31	00
API	16.0S	29	0558	SC	--	15	- 7	29(4)	6	6	161	33	30	11
PMG	18.6S	29	0459	SC	.9	19	21	29(4)	6	9	230	100	30	12
HER	33.7S	29	0459	SC	4	13	14	29(8)	6	39	214	141	30	12
CZT	39.7S	29	0459	SC	4	6	6	29(6,7)	7	75	213	200	30	12
GNA	43.2S	29	0458	SC	1.0	6	4	29(5)	6	29	130	230	30	11
TOO	46.7S	29	0459	SC*		42	* 4	29(6,7)	6	34	150	130	30	07
EYR	47.9S	29	0500	SC	1	17.2	6	29(4,5,6,7)	5	28	173	106	30	00
KGL	56.5S	29	0459	SC	4	24	4	29(6,7)	8	206	1238	555	30	11
MCQ	60.7S	29	04--	..	..	..	..	29(6,7)	8	280	1620	900	30	15
DUM	75.6S	29	0459	SC	40	20	60	29(3) 29(7)	5	553	681	577	30	10

THREE-HOUR-RANGE INDICES, K

AUG	28				29				30				31			
HIS	4444	5434	5676	6556	4555	2233	4435	5334								
CCS	3333	3424	3666	5465	5443	2223	3234	3224								
DIK	4346	4525	4666	7777	6454	3334	3234	4457								
TIK	3235	4522	2568	7787	4553	4332	2324	4555								
MMK	4223	3315	3545	6776	6433	2111	1113	4255								
KIR	4123	3315	4456	6866	6433	1112	1122	4345								
CWE	2234	3412	2577	7885	4643	2222	1123	6333								
COL	2325	4412	2465	6764	4444	3121	1123	5222								
LRV	5432	3326	5776	6766	6643	3222	2222	4435								
SOD	3213	2304	3546	6877	5432	1101	1112	4245								
YAK	3324	3323	3447	6775	4233	3122	2213	3133								
LER	3112	2213	3444	6876	5432	1111	1112	3212								
NUR	3223	3213	3445	6887	5322	1111	1122	4222								
LOV	3233	3213	3455	6886	5333	2221	1122	4333								
SIT	2333	3212	2576	6664	5543	1121	1113	3323								
ARS	2112	2312	1454	6666	4212	1011	0112	3233								
RSV	3123	3213	3444	5766	5322	1111	1122	4323								
MNK	3213	2112	3434	5655	4312	1111	1113	3222								
WIT	3223	3214	4444	5756	5323	1222	1122	4333								
IRT	2222	2212	2355	6665	4333	2122	2323	3232								
VAL	3232	3223	3444	4655	4332	2221	1123	3323								
KIV	3333	3212	3445	5665	5313	2221	2233	4333								
DOU	3113	2213	3344	5655	4323	2111	1112	3222								
KGD	3333	2311	1535	6645	4433	2001	2333	3323								
VIC	1223	3312	2445	5553	5432	1111	1122	2212								
OTT	3333	2323	2567	5766	3532	2331	1124	4343								

AUG	28				29				30				31			
MMB	1233	3312	1456	5553	3332	2122	1123	3122								
TKT	1424	3222	2346	5554	4223	2222	2234	3233								
PEN	2233	2212	2335	4555	5323	2122	2123	3233								
TOL	3223	2212	2334	3555	5322	2221	1013	3321								
FRD	3334	2213	2545	5655	4432	2222	1123	4243								
COI	3133	3222	2434	3544	4322	2213	1223	4222								
KSA																
TUC	2323	2213	2544	5645	4432	1121	1223	3223								
KNY	1212	2211	1456	5554	3312	2102	2123	3112								
QUE	4534	3222	3446	566-	----	----	----	----								
HON	1112	0110	1334	4332	3222	0101	1112	2212								
HYB	1212	2112	1557	7775	5332	1111	1333	3122								
SJG	2213	1003	3434	5655	4411	1111	1122	3223								
GUA	3122	2102	2466	5554	5332	2212	2133	3122								
BNG																
PMG	--22	2111	1456	5554	4432	2222	1223	3222								
HUA	2212	3322	----	----	4432	3231	1112	4333								
GNA	2222	2213	2345	6554	4432	2112	2223	3223								
HER	3022	1003	0345	5556	5422	1001	0112	3112								
TOO	1113	2202	1455	5663	3342	2111	1123	4112								
EYR	1222	2201	2445	5553	3442	2001	1113	3212								
MCQ	1224	3411	1476	7885	4444	4011	1114	6111								
MIR	2344	2212	3464	4443	4443	2212	3344	3124								
MAW	5442	3215	5556	4865	7553	3212	2233	2246								
NVL	----	----	----	----	----	----	----	----								
SBA	3323	2223	3444	4443	3332	2233	2223	3233								
VOS	2333	2212	2454	4444	4332	1111	2233	2222								


COMMON-SCALE MAGNETOGRAMS
AUGUST 28-30, 1979
THULE-H
THULE-D
RESOLUTE BAY-X
RESOLUTE BAY-Y
500γ
LEIRVOGUR-H
GREAT WHALE-X
Missing Data
COLLEGE-H
TIXIE BAY-H
DIXON ISLAND-H
1000γ
SAN JUAN-H
HONOLULU-H
KAKIOKA-H
HERMANUS-H
100γ
AU(5)
AL(5)
AE-AU-AL
1000γ
21 24 UT 06 12 18 24 06 12 18 21
AUGUST 28, 1979
AUGUST 30, 1979

PRELIMINARY AE (5)-INDEX AT ONE MINUTE INTERVALS

1979 AUGUST 28, 2100 UT - AUGUST 29, 2059 UT

21 UT	77	77	77	80	80	77	77	80	82	84	84	86	100	89	86	82	80	75	64	66
	66	64	64	62	62	48	50	62	72	79	89	94	101	104	114	121	123	131	135	138
	140	143	145	150	155	155	157	157	157	157	154	149	149	147	144	141	139	141	144	146
22 UT	149	152	157	159	164	172	175	178	195	206	216	216	218	220	218	218	215	218	218	225
	238	256	271	289	292	289	289	299	312	322	340	360	360	349	352	359	354	353	360	365
	376	386	390	390	391	386	378	366	350	307	297	321	326	332	337	343	350	340	330	332
23 UT	340	353	352	355	377	393	382	362	331	319	309	301	299	304	295	285	283	273	268	266
	259	254	223	218	229	229	219	211	215	207	202	197	194	194	186	184	179	177	172	162
	154	142	138	150	165	175	181	182	182	184	188	202	207	220	217	205	203	217	249	270
00 UT	307	358	398	438	454	494	522	526	533	548	544	560	556	538	537	529	518	512	493	476
	458	441	411	394	383	373	370	370	368	368	367	361	357	339	326	318	315	305	305	300
	293	281	264	256	256	255	257	259	264	272	282	287	290	317	335	346	355	360	358	351
01 UT	352	350	342	331	326	326	326	346	352	352	346	344	344	347	350	342	337	333	327	322
	304	298	291	289	291	290	282	267	251	241	242	247	249	255	258	255	253	254	254	257
	248	244	236	227	220	227	254	264	267	264	266	272	279	282	282	282	276	270	272	271
02 UT	276	277	286	299	307	322	328	331	326	327	325	323	322	319	320	316	324	326	329	329
	324	325	326	334	342	349	345	345	345	349	349	334	326	315	308	311	315	315	323	326
	334	345	345	349	345	345	345	345	349	349	349	359	361	355	368	371	375	375	375	371
03 UT	368	364	364	364	379	368	368	371	375	379	383	390	401	401	394	405	405	405	431	435
	431	450	462	469	473	480	477	465	458	461	465	454	446	438	408	401	408	405	420	416
	408	401	408	408	404	397	374	359	355	351	348	355	359	366	385	392	407	418	414	410
04 UT	418	403	388	362	362	358	358	358	380	388	395	376	354	350	339	305	297	283	287	280
	283	272	272	276	284	265	265	276	265	265	276	287	299	314	318	318	307	303	303	299
	299	303	307	318	336	351	359	360	377	384	384	392	392	388	399	395	380	358	328	287
05 UT	339	380	440	458	484	507	499	532	595	584	517	493	474	534	563	635	654	676	654	635
	650	665	692	659	651	681	745	798	873	926	967	940	902	808	759	642	514	471	473	472
	529	645	731	754	773	765	773	799	841	860	864	909	943	902	893	863	844	818	792	766
06 UT	748	836	941	952	939	916	907	899	877	888	899	899	717	620	580	599	573	573	586	665
	797	804	832	840	811	788	626	613	597	595	564	565	547	558	563	522	498	486	434	411
	407	403	411	407	413	401	401	399	390	375	354	336	329	325	327	326	322	324	330	334
07 UT	317	313	314	319	310	305	304	351	360	351	365	373	369	380	343	336	380	365	379	388
	364	335	314	272	264	253	253	275	308	286	260	241	245	237	241	241	245	245	241	223
	256	238	215	223	238	234	245	249	246	248	248	233	230	223	210	197	204	194	213	229
08 UT	244	257	252	249	232	251	256	242	253	266	286	303	308	315	319	335	335	350	360	382
	418	426	448	459	473	492	516	568	561	617	663	692	728	740	723	687	707	733	703	703
	707	697	670	670	687	707	715	707	711	722	715	679	687	766	800	642	617	596	596	534
09 UT	508	508	540	531	506	467	427	409	395	425	435	429	450	470	473	472	499	548	575	553
	629	641	597	590	564	563	543	513	486	487	509	520	544	569	576	598	637	688	721	742
	723	699	686	667	620	590	555	507	546	512	516	529	544	663	712	678	685	692	693	657
10 UT	638	615	611	626	639	651	656	689	761	820	826	811	784	771	789	800	789	800	820	834
	856	856	856	884	906	921	895	865	858	856	864	855	845	819	787	736	668	610	552	518
	470	453	460	493	506	532	550	555	555	566	560	571	581	576	562	555	546	551	562	587
11 UT	587	559	547	525	509	507	500	493	456	433	416	409	433	426	430	438	446	442	442	411
	388	369	356	354	364	368	369	377	358	355	359	361	370	368	361	345	336	323	316	315
	312	287	278	259	238	208	189	169	160	160	172	165	161	167	172	182	189	210	238	270
12 UT	320	326	311	292	223	211	200	176	193	220	236	268	317	340	354	440	502	513	538	627
	646	665	698	712	717	713	706	656	626	608	572	552	544	557	559	581	609	604	604	582
	561	572	573	582	615	680	760	868	898	955	918	877	966	1007	1072	1098	1031	1031	1007	959
13 UT	951	907	911	944	920	919	956	947	950	931	898	853	836	831	820	785	788	835	833	846
	827	812	800	813	813	823	841	849	819	772	756	740	745	751	752	758	747	738	708	673
	629	637	656	700	733	682	625	605	612	668	687	683	731	794	883	946	990	1008	1053	1050
14 UT	1020	975	1020	1039	1046	1054	1065	1117	1139	1168	1187	1176	1177	1117	1039	964	938	971	993	1034
	1041	1060	1067	1030	985	963	997	1001	971	926	904	871	867	904	900	885	904	922	934	974
	986	982	1008	997	1005	1027	953	946	916	876	853	794	698	645	649	709	746	761	795	791
15 UT	809	794	779	776	817	858	887	910	950	954	958	928	913	884	835	820	798	765	765	765
	798	768	715	645	600	560	541	526	512	493	463	478	534	564	572	557	556	564	572	579
	572	554	579	626	678	633	649	684	712	840	907	860	748	728	695	634	563	541	523	468
16 UT	446	440	446	458	448	432	389	393	407	415	463	481	548	581	658	673	654	639	647	702
	791	828	831	783	798	798	742	746	775	763	715	685	659	814	992	1217	1272	987	865	913
	987	1135	1072	1132	1180	1228	1291	1306	1162	1077	1163	1222	1296	1288	1180	1088	1066	1081	1019	937
17 UT	881	913	894	897	762	483	440	512	498	478	489	514	543	606	722	812	861	917	887	835
	786	764	786	923	1001	1076	1121	1153	1169	927	877	903	905	968	1042	1116	1032	1002	925	888
	910	947	884	843	791	602	535	480	424	365	321	394	697	797	835	860	853	813	783	765
18 UT	753	720	705	716	850	890	864	857	853	845	756	660	656	589	523	512	467	467	479	482
	494	535	579	561	520	457	417	372	365	354	328	343	350	357	357	523	584	529	542	596
	617	626	656	677	703	734	763	717	622	529	516	513	517	524	563	600	542	573	603	659
19 UT	984	1338	1346	1090	457	319	514	866	914	976	1258	1254	1134	1089	999	887	775	708	855	926
	780	735	638	623	631	635	609	585	571	557	568	583	642	706	751	772	790	840	885	941
	975	1014	1048	1081	1113	1138	1148	1150	1157	1189	1241	1131	1054	929	882	765	755	737	728	723
20 UT	698	714	741	642	616	574	536	541	580	623	650	656	656	668	682	689	664	657	660	663
	672	688	700	707	709	723	730	704	630	598	614	675	697	748	771	768	791	738	715	605
	499	629	650	658	670	685	718	750	793	821	856	875	730	670	708	718	716	726	732	746

PRELIMINARY AE (5)-INDEX AT ONE MINUTE INTERVALS

1979 AUGUST 29, 2100 UT - AUGUST 30, 2059 UT

21 UT	765	812	845	865	782	758	717	671	553	578	596	588	540	505	519	541	554	558	588	598
	631	664	683	659	646	670	729	771	735	688	731	755	792	816	824	818	752	707	681	648
	565	571	607	630	621	591	585	570	547	547	547	553	580	594	599	565	572	548	538	540
22 UT	525	507	511	523	547	558	573	598	605	579	556	507	473	493	541	527	517	548	545	561
	577	595	580	577	576	584	586	592	598	603	578	560	548	554	542	530	524	585	485	463
	444	422	394	386	371	357	354	340	346	390	382	378	375	378	387	387	328	279	267	261
23 UT	261	258	267	261	249	254	225	226	245	259	271	247	223	234	250	249	249	281	251	243
	255	285	303	303	318	331	344	387	413	402	376	344	303	285	273	244	244	244	244	255
	254	238	238	236	224	231	239	254	258	254	254	243	228	209	202	202	202	206	198	183
00 UT	164	149	149	141	123	115	115	131	142	131	131	120	122	120	120	143	144	150	144	144
	155	160	160	231	337	427	473	514	559	555	393	427	438	438	438	445	437	441	449	426
	441	486	479	464	486	505	562	562	528	509	505	520	508	490	501	501	482	490	504	508
01 UT	519	534	560	579	586	590	587	558	543	509	476	446	436	439	436	447	434	446	451	463
	459	459	474	473	473	453	421	378	350	342	330	330	327	321	315	309	299	284	274	268
	253	229	216	209	204	196	206	209	187	164	153	141	140	131	127	157	123	127	132	128
02 UT	123	134	141	130	100	89	108	126	138	134	134	138	145	171	190	201	205	216	216	205
	205	216	213	209	187	177	173	172	168	162	168	168	175	187	198	201	205	220	228	239
	254	258	250	250	246	246	246	246	250	254	269	269	273	269	269	280	280	280	280	284
03 UT	284	284	284	284	284	280	280	284	284	284	284	280	287	287	284	280	280	284	284	284
	269	262	262	258	254	235	220	217	220	231	235	239	239	235	216	209	217	243	266	459
	505	471	448	432	413	418	473	503	539	555	568	616	646	604	549	535	518	529	497	493
04 UT	475	467	477	476	490	515	552	520	543	568	614	618	574	492	458	461	440	438	454	461
	457	468	479	502	513	521	532	547	551	558	569	569	562	573	566	592	577	562	555	543
	547	547	543	547	551	554	554	554	551	539	532	540	540	544	525	525	532	517	517	514
05 UT	495	491	480	468	461	445	442	453	453	490	502	524	532	517	524	528	532	525	532	509
	502	509	498	506	494	479	483	502	524	547	558	546	550	546	520	508	497	475	448	433
	444	429	414	399	428	432	394	398	383	358	350	317	326	319	311	307	298	288	284	280
06 UT	290	275	257	251	246	248	253	244	223	221	241	262	274	314	333	322	306	278	249	233
	218	202	195	188	182	204	230	249	270	259	268	266	261	270	256	256	256	259	259	250
	241	232	232	235	228	230	235	219	201	179	188	199	210	219	216	214	223	220	218	238
07 UT	251	251	249	240	218	216	202	213	213	225	236	236	238	229	232	234	225	225	216	219
	219	207	183	172	161	158	134	134	134	145	145	156	156	154	154	143	123	114	116	116
	114	123	112	109	109	98	98	87	85	98	101	103	114	114	119	121	132	134	145	145
08 UT	156	145	143	132	132	145	150	150	139	141	144	157	157	157	157	157	157	157	159	170
	170	170	159	162	153	153	155	155	155	153	153	153	153	153	144	146	146	146	137	126
	126	126	126	126	126	120	126	132	138	146	148	141	131	128	136	144	[illegible]	168	178	170
09 UT	164	171	175	175	175	179	156	158	155	159	159	162	158	160	173	173	156	162	165	171
	160	148	178	206	234	256	267	273	266	279	256	257	208	186	175	142	127	119	108	95
	111	116	121	141	130	137	149	169	168	165	152	148	145	135	131	142	154	156	160	155
10 UT	153	140	145	178	228	245	212	196	212	223	224	221	245	253	227	194	246	212	195	200
	201	191	190	201	217	189	156	156	179	134	113	112	115	123	118	117	116	138	149	171
	183	183	200	200	202	221	220	225	230	227	207	173	166	180	185	186	188	196	203	208
11 UT	212	214	221	233	238	233	231	221	228	239	247	242	231	247	254	255	237	225	210	205
	207	216	216	213	216	218	227	224	222	208	208	202	205	207	226	245	259	275	300	316
	315	293	290	290	290	290	293	284	277	260	233	233	219	219	206	192	187	180	179	188
12 UT	190	198	201	199	210	205	221	235	224	224	212	177	177	174	183	200	217	224	213	213
	202	185	180	180	180	169	151	153	154	151	151	151	151	140	151	151	151	151	163	156
	145	145	145	145	145	145	145	145	145	145	145	134	134	134	128	128	128	128	128	122
13 UT	111	103	92	92	106	119	122	124	124	124	122	108	108	108	106	106	106	94	93	92
	89	77	89	85	85	80	97	102	105	106	104	101	94	92	82	71	65	65	68	71
	76	79	88	88	84	79	76	76	79	81	84	84	84	89	89	95	95	96	96	98
14 UT	98	101	101	103	103	106	108	106	106	101	98	95	95	95	95	93	96	93	93	91
	93	90	88	83	78	76	73	73	75	73	71	68	66	66	63	65	70	73	75	70
	66	66	68	71	73	75	78	78	78	83	85	87	87	90	85	83	83	83	85	87
15 UT	87	87	87	87	85	82	80	75	75	75	75	77	77	80	80	77	77	80	77	77
	72	72	70	70	70	73	73	73	73	73	70	68	65	61	67	74	77	75	70	70
	73	73	68	61	58	52	54	54	54	54	54	56	59	59	61	61	61	61	61	63
16 UT	65	70	70	70	68	65	68	68	68	68	68	65	65	63	63	63	63	63	63	63
	63	63	63	63	63	63	63	63	64	67	64	67	69	69	72	72	72	67	64	63
	63	63	63	65	65	65	65	65	54	54	52	52	52	52	54	54	57	57	54	54
17 UT	54	57	59	59	63	70	78	90	93	95	95	95	100	105	105	110	106	106	104	104
	101	99	87	77	67	59	51	54	52	52	52	52	50	43	40	43	42	42	38	45
	42	42	31	31	31	29	29	29	29	29	31	34	34	34	31	29	29	31	34	35
18 UT	56	56	53	53	51	49	38	40	51	61	65	68	68	63	61	58	58	61	65	68
	65	65	61	58	58	61	65	68	70	70	68	65	61	58	57	65	65	65	65	63
	61	61	65	65	65	65	65	65	65	65	61	61	63	70	72	67	63	53	52	50
19 UT	50	50	52	51	53	53	58	58	56	54	49	51	53	56	53	53	51	48	48	46
	41	45	45	51	53	57	57	53	53	53	51	48	45	46	49	48	48	46	46	44
	40	40	40	42	41	42	42	42	45	45	51	46	44	44	52	52	46	35	35	35
20 UT	33	31	32	35	42	45	47	50	50	52	54	52	52	49	47	47	47	42	42	34
	33	39	39	39	33	39	39	51	54	44	43	43	46	49	49	47	44	39	37	33
	44	44	44	44	44	44	44	44	44	44	44	48	37	37	37	37	37	37	33	33

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