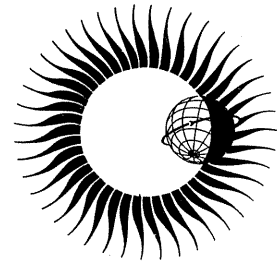
WORLD DATA CENTER A

Upper Atmosphere Geophysics

REPORT UAG-4

ABBREVIATED CALENDAR RECORD
1966-1967



December 1968

WORLD DATA CENTER A

National Academy of Sciences
2101 Constitution Avenue, N. W. Washington, D. C. U.S.A., 20418

World Data Center A consists of the Coordination Office

and eight subcenters:

World Data Center A
Coordination Office
National Academy of Sciences
2101 Constitution Avenue, N.W.
Washington, D. C., U.S.A. 20418
Telephone (202) 961-1404

Airglow, Aurora (Instrumental and Visual):
Cosmic Rays, Ionosphere and Solar Activity:
World Data Center A:
Upper Atmosphere Geophysics
Environmental Science Services
Administration
Boulder, Colorado, U.S.A. 80302
Telephone (303) 447-1000 Ext. 3654

Geomagnetism, Seismology, Gravity and Tsunami:
World Data Center A:
Geomagnetism, Seismology, Gravity & Tsunami
Environmental Data Service, ESSA
Rockville, Maryland, U.S.A. 20852
Telephone (301) 496-8160

Glaciology:
World Data Center A:
Glaciology
American Geographical Society
Broadway at 156th Street
New York, New York, U.S.A. 10032
Telephone (212) 234-8100

Longitude and Latitude:
World Data Center A:
Longitude & Latitude
U.S. Naval Observatory
Washington, D.C., U.S.A. 20390
Telephone (202) 698-8422

Meteorology (and Nuclear Radiation):
World Data Center A:
Meteorology
National Weather Records Center
Asheville, North Carolina, U.S.A. 28801
Telephone (704) 253-0481

Oceanography:
World Data Center A:
Oceanography
Building 160
Second and N Streets, S.E.
Washington, D. C., U.S.A. 20390
Telephone (202) 698-3753

Rockets and Satellites:
World Data Center A:
Rockets and Satellites
National Academy of Sciences
2101 Constitution Avenue, N.W.
Washington, D. C., U.S.A. 20418
Telephone (202) 961-1404

Upper Mantle Project:
World Data Center A:
Upper Mantle Project
Lamont Geological Observatory
Palisades, New York, U.S.A. 10964
Telephone (914) 359-2900 Ext. 209

Notes:

(1) World Data Centers conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions. WDC-A is established in the United States under the auspices of the National Academy of Sciences.
(2) Communications regarding data interchange matters in general and World Data Center A as a whole should be addressed to: World Data Center A, Coordination Office (see address above).
(3) Inquiries and communications concerning data in specific disciplines should be addressed to the appropriate subcenter listed above.

WORLD DATA CENTER A

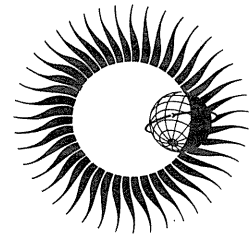
Upper Atmosphere Geophysics

REPORT UAG-4

ABBREVIATED CALENDAR RECORD 1966-1967

J. Virginia Lincoln, Hope I. Leighton,
and
Dorothy K. Kropp

Aeronomy and Space Data Center
Space Disturbances Laboratory
Boulder, Colorado



Prepared by Research Laboratories, ESSA, Boulder, Colorado
and published by

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
ENVIRONMENTAL DATA SERVICE
ASHEVILLE, NORTH CAROLINA, USA 28801

1969

SUBSCRIPTION PRICE: $9.00 a year; $2.50 additional for foreign mailing; single copy price varies.* Checks and money orders should be made payable to the Superintendent of Documents. Remittance and correspondence regarding subscriptions should be sent to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

*Price of this issue $1.25

ABBREVIATED CALENDAR RECORD 1966 - 1967

INDEX

	Page
Introduction	1
Explanatory description for January 1966 - June 1967	1
Explanatory description for July - December 1967	3
Calendar Record	
January 1966	5
February	9
March	13
April	19
May	25
June	30
July	37
August	43
September	50
October	57
November	63
December	68
January 1967	75
February	82
March	89
April	97
May	104
June	113
July	121
August	129
September	137
October	145
November	151
December	157
Appendix:	
List of standard data publications	164

INTRODUCTION

This report consolidates the Abbreviated Calendar Records which have been published under the auspices of the International Ursigram and World Days Service in IQSY Notes Nos. 17, 18, 20 and 21 for the data of January through December 1966, and published in STP Notes Nos. 1, 2 and 3 for the data of January through December 1967. It is felt that because of the limited distribution and availability of these two publications that republication in this Upper Atmosphere Geophysics Report will make the data more readily available to the scientific research worker.

These Abbreviated Calendar Records are chronological summary accounts of solar and geophysical activity and events. The record is intended to give a convenient summary of daily solar-geophysical events for quick interpretation of results of research programs such as those being sponsored by the Inter-Union Commission on Solar-Terrestrial Physics. The compilation of the data is done on a rather prompt schedule. Thus it is based in part on some provisional data reports, available at World Data Center A - Upper Atmosphere Geophysics as well as on final data reports. Therefore, the Calendar Record should not be relied upon for details of solar and geophysical events, but rather it should be used as a guide to the definitive results presented in the several standard data publications. Many of these are listed in the Appendix to this report.

The format of the Calendar Record is described below. It should be noted that there was a major change in the style of presentation beginning with the July 1967 data.

EXPLANATIONS FOR JANUARY 1966 - JUNE 1967

Column 1 - Date. The period covered is 0000 to 2400 UT (Universal Time).

Column 2 - 10cm flux. The solar radio noise at 2800 MHz, observed at Algonquin Radio Observatory (National Research Council, Canada) at about 1700 daily, is expressed in units of $10^{-22}Wm^{-2}Hz^{-1}$. S is the observed flux, which should be used for most solar-terrestrial studies. The values S_a have been adjusted for the varying Sun-Earth distance during the course of the year; $S_a = S/r^2$, where r is expressed in Astronomical Units, and are appropriate as a measure of solar activity itself. Beginning January 1967 only the S values are given.

Column 3 - Sunspot numbers. The provisional daily Zürich relative sunspot number, R_Z, is communicated by Prof. M. Waldmeier of the Swiss Federal Observatory. It is based on observations at Zürich, Arosa and Locarno only. Final values of R_Z, issued after the end of each calendar year, usually differ slightly from the provisional values.

Column 4 - Geomagnetic Index, Ap. The daily planetary Ap index is derived from the 3-hourly Kp indices, which are based on reports from a selected standard group of geomagnetic observatories. The Ap index increases linearly with increasing magnetic activity to a maximum of 400. The data are provided by the Permanent Service of Geomagnetic Indices (Göttingen) of IAGA. Reference: Annals of the IGY, Vol. IV, pp. 227-236.

Column 5 (to January 1967 when becomes column 6) - Central Meridian Passage (CMP) of Solar Active Regions. There is an entry in this column on the day of CMP of solar regions mentioned under "Highlights". Listed are the serial number of the (calcium plage) region, as assigned at McMath-Hulbert Observatory, and the nominal heliographic latitude. Enclosed in round brackets, for example: (R-7113), are the identification numbers of regions which were never actually at the Central Meridian; these had either died while on the Eastern Hemisphere or were born on the Western Hemisphere. Many small or ephemeral regions have been omitted. Some of the main long-lived regions are identified by (2), (3), etc., indicating their 2nd, 3rd, etc., passage across the solar disk.

Column 5 (January-June 1967) - Ionospheric Indices, Ip and Ia. The index Ip is for polar cap blackout and the index Ia is for auroral zone blackout. The indices are on a scale from 0 = 0 to 0.4 hours of blackout per day, increasing to 9 = 20.1 to 24 hours of blackout per day. Ionospheric f-min data from selected stations are used. The indices are based upon work by Y. Hakura, Y. Takenoshita and K. Matsuoka published in J. Radio Research Laboratories (Japan), 14, No. 73, May 1967.

Column 6 (or 7) - Highlights. These are brief comments on solar and geophysical activity and events for each day derived from various sources available at time of compilation. They are in abbreviated style and are intended to be self-explanatory to anyone familiar with the concepts and working vocabulary of this branch of science. The convention used throughout is that 4-digit numbers signify time in hours and minutes, and always in Universal Time (UT). Where used, the appended letter "E" means "before", the letter "D" means "after" the time given, and the letter "U" means "approximate" time.

Solar Highlights. The general comments refer to sunspots, radio-frequency emitting regions, growth or decline of regions, presence of green and red coronal line regions at limb, etc. The times given for events are nominal; when there have been several brief events, they are not specified individually; the period in which they occurred is given together with the number

of events reported; for example, 1537-1925 (12). The term "radio int." for solar regions has been used in a conventional sense to refer to the maximum intensity at wave-length 9.1cm as observed at Stanford University; the unit of intensity is 10^4°K. From March 1966 onward radio noise bursts are designated by "cm" for frequencies >1000 MHz and by "m" for frequencies <1000 MHz with nominal time given only to nearest 5 minutes. IT IS IMPORTANT TO NOTE THAT MANY DATA USED ARE PROVISIONAL.

Geophysical Highlights. Comments on magnetic activity are usually based on the Kp indices (which are sometimes cited in terms of 1/3 of the unit, thus: 5-, 5o, 5+). Comments on general ionospheric conditions are provided by W. R. Piggott. Auroral displays are usually mentioned only if the southern limit reached ϕ (geomagnetic latitude) less than 60°; data sources are J. Paton, G. Sprague, N. V. Pushkov. G. Sprague's data are the southernmost reported observations of aurora in the various sectors and are not therefore necessarily the southernmost limit of the aurora. Comments on Forbush cosmic ray decreases are from the Deep River charts, limited to those of 3% or greater. Polar cap absorption data are from provisional listings by ESSA's Space Disturbance Forecast Center. Noctilucent cloud dates are furnished by J. Paton. IT IS IMPORTANT TO NOTE THAT MANY DATA ARE PROVISIONAL.

Events. These are indicated as a separate category for the period January-June 1967. For 1966, much of the same information appeared in the sections on solar or geophysical highlights. The times given are nominal, and the convention used throughout is that 4-digit numbers signify time in hours and minutes, and always in UT. The events range in importance from minor to major to principal to solar proton. Hα flares are selected from the statistically grouped reports of "Solar-Geophysical Data" and indicated by region and beginning time if importance one, or by importance, beginning and ending times if greater than importance one. Solar noise activity is indicated by Dkm, m, dm or cm frequency range of the burst, if fixed frequency, or by Type II or IV with frequency range if spectral data. Sudden ionospheric disturbances of any type are merely indicated by SID. Solar x-rays as observed by Explorer 33, reported by J. A. Van Allen, are listed. The following abbreviations are used for surge and prominence activity with region of phenomenon specified: DSD - dark surge on disk; BSL - bright surge at limb; APR - active prominence region; AFR - active filament region; ADF - active dark filament; BSD - bright surge on disk. Sudden commencements (sc) of geomagnetic storms, onsets of Forbush cosmic ray decreases and onsets of polar cap absorption events are also given by time of beginning.

EXPLANATIONS FOR JULY - DECEMBER 1967

At the beginning of each month will be a chart of the sun for that month locating the calcium plages, as reported by the McMath-Hulbert Observatory, at the latitude and longitude of their Central Meridian passage (CMP) and identified by the last two digits of the plage serial number. The general activity of the region is approximately evaluated, mainly from area and intensity of plage and associated sunspots, by use of the symbols: G = great activity, M = moderate activity and S = small activity. The 5×10^4°K values of the Stanford University 9.1cm intensity measurements at central meridian on each date are connected by contours.

For each date a series of time lines are presented. In the first block the duration of flares of >1f is shown by a horizontal line, followed by the importance with a slant line separating the last two digits of the serial number of the calcium plage region in which the flare occurred. These are selected from the grouped flare reports as published in IER-FB "Solar-Geophysical Data" reports. Fixed frequency solar noise bursts are indicated by vertical tick marks by wave-length (frequency) range at the time of beginning of the burst. The ranges are defined as dekameter = <40 MHz, meter = 40-400 MHz, decimeter = 400-1500 MHz, and centimeter = >1500 MHz. Spectral events of types II and IV are shown by the appropriate Roman numeral. Sudden ionospheric disturbances and solar x-ray bursts (2 - 12Å) from satellite Explorer 33 are shown on the next two lines by vertical tick marks at time of beginning of the events.

The Ap for the day is given in the left-hand portion of the final two lines which give the eight Kp values centered in the appropriate three-hour time blocks, and the time of storm sudden commencements, if any, by a triangle. The exact time is given with the number of observatories reporting the sc in parentheses. At the right-hand side of these last two lines are given the ionospheric indices Ip and Ia (see above).

Below the time lines at the left-hand side are given the 10cm solar flux (2800 MHz), the final daily Zürich relative sunspot number R_Z, the calcium plage region numbers on their date of CMP together with their latitude and number of rotations, if more than one in the parentheses, and the number of the Mt. Wilson sunspot regions at CMP together with their latitude, magnetic classification by α, β, γ, δ and largest spot (preceding "p" or following "f") and a digit encoding field strength where:

1 = 100 - 500 gauss	6 = 2600 - 3000 gauss
2 = 600 - 1000	7 = 3100 - 3500
3 = 1100 - 1500	8 = 3600 - 4000
4 = 1600 - 2000	9 = 4100 - 4500
5 = 2100 - 2500	10 =>4500

Calcium and/or sunspot region numbers in parentheses signify that the regions were never actually at the Central Meridian; they had either died while on the Eastern Hemisphere or were born on the Western Hemisphere.

Word statements are given if the date is one of five disturbed or five or ten quiet magnetic days. Auroral displays are usually mentioned only if the southern limit reached ϕ (geomagnetic latitude) less than 60°; data sources are J. Paton, N. V. Pushkov and P. M. Millman. Comments on general ionospheric conditions are provided by W. R. Piggott. Comments on Forbush cosmic ray decreases are from the Deep River charts, limited to those of 3% or greater. Polar cap absorption data are provided by ESSA when confirmed. Noctilucent cloud dates are furnished by J. Paton. Outstanding green corona, peaks >150 in indices published in "Solar-Geophysical Data" are mentioned by limb quadrant on date the peak would be at CMP. Peaks in red or yellow corona line intensities are also given, whenever appropriate. Solar proton increases observed on Explorer 34 as published in "Solar-Geophysical Data" are given with nominal time of maximum.

1966

Both January and February 1966 were remarkably quiet ionospherically. The ionospheric disturbances Jan. 20-26 and Feb. 19-25 appear to belong to a long sequence of recurrent disturbances with mean period about 28 days which probably started in June 1965. Most of the larger ionospheric disturbances of the last eight months are associated with this sequence. The very quiet periods also form a similar sequence.

January

1	82	79	18	2		Solar: spot group declining and two subflares in R-8107; spot group declining in R-8110; new small spot group in R-8116. Geophysical: magnetically very quiet, five Kp 0o or 0+.
2	79	76	17	8		Solar: spot group continues to decline in R-8107; spot group declining but two subflares in R-8110; small spot persists in R-8116; minor event: active dark filament (R-8110) 1931. Geophysical: moderate magnetic disturbance 0000-0300 Kp 4-, quiet thereafter.
3	78	76	16	6		Solar: spot continues, one subflare in R-8107; small spot persists, one subflare in R-8110; spot gone in R-8116; moderately bright green corona in R-8117 at E limb. Geophysical: magnetically quiet.
4	80	78	15	11		Solar: small spot continues in R-8107; small spot continues in R-8110; moderately bright green corona, radio int. 7 and a subflare in R-8117; three subflares in R-8116; minor events: active dark filament (R-8116) 2106; br. surge (R-8117) 2313; at 260 MHz, burst, 0700. Geophysical: magnetically quiet except 1800-2100 Kp 5-.
5	80	77	8	4	(R-8122) (N11)	Solar: small spot continues in R-8107; spot gone in R-8110; 21 cm radio noise, radio int. 8 and a subflare in R-8117. Geophysical: continued magnetically quiet, especially 0900-1500 and 1800-2100 Kp 0+.
6	80	77	7	2	(R-8123) (N21)	Solar: no spots; 21 cm radio noise, radio int. 8 and a subflare in R-8117. Geophysical: magnetically very quiet with 0300-2100 Kp 0o0o0o0+0+0+; ionospheric F region relatively quiet.
7	81	78	7	7	R-8116 (S19)	Solar: small spot, 21 cm radio noise and radio int. 7 in R-8117; a subflare in R-8123. Geophysical: continued magnetically quiet before a preliminary sudden commencement at 1501 followed by slight magnetic disturbance.
8	81	78	13	8	(R-8126) (N27)	Solar: small spot persists, 21 cm radio noise and radio int. 7 in R-8117; small spot and a subflare in R-8122; subflare in R-8124. Geophysical: slight magnetic disturbance until 0300 Kp 3+.

1966 Jan.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
9	80	77	13	8		Solar: small spot persists, 21 cm radio noise and a subflare in R-8117; small spot persists in R-8122; a subflare in R-8226. Geophysical: slight magnetic disturbance 0000-0300 and 2100-2400 Kp 3o and 4o but very quiet 0300-1200 Kp 0o0+0o.
10	80	77	7	7		Solar: no spots; 21 cm radio noise decreasing but 3 subflares in R-8117; minor event: Hα (R-8117) 1126E. Geophysical: magnetically quiet.
11	81	78	8	2	R-8117(2) (N22)	Solar: small spot observed only one day and a subflare in R-8126; a subflare each in R-8117 and R-8122; minor event: Hα (N28 W90) 0720E. Geophysical: magnetically very quiet, five Kp 0o or 0+.
12	84	81	0	2		Solar: no spots; radio int. 9 apparently in R-8131 at E limb. Geophysical: continued magnetically very quiet, five Kp 0o or 0+
13	87	84	17	2	(R-8124) (N24)	Solar: small spot in R-8130; small spot group, 21 cm radio noise, radio int. 18 and 8 subflares in R-8131; moderate green corona at NE limb; minor events: Hα (R-8131) 2242; at 600, 260 and 23 MHz, bursts, 1018 and 1136. Geophysical: continued magnetically very quiet, five Kp 0o or 0+; ionospheric F-region relatively quiet.
14	93	90	30	3		Solar: small spot persists in R-8130; growing γ spot group, 21 cm radio noise, radio int. 23 and 13 subflares in R-8131; a subflare in R-8132; 3 subflares in R-8133; moderate green corona at NE limb; minor events: Hα (R-8131) 0128, 0825E, 0952, and 1849; at 10700, 8800 and 2800 MHz, burst, 1903; active dark filament (R-8131) 0011; active prominence region (R-8131) 0810 and 1008; br. surge (R-8131) 0835. Geophysical: continued magnetically quiet; S-SWF, SPA and SFD at 1902.
15	102	98	36	5		Solar: small spot persists in R-8130; moderate sized spot group persists, 21 cm radio noise, radio int. 38 and 4 subflares in R-8131; a subflare in R-8132; small spot appears and 2 subflares in R-8133; radio int. 8 at N18E20; radio int. 7 at S45E60; weak green corona at NE limb; minor events: Hα (R-8131) 1040E; at 260 MHz, bursts, 0724 and 1044. Geophysical: continued magnetically quiet.
16	106	103	57	0		Solar: small spot persists and 3 subflares in R-8130; spot group persists, 21 cm radio noise, radio int. 44 and 6 subflares in R-8131; small spot persists, 21 cm radio noise and radio int. 8 in R-8133; radio int. 9 at N18 E7; radio int. 9 at S45 E45; minor events: Hα (R-8131) 1845E; at 10700, 2800, 554, 328, 200, and 108 MHz, burst, 1852; at 17-41 MHz, IV, 1852.5. Geophysical: magnetically extremely quiet; Kp 0o except for 0+ from 0300-0600 and 2100-2400; ionospheric F region relatively quiet.

1966 Jan.	10 cm Flux S	10 cm Flux Sa	Sun-spot No.	Geo-mag. Ap	GMP of Region Number	Highlights
17	102	98	50	2		Solar: small spot persists in R-8130; spot group decreasing in size; 21 cm radio noise, radio int. 26 and 8 subflares in R-8131; small spot persists, 21 cm radio noise, radio int. 10 and 6 subflares in R-8133; major events: Hα (R-8131) impt. 2b, 1031-1250; at 9500, 3000, 610 and 200 MHz, burst, 1032; at 793-23 MHz, IV, 1112; minor events: Hα (R-8131) 2128; at 23 MHz, burst, 0925; active dark filament (R-8131) 2136. Geophysical: magnetically quiet; an SFD at 1801E, SFD and SPA at 2134; ionospheric F region relatively quiet.
18	105	101	64	5		Solar: small spot and 1 subflare in R-8130; spot group continues, 21 cm radio noise , radio int. 28 and 12 subflares in R-8131; small spot persists, 21 cm radio noise, radio int. 12 and a subflare in R-8133; major events: Hα (R-8131) impt. 2b, 2253-0120D; at 9400, 3750, 2000, 107 and 18 MHz, burst, 2258; minor event: at 23 MHz, burst, 0910. Geophysical: continued magnetically quiet; G-SWF, SPA and SES at 2258; ionospheric F region relatively quiet.
19	109	105	68	3	R-8131 (N17) R-8130 (N29)	Solar: small spot persists and 4 subflares in R-8130; spot group continues, 21 cm radio noise, radio int. 32 and 3 subflares in R-8131; small spot persists, 21 cm radio noise, radio int. 13 and 4 subflares in R-8133; minor events: Hα (R-8130) 0023, 0900E, 1047 and 2231E, (R-8133) 1110; dark surge (R-8130) 0930. Geophysical: continued magnetically quiet.
20	102	99	63	15		Solar: small spot and 3 subflares in R-8130; spot group persists, 21 cm radio noise, radio int. 29 and 2 subflares in R-8131; small spot group, 21 cm radio noise and radio int. 13 in R-8133; minor events: Hα (R-8130) 0023 and 0302E; at 9400, 3750 and 2000 MHz, burst, 0023; at 3750, 2000 and 100 MHz, burst, 0304. Geophysical: slight-to-moderate magnetic disturbance with a preliminary sudden commencement at 0204; S-SWF, SPA and SFD at 0020, SL-SWF at 0300 and 0450, SPA at 1710; at 1930 auroral homogeneous arc overhead at $\phi = 67°$, visible as glow on horizon at $\phi = 59°$ over Western Europe; ionospheric absorption on 30 MHz Great Whale River beginning at 0728; ionospheric F region disturbed; a cosmic ray decrease starting at about 0200.
21	99	96	52	23	R-8132 (2) (N09) R-8133 (N30)	Solar: spot persists and two subflares in R-8130; spot group still βγ after 6 days of no magnetic observations, 21 cm radio noise, radio int. 21 and a subflare in R-8131; spot persists, 21 cm radio noise and radio int. 12 in R-8133. Geophysical: slight-to-moderate magnetic disturbance continues; with Kp 5o from 1800-2100; ionospheric absorption on 30 MHz Great Whale River ending at 2214; ionospheric F region slightly disturbed; cosmic ray decrease continues.
22	95	92	44	27		Solar: small spot persists in R-8130; spot no longer γ and decreased in size, 21 cm radio noise, radio int. 16 and 3 subflares in R-8131; small spot persists, 21 cm radio noise and radio int. 9 in R-8133; spot group appears, radio int. 6 and 4 subflares in R-8139; minor event: active dark filament (R-8131) 1829E. Geophysical: slight-to-moderate magnetic disturbance continues with more disturbance 0600-1500 Kp 5-4-5+; ionospheric absorption on 30 MHz at Great Whale River 0159-2120; ionospheric F region disturbed in some sectors; cosmic ray decrease continues.

1966 Jan.	10 cm Flux S	10 cm Flux Sa	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
23	94	91	38	14		Solar: small spot persists in R-8130; spot group continues decrease, 21 cm radio noise, radio int. 15 and 2 subflares in R-8131; small spot persists, 21 cm radio noise and radio int. 8 in R-8133; spot growing, radio int. 10 and 3 subflares in R-8139; minor event: Hα (R-8139) 1026E. Geophysical: slight magnetic disturbance continues; ionospheric absorption on 30 MHz at Great Whale River 0016-2345; ionospheric F region slightly disturbed with some auroral blackout at high latitudes; cosmic ray decrease recovery during day.
24	92	89	41	14		Solar: spot gone in R-8130; spot group persists, 21 cm radio noise and 4 subflares in R-8131; spot persists, 21 cm noise and 6 subflares in R-8133; spot group growing and 5 subflares in R-8139; weak green corona observed on NW limb; no observations for radio int; minor events: Hα (R-8133) 2130; dark surge (R-8133) 2136. Geophysical: slight magnetic disturbance continues; ionospheric F region slightly disturbed.
25	88	85	27	11	R-8139 (S23)	Solar: small spot persists, radio int. 12 and a subflare in R-8131; spot gone in R-8133; spot group continues to grow, radio int. 13 and 4 subflares in R-8139; weak green corona on NW limb. Geophysical: slight magnetic disturbance continues; ionospheric F region slightly disturbed in some sectors.
26	85	83	19	14	(R-8152) (S25)	Solar: no spot but radio int. 10 where R-8131 over W limb; 1 subflare in R-8133; spot group decreasing, radio int. 10 and 3 subflares in R-8139; moderately bright green corona on NW limb; minor event: dark surges (R-8139) 0027, 0123 and 0204. Geophysical: slight magnetic disturbance continues; G-SWF at 0122; ionospheric absorption on 30 MHz at Great Whale River 0332-2313; ionospheric F region slightly disturbed in some sectors with some auroral blackout.
27	82	80	16	3		Solar: 4 subflares in R-8133; spot group persists and radio int. 10 in R-8139; moderately bright green corona on NW limb. Geophysical: slight magnetic disturbance ends becoming extremely quiet, all Kp 0o after 0900.
28	80	78	14	7	R-8148 (2) (S29)	Solar: spot group persists and a subflare in R-8139; weak green corona in R-8154 off E limb; moderate green corona on NW limb; minor events: Hα (R-8133) 0815, (R-8154) 1755; at 1415 and 606 MHz, burst, 1642; br. surges (R-8133) 0805, (R-8154) 1650. Geophysical: continued magnetically quiet except 2100-2400 Kp 4o.
29	81	78	19	6		Solar: 2 subflares in R-8133 at W limb; spot group persists, radio int. 11 and 2 subflares in R-8139; small spot and 5 subflares in R-8152 new on disk; moderate green corona in R-8154; minor events: Hα (R-8133) 1430 and 1501, (R-8139) 1752; at 8800, 2800, 1415 and 606 MHz, burst, 1800; eruptive prominence (R-8133) 1513. Geophysical: continued magnetically quiet.

1966 Jan.	10 cm Flux S	Sa	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
30	79	76	28	2		Solar: small spot persists, radio int. 8 and a subflare in R-8139; small spot persists in R-8152; radio int. 8 and a subflare in R-8254; small spot appears and a subflare in R-8148. Geophysical: continued magnetically quiet, especially 0000-1200 Kp 0o0o0+0+ and 2100-2400 Kp 0o.
31	78	75	15	2		Solar: small spot persists and radio int. 6 in R-8139 at W limb; small spot persists and 5 subflares in R-8152; radio int. 6 in R-8154. Geophysical: magnetically very quiet, four Kp 0o or 0+; ionospheric F region relatively quiet.
February						
1	80	78	7	3		Solar: small spot persists in R-8152 at W limb; spot group appears, radio int. 7 and 2 subflares in R-8158. Geophysical: continued magnetically very quiet; ionospheric F region relatively quiet.
2	79	77	9	3		Solar: spot group βγ, radio int. 12 and 8 subflares in R-8158; radio int. 6 and a subflare again in R-8154; minor events: Hα (R-8158) 0737E, 0935E, 1316 and 2326, (R-8154) 1506; at 2800 MHz, burst, 1505; at 1415 and 606 MHz, burst, 1512; at 18-41 MHz, IV, 1543; sudden disappearance of filament (R-8154) 1507. Geophysical: continued magnetically very quiet.
3	80	78	20	11		Solar: spot group no longer βγ but growing, radio int. 13 and 4 subflares in R-8158; radio int. 6 in R-8154; weak green corona at N30 E limb. Geophysical: magnetically quiet until slight-to-moderate disturbance 1200-2400; an SL-SWF at 2033; at 2035-2040 short-lived rayed arc overhead at $\phi = 63°$, visible to $\phi = 58°$, over Western Europe.
4	81	79	17	13	R-8154 (N25)	Solar: spot group persists, radio int. 16, 21 cm radio noise and a subflare in R-8158; radio int. 6 in R-8154; weak green corona at N20 E limb. Geophysical: slight magnetic disturbance; ionospheric absorption on 30 MHz at Great Whale River beginning at 0224.
5	83	81	17	18		Solar: spot group persists, radio int. 18 and 2 subflares in R-8158; radio int. 8 in R-8154; minor event: Hα (N18 E83) 1529. Geophysical: slight-to-moderate magnetic disturbance; ionospheric absorption continues on 30 MHz at Great Whale River until 2240.
6	84	82	17	8		Solar: spot group persists and radio int. 18 in R-8158; radio int. 6 in R-8154. Geophysical: slight magnetic disturbance 0000-0900, quiet thereafter.
7	85	83	16	4	R-8158 (N26)	Solar: spot group persists, 21 cm radio noise, radio int. 13 and 2 subflares in R-8158; radio int. 6 and 2 subflares in R-8154; minor events: Hα (R-8154) 1559 and 1605E; at 200 MHz, bursts, 1211 and 1320; at 2800 MHz, rise, 1545; active dark filament (R-8154) 2326. Geophysical: magnetically quiet.

1966 Feb.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
8	85	82	13	4		Solar: spot group persists, 21 cm radio noise, radio int. 12 and a subflare in R-8158; 2 subflares in R-8154; weak green corona at E limb apparently in R-8161; minor event: at 606 MHz, burst, 1246; active dark filament (R-8154) 0325 and 0531; active prominence regions (N48 W limb) 0800, (N32 W limb) 0930. Geophysical: continued magnetically very quiet Kp 0+ from 0000-1200 followed by slight disturbance 1200-1500 Kp 3-.
9	85	83	10	3	(R-8167) (N17)	Solar: spot group persists, 21 cm radio noise, radio int. 13 and a subflare in R-8158; radio int. 8 and a subflare in R-8161. Geophysical: continued magnetically very quiet; ionospheric F region relatively quiet.
10	86	84	11	7		Solar: spot group continues, 21 cm radio noise, radio int. 11 and 5 subflares in R-8158; radio int. 8 and 21 cm radio noise at NE limb apparently in R-8163; major event: Hα (R-8158) impt. 2F, 0946E-1006; dark surge (R-8158) 0912; minor events: Hα (R-8158) 0734E; dark surges (R-8158) 0742 and 0743. Geophysical: continued magnetically quiet except slight disturbance 2100-2400.
11	86	84	14	12		Solar: spot group persists, 21 cm radio noise, radio int. 11 and 2 subflares in R-8158; radio int. 8 and 21 cm radio noise on NE limb apparently in R-8163; minor events: Hα (R-8158) 1440, 1641 and 2335; at 960 and 328 MHz, burst, 1716; at 9400, 3750, 2800, 2000, and 1000 MHz, burst, 2339; at 108 MHz, burst, 2349; br. surge (R-8158) 1648. Geophysical: slight magnetic disturbance 0000-0300 Kp 3- and 1200-2400 Kp 3+3-3-3o; S-SWF and SPA at 0122 and 2339.
12	85	83	8	5		Solar: spot group decreasing, 21 cm radio noise and radio int. 10 in R-8158; radio int. 10, 21 cm radio noise and 10 subflares in R-8166; moderate green corona on NW limb; minor events: Hα (R-8166) 1331, (R-8158) 2356; at 960 and 328 MHz, burst, 2059; active prominence region (R-8166) 1300. Geophysical: slight magnetic activity 0000-0300, especially quiet 1200-2400, all Kp 0o or 0+.
13	86	84	16	6		Solar: small spot and radio int. 7 in R-8158 at W limb; spot group appears, 21 cm radio noise, radio int. 12 and a subflare in R-8166; radio int. 7 in R-8162; moderate green corona continues on NW limb; minor event: Hα (R-8158) 0354. Geophysical: slight magnetic disturbance 0000-0300, quiet thereafter.
14	86	84	12	2		Solar: spot group βγ, 21 cm radio noise and radio int. 14 in R-8166; radio int. 7 in R-8162; radio int. 9 in R-8163; moderate green corona continues on NW limb; moderate green corona in R-8172; minor event: at 960 and 328 MHz, burst, 1943. Geophysical: magnetically very quiet, five Kp 0o or 0+; ionospheric F region relatively quiet.
15	85	83	16	4	R-8161(2) (N19)	Solar: spot no longer βγ but growing, 21 cm radio noise, radio int. 15 and a subflare in R-8166; radio int. 7 in R-8162; moderate green corona in R-8172. Geophysical: magnetically quiet, especially 0000-0900 Kp 0+0o0o; ionospheric F region relatively quiet.

1966 Feb.	10 cm Flux S	10 cm Flux S_a	Sun-spot No	Geo-mag. Ap	CMP of Region Number	Highlights
16	85	83	13	5	R-8162 (2) (N24)	Solar: spot continues, radio int. 13 and a subflare in R-8166; radio int. 8 and a subflare in R-8163; no report on 21 cm for rest of month; moderate green corona S20 E limb; major event: active dark filament (R-8166) impt. 3, 1356-2356; minor event: Hα (R-8167) 0925. Geophysical: continued magnetically quiet.
17	84	82	19	4	R-8163 (3) (N12)	Solar: spot continues, radio int. 12 and a subflare in R-8166; radio int. 7 in R-8162; small spot appears and a subflare in R-8171; strong green corona persists at S20 E limb; minor events: at 960 and 328 MHz, burst, 2152; active dark filament (R-8166) 1358, 2042, 2216, and 2400. Geophysical: continued magnetically quiet.
18	84	82	24	3	R-8166 (2) (N31)	Solar: spot group growing and radio int. 13 in R-8166; radio int. 6 in R-8162; spot continues, radio int. 8 and 2 subflares in R-8171; a subflare in R-8172; minor events: Hα (R-8171) 1409; at 610 and 200 MHz, burst, 0858; dark surge (R-8171) 1424. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
19	83	81	32	14		Solar: spot group continues, radio int. 12 and 3 subflares in R-8166; radio int. 7 in R-8162; spot continues and radio int. 8 in R-8171. Geophysical: magnetically quiet 0000-1200, slight-to-moderate disturbance 1200-2400; ionospheric F region slightly disturbed in some sectors.
20	85	83	39	17		Solar: spot group continues, radio int. 10 and a subflare in R-8166; radio int. 7 in R-8162; spot group now βγ, radio int. 20 and 8 subflares in R-8171; minor event: Hα (R-8171) 1324E; disappearance of active dark filament (R-8171) 1356. Geophysical: slight-to-moderate magnetic disturbance until 1800; aurora over North America at $\phi = 60°$ from 0000-0500 and at $\phi = 59°$ from 0600-1100; ionospheric absorption on 30 MHz at Great Whale River 0304-2302; ionospheric F region disturbed with some auroral blackout at high latitudes.
21	88	86	41	4	R-8172 (2) (S24) R-8171 (N22)	Solar: small spot group persists and radio int. 12 in R-8166; radio int. 7 in R-8162; spot group growing, radio int. 22 and 2 subflares in R-8171; a subflare in R-8173; a small spot and a subflare appears in R-8174. Geophysical: magnetically quiet.
22	88	86	50	14		Solar: small spot group persists, radio int. 11 and a subflare in R-8166; radio int. 6 in R-8162 at W limb; spot group continues, radio int. 17 and 5 subflares in R-8171; spot persists, radio int. 8 and 4 subflares in R-8174; small spot appears, radio int. 7 and 6 subflares in R-8177; strong green corona on NW limb; minor events: Hα (R-8177) 0902E and 1009E, (R-8174) 0902E and 1020E; active dark filament (R-8174) 0845; dark surge (R-8177) 0902; br. surge (R-8177) 0913. Geophysical: magnetically quiet 0000-1200, slight-to-moderate disturbance 1200-2400; ionospheric absorption on 30 MHz at Great Whale River beginning at 0829; ionospheric F region disturbed.

1966 Feb.	10 cm Flux S	10 cm Flux Sa	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
23	84	83	55	28	R-8174 (N21)	Solar: small spot group persists and radio int. 7 in R-8166 near W limb; spot group persists radio int. 12 and 2 subflares in R-8171; spot persists, radio int. 10 and 2 subflares in R-8174; spot persists, radio int. 7 and 6 subflares in R-8177; strong green corona continues on NW limb; minor event: Hα (R-8174) 1243E; at 960 and 328 MHz, burst, 1441. Geophysical: moderate magnetic disturbance becoming more severe 0300-1200 Kp 5o5o5-; ionospheric absorption on 30 MHz at Great Whale River continues to 2356; ionospheric F region very disturbed with auroral blackout at high latitudes.
24	84	82	42	19	R-8173 (S24)	Solar: spot group persists, radio int. 9 and a subflare in R-8171; spot persists, radio int. 11 and 7 subflares in R-8174; spot persists but radio int. decreasing in R-8177; strong green corona continues on NW limb; minor event: Hα (R-8174) 1109. Geophysical: slight-to-moderate magnetic disturbance; at 0030 auroral glow on northern horizon at $\phi = 58°$ over Western Europe; aurora overhead at $\phi = 59°$ from 0600-1100 in North America; ionospheric absorption on 30 MHz at Great Whale River 0220-2156; ionospheric F region disturbed with auroral blackout at high latitudes.
25	81	79	37	10		Solar: spot decreasing, radio int. decreasing but 3 subflares in R-8171; small spot persists, radio int. 15 and 7 subflares in R-8174; small spot persists and 2 subflares in R-8177; 2 subflares in R-8166; minor events: Hα (R-8166) 0610; br. surge (R-8166) 0657; eruptive prominence (R-8166) 0730. Geophysical: slight-to-moderate magnetic disturbance 0000-0600, fairly quiet thereafter; ionospheric F region disturbance dies away, leaving slight disturbance in some sectors.
26	85	83	36	3		Solar: spot persists and a subflare in R-8171; spot persists, radio int. 22 and 13 subflares in R-8174; small spot persists in R-8177; minor events: Hα (R-8174) 0254, 0355, 0705 and 1000; at 3750, 2000 and 1000 MHz, burst, 0112; active prominence region (N48 W limb) 1042. Geophysical: magnetically very quiet; SL-SWF and SPA at 0103.
27	85	83	35	4	R-8177 (N28)	Solar: 3 subflares in R-8171 at W limb; spot persists, radio int. 19 and 13 subflares in R-8174; small spot persists in R-8177; radio int. 8 and 8 subflares in R-8184 at E limb; minor events: Hα (R-8174) 0015, 2145 and 2311; (R-8184) 2331E; dark surge (R-8174) 0400; active prominence region (N40 E limb) 0752. Geophysical: continued magnetically quiet; S-SWF and SPA at 0043 and 2326, SPA and SES at 1217.
28	86	84	31	2		Solar: spot group persists, radio int. 25 and 14 subflares in R-8174; small spot persists and 2 subflares in R-8177; new spot appears and radio int. 11 in R-8184; strong green corona, also yellow line emission on NW limb; minor events: Hα (R-8184) 0040 and 0455, (R-8174) 0347, 0931E, 1650, 2025, 2050 and 2257E, (R-8177) 0955; at 9400, 3750, 2000 and 1000 MHz, burst, 0351; at 9400, 3750, 2800 and 2000 MHz, burst, 2304; dark surge (R-8174) 0516. Geophysical: magnetically very quiet, six Kp 0o or 0+; S-SWF and SPA at 0351, SFD at 1653 and 1837, G-SWF and SPA at 2258; ionospheric F region relatively quiet.

Abbreviated Calendar Record

1966 Mar.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
The first half of March was ionospherically quiet apart from the short disturbance on 14-15 March, but this was followed by a period of almost continuous disturbance lasting from 19 March to 3 April. April was also remarkably quiet for an equinox month.						
1	81	80	25	3		Solar: spot group over limb, radio int. 8 and 3 subflares, bright green line corona and yellow line emission in R-8174; spot gone in R-8177; spot growing, radio int. 9 and bright green corona in R-8184; minor events: Hα (R-8174) 0440; br. surge (R-8174) 0458. Geophysical: continued magnetically quiet, five Kp 0+; an SFD at 2102.
2	78	77	11	3		Solar: spot group persists, radio int. 7 and 1 subflare in R-8184; 2 subflares in R-8174 over W limb; a subflare in R-8177; minor events: Hα (R-8174) 0333 with cm. solar burst; br. surge (R-8174) 0345E. Geophysical: continued magnetically quiet; SPA and S-SWF at 0313, an SPA at 1317.
3	77	76	11	10		Solar: spot group persists, radio int. 8 and 1 subflare in R-8184; minor events: m. solar bursts 2050 and 2140. Geophysical: magnetically quiet except for slight-to-moderate disturbance 0900-1500 and 2100-2400.
4	77	76	18	9		Solar: spot, radio int. 8 and 1 subflare in R-8184; spot appears and 1 subflare in R-8191 born on disk; minor events: m. solar bursts 2130, 2150 and 2205. Geophysical: slight-to-moderate magnetic disturbance 0000-0300 and again at 2100-2400.
5	76	75	12	5	R-8184 (N21)	Solar: spot group and radio int. 7 in R-8191; spot gone in R-8184; minor event: m. solar burst 1615. Geophysical: magnetically quiet; an S-SWF at 1602.
6	77	76	14	4	R-8191 (N28)	Solar: spot group persists, radio int. 8 and a subflare in R-8191; 2 subflares in R-8188; minor event: m. solar burst 1745. Geophysical: continued magnetically quiet.
7	77	76	10	2	R-8188(2) (N36)	Solar: spot group persists, radio int. 6 and 2 subflares in R-8191; a subflare in R-8190; subflares at N43 W14 and S05 E03; minor event: m. solar burst 1910. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
8	78	76	9	3	R-8190(2) (N31)	Solar: small spot continues, radio int. 8 and 3 subflares in R-8191; a subflare in R-8190. Geophysical: continued magnetically quiet.
9	80	78	15	4		Solar: small spot persists, radio int. 11 and 2 subflares in R-8191. Geophysical: continued magnetically quiet with slight disturbance 2100-2400; ionospheric absorption on 30 MHz at Great Whale River begins at 1948; homogenous arc, sometimes rayed, with base overhead at $\phi = 65°$, was visible from 1940-2050, seen to $\phi = 59°$ in Western Europe.

1966 Mar.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
10	80	79	13	10	(R-8199) (N20)	Solar: spot persists, radio int. 8 in R-8191; 2 subflares in R-8184. Geophysical: slight-to-moderate magnetic disturbance 0000-0300 and 1200-1500, otherwise quiet; ionospheric absorption on 30 MHz at Great Whale River continues to 0511.
11	79	78	10	6		Solar: spot at W limb and 2 subflares in R-8191; a subflare in R-8204. Geophysical: slight magnetic disturbance 0000-0300 and 2100-2400 but very quiet 0600-1800.
12	79	78	0	6		Solar: no spots. Geophysical: slight magnetic disturbance 0000-0300, quiet thereafter.
13	81	80	0	14		Solar: radio int. 8 on NE limb; small spot appears and a subflare in R-8204. Geophysical: continued magnetically quiet until 1800, severe disturbance 2100-2400 Kp6-; ionospheric absorption on 30 MHz at Great Whale River begins at 1410; homogeneous arc, occasionally rayed and sometimes double, with base overhead at ϕ = 65-66°, 2000-2400 in Western Europe.
14	82	81	0	64		Solar: spot gone in R-8204; spot appears, radio int. 16 and 6 subflares apparently in R-8207 which is first reported on March 15; 2 subflares in R-8199; radio int. 6 at S10 E55; <u>minor events</u>: br. surge (R-8207) 0902 and 1030; active prominence region (R-8207) 0155 and 1719; cm. solar burst 0230. Geophysical: continued severe magnetic disturbance ending at 1800; ionospheric F region very disturbed with considerable absorption at high latitudes; ionospheric absorption on 30 MHz at Great Whale River continues to 2306; homogeneous band aurora overhead at ϕ = 56° in U.S.S.R. at 0900, rayed arc at ϕ = 53° from 1000-1100 and at ϕ = 57° at 1200; aurora overhead in North America at ϕ = 57° from 0000-0500 and at ϕ = 55° from 0600-1100; aurora in Western Europe became rayed arc at 0000 and moved southwards, seen at least to ϕ = 58° but clouds prevented determination of precise position.
15	88	87	9	7	R-8204 (N27)	Solar: spot group growing, radio int. 36, 21 cm radio noise and 19 subflares in R-8207; radio int. 8 at S10 E50; <u>minor events</u>: Hα (R-8207) 0145, 0800E, 0825, 1234, 1535, 1636, and 2237; br. surges (R-8207) 0140, 0227, 0810, 0914, 1030, 1232, 1521, 1624, and 1811; active prominence region (R-8207) 0838; cm. solar bursts 0510, 1310, 1530, 1640, 1810, 1905, and 2020; type IV, 16-41 MHz, 2137-2250. Geophysical: magnetically quiet; an S-SWF at 0143, and SPA at 1335; S-SWF and SFD at 1450; an SFD at 1537; S-SWF, SCNA, SEA, SFD, and SPA at 1636; SFD's at 1849, 1901, 1904, 1907E, 2008, 2242, and 2258; ionospheric F region disturbed with some auroral absorption at high latitudes.
16	94	93	26	7		Solar: spot group $\beta\gamma$ and growing, radio int. 48, 21 cm radio noise and 21 subflares in R-8207; radio int. 9 at S10 E40; small spot appears, radio int. 11 in R-8204; <u>major events</u>: Hα (R-8207) impt. 2b, 0910E-1007 with cm. and m. solar bursts; br. surges (R-8207) 0902 and 0914; eruptive prominence region (R-8207) 0923; dark surge (R-8207) 0916; <u>minor events</u>: Hα (R-8207) 0042, 0219,

1966 Mar.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
16 (Cont'd)						1150, 1501, 1603, 1913, and 2145; cm. solar bursts 0110, 0425, 0605, 0730, 1315, 1515, 1530, 1625, 1940, 2130, and 2300; m. solar bursts 0730, 0910, 1315, 1420, 1515, 1530, 1625, 1940, and 2300; active dark filament (R-8207) 1330; dark surges (R-8207) 1035, 1333, 1541, 1659, 1940, and 2131; br. surges (R-8207) 1323 and 1927; type IV's, 20-41 MHz, 1621-1800 and 8-41 MHz, 1921-2045, and 22-41 MHz, 2255-2400. Geophysical: slight magnetic disturbance 0000-0600, quiet thereafter; S-SWF and SPA at 0105; SL-SWF, SPA and SFD at 1625; SL-SWF, SCNA, SEA, SES, SPA, and SFD at 1925; SPA and SFD at 2150E and 2226; SPA at 0200 and 0426; SFD's at 1527, 1534, 1610, 1805, and 2255E.
17	106	105	44	6		Solar: γ spot group continues to grow, radio int. 64, 21 cm radio noise and 14 subflares in R-8207; radio int. 14 at S10 E14; small spot, radio int. 15 and 3 subflares in R-8204; radio int. 11 at N20 E30; minor events: Hα (R-8207) 0131, 0356E, 0424E, 0559, 1356, and 1742; cm. solar bursts 0130, 0200, 0230, 0320, 0340, 0420, 0440, 0555, 0640, 1145, 1155, 1745, 1900, 1915, and 2140; m. solar bursts 0320, 0420, 0755, 0900, 1230, 1745, 2040, and 2140; type IV, 22-41 MHz, 0000-0025; active dark filament (R-8207) 0115 and 1325; dark surges (R-8207) 0146, 0455 and 0525; loops (R-8207) 2053. Geophysical: continued magnetically quiet with slight disturbance 2100-2400; SL-SWF and SPA at 0131; SPA's at 0427 and 2148; SEA, SPA and SES at 1154; SL-SWF at 1653; SL-SWF, SEA, SPA, SES, and SFD at 1744; S-SWF, SPA and SFD at 1917; upper portions of quiet arc overhead $\phi = 68°$, visible $\phi = 58°$ in Western Europe.
18	111	110	53	4		Solar: spot continues to grow, radio int. 78, 21 cm radio noise, and 17 subflares in R-8207; small spot, radio int. 10 and a subflare in R-8204; radio int. 12 at S10 E20; radio int. 11 at N20 E10; minor events: Hα (R-8207) 0420E, 1103E and 2337; cm. solar bursts 0015, 0205, 0410, 0640, 1710, 1750, 1905, 2230, and 2350; m. solar bursts 0205, 0410, 0820, 1340, 1710, 1850, 2040, 2340; dark surges (R-8207) 1600 and 1826; active dark filament (R-8207) 2243. Geophysical: continued magnetically quiet; S-SWF at 0423; SFD's at 1752, 1913 and 1940D; ionospheric F region relatively quiet.
19	116	115	60	20	(R-8212) (N23) (R-8213) (S13)	Solar: spot group growing, radio int. 65, 21 cm radio noise and 9 subflares in R-8207; small spot, radio int. 10 and 2 subflares in R-8204; radio int. 12 at S10 E10; radio int. 9 at N20 W05; a subflare in R-8208; principal event: Hα (R-8207) impt. 3b, 0337-0552 with cm. solar burst; dark surge (R-8207) 0345; minor events: Hα (R-8207) 1422 and 2130; cm. solar bursts 0330, 1010, 1350, 1410, 1930, and 2040; m. solar bursts 0925, 1310, 1410, 1605, 1805, and 2130; type II, 30-41 MHz, 0006-0010; active dark filaments (R-8207) 0006, 0252 and 1412, (R-8204) 0306; dark surge (R-8207) 0129. Geophysical: moderate magnetic disturbance with 1800-2400 Kp5-; S-SWF, SPA, SCNA and SEA at 0340; S-SWF and SFD at 1356; S-SWF at 1710; SPA and SFD at 2142; ionospheric F region disturbed; homogeneous arc aurora overhead at $\phi = 57°$ in U.S.S.R. from 1300-1400.

1966 Mar.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
20	112	111	54	10		Solar: spot group still βγ, radio int. 59, 21 cm radio noise and 12 subflares in R-8207; small spot reappears, radio int. 12 and 2 subflares in R-8204; radio int. 12 in R-8213; radio int. 8 in R-8212; principal event: Hα (R-8207) impt. 3b, 0924-1255D with cm. and m. solar bursts; dark surge (R-8207) 0955; active dark filament (R-8207) impt. 3, 0958; minor events: Hα (R-8207) 0226, 0806, 1756, 1847, and 1959; (R-8193) 1206 and 1235E; cm. solar bursts 0220, 0605, 1755, 1850, and 2310; m. solar burst 1355 and 2310; dark surges (R-8207) 0905, 1816; sudden disappearance of filament (R-8207) 1852; br. surges (R-8204) 1900 and 2006; active dark filament (R-8207) 2235. Geophysical: continued moderate magnetic disturbance 0000-0300, quiet thereafter; S-SWF, SCNA and SPA at 0223; S-SWF, SEA, SCNA and SES at 0955, SFD's at 1537, 1604 and 1730; S-SWF, SCNA, SEA, SPA and SES at 1802; SPA and SFD at 1842; SL-SWF, SPA and SFD at 2000; ionospheric F region slightly disturbed.
21	121	120	49	8		Solar: spot group γ but decreasing in size, radio int. 71, 21 cm radio noise, and 12 subflares in R-8207; spot gone, radio int. 10 and 2 subflares in R-8204; radio int. 12 in R-8213; small spot appears, radio int. 9 and a subflare in R-8216; 2 subflares in R-8217; major events: Hα (R-8207) impt. 2b, 0924-1130 and 2126-0013 with cm. and m. solar bursts; eruptive prominence, impt. 4, (R-8207) 2215-2330; dark surges (R-8207) 0926, 2145, 2200, and 2230; active dark filaments (R-8207) 0930, 2202 and 2224; sudden disappearance of filament (R-8207) 2255; br. surge (R-8207) 2216; minor events: Hα (R-8207) 0101, 1416U, 1503, 1541, and 1819; cm. solar bursts 0120, 0920, 1010, 1410, 1505, 1545, 1605, and 1820; m. solar bursts 0920, 1410 and 1605; type II, 21-41 MHz, 2209-2214 and 2217-2226; active dark filament (R-8207) 0007, 0314 and 0557; active prominence region (R-8204) 0200; dark surge (R-8207) 2036E. Geophysical: slight magnetic disturbance 0000-0600 and again at 2100-2400; S-SWF and SPA at 0110, SL-SWF, SES and SEA at 0932, SFD's at 1616 and 2022D; SL-SWF, SPA and SFD at 1505; SL-SWF at 1543; S-SWF, SEA, SES and SFD at 1822; SCNA and SFD at 2200; SL-SWF, SCNA, SEA, SFD and SPA at 2217; SL-SWF at 2345.
22	106	105	52	7	R-8207(2) (N19)	Solar: spot continues decrease, radio int. 50, 21 cm radio noise, and 10 subflares in R-8207; radio int. 8 in R-8213; spot gone but radio int. 7 in R-8216; major events: Hα (R-8207) impt. 2n, 1110-1225 with cm. and m. solar bursts; minor events: Hα (R-8207) 0450, 0743 and 1407E; cm. solar bursts 0310, 0330, 0450, 0750, 1405, 1805; m. solar bursts 0750, 1020, 1255, 1405, 1805, and 2310; dark surge (R-8207) 0322. Geophysical: continued slight magnetic disturbance 0000-0300 and again 2100-2400; SEA and SES at 0940; SFD at 1406; G-SWF, SES, SPA, SEA, and SCNA at 1930; SPA at 2255.

1966 Mar.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
23	97	96	40	67		Solar: spot continues to decrease, radio int. 44, 21 cm radio noise and 16 subflares in R-8207; radio int. 9 in R-8213; radio int. 7 in R-8216; minor events: Hα (R-8207) 1907 and 2040; cm. solar bursts 0320, 0750, 1145, 1340, 1445, and 2320; m. solar bursts 0750, 0900, 1145, 1340, and 2320. Geophysical: magnetically disturbed with a preliminary sudden commencement at 1133 and severe disturbance 0600-2100 Kp 5o7-7-6o7o; SPA's at 1925 and 2255; a marked cosmic ray decrease begins about 1400; ionospheric F region very disturbed, with some auroral absorption at high latitudes; ionospheric absorption on 30 MHz at Great Whale River 0218-1740; auroral rays overhead at $\phi = 53°$ in U.S.S.R. at 1000, homogeneous arc at $\phi = 53°$ at 1300, rays at $\phi = 53°$ from 1500-2100, homogeneous rays at $\phi = 53°$ at 1800 and bright rays at $\phi = 51°$ from 1900-2000 in U.S.S.R.; aurora overhead in North America at $\phi = 60°$ from 1200-1700; homogeneous arc or band, overhead $\phi = 64°$ from 2000-2200 in Western Europe, visible to $\phi = 57°$, slowly retreated northwards.
24	94	93	31	2		Solar: spot continues to decrease, radio int. 44, 21 cm radio noise and 14 subflares in R-8207; radio int. 9 in R-8213; radio int. 7 at S15 E75; major events: Hα (R-8207) impt. 2b, 0225-0414 with cm. solar bursts, dark surge (R-8207) 0232E; minor events: Hα (R-8207) 0910 and 1733; cm. solar bursts 0040, 0145, 0315, 1020, 1910, 1950, and 2305; m. solar bursts 1020, 1300 and 1910; dark surge (R-8207) 0800E. Geophysical: geomagnetically quiet with five Kp0o and 0+ 0600-2100; S-SWF, SCNA, SEA, SPA and SES at 0225; SPA's at 1125 and 1915; SFD's at 1649, 1749, 1810, 1955, and 2136; G-SWF, SPA and SES at 2033; cosmic ray decrease continues; ionospheric F region disturbed; bright auroral rayed band overhead at $\phi = 56°$ from 1100-1400 and rays at $\phi = 56°$ at 1500 and homogeneous arc at $\phi = 56°$ from 1600-1800 in U.S.S.R.
25	92	91	23	14	(R-8220) (N22)	Solar: spot group continues decreasing in size, radio int. 36, 21 cm radio noise, and 16 subflares in R-8207; radio int. 7 at S15 E60; small spot appears in R-8218; principal event: Hα (R-8207) impt. 3n, 0143-0444 with cm. and m. solar bursts; active dark filament (R-8207) 0154; dark surge (R-8207) 0216E; br. surge (R-8207) 0226; major events: Hα (R-8207) impt. 2b, 0500-0557D and 1514-1558 with cm. solar bursts, dark surge (R-8207) 0520; active dark filament (R-8207) 1547E; minor events: Hα (R-8207) 0009E, 0616, 0749, 1000, 1214E, 1311, 1616, and 2332; cm. solar bursts 0020, 0040, 0755, 0950, 1315, 1340, and 2230; m. solar bursts 0755, 0950 and 1315; active dark filament (R-8207) 0009E; dark surge (R-8207) 1344E. Geophysical: slight-to-moderate magnetic disturbance, a preliminary sudden commencement at 1225; S-SWF and SPA at 0025; S-SWF, SCNA and SPA at 0146; S-SWF, SCNA, SEA, SPA, and SES at 0511; SEA at 1002; SFD's at 1311, 1909 and 2113; SFD and SPA at 1530 and 1929; cosmic ray decrease continues; homogeneous auroral arc overhead at $\phi = 57°$ at 1400, and homogeneous band at $\phi = 57°$ from 1500-1600 in U.S.S.R.

1966 Mar.	10 cm Flux S	10 cm Flux Sa	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
26	85	85	18	20		Solar: spot group decreasing in size, radio int. 26, 21 cm radio noise, and 8 subflares in R-8207; small spot continues in R-8218; major events: Hα (R-8207) impt. 2n, 0021E-0120 and impt. 2b, 1843E-1919 with cm. and m. solar bursts; minor events: Hα (R-8207) 0131E, 0935E, 1709E; cm. solar bursts 0510, 1040, 1100, and 1240; m. solar bursts 1100 and 1240. Geophysical: slight magnetic disturbance continues becoming severe 1200-1500 Kp6-; S-SWF, SCNA and SPA at 0038; SCNA at 1210 and 1251; SL-SWF, SEA, SES and SFD at 1848; cosmic ray decrease continues; ionospheric F region very disturbed.
27	83	83	10	13	R-8216 (N21) (R-8217) (2) (N29) R-8218 (N20) (R-8227) (N22)	Solar: spot group, radio int. 14, 21 cm radio noise, and 5 subflares in R-8207 at W limb; spot group appears, radio int. 25, 21 cm radio noise, and 6 subflares in R-8223; spot gone in R-8218; minor events: Hα (R-8207) 0750E; (R-8223) 2256; cm. solar bursts 1310 and 1530; m. solar bursts 0910, 1120, 1310, 1530, and 1630; br. surge (R-8207) 0810. Geophysical: slight magnetic disturbance continues; S-SWF, SEA, SPA, and SES at 1200; SL-SWF at 1513; cosmic ray decrease continues; ionospheric absorption on 30 MHz at Great Whale River 0110-2130.
28	88	88	12	42		Solar: spot group gone, radio int. 8 and a subflare in R-8207; spot group continues, radio int. 40, 21 cm radio noise and 8 subflares in R-8223; small spot in R-8220; radio int. 11 at N10 E40; major events: Hα (R-8207) impt. 2b, 1441-1523 with cm. and m. burst; eruptive prominence (R-8207) 1512E; minor events: Hα (R-8223) 0150E, 0326, 0435E, 1148, 1542, 1821, 1843, 1910, 2042, 2306, and 2355; cm. solar bursts 0355, 0500, 1220, 1910, and 2350. Geophysical: magnetic disturbance continues becoming moderate-to-severe, 1800-2100 Kp7o; S-SWF, SCNA, and SEA at 0400; SFD at 1805; S-SWF, SPA, SFD, SCNA, SEA, and SES at 1907; S-SWF and SCNA at 2357; cosmic ray decrease continues; ionospheric F region very disturbed with auroral absorption at high latitudes; ionospheric absorption on 30 MHz at Great Whale River 0505-2130; bright auroral rays overhead at $\phi = 57°$ at 1100, bright rayed arc at $\phi = 57°$ at 1200, striated arc at $\phi = 57°$ at 1300 and bright rays at $\phi = 54°$ from 1900-2100 in U.S.S.R.; homogeneous arc, suddenly appeared near 2030 overhead at $\phi = 59°$ and persisted changing occasionally to a series of parallel bands, until 2115, visible to $\phi = 54°$ in Western Europe.
29	96	96	35	12		Solar: spot group growing and βγ, radio int. 47, 21 cm radio noise, and 9 subflares in R-8223; spot appears, radio int. 11 and 6 subflares in new region R-8227; br. green corona on NW limb; radio int. 11 at N10 E33; major event: Hα (R-8223) impt. 2b, 0324-0418 with cm. solar bursts; minor events: Hα (R-8223) 0101E, 0800E, 0940E, 1045E, 1338, 1441, 1504, 1746, 2151, and 2358; cm. solar bursts 0020, 0110, 0220, 0350, 0520, 0535, 0600, 0630, 0700, 0710, 0820, 0910, 0950, 1015, 1110, 1330, 1510, 1830, and 2335; m. solar bursts 0020, 0110, 0700, 0820, 0950, 1015, 1110, 1300, 1330, and 1830; type IV, 10-41 MHz, 1812-1940; dark surge (R-8223) 0800E.

1966 Mar.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
29 (Cont'd)						Geophysical: moderate magnetic disturbance continues 0000-0900, quiet thereafter; SPA's at 0253 and 2220; S-SWF, SCNA and SES at 0323; SCNA, SES and SEA at 0946; S-SWF, SCNA, SEA and SPA at 1100; SL-SWF, SPA and SFD at 1512; SL-SWF and SPA at 1617; S-SWF, SCNA, SEA, SPA, SES, and SFD at 1745; cosmic ray decrease continues but recovery begins; ionospheric F region disturbed with some auroral absorption at high latitudes; auroral rays overhead at $\phi = 56°$ from 1900-2000 and homogeneous band at $\phi = 57°$ at 2100 in U.S.S.R.
30	99	99	42	6		Solar: spot group growing and $\beta\gamma$, radio int. 88, 21 cm radio noise and 9 subflares in R-8223; small spot continues, radio int. 6 in R-8227; radio int. 11 in R-8232; radio int. 15 at N10 E25; major event: Hα (R-8223) impt. 2n, 1241-1500 with cm. and m. solar bursts and type IV, 19-41 MHz, 1307-1450; dark surge (R-8223) 1248; minor events: Hα (R-8223) 0359, 0725E, 1734E, and 1930; cm. solar burst 1950. Geophysical: continued magnetically quiet; S-SWF, SCNA and SPA at 0030; S-SWF, SCNA, SEA, SPA, SES, and SFD at 1245; SFD at 1330E; G-SWF at 1610; S-SWF, SPA and SES at 1716; G-SWF, SCNA, SEA, SPA and SES at 1952; cosmic ray recovery from decrease continues.
31	111	110	52	3		Solar: spot group still $\beta\gamma$, radio int. 96, 21 cm radio noise, and 13 subflares in R-8223; spot continues and radio int. 7 in R-8227; radio int. 19 at N10 E15; major event: Hα (R-8223) impt. 2b, 1807-2045 with cm. solar bursts; active dark filament (R-8223) 1948 and 2000; br. surge (R-8223) 1904; minor events: Hα (R-8223) 0008E, 0731 and 0810E; cm. solar bursts 0110, 1100 and 2340; m. solar burst 1120; active dark filament (R-8223) 0624. Geophysical: continued magnetically quiet; SPA's at 0109 and 0143; S-SWF at 0818; S-SWF, SCNA, SEA, SPA, SES, and SFD at 1900; cosmic ray recovery from decrease continues.
April						
1	107	107	64	18		Solar: spot group still $\beta\gamma$, radio int. 66, 21 cm radio noise, and 10 subflares in R-8223; spot gone but one subflare in R-8227; small spot, radio int. 6 and one subflare in R-8242; major event: Hα (R-8223) impt. 2b, 1735-1934 with cm. solar burst; minor events: Hα (R-8223) 1103E, 1412 and 1553; cm. solar burst 0240; m. solar noise storm. Geophysical: continued magnetically quiet until preliminary sudden commencement at 1237, 1200-2400 Kp 4o4o4-5+; S-SWF at 0710; SCNA at 1330; G-SWF and SPA at 1632; SL-SWF, SCNA, SEA, SPA, SES, and SFD at 1740; SFD at 1921; active rayed band, position uncertain, visible to $\phi = 59°$ in Western Europe.
2	106	106	58	13	R-8238 (N30)	Solar: spot group γ, no observation for radio int., 21 cm radio noise and 13 subflares in R-8223; small spot continues in R-8242; minor events: Hα (R-8223) 0057, 0805, 1119, and 2213E; active dark filaments (R-8223) 0012-0401 and 2213-03/0525; cm. solar bursts 0055, 0330, 0505, 1130, 1500, 1740, 2110, and 2220; m. solar noise storm. Geophysical: moderate magnetic disturbance until 0900, quiet thereafter; S-SWF, SCNA and SPA at 0058; SCNA at 0300; SCNA and SEA at 0941; S-SWF, SPA and SES at 1136 and

1966 Apr.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
2 (Cont'd)						1500; S-SWF and SEA at 1702; SFD at 1851; SL-SWF, SPA and SFD at 2108; SL-SWF, SPA and SFD at 2214; ionospheric F region very disturbed.
3	102	102	74	7	R-8223 (2) (N27)	Solar: spot group again βγ, radio int. 63, 21 cm radio noise and 15 subflares in R-8223; spot gone in R-8242; small spot in R-8238; small spot, radio int. 8 and one subflare in R-8240; minor events: Hα (R-8223) 0736E and 1301; active dark filament (R-8223) 1302; cm. solar bursts 0440, 1100, 1305, 2155, and 2230; m. solar noise storm. Geophysical: continued magnetically quiet except for slight disturbance 0300-0600 and 2100-2400; G-SWF and SPA at 0439; S-SWF and SEA at 1305; SFD's at 1618D and 2156D; SPA at 2048; S-SWF, SPA and SFD at 2225.
4	102	103	74	8		Solar: spot group βγ with delta characteristics, radio int. 65, 21 cm radio noise, and 11 subflares in R-8223; small spot continues in R-8238; small spot in R-8243; small spot and radio int. 9 in R-8240; major events: Hα (R-8223) impt. 2b, 2107-2244; active dark filament (R-8223) 2111-2202; minor events: Hα (R-8223) 0141, 0407, 0641, and 0733E; cm. solar bursts 0140, 0430, 0450, 0640, 0740, and 1830; m. solar noise storm; active dark filament (R-8223) 0008. Geophysical: magnetically quiet except for slight disturbance 0000-0600; S-SWF and SPA at 0144; G-SWF and SCNA at 0408; G-SWF at 0430; S-SWF, SEA, SPA, and SES at 0733; S-SWF, SEA and SPA at 1228; SFD's at 1341 and 1554; SL-SWF, SCNA, SPA, and SFD at 2112.
5	102	102	55	6	(R-8252) (N01)	Solar: spot group still βγ, radio int. 53, 21 cm radio noise, and 10 subflares in R-8223; small spot continues in R-8238; small spot, radio int. 10 and 2 subflares in R-8240; small spot in R-8248; moderate green corona, radio int. 9 in R-8254; minor events: dark surge disk (R-8223) 1946-2021; cm. solar bursts 0105 and 0205; m. solar noise storm. Geophysical: continued magnetically quiet; S-SWF, SEA, SPA, and SFD at 0205.
6	104	104	59	7	R-8240 (N20)	Solar: spot decreasing but still βγ, radio int. 43, 21 cm radio noise, and 7 subflares in R-8223; small spot continues and 4 subflares in R-8238; small spot, radio int. 16 and 2 subflares in R-8240; small spot and 1 subflare in R-8248; radio int. 10 and 1 subflare in R-8251; minor events: Hα (R-8223) 1558 and 2320; cm. solar bursts 1210, 1600, 2110, and 2325; m. solar noise storm. Geophysical: continued magnetically quiet; SFD at 1559; SPA's at 2135 and 2321.
7	103	103	70	10		Solar: spot still decreasing no longer βγ, radio int. 32, 21 cm radio noise, and 8 subflares in R-8223; small spot continues and 4 subflares in R-8238; spot growing, radio int. 30 and 12 subflares in R-8240; small spot and 6 subflares in R-8248; radio int. 10 in R-8254; radio int. 7 in R-8252; minor events: dark surge (R-8248) 1302-1332; cm. solar burst 1235; m. solar noise storm. Geophysical: magnetic disturbance 0000-0600 Kp5-3+ but quiet thereafter; S-SWF, SCNA, SPA and SES at 1642; ionospheric absorption at Great Whale River beginning 1904.

1966 Apr.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
8	107	107	65	10		Solar: spot continues, 21 cm radio noise and 5 subflares in R-8223; spot gone, radio int. 19 and 4 subflares in R-8238; βγ spot growing, radio int. 36, 21 cm radio noise, and 10 subflares in R-8240; small spot in R-8248; radio int. 9 in R-8252; radio int. 9 and 1 subflare in R-8254; 1 subflare in R-8251; major events: Hα (R-8238) impt. 2n, 0905E-0928D with cm. solar burst; br. surge (R-8238) 0912; minor events: Hα (R-8223) 0735E; (R-8238) 1433E; m. solar noise storm. Geophysical: mostly magnetically quiet, slight disturbance 0000-0600 and 2100-2400; SL-SWF, SPA, SES, and SFD at 1622; S-SWF, SCNA, SPA, and SFD at 1811; SPA and SFD at 1921; SPA at 2242; ionospheric absorption at Great Whale River continues until 1110.
9	100	100	47	5		Solar: spot smaller, 21 cm radio noise and 1 subflare in R-8223; βγ spot stable, radio int. 29, 21 cm radio noise, and 9 subflares in R-8240; spot smaller in R-8248; radio int. 8 in R-8252 and R-8254; minor events: Hα (R-8240) 0020 and 0831E, (R-8223) 1007E; br. surges (R-8223) 1342 and 2112; sudden disappearance of filament (R-8240) 0034-0153; cm. solar burst 0020. Geophysical: magnetically quiet; SL-SWF, SPA and SFD at 0025; SFD at 1658E.
10	94	95	37	5	R-8253 (N19)	Solar: spot gone, 2 subflares in R-8223 at W limb; βγ spot stable, radio int. 26, 21 cm radio noise, and 5 subflares in R-8240; radio int. 7 in R-8252, R-8254 and R-8262; 1 subflare in R-8259; minor events: Hα (R-8240) 2311E and 2347E; cm. solar bursts 1210, 1250, 1520, 1550, and 2340; m. solar bursts 1250, 1350 and 1520. Geophysical: continued magnetically quiet except for slight disturbance 1800-2100; SL-SWF, SPA, SES and SFD at 1222; SFD at 1452; S-SWF, SPA and SES at 1545; S-SWF, SCNA and SPA at 2341; ionospheric F region relatively quiet.
11	94	94	25	2	R-8251 (N25)	Solar: spot stable, radio int. 24, 21 cm radio noise and 15 subflares in R-8240; radio int. 6 in R-8254; moderate green corona and radio int. 14 in R-8262; minor events: Hα (R-8240) 0117, 0605, 0948E, and 1225; cm. solar bursts 0120, 0340 and 1255; m. solar noise storm. Geophysical: magnetically extremely quiet, 7Kp0o0+; S-SWF, SCNA and SPA at 0116; S-SWF and SEA at 0658; SPA at 0840; SCNA, SPA and SES at 1000; SPA and SES at 1100; G-SWF, SCNA, SEA, SPA, and SES at 1233; SFD's at 1436D, 1951 and 2008; SPA at 1815; G-SWF and SPA at 2340.
12	94	95	27	3	R-8254 (N30)	Solar: spot at W limb; radio int. 20, 21 cm radio noise and 18 subflares in R-8240; radio int. 8 and 21 cm radio noise in R-8254; 2 subflares in R-8253; spot, radio int. 24, 21 cm radio noise and 4 subflares in R-8262; minor events: Hα (R-8240) 0411, 0652 and 1717, (R-8262) 1546E; br. surge limb (R-8262) 1531 and 1721; br. surge (R-8240) 1538; dark surge (R-8253) 1721; cm. solar bursts 1625 and 1715; type II, 22-41 MHz, 1537-1552 followed by type IV 1552-1900. Geophysical: continued magnetically quiet; SPA's at 0346 and 2341; SCNA at 1004; SL-SWF, SPA, SES and SFD at 1625; S-SWF, SCNA, SEA, SPA, SES, and SFD at 1710; ionospheric F region relatively quiet.

1966 Apr.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
13	93	93	24	15	(R-8259) (N28)	Solar: spot gone but 7 subflares in R-8240; radio int. 8 and 1 subflare in R-8254; spot, radio int. 38, 21 cm radio noise, and 9 subflares in R-8262; minor events: Hα (R-8240) 0635 and 1148; spray (R-8240) 0624-0635; m. solar noise storm. Geophysical: slight magnetic disturbance throughout day; S-SWF, SCNA and SPA at 0616; S-SWF, SCNA, SEA, and SPA at 0706; SPA and SES at 1015; SPA at 1147; G-SWF at 1440.
14	90	91	29	8		Solar: radio int. 7 in R-8254; spot βγ, radio int. 39, 21 cm radio noise, and 4 subflares in R-8262; minor events: Hα (R-8262) 0406 and 0702; dark surges (R-8262) 0422 and 0724; cm. solar bursts 0410 and 1245. Geophysical: magnetically quiet except slight disturbance 0900-1500 and 2100-2400; ionospheric F region slightly disturbed.
15	96	96	29	4		Solar: radio int. 10 in R-8254; spot βγ, radio int. 49, 21 cm radio noise, and 3 subflares in R-8262; major event: Hα (R-8262) impt. 2b, 0950-1135 with cm. and m. solar burst. Geophysical: magnetically quiet after slight disturbance 0000-0300, especially 1200-2400 Kp0+0o; SL-SWF, SEA, SPA, and SES at 1003.
16	93	93	35	3		Solar: spot βγ, radio int. 37, 21 cm radio noise, and 3 subflares in R-8262; 1 subflare in R-8254; 1 subflare in R-8265; minor event: cm. solar burst 1830. Geophysical: continued magnetically very quiet especially 0000-1200 Kp0+; SFD at 1831.
17	94	95	40	4		Solar: spot smaller, radio int. 42, 21 cm radio noise, and 9 subflares in R-8262; minor events: Hα (R-8262) 0842E, 1420 and 1744; dark surges (R-8262) 0847 and 2025-2034; sudden disappearance of filament (R-8262) 1745; cm. solar bursts 0940 and 1750. Geophysical: continued magnetically quiet; S-SWF at 0844; SEA at 0942; SFD's at 1750 and 2030; ionospheric F region relatively quiet.
18	92	93	40	3	R-8262 (3) (N22) (R-8265) (S23)	Solar: spot slightly smaller, radio int. 38, 21 cm radio noise and 19 subflares in R-8262; minor events: Hα (R-8262) 1326; cm. solar burst 0430. Geophysical: continued magnetically very quiet 4Kp0+0o; S-SWF and SPA at 0500; SEA at 0752.
19	88	89	24	2		Solar: spot smaller, radio int. 27, 21 cm radio noise, and 3 subflares in R-8262; 6 subflares in R-8272; minor event: dark surge (R-8262) 2040-2235. Geophysical: continued magnetically extremely quiet, 5Kp0o0+; ionospheric F region relatively quiet.
20	93	94	37	5	(R-8275) (N29)	Solar: spot still smaller, radio int. 32, 21 cm radio noise, and 1 subflare in R-8262; small spot, radio int. 13, 21 cm radio noise, and 6 subflares in R-8272; moderate green corona and small spot in R-8273; minor events: Hα (R-8272) 0847E, (R-8262) 0919; dark surge (R-8272) 0805; active dark filament (R-8262) 1612-2219. Geophysical: continued magnetically quiet except slight disturbance 1200-1500.

1966 Apr.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
21	91	92	40	5		Solar: small spot continues, radio int. 28, 21 cm radio noise, and 7 subflares in R-8262; small spot continues, radio int. 10, 21 cm radio noise, and 7 subflares in R-8272; small spot continues in R-8273; minor events: Hα (R-8262) 0911; cm. solar bursts 1945 and 2015. Geophysical: continued magnetically quiet.
22	92	93	56	13		Solar: spot smaller, radio int. 20 and 21 cm radio noise in R-8262; small spot, radio int. 18, 21 cm radio noise, and 12 subflares in R-8272; small spot and 1 subflare in R-8273; 1 subflare in R-8274; 3 subflares in R-8275. Geophysical: slight magnetic disturbance; S-SWF at 0600; ionospheric F region slightly disturbed.
23	98	99	69	10		Solar: spot still smaller, radio int. 18 and 21 cm radio noise in R-8262; spot growing, radio int. 26, 21 cm radio noise, and 2 subflares in R-8272; small spot in R-8273; small spot and 7 subflares in R-8275; 1 subflare in R-8277; radio int. 11 in R-8278. Geophysical: slight-to-moderate magnetic disturbance continues to 0900, quiet thereafter; G-SWF at 0441; ionospheric absorption at Great Whale River from 0319 to 1042 on 30 MHz.
24	102	104	58	6	R-8272 (N19)	Solar: spot almost gone, radio int. 17, 21 cm radio noise, and 3 subflares in R-8262; spot growing, radio int. 35, 21 cm radio noise, and 1 subflare in R-8272; spot and radio int. 8 in R-8273; spot and 11 subflares in R-8275; small spot, bright green corona, radio int. 14, and 1 subflare in R-8278; 1 subflare in R-8279; minor events: Hα (R-8275) 1409, (R-8272) 2122E; dark surge (R-8273) 0815E; active dark filament (R-8273) 2128, 2248 and 2306; cm. solar bursts 1400 and 1410; m. solar noise storm. Geophysical: continued magnetically quiet except slight disturbance 1800-2100; SL-SWF, SPA, SES, and SFD at 1410; SFD at 1853; SPA at 2130.
25	103	104	56	3		Solar: radio int. 17 and 21 cm radio noise in R-8262; spot stable, radio int. 31, 21 cm radio noise, and 6 subflares in R-8272; small spot and radio int. 6 in R-8273; spot and 4 subflares in R-8275; tiny spot, bright green corona and radio int. 14 in R-8279; minor events: Hα (R-8272) 1523, (R-8279) 1600; active dark filament (R-8273) 0010, 0115 and 0239; cm. solar bursts 0430 and 2310; m. solar noise storm. Geophysical: continued magnetically very quiet; G-SWF and SPA at 0435.
26	100	101	54	3	R-8273 (N25)	Solar: radio int. 15 and 21 cm radio noise in R-8262; spot stable, radio int. 26, 21 cm radio noise, and 4 subflares in R-8272; small spot, radio int. 7 and 21 cm radio noise in R-8273; small spot and 9 subflares in R-8275; radio int. 17, 21 cm radio noise and 2 subflares in R-8279; minor events: Hα (R-8278) 1830; active dark filament (R-8273) 2243-2400; cm. solar burst 0510. Geophysical: continued magnetically very quiet; ionospheric F region relatively quiet.

1966 Apr.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
27	96	96	40	1	R-8274 (N24)	Solar: spot stable, radio int. 22 and 2 subflares in R-8272; spot gone and radio int. 7 in R-8273; spot gone but moderate green corona in R-8275; radio int. 13 and 1 subflare in R-8279; moderate green corona in R-8284; minor events: Hα (R-8275) 0845E; active dark filament (R-8273) 0025, 0115, 0141, 0253, and 2320; br. surges (R-8275) 1330 and 1705; cm. solar burst 0330. Geophysical: continued magnetically extremely quiet 6Kp0o0+.
28	94	95	40	4		Solar: spot smaller, radio int. 21, 21 cm radio noise, and 8 subflares in R-8272; tiny spot and radio int. 6 in R-8273; 4 subflares in R-8278; tiny spot, radio int. 14, 21 cm radio noise and 1 subflare in R-8279; 1 subflare in R-8283; spot, moderate green corona and radio int. 12 in R-8284; minor events: Hα (R-8272) 0840; active dark filament (R-8273) 0000-0202. Geophysical: continued magnetically quiet; SPA at 1404.
29	93	94	48	6		Solar: spot continues, radio int. 11, 21 cm radio noise, and 5 subflares in R-8272; 2 subflares in R-8278; small spot, radio int. 14, 21 cm radio noise, and 3 subflares in R-8279; small spot in R-8282; spot, radio int. 14 and 3 subflares in R-8284; minor events: Hα (R-8272) 0352; active dark filament (R-8273) 0307-0357; (R-8279) 1238-2355. Geophysical: continued magnetically quiet except slight disturbance 1800-2100.
30	92	93	52	10	(R-8277) (S26) R-8278 (N30)	Solar: spot gone, radio int. 7 in R-8272; small spot, radio int. 13, 21 cm radio noise, and 1 subflare in R-8279; small spot and 6 subflares in R-8282; spot, radio int. 14, 21 cm radio noise and 1 subflare in R-8284; 1 subflare in R-8285. Geophysical: continued magnetically quiet until 1200, slight disturbance thereafter; ionospheric F region disturbed.

1966 May	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
The period showed the effects of a recurrence sequence starting 2 April. Most of May and June were noticeably quiet ionospherically.						
1	90	92	50	8	R-8279(3) (N30)	Solar: spot continues, radio int. 10, 21 cm radio noise and 1 subflare in R-8279; small spot, radio int. 7 and 7 subflares in R-8282; spot, radio int. 15 and 21 cm radio noise in R-8284; radio int. 10 and 1 subflare in R-8285; βγ spot appears in R-8278; minor events: Hα (R-8285) 1608; active dark filament (R-8282) 2112 and 2236. Geophysical: slight magnetic disturbance until 0900, quiet thereafter; ionospheric F region still slightly disturbed.
2	92	94	48	12		Solar: spot gone, radio int. 12, 21 cm radio noise and 2 subflares in R-8279; small spot, radio int. 7 and 2 subflares in R-8282; spot continues, radio int. 13, 21 cm radio noise and 1 subflare in R-8284; spot appears, radio int. 10, 21 cm radio noise and 1 subflare in R-8285; small spot, radio int. 9 and 1 subflare in R-8278; minor events: Hα (R-8282) 0703, (R-8285) 0806 with cm. solar burst, (R-8284) 1030E; type IV, 19-41 MHz, 1216-1248 and 1300-1317; type II, 12-41 MHz, 1223.5-1237.5 and 1306-1317; active dark filament (R-8282) 0000. Geophysical: slight magnetic disturbance 0600-0900 and 1500-2400; SPA at 0153; ionospheric F region disturbed.
3	92	94	57	5		Solar: small spot appears again, radio int. 6, 21 cm radio noise and 9 subflares in R-8279; spot disappears in R-8282; βγ spot, radio int. 16 and 21 cm radio noise in R-8284; small spot, radio int. 12, 21 cm radio noise and 3 subflares in R-8285; small spot growing, radio int. 15 and 10 subflares in R-8278; small spot and 1 subflare in R-8286; minor events: Hα (R-8278) 0900E, (R-8285) 1453; active filament region (R-8279) 0824. Geophysical: magnetically quiet with slight magnetic disturbance 2100-2400; ionospheric F region slightly disturbed.
4	91	92	61	12	R-8284(2) (N25)	Solar: small spot, 21 cm radio noise and 3 subflares in R-8279; spot continues, radio int. 13, 21 cm radio noise and 7 subflares in R-8284; small spot, radio int. 9 and 21 cm radio noise in R-8285; spot, radio int. 17 and 2 subflares in R-8278; radio int. 10 in R-8289; minor event: Hα (R-8278) 0150 with cm. solar burst. Geophysical: continued slight magnetic disturbance until 1200, mostly quiet thereafter; S-SWF, SCNA, SPA and SES at 0153; ionospheric F region slightly disturbed.
5	87	89	38	6	(R-8293) (N33)	Solar: no spot mag. obs. Mt. Wilson; spot gone, 21 cm radio noise and 4 subflares in R-8279; spot continues, radio int. 11, 21 cm radio noise and 4 subflares in R-8284; small spot continues, radio int. 8, 21 cm radio noise and 3 subflares in R-8285; spot gone but radio int. 14 and 1 subflare in R-8278; radio int. 10 in R-8289; minor events: cm. solar burst 0845; eruptive prominence (R-8278) 1745; sudden disappearance of filament (R-8285) 1858. Geophysical: magnetically quiet; ionospheric F region slightly disturbed.

1966 May	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
6	86	88	23	7	R-8285 (N17)	Solar: 21 cm radio noise and 3 subflares in R-8279; spot again βγ, radio int. 12, 21 cm radio noise and 8 subflares in R-8284; spot gone but radio int. 7 in R-8285; radio int. 9 in R-8289; minor event: Hα (R-8284) 0322. Geophysical: magnetically quiet except slight disturbance 0300-0900.
7	88	90	13	4	R-8286 (N30) R-8290 (N12)	Solar: no spot mag. obs. Mt. Wilson; 1 subflare in R-8279; spot continues, radio int. 15, 21 cm radio noise and 7 subflares in R-8284; radio int. 7 and 1 subflare in R-8285; radio int. 8 and 1 subflare in R-8289; weak green corona and radio int. 8 on NE limb. Geophysical: continued magnetically quiet especially 0300-0900 and 1200-1500 Kp0+; SPA at 2022.
8	86	88	16	5		Solar: 2 subflares in R-8279 at W limb; spot continues, radio int. 14, 21 cm radio noise and 1 subflare in R-8284; radio int. 7 in R-8285; 1 subflare in R-8289; moderate green corona and radio int. 10 in R-8294 at E limb. Geophysical: continued magnetically quiet especially 0300-0900 Kp0+0o; SL-SWF and SCNA at 0431.
9	86	88	8	5	(R-8303) (S20)	Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 10 and 4 subflares in R-8284; radio int. 7 and 1 subflare in R-8289; moderate green corona, radio int. 17 and 21 cm radio noise in R-8294; minor events: Hα (R-8284) 0905E; br. surges (R-8284) 0450 and 2055; type II, 26-280 MHz, 2139-2155. Geophysical: continued magnetically quiet especially 1800-2400 Kp0+; SCNA and SPA at 0431.
10	85	87	0	2	(R-8298) (N23)	Solar: no spot mag. obs. Mt. Wilson; radio int. 8 in R-8284 at W limb; 1 subflare in R-8285; radio int. 18, 21 cm radio noise and 1 subflare in R-8294; radio int. 10 in R-8299; minor events: Hα (R-8284) 0724E; br. surge (R-8284) 1001. Geophysical: continued magnetically very quiet 5 Kp 0o or 0+.
11	87	88	14	10	R-8289(3) (N35)	Solar: no spot mag. obs. Mt. Wilson; radio int. 8 in R-8285 at W limb; radio int. 19, 21 cm radio noise and 4 subflares in R-8294; radio int. 7 in R-8299; 1 subflare in R-8289; 1 subflare in R-8293; small spot and 1 subflare in R-8300; minor events: Hα (R-8294) 2048 with cm. and m. solar bursts; type IV, 25-41 MHz, 2113-2148 and type II, 22-41 MHz, 2118.5-2130; active prominence region (R-8294) 2042. Geophysical: continued magnetically quiet 0000-0600, slight-to-moderate disturbance 1200-2400; SL-SWF, SCNA, SEA and SPA at 2100.
12	91	93	14	6	R-8296 (N23)	Solar: no spot mag. obs. Mt. Wilson; 21 cm radio noise and 1 subflare in R-8294; radio int. 9 in R-8299; small spot continues, radio int. 17 and 1 subflare in R-8300; 1 subflare in R-8298; minor events: Hα (R-8294) 1825E; br. surge (R-8294) 1432. Geophysical: magnetically quiet.

1966 May	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
13	91	93	23	7		Solar: no spot mag. obs. Mt. Wilson; radio int. 14, 21 cm radio noise and 1 subflare in R-8294; small spot, radio int. 16 and 3 subflares in R-8300; small spot appears and 4 subflares in R-8298; small short-lived spot in R-8301; 1 subflare in R-8296; radio int. 9 in R-8302 at E limb; minor event: eruptive prominence (R-8290) 1910. Geophysical: magnetically quiet except slight disturbance 0000-0300 and 1500-1800.
14	95	97	52	2		Solar: radio int. 13, 21 cm radio noise and 1 subflare in R-8294; small spot continues and radio int. 12 in R-8300; small spot continues in R-8298; spot appears, radio int. 15 and 4 subflares in R-8296; radio int. 10 in R-8302; minor event: Hα (R-8296) 0630E with cm. solar burst. Geophysical: magnetically very quiet, 5 Kp 0o or 0+; ionospheric F region relatively quiet.
15	97	99	46	2	R-8294(4) (N22)	Solar: radio int. 9, 21 cm radio noise and 1 subflare in R-8294; small spot continues and radio int. 8 in R-8300; small spot disappears in R-8298; spot continues, radio int. 14, 21 cm radio noise and 12 subflares in R-8296; radio int. 10 in R-8302; 1 subflare in R-8299; radio int. 6 and 1 subflare in R-8303; minor events: Hα (R-8296) 0755E with cm. and m. solar bursts; active dark filament (R-8294) 1220. Geophysical: continued magnetically very quiet 5 Kp 0o or 0+; ionospheric F region relatively quiet.
16	98	100	47	5		Solar: radio int. 9 and 1 subflare in R-8294; small spot and radio int. 8 in R-8300; spot continues, radio int. 22, 21 cm radio noise and 7 subflares in R-8296; radio int. 12 and 1 subflare in R-8302; radio int. 7 and 3 subflares in R-8303; 1 subflare in R-8301; minor events: Hα (R-8296) 0704E, (R-8303) 0724E; m. solar noise storm; cm. solar burst 2040; br. surge (R-8296) 1500U. Geophysical: continued magnetically quiet especially 0600-1200 Kp0+; S-SWF at 2029, G-SWF and SPA at 2040.
17	97	99	33	7	R-8299 (S27)	Solar: no spot mag. obs. Mt. Wilson; radio int. 10 in R-8294; small spot disappears in R-8300; spot continues, radio int. 17, 21 cm radio noise and 11 subflares in R-8296; spot appears, radio int. 13 and 21 cm radio noise in R-8302; radio int. 10 and 1 subflare in R-8301. Geophysical: magnetically quiet except slight disturbance 0000-0300; SEA at 1735.
18	96	99	27	5		Solar: no spot mag. obs. Mt. Wilson; radio int. 10 and 2 subflares in R-8294; spot decreasing, radio int. 16 and 3 subflares in R-8296; spot continues, radio int. 16, 21 cm radio noise and 3 subflares in R-8302; radio int. 8 and 1 subflare in R-8301; moderate green corona on NE limb; minor event: Hα (R-8296) 1108E. Geophysical: continued magnetically quiet except slight disturbance 0000-0300.

1966 May	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
19	105*	107*	34	3	R-8300(2) (N32) R-8301(2) (N23)	Solar: spot appears, radio int. 30, 21 cm radio noise and 5 subflares in R-8294; radio int. 8 and 1 subflare in R-8296 at W limb; spot continues, radio int. 18, 21 cm radio noise and 3 subflares in R-8302; radio int. 10 in R-8301; spot, radio int. 27 and 7 subflares and moderate green corona in R-8310 at E limb; minor events: Hα (R-8294) 1512E; cm. solar burst at 2310. Geophysical: continued magnetically quiet especially 0600-1500 Kp0+; SPA at 1510, SCNA at 2221, SCNA and SPA at 2315.
20	113*	116*	57	8	R-8302 (S22)	Solar: no spot mag. obs. Mt. Wilson; spot growing, radio int. 48, 21 cm radio noise and 2 subflares in R-8294; spot growing, radio int. 40, 21 cm radio noise and 7 subflares in R-8302; radio int. 10 in R-8301; spot continues, radio int. 37 and 21 cm radio noise in R-8310; radio int. 11 in R-8304; 1 subflare in each of R-8300, R-8309 and R-8312; moderate green corona on NE limb; minor events: Hα (R-8294) 0808E and 0910E, (R-8302) 0808E, 1010E and 2246; m. solar noise storm; dark surge (R-8302) 1115. Geophysical: continued magnetically quiet except slight disturbance 1800-2400.
21	121	124	80	4	R-8304(2) (N18)	Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 48 and 11 subflares in R-8294; spot continues to grow, radio int. 46 and 3 subflares in R-8302; radio int. 11 in R-8301; spot continues, radio int. 49 and 3 subflares in R-8310; radio int. 13 in R-8304; 1 subflare in R-8300; minor events: Hα (R-8294) 0634, (R-8310) 1435; m. solar noise storm. Geophysical: magnetically quiet; SFD at 1835.
22	118	121	66	4		Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 26, 21 cm radio noise and 8 subflares in R-8294; spot continues, radio int. 39 and 21 cm radio noise in R-8302; spot continues, radio int. 49, 21 cm radio noise and 3 subflares in R-8310; radio int. 10 and 1 subflare in R-8301; radio int. 10 in R-8304 and R-8312; minor events: Hα (R-8312) 1837; m. solar noise storm. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
23	111	114	68	2		Solar: no spot mag. obs. Mt. Wilson; spot over W limb, radio int. 14 and 5 subflares in R-8294; spot grows, radio int. 39, 21 cm radio noise and 5 subflares in R-8302; spot continues, radio int. 40, 21 cm radio noise and 2 subflares in R-8310; radio int. 9 in R-8304; radio int. 16 and 2 subflares in R-8312; 2 subflares in R-8300; radio int. 8 and 1 subflare in R-8313; minor events: Hα (R-8312) 0700E, (N00 E90) 0714E, (R-8294) 1148E with m. solar burst; m. solar noise storm. Geophysical: continued magnetically quiet, especially 0600-1200 and 2100-2400 Kp0+; ionospheric F region relatively quiet.

* corrected for burst

1966 May	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
24	115	118	68	2	R-8309(2) (N26)	Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 32, 21 cm radio noise and 12 subflares in R-8302; spot decreasing, radio int. 40, 21 cm radio noise and 1 subflare in R-8310; radio int. 9 and 1 subflare in R-8312; radio int. 14 and 3 subflares in R-8300; spot appears, radio int. 25 and 8 subflares in R-8314; br. green corona on NW limb; moderate green corona on NE limb; minor events: Hα (R-8312) 0622E, (R-8300) 0659E, 0714E and 1943, (R-8314) 0800E, (R-8302) 1642E; cm. and m. solar bursts 1405; m. solar noise storm; type IV, 22-41 MHz, 1443-1512. Geophysical: magnetically very quiet 5 Kp 0o or 0+; ionospheric F region relatively quiet.
25	112	115	64	5	R-8310 (N16)	Solar: spot continues, radio int. 32, 21 cm radio noise and 10 subflares in R-8302; spot decreasing, radio int. 6, 21 cm radio noise and 6 subflares in R-8310; radio int. 9 and 1 subflare in R-8312; radio int. 9 and 2 subflares in R-8300; spot increasing, radio int. 21, 21 cm radio noise and 4 subflares in R-8314; radio int. 8 in R-8309; major event: Hα (R-8312) impt. 2b, 1042E-1230 with cm. solar burst; active filament region (R-8312) 1045E; minor events: Hα (R-8302) 0448, 0521 with m. solar burst, 0625E with cm. and m. solar bursts, 0718, 0757 and 0936E, (R-8310) 1506, cm. and m. solar bursts at 1305, 1535 and 2350; type IV, 25-320 MHz, 1534-1545 and type II, 1537.2-1555; type II, 21-41 MHz, 0154.5-0201.2. Geophysical: continued magnetically quiet until a preliminary sudden commencement at 2327; SPA at 0623; S-SWF, SCNA, SPA and SFD at 1536; SFD at 1730.
26	109	112	70	78		Solar: spot continues, radio int. 18, 21 cm radio noise and 4 subflares in R-8302; spot decreasing, radio int. 17, 21 cm radio noise and 7 subflares in R-8310; radio int. 8 in R-8312; spot increasing, radio int. 44, 21 cm radio noise and 4 subflares in R-8314; radio int. 9 and 1 subflare in R-8309; old cycle βγ spot appears, radio int. 10 and 3 subflares in R-8318; minor events: Hα (R-8310) 0933 with cm. and m. solar bursts; cm. solar burst at 1600; m. solar noise storm. Geophysical: magnetically quiet 0000-0600 followed by severe disturbance 0900-2400 Kp 7o7o6o7o7-; SCNA at 1923; aurora at ϕ = 55° over North America 0600-1100; ionospheric absorption on 30 MHz at Great Whale River 0936-2036; ionospheric F region very disturbed with some auroral absorption at high latitudes.
27	106	108	66	5	R-8312(3) (N33)	Solar: no spot mag. obs. Mt. Wilson; radio int. 9 and 1 subflare in R-8302 at W limb; spot decreasing, radio int. 15 and 21 cm radio noise in R-8310; radio int. 7 and 3 subflares in R-8312; spot growing, radio int. 49, 21 cm radio noise and 5 subflares in R-8314; radio int. 7 and 1 subflare in R-8309; spot growing, radio int. 17 and 4 subflares in R-8318; radio int. 13 and 1 subflare in R-8320; minor events: cm. solar burst at 1410; m. solar noise storm; active prominence region (N50 E90) 0806. Geophysical: moderate magnetic disturbance 0000-0300 followed by very quiet 4 Kp0+; SFD at 1407, SCNA at 1610; weak noctilucent clouds visible over Western Europe at latitude 56°, 2245-2330 UT; ionospheric F region disturbed.

1966 May	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
28	(103) ** at 1415UT		60	5	(R-8313)(4) (N28) R-8314 (N24)	Solar: no spot mag. obs. Mt. Wilson; spot gone, radio int. 25 and 21 cm radio noise in R-8310; 1 subflare in R-8312; spot decreasing, radio int. 36, 21 cm radio noise and 2 subflares in R-8314; spot growing, radio int. 14 and 8 subflares in R-8318; small spot appears and radio int. 10 in R-8320; 1 subflare in R-8315; major event: Hα (R-8310) impt. 2b, 1521-1955 with cm. and m. solar bursts; type IV, 21-41 MHz, 1628-1855; br. surge (R-8310) 1545; minor event: Hα (R-8318) 1444. Geophysical: continued magnetically quiet until slight disturbance 2100-2400; SL-SWF, SEA, SES, SPA and SFD at 1614.
29	103	107	39	4		Solar: no spot mag. obs. Mt. Wilson; radio int. 17 and 21 cm radio noise in R-8310; spot decreasing, radio int. 32, 21 cm radio noise and 2 subflares in R-8314; spot continues, radio int. 16 and 4 subflares in R-8318; small spot continues, radio int. 8 and 2 subflares in R-8320; 1 subflare in R-8315; 1 subflare in R-8319; radio int. 10 and 1 subflare in R-8326; radio int. 7 and 1 subflare in R-8328; major event: Hα (R-8309) impt. 2n, 1005-1243; minor events: Hα (R-8320) 0910; m. solar noise storm. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
30	99	102	58	6	R-8318 (N05) R-8315(4) (N29)	Solar: no spot mag. obs. Mt. Wilson; radio int. 15 and 21 cm radio noise in R-8310; spot continues to decrease, radio int. 23 and 21 cm radio noise in R-8314; spot continues and radio int. 11 in R-8318; spot disappears in R-8320; small spot appears and radio int. 8 in R-8326; radio int. 8 and 7 subflares in R-8328; radio int. 8 and 5 subflares in R-8329; 1 subflare in R-8312. Geophysical: continued magnetically quiet until 1800-2400 slight disturbance; SPA at 2320.
31	103	106	56	48	R-8319 (N21)	Solar: no spot mag. obs. Mt. Wilson; radio int. 10 and 1 subflare in R-8310 at W limb; spot still decreasing, radio int. 21 and 21 cm radio noise in R-8314; spot continues to decrease and radio int. 7 in R-8318; spot decreases and radio int. 6 in R-8326; small spot appears and radio int. 8 in R-8328; spot appears, radio int. 18 and 11 subflares in R-8329; minor events: Hα (R-8326) 0926E, (R-8328) 1028; eruptive prominence (R-8309) 0740E; br. surge (N42 W90) 0812. Geophysical: moderate-to-severe magnetic disturbance, Kp 3+5-5o4+4o6-6+5+, with a preliminary sudden commencement at 0342; SPA at 0415; aurora overhead at ϕ = 56° over North America 0600-1100; ionospheric F region very disturbed with some auroral absorption at high latitudes.
June						
1	102	105	71	12	R-8320(3) (N28)	Solar: spot continues to decrease, radio int. 21, 21 cm radio noise and 1 subflare in R-8314; small spot continues and radio int. 8 in R-8318; spot increases, radio int. 13 and 3 subflares in R-8326; small spot continues, radio int. 11 and 2 subflares in R-8328; spot continues, βγ, and radio int. 19 in R-8329; spot appears and 7 subflares in R-8330; radio int. 18, 2 subflares and moderate green corona in R-8332 at E limb; 2 subflares in R-8312.

** Strong burst in progress, no value reportable for 1700 UT.

1966 June	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
1 (Cont'd)						Geophysical: moderate-to-severe magnetic disturbance continues, becoming a slight disturbance 0300-0900, quiet thereafter; cosmic ray Forbush decrease at 0000, recovery takes place gradually, back to previous level by June 9; ionospheric F region disturbed with some auroral absorption at high latitudes.
2	101	104	74	10	R-8329 (N32)	Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 20 and 21 cm radio noise in R-8314; spot gone but radio int. 8 and 5 subflares in R-8318; spot continues, radio int. 8 and 1 subflare in R-8326; small spot continues, radio int. 8 and 1 subflare in R-8328; spot continues, radio int. 12 and 2 subflares in R-8329; spot continues and 6 subflares in R-8330; spot, radio int. 24, 21 cm radio noise, 1 subflare and moderate green corona in R-8332; 2 subflares in R-8312; minor events: Hα (R-8330) 0412; cm. and m. solar noise at 1415; type II, 26-39 MHz, 1910.5-1914.2; active dark filament (R-8314) 0001 and 0228. Geophysical: mostly magnetically quiet but with slight disturbance 0900-1800; S-SWF and SEA at 0411.
3	100	103	41	7	R-8330 (N33)	Solar: spot gone, radio int. 18, 21 cm radio noise and 1 subflare in R-8314 near W limb; radio int. 10 and 3 subflares in R-8318; spot continues, radio int. 7 and 4 subflares in R-8326; small spot continues, radio int. 8 and 1 subflare in R-8328; spot size decreasing and radio int. 12 in R-8329; small spot in R-8330; spot continues, radio int. 20, 21 cm radio noise, 1 subflare and moderate green corona in R-8332; 4 subflares in R-8312; spot appears again and 1 subflare in R-8320; minor events: Hα (S12 W60) 0845; eruptive prominence (R-8332) 1730; active dark filament (R-8326) 2302. Geophysical: magnetically quiet except slight disturbance 1500-2100.
4	99	102	60	4	R-8326(2) (N17)	Solar: radio int. 15 in R-8314; radio int. 7 in R-8318; spot size increasing, radio int. 12 and 4 subflares in R-8326; spot gone but radio int. 7 in R-8328; spot continues, radio int. 13 and 1 subflare in R-8329; small spot and 2 subflares in R-8330; spot size decreasing, radio int. 14 and 21 cm radio noise in R-8332; spot continues in R-8320; small spot appears with radio int. 7 in R-8319; minor event: Hα (R-8312) 1206 with br. surge. Geophysical: continued magnetically quiet especially 0600-1500 Kp0+.
5	99	102	43	5	R-8328(2) (S22)	Solar: spot continues, radio int. 11 and 3 subflares in R-8326; radio int. 7 in R-8328; spot continues and radio int. 11 in R-8329; small spot and 1 subflare in R-8330; spot continues, radio int. 16 and 21 cm radio noise in R-8332; spot continues and 1 subflare in R-8320; small spot continues, radio int. 12 and 2 subflares in R-8319; radio int. 15 and 1 subflare in R-8335 at E limb. Geophysical: continued magnetically quiet.
6	99	102	43	4		Solar: spot decreasing and radio int. 8 in R-8326; radio int. 6 and 1 subflare in R-8328; spot decreasing and radio int. 13 in R-8329; small spot and 1 subflare in R-8330; spot continues, radio int. 13 and 21 cm radio noise in

1966 June	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
6 (Cont'd)						R-8332; spot disappears in R-8320; radio int. 16 and 7 subflares in R-8319 at W limb; radio int. 16 and 1 subflare in R-8335; minor events: Hα (R-8335) 0745E; m. solar noise storm. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
7	94	97	38	9		Solar: spot gone in R-8326; radio int. 6 in R-8328; spot size decreasing and radio int. 11 in R-8329; small spot continues in R-8330; spot continues, radio int. 12 and 21 cm radio noise in R-8332; βγ spot, radio int. 25 and 21 cm radio noise in R-8336. Geophysical: continued magnetically quiet except slight disturbance 0300-0600 and 0900-1200; SPA at 2008; SCNA at 2257.
8	97	100	35	4	R-8332(2) (N23)	Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 15 in R-8329 at W limb; spot no longer seen but 3 subflares in R-8330; spot size decreasing, radio int. 11 and 21 cm radio noise in R-8332; βγ spot continues, radio int. 33 and 21 cm radio noise in R-8336; minor event: Hα (R-8330) 1126E. Geophysical: continued magnetically quiet especially 1800-2400 Kp0+0o.
9	96	99	33	3		Solar: 2 subflares in R-8330 at W limb, spot size continues decreasing, no radio int. report at 9.1 cm, 21 cm radio noise and 2 subflares in R-8332; spot continues now βγ, 21 cm radio noise and 4 subflares in R-8336; minor event: Hα (R-8336) 1353 with active dark filament, br. surge and dark surge. Geophysical: continued magnetically very quiet, 0000-0900 Kp0o; ionospheric F region relatively quiet.
10	94	97	25	2		Solar: spot decreasing, radio int. 8 and 1 subflare in R-8332; βγ spot size increasing, radio int. 27, 21 cm radio noise and 2 subflares in R-8336; moderate green corona and radio int. 13 in R-8338 at E limb; minor event: cm. solar noise at 0135. Geophysical: continued magnetically very quiet, 0900-2400 Kp0+; ionospheric F region relatively quiet.
11	93	96	43	3	R-8334(5) (N20)	Solar: spot decreasing, radio int. 10 and 1 subflare in R-8332; βγ spot, radio int. 33, 21 cm radio noise and 10 subflares in R-8336; radio int. 7 and 2 subflares in R-8334; radio int. 13 in R-8338; major event: Hα (R-8336) impt. 2n, 1036-1112; minor events: Hα (R-8336) 0603; cm. and m. solar bursts 2345; type IV, 15-41 MHz, 2347.2-2358. Geophysical: continued magnetically very quiet, 3 Kp0+; SPA at 2030; SPA and SFD at 2349; ionospheric F region relatively quiet.
12	93	96	34	7	R-8335(5) (N18)	Solar: small spot, radio int. 10 and 1 subflare in R-8332; βγ spot, size increasing, radio int. 37, 21 cm radio noise and 9 subflares in R-8336; radio int. 7 in R-8334; radio int. 13 in R-8338; minor events: Hα (R-8336) 0318 with cm. solar burst, 0901 and 1058; m. solar noise storm; cm. solar bursts 1010 and 1605; disappearance of filament (R-8336) 0136E. Geophysical: continued magnetically quiet but with slight disturbance 1200-1500; S-SWF, SFD, SES, SEA and SPA at 1603; S-SWF, SEA, SPA, SES and SFD at 2038.

1966 June	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
13	93	96	34	5	R-8336(5) (N24)	Solar: spot gone but radio int. 13 and 2 subflares in R-8332; βγ spot, size decreasing, radio int. 35, 21 cm radio noise and 8 subflares in R-8336; radio int. 7 and 1 subflare in R-8334; radio int. 12, 21 cm radio noise and 1 subflare in R-8338; major event: Hα (R-8336) impt. 2n, 0512E-0855D with cm. and m. solar bursts; minor events: Hα (R-8336) 0044 and 0237 both with cm. solar burst, (R-8332) 1830; cm. solar bursts 0015, 0210, 0345 and 0435; dark surge (R-8336) 0348; br. surge (R-8332) 1807. Geophysical: continued magnetically quiet; SPA's at 0010, 0102 and 0658; S-SWF and SPA at 0257; SCNA's at 1849 and 1913.
14	94	97	31	4		Solar: radio int. 14 and 2 subflares in R-8332; βγ spot, radio int. 27, 21 cm radio noise and 6 subflares in R-8336; small spot and 1 subflare in R-8334; radio int. 12 and 21 cm radio noise in R-8338; minor events: Hα (R-8336) 1050; cm. solar bursts 0505 and 0640; m. solar noise storm. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
15	92	95	22	6		Solar: radio int. 14 in R-8332 at W limb; spot no longer βγ and size decreasing, radio int. 20, 21 cm radio noise and 4 subflares in R-8336; small spot and 6 subflares in R-8334; radio int. 12 and 21 cm radio noise in R-8338; βγ spot in R-8340 born on disk. Geophysical: continued magnetically quiet except slight disturbance 1800-2400.
16	95	98	40	6		Solar: spot size decreasing, radio int. 19, 21 cm radio noise and 1 subflare in R-8336; spot gone and 3 subflares in R-8334 near W limb; radio int. 10, 21 cm radio noise and 1 subflare in R-8338; spot no longer βγ, radio int. 22 and 2 subflares in R-8340; small spot in R-8341; spot, radio int. 9 and 1 subflare and moderate green corona in R-8344 at E limb. Geophysical: slight magnetic disturbance 0000-0300, quiet thereafter.
17	96	100	46	4	R-8338(2) (S22) R-8340 (N17)	Solar: spot continues to decrease in size, radio int. 13 and 21 cm radio noise in R-8336; radio int. 10, 21 cm radio noise and 1 subflare in R-8338; spot growing, radio int. 28 and 6 subflares in R-8340; small spot in R-8341; spot continues, radio int. 12, 21 cm radio noise, moderate green corona and 1 subflare in R-8344; minor events: m. solar noise storm, active dark filament (R-8340) 2121 and 2203. Geophysical: continued magnetically quiet; weak display noctilucent clouds over Western Europe in latitudes 53°-56° from 0025-0200.
18	95	98	39	3	R-8341 (S24)	Solar: spot gone, no radio int. report at 9.1 cm, 21 cm radio noise in R-8336; radio int. 10 and 21 cm radio noise in R-8338; spot again βγ and 4 subflares in R-8340; small spot continues, 21 cm radio noise and 1 subflare in R-8344; minor events: Hα (R-8336) 0700 with cm. solar burst; m. solar noise storm; type II, <25-100 MHz, 1604.2-1609; eruptive prominence (N39 W limb) 1303; active dark filament (R-8340) 0000. Geophysical: continued magnetically very quiet 0600-1800 Kp0+.

1966 June	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
19	94	97	33	6	(R-8352) (N18)	Solar: no spot mag. obs. Mt. Wilson; radio int. 9 and 21 cm radio noise in R-8338; spot continues, radio int. 17 and 1 subflare in R-8340; spot continues, radio int. 8, 21 cm radio noise and 2 subflares in R-8344; minor events: Hα (R-8340) 0920E with cm. solar burst; m. solar noise storm. Geophysical: continued magnetically quiet 0000-0900 Kp0+, slight disturbance 1200-1500 and 1800-2100; small patches noctilucent clouds over Western Europe in latitudes 53°-57° at 0050, faint patches visible in latitudes 55°-56° from 2245-0045.
20	91	94	42	7	R-8353 (N18)	Solar: radio int. 9 and 21 cm radio noise in R-8338; spot size decreasing, radio int. 15 and 4 subflares in R-8340; spot continues, radio int. 9 and 21 cm radio noise in R-8344; 2 subflares in R-8352; 5 subflares in R-8353; minor events: several m. solar noise bursts. Geophysical: continued magnetically quiet except slight disturbance 1800-2100; SPA at 0425.
21	90	94	29	4		Solar: no spot mag. obs. Mt. Wilson; radio int. 8 and 21 cm radio noise in R-8338; spot size decreasing, radio int. 13 and 2 subflares in R-8340; spot continues, radio int. 12, 21 cm radio noise and 3 subflares in R-8344; 2 subflares in R-8350; 1 subflare in R-8351. Geophysical: continued magnetically quiet; SCNA at 2306.
22	93	96	34	3	R-8345(3) (N28)	Solar: no spot mag. obs. Mt. Wilson; radio int. 7 and 21 cm radio noise in R-8338 at W limb; spot continues, radio int. 10 and 1 subflare in R-8340; 2 spot groups, radio int. 18, 21 cm radio noise and 4 subflares in R-8344; 1 subflare in R-8350; 1 subflare in R-8345; spot appears, radio int. 10, 21 cm radio noise and 6 subflares in R-8348; radio int. 6 and 1 subflare in R-8355; minor events: m. solar noise storm; cm. solar burst 2200; eruptive prominence (R-8355) 2030. Geophysical: continued magnetically very quiet, 1500-1800 Kp0+.
23	96	99	59	17	R-8344 (N23)	Solar: no spot mag. obs. Mt. Wilson; spot, radio int. 11 and 3 subflares in R-8340 at W limb; spot groups continue, radio int. 15, 21 cm radio noise and 3 subflares in R-8344; small spot appears and 1 subflare in R-8345; spot continues, radio int. 12, 21 cm radio noise and 8 subflares in R-8348; radio int. 9 in R-8355; minor events: Hα (R-8344) 0940E, (R-8345) 0925; cm. solar burst 0205; m. solar noise storm; dark surges (R-8348) 1244 and 1348. Geophysical: slight-to-moderate magnetic disturbance 0900-2400; S-SWF and SPA at 0200.
24	100	104	63	16	R-8351(4) (N31)	Solar: no spot mag. obs. Mt. Wilson; spots continue, radio int. 15, 21 cm radio noise and 2 subflares in R-8344; spot continues and 2 subflares in R-8345; spot continues, radio int. 17, 21 cm radio noise and 1 subflare in R-8348; spot, radio int. 9, moderate green corona and 2 subflares in R-8358; radio int. 13, moderate green corona and 1 subflare in R-8361 at E limb; minor events: Hα (R-8358) 0655, (R-8345) 0855E with dark surges; m. solar noise storm; eruptive prominence (R-8358) 1358.

1966 June	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
24 (Cont'd)						Geophysical: magnetically quiet 0000-1500, disturbance varying from slight to near severe 1500-2400; SEA and SES at 1952; ionospheric F region slightly disturbed.
25	102*	105*	80	16	R-8350(2) (N21) R-8348 (S24)	Solar: no spot mag. obs. Mt. Wilson; spots continue, radio int. 17, 21 cm radio noise and 3 subflares in R-8344; spot growing and 2 subflares in R-8345; spot continues, radio int. 17, 21 cm radio noise and 3 subflares in R-8348; spot, radio int. 11 and 1 subflare in R-8358; spot, radio int. 19, moderate green corona and 5 subflares in R-8361; <u>minor events</u>: Hα (R-8348) 1523 with cm. and m. solar bursts; rapid disappearance of filament and dark surge; (R-8361) 0912; m. solar noise storm; type II, 10-180 MHz, 1535-1547; type IV, <100->320 MHz, 1535-1620 and 22-41 MHz, 1607-1940; sudden disappearance of filament (R-8343) 1948; active dark filament (R-8344) 2345. Geophysical: moderate magnetic disturbance 0000-0300 followed by slight disturbance; SPA at 0634; S-SWF, SEA, SPA, SES and SFD at 1528; ionospheric absorption on 30 MHz at Great Whale River 0100-2100; weak display noctilucent clouds over Western Europe in latitude 55° from 0140-0243; ionospheric F region disturbed.
26	102*	106*	78	6		Solar: no spot mag. obs. Mt. Wilson; spots continue, radio int. 22, 21 cm radio noise and 3 subflares in R-8344; spot continues to grow and 2 subflares in R-8345; spot continues, radio int. 11 and 3 subflares in R-8348; spot continues, radio int. 12 and 1 subflare in R-8358; spot continues, radio int. 16 and 21 cm radio noise in R-8361; spot appears in R-8359; <u>minor events</u>: Hα (R-8344) 0034 with cm. solar burst; (R-8345) 0030E; cm. burst at 1515. Geophysical: magnetically quiet except slight disturbance 1500-1800; ionospheric F region disturbance dies away.
27	98	101	69	4		Solar: no spot mag. obs. Mt. Wilson; spot group continues, radio int. 22, 21 cm radio noise and 5 subflares in R-8344; spot size decreasing and 2 subflares in R-8345; spot continues, radio int. 9 and 1 subflare in R-8348; small spot and radio int. 8 in R-8358; spot continues, radio int. 14 and 21 cm radio noise in R-8361; spot continues, radio int. 7 and 2 subflares in R-8359; <u>major event</u>: Hα (R-8344) impt. 2n, 2355-0130 with m. solar burst; <u>minor events</u>: Hα (R-8348) 0520E, (R-8344) 1423 with cm. solar burst; m. solar burst 1210; active dark filament (R-8344) 1603. Geophysical: continued magnetically quiet especially 0000-0900 Kp0+; widespread and bright display noctilucent clouds over Western Europe visible during the whole night in latitudes 50° and 57°.

* corrected for burst

1966 June	10 cm Flux S	S_a	Sunspot No.	Geomag. Ap	CMP of Region Number	Highlights
28	98	101	52	5	R-8355(4) (N23) R-8359 (S26)	Solar: no spot mag. obs. Mt. Wilson; spot group continues, radio int. 32, 21 cm radio noise and 1 subflare in R-8344; spot continues and 4 subflares in R-8345 at W limb; spot continues, radio int. 9 and 2 subflares in R-8348; small spot continues, radio int. 11 and 1 subflare in R-8358; spot size decreasing, radio int. 18 and 21 cm radio noise in R-8361; spot continues and radio int. 6 in R-8359; 1 subflare in R-8362; minor events: Hα (R-8345) 1404E, (R-8361) 0658E and 1535E; active dark filament (R-8344) 0000; dark surges (R-8344) 0007, (R-8348) 0150; cm. solar burst 1510. Geophysical: continued magnetically quiet especially 0600-1500 Kp0+; wisps of noctilucent clouds visible over Western Europe in latitudes 55° and 58° between 2140-0155.
29	96	100	47	6		Solar: spot continues, radio int. 17, 21 cm radio noise and 2 subflares in R-8344; spot continues and radio int. 13 in R-8348; small spot growing, radio int. 21 and 4 subflares in R-8358; spot gone, radio int. 15, 21 cm radio noise and 1 subflare in R-8361; spot continues, radio int. 6 and 1 subflare in R-8359; minor events: cm. solar bursts at 1700 and 2055. Geophysical: continued magnetically quiet; weak display noctilucent clouds visible over Western Europe in latitudes 55° and 57° between 2315-0115.
30	97	101	55	6	R-8358(3) (N15) R-8377 (S24)	Solar: no spot mag. obs. Mt. Wilson; spot continues, radio int. 12, 21 cm radio noise and 2 subflares in R-8344 at W limb; spot growing, radio int. 11 and 4 subflares in R-8348; spot continues, radio int. 18 and 1 subflare in R-8358; radio int. 14 and 21 cm radio noise in R-8361; spot growing with radio int. 6 in R-8359; 2 subflares in R-8362; radio int. 7 in R-8377; minor events: Hα (R-8348) 0115 and 0227 with cm. and m. solar bursts; (R-8377) 0220; (R-8362) 0352 with cm. solar burst; cm. and m. solar bursts 0635. Geophysical: continued magnetically quiet; SL-SWF and SPA at 0227; SPA at 0636; SEA at 0718; brilliant display noctilucent clouds visible over Western Europe during the whole night in latitudes 52° and 57°.

1966 July	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights

The recurrence sequence starting 2 April lasted until September. It consisted of a number of discrete disturbances which only repeated two or three times. August was relatively disturbed. A widespread disturbance started about 30 August and extended to 10 September.

1	97	100	49	5	R-8361(2) (N33)	Solar: radio int. 7 and 1 subflare in R-8348 at W limb; spot group $\beta\gamma$, radio int. 13 and 1 subflare in R-8358; spot continues, radio int. 10, 21 cm radio noise and 2 subflares in R-8361; spot gone in R-8359; spot appears in R-8362; radio int. 7 in R-8351; spot appears, radio int. 12 and 6 subflares in R-8370; radio int. 13 and bright green corona in R-8379 at E limb; minor events: Hα (R-8351) 0605E and 0951 with eruptive prominence; br. surge (R-8351) 0927. Geophysical: continued magnetically quiet.
2	95	98	49	4		Solar: spot size and radio int. decreasing, 1 subflare in R-8358; spot continues, radio int. 11 and 1 subflare in R-8361; spot growing and radio int. 11 in R-8362; moderate green corona in R-8351 at W limb; spot growing, radio int. 15 and 5 subflares in R-8370; radio int. 12 and bright green corona in R-8379; minor events: Hα (R-8362) 0503E with cm. solar burst, (R-8370) 0519; active prominence region (R-8351) 0730; active dark filament (R-8358) 2126. Geophysical: continued magnetically quiet with 3 Kp 0+; ionospheric F region relatively quiet; moderate display noctilucent clouds visible from 2130-0135 between geographic latitudes 57° and 60° in Western Europe.
3	96	99	54	4	R-8362 (N35)	Solar: spot again classed $\beta\gamma$, radio int. 20, 21 cm radio noise and 3 subflares in R-8358; spot disappears, radio int. 8 and 1 subflare in R-8361; spot $\beta\gamma$ and size increasing, radio int. 22, 21 cm radio noise and 6 subflares in R-8362; spot continues with 2 subflares in R-8370; small spot appears, radio int. 11 and 1 subflare in R-8379; minor events: Hα (R-8361) 0713 with cm. burst; cm. and m. burst 0810; active dark filament (R-8358) 0000, 0237, 0451 and 2237. Geophysical: continued magnetically quiet; weak display noctilucent clouds visible through cloud in Denmark, 2200-0001.
4	101	105	53	14		Solar: spot continues, radio int. 23, 21 cm radio noise and 2 subflares in R-8358; $\beta\gamma$ spot growing, radio int. 47, 21 cm radio noise and 10 subflares in R-8362; spot continues in R-8370; radio int. 9, 21 cm radio noise and 1 subflare in R-8379; minor events: Hα (R-8362) 0900E. Geophysical: continued magnetically quiet becoming slight-to-moderately disturbed 1200-2400; faint display noctilucent clouds seen 2330-2340 in Western Europe.
5	102	105	48	5	R-8373(3) (N24)	Solar: spot continues, radio int. 19, 21 cm radio noise and 2 subflares in R-8358; $\beta\gamma$ spot continues to grow, radio int. 57, 21 cm radio noise and 16 subflares in R-8362; spot seen again with radio int. 11 in R-8379. Geophysical: very slight magnetic activity, SL-SWF and SPA at 1843; SL-SWF, SCNA, SPA, SES and SFD at 2012; SPA at 2230.

1966 July	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
9	104	108	56	36	R-8384(5) (N25)	Solar: γ spot continues, radio int. 52, 21 cm radio noise and 15 subflares in R-8362; spot continues with 1 subflare in R-8379; spot continues, radio int. 19 and 21 cm radio noise in R-8382; small spot continues, radio int. 13 and 2 subflares in R-8390; radio int. 12 in R-8392; major events: Hα (R-8362) impt. 2b, 0310-0510 with cm. and m. solar burst, br. surge and active prominence region; impt. 2n, 0713E-1005D with cm. and m. solar bursts and br. surges and active prominence region; minor events: Hα (R-8362) 0230 with cm. solar burst, 0600E with cm. solar burst and br. surge; and 1108E; cm. and m. solar burst 1715; br. surge (R-8392) 2150. Geophysical: continued moderately severe magnetic storm; SPA and SES at 0010; S-SWF, SCNA and SPA at 0228 and 0307; SPA at 0542; SCNA, SEA and SPA at 0718; SCNA at 1309; SEA, SPA and SES at 2018; cosmic ray decrease most intense; ionospheric absorption on 30 MHz continues; ionospheric F region very disturbed with auroral blackout at high latitudes, PCA ends about 0000; at 0000-0500 aurora overhead at $\phi = 52°$ and at 0600-1100 not overhead at $\phi = 54°$ over North America.
10	105*	108*	58	25	R-8390 (N19)	Solar: spot over W limb, radio int. 38, 21 cm radio noise and 10 subflares in R-8362; small spot continues with 21 cm radio noise and 4 subflares in R-8379; spot continues in R-8382; small spot continues with radio int. 9 in R-8390; radio int. 9 in R-8392; 3 subflares in R-8373; spot appears with radio int. 7 in R-8394; moderate green corona on NE and NW limbs; minor events: Hα (R-8362) 0122E with cm. solar burst and br. surges, 0227 with br. surge, 0334, 0658E with cm. solar burst, 0905 with br. surge and active prominence region, 1105 with br. surge, and 1935 with cm. solar bursts and active prominence region; cm. solar bursts 1145 and 1610-1740; br. surges (N25 E limb) 1100E and 1603; dark surge (R-8379) 0914. Geophysical: continued moderate magnetic activity until 1500; SPAs at 0028, 0646 and 2317; SCNA and SES at 0336; SCNA, SEA and SPA 0711; S-SWF, SCNA, SEA and SPA at 1142; SPA and SES at 1330; S-SWF, SCNA, SEA, SPA and SES at 1620; SL-SWF, SPA, SES and SFD at 1800; SL-SWF, SCNA, SPA and SES at 1932; SEA, SPA and SES at 2010; recovery of cosmic ray decrease; ionospheric absorption on 30 MHz continues; ionospheric F region disturbed with some auroral blackout at high latitudes; at 0000-0500 aurora overhead at $\phi = 58°$ over North America.
11	105	109	52	8	R-8394 (S31) R-8385 (N30)	Solar: radio int. 29, 21 cm radio noise and 2 subflares in R-8362; small spot continues with 21 cm radio noise and 7 subflares in R-8379; spot continues with 21 cm radio noise in R-8382; radio int. 8 in R-8290; radio int. 10 and 21 cm radio noise in R-8392; spot continues with radio int. 12 in R-8394; radio int. 9 and 1 subflare in R-8396; 1 subflare in R-8397 at E limb; major event: Hα (R-8362) impt. 3n, 0900E-1052 with cm. and m. solar bursts, br. surges and eruptive prominence; minor events: Hα (R-8362) 0625E with active prominence region, (R-8379) 0736E (R-8394) 0835E with dark surge; dark surge (R-8397) 2258; active prominence region (R-8397) 1051-1407. Geophysical: some slight magnetic activity with a preliminary sudden commencement at 1542; SCNA, SEA and SPA at 0905; ionospheric absorption on 30 MHz ends at 1847 but begins again at 2300; ionospheric F region slightly disturbed in some sectors.

* adjusted for burst

966 July	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
12	99	103	62	15		Solar: spot size increasing, radio int. 26, 21 cm radio noise and 5 subflares in R-8379; spot continues with 21 cm radio noise in R-8382; spot appears again with radio int. 9 and 1 subflare in R-8390; radio int. 8 and 21 cm radio noise in R-8392; spot continues with radio int. 8 in R-8394; spot appears and radio int. 11 in R-8396; moderate green corona on NE limb; minor events: Hα (R-8379) 0555E with br. surge, 0727E with m.and dm.bursts, 0813E, 0907E, (R-8373) 1035, 1405E with br. surge, (R-8384) 1420E; cm.and m.solar burst 1100; cm.solar burst 1230; br. surges (R-8397) 0138, 0402E and 1155; br. surge (R-8382) 0314; active dark filament (N24 E10) 0459-1125. Geophysical: slight-to-moderate magnetic activity until 1500; SL-SWF, SPA and SES at 1805; ionospheric absorption on 30 MHz ends at 2154; ionospheric F region disturbed with some auroral blackout at high latitudes; at 0000-0500 aurora at ϕ = 59° not overhead and at 0600-1100 aurora overhead at ϕ = 59° over North America; noctilucent clouds seen over Western Europe through breaks in almost continuous low cloud at 51° at 2145.
13	97	100	56	3		Solar: spot group continues, radio int. 18, 21 cm radio noise and 5 subflares in R-8379; spot continues over W limb with 21 cm noise in R-8382; small spot continues with 4 subflares in R-8390; radio int. 10 and 21 cm radio noise in R-8392; spot continues with radio int. 8 in R-8394; spot continues, radio int. 9 and 2 subflares in R-8396; spot, radio int. 20, 21 cm radio noise and 2 subflares in R-8397; minor events: Hα (R-8390) 0533E, (R-8396) 0550E and 0730E, (R-8379) 0724E with br. surge, (R-8397) 1625 with eruptive prominence and br. surge. Geophysical: magnetically quiet; G-SWF at 0530; SCNA at 1225.
14	97	100	37	4	R-8392(2) (N18)	Solar: radio int. 13, 21 cm radio noise and 1 subflare in R-8379 at W limb; small spot continues with 1 subflare in R-8390; radio int. 8 and 21 cm radio noise in R-8392; spot continues with radio int. 8 in R-8394; spot continues, radio int. 10 in R-8396; spot continues, radio int. 21, 21 cm radio noise and 4 subflares in R-8397; major event: Hα (R-8379) impt. 2f, 0735E-0743 with active prominence region and br. surge; minor events: Hα (R-8396) 0610E, (R-8397) 0615E and 0929E; active prominence region (R-8397) 1330-1401D. Geophysical: continued magnetically quiet; at 0000-0500 aurora at ϕ = 58° not overhead over North America; br. display noctilucent clouds seen over Western Europe between 52° and 55° at 0115 to 0229.
15	98	101	34	8		Solar: small spot in R-8390 goes over W limb; radio int. 10 and 21 cm radio noise in R-8392; spot gone but radio int. 8 and 1 subflare in R-8394; spot continues with radio int. 8 in R-8396; spot continues, radio int. 16, 21 cm radio noise and 3 subflares in R-8397; 3 subflares in R-8385. Geophysical: mostly magnetically quiet with 3 Kp 0+ but with a preliminary sudden commencement at 1500 and Kp 4+ 2100-2400; at 0000-0500 aurora at ϕ = 58° not overhead over North America; moderate display noctilucent clouds over Western Europe between 56° and 57.5° at 2240 to 0220.

1966 July	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. A_p	CMP of Region Number	Highlights
16	100	103	48	6		Solar: radio int. 9 and 21 cm radio noise in R-8392; radio int. 7 in R-8394 at W limb; spot gone but radio int. 8 in R-8396; spot, radio int. 16 and 21 cm radio noise in R-8397; spot appears in R-8385; spot with radio int. 21 and 2 subflares in R-8401; 2 subflares in R-8402; spot and 1 subflare in R-8398; moderate green corona on NE limb; minor events: active dark filament (R-8398) 0833E-0940D; eruptive prominence (N70 W limb) 2045-2250. Geophysical: magnetically quiet with very slight activity 1500-2400.
17	98	101	42	11	R-8396 (S18)	Solar: radio int. 9 and 21 cm radio noise in R-8392; radio int. 7 in R-8396; spot continues, radio int. 16, 21 cm radio noise and 1 subflare in R-8397; spot growing, radio int. 20, 21 cm radio noise and 2 subflares in R-8401; radio int. 8 and 1 subflare in R-8402; small spot continues in R-8398; br. green corona on NW limb; minor events: cm., m., and dm. solar bursts 0915-0930; cm. and m. solar bursts 1245-1430 and 1930; active dark filament (R-8392) 2120-0135. Geophysical: slight magnetic activity 0000-1200, slight activity thereafter; at 0000-0500 aurora at ϕ=59° not over North America; faint noctilucent clouds over western Europe seen at 55° at 2130 to 0030.
18	98	101	49	4	R-8398(3) (N16)	Solar: spot appears with radio int. 9, 21 cm radio noise and 2 subflares in R-8392; spot continues, radio int. 14 and 21 cm radio noise in R-8397; spot continues, radio int. 16, 21 cm and 2 subflares in R-8401; small spot disappears from R-8398; spot, radio int. 8 and 1 subflare in R-8404; minor event: active dark filament (R-8400) 0834E. Geophysical: magnetically quiet; br. display noctilucent clouds over Western Europe seen between 55° and 57.5° at 2145 to 0135.
19	98	102	38	5	R-8397(2) (N25)	Solar: small spot continues with radio int. 9 and 21 cm radio noise; radio int. 7 in R-8396; spot continues, radio int. 14 and 21 cm radio noise in R-8397; spot continues, radio int. 13, 21 cm radio noise and 8 subflares in R-8401; radio int. 6 in R-8402; small spot continues with 3 subflares in R-8404; minor events: br. surges (R-8401) 0136, (R-8404) 0158; active dark filament (R-8400) 0202 and 1620. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet; br. display noctilucent clouds seen over Western Europe between 55° and 59.5° from 2200 to 0100.
20	99	102	65	6	R-8400(2) (N25)	Solar: small spot last seen with radio int. 8 in R-8392; radio int. 7 and 1 subflare in R-8396; spot continues, radio int. 13 and 21 cm radio noise in R-8397; spot decreasing, radio int. 10, 21 cm radio noise and 1 subflare in R-8401; small spot appears with radio int. 6 in R-8402; small spot disappears in R-8404; radio int. 23 and 1 subflare in R-8405 at E limb; small spot appears in R-8400; minor events: m. solar burst 1258; active dark filament (R-8397) 1051. Geophysical: continued magnetically quiet; SPA at 0725; ionospheric absorption on 30 MHz at Great Whale River begins at 2310.

1966 July	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
21	100	104	55	14		Solar: radio int. 8 in R-8392; radio int. 8 and 1 subflare in R-8396; spot continues, radio int. 16, 21 cm radio noise and 1 subflare in R-8397; spot continues to decrease, radio int. 10 and 21 cm radio noise in R-8401; spot continues, radio int. 8 and 2 subflares in R-8402; spot observed, radio int. 30, 21 cm radio noise and 2 subflares in R-8405; small spot continues with 1 subflare in R-8400; 3 subflares in R-8408; minor events: Hα (R-8405) 0935E. Geophysical: slight-to-moderate magnetic activity; ionospheric absorption on 30 MHz ends at 1040; at 0000-0500 aurora overhead at $\phi = 59°$ and at 0600-1100 at $\phi = 59°$ not overhead over North America; faint noctilucent clouds seen over Western Europe at 55° from 2230-2330.
22	103	106	66	8	R-8401(2) (S22) R-8402(3) (N21)	Solar: radio int. 7 in R-8396; spot continues, radio int. 15, 21 cm radio noise and 2 subflares in R-8397; spot continues with radio int. 9 and 21 cm radio noise in R-8401; spot disappears, radio int. 8 and 1 subflare in R-8402; spot continues, radio int. 33, 21 cm radio noise and 1 subflare in R-8505; small spot disappears in R-8400; spot appears, radio int. 11, 21 cm radio noise and 3 subflares in R-8408; minor events: Hα (R-8405) 0935E with dark surge, (R-8413) 2043 with br. surge; br. surge (R-8413) 0046; active prominence region (N18 E limb) 2240. Geophysical: moderate magnetic disturbance 0000-0300, quiet thereafter; SL-SWF at 0100; ionospheric F region slightly disturbed.
23	111	115	56	6	R-8404(4&5) (N34)	Solar: spot continues, radio int. 14, 21 cm radio noise and 2 subflares in R-8397; spot continues with radio int. 9 in R-8401; radio int. 7 in R-8402; spot continues, radio int. 37, 21 cm radio noise and 1 subflare in R-8405; spot continues, radio int. 25, 21 cm radio noise and 9 subflares in R-8408; spot disappears in R-8400; radio int. 14 and 1 subflare in R-8413 at E limb; moderate green corona on NE limb; major event: Hα (R-8408) impt. 2n, 0930-1020D with cm. and m. solar bursts, dark surge and br. surge; minor events: Hα (R-8408) 0542E with cm. and m. solar bursts, and 0755E; cm. solar burst 1420; cm. solar burst 0240; active prominence region (R-8413) 0924; br. surges (R-8413) 1230 and 1430; eruptive prominence (R-8413) 2145. Geophysical: very slight magnetic activity; S-SWF, SCNA and SES at 0239; S-SWF, SCNA and SPA at 0534; G-SWF, SEA, SPA, SES and SFD at 1410.
24	117	121	70	6		Solar: spot continues, radio int. 14, 21 cm radio noise and 1 subflare in R-8397; spot continues with radio int. 8 in R-8401; small spot with radio int. 11 and 4 subflares in R-8404; spot continues, radio int. 49, 21 cm radio noise and 3 subflares in R-8405; spot growing, radio int. 31, 21 cm radio noise and 14 subflares in R-8408; subflare in R-8400; spot, radio int. 19 and 2 subflares in R-8413; moderate green corona on NE limb; minor events: Hα (R-8413) 1216 with active prominence region: cm. burst 0035; cm. and m. solar burst 0732-0745; sudden disappearance of filament (R-8404) 1025. Geophysical: magnetically quiet except for slight disturbance 0000-0300; SCNA at 0039; ionospheric absorption on 30 MHz at Great Whale River 0030 to 1524; br. and widespread display noctilucent clouds seen from Labrador over Western Europe at latitudes 55° to 60° from 2340 to 0330.

1966 July	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
25	122	126	67	4		Solar: radio int. 14 and 21 cm radio noise in R-8397; spot gone, radio int. 8 in R-8401; small spot with radio int. 7 and 1 subflare in R-8404; spot continues, radio int. 51, 21 cm radio noise and 4 subflares in R-8405; spot continues to grow, radio int. 33, 21 cm radio noise and 8 subflares in R-8408; spot continues, radio int. 17, 21 cm radio noise and 2 subflares in R-8413; radio int. 29 and 1 subflare in R-8414 at E limb; moderate green corona on NE limb; minor events: Hα (R-8408) 0455 with cm. and m. solar bursts, and 1302; cm. solar burst 0815, 1145, 1525-1640, and 1955; m. solar burst 1335. Geophysical: continued magnetically quiet; S-SWF, SCNA and SPA at 0455; SL-SWF, SPA, SES and SFD at 1528; ionospheric F region relatively quiet; moderate display noctilucent clouds seen over the Atlantic and Western Europe at latitudes 52.5° to 60° from 2300 to 0150.
26	124	128	74	6	R-8408 (N37)	Solar: radio int. 10 and 21 cm radio noise in R-8397; radio int. 9 in R-8401; small spot gone in R-8404; spot continues, radio int. 46, 21 cm radio noise in R-8405; spot continues, radio int. 26, 21 cm radio noise and 8 subflares in R-8408; spot continues, radio int. 18, 21 cm radio noise and 1 subflare in R-8413; spot, radio int. 41 and 2 subflares in R-8414; moderate green corona on NW limb; minor events: Hα (R-8408) 0000E with cm. solar burst and dark surge, (R-8413) 0321 with active filament region, and 0623E with cm. and m. solar bursts, (R-8414) 0837E with active prominence region, and 1155 with cm. and m. solar bursts, and br. surge; cm., m., and dm. solar bursts 0715-0850, 0925; cm. solar bursts 1040, 1235 and 1430; dark surges (N30 E50) 0648 and 0748. Geophysical: continued magnetically quiet, very slight activity 1500-2400; SPA at 1159; SL-SWF, SPA and SES at 1443; SEA at 1844.
27	120	124	52	11	R-8405 (2) (N22)	Solar: radio int. 7 in R-8401; spot continues, radio int. 44, and 1 subflare in R-8405; spot size decreasing, radio int. 14 and 2 subflares in R-8408; spot continues, radio int. 18, 21 cm radio noise and 3 subflares in R-8413; spot continues, radio int. 50, 21 cm radio noise and 7 subflares in R-8414; 7 subflares in R-8415 at E limb; minor events: Hα (R-8415) 0043 and 0902E with active prominence region, (R-8414) 2012 with cm. solar burst and 2329; cm., m., and dm. solar bursts 1030; cm. solar burst 0930-0940. Geophysical: magnetically quiet until preliminary sudden commencement at 0603, slight to moderate activity through 1800; noctilucent clouds seen over the Atlantic at 56.5° at 0300.
28	120	124	61	10		Solar: spot continues, radio int. 37, 21 cm radio noise and 1 subflare in R-8405; spot size still decreasing, radio int. 8 and 3 subflares in R-8408; spot continues, radio int. 14, and 21 cm radio noise in R-8413; spot size increases, radio int. 59, 21 cm radio noise and 11 subflares in R-8414; 6 subflares in R-8415; moderate green corona on NW limb; major event: Hα (R-8413) impt. 2b, 2213-0150 with cm. and m. solar bursts; type IV, 2330-0048, 19-41 MHz; minor events: Hα (R-8414) 0637, 2110 and 2310E, (R-8415) 1047E; cm., m., and dm. solar bursts 0805-0850 and 0935-1025; type II, 2238-2351, 20-29 MHz; active filament region (R-8413) 0354. Geophysical: slight activity until 0900, very slight activity 0900-2400; SEA at 1857; SCNA at 1923; SFD at 2214; SPA and SES at 2223; SPA at 2250; ionospheric F region slightly disturbed.

1966 July	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
29	129	133	76	5		Solar: spot size decreasing, radio int. 29 and 21 cm radio noise in R-8405; spot size decreased, radio int. 9 and 1 subflare in R-8408; spot continues, radio int. 13 and 21 cm radio noise in R-8413; spot continues, radio int. 45, 21 cm radio noise and 13 subflares in R-8414; spot with radio int. 23, 21 cm radio noise and 8 subflares in R-8415; major event: Hα (R-8415) impt. 2f, 0405E-0608D; minor events: Hα (R-8414) 0500 and 0728E with cm. solar burst, (R-8415) 0636E with br. surge, and 1121E; cm. solar burst 1635-1655. Geophysical: slight magnetic activity 0000-0300, quiet thereafter.
30	124	128	63	6	(R-8427) (N25)	Solar: spot continues, radio int. 31, 21 cm radio noise and 4 subflares in R-8405; spot continues with 1 subflare in R-8408; spot continues, radio int. 18 and 21 cm radio noise in R-8413; spot continues, radio int. 34, 21 cm radio noise and 8 subflares in R-8414; spot continues, radio int. 33, 21 cm radio noise and 4 subflares in R-8415; minor events: Hα (R-8415) 2356E; cm., m., and dm. solar bursts 1040-1445; dark surges (R-8414) 0741 and 0835E; active filament region (R-8414) 0758E. Geophysical: continued magnetically quiet except slight activity 0300-0900.
31	121	125	66	5	R-8413(2) (N36)	Solar: spot decreasing, radio int. 28, 21 cm radio noise and 2 subflares in R-8405; spot continues in R-8408; spot continues, radio int. 21 and 21 cm radio noise in R-8413; spot size decreases, radio int. 33, 21 cm radio noise and 3 subflares in R-8414; spot continues, radio int. 28, 21 cm radio noise and 3 subflares in R-8415; spot, radio int. 13 and 3 subflares in R-8422; moderate green corona on NE limb; minor events: Hα (R-8422) 0819E. Geophysical: continued magnetically quiet; moderate display noctilucent clouds seen over Western Europe between 55° and 56.5° from 2230 to 0115.
August						
1	122	126	78	6	R-8414(2) (N25)	Solar: spot growing smaller, radio int. 24 and 21 cm radio noise in R-8405; spot goes over W limb in R-8408; spot continues, radio int. 19 and 21 cm radio noise in R-8413; δ spot, radio int. 33, 21 cm radio noise and 1 subflare in R-8414; spot size decreasing, radio int. 18, 21 cm radio noise and 3 subflares in R-8415; βγ spot, radio int. 18 and 21 cm radio noise in R-8422; minor events: Hα (R-8415) 1100 with cm. solar burst and active dark filament, (R-8413) 1810 with cm. solar burst; m. noise storm 0600-1510; active dark filament (N32 E55) 0949. Geophysical: slight magnetic activity 0000-0600, quiet thereafter.
2	116	120	62	1		Solar: spot continues, radio int. 19 and 21 cm radio noise in R-8405, spot continues, radio int. 23 and 2 subflares in R-8413; δ spot, radio int. 29 and 21 cm radio noise in R-8414; spot continues, radio int. 28, 21 cm radio noise and 7 subflares in R-8415; spot continues, radio int. 19 and 21 cm radio noise in R-8422; minor events: cm. solar burst 2121; active prominence region (N58 E limb) 0411. Geophysical: magnetically extremely quiet, 5 Kp 0o, 2 Kp 0+; SCNA and SFD at 2122; ionospheric F region relatively quiet.

1966 Aug.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
3	115*	118*	65	7	R-8415 (2) (N27)	Solar: spot continues, radio int. 19 and 1 subflare in R-8413; spot continues, radio int. 31, 21 cm radio noise and 1 subflare in R-8414; spot continues, radio int. 22 and 21 cm radio noise in R-8415; spot again 8γ, radio int. 12, 21 cm radio noise and 5 subflares in R-8422; small spot appears in R-8427; br. green corona at NW limb; minor events: Hα (R-8413) 0357 with sudden disappearance of filament, and 1415 with cm. and m. solar bursts and active dark filament, (R-8422) 0630 with cm. solar burst. Geophysical: very slight magnetic activity.
4	113*	116*	51	8		Solar: spot continues, radio int. 11 and 1 subflare in R-8413; spot continues, radio int. 25 and 6 subflares in R-8414; spot continues with radio int. 27 in R-8415; spot no longer 8γ, radio int. 16 and 4 subflares in R-8422; small spot continues, 2 subflares in R-8427; moderate green corona at NW limb; minor events: dark surge (N30 E33) 0755. Geophysical: slight magnetic activity; G-SWF, SCNA and SPA at 0444.
5	107	110	53	10	R-8422 (2) (N22)	Solar: no obs. at 9.1 cm; spot continues in R-8413; spot decreases, 21 cm radio noise and 1 subflare in R-8414; spot decreased in size with 21 cm radio noise in R-8415; spot with 21 cm radio noise and 1 subflare in R-8422; no activity in R-8427; minor events: Hα (R-8414) 1125 and 1220, (R-8413) 1220 with cm. and m. solar bursts. Geophysical: continued slight magnetic activity; SCNA at 2316.
6	103	106	50	6		Solar: no obs. at 9.1 cm; spot continues over W limb in R-8413; spot continues, 21 cm radio noise and 1 subflare in R-8414; spot continues with 21 cm radio noise and 1 subflare in R-8415; spot with 21 cm radio noise and 1 subflare in R-8422; 6 subflares in R-8427; br. green corona at NW limb; major event: Hα (R-8427) impt. 2f, 2105-2157 with br. surge on limb and active prominence region; minor events: Hα (R-8427) 0620 with active prominence region, 0827 with br. surge on limb, and 1235E with active prominence region. Geophysical: very slight magnetic activity; G-SWB at 0326; SEA at 0346; SEA and SFD at 1900; ionospheric F region slightly disturbed in some sectors.
7	99	102	31	5		Solar: no obs. at 9.1 cm; spot continues in R-8414; spot continues with 21 cm radio noise and 3 subflares in R-8415; spot with 21 cm radio noise and 3 subflares in R-8422; small spot appears in R-8429; br. green corona at NW limb; minor events: Hα (R-8415) 0005, (R-8414) 1532 with active dark filament; dark surge (N23 W70) 0939; active prominence region (N28 E limb) 1103. Geophysical: magnetically quiet.
8	95	98	13	5		Solar: radio int. 20 and 7 subflares in R-8414 at W limb; spot continues, radio int. 17 and 21 cm radio noise in R-8415; spot gone, 1 subflare in R-8422; spot continues in R-8429; radio int. 12 on E limb in R-8435; bright green corona and moderate red corona at NW limb; moderate green and red coronae at NE limb; major event: Hα (R-8414) impt. 2n, 0628-0644; minor event: Hα (R-8414) 0804 with br. surge and eruptive prominence at limb. Geophysical: continued magnetically quiet, slight activity 2100-2400.

* adjusted for burst

1966 Aug.	10 cm Flux S	10 cm Flux Sa	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
9	94	96	7	9		Solar: radio int. 22 and 1 subflare in R-8415; 2 subflares in R-8422; radio int. 12 in R-8435; br. green corona at NW limb and moderate green corona at NE limb; minor events: active prominence region (N22 27 W limb) 0805 and 0600-1600; active prominence region (N55 E limb) 0749. Geophysical: magnetically quiet except slight activity after 1800.
10	92	94	0	12		Solar: radio int. 12, 2 subflares in R-8422; radio int. 12 in R-8435; br. green corona at NW limb; moderate green and red coronae at NE limb; minor events: br. surge (N24 W limb) 1142. Geophysical: slight-to-moderate magnetic activity; ionospheric F region slightly disturbed.
11	90	92	16	14	R-8429 (S24)	Solar: small spot group appears, radio int. 8, 21 cm radio noise, and 2 subflares in R-8435; radio int. 8 on W limb in R-8422; moderate green corona NW limb; small spot appears, radio int. 20 in R-8438; minor event: Hγ (R-8435) 0603; active dark filament (N32 W24) 0844; active filament (N33 W limb) 0849. Geophysical: slight-to-moderate magnetic activity continues; ionospheric F region slightly disturbed.
12	90	93	36	14		Solar: spot group increases in size, radio int. 10, 21 cm radio noise, and 3 subflares in R-8435; small spot continues, radio int. 17, 21 cm radio noise in R-8438; minor events: dark surge (N32 W37) 0923; active prominence region (N32 W limb) 0802; active filament region (N30 E05) 0802; eruptive prominence at limb (N57 E limb) 1630. Geophysical: slight-to-moderate magnetic activity continues; ionospheric F region disturbed; at 0000-1100 aurora overhead at $\phi = 60°$ over North America.
13	91	93	30	6		Solar: spot group continues, radio int. 12, 21 cm radio noise, and 4 subflares in R-8435; small spot continues, radio int. 13, 21 cm radio noise in R-8438; small spot appears, 1 subflare in R-8429; minor events: active prominence region (N25 36 W limb) 0700 and (N21 W limb) 1057; eruptive prominence at limb (N32 W limb) 1307; active filament region (N30 E06) 0842; dark surge (N35 E23) 0852 and 1034. Geophysical: magnetically quiet after slight activity 0000-0600.
14	90	93	37	9		Solar: spot group continues, radio int. 12, 21 cm radio noise in R-8435; no spot, radio int. 14, 21 cm radio noise in R-8438; small spot continues, 2 subflares in R-8429; small spot appears, 5 subflares in R-8441; minor events: Hγ (R-8435) 0800 and 0906, (R-8441) 0906, cm., m., and dm. solar bursts 1020-1230; br. surge on limb (N38 E limb) 1057; active prominence region (N36 W limb) 0547. Geophysical: slight magnetic activity 0000-0900, quiet thereafter; ionospheric F region slightly disturbed.
15	91	94	41	5	R-8435 (N28)	Solar: spot group continues, radio int. 12, 21 cm radio noise in R-8435; no spot, radio int. 12, 21 cm radio noise, and 1 subflare in R-8438; small spot group continues, radio int. 7, and 1 subflare in R-8429; small spot continues; 1 subflare in R-8441; small spot appears, radio int. 6; 1 subflare in R-8440. Geophysical: continued magnetically quiet; SCNA and SEA at 1112; at 0000-0500 aurora overhead at $\phi = 58°$ over North America; br. display of noctilucent clouds seen at $\phi = 60°$ over Western Europe at 0150-0230.

1966 Aug.	10 cm Flux S	10 cm Flux Sa	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
16	93	95	36	4	R-8438(3) (N27)	Solar: spot group decreases in size, radio int. 8, 21 cm radio noise, and 3 subflares in R-8435; no spot, radio int. 13, 21 cm radio noise in R-8438; spot group continues, radio int. 9 and 4 subflares in R-8429, small spot continues, 3 subflares in R-8440; moderate green corona on NE limb; minor event: Hγ (R-8429) 0730 with cm. solar burst. Geophysical: continued magnetically quiet; SFD at 2123; SPA at 2252; ionospheric F region relatively quiet.
17	94	97	35	2	R-8441 (S27)	Solar: spot group decreases in size, radio int. 12 in R-8435; small spot group reappears, radio int. 13, 21 cm radio noise in R-8438; spot appears, radio int. 9 and 1 subflare in R-8447; spot continues on W limb in R-8429; small spot continues, 1 subflare in R-8440; br. green corona NE limb; small spot appears in R-8444; major event: Hγ (R-8438) impt. 2n, 0900-1130 with dark surge and active dark filament and cm. and m. solar bursts; minor events: Hγ (R-8429) 0028 with cm. solar burst, (R-8442) 2120. Geophysical: magnetically very quiet, 3 Kp 0o; G-SWF, SCNA, SPA and SFD at 0030; noctilucent clouds seen in Greenland at ϕ = 60° at 0500-0600.
18	95	98	35	10	R-8440 (N28)	Solar: spot group decreases in size, radio int. 15 in R-8435; small spot group continues, radio int. 10, 21 cm radio noise and 4 subflares in R-8438; spot continues, radio int. 10 in R-8447; small spot continues in R-8440; small spot appears in R-8454; br. green corona at NE limb; moderate green corona on SW limb; 1 subflare in R-8444; minor events: active filament region (N21 W30) 0812; sudden disappearance of filament (N21 W30) 0924. Geophysical: slight magnetic activity 0900-2100; SL-SWF, SPA and SES at 1818; noctilucent clouds seen in Greenland at ϕ = 67° at 0355-0425.
19	98	100	27	20	R-8444 (N31)	Solar: small spot continues, radio int. 14 and 1 subflare in R-8435; small spot group continues, radio int. 12, 21 cm radio noise, and 5 subflares in R-8438; spot continues, radio int. 10, and 2 subflares in R-8447; small spot continues, 1 subflare in R-8454; moderate red and green coronae on NE limb; minor events: Hγ (R-8447) 0430, (R-8438) 0426E with cm. solar burst. Geophysical: moderate magnetic activity; S-SWF, SCNA and SPA at 0434; ionospheric F region slightly disturbed; at 0000-0500 aurora overhead at ϕ = 59° over North America.
20	99	102	24	7		Solar: small spot continues, radio int. 15 and 2 subflares in R-8435; spot continues, radio int. 9 and 1 subflare in R-8447; small spot continues, radio int. 10, 21 cm radio noise in R-8438; small spot continues in R-8454; br. green corona on NE limb. Geophysical: slight magnetic activity 0000-0900, quiet thereafter; SL-SWF and SPA at 1843.
21	100	103	22	5		Solar: no spot, radio int. 15 and 5 subflares in R-8435; no spot, radio int. 10, 21 cm radio noise and 1 subflare in R-8438; no spot, radio int. 8 in R-8447; moderate green corona at NE limb; minor events: Hγ (R-8435) 1553 with br. surge and 1615E with br. surge. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.

1966 Aug.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
22	103	106	38	4		Solar: no spot, radio int. 12 on W limb in R-8435; no spot, radio int. 10 on W limb in R-8438; small spot appears, radio int. 6, 21 cm radio noise, and 1 subflare in R-8457; small spot appears, radio int. 18, 21 cm radio noise and 1 subflare in R-8460; spot group appears, radio int. 22, and 2 subflares in R-8461; spot appears, radio int. 13, 21 cm radio noise and 1 subflare in R-8459; minor events: Hα (R-8461) 0403 with br. surge on limb and 0752E with br. surge on limb, (R-8457) 0718E and 2258 with dark surge, (R-8459) 2113 with sudden disappearance of filament and 2330E; active prominence region (N45 E limb) 0910 and 1055. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
23	112	115	65	22	R-8447 (N15) R-8442(2) (N40)	Solar: small spot decreases in size, radio int. 17, 21 cm radio noise in R-8460; spot group increases in size, radio int. 28, 21 cm radio noise in R-8461; βγ spot continues, radio int. 11 and 4 subflares in R-8459; radio int. 12 and 1 subflare in R-8454; minor events: Hα (R-8459) 0036E, 0720, 0900E with cm. solar burst, and 0954 with cm. solar burst (R-8461) 0950 with cm. solar burst (R-8454) 1013E with cm. and m. solar bursts with br. surge. Geophysical: slight-to-moderate magnetic activity; SL-SWF at 1754; rayed arc, base overhead in 67° over Western Europe, rays seen extending between 2250 and 0200 (Aug. 24) to elevation 20° in 59°.
24	119*	122*	71	16	R-8454 (N08)	Solar: small spot continues, radio int. 13, 21 cm radio noise in R-8460; spot group increases in size, radio int. 24, 21 cm radio noise and 7 subflares in R-8461; small spot group appears, radio int. 33 and 2 subflares in R-8454; no spot, radio int. 14 and 2 subflares in R-8447; spot continues, radio int. 19 and 1 subflare in R-8459; radio int. 10, 21 cm radio noise in R-8467; br. green corona at NW and NE limbs; minor events: Hα (R-8467) 0805E with m. solar burst and active prominence region and br. surge, (R-8461) 0823; m. solar burst 1450-1500; type II, 20-41 MHz, 1536-1540; active dark filament (R-8454) 2114 and 2315. Geophysical: slight-to-moderate magnetic activity continues.
25	124*	126*	89	8		Solar: small spot continues, radio int. 15, 21 cm radio noise, and 2 subflares in R-8460; spot group decreases in size, radio int. 24, 21 cm radio noise and 3 subflares in R-8461; spot group increases in size, radio int. 37, 4 subflares in R-8454; small spot appears, radio int. 24 in R-8447; spot continues, radio int. 13 and 4 subflares in R-8459; spot appears, radio int. 12, 21 cm radio noise in R-8467; moderate green corona at NE limb; minor events: Hα (R-8454) 0620 with cm. solar burst; cm. noise storm 1225-2015; cm., m., and dm. solar bursts 1400 and cm. and m. solar bursts 1730-2000; active dark filament (R-8454) 0000; eruptive prominence at limb (N48 E limb) 1735. Geophysical: very slight magnetic activity; S-SWF, SCNA, SEA, SPA and SES at 0621; SL-SWF and SPA at 1357.
26	128	130	95	6	R-8457 (N41)	Solar: small spot continues, radio int. 20, 21 cm radio noise, and 3 subflares in R-8460; βγ spot group continues, radio int. 45, 21 cm radio noise and 5 subflares in R-8461; βγ spot group increases in size, radio int. 39, 21 cm radio noise and 3 subflares in R-8454; small spot continues, radio int. 13, 21 cm radio noise in R-8447; small spot appears, radio int. 12, 21 cm radio noise and 5 subflares in R-8467;

* adjusted for burst

1966 Aug.	10 cm Flux S	S_a	Sun-spot No.	Geo. mag. Ap	CMP of Region Number	Highlights
26 (Cont'd)						spot continues, radio int. 14 and 5 subflares in R-8459; moderate green corona at NE limb; major event: Hα (R-8461) impt. 2n, 1728-1955 with cm. and m. solar bursts; type IV, 7.6-41 MHz, 1758-1858; type IV, 21-41 MHz, 1858-2130; minor events: Hα (R-8461) 2146 with flare-associated disappearance of filament; m. noise storm 0650-1505; active dark filament (R-8459) 1848. Geophysical: slight magnetic activity 0000-0900, quiet thereafter; G-SWF, SPA, SES and SFD at 1800; SFD at 2030; SCNA, SEA, SPA and SES at 2145; ionospheric F region relatively quiet; at 0000-0500 aurora overhead at $\phi = 60°$ over North America
27	131	133	90	5	R-8459(2) (N26)	Solar: small spot decreases in size, radio int. 40, 21 cm radio noise in R-8460; βγ spot group continues, radio int. 100, 21 cm radio noise and 11 subflares in R-8461; spot group increases in size, radio int. 26 and 10 subflares in R-8454; no spot, radio int. 12, 21 cm radio noise in R-8447; small spot continues, radio int. 10 and 1 subflare in R-8467; spot continues, radio int. 9 and 5 subflares in R-8459; minor events: Hα (R-8454) 1855 with cm. and m. solar bursts; m. noise storm 1140-1500; cm. solar burst 1300-1535 and cm. and m. solar bursts 1430; cm. and m. solar bursts 2000-2145; active prominence region (N38 W limb) 0416. Geophysical: continued magnetically quiet; G-SWF, SPA and SES at 1608; SL-SWF, SEA, SPA and SES at 1855; G-SWF, SEA, SPA and SES at 2020; at 0000-0500 aurora overhead at $\phi = 60°$ over North America.
28	130*	133*	84	4		Solar: small spot decreases, radio int. 18, 21 cm radio noise in R-8460; βγ spot group continues, radio int. 50, 21 cm radio noise and 10 subflares in R-8461; spot group continues, radio int. 40 and 7 subflares in R-8454; no spot, radio int. 17, 21 cm radio noise in R-8447; no spot, 1 subflare in R-8474; spot continues, radio int. 9 and 2 subflares in R-8459; radio int. 8 and 4 subflares in R-8467; spot appears, radio int. 9 in R-8473; major events: Hα (R-8461) impt. 2b, 1522-1945D with cm., m., and dm. solar bursts and dark surge and partial disappearance of filament; type IV, <50- >320 MHz, 1527-1640; type II, 11-41 MHz, 1530-1547; type II, <25- >150 MHz, 1531-1548; type IV, 11-41 MHz, 1547-1634; type IV, 21-41 MHz, 1634-1749; minor events: Hα (R-8454) 0508, 0946 with cm. solar burst and br. surge, 1150 with cm., m., and dm. solar bursts, 1637 with cm. solar burst, and 1755, (R-8461) 0900E, (R-8447) 1241; m. noise storm 0550-1445; m. noise storm 0700-1200 and cm. noise storm 1100-1510; cm. solar burst 1100-1110; cm. and m. solar bursts 1255-1520; br. surge (R-8454) 1915, 2035, and 2215; slow disappearance of filament (N34 W18) 2120. Geophysical: continued magnetically quiet; G-SWF at 0046; SEA and SES at 0303; SL-SWF and SPA at 0510; SEA at 1137; SCNA and SEA at 1155; SL-SWF and SCNA at 1457; S-SWF, SCNA, SEA, SPA, SES and SFD at 1523; SFDs at 1637, 2050 and 2210; SPA and SFD at 2131.
29	127	130	89	13	R-8460(3) (N33) R-8461(1&3) (N23)	Solar: small spot continues, radio int. 20, 21 cm radio noise in R-8460; spot group combines into one spot, increases in size, radio int. 68, 21 cm radio noise and 5 subflares in R-8461; spot group increases in size, radio int. 20 and 3 subflares in R-8454; no spot, radio int. 15

* adjusted for burst

1966 Aug.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
29 (Cont'd)						in R-8447; no spot, radio int. 10, 21 cm radio noise in R-8466; small spot appears, 10 subflares in R-8474; spot continues, radio int. 11 and 1 subflare in R-8459; no spot, radio int. 6 and 1 subflare in R-8479; spot continues, radio int. 6 in R-8473; major event: Hα (R-8454) impt. 2n, 2351E-2351D; type IV, 21-41 MHz, 2032-2258; minor events: Hα (R-8454) 0313 with br. surge, 0730E, 2058, and 2214, (R-8461) 0533 with cm. and m. solar burst, 1318 with cm., m., and dm. solar bursts, and 2021, (R-8474) 0726 with disappearance of filament, and 0830 with disappearance of filament, (R-8479) 1437 with cm. and m. solar bursts and active prominence region and br. surge, and 1645E with br. surge; cm. noise storm 0800-1420 and m. noise storm 2100-0100; cm., m., and dm. solar bursts 0800-1100; cm. and m. solar bursts 1200; type II, 20-41 MHz, 1319-1324. Geophysical: magnetically quiet until preliminary sudden commencement at 1315, moderate activity thereafter; G-SWF, SCNA and SPA at 0536; S-SWF, SCNA, SEA, SPA, SES and SFD at 1315; SCNA at 1531; SPA at 1720; at 2000-2100 auroral homogeneous band overhead at $\phi = 61°$ over U.S.S.R.
30	124	126	76	82	R-8467(3) (N25)	Solar: small spot continues, radio int. 14, 21 cm radio noise in R-8460; δ spot continues, radio int. 58, 21 cm radio noise and 9 subflares in R-8461; no spot, radio int. 16 and 3 subflares at W limb in R-8454; no spot, radio int. 18 on W limb in R-8447; spot continues, radio int. 16 and 2 subflares in R-8459; spot continues, radio int. 7 in R-8473; major event: Hα (R-8461) impt. 2n, 1450-1621 with cm. and m. solar bursts and dark surge and sudden disappearance of filament; minor events: Hα (R-8461) 0212 with active dark filament, (R-8454) 0855; m. noise storms 0515-1450 and 2100-0055; cm. solar bursts 0025-0330 and cm., m., and dm. solar bursts 1105-1230; br. surge (S18 W limb) 0606. Geophysical: moderately severe magnetic storm with preliminary sudden commencement at 1112, 1 Kp 7- and 2 Kp 7+; S-SWF and SPA at 0047 and 0232; SCNA at 1335; SEA at 1443; SL-SWF, SCNA, SEA, SPA, SES and SFD at 1450; a Forbush cosmic ray decrease begins about 1200 and continues for 9 days; ionospheric F region disturbed with auroral absorption at high latitudes; at 0100 auroral short rayed arc overhead at $\phi = 59°$, at 1800 short rays at $\phi = 54°$ and homogeneous band at $\phi = 57°$, at 1900 homogeneous arc at $\phi = 58°$, at 2000 br. striated band at $\phi = 57°$, at 2100 homogeneous band at $\phi = 57°$, at 2200-2300 striated band at $\phi = 57°$ and at 2300 homogeneous patches at $\phi = 57°$ over U.S.S.R.; at 0000-0500 aurora overhead at $\phi = 60°$ over North America; rays visible along the horizon in latitude $\phi = 60°$ over Western Europe from 0050 to 0250.
31	119	121	66	23		Solar: no 9.1 cm obs.; δ spot increases in size, 21 cm radio noise and 11 subflares in R-8461; spot continues, 2 subflares in R-8459; major event: Hα (R-8461) impt. 2b, 0036-0347 with cm. solar bursts; minor events: Hα (R-8461) 0002E, 0250E with cm. solar burst, 0604E, 1104E with dm. solar burst and 1835E with cm. and m. solar bursts; m. noise storms 0630-1455 and 2100-0200; cm., m., and dm. solar bursts 0730 and 0915-1130 and 1310-1450. Geophysical: magnetic storm, now moderate, continues; G-SWF, SCNA and SPA at 0038; G-SWF, SPA and SFD at 1831; SES and SFD at 1904; SPA at 2230; ionospheric F region slightly disturbed; auroral medium length rays overhead at $\phi = 57°$ over U.S.S.R.; at 0000-0500 aurora overhead at $\phi = 60°$ over North America.

1966 Sep.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
1	114	117	44	22		Solar: δ spot size increases, radio int. 53, 21 cm radio noise and 25 subflares in R-8461; no spot, radio int. 6, 21 cm radio noise and 1 subflare in R-8473; no spot, radio int. 21 in R-8459; minor events: Hα (R-8461) 1052 with cm. and m. solar bursts and 1520; m. noise storm 1000-1500; cm. solar bursts 0030-0220; cm. and m. solar bursts 0630-0855 and 1015-1135 and 1150 and 1245; m. and dm. solar bursts 1405-1410; m. solar bursts 1830-1905. Geophysical: moderate magnetic activity continues; SCNA at 0159; ionospheric absorption on 30 MHz at Great Whale River begins and continues to Sept. 6; ionospheric F region slightly disturbed; at 1800 auroral medium rayed arc overhead at $\phi = 58°$, at 2100 short rays at $\phi = 58°$ over U.S.S.R.
2	104	106	44	15	R-8473 (S23)	Solar: spot increases, radio int. 7, 21 cm radio noise and 14 subflares in R-8461; no spot, radio int. 11, 21 cm radio noise and 1 subflare in R-8460; no spot, 21 cm radio noise in R-8484; no spot, radio int. 20 in R-8459; principal event: Hα (R-8461) impt. 3b, 0542-0956 with cm. and m. solar bursts; dark surge and active filament region; minor events: Hα (R-8460) 0602E. Geophysical: slight-to-moderate magnetic activity continues with a sudden commencement at 0823; SPA at 0007; S-SWF and SPA at 0206 and 0354; SL-SWF, SCNA, SEA, SPA and SES at 0535; G-SWF, SCNA, SEA and SES at 0825; some auroral and polar blackout, PCA starts about 0600 as shown by f min at high latitudes.
3	102	103	25	92		Solar: spot increases, radio int. 9, 21 cm radio noise and 11 subflares in R-8461; no spot, radio int. 8, 21 cm radio noise and 1 subflare in R-8467; 21 cm radio noise in R-8484; br. green corona at NW limb; minor events: cm. and m. solar bursts 1005-1055 and m. and dm. solar bursts 1335-1400; dark surge (R-8461) 0501E; br. surge (R-8461) 2345. Geophysical: moderate magnetic activity becomes a severe storm after 0900 with 2100-2400 Kp 9-; SCNA at 0917; SES at 1543; ionospheric F region very disturbed with considerable auroral and polar blackout, PCA continues; at 1000-1100 short rayed arc overhead at $\phi = 61°$, at 1200 at $\phi = 60°$ and at 1300-1600 $\phi = 57°$ over U.S.S.R.
4	100	102	18	112		Solar: spot decreases in size, radio int. 26, and 6 subflares in R-8461; small spot appears, radio int. 7 and 3 subflares in R-8467; spot, radio int. 6, 21 cm radio noise in R-8484; br. green corona at NW limb; major event: Hα (R-8461) impt. 2n, 0405-0519 with cm. and m. solar bursts and br. surge; minor events: Hα (R-8461) 0600 and 0935E with cm. and dm. solar bursts, br. surge and active prominence region; Hα (R-8467) 2149 with cm. solar burst; cm., m. and dm. solar burst 0410-0920 and 1130-1250; type II, 20-41 MHz, 1452-1528; br. surge (R-8461) 1048E; active prominence region (R-8491) 1750. Geophysical: severe magnetic storm continues with 0000-0600 Kp 9- 8+, but becomes slight activity by end of day; G-SWF and SPA at 0045; S-SWF and SPA at 0212; S-SWF, SCNA, SEA, SPA and SES at 0410; SPA at 2142; ionospheric F region very disturbed with considerable auroral and polar blackout, PCA continues; at 1200-1300 homogeneous auroral arc overhead at $\phi = 61°$, at 1400-1500 br. homogeneous band at $\phi = 58°$, at 1800-2000 short rayed band at $\phi = 60°$, at 2100 short rayed band at $\phi = 59°$ and at 2300 medium length rays at $\phi = 57°$ over U.S.S.R.; aurora at $\phi = 53°$ over North America 0000-0500; aurora at $\phi = 57°$ over North America 0600-1100; great display of aurora over Western Europe, accompanied by vigorous flaming visible from 2100 (Sept. 3) to dawn down to latitudes lower than $\phi = 50°$.

1966 Sep.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
5	99	100	26	13		Solar: spot size increases, radio int. 13, 21 cm radio noise and 14 subflares in R-8467; radio int. 12, 21 cm radio noise on E limb in R-8496; no spots, 21 cm radio noise in R-8484 and R-8487; major event: Hα (R-8496) impt. 2b, 1109-1226D; minor events: Hα (R-8467) 1507E with m. solar burst; active prominence region (R-8461) 0805E-1600. Geophysical: slight-to-moderate magnetic activity 0900-1800; S-SWF and SPA at 0223; G-SWF and SPA at 0303; SCNA at 1246; SPA at 1750; SES at 1800; SPA and SFD at 2021; ionospheric F region slightly disturbed with some auroral blackout at high latitudes, PCA slowly decreases as shown by f min; at 1400 short auroral rays overhead at ϕ = 58° and at 1800 homogeneous band at ϕ = 60° over U.S.S.R.
6	96	98	30	24		Solar: spot size decreases, radio int. 8, 21 cm radio noise and 5 subflares in R-8467; spot appears, radio int. 12, 21 cm radio noise and 6 subflares in R-8496; small spot, radio int. 12 in R-8491; no spots, 21 cm radio noise in R-8484 and R-8487; minor events: Hα (R-8496) 0329; eruptive prominence (N62 W limb) 1730. Geophysical: moderate magnetic activity; ionospheric absorption on 30 MHz at Great Whale River ends at 2340; ionospheric F region slightly disturbed, PCA slowly decreasing; at 1500-1600 homogeneous auroral band overhead at ϕ = 61° over U.S.S.R.
7	94*	96*	36	14	R-8484 (S21)	Solar: spot becomes spot group, radio int. 6, 21 cm radio noise and 6 subflares in R-8496; small spot appears, 21 cm radio noise in R-8484; no spot, 21 cm radio noise in R-8487; 21 cm radio noise in R-8467; small spot appears, radio int. 6, 21 cm radio noise, in R-8495; moderate green corona at NW limb; minor event: Hα (R-8496) 2105. Geophysical: slight magnetic activity continues; SFD at 2116; ionospheric absorption on 30 MHz at Great Whale River again occurs until 2234; aurora at ϕ = 59° over North America 0600-1100.
8	95*	96*	38	42		Solar: spot group size decreases, radio int. 5, 21 cm radio noise and 7 subflares in R-8496; small spot continues, radio int. 7, 21 cm radio noise and 4 subflares in R-8484; no spot, 21 cm radio noise in R-8487; small spot continues in R-8495; minor events: Hα (R-8496) 1615 with cm. solar burst; m. solar burst 0620-0640 and cm. and dm. solar bursts 0725-0740; cm. solar bursts 1615 and 1903-1945; br. surges (N41 W limb) 0642E and 1437E. Geophysical: moderate magnetic storm; SFD at 1907; cosmic ray decrease recovers; ionospheric F region disturbed with some auroral blackout at high latitudes; at 1000-1100 homogeneous auroral arc overhead at ϕ = 63°, at 1200-1400 patches at ϕ = 60°, at 1500-1600 homogeneous arc at ϕ = 59°, at 1900 homogeneous band at ϕ = 59° and at 2000 short rays overhead at ϕ = 60° over U.S.S.R.; aurora at ϕ = 59° over North America 0000-0500 and 0600-1100; glow of aurora on horizon visible to latitude ϕ = 57° over Western Europe between 2110 and 2120.
9	94	95	39	19	R-8487(2) (S16)	Solar: spot group continues, radio int. 9, 21 cm radio noise and 6 subflares in R-8496; small spot increases in size and becomes spot group, radio int. 11, 21 cm radio noise and 11 subflares in R-8484; no spot, 1 subflare in R-8495; minor events: m. and dm. solar bursts 0725 and 0855-1050. Geophysical: slight-to-moderate magnetic activity continues; ionospheric F region disturbance dies away; at 1500-1800 short auroral rays overhead at ϕ = 59°, at 2100 homogeneous arc at ϕ = 60° and at 2200 homogeneous band at ϕ = 60° over U.S.S.R.

* adjusted for burst

1966 Sep.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
10	93	94	37	19		Solar: spot group continues, radio int. 3, 21 cm radio noise and 4 subflares in R-8496; spot group continues, radio int. 13, 21 cm radio noise and 11 subflares in R-8484; 1 subflare in R-8495; minor events: Hα (R-8496) 0603, 1220E with dm. solar burst and 1813 with cm. solar burst; m. noise storm 0730-1330; m. and dm. solar bursts 1420; dark surge (R-8484) 1030E. Geophysical: slight-to-moderate magnetic activity continues; S-SWF at 0606; SFDs at 1720 and 1819.
11	95	97	42	7	(R-8502) (N09)	Solar: spot continues, radio int. 12, 21 cm radio noise and 4 subflares in R-8496; spot group increases in size, radio int. 15, 21 cm radio noise and 3 subflares in R-8484; 1 subflare in R-8495; 1 subflare in R-8501; minor events: m. and dm. solar bursts 0730 and cm. solar burst 1305. Geophysical: magnetically quiet after very slight activity to 1200.
12	100*	101*	38	5	R-8491(2) (N32) R-8495 (S23) R-8496(4) (N20)	Solar: spot continues, radio int. 13, 21 cm radio noise and 1 subflare in R-8496; spot group continues, radio int. 7, 21 cm radio noise in R-8484; no spot, radio int. 12, 21 cm radio noise and 1 subflare in R-8505; possible spot group appearance in R-8502; spot, radio int. 6, 21 cm radio noise in R-8497; minor events: Hα (R-8505) 0858 with br. surge, (R-8506) 0925 with cm., m., and dm. solar bursts, (R-8497) 1242 with cm. solar burst; active prominence region (R-8505) 0705E-2213E; eruptive prominence (R-8505) 1012E; active prominence region (R-8506) 0906. Geophysical: continued magnetically quiet; G-SWF at 0320; G-SWF, SCNA, SEA and SES at 0930; ionospheric F region relatively quiet; aurora at $\phi = 58°$ over North America 0000-0500.
13	101	102	29	4	R-8497(4) (N29)	Solar: spot size decreases, radio int. 15, 21 cm radio noise and 2 subflares in R-8496; spot appears, radio int. 13, 21 cm radio noise and 4 subflares in R-8505; spot group continues, radio int. 9 in R-8484; radio int. 6 in R-8497; minor events: Hα (R-8484) 0930 with active prominence region, and (R-8501) 1256. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet; at 1300-1400 homogeneous auroral arc overhead at $\phi = 60°$, at 1500-1600 br. homogeneous band at $\phi = 58°$, at 1600 homogeneous arc at $\phi = 59°$ and at 1700-1800 rays at $\phi = 59°$ over U.S.S.R.
14	106	107	35	10		Solar: spot continues, radio int. 18, 21 cm radio noise and 1 subflare in R-8496; spot becomes spot group, radio int. 36, 21 cm radio noise and 15 subflares in R-8505; moderate green corona at NE limb; radio int. 6 in R-8484; radio int. 6 in R-8497; minor events: Hα (R-8505) 0310 with active prominence region and br. surge and 1416, (R-8484) 1012 with cm., m., and dm. solar bursts, br. surge and eruptive prominence at limb. Geophysical: continued magnetically quiet until slight activity 1500-2400, sudden commencement at 1511; S-SWF and SPA at 0048; SPA at 0311; S-SWF, SCNA, SEA, SPA and SES at 1008; S-SWF, SCNA and SPA at 2205; SCNA, SEA and SPA at 2348; at 1800-1900 homogeneous auroral arc overhead at $\phi = 61°$ and at 1900-2200 rayed band at $\phi = 58°$ over U.S.S.R.

* adjusted for burst

1966 Sep.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
15	111	112	38	20	(R-8510) (N07)	Solar: spot group increases in size, radio int. 29, 21 cm radio noise and 5 subflares in R-8496; βγ spot group continues, radio int. 35, 21 cm radio noise and 6 subflares in R-8505; moderate green corona at NE limb; minor events: Hα (R-8505) 1828E with active dark filament; active dark filament (R-8497) 0000 and 1610. Geophysical: slight-to-moderate magnetic activity continues; S-SWF, SCNA and SPA at 0100; SPAs at 0253, 0434 and 0552; SFD at 1819; S-SWF, SCNA and SPA at 2030; cosmic ray decrease; glow of aurora on horizon visible over Western Europe to latitude ϕ = 60° between 2050 and 0100 (Sept. 16).
16	123	125	57	10	R-8501 (S27)	Solar: spot group increases in size, radio int. 19, 21 cm radio noise and 3 subflares in R-8496; βγ spot group continues, radio int. 48, 21 cm radio noise and 9 subflares in R-8505; small βγ spot group appears, radio int. 12, 21 cm radio noise and 10 subflares in R-8509; moderate green corona at NE limb; minor events: Hα (R-8505) 0120 with cm. solar burst and active dark filament, 1615 with cm. and m. solar burst, dark surge and sudden disappearance of filament; Hα (R-8509) 0944 with cm., m., and dm. solar bursts, 1040E, 1612 with cm. and m. solar bursts and br. surge, and 1740 with cm. and m. solar bursts; Hα (N27 E limb) 2118 with eruptive prominence; type II, 24-41 MHz, 1815-1820; type II, 21-41 MHz, 1827-1836; type II, 20-31 MHz, 1838-1843; m. noise storm 0730-1500; cm. solar burst 0425-0445; cm., m., and dm. solar bursts 0700-0950; sudden disappearance of filament (R-8505) 0512E; dark surges (R-8505) 0822E, (R-8509) 0905E; active dark filaments (R-8506) 0958E, (R-8497) 2108, (R-8505) 2108; br. surge (R-8509) 1000E. Geophysical: slight magnetic activity 0000-0300 and 1800-2400, otherwise quiet; S-SWF and SPA at 0121; SPAs at 0953 and 1625; G-SWF, SPA and SFD at 1800.
17	128	129	76	9	(R-8511) (N19)	Solar: spot group increases in size, radio int. 22, 21 cm radio noise and 4 subflares in R-8496; spot group increases in size, radio int. 24, 21 cm radio noise and 13 subflares in R-8505; γ spot group increases in size, radio int. 31, and 5 subflares in R-8509; moderate green corona at NE limb; major events: Hα (R-8496) impt. 2n, 0935E-1239D with cm., m., and dm. solar bursts; minor events: Hα (R-8509) 0831 with cm. solar bursts; cm. and m. noise storms 0815-1355; m. solar bursts 1255-1425 and 2045; cm. and m. solar bursts 2325-0035; active filament region (R-8509) 0345E, active dark filament (8505) 2105. Geophysical: slight magnetic activity continues 0000-0900, quiet thereafter; SPAs at 0350 and 0950; ionospheric F region relatively quiet.
18	141	143	83	3		Solar: spot group continues, radio int. 25, 21 cm radio noise and 4 subflares in R-8496; spot group continues, radio int. 30, 21 cm radio noise and 9 subflares in R-8505; spot group increases in size, radio int. 40, 21 cm radio noise and 8 subflares in R-8509; small spot appears, radio int. 7 in R-8510; small spot appears, radio int. 13 in R-8497; br. green corona at NE limb; radio int. 15 on E limb in R-8513; radio int. 6 on E limb in R-8514; minor events: Hα (R-8509) 1450E with cm. and m. solar bursts; type II, 75-230 MHz, 1500-1513; type II, 24-41 MHz, 1505-1513; type II, 22-41 MHz, 1526-1538; cm. and m. solar bursts 0315-0405 and 0750-1015 and 1858-2015; active dark filament (R-8505) 0131 and 0605. Geophysical: continued magnetically quiet; G-SWF, SCNA, SPA and SES at 0400; SEA, SPA and SES at 0850; S-SWF, SCNA, SEA, SPA, SES and SFD at 1450; ionospheric F region relatively quiet.

1966 Sep.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
19	145	147	76	17		Solar: spot group continues, radio int. 30, 21 cm radio noise and 9 subflares in R-8505; spot group continues, radio int. 55, 21 cm radio noise and 15 subflares in R-8509; small spot continues in R-8510; spot group continues, radio int. 20, 21 cm radio noise, and 2 subflares in R-8496; radio int. 13, 3 subflares at limb in R-8497; radio int. 16 in R-8513; radio int. 13 in R-8514; major events: Hα (R-8509) impt. 26, 1157-1240 with cm., m., and dm. solar bursts; minor events: Hα (R-8509) 1641, 2133, and 2338E with cm. solar burst and active dark filament; Hα (R-8505) 1840; type II, 20-41 MHz, 1536-1543; type II, 50-100 MHz, 1537-1543; type II, 21-41 MHz, 1546-1549; m. noise storms 0825-1500 and 2200-0200; m. and dm. solar bursts 0720-0740 and 0825; cm., m., and dm. solar bursts 1305-1545; cm. and m. solar bursts 2200; br. surges (R-8496) 0235E, 1455 and 1528E; active prominence region (R-8496) 0252; active dark filaments (R-8496) 0155 and 0239, (R-8505) 0511, (R-8512) 1302. Geophysical: slight-to-moderate magnetic activity with a preliminary sudden commencement at 0251; SFDs at 0251 and 1410; SPAs at 0942 and 1915; SL-SWF, SEA, SPA and SES at 1155; S-SWF, SCNA, SEA, SPA, SES and SFD at 1515; S-SWF SPA, SES and SFD at 1756; G-SWF and SPA at 2140; S-SWF and SCNA at 2345.
20	142	143	78	21	R-8505(2) (N07) R-8506(4) (N22)	Solar: Spot group continues, radio int. 15, 21 cm radio noise and 5 subflares in R-8505; βγ spot group increases in size, radio int. 43, 21 cm radio noise and 19 subflares in R-8509; small βγ spot group appears, radio int. 9 and 3 subflares in R-8511; radio int. 10 in R-8513; br. green corona at NE limb; major events: Hα (R-8505) impt. 2b, 1738E-2100 with cm. and m. solar bursts and dark surge, and impt. 2b, 1045E-1055 with cm., m., and dm. solar bursts; minor events: Hα (R-8509) 0255E with cm. solar burst, 0821 with cm. and m. solar bursts and 0840E with cm. and m. solar bursts, Hα (R-8505) 0332 with cm. solar burst, br. surge and dark surge; Hα (R-8514) 1116 and 1129; m. noise storms 0625-1510 and 1630-0055; cm., m., and dm. solar bursts 0705-0755 and 1230-1830; m. solar bursts 0620-0635 and 2310; active prominence region (R-8497) 0606E; dark surges (R-8505) 0840E and 1105E and (R-8506) 0827 and 0830; active dark filament (R-8512) 0753E; br. surge (R-8513) 0755. Geophysical: slight-to-moderate magnetic activity continues; G-SWF and SPA at 0257; S-SWF and SPA at 0331; G-SWF, SES and SFD at 0820; SPA and SES at 1020; SPA at 1219; SEA, SPA and SES at 1245; SFD at 1448; SES at 1616; SL-SWF, SPA, SES and SFD at 1700; at 1200 homogeneous auroral patch overhead at $\phi = 62°$, at 1500 homogeneous band at $\phi = 61°$, at 1600-1700 homogeneous arc at $\phi = 61°$ and at 1700 homogeneous arc at $\phi = 60°$ over U.S.S.R.; aurora at $\phi = 59°$ over North America 0600-1100.
21	136	137	89	10	R-8509 (N24)	Solar: Spot group continues, radio int. 20, 21 cm radio noise, and 2 subflares in R-8505; βγ spot group continues, radio int. 33, 21 cm radio noise and 14 subflares in R-8509; spot group increases in size, radio int. 20 and 1 subflare in R-8511; spot group appears, radio int. 35, 21 cm radio noise and 3 subflares in R-8516; radio int. 8 in R-8514; minor events: Hα (R-8511) 0916E with m. solar burst, (R-8516) 0930E with cm. solar burst, (R-8509) 0928E with cm. solar burst, (R-8514) 1811; cm. and m. solar bursts 0059-0425

1966 Sep.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
21 (Cont'd)						and 1353-1455; m. and dm. solar bursts 0630-0750; dark surge (R-8509) 2108; active dark filament (N25 W15) 2108 and 2247. Geophysical: slight magnetic disturbance 0000-1600 and 1200-1500, otherwise quiet; G-SWF, SCNA, SPA and SES at 0925; S-SWF and SFD at 2005; ionospheric absorption on 30 MHz at Great Whale River 0202 to 2010; at 1400-1700 br. homogeneous auroral band overhead at ϕ = 58° over U.S.S.R.
22	131*	132*	86	6	R-8512 (3) (N42)	Solar: δ spot group continues, radio int. 31, 21 cm radio noise, and 6 subflares in R-8505; βγ spot group decreases in size, radio int. 23, 21 cm radio noise and 5 subflares in R-8509; spot group increases in size, radio int. 23 and 9 subflares in R-8511; spot group increases in size, radio int. 37, 21 cm radio noise and 9 subflares in R-8516; radio int. 8 in R-8514; br. green corona at NE limb; moderate green corona at NW limb; minor events: Hα (R-8516) 1213E; type II, 21-41 MHz, 1618-1622; active dark filament (N25 W15) 0000. Geophysical: continued magnetically quiet with very slight activity 0000-0600 and 1800-2400; SCNA and SPA at 0821; ionospheric F region relatively quiet; at 1400-1500 homogeneous auroral rays overhead at ϕ = 59°, at 1600-1700 homogeneous veil at ϕ = 58° and at 1800 br. homogeneous arc at ϕ = 59° over U.S.S.R.
23	127*	128*	71	17		Solar: spot group continues, radio int. 30, 21 cm radio noise and 1 subflare in R-8505; spot group decreases in size, radio int. 27, 21 cm radio noise in R-8509; spot group continues in size, radio int. 40, 21 cm radio noise and 10 subflares in R-8516; radio int. 8 in R-8514; minor events: Hα (R-8516) 1542 with cm. solar burst, (R-8514) 2351; cm. and m. solar bursts 0955-1145 and 1225-1310; active dark filament (R-8505) 0247. Geophysical: slight-to-moderate magnetic activity with a sudden commencement at 0856; SL-SWF, SPA, SES and SFD at 1550-1700; cosmic ray decrease becomes more intense with gradual recovery until Oct. 5; at 1800-2100 short auroral rays overhead at ϕ = 58°, at 1900-2000 br. striated band at ϕ = 59° and at 2100 homogeneous patch at ϕ = 60° over U.S.S.R.
24	125	126	62	12		Solar: δ spot group decreasing slowly in size, radio int. 17, 21 cm radio noise and 1 subflare in R-8505; spot group continues, radio int. 25, 21 cm radio noise and 4 subflares in R-8509; βγ spot continues, radio int. 44, 21 cm radio noise and 4 subflares in R-8516; moderate green corona at NW limb. Geophysical: slight magnetic activity continues; SFDs at 0002E, 1730 and 1907; S-SWF and SPA at 0210; at 1300-1600 homogeneous auroral band overhead at ϕ = 58°, at 1900-2000 br. medium length rayed band at ϕ = 58° and at 2000-2200 medium length rays at ϕ = 58° over U.S.S.R.
25	118*	119*	68	13	R-8514 (2&4) (N23)	Solar: δ spot group continues, radio int. 17, 21 cm radio noise and 2 subflares in R-8505; spot group decreases in size, radio int. 20, 21 cm radio noise and 1 subflare in R-8509; spot decreases in size, radio int. 40, 21 cm radio noise and 4 subflares in R-8516; minor events: Hα (R-8516) 2350; type IV, 22-41 MHz, 1312-1340; type II, 16-41 MHz, 1316-1335; br. surge (N07 W limb) 1020.

* adjusted for burst

1966 Sep.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
25 (Cont'd)						Geophysical: moderate magnetic activity 0000-0900, quiet until slight activity 2100-2400; at 0000-0100 homogeneous auroral band overhead at ϕ = 61° and at 2000-2100 homogeneous arc at ϕ = 61° over U.S.S.R.; aurora at ϕ = 57° over North America 0600-1100.
26	109	109	54	22		Solar: spot group continues, radio int. 16, 21 cm radio noise and 5 subflares in R-8509; spot group decreases in size, radio int. 37, 21 cm radio noise and 5 subflares in R-8516; spot gone, radio int. 14, 21 cm radio noise and 5 subflares in R-8505; moderate green corona at NW limb; minor events: Hα (R-8509) 1725; cm. solar burst 0945; cm. and m. solar burst 1522-1635; active prominence region and eruptive prominence at limb (N11 W limb) 1725E. Geophysical: slight-to-moderate magnetic activity; SEA, SPA and SES at 0938; SL-SWF, SPA and SES at 1519; at 1900 homogeneous auroral band overhead at ϕ = 59° over U.S.S.R.
27	100	100	48	18	R-8516 (N23)	Solar: spot group decreases in size, radio int. 15, 21 cm radio noise and 2 subflares in R-8509; spot group continues, radio int. 30, 21 cm radio noise and 4 subflares in R-8516; spot appears in R-8522; moderate green corona at NW limb; minor events: type IV, 20-41 MHz, 1313-1443; cm. and m. solar bursts 1145-1630; loops (R-8509) 1400 and 1420; active prominence region (R-8509) 0653-1600. Geophysical: slight-to-moderate magnetic activity continues; S-SWF, SCNA and SPA at 0015; ionospheric F region slightly disturbed; at 1800 auroral rays overhead at ϕ = 61° and at 1900-2100 homogeneous arc at ϕ = 60° over U.S.S.R.; aurora at ϕ = 57° over North America 0000-0500.
28	98	98	35	22	R-8522 (S16)	Solar: spot group decreasing in size, radio int. 26, 21 cm radio noise, and 4 subflares in R-8516; spot continues in R-8522; 21 cm radio noise in R-8514; minor events: Hα (R-8528) 0740E. Geophysical: slight-to-moderate magnetic activity continues; at 1200 homogeneous auroral band overhead at ϕ = 58°, at 1900 rayed band at ϕ = 60° and at 2100 homogeneous band at ϕ = 60° over U.S.S.R.
29	98	98	40	17		Solar: spot group decreases in size, radio int. 24, and 7 subflares in R-8516; spot appears in R-8527; spot continues, radio int. 6 and 1 subflare in R-8522; minor events: Hα (R-8516) 0823 with cm. and m. solar bursts. Geophysical: slight-to-moderate magnetic activity continues; at 1100 homogeneous auroral arc overhead at ϕ = 61°, at 1200-1400 striated arc at ϕ = 61° and at 1700-1800 striated band at ϕ = 60° over U.S.S.R.
30	95	96	38	16		Solar: βγ spot group, radio int. 32, and 4 subflares in R-8516; spot continues in R-8527; spot continues, radio int. 7 and 2 subflares in R-8522; moderate green corona at NW limb; minor events: active dark filament (N32 W56) 1725. Geophysical: slight-to-moderate magnetic activity continues; SFD at 0842; at 1300-1600 homogeneous auroral arc overhead at ϕ = 62° and at 1700-1900 homogeneous band at ϕ = 61° over U.S.S.R.

1966 Oct.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
1	101	101	57	6	R-8529 (9/30/66) (S20)	Solar: spot continues, radio int. 10 in R-8522; spot appears, radio int. 9 and 15 subflares in R-8529; βγ spot group continues, radio int. 30, 21 cm radio noise and 3 subflares in R-8516; moderate green corona NE limb; major events: Hα (R-8516) impt. 2n, 0213-0325 with cm. solar burst and active dark filament; minor events: Hα (R-8516) 1641 with sudden disappearance of filament, (R-8529) 1736. Geophysical: very slight magnetic activity; SID at 0226, 1625, 1729, 2030 and 2044.
2	102	102	55	3		Solar: spot continues, radio int. 12 and 2 subflares in R-8522; spot continues, radio int. 6 and 4 subflares in R-8529; spot gone, radio int. 18, 21 cm radio noise and 1 subflare in R-8516; br. green corona NE limb; minor events: Hα (R-8516) 0900E. Geophysical: magnetically quiet, 1 Kp0, 2 Kp0+; ionospheric F region relatively quiet.
3	103	103	50	4		Solar: spot continues, radio int. 11, 21 cm radio noise and 2 subflares in R-8522; spot continues, 21 cm radio noise in R-8529; no spot, radio int. 12, 21 cm radio noise in R-8516; spot appears, radio int. 28, 21 cm radio noise and 1 subflare in R-8530; br. green corona NE limb; minor events: Hα (R-8522) 0828; active prominence region (R-8516) 1011. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet.
4	101*	101*	36	26		Solar: spot decreases in size, radio int. 8 in R-8529; R-8516 goes off W limb; spot continues, radio int. 28, 21 cm radio noise and 3 subflares in R-8530; minor events: Hα (R-8530) 1050 with cm. and m. solar bursts; br. surge (R-8516) 0010; dark surge (R-8530) 1112. Geophysical: very slight magnetic activity until 1200, moderate activity until 2100, moderately severe storm 2100-0000, 1 Kp6; SID at 2205; ionospheric absorption at 30 MHz at Great Whale River from 0250 until Oct 6 at 2240; aurora at ϕ = 57° over North America 0000-0500, homogeneous arc overhead in ϕ = 64-65° during the whole night over Western Europe with pulsating occurring around 2035 UT and separate ray bundles reaching overhead intermittently in ϕ = 63° visible to ϕ = 55°; ionospheric F region slightly disturbed in some sections, beginning of severe disturbance.
5	100	100	40	36	R-8528 (S21)	Solar: spot continues to decrease, radio int. 8 in R-8529; spot continues, radio int. 27, 21 cm radio noise and 3 subflares in R-8530; small second spot appears in R-8530; minor events: active prominence region (N57 W90) 0853; active dark filament (N63 W70) 1015. Geophysical: moderate magnetic storm, 2 Kp5, 1 Kp5+, 2Kp5-, slight activity after 2100; SID at 0215; cosmic ray decrease recovery; aurora at ϕ = 60° over North America 0000-1100, medium length rays of medium-to-intense brightness at ϕ = 59° over U.S.S.R. 1600-1700; ionospheric F region very disturbed with considerable auroral blackout at high latitudes.

* adjusted for burst

1966 Oct.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
6	102*	102*	44	22		Solar: R-8529 off W limb; βγ spot continues, radio int. 22, 21 cm radio noise and 10 subflares in R-8530; small second spot continues, R-8530; spot group appears, radio int. 11 and 1 subflare in R-8528; moderate red and green corona NE limb; minor events: Hγ (R-8530) 1537 with cm. solar burst; active dark filament (N28 E06) 0938. Geophysical: slight magnetic activity until 0300, increasing to moderate until 1500, slight activity thereafter; SID at 1535; 30 MHz absorption recovers 2240; short-to-medium length rayed aurora of medium brightness at ϕ = 57° over U.S.S.R. 1300-1400; ionospheric F region still very disturbed with considerable auroral blackout at high latitudes.
7	103	103	53	8		Solar: βγ spot continues, radio int. 17, 21 cm radio noise and 2 subflares in R-8530; second spot continues in R-8530; spot continues, radio int. 13, 21 cm radio noise and 3 subflares in R-8528; minor event: dark surge (R-8528) 0919. Geophysical: very slight magnetic activity until 1500, slight activity thereafter; 30 MHz ionospheric absorption at Great Whale River 0200-2300; ionospheric F region slightly disturbed with some auroral blackout at high latitudes.
8	100	99	48	5		Solar: spot size decreases, radio int. 15, 21 cm radio noise and 18 subflares in R-8530; small second spot continues in R-8530; spot group continues, radio int. 11 and 21 cm radio noise in R-8528; no spot, radio int. 7 in R-8539; minor events: m. and dm. solar bursts 1015; eruptive prominence (R-8539) 1545; dark surge (R-8530) 1705. Geophysical: very slight magnetic activity until 1200, quiet thereafter.
9	104	104	44	9		Solar: βγ spot continues, radio int. 13, 21 cm radio noise and 6 subflares in R-8530; small second spot continues in R-8530; third area of spot activity, small group, appears in R-8530; spot group continues, radio int. 9, 21 cm radio noise and 6 subflares in R-8528; br. green corona NE limb; major event: Hγ (R-8530) impt. 2n, 1045-1154 with cm. and m. solar bursts and dark surge; minor events: Hγ (R-8530) 0912 with cm. solar burst, (R-8528) 1950 and 2106. Geophysical: slight magnetic activity.
10	107	106	65	3	R-8530(5) (N26)	Solar: spot size decreases, radio int. 12, 21 cm radio noise and 5 subflares in R-8530; third small spot group continues in R-8530; spot group decreases in size, radio int. 8, 21 cm radio noise, and 2 subflares in R-8528; small spot appears, 21 cm radio noise and 3 subflares in R-8544; large spot appears, radio int. 22 and 21 cm radio noise in R-8545; moderate green corona NE limb. Geophysical: magnetically quiet, 1 Kp0, 4 Kp0+.
11	110	110	66	2		Solar: spot contines, radio int. 14, 21 cm radio noise and 1 subflare in R-8530; third small spot group continues in R-8530; spot group continues, radio int. 8, 21 cm radio noise and 1 subflare in R-8528; small spot continues, 21 cm radio noise and 3 subflares in R-8544; large spot continues, radio int. 24, 21 cm radio noise and 1 subflare in R-8545; br. green corona NE limb; minor events: Hγ (R-8528) 0729 and 0813 with active prominence region.

* adjusted for burst

1966 Oct.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
11 (Cont'd)						Geophysical: magnetically extremely quiet, 3 KpOo, 4 KpO+ ionospheric F region relatively quiet.
12	115	115	64	10		Solar: spot decreases in size, radio int. 15, 21 cm radio noise in R-8530; third small spot group continues in R-8530; small spot continues, radio int. 6, and region over W limb in R-8528; small spot continues, radio int. 5 and 21 cm radio noise in R-8544; large spot increases in size, radio int. 23, 21 cm radio noise and 1 subflare in R-8545; small spot appears, radio int. 28, 21 cm radio noise and 12 subflares in R-8546; br. green corona NE limb; minor events: Hα (R-8528) 0838 with active prominence region and br. surge and (R-8546) 0903 and 1132; m. and dm. solar bursts 1215-1250. Geophysical: very slight magnetic activity until 1800, slight-to-moderate thereafter.
13	123*	123*	72	8		Solar: third small spot group continues in R-8530, radio int. 15; large spot decreases slightly in size, radio int. 20, 21 cm radio noise and 5 subflares in R-8545; large spot group appears, radio int. 38, 21 cm radio noise and 9 subflares in R-8546; moderate red corona SW limb; major events: Hα (R-8546) impt. 2n, 0430-0448D with cm. solar burst; minor events: Hα (R-8546) 1332 with cm., m. and dm. solar bursts 1740; cm. solar burst 0230, 0340 and 0850; cm. and m. solar bursts 1045. Geophysical: very slight magnetic activity; SID at 0430, 1334 and 1817.
14	121	120	64	4	R-8539(2) (N20)	Solar: third small spot continues, radio int. 15 in R-8530; large spot continues, radio int. 22, 21 cm radio noise and 2 subflares in R-8545; large spot group increases in size, radio int. 39, 21 cm radio noise and 9 subflares in R-8546; major events: Hα (R-8546) impt. 2n, 1250-1403 with cm., m. and dm. solar bursts; minor events: Hα (R-8530) 0735 with cm. and m. solar bursts and (R-8546) 2352; cm. solar burst 0530; cm., m. solar bursts 0705 and 1430. Geophysical: very slight magnetic activity until 0900, quiet thereafter; SID at 0034, 0525 and 1308; aurora at $\phi = 58°$ over North America 0000-0500, homogeneous band at $\phi = 58°$ over U.S.S.R. 1500-1900.
15	121	121	60	14	R-8544 (N26)	Solar: third spot disappears, radio int. 12 in R-8530; large spot decreases slightly, radio int. 21 and 21 cm radio noise in R-8545; large γ spot group increases in size, radio int. 35, 21 cm radio noise and 5 subflares in R-8546; minor events: Hα (R-8546) 0500 and 1857 with cm. solar bursts. Geophysical: very slight magnetic activity until 1500 with preliminary sudden commencement at 0954, moderate activity thereafter; SID at 0413 and 1908; cosmic ray decrease; ionospheric absorption at 30 MHz at Great Whale River from 1646 to Oct. 17 at 0520; homogeneous auroral arc frequently rayed overhead in $\phi = 65°$-$66°$ over Western Europe visible to $\phi = 58°$, medium int. homogeneous rays overhead at $\phi = 59°$ over U.S.S.R. 1700-2200.
16	121*	120*	70	20	R-8545(3) (N06)	Solar: R-8530 over W limb; large spot continues, radio int. 22 and 21 cm radio noise in R-8545; large Bγ spot group continues, radio int. 45, 21 cm radio noise and 13 subflares in R-8546; br. green coronae NE and NW limbs; major events: Hα (R-8546) impt. 2b, 2045-2110 with cm. and m. solar bursts; minor events: Hα (R-8546) 1204 with cm. solar burst; cm. solar burst 0720; cm. and m. solar bursts 1810 and 1905; m. noise storm 0825-1400 and cm. and m. noise storms 2000-0000.

* adjusted for burst

1966 Oct.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
16 (Cont'd)						Geophysical: moderate magnetic activity, 1 Kp60; SID at 1902, 2050 and 2311; cosmic ray decrease most intense, begins gradual recovery lasting until Oct. 19; aurora overhead at ϕ = 58° over North America 0600-1100, rays overhead at ϕ = 54° over U.S.S.R. 1100-1600 and homogeneous bands overhead at ϕ = 56° 1300-1900; ionospheric F region very disturbed with some auroral blackout at high latitude.
17	121*	120*	70	6	R-8546 (2) (N20)	Solar: large spot continues, radio int. 22 and 21 cm radio noise in R-8545; large spot group continues, radio int. 39, 21 cm radio noise and 8 subflares in R-8546; br. green corona NW limb; moderate green corona NE limb; major events: Hα (R-8546) impt. 2b, 0426-0548 with cm. solar burst and active dark filament; minor events: Hα (R-8546) 0246 with cm. solar burst and 1010 with cm. solar burst; cm. and m. solar burst 0030; m. noise storm 0805-1610. Geophysical: very slight magnetic activity; SID at 0046, 0239, 0343, 0420 and 1005; ionospheric absorption at 30 MHz at Great Whale River recovers; medium length auroral rays of medium brightness overhead at ϕ = 60° over U.S.S.R. 0700-1000, rayed arcs at ϕ = 56° 1100-1700, short rays at ϕ = 54° 1400-1600, and homogeneous arc at ϕ = 56° 1800-1900; ionospheric F region still slightly disturbed on some sectors.
18	120*	118*	70	4		Solar: large spot continues, radio int. 20 and 21 cm radio noise in R-8545; large spot group decreases in size, radio int. 40, 21 cm radio noise and 7 subflares in R-8546; very small spot appears, radio int. 10 and 1 subflare in R-8553, then disappears; br. green corona NW limb; moderate green corona NE limb; minor events: cm. noise storm 1700-0200. Geophysical: slight magnetic activity 0000-0300, quiet thereafter.
19	116*	116*	76	4		Solar: large spot continues, radio int. 16, 21 cm radio noise and 1 subflare in R-8545; large spot group continues, radio int. 28, 21 cm radio noise and 5 subflares in R-8546; radio int. 10 in R-8553; spot sppears, radio int. 12 in R-8554; moderate green coronae NE and SE limb. Geophysical: continued magnetically quiet; cosmic ray decrease recovers.
20	125	124	96	4		Solar: large spot continues, radio int. 17, 21 cm radio noise and 1 subflare in R-8545; large spot group continues, radio int. 42, 21 cm radio noise and 9 subflares in R-8546; radio int. 16 and 1 subflare in R-8553; spot decreases in size, radio int. 10 in R-8554; spot group appears, radio int. 16, 21 cm radio noise and 13 subflares in R-8556; minor events: Hα (R-8553) 0113 with dark surge, (R-8554) 0528 and (R-8546) 1612, 1900 and 2152 with cm. solar burst; cm., m. and dm. solar bursts 1200-1500; cm. and m. solar burst 1905 and 2030; m. noise storm 2305-0000; dark surges (R-8553) 0537E and 1018. Geophysical: continued magnetically quiet; SID at 2039 and 2154; ionospheric F region relatively quiet.
21	122*	121*	91	2		Solar: large spot continues, radio int. 17, 21 cm radio noise in R-8545; large spot group continues, radio int. 39, 21 cm radio noise and 6 subflares in R-8546; spot continues, radio int. 12 and 21 cm radio noise in R-8554; spot group continues, radio int. 15, 21 cm radio noise and 10 subflares in R-8556; minor events: m. noise storm 0650-1500 and cm. noise storm 1230-1900; active prominence region (N60 W limb) 1038. Geophysical: magnetically extremely quiet, 4 KpOo, 2 KpO+; ionospheric F region relatively quiet.

* adjusted for burst

1966 Oct.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
22	121*	120*	83	2	R-8558 (N28)	Solar: large spot continues, radio int. 22, 21 cm radio noise and 1 subflare in R-8545; spot group decreases, radio int. 37, 21 cm radio noise and 8 subflares in R-8546; spot size decreases, radio int. 10, 21 cm radio noise and 1 subflare in R-8554; spot group increases in size, radio int. 15, 21 cm radio noise and 5 subflares in R-8556; no spot, radio int. 6 and 4 subflares in R-8558; minor events: cm. and m. solar bursts 0910, 1310 and 2045; m. noise storm 1045-1500 and cm. noise storm 2000-2330. Geophysical: continued extremely magnetically quiet, 4 KpOo, 3 KpO+, until 2100, very slight activity thereafter; SID at 2217; ionospheric F region relatively quiet.
23	112	111	75	2	R-8553 (2) (N22) (R-8561) (S26)	Solar: R-8545 over W limb; spot group continues, radio int. 28, 21 cm radio noise and 9 subflares in R-8546; spot continues, radio int. 9 and 21 cm radio noise in R-8554; spot group decreases in size, radio int. 17, 21 cm radio noise and 13 subflares in R-8556; small spot group appears, radio int. 6 and 2 subflares in R-8558; minor events: Hα (R-8556) 0236 with cm. solar burst and br. surge, and 2354 with cm. and m. solar bursts, (R-8546) 1337 with m. solar burst, 1423 with cm. solar burst, 1907 and 2056 with cm. solar burst; cm., m. and dm. solar burst 0800-1145. Geophysical: very slight magnetic activity 0000-0300, quiet thereafter, 3 KpOo, 1 KpO+; SID at 0205, 0234, 0615, 0955, 1024, 1344, 1420, 1940, 2055, 2237 and 2351; cosmic ray decrease begins gradually, lasting until Oct. 27.
24	107	106	64	11		Solar: spot continues, radio int. 16, 21 cm radio noise and 7 subflares in R-8546; spot continues, radio int. 9 and 21 cm radio noise in R-8554; βγ spot group continues, radio int. 15, 21 cm radio noise and 8 subflares in R-8556; small spot group continues, radio int. 7 and 1 subflare in R-8558; small spot appears, 2 subflares in R-8561; no spot but radio int. 8 in R-8560; minor events: Hα (R-8546) 0935 and 1723 with br. surge; cm. and m. solar bursts 1015-1815; m. noise storm 0825-1430; type II, <50->320 MHz 1505-1514; dark surge (R-8556) 1510. Geophysical: very slight magnetic activity until 1200, slight activity thereafter; SID at 0120, 0249, 0340, 1455 and 2250; homogeneous auroral arc overhead at $\phi = 57°$ over U.S.S.R. 1600-1800.
25	102	101	50	22	R-8554 (2) (S19) R-8556 (N13)	Solar: R-8546 over W limb; spot continues, radio int. 8 and 21 cm radio noise in R-8554; spot group continues, radio int. 11, 21 cm radio noise and 7 subflares in R-8556; small spot group continues, radio int. 7 and 2 subflares in R-8558; small spot continues, radio int. 6, and 2 subflares in R-8561; no spot, possible 21 cm radio noise in R-8559; radio int. 7 in R-8560; minor events: cm. and m. solar bursts 0645-0750 and 0910-1210; m. solar burst 1640-1825; active dark filament (R-8559) 0004E, (R-8556) 0449 and 0602. Geophysical: slight-to-moderate magnetic activity; SID at 0415 and 0727; ionospheric absorption on 30 MHz at Great Whale River 0100-2359; striated auroral arc overhead at $\phi = 57°$ over U.S.S.R. 1200, homogeneous band at $\phi = 56°$ 1300-2200; ionospheric F region slightly disturbed.
26	99	98	47	15		Solar: spot group continues, radio int. 9, 21 cm radio noise and 1 subflare in R-8556; small spot group continues, radio int. 10 and 21 cm radio noise in R-8558; small spot continues, radio int. 10 and 11 subflares in R-8561; no spot, possible 21 cm radio noise in R-8559; spot gone, radio int. 8 in R-8554; radio int. 6 in R-8560; moderate green corona SE limb; minor events: Hα (R-8561) 2053 and (R-8558) 2106; cm. and m. solar bursts 0915-1310 and m. solar burst 1905 and 1940; active filament region (R-8559) 1025.

* adjusted for burst

1966 Oct.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
26 (Cont'd)						Geophysical: slight-to-moderate magnetic activity; SID at 0500; ionospheric absorption on 30 MHz at Great Whale River 0234-2200; cosmic ray decrease begins; homogeneous auroral arc overhead at $\phi = 56°$ over U.S.S.R. 1100-1200, homogeneous band at $\phi = 57°$ 1500.
27	93	92	39	6		Solar: spot group continues, radio int. 9 and 21 cm radio noise in R-8556; small spot continues, radio int. 7 in R-8558; small spot continues, radio int. 7 and 1 subflare in R-8561; radio int. 7 in R-8560; radio int. 7 in R-8554; moderate green corona SE limb; minor events: Hα (R-8556) 1419 with cm. solar burst and br. surge. Geophysical: magnetically quiet until 1500, very slight activity thereafter; cosmic ray decrease most intense; short rayed arc overhead at $\phi = 56°$ over U.S.S.R. 1400-1500 and homogeneous arc at $\phi = 56°$ 1600-1900, both medium brightness.
28	95	94	36	5		Solar: spot gone, radio int. 10 in R-8558; small spot continues, radio int. 8 and 3 subflares in R-8561; spot appears, radio int. 4 and 2 subflares in R-8566; small spot appears, radio int. 7 in R-8563, then disappears; spot appears in R-8567; small spot appears, radio int. 6 in R-8560, then disappears; spot gone but radio int. 10 in R-8556; no spot, radio int. 7 in R-8563; radio int. 8 in R-8554. Geophysical: slight magnetic activity 0000-0300, quiet thereafter, 2 KpO+; cosmic ray decrease begins gradual recovery lasting until Oct. 31.
29	101	100	27	4	R-8566 (N21)	Solar: radio int. 9 in R-8558; spot gone, radio int. 9 and 1 subflare in R-8561; βγ spot continues, radio int. 7 in R-8566; βγ spot continues, radio int. 8 and 7 subflares in R-8567; no spot, radio int. 12 and 1 subflare in R-8568; radio int. 8 in R-8563; radio int. 9 in R-8556; radio int. 9 in R-8554; major events: br. surges (R-8568) 1600-2355D; minor events: cm. and m. solar bursts 1000-1050; cm. and m. noise storm 1000-1410; active prominence region (R-8568) 0228; active filament region (N37 W65) 0811E; active dark filament (R-8566) 2008. Geophysical: continued magnetically quiet, 2 KpO+; ionospheric F region relatively quiet.
30	97	96	27	13	R-8560 (N32)	Solar: R-8558 over W limb; R-8561 over W limb; spot continues, radio int. 6 and 6 subflares in R-8566; spot continues, radio int. 5 in R-8567; radio int. 12 in R-8568; radio int. 7 in R-8563; radio int. 8 in R-8556; radio int. 8 in R-8554; minor events: m. and dm. solar burst 1050; m. noise storm 0730-1040. Geophysical: very slight magnetic activity until 1500, slight-to-moderate activity 1500-2100, moderate storm thereafter; ionospheric absorption at 30 MHz at Great Whale River at 1334 to Nov. 2 at 0840; auroral veil overhead at $\phi = 58°$ over U.S.S.R. 1600-1800.
31	99	97	35	34	R-8567 (N22)	Solar: spot continues, 2 subflares in R-8566; spot continues, radio int. 8 and 1 subflare in R-8567; spot group appears, radio int. 11 in R-8571; spot reappears, radio int. 6 in R-8560; radio int. 12 and 1 subflare in R-8568; radio int. 7 in R-8556; radio int. 6 in R-8563; minor event: Hα (R-8571) 1859 with br. surge. Geophysical: moderate magnetic storm 0000-0600, moderate activity thereafter; cosmic ray decrease recovers; homogeneous auroral band of medium brightness ovehead at $\phi = 55°$ over U.S.S.R. 1700-1800, homogeneous arc at $\phi = 57°$ 1800 and short rayed band at $\phi = 57°$ 1900; ionospheric F region slightly disturbed with considerable auroral blackout at high latitude.

1966 Nov.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
1	96	95	43	31		Solar: spot continues, radio int. 7 and 3 subflares in R-8566; spot continues, radio int. 7, and 2 subflares in R-8567; spot continues, radio int. 9 and 5 subflares in R-8560; spot continues, radio int. 14, 21 cm radio noise and 1 subflare in R-8571; radio int. 6 in R-8568; radio int. 6 in R-8563; minor events: Hα (R-8567) 1053E; active dark filaments (N23 E58) 0855E and (R-8567) 2313. Geophysical: moderate magnetic activity continues, 3 Kp5-, 1 Kp5, until 1800, slight activity thereafter; short auroral rays overhead at $\phi = 58°$ over U.S.S.R. 1500-2000, medium brightness short rayed band at $\phi = 57°$ 1500 and 1700, short rayed arc at $\phi = 54°$ 1800; ionospheric F region very disturbed with considerable auroral blackout at high latitudes.
2	98	97	42	14	R-8563 (S23)	Solar: spot continues, radio int. 8 and 6 subflares in R-8566; spot continues, radio int. 9 and 2 subflares in R-8567; spot continues, radio int. 6 and 1 subflare in R-8560; spot continues, radio int. 14 and 21 cm radio noise in R-8571; radio int. 5 and 2 subflares in R-8568; minor events: Hα (R-8566) 0950, (R-8568) 1004, (R-8567) 1014; cm. and m. solar burst 1720-1820; active dark filament (R-8568) 1940-0500. Geophysical: slight magnetic activity; SID at 1726; 30 MHz ionospheric absorption at Great Whale River recovers 0840, then occurs again 1150-2150; medium brightness homogeneous auroral band overhead at $\phi = 57°$ over U.S.S.R. 2000.
3	95	93	38	17		Solar: spot gone, 3 subflares in R-8566; spot continues, radio int. 8 and 5 subflares in R-8567; spot continues, radio int. 8 and 2 subflares in R-8560; spot continues, radio int. 13, 21 cm radio noise and 1 subflare in R-8571; radio int. 6 and 4 subflares in R-8568; minor events: cm. and m. solar burst 1905; active dark filament (R-8568) 0534-0715 and 1955-0130; active filament region (R-8567) 0549-0800D. Geophysical: slight-to-moderate magnetic activity; SID at 0655; 30 MHz ionospheric absorption at Great Whale River 0035 to Nov. 4 at 0904; homogeneous auroral arc overhead at $\phi = 59°$ over U.S.S.R. 1300-1400; ionospheric F region slightly disturbed on some sectors, some auroral blackout at high latitudes.
4	93	92	38	9		Solar: R-8566 over W limb; spot gone, radio int. 6 in R-8567; spot gone, 1 subflare in R-8560; spot continues, radio int. 11, 21 cm radio noise and 1 subflare in R-8571; spot appears, radio int. 6 and 21 cm radio noise in R-8563; 1 subflare in R-8568; minor events: Hα (R-8567) 1306; active dark filament (R-8568) 1955-0227. Geophysical: slight magnetic activity until 0600, very slight activity thereafter.
5	100	98	20	9	R-8568 (N23)	Solar: radio int. 6 and 21 cm radio noise in R-8567; R-8560 over W limb; spot continues, radio int. 11 and 21 cm radio noise in R-8571; spot continues, radio int. 7 and 21 cm radio noise in R-8563; spot group appears, radio int. 9 and 4 subflares in R-8572; radio int. 9 in R-8568; moderate green corona NW limb; minor events: Hα (R-8568) 0425 with cm. solar burst and sudden disappearance of filament; Hα (R-8573) 1232 with cm. and m. solar bursts and br. surge; cm. and m. solar bursts 0910; br. surge (R-8573) 0833E; sudden disappearance of filament (R-8568) 1530; active dark filament (R-8572) 2108; eruptive prominence (N58 E limb) 2230. Geophysical: continued very slight magnetic activity; SID at 2134.

1966 Nov.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
6	107	105	32	7	R-8571 (N16)	Solar: R-8567 over W limb; spot continues, radio int. 9 and 21 cm radio noise in R-8571; spot continues, radio int. 6 and 21 cm radio noise in R-8563; spot group continues, radio int. 8, 21 cm radio noise and 5 subflares in R-8572; radio int. 8 in R-8568; radio int. 30, 21 cm radio noise and 3 subflares in R-8573; minor events: Hα (R-8572) 1334 with cm. and m. solar bursts and 1433E; cm. and m. solar bursts 1025; br. surges (R-8573) 1036, 1215, 1330 and 1730. Geophysical: continued very slight magnetic activity; SID at 0217 and 1436.
7	116	113	48	6		Solar: spot continues, radio int. 11 and 21 cm radio noise in R-8571; spot continues in R-8563; spot group decreases in size, radio int. 12, 21 cm radio noise and 3 subflares in R-8572; other spots appear in R-8572; radio int. 7 in R-8568; 2 spot groups appear, radio int. 53, 21 cm radio noise and 5 subflares in R-8573; minor event: Hα (R-8573) 0734 with cm., m. and dm. solar bursts, br. surge and active prominence region and 1103, (R-8572) 1109; cm. solar bursts 1750-2150; br. surge (R-8573) 0520. Geophysical: magnetically quiet, 2 KpO+, until 2100, slight activity thereafter; SID at 0731 and 1810.
8	119	117	55	7		Solar: spot continues, radio int. 9 and 21 cm radio noise in R-8571; spot gone in R-8563; spots continue, radio int. 16 and 21 cm radio noise in R-8572; radio int. 7 in R-8568; spot groups continue, radio int. 34, 21 cm radio noise and 2 subflares in R-8573; moderate green corona SW limb; minor events: Hα (R-8573) 1157 with cm., m. and dm. solar bursts. Geophysical: continued slight magnetic activity until 0600, quiet thereafter; SID at 0044; homogeneous auroral band overhead at $\phi = 59°$ over U.S.S.R. 1600-1700.
9	120	117	59	3		Solar: spot gone, radio int. 8, 21 cm radio noise and 1 subflare in R-8571; R-8563 over W limb; spots continue, radio int. 16 and 21 cm radio noise in R-8572; radio int. 7 in R-8568; spot groups continue, radio int. 35, 21 cm radio noise and 3 subflares in R-8573; minor event: active dark filament (R-8571) 2236-0233. Geophysical: continued magnetically quiet, 3 KpO+; ionospheric F region relatively quiet.
10	124	122	63	9	R-8572 (N18)	Solar: no spot, radio int. 8, 21 cm radio noise and 5 subflares in R-8571; spots continue, radio int. 20, 21 cm radio noise and 3 subflares in R-8572; radio int. 6 in R-8568; spot groups continue, radio int. 37, 21 cm radio noise and 15 subflares in R-8573; minor events: active dark filament (R-8573) 1943-0640; dark surge (R-8573) 2230. Geophysical: quiet to very slight magnetic activity 0000-0600, slight activity 0600-1500, very slight thereafter; SID at 2230.
11	129	126	72	6		Solar: no spot, radio int. 7 and 21 cm radio noise in R-8571; spots continue, radio int. 20, 21 cm radio noise and 7 subflares in R-8572; R-8568 goes off W limb; spot groups continue, radio int. 41, 21 cm radio noise and 18 subflares in R-8573; radio int. 11 in R-8576; minor events: cm. and m. solar bursts 0230. Geophysical: slight magnetic activity until 1200, quiet thereafter, 1 KpO+, 1 KpOo.

1966 Nov.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
12	129	126	80	8		Solar: no spot, radio int. 6, 21 cm radio noise and 1 subflare in R-8571; spots continue, radio int. 17, 21 cm radio noise and 2 subflares in R-8572; spot groups continue, radio int. 51, 21 cm radio noise and 12 subflares in R-8573; radio int. 7 in R-8574; br. green corona NE limb; minor events: Hα (R-8573) 2211. Geophysical: very slight magnetic activity.
13	129	126	68	7	R-8573 (N14)	Solar: R-8571 over W limb; spots continue, radio int. 12, 21 cm radio noise and 3 subflares in R-8572; spot groups continue, both βγ, radio int. 45, 21 cm radio noise and 12 subflares in R-8573; radio int. 7 in R-8574; br. green corona NE limb; minor event: active dark filament (R-8573) 2015-0751. Geophysical: continued very slight magnetic activity.
14	127	124	66	2		Solar: spots continue, radio int. 12, 21 cm radio noise and 2 subflares in R-8572; spot groups continue, radio int. 41, 21 cm radio noise and 5 subflares in R-8573; radio int. 11 in R-8589; radio int. 6 in R-8574; major events: Hα (R-8578) impt. 2n 1215-1341 with cm. and m. solar bursts; minor events: Hα (R-8573) 2038 with active dark filament; m. solar bursts 0925 and 1120; active prominence region (R-8580) 1340-2350; dark surge (R-8573) 1934. Geophysical: magnetically extremely quiet, 4 KpOo; SID at 1222; ionospheric F region relatively quiet.
15	125	123	66	4		Solar: spots continue, no radio int. available, 21 cm radio noise and 1 subflare in R-8572; spot groups continue, no radio int. available, 21 cm radio noise and 14 subflares in R-8573; spot group appears, 2 subflares in R-8578; br. green corona NE limb; minor events: Hα (R-8573) 0932 with cm. and m. solar bursts; active dark filaments (R-8573) 0218-0755D and 1642-2042. Geophysical: magnetically quiet, 2 KpO+; SID at 0022 and 1932.
16	124	121	52	4		Solar: spots continue, sizes slightly decreasing, radio int. 8 and 1 subflare in R-8572; spot groups continue, radio int. 42, 21 cm radio noise and 10 subflares in R-8573; spot group continues, radio int. 15 and 2 subflares in R-8578; radio int. 14 and 1 subflare in R-8584; radio int. 6 in R-8574; minor event: active prominence region (R-8584) 0922E-1159D. Geophysical: very slight magnetic activity until 1200, quiet thereafter, 1 KpO+; homogeneous auroral arc overhead at $\phi = 57°$ over U.S.S.R. 1500-1800.
17	116	113	59	11		Solar: R-8572 over W limb; spot groups continue, radio int. 35, 21 cm radio noise and 11 subflares in R-8573; spot group continues, sizes decreasing, radio int. 11 and 4 subflares in R-8578; spot group appears, radio int. 17 and 9 subflares in R-8584; radio int. 16 and 21 cm radio noise in R-8586; radio int. 7 in R-8574; minor events: Hα (R-8584) 2314; active dark filaments (R-8573) 0130-0330D and (R-8583) 0508-0745. Geophysical: slight magnetic activity 0000-0900 and 1500-2100 with preliminary sudden commencements at 0016 and 1720, quiet after 2100; SID at 0013 and 0133; cosmic ray decrease; homogeneous auroral band overhead at $\phi = 56°$ over U.S.S.R. 1800-1900, weak homogeneous arc overhead in $\phi = 67$-$68°$ over Western Europe with horizon glow visible to $\phi = 58°$.

1966 Nov.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
18	116	113	57	12		Solar: spot groups continue, radio int. 35, 21 cm radio noise and 9 subflares in R-8573; spot group continues, radio int. 11 and 1 subflare in R-8578; spot continues, new spot appears, radio int. 19 and 6 subflares in R-8584; radio int. 12 and 21 cm radio noise in R-8586; radio int. 6 in R-8574; minor events: Hα (R-8573) 0516; br. surge (R-8584) 1307E. Geophysical: magnetically extremely quiet until 0900, 1 KpO+, 2 KpOo, slight-to-moderate activity thereafter; cosmic ray decrease begins recovery; homogeneous auroral band overhead at $\phi = 56°$ over U.S.S.R. 1500-2200 and homogeneous arc at $\phi = 54°$ 1700-2000, bright homogeneous arc overhead in $\phi = 68°$ over Western Europe with horizon glow visible to $\phi = 59°$; ionospheric F region slightly disturbed.
19	114	111	65	12	R-8588 (S15)	Solar: spot groups continue, radio int. 22, 21 cm radio noise and 11 subflares in R-8573; spot slightly decreasing, radio int. 12 and 1 subflare in R-8578; spots continue, radio int. 18 and 2 subflares in R-8584; radio int. 7 and 21 cm radio noise in R-8586; moderate green corona NE limb; radio int. 12 in R-8589; minor events: Hα (R-8584) 0820. Geophysical: slight magnetic activity; SID at 1830; cosmic ray decrease recovers; homogeneous auroral arc overhead at $\phi = 55°$ over U.S.S.R. 1200-1700, short rays of medium brightness at $\phi = 54°$ 1800, homogeneous band at $\phi = 56°$ 1400-1900.
20	114	111	74	8	R-8578 (N23)	Solar: no spots, radio int. 10, 21 cm radio noise and 2 subflares in R-8573; spot continues, radio int. 18 in R-8578; spot sizes decrease slightly, radio int. 16 and 8 subflares in R-8584; small spot group appears, radio int. 6 and 1 subflare in R-8588; large spot group appears, radio int. 18, 21 cm radio noise and 7 subflares in R-8589; radio int. 16 and 21 cm radio noise in R-8586; minor event: br. surge (R-8584) 2025. Geophysical: slight magnetic activity until 0600, quiet until 1800, then very slight activity thereafter; SID at 1632; rayed auroral band of medium brightness overhead at $\phi = 58°$ over U.S.S.R. 1300, homogeneous arc at $\phi = 55°$ 1400-2100, short rays at $\phi = 55°$ 1900 and homogeneous band at $\phi = 56°$ 1800-1900.
21	113*	111*	77	6	R-8589 (N22)	Solar: R-8573 over W limb; spot decreases slightly in size, radio int. 30 in R-8578; spot sizes decrease slightly, radio int. 17 in R-8584; small spot group continues in R-8588; large spot group continues, radio int. 30, 21 cm radio noise and 12 subflares in R-8589; new spot appears R-8589; radio int. 15 and 21 cm radio noise in R-8586; minor event: dark surge (R-8589) 0245. Geophysical: very slight magnetic activity 0300-0900, quiet until 2100, 1 KpO+, slight activity thereafter; homogeneous auroral arc overhead at $\phi = 57°$ over U.S.S.R. 1600-1900.
22	120	116	78	3		Solar: no radio int. available; spot continues in R-8578; spots continue, 1 subflare in R-8584; small spot group continues in R-8588; large spot group continues, 21 cm radio noise and 10 subflares in R-8589; new spot in R-8589 disappears; 21 cm radio noise in R-8586; moderate green corona NW limb; minor events: Hα (R-8589) 1024E with cm. and m. solar bursts, and 1128E, (R-8584) 1835E with cm. and m. solar bursts; type II, 19-40 MHz 1903E-1914, type IV, 35-40 MHz 1920-2036; active dark filament (R-8589) 2008-2254D. Geophysical: magnetically extremely quiet, 1 KpOo, 4 KpO+; SID at 1830; ionospheric F region relatively quiet.

* adjusted for burst

1966 Nov.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
23	118*	115*	76	2	R-8584 (N31)	Solar: spot continues, radio int. 33 in R-8578; spots continue, radio int. 15 and 3 subflares in R-8584; small spot group continues, radio int. 6 and 1 subflare in R-8588; large spot group continues, radio int. 32, 21 cm radio noise and 5 subflares in R-8589; radio int. 14, 21 cm radio noise in R-8586; minor event: active dark filament (R-8584) 0012E-0736. Geophysical: continued magnetically extremely quiet; 1 KpOo, 4 KpO+; ionospheric F region relatively quiet.
24	117	114	72	6		Solar: spot continues, radio int. 16 in R-8578; spots continue, radio int. 16 in R-8584; large spot group continues, radio int. 30, 21 cm radio noise and 5 subflares in R-8589; spot appears, radio int. 15, 21 cm radio noise and 1 subflare in R-8586; spot group appears, radio int. 11 and 21 cm radio noise in R-8593. Geophysical: slight magnetic activity 0300-0900, quiet thereafter.
25	114	111	74	4	R-8586 (2) (N22)	Solar: new spot appears, radio int. 29 and 3 subflares in R-8578; spots continue, radio int. 15 and 1 subflare in R-8584; large spot group continues, radio int. 29, 21 cm radio noise and 8 subflares in R-8589; spot continues, radio int. 15 and 21 cm radio noise in R-8586; spot group continues, radio int. 14 and 21 cm radio noise in R-8593; moderate green corona NE limb; minor events: Hα (R-8589) 2212; cm. and m. solar bursts 1500-1620. Geophysical: continued magnetically quiet, 1 KpO+, with preliminary sudden commencement at 1339; SID at 1523; ionospheric F region relatively quiet.
26	110	107	67	10		Solar: new spot continues, radio int. 22 and 2 subflares in R-8578, which goes off W limb; one spot remains, radio int. 15 and 3 subflares in R-8584; large spot group continues, radio int. 22, 21 cm radio noise and 6 subflares in R-8589; spot continues, radio int. 14, 21 cm radio noise and 2 subflares in R-8586; spot group continues, radio int. 14, 21 cm radio noise and 1 subflare in R-8593; br. green corona NE limb; minor events: Hα (R-8589) 0920, 1229, both with cm. and m. solar bursts, and 1310 with m. solar burst and active prominence region. Geophysical: slight-to-moderate magnetic activity 0000-0600, then very slight activity until 1800, quiet thereafter, 1 KpO+; SID at 0001.
27	114*	111*	59	6		Solar: spot continues, radio int. 26 and 1 subflare in R-8584; large spot continues, radio int. 19, 21 cm radio noise and 3 subflares in R-8589; new spot group appears, radio int. 25, 21 cm radio noise and 6 subflares in R-8586; spot group continues, radio int. 12 and 21 cm radio noise in R-8593; minor event: Hα (R-8586) 1055. Geophysical: continued magnetically quiet, 1 KpO+, until 1500, very slight activity until 2100, quiet thereafter; SID at 2149; ionospheric F region relatively quiet.
28	107	104	41	19		Solar: spot continues, radio int. 16, 21 cm radio noise and 2 subflares in R-8584; 2 subflares in R-8589 at W limb, spot groups continue, radio int. 15, 21 cm radio noise and 4 subflares in R-8586; spot group decreases in size, radio int. 11, 21 cm radio noise and 2 subflares in R-8593; minor event: Hα (R-8586) 0823E with cm. solar burst. Geophysical: very slight magnetic activity until 0900, slight-to-moderate 0900-1800, moderate storm beginning 1800; 30 MHz ionospheric absorption at Great Whale River 2313 to Nov. 29 at 2130; auroral display over Western Europe mainly concealed by cloud visible to $\phi = 58°$; ionospheric F region slightly disturbed in some sectors with some auroral blackout at high latitudes.

* adjusted for burst

1966 Nov.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
29	101	98	37	15		Solar: spot continues, radio int. 13 and 2 subflares in R-8584; spot groups continue, radio int. 13, 21 cm radio noise and 2 subflares in R-8586; spot group continues, radio int. 11, 21 cm radio noise and 2 subflares in R-8593; 2 subflares in R-8599; minor events: Hα (R-8584) 2010 with br. surge and eruptive prominence; active prominence region (R-8584) 1015 and 1342; br. surge (R-8584) 1322. Geophysical: continued moderate magnetic storm 0000-0300, slight activity until 1800, quiet thereafter; SID at 1511.
30	97*	95*	37	28	R-8593 (N18)	Solar: spot continues, radio int. 9 in R-8584 on W limb; spot continues, radio int. 10, 21 cm radio noise and 1 subflare in R-8586; spot group decreases in size, radio int. 8, 21 cm radio noise and 4 subflares in R-8593; short-lived spot appears in R-8599; minor events: Hα (R-8593) 1628 with cm. and m. solar bursts; active dark filament (R-8593) 2000E-2400D. Geophysical: slight magnetic activity 0000-0600, moderate activity until 1800, slight-to-moderate activity thereafter; SID at 0445, 1628 and 2050; 30 MHz ionospheric absorption at Great Whale River 0200-2058 and 2306 to Dec. 1 at 2234; homogeneous auroral arc overhead at $\phi = 57°$ over U.S.S.R. 1200-1700; ionospheric F region disturbed with auroral blackout at high latitudes.
Dec. 1	95	92	35	17	R-8594 (N21) R-8597 (3) (S26)	Solar: spot group continues over W limb, radio int. 7 and 1 subflare in R-8586; spot group continues, radio int. 7 and 21 cm radio noise in R-8593; spot group continues, radio int. 6 and 3 subflares in R-8594; moderate green corona on NE limb; minor event: cm. and m. solar bursts 1740; type IV, 17-41 MHz 1747-1802. Geophysical: moderate magnetic activity until 0900, slight activity thereafter; F region disturbance dies away but appreciable blackout at high latitudes.
2	98	95	33	6		Solar: spot group continues, radio int. 5, 21 cm radio noise and 5 subflares in R-8593; spot group continues in R-8594. Geophysical: magnetically quiet; SID at 1210.
3	--	--	30	4	R-8599 (N23)	Solar: spot group continues, radio int. 5 and 3 subflares in R-8593; spot group continues with 2 subflares in R-8594; spot group appears, radio int. 16, 21 cm radio noise and 3 subflares in R-8607; 1 subflare in R-8606 at E limb; 1 subflare in R-8609 at E limb; 3 subflares in R-8602; major events: Hα (R-8606) impt. 2n 0845E-0945D with active prominence region; minor events: Hα (R-8607) 0910E with br. surge. Geophysical: continued magnetically quiet, 2 KpO+; ionospheric F region relatively quiet.
4	108	105	57	19		Solar: spot group continues, radio int. 8 and 6 subflares in R-8593: spot group gone in R-8594; spot group continues, radio int. 10 and 21 cm radio noise in R-8607; spot group at E limb, radio int. 21, 21 cm radio noise and 3 subflares in R-8606; radio int. 8 in R-8609; minor events: Hα (R-8593) 0720E with m. and dm. solar bursts; br. surge (R-8593) 2208. Geophysical: very slight magnetic activity 0000-0600, slight-to-moderate activity thereafter; homogeneous auroral arc overhead at $\phi = 57°$ over U.S.S.R. 1300-1800; ionospheric F region slightly disturbed in some sectors with some auroral blackout at high latitudes.

* adjusted for burst

1966 Dec.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
5	114*	111*	69	20	(R-8602) (S18)	Solar: spot group continues, radio int. 10 and 5 subflares in R-8593; spot group continues, radio int. 14, 21 cm radio noise and 7 subflares in R-8607; spot group continues with radio int. 25, 21 cm radio noise and 3 subflares in R-8606; radio int. 8 and 4 subflares in R-8609; minor events: Hα (R-8606) 0804 with cm. solar burst; br. surge (R-8593) 2208. Geophysical: continued slight-to-moderate magnetic activity; SID at 1210; homogeneous auroral band of medium brightness overhead at $\phi = 57°$ over U.S.S.R. 1900-2100; display visible over Western Europe behind cloud to $\phi = 59°$; ionospheric F region very disturbed with auroral blackout at high latitudes.
6	119*	116*	68	7		Solar: spot group continues over W limb with radio int. 7, 21 cm radio noise and 1 subflare in R-8593; 1 subflare in R-8594; spot group continues, radio int. 22 and 6 subflares in R-8606; spot group continues with radio int. 10 and 2 subflares in R-8607; spot group appears with radio int. 9 and 1 subflare in R-8609; 6 subflares at E limb in R-8610; moderate green corona on NE limb. Geophysical: slight magnetic activity until 0900, quiet thereafter; homogeneous auroral band of medium brightness overhead at $\phi = 58°$ over U.S.S.R. 1900-2000; ionospheric F region slightly disturbed in southern hemisphere.
7	121	118	64	4		Solar: spot group continues, radio int. 20, 21 cm radio noise and 2 subflares in R-8606; spot size decreasing, radio int. 13 and 3 subflares in R-8607; spot group continues, radio int. 12 and 4 subflares in R-8609; spot group, radio int. 20 and 3 subflares in R-8610; radio int. 6 in R-8597; minor events: Hα (R-8597) 0815E, (R-8610) 0817, 1000E, 1036, 1457E, 1731 with cm. and m. solar bursts, 2100 and m. solar burst, and 2235, (R-8609) 1005 with m. solar burst; dark surge (R-8607) 1045. Geophysical: continued magnetically quiet, 2 KpO+; SID at 0323 and 2020; ionospheric F region relatively quiet.
8	128	124	88	4		Solar: spot group continues, radio int. 18, 21 cm radio noise and 1 subflare in R-8606; new spot group appears, radio int. 20 and 6 subflares in R-8607; spot group continues, radio int. 17 and 4 subflares in R-8609; spot group continues, radio int. 26, 21 cm radio noise and 8 subflares in R-8610; major events: Hα (R-8609) impt. 2n 1209-1250D with m. solar burst and dark surge; minor events: Hα (R-8607) 0900 with m. solar burst, (R-8610) 1655, 1929 and 2309, (R-8599) 2334 with m. noise storm; dark surge (R-8609) 1119E. Geophysical: continued magnetically quiet, 1 KpOo, 2 KpO+, until 2100, slight activity thereafter; SID at 1211; ionospheric F region relatively quiet.
9	151	146	86	3		Solar: spot group continues, radio int. 16, 21 cm radio noise and 1 subflare in R-8606; spot groups continue, radio int. 21, 21 cm radio noise and 3 subflares in R-8607; spot group growing, radio int. 31, 21 cm radio noise and 5 subflares in R-8609; spot group growing, radio int. 41, 21 cm radio noise and 19 subflares in R-8610; 2 subflares at N22 on E limb; major events: Hα (R-8610) impt. 2b, 1755-1907 with cm. and m. solar bursts; minor events: Hα (R-8610) 0955 with active filament region and 1126, both with cm., m. and dm. solar bursts, (R-8607) 1045 with active filament region, (R-8609) 1045 and 1125 with dark surge and both with cm., m. and dm. solar bursts, (R-8606) 2006; cm. and m. solar burst 1520; m. noise storm 2300 (Dec. 8)-0500; active dark filament (R-8610) 2007-0719; br. surges (R-8612) 2117. Geophysical: magnetically quiet, 3 KpO+, 1 KpOo; SID at 0300, 1756 and 1859; ionospheric F region relatively quiet.

* adjusted for burst

1966 Dec.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
10	162*	157*	112	4	R-8606 (4) (N06) R-8607 (5) (N22)	Solar: spot group continues with radio int. 13 in R-8606; spot group classed βγ, radio int. 24, 21 cm radio noise and 8 subflares in R-8607; spot group still growing now βγ, radio int. 43, 21 cm radio noise and 19 subflares in R-8609; spot group now βγ, radio int. 30, 21 cm radio noise and 15 subflares in R-8610; spot group with radio int. 15 and 8 subflares in R-8612; major events: Hα (R-8610) impt. 2n 1427-1546 with cm. solar burst, (R-8612) impt. 2n 2305-2335 with cm. solar burst and m. noise storm and eruptive prominence, active prominence region (R-8612) 2350-0404; minor events: Hα (R-8610) 1213 with cm. and m. solar burst, (R-8609) 1737 with m. solar burst; m. noise storm 2300 (Dec. 9)- 0500; type II, <100-150 MHz 2329-2337. Geophysical: continued magnetically quiet, 2 KpOo; SID at 1223, 1436, 1735 and 2320; ionospheric F region relatively quiet.
11	168*	163*	125	3	R-8609 (S23)	Solar: spot group continues with radio int. 12 and 2 subflares in R-8606; spot groups continue, radio int. 20, 21 cm radio noise and 2 subflares in R-8607; large βγ spot group continues, radio int. 52, 21 cm radio noise and 9 subflares in R-8609; spot group continues, radio int. 26, 21 cm radio noise and 13 subflares in R-8610; spot group continues, radio int. 24, 21 cm radio noise and 4 subflares in R-8612; minor events: Hα (R-8612) 0021 with m. noise storm, (R-8610) 1423 with dark surge, (R-8609) 1910 with cm. solar burst and dark surge, and 2340 with m. noise storm; m. noise storm 2300 (Dec. 10)- 0500; cm., m. and dm. solar bursts 0800-1330; br. surge (R-8612) 0026; active prominence region (R-8612) 0342-0535. Geophysical: magnetically extremely quiet, 3 KpO+, 1 KpOo; SID at 0530, 1914 and 2352; ionospheric F region relatively quiet.
12	163	158	130	2		Solar: spot group continues with radio int. 11 in R-8606; spot groups continue, radio int. 14, 21 cm radio noise and 1 subflare in R-8607; large spot group continues growing, radio int. 53, 21 cm radio noise and 9 subflares in R-8609; spot group again βγ, radio int. 23, 21 cm radio noise and 8 subflares in R-8610; second spot group appears, radio int. 25, 21 cm radio noise and 2 subflares in R-8612; minor events: Hα (R-8610) 1242E, (R-8609) 1920, both with m. solar burst; m. noise storm 2300 (Dec. 11)- 0500; cm. and m. solar bursts 0800-1420. Geophysical: continued magnetically extremely quiet, 6 KpO+, 1 KpOo; SID at 2239.
13	160	156	118	20	R-8610 (N21)	Solar: spot group continues with radio int. 12 and 2 subflares in R-8606; spot groups continue, radio int. 13, 21 cm radio noise and 4 subflares in R-8607; spot group continues, radio int. 41, 21 cm radio noise and 16 subflares in R-8609; spot group continues, radio int. 24, 21 cm radio noise and 2 subflares in R-8610; spot groups continue, radio int. 31, 21 cm radio noise and 4 subflares in R-8612; major events: Hα (R-8612) impt. 2b 2302-2354 with cm. solar bursts; minor events: m. noise storm 2300 (Dec. 12)- 0500 and 0710-1500; cm. and m. solar bursts 0940-1500 and 1730 and 1830-1910. Geophysical: moderate magnetic activity until 1800, very slight activity thereafter; SID at 0112, 0653, 1727, 1921 and 2305; cosmic ray decrease begins early, then erratic recovery until Dec. 17; medium auroral rays of medium-to-intense brightness overhead at $\phi = 58°$ over U.S.S.R. 1300-1400, medium bright homogeneous band at $\phi = 57°$ 1500-1600, medium bright homogeneous arc at $\phi = 58°$ 1700, medium-to-bright striated band at $\phi = 57°$ 1800; ionospheric F region slightly disturbed.

* adjusted for burst

1966 Dec.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
14	154	150	113	48	(R-8613) (N15)	Solar: spot group continues with radio int. 11 in R-8606; one spot group continues with radio int. 11 in R-8607; spot group with size decreasing, radio int. 32, 21 cm radio noise and 10 subflares in R-8609; spot continues, radio int. 20, 21 cm radio noise and 4 subflares in R-8610; spot groups continue, radio int. 34, 21 cm radio noise and 1 subflare in R-8612; $\beta\gamma$ spot group appears with radio int. 6 in R-8613; minor events: Hα (R-8609) 1742; cm. and m. solar bursts 0945-1240. Geophysical: slight-to-moderate magnetic activity until 1200, moderately severe storm 1200-1800, 1 Kp7o, moderate storm thereafter; short rayed auroral arc overhead at $\phi = 52^\circ$ over U.S.S.R. 1600-1900, medium rayed arc at $\phi = 55^\circ$ 1600-2000, short rays at $\phi = 55^\circ$ 2100-2300; homogeneous arc over Western Europe sometimes overhead at $\phi = 63^\circ$ and rayed band north of arc visible as horizon glow to $\phi = 55^\circ$; ionospheric F region very disturbed with some auroral absorption at high latitudes.
15	150	145	107	18	(R-8616) (N16)	Solar: spot group continues with radio int. 10 and 1 subflare in R-8606; spot group continues with radio int. 12 in R-8607; spot group continues, radio int. 25, 21 cm radio noise and 3 subflares in R-8609; spot group continues, radio int. 19, 21 cm radio noise and 3 subflares in R-8610; spot group continues, radio int. 38, 21 cm radio noise and 5 subflares in R-8612; spot group no longer $\beta\gamma$ continues with radio int. 6 and 1 subflare in R-8613; br. green corona on NE limb, moderate green corona on NW limb; minor events: Hα (R-8612) 0522 with active dark filament and 1945 both with cm. solar burst. Geophysical: continued moderate magnetic storm 0000-0300, slight-to-moderate activity thereafter; SID at 0524; homogeneous auroral band overhead at $\phi = 56^\circ$ over U.S.S.R. 1400-1800 and 2100, rays at $\phi = 53^\circ$ 1700 and $\phi = 54^\circ$ 2300, rayed band at $\phi = 53^\circ$ 1800; ionospheric F region disturbed with some auroral absorption at high latitudes.
16	140	135	116	8		Solar: spot group continues over W limb with radio int. 8 in R-8606; spot group continues over W limb with radio int. 10 in R-8607; spot group continues, radio int. 15, 21 cm radio noise and 4 subflares in R-8609; spot group decreasing, radio int. 17 and 21 cm radio noise in R-8610; spot group continues, radio int. 36, 21 cm radio noise and 8 subflares in R-8612; spot group continues with radio int. 6 in R-8613; br. green corona on NW limb, moderate green corona on SW limb, moderate green corona on NE limb; minor events: cm. solar burst 1115. Geophysical: very slight magnetic activity.
17	129*	125*	88	9	R-8612 (3&4) (N21)	Solar: spot group continues with radio int. 13 and 21 cm radio noise in R-8609 at W limb; spot group continues, radio int. 19 and 21 cm radio noise in R-8610; spot group continues, radio int. 28, 21 cm radio noise and 13 subflares in R-8612; spot group continues with radio int. 6 in R-8613; spot group appears in R-8616; major events: Hα (R-8612) impt. 2b 0949-1124 with cm. solar burst; minor events: Hα (R-8612) 0811 and 1227, both with cm. solar burst, (R-8609) 1405 with br. surge. Geophysical: very slight magnetic activity until 2100, slight-to-moderate activity thereafter; SID at 0814, 0953 and 1230; cosmic ray recovery at Deep River remaining approx. 2% lower than before decrease; striated auroral band overhead at $\phi = 58^\circ$ over U.S.S.R. 1600-1700.

* adjusted for burst

1966 Dec.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
18	115	111	76	5		Solar: spot group continues, radio int. 12, 21 cm radio noise and 5 subflares in R-8610; spot group continues, radio int. 20, 21 cm radio noise and 2 subflares in R-8612; spot group continues in R-8613; spot group appears in R-8615; small spot group continues in R-8616; br. green corona on NW limb, moderate green corona on NE limb; minor events: Hα (R-8612) 1820 with cm. solar burst. Geophysical: magnetically quiet; SID at 1422; ionospheric F region relatively quiet.
19	116	112	57	3		Solar: spot group continues, radio int. 17, 21 cm radio noise and 4 subflares in R-8610 at W limb; spot group continues, radio int. 17, 21 cm radio noise and 2 subflares in R-8612; spot group disappears in R-8613; 5 subflares in R-8615; 2 subflares in R-8616; spot group, radio int. 6 and 4 subflares in R-8620; moderate green corona on NW limb, moderate green corona on NE limb; minor events: Hα (R-8613) 1419E with cm. solar burst; cm. solar bursts 1510-1620. Geophysical: continued magnetically quiet, 1 KpO+, 1 KpOo; ionospheric F region relatively quiet.
20	111	108	46	7		Solar: spot group continues, radio int. 12, 21 cm radio noise and 3 subflares in R-8612; 3 subflares in R-8615; spot group continues with radio int. 6 and 2 subflares in R-8620; radio int. 7 and 4 subflares in R-8621 at E limb; br. green corona on NE limb, br. green corona on NW limb; minor event: active prominence region (R-8621) 1208. Geophysical: magnetically extremely quiet, 3 KpO+, 1 KpOo, until 1200, slight activity thereafter; 30 MHz ionospheric absorption at Great Whale River 1526 to Dec. 23 at 0428.
21	110	106	37	12		Solar: spot group continues, no data at 9.1 cm, 21 cm radio noise in R-8612; 1 subflare in R-8615; spot group continues and 1 subflare in R-8620; small spot group and 2 subflares in R-8621; 21 cm radio noise and 1 subflare in R-8625 at E limb; small spot in R-8619; minor events: cm., m. and dm. solar bursts 1040 and cm. and m. solar bursts 1450; type II, 28-41 MHz 1506-1510; eruptive prominence (R-8625) 1103; br. surge (R-8625) 1940. Geophysical: slight magnetic activity until 1200, quiet 1200-1500, then slight activity thereafter; SID at 0450, 1450, and 1910; homogeneous auroral arc of medium brightness overhead at $\phi = 57°$ over U.S.S.R. 1600-1700 and 2000.
22	109*	106*	34	14	R-8619 (S06)	Solar: spots gone over W limb but radio int. 9 in R-8612; small spot group continues, radio int. 6 and 2 subflares in R-8620; small spot group and 1 subflare in R-8621; spot group, radio int. 23, 21 cm radio noise and 1 subflare in R-8624 at E limb; spot group, radio int. 10, 21 cm radio noise and 7 subflares in R-8625; spot gone in R-8619; moderate green corona on NW limb, br. green corona on NE limb; minor events: Hα (R-8625) 0848E, 1000E, 1025 with dm. solar burst and 1126 with cm. and m. solar burst with active prominence region; br. surge and eruptive prominence; active prominence region (R-8625) 0535. Geophysical: slight magnetic activity until 1200 with preliminary sudden commencement at 0441, slight-to-moderate activity thereafter; SID at 0110 and 2229.

* adjusted for burst

1966 Dec.	10 cm Flux S	S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
23	114*	111*	38	8		Solar: radio int. 10 in R-8612 at W limb; small spot group continues and radio int. 6 in R-8620; small spot group in R-8621; another spot group appears, radio int. 20, and 21 cm radio noise and 4 subflares in R-8624; spot group continues, radio int. 20; 21 cm radio noise and 7 subflares in R-8625; 1 subflare in R-8619 minor events: Hα (R-8625) 0752 with cm., m. and dm. solar bursts, 1019, 1046, 1210, 1334 with cm. solar burst, br. surge and active prominence region, 1506 with cm. and m. solar burst, 1639 with cm. solar burst and br. surge, 1850 and 1925, (R-8620) 0815, (R-8624) 1110; cm. solar burst 1110 and cm. and m. solar bursts 1310; br. surge (R-8625) 0248. Geophysical: magnetically quiet until 1500, slight activity thereafter; SID at 0229, 0754, 1114, 1305, 1505, 1639, 1959 and 2211; 30 MHz ionospheric absorption at Great Whale River recovers.
24	114	110	45	12	R-8626 (N28)	Solar: spot group continues with radio int. 6 in 8620; small spot group disappears in R-8621; spot groups continue, radio int. 22, 21 cm radio noise and 1 subflare in R-8624; spot group continues, radio int. 18, 21 cm radio noise and 10 subflares in R-8625; spot group appears with radio int. 7 in R-8626; 1 subflare in R-8619; minor events: Hα (R-8625) 0444 with cm. solar burst; cm. and m. solar bursts 1020-1310 and cm. solar bursts 1445-1530. Geophysical: slight magnetic activity until 1200, quiet thereafter; SID at 0345, 0435 and 1445.
25	115	112	60	14	R-8620 (N30)	Solar: spot group continues with radio int. 6 and 1 subflare in R-8620; spot groups continue, radio int. 25, 21 cm radio noise and 3 subflares in R-8624; spot group decreasing in size, radio int. 11, 21 cm radio noise and 4 subflares in R-8625; spot group increasing in size with radio int. 8 in R-8626; major events: Hα (R-8625) impt. 2f 1105E-1140D with m. solar burst; minor events: Hα (R-8625) 0205 with cm. solar burst and 0937 with m. solar burst; (R-8624) 0910E with m. solar burst; cm. and m. solar bursts 0920-1240. Geophysical: slight magnetic activity; SID at 2339; ionospheric F region slightly disturbed in some sectors with some auroral absorption at high latitudes.
26	115	111	65	24	R-8621 (N26)	Solar: small spot continues with radio int. 6 in R-8620; spot groups continue, radio int. 19, 21 cm radio noise and 3 subflares in R-8624; spot group continues decreasing, radio int. 12, 21 cm radio noise and 3 subflares in R-8625; spot continues increase, radio int. 12 and 1 subflare in R-8626. Geophysical: moderate magnetic activity with moderate storm beginning 1500; 30 MHz ionospheric absorption at Great Whale River 0549-1547D; homogeneous auroral arc overhead at $\phi = 58^\circ$ over U.S.S.R. 1700-1800; ionospheric F region slightly disturbed with some auroral absorption at high latitudes.
27	113	110	48	34		Solar: small spot continues with radio int. 7 and 1 subflare in R-8620; spot groups continue, radio int. 19, 21 cm radio noise and 4 subflares in R-8624; spot group continues, radio int. 10, 21 cm radio noise and 1 subflare in R-8625; spot group continues, radio int. 9 and 1 subflare in R-8626; radio int. 9 and 21 cm radio noise in R-8628; minor events: Hα (R-8625) 1006 with cm. solar burst and dark surge; active prominence region (N42 W limb) 0415-0825D. Geophysical: moderate magnetic storm until 1500, moderate activity thereafter; 30 MHz ionospheric absorption at Great Whale River 0058-1408D; ionospheric F region disturbed with auroral absorption at high latitudes.

* adjusted for burst

1966 Dec.	10 cm Flux S	10 cm Flux S_a	Sun-spot No.	Geo-mag. Ap	CMP of Region Number	Highlights
28	111	108	48	14	R-8624 (S27)	Solar: visible spot gone but radio int. 6 in R-8620; spot groups continue, radio int. 20, 21 cm radio noise and 3 subflares in R-8624; spot group continues, radio int. 8, 21 cm radio noise and 4 subflares in R-8625; spot group continues, radio int. 8 and 4 subflares in R-8626; radio int. 7, 21 cm radio noise and 1 subflare in R-8628; major event: Hα (R-8626) impt. 2b 1758-1830 with cm. solar burst. Geophysical: slight magnetic activity; SID at 1757; 30 MHz ionospheric absorption at Great Whale River 0253-2220; ionospheric F region still slightly disturbed on some regions with some auroral absorption at high latitudes.
29	113	109	51	7	R-8625 (N21)	Solar: radio int. 7 and 2 subflares in R-8620; spot groups continue, radio int. 17, 21 cm radio noise and 4 subflares in R-8624; spot group continues, radio int. 7, 21 cm radio noise and 3 subflares in R-8625; spot group decreases in size in R-8626; radio int. 7 and 21 cm radio noise in R-8628; radio int. 9 and 1 subflare in R-8631 at E limb; moderate green corona on NE limb; minor events: Hα (R-8628) 1437 with dark surge; active prominence region (R-8631) 0855-1530. Geophysical: very slight activity until 1200, quiet thereafter.
30	119	115	70	6		Solar: radio int. 7 in R-8620; spot groups continue, radio int. 14, 21 cm radio noise and 3 subflares in R-8624; spot group continues, radio int. 7 and 3 subflares in R-8625; spot group continues over limb in R-8626; radio int. 6 and 21 cm radio noise in R-8628; spot group appears, radio int. 11 and 9 subflares in R-8629; spot group, radio int. 12, 21 cm radio noise and 3 subflares in R-8631; radio int. 8 in R-8632; br. green corona on NE limb; minor events: Hα (R-8625) 2135, (R-8629) 2231; cm. and m. solar burst 1345; type II, 5-280 MHz 2236-2247; type IV, 26-41 MHz 2237-2257. Geophysical: continued magnetically quiet until 1500, then slight activity until 1800, quiet thereafter, 1 KpO+; SID at 2233; ionospheric F region relatively quiet.
31	125*	120*	68	3		Solar: spot groups continue, radio int. 14 and 21 cm radio noise in R-8624; spot group continues, radio int. 8 and 21 cm radio noise in R-8625; radio int. 8 and 21 cm radio noise in R-8628; spot group growing, radio int. 19 and 5 subflares in R-8629; spot group continues, radio int. 26 and 2 subflares in R-8631; radio int. 12 and 1 subflare in R-8632; moderate green corona on NE and SE limbs; minor events: Hα (R-8629) 0842 with cm., m. and dm. solar bursts, 1649 with cm. and m. solar bursts and dark surge, and 1807, (R-8625) 1618; cm., m. and dm. solar bursts 1130-1330; cm. and m. solar bursts 1505 and 1845; type II, 22-41 MHz 1609-1620, 1630-1644, 1658-1706, <25->320 MHz 1656-1705; type IV, 24-41 MHz 1709-1802. Geophysical: continued magnetically quiet, 1 KpO+, 1 KpOo; SID at 0844, 1652 and 1838.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
01	129	60	18	0	2		Solar: spot continues, radio int. 10 and 1 subflare in R-8624; spot group continues, radio int. 27 and 4 subflares in R-8629; R-8631 develops multiple spot groups, radio int. 14 and 4 subflares; spot continues, radio int. 12 in R-8633; mod. green corona NE and SE limbs. Geophysical: slight magnetic activity except 1200-1500 moderate activity; aurora overhead in U.S.S.R. to ϕ = 57° 1400-1600 and 1700-1900, ϕ = 54° 1600-1700, ϕ = 58° 1900-2000. Events: minor: Hα (R-8629) 0805E and 1109; Hα (R-8631) 1035 with Dkm, m, dm and cm solar burst, SID and solar x-rays; SID 0652 with solar x-rays and 2157.
02	148*	93	7	0	0	R-8629 (S23) R-8628(2) (N16)	Solar: spot continues, radio int. 11 in R-8624; spot group increases in size, radio int. 42 and 29 subflares in R-8629; multiple spot groups continue, radio int. 16 and 6 subflares in R-8631; no spot, radio int. 12 and 6 subflares in R-8632; spot continues, radio int. 15 and 2 subflares in R-8633; mod. green corona NE limb. Geophysical: continued slight magnetic activity until 0600, quiet thereafter. Events: minor: Hα (R-8632) 1733; SID 1235 and 1510 with m, dm and cm solar bursts, also Dkm and m type II; SID 1600, 2050 and 2133; ADF (R-8629) 0927E-1200D.
03	159	124	10	0	3		Solar: spot continues, radio int. 16 in R-8624; βγ spot group increases in size, radio int. 52 and 27 subflares in R-8629; multiple spot groups continue, radio int. 17 and 2 subflares in R-8631; βγ spot group appears, radio int. 8 and 7 subflares in R-8628; spot group appears, radio int. 12 and 2 subflares in R-8632; spot continues, radio int. 17 in R-8633; mod. green corona NE and NW limbs. Geophysical: slight worldwide magnetic activity until 2100-2400 Kp0+ though moderate magnetic disturbance at high latitudes 0935-1900. Events: major: Hα (R-8629) impt. 2n, 2330-0010 with m solar burst; minor: Hα (R-8631) 1134 with Dkm, m, dm and cm solar burst and SID; (R-8629) 1726 with SID, SDF and DSD; m, dm and cm solar burst at 0830; Dkm, m, dm and cm solar burst at 1035; m and cm solar bursts at 1355 and 1435; ADF (R-8629) 1115-1750; DSD (R-8629) 1020 and 1107.
04	166	148	2	0	0		Solar: spot gone, radio int. 13 in R-8624; spot group becomes very large, radio int. 51 and 10 subflares in R-8629; multiple groups βγ type continue, radio int. 16 and 3 subflares in R-8631: spot group increases in size, radio int. 10 and 4 subflares in R-8628; spot group continues, radio int. 13 and 9 subflares in R-8632; spot appears, radio int. 15 and 1 subflare in R-8637; βγ spot continues, radio int. 7 and 1 subflare in R-8633. Geophysical: magnetically extremely quiet 2 Kp0o, 3 Kp0+; ionospheric F region relatively quiet. Events: minor: Hα (R-8629) 0311 with cm solar burst, SID and DSD, (R-8631) 1531 with m solar burst; (R-8637) 1837; (R-8632) 2329; m type II at 0214; m, dm and cm solar burst at 0900; dm solar bursts at 1030 and 1335; DSD (R-8629) 0210; SDF and EPL (S50E limb) 2320; solar x-rays 2343.

*adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
05	174	150	3	0	2		Solar: R-8624 over W limb; large spot group increases in size, radio int. 56 and 3 subflares in R-8629; multiple spot groups continue, one βγ, radio int. 12 and 3 subflares in R-8631; spot group continues, radio int. 15 and 2 subflares in R-8628; spot group continues, radio int. 23 and 4 subflares in R-8632; spot group continues, radio int. 17 and 6 subflares in R-8637; spot continues, radio int. 10 and 1 subflare in R-8633. Geophysical: magnetically quiet with 3 Kp0+; ionospheric F region relatively quiet. Events: minor: Hα (R-8628) 1027 with m and dm solar burst; (R-8631) 1326 with cm solar burst; dm and cm solar burst at 0910; BSD (R-8629) 1020; no solar x-ray obs. from 1538 to Jan. 6 at 1103.
06	166	148	6	0	0	R-8631(6) (N20) R-8633(5) (N06) R-8632(2) (S23)	Solar: large spot group continues, radio int. 42 and 11 subflares in R-8629; multiple spot groups continue, radio int. 10 and 2 subflares in R-8631; spot group continues, radio int. 12 and 1 subflare in R-8628; spot group continues, radio int. 33 and 4 subflares in R-8632; spot group continues, radio int. 16 and 1 subflare in R-8637; spot continues, radio int. 7 in R-8633. Geophysical: mostly magnetically quiet with very slight activity 0600-1200 and 1800-2100; gradual decrease in cosmic rays begins, reaching maximum decrease on Jan. 9 before recovery on Jan. 10.
07	159	134	28	(0)	0		Solar: large spot group increases further in size, radio int. 31 and 2 subflares in R-8629; multiple groups continue, radio int. 9 and 1 subflare in R-8631; spot group continues, radio int. 11 in R-8628; spot group increases, radio int. 20 and 1 subflare in R-8632; spot group continues, radio int. 27 and 1 subflare in R-8637; spot group appears, radio int. 25 and 5 subflares in R-8639; very small spot appears in R-8638; spot continues, radio int. 8 in R-8633. Geophysical: magnetically quiet until preliminary sc at 0759, moderate storm thereafter; aurora overhead in North America to $\phi = 57^\circ$ 0600-1100, overhead in U.S.S.R. to $\phi = 56^\circ$ 1300-1500 and $\phi = 55^\circ$ 1600-1900, br. display mainly concealed by cloud over Western Europe until the early hours of the morning of Jan. 8 with rayed arc overhead to $\phi = 65^\circ$-67° becoming brilliant and showing pulsing around 0300 Jan. 8 and visible as horizon glow to $\phi = 54^\circ$; ionospheric F region very disturbed in some sectors; cosmic ray decrease continues. Events: minor: Hα (R-8629) 0542 with dm and cm solar burst and SID; m, dm and cm solar burst at 0850; SIDs at 1804 and 1908; preliminary sc at 0759.
08	148	116	60	0	4	R-8638 (N14)	Solar: large spot group becomes smaller, radio int. 22 and 3 subflares in R-8629; several spot groups continue, radio int. 10 and 2 subflares in R-8631; spot continues, radio int. 10 in R-8628; spot group decreases in size, radio int. 24 and 2 subflares in R-8632; spot group continues, radio int. 34 and 1 subflare in R-8637; δ-spot group increases in size, radio int. 28 and 11 subflares in R-8639; small spot continues and radio int. 7 in R-8638; spot disappears in R-8633. Geophysical: magnetic storm continues with moderately severe intensity, subsiding to only slight activity 2100-2400; cosmic ray decrease continues; aurora overhead over North America to $\phi = 58^\circ$ 0000-0500, $\phi = 55^\circ$ 0600-1100 and $\phi = 59^\circ$ 1200-1700; overhead over U.S.S.R. to $\phi = 54^\circ$ 0800-1400,

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
08 (Cont'd)							ϕ = 52° 1400-1500 and 1900-2000, ϕ = 51° 1500-1900 and ϕ = 55° 1900-2200, homogeneous arc or band overhead in Western Europe to ϕ = 66° with glow visible to ϕ = 58° the night of Jan. 8-9; ionospheric F region very disturbed with widespread auroral blackout at high latitudes. Events: minor: Hα (R-8639) 1749 with dm solar burst; BSL (R-8629) 0309.
09	150	111	12	0	1	R-8637 (N32) R-8639(2) (N22)	Solar: R-8629 begins transit over W limb, radio int. 15 and 7 subflares; several βγ spots continue, radio int. 20 and 4 subflares in R-8631; R-8628 over W limb; spot group continues, radio int. 17 and 2 subflares in R-8632; spot continues, radio int. 46 and 9 subflares in R-8637; spot group increases in size, radio int. 40 and 8 subflares in R-8639; βγ spot continues, radio int. 15 and 2 subflares in R-8638; br. green corona NE and NW limbs. Geophysical: slight magnetic activity; cosmic ray decrease maximum though begins to recover at end of day; aurora overhead in U.S.S.R. to ϕ = 57° 1500-1600, ϕ = 56° 1700-1800 and ϕ = 55° 1900-2000; ionospheric F region disturbed in some sectors. Events: minor: Hα (R-8629) 2022 and 2234; m, dm and cm solar burst at 1120; ADF (N29 E60) 0443-0755D and 2354-0220; BSLs (R-8629) 1645-2345D.
10	151	111	4	(0)	0		Solar: several spots continue, radio int. 16 and 7 subflares in R-8631; spot group decreases in size, radio int. 16 and 2 subflares in R-8632; spot size decreases, radio int. 46 and 4 subflares in R-8637; spot group increases in size, radio int. 48 and 4 subflares in R-8639; spot group continues, much larger in size, radio int. 17 and 2 subflares in R-8638. Geophysical: continued very slight magnetic activity except quiet 0300-1500 Kp0+; cosmic ray decrease recovers. Events: major: Hα (R-8631) impt. 2n 2053-2135 with BSL; minor: Hα (R-8631) 0855 with Dkm, m, dm and cm solar burst and 1650; Dkm, m and dm solar burst at 1315; dm and cm solar burst at 1925 with SID; SID with m solar burst at 0035; DSD (R-8631) 0215-1105, (R-8638) 0246; BSLs (R-8631) 1600E-0005D; no solar x-ray obs. from 2259 to Jan. 11 at 1507.
11	145	104	16	0	2	R-8644 (N14)	Solar: spot continues, radio int. 27 and 10 subflares in R-8631; spot gone, radio int. 13 and 1 subflare in R-8632; spot continues, radio int. 35 and 3 subflares in R-8637; spot group continues, radio int. 36 and 3 subflares in R-8639; spot group continues, radio int. 16 and 5 subflares in R-8638. Geophysical: slight magnetic activity; aurora overhead in U.S.S.R. to ϕ = 57° 1400-1700, ϕ = 58° 1700-1800 and ϕ = 56° 2000-2100. Events: principal: Hα (R-8632) impt. 3b 0131-0317D with dm and cm solar burst and Dkm and m type II; minor: Hα (R-8631) 0232, 0542, (R-8632) 0344E, 1424 with dm solar burst; m, dm and cm solar burst at 1235; dm and cm solar burst at 2020 with SID and solar x-rays; SIDs at 1019 and 1645; Dkm and m type II at 2054; Dkm type IV at 2119; BSL (R-8631) 1630.
12	144	90	2	0	2		Solar: spot gone, radio int. 17 and 2 subflares in R-8631; no spot, radio int. 15 and 4 subflares in R-8632; spot continues, radio int. 33 in R-8637; spot group continues, radio int. 32 and 2 subflares in R-8639; spot group continues, radio int. 19 and 1 subflare in R-8638; spot group appears, radio int. 10 and 1 subflare in R-8644; spot group appears, radio int. 22 and 10 subflares in R-8647; spot appears, radio int. 6 in R-8641; mod. green corona SW limb; br. green corona NW limb.

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
12 (Cont'd)							Geophysical: magnetically extremely quiet, 2 KpOo, 4 KpO+; ionospheric F region relatively quiet. Events: minor: Hα (R-8631) 0231E with cm solar burst, Dkm and m type IIs, SID and solar x-rays; (R-8647) 1120E with dm solar burst; SID with solar x-rays at 1807; BSL (R-8631) 0330.
13	143	86	26	0	2	R-8641(5) (N25)	Solar: R-8631 over W limb; no spot, radio int. 17 and 2 subflares in R-8632; spot becomes very small, radio int. 35 and 4 subflares in R-8637; spot group decreases in size, radio int. 33 in R-8639; spot group continues, radio int. 23 and 2 subflares in R-8638; spot group continues, radio int. 15 and 3 subflares in R-8644; spot group, relatively large, continues, radio int. 24 and 12 subflares in R-8647; no spot, radio int. 6 in R-8641. Geophysical: slight magnetic activity until preliminary sc at 1202, storm moderately severe; cosmic ray decrease of about 3% at Deep River; aurora overhead in U.S.S.R. to ϕ = 53° 1400, ϕ = 56° 1800-2100 and ϕ = 59° 2100-2400; occasionally brilliant and very active display visible all night in Western Europe with homogeneous arc overhead sometimes as far south as ϕ = 60° becoming a rayed arc later with intense flaming and visible as glow south of ϕ = 54° the night of Jan. 13-14; ionospheric F region disturbed in some sectors. Events: minor: Hα (R-8632) 1819 with cm solar burst; preliminary sc at 1202; ADF (R-8641) 1507-2359; EPL (R-8631) 1710-1905.
14	140	85	61	2	1		Solar: spot continues, radio int. 29 and 4 subflares in R-8637; spot group continues, radio int. 25 and 3 subflares in R-8639; spot group decreases rapidly in size, radio int. 16 in R-8638 as region goes over W limb; spot group increases in size, radio int. 17 in R-8644; spot group continues, radio int. 30 and 4 subflares in R-8647; spot group appears, radio int. 9 in R-8648; no spot, radio int. 5 and 4 subflares in R-8649; mod. green corona NE and SW limb; br. green corona NW limb. Geophysical: magnetic storm severe but ending about 1200; Forbush decrease continues; aurora overhead in U.S.S.R. to ϕ = 59° 0000-0400, overhead in North America to ϕ = 50° 0000-0500; ionospheric F region very disturbed with auroral blackout at high latitudes. Events: major: Hα (R-8639) impt. 2n 2317-0011; minor: Hα (R-8638) 0327 and at 1027 with Dkm, m, dm and cm solar burst and solar x-rays; (R-8649) 1058 and 1637 with SID; (R-8644) 1738 with dm and cm solar burst and SID.
15	131	56	9	0	0		Solar: R-8637 and R-8639 over W limb; spot group continues, radio int. 14 and 6 subflares in R-8644; spot group increases in size, radio int. 21 and 14 subflares in R-8647; spot group increases in size, radio int. 8 in R-8648; no spot, radio int. 8 in R-8649; mod. green corona NE, SE and SW limbs; br. green corona NW limb. Geophysical: slight magnetic activity; recovery from Forbush decrease by end of day. Events: minor: m type II and cm solar burst at 0324; m and Dkm type II at 2321; APR (R-8638) 0821-1546, (R-8650) 0838-1023; DSD (R-8647) 1632 and 1955; ADF (R-8647) 2038-2347.
16	124	56	9	(0)	2	R-8647 (S23)	Solar: spot size decreases, radio int. 12 and 1 subflare in R-8644; spot group begins 6-day gradual decrease, radio int. 20 and 7 subflares in R-8647; spot group continues, radio int. 8 in R-8648; no spot yet, radio int. 18 and 4 subflares in R-8650:

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No,	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January 16 (Cont'd)							spot appears, then disappears, radio int. 6 in R-8649; br. green corona NE and NW limbs; mod. green corona SE and SW limbs; solar x-rays notably quiet quiet from 0126 to Jan. 17 at 2226. Geophysical: slight magnetic activity continues. Events: minor: Hα (R-8644) 0032 with SID and solar x-rays; ADF (R-8647) 0324; BSL (R-8650) 1456E.
17	121	59	4	0	0		Solar: spot continues, radio int. 9 and 2 subflares in R-8644; spot group continues, radio int. 15 and 2 subflares in R-8647; spot group continues, radio int. 8 in R-8648; βγ-spot group, relatively large in size, appears, radio int. 27 and 5 subflares in R-8650; mod. green corona NE and SE limbs; br. green corona NW limb. Geophysical: magnetically quiet. Events: minor: Hα (R-8644) 0036; (R-8650) 2307 with cm solar burst and SID.
18	121	72	5	0	2	R-8648 (N24)	Solar: R-8644 over W limb though 3 subflares appear; spot group continues, radio int. 15 and 4 subflares in R-8647; spot group increases slightly in size, radio int. 6 in R-8648; large spot group continues, radio int. 29 and 6 subflares in R-8650; no spot, radio int. 7 and 2 subflares in R-8651; no spot, radio int. 17 and 5 subflares in R-8659; br. green corona NE, SE and NW limbs; no solar x-rays 0609 to 2217. Geophysical: continued magnetically quiet except very slight activity 1500-2100. Events: minor: Hα (R-8650) 0030, 0616 with SID and 0636; (R-8659) 2003.
19	120	82	5	0	2	(R-8660) (N24)	Solar: spot continues, radio int. 12 and 1 subflare in R-8647; spot continues, radio int. 7 in R-8648; spot decreases in size, radio int. 23 and 1 subflare in R-8650; no spot, radio int. 9 and 1 subflare in R-8651; spot appears, radio int. 18 and 2 subflares in R-8659; no spot, radio int. 8 and 2 subflares in R-8654; no spot, radio int. 12 in R-8641. Geophysical: continued magnetically quiet, some very slight activity 1800-2400; ionospheric F region relatively quiet. Events: minor: Hα (R-8650) 0612 with SID and solar x-rays; EPL (R-8641) 1420-1917.
20	131	82	13	0	2	R-8649(4) (N29)	Solar: spot group continues, radio int. 10 and 1 subflare in R-8647; spot decreases in size, radio int. 8 and 1 subflare in R-8648; spot decreases, radio int. 23 and 3 subflares in R-8650; spot group appears, radio int. 10 and 1 subflare in R-8651; multiple spot groups appear, βγ, radio int. 36 and 6 subflares in R-8659; spot group appears, radio int. 12 and 3 subflares in R-8654; R-8641 over W limb. Geophysical: slight magnetic activity; aurora overhead in U.S.S.R. to $\phi = 57°$ 1500-2000. Events: minor: Hα (R-8659) 1511 with m, dm and cm solar burst, SID and solar x-rays; BSD (R-8659) 2047 with dm and cm burst and m type II, SID and solar x-rays; SID with solar x-rays at 1758; DSD (R-8654) 0245E; ADF (R-8650) 2026-0246.
21	143	102	9	0	3	R-8654 (N12)	Solar: spot group continues, now much smaller, radio int. 9 and 2 subflares in R-8647; spot continues, radio int. 6 in R-8648; spot continues, radio int. 31 and 5 subflares in R-8650; spot group increases in size, radio int. 10 in R-8651; multiple spots increase slightly in total size, radio int. 26 and 16 subflares in R-8659; spot group increases, radio int. 15 and 2 subflares in R-8654; small spot appears, radio int. 21 in R-8655; no spot,

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
21 (Cont'd)							radio int. 8 in R-8662. Geophysical: very slight magnetic activity. Events: major: Hα (R-8659) impt. 2b 2131-2224 with m solar burst, Dkm and m type II, Dkm type IV, SID and solar x-rays; minor: solar x-rays at 0835; BSL (R-8662) 1015.
22	144	134	4	0	0	R-8650 (N16) R-8651 (S17) R-8655 (N27)	Solar: spot group gone, radio int. 6 and 1 subflare as R-8647 goes over W limb; spot decreases, radio int. 6 and 1 subflare in R-8648; spot decreases, radio int. 23 and 4 subflares in R-8650; spot group continues, radio int. 10 in R-8651; multiple spots decrease, radio int. 29 and 12 subflares in R-8659; spot group decreases, radio int. 12 and 2 subflares in R-8654; small spot continues, radio int. 15 in R-8655; small spot appears, radio int. 5 in R-8660; small spot appears, radio int. 7 in R-8663; spot appears, radio int. 6 in R-8661; no spot, radio int. 9 in R-8662; mod. green corona NE and SE limbs. Geophysical: magnetically quiet after very slight activity to 0300. Events: minor: Hα (R-8659) 0030 and 2054; solar x-rays at 0630; SID with m solar burst at 1909.
23	154*	152	5	0	0		Solar: spot increases in size as R-8648 goes over W limb; spot decreases, radio int. 17 and 7 subflares in R-8650; spot group decreases in size, radio int. 10 in R-8651; multiple spot groups increase, radio int. 29 and 11 subflares in R-8659; spot decreases, radio int. 10 and 9 subflares in R-8654; spot gone in R-8655; small spot continues, radio int. 5 in R-8660; multiple small spots continue, radio int. 9 in R-8663; large spot appears, radio int. 18 and 5 subflares in R-8667; spot gone, radio int. 6 in R-8661; br. green corona NE limb; mod. green corona SE limb. Geophysical: very slight magnetic activity to 1200 followed by magnetically quiet. Events: minor: Hα (R-8659) 1214 with Dkm, m, dm and cm solar burst, SID and solar x-rays; m, dm and cm solar bursts at 1630 and 1840; SID with solar x-rays at 2334.
24	152	122	2	0	0		Solar: spot continues, radio int. 22 and 1 subflare in R-8650; multiple spot groups continue, radio int. 28 and 6 subflares in R-8659; spot continues, radio int. 8 and 1 subflare in R-8654; spot gone in R-8660; single small spot continues, radio int. 8 in R-8663; spot continues, radio int. 23 in R-8667; no spot, radio int. 6 and 2 subflares in R-8661. Geophysical: magnetically extremely quiet, 2 KpOo, 4 KpO+. Events: minor: Hα (R-8659) 0609 with dm and cm solar burst and 2023 with m, dm and cm solar burst, Dkm type II and IV, SID and solar x-rays; DSD (R-8659) 0103 with m type II; ADF (R-8659) 0214.
25	147*	133	5	0	0	R-8659(3) (N18) R-8669 (N02)	Solar: spot group increases, radio int. 21 and 2 subflares in R-8650; multiple spot groups decrease slightly in total size, radio int. 22 and 9 subflares in R-8659; spot decreases, radio int. 5 in R-8654; small spot continues, radio int. 8 in R-8663; spot decreases, radio int. 22 and 5 subflares in R-8667; no spot, radio int. 6 in R-8661; br. green corona NE and SE limbs. Geophysical: magnetically quiet. Events: none.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
26	159	136	4	(0)	0	R-8661 (S18)	Solar: βγ-spot group continues, radio int. 22 and 4 subflares in R-8650; multiple spot groups increase in size, radio int. 36 and 11 subflares in R-8659; spot gone, 2 subflares in R-8654; spot gone in R-8663; spot continues, radio int. 27 and 4 subflares in R-8667; small spot appears, radio int. 5 in R-8669; large spot group appears, radio int. 18 and 3 subflares in R-8670; no spot in R-8661. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8659) 1144 with dm and cm burst; Dkm, m, and cm solar burst at 1350 with SID and solar x-rays at 1325; APR (S25 E limb) 1240E.
27	163	130	4	0	0	R-8662(2) (S26) R-8663 (N19)	Solar: spot group decreases substantially in size, radio int. 15 and 1 subflare in R-8650; multiple spot groups increase in size, radio int. 46 and 6 subflares in R-8659; spot continues, radio int. 24 and 2 subflares in R-8667; spot continues, radio int. 5 in R-8669; spot group continues, radio int. 19 and 3 subflares in R-8670; small spot group appears, radio int. 6 in R-8661; br. green corona NE limb; mod. green corona SE limb. Geophysical: continued magnetically quiet. Events: minor: Hα (R-8650) 1511; (R-8659) 2004 and 2320 both with cm solar bursts and SID at 2321.
28	161	125	12	7	6		Solar: spot group continues, radio int. 9 and 1 subflare in R-8650; multiple spot groups increase, becoming extremely large in total size, radio int. 37 and 9 subflares in R-8659; spot continues, radio int. 26 and 6 subflares in R-8667; spot group continues, radio int. 18 and 1 subflare in R-8670; small spot group continues, radio int. 6 in R-8661. Geophysical: slight-to-moderate magnetic activity; ionospheric PCA event, ionospheric F region slightly disturbed in some sectors. Events: solar proton: Hα (R-8670) 0514E (or perhaps evidence for a backside flare) with m, dm and cm solar burst and ground level neutron count increase 16% at Deep River; minor: (R-8667) 0943, 2230; cm solar burst at 1515; Dkm and m type II at 0754.
29	163*	122	4	(8)	5	R-8667(2) (S24)	Solar: R-8650 over W limb; single spot group continues, radio int. 33 and 11 subflares in R-8659; spot continues, radio int. 24 and 3 subflares in R-8667; spot group continues, radio int. 21 and 4 subflares in R-8670; small spot group continues, radio int. 6 in R-8661; spot appears, radio int. 14 and 2 subflares in R-8671; spot appears, radio int. 13 and 2 subflares in R-8673. Geophysical: very slight magnetic activity to 0900 followed by magnetically quiet; ionospheric PCA event continues. Events: major: Hα (R-8667) impt. 2n 1613-1723 with m, dm and cm solar burst and SID; minor: Hα (R-8659) 2040 with dm solar burst and 2354 with m, dm and cm solar burst and SID; m, dm and cm bursts at 1300 and 1530; SID at 2224; ADF (N34 E34) 0230E.
30	164	132	3	6	0		Solar: spot group continues, size slightly less than combined total but still very large, radio int. 33 and 5 subflares in R-8659; spot continues, radio int. 22 and 7 subflares in R-8667; spot group decreases in size, radio int. 26 and 6 subflares in R-8670; spot gone in R-8661; spot group appears, radio int. 15 in R-8674; spot continues, radio int. 9 and 4 subflares in R-8671; spot continues, radio int. 9 and 4 subflares in R-8673; spot appears, radio int. 15 and 3 subflares in R-8680; br. green

* adjusted for burst
( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 January							
30 (Cont'd)							corona NE and NW limbs; mod. green corona SE and SW limbs. Geophysical: continued magnetically quiet; ionospheric PCA event dies out. Events: minor: Hα (R-8673) 1120 with m and cm solar burst; Dkm, m, dm and cm solar burst at 0925; SID at 1410 with dm and cm solar burst; SID at 2120; ADF (S50 E02) 0514-0803; BSL (R-8680) 0745E.
31	161	108	2	(0)	0	R-8670 (N21)	Solar: spot group decreases in size, radio int. 21 and 2 subflares in R-8659 as region goes over W limb; spot decreases in size, radio int. 22 and 5 subflares in R-8667; spot group continues, radio int. 24 and 9 subflares in R-8670; spot group appears, radio int. 21 in R-8674; spot group continues, radio int. 12 and 3 subflares in R-8671; spot continues, radio int. 9 and 1 subflare in R-8673; spot continues, radio int. 20 and 5 subflares in R-8680; large spot appears, radio int. 8 in R-8681. Geophysical: magnetically extremely quiet 1 KpOo, 3 KpO+. Events: major: Hα (R-8680) impt. 2f 0204-0222; minor: Hα (R-8663) 0850 with Dkm, m, dm and cm solar burst and 1208; (R8680) 0924 with Dkm and m solar burst; (R-8659) 1833 with cm solar burst, SID and BSL; Dkm, m, dm and cm solar burst at 1030; SID at 0016; Dkm and m type II at 0022; ADF (S55 W05) 1409-0000; APR (R-8659) 0605E and 0803-1600.
1967 February							
01	156	93	4	0	0		Solar: spot continues, radio int. 19 and 6 subflares in R-8667; spot group continues, radio int. 14 and 1 subflare in R-8670; spot group continues, radio int. 15 in R-8674; spot group continues, radio int. 12 and 2 subflares in R-8671; spot continues, radio int. 21 and 2 subflares in R-8680; large spot continues, radio int. 9 in R-8681; spot continues, radio int. 10 and 1 subflare in R-8673; no spot, radio int. 15 in R-8682; br. green corona NE and NW limbs. Geophysical: very slight magnetic activity, becoming quiet after 1800. Events: minor: Hα (R-8680) 0446; SID with Dkm, m, dm and cm solar burst and solar x-rays at 1220; SID with m, dm and cm burst and solar x-rays at 2300; SID at 0809; APRs (R-8669) 0003-0547 and 0830-1600; BSLs (R-8669) 0420 and 1143, (R-8682) 0907.
02	148	88	2	2	0	R-8671(7) (N16)	Solar: spot increases in size, radio int. 14 and 5 subflares in R-8667; spot decreases, radio int. 9 in R-8670; spot group continues, radio int. 15 in R-8674; spot group increases in size, radio int. 8 in R-8671; spot size decreases, radio int. 21 and 4 subflares in R-8680; large spot increases in size, radio int. 9 and 2 subflares in R-8681; spot continues, radio int. 9 and 2 subflares in R-8673; large spot appears, radio int. 20 and 1 subflare in R-8682. Geophysical: continued magnetically quiet. Events: minor: SID at 0144 with dm and cm, also m type II solar bursts; APR (R-8669) 0000-0615; Dkm and m type II at 1838.
03	143	92	2	5	0	R-8673(3) (S24)	Solar: spot continues, radio int. 12 and 3 subflares in R-8667; spot continues, radio int. 11 in R-8670; spot continues, radio int. 11 in R-8674; spot group continues, radio int. 8 in R-8671; spot continues, radio int. 19 and 2 subflares in R-8680; large

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
03 (Cont'd)							spot continues, radio int. 8 in R-8681; spot continues, radio int. 6 and 1 subflare in R-8673; large spot continues, radio int. 21 and 1 subflare in R-8682; no spot, radio int. 12 and 4 subflares in R-8684; no spot, radio int. 8 and 2 subflares in R-8685. Geophysical: mostly magnetically quiet; ionospheric F region relatively quiet. Event: major: Hα (R-8682) impt. 2b 0257-0403 with SID, m, dm and cm solar bursts, also m and Dkm type II and IV and solar x-rays.
04	141*	100	11	4	2	R-8674(2) (N15)	Solar: spot continues, radio int. 11 in R-8667; spot continues, radio int. 10 and 1 subflare in R-8670; spot continues, radio int. 10 in R-8674; spot decreases in size, radio int. 8 in R-8671; spot continues, radio int. 14 and 3 subflares in R-8680; spot decreases substantially, radio int. 7 in R-8681; large spot continues, radio int. 19 in R-8682; small spot appears, then disappears, radio int. 7 in R-8683 small spot appears, radio int. 12 and 6 subflares in R-8684; spot appears, radio int. 12 in R-8685. Geophysical: very slight magnetic activity until 1500, slight-to-moderate activity thereafter; weak auroral display in Western Europe visible as glow to $\phi = 59°$ night of Feb. 4-5. Event: major: Hα (R-8682) impt. 2b 1641-1902 with SID, dm and cm solar burst, also Dkm type IV with m and Dkm type II and solar x-rays.
05	151*	72	15	(2)	2	R-8681 (S16) R-8683 (N14)	Solar: spot continues, radio int. 8 in R-8667 as region goes over W limb; spot continues, radio int. 12 and 2 subflares in R-8670; spot continues, radio int. 10 in R-8674; spot continues, radio int. 12 and 2 subflares in R-8671; spot continues, radio int. 13 and 1 subflare in R-8680; spot continues, radio int. 11 and 1 subflare in R-8681; spot continues, radio int. 21 and 1 subflare in R-8682; spot group increases, now βγ, radio int. 19 and 6 subflares in R-8684; spot continues, radio int. 13 in R-8685; mod. green corona NE limb. Geophysical: moderate magnetic activity until 0300, mostly slight activity thereafter; ionospheric F region slightly disturbed in some sectors. Events: minor: Hα (R-8681) 1410 with Dkm, m, dm and cm solar burst; SID at 0014 with m, dm and cm solar burst and solar x-rays; EPLs (R-8667) 0050E, (R-8682) 2100; solar x-rays at 0345; ADF (R-8682) 1409-2355.
06	153	89	7	3	0	R-8680(3) (N27)	Solar: R-8670 goes over W limb, radio int. 11; spot gone, radio int. 8 in R-8674; spot continues, radio int. 12 in R-8671; spot size decreases, radio int. 14 in R-8680; spot continues, radio int. 9 and 1 subflare in R-8681; spot group continues, βγ type, radio int. 38 and 1 subflare in R-8682; spot group increases, radio int. 28 and 8 subflares in R-8684; spot continues, radio int. 13 in R-8685; no spot, radio int. 14 and 3 subflares in R-8687. Geophysical: mostly very slight magnetic activity. Events: major: Hα (R-8687) impt. 2n 1833-1933 with SID, dm and cm solar burst, solar x-rays, BSL and EPL; minor: Hα (R-8684) 0818; (R-8687) 0900, 2023.

* adjusted for burst
( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
07	167	138	30	6	4	R-8682(2) (N16)	Solar: radio int. 11 in R-8674; spot disappears, radio int.10 in R-8671; spot continues, radio int. 14 and 1 subflare in R-8680; spot continues, radio int. 12 in R-8681; spot group continues, radio int. 34 and 2 subflares in R-8682; spot group continues, radio int. 29 and 14 subflares in R-8684; spot decreases, radio int. 13 and 4 subflares in R-8685; spot appears, radio int. 17 and 6 subflares in R-8687. Geophysical: very slight magnetic activity until 1500, moderately severe storm beginning after sc at 1636; aurora overhead in U.S.S.R. to ϕ = 53° 1600-2200 and ϕ = 55° 2200-2400; br. display visible all night of Feb. 7-8 in Western Europe with much red coloration between 2140 and 2400, with rayed arc intermittently becoming quiet and homogeneous and with ray bundles and visible as homogeneous glow to ϕ = 53°; ionospheric F region disturbed with some auroral blackout at high latitudes. Events: major: Hα (R-8684) impt. 2f 0720-0755 with m, dm and cm solar burst, impt. 2n 1025-1125 with SID and m, dm and cm solar burst; minor: Hα (R-8684) 0128 with SID, solar x-rays and dm and cm solar burst, and 0624 with solar x-rays; (R-8687) 1136, 1255 with Dkm and m burst; solar x-rays at 1028, SID at 1557, 1801 and 1857, 2056 with solar x-rays and 2233.
08	152	109	46	0	2		Solar: radio int. 11 in R-8674; R-8671 goes over W limb; spot size decreases, radio int. 13 and 1 subflare in R-8680; spot continues, radio int. 12 and 1 subflare in R-8681; spot group increases, radio int. 30 and 7 subflares in R-8682; spot group increases, radio int. 25 and 5 subflares in R-8684; spot group decreases, radio int. 10 in R-8685; spot continues, radio int. 15 and 1 subflare in R-8687; mod. green corona NE, SW and NW limbs. Geophysical: moderately severe magnetic storm continues until 0600, moderate activity thereafter; aurora overhead in North America to ϕ = 58° 0000-0500 and to ϕ = 59° 0600-1100, overhead in U.S.S.R. to ϕ = 55° 0100 and 1400, and to ϕ = 51° 1000-1300 and 1900-2400, weak display in Western Europe visible through cloud to ϕ = 59° night of Feb. 8-9; ionospheric F region very disturbed with auroral blackout at high latitudes. Events: minor: Hα (R-8687) 0233; (R-8684) 0436 with SID and solar x-rays; (R-8682) 0844 with Dkm, m, dm and cm burst; (R-8674) 2233; SID at 1814 with dm and cm burst; solar x-rays at 0431; Dkm and m solar burst at 0955; cm solar burst at 1045.
09	150	112	8	0	0		Solar: radio int. 12 in R-8674; spot disappears, radio int. 12 and 1 subflare in R-8680; spot continues, radio int. 12 in R-8681; large βγ spot group continues, radio int. 32 and 6 subflares in R-8682; spot group continues, again βγ, radio int. 23 and 1 subflare in R-8684; spot continues, radio int. 9 in R-8685; spot continues, radio int. 13 and 3 subflares in R-8687; spot appears, radio int. 9 and 1 subflare in R-8688; mod. green corona SW and NW limbs. Geophysical: slight magnetic activity until 0900, mostly quiet thereafter. Event: minor: Hα (R-8682) 1016.
10	144	97	2	(0)	0	R-8684 (N23) R-8685 (S25)	Solar: radio int. 12 as R-8674 goes over W limb; spot gone, radio int. 14 and 2 subflares in R-8680; spot continues, radio int. 13 and 1 subflare in R-8681; spot group decreases in size, radio int. 22 and 4 subflares in R-8682; βγ spot group decreases,

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
10 (Cont'd)							radio int. 23 and 5 subflares in R-8684; spot continues, radio int. 9 in R-8685; spot decreases, radio int. 14 and 3 subflares in R-8687; spot continues, radio int. 9 in R-8688; no spot, radio int. 7 and 5 subflares in R-8691. Geophysical: magnetically very quiet with 4 Kp0o; ionospheric F region relatively quiet. Event: Hα (R-8691) 0855 with cm solar burst.
11	137	96	11	(0)	2		Solar: no spot, radio int. 20 in R-8680; spot continues, radio int. 11 in R-8681; spot group continues, radio int. 22 and 3 subflares in R-8682; spot group continues, radio int. 24 and 7 subflares in R-8684; spot gone, radio int. 7 and 1 subflare in R-8685; spot continues, radio int. 10 and 1 subflare in R-8687; spot continues, radio int. 7 and 1 subflare in R-8688; spot appears, radio int. 13 and 2 subflares in R-8691; mod. green corona NE and NW limbs Geophysical: slight-to-moderate activity subsiding to very slight activity after 1200; aurora overhead in North America to ϕ = 59° 0600-1100. Events: minor: ADFs (R-8687) 1000-1300 and 1610E-0040D, (R-8684) 1504-2200.
12	136	79	2	0	0	R-8687 (N22)	Solar: no spot, radio int. 11 in R-8680; spot continues, radio int. 7 in R-8681; spot group decreases, radio int. 21 and 3 subflares in R-8682; spot group decreases, radio int. 25 and 10 subflares in R-8684; radio int. 7 in R-8685; spot disappears, radio int. 9 in R-8687; spot continues, radio int. 8 and 2 subflares in R-8688; spot continues, radio int. 10 and 4 subflares in R-8691. Geophysical: magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8688) 1234 with Dkm, m, dm and cm solar burst; (R-8682) 2137; SID at 1616.
13	133	77	4	0	2		Solar: R-8680 and R-8681 go over W limb; spot group continues, radio int. 22 and 6 subflares in R-8682; spot group continues, radio int. 26 and 4 subflares in R-8684; radio int. 27 and 2 subflares in R-8687; spot continues, radio int. 10 and 3 subflares in R-8688; spot continues, radio int. 9 and 3 subflares in R-8691; spot appears, radio int. 8 and 1 subflare in R-8694. Geophysical: continued magnetically quiet, some slight activity after 1500. Events: principal: Hα (R-8687) impt. 3b 1749-2130 with SID, dm and cm solar burst, also Dkm and m type II and IV , solar x-rays and SDF; minor: Hα (R-8682) 2214; ADFs (R-8687) 0010 and 1404.
14	132	58	4	0	0	R-8688 (N16)	Solar: radio int. 16 and 1 subflare in R-8682 as region goes over W limb; spot decreases, radio int. 26 in R-8684; radio int. 18 in R-8687; spot group continues, radio int. 7 and 2 subflares in R-8688; spot continues, radio int. 8 in R-8691; spot continues, radio int. 11 in R-8694; no spot, radio int. 19 and 1 subflare in R-8695. Geophysical: magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8695),0850 (R-8691) 1424; APR (R-8682) 0751-1600; no solar x-ray obs. 1520 to 2154.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
15	130	58	7	0	1		Solar: spot continues, radio int. 15 and 1 subflare in R-8684; new spot appears, radio int. 20 in R-8687; multiple spot groups continue, radio int. 6 and 4 subflares in R-8688; spot continues, radio int. 12 in R-8694; spot group at W limb with radio int. 15 and 2 subflares in R-8684; spot group continues with radio int. 10 and 2 subflares in R-8691; spot groups on E limb with radio int. 32 and 1 subflare in R-8695. Geophysical: extremely magnetically quiet 0600-1800, increasing to moderate storm with sc at 2348. Events: minor: Hα (R-8695) 1538E, 2304 with SID; ADF (R-8691) 0205-0529; SID at 1726.
16	128	60	64	0	4	R-8691(2) (N15)	Solar: R-8684 goes over W limb, though with radio int. 10 and 2 subflares; spot continues, radio int. 14 and 2 subflares in R-8687; spot continues, radio int. 11 in R-8694; no spot, radio int. 13 and 2 subflares in R-8693; radio int. 13 and 2 subflares in R-8684; spot groups continue with radio int. 14 and 3 subflares in R-8688; small spot with radio int. 8 and 2 subflares in R-8691; several spot groups in R-8695 with radio int. 38 and 7 subflares in R-8695. Geophysical: moderate magnetic activity increases with sc at 0835 to severe storm, one Kp8, one Kp7 until 1500, subsiding to moderate activity again; 3% cosmic ray decrease begins; aurora overhead in North America to ϕ = 59° 0600-1100 and ϕ = 58° 1200-1700, overhead in U.S.S.R. to ϕ = 44° 1100-1200, ϕ = 49° 1100-1200, ϕ = 47° 1200-1400 and ϕ = 50° 1400-1900; ionospheric F region very disturbed with some auroral blackout at high latitudes. Events: minor: Hα (R-8695) 0200, 2210 with SID; SID at 1112 with Dkm solar burst; sc at 0835; DSD (R-8688) 0948.
17	125*	60	15	0	4		Solar: spot begins to disappear, radio int. 11 and 1 subflare in R-8687; spot continues, radio int. 9 in R-8694; no spot, radio int. 13 in R-8693; spot group continues with radio int. 12 in R-8688; small spot continues with radio int. 6 and 1 subflare in R-8691; spot groups continue with radio int. 36 and 4 subflares in R-8695; spot appears, radio int. 17 and 2 subflares in R-8698; mod. green corona NW limb. Geophysical: mostly slight magnetic activity; cosmic ray recovery begins at end of day; aurora overhead in U.S.S.R. to ϕ = 56° 1100-1200 and ϕ = 57° 2000-2300; ionospheric F region slightly disturbed in some sectors. Events: minor: Hα (R-8695) 0120;(R-8693) 1539;(R-8687) 1923 with SID, dm and cm solar burst and solar x-rays; (R-8698) 2212 with SID and solar x-rays.
18	127	70	5	0	0		Solar: spot gone, radio int. 12 in R-8687; spot growing but small with radio int. 12 in R-8688; small spot with radio int. 7 in R-8691; spot groups continue with radio int. 25 and 7 subflares in R-8695; spot continues, radio int. 10 in R-8694; no spot, radio int. 10 in R-8693; spot continues, radio int. 15 and 2 subflares in R-8698; mod. green corona SE and NW limbs; mod. red corona NW limb. Geophysical: very slight magnetic activity until 1500, extremely quiet thereafter; gradual cosmic ray recovery continues. Events: principal: Hα (R-8695) impt. 3n 1004-1134 with m, dm and cm solar burst, solar x-rays and DSD; minor: BSL (R-8687) 0130; solar x-rays 0938; ADF (R-8695) 1410-2350.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
19	124	57	5	(0)	0	R-8693(2) (N19) R-8694(3) (S23)	Solar: radio int. 12 as R-8687 goes over W limb; small spot with radio int. 12 in R-8688; small spot continues with 1 subflare in R-8691; spot groups continue with radio int. 22 and 4 subflares in R-8695; spot continues, radio int. 12 and 4 subflares in R-8694; spot continues, radio int. 17 in R-8698; spot appears, radio int. 12 and 1 subflare in R-8693. Geophysical: continued magnetically extremely quiet until 0600, increasing to very slight activity thereafter; gradual cosmic ray recovery continues; ionospheric F region relatively quiet. Events: none.
20	132	60	5	0	0		Solar: spot gone in R-8688; small spot gone in R-8691; spots continue with radio int. 18 and 7 subflares in R-8695; spot continues, radio int. 7 in R-8694; spot continues, radio int. 14 in R-8698; spot continues, radio int. 8 in R-8693; no spot, radio int. 9 in R-8703; no spot, radio int. 19 and 5 subflares in R-8704; br. green corona SE and NW limbs; mod. green corona NE and SW limbs. Geophysical: continued very slight magnetic activity; cosmic ray intensity near normal by end of day. Events: minor: Hα (R-8695) 0725 with m solar burst; (R-8703) 2224 with SID and DSD;(R-8704) 2321; Dkm, m, dm and cm solar burst at 0925; APR (R-8704) 1145-1336; solar x-rays 1350; ADF (R-8695) 2051-0815.
21	135*	71	6	0	1	R-8695(4) (N18)	Solar: spot groups continue with radio int. 16 and 5 subflares in R-8695; spot continues, radio int. 6 in R-8694; spot continues, radio int. 15 in R-8698; spot continues, radio int. 10 and 4 subflares in R-8693; no spot, radio int. 10 in R-8703; no spot, radio int. 28 and 13 subflares in R-8704; mod. green corona NE, SE and NW limbs. Geophysical: magnetically quiet until 0900, very slight activity thereafter. Events: minor: Hα (R-8704) 0229 with ADF and DSD, 0447, 0628 with ADF, 1603 with SID and m and dm solar burst; 2037 with SID and dm and cm solar burst; SIDs at 1621 with m and Dkm type II, 1951 and 2003; Dkm, m and dm solar burst at 1005 and 1320; BSLs (R-8704) 1411-2207 DSD (R-8704) 2149; solar x-rays 0706 and 1700.
22	149	86	7	0	0	R-8698(4) (N26) (R-8700a) (S24)	Solar: spot groups continue with radio int. 15 and 2 subflares in R-8695; spot continues in R-8694; second spot appears, then disappears in R-8694; spot continues, radio int. 19 and 1 subflare in R-8698; spot continues, radio int. 12 and 4 subflares in R-8693; spot appears, radio int. 11 and 2 subflares in R-8703; large spot group appears, radio int. 66 and 11 subflares in R-8704; mod. green corona NE and NW limbs. Geophysical: continued very slight magnetic activity. Events: major: Hα (R-8704) impt. 2b 0622-0635 with SID, cm solar burst, solar x-rays and DSD, 0802-0838 with m and cm solar bursts, 1739-2039 with SID, m type II and m, dm and cm solar burst, impt. 2n 0917-1023 with Dkm and cm solar bursts and EPL and BSL, 1410-1539 with cm solar burst, solar x-rays, m and Dkm type II and Dkm type IV; minor: Hα (R-8704) 0505 with SID and m, dm and cm solar burst and solar x-rays, 0858, 1232, 2310; (R-8693) 0755; (R-8698) 1440 with SID, solar x-rays and cm solar burst; SIDs at 0120 with m and cm solar burst and solar x-rays, 0349 with cm solar burst and solar x-rays, 1147 with cm solar burst, 1325 with Dkm, dm and cm solar burst, 1617, 1716, 1842, 1928 and 2211; solar x-rays 1043 and 1656.

* adjusted for burst
( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
23	152*	84	14	0	4		Solar: spot continues, radio int. 19 and 4 subflares in R-8695; spot in R-8694; spot size decreases, radio int. 14 in R-8698; spot size increases, radio int. 10 and 2 subflares in R-8693; spot continues, radio int. 12 in R-8703; large spot group increases in size becoming δ-type, radio int. 78 and 16 subflares in R-8704; mod. green corona NW limb. Geophysical: very slight magnetic activity increasing to slight-to-moderate activity 0900-2100; weak auroral display over Western Europe visible to $\phi = 59°$ between 1835 and 2100; ionospheric F region slightly disturbed with some auroral blackout at high latitudes. Events: major: Hα (R-8704) impt. 2b 0829-0857 with SID, solar x-rays, and Dkm, m, dm and cm solar burst, impt. 2n 1143-1218 with solar x-rays and m, dm and cm solar burst; minor: Hα (R-8704) 0053 with SID, solar x-rays and m, dm and cm solar burst and m type II, 0242, 1417E, 1625 with SID and dm and cm solar burst, 1701 with SID; ADF (R-8704) 0838; DSDs (R-8704) 1618 with m type II, dm and cm solar burst, solar x-rays and SID, and 2242 with cm solar burst and SID; SIDs at 0547 with solar x-rays, 1554, 1728, 1806 and 1945 all with cm solar bursts.
24	166	100	4	0	1		Solar: spot continues, radio int. 19 and 3 subflares in R-8695; spot in R-8694; spot continues, radio int. 13 in R-8698; spot gone in R-8693; spot continues, radio int. 18 in R-8703; large spot group increases in size, radio int. 94 and 28 subflares in R-8704. Geophysical: mostly magnetically quiet. Events: major: Hα (R-8704) impt. 2b 1900-1944 and 2341-0012 both with SID and cm solar bursts; minor: Hα (R-8704) 0609 with SID, solar x-rays and dm and cm solar burst, 2110; SIDs at 1515, 1720, 1947; Dkm, m, dm and cm solar burst at 1430; dm and m burst at 1805; DSD (R-8704) 0800; APR (R-8709) 1356.
25	163*	106	15	0	2		Solar: spot continues, radio int. 17 and 4 subflares in R-8695; spot in R-8694; spot continues, radio int. 11 in R-8698; spot continues, radio int. 14 and 2 subflares in R-8703; large spot group continues to increase, becoming extremely large in size, radio int. 113 and 16 subflares in R-8704. Geophysical: slight-to-moderate magnetic activity 0300-2400; ionospheric F region slightly disturbed in some sectors. Events: minor: Hα (R-8704) 0735 with cm burst, 0926 with dm and cm burst, 1131 with Dkm and cm burst, 1322 with dm and cm burst, 1509 with DSD, 1806 with SID and dm and cm burst, 1846 with SID, solar x-rays, dm and cm solar burst and Dkm type II and IV, 1950 with SID, solar x-rays and cm burst; SID at 1620 with cm burst.
26	177*	123	11	0	2	R-8703(3) (S25)	Solar: spot decreases in size, radio int. 17 and 1 subflare in R-8695; R-8694 goes over W limb; spot gone, radio int. 11 in R-8698; spot continues, radio int. 12 in R-8703; very large spot group continues, again δ-type radio int. 92 and 14 subflares in R-8704; small spot group appears, radio int. 15 and 4 subflares in R-8706; small spot appears, radio int. 9 and 2 subflares in R-8707; no spot, radio int. 15 in R-8711. Geophysical: slight-to-moderate activity 0000-0600, subsiding to very slight activity; ionospheric F region slightly disturbed in some sectors.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 February							
26 (Cont'd)							Events: minor: Hα (R-8704) 0853 with Dkm, m, dm and cm solar burst; SID at 0137 with cm solar burst and DSD; dm and cm solar bursts at 0410 and 1520
27	180	186	5	0	0	R-8704(2) (N23)	Solar: spot size increases, radio int. 14 and 1 subflare in R-8695 as region goes over W limb; radio int. 11 in R-8698; spot decreases slightly, radio int. 9 in R-8703; large spot group decreases in size, continued δ-type, radio int. 97 and 16 subflares in R-8704; multiple spot groups appear, radio int. 10 and 3 subflares in R-8706; several small spots, radio int. 11 and 5 subflares in R-8707; small spot appears, radio int. 5 in R-8709; multiple spots, relatively large, appear, radio int. 20 and 1 subflare in R-8711; br. green corona NE and NW limbs. Geophysical: very slight magnetic activity, subsiding to quiet several times. Events: major: Hα (R-8704) impt. 2n 1637-1830 with SID, solar x-rays and m, dm and cm solar burst; m and Dkm type II and Dkm type IV, and impt. 2n 2051-2256 with SID and solar x-rays; minor: Hα (R-8704) 2337 with SID and dm and cm burst; Dkm, m, dm and cm solar burst at 0845; SIDs at 1454 and 1503 with m, dm and cm bursts; SIDs at 0251 and 1300 with cm solar bursts.
28	184	166	4	0	0		Solar: radio int. 14 as R-8698 goes over W limb; spot decreases slightly, radio int. 8 in R-8703; large spot group increases slightly, continued δ-type radio int. 67 and 10 subflares in R-8704; spot groups continue, radio int. 12 and 1 subflare in R-8706; spot group grows in size, radio int. 41 and 8 subflares in R-8707; small spot continues, radio int. 6 in R-8709; multiple spots continue, radio int. 26 in R-8711; spot group appears, radio int. 16 and 1 subflare in R-8714; no spot, radio int. 9 in R-8700a. Geophysical: mostly magnetically quiet. Events: minor: Hα (R-8704) 1558 with SID and dm and cm solar bursts;(R-8707) 2020 with dm and cm solar burst; SID with cm solar burst at 0148; m, dm and cm solar bursts at 1120, DSD (R-8704) 1736 with dm and cm solar burst; SID with m, dm and cm solar burst at 1835; SID at 2234; DSD (R-8704) 1940; BSL (R-8698) 1346, (R-8700a) 1506; EPL (R-8711) 1645, (R-8700a) 1828 and 1853; APR (N09 W limb) 2206.
1967 March							
01	198	172	5	0	0	R-8706(4) (S18) R-8707 (N17)	Solar: spot continues with radio int. 8 in R-8703; spot groups βγ and δ-type continue with radio int. 86 and 8 subflares in R-8704; spot groups continue with radio int. 16 and 2 subflares in R-8706; growing spot group becomes βγ with radio int. 36 and 23 subflares in R-8707; small spot continues with radio int. 14 in R-8709; spot group growing becoming γ with radio int. 39 and 7 subflares in R-8711; spot group grows and becomes βγ with radio int. 32 and 8 subflares in R-8714; br. green corona NE limb; mod. green corona NW limb. Geophysical: mostly very slight magnetic activity with several periods of quiet; aurora overhead in U.S.S.R. to $\phi = 57°$ 1400-1700. Events: minor: SID at 0155 and 1815; SID at 0425 with m, dm and cm solar burst and solar x-rays, DSD (R-8707) 0830 with m, dm and cm solar burst and 1210; DSD (R-8714) 1430 with m, dm and cm solar burst; SID with dm and cm solar burst at 1946; m solar noise storms; no solar x-ray obs. 0711 to 0931.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
02	201*	179	4	0	0		Solar: spot decreasing in size with radio int. 8 in R-8703; spot groups βγ and δ-type continue with radio int. 82 and 15 subflares in R-8704; spot group size decreasing with radio int. 12 in R-8706; βγ spot group continues with radio int. 30 and 5 subflares in R-8707; spot group grows with radio int. 10 and 3 subflares in R-8709; spot group continues to grow with radio int. 36 and 4 subflares in R-8711; βγ spot growing with radio int. 26 and 18 subflares in R-8714; spot group at E limb with radio int. 24 and 2 subflares in R-8715; radio int. 22 with 4 subflares in R-8716 at E limb. Geophysical: mostly magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8704) 0444 with SID, DSD, solar x-rays and m, dm and cm solar burst, 1110, 1306, 1543 with SID, DSD, solar x-rays and dm and cm solar burst and Dkm and m type II and IV; SIDs at 0213 with cm solar burst and solar x-rays and 1425 with dm and cm solar burst; APRs (R-8715) 0855-1620, (R-8716) 1210-1620; DSDs (R-8704) 1115 with m and cm solar burst and 1510; m solar noise storm.
03	200*	191	8	0	0	R-8709(4) (S28) R-8708(3) (N17)	Solar: spot gone in R-8703; δ-type spot group continues with radio int. 86 and 13 subflares in R-8704; spot group continues with radio int. 10 in R-8706; βγ spot group continues with radio int. 30 and 7 subflares in R-8707; spot group decreases with radio int. 10 and 1 subflare in R-8709; spot group continues with radio int. 37 and 8 subflares in R-8711; spots still growing with radio int. 26 and 2 subflares in R-8714; spot group continues with radio int. 30 and 4 subflares in R-8715; spot group with radio int. 37 and 6 subflares in R-8716. Geophysical: mostly very slight magnetic activity, some slight activity 0900-1500. Events: minor: Hα (R-8704) 0505 with cm solar burst, 0627 with SID, solar x-rays, Dkm, m, dm and cm solar burst; 2057 with SID, BSL, DSD, dm and cm solar burst and Dkm type II; (R-8716) 0730 with SID and BSL, and 1755; (R-8715) 0839 with solar x-rays; (R-8707) with Dkm, m, dm and cm solar burst; BSLs (R-8704) 1535, 1705 with SID and cm solar burst, 1745, 1840, 2000; ADF (R-8707) 2120, 2225, 2330; DSD (R-8704) 2303 with cm solar burst; EPL (R-8704) 2335; m solar noise storm.
04	209*	172	6	0	0		Solar: no observations of magnetic classification of sunspot at Mt. Wilson; spot group continues with radio int. 67 and 11 subflares in R-8704; spot group continues with radio int. 10 in R-8706; spot group continues with radio int. 22 and 5 subflares in R-8707; spot group gone in R-8709; spot group continues with radio int. 39 and 7 subflares in R-8711; spot group continues with radio int. 30 and 5 subflares in R-8714; spot group continues with radio int. 30 and 1 subflare in R-8715; growing spot with radio int. 50 and 5 subflares in R-8716. Geophysical: continued very slight magnetic activity. Events: major: Hα (R-8711) impt. 2b 2103-2128 with SID, DSD and dm and cm solar burst; minor: Hα (R-8704) 0439E with BSL and cm solar burst, 0624 with BSL, m and cm solar burst, 0720 with Dkm, m, dm and cm solar burst, 0744 with BSL, m and cm solar burst, 0828 with BSL, APR and Dkm, dm and cm solar burst, 0918, 1426 with BSL, 1643 with BSL, 1716 with SID, BSL, dm and cm solar burst and m type II; (R-8716) 0717E with ADF, 1243 with dm and cm solar burst, 1321 with SID and m, dm and cm solar burst; (R-8711) 1005 with m and cm solar burst, 1910 with SID and dm and cm solar burst; (R-8703) 1210 with SID, solar x-rays and dm and cm solar burst; SID at 0113.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
05	182*	164	11	0	2	R-8711(2) (S23)	Solar: spot group at W limb with radio int. 36 and 6 subflares in R-8704; spot group gone in R-8706; spot group continues with radio int. 14 and 3 subflares in R-8707; spot group now βγ, growing with radio int. 34 and 10 subflares in R-8711; spot group continues with radio int. 26 and 7 subflares in R-8714; spot group continues with radio int. 30 and 6 subflares in R-8715; spot continues to grow with radio int. 54 and 7 subflares in R-8716. Geophysical: very slight to slight magnetic activity; aurora overhead in U.S.S.R. to ϕ = 57° 1500-1900. Events: Hα (R-8704) 2138; BSL (R-8704) 0345 and 0510 both with cm solar burst, 1602 with SID and cm solar burst; DSD (R-8711) 0714; SIDs at 0205 with cm solar burst and 0940 with solar x-rays, Dkm and m solar burst; Dkm type IV at 1811; m solar noise storm.
06	180*	148	8	0	1	R-8714 (N16)	Solar: spot over W limb but 4 subflares in remains of R-8704; spot group continues with radio int. 28 and 3 subflares in R-8707; spot group decreases with radio int. 28 and 1 subflare in R-8711; spot group continues with radio int. 26 and 6 subflares in R-8714; spot group continues with radio int. 36 and 9 subflares in R-8715; spot continues with radio int. 60 and 2 subflares in R-8716; spot appears with radio int. 8 in 8708. Geophysical: very slight magnetic activity. Events: major: Hα (R-8715) impt. 2n 1326-1411 with cm solar burst; minor: Hα (R-8704) 0209 with dm and cm solar burst, (R-8707) 0918E with Dkm solar burst, (R-8715) 2256 with cm solar burst and ADF; SDF (R-8715) 0417; DSD (R-8711) 0820; BSL (R-8704) 2153; ADF (R-8715) 2209.
07	166	137	5	0	0		Solar: spot group at W limb with radio int. 23 in R-8707; spot group continues with radio int. 20 and 4 subflares in R-8711; spot group size decreasing with radio int. 22 and 1 subflare in R-8714; spot group continues with radio int. 29 and 1 subflare in R-8715; spot continues with radio int. 50 and 11 subflares in R-8716; small spot continues in R-8708; br. green corona NE, NW and SW limbs. Geophysical: mostly magnetically quiet, some slight activity 1200-1500; ionospheric F region relatively quiet. Events: minor: SID at 0945 with Dkm, m, dm and cm solar burst; Dkm and m solar bursts at 0740, 1008, 1035 and 1225; dm and cm solar burst at 1852; notably quiet period for solar x-rays from 1616 to March 8 at 2148.
08	158	98	2	0	0	R-8715(2) (N22)	Solar: spot group continues with radio int. 21 in R-8711; spot group continues with radio int. 20 and 3 subflares in R-8714; spot group continues with radio int. 32 and 2 subflares in R-8715; spot group continues with radio int. 54 and 18 subflares in R-8716; spot gone in R-8708; br. green corona NE limb; mod. green corona SW and NW limbs. Geophysical: magnetically very quiet, 2 KpCo, 3 KpO+. Events: minor: Hα (R-8711) 2215 with ADF, BSD and m noise storm; ADF (S53 W limb) 1425 with m and cm solar burst at 1518; Dkm and m solar bursts at 1113 and 1305.
09	160	85	12	2	3	R-8716 (S22)	Solar: spot group continues with radio int. 18 and 2 subflares in R-8711; spot group continues with radio int. 26 and 9 subflares in R-8714; spot group growing with radio int. 39 and 6 subflares in R-8715; spot group continues with radio int. 56 and 2 subflares in R-8716.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
09 (Cont'd)							Geophysical: continued magnetically quiet until 0900, increasing to slight-to-moderate activity after 2100. Events: minor: APR (R-8708) 1000 with SID, solar x-rays, and Dkm, m and cm solar bursts; ADF (S56 W limb) 1340-2350; m solar noise storm.
10	150	86	8	(0)	1		Solar: spot group goes over W limb with radio int. 20 and 3 subflares in R-8711; spot group at W limb with radio int. 22 and 3 subflares in R-8714; spot group continues with radio int. 34 and 5 subflares in R-8715; spot group continues with radio int. 54 and 1 subflare in R-8716. Geophysical: continued slight-to-moderate magnetic activity until 0600, subsiding to quiet. Events: minor: APR (S59 W limb) 1615-2120; Dkm type IV at 1320E-0050; m solar noise storm.
11	144	74	2	3	0		Solar: spot over W limb, radio int. 14 and 5 subflares in remains of R-8711; spot group decreasing with radio int. 25 and 7 subflares in R-8715; spot group size decreasing with radio int. 37 and 2 subflares in R-8716; small spot with radio int. 14 and 2 subflares in R-8722; mod. green corona SW and NW limbs. Geophysical: mostly magnetically extremely quiet 3Kp0o, 3 Kp0+; ionospheric F region relatively quiet. Events: minor: Hα (R-8711) 0540, 0713 with m noise storm, 1557 and 1608; SID at 1315 with Dkm and cm solar burst; provisional PCA begins about 2010.
12	136	65	2	2	0		Solar: radio int. 10 and 1 subflare in R-8711 over W limb; spot group continues to decrease in size with radio int. 22 and 10 subflares in R-8715; spot group decreasing with radio int. 37 and 1 subflare in R-8716; spot with radio int. 16 in R-8722; spot appears on E limb with radio int. 12 and 1 subflare in R-8727; mod. green corona NE limb. Geophysical: magnetically quiet, 1 Kp0o, 3 Kp0+; ionospheric F region relatively quiet; provisional PCA continues. Events: minor: Hα (R-8711) 0140 and 1049 with EPL.
13	131	49	5	0	0		Solar: spot group near W limb with radio int. 26 and 2 subflares in R-8715; spot group continues to decrease with radio int. 26 and 6 subflares in R-8716; spot with radio int. 13 in R-8722; spot with radio int. 13 and 3 subflares in R-8729; spot group with radio int. 14 and 5 subflares in R-8727; br. green corona NE limb. Geophysical: very slight magnetic activity 0600-1800, quiet otherwise; provisional PCA continues. Event: minor: EPL (R-8715) 0825 with m solar burst.
14	129	44	5	0	3		Solar: radio int. 15 and 2 subflares in R-8715; spot group at W limb with radio int. 19 and 3 subflares in R-8716; spot with radio int. 14 and 2 subflares in R-8729; spot group with radio int. 16 and 7 subflares in R-8727; br. green corona NE and NW limbs. Geophysical: slight magnetic activity until 0300, mostly quiet remainder of the day; provisional PCA ends early in day. Events: minor: Hα (R-8727) 0807; EPL (S21 W limb) 1419-2400; APR (R-8730) 1950-2400; solar x-rays 2142.

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
15	134	49	2	0	0	R-8722 (N20)	Solar: radio int. 14 and 1 subflare in R-8716; spot group with radio int. 13 and 1 subflare in R-8729; spot group growing with radio int. 28 and 12 subflares in R-8727; br. green corona NE and NW limbs; mod. green corona SE limb; mod. red corona NE and NW limbs. Geophysical: mostly magnetically extremely quiet, 1 Kp0o, 4 Kp0+; ionospheric F region relatively quiet. Events: minor: Hα (R-8716) 1145, (R-8727) 2048 with SID and dm and cm solar burst.
16	133	58	3	0	0	R-8729 (N29)	Solar: radio int. 7 in position of R-8716 at W limb; spot group decreasing with radio int. 10 in R-8729; spot group continues with radio int. 26 and 5 subflares in R-8727; spot group on W limb with radio int. 34 and 9 subflares in R-8733; br. green corona NE and NW limbs; mod. green corona SE and SW limbs. Geophysical: continued magnetically extremely quiet throughout most of the day, very slight activity after 2100; ionospheric F region relatively quiet. Events: minor: Hα (R-8733) 0652, 1450 with APR and BSL; (R-8716) 0828, 2343 with SID, BSL and cm solar burst; BSD (R-8733) 0844.
17	134	70	4	0	0		Solar: spot with radio int. 11 in R-8729; spot group continues with radio int. 30 and 10 subflares in R-8727; multiple spot groups with radio int. 36 and 6 subflares in R-8733; small spot appears with radio int. 7 in R-8731; br. green corona NE and NW limbs; mod. green corona SW limb. Geophysical: mostly magnetically quiet, occasional very slight activity; ionospheric F region relatively quiet. Events: minor: Hα (R-8727) 0745 with DSD, (R-8733) 2151 with dm and cm solar burst; DSD (R-8727) 1200.
18	133	73	23	0	2	R-8731 (N21)	Solar: spot with radio int. 9 in R-8729; spot group continues with radio int. 27 and 2 subflares in R-8727; spot groups continue with radio int. 32 and 7 subflares in R-8733; small spot continues with radio int. 5 in R-8731. Geophysical: slight-to-moderate magnetic activity increasing to moderately severe storm 1500-1800, Kp6+, subsiding to slight activity thereafter; aurora overhead in U.S.S.R. to $\phi = 54°$ 1400-1500; ionospheric F region slightly disturbed in some sectors. Events: None
19	137	58	26	0	6	R-8727 (S15)	Solar: spot with radio int. 11 in R-8729; spot group continues with radio int. 16 and 3 subflares in R-8727; spot groups continue with radio int. 28 and 7 subflares in R-8733; small spot with radio noise int. 6 in R-8731; mod. green corona NE limb; br. green corona NW limb. Geophysical: slight-to-moderate magnetic activity until 0900, then subsiding before increasing to moderate storm 1500-2400; aurora overhead in U.S.S.R. to $\phi = 54°$ 1300 and $\phi = 53°$ 1800-1900, weak display in Western Europe visible around midnight to $\phi = 58°$; ionospheric F region disturbed with some auroral blackout at high latitudes. Event: minor: Hα (R-8733) 0244 with SID and cm solar burst.
20	142	73	13	0	5		Solar: small spot over W limb with radio int. 10 in R-8729; spot group continues with radio int. 18 and 2 subflares in R-8727; spot groups increase with radio int. 23 and 17 subflares in R-8733; spot with radio int. 9 in R-8731; spot on E limb with radio int. 34 and 3 subflares in R-8740; br. green corona NE and NW limbs.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March 20 (Cont'd)							Geophysical: mostly slight magnetic activity, some moderate activity after 2100; aurora overhead in U.S.S.R. to ϕ = 57° 1800, ϕ = 54° 1900 and ϕ = 52° 2100; ionospheric F region disturbed with auroral blackout decreasing at high latitudes. Events: minor: Hα (R-8740) 0854, (R-8733)1348 with SID, Dkm, m, dm and cm solar burst and Dkm type II, 2310 with SID and cm solar burst; BSLs (R-8740) 0855 with Dkm, m and cm solar burst, 1225; APR (R-8740) 1020-1550; SID at 1150 with solar x-rays and dm and cm solar burst.
21	148	88	10	0	3		Solar: spot group decreasing with radio int. 12 and 2 subflares in R-8727; spot groups continue with radio int. 30 and 18 subflares; spot with radio int. 8 and 1 subflare in R-8731; spot group continues with radio int. 54 and 12 subflares in R-8740; br. green corona NE and NW limbs; mod. green corona SE limb. Geophysical: continued moderate magnetic activity until 0300, mostly very slight activity thereafter; ionospheric F region slightly disturbed in some sectors. Events: minor: Hα (R-8740) 0855 with cm solar burst, 1826 with SID and dm and cm solar burst; ADF (R-8740) 1515; BSL (R-8740) with SID; SIDs at 0325 and 2200 with dm and cm solar burst.
22	151*	108	4	0	0	R-8733(5) (N23)	Solar: spot still decreasing with radio int. 17 and 2 subflares in R-8727; spot groups continue with radio int. 25 and 5 subflares in R-8733; spot with radio int. 9 in R-8731; βγ spot group appears with radio int. 68 and 4 subflares in R-8740; br. green corona NE limb; mod. green corona NW limb. Geophysical: continued very slight magnetic activity until 0600, subsiding to quiet thereafter. Events: principal: Hα (R-8740) impt. 3b 0022-0135 with SID, solar x-rays and m, dm and cm solar burst; minor: Hα (R-8740) 0138 with APR, 0942; BSL (R-8741) 0735; ADF (R-8733) 2215-0130.
23	157	111	4	0	0		Solar: small spot continues with radio int. 14 and 1 subflare in R-8727; spot groups continue with radio int. 21 and 3 subflares in R-8733; spot at W limb with radio int. 10 and 1 subflare in R-8731; spot groups continue with radio int. 62 with 15 subflares in R-8740; spot on W limb with radio int. 23 and 1 subflare in R-8741; br. green corona NE limb; mod. green corona SE limb. Geophysical: magnetically extremely quiet, 3 Kp0o, 1 Kp0+, until 1200, increasing to slight activity after 1800. Events: major: Hα (R-8740) impt. 2b 1916-2019 with SID, DSD, m, dm and cm solar burst and m type IV; minor: Hα (R-8740) 2328 with SID and dm and cm solar burst; EPL (R-8731) 0000 with SID, cm solar burst and m type IV; APR (R-8741) 1043; ADFs (R-8727) 2210, (R-8733) 2210 and (R-8740) 2210.
24	163	121	3	0	0		Solar: spot groups continue with radio int. 20 and 2 subflares in R-8733; 4 subflares in R-8731 at W limb; spot groups continue with radio int. 82 and 10 subflares in R-8740; spot group continues with radio int. 26 and 3 subflares in R-8741; br. green corona NE limb; mod. green corona NW limb. Geophysical: mostly magnetically quiet, 1 Kp0o, 4 Kp0+. Events: minor: Hα (R-8740) 0726 with m and cm solar burst, (R-8731) 0748 with m solar burst; ADF (R-8738) 0619 and 2105; APR (S38 E limb) 0805-2235; EPL (S22 E limb) 1715 m, dm and cm solar burst at 1830.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
25	170	131	4	0	0		Solar: spot groups continue with radio int. 18 and 6 subflares in R-8733; spot groups increase, one again βγ, with radio int. 70 and 13 subflares in R-8740; spot group, now βγ, continues with radio int. 23 and 2 subflares in R-8741; spot group on W limb with radio int. 22 and 2 subflares in R-8745; br. green corona NE limb; mod. green corona SE and NW limbs. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8745) 1030 with cm solar burst, (R-8740) with cm solar burst, 1932 with dm and cm solar burst, 2151 with dm and cm solar burst; ADFs (R-8738) 0000, 0240, 0540, (R-8740) 0000, 0240, 0540, 2100-0110; DSD (R-8740) 1140; EPL (R-8745) 1200-1740; SID at 2352 with m, dm and cm solar burst.
26	165*	137	4	0	0	R-8739 (S23)	Solar: no obs. of magnetic classification of sunspot at Mt. Wilson; spot groups continue with radio int. 28 and 4 subflares in R-8733; spot groups continue with radio int. 60 and 15 subflares in R-8740; spot group growing with radio int. 26 and 1 subflare in R-8741; spot group continues with radio int. 10 and 2 subflares in R-8745; br. green corona NE and NW limbs; mod. green corona SE and SW limbs. Geophysical: continued magnetically quiet, some very slight activity after 1200. Events: principal: Hα (R-8740) impt. 3n 1630-1759 with SID, DSD, BSD and dm and cm solar burst; minor: Hα (R-8740) 0253, 0458 with SID, DSD and dm and cm solar burst, 1448 with SID and Dkm, m, dm and cm solar burst, 1603 with SID and dm and cm solar burst, 2156 with m, dm and cm solar burst, (R-8733) 0656 with ADF, Dkm, dm and cm solar burst, 1831 with dm and cm solar burst; ADFs (R-8733) 0145, 0455, 2230-0240, (R-8738) 2045-0510, (R-8740) 0200-0530, 2045-0510; APR (R-8745) 0550-1020.
27	164*	122	18	0	3	R-8740(3) (N22)	Solar: spot groups begin passage over W limb with radio int. 27 and 12 subflares in R-8733; βγ spot groups continue with radio int. 52 and 14 subflares in R-8740; spot group decreasing with radio int. 26 and 1 subflare in R-8741; spot group, now βγ, continues with radio int. 18 and 4 subflares in R-8745; spot group appears on disk with radio int. 8 and 2 subflares in R-8739; br. green corona NE limb. Geophysical: slight-to-moderate magnetic activity; aurora overhead in U.S.S.R. to $\phi = 58°$ 1600-1700; ionospheric F region very disturbed. Events: minor: Hα (R-8740) 1444 with dm and cm solar burst, 1557 with SID and m, dm and cm solar burst, 2043 with cm solar burst, 2106 with SID, DSD, solar x-rays and m, dm and cm solar burst and Dkm and m type II; DSD (R-8740) 0445, 1250 with dm and cm solar burst, 1712 with m, dm and cm solar burst and Dkm type II; ADF (R-8740) 1315-2300; BSL (R-8733) 1350, 1950; m solar noise storm.
28	181	120	8	0	2		Solar: spot groups continue over W limb with radio int. 24 and 3 subflares in R-8733; spot groups continue with radio int. 70 and 18 subflares in R-8740; spot group decreasing with radio int. 22 in R-8741; βγ spot group continues with 2 subflares in R-8745; spot group growing with radio int. 28 and 9 subflares in R-8739; radio int. 16 and 1 subflare in R-8751; 1 subflare in R-8752. Geophysical: some slight magnetic activity 0600-1500, subsiding to quiet; ionospheric F region very disturbed.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
28 (Cont'd)							Events: minor: Hα (R-8740) 0617 with SID and m, dm and cm solar burst, 0700 with cm solar burst, 1733 with SID, solar x-rays, m, dm and cm solar burst and m type II, 1903 with SID, DSD, m, dm and cm solar burst and m type II, (R-8733) 1113, (R-8739) 1313; DSD (R-8739) 1440 with SID; ADF (R-8740) 2000-0640, (R-8739) 2000-0640; SIDs at 1620 with m and cm solar burst, 2250 with cm solar burst; m solar noise storm.
29	179	130	6	0	2	R-8741(2) (N18)	Solar: spot groups continue, one again βγ, with radio int. 72 and 22 subflares in R-8740; spot group continues with radio int. 17 and 2 subflares in R-8741; spot group growing with radio int. 20 and 10 subflares in R-8745; spot group continues to grow with radio int. 48 and 30 subflares in R-8739; spot group with radio int. 14 and 2 subflares in R-8751; spot group on W limb with radio int. 24 and 7 subflares in R-8752. Geophysical: mostly very slight magnetic activity; aurora overhead in U.S.S.R. to ϕ = 58° 1400-1800. Events: minor: Hα (R-8740) 0648 with m and cm solar burst, 1726 with SID, solar x-rays and m and cm solar burst, 2245 with SID, ADF and cm solar burst, (R-8745) 0711 with solar x-rays and m and cm solar burst, 1156 with SID and cm solar burst, (R-8752) 0932 with SID and m, dm and cm solar burst, 1828 with cm solar burst, 2125; ADFs (R-8740) 2100, (R-8742) 2110, (R-8745) 2230; SID at 1650 with cm solar burst; m solar noise storm.
30	176	130	11	0	2		Solar: spot groups continue, one still βγ, with radio int. 82 and 18 subflares in R-8740; spot group continues decreasing with radio int. 14 in R-8741; spot group continues with radio int. 19 and 7 subflares in R-8745; spot group continues with radio int. 37 and 13 subflares in R-8739; spot continues with radio int. 10 and 3 subflares in R-8751; spot continues with radio int. 28 and 3 subflares in R-8752; spot on W limb with 2 subflares in R-8754; br. green corona NE, SE and NW limbs; mod. green corona SW limb. Geophysical: slight magnetic activity until 0600, subsiding to very slight activity until moderate activity 2100-2400; ionospheric F region slightly disturbed. Events: major: Hα (R-8740) impt. 2n 0842-0935 with SID and Dkm, m, dm and cm solar burst; minor: Hα (R-8739) 0023 with SID, solar x-rays and cm solar burst, 0530 with cm solar burst, (R-8733) 0103E, (R-8740) 0756 with SID and Dkm, m and cm solar burst, 0856E with solar x-rays, 1144 with SID, ADF and Dkm, m, dm and cm solar burst, 1936 with SID and dm and m solar burst, 2336 with SID and cm solar burst; BSL (R-8733) 0210 with cm solar burst; ADF (R-8740) 1510; SIDs at 0450, 0955 and 1335 with cm solar bursts; m solar noise storm.
31	168*	115	3	0	0		Solar: spot groups begin going over W limb with radio int. 74 and 17 subflares in R-8740; spot group continues with radio int. 14 and 1 subflare in R-8741; spot group continues with radio int. 18 and 7 subflares in R-8745; spot group continues with radio int. 31 and 3 subflares in R-8739; small spot group continues with radio int. 10 and 1 subflare in R-8751; spot group continues with radio int. 23 and 2 subflares in R-8752; spot continues with radio int. 10 and 1 subflare in R-8754; br. green corona NE limb. Geophysical: very slight magnetic activity until 0300, mostly extremely quiet thereafter, 5 Kp0+.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 March							
31 (Cont'd)							Events: major: Hα (R-8740) impt. 2n 0359-0449 with SID, solar x-rays and dm and cm solar burst, (R-8751) impt. 2n 1155-1405 with Dkm, m, dm and cm solar burst; minor: Hα (R-8739) 1333 with SID and cm solar burst, (R-8740) 1629 with SID, m, dm and cm solar burst, 1752 with BSL and 2059; APR (R-8739) 0800-1350; SIDs at 2215 with cm solar burst and 2348 with solar x-rays and cm solar burst; dm and cm solar bursts at 1850, 1950 and 2025; m solar noise storm.
1967 April							
01	159	105	18	0	0	R-8745(3) (S22) R-8746(2) (N16)	Solar: two spot groups continue with radio int. 46 and 9 subflares in R-8740; small spot group continues with 1 subflare in R-8741; spot group continues with radio int. 10 and 2 subflares in R-8745; spot group continues with radio int. 30 and 5 subflares in R-8739; small spot with radio int. 10 in R-8751; small spot with radio int. 26 and 3 subflares in R-8752; small spot in R-8754; mod. green and red corona NE limb. Geophysical: preliminary sc at 0807 followed by moderate activity; aurora overhead in U.S.S.R. at ϕ = 57° 1400-1600 and 1800-2200. Events: major: Hα (R-8739) impt. 2b 0010-0043 with SID, impt. 2f 1026E-1103 with cm solar burst, impt. 2n 1416-1427 with cm, dm, m and Dkm solar burst, BSL, solar x-rays and SID; Hα (R-8740) impt. 2n 0640E-0724 with cm, dm, m and Dkm solar burst; minor: Hα (R-8740) 0120 with cm and dm solar burst, solar x-rays and SID, 0151 with cm and dm solar burst, 0238 with cm solar burst and SID, 0319 with cm and dm solar burst, 0348 with cm and m solar burst and SID, 0537, 0618 with cm, dm, m and Dkm solar burst and SID, 0740 with m solar burst, 0835 with cm, dm, m and Dkm solar burst, SID, BSL and APR, 1235E with cm, dm and m solar burst; Hα (R-8745) 0632 with dm solar burst, 0815 with cm and dm solar burst and SID; Hα (R-8739) 1005 with SID, 1804, 1946 with cm, dm, m, solar burst and SID, 2250 with SID; Hα (R-8751) 2058 with cm solar burst, type II and SDF; SID with cm, dm, m and Dkm solar burst at 1305; SID with cm, dm and m solar burst at 1620; BSDs (R-8740) 0525 and 0835, EPL (N32 E limb) 0640, APR (R-8740) 0635-1425, BSLs (R-8740) 0805; EPL (N60 E limb) and APR (R-8741) 0930.
02	141	79	12	0	2		Solar: spots continue though going over W limb with radio int. 35 and 7 subflares in R-8740; spots continue over W limb with 2 subflares in R-8741; spot group continues with radio int. 9 and 4 subflares in R-8745; spot group continues over W limb with radio int. 25 and 8 subflares in R-8739; spot continues with radio int. 10 and 1 subflare in R-8751; small spot continues with radio int. 18 and 4 subflares in R-8752; small spot in R-8754. Geophysical: slight-to-moderate magnetic activity 0600-1800, very slight activity thereafter; aurora overhead in U.S.S.R. at ϕ = 57° 1100-1400 and at ϕ = 58° 1400-1600; ionospheric F region slightly disturbed in some sectors. Events: minor: Hα (R-8739) 0135 with SID, 0526, 0759 with dm solar burst, 0932 with dm and m solar bursts, 1055 with dm and m solar bursts, 1320 with cm and dm solar bursts and SID, 1517 and 2009; (R-8740) 0408 with cm solar burst and SID and 0504; SID at 0155, 0235 and 1932; ADF (R-8745) 0325-0715; APRs (R-8740) 0705-1600; EPL (N56 E limb) 0500-0900 and BSL (N63 E limb) 0705; APR (N20 W40) 0930; ADF (R-8752) 2055.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 April							
03	133	54	5	0	0	R-8751(4) (N32)	Solar: radio int. 17 in location of R-8740 at W limb; radio int. 15 and 1 subflare in location of R-8739 at W limb; small spot continues with radio int. 7 and 4 subflares in R-8745; small spot with radio int. 10 and 2 subflares in R-8751; spot group classed βγ with radio int. 17 in R-8752; spot group continues in R-8754; radio int. 8 in R-8758; radio int. 8 and 1 subflare in R-8753; spot with radio int. 12 in R-8761; br. green corona NE and NW limbs. Geophysical: slight magnetic activity 0000-0300, quiet thereafter with 1 Kp0+. Events: major: Hα (R-8752) impt. 2n 1140-1250 with cm and m solar burst; minor: Hα (R-8739) 0706, 0937 and 1230; Hα (R-8745) 1521; m solar burst and SID at 0025; BSL (R-8740) 0215-0625; APRs (R-8739) 0605 with dm solar burst and 0945-1530, BSLs (R-8739) 0605 and 1055 with m solar burst; BSLs (R-8741) 0605 and 1205 with Dkm solar burst; EPL (N33-44 E limb) 0600; SID and x-rays at 1425.
04	125	52	15	0	0	R-8752(3) (N19)	Solar: small spot continues with radio int. 6 and 4 subflares in R-8745; spot continues with radio int. 10 and 2 subflares in R-8751; spot no longer βγ with radio int. 14 and 2 subflares in R-8752; spot gone in R-8754; spot group appears with radio int.10 and 4 subflares in R-8758; radio int. 7 and 1 subflare in R-8753; spot continues, radio int. 14 in R-8761; br. green corona NE and NW limbs. Geophysical: preliminary sc at 0304 with magnetic activity varying from moderate to slight throughout day; aurora overhead in U.S.S.R. at $\phi = 59°$ 1500-1600 and 1800-2000, at $\phi = 58°$ 1600-1800; cosmic ray decrease of about 3% with gradual recovery through April 6. Events: minor: Hα (R-8758) 0637, 0750 and 1730; Hα (R-8745) 1030; m noise storm 0700-1200 and 1250-1930; ADF (R-8745) 0210; EPL (S19 E limb) 0310; BSD and BSL (N19 W limb) 0330 and 0810; DSD (R-8758) 0805; EPL (R-8746) 1130 and (N55 W65) 1130 with m solar burst; DSD (R-8753) 2025 and ADF (R-8754) 2135-0115.
05	122	62	11	0	3		Solar: small spot with radio int. 6 in R-8745; small spot group continues with radio int. 14 and 3 subflares in R-8751; spot continues with radio int. 14 and 2 subflares in R-8752; spot growing with radio int. 13 and 4 subflares in R-8758; radio int. 8 and 1 subflare in R-8753; spot growing with radio int. 12 and 2 subflares in R-8761; mod. green corona NE limb. Geophysical: slight magnetic activity continues; aurora overhead in U.S.S.R. at $\phi = 58°$ 1500-1700. Events: minor: cm solar burst 0700, m noise storm 0700-1205; APRs (N50 W70) and (R-8752) 0930 and EPL (N55 W65) 1135.
06	119	63	12	0	4	R-8754(3) (N25) R-8753(2) (S23)	Solar: spot gone in R-8745; small spot group continues with radio int. 14 and 5 subflares in R-8751; spot continues with radio int. 13 in R-8752; spot continues with radio int. 13 and 5 subflares in R-8758; spot appears with radio int. 15 and 1 subflare in R-8753; spot continues with radio int. 10 and 2 subflares in R-8761; mod. green corona NE limb; br. green corona NW limb. Geophysical: slight magnetic activity continues. Events: minor: Hα (R-8751) 0712; APRs (S64 W75) and (S40 W55) 0830; APR (R-8753) 0830; APR (N35 W70) 0830; EPL (S10) 0900; ADF (R-8760) and (R-8753) 2105-0600; cm and dm solar burst 1320.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 April							
07	126*	79	8	(0)	3		Solar: spot over W limb in R-8751; small spot continues with radio int. 11 in R-8752; spot group growing with radio int. 10 and 2 subflares in R-8758; spot group growing with radio int. 32 and 11 subflares in R-8753; spot continues decreasing in R-8761; spot appears with radio int. 14 and 3 subflares in R-8760; small spot appears in R-8764; no spot, radio int. 9 in R-8754; mod. green corona SE limb. Geophysical: slight magnetic activity continues to 0900 and occurs again 1500-2100 otherwise quiet. Events: minor: Hα (R-8752) 1149 with m solar burst; cm and dm solar burst at 1840; Dkm type II at 1900; APR (R-8754) 0930-1200.
08	135	104	5	0	0	R-8757 (N10) R-8764(2) (N29) R-8758 (S25)	Solar: radio int. 12 in R-8752; spot group continues with radio int. 10 in R-8758; spot group continues to grow with radio int. 44 and 16 subflares in R-8753; spot disappears in R-8761; spot group continues with radio int. 14 in R-8760; 1 subflare in small spot in R-8764; spot at E limb with radio int. 10 in R-8767; no spot, radio int. 8 in R-8754. Geophysical: some slight magnetic activity 0000-0900, quiet thereafter; ionospheric F region relatively quiet. Events: minor: Hα (R-8753) 1009 with cm solar burst; EPL (N45 W limb) 1000; dm and cm solar burst 2050; APR (N25 W50) 0930-1210; ADF (R-8753) 2130-0655.
09	133	67	5	0	0	R-8760(2) (N24)	Solar: radio int. 12 in R-8752 at W limb; spot size decreasing with radio int. 8 in R-8758; spot group continues with radio int. 44 and 15 subflares in R-8753; spot group continues with radio int. 14 and 4 subflares in R-8760; spot disappears in R-8764; spot continues with radio int. 8 and 1 subflare in R-8767; no spot, radio int. 8 in R-8754; mod. green corona SE limb. Geophysical: some slight magnetic activity 0000-0300, mostly quiet thereafter with 1 KpOo and 1 KpO+; ionospheric F region relatively quiet. Events: major: Hα (R-8753) impt. 2n, 1345-1450; minor: Hα (R-8753) 0917; Hα (R-8760) 1317; dm and cm solar burst 0145 with SID; 1755 with SID and 2035 with SID; m and cm solar burst 1205; ADF (R-8760) 0520; APRs (R-8754), (R-8758), (S05 E30), and (S40 W45) 0840-1040; cm rise and fall 2155-0140.
10	130	62	5	0	0	R-8761 (N09)	Solar: spot still decreasing with radio int. 7 in R-8758; growing spot group with radio int. 45 and 12 subflares in R-8753; spot group continues with radio int. 24 and 8 subflares in R-8760; spot continues with radio int. 6 in R-8767; mod. green corona NE limb; br. green corona NW limb. Geophysical: some very slight magnetic activity but mostly quiet; aurora overhead at $\phi = 59°$ over North America 0600-1100. Events: minor: Hα (R-8753) 0712 with m and cm solar burst and 1031; Hα (R-8760) 2121 with cm solar burst; cm and dm solar burst with SID 0310; cm solar burst with SID 0940, 1505, and 1540; m noise storm 0630-1500; ADF (N15 E30) 0355; APR (S15 W30) 1130.
11	131*	62	4	0	0	R-8766(2) (N20)	Solar: small spot with 1 subflare in R-8758; spot group growing with radio int. 30 and 10 subflares in R-8753; spot group growing with radio int. 28 and 7 subflares in R-8760; spot continues with radio int. 8 in R-8767; br. green corona NE and NW limbs; mod. green corona SW limb.

* adjusted for burst
( ) estimated from less than 24 hours data

Day S	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 April							
11 (Cont'd)							Geophysical: magnetically quiet with 3 Kp0+. Events: major: Hα (R-8753) impt. 2b, 2101-2156 with cm solar burst and SID; minor: Hα (R-8753) 0744 with Dkm, m and cm solar bursts and SID, 0800, 1112 with SID; Hα (R-8760) 1334 with cm and dm solar bursts and SID and 1336; cm solar burst 1035; m noise storm 0625-1500; ADF (R-8760) 0345-0715.
12	129*	51	4	0	0		Solar: small spot continues with 1 subflare in R-8758; spot group continues with radio int. 23 and 17 subflares in R-8753; spot group continues to grow with radio int. 30 and 3 subflares in R-8760; spot continues with radio int. 7 in R-8767; radio int. 21 and 1 subflare in location of R-8776 at E limb; br. green corona NE limb. Geophysical: slight magnetic activity 0000-0600 but extremely quiet thereafter with 3 Kp0+ and 1 Kp0o. Events: minor: Hα (R-8753) 0533 with cm solar burst, SID and DSD, 1107 with m solar burst and DSD; Hα (R-8776) 1657; m solar bursts 0640-1500; Dkm, m, dm and cm solar bursts 1155; DSD and BSL (S23 W80) 1520.
13	126	63	2	0	0		Solar: small spot disappears with 1 subflare in R-8758; spot goes over W limb with radio int. 17 and 3 subflares in R-8753; spot group continues with radio int. 32 and 3 subflares in R-8760; spot appears again with 1 subflare in R-8761; spot size decreasing with radio int. 7 in R-8767; spot group over E limb with radio int. 23 in R-8776; mod. green corona NE limb. Geophysical: magnetically extremely quiet with 3 Kp0+ and 1 Kp0o; ionospheric F region relatively quiet. Events: minor: Hα (R-8760) 0935 and 1926 with cm solar burst and SID; m noise storm 1100-1440; cm noise storm 2100-2315; SID at 1235.
14	133	48	3	0	0	R-8767(2) (N16)	Solar: spot group continues with radio int.38 and 7 subflares in R-8760; spot continues with 7 subflares in R-8761; spot continues to decrease with radio int. 8 in R-8767; spot continues with radio int. 34 in R-8776; spot appears, then disappears, radio int. 9 in R-8766; br. green corona NE limb; mod. green corona SW limb. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8760) 0805 with m solar burst, 1052, 1704 with dm and cm solar bursts and Dkm type II and SID, and 2236; dm and cm solar bursts 1635; APR (R-8766) 0950-1220; EPLs (R-8757) 1250-1445; SID at 1915.
15	123	51	4	0	0		Solar: spot group continues as plage goes over W limb with radio int. 24 and 1 subflare in R-8760; spot growing near W limb with 1 subflare in R-8761; small spot continues with radio int. 6 in R-8767; spot continues with radio int. 32 and 2 subflares in R-8776. Geophysical: continued magnetically quiet; ionospheric F region relatively quiet. Events: minor: Hα (R-8776) 1807 with DSD; cm rise and fall 0630-0900; Dkm solar burst and BSL (R-8760) 0945; APR (S40 E65) 1030.
16	125	32	10	0	0		Solar: spot gone, though 2 subflares in R-8761 as region goes over W limb; small spot continues with radio int. 8 and 2 subflares in R-8767; spot continues with radio int. 36 and 4 subflares in R-8776; radio int. 20 in R-8778 at E limb; radio int. 17 and 4 subflares in R-8779 at E limb.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 April							
16 (Cont'd)							Geophysical: slight magnetic activity. Events: minor: Hα (R-8779) 1835 with SID; m noise storm 0755-1200; m and cm solar burst 0855; SID at 0125 and 1655; ADF (R-8767) 0435; APR (R-8761) 0705-1600 and (S52 E limb) 1315-2200.
17	125	42	10	0	1		Solar: small spot continues with radio int. 10 and 3 subflares in R-8767; spot continues with radio int. 38 and 2 subflares in R-8776; spot continues with radio int. 18 in R-8778; spot at E limb with radio int. 19 in R-8779. Geophysical: slight-to-moderate magnetic activity 0000-1200, quiet thereafter; ionospheric F region disturbed in some sectors. Events: minor: APRs (R-8767) and (S40 E55) 0810-1220 and (R-8776) 1230-1630; BSL (R-8776) 1150-1320.
18	127	58	7	0	0	R-8777 (S23)	Solar: small spot continues with radio int. 10 and 3 subflares in R-8767; spot continues with radio int. 38 and 4 subflares in R-8776; spot continues with radio int. 22 in R-8778; spot group continues with radio int. 20 in R-8779. Geophysical: very slight magnetic activity; ionospheric F region disturbed. Events: minor: Hα (R-8767) 1016 with m solar burst; cm solar burst 0650, 1725 and 1925; APRs (S10 E50) and (R-8771) 0800-1230; ADFs (N05 W32) 2055 and (N00 W35) 2215.
19	126	56	20	0	4	R-8776 (N23)	Solar: small spot over W limb with radio int. 9 and 1 subflare in R-8767; spot continues with radio int. 33 and 10 subflares in R-8776; spot continues with radio int. 19 and 3 subflares in R-8778; spot group continues with radio int. 19 and 2 subflares in R-8779; small spot appears in R-8781; small spot appears with 1 subflare in R-8777; mod. green corona NE limb; br. green corona SE limb. Geophysical: slight-to-moderate magnetic activity; aurora overhead at $\phi = 59°$ 1100-1200, at $\phi = 55°$ 1900-2000; ionospheric F region disturbed. Events: minor: cm and dm solar bursts 1915-1930; ADF (N00 W35) 0125; APR (R-8779) 0850-1100; ADFs (N26 W26) 2055-2315 and (R-8776) 2205.
20	126	44	7	0	1		Solar: spot continues with radio int. 26 and 3 subflares in R-8776; spot continues with radio int. 16 in R-8778; spot group continues with radio int. 16 in R-8779; small spot continues with 5 subflares in R-8781; small spot with radio int. 10 and 1 subflare in R-8777; br. green corona NE limb; mod. green corona SW and NW limbs. Geophysical: very slight magnetic activity; aurora overhead in U.S.S.R. at $\phi = 56°$ 1900-2100. Events: major: Hα (R-8778), impt. 2n, 2118-2218 with cm solar burst; minor: Hα (R-8778) 2112 with cm solar burst and (R-8778) 2115.
21	133	60	7	0	1		Solar: spot continues with radio int. 27 and 3 subflares in R-8776; spot continues with radio int. 14 in R-8778; spot group continues with radio int. 18 and 1 subflare in R-8779; small spot with 1 subflare in R-8781; small spot growing with radio int. 18 and 2 subflares in R-8777; spot group with radio int. 17 and 2 subflares in R-8785; br. green corona SW and NW limbs; mod. green corona NE limb. Geophysical: very slight magnetic activity continues; ionospheric F region slightly disturbed in some sectors. Events: minor: Hα (R-8778) 0806 and Hα (R-8781) 0823; m solar burst and BSL (N27 E limb) 1325; BSLs (N27 E limb) 1535 and 1655; Dkm and m type II, 2042 and 2049.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 April							
22	130	76	18	0	2		Solar: spot continues with radio int. 25 and 3 subflares in R-8776; spot continues with radio int. 14 and 3 subflares in R-8778; spot group continues with radio int. 17 and 3 subflares in R-8779; small spot with 1 subflare in R-8781; small spot still growing with radio int. 16 and 4 subflares in R-8777; spot group with radio int. 17 and 4 subflares in R-8785. Geophysical: moderate magnetic activity 0000-1200, slight activity 1200-2400; auroral glow at ϕ = 58° over North America 0600-1100; ionospheric F region disturbed. Events: minor: Hα (R-8785) 0925; ADF (R-8776) 0055; EPL (S25 E limb) 2050-2230; cm solar burst 2020-2100.
23	127	94	21	(1)	2	R-8779(2) (N22) R-8778(4) (N22)	Solar: spot continues with radio int. 22 and 2 subflares in R-8776; spot groups with radio int. 14 and 2 subflares in R-8778; spot group decreasing in size with radio int. 16 and 1 subflare in R-8779; small spot continues in R-8781; spot continues with radio int. 13 and 3 subflares in R-8777; spot group continues with radio int. 18 and 3 subflares in R-8785. Geophysical: slight magnetic activity until moderate storm develops after 1400; ionospheric F region disturbed. Events: minor: Hα (R-8777) 0024 with cm solar burst and SID, and 0523; Hα (R-8785) 0600; Hα (R-8781) 0745; SID at 1811.
24	129	74	29	0	5	R-8781 (S14)	Solar: spot continues with radio int. 20 and 1 subflare in R-8776; spot groups continue with radio int. 16 and 4 subflares in R-8778; spot group continues to decrease in size with radio int. 16 and 3 subflares in R-8779; small spot continues with 1 subflare in R-8781; new spot appears with 2 subflares in R-8777; spot group continues with radio int. 17 and 11 subflares in R-8785. Geophysical: moderate magnetic storm continues; ionospheric F region very disturbed in some sectors, generally disturbed with auroral blackout at high latitudes. Events: minor: Hα (R-8778) 0739, 1025 and 1801 with cm solar burst; cm and dm solar bursts 2100-2215; APR (S22-38 E limb) 1018; SID at 2348.
25	131	78	8	0	1		Solar: spot continues with radio int. 18 in R-8776; spot groups continue with radio int. 14 and 4 subflares in R-8778; small spot with radio int. 16 and 5 subflares in R-8779; small spot continues with 1 subflare in R-8781; spot continues over W limb with radio int. 10 in R-8777; spot group growing with radio int. 17 and 8 subflares in R-8785; small spot group with 1 subflare in R-8788; radio int. 8 in R-8796 at E limb. Geophysical: slight magnetic activity until 1200, quiet thereafter. Events: minor: Hα (R-8785) 0227 with cm and dm solar bursts; Hα (R-8777) 0425 with cm and dm solar bursts, 0927 with Dkm, m, dm and cm solar bursts, SID and x-rays, and 1044; Hα (R-8781) 0503 with cm solar burst and 1224; Hα (R-8788) 0755; Hα (R-8779) 1042; cm and dm solar bursts, SID and x-rays 0825; cm solar burst and SID at 1110.
26	124	66	3	0	0	(R-8793) (N33)	Solar: spot gone, radio int. 12 in R-8776; one sunspot continues with radio int. 14 and 1 subflare in R-8778; small spot with radio int. 14 and 1 subflare in R-8779; spot disappears in R-8781; spot group continues with radio int. 16 and 3 subflares in R-8785; small spot group with radio int. 8 and 2 subflares in R-8788; radio int. 12 in R-8796; radio int. 15 and 7 subflares in R-8791.

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 April							
26 (Cont'd)							Geophysical: continued magnetically quiet with 4 KpO+; ionospheric F region relatively quiet. Events: major: Hα (R-8791) impt. 2f, 2115-2257 with cm and dm solar bursts, SID and x-rays; minor: Hα (R-8791) 2025 and 2115; Dkm and cm solar bursts 0805; cm and m solar bursts, SID and x-rays at 1110 and 1242; cm noise storm 1815-2030; APR (R-8791) 0910-1600; BSL (S33 E limb) 2240.
27	127	55	3	0	0		Solar: R-8776 still active, goes over W limb; sunspot continues with radio int. 13 and 1 subflare in R-8778; small spot continues with radio int. 14 in R-8779; spot group continues with radio int. 19 and 1 subflare in R-8785; small spot group classed βγ with radio int. 12 and 4 subflares in R-8788; small spot with radio int. 13 and 2 subflares in R-8796; spot on E limb with radio int. 22 and 4 subflares in R-8791. Geophysical: continued magnetically quiet with 2 KpO+; ionospheric F region relatively quiet. Events: minor: Hα (R-8791) 0025 and 1602 with cm and dm solar bursts, SID and BSL; Hα (R-8776) 0745 and 1830; cm and dm solar bursts, SID at 1545.
28	133	76	3	0	0	R-8784(4) (S20) R-8785) (N23)	Solar: spot continues with radio int. 14 and 6 subflares in R-8778; small spot gone, though radio int. 12 in R-8779; spot group classed βγ continues with radio int. 17 and 6 subflares in R-8785; spot group growing with radio int. 18 and 3 subflares in R-8788; spot group continues with radio int. 14 in R-8796; spot group continues with radio int. 24 and 16 subflares in R-8791. Geophysical: continued magnetically quiet with 4 KpO+; ionospheric F region relatively quiet. Events: major: Hα (R-8776) impt. 2n, 0820-1005; minor: Hα (R-8776) 0525 with cm and dm solar bursts; Hα (R-8779) 0556; Hα (R-8778) 1249 and 1448; Hα (R-8779) 1330; Hα (S37 W29) 2308; Hα (R-8791) 2213; m noise storm 0630-1345; SID at 0748-0900; ADF (R-8793) 2252; dm solar burst 2350.
29	136	79	5	1	0		Solar: spot goes over W limb with radio int. 12 and 12 subflares in R-8778; spot group continues with radio int. 16 and 4 subflares in R-8785; spot group continues with radio int. 15 and 5 subflares in R-8788; spot group continues with radio int. 13 and 3 subflares in R-8796; spot group growing with radio int. 24 and 9 subflares in R-8791; no spot, radio int. 6 in R-8779; br. green corona NE and NW limbs; mod. green corona SW limb. Geophysical: continued magnetically quiet until 1200, very slight activity thereafter. Events: minor: Hα (R-8791) 0048, 0607, 0726, 0959, 1053, 1146, 1250, 1514 and 2320; Hα (R-8781) 1151 and 1943; Hα (R-8778) 1203 with m and Dkm solar bursts, 1954, 2035, 2206 and 2225; cm rise and fall 1450-1640.
30	133	66	3	3	0	R-8788(4) (S23)	Solar: spot group decreasing with radio int. 14 in R-8785; spot group continues with radio int. 12 and 1 subflare in R-8788; spot group growing with radio int. 20 and 4 subflares in R-8796; spot group continues with radio int. 20 and 12 subflares in R-8791; small spot with radio int. 19 and 4 subflares in R-8798; R-8779 and R-8781 go over W limb; br. green corona SW limb; mod. green corona NW limb. Geophysical: magnetically quiet with 1 KpOo. Events: major: Hα (R-8798) impt. 2f, 1310-1325 with cm solar burst and SID; minor: Hα (R-8791) 0454, 0601, 0901, 1048 with m solar burst, 1154, 1303 with cm solar burst and SID and 1446; Hα (R-8781) 0835, 0922, 1259, 1855 and 2337; Hα (R-8779) 1610; Hα (R-8798) 2319 with cm and dm solar bursts and SID; Hα (R-8785) 2317; cm rise and fall 1215-1505; cm solar bursts 2130 and 2235; x-rays at 2255.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
01	134	81	14	0	0	R-8796 (N14)	Solar: visual spot group gone but radio int. 14 and 1 subflare in R-8785; spot group decreases in size with radio int. 13 and 4 subflares in R-8788; spot group continues with radio int. 32 and 3 subflares in R-8796; spot group classified βγ increasing in size with radio int. 30 and 4 subflares in R-8791; spot group continues with radio int. 16 and 2 subflares in R-8798; br. green corona on NE limb. Geophysical: very slight magnetic activity, becoming moderate with sc at 1906; cosmic ray Forbush decrease begins late in the day, reaching maximum May 2. Events: minor: Hα (R-8791) 0517, 0746, 1101 and 1343 with cm solar burst; Hα (R-8796) 0740; Hα (R-8795) 1024; Hα (R-8798) 1352 and 1613; SID at 0310 with cm solar burst.
02	130	79	25	5	3	R-8797(5) (N37)	Solar: radio int. 9 and 6 subflares in R-8785; spot group continues with radio int. 18 and 5 subflares in R-8788; spot group continues with radio int. 22 and 2 subflares in R-8796; spot group continues with radio int. 30 and 5 subflares in R-8791; spot continues with radio int. 16 and 1 subflare in R-8798; small spot with radio int. 12 in R-8795. Geophysical: some slight magnetic activity early in the day, though moderate storm occurring 0900-1200, and moderate activity increasing after 1500; Forbush decrease reaches maximum, begins gradual recovery until recovered May 3; moderately bright rayed arc or band over Western Europe and Atlantic; base overhead at $\phi = 65°$, 2350-0200, becoming for a period between 2350-0050 two close rayed bands, rays visible to $\phi = 56°$; ionospheric F region disturbed. Events: minor: Hα (R-8791) 0840; Hα (R-8798) 1418.
03	Burst	62	87	2	5	R-8791(3) (S20)	Solar: radio int. 8 in R-8785 at W limb; spot group continues with radio int. 14 and 3 subflares in R-8788; spot group continues with radio int. 16 and 4 subflares in R-8796; spot size decreasing with radio int. 28 and 14 subflares in R-8791; spot size increasing with radio int. 16 and 2 subflares in R-8798; small spot continues with radio int. 14 in R-8795. Geophysical: great magnetic activity continues with moderately severe storm occurring until 1800, 2 Kp 7o, 2 Kp 7-, decreasing activity late in the day; cosmic ray decrease recovers then drops again slightly, reaching maximum May 4; glow on northern horizon visible to $\phi = 59°$ night of May 3/4 in Western Europe; aurora over Alaska $\phi = 59°$ 0600-1100 and over North America $\phi = 57°$ 0000-0500 and $\phi = 58°$ 0600-1100; ionospheric F region very disturbed with widespread auroral blackout at high latitudes. Events: major: Hα (R-8798) impt. 2b 1537-1926 with cm, m, and dm solar burst and SDF; Hα (R-8796) impt. 2b 1542-1707 with cm, m, and dm solar burst; minor: Hα (R-8791) 0938; Hα (R-8798) 1140; Hα (R-8795) 1411; ADF (R-8792) 1240; BSL (N27 E limb); EPL (N17 E limb) 2315.
04	124	62	12	0	4		Solar: spot group goes over W limb with radio int. 12 and 3 subflares in R-8788; spot group continues with radio int. 18 and 6 subflares in R-8796; spot continues to decrease with radio int. 28 and 7 subflares in R-8791; spot size increasing with radio int. 24 in R-8798; small spot continues with radio int. 14 in R-8795; mod. green corona SW and NW limbs.

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May 04 (Cont'd)							Geophysical: slight-to-moderate magnetic activity early in the day, subsiding to mostly slight activity thereafter; slight cosmic ray decrease reaches maximum, begins gradual recovery, though never reaches level of May 1; aurora over USSR, ϕ=50° at 1200; aurora over North America, ϕ=58° 0000-1100; ionospheric F region slightly disturbed at high latitudes. Events: major: Hα (R-8798) 0120-0307, impt. 2n with cm and dm solar burst and SDF; minor: Hα (R-8795) 1208; SID at 0255; BSD (R-8788) 0120-0145; APR (R-8785) 0730-1115; ADF (R-8792) 1800-2310.
05	126	68	10	0	3	R-8795 (N25)	Solar: no visual spot but 1 subflare in R-8788; spot group continues with radio int. 22 and 6 subflares in R-8796; spot continues with radio int. 26 and 5 subflares in R-8791; spot continues with radio int. 28 and 2 subflares in R-8798; small spot disappears but radio int. continues at 12 in R-8795; mod. green corona SE limb. Geophysical: mostly slight magnetic activity, becoming quiet 1200-1500; aurora over North America, ϕ=58° 0000-0500 and ϕ=59° 0600-1100. Events: minor: Hα (R-8788) 1110 with cm solar burst; solar x-rays 1541.
06	121	49	6	0	0		Solar: spot group goes over W limb with radio int. 17 and 7 subflares in R-8796; spot continues with radio int. 27 and 3 subflares in R-8791; spot continues with radio int. 22 and 2 subflares in R-8798. Geophysical: some slight magnetic activity, though mostly quiet. Events: principal: Hα (R-8791) 0432-0538, impt. 3n, with cm and dm solar burst, SID and solar x-ray; minor: Hα (R-8796) 1400 with cm solar burst and SID 2035.
07	118	41	16	0	3	R-8798(3) (N26)	Solar: radio int. 16 and 7 subflares in R-8796; spot continues to grow smaller with radio int. 20 and 6 subflares in R-8791; spot continues with radio int. 22 and 1 subflare in R-8798; radio int. 14 on SE limb probably in R-8807. Geophysical: brief moderate magnetic activity following sc at 0105, subsiding to quiet after 1200; aurora over North America at ϕ=59° 0000-1100. Events: minor: Hα (R-8791) 1111; (R-8797) 1122; cm solar burst, SID and solar x-rays 2055.
08	115	18	5	(0)	0		Solar: small spot continues with radio int. 17 and 2 subflares in R-8791; spot continues with radio int. 20 in R-8798; radio int. 22 and 1 subflare in R-8807 at E limb; br. green corona SE limb, mod. green corona NW limb. Geophysical: mostly magnetically quiet, some very slight activity 1200-2100; ionospheric F region relatively quiet. Events: major: Hα (R-8791) 1125-1434, impt. 2n with cm and dm solar burst, SID and solar x-rays; minor: Hα (R-8791) 0613, 1314, and 1342; solar x-rays 2030 and 2240.
09	112	25	5	0	0		Solar: small spot last seen at W limb with radio int. 14 in R-8791; spot continues with radio int. 22 and 4 subflares in R-8798; small spot appears with radio int. 20 and 3 subflares in R-8807. Geophysical: continued mostly quiet magnetic activity; small cosmic ray decrease of about 2% reaches maximum, begins very slow recovery, lasting until May 16; ionospheric F region relatively quiet. Events: minor: APR (R-8791) 0715-1210.

( ) estimated from less than 24 hours data

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
10	107	17	7	0	0		Solar: radio int. 10 with 2 subflares in location of R-8791 at W limb; spot decreasing in size with radio int. 17 and 2 subflares in R-8798; small spot continues with radio int. 15 and 2 subflares in R-8807; 2 subflares in R-8806. Geophysical: continued quiet magnetic activity early in the day becoming very slight after 1200. Events: major: Hα (R-8791) 1051-1250, impt. 2n; minor: Hα (R-8791) 0741 with APR, 0852 and 1151 with cm solar burst and SID; solar x-rays 0711 and 1141.
11	104	25	10	0	0	R-8803(3) (N18)	Solar: radio int. 7 and 1 subflare in position of R-8791 at W limb; spot continues to decrease with radio int. 16 in R-8798; small spot continues with radio int. 14 and 6 subflares in R-8807; small spot appears in R-8806; spot at E limb with radio int. 18 and 2 subflares in R-8810. Geophysical: slight-to-moderate magnetic activity 0000-0600, subsiding to quiet 0900-1500, then increasing to very slight thereafter; ionospheric F region relatively quiet. Events: minor: solar x-rays 0929.
12	118	34	13	0	0		Solar: spot continues to decrease with radio int. 16 and 5 subflares in R-8798; small spot becomes group with radio int. 13 and 1 subflare in R-8807; 3 subflares in R-8809; small spot continues with 1 subflare in R-8806; spot continues with radio int. 22 and 2 subflares in R-8810; br. green corona NE limb, mod. green corona SE and SW limbs. Geophysical: slight-to-moderate magnetic activity subsiding to very slight 0600-1800, then increasing to slight activity; aurora over North America ϕ = 60° 0000-0500. Events: minor: Hα (R-8798) 1753 and 2157; BSL (R-8810) 1315-1435.
13	105	34	14	0	2		Solar: spot last seen at W limb with radio int. 10 and 5 subflares in R-8798; spot group continues with radio int. 11 and 2 subflares in R-8807; small spot appears with 1 subflare in R-8809; small spot continues in R-8806; spot continues with radio int. 16 and 1 subflare in R-8810; small spot at E limb with radio int. 10 in R-8813. Geophysical: moderate magnetic disturbance 0300-0600, then subsiding to very slight activity rest of the day; aurora over North America ϕ = 60° 0000-1100. Events: minor: Hα (R-8798) 0228; ADF (N35 W50) 0245-0650.
14	106*	40	10	0	5	R-8806(7) (N24)	Solar: radio int. 7 with 1 subflare in location of R-8798 at W limb; spot gone but radio int. 11 and 1 subflare in R-8807; small spot continues with radio int. 7 and 2 subflares in R-8809; spot disappears in R-8806; spot continues with radio int. 14 in R-8810; small spot continues with radio int. 15 in R-8813; radio int. 15 with 1 subflare in R-8816. Geophysical: very slight magnetic activity 0300-1200 increasing to slight activity thereafter. Events: minor: Hα (R-8807) 1534 with cm solar burst and solar x-rays; m solar burst 0458; APR (R-8816) 0600-1615.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
15	109	43	6	0	0	R-8807(2) (S24)	Solar: radio int. 9 in R-8807; spot continues with radio int. 8 and 2 subflares in R-8809; spot continues with radio int. 13 in R-8810; spot disappears in R-8813; spot group at E limb with radio int. 18 and 9 subflares in R-8816; 2 subflares in R-8803; br. green corona NE limb. Geophysical: continued slight magnetic activity becoming quiet 0300-1800, 1 Kp0o, 2 Kplo, 2 Kpl+, increasing to very slight thereafter. Events: minor: Hα (R-8816) 0701, 0807, 0857 with cm solar burst, 0924 with cm, m and dm solar burst, and 1009 with dm and m solar burst and solar x-rays; APR (R-8816) 0425 and BSL (R-8816) 0935; SID at 1130.
16	111	44	6	0	0		Solar: radio int. 9 and 5 subflares in R-8807; spot size increasing with radio int. 8 and 2 subflares in R-8809; spot continues with radio int. 14 and 7 subflares in R-8810; spot size decreasing with radio int. 13 in R-8816; 1 subflare in R-8803; mod. green corona NE limb. Geophysical: mostly magnetically quiet, 1 Kplo, 4Kpl+. Events: minor: Hα (R-8809) 0701 with m solar burst; Hα (R-8818) 1036.
17	113	44	11	0	0	R-8810(2) (N27) R-8809 (S16)	Solar: radio int. 10 in R-8807; spot group size increasing with radio int. 14 in R-8809; spot continues with radio int. 12 in R-8810; spot continues with radio int. 14 and 2 subflares in R-8816; radio int. 12 and 2 subflares in area of R-8818 at E limb. Geophysical: very slight magnetic activity 0600-1800, slight activity otherwise; cosmic ray recovery complete. Events: minor: Hα (R-8810) 0948; Hα (R-8818) 1958; APR (R-8818) 0835-1215; m solar burst 2330.
18	122	55	7	0	2		Solar: radio int. 9 in R-8807; spot group continues with radio int. 12 and 2 subflares in R-8809; spot continues with radio int. 12 and 1 subflare in R-8810; a second spot group appears classified βγ with radio int. 21 and 5 subflares in R-8816; spot at E limb with radio int. 30 and 7 subflares in R-8818. Geophysical: very slight magnetic activity until 0900, quiet thereafter, 5 Kpl+. Events: minor: Hα (R-8809) 0719; Hα (R-8818) 0750, 0851 with cm and m solar burst, 1347 and 1934 with SID; solar x-rays 0258 with cm solar burst; SID at 1600 with cm and m solar burst; solar x-rays 1724; SID at 1825 with cm and m solar burst and m type IV; ADF (S33 E45) 2110-2310; solar x-rays 2310 with cm and m solar burst; SID at 2345 with cm, dm and m solar burst.
19	132*	70	8	0	2	R-8813 (S16)	Solar: radio int. 10 in R-8807; spot size decreasing with radio int. 7 and 4 subflares in R-8809; radio int. reaches 6 with 3 subflares in R-8806; spot continues with radio int. 12 in R-8810; spot groups continue with radio int. 25 in R-8816; a second spot group at E limb with radio int. 42 and 12 subflares in R-8818; radio int. 17 in R-8819 at E limb; br. green corona SE limb; mod. green corona NE limb. Geophysical: slight magnetic activity until 0900 subsiding to quiet to very slight thereafter; aurora over North America, $\phi = 60°$, 0600-1100.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
19 (Cont'd)							Events: minor: Hα (R-8816) 0208 with cm solar burst and SID; Hα (R-8818) 0611 with cm and m solar burst and SID, 0840 with SID, 1104 with cm and dm solar burst and SID, 1120 with cm solar burst, 1252 with cm and dm solar burst and SID, and 1523 with cm, dm and m solar burst, m type II and IV, solar x-rays and SID; SID at 0830 and 1710; DSD (R-8809) 1805-1845.
20	143	80	6	0	0		Solar: small spot continues with radio int. 10 in R-8809; spot continues with radio int. 11 with 1 subflare in R-8810; spot groups decreasing in size with radio int. 16 and 3 subflares in R-8816; three spot groups with one βγ, radio int. 62 and 16 subflares in R-8818; spot with radio int. 19 in R-8819. Geophysical: mostly magnetically quiet, 1 Kpl-, 2 Kplo, 2 Kpl+; ionospheric F region relatively quiet. Events: minor: Hα (R-8818) 0911, 1006 with cm solar burst, 1510 with cm, dm and m solar burst, m type II and IV, solar x-rays and SID, 1734 and 2353; Hα (R-8806) 2229 with cm and dm solar burst and SID, and 2316; cm and dm solar burst with SID 0230; cm solar bursts 0500-1010; m solar bursts 0630-1500; cm solar burst 1650 with SID and 1820 with SID; SID at 2000; m solar burst 2130-2330.
21	156*	99	6	0	0	R-8816(2) (S14)	Solar: small spot with radio int. 8 and 2 subflares in R-8809; spot decreasing with radio int. 12 in R-8810; spot groups continue with radio int. 18 and 7 subflares in R-8816; spot groups continue with radio int. 85 and 23 subflares in R-8818; spot continues with radio int. 17 and 1 subflare in R-8819; spot at E limb with radio int. 10 and 3 subflares in R-8821; br. green corona NE and SE limbs. Geophysical: continued magnetically quiet, until 1800, 1 Kp0+, slight activity thereafter; ionospheric F region relatively quiet. Events: major: Hα (R-8818) 1919-2024, impt. 2n with cm, dm and m solar burst, m type II and IV and Dkm type IV, DSD, solar x-rays and SID; minor: Hα (R-8818) 1035 with cm, dm and m solar burst, 1138, 1249 with cm solar burst and SID, 1304 with cm, dm and m solar burst and SID, 1439 with cm and dm solar burst and SID, 1535 with cm and dm solar burst, solar x-rays and SID, 2347 with solar x-rays and ADF; Hα (R-8809) 2143 with cm and dm solar burst and SID; cm, dm and m solar burst and SID at 0240; cm solar burst and SID 0330; cm, dm and m solar burst 0740, 0755 and 1040; dm and m solar burst 0840; cm, dm and m solar burst 0945 with SID; APR (R-8821) 1000-1115; cm solar burst, solar x-rays and SID at 1240; dm solar burst, solar x-rays and SID at 1340; BSL (N35 E limb) 1535-1800; cm and dm solar burst and SID at 1615, 1740, 1800 and 2150; dm solar burst with SID 1855 and 2155.
22	178	118	3	0	0		Solar: small spot with radio int. 10 in R-8809; spot continues with radio int. 16 and 3 subflares in R-8810; spot groups continue with radio int. 14 and 2 subflares in R-8816; one of three spot groups increases greatly in size with radio int. 112 and 20 subflares in R-8818; spot appears with 2 subflares in R-8820; spot continues with radio int. 24 in R-8819; spot continues with radio int. 22 and 1 subflare in R-8821.

* adjusted for burst

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
22 (Cont'd)							Geophysical: mostly magnetically quiet, becoming extremely quiet after 1200, 1 Kp0o, 3 Kp0+; ionospheric F region relatively quiet. Events: minor: Hα (R-8818) 0011 with cm, dm and m solar burst, SID and DSD, and 1215 with cm and m solar burst; Hα (R-8809) 1106 with m solar burst; cm, dm and m solar bursts 0320-1600; m noise storms 0700-1350; APR (N40 E limb) 0015-0330 and EPL (N44 E limb) 0025-0145; DSD (R-8818) 1355-1415; ADF (R-8818), (R-8816), (R-8819), (R-8818), (S45 E03) and (S08 W55) 1600-2400; SID 1700.
23	189	145	9	5	2		Solar: small spot near W limb with radio int. 6 in R-8809; spot continues to W limb with radio int. 20 and 2 subflares in R-8810; spot groups decreasing with radio int. 10 in R-8816; spot groups continue with radio int. 158 and 20 subflares in R-8818; small spot continues near W limb in R-8820; spot continues with radio int. 19 in R-8819; spot continues with radio int. 20 and 2 subflares in R-8821; spot at E limb with radio int. 35 and 6 subflares in R-8824. Geophysical: continued mostly magnetically quiet until 1500 increasing to slight-to-moderate activity thereafter. Events: major: Hα (R-8821) 0709-0736, impt. 2n with m solar burst; Hα (R-8818) 1804-2013, impt. 2b with cm and dm solar burst and SID, 1836-2146, impt. 2b with cm, dm, m and Dkm solar burst, dm and Dkm type II and IV, m type II, solar x-rays, and SID, 1850-2122 impt. 2b with m solar burst, m type II and IV, 1932-2156, impt. 2b with solar x-rays and SID; minor: Hα (R-8818) 0740 with m solar bursts, 2112 with cm solar burst, and 2129; Hα (R-8821) 1106; Hα (R-8824) 2028 with cm solar burst; Hα (R-8820) 2145 and 2349; BSL (R-8825) 0640-0725 with m solar bursts; m noise storm 0640-1405; cm and m solar burst 1455; dm solar burst and m type IV 1535; EPL (S35 W limb) 1630-2005; SID at 1720 and 1825; m solar burst 1755 with solar x-rays; m solar burst 2100 with SID; cm and m solar burst 2235 with SID.
24	196	159	11	9	7		Solar: small spot groups continue with radio int. 12 and 2 subflares in R-8816; spot groups continue with radio int. 111 and 11 subflares in R-8818; another spot group appears with radio int. 30 and 3 subflares in R-8819; a second spot group appears with radio int. 24 and 2 subflares in R-8821; spot continues with radio int. 30 and 9 subflares in R-8824; small spot with 5 subflares in R-8825; radio int. 22 with 1 subflare in R-8829. Geophysical: very slight magnetic activity most of the day, though slight-to-moderate activity 1500-2100 accompanied by sc at 1726; cosmic ray Forbush decrease begins near end of day; PCA event 0130, >72 hours in duration, peak absorption 11 db on 25 May 0700-1300. Events: minor: Hα (R-8824) 0003 with BSL, 0854, and 1030; Hα (R-8818) 0258 with cm and dm solar burst, solar x-rays and SID, 0337 with cm, dm and m solar burst, 0835 with cm, m and dm solar burst, 0855, 1812 with cm, dm and m solar burst, m type IV and SID; Hα (R-8821) 0820, 1016; Hα (R-8825) 1124 with m solar burst and 2203; cm solar bursts 0730-1130 and 1900-2330; dm solar burst 0515; m noise storm 0310-0145: cm, dm and m solar burst 0815; SID at 0620 and 0640; cm and dm solar bursts 1210-1300 and 2300-2330; cm and dm solar burst with SID at 1425 and cm solar burst with SID 1445 and 2230.

Day	10 cm Flux S	Sun-spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
25	205	164	130	9	9	R-8818(2) (N25)	Solar: one spot group with radio int. 12 in R-8816; spot groups continue with radio int. 106 and 14 subflares in R-8818; spot groups continue with radio int. 29 and 6 subflares in R-8819; spot groups continue with radio int. 24 and 5 subflares in R-8821; three spot groups with radio int. 38 and 4 subflares in R-8824; spot with radio int.22 and 1 subflare in R-8829; spot continues with 5 subflares in R-8825. Geophysical: continued very slight magnetic activity until 0900 increasing rapidly to moderate storm 0900-1200 then increasing to severe magnetic storm following sc at 1235, 1 Kp9o 2100-2400, 1 Kp8+, 1 Kp8-; Forbush decrease continues dropping 10% rapidly late in the day; clouds over Western Europe but brilliant auroral display seen over Scotland, England and Northern France, bright rayed arc or band with base overhead between ϕ = 58° and ϕ = 61° persisted throughout the display except for a brief period around 0030; there were two periods of maximum activity over the afore-mentioned areas 2329-2358 and 0130-0210; during the first, in addition to the rayed band, there were a rayed arc with base overhead at ϕ = 56° and a homogeneous arc at ϕ = 63°, the display at this time was brilliantly colored and accompanied by flaming; near 2358 a further homogeneous arc appeared at ϕ = 54°, rays occasionally overhead to ϕ = 52°, seen over Western Atlantic to ϕ = 43°; ionospheric F region very disturbed in most sectors with widespread auroral absorption at high latitudes; PCA event reaches peak absorption of 11 db, 0700-1300. Events: major: Hα (R-8818) 1129-1236, impt. 2n; minor: Hα (R-8828) 0041 with cm solar burst; Hα (R8819) 0221 with cm solar burst and SID, 0847 with cm solar burst; Hα (R-8818) 0632 with cm and dm solar burst and SID, 1041 with cm, dm and m solar burst, solar x-rays and SID, 1106 with m solar burst, 2043 with SID, 2245 and 2257 with cm and dm solar burst and SID; Hα (R-8824) 0528; m noise storm 0430-2400D; cm, dm and m solar burst 1205; dm solar bursts 1040-2400D; dm and m type IV 1235 with dm solar burst, and 1600 with cm and dm solar burst, dm type IV 1520; SID 1710, 1920 and 2300 with cm and dm solar burst, 2050 with cm solar burst; APR (R-8829) 1440-1510.
26	213*	174	146	8	7	R-8819(2) (S21)	Solar: spots gone in R-8816; spot groups continue with radio int. 97 and 11 subflares in R-8818; spot groups growing with radio int. 36 and 2 subflares in R-8819; spot groups continue with radio int. 31 in R-8821; spot groups continue with radio int. 34 and 8 subflares in R-8824; spot continues with radio int. 28 and 1 subflare in R-8829; small spot continues with radio int. 8 and 1 subflare in R-8825; br. green corona NE, SW, AND NW limbs; mod. green corona SE limb. Geophysical: continued severe magnetic storm 0000-0600, 1 Kp9o, 1 Kp9-, subsiding to moderately severe 0600-1500 subsiding then to moderate activity thereafter; Forbush decrease reached maximum about 0000, then begins gradual recovery until May 30; aurora continues from activity of previous night with homogeneous arc, occasionally rayed, intermittently over Western Europe at ϕ = 63°, 2225-0200, rays were overhead at ϕ = 61° at 0005 and patches occurred this time; display visible to ϕ = 55°, aurora over North America about ϕ = 45° 0000-0500 as low as 25° around 0305 as faint homogeneous arc, a rayed band at 0200 of brilliant red formed a red rayed corona at zenith by 0210, multiple forms and active displays continued through the night hours, ϕ = 50° 0600-1100; ionospheric F region very disturbed with widespread auroral and polar cap absorption at high latitudes.

* adjusted for burst

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May 26 (Cont'd)							Events: major: Hα (R-8821) 0156-0311 impt. 2n with cm and dm solar burst and SID; minor: Hα (R-8821) 0208 with SID; Hα (R-8818) 0903 with cm and dm solar burst and SID, 1230 with cm and dm solar burst, solar x-rays and SID, 1340 with cm and dm solar burst and SID, 1514 with cm and dm solar burst, and 1522 with cm and dm solar burst and SID; Hα (R-8819) 0916, cm, dm, and m solar burst 0705 with SID; cm solar bursts 0000E-1110 and 1205-2200; dm solar bursts 1235-1950; m noise storm 0000E-1455 and 1740-2400D; SID 0835, 1730, 1950, 2205 with DSD (R-8824) and 2335; DSD (R-8819) 0845-0950 and (R-8824) 2300-2345.
27	208	194	20	0	4	R-8821(2) (N16)	Solar: spot groups continue with radio int. 108 and 15 subflares in R-8818; spot groups continue to grow with radio int. 36 in R-8819; spot groups growing with radio int. 34 and 5 subflares in R-8821; spot groups continue with radio int. 36 and 11 subflares in R-8824; spot continues with radio int. 27 in R-8829; spot continues with radio int. 7 and 1 subflare in R-8825; radio int. 27 in location of R-8831 at E limb. Geophysical: mostly slight-to-moderate magnetic activity, though only very slight activity during middle of the day; ionospheric F region slightly disturbed in some sectors; PCA event ends. Events: major: Hα (R-8818) 0130-0310, impt. 2n with cm solar burst and SID; minor: Hα (R-8824) 0000 with cm solar burst, DSD and SID; Hα (R-8818) 0159, 1332 with cm and dm solar burst and 2353 with cm solar burst; Hα (R-8828) 0602 with cm and dm solar burst; Hα (R-8830) 0831 with APR; Hα (R-8821) 1110 with SID, and 1231; Hα (R-8831) 1532; cm and dm solar bursts 0430-1055 and 1325-1805, 2205, and 2240-2400D; DSD (R-8824) 0045-0135 and (N30 E19) 2100-2150, EPL (R-8830) 2045-2120; SID at 0110, 1440, and 1510.
28	197	197	55	9	8		Solar: spot groups continue with radio int. 100 and 9 subflares in R-8818; spot groups continue with radio int. 30 and 3 subflares in R-8819; spot groups continue with radio int. 38 and 3 subflares in R-8821; spot groups decreasing with radio int. 26 and 4 subflares in R-8824; spot growing with radio int. 25 and 1 subflare in R-8829; small spot continues with radio int. 8 and 4 subflares in R-8825; spot with 3 subflares in R-8830; spot at E limb with radio int. 35 and 5 subflares in R-8831. Geophysical: continued slight-to-moderate magnetic activity until moderately severe storm develops after sc at 1302, 1 Kp 7-; PCA event 0640, >48 hours duration, peak absorption 3.5 db, 0800-1800; ionospheric F region very disturbed with auroral and PCA absorption at high latitudes. Events: principal: Hα (R-8818) 0527-0712, impt. 3b with cm, dm, and m solar burst, solar x-rays and SID; major: Hα (R-8818) 0707-0805, impt. 2n with cm solar burst; minor: Hα (R-8818) 0022 with cm solar burst, solar x-rays and SID, 0530 with cm, dm, and m solar burst, 0718 with cm and dm solar burst, 0730 with cm and dm solar burst and SID, 0900, and 1015 with m solar burst; Hα (R-8831) 0352 with cm solar burst; SID at 0015, 1900, and 2200; cm, dm, and m solar bursts 0530-1020, cm and dm solar bursts 1415-1600, 1725, and 2020-2340; APR (R-8830) 0645-1600, EPL (S43 W limb) 1225-1540, ADF (R-8818) 1550-1845, and BSL (N09 W limb) 1640-1725.

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May							
29	183	164	45	7	6	R-8825(4) (S20)	Solar: spot groups continue with radio int. 92 and 9 subflares in R-8818; spot groups continue with radio int. 26 in R-8819; spot groups continue with radio int. 33 and 9 subflares in R-8821; spot groups continue with radio int. 30 in R-8824; spot groups continue with radio int. 30 in R-8829; visible spot gone but radio int. 8 and 1 subflare in R-8825; spot continues in R-8830; three spot groups with radio int. 38 and 8 subflares in R-8831. Geophysical: moderately severe magnetic storm continues until 0900 1 Kp 7-, subsiding to very slight activity by end of the day; aurora over North America at ϕ=51° 0000-1100 ; PCA event continues; ionospheric F region very disturbed with auroral and PCA absorption at high latitudes. Events: minor: Hα (R-8831) 0742 and 0929 with cm and dm solar burst; Hα (R-8818) 0821 with cm solar burst, 1423 with dm solar burst and 1856 with cm and dm solar burst, and m type IV; Hα (R-8824) 1457 with cm and dm solar burst and SID; cm solar bursts 0010, 0305-0520 and 1210-1225; cm, dm, and m solar burst 2100, cm and dm solar bursts 2215 and 2315 with SIDs; ADF (R-8825) 0025-0445 and 1605-2025, (S40 W 13) 1605-2025, (R-8821) 1605-2025, and (R-8824) 1705-2025; SID at 1550.
30	173	150	42	6	4	R-8824 (N24)	Solar: spot groups continue with radio int. 76 and 12 subflares in R-8818; spot groups continue with radio int. 20 in R-8819; spot groups continue with radio int. 27 and 3 subflares in R-8821; spots continue with radio int. 24 in R-8824; spot groups continue with radio int. 31 and 3 subflares in R-8829; radio int. 8 and 1 subflare in R-8825; small spot continues with radio int. 12 in R-8830; spot groups continue with radio int. 49 and 11 subflares in R-8831. Geophysical: continued very slight magnetic activity until sc at 1426, followed by moderately severe storm rest of the day; Forbush decrease recovers, though drops 4% again, reaching maximum very late in the day; aurora over North America at ϕ=59° 0600-1100; PCA event ends; ionospheric F region disturbed in some sectors. Events: minor: Hα (R-8818) 0406 with cm and dm solar burst, 1017 with m solar burst and 2024; Hα (R-8831) 0705; cm solar bursts 0225-0905, 1240-1410 and 1910-2240, dm solar bursts 1615-1855, m solar bursts 0655-1410; cm solar burst 0715 with solar x-rays and SID; SID at 0450 and 1815; ADF (R-8818) and (S42 W 20) 0255-0450; (R-8825) 0725-1445 and (S43-W 31) 1725-2400; APR (R-8818) 0600-0710.
31	171	147	48	(0)	3		Solar: following of three spot groups at W limb with radio int. 66 and 2 subflares in R-8818; spot groups continue to W limb with radio int. 22 and 1 subflare in R-8819; spot groups continue with radio int. 24 in R-8821; spots continue with radio int. 23 and 5 subflares in R-8824; spot groups continue with radio int. 30 in R-8829; spot continues with radio int. 16 in R-8830; spot groups growing with radio int. 71 and 15 subflares in R-8831. Geophysical: continued moderately severe magnetic storm until 0600, 1 Kp 7o, subsiding quickly to Kp 1+ 1200-1500, then increasing to slight-to-moderate thereafter; cosmic ray decrease begins recovery until June 4; aurora visible over North America to ϕ=53° 0000-0500 and ϕ=58° 0600-1100; ionospheric F region very disturbed with some auroral blackout at high latitudes.

( ) estimated from less than 24 hours of data

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 May 31 (Cont'd)							Events: minor: Hα (R-8831) 2104 with cm solar burst and SID; cm, dm, and m solar burst 0735; cm and dm solar burst 1635; cm solar bursts 0400-1200, 1740, and 2015-2215; SID at 0210, 0425, 0455, and 1840; APR (R-8818) 0600-1600 and BSL (R-8818) 1325-1330.
1967 June 01	170	138	4	0	0	R-8829 (S17)	Solar: radio int. 37 and 1 subflare in R-8818 at W limb; radio int. 22 in R-8819 at W limb; spot groups continue with radio int. 26 and 4 subflares in R-8821; spots continue with radio int. 24 and 6 subflares in R-8824; spot groups decrease with radio int. 26 and 1 subflare in R-8829; small spot continues with radio int. 20 in R-8830; spot groups continue with radio int. 72 and 19 subflares in R-8831. Geophysical: magnetically quiet, 1 Kp 0+; faint noctilucent clouds N56.5 W07, 0005-0100. Events: minor: Hα (R-8831) 0958 with dm and m solar burst, 1153, and 1451 with cm and dm solar burst; Hα (R-8824) 1552 with cm and dm solar burst; cm, dm, and m solar burst 0705 with solar x-rays; cm solar burst 0445 with SID; cm and dm solar burst 0015 with SID; dm, and m solar burst 1000 and 1120 with m solar burst; cm solar bursts 1440-1810 and 2135-2350, dm solar bursts 0630-1130 and 1350-1650, m solar bursts 0410-1430; SID at 1920; APR (R-8818) 0600-1510 and 1645-2400D, BSL (R-8818) 1325-1350 and 2300-2330.
02	154*	118	9	0	1	R-8830(2) (N19)	Solar: spot at W limb with radio int. 16 in R-8821; spots decreasing with radio int. 17 and 4 subflares in R-8824; spot continues with radio int. 32 and 4 subflares in R-8829; small spot with radio int. 10 in R-8830; spot groups, one βγ, continue with radio int. 78 and 18 subflares in R-8831. Geophysical: continued magnetically quiet until 0900, increasing to slight activity thereafter. Events: minor: Hα (R-8824) 0057 with dm solar burst, 0747, 0847 with cm and dm solar burst; Hα (R-8821) 0828 with cm, dm, and m solar burst, and 1259; Hα (R-8831) 0843 with cm and dm solar burst, 1048 with m solar burst, and 1633 with cm solar burst; cm solar bursts 0020, 1130-1950 and 2245-2400; dm solar bursts 1205-1955; m solar bursts 0945-1515; solar x-rays 0155, 0655, and 1620 with cm and dm solar burst; SID at 0345, 1430 with dm and Dkm solar burst, 1605, 1710, 2055 with cm solar burst and 2305; APR (N32 E limb) 1910-2225.
03	146	102	7	0	0		Solar: spots continue with radio int. 18 and 9 subflares in R-8824; spot continues with radio int. 20 and 2 subflares in R-8829; small spot with radio int. 10 in R-8830; spot groups growing with radio int. 85 and 28 subflares in R-8831; 1 subflare in R-8837; 1 subflare in R-8838. Geophysical: mostly very slight magnetic activity, though occasionally quiet. Events: minor: Hα (R-8831) 0243 with cm solar burst, Dkm type II and SID, 0321 and 1114 with cm solar burst; Hα (R-8838) 0316 with m solar burst; Hα (R-8829) 0758 with cm solar burst; Hα (R-8824) 0847 with m solar burst and 1054 with cm solar burst; cm, dm, and m solar burst 0550 with solar x-rays and SID; cm solar burst 0225

* adjusted for burst.

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June 03 (Cont'd)							with m type II and IV, solar x-rays and SID; cm and dm solar burst 0600 with solar x-rays and SID; cm solar bursts 1305-1530 and 2000-2245; dm solar bursts 0210-0655; m noise storm 0315-1235; SID at 0135, 0550, 1535, 1740, 1820, and 1925; APR (R-8821) 0420-0800 and BSL 1510-1525 and 2005-2035, EPL (N13 E limb) 2300-0100.
04	144	104	13	2	2	R-8831 (N26)	Solar: 1 subflare in position of R-8824 at W limb; spot continues with radio int. 12 and 1 subflare in R-8829; spot gone in R-8830; spot groups continue with one γ-type, radio int. 78 and 16 subflares in R-8831; small spot with radio int. 10 and 3 subflares in R-8837; small spot appears with radio int. 6 in R-8838. Geophysical: some very slight magnetic activity, increasing to slight-to-moderate after 1200. Events: major: Hα (R-8831) 0954-1107, impt. 2n; minor: Hα (R-8825) 0055 with cm solar burst and 0600; Hα (R-8829) 0236, 0734, and 0754 with cm, m, and Dkm solar burst; Hα (R-8831) 0823 with Dkm solar burst, and 1031; cm solar bursts 0545-0935, and 2040-2315; dm solar bursts 0650-0920 and 1510-1910; m noise storm 0410-2400D; SID at 0125;
05	135	90	36	3	2		Solar: spot continues with radio int. 31 and 4 subflares in R-8829; spot groups continue with one γ type, radio int. 63 and 3 subflares in R-8831; spot now βγ continues with radio int. 12 in R-8837; small spot continues in R-8838. Geophysical: slight-to-moderate magnetic activity early in the day, subsiding to quiet 0300-0900, then slowly increasing until sc at 1915, followed by moderately severe storm, 1 Kp 7o; ionospheric F region disturbed in some sectors with some auroral blackout at high latitudes; cosmic ray Forbush decrease begins late in the day, maximum of about 5% on June 7. Events: major: Hα (R-8829) 1846-2030, impt. 2n with dm solar burst, solar x-rays and SID; minor: Hα (R-8829) 0444, 1343, and 1839 with cm solar burst; Hα (R-8838) 1355 with m and Dkm solar burst; dm solar bursts 1435-1750; m noise storm 0330-1940; SID at 0005, 0530, 1925 with cm and dm solar burst, 1950, and 2305.
06	127	80	46	5	3		Solar: spot at W limb with radio int. 9 in R-8829; two spot groups continue with one βγ, radio int. 66 and 5 subflares in R-8831; spot no longer βγ, continues with radio int. 10 in R-8837; small spot continues in R-8838. Geophysical: severe magnetic storm, Kp 8o, 0000-0300, subsiding to very slight activity until 1800, becoming moderate; aurora over Western Europe with rayed arc at φ=63°, 0033-0120, rays were visible to φ=54°; aurora over North America to φ=51° 0000-0500 and φ=58° 0600-1100; ionospheric F region very disturbed with auroral blackout at high latitudes; Forbush decrease continues; veil, billows, bands in moderately bright noctilucent clouds from N55.5 to 56.5 W03 2315-0125. Events: minor: Hα (R-8831) 1050 with cm and dm solar burst, 1212 with cm and dm solar burst, 1244, 1535, and 1617; cm solar bursts 2015-2225; dm solar bursts 0845-2320, m noise storm 0500-1440; Dkm solar bursts 0720-1225; SID at 0650 and 1815; APR (N50-85 W limb) 0550-0715.

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June							
07	116	59	22	0	5	R-8841 (S19)	Solar: radio int. 10 and 4 subflares in R-8829; spot groups continue with one βγ, radio int. 47 and 7 subflares in R-8831; spot decreasing with radio int. 10 in R-8837; small spot continues with 1 subflare in R-8838. Geophysical: moderately severe magnetic storm until 0300 Kp 7- decreasing to quiet after 0900; auroral glow on horizon over Western Europe visible to ϕ=57° early in morning; aurora over North America to ϕ=58° 0000-0500 and ϕ=57° 0600-1100; ionospheric F region disturbed with auroral blackout at high latitudes; Forbush decrease reaches maximum drop of 5%, begins recovery complete on June 11. Events: minor: Hα (R-8831) 0748; Hα (R-8829) 0802, 0840, 0854 with dm and m solar burst, 1451, and 1955; cm solar bursts 1120-1640; dm solar burst 1430-1940; m solar bursts 0500-1250; APR (R-8834) 0005-0545, BSL (R-8829) 1520-1605, 1720-2125, and APR 2250-0725.
08	107	43	15	(0)	3	R-8837 (N17) R-8838 (S14)	Solar: spot groups continue with radio int. 38 and 5 subflares in R-8831; spot continues with radio int. 10 in R-8837; small spot disappears in R-8838. Geophysical: continued magnetically quiet, increasing to slight-to-moderate after 0900. Events: minor: Hα (R-8831) 1024; dm solar bursts 0640-2120; m noise storm 0515-1450; BSL (R-8831) 0445-0600.
09	101	26	14	0	4	R-8836 (S17)	Solar: last of spot groups at W limb with radio int. 36 in R-8831; small spot continues with radio int. 10 and 1 subflare in R-8837; small spot appears with radio int. 6 and 1 subflare in R-8836; 1 subflare in R-8841; radio int. 8 and 2 subflares in R-8843. Geophysical: mostly slight magnetic activity, becoming slight-to-moderate after 2100. Events: minor: Hα (R-8843) 1220; dm solar burst 0525-0640; m solar bursts 0545-1320, 1730-1955; APR (S20-45 W limb) 0800-0935.
10	94	21	7	0	0		Solar: radio int. 14 at W limb in position of R-8831; small spot continues with radio int. 9 in R-8837; small spot continues with 1 subflare in R-8836; radio int. 7 and 3 subflares in R-8843; br. green corona NW limb, mod. green corona NE limb. Geophysical: slight magnetic activity, subsiding to quiet after 0900. Events: minor: Dkm type II 0125.
11	94	20	6	3	3		Solar: small spot continues with radio int. 9 and 1 subflare in R-8837; spot increases in size with radio int. 9 and 2 subflares in R-8836; small spot with radio int. 7 and 2 subflares in R-8843; br. green corona NW limb. Geophysical: continued magnetically quiet, though some slight activity 1500-2100; June 7 Forbush decrease recovers; bright bands in noctilucent clouds N55-57.5 W01.5-07.5, 2245-0132. Events: minor: Hα (R-8843) 1109 with DSD and BSL, and 1333; dm solar bursts 1410-1650; m solar bursts 0830-1000; ADF (R-8839) 0005-0455, (N31 E52) 0245-0455, (N33 E45) 1555-2400, and (R-8838) 1555-0330.

( ) estimated from less than 24 hours of data

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June							
12	94	19	5	(0)	0		Solar: visible spot gone but radio int. 6 and 3 subflares in R-8837; spot continues with radio int. 10 and 4 subflares in R-8836; radio int. 6 and 3 subflares in R-8843; radio int. 7 and 1 subflare at E limb probably in R-8852; mod. green corona NW limb. Geophysical: continued mostly magnetically quiet; moderately bright and extensive noctilucent cloud display of bands and billows N52-57.5 E10-W07.5, 2145-0230. Events: minor: dm solar bursts 1750-2140.
13	97	19	6	0	0		Solar: small spot again seen with radio int. 6 and 4 subflares in R-8837; spot continues with radio int. 10 and 1 subflare in R-8836; 1 subflare in R-8840; radio int. 6 in R-8843; radio int. 8 in R-8852; radio int. 10 and 3 subflares in R-8854; mod. green corona NE limb. Geophysical: slight magnetic activity until 0300, then very slight-to-quiet activity; faint noctilucent bands N54-57.5 W01.5-07.5, 2345-0140. Events: minor: Hα (R-8836) 1550; Dkm type II 2135; EPL (N30 E limb) 1610-2235 and APR 1655-1720.
14	101	20	14	0	0		Solar: radio int. 9 in R-8837 at W limb; spot continues with radio int. 11 and 3 subflares in R-8836; spot at E limb with radio int. 8 in R-8852; spot on E limb with radio int. 16 and 1 subflare in R-8854; br. green corona NE limb, mod. green corona NW limb. Geophysical: mostly slight magnetic activity, some moderate activity 1200-1500; very faint veil and noctilucent band N55 W04.5, 2215-0145. Events: minor: Hα (R-8854) 1713 with APR, BSL, EPL, and solar x-rays, and 2138; cm solar burst 2200; dm solar burst 1410; solar x-rays 1335 and 2235 with SID; BSL (R-8836) 1515-1545 and EPL 1505-1555.
15	104	35	9	0	0	R-8843(5) (N19)	Solar: spot at W limb with radio int. 13 and 4 subflares in R-8836; spot continues with radio int. 9 and 1 subflare in R-8852; second spot at E limb with radio int. 22 and 2 subflares in R-8854; br. green corona NE limb; mod. green corona NW limb. Geophysical: slight-to-moderate magnetic activity until 0600, subsiding to quiet thereafter; ionospheric F region slightly disturbed. Events: minor: Hα (R-8836) 0730, 1753, 2102, 2131, and 2324; cm and dm solar burst 1250 and 1435; APR (R-8836) 0600-1600 and 1100-1705 and BSL, 1150-2125; APR (R-8854) 0600-1600 and BSLs 1430-1705 and 1720-1810.
16	108	41	6	0	0		Solar: radio int. 10 and 1 subflare in R-8836; spot continues with radio int. 8 and 4 subflares in R-8852; three spot groups with radio int. 22 and 6 subflares in R-8854; spot at E limb with radio int. 8 and 1 subflare in R-8858; br. green corona NE limb. Geophysical: very slight magnetic activity 0600-1800, otherwise quiet; very faint billows in noctilucent clouds N55-55.5 W03-04.5, 0005-0205 and very faint bands N50-57.5 W03.5-5.0, 2315-0325. Events: minor: Hα (R-8836) 0022, 0258, 0407, and 0807; Hα (R-8854) 0102, 0645, and 1834; SID at 0400, 1335 with cm and dm solar burst, 1850 and 2015; APR (N41 E limb) 1210-2350.

( ) estimated from less than 24 hours of data

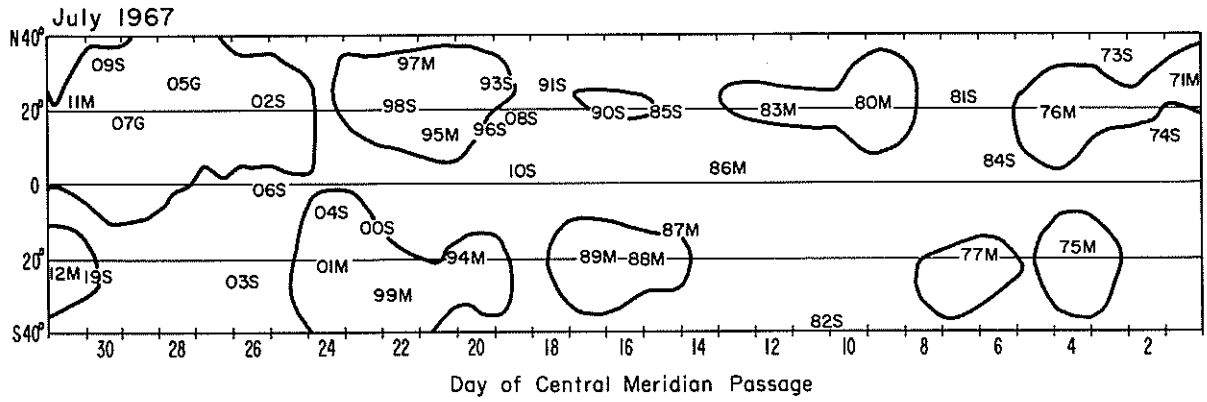
Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June							
17	108	57	9	0	0		Solar: small spot continues with radio int. 8 in R-8852; four spot groups with radio int. 22 and 14 subflares in R-8854; small spot continues with radio int. 10 in R-8858. Geophysical: very slight magnetic activity, increasing to slight later in the day. Events: minor: Hα (R-8854) 0125, 0245 with BSD, 0704, 1049 with cm, dm, m, and Dkm solar burst, 1107 with cm and m solar burst, 1944, 2121 with cm and dm solar burst and SID, and 2141; cm and dm solar burst 1510.
18	112	64	4	0	0		Solar: spot continues with radio int. 8 in R-8852; spot groups continue with radio int. 24 and 11 subflares in R-8854; small spot continues with radio int. 9 in R-8858; small spot with 1 subflare in R-8860; br. green corona NE limb. Geophysical: slight magnetic activity until 0300, becoming quiet thereafter, 3 Kp 0+; very faint noctilucent veil N53-55 W04-04.5, 0015-0200 and faint bands and billows N55-56 W03.5-04.5, 2350-0200. Events: major: Hα (R-8854) 0120-0154, impt. 2b with cm and dm solar burst and SID; minor: Hα (R-8854) 0101, 1032 with cm and dm solar burst, 1308 with cm and dm solar burst and SID, 1552 with cm and dm solar burst, m and Dkm type II, DSD and SID; Hα (R-8846) 0720; Hα (R-8860) 1556 and 2308; Hα (R-8863) 1808 with cm, dm, and m solar burst; cm solar bursts 1020-1905; dm solar bursts 1030-1915; m solar bursts 0835-1145; APR (N41 E limb) 1300-2400.
19	115	67	5	0	0		Solar: spot continues with radio int. 6 in R-8852; spot groups continue with radio int. 21 and 9 subflares in R-8854; small spot continues with radio int. 8 and 3 subflares in R-8858; small spot continues in R-8860; radio int. 24 and 5 subflares in R-8863. Geophysical: continued magnetically quiet, 3 Kp 0+, though some slight activity 1200-1800; ionospheric F region relatively quiet. Events: minor: Hα (R-8863) 0015; cm, dm, m, and Dkm solar burst 1225 with APR (N38 E limb) 1220-2310; cm solar burst 1720; m solar bursts 0855-1325; APR (N33 E limb) 1730-2030.
20	117	84	4	0	0	R-8852(2) (S19)	Solar: spot continues with radio int. 7 in R-8852; spot groups continue with radio int. 18 and 9 subflares in R-8854; spot continues with radio int. 8 and 1 subflare in R-8858; small spot with 1 subflare in R-8860; spot at E limb with radio int. 29 and 8 subflares in R-8863; 2 subflares in R-8862. Geophysical: continued mostly magnetically quiet; ionospheric F region relatively quiet; extensive and bright display of veil, bands, billows, and whirls in noctilucent clouds N52-60 from Central Europe to West Atlantic, 2300-0300. Events: minor: Hα (R-8863) 1052; cm, dm, m, and Dkm solar burst 1225; dm and Dkm solar burst 0955; cm and dm solar burst 2205; cm solar burst 2010 with SID.
21	119	79	4	0	0		Solar: spot continues with radio int. 6 in R-8852; spot groups decreasing in size with radio int. 15 and 2 subflares in R-8854; visible spot gone but radio int. 7 and 4 subflares in R-8858; small spot in R-8860; spot group continues with radio int. 31 and 7 subflares in R-8863; 5 subflares in R-8867; mod. green corona NE and

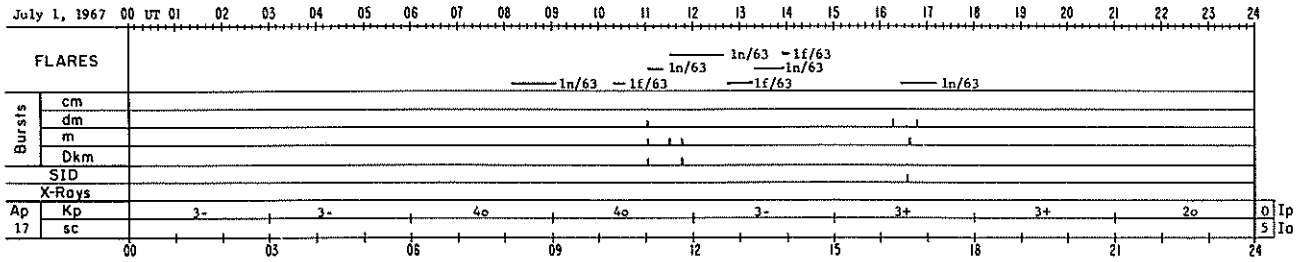
Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June 21 (Cont'd)							SE limbs. Geophysical: continued mostly magnetically quiet, 1 Kp 0+; ionospheric F region relatively quiet. Events: minor: Hα (R-8867) 2240; dm solar bursts 1005-1915; m solar bursts 0810-0900 and 1130-1255.
22	126	83	5	0	0	R-8854(3) (N26)	Solar: radio int. 6 with 2 subflares in R-8852; spot groups continue decrease with radio int. 13 in R-8854; radio int. 8 and 1 subflare in R-8858; small spot with radio int. 13 in R-8860; spot group growing with radio int. 42 and 30 subflares in R-8863; spot with radio int. 13 and 8 subflares in R-8867; mod. green corona NE limb. Geophysical: continued mostly magnetically quiet, 2 Kp 0+, though some very slight activity 0600-1500; ionospheric F region relatively quiet; faint noctilucent bands N57 W02, 0010-0040 and moderately bright bands and whirl N54-57.5, W01.5-07.5, 2320-0145. Events: minor: Hα (R-8867) 0610 and 1347 with cm, dm, m, and Dkm solar burst; Hα (R-8863) 0758 with Dkm solar burst and 0903 with m and Dkm solar burst; m and Dkm solar burst 0855; dm and m solar burst 0735 with DSD, 0735-1600, and 1005; cm and dm solar burst 1130, 1840, and 2255; cm, dm, and m solar burst 1340, and 1450; dm, m, and Dkm solar burst 1200; SID at 1355, 1740 with dm solar burst, and 1850; DSDs (R-8863) 1305-1625; SDF (N40 E40) 1655-0625 (24 June).
23	129*	80	4	0	0	R-8858(3) (S22)	Solar: radio int. 8 in R-8852; spot groups decreasing with radio int. 11 and 2 subflares in R-8854; radio int. 6 in R-8858; small spot with radio int. 10 and 1 subflare in R-8860; spot group continues with radio int. 30 and 12 subflares in R-8863; growing spot group with radio int. 12 and 6 subflares in R-8867; mod. green corona NE limb. Geophysical: continued mostly magnetically quiet, 2 Kp 0+; ionospheric F region relatively quiet; very faint noctilucent bands N55 W02 at 2310. Events: minor: Hα (R-8863) 0039 with cm, dm, and m solar burst, m and Dkm type II, and SID, 0305 with cm solar burst, 0452 with cm, dm, and m solar burst, 1034 with dm solar burst, and 1847 with cm, dm, and m solar burst, Dkm type IV and SID; Hα (R-8867) 0725 with cm solar burst; Hα (R-8871) 2012; cm, dm, and m solar burst 0510 and 0550; cm solar burst 1055; Dkm type IV 0110; SDF (N38 E28) 0500-1550, ADF (N40 E25) 0600-1230 and (N36 E22) 1220-1330.
24	128	99	4	0	0	R-8860(3) (N19)	Solar: radio int. 8 in R-8852; two spot groups continue with radio int. 13 and 7 subflares in R-8854; radio int. 8 with 1 subflare in R-8858; small spot in R-8860; spot group, now classed βγ, continues with radio int. 28 and 19 subflares in R-8863; spot group continues with radio int. 26 and 3 subflares in R-8867; spot at E limb with radio int. 12 in R-8871. Geophysical: continued mostly magnetically quiet, 1 Kp 0+; ionospheric F region relatively quiet; gradual cosmic ray decrease begins very late in day; very faint noctilucent bands seen by two aircraft N56 W38 at 0300. Events: minor: Hα (R-8854) 0627, (R-8863) 0942 with m and Dkm solar

* adjusted for burst

Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June 24 (Cont'd)							burst; Hα (R-8852) 1056, 1114 with dm, m, and Dkm solar burst, and 1348; m and Dkm solar burst 0640, 0715, 0940, and 1000; cm, dm, m, and Dkm solar burst 1245 with SID; cm, dm, and m solar burst 1655; DSDs (R-8863) 0150-0245 and 0705-0715; SDFs (S23 E07) 0500-1600 and (S22 E05) 1225-1345 (25 June).
25	129	96	24	0	0	R-8862(5) (S17)	Solar: radio int. 8 in R-8852; small spots continue with radio int. 10 and 6 subflares in R-8854; spot seen with radio int. 8 in R-8858; small spot in R-8860; spot group continues with radio int. 26 and 13 subflares in R-8863; spot group continues with radio int. 26 and 4 subflares in R-8867; spot appears for one day with radio int. 8 in R-8862; spot continues with radio int. 16 and 2 subflares in R-8871; mod. green corona NE, NW, and SW limbs. Geophysical: very slight-to-slight magnetic activity until 1500 with sc at 0222, increasing to moderate activity after sc at 1521; ionospheric F region slightly disturbed in some sectors; cosmic ray decrease, 3%, reaches maximum late in day, begins recovery. Events: minor: Hα (R-8863) 0105 with cm and dm solar burst; cm solar burst 2320-0140.
26	124	79	24	3	2	R-8863(2) (N22)	Solar: small spot continues with radio int. 12 and 1 subflare in R-8854; radio int. 8 in R-8858; spot gone but 2 subflares in R-8860; spot group continues with radio int. 23 and 7 subflares in R-8863; spot groups continue with radio int. 26 and 6 subflares in R-8867; spot continues with radio int. 13 in R-8871. Geophysical: moderately severe magnetic storm 0000-0300, subsiding to very slight activity after 0900, increasing to slight-to-moderate following sc at 1459; aurora over North America to ϕ=56°, 0000-0500 and ϕ=61°, 0600-1100; ionospheric F region very disturbed with some auroral blackout at high latitudes; cosmic ray decrease recovers, then begins another drop; faint noctilucent billows N56.5 W07, 0050-0100 and moderately bright bands N52.5-55 W00-04.5, 2245-0120. Events: minor: Hα (R-8854) 0650 with m and Dkm solar burst; dm solar bursts 1230-1940; m solar bursts 0600-1450 and 1915-0100; Dkm solar bursts 0645-1415.
27	127	61	19	3	4	R-8867 (S23)	Solar: small spot at W limb with radio int. 14 and 1 subflare in R-8854; radio int. 8 and 1 subflare in R-8858; spot group decreasing in size with radio int. 30 and 9 subflares in R-8863; spot groups continue with radio int. 26 and 7 subflares in R-8867; spot continues with radio int. 14 and 1 subflare in R-8871; 1 subflare at E limb in position of R-8875; radio int. 16 and 1 subflare in R-8876; mod. green corona NE and SE limbs. Geophysical: moderate magnetic activity until 0600, slowly subsiding to very slight activity late in the day; aurora over North America to ϕ=55°, 0000-0500 and ϕ=54°, 0600-1100; ionospheric F region very disturbed with some auroral blackout at high latitudes; cosmic ray decrease continues. Events: major: Hα (R-8875) 2001-2033, impt. 2b with m solar burst; minor: Hα (R-8876) 0613 with m solar burst; dm solar bursts 1140-1940; m solar bursts 0500-2400.
28	132	80	10	0	0		Solar: radio int. 14 in R-8854 at W limb; spot seen with radio int. 10 and 4 subflares in R-8858; spot group continues with radio int.

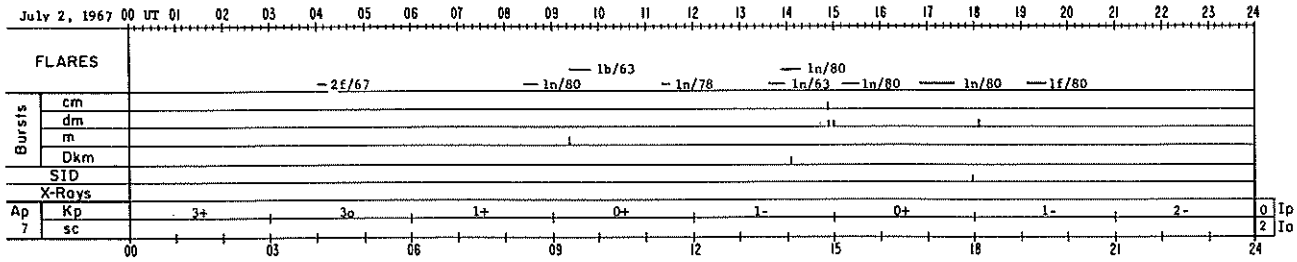
Day	10 cm Flux S	Sun-Spot No.	Geo-mag. Ap	Iono-Index Ip	Iono-Index Ia	CMP of Region Number	Highlights
1967 June							
28 (Cont'd)							27 and 11 subflares in R-8863; spot groups continue with radio int. 26 and 3 subflares in R-8867; spot continues with radio int. 12 and 1 subflare in R-8871; 1 subflare in R-8875; spot at E limb with radio int. 18 and 1 subflare in R-8876; br. green corona NE limb; mod. green corona NW and SE limbs. Geophysical: mostly quiet to very slight magnetic activity, though slight activity throughout the day; ionospheric F region slightly disturbed; cosmic ray decrease, 5%, reaches maximum early in day, begins slow recovery into July; faint noctilucent cloud N55.5 W01.5 at 0100 and faint bands from aircraft N53 W50 at 0200. Events: minor: Hα (R-8863) 0342, 0942, 1102, and 1433 with dm solar burst; Hα (R-8867) 0719 with cm solar burst, and 1259; Hα (R-8871) 0950; Hα (R-8858) 1052; cm, dm, and m solar burst 1000; cm solar burst 1255, dm solar bursts 1330-2100; Dkm type IV 2045.
29	129	65	9	0	0		Solar: radio int. 10 and 1 subflare in R-8858; spot group continues with radio int. 22 and 7 subflares in R-8863; spot group continues with radio int. 23 and 9 subflares in R-8867; spot continues with radio int. 12 and 1 subflare in R-8871; radio int. 10 in R-8875; spot continues with radio int. 20 in R-8876; mod. green corona SE, SW, and NW limbs. Geophysical: mostly slight magnetic activity. Events: minor: Hα (R-8863) 0042 with cm and dm solar burst and 2333; dm solar bursts 0950-1020 and 1330-1940; m solar bursts 0230-1145 and 2130-0200; Dkm solar bursts 0625-1405.
30	122	89	14	3	2		Solar: two spot groups with radio int. 15 and 10 subflares in R-8863; spot group continues with radio int. 20 and 6 subflares in R-8867; spot continues with radio int. 11 in R-8871; spot appears with radio int. 8 and 2 subflares in R-8875; spot continues with radio int. 19 and 3 subflares in R-8876; spot at E limb with radio int. 8 in R-8877; mod. green corona SE, SW, and NW limbs. Geophysical: continued mostly slight magnetic activity; ionospheric F region slightly disturbed; faint bands and billows in noctilucent clouds N45 W01, 0150-0225. Events: minor: Hα (R-8863) 0344 with ADF; Hα (R-8858) 0600; Hα (R-8876) 0733; m solar bursts 0410-1240; SDF (R-8868) 1635-1950.





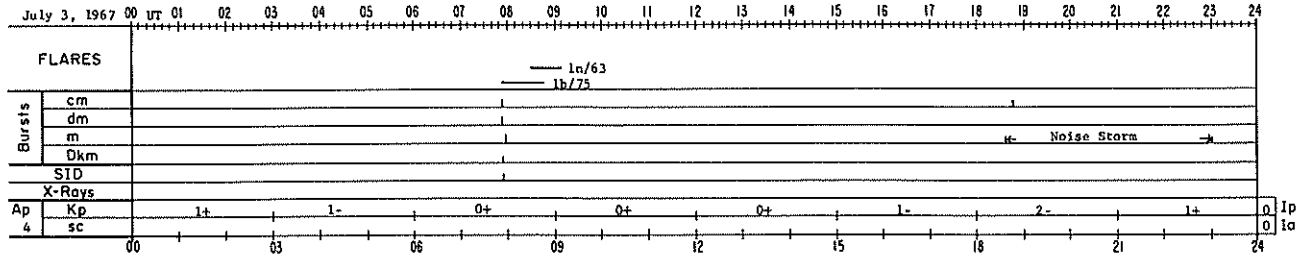
121 10 cm flux
69 Rz
CMP Region 8871 N27(2)

One of five most magnetically disturbed days; ionospheric F region disturbed; noctilucent clouds in bright bands and billows from 53°-57.5°N, 12.5°E-07.5°W 2230-0145; aurora at ϕ = 58° over North America 0600-1100.



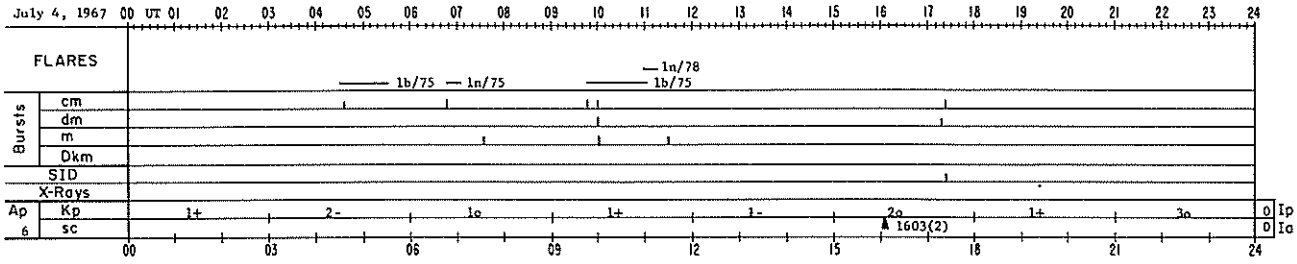
122 10 cm flux
83 Rz
CMP Region 8874 N12

Ionospheric F region disturbed; bright bands of noctilucent clouds from 52°-57°N, 01°-07°W 2250-0215.



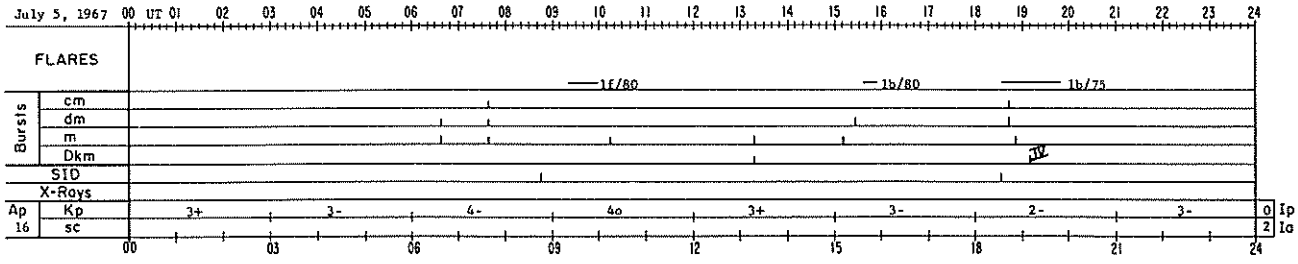
125 10 cm flux
87 Rz
CMP Region 8873 N34(2)

One of five magnetically quiet days; ionospheric F region relatively quiet; moderately bright noctilucent clouds with bright bands and whirl from 54°-56.5°N, 01.5°-03.5°W 2300-0133 and at 50°N in Western Atlantic 0200.



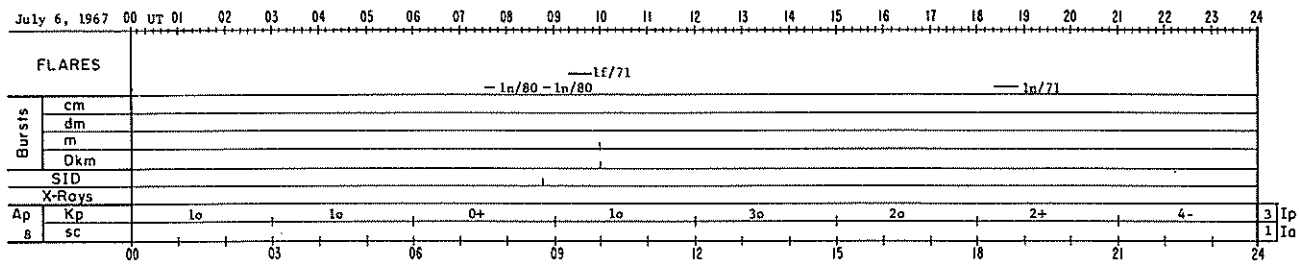
123 10 cm flux
92 Rz
CMP Region 8875 S18
16413 N19(αp)5
16417 S21(Bf)4
(16424) N13(βp)1

Faint bands and bright whirls in noctilucent clouds 56°N, 12.5°E 2130-0130.



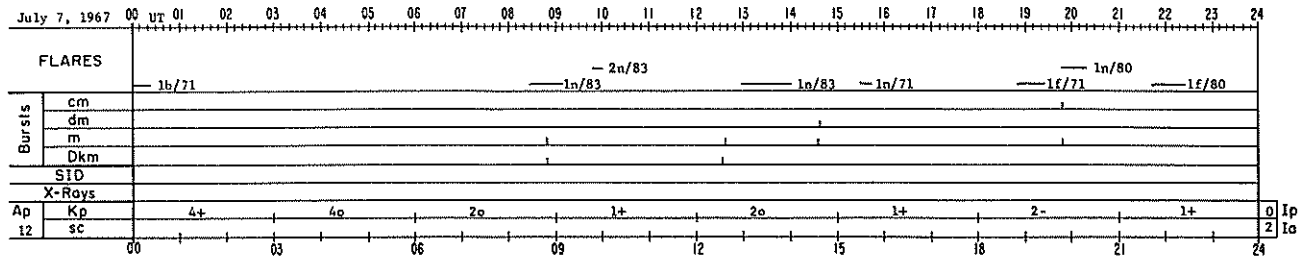
120 10 cm flux
98 Rz
CMP Region 8876 N19(2)
(16420) N11(βp)2

One of five most magnetically disturbed days; ionospheric F region slightly disturbed in some sectors; faint noctilucent bands at 52°N over Western Atlantic 0400.



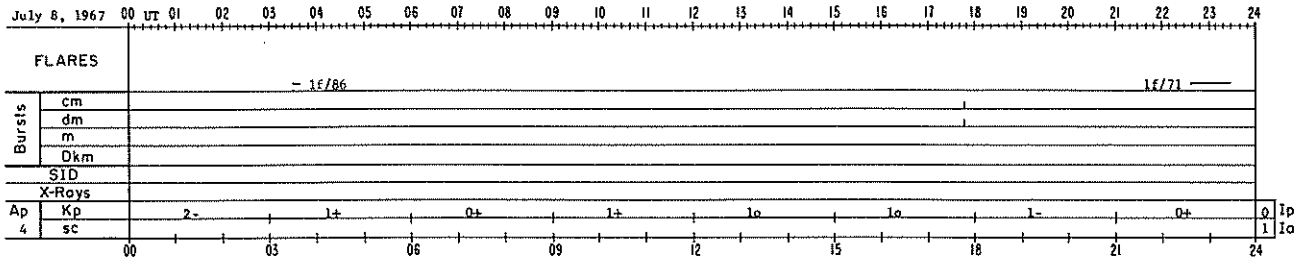
113 10 cm flux
97 Rz
CMP Region (8884) N06
16416 S16(αp)3

Ionospheric F region slightly disturbed.



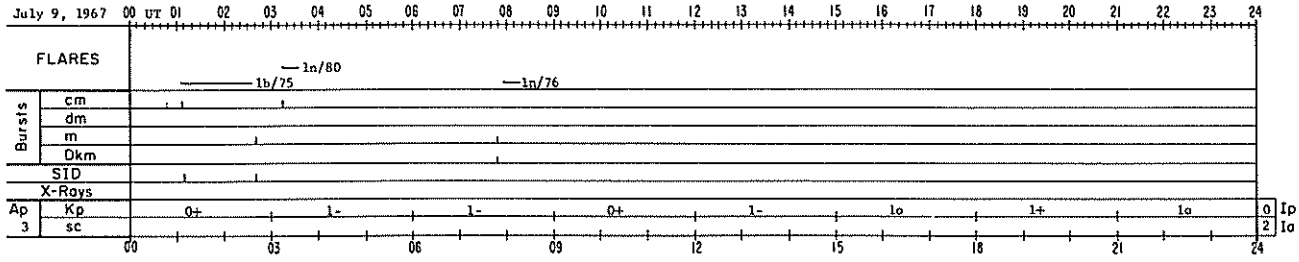
112 10 cm flux
70 Rz
CMP Region 8877 S19(2)
Region 8881 N23
(16421) S22(αp)1

Ionospheric F region disturbed.



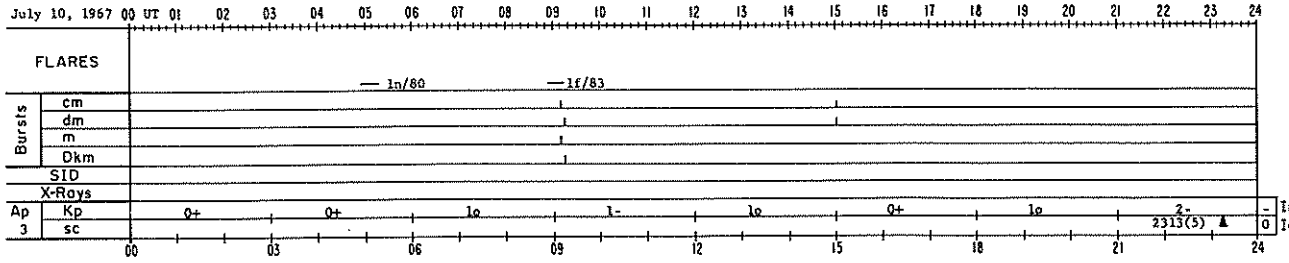
108 10 cm flux
78 Rz

One of ten magnetically quiet days; ionospheric F region relatively quiet; faint noctilucent bands and whirls from 52°-55.5°N, 1°-2°W 2300-0305.



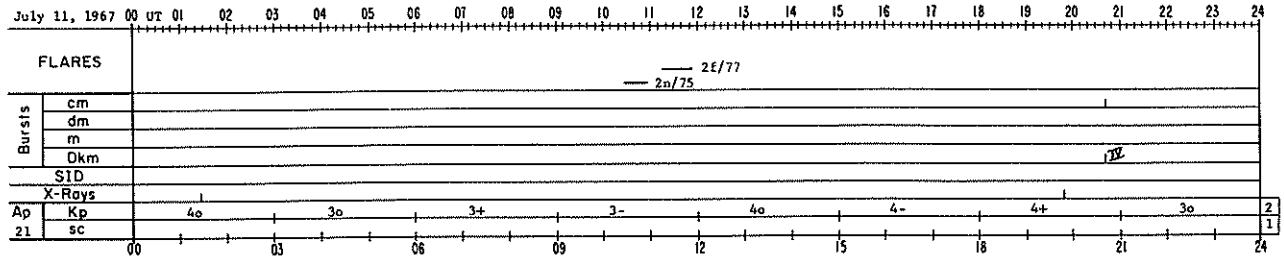
106 10 cm flux
67 Rz
CMP Region 8880 N21
16422 N18(αp)4
16423 N24(βp)2

One of five magnetically quiet days; ionospheric F region relatively quiet; faint noctilucent clouds 52°-55.5°N, 1.5°-2°W 2200-2310.



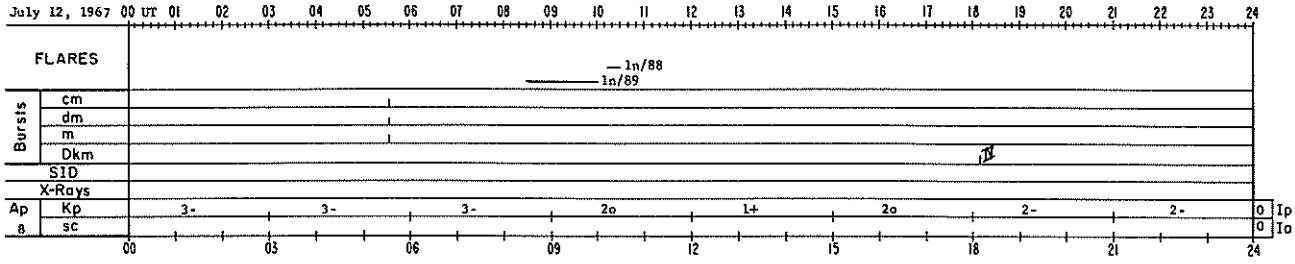
102 10 cm flux
54 Rz

One of five magnetically quiet days; ionospheric F region relatively quiet.



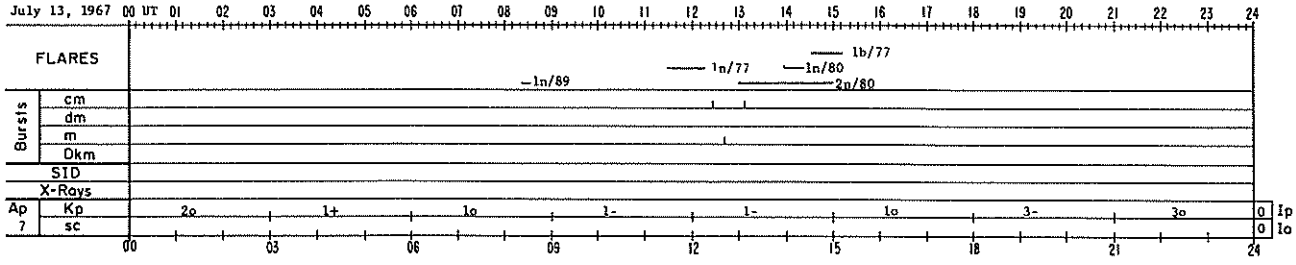
104 10 cm flux
53 Rz
CMP Region (8882) S40
16426 N22(β)2

One of five most magnetically disturbed days; ionospheric F region disturbed; faint noctilucent billows 55°-56°N, 10°E-4.5°W 2240-0145.

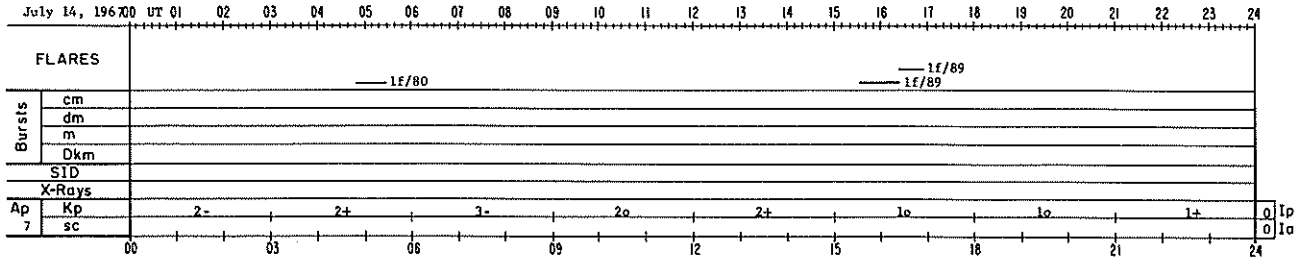


103 10 cm flux
59 Rz
CMP Region 8883 N20

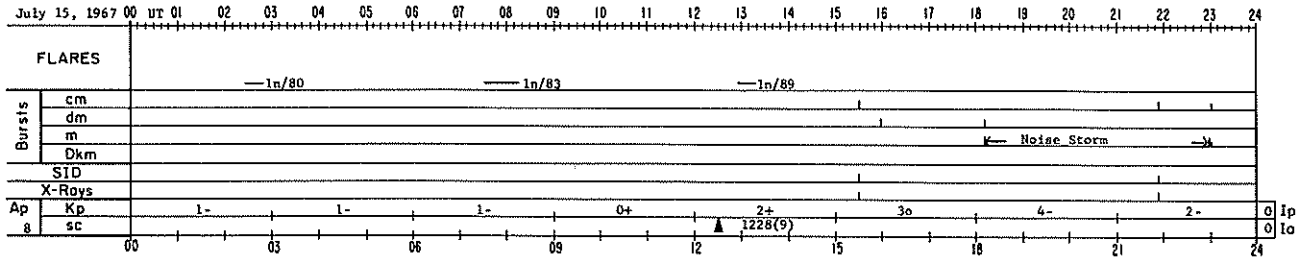
Ionospheric F region disturbed.



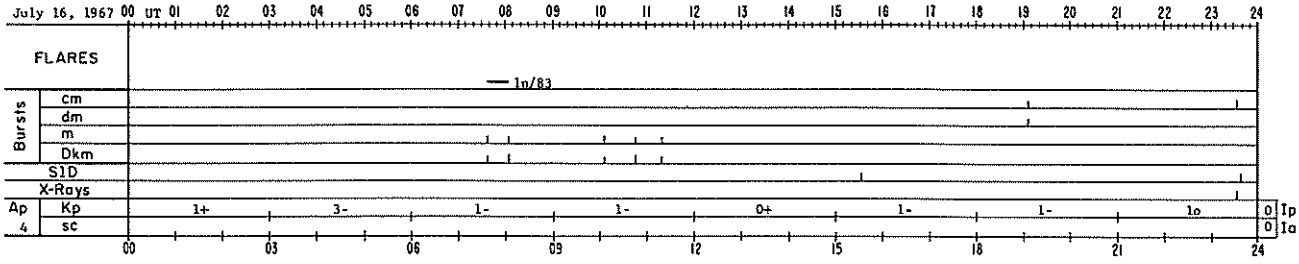
110 10 cm flux
53 Rz
CMP Region 8886 N24
16430 N24(βf)3



118 10 cm flux
66 Rz

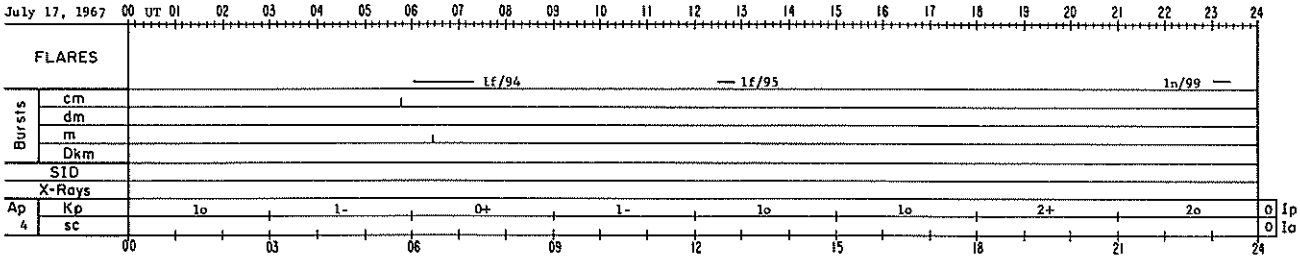


124 10 cm flux
80 Rz
CMP Region 8887 S12
Region 8885 N19
16429 S14(βp)2



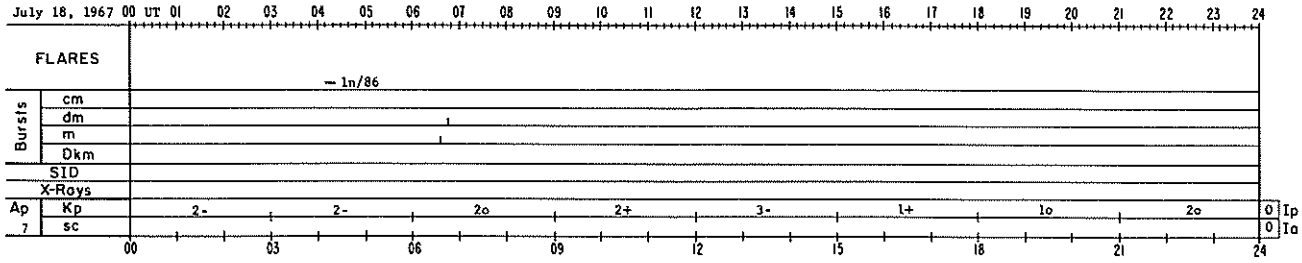
126 10 cm flux
73 Rz
CMP Region 8888 S20
Region 8890 N18(2)
16431 S22(Bp)1

One of ten magnetically quiet days.



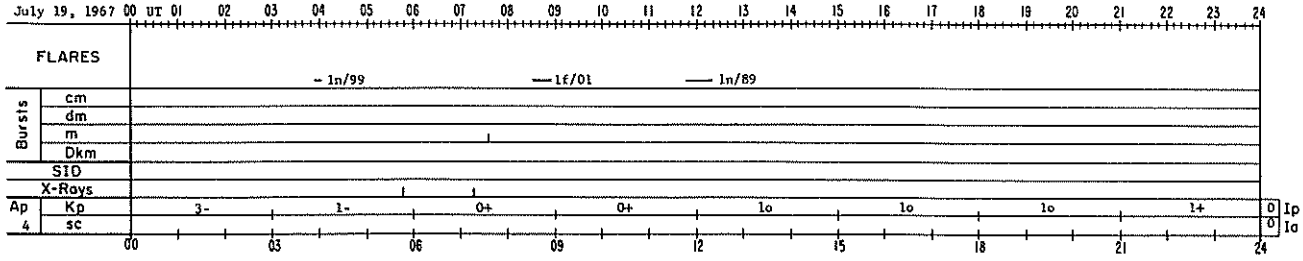
126 10 cm flux
67 Rz
CMP Region 8889 S19(3)
16432 S18(Bp)3

Ionospheric F region relatively quiet.



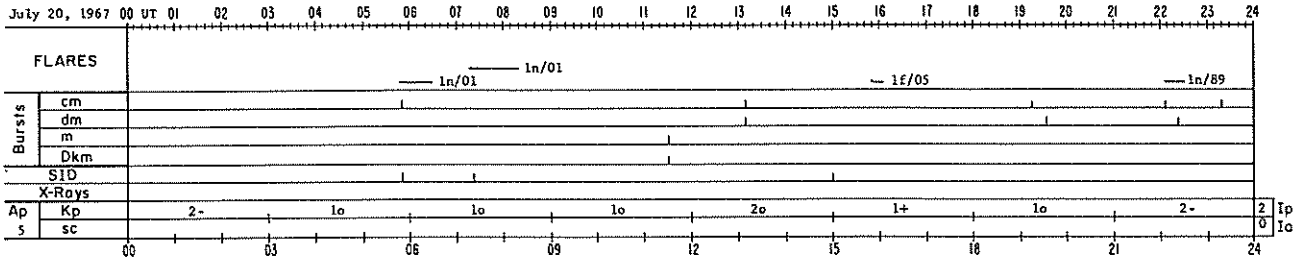
127 10 cm flux
78 Rz
CMP Region 8891 N26(4)

Moderately bright noctilucent bands and veil 55°-56.5°N, 3°W 0050-0215 and from aircraft 56°N, 21°-36°W 0300-0400.



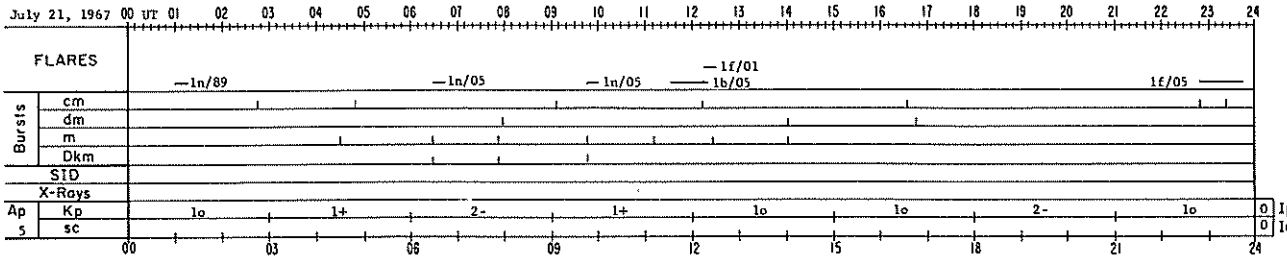
121 10 cm flux
61 Rz
CMP Region (8908) N18
Region (8910) N03
Region 8893 N27(4)

One of ten magnetically quiet days; ionospheric F region relatively quiet.



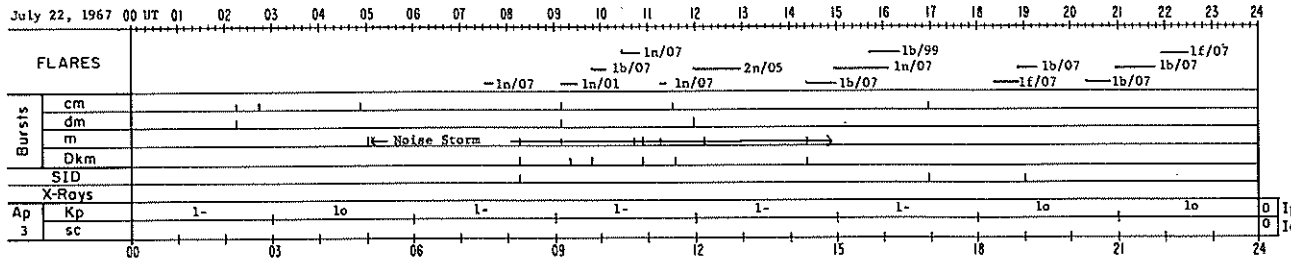
131 10 cm flux
41 Rz
CMP Region (8896) N14
Region 8894 S20(4)
(16433) S19(β)1
(16434) N09(αp)2

Faint noctilucent clouds 55°-56.4°N, 10°E-4.5°W 2255-2400.



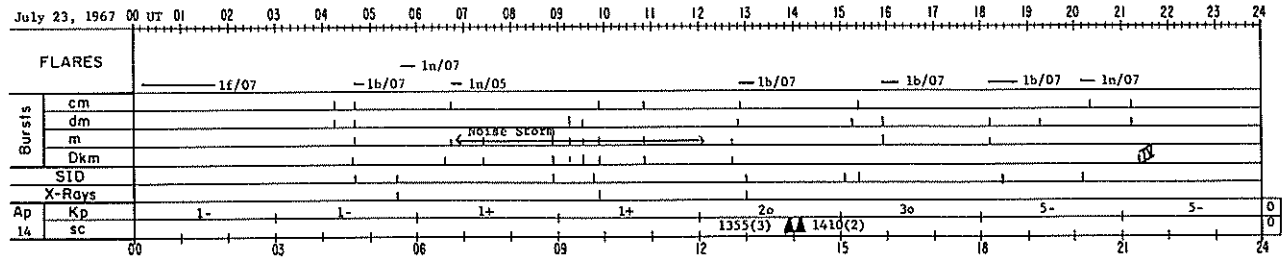
136 10 cm flux
62 Rz
CMP Region 8895 N13

One of ten magnetically quiet days; ionospheric F region relatively quiet.



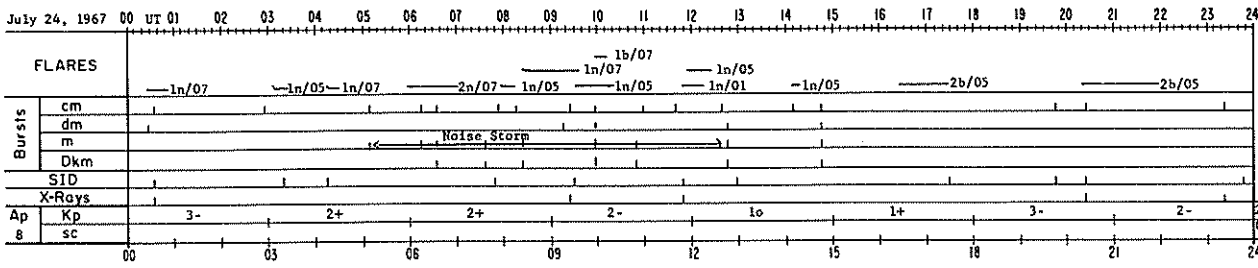
148 10 cm flux
73 Rz
CMP Region 8897 N34(4)
Region 8898 N21(364)
Region 8899 S30(2)
16437 S27(βp)5

One of five magnetically quiet days; ionospheric F region relatively quite.

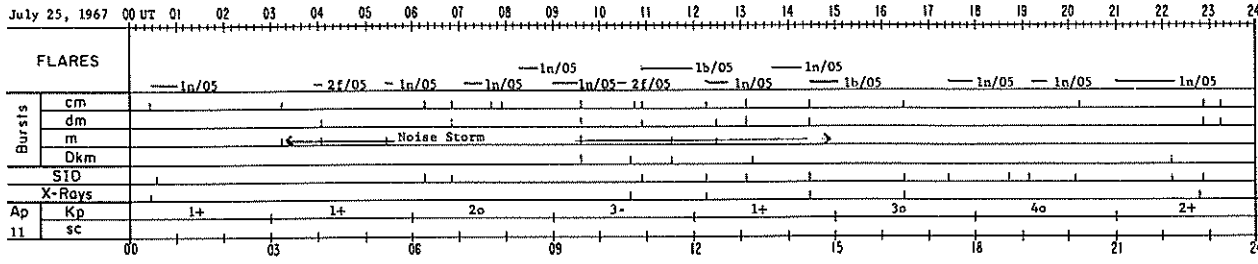


157 10 cm flux
93 Rz
CMP Region (8900) S12

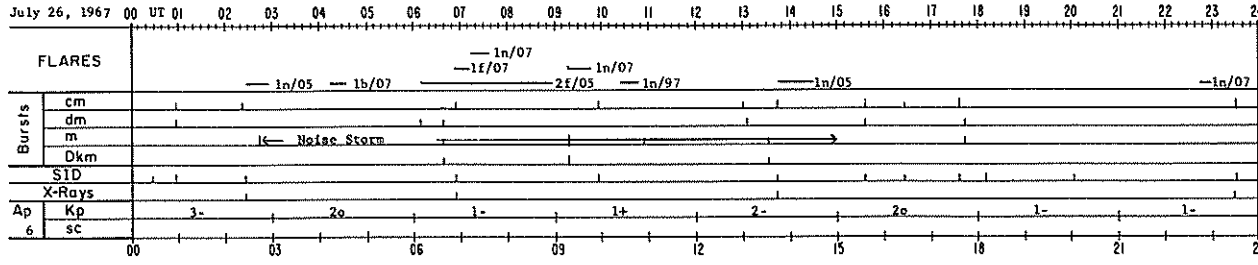
One of five most magnetically disturbed days.



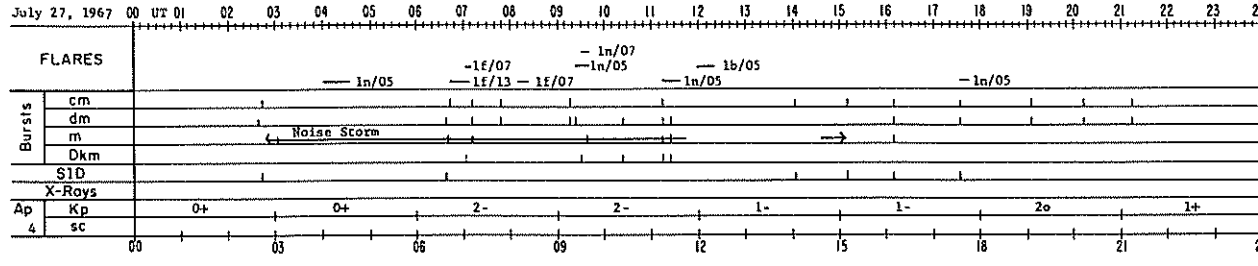
171 10 cm flux
90 Rz
CMP Region 8901 S22(2)
Region 8904 S08



189 10 cm flux
106 Rz
CMP 16438 S16(βp)2

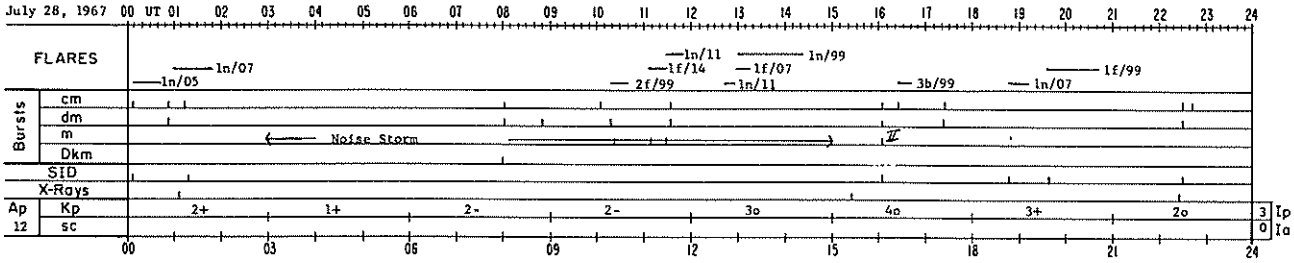


194 10 cm flux
116 Rz
CMP Region 8902 N22(2)
Region (8906) S01
Region 8903 S26(3)

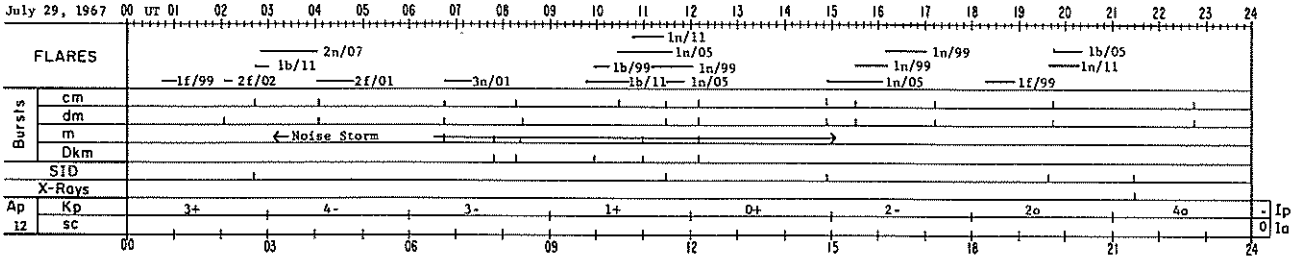


207 10 cm flux
122 Rz

One of ten magnetically quiet days; moderately bright noctilucent bands, billows and whirls 56.5°-57.5°N, 3°-3.5°W 0145-0230.

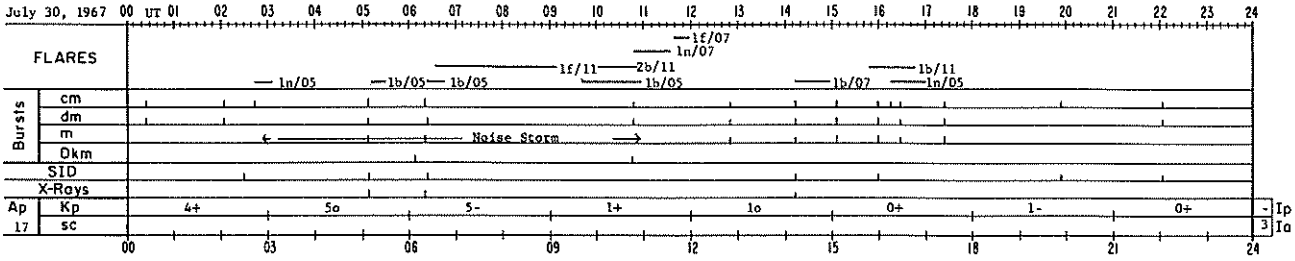


207 10 cm flux
164 Rz
CMP Region 8905 N27(3)
16440 N27 δ



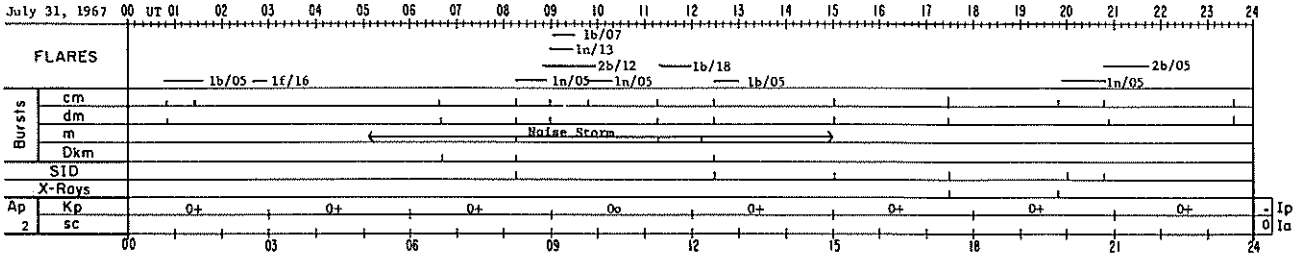
209 10 cm flux
154 Rz
CMP Region 8907 N17
16439 N13(βγ)5

Cosmic ray decrease midday recovering by end of day.



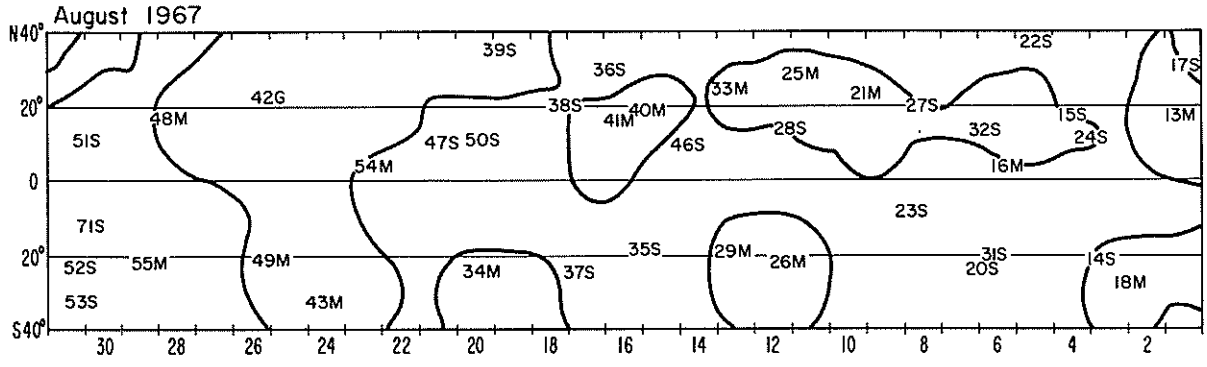
205 10 cm flux
165 Rz
CMP Region 8909 N33(3)
Region (8919) S25
16443 N17(βp)5

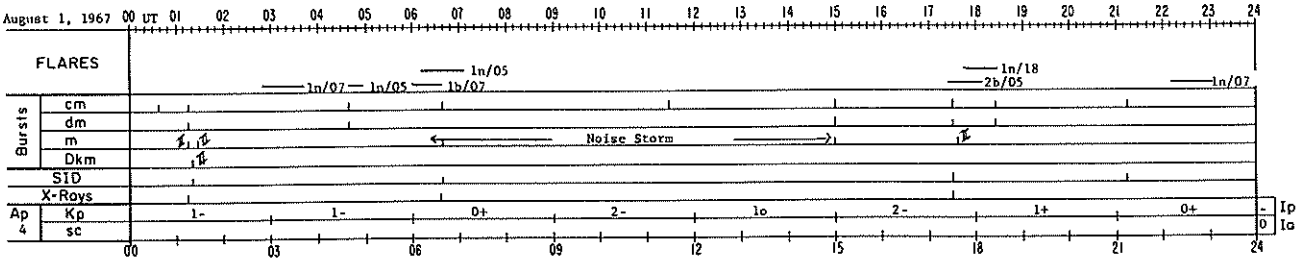
One of five most magnetically disturbed days; gradual cosmic ray decrease of about 3% during day to level maintained for over a month; ionospheric F region very disturbed; aurora at $\phi = 58°$ over North America 0600-1700; bright green corona observed 7 days earlier on NE limb.



183 10 cm flux
152 Rz
CMP Region 8911 N23
Region 8912 S23

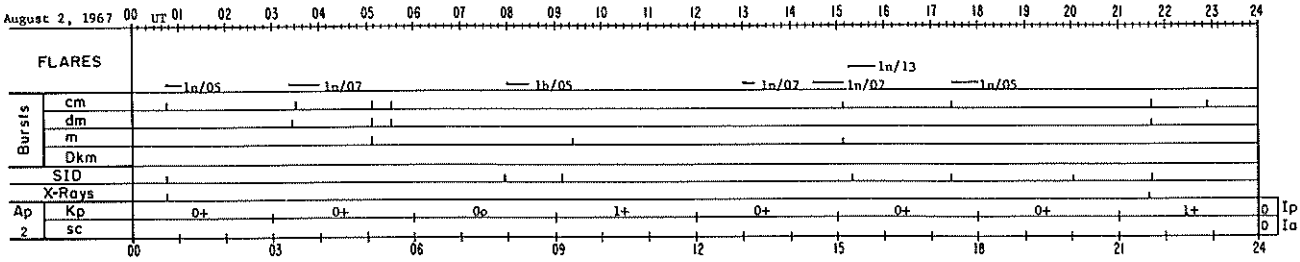
One of the five magnetically quiet days; ionospheric F region relatively quiet.





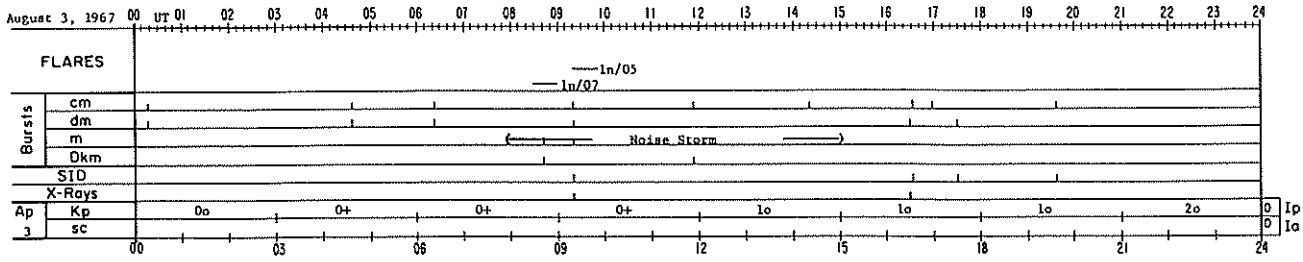
172 10 cm flux
139 Rz
CMP Region 8917 N31
Region 8913 N17(3)
16444 N11(Bp)4
16445 N20(Bp)5

One of the five magnetically quiet days; ionospheric F region relatively quiet; bright green corona observed 7 days earlier on SE limb and 7 days later on NW limb.



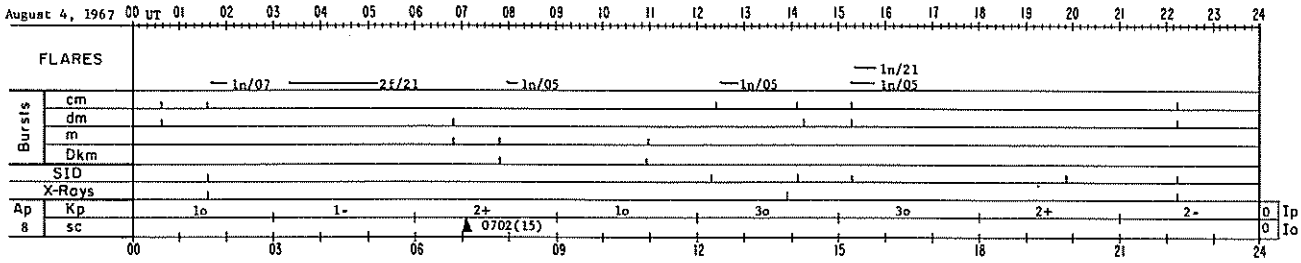
162 10 cm flux
126 Rz

One of the five magnetically quiet days.

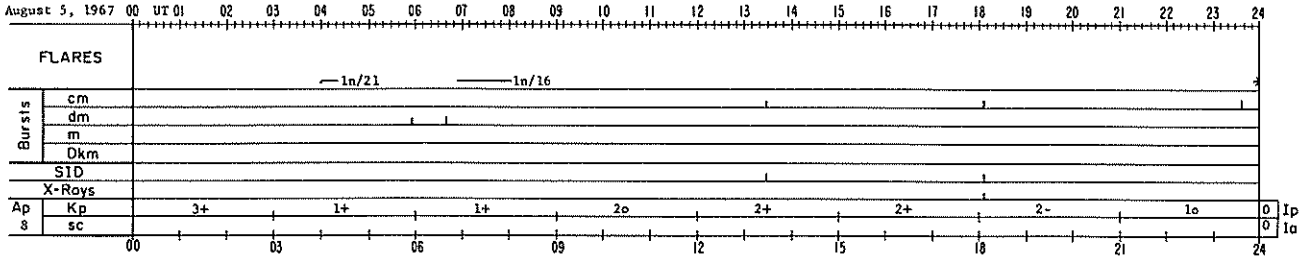


159 10 cm flux
113 Rz
CMP Region 8918 S28
Region (8924) N12
Region 8914 S21(263)
16449 S29(β)3
(16442) S21(αp)2

One of the five magnetically quiet days; ionospheric F region relatively quiet.

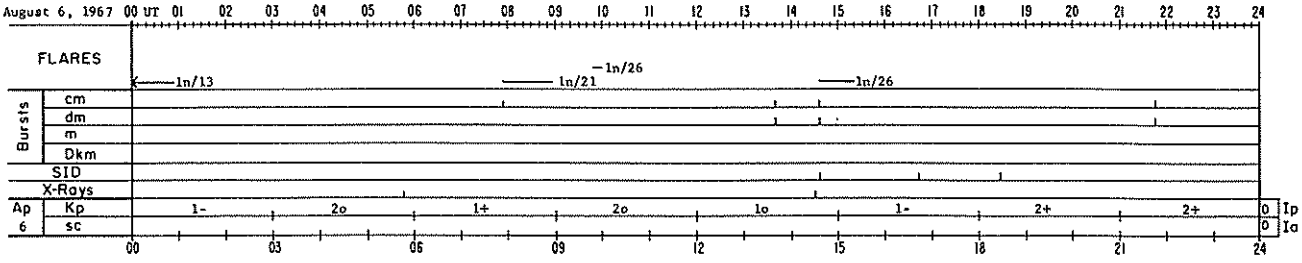


145 10 cm flux
95 Rz
CMP Region 8915 N19



151 10 cm flux
103 Rz
CMP Region 8922 N40

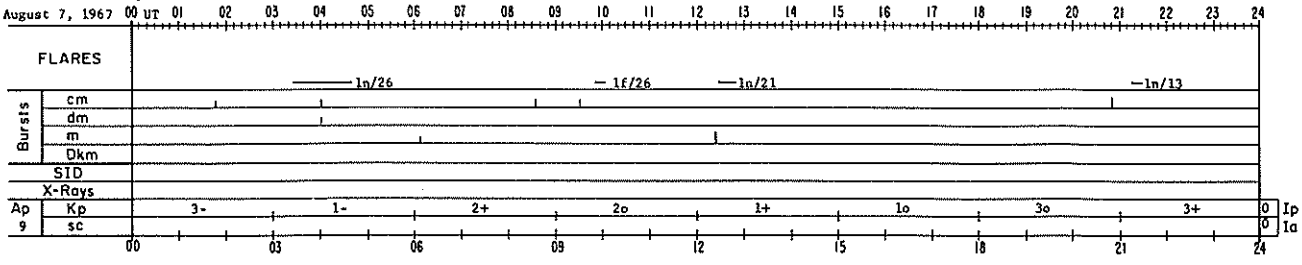
Ionospheric F region slightly disturbed in some sectors.



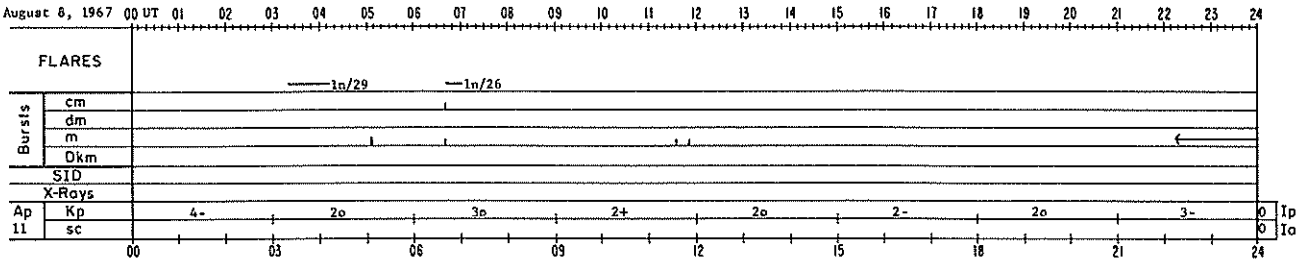
151 10 cm flux
106 Rz

One of the ten magnetically quiet days.

CMP Region 8916 N23(162)
Region (8931) S20
Region (8932) N14
16452 N17(Bp)2
(16455) N18(αp)4

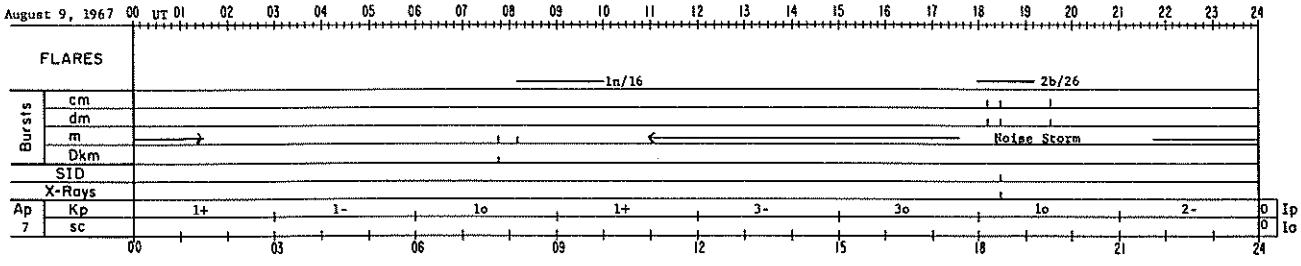


146 10 cm flux
98 Rz
CMP Region 8920 S22
16451 N19(Bp)5
(16457) S20(Bf)1
(16458) N24(Bp)2



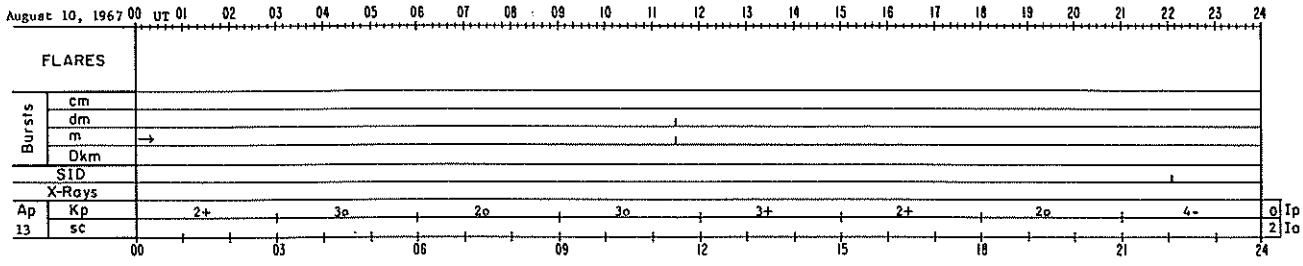
140 10 cm flux
119 Rz
CMP Region 8927 N20
Region 8923 S08

Ionospheric F region slightly disturbed.



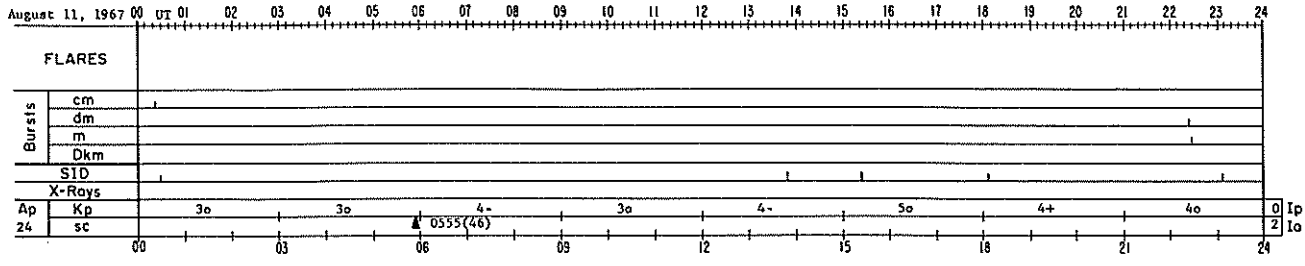
137 10 cm flux
107 Rz
CMP 16451 N19(Bp)5

One of the ten magnetically quiet days.



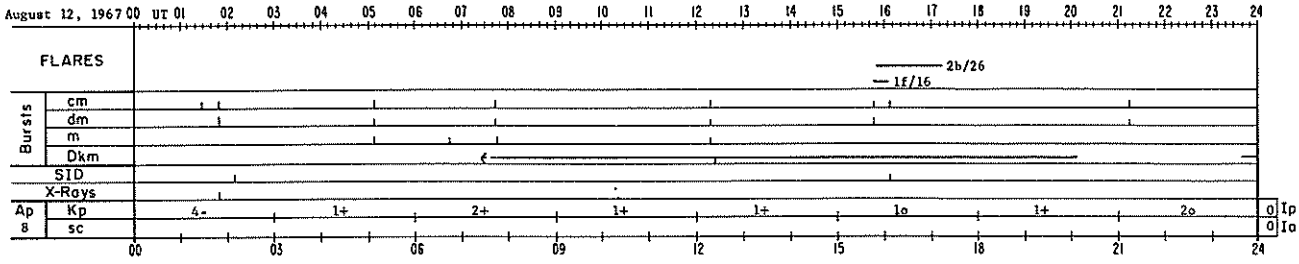
133 10 cm flux
91 Rz
CMP Region 8921 N23

One of the five most magnetically disturbed days.



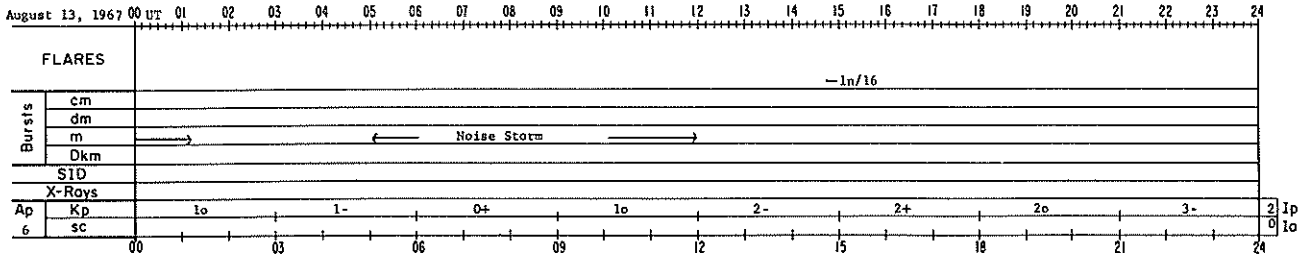
133 10 cm flux
94 Rz
CMP Region 8925 N28
(16454) N24(αf)1

One of the five most magnetically disturbed days; ionospheric F region disturbed.



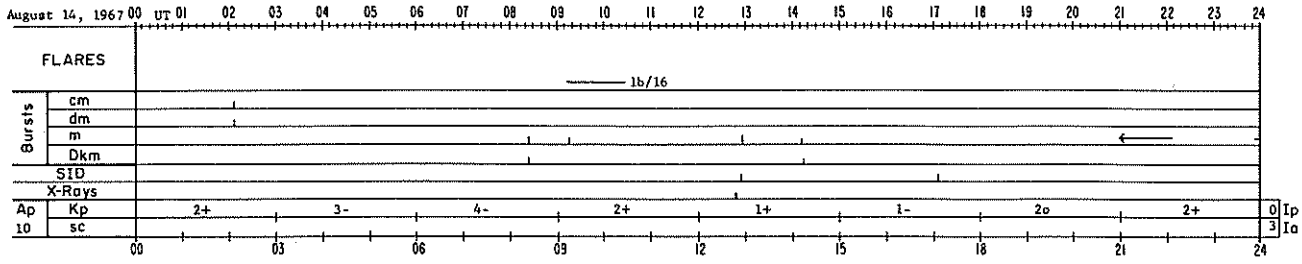
135 10 cm flux
77 Rz
CMP Region 8928 N13
Region 8926 S22(2)
16453 S22(βp)5

Ionospheric F region disturbed.



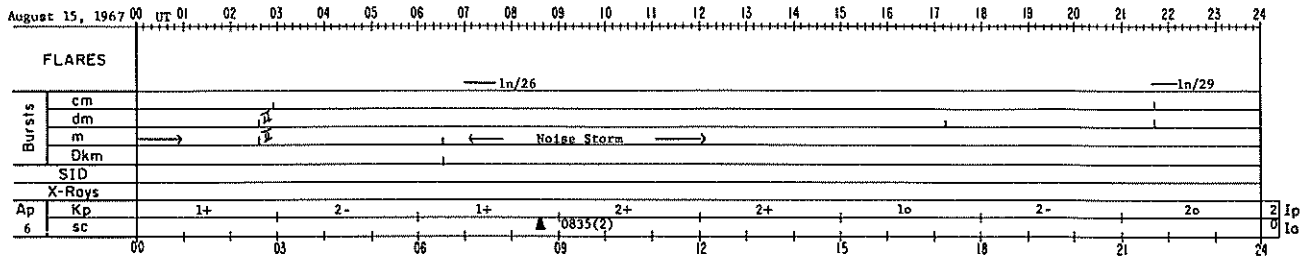
134 10 cm flux
75 Rz
CMP Region 8933 N25
Region 8929 S19(4)
16456 S16(βp)4
16461 N25(βp)2

One of the ten magnetically quiet days.

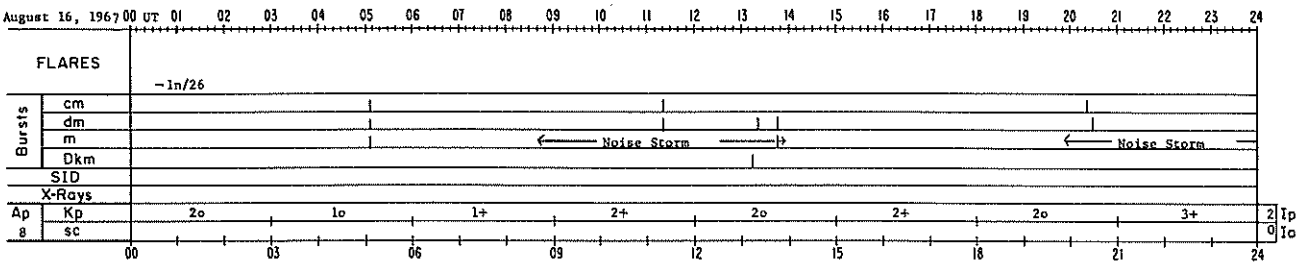


127 10 cm flux
66 Rz
CMP Region (8946) N15

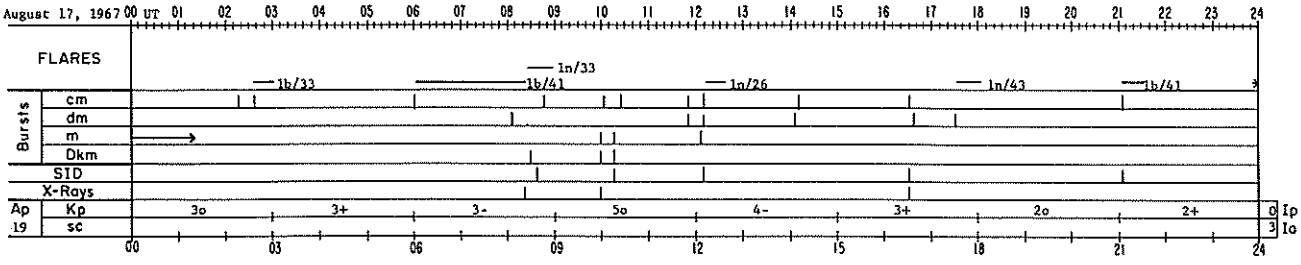
Ionospheric F region slightly disturbed in some sectors.



124 10 cm flux
61 Rz
CMP Region 8940 N19
16464 N20 βp

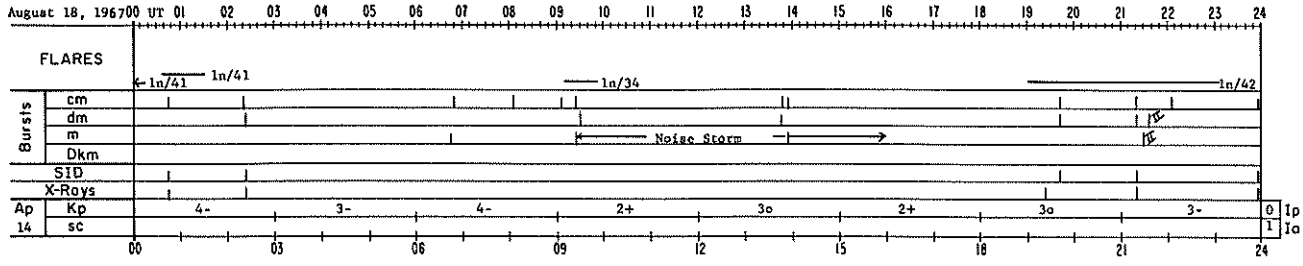


130 10 cm flux
77 Rz
CMP Region 8935 S18(5)
Region 8941 N12
Region 8936 N30(5)
16465 N10(βf)2



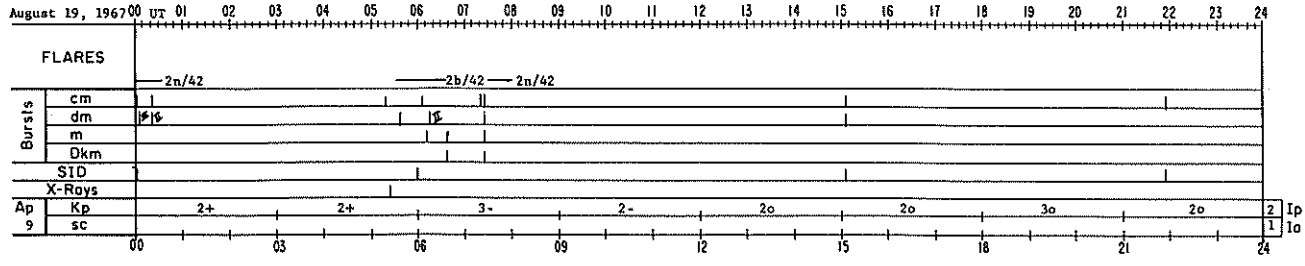
145 10 cm flux
95 Rz
CMP Region 8937 S24(5)

One of the five most magnetically disturbed days; ionospheric F region slightly disturbed.



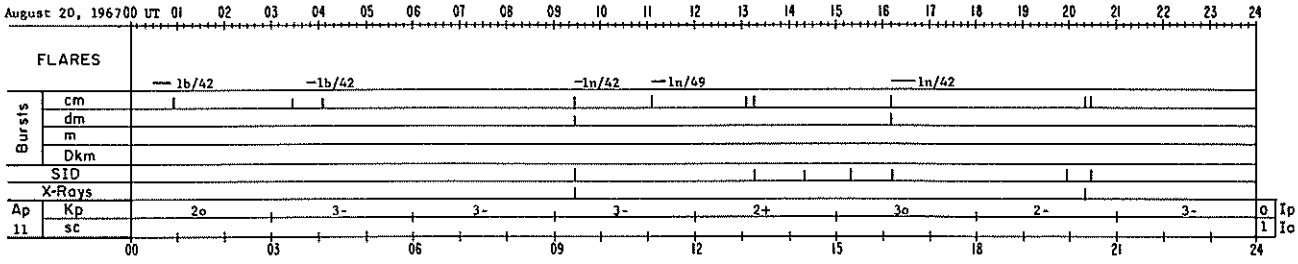
153 10 cm flux
114 Rz
CMP Region 8938 N21(4)

One of the five most magentically disturbed days; ionospheric F region disturbed.

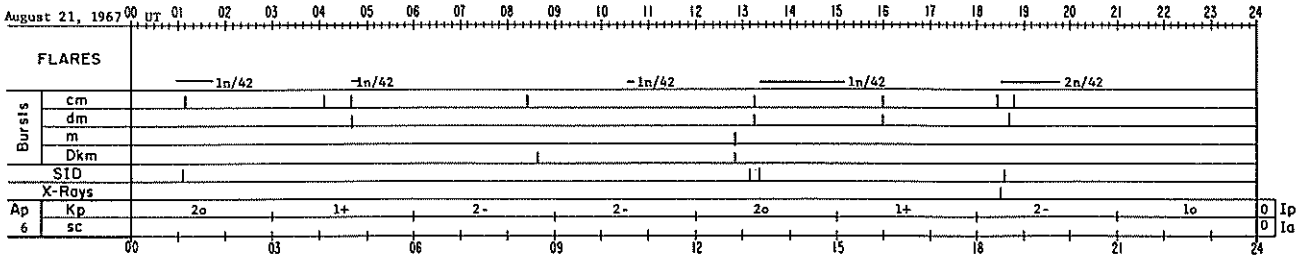


168 10 cm flux
110 Rz
CMP Region 8939 N36(5)
16463 S30 αp

Ionospheric F region slightly disturbed.

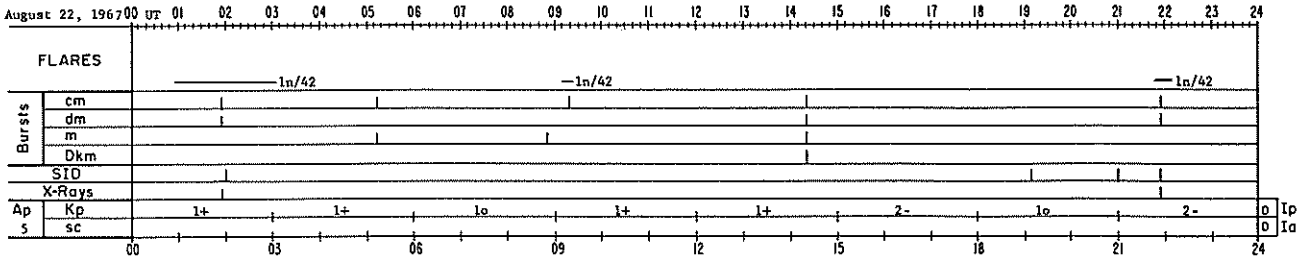


169 10 cm flux
113 Rz
CMP Region (8150) N11
Region 8934 S24(3)



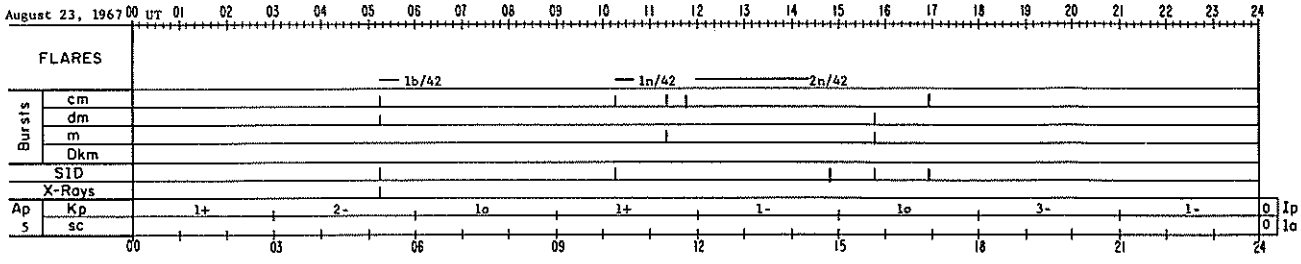
175 10 cm flux
120 Rz
CMP Region 8947 N11

One of the ten magnetically quiet days.



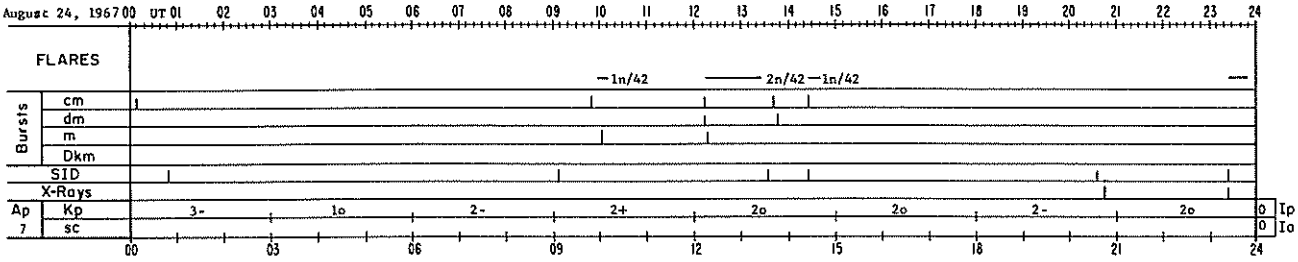
174 10 cm flux
123 Rz

One of the five magentically quiet days; ionospheric F region relatively quiet.

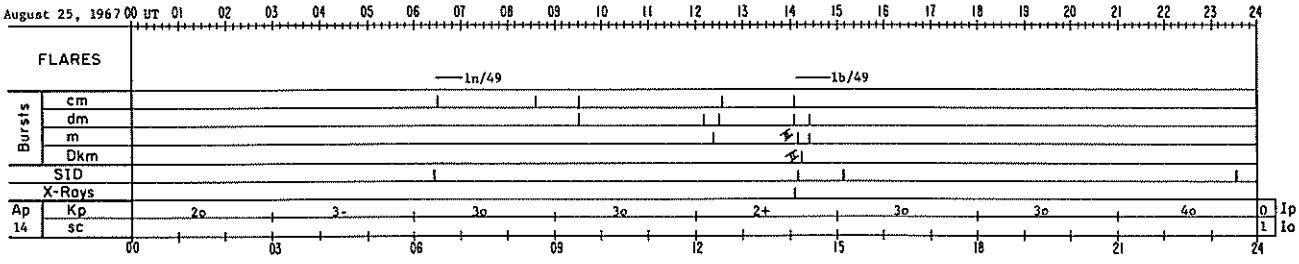


174 10 cm flux
122 Rz
CMP Region (8954) N24

One of the five magnetically quiet days; ionospheric F region relatively quiet.

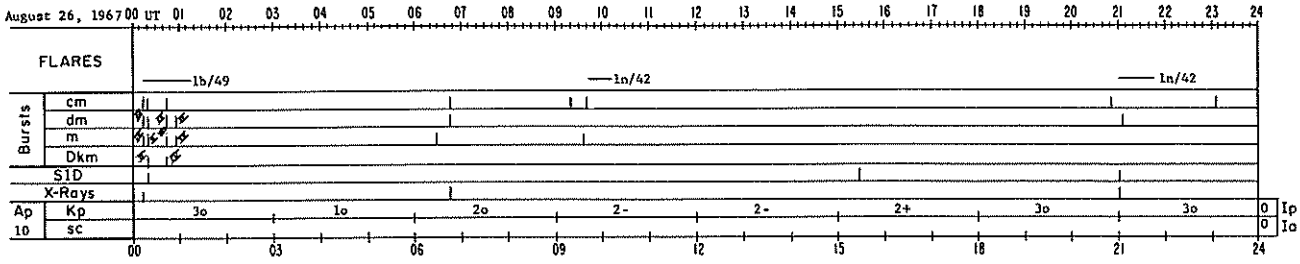


166 10 cm flux
122 Rz
CMP Region 8943 S32
16467 N14(β)1

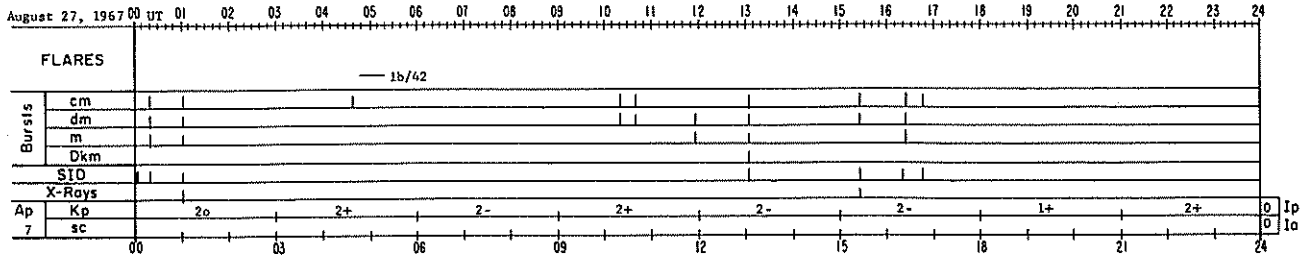


167 10 cm flux
130 Rz
CMP 16466 N23(δ)4

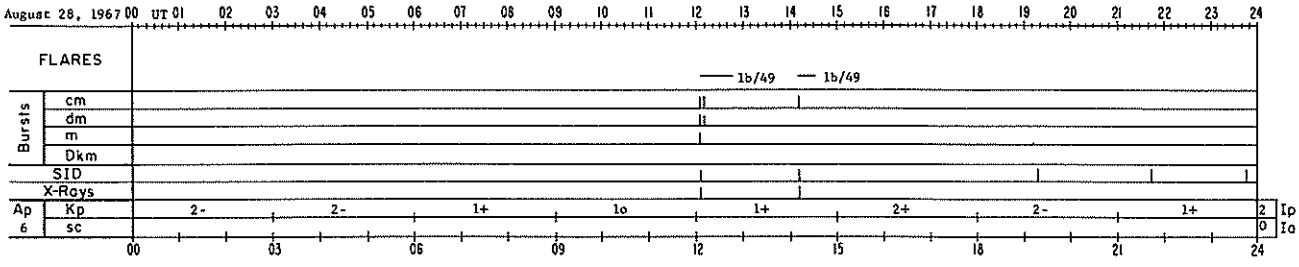
One of the five most magnetically disturbed days; ionospheric F region slightly disturbed; aurora overhead at $\phi = 61°$ in USSR at 1900; aurora overhead at $\phi = 59°$ in North America 0600-1100.



168 10 cm flux
125 Rz
CMP Region 8942 N23(264)
Region 8949 S21
16468 N13(βγ)3
16471 S20(βp)3

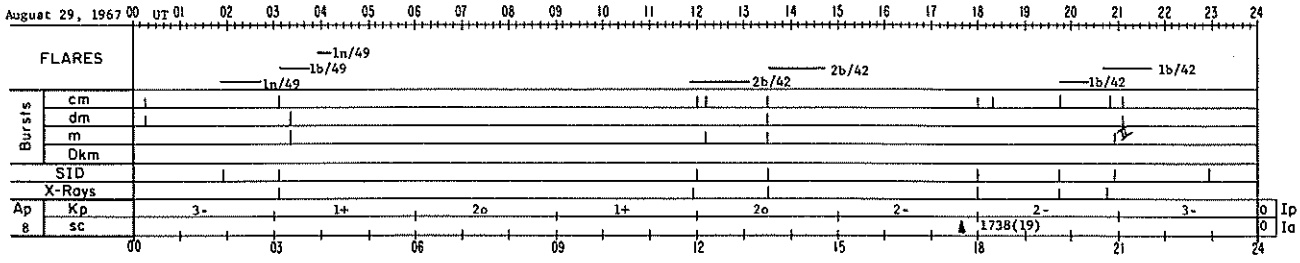


168 10 cm flux
121 Rz
CMP 16469 N14(αf)4

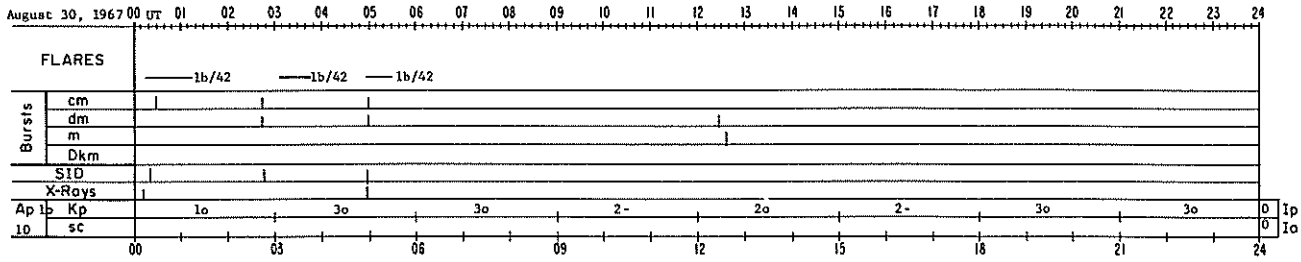


167 10 cm flux
119 Rz
CMP Region 8948 N17(4)

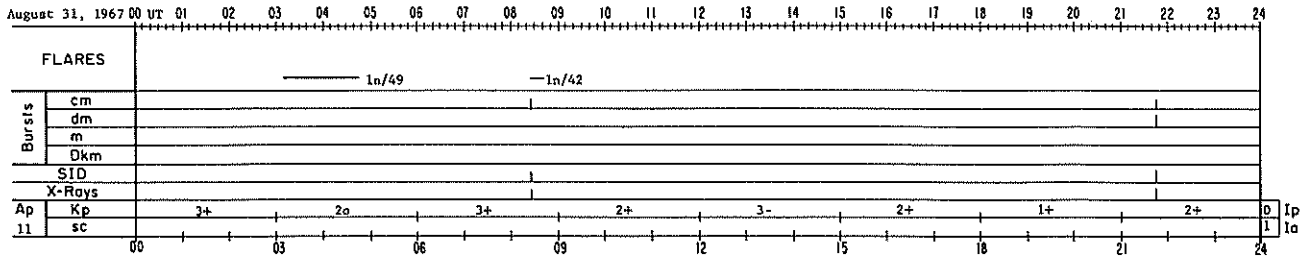
One of the ten magnetically quiet days.



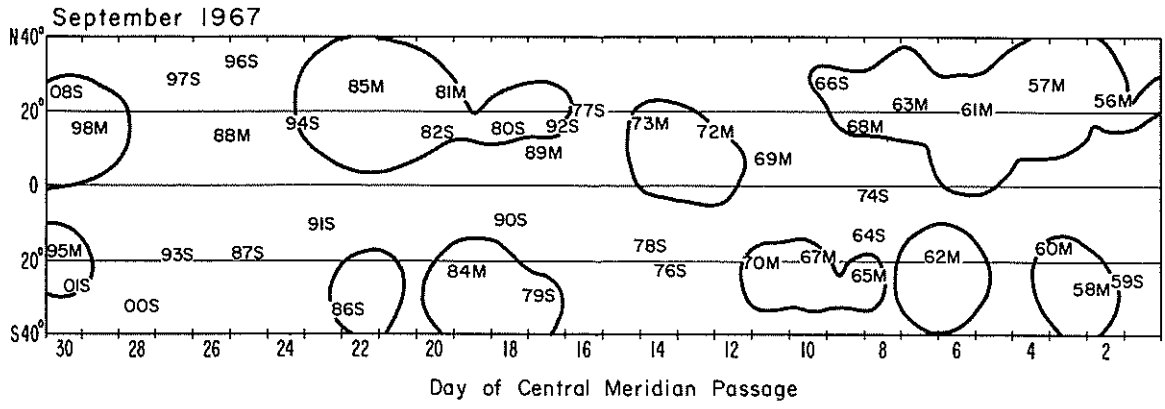
169 10 cm flux
111 Rz
CMP Region 8955 S21
(16480) N19(αp)1
16479 S20(Bp)2

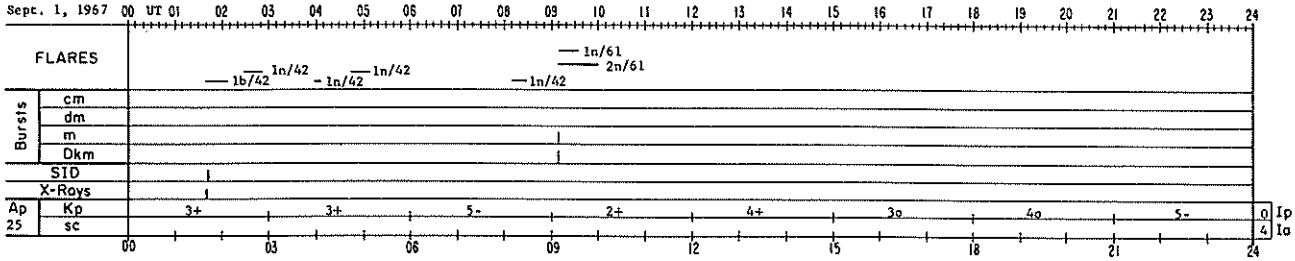


161 10 cm flux
121 Rz
CMP Region 8951 N11
Region (8971) S13



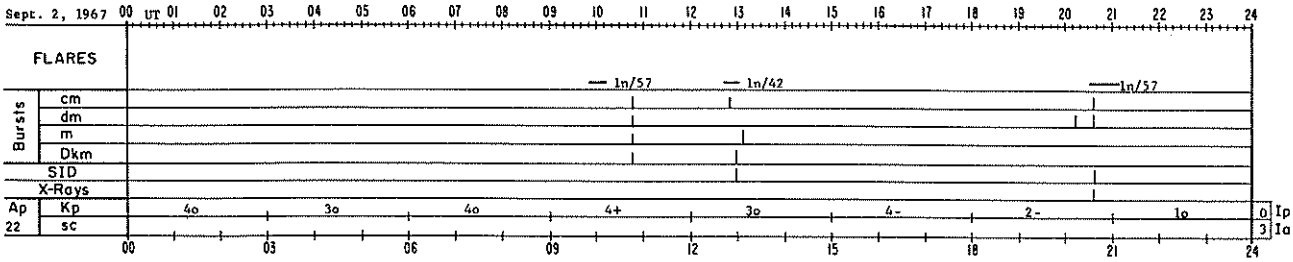
163 10 cm flux
129 Rz
CMP Region 8952 S22(4)
Region 8953 S32(2)





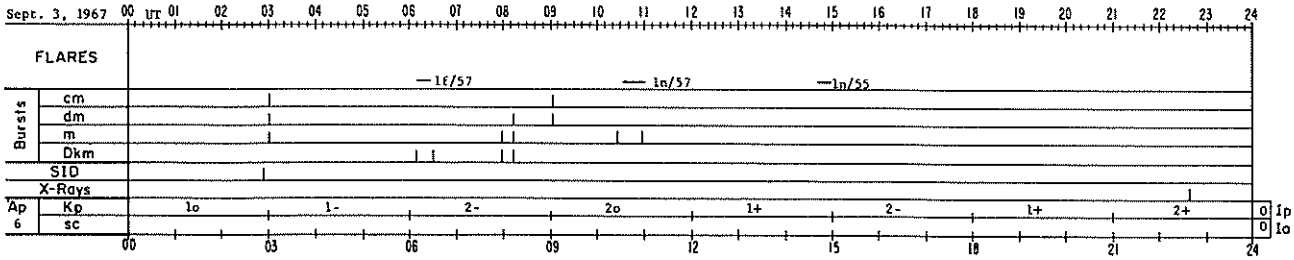
158 10 cm flux
123 Rz
CMP Region 8959 S25

Ionospheric F region disturbed; aurora overhead at ϕ = 57° in USSR at 1400; aurora overhead at ϕ = 56° in North America 0600-1100.



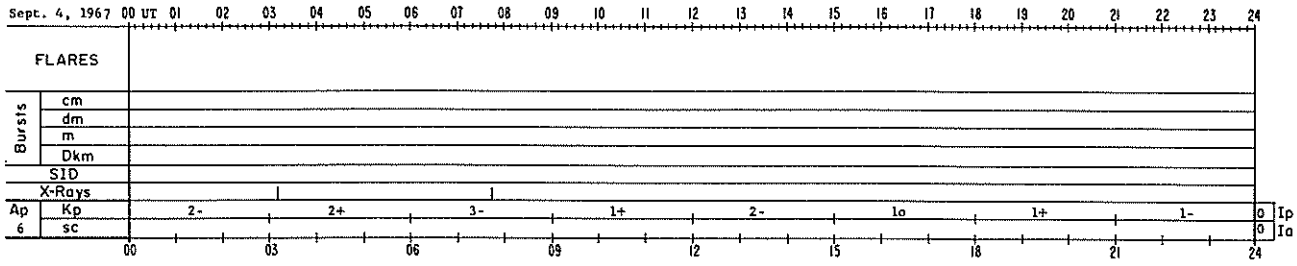
154 10 cm flux
115 Rz
CMP Region 8956 N23(3)

Ionospheric F region very disturbed; auroral rayed arc overhead in Western Europe at ϕ = 64° at 0315; aurora overhead at ϕ = 60° in USSR 1900-2100; aurora overhead at ϕ = 59° over North America 0000-0500.

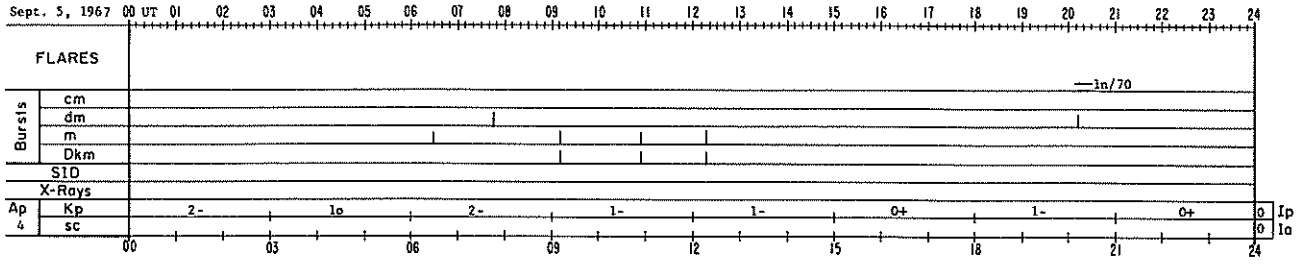


145 10 cm flux
119 Rz
CMP Region 8958 S27
16475 N26(By)4
16492 S20(Bp)4

One of the ten magnetically quiet days.

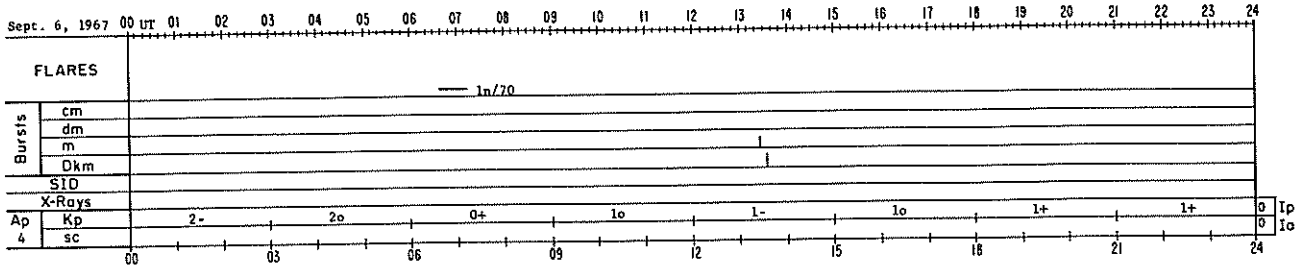


139 10 cm flux
121 Rz
CMP Region 8960 S17(2)
Region 8957 N27(2)



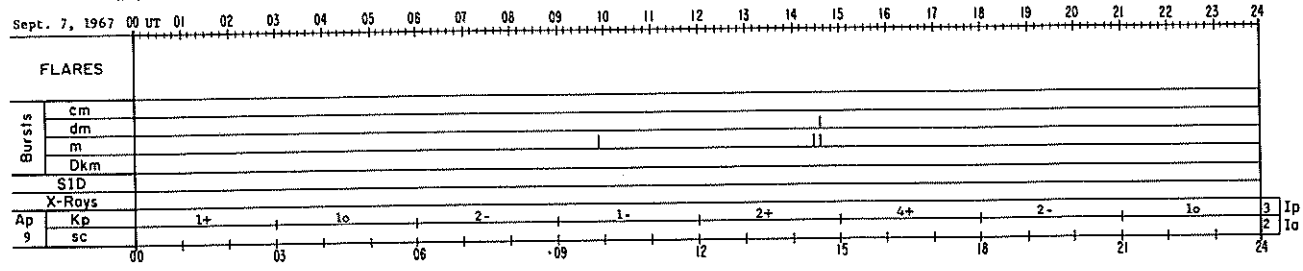
136 10 cm flux
125 Rz

One of the five magnetically quiet days; bright green corona observed 7 days later on NW limb.

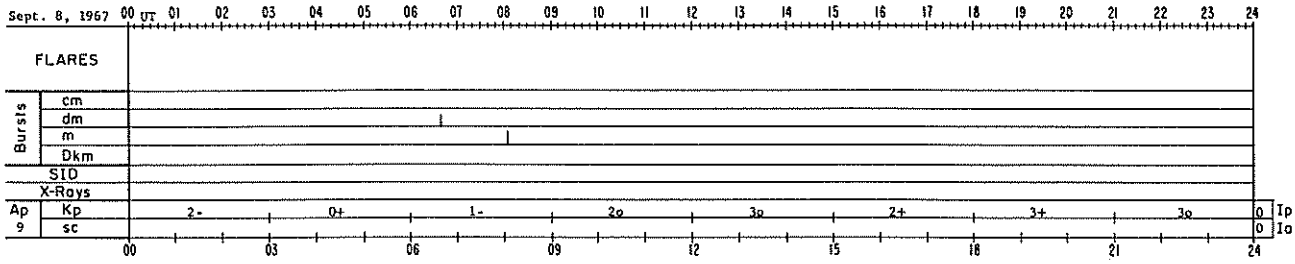


132 10 cm flux
120 Rz
CMP Region 8961 N20(263)
Region 8962 S19
16482 N14(Bf)2
16483 N23(αp)1
16493 S22(Bf)2

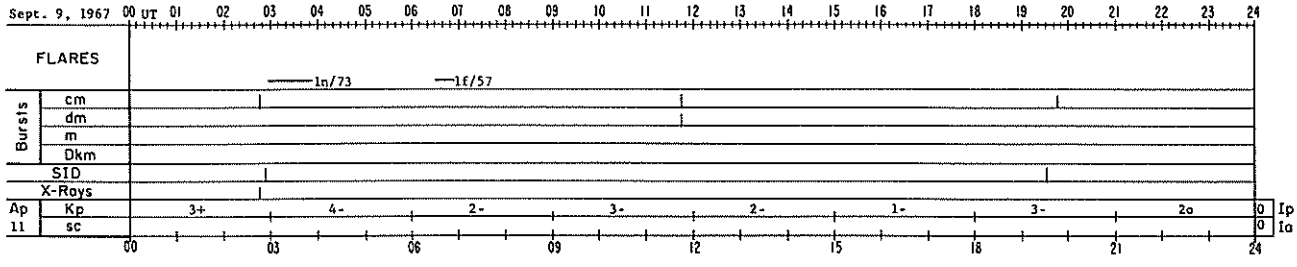
One of ten magnetically quiet days; ionospheric F region relatively quiet.



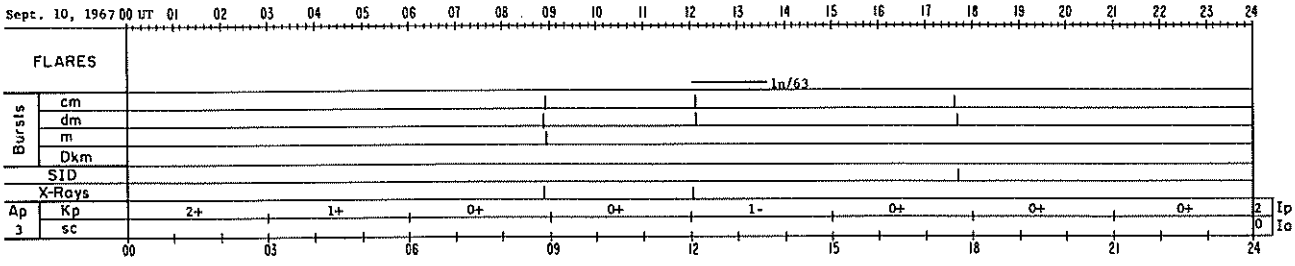
126 10 cm flux
109 Rz
CMP Region 8963 N22(162)
16495 N23(αp)1



132 10 cm flux
104 Rz
CMP Region (8974) S03
8964 S14(3)
16494 S22(αp)3

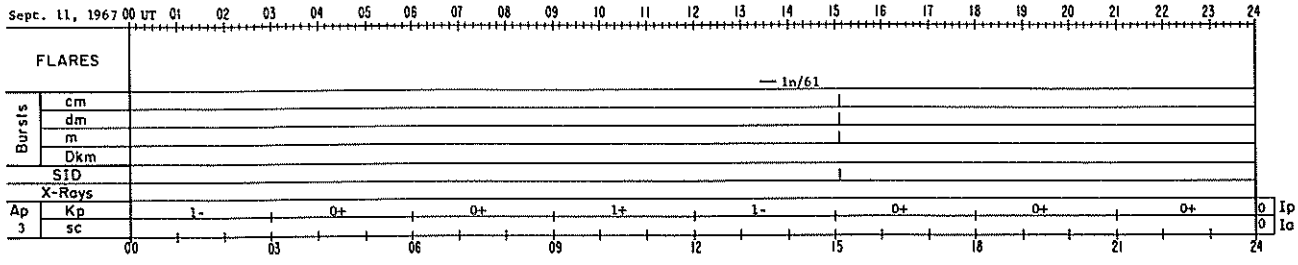


130 10 cm flux
99 Rz
CMP Region 8965 S25(3)
Region 8968 N16(2)
8966 N27(2)
(16499) S22(αp)1



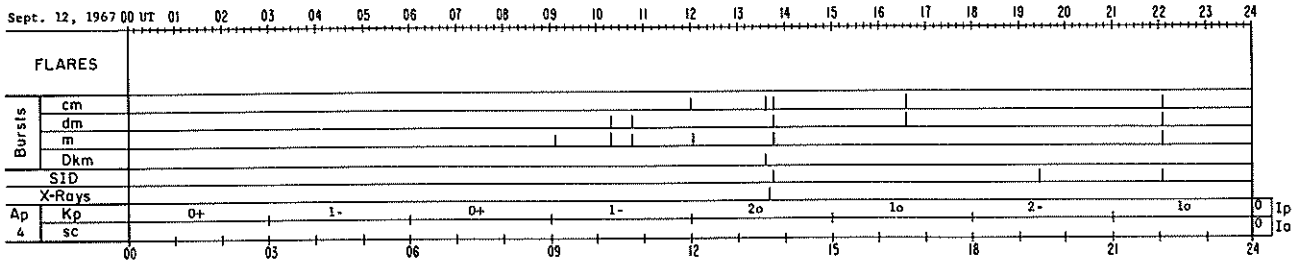
132 10 cm flux
95 Rz
CMP Region 8967 S19(5)

One of five magnetically quiet days.



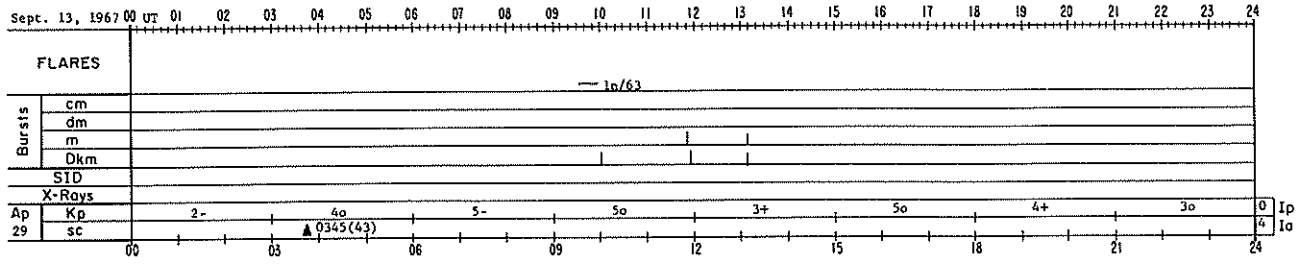
130 10 cm flux
77 Rz
CMP Region 8969 N07
Region 8970 S20
16497 S20(αp)4

One of five magnetically quiet days; ionospheric F region relatively quiet.



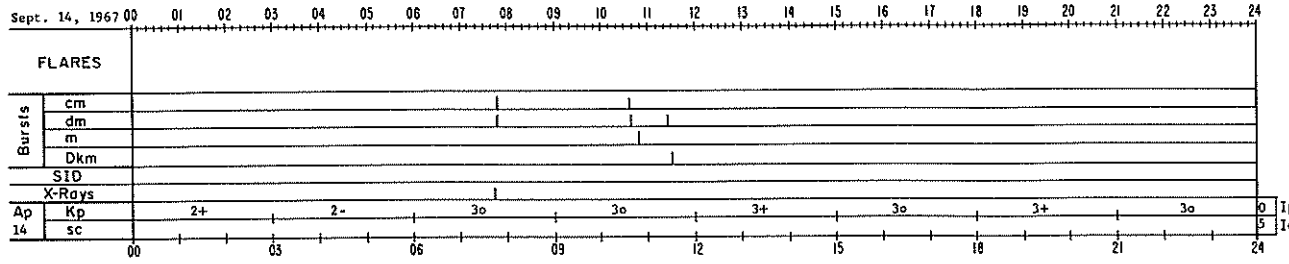
130 10 cm flux
79 Rz

One of five magnetically quiet days; ionospheric F region relatively quiet.



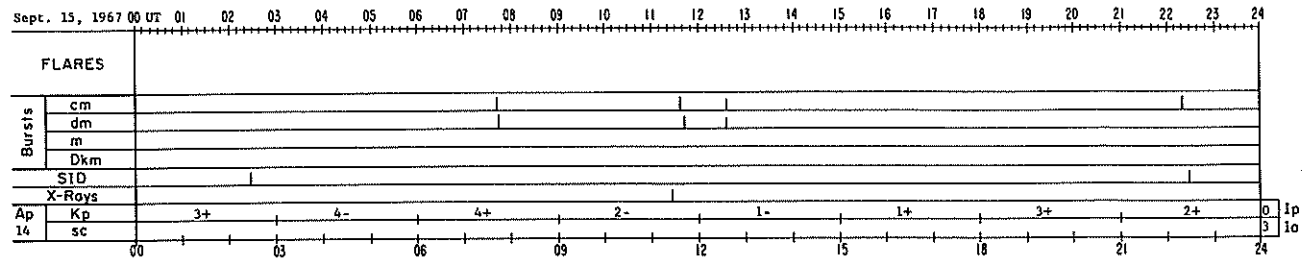
126 10 cm flux
65 Rz
CMP Region 8972 N14(2)

Ionospheric F region disturbed; auroral rayed band and rays overhead in Western Europe at ϕ = 63° at 2250; aurora overhead at ϕ = 57° in USSR 1700-2000 and at ϕ = 58°, 1900-2100; aurora overhead at ϕ = 59° over North America 0000-0500 and at ϕ = 58° 0600-1100.



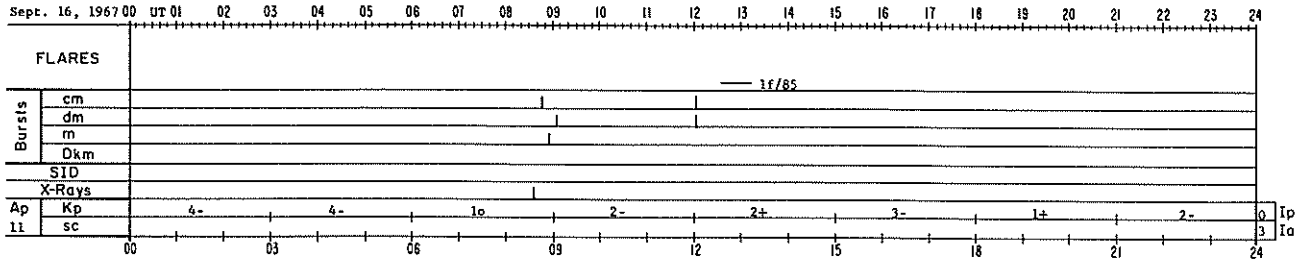
126 10 cm flux
51 Rz
CMP Region 8976 S23(6)
Region 8978 S16(6)
Region 8973 N17
16500 N11(Bp)2

Ionospheric F region disturbed with some auroral blackout at high latitudes; aurora overhead at ϕ = 55° in USSR from 1600-1700 and at ϕ = 57° at 1500, 1900-2200.

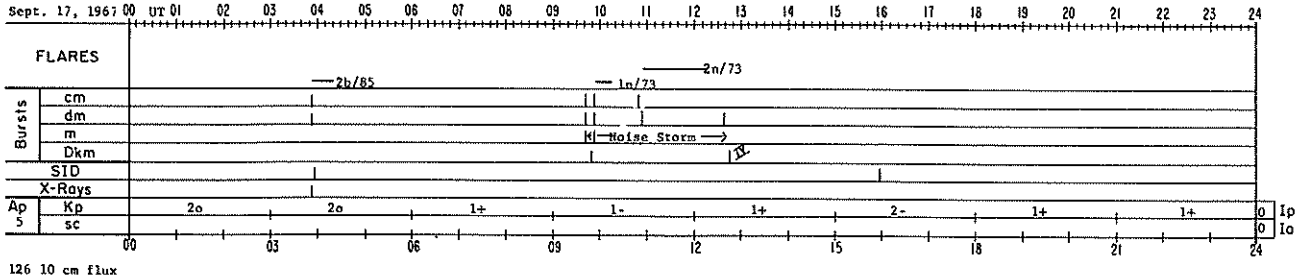


129 10 cm flux
36 Rz

Some ionospheric auroral blackout at high latitudes; homogeneous auroral arc over mid-Atlantic at ϕ = 64° at 0445; aurora overhead at ϕ = 58° in USSR at 0000, 1500 and 2000-2300.

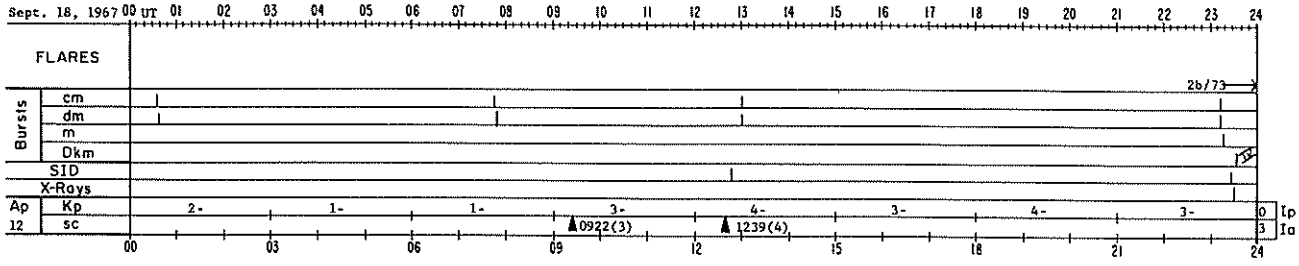


125 10 cm flux
39 Rz
CMP Region (8977) N20

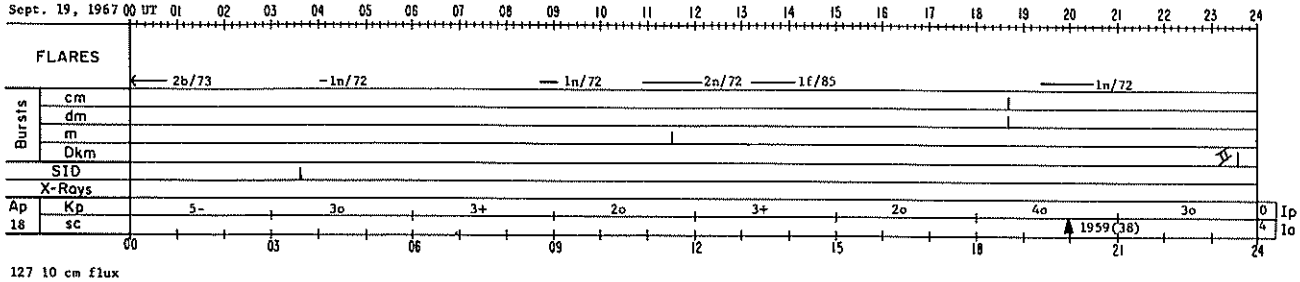


126 10 cm flux
44 Rz
CMP Region (8992) N17
Region (8989) N09
Region 8979 S30(4)
16502 S29(αp)4

One of ten magnetically quiet days; ionospheric F region relatively quiet.

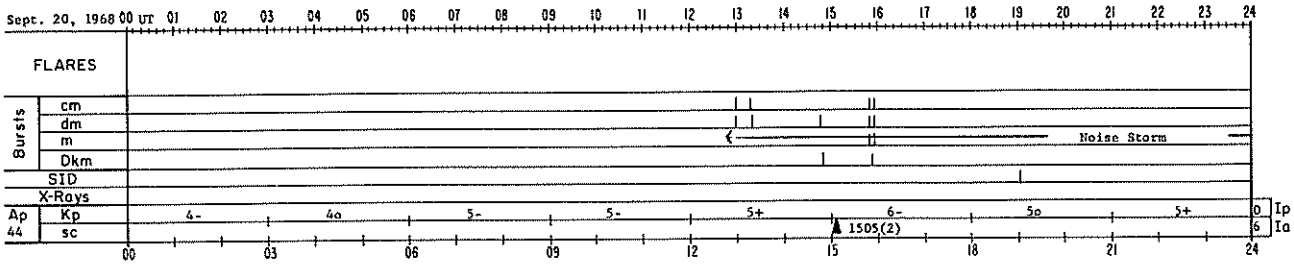


128 10 cm flux
50 Rz
CMP Region (8990) S10
Region 8980 N15



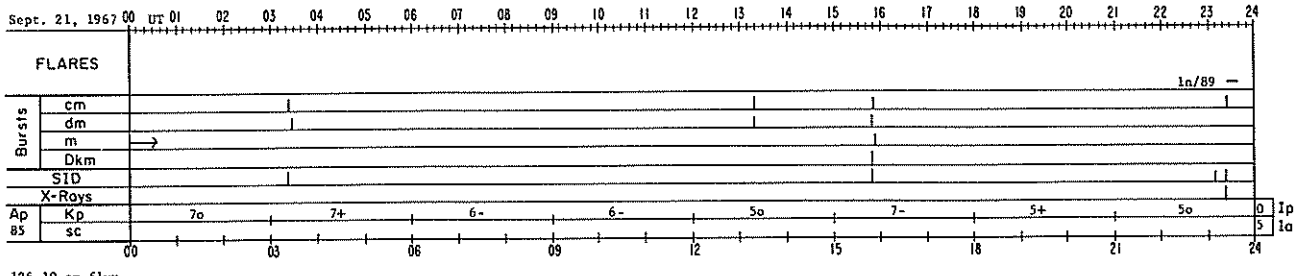
127 10 cm flux
59 Rz
CMP Region 8984 S23
16503 S24(βγ)5

Aurora overhead at ϕ = 59° in USSR from 1900-2000; bright green corona observed 7 days earlier on SE limb.



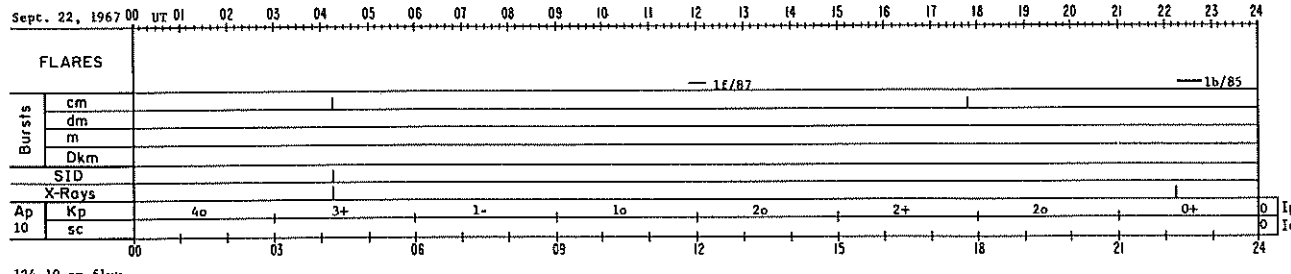
130 10 cm flux
63 Rz
CMP Region 8981 N25(2)
Region 8982 N14(3)

One of five most magnetically disturbed days--a moderately severe storm; cosmic ray decrease of about 5% during day; ionospheric F region very disturbed with auroral blackout at high latitudes; mainly cloudy over Western Europe but extremely vivid auroral display seen through breaks in cloud over the Atlantic from 2210 to 0800; aurora overhead at ϕ = 56° in USSR from 1300-1400 and at ϕ = 57° from 1000-1200 and 1500-1700, 2000-2200; aurora overhead at ϕ = 59° in North America 0000-0500; bright green corona observed 7 days earlier on NE limb.



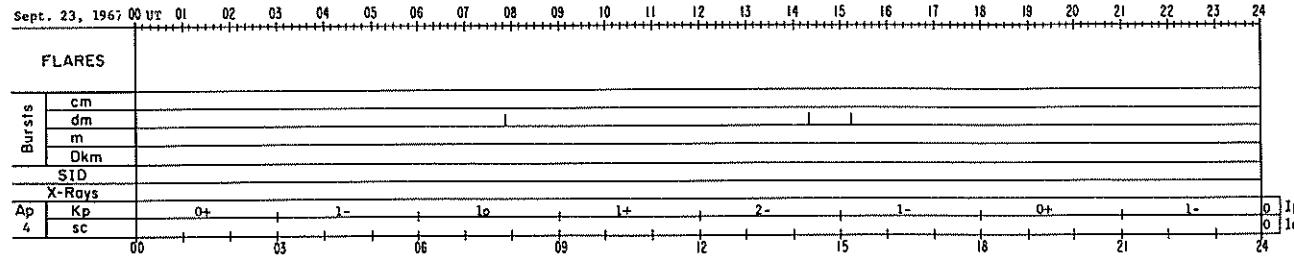
126 10 cm flux
67 Rz

One of the five most magnetically disturbed days--a severe storm; cosmic ray intensity begins recovery; ionospheric F region very disturbed with auroral blackout at high latitudes; auroral arc over Western Europe at ϕ = 63° at 2230; aurora overhead at ϕ = 54° in USSR from 1200-1300; at ϕ = 56° 2000-2100 and at ϕ = 59° 1800-2100; aurora over North America at ϕ = 58° 0000-0500 and at ϕ = 57° 0600-1100; aurora over North America at ϕ = 56° 0000-0500 and ϕ = 57° 0600-1100.



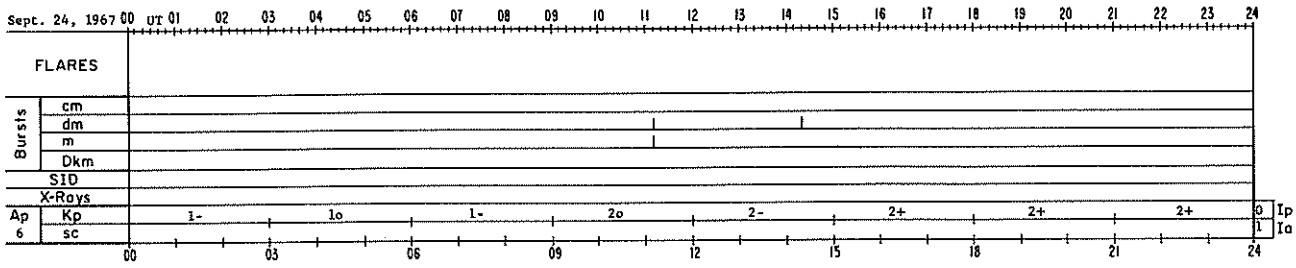
124 10 cm flux
62 Rz
CMP Region 8983 S21(2)
Region 8985 N27(3)
Region 8986 S34(2)

Ionospheric F region disturbed; cosmic ray recovery continues; aurora overhead at ϕ = 58° in USSR 0000, 0200 and 1900 and at ϕ = 60° 1300-1400.



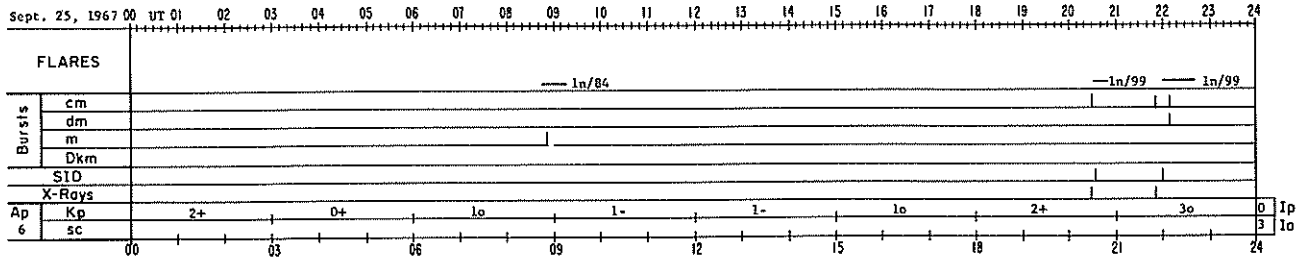
123 10 cm flux
55 Rz
CMP Region 8991 S11

One of the five magnetically quiet days; cosmic ray recovery continues.

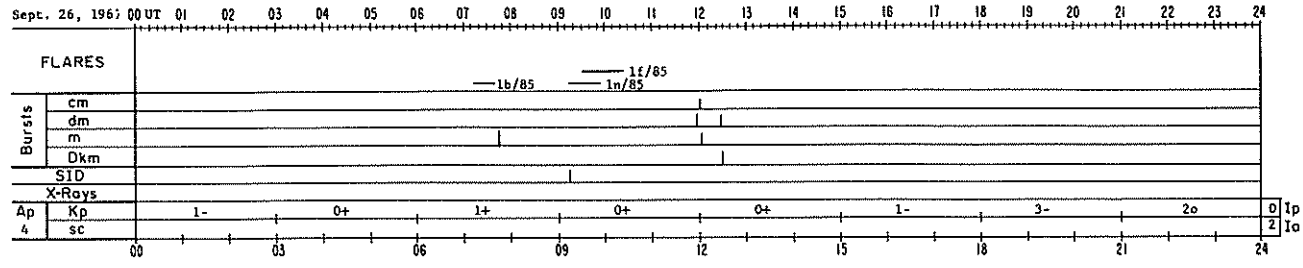


131 10 cm flux
51 Rz
CMP Region 8994 N16(5)

Ionospheric F region relatively quiet; cosmic ray recovery complete by end of day.

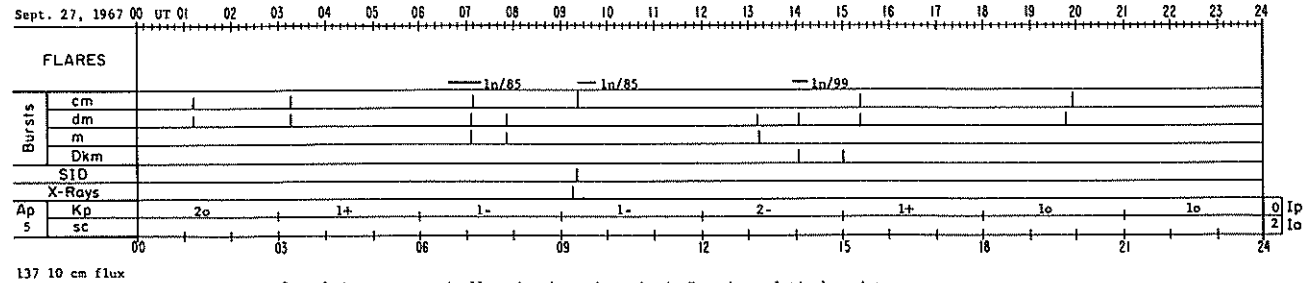


133 10 cm flux
61 Rz
CMP Region 8988 N14(2)
Region 8987 S18(2)
Region 8996 N33



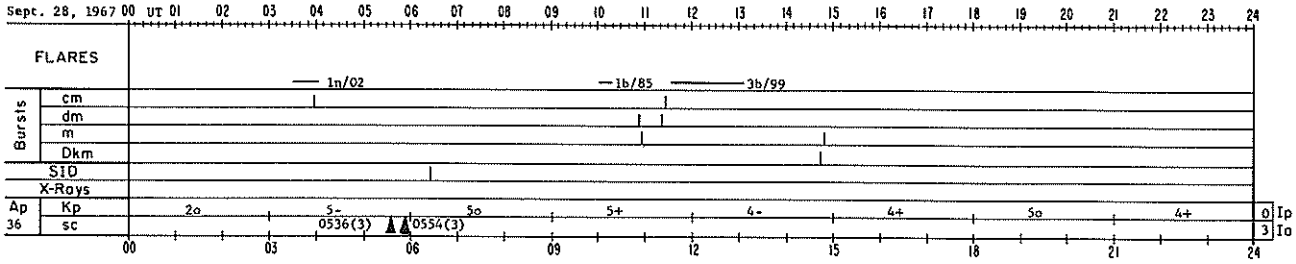
134 10 cm flux
53 Rz
CMP Region (8988a) N11

One of the ten magnetically quiet days; ionospheric F region relatively quiet.



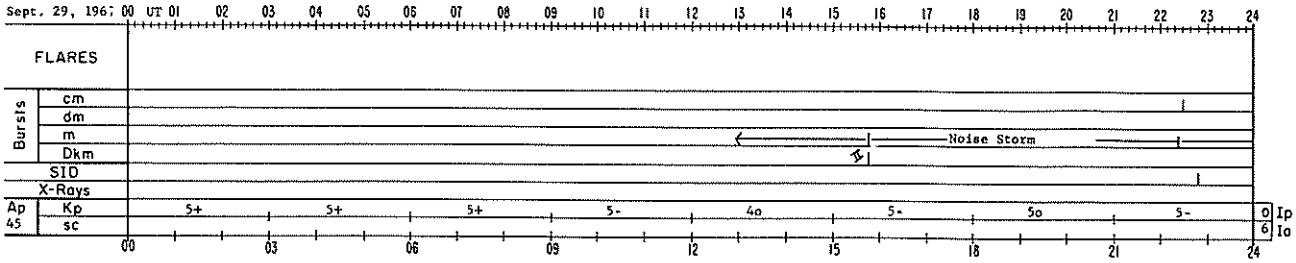
137 10 cm flux
50 Rz
CMP Region 8997 N29
Region (8993a) S20
Region 8993 S17(5)

One of the ten magnetically quiet days; ionospheric F region relatively quiet.



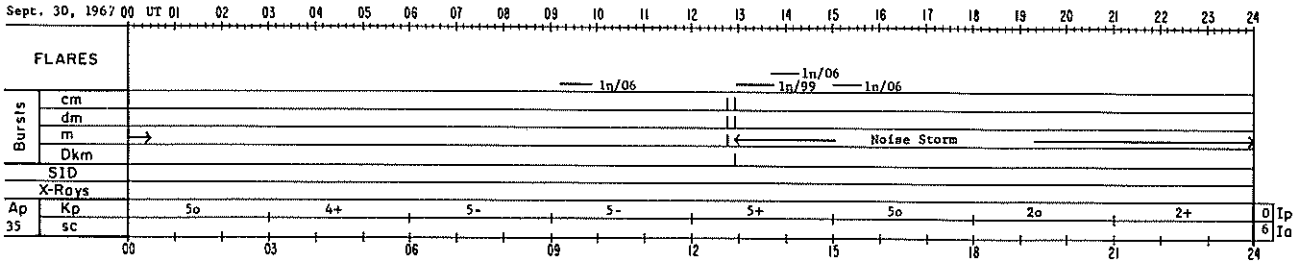
134 10 cm flux
71 Rz
CMP Region 9000 S33(3)

One of the five most magnetically disturbed days--a moderate storm; ionospheric F region disturbed; bright auroral rayed band, sometimes accompanied also by rayed arc, visible sunset to sunrise over Western Europe and the Atlantic to $\phi = 56°$; aurora overhead at $\phi = 56°$ in USSR at 1600 and 2200-2300, at $\phi = 57°$ 1100-1300, 1500 and 1700-1900, at $\phi = 58°$ 2000-2200 and at $\phi = 59°$ 1800-1900; aurora overhead at $\phi = 56°$ in North America 0600-1100.



131 10 cm flux
66 Rz
CMP Region 8998 N15
16514 N15(αp)1

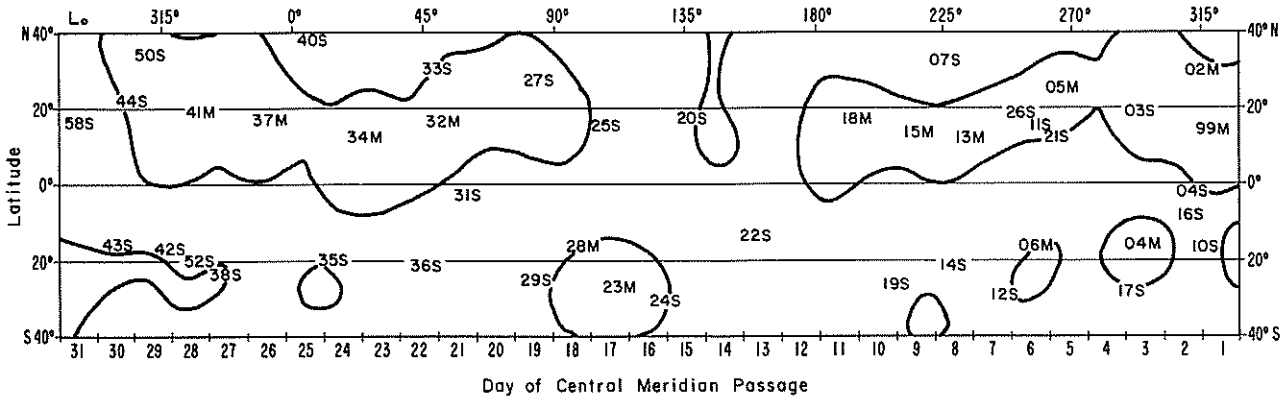
One of the five most magnetically disturbed days--moderate storm continues; ionospheric F region very disturbed with auroral blackout at high latitudes; homogeneous auroral arc, occasionally rayed, visible all night over Western Europe and the Atlantic at $\phi = 58°$; aurora overhead at $\phi = 54°$ in USSR at 1000, at $\phi = 56°$ 1700-2300 and at $\phi = 57°$ 1500 and 1800-2100; aurora overhead at $\phi = 56°$ in North America 0000-1100.

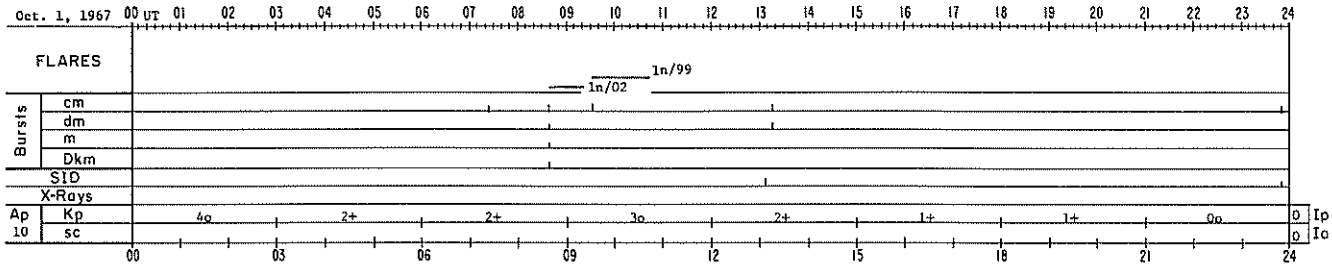


131 10 cm flux
74 Rz
CMP Region 9001 S27
Region (9008) N25
Region 8995 S18(3)
16511 N12(αp)5

One of five most magnetically disturbed days--moderate storm dies out at 1800; ionospheric F region very disturbed with auroral blackout at high latitudes; aurora overhead at $\phi = 57°$ in USSR 1500-1700, at $\phi = 59°$ 2000-2200 and at $\phi = 60°$ 2300; aurora overhead at $\phi = 57°$ in North America 0600-1100.

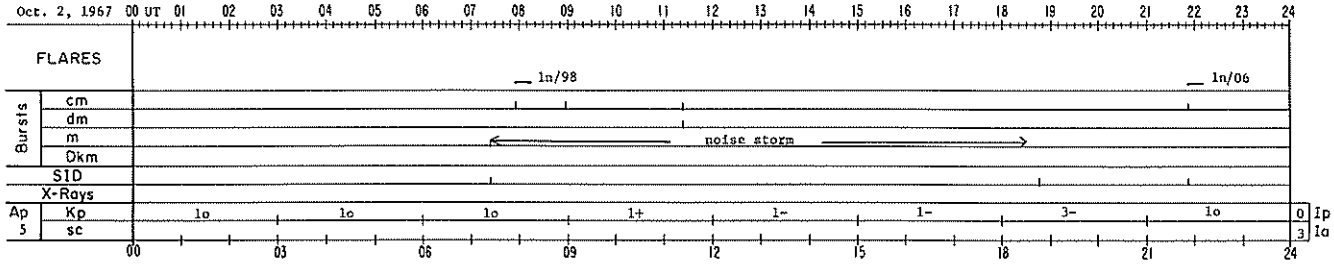
OCTOBER 1967





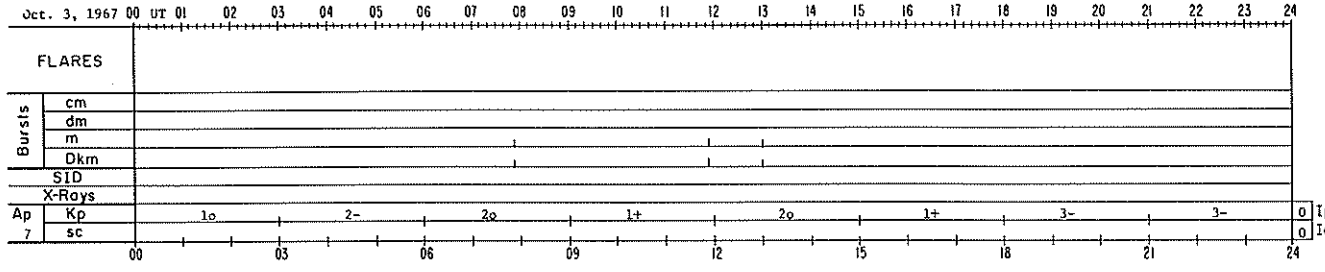
139 10 cm flux
76 Rz
CMP 8999 N13

Br. green corona 7 days later on SW and NW limb; ionospheric F region disturbed in some sectors with some auroral blackout.



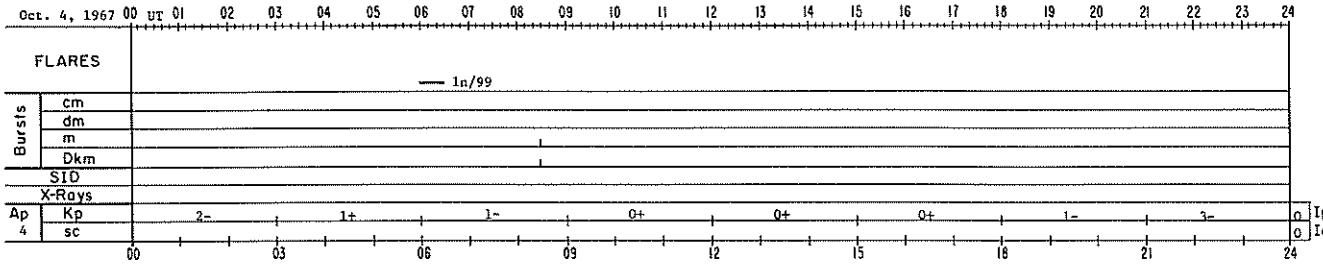
135 10 cm flux
77 Rz
CMP (9010) S18 (16518) S20 (βγ)2
9002 N26(3) 16510 N20 (αp)1
(9009) S03
(9016) S10

One of ten magnetically quiet days; aurora overhead at ϕ = 57° in USSR 1200-1800; br. green and br. red corona 7 days earlier on SE limb, br. green corona 7 days later on NW and SW limb.



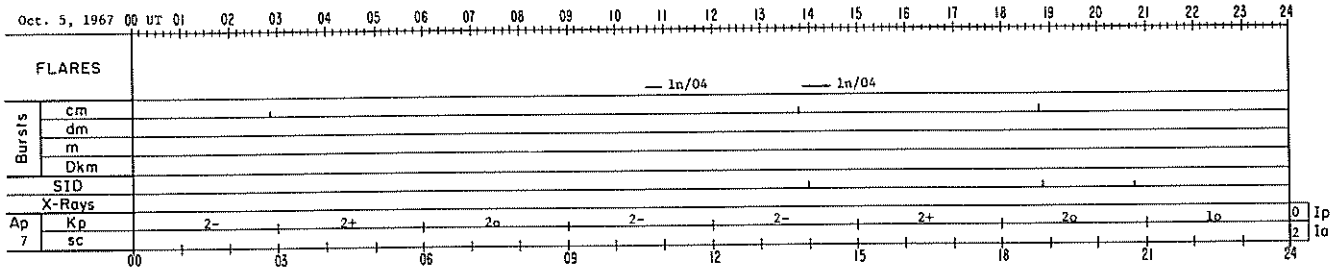
131 10 cm flux
95 Rz
CMP 9004 S16 16512 S15 (αp)4
9003 N19(3)
(9017) S29

Aurora overhead in USSR at ϕ = 57° 1300-1700 and at ϕ = 59° 1700-2000; ionospheric F region relatively quiet; br. green corona 7 days earlier on NE limb and 7 days later on NW and SW limb.



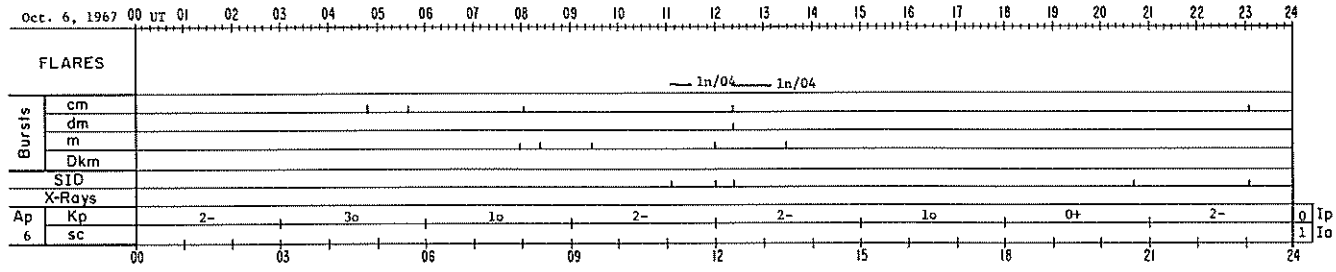
130 10 cm flux
98 Rz

One of ten magnetically quiet days; ionospheric F region relatively quiet.



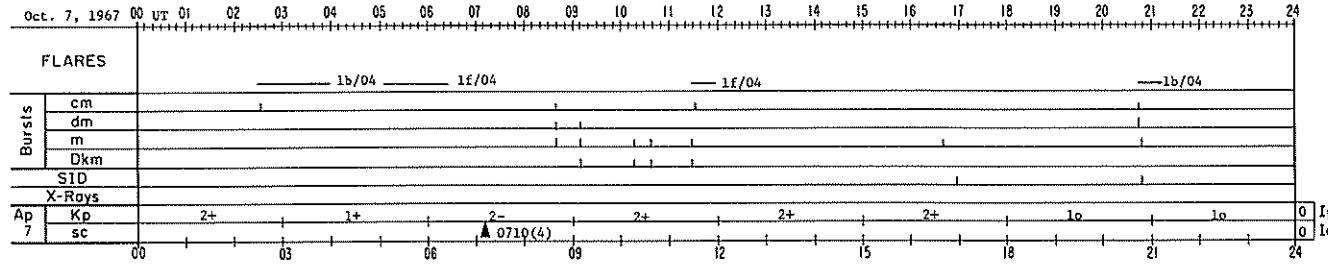
126 10 cm flux
103 Rz
CMP 9005 N25(2) (16526) N23 (βf)2
(9021) N11 16520 N14 (αp)1
(16522) N12 (βp)3

Br. green corona 7 days earlier on NE limb.



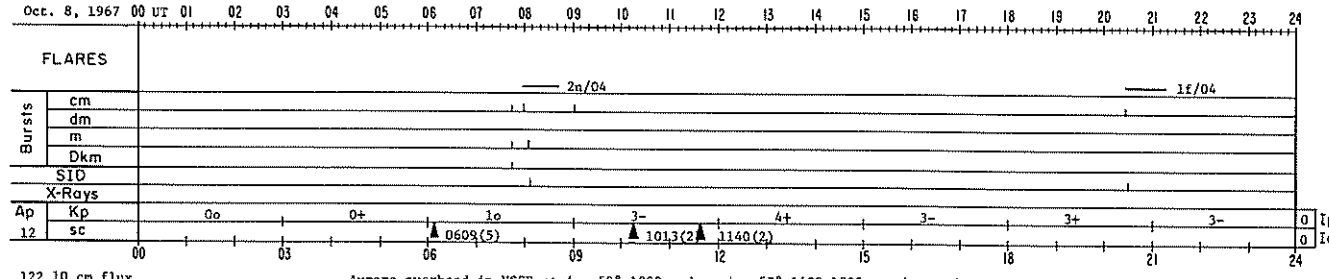
130 10 cm flux
98 Rz
CMP 9011 N13
9006 S17 16515 S18 (αp)3
(9026) N18
16521 N23 αf

Aurora overhead in USSR at ϕ = 59° 1300-1400; br. green corona 7 days earlier on NE limb.



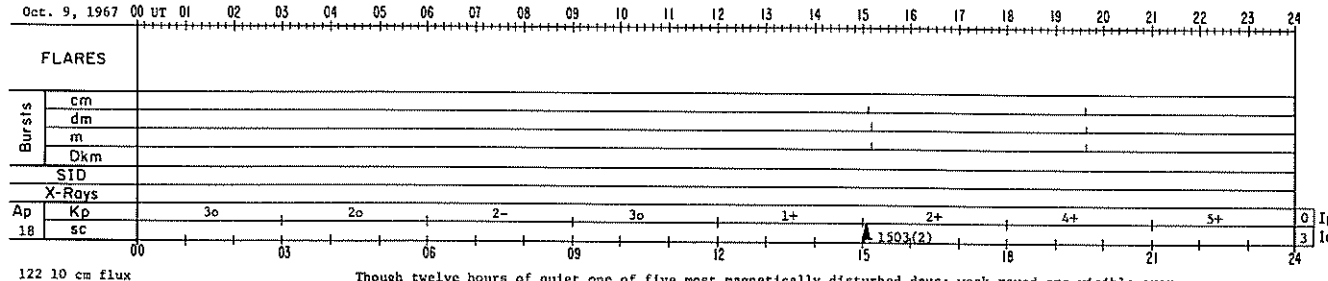
126 10 cm flux
92 Rz
CMP 9012 S30(4)

Br. green corona 7 days earlier on SE limb.



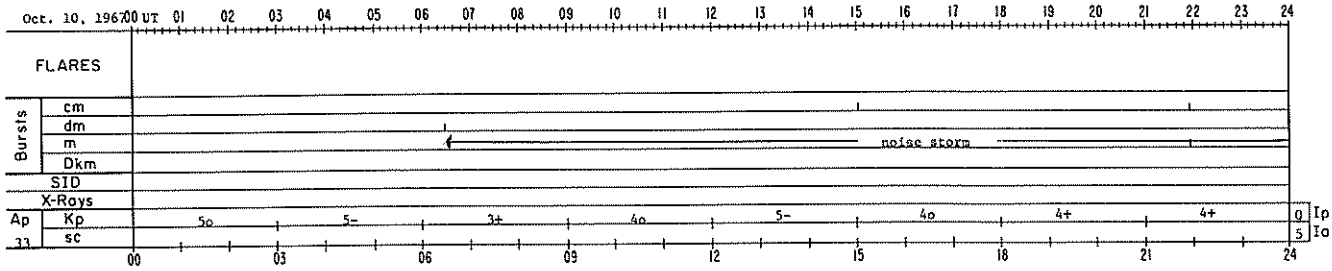
122 10 cm flux
76 Rz
CMP 9013 N12 16519 N11 (βp)2
9007 N29(3)
9014 S22(2) 16517 S26 (αp)4

Aurora overhead in USSR at ϕ = 59° 1300 and at ϕ = 57° 1400-1800; weak rayed arc visible from 2050-0130 over W. Europe to ϕ = 59°.



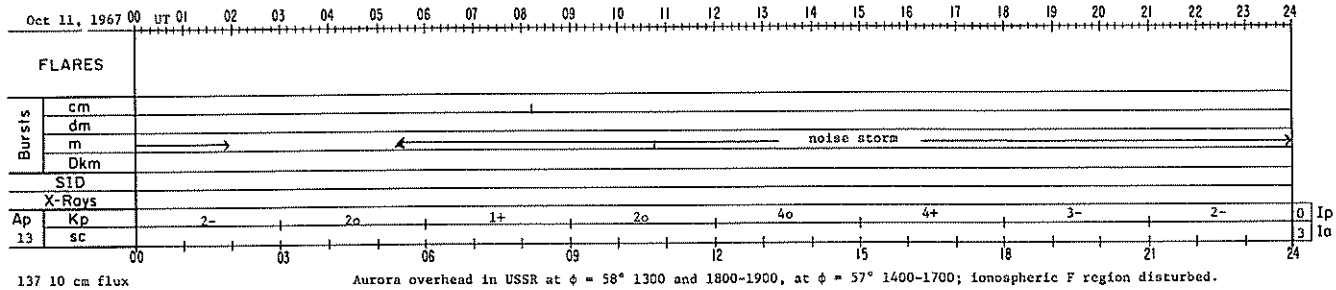
122 10 cm flux
80 Rz
CMP 9015 N14(3) 16523 N18 (βf)3

Though twelve hours of quiet one of five most magnetically disturbed days; weak rayed arc visible over W. Atlantic to ϕ = 59° 0200-0345; rayed arc with base overhead at ϕ = 65° and also homogeneous arc visible during all dark hours of night of October 9-10 over W. Europe and the Atlantic to ϕ = 57°; aurora overhead in USSR at ϕ = 59° at 1400, at ϕ = 60° 1500-2000 and 2300, at ϕ = 56° 2100-2200; ionospheric F region disturbed.



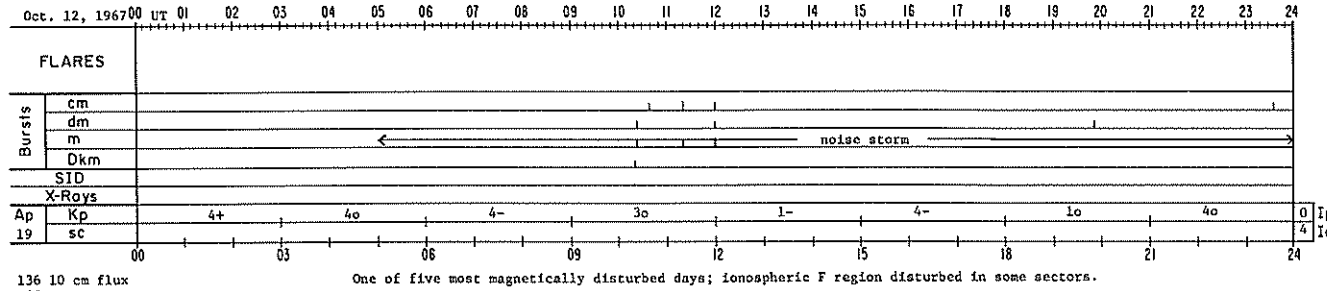
128 10 cm flux
82 Rz
CMP 9019 S27

One of five most magnetically disturbed days; aurora over N. America seen at ϕ = 58° 0000-0500; aurora overhead in USSR at ϕ = 57° 1100&1800, at ϕ = 55° 1200-1700; homogeneous arc developing in a rayed band visible over W. Europe at ϕ = 59° from 2000-2230; ionospheric F region very disturbed with considerable auroral blackout.



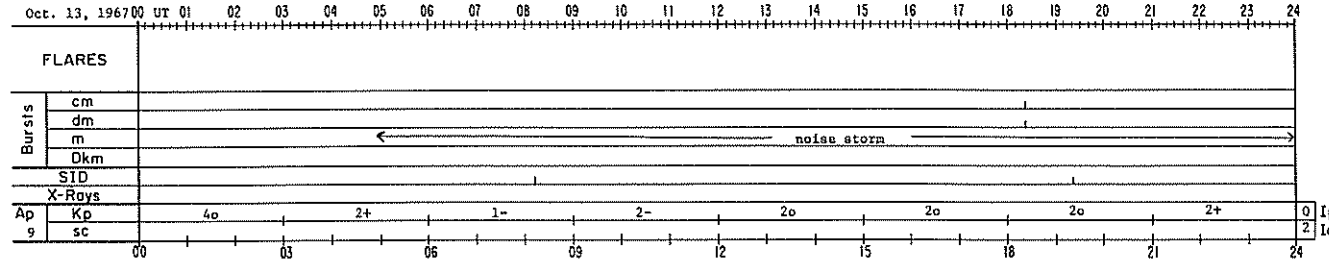
137 10 cm flux
90 Rz
CMP 9018 N18(2) 16524 N15 (βp)5

Aurora overhead in USSR at ϕ = 58° 1300 and 1800-1900, at ϕ = 57° 1400-1700; ionospheric F region disturbed.

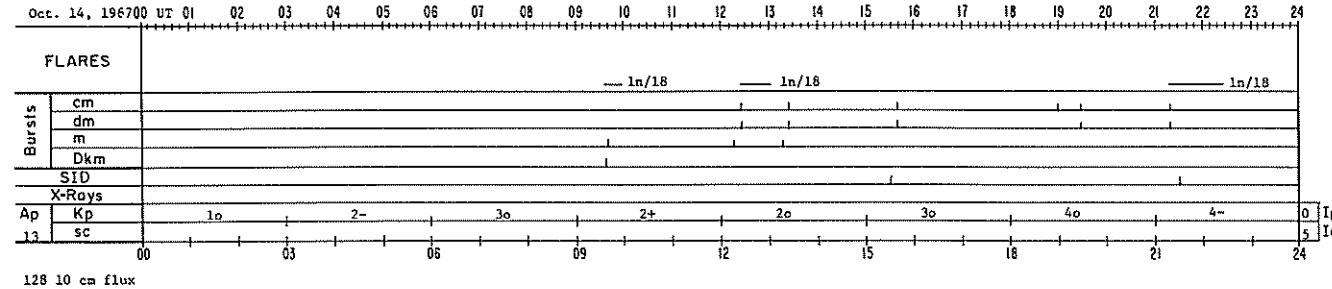


136 10 cm flux
65 Rz

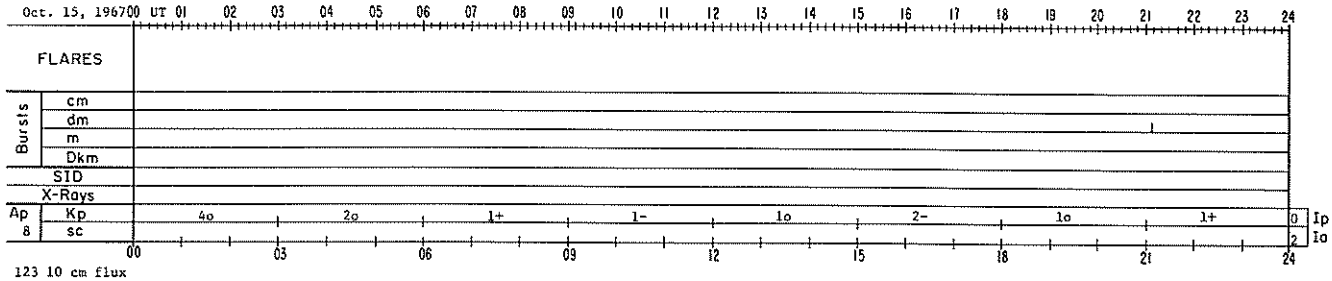
One of five most magnetically disturbed days; ionospheric F region disturbed in some sectors.



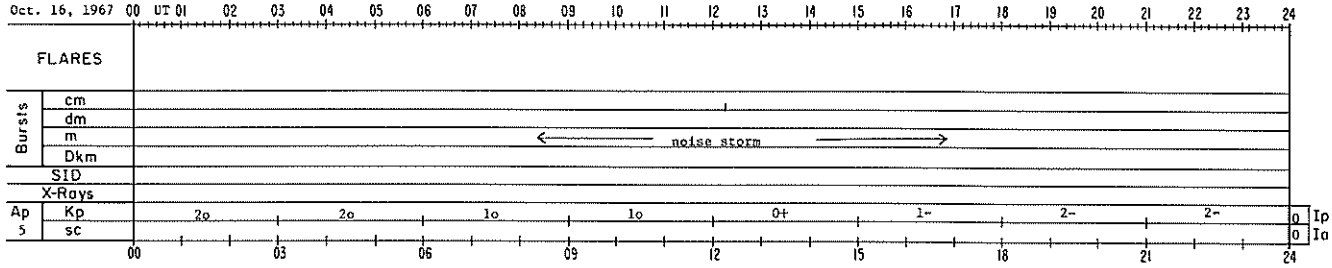
132 10 cm flux
55 Rz
CMP (9022) S16



128 10 cm flux
63 Rz

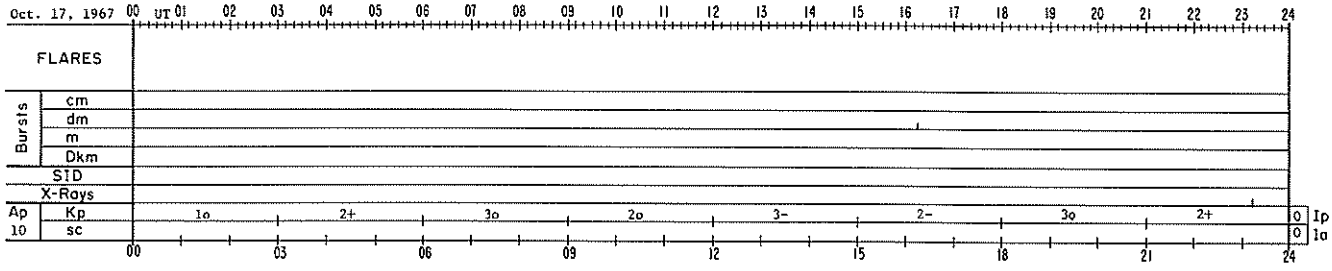


123 10 cm flux
47 Rz
CMP 9020 N18(2)

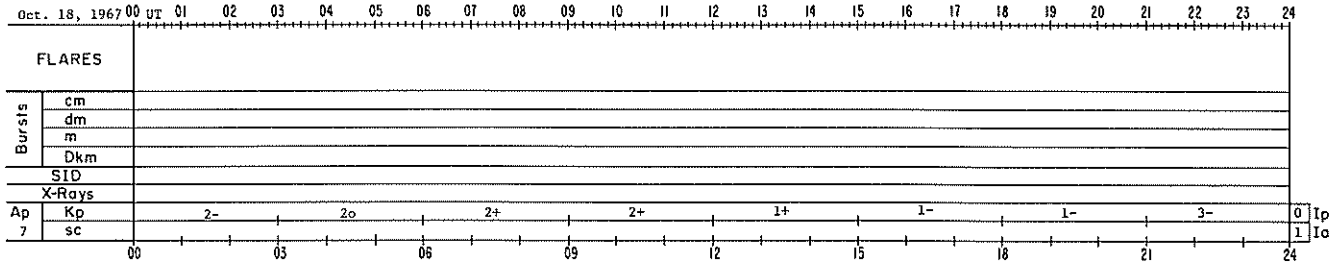


119 10 cm flux
41 Rz
CMP 9024 S33(5) 16525 S24 (αp)4

One of ten magnetically quiet days; ionospheric F region relatively quiet.

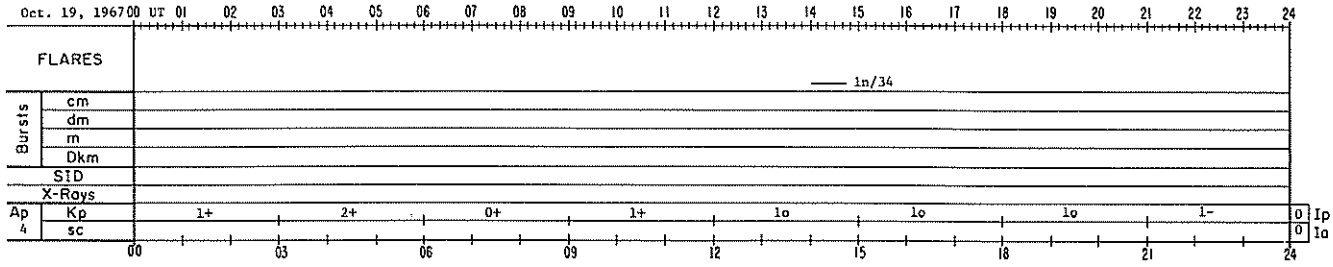


118 10 cm flux
38 Rz
CMP 9023 S27(2)
9025 N16(4)
16527 S17 (β)1



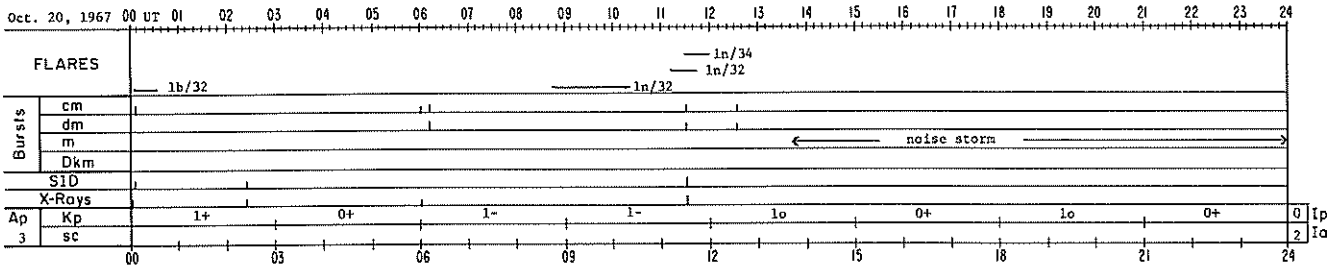
114 10 cm flux
50 Rz
CMP 9028 S17

Br. green corona 7 days earlier on NE and SE limb.



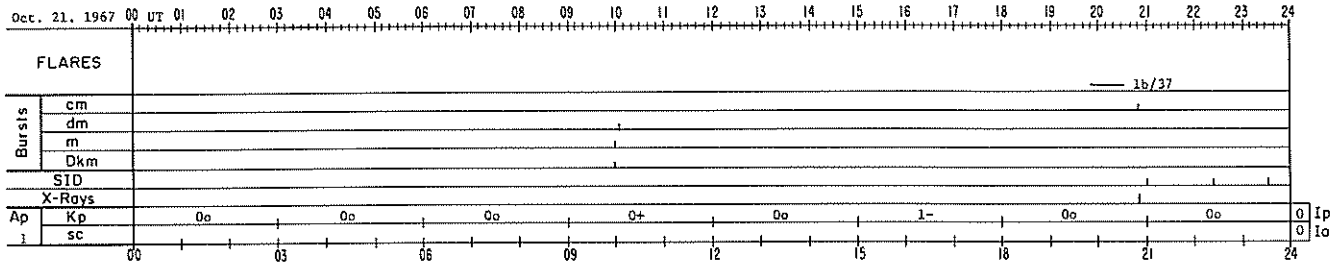
120 10 cm flux
62 Rz
CMP 9029 S26
9027 N26(4) (16528) N14 (αp)

One of ten magnetically quiet days; ionospheric F region relatively quiet.



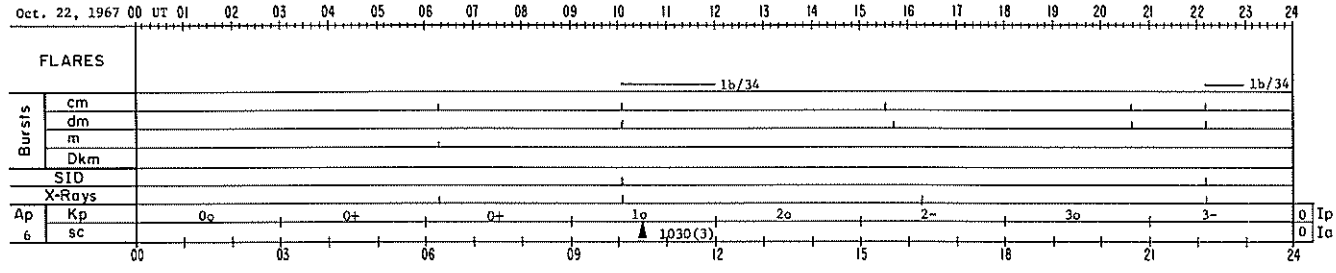
132 10 cm flux
83 Rz

One of five magnetically quiet days; ionospheric F region relatively quiet.



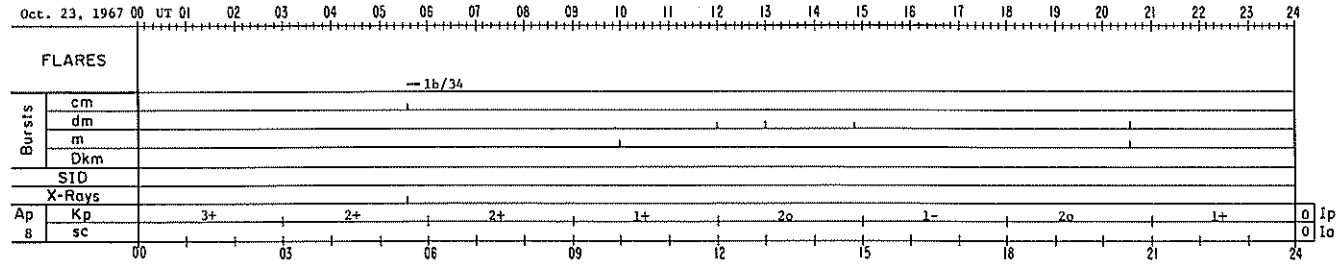
131 10 cm flux
80 Rz
CMP (9031) S04
16530 N17 (βp)4

One of the quietest days in year, one of five magnetically quiet days; ionospheric F region relatively quiet.



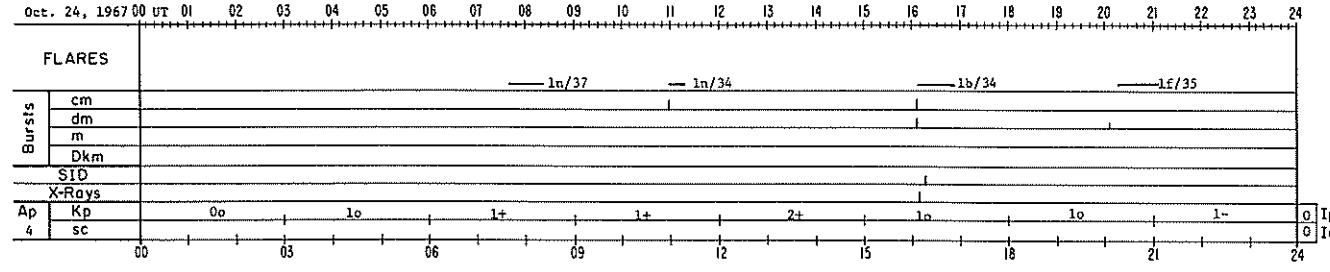
139 10 cm flux
85 Rz
CMP 9032 N17
9033 N29(4)
9036 S22

One of ten magnetically quiet days.



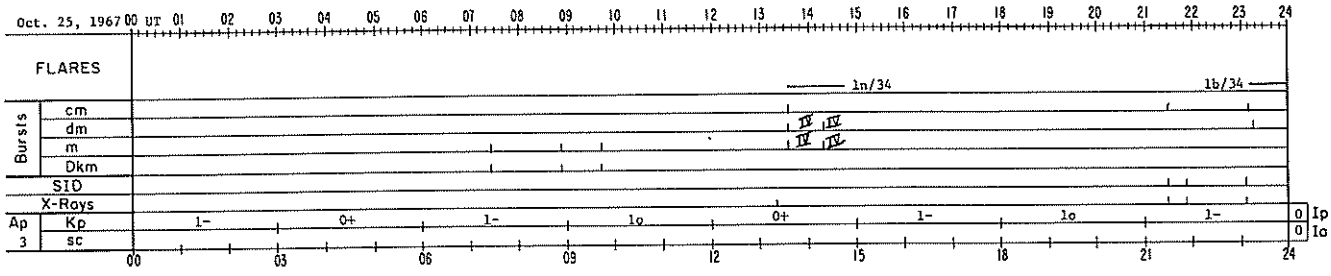
141 10 cm flux
101 Rz
CMP 16529 N10 (βf)4

Br. red corona 7 days earlier on SE limb.



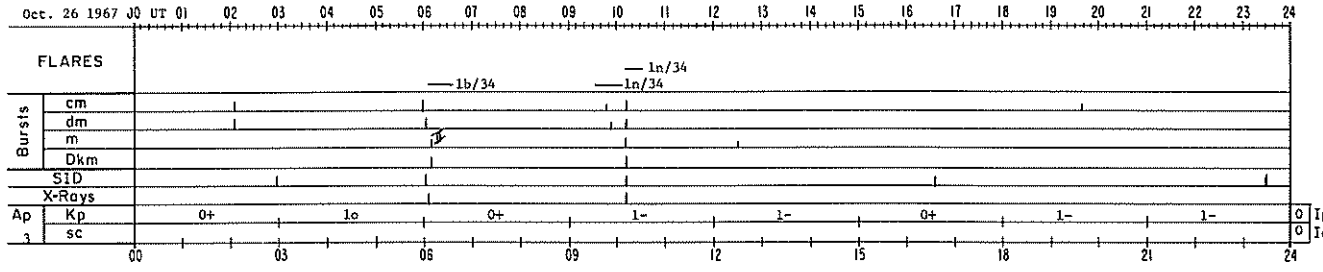
143 10 cm flux
93 Rz
CMP 9034 N12(2) 16531 N11 (αp)2
9035 S20(2)

One of five magnetically quiet days.



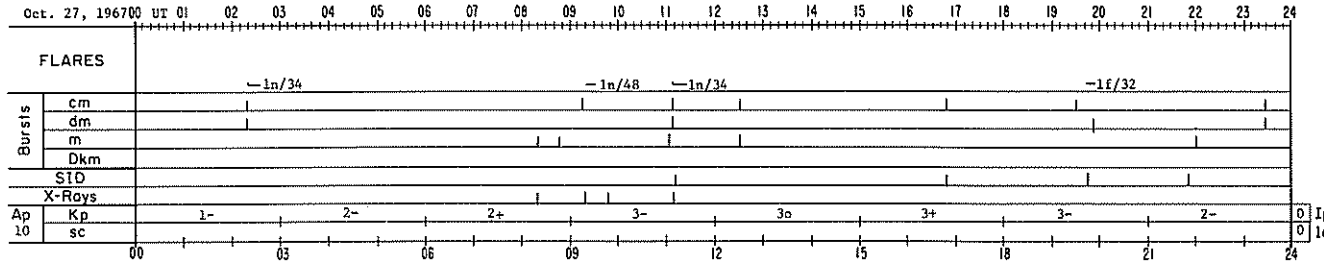
144 10 cm flux
114 Rz
CMP (9040) N38

One of five magnetically quiet days; ionospheric F region relatively quiet.



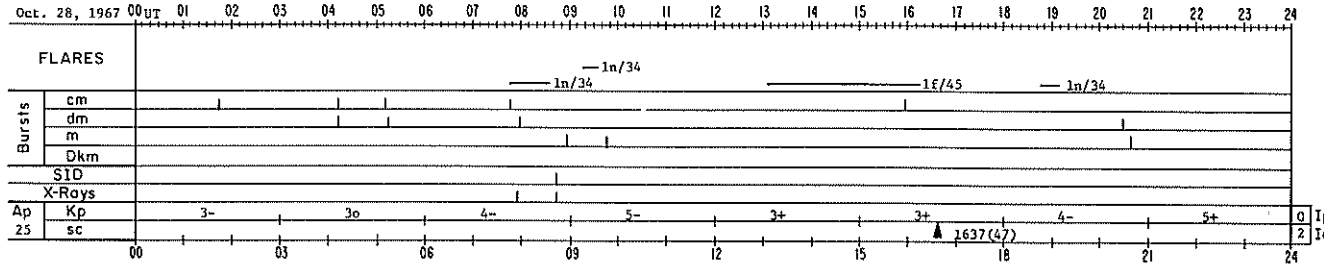
150 10 cm flux
125 Rz
CMP 9037 N17(2) 16535 N20 (βf)4
(16532) N21 (β)1
16533 N23 (αp)4

One of five magnetically quiet days; ionospheric F region relatively quiet.



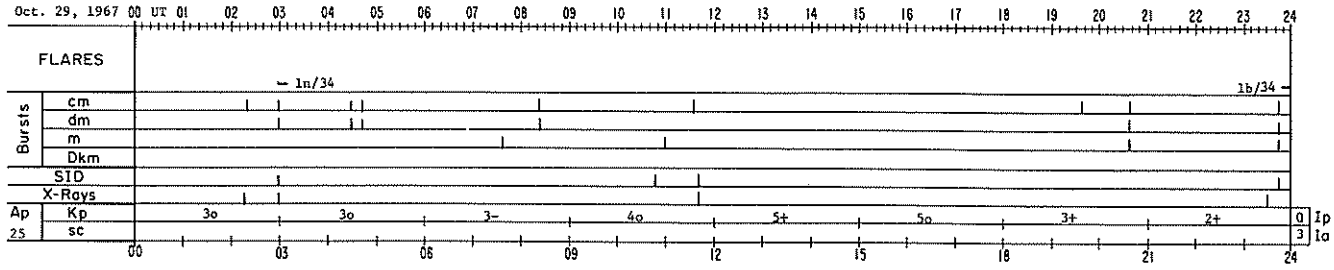
163 10 cm flux
125 Rz
CMP 9038 S23(4)

Aurora overhead in USSR at ϕ = 59° 1300-1600, at ϕ = 61° at 1700; gradual decrease in cosmic rays begins; ionospheric F region disturbed in some sectors.



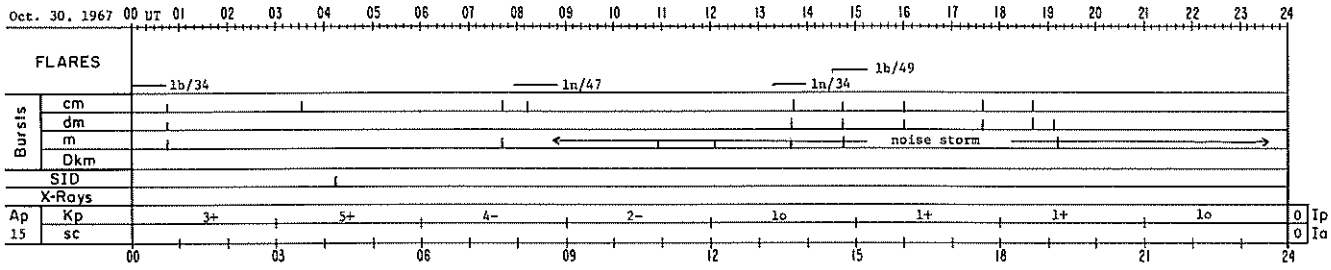
179 10 cm flux
156 Rz
CMP (9052) S20
9041 N18(2) (16546) N20 (βp)2
16534 N12 (αp)4
16537 N19 (βf)2

One of five most magnetically disturbed days; aurora overhead in USSR at ϕ = 61° 0900-1000 and 1700-1800, at ϕ = 58° 1000-1500; homogeneous arc visible over W. Europe at ϕ = 58° 2050-2300; ionospheric F region very disturbed; gradual decrease in cosmic rays continues.



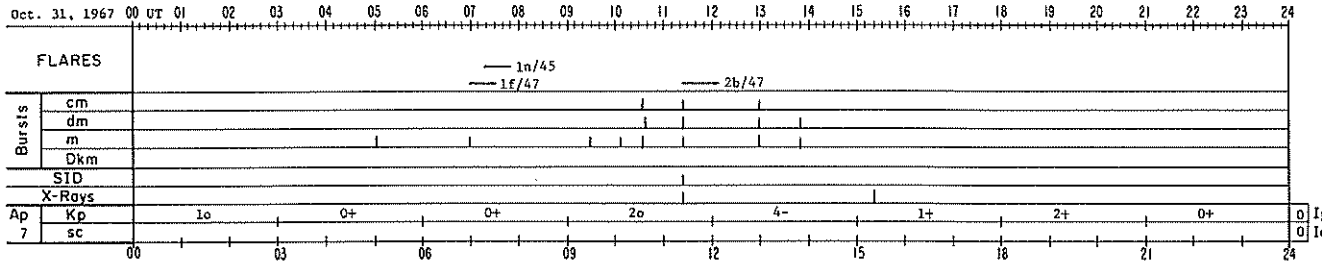
166 10 cm flux
137 Rz
CMP 9042 S18(2)
9050 N34(4)

One of five most magnetically disturbed days; aurora overhead in USSR at ϕ = 49° 1400-1600, at ϕ = 51° 1600-1700; gradual decrease in cosmic rays continues until additional sudden decrease of about 5% late in day followed by steady gradual recovery to normal on or about November 8; ionospheric F region very disturbed.



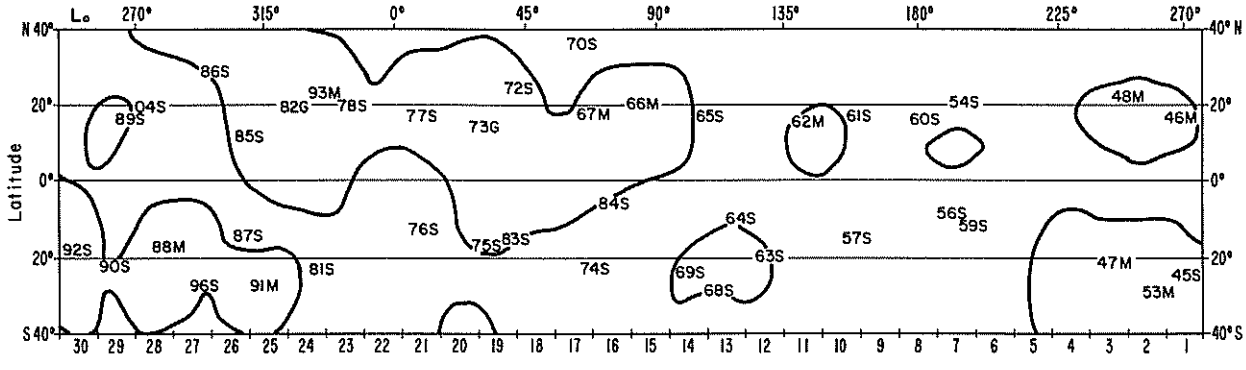
162 10 cm flux
132 Rz
CMP 9044 N20 16536 N22 (αp)1
9043 S16(2) (16548) S13 (βf)3

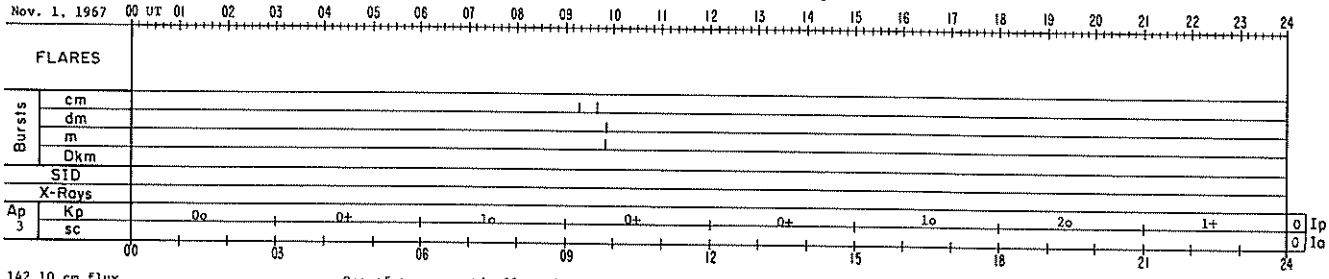
Aurora overhead in N. America at ϕ = 59° 0000-0500; aurora overhead in USSR at ϕ = 55° 1400-1900; ionospheric F region disturbed.



151 10 cm flux
116 Rz
CMP (9058) N16

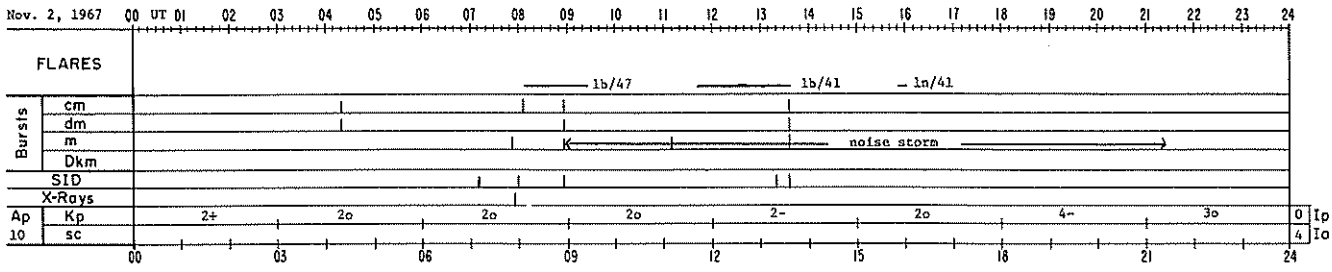
NOVEMBER 1967





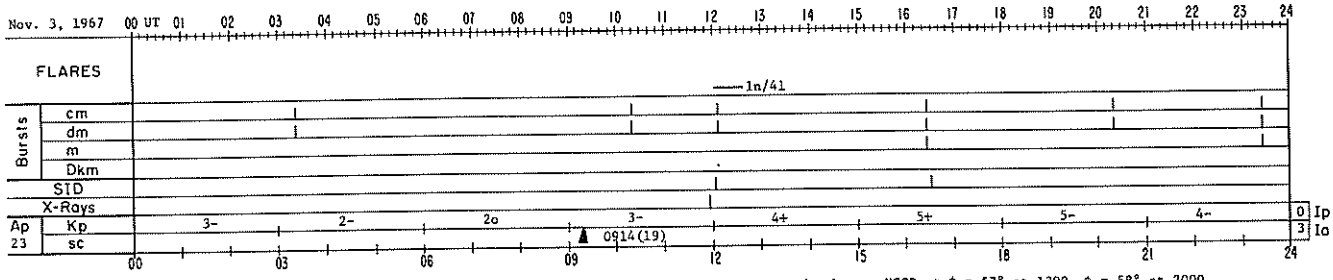
142 10 cm flux
115 Rz
CMP 9045 S25(2) 16540 S28 (βp)3
9046 N16(2) 16538 N14 (αp)5
16541 S18 (βp)2
16547 N13 (αp)2

One of ten magnetically quiet days.



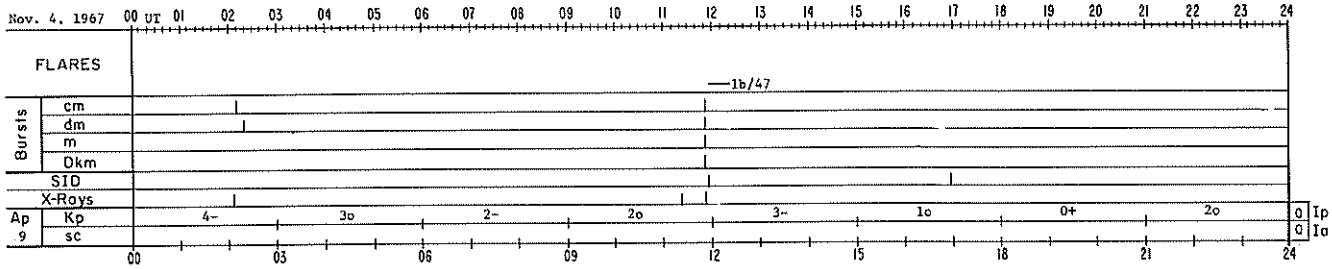
143 10 cm flux
122 Rz
CMP 9053 S28 (16549) S28 (βp)4
(16542) S19 (βp)4

Aurora overhead over USSR at ϕ = 59° 1800-2200; ionospheric F region disturbed in some sectors; small proton increase on >30 MeV counter on Explorer 34 peaks about 1800.



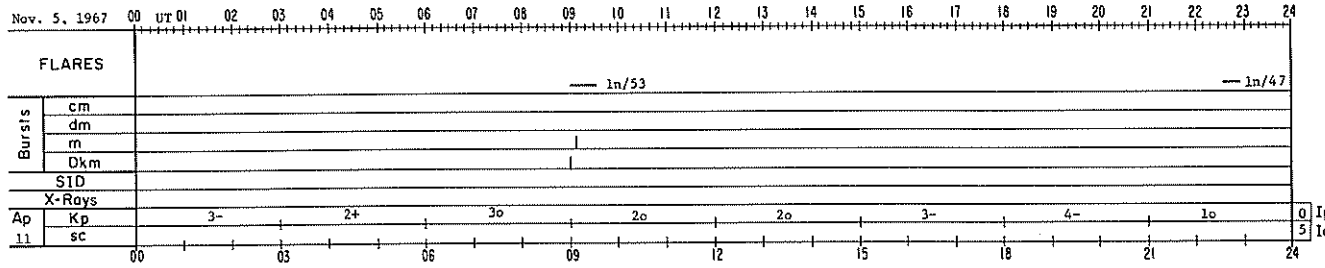
140 10 cm flux
113 Rz
CMP 9048 N23
9047 S21 (1,2 & 3)
16539 N18 (ap)3
16543 S22 (ap)4
16544 S22 (Bp)5

One of five most magnetically disturbed days; aurora overhead over USSR at ϕ = 57° at 1300, ϕ = 58° at 2000, and ϕ = 59° at 1400-1500 and 2100; br. green corona on SW limb observed 7 days later; ionospheric F region disturbed in some sectors.

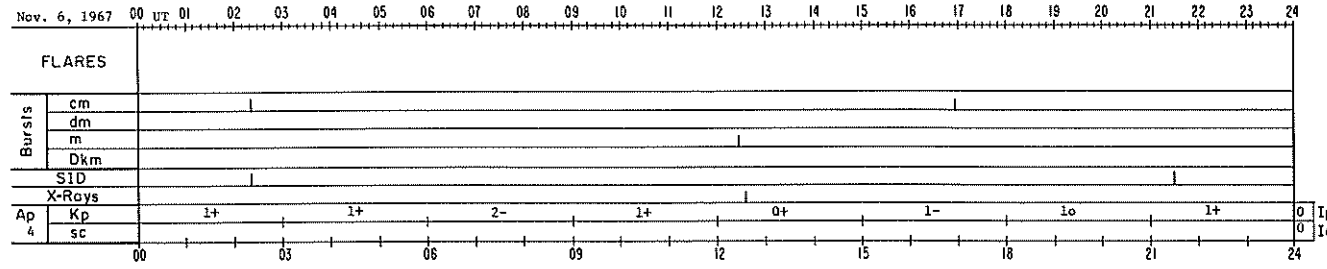


133 10 cm flux
110 Rz

Aurora overhead over USSR at ϕ = 58° 1300-1700 and 2000-2400.

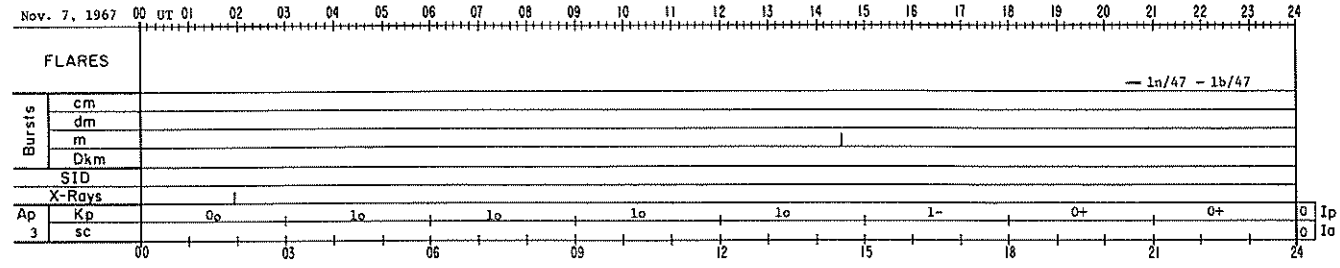


124 10 cm flux
91 Rz



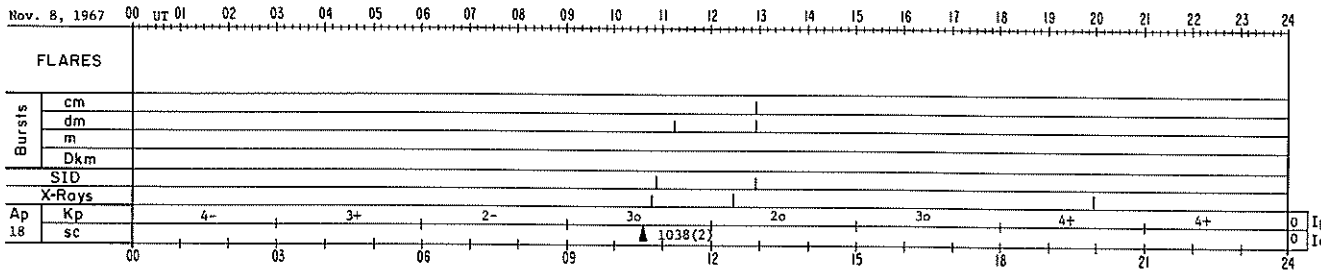
122 10 cm flux
51 Rz

One of ten magnetically quiet days; ionospheric F region relatively quiet.



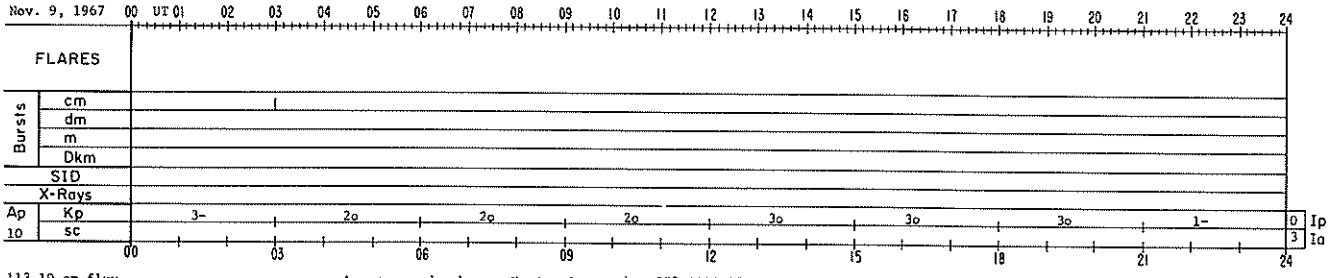
115 10 cm flux
48 Rz
CMP 9059 S13
9054 N20(3)
9056 S11

One of five magnetically quiet days; ionospheric F region relatively quiet.



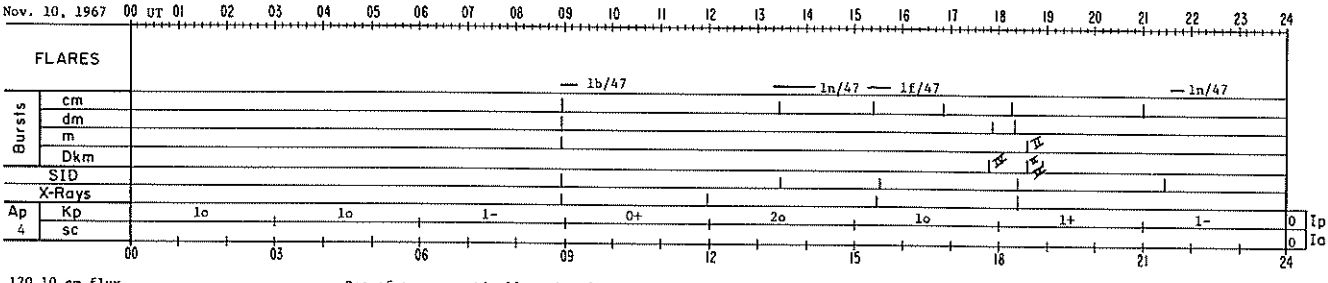
115 10 cm flux
27 Rz
CMP 9060 N16

Though only slight-to-moderate activity, one of five most magnetically disturbed days; ionospheric F region slightly disturbed.



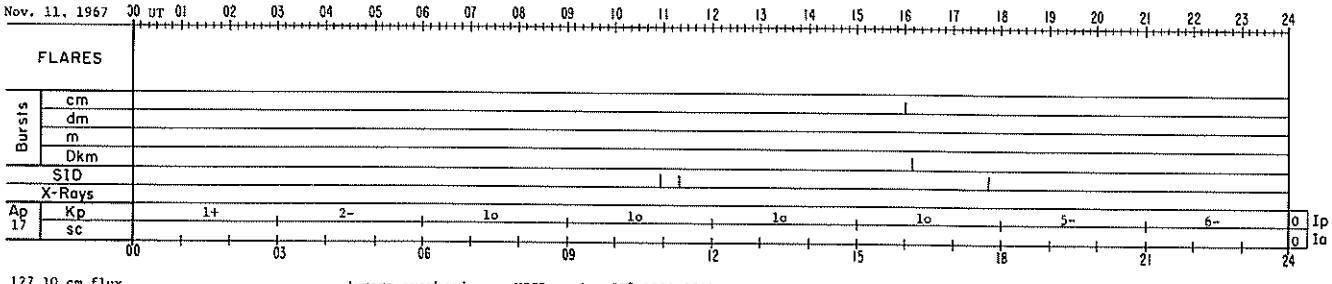
113 10 cm flux
34 Rz

Aurora overhead over N. America at ϕ = 57° 0000-0500.



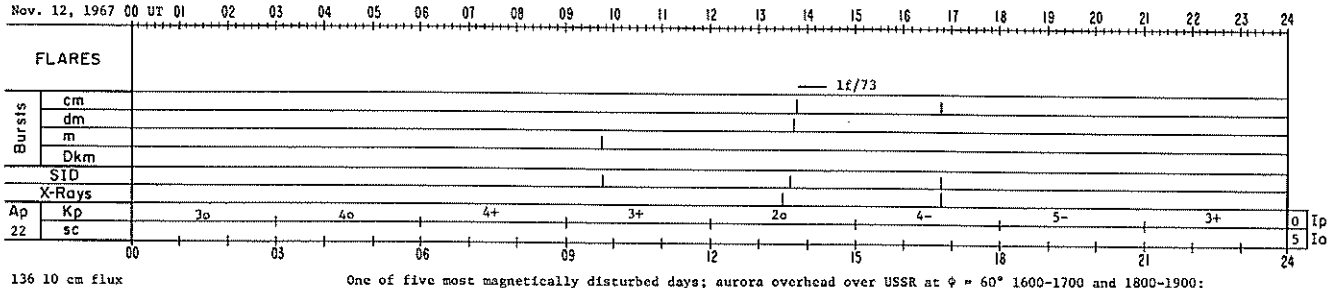
120 10 cm flux
41 Rz
CMP 9061 N17(3)
9057 S16 16552 S15 αp

One of ten magnetically quiet days; aurora overhead over USSR at ϕ = 57° 1500-2200; ionospheric F region relatively quiet.



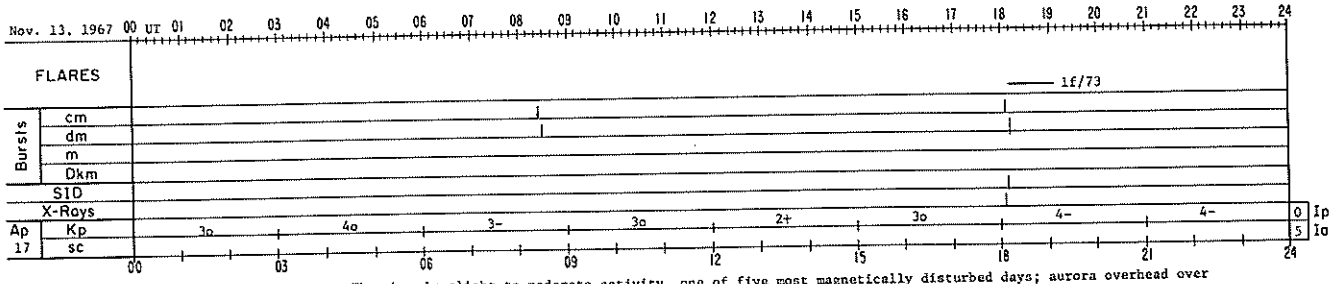
127 10 cm flux
38 Rz
CMP 9062 N15 16555 N12 (Bf)5

Aurora overhead over USSR at ϕ = 59° 2000-2300.



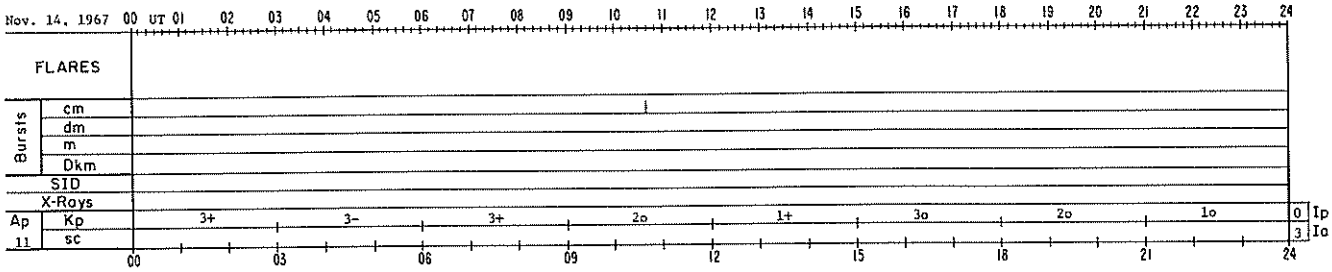
136 10 cm flux
56 Rz
CMP 9063 S20(3)

One of five most magnetically disturbed days; aurora overhead over USSR at ϕ = 60° 1600-1700 and 1800-1900; ionospheric F region slightly disturbed with some auroral blackout.



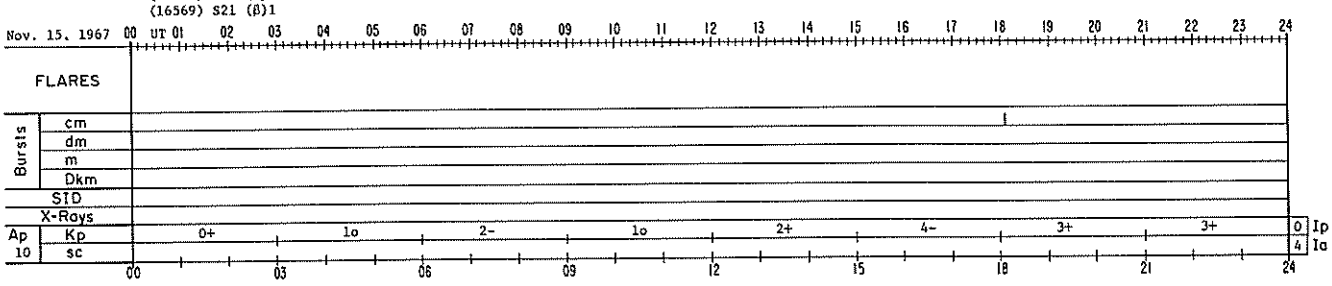
138 10 cm flux
77 Rz
CMP 9064 S11 (16559) S13 (αp)1
9068 S32(3)

Though only slight-to-moderate activity, one of five most magnetically disturbed days; aurora overhead over USSR at ϕ = 57° 1500-2200; ionospheric F region slightly disturbed; small proton increase on >10MeV counter on Explorer 34 peaks at about 1300 and continues through the 16th.

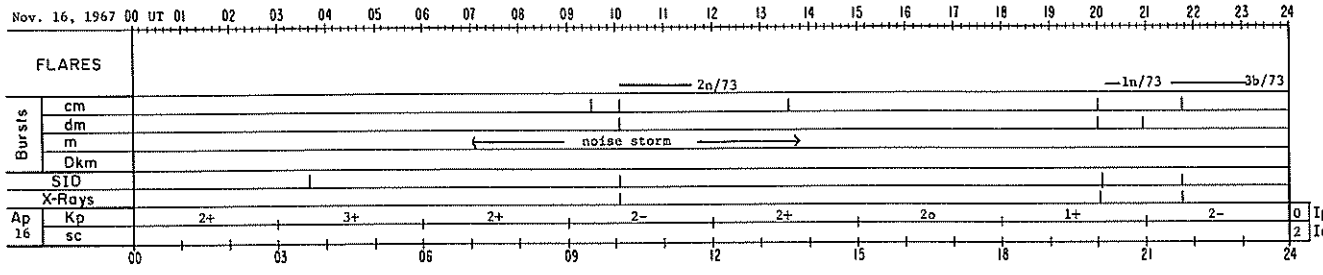


140 10 cm flux
95 Rz
CMP 9065 N17(2&5) (16561) N17 βf
9069 S24
(16560) N22 βf
(16558) S21 (αp)2
(16569) S21 (β)1

Aurora overhead over USSR at ϕ = 57° 1600-2100.

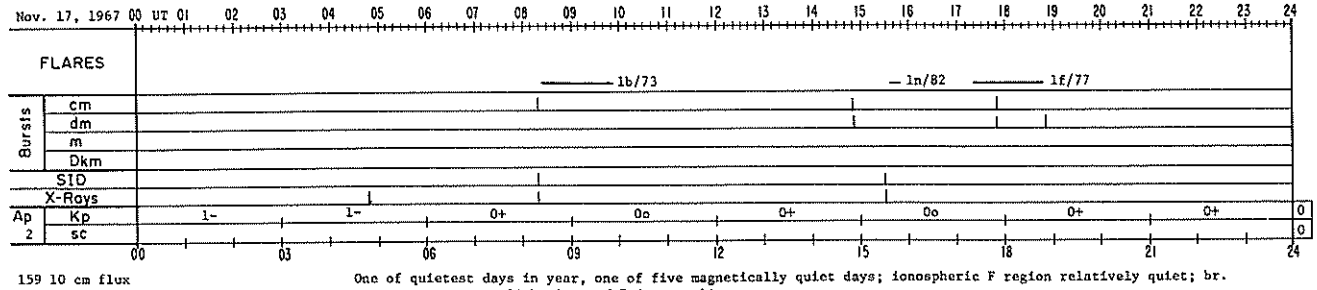


146 10 cm flux
98 Rz
CMP 9066 N20(5) 16651 N16 (αp)5
(16562) N12 β



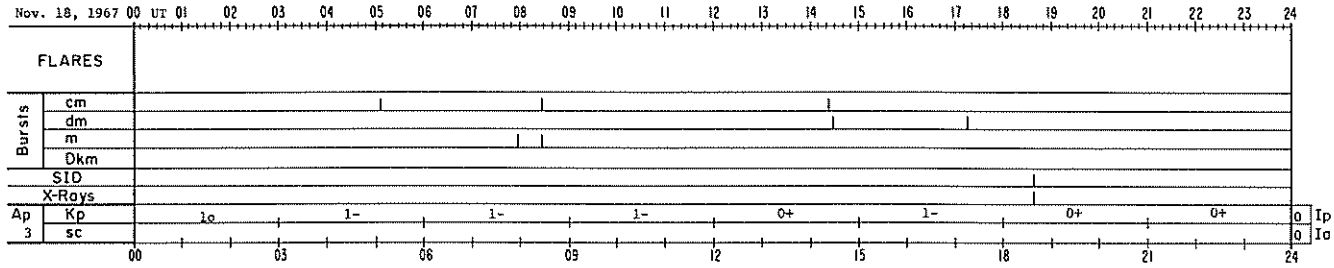
155 10 cm flux
119 Rz
CMP (9084) S07
16563 N10 βf
16553 N12 βp

Ionospheric F region relatively quiet; small proton increase on>10 MeV counter on Explorer 34 shows second peak at about 0200.



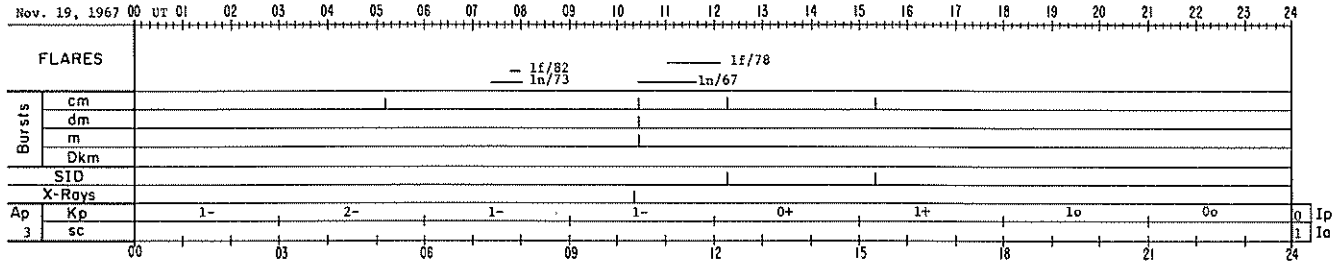
159 10 cm flux
121 Rz
CMP 9074 S23(2)
9067 N18
9070 N36(5)

One of quietest days in year, one of five magnetically quiet days; ionospheric F region relatively quiet; br. green corona on NE limb observed 7 days earlier.



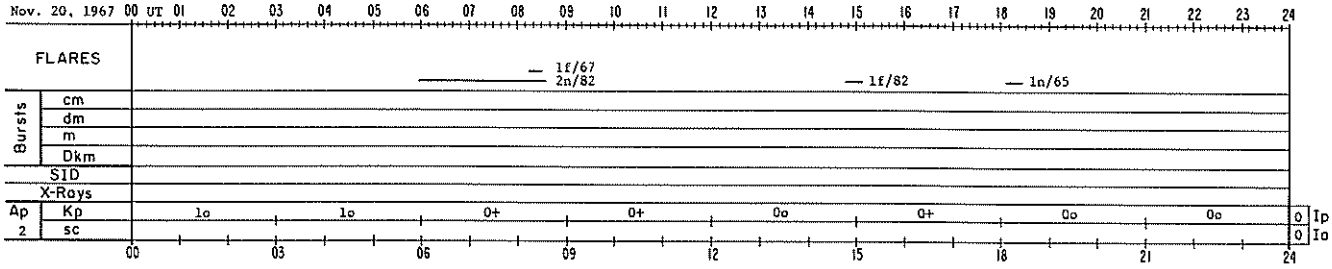
161 10 cm flux
134 Rz
CMP (16556) N17 (αf)1

One of five magnetically quiet days; ionospheric F region relatively quiet; br. green corona on NE limb observed 7 days earlier.



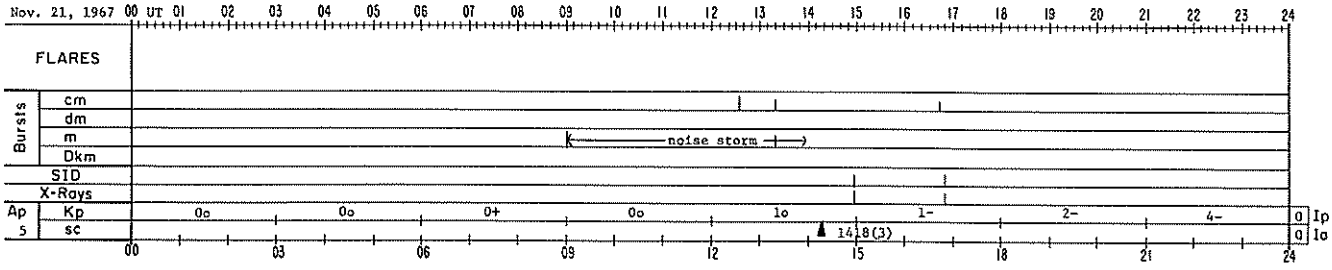
171 10 cm flux
131 Rz
CMP 9072 N24(2) 16565 N20 βp
(9083) S15
9075 S17(3)
9073 N14(3) 16557 N09 δ
16564 N19 βp

One of five magnetically quiet days.



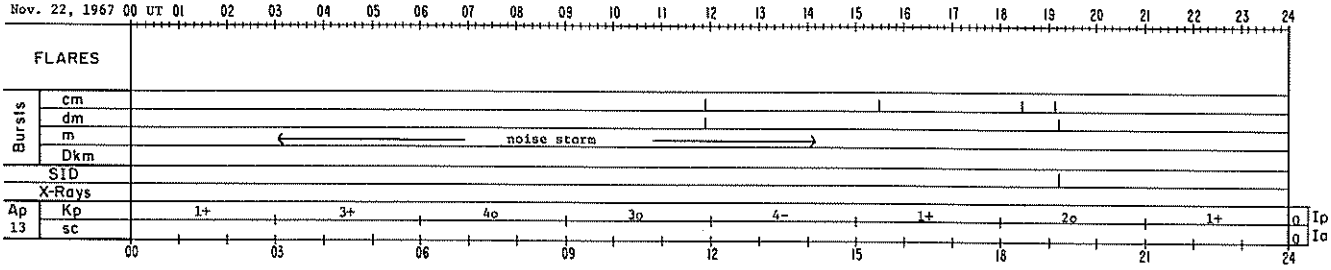
170 10 cm flux
116 Rz

One of five magnetically quiet days.



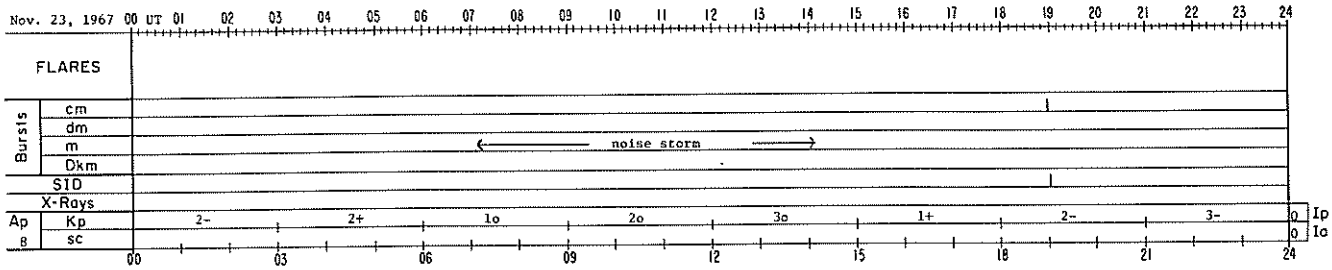
165 10 cm flux
95 Rz
CMP 9077 N17 16566 N18 β
9076 S14(3)
(16567) N16 (αp)1

One of ten magnetically quiet days; cosmic ray level decreases about 3% starting very late in day and levels off at end of Nov. 22 followed by very slow recovery on or about Dec. 15; ionospheric F region relatively quiet.



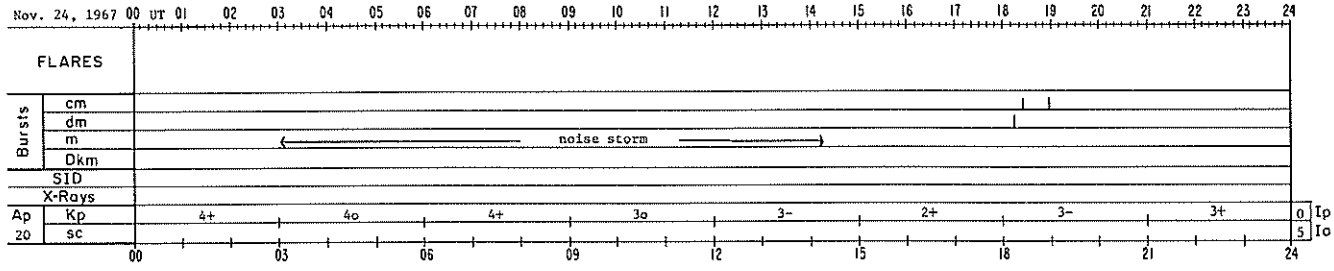
164 10 cm flux
92 Rz

Ionospheric F region very disturbed.



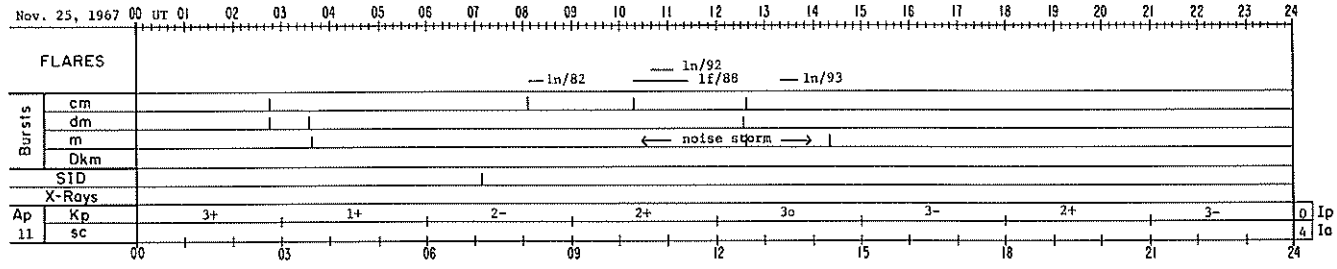
161 10 cm flux
103 Rz
CMP 9078 N20(3)

One of ten magnetically quiet days.



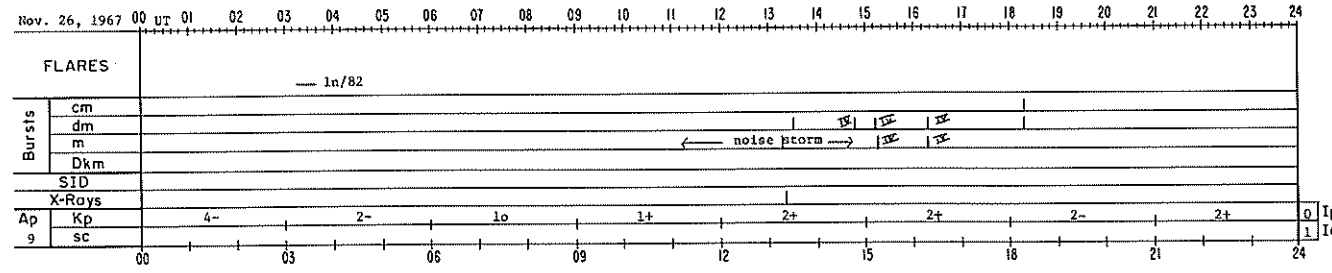
157 10 cm flux
108 Rz
CMP (9093) N23 16571 N24 αp
9081 S24(2)
9082 N19(3) 16570 N19 βp

One of five most magnetically disturbed days; aurora overhead over USSR at ϕ = 60° 1800-1900 and at ϕ = 57° 2000-2100; ionospheric F region disturbed with some auroral blackout.



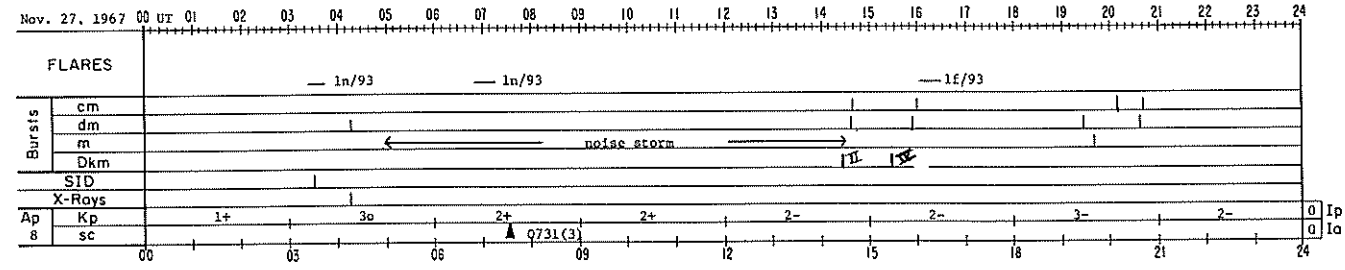
159 10 cm flux
128 Rz
CMP 9091 S28 16572 S29 (βp)4

Aurora overhead over USSR at ϕ = 59° 1600-1800 and at ϕ = 60° 1300-1500 and 1800-2100; ionospheric F region disturbed with some auroral blackout; br. green corona at SW limb observed 7 days later.



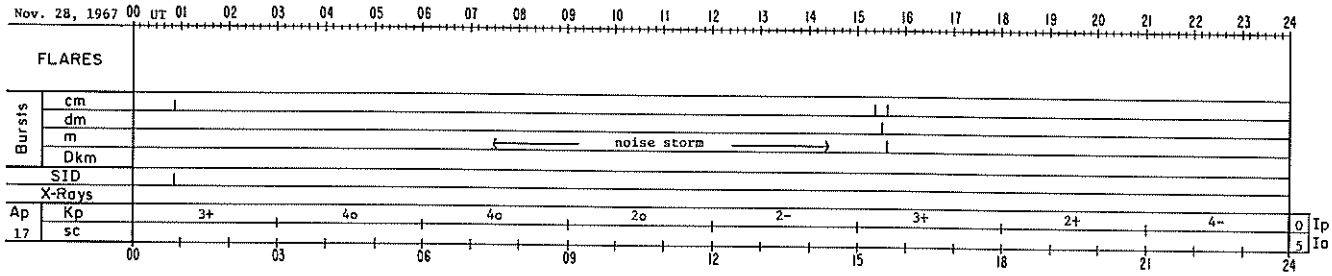
162 10 cm flux
109 Rz
CMP 9085 N11
9087 S16(3)
9086 N27(5)

Ionospheric F region slightly disturbed in some sectors.



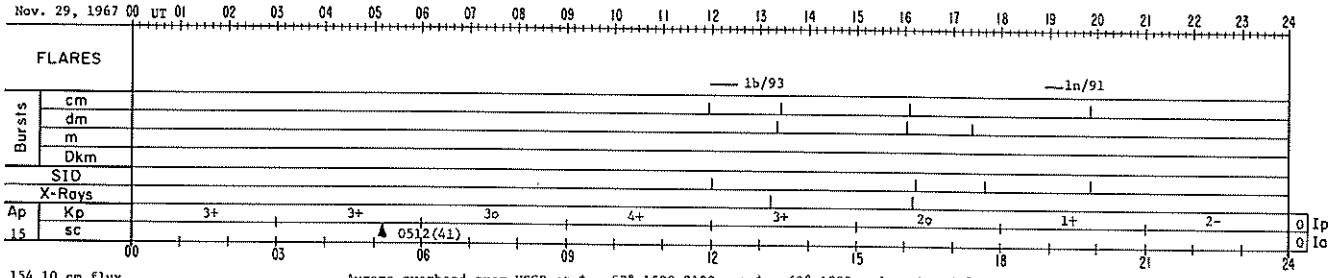
159 10 cm flux
105 Rz
CMP 9096 S28

Aurora overhead over USSR at ϕ = 56° 1300-1500 and at ϕ = 59° 2200-2300; ionospheric F region slightly disturbed in some sectors.



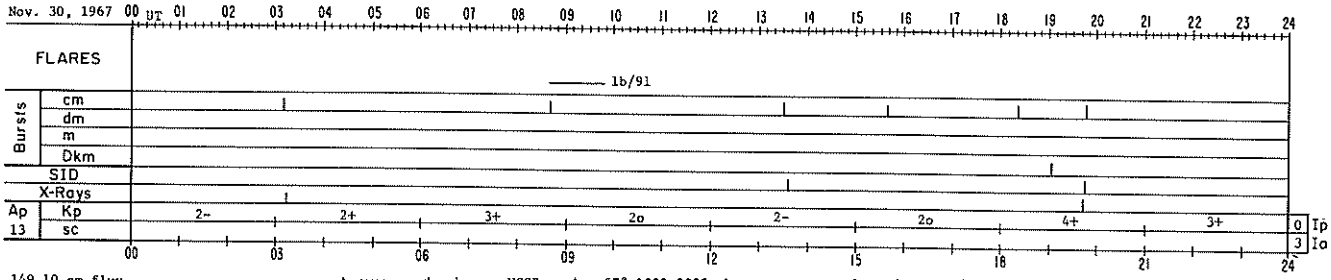
162 10 cm flux
112 Rz
CMP 9088 S18 16573 S10 (Sp)5
(9104) N19

Aurora overhead over USSR at ϕ = 57° 1700-2200 and at ϕ = 61° 2200-2300; homogeneous arc, occasionally rayed, base overhead at ϕ = 66-67° 1750-2405 over W. Europe to ϕ = 59°; ionospheric F region very disturbed with some auroral blackout.



154 10 cm flux
117 Rz
CMP 9089 N17 (243) 16575 N12 αp
9090 S24 (2) (16574) S27 αp

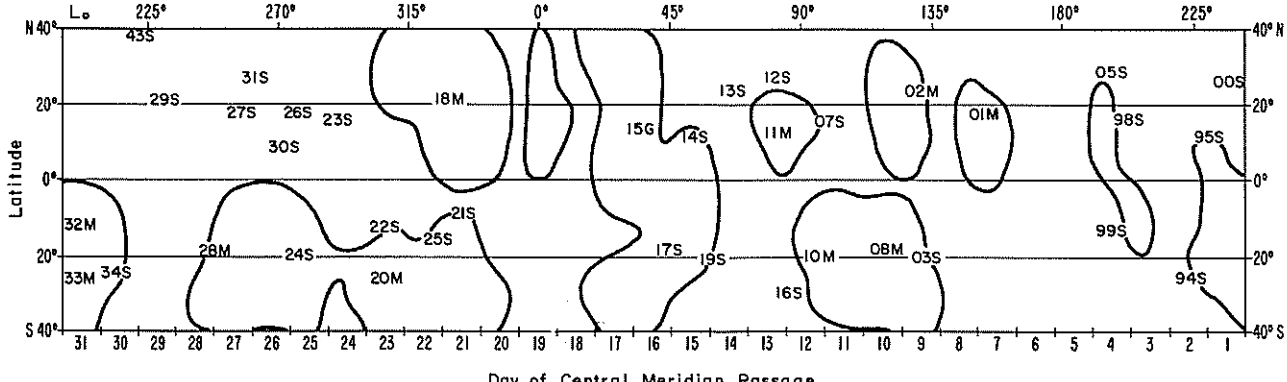
Aurora overhead over USSR at ϕ = 57° 1500-2100, at ϕ = 60° 1300 and at ϕ = 61° 1000-1200 and 1300-1400; ionospheric F region very disturbed; br. green corona on SE limb observed 7 days earlier.

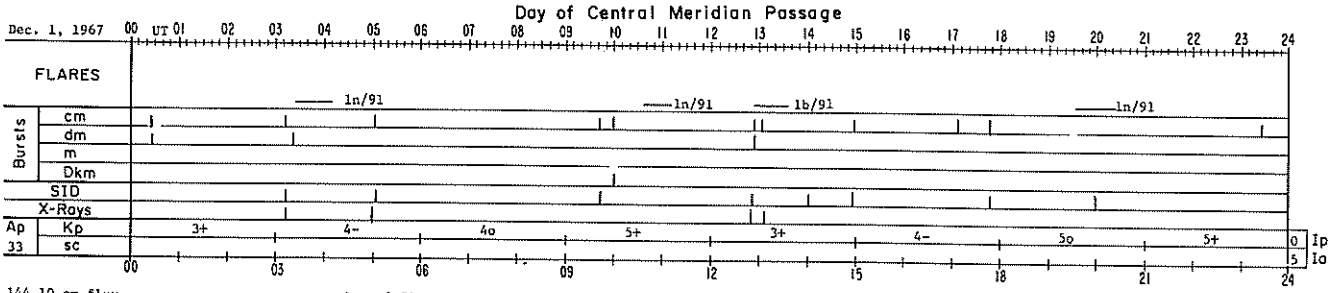


149 10 cm flux
123 Rz
CMP 9092 S19(3)

Aurora overhead over USSR at ϕ = 57° 1300-2200; homogeneous arc becoming rayed, visible all night Nov. 30-Dec. 1 over W. Europe to ϕ = 58°; aurora to ϕ = 54° over N. America 0000-0500; ionospheric F region very disturbed.

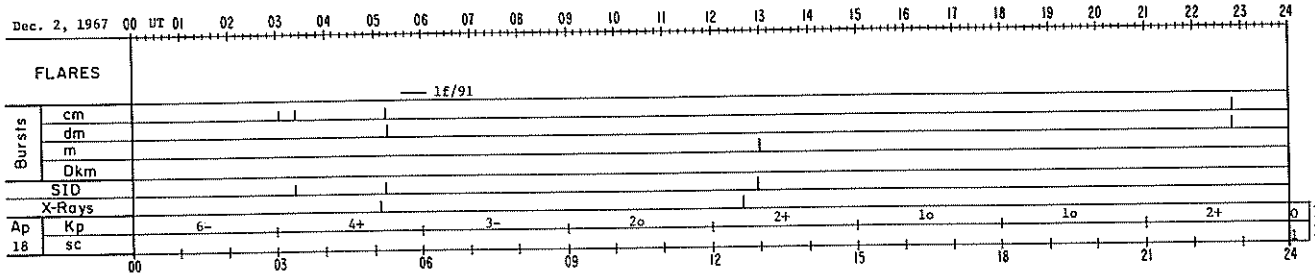
DECEMBER 1967





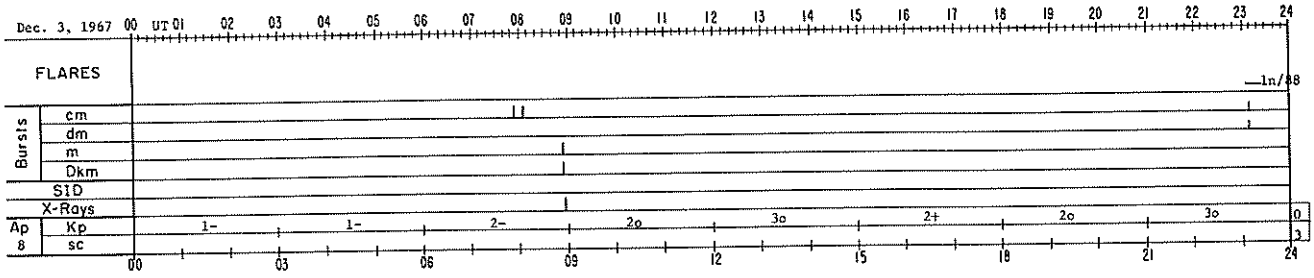
144 10 cm flux
131 Rz
CMP (9100) N24 (16584) N23 (αp)1
16577 S27 (αp)2
(16588) N17 (βp)2

One of five most magnetically disturbed days; rayed auroral arc, sometimes homogeneous, overhead over W. Europe at ϕ = 64-66° and visible to ϕ = 56° 1745-0600; aurora overhead over USSR at ϕ = 54° 1600-1800 and 2000-2100, at ϕ = 50° 2200; ionospheric F region disturbed with auroral blackout.



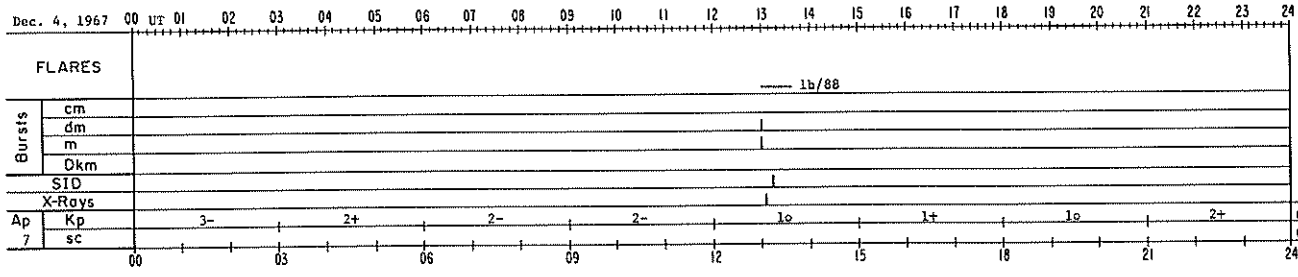
135 10 cm flux
126 Rz
CMP 9095 N11
9094 S26(4) 16587 S30 (αf)1

Aurora overhead over USSR at ϕ = 59° 1800-1900 and ϕ = 58° 1900-0200; ionospheric F region disturbed with auroral blackout.

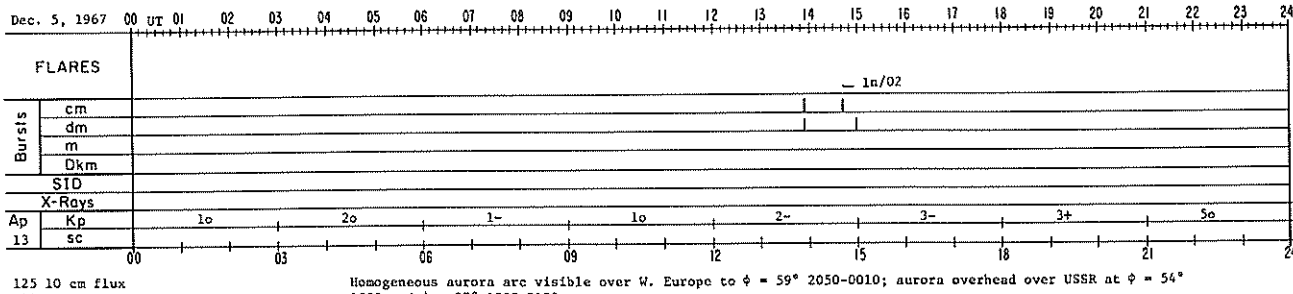


124 10 cm flux
89 Rz
CMP (16593) S28 (αp)2
16589 N08 (αf)1

Aurora overhead over N. America at ϕ = 56° 0000-0500; aurora overhead over USSR to ϕ = 55° 1400 and ϕ = 57° 1500-1600; ionospheric F region slightly disturbed in some sectors; solar proton increase on >10, 30 and 60 Mev counters on Explorer 34 reaches max. at about 1300.

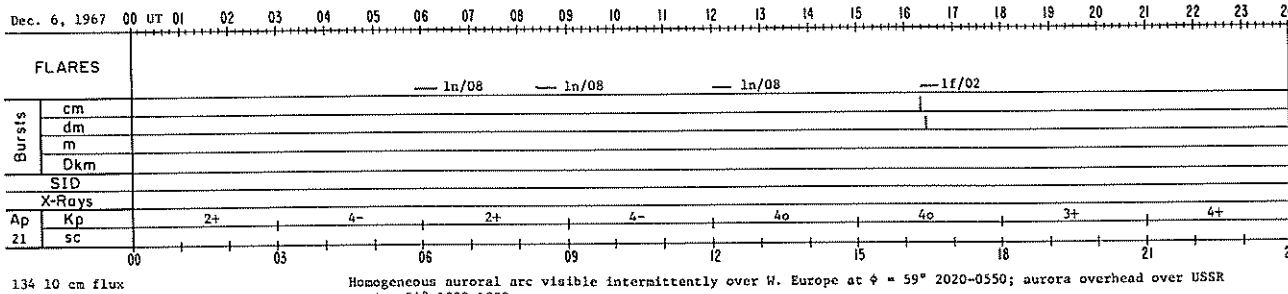


130 10 cm flux
79 Rz
CMP 9098 N15
9099 S14 (16579) S15 (βf)1
9105 N27 16582 N25 (αp)1



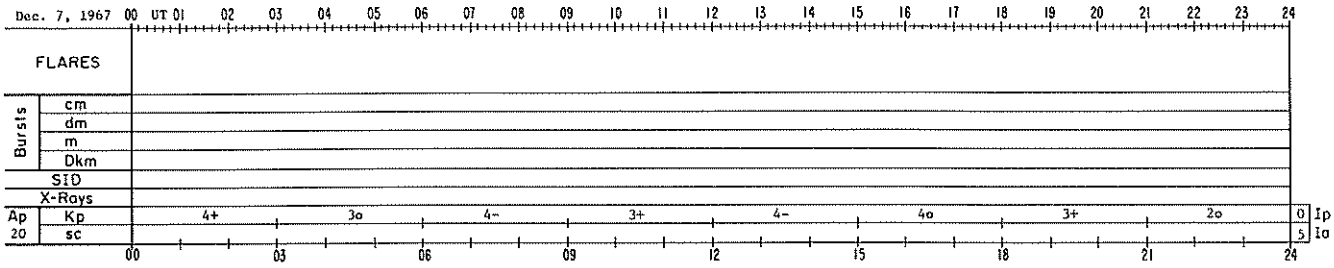
125 10 cm flux
79 Rz

Homogeneous aurora arc visible over W. Europe to ϕ = 59° 2050-0010; aurora overhead over USSR at ϕ = 54° 1800 and ϕ = 57° 1900-2100.



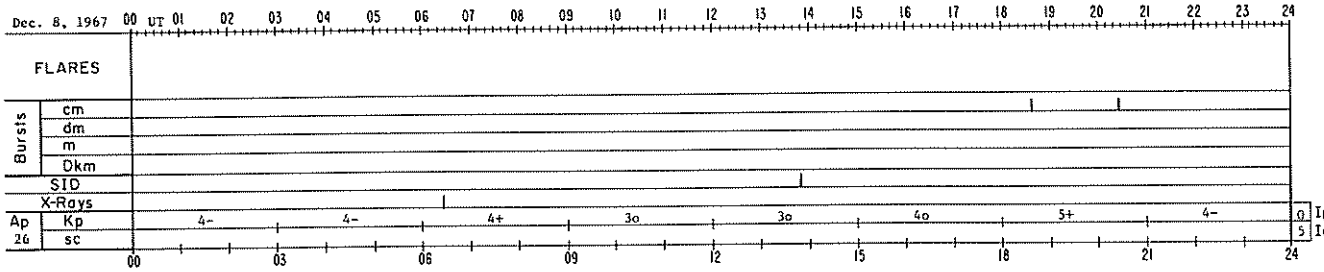
134 10 cm flux
89 Rz

Homogeneous auroral arc visible intermittently over W. Europe at ϕ = 59° 2020-0550; aurora overhead over USSR at ϕ = 54° 1300-1800.



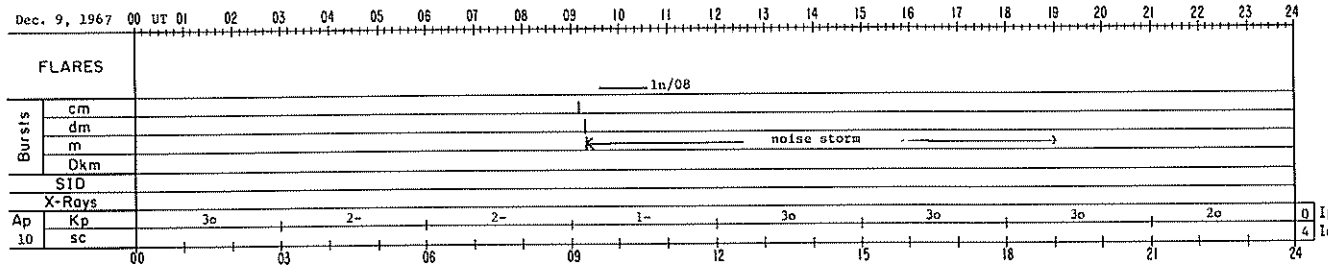
132 10 cm flux
126 Rz
CMP 9101 N15(2) 16580 N10 (αp)5
16581 N14 (αp)2

Aurora overhead over USSR at ϕ = 57° 1100-1700.

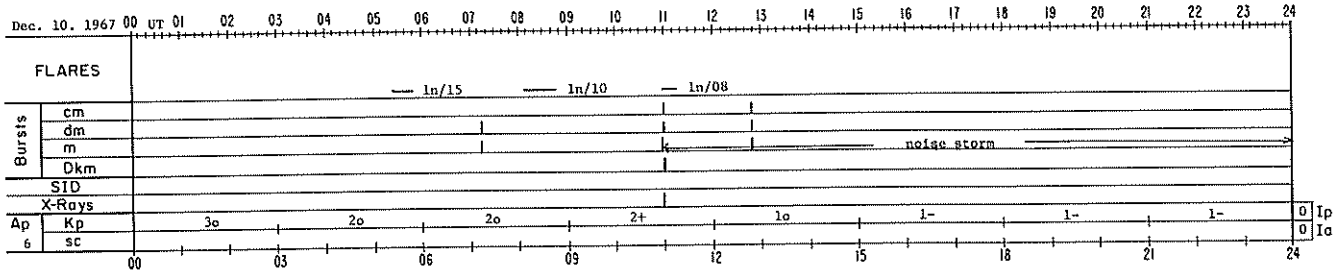


134 10 cm flux
131 Rz
CMP (16585) N12 (αp)3
(16603) N14 (αp)2

One of five most magnetically disturbed days; homogeneous and rayed auroral arcs visible overhead over W. Atlantic at ϕ = 61° 0500; aurora overhead over USSR at ϕ = 58° 1500-1800 and at ϕ = 57° 1900; ionospheric F region slightly disturbed.

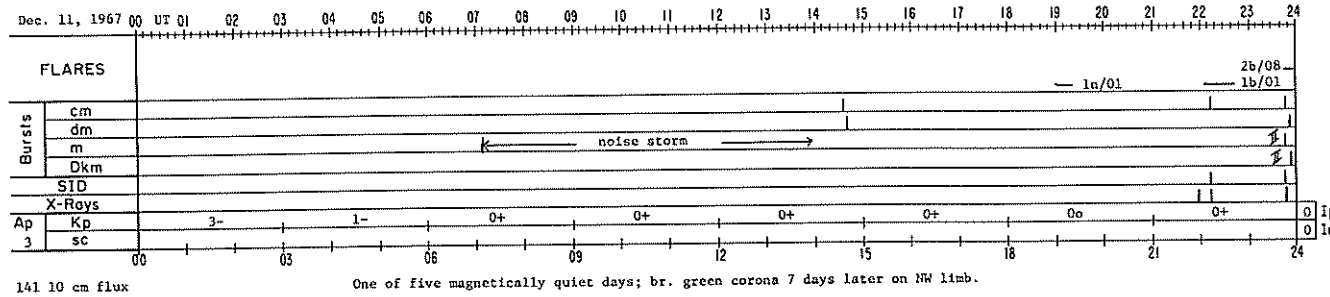


134 10 cm flux
117 Rz
CMP 9103 S20
9102 N23 16595 N24 6



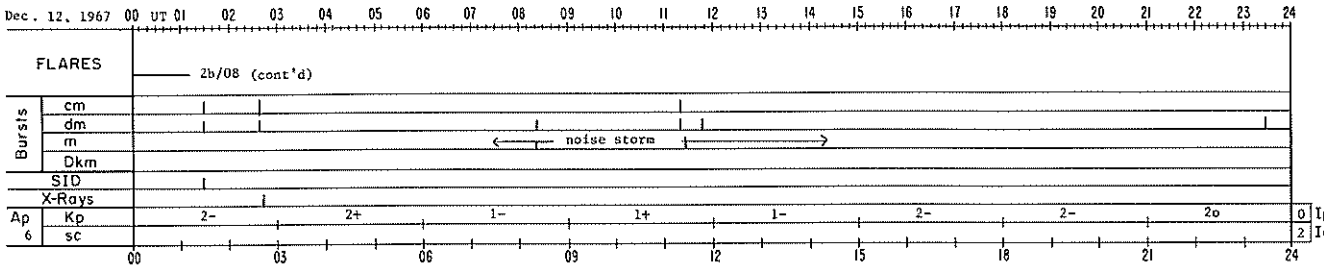
132 10 cm flux
114 Rz
CMP 9108 S18(2&1) 16591 S16 (βp)4
16601 S24 (β)2
16596 N20 αp

One of ten magnetically quiet days; br. green corona 7 days later on SW limb.



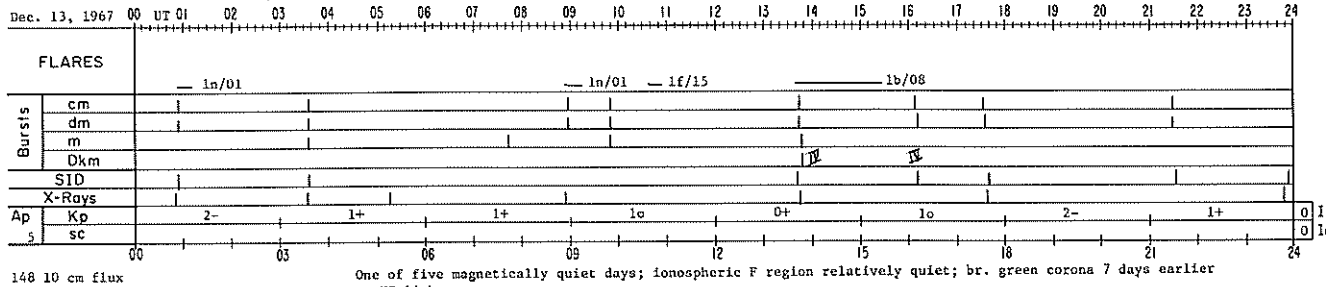
141 10 cm flux
132 Rz
CMP 9107 N17(6&3) (16613) N20 (αp)2

One of five magnetically quiet days; br. green corona 7 days later on NW limb.



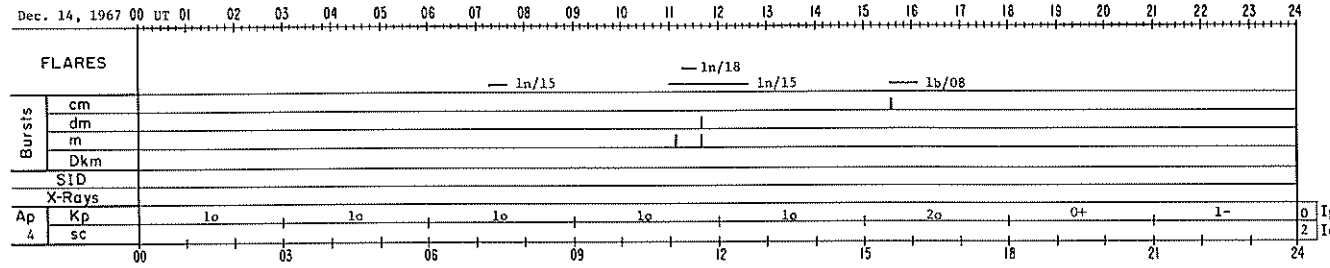
144 10 cm flux
135 Rz
CMP 9110 S20(2&1) 16598 S17 (βp)3
(16594) N15 αp
16592 S24 (αp)3
16597 N08 (αp)4
16604 S19 (βp)2

One of ten magnetically quiet days; ionospheric F region relatively quiet.



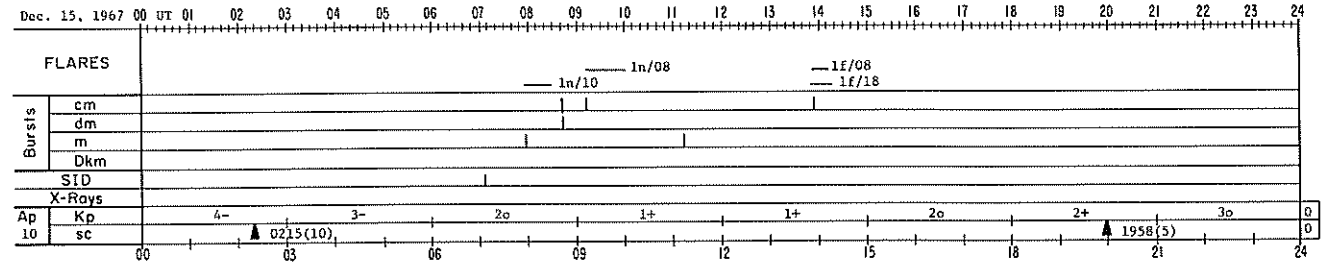
148 10 cm flux
137 Rz
CMP (9116) S32 (16606) S33 αp
9111 N12(2)
9112 N26(6)
(16605) S18 βf

One of five magnetically quiet days; ionospheric F region relatively quiet; br. green corona 7 days earlier on NE limb.



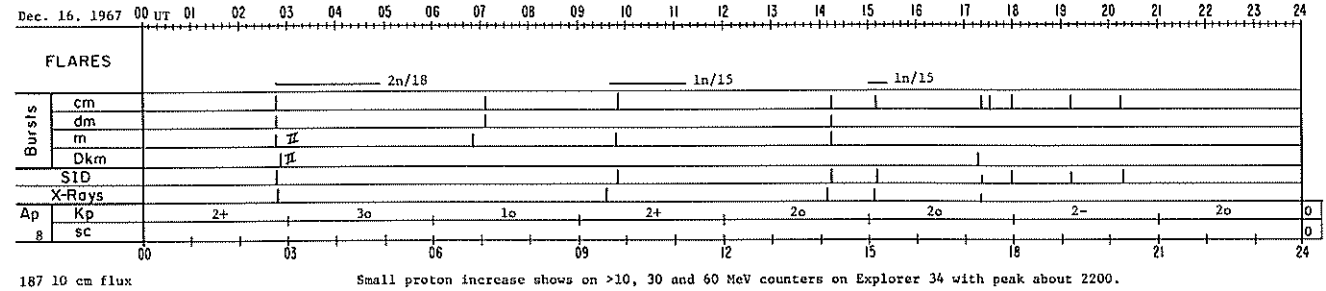
158 10 cm flux
140 Rz
CMP 9113 N23 16608 N26 β

One of five magnetically quiet days; ionospheric F region relatively quiet.



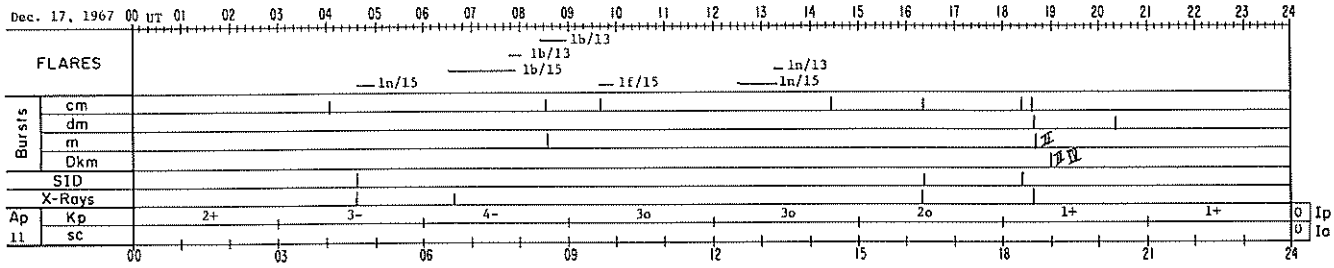
170 10 cm flux
151 Rz
CMP (9119) S21
9114 N10 16615 N11 (βf)2
16612 S16 (αp)1

Cosmic ray decrease of about 4% in late hours of day, intensity stays at low level until recovery on Dec. 23.



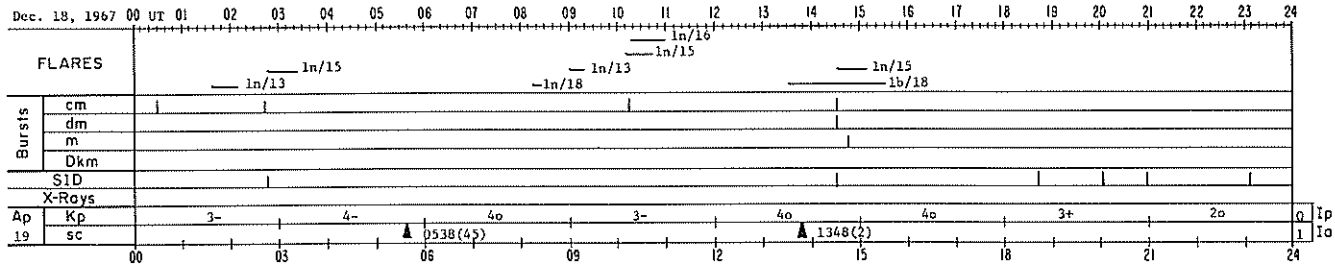
187 10 cm flux
160 Rz
CMP 9117 S18 16611 S24 (βp)1
16600 N09 (αp)4
16602 N20 (βp)3
16614 N20 (αp)2

Small proton increase shows on >10, 30 and 60 MeV counters on Explorer 34 with peak about 2200.



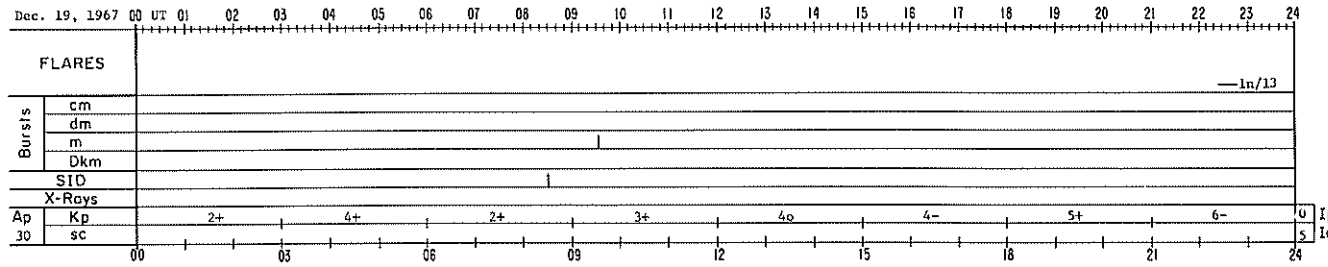
209 10 cm flux
172 Rz
CMP 9115 N14(4) 16607 N18 (6)5

Ionospheric F region slightly disturbed; small proton increase on >10, 30 and 60 Mev counters on Explorer 34 continues with second peak about 2100.



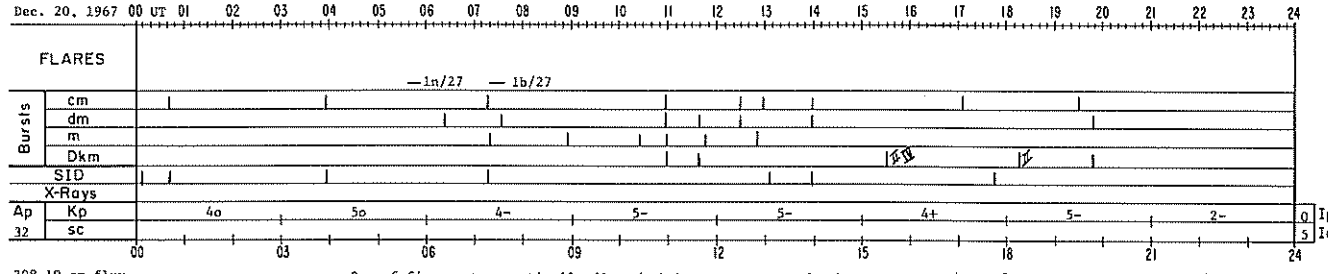
219 10 cm flux
170 Rz

Aurora overhead over USSR at ϕ = 58° 1400-1500 and at ϕ = 57° 1600-1700; ionospheric F region slightly disturbed.



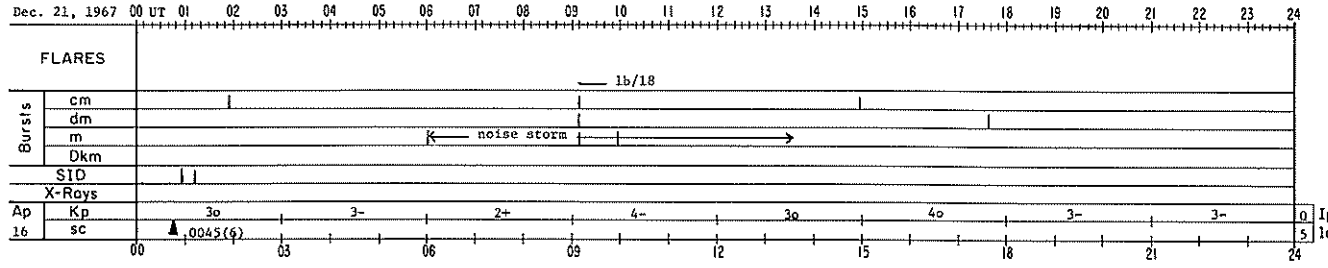
212 10 cm flux
129 Rz

One of five most magnetically disturbed days; rayed auroral arc overhead over W. Europe at ϕ = 66° and visible to ϕ = 56° 2130-2230; aurora overhead over USSR at ϕ = 55° 1400-1900 and at ϕ = 58° 2000-2100; ionospheric F region slightly disturbed with some auroral blackout.



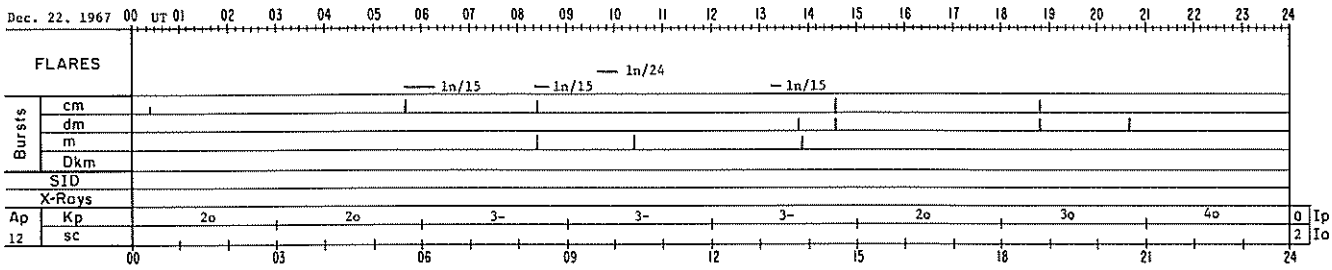
208 10 cm flux
141 Rz
CMP (16609) N20 (αp)1
(16623) N14 β
(16631) S12 (βf)3

One of five most magnetically disturbed days; aurora overhead over USSR at ϕ = 58° 1600-2200 and at ϕ = 57° 1900; lowest intensity on the long duration cosmic ray decrease; ionospheric F region disturbed with auroral blackout.



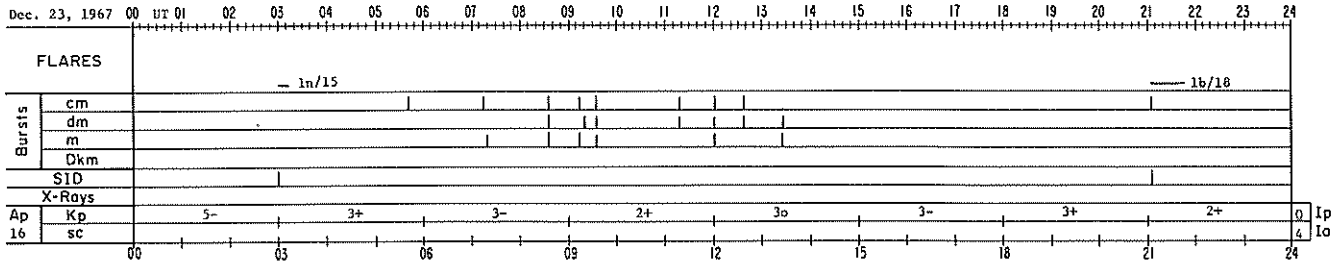
205 10 cm flux
130 Rz
CMP 9121 S10
16610 N23 βf
16620 N22 βf

Auroral light visible through clouds over W. Europe at ϕ = 59° 1715-2310; ionospheric F region slightly disturbed.



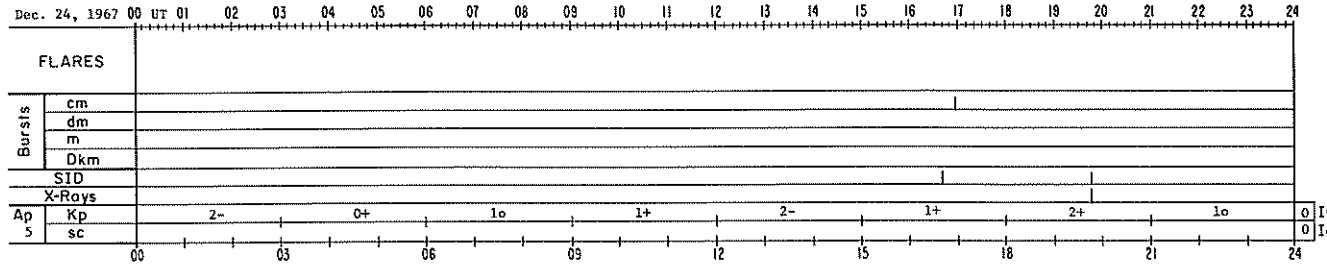
188 10 cm flux
105 Rz
CMP 9118 N21(4&2)
9125 S16 16621 S17 (βp)5
16616 S28 (β)1

Br. green corona 7 days earlier on NE limb.



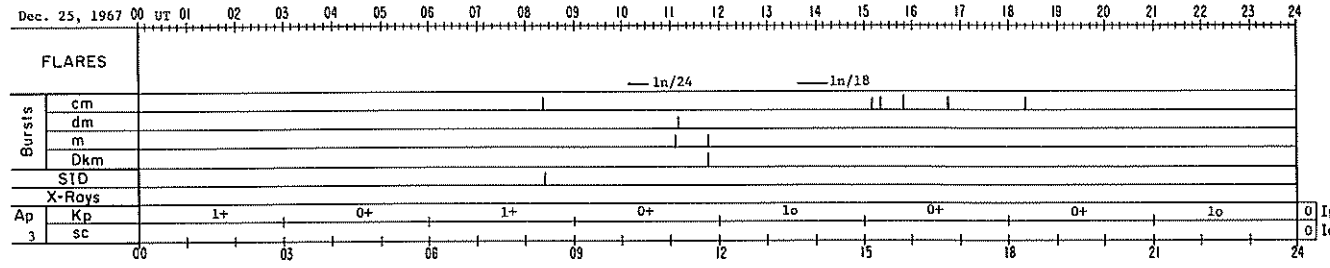
170 10 cm flux
101 Rz
CMP 9122 S14(4) (16617) S15 αp
9120 S27(2) 16622 S25 (βγ)5

Cosmic ray recovery takes place; ionospheric F region slightly disturbed; br. green corona 7 days earlier on NE limb.



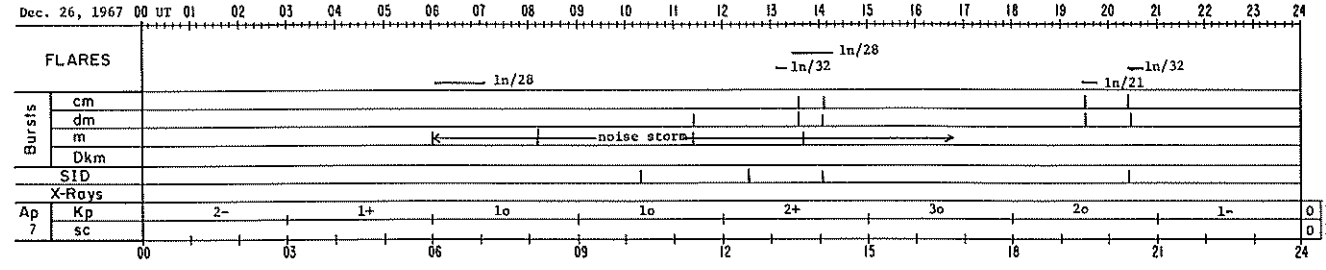
158 10 cm flux
91 Rz
CMP (9123) N16
(16632) S18 (αp)2

One of ten magnetically quiet days; aurora overhead over USSR at ϕ = 59° 1500; br. green corona 7 days earlier on SE limb and 7 days later on SW limb.



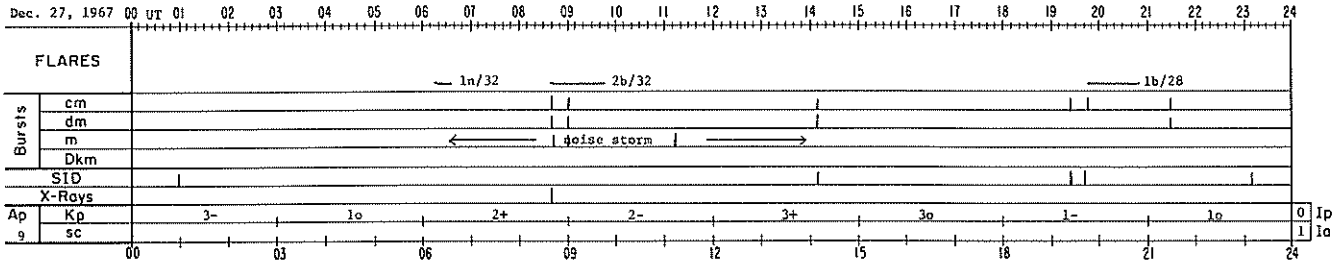
165 10 cm flux
111 Rz
CMP 9124 S20(2&3) 16624 S18 αp
9126 N18(2&3)
(16627) S19 αp

One of five magnetically quiet days; ionospheric F region relatively quiet; br. green corona 7 days earlier on SE limb.



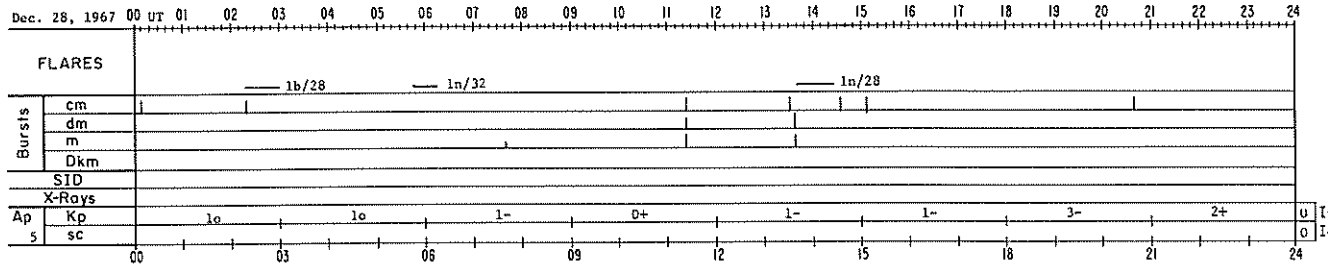
171 10 cm flux
142 Rz
CMP 9130 N08
16619 N15 (αp)2

One of ten magnetically quiet days; br. green corona 7 days later on SW and NW limbs.



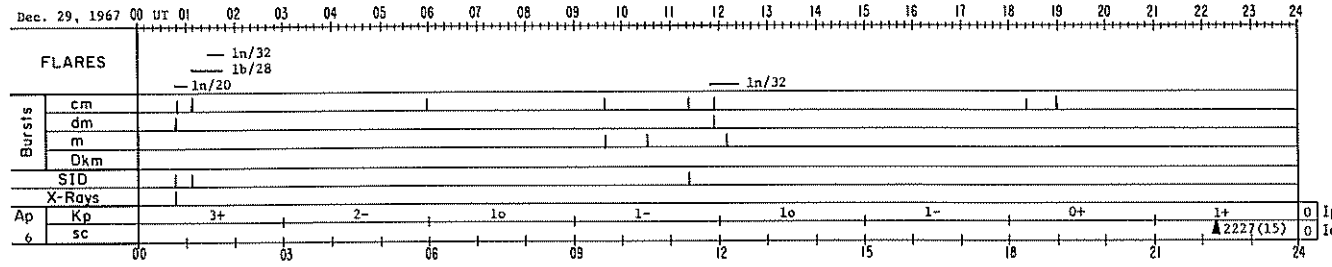
183 10 cm flux
140 Rz
CMP 9131 N26
9127 N18
16626 S17 (βp)5

Br. green corona 7 days earlier on SE limb.



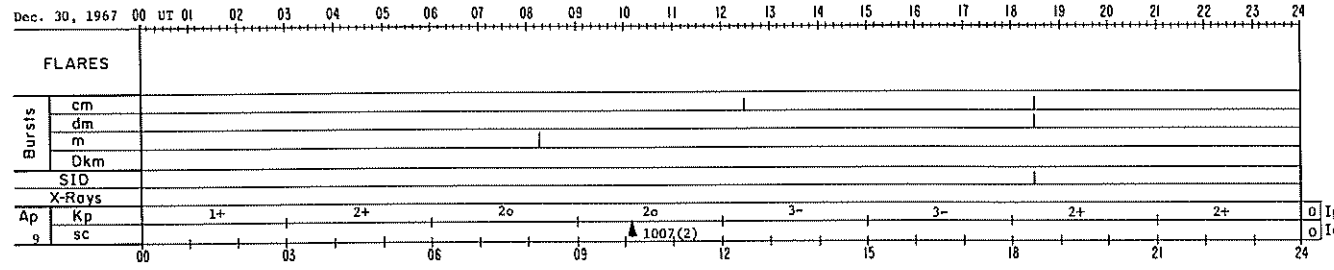
190 10 cm flux
165 Rz
CMP 9128 S19(4&5) 16618 S23 (βf)2
(16625) S17 αp
(16633) S15 (αp)3

Though slight activity end of day, one of five magnetically quiet days; ionospheric F region relatively quiet; br. green corona 7 days later on SW limb.



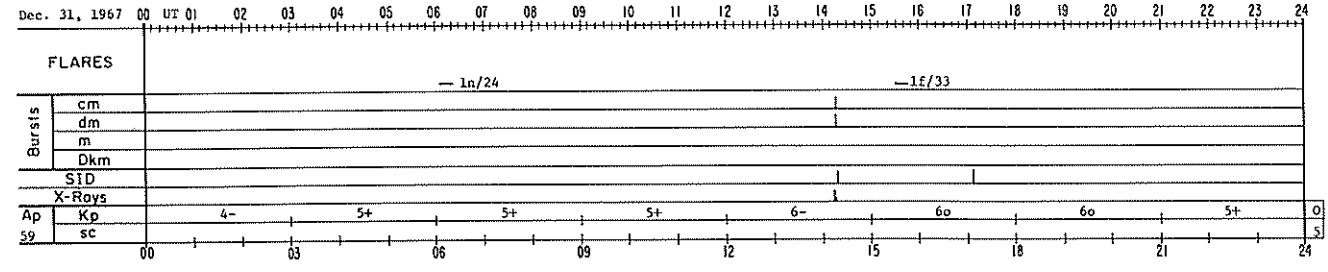
182 10 cm flux
141 Rz
CMP 9129 N21
(16636) N09 (αp)1

One of ten magnetically quiet days; cosmic ray decrease of about 3% near end of day, followed by very gradual recovery until Jan. 9



164 10 cm flux
124 Rz
CMP (9143) N41
9134 S27

Ionospheric F region slightly disturbed in some sectors.



158 10 cm flux
119 Rz
CMP 9132 S13(2) 16629 S13 (αp)4
9133 S27
16628 S16 (βp)4

One of most disturbed days in year; one of five most magnetically disturbed days; aurora overhead over N. America at ϕ = 58° 1200-1700; auroral light visible through clouds over W. Europe at ϕ = 59° 0145-0610, rayed arc or band, sometimes homogeneous, sometimes multiple and striated, overhead at ϕ = 63-65° 1700-0100 and later overhead only north of ϕ = 64°, visible occasionally to ϕ = 55°; aurora overhead over USSR at ϕ = 57° 0900-1000 and 1800-2000, and at ϕ = 55° 1100-1700 and 2000-2100; ionospheric F region very disturbed with auroral blackout.

APPENDIX

LIST OF SELECTED STANDARD SOLAR-GEOPHYSICAL DATA PUBLICATIONS

For convenience of the research worker, a selected list of periodic publications by observatories, institutions or international scientific organizations follows. The selection is mainly concerned with solar observations, geomagnetic indices and observations of distinctive geophysical events. Those containing mainly the results of synoptic observations for ionosphere, geomagnetic, cosmic rays, etc., are not included.

Other lists of publications can be found in Annals of the IQSY, Volume 1, pp. 308-309, M.I.T. Press, 1968, or in the AFCRL Geophysics and Space Data Bulletin, Vol. IV, No. 2, Second Quarter 1967.

The following list is by title, author or editors, publisher and publication frequency. Subset below each entry is information on the period of the data included in one of the latest issues (date of first issue given for some series) together with their issue date (or time of receipt at WDC-A). General data contents of the latest issue are specified.

Twice monthly

"Daily Maps of the Sun", K. O. Kiepenheuer, Fraunhofer-Institut, Freiburg/Breisgau, German Federal Republic. Twice monthly.

Data for October 16-31, 1968, received WDC-A November 1968.

Monthly

1. "Photographic Journal of the Sun", editor M. Cimino - Osservatorio Astronomico di Roma, Italia. Monthly.

   First issue January 1968
   No. 10 - Solar Rotation 1538, data for 1968 August 21 - 1968 September 17, received WDC-A November 1968.

   Daily Hα and K_{232} chromosphere pictures

2. "L'Activité Solaire", M. J. Martres, Observatoire de Meudon, published in L'Astronomie. Monthly.

Data for 19 December 1967 - 15 January 1968, issued June-July 1968, received WDC-A September 1968.

Faculae, filaments and sunspots on 27-day rotation chart and table of remarkable prominences.

3. "Solar-Geophysical Data" (IER-FB formerly CRPL-F Part B series), edited by J. V. Lincoln and H. I. Leighton, ESSA Research Laboratories, Environmental Science Services Administration, Boulder, Colorado, U.S.A. - 80302. Monthly.

First issue CRPL-F135 Part B, data for September and October 1955, issued November 1955.

IER-FB291 data for May, September and October 1968, issued November 1968, received WDC-A December 1968.

Alert periods, daily solar indices, solar centers of activity, solar flares, sudden ionospheric disturbances, solar radio waves - fixed frequency and spectral, solar wind, solar proton monitoring and events, coronal line emission indices, solar x-ray radiation, cosmic ray neutron monitoring, geomagnetic indices including principal magnetic storms and sudden commencements, radio propagation indices.

4. "Ionospheric Data" (CRPL-FA), edited by Institute for Telecommunication Sciences, ESSA, Boulder, Colorado, U.S.A. 80302. Monthly.

IRPL-F1 issued September 1944
CRPL-FA289, data for miscellaneous periods back to 1963, issued September 1968, received WDC-A November 1968.

Worldwide monthly median tables and graphs of up to 11 ionospheric characteristics. Data usually less than two years old.

5. World Data Center A "Upper Atmosphere Geophysics Reports" (UAG series), ESSA Research Laboratories, Boulder, Colorado, U.S.A. 80302. Irregular.

UAG-1, IQSY airglow data, issued July 1968
UAG-2, Solar flares 1964-1966, issued August 1968
UAG-3, Jupiter emissions 6 July 1966 through 8 September 1968, issued November 1968

6. "КОСМИЧЕСКИЕ ДАННЫЕ" (Cosmic Data), chief editor N. Benkova, IZMIRAN p/o Academichesky gorodok, Moscow Obl., USSR. Monthly.

No. 3 (133), data for March 1967, issued 1968, received WDC-A October 1968.

Geomagnetic variations, ionosphere, cosmic rays, earth currents, sunspot numbers.

7. "СОЛНЕЧНЫЕ ДАННЫЕ" (Solar Data), chief editor V. A. Krat, Central Astronomical Observatory of the USSR Academy of Sciences, Leningrad M-140, USSR. Monthly.

1968 No. 6, data for June 1968, published September 1968, received WDC-A November 1968.

Solar centers of activity, magnetograms, sunspots, filaments, prominences, flares, solar radio emissions - fixed frequency and spectral, corona and short research articles.

8. "Solare Beobachtungsergebnisse" (Solar Data), edited H. Daene, F. W. Jäger, F. Fürstenberg, H. Künzel, D. Schulz, W. Dittmar, Heinrich-Hertz-Institut für Solar-Terrestrische Physik, DDR 1199 Berlin-Adlershof. Monthly.

Vol. 19(68), data for September 1968, received WDC-A November 1968.

Solar radio emission, sunspot magnetic data.

9. "Geophysikalische Beobachtungsergebnisse" (Geophysical Data), edited J. Taubenheim, K. Sprenger, R. Knuth, W. Dittmar, Heinrich-Hertz-Institut für Solar-Terrestrische Physik, DDR 1199 Berlin-Adlershof. Monthly.

Vol. 19(68), data for August 1968, received WDC-A November 1968.

Ionosphere, atmospheric noise, cosmic rays.

10. "Ionospheric Data in Japan", the Radio Research Laboratories, Ministry of Posts and Telecommunications, Kokubunji, Tokyo, Japan. Monthly.

Vol. 20 No. 5, data for May 1968, issued August 1968, received WDC-A October 1968.

Ionospheric and solar radio emission data and radio propagation conditions.

11. "The Netherlands Monthly Bulletin - Ionospheric, Geomagnetic, Cosmic Ray, Solar Radio Noise and Earth Current Data", Joint publication of Royal Netherlands Meteorological Institute, de Bilt,

Section Ionosphere and Radio Astronomy of the Netherlands PTT, Physics Laboratory of the University of Amsterdam. Monthly.

Data for June 1968, received WDC-A November 1968.

12. "Ionospheric Data Part 1", Radio Propagation Unit, National Physical Laboratory, Delhi-12, India. Monthly.

First issue January 1955; first issue as Part 1 January 1966; RRC-A141, data for February 1967, received WDC-A October 1968.

13. "Solar and Geophysical Data Part 2", Radio Propagation Unit, National Physical Laboratory, Delhi-12, India. Monthly.

First issue as Part 2 January 1966; data for April 1968, issued May 1968, received WDC-A October 1968.

Sunspot numbers, solar radio noise, solar flares, sfe's, magnetic storms, sudden ionospheric disturbances.

Quarterly

1. "Geophysics and Space Data Bulletin", edited A. L. Carrigan and N. J. Oliver, Air Force Cambridge Research Laboratories, L. G. Hanscom Field, Mass. Quarterly.

Vol. I, No. 1, data for January-March 1964, issued July 1964.
Vol. V, No. 2, data for April-June 1968, issued October 1968.

Geomagnetic, cosmic ray, riometer, solar and ionospheric data.

2. "Kiruna Geophysical Data", edited by G. Gustafson, L. Liszka, Kiruna Geophysical Observatory, Kiruna C., Sweden. Quarterly.

66/4, data for October-December 1966, received WDC-A May 1968.

Geomagnetic K-indices, ionospheric absorption, visible aurora index, earth currents, magnetic pulsations.

Supplements irregularly such as "PCA Events", "Q indices", etc.

3. "High Latitude Geophysical Data", edited by M. J. Young, Geophysical Institute, University of Alaska, College, Alaska. Quarterly (formerly monthly). Publication suspended with April-June 1968 data.

Data for July 1959 in UAG-C1, issued December 1962
Data for April-June 1968 in UAG-C52, issued June 1968, received WDC-A September 1968.

30 MHz cosmic noise records, 68 MHz radio star scintillation, N-S telluric current records, magnetic micropulsation activity, geomagnetic activity.

4. "Quarterly Bulletin on Solar Activity", International Astronomical Union, Eidgen. Sternwarte, Zürich, Switzerland. Quarterly.

   No. 158 for April-June 1967, received WDC-A September 1968.

   Sunspots, solar flares, active solar regions, coronal intensities, coronal isophotes, solar radio emission.

5. "SPARMO Bulletin", Solar Particles and Radiations Monitoring Organization, Secretariat du SPARMO, 2 Rue des Vertugadins-92, Meudon, France. Four issues per year.

   Vol. II, No. 3 and 4, data for 1967, received WDC-A August 1968.

   Cosmic ray balloon data.

Yearly

1. "Heliographic Maps of the Photosphere", M. Waldmeier, Publikationen der Eidgenössischen Sternwarte, Zürich, Switzerland. Yearly.

   Band XIII Heft 1, data for 1966, published 1967.

   Evolution of sunspot groups by solar rotation.

2. "Photoheliographic Results in Year", Royal Observatory Bulletin, R.v.d. R. Woolley, Astronomer Royal, Royal Greenwich Observatory, Herstmonceux Castle, Hailsham, Sussex, England.

   Data for 1960 published in 1967.

   Daily positions and areas of sunspots, general catalogue of groups of sunspots, sunspots seen on one day only, daily total areas of sunspots and faculae, mean areas and heliographic latitude of sunspots by rotation.

3. "Cartes Synoptiques de la Chromosphere Solaire et Catalogues des Filaments et des Centres d'Activité", edited M. J. Martres, Section d'Astrophysique Observatorie de Paris, 92 Meudon, France. Normally yearly.

   Vol. IV, Fascicule IV, data for years 1964-1965, published 1966.

   Filaments and active centers by solar rotation.

4. "Geomagnetic Indices K and C" (IAGA Bulletin No. 12 series), IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris (V) France. Yearly.

   No. 12 sl, data for 1964, issued in 1967.

5. Magnetograms and Hourly Values (U. S. - operated stations) U. S. Department of Commerce, Coast and Geodetic Survey, Washington, D. C. Yearly.

Special issues

1. "Calendar Record for the IGY", A. H. Shapley and J. V. Lincoln, Annals IGY, 16, 1-157, 1962, Pergamon Press, London.

2. "Calendar Record for the IGC 1959", A. H. Shapley and J. V. Lincoln, Annals IGY, 16, 201-300, 1963, Pergamon Press, London.

3. "Solar and Geophysical Events 1960-1965 (Calendar Record)", J. V. Lincoln, Annals of the IQSY, 2, 1-297, 1968, M.I.T. Press, Mass., U.S.A.

4. "Geomagnetic Planetary Indices Kp, Ap and Cp, 1932-1961", J. Bartels, IAGA Bulletin No. 18, IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris (V) France.

5. "Hourly Values of the Auroral Electrojet Activity Index AE", T. N. Davis, C. Echols and Y. S. Wong, Geophysical Institute, University of Alaska, College, Alaska, U.S.A.

   Data for July-December 1957 in UAG R-194, published March 1968
   January-December 1958 in UAG R-192, published July 1967
   January-December 1959 in UAG R-195, published October 1967
   January-December 1960 in UAG R-199, published March 1968
   January-December 1961 in UAG R-196, published October 1967
   January-December 1962 in UAG R-197, published October 1967
   January-December 1963 in UAG R-200, published March 1968
   January-December 1964 in UAG R-198, published September 1967

6. "Provisional Hourly Values of Equatorial Dst for 1961, 1962 and 1963", M. Sugiura and S. Hendricks, NASA Technical Note (TN-D-4047), National Aeronautics and Space Administration, Washington D. C., August 1967.

Upper Atmosphere Geophysics Report UAG-1
"IQSY Night Airglow Data" by L. L. Smith, F. E. Roach and J. M. McKennan of Aeronomy Laboratory, ESSA Research Laboratories, July 1968, single copy price $1.75.

Upper Atmosphere Geophysics Report UAG-2
"A Reevaluation of Solar Flares, 1964-1966" by Helen W. Dodson and E. Ruth Hedeman of McMath-Hulbert Observatory, The University of Michigan, August 1968, single copy price 30 cents.

Upper Atmosphere Geophysics Report UAG-3
"Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41MHz, 6 July 1966 through 8 September 1968" by James W. Warwick and George A. Dulk, Department of Astro-Geophysics, University of Colorado, October 1968, single copy price 30 cents.

USCOMM-ESSA-ASHEVILLE--1/15/69--1100