CRPL-F 98

IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
WASHINGTON, D. C.

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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist..

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in Document No. 626-E referred to above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, L, M, N, Q, S, or T are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic. This practice represents a change from that listed in issues previous to CRPL-F78.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G (and B when applied to the daytime E region only) are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when foF2 is less than or equal to foF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily, a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number							
	1952	1951	1950	1949	1948	1947	1946	1945
December		53	86	108	114	126	85	38
November		52	87	112	115	124	83	36
October		52	90	114	116	119	81	23
September	46	54	91	115	117	121	79	22
August	49	57	96	111	123	122	77	20
July	51	60	101	108	125	116	73	
June	52	63	103	108	129	112	67	
May	52	68	102	108	130	109	67	
April	52	74	101	109	133	107	62	
March	52	78	103	111	133	105	51	
February	51	82	103	113	133	90	46	
January	53	85	105	112	130	88	42	

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 57 and figures 1 to 114 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:
- Buenos Aires, Argentina
- Decepcion I.

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Brisbane, Australia
- Hobart, Tasmania
- Townsville, Australia

British Department of Scientific and Industrial Research, Radio Research Board:
- Falkland Is.
- Ibadan, Nigeria (University College of Nigeria)
- Inverness, Scotland
- Port Lockroy
- Singapore, British Malaya
- Slough, England

Defence Research Board, Canada:
- Baker Lake, Canada
- Churchill, Canada
- Fort Chimo, Canada
- Ottawa, Canada
- Prince Rupert, Canada
- Resolute Bay, Canada
- St. John's, Newfoundland
- Winnipeg, Canada

Radio Wave Research Laboratories, National Taiman University, Taipeh, Formosa, China:
- Formosa, China

Danish National Committee of URSI:
- Godhavn, Greenland

French Ministry of Naval Armaments (Section for Scientific Research):
- Djibouti, French Somaliland
- Tananarive, Madagascar

The Royal Netherlands Meteorological Institute:
- De Bilt, Holland

Indian Council of Scientific and Industrial Research, Radio Research Committee:
- Calcutta, India

Norwegian Defence Research Establishment, Kjeller per Lillestrom, Norway:
- Oslo, Norway
- Tromso, Norway

South African Council for Scientific and Industrial Research:
- Capetown, Union of South Africa
- Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
- Upsala, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:
- Schwarzenburg, Switzerland

United States Air Force:
    Cocoa, Florida

United States Army Signal Corps:
    Adak, Alaska
    Okinawa I.
    White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
    Anchorage, Alaska
    Batavia, Ohio (mobile unit)
    Guam I.
    Huancayo, Peru (Instituto Geofisico de Huancayo)
    Maui, Hawaii
    Narsarssuak, Greenland
    Panama Canal Zone
    Point Barrow, Alaska
    Puerto Rico, W. I.
    San Francisco, California (Stanford University)
    Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 58 to 69 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at Ft. Belvoir, Virginia.

IONOSPHERIC STORMINESS AT WASHINGTON, D.C.

Table 70 presents ionosphere character figures for Washington, D. C., during September 1952, as determined by the criteria given in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

RADIO PROPAGATION QUALITY FIGURES

Table 71a gives the radio propagation quality figures (North Atlantic area) for August 1952.

In addition to the radio propagation quality figures for 00 to 12 and 12 to 24 hours UT (Universal Time or GCT) for each day, the table in this report lists some of the CRPL forecasts for North Atlantic paths for the same periods of time: (1) short-term forecasts, issued every six hours for a 12-hour period, (2) advance forecasts (semiweekly CRPL-J reports) issued from one to twenty-five days in advance. The table also gives half-day averages of geomagnetic K-indices measured by the Cheltenham Magnetic Observatory of the U. S. Coast and Geodetic Survey. Part b of the table illustrates the comparison between the short-term forecasts and the quality figures. The forecasts are plotted approximately at the time of issue, and they are intended to represent conditions in the 12-hour period following. The figure also illustrates the overall outcome of the advance forecasts, issued one to three or four days ahead, and in comparison is shown the result if these same forecasts were issued at random during the month.

The radio propagation quality figures are prepared from radio traffic data reported to CRPL by a method similar to that described in IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," now out of print. Beginning with the recalculated figures for January 1952, only reports of radio transmission on North Atlantic paths closely approximating New York-London are included in the estimation of quality. Observations of selected ionospheric characteristics, even though strongly correlated with radio transmission quality, and traffic reports for paths such as New York-Stockholm or New York-Tangier, previously included in the quality-figure determination with low weight, have been left out of the present calculations inasmuch as a sufficient number of homogeneous reports are now available.

The original reports are submitted on various scales and for various time intervals. The observations for each Greenwich half day are averaged on the quality scale of the original reports. These half-day indices are then adjusted to the 1 to 9 quality-figure scale. The conversion table was prepared by comparing the distribution of these indices for at least four months, usually a year, with a master distribution determined from analysis of the reports made on the 1 to 9 quality-figure scale. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. Each report is given a statistical weight which is the reciprocal of the departure from linearity. Each half-daily radio propagation quality figure, beginning January 1948, is the weighted mean of the reports received for that period.

These quality figures are, in effect, a consensus of reported radio propagation conditions in the North Atlantic area. The reasons for low quality are not necessarily known and may not be limited to ionospheric storminess. For instance, low quality may result from improper frequency usage for the path and time of day. Although, wherever it is reported, frequency usage is included in the rating of reports, it must often be an assumption that the reports refer to optimum working frequencies. It is more difficult to eliminate from the indices conditions of low quality because of multipath, interference, etc. These considerations should be taken into account in interpreting research correlations between the Q-figures and solar, auroral, geomagnetic or similar indices.

In comparison of forecasts and quality figures the following conventions apply: Short-term forecasts -- direct comparison by half days, both forecast and quality figure being on the Q-scale. Only the forecasts for 00-12 and 12-24 hours are evaluated; the results for the intervening forecasts should be similar. Advance forecasts -- the whole-day forecast, on the Q scale, is compared with a whole-day index derived from the two half-daily quality figures, when different, as follows: if either half-day Q-figure is 4 or less, the whole-day index is the lower of the two; if both half-day Q-figures are 6 or more, the whole-day index is the higher of the two; if the 00-12 Q-figure is 5 and the other is greater than 5, the whole-day index is the higher; if the 00-12 Q-figure is greater than 5 and the other is 5, the whole-day index is 5.

Note. The North Pacific quality figures which were published through October 1951 have been temporarily discontinued. Since the establishment of the North Pacific Radio Warning Service at Anchorage, Alaska, a larger number of reports are being received than were previously available in Washington. The preparation of the quality figures will be resumed when sufficient data have been accumulated for determination of conversion tables for these new reports.

OBSERVATIONS OF THE SOLAR CORONA

Tables 72 through 74 give the observations of the solar corona during September 1952, obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 75 through 77 list the coronal observations obtained at Sacramento Peak, New Mexico, during September 1952, derived by the High Altitude Observatory from spectrograms taken by Harvard University as a part of its performance of an Air Materiel Command Research and Development Contract administered by the Air Force Cambridge Research Laboratories. The data are listed separately for east and west limbs at 5-degree intervals of position angle north and south of the Solar Equator at the limb. The time of observation is given to the nearest tenth of a day, GCT.

Table 72 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 73 gives similarly the intensities of the first red (6374A) coronal line; and table 74, the intensities of the second red (6702A) coronal line; all observed at Climax in September 1952.

Table 75 gives the intensities of the green (5303A) coronal line; table 76, the intensities of the first red (6374A) coronal line; and table 77, the intensities of the second red (6702A) coronal line; all observed at Sacramento Peak in September 1952.

The following symbols are used in tables 72 through 77: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

RELATIVE SUNSPOT NUMBERS

Table 78 lists the daily provisional Zurich relative sunspot number, R_Z, as communicated by the Swiss Federal Observatory. Table 79 continues the new series of American relative sunspot numbers, R_A'. Beginning with 1951, the observations collected by the Solar Division, AAVSO, have been reduced according to a new procedure, such that only high quality observations of experienced observers are combined into R_A'. Observatory coefficients for each of the 28 selected observers were recomputed on data for 1948-1950, years when there was a wide range of solar activity. Otherwise, the procedure is that outlined in Publication of the Astronomical Society of the Pacific, 61, 13, 1949. The scale of the American numbers in 1951 differs from that of the reports for earlier years because of these changes, and the new series is designated R_A' rather than R_A. The American relative sunspot numbers appear monthly in these pages as communicated by the Solar Division.

OBSERVATIONS OF SOLAR FLARES

Table 80 gives the preliminary record of solar flares reported to the CRPL. These reports are communicated on a rapid schedule at the sacrifice of detailed accuracy. Definitive and complete records are published later in the Quarterly Bulletin of Solar Activity, I.A.U., in various observatory publications, and elsewhere. The present listing serves to identify and roughly describe the phenomena observed. Details should be sought from the reporting observatory.

Reporting directly to the CRPL are the following observatories: Mt. Wilson, McMath-Hulbert, U. S. Naval, Wendelstein, Kanzel and High Altitude at Sacramento Peak, New Mexico. The remainder report to Meudon (Paris), and the data are taken from the Paris-URSIgram broadcast, monitored fairly regularly by the CRPL. The data on solar flares reported from Sacramento Peak, New Mexico, communicated by the High Altitude Observatory at Boulder, Colorado, are provided by Harvard University as the result of work undertaken on an Air Materiel Command Research and Development Contract administered by the Air Force Cambridge Research Laboratories.

The table lists for each flare the reporting observatory, date, times of beginning and ending of observation, duration (when known), total area (corrected for foreshortening), and heliographic coordinates. For the maximum phase of the flare is given the time, intensity, area relative to the total area, and the importance. The column "SID observed" is to indicate when a sudden ionosphere disturbance, noted elsewhere in these reports, occurred at the time of a flare. Times are in Universal Time (GCT).

INDICES OF GEOMAGNETIC ACTIVITY

Table 81 lists various indices of geomagnetic activity based on data from magnetic observatories widely distributed throughout the world. The indices are: (1) preliminary international character-figures, C; (2) geomagnetic planetary three-hour-range indices, Kp; (3) magnetically selected quiet and disturbed days.

The C-figure is the arithmetic mean of the subjective classification by all observatories of each day's magnetic activity on a scale of 0 (quiet) to 2 (storm). The magnetically quiet and disturbed days are selected by the international scheme outlined on pages 219-227 in the December 1943 issue of Terrestrial Magnetism and Atmospheric Electricity. The details of the currently used method follow. For each day of a month, its geomagnetic activity is assigned by weighting equally the following four criteria: (1) C; (2) the sum of the eight Kp's; (3) the greatest Kp; and (4) the sums of the squares of the eight Kp's.

Kp is the mean standardized K-index from 11 observatories between geomagnetic latitudes 47 and 63 degrees. The scale is 0 (very quiet) to 9 (extremely disturbed), expressed in thirds of a unit, e.g. 5- is 4 2/3, 5o is 5 0/3, and 5+ is 5 1/3. This planetary index is designed to measure solar particle-radiation by its magnetic effects, specifically to meet the needs of research workers in the ionospheric field. A complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948," published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics. Tables of Kp for 1945-48 are in Bulletin 12b; for 1940-44 and 1949, in these CRPL-F reports, F65-67; for 1950, monthly in F68 and following issues. Current tables are also published quarterly in the Journal of Geophysical Research along with data on sudden commencements (sc) and solar flare effects (sfe).

The Committee on Characterization of Magnetic Disturbance, ATME, IUGG, has kindly supplied this table. The Meteorological Office, De Bilt, Holland, collects the data and compiles C and selected days. The Chairman of the Committee computes the planetary index. At the meeting of ATME held in Brussels in August 1951, it was decided that the computation of Kw would be discontinued after the month of December 1951 since Kp is available from January 1, 1940. Kw, therefore, no longer appears in these reports.

SUDDEN IONOSPHERE DISTURBANCES

Tables 82, 83, and 84 list respectively the sudden ionosphere disturbances observed at Ft. Belvoir, Virginia, September 1952; in England, August and September 1952; and at Lindau/Harz, Germany, August 1952.

TABLES OF IONOSPHERIC DATA

Table 1

Washington, D. C. (38.7°N, 77.1°W) — September 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.1						3.0
01	280	2.9						3.0
02	280	2.5						2.9
03	280	2.4					3.0	(3.0)
04	(290)	2.2					2.1	3.0
05	(280)	2.0					3.2	3.0
06	250	3.3			120	—	2.7	3.3
07	250	4.5	230	—	110	2.2	3.2	3.3
08	280	5.0	220	3.8	110	2.6	3.4	3.3
09	300	5.4	210	4.1	100	2.9		3.2
10	320	5.6	200	4.2	100	3.1		3.1
11	330	5.8	200	4.3	100	3.2		3.1
12	330	6.0	190	4.4	100	3.2		3.0
13	330	6.0	200	4.3	100	3.2		3.1
14	310	6.0	210	4.3	100	3.1		3.1
15	300	6.2	220	4.1	100	2.9		3.1
16	280	6.2	220	3.8	110	2.7		3.2
17	270	6.2	230	3.4	110	2.2	3.0	3.2
18	240	6.0	240	—	120	—		3.2
19	230	5.8						3.2
20	230	4.8						3.0
21	250	4.2						3.0
22	260	3.6						3.0
23	270	3.4						2.9

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 2

Tromso, Norway (69.7°N, 19.0°E) — August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	350	4.0	---	---	---	---	4.4	2.8
01	320	3.6	---	---	---	---	3.4	2.9
02	(295)	(3.3)	---	---	---	---	3.8	(3.0)
03	(330)	3.6	290	---	---	---	3.2	2.9
04	(320)	3.7	250	---	100	1.6	3.0	2.9
05	(340)	4.1	240	---	105	1.9	3.0	3.0
06	(355)	4.4	245	3.4	100	2.2	3.0	3.0
07	350	4.6	230	3.8	100	2.4	3.0	3.0
08	365	4.8	215	3.8	100	2.5	2.7	3.0
09	370	5.0	220	4.0	100	2.6	2.8	2.8
10	365	5.1	215	4.1	100	2.7	2.8	2.9
11	330	5.2	215	4.1	100	2.8		3.1
12	335	5.2	210	4.1	100	2.8		3.0
13	345	5.1	210	4.1	100	2.8		3.0
14	355	5.0	210	4.0	100	2.7		3.0
15	330	5.0	220	4.0	105	2.6		3.1
16	320	4.9	230	3.8	105	2.4		3.1
17	(310)	5.0	235	3.6	105	2.3	2.6	3.1
18	(340)	4.8	240	---	105	2.1	3.0	3.1
19	310	4.6	250	---	110	1.8	3.2	3.1
20	305	4.4	---	---	110	1.5	3.2	3.0
21	305	4.1	---	---	---	---	3.7	3.0
22	325	4.0					4.2	2.9
23	(310)	4.0					3.8	2.9

Time: 15.0°E.
Sweep: 0.6 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 3

Anchorage, Alaska (61.2°N, 149.9°W) — August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.9						3.0
01	320	2.7					3.1	3.0
02	320	2.6						3.0
03	310	2.7	---	---	---	---	1.7	3.0
04	290	2.8	---	---	---	---	1.8	3.0
05	350	3.4	250	2.9	120	1.7		3.0
06	410	3.8	230	3.3	110	2.1		2.8
07	430	4.1	220	3.5	110	2.4		2.8
08	440	4.3	210	3.7	110	2.6		2.8
09	440	4.5	200	3.9	110	2.8		2.8
10	430	4.6	200	4.0	110	2.9		3.0
11	410	4.8	200	4.1	110	3.0		3.0
12	400	4.8	200	4.1	110	3.1		3.0
13	420	4.7	200	4.1	110	3.1		3.0
14	420	4.6	210	4.0	110	3.0		3.0
15	400	4.7	210	4.0	110	2.9		3.0
16	370	4.7	220	3.9	110	2.7		3.0
17	320	4.7	220	3.7	110	2.5		3.2
18	290	4.6	230	3.5	120	2.2		3.3
19	260	4.4	250	---	120	---	2.0	3.3
20	250	4.4	---	---	---	---		3.3
21	260	4.2						3.2
22	260	3.7					2.5	3.2
23	270	3.1					1.7	3.1

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 4

Narsarssuak, Greenland (61.2°N, 45.4°W) — August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	420	(3.4)					6.2	(2.4)
01	(410)	(3.2)					4.7	(2.4)
02	(430)	(3.7)					4.7	(2.6)
03	(420)	(3.3)					5.0	(2.5)
04	(380)	(3.2)					4.6	(2.7)
05	350	(3.6)	---	---	---	---	5.5	2.9
06	320	4.0	---	---	130	2.1	4.5	2.8
07	380	4.2	300	3.7	130	2.4	3.4	2.8
08	470	4.4	280	3.9	130	2.7	3.2	2.6
09	500	4.8	280	4.0	130	2.8	3.6	2.6
10	500	4.8	280	(4.1)	120	3.0		2.6
11	480	4.8	260	4.1	120	3.0		2.6
12	500	4.9	260	4.2	130	3.0		2.5
13	480	5.0	260	4.1	130	3.0		2.6
14	510	4.9	260	4.1	130	2.9		2.5
15	480	4.8	270	4.0	120	2.9	3.0	2.5
16	470	(4.8)	280	4.0	130	2.7	3.4	(2.6)
17	430	(4.7)	290	3.8	130	2.5	4.0	(2.7)
18	400	(4.6)	310	3.5	140	2.3	4.5	(2.7)
19	380	(4.6)	---	---	---	---	4.5	(2.6)
20	360	(4.2)			---	---	5.0	(2.7)
21	(380)	(4.2)					7.6	(2.6)
22	(360)	(3.8)					4.9	(2.5)
23	380	(3.7)					6.0	(2.5)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 5

Oslo, Norway (60.0°N, 11.1°E) — August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	3.4						2.9
01	285	3.0						2.8
02	300	2.7					1.2	2.8
03	295	2.4					2.6	2.8
04	290	2.6	---	---	120	---	2.4	3.0
05	260	3.2	250	---	120	1.6	2.6	3.1
06	245	3.8	235	---	110	2.0	3.1	3.1
07	325	4.2	225	3.6	110	2.4	3.1	3.0
08	370	4.7	215	4.0	105	2.6	3.8	3.0
09	345	5.0	210	4.1	100	2.8	3.8	3.0
10	325	5.2	210	4.2	100	2.9	3.8	3.1
11	340	5.4	205	4.2	110	3.0	3.8	3.1
12	330	5.2	210	4.3	100	3.0	4.0	3.1
13	335	5.2	200	4.2	105	3.0	3.4	3.1
14	350	5.2	210	4.2	105	3.0	3.5	3.0
15	340	5.1	215	4.2	105	3.0	3.1	3.0
16	330	5.2	215	4.0	105	2.8	3.5	3.1
17	320	5.2	225	3.8	110	2.6	3.3	3.1
18	295	5.3	230	3.6	110	2.2	3.4	3.1
19	260	5.4	245	---	125	1.8	3.1	3.1
20	250	5.5	260	---	---	---	2.6	3.1
21	250	5.2						3.1
22	250	5.0						3.0
23	265	4.2						2.9

Time: 15.0°E.
Sweep: 1.3 Mc to 14.0 Mc in 8 minutes, automatic operation.

Table 6

Upsala, Sweden (59.8°N, 17.6°E) — August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.1					2.8	2.8
01	290	2.6					2.3	2.8
02	300	2.2					3.5	2.7
03	295	2.2					3.4	2.8
04	275	2.8	270	---	---	E	3.6	2.9
05	(405)	3.6	235	3.1	135	1.7	3.3	3.0
06	(420)	4.0	230	3.5	120	2.1	3.6	3.0
07	390	4.5	220	3.8	110	2.4	3.4	2.8
08	390	4.8	215	4.0	110	2.6	3.6	2.8
09	355	5.2	210	4.1	110	2.8	4.2	2.9
10	330	5.5	210	4.2	110	2.9	4.9	3.0
11	335	5.3	205	4.3	110	3.0	4.7	3.0
12	340	5.2	210	4.3	110	3.0	4.3	3.0
13	350	5.2	200	4.3	110	3.0	4.1	2.9
14	340	5.1	210	4.2	110	3.0	3.5	3.0
15	325	5.2	215	4.1	110	2.8	3.6	3.0
16	320	5.0	220	4.0	110	2.6	3.7	3.0
17	305	5.2	225	3.6	110	2.3	3.6	3.0
18	280	5.2	245	3.3	120	2.0	3.6	3.0
19	260	5.3	250	---	---	E	3.4	3.0
20	250	5.4			---	E	2.6	3.0
21	240	4.9					2.3	3.0
22	250	4.2						2.9
23	270	3.6						2.8

Time: 15.0°E.
Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 7

dak, Alaska (51.9°N, 176.6°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.7					2.3	3.0
01	280	3.1					2.6	2.9
02	280	3.0					2.2	2.9
03	290	3.0					2.1	2.9
04	290	2.8	---	---	---	E	2.6	2.9
05	400	3.3	260	2.9	130	1.5	2.6	2.8
06	400	4.2	240	3.3	120	2.1	3.7	2.8
07	380	4.8	230	3.7	110	2.4	4.7	2.9
08	370	5.1	210	3.9	110	2.7	4.5	3.0
09	370	5.0	210	4.1	110	2.9	6.2	3.0
10	410	5.0	200	4.2	110	3.0	6.3	2.8
11	400	4.9	200	4.2	110	3.1	5.2	2.9
12	400	5.0	200	4.2	110	3.1	4.3	2.9
13	430	5.0	210	4.2	110	3.1	4.4	2.8
14	370	5.0	210	4.2	110	3.0	3.7	3.0
15	360	4.8	220	4.1	110	2.9	3.4	3.0
16	330	4.9	220	4.0	110	2.7	3.5	3.1
17	310	4.8	240	3.7	110	2.4	3.9	3.1
18	290	5.0	240	3.4	120	1.9	3.7	3.1
19	260	5.2	260	---	---	E	3.5	3.1
20	260	5.6					4.1	3.0
21	250	5.3					4.3	3.0
22	260	4.6					3.0	3.0
23	260	4.1					3.1	3.0

ime: 180.0°W.
woep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 8

Batavia, Ohio (39.1°N, 84.1°W) August 1952*

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	3.4						2.9
01	---	3.4						2.9
02	---	3.2						2.8
03	---	2.8						2.9
04	---	2.7					3.0	2.9
05	---	2.5						2.9
06	260	3.1			---	---	2.5	3.2
07	(320)	4.6	230	---	110	2.1	3.8	3.1
08	300	5.5	220	3.9	110	2.5	3.6	3.2
09	300	5.6	210	4.2	110	2.8	4.4	3.2
10	320	6.0	200	4.5	100	(3.0)	4.8	3.1
11	340	5.9	190	4.5	100	3.2	4.9	3.0
12	350	6.0	190	4.6	100	3.3	4.3	2.9
13	370	6.0	200	4.6	100	3.4	4.6	2.8
14	350	6.2	210	4.5	100	3.4	4.5	2.9
15	340	6.1	210	4.4	110	3.2	4.8	2.9
16	320	6.0	220	4.2	110	3.0	4.4	3.0
17	310	6.0	220	4.1	110	2.7	4.4	3.0
18	280	5.9	230	3.6	110	(2.2)	3.7	3.0
19	250	5.8					2.2	3.1
20	240	6.4						3.1
21	240	5.6						3.8
22	(240)	4.9						3.0
23	(250)	3.8						3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds. Mobile unit.
*Data for August 16 through 31, only.

Table 9

an Francisco, California (37.4°N, 122.2°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.4					2.4	2.9
01	290	3.4					2.4	2.9
02	280	3.4						2.9
03	280	3.2						3.0
04	280	3.1						3.0
05	290	3.1					2.3	3.1
06	350	3.9	250	3.2	---	---	2.8	3.1
07	370	4.4	220	3.6	120	2.3	3.6	3.0
08	390	4.9	220	4.0	110	2.8	3.8	2.9
09	380	5.2	200	4.2	110	(3.0)	3.9	2.9
10	350	5.7	210	(4.4)	110	(3.2)	4.0	2.9
11	380	5.7	200	4.4	110	(3.4)	3.5	2.9
12	380	5.6	210	(4.5)	---	(3.4)	3.3	2.9
13	360	5.9	210	(4.5)	---	(3.5)	3.0	2.9
14	340	5.8	210	(4.4)	---	(3.4)		3.0
15	340	5.6	220	(4.3)	120	(3.2)	3.4	3.1
16	330	5.7	230	4.1	110	(2.9)	3.4	3.0
17	310	5.7	230	3.9	120	2.6	3.5	3.1
18	280	5.5	240	3.4	---	(2.1)	3.3	3.2
19	250	5.5					3.6	3.2
20	240	5.4					3.0	3.1
21	250	4.8					3.0	3.1
22	260	4.0					3.0	3.0
23	270	3.7					2.5	3.0

ime: 120.0°W.
wcer: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 10

White Sands, New Mexico (32.3°N, 106.5°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.5					2.3	3.0
01	280	3.5					2.2	3.0
02	270	3.4					2.5	3.0
03	260	3.4					2.2	3.1
04	260	3.3					2.2	3.1
05	250	3.1					2.2	3.1
06	250	4.2	230	---	110	1.7	2.6	3.3
07	310	4.8	210	3.7	100	2.4	3.6	3.2
08	300	5.2	200	4.0	100	2.7	4.1	3.1
09	370	5.2	200	4.2	100	3.0	4.2	3.0
10	360	5.5	190	4.4	100	3.2	4.3	3.0
11	390	5.5	200	4.5	100	3.4	4.2	2.8
12	370	5.8	200	4.5	100	3.4	4.1	2.9
13	360	6.0	200	4.5	100	3.4	3.7	3.0
14	330	6.3	200	4.4	100	3.3	3.6	3.0
15	310	6.2	210	4.3	100	3.2	3.5	3.1
16	300	6.3	220	4.2	100	2.9	3.9	3.1
17	280	6.1	220	3.9	100	2.6	3.6	3.2
18	250	6.2	220	---	110	2.0	3.2	3.3
19	230	5.8					2.7	3.3
20	220	5.6					3.0	3.2
21	230	4.6					2.7	3.2
22	260	4.0					2.9	3.1
23	270	3.7					2.8	3.0

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 11

Okinawa I. (26.3°N, 127.8°E) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	5.0					4.2	2.8
01	300	5.0					3.5	2.8
02	280	5.0					3.1	3.0
03	270	4.2					3.1	3.1
04	290	3.6					2.9	3.1
05	280	3.5					2.9	3.0
06	260	5.0	260	---	---	---	3.1	3.3
07	250	6.2	230	---	120	2.4	4.7	3.4
08	280	6.0	220	---	120	2.8	4.8	3.3
09	320	6.0	220	4.4	120	3.2	5.6	3.0
10	390	6.2	210	4.6	120	3.3	6.0	2.8
11	390	6.8	220	4.6	120	3.5	5.4	2.7
12	380	7.4	230	4.7	120	3.5	5.6	2.7
13	360	8.8	240	4.6	120	3.5	6.2	2.8
14	350	9.1	240	4.5	120	3.4	6.4	2.8
15	330	9.4	240	4.4	120	3.2	5.2	2.9
16	310	9.7	240	[illegible]	120	[illegible]	[illegible]	3.0
17	300	9.6	250	3.9	120	2.4	4.4	3.0
18	270	9.4	260	---	---	---	[illegible]	3.1
19	250	8.4					4.3	3.1
20	240	6.6					3.4	3.1
21	280	5.6					3.6	2.9
22	310	5.2					3.3	2.7
23	320	5.0					3.6	2.8

Time: 127.5°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 12

Maui, Hawaii (20.8°N, 156.5°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.2					1.7	2.8
01	290	4.9					2.1	2.9
02	270	4.7					1.5	3.0
03	260	4.1						3.1
04	270	3.7					1.8	3.0
05	260	3.4					1.9	3.1
06	280	3.6	---	---			2.0	3.2
07	260	5.2	230	(3.6)	120	2.1	2.9	3.3
08	290	5.6	220	(4.1)	110	2.6	4.0	3.2
09	400	6.0	210	4.5	120	3.0	4.6	2.8
10	410	6.6	220	4.5	120	3.2	5.2	2.6
11	420	7.6	200	4.6	110	3.4	5.5	2.6
12	400	8.5	220	4.6	120	3.5	4.5	2.6
13	380	9.2	220	4.6	120	3.5	4.6	2.7
14	370	10.1	230	4.5	120	3.5	4.5	2.8
15	340	10.9	230	4.4	120	3.3	4.7	2.9
16	300	11.3	230	4.3	110	3.1	4.7	3.1
17	280	11.2	240	4.1	120	2.7	5.5	3.1
18	260	10.3	240	(3.5)	120	2.1	4.3	3.2
19	230	9.6					4.0	3.3
20	240	7.2					3.6	3.1
21	250	6.1					3.6	3.0
22	270	5.3					2.9	2.9
23	300	5.1					2.8	2.8

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 13

Puerto Rico, W.I. (18.5°N, 67.2°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.7					3.1	2.9
01	270	4.8					3.2	3.0
02	250	4.8					2.7	3.1
03	240	4.6					2.4	3.1
04	250	4.1					1.8	3.1
05	250	3.6					2.4	3.0
06	250	3.6			---	---	2.3	3.2
07	260	5.0	220	---	100	(2.0)	3.3	3.4
08	280	5.6	210	4.1	(100)	2.6	3.9	3.4
09	300	5.6	200	4.3	100	3.1	4.4	3.2
10	330	6.2	200	4.5	100	3.3	4.0	3.1
11	340	6.6	200	4.6	100	3.5		2.9
12	340	7.7	210	4.7	100	3.5	4.4	2.9
13	320	8.2	210	4.6	100	3.6		2.9
14	320	8.5	210	4.6	100	3.5	4.1	3.0
15	310	8.7	210	4.5	100	3.4	4.6	3.0
16	290	8.8	210	4.3	100	3.1	3.6	3.1
17	280	8.7	220	4.1	100	2.7	4.3	3.2
18	250	9.2	220	---	110	---	3.4	3.3
19	220	7.8					3.2	3.3
20	220	6.1					3.1	3.1
21	240	5.4					2.8	3.0
22	260	4.8					3.0	3.0
23	290	4.6					2.6	2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 14

Panama Canal Zone (9.4°N, 79.9°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	5.1					1.8	2.9
01	260	5.2					2.5	2.9
02	<250	4.3					3.4	3.0
03	260	3.8					3.4	2.9
04	250	3.5					2.2	3.1
05	250	3.2					1.9	3.1
06	250	3.2					2.7	3.1
07	250	5.1	220	---	120	(2.2)	4.2	3.1
08	350	5.6	220	4.3	110	(2.7)	4.3	3.0
09	370	5.7	210	4.5	110	(3.1)	4.2	2.7
10	440	6.2	220	4.6	110	3.4	4.7	2.5
11	430	7.0	210	4.6	110	3.6	4.4	2.5
12	400	9.0	220	4.6	110	3.6	4.9	2.6
13	380	10.0	210	4.6	110	3.6	5.0	2.6
14	370	10.6	220	4.5	110	3.5	5.1	2.7
15	340	11.3	210	4.4	110	3.4	4.8	2.8
16	320	11.8	<230	4.3	110	3.1	5.0	2.9
17	280	11.7	230	4.1	110	2.7	4.0	3.0
18	250	11.4	230	---	120	---	4.0	3.2
19	220	8.5					4.0	3.1
20	240	6.4					3.0	2.9
21	250	6.0					2.2	2.9
22	270	5.4						2.8
23	280	5.2						2.8

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 15

Huancayo, Peru (12.0°S, 75.3°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	5.7						3.2
01	230	5.4						3.3
02	230	4.8						3.3
03	230	4.3						3.3
04	240	3.4						3.3
05	260	3.0						3.3
06	280	3.0			---	E		3.0
07	240	5.8	220	---	110	2.1	7.0	3.2
08	(290)	7.0	210	---	100	2.6	9.5	3.0
09	330	7.4	200	4.3	100	---	11.0	2.7
10	360	7.1	200	4.4	100	---	11.9	2.6
11	380	6.8	190	4.5	100	---	12.4	2.5
12	390	7.0	190	4.5	100	---	12.2	2.5
13	370	7.0	190	4.5	100	---	12.1	2.5
14	370	7.1	190	4.4	100	---	11.8	2.5
15	330	7.4	190	4.3	100	---	11.4	2.6
16	(280)	7.4	200	---	100	---	10.2	2.6
17	230	7.4			110	---	5.8	2.6
18	260	7.6			---	---	3.2	2.8
19	280	7.0						2.8
20	260	7.0						2.9
21	230	6.8						3.1
22	220	6.8						3.2
23	220	5.9						3.3

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 16

Resolute Bay, Canada (74.7°N, 94.9°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	4.3	220	2.[illegible]	110	1.8		3.0
01	260	4.3	220	2.9	110	1.9		3.1
02	260	4.1	220	3.0	110	1.9		3.1
03	260	[illegible]	220	[illegible]	110	2.0		3.0
04	290	4.0	210	3.2	100	2.3		3.1
05	340	4.3	210	3.4	100	2.3		3.0
06	380	4.3	210	3.5	100	2.5		3.0
07	[illegible]	4.2	200	3.7	100	2.7		2.9
08	400	4.4	200	3.7	100	2.8		2.9
09	440	4.5	200	3.8	100	2.8		2.6
10	480	4.4	200	3.8	100	2.9		(2.6)
11	G	<4.0	200	3.8	100	2.9		G
12	(500)	4.3	200	3.9	100	3.0		(2.6)
13	G	<4.2	200	3.9	100	3.0		G
14	G	4.0	200	3.9	100	2.8		<2.6
15	440	4.5	200	3.8	100	2.8		2.7
16	420	4.5	200	3.8	100	2.7		2.7
17	400	4.5	200	3.8	100	2.7		2.7
18	400	4.5	200	3.6	100	2.6		2.7
19	360	4.5	200	3.5	100	2.4		2.8
20	330	4.4	200	3.4	100	2.3		3.0
21	300	4.5	220	3.3	100	2.2		3.0
22	270	4.4	220	3.0	120	2.0		3.1
23	250	4.4	220	3.0	110	1.9		3.1

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 17

Point Barrow, Alaska (71.3°N, 156.8°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(260)	(3.7)			---	---	7.9	(3.2)
01	270	(3.8)			---	---	6.2	(3.2)
02	280	(3.9)	240	---	100	---	5.8	(3.2)
03	(280)	(3.6)	210	---	100	---	3.3	(3.1)
04	320	(3.6)	(210)	3.1	100	---	3.8	(3.1)
05	330	(4.0)	210	(3.2)	100	(2.0)	>4.0	(3.1)
06	(340)	(4.4)	200	(3.4)	90	(2.3)	4.2	(3.0)
07	(390)	(4.2)	200	3.6	100	2.4	4.6	(3.0)
08	400	(4.3)	200	3.7	100	(2.4)	>4.2	(2.9)
09	480	(4.2)	200	(3.8)	90	2.6	4.2	(2.7)
10	(480)	(4.1)	200	3.9	90	2.6	4.2	(2.7)
11	450	4.2	200	3.9	90	2.9		2.7
12	400	(4.4)	200	(3.9)	90	---		2.8
13	410	4.5	200	4.0	90	(2.9)		2.8
14	400	4.6	200	4.0	90	(2.8)		2.8
15	400	4.6	200	3.9	90	2.8		2.9
16	380	4.6	200	3.9	100	(2.5)		3.0
17	350	4.6	200	(3.7)	100	(2.4)		3.0
18	340	4.5	200	(3.7)	100	(2.4)		3.0
19	320	(4.4)	210	(3.5)	100	(2.2)		3.1
20	(310)	(4.1)	220	(3.4)	100	---	3.8	3.1
21	290	(4.0)	230	---	---	---	5.9	(3.2)
22	(280)	(4.0)	---	---	---	---	7.5	(3.2)
23	280	(3.9)			---	---	5.9	(3.2)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 18

Baker Lake, Canada (64.3°N, 96.0°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	4.0			120	(1.3)	4.0	3.0
01	230	3.8			100	1.5	3.6	3.1
02	240	3.9			100	1.4	3.2	3.0
03	240	3.5	---	---	100	1.7	2.0	3.0
04	240	3.6	230	2.9	100	1.9	2.6	3.1
05	300	3.7	210	3.0	100	2.0		3.0
06	400	4.0	200	3.4	100	2.4		2.9
07	410	4.0	200	3.6	100	2.6		2.7
08	460	4.1	200	3.8	100	2.8		2.7
09	450	4.3	200	3.9	100	3.0		2.7
10	460	4.4	200	4.0	100	3.3	5.0	2.8
11	470	4.6	200	4.0	100	3.3		2.7
12	400	4.7	200	4.0	100	3.4		2.8
13	440	4.8	200	4.0	100	3.2		2.7
14	360	5.0	200	4.0	100	3.2		2.9
15	380	5.0	200	4.0	100	3.0		2.8
16	380	5.0	200	4.0	100	3.0		2.8
17	370	5.0	200	3.9	100	2.8	4.5	2.9
18	360	4.9	200	3.8	100	2.7	2.8	3.0
19	300	4.6	200	3.5	100	2.5	5.0	3.0
20	280	4.5	200	3.1	100	2.1	5.9	3.0
21	250	4.2	220	---	100	1.8	5.7	3.0
22	240	4.0	---	---	100	1.7	4.5	3.0
23	230	4.0			100	1.6	4.1	3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 19

Narsarssuak, Greenland (61.2°N, 45.4°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(400)	(3.3)					4.6	(2.6)
01	[illegible]	(3.4)					4.0	(2.5)
02	(420)	(2.9)					4.2	(2.5)
03	(420)	(3.2)					4.6	(2.6)
04	(400)	(3.4)					4.8	(2.6)
05	330	(3.7)	---	---	---	---	4.8	2.8
06	380	(4.1)	280	---	120	(2.4)	4.9	(2.8)
07	(430)	(4.0)	280	3.8	120	2.5	4.6	(2.8)
08	(510)	(4.3)	290	3.9	120	2.7	3.7	(2.4)
09	(520)	(4.6)	270	4.0	120	2.9	3.4	(2.4)
10	540	(4.6)	270	(4.0)	120	3.0	2.9	(2.4)
11	570	(4.0)	270	(4.0)	120	3.0		(2.4)
12	500	4.6	270	(4.1)	120	3.0		2.4
13	540	(4.7)	270	(4.1)	120	3.1		(2.5)
14	520	4.8	260	(4.0)	120	3.0	2.8	2.4
15	(500)	(4.8)	280	4.0	120	3.0	3.0	(2.4)
16	490	(4.7)	280	4.0	120	2.8	4.0	(2.5)
17	(460)	(4.7)	320	3.9	120	2.5	4.2	(2.6)
18	(450)	(4.5)	320	(3.8)	130	2.4	4.4	(2.6)
19	(410)	(4.2)	350	(3.4)	140	2.3	4.0	(2.7)
20	(370)	(4.0)	---	---			5.5	(2.7)
21	(360)	(4.0)					4.6	(2.6)
22	(370)	(3.7)					4.3	(2.6)
23	(380)	(3.5)					5.4	(2.6)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 20

Churchill, Canada (58.8°N, 94.2°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	(4.0)			---	---	8.0	(3.0)
01	280	3.8			---	---	7.0	(3.2)
02	300	4.0			---	---	5.6	---
03	280	4.0			---	---	5.0	(3.0)
04	290	(3.4)			---	---	6.0	(2.9)
05	290	3.8	210	3.0	110	2.6	4.0	2.8
06	280	4.0	---	3.7	110	3.0	5.0	(2.9)
07	490	(4.1)	210	4.0	110	3.2	5.2	G
08	490	4.3	210	4.0	120	3.3	6.0	G
09	450	4.5	220	4.0	100	3.2	6.0	2.6
10	450	4.5	220	4.1	100	3.2	5.0	2.7
11	460	4.5	210	4.1	100	3.2	4.3	2.8
12	450	4.6	210	4.2	100	3.2		2.8
13	450	4.8	200	4.2	100	3.3	3.8	2.7
14	400	5.0	200	4.2	110	3.2		2.8
15	390	5.0	210	4.1	100	3.1		2.8
16	380	5.1	220	4.0	100	3.1		2.7
17	370	5.0	230	4.0	110	3.0		2.7
18	360	5.0	240	3.8	110	3.0		2.9
19	330	4.6	240	3.5	110	3.0	3.6	2.8
20	310	4.4			120	3.0	5.0	2.9
21	290	4.0			110	2.5	5.8	2.9
22	280	(4.0)			---	---	6.9	(3.2)
23	290	(3.9)			---	---	8.8	(2.9)

Time: 90.0°W.
Sweep: 0.6 Mc to 20.0 Mc in 15 seconds.

Table 21

Fort Chimo, Canada (58.1°N, 68.3°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.2			100	2.1	4.8	3.0
01	300	3.3			110	2.1	4.6	2.8
02	300	3.2			100	2.5	4.2	3.0
03	300	3.2			100	2.5	4.0	3.0
04	290	3.7	---	---	100	2.8		3.1
05	360	3.9	220	3.8	100	3.1	4.7	2.9
06	410	4.0	220	3.8	100	3.5	4.9	2.9
07	480	4.0	220	3.9	100	3.3	4.6	G
08	420	4.4	210	4.0	100	3.2		2.8
09	430	4.5	200	4.0	100	3.2		2.8
10	410	4.5	200	4.1	100	3.2		2.8
11	400	4.6	200	4.1	90	3.2		2.8
12	410	4.8	200	4.1	100	3.2		2.8
13	390	4.9	200	4.1	90	3.2		2.8
14	380	5.0	200	4.0	100	3.2		2.8
15	380	5.0	200	[illegible]	90	3.2		2.8
16	360	4.9	200	[illegible]	100	3.0		2.8
17	370	4.8	210	3.8	100	3.0		2.8
18	330	4.5	230	3.6	100	2.8		3.0
19	300	4.3	---	---	100	2.7	4.1	3.0
20	260	3.9			100	2.0	5.0	3.0
21	280	3.8			[illegible]	2.0	5.0	3.0
22	280	3.7			100	2.2	5.0	3.0
23	280	[illegible]			100	2.2	5.4	3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 22

Prince Rupert, Canada (54.3°N, 130.3°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.0						2.8
01	300	2.3					3.4	2.8
02	300	2.0			---	---		2.7
03	310	1.9			---	---	2.4	2.8
04	300	2.2			---	E	2.3	2.8
05	260	3.2	---	3.0	110	1.6	2.0	2.8
06	420	3.6	230	3.1	100	2.0	2.9	2.5
07	440	4.0	220	3.4	100	2.4	3.3	2.5
08	460	4.2	200	3.8	100	2.6	3.2	2.4
09	460	4.3	200	4.0	100	2.9	4.2	2.3
10	450	4.6	200	4.0	100	3.0	3.8	2.4
11	440	4.8	200	4.1	100	3.1	4.4	2.6
12	420	4.8	200	4.2	100	3.2	4.9	2.4
13	420	4.9	200	4.2	100	3.2	4.6	2.6
14	420	5.0	200	4.2	100	3.2	4.4	2.6
15	450	4.8	200	4.1	100	3.1	3.9	2.5
16	410	4.8	200	4.1	100	3.0	3.8	2.6
17	400	4.9	210	3.9	100	2.8	3.3	2.7
18	360	4.8	220	3.8	100	2.6	3.4	2.8
19	300	4.8	230	3.5	100	2.3	3.1	2.9
20	260	4.8	230	---	120	1.9	3.1	2.9
21	250	4.8	---	---	---	E	2.8	2.9
22	250	4.5						2.9
23	260	4.0					2.3	2.8

Time: 120.0°W.
Sweep: 0.6 Mc to 20.0 Mc in 15 seconds.

Table 23

De Bilt, Holland (52.1°N, 5.2°E) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.0						3.0
01	270	4.0						3.0
02	270	3.5						3.0
03	270	3.3					2.4	3.0
04	250	3.6	245	---	---	E	[illegible]	3.1
05	360	4.3	215	3.4	110	2.0	3.2	3.2
06	360	4.6	210	3.7	105	2.3	2.8	3.0
07	340	4.8	205	4.0	100	2.6	4.2	3.1
08	340	5.0	200	4.2	[illegible]	2.9	4.2	3.0
09	330	5.2	200	4.3	100	3.0	4.5	3.2
10	340	5.4	200	4.3	[illegible]	3.1	4.3	3.0
11	400	5.0	[illegible]	4.4	[illegible]	3.2	[illegible]	3.0
12	360	[illegible]	[illegible]	4.4	[illegible]	3.2	[illegible]	3.0
13	350	5.3	[illegible]	[illegible]	[illegible]	3.2	[illegible]	3.0
14	330	5.3	[illegible]	4.3	[illegible]	3.1	4.2	3.1
15	340	5.2	200	4.3	[illegible]	[illegible]	[illegible]	3.1
16	325	5.2	[illegible]	4.1	100	[illegible]	[illegible]	3.1
17	300	5.4	205	3.9	100	2.6	3.5	3.1
18	290	5.5	205	3.6	[illegible]	2.2	4.0	3.2
19	270	5.7	250	[illegible]	120	1.8	[illegible]	3.2
20	250	6.2					3.3	3.2
21	225	5.8					2.8	3.2
22	230	5.3					2.5	3.1
23	250	4.7						3.0

Time: 0.0°.
Sweep: 1.4 Mc to 11.2 Mc in 6 minutes, automatic operation.

Table 24

Winnipeg, Canada (49.9°N, 97.4°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.0					3.0	2.8
01	310	2.9					4.0	2.8
02	320	3.0					4.2	2.8
03	320	2.8					4.0	2.8
04	300	2.8					4.5	2.8
05	280	3.1	---	---	---	---	3.0	3.0
06	390	3.5	230	3.3	120	2.2		2.9
07	480	<4.2	210	3.6	110	2.5		2.5
08	480	4.3	200	3.8	110	2.8		2.7
09	440	4.5	200	4.0	110	3.0		2.7
10	460	4.6	200	4.1	110	3.1	3.2	2.6
11	450	4.8	200	4.2	110	3.2		2.6
12	460	5.0	200	4.2	110	3.2		2.6
13	46	5.0	200	4.2	110	3.3		2.8
14	450	5.0	200	4.3	110	3.3		2.7
15	420	5.0	210	4.2	110	3.2		2.7
16	390	5.0	210	4.1	110	3.0		2.9
17	370	5.1	210	4.0	110	2.8		2.9
18	330	5.0	210	3.8	110	2.5		3.0
19	300	5.0	230	3.4	120	2.3		3.0
20	260	5.0	---	---	---	---		3.1
21	250	5.0						3.0
22	270	4.1						2.9
23	300	3.4						2.9

Time: 90.0°W.
Sweep: 0.6 Mc to 20.0 Mc in 15 seconds.

Table 25

St. John's, Newfoundland (47.6°N, 52.7°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.1					4.0	2.8
01	300	3.[illegible]					3.4	2.8
02	300	2.6					3.2	2.8
03	300	2.4					3.5	2.8
04	260	2.9	---	---	---	---	3.4	3.0
05	270	<3.7	230	3.4	120	2.1	3.4	3.0
06	380	4.3	220	3.7	110	2.4	3.4	2.9
07	370	4.4	210	4.0	100	2.7	4.0	3.0
08	380	4.8	210	4.1	100	3.0	3.9	2.8
09	380	5.0	200	4.2	100	3.1	3.6	3.0
10	380	5.1	210	4.3	100	3.2	3.6	2.9
11	380	5.0	200	4.3	1[illegible]0	3.3	4.1	2.9
12	370	5.2	200	4.3	100	3.4	4.1	3.0
13	420	5.0	200	4.3	100	3.3	4.0	2.8
14	370	5.1	200	4.2	1[illegible]	3.2	3.3	2.9
15	360	5.2	2[illegible]0	4.1	110	3.1		2.9
16	350	5.2	210	4.0	110	2.9	3.6	2.9
17	320	5.6	230	3.8	110	2.5	5.0	3.0
18	300	5.8	240	3.3	120	2.1	4.5	3.0
19	260	6.0	---	---	---	1.5	4.5	3.0
20	240	5.6					3.9	3.0
21	250	4.7					2.7	3.0
22	270	4.2					3.0	2.9
23	2[illegible]	3.6					1.1	2.8

Time: 60.0°W.
Sweep: 0.6 Mc to 20.0 Mc in 15 seconds.

Table 26

Schwarzenburg, Switzerland (46.8°N, 7.3°E) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.4						3.3
01	260	4.3						3.3
02	280	4.0						3.2
03	260	3.8						3.3
04	250	3.5						3.3
05	24[illegible]	3.6	---	---	---	---		3.3
06	24[illegible]	4.2	210	3.2	100	2.0	3.5	3.4
07	3[illegible]0	4.6	2[illegible]0	3.8	100	2.5	4.0	3.5
08	335	4.9	200	4.0	100	2.8	5.0	3.3
09	310	5.4	200	4.[illegible]	10[illegible]	3.0	4.8	3.3
10	310	5.5	200	4.4	100	3.1	4.8	3.4
11	320	5.8	200	4.4	100	3.2	5.5	3.2
12	310	5.4	200	4.4	100	3.2	4.5	3.3
13	350	5.6	200	4.5	100	3.2	5.8	3.2
14	330	5.6	200	4.4	100	3.2	4.4	3.3
15	330	5.5	200	4.4	100	3.2		3.3
16	330	5.4	200	4.2	100	3.0		3.3
17	310	5.4	200	4.0	100	2.8		3.2
18	300	5.9	200	3.8	100	2.5	4.1	3.3
19	275	6.0	230	3.2	100	2.0	4.3	3.4
20	240	6.1					3.4	3.5
21	250	6.5						3.4
22	240	5.9						3.4
23	240	5.0						3.3

Time: 15.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 27

Ottawa, Canada (45.4°N, 75.7°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.1					2.5	2.9
01	300	2.8					3.0	2.9
02	310	2.5					3.9	2.9
03	(300)	2.3					3.0	3.0
04	310	2.3					3.4	2.9
05	270	3.2	250	3.0	130	1.8	2.9	3.1
06	300	3.5	230	3.3	120	2.2	2.2	3.0
07	420	4.1	230	3.8	120	2.6	3.2	2.6
08	370	4.6	220	4.0	120	2.8	3.1	2.8
09	380	4.8	220	4.1	120	3.2	4.0	3.0
10	380	5.0	220	4.2	120	3.2	4.0	2.9
11	390	5.0	210	4.3	120	3.4	4.3	3.0
12	390	5.1	220	4.4	120	3.3	4.6	2.9
13	400	5.2	220	4.3	120	3.4	4.0	2.8
14	400	5.2	220	4.3	120	3.3	5.0	2.8
15	400	5.2	220	4.2	120	3.2	3.6	2.9
16	370	5.3	230	4.1	120	3.0	4.4	2.9
17	360	5.2	220	3.9	120	2.8		2.9
18	320	5.4	250	3.6	120	2.4	3.5	3.0
19	270	5.5			140	1.9		3.1
20	260	5.4					2.3	3.0
21	270	4.8						3.0
22	290	3.8						3.0
23	300	3.4						2.9

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 28

Guam I. (13.6°N, 144.9°E) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	3.7					2.2	2.9
01	310	3.1					1.6	2.8
02	340	2.7					1.9	2.8
03	340	2.4					1.9	2.8
04	320	2.3						3.0
05	280	2.5					1.8	3.3
06	250	3.5					1.9	3.2
07	250	6.1	220	---	110	2.2	2.9	3.4
08	280	6.4	210	4.1	110	2.6	4.8	3.3
09	320	6.4	210	4.3	110	(3.0)	4.3	3.0
10	360	6.8	200	4.4	110	3.2	4.3	2.9
11	380	7.4	210	4.5	110	3.3	4.8	2.6
12	380	7.8	200	4.4	110	3.4	4.8	2.7
13	400	8.1	200	4.5	110	3.3	5.2	2.7
14	400	8.0	200	4.4	110	3.2	5.0	2.6
15	400	8.3	200	4.4	110	3.2	5.1	2.6
16	350	8.6	200	4.2	110	3.0	4.8	2.6
17	320	9.0	220	4.0	120	2.7	4.6	2.8
18	290	9.0	230	---	120	---	4.0	2.9
19	250	8.8					4.0	3.0
20	250	8.1					3.1	3.0
21	270	6.9					2.8	3.0
22	300	5.2					2.9	2.8
23	300	4.7					2.2	2.8

Time: 150.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 29

Huancayo, Peru (12.0°S, 75.3°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	4.8						3.3
01	230	4.5						3.3
02	230	4.4						3.3
03	240	4.1						3.3
04	250	3.3						3.4
05	240	3.0						3.2
06	270	2.9			---	E		3.1
07	240	5.2	230	---	110	2.0	5.4	3.3
08	(280)	6.7	210	---	1[illegible]0	2.6	7.2	3.1
09	320	7.1	200	4.2	100	---	9.7	2.7
10	360	6.8	200	4.4	100	---	10.4	2.6
11	370	6.6	190	4.4	100	---	11.4	2.6
12	380	6.6	190	4.4	100	---	11.4	2.6
13	370	6.8	190	4.4	100	---	11.5	2.6
14	370	6.9	190	4.3	100	---	11.2	2.6
15	330	7.1	200	4.2	1[illegible]0	---	10.4	2.6
16	(290)	7.1	200	---	1[illegible]0	---	9.2	2.6
17	230	7.1			100	---	5.8	2.7
18	260	6.8			100	---	3.9	2.8
19	270	6.4						2.8
20	270	6.4						3.0
21	240	6.4						3.2
22	220	6.0						3.3
23	230	5.1						3.3

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 30

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	2.5					3.2	3.1
01	260	2.6					2.0	3.0
02	260	2.6					3.6	3.0
03	260	2.6					3.0	3.1
04	240	2.6					3.1	3.2
05	250	2.4					3.6	3.2
06	240	2.3					3.4	3.2
07	220	4.1			---	1.7		3.4
08	230	5.6	220	2.7	120	2.3		3.5
09	250	6.1	220	3.8	110	2.7		3.5
10	250	6.4	210	4.1	110	3.0		3.4
11	270	6.6	200	4.3	110	3.1		3.4
12	270	6.6	210	4.4	110	3.2		3.3
13	270	6.6	210	4.3	110	3.2	3.7	3.3
14	270	6.5	210	4.2	110	3.1	3.7	3.2
15	260	6.6	210	3.9	110	2.9	3.6	3.3
16	240	6.6	220	3.3	110	2.6	3.5	3.4
17	230	6.2			110	2.0	3.2	3.4
18	220	4.3					2.6	3.3
19	220	3.3					2.4	3.3
20	240	2.9					2.2	3.2
21	240	2.9					2.2	3.3
22	240	2.9					1.8	3.3
23	250	2.8					1.6	3.2

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 31

Capetown, Union of S. Africa (34.2°S, 18.3°E) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	2.4					2.5	3.0
01	260	2.6					2.0	3.0
02	270	2.7					2.0	3.0
03	260	2.6						3.2
04	250	2.7					3.2	3.1
05	250	2.6					3.2	3.2
06	240	2.4					3.0	3.2
07	250	2.2					3.4	3.3
08	220	4.1	---	---	---	1.7		3.5
09	230	5.2	220	2.7	120	2.2		3.5
10	240	5.8	220	3.6	110	2.6		3.4
11	260	5.8	220	4.0	110	2.9		3.4
12	260	6.1	220	4.1	110	3.0		3.3
13	260	6.4	220	4.2	110	3.1	3.5	3.3
14	260	6.6	220	4.1	110	3.0	3.8	3.3
15	260	6.8	220	4.0	110	2.9	3.9	3.3
16	240	6.5	230	3.4	110	2.5	3.9	3.3
17	230	6.1	230	---	110	2.1	2.8	3.5
18	210	5.2			---	---	2.6	3.4
19	220	3.5					2.1	3.4
20	240	2.7					2.3	3.3
21	240	2.6					2.2	3.3
22	230	2.5					2.4	3.3
23	240	2.6					2.0	3.2

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 32

De Bilt, Holland (52.1°N, 5.2°E) June 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	4.4					1.9	3.0
01	270	3.8						3.0
02	270	3.6					1.8	3.0
03	270	3.4			---	---	2.0	3.1
04	245	3.8	250	2.7	---	1.7	2.7	3.0
05	300	4.6	230	3.4	110	2.0	3.4	3.1
06	370	4.6	215	3.6	100	2.4	3.8	3.0
07	350	4.3	210	4.0	100	2.7	4.4	3.1
08	350	5.2	200	4.2	100	2.9	4.7	3.0
09	340	5.3	200	4.3	100	3.0	5.1	3.1
10	335	5.4	200	4.3	100	3.1	4.7	3.1
11	350	5.4	200	4.4	100	3.2	4.6	3.1
12	360	5.3	200	4.4	100	3.2	4.6	3.1
13	360	5.4	200	4.4	100	3.2	4.6	3.1
14	330	5.4	200	4.3	100	3.1	4.5	3.1
15	370	5.4	205	4.2	100	3.0	4.6	3.0
16	320	5.5	210	4.1	100	2.8	4.7	3.1
17	300	5.7	220	3.8	100	2.5	4.1	3.1
18	280	5.8	230	3.5	100	2.2	4.4	3.2
19	(260)	6.2	240	2.9	---	1.8	4.2	3.2
20	240	6.2			---	---	2.8	3.2
21	230	5.6					2.8	3.1
22	240	5.0					2.2	3.1
23	250	4.8					2.4	3.0

Time: 0.0°.
Sweep: 1.4 Mc to 11.2 Mc in 6 minutes, automatic operation.

Table 33

Johannesburg, Union of S. Africa (26.2°S, 28.1°E) June 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	2.8						3.1
01	270	2.7						2.9
02	270	2.9						3.0
03	250	2.9						3.1
04	240	3.0					1.8	3.2
05	250	2.6					2.9	3.2
06	250	2.6					2.9	3.1
07	230	4.3			---	1.6		3.4
08	220	5.8	210	2.8	120	2.3		3.6
09	240	6.1	220	3.6	110	2.7		3.5
10	250	6.6	220	4.0	110	2.9		3.4
11	250	6.8	210	4.3	110	3.1		3.3
12	260	6.9	220	4.3	110	3.2	3.9	3.3
13	270	7.0	210	4.4	110	3.1	4.0	3.3
14	260	7.0	220	4.2	110	3.0	3.8	3.3
15	250	7.0	220	3.9	110	2.9	3.6	3.4
16	230	6.8	220	---	110	2.4	3.0	3.4
17	220	6.0	---	---	120	1.9	2.6	3.4
18	210	5.0					1.9	3.4
19	210	3.2					2.0	3.4
20	230	2.9					1.9	3.2
21	230	3.0					1.8	3.3
22	230	3.2						3.3
23	240	3.0						3.2

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 34

Capetown, Union of S. Africa (34.2°S, 18.3°E) June 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	2.6						3.0
01	270	2.6						3.0
02	270	2.7						3.0
03	260	2.8						3.0
04	260	2.8						3.0
05	240	2.8						3.1
06	250	2.6						3.1
07	240	2.4						3.2
08	220	4.3			---	1.6		3.4
09	230	5.5	230	2.8	120	2.1		3.5
10	240	5.9	220	3.6	110	2.6		3.4
11	250	6.2	220	3.9	110	2.9		3.4
12	250	6.4	220	4.0	110	3.0		3.3
13	260	6.8	220	4.1	110	3.1		3.3
14	260	6.6	220	4.0	110	3.0	3.8	3.3
15	250	7.1	230	3.9	110	2.8	3.6	3.3
16	240	6.9	230	3.4	110	2.4	3.1	3.4
17	230	6.6	220	---	120	2.0	2.6	3.4
18	210	4.8						3.4
19	230	2.9						3.2
20	240	2.7						3.2
21	230	2.7						3.3
22	230	2.6						3.3
23	250	2.7						3.1

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 35

Buenos Aires, Argentina (34.5°S, 58.5°W) June 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.8						3.0
01	310	3.1						3.0
02	300	3.1						3.1
03	290	3.0						3.2
04	280	3.3						3.2
05	270	2.4						3.3
06	(300)	1.7						3.2
07	250	3.8						3.2
08	230	(5.5)						3.3
09	250	(6.3)	220					3.2
10	260	(7.0)	220					(3.4)
11	250	(7.4)	210					(3.2)
12	260	(7.8)	210					(3.2)
13	260	(8.0)	220					(3.3)
14	270	(8.1)	220					3.2
15	240	(7.9)	230					3.5
16	230	(7.0)						(3.4)
17	210	(6.0)						3.3
18	220	(4.6)						3.3
19	250	4.4						3.2
20	250	(4.4)						(3.2)
21	250	4.2						3.2
22	260	3.8						3.3
23	(280)	(3.0)						3.2

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 36

Decepcion I. (63.0°S, 60.7°W) June 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.6						3.1
01								
02	270	2.6						3.1
03								
04	250	2.6						3.3
05								
06	250	2.5						3.4
07								
08	250	2.6						3.4
09	200	3.6	---					3.6
10	200	4.6	200					3.6
11								
12	200	5.0	---					3.7
13								
14	200	4.6	---					3.7
15	200	4.1	---					3.6
16	200	3.5						3.6
17								
18	220	2.4						3.5
19								
20	290	2.1						3.2
21								
22	300	2.2						3.2
23								

Time: 60.0°W.
Sweep: 1.5 Mc to 16.0 Mc in 15 minutes, manual operation.

Table 37

Cocoa, Florida (28.2°N, 80.6°W) — May 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.9					2.5	2.8
01	300	4.0					2.8	2.8
02	280	3.8					2.3	2.9
03	280	3.5					2.6	2.9
04	290	3.3						2.9
05	290	3.2					2.3	2.9
06	270	4.0	---	---	130	1.6	2.8	3.1
07	320	5.0	240	3.6	120	2.2	3.5	3.1
08	350	5.3	230	4.0	120	2.6	4.4	3.0
09	370	5.2	210	4.2	110	2.8	4.0	2.9
10	400	5.4	210	4.3	110	3.1	3.8	2.9
11	400	6.0	210	4.4	110	3.2		2.8
12	380	6.2	230	4.5	120	3.3		2.8
13	370	6.6	220	4.5	110	3.3		2.8
14	350	7.0	230	4.4	110	3.3		2.9
15	340	7.2	240	4.3	120	3.2		2.9
16	320	6.8	240	4.1	120	3.0	3.3	3.0
17	320	6.9	240	3.9	120	2.6	4.0	3.0
18	290	6.8	250	3.4	120	2.1	3.4	3.0
19	260	6.9			100	---	3.4	3.0
20	250	6.0					3.2	3.0
21	270	5.2					3.0	2.9
22	290	4.6					3.0	2.8
23	290	4.1					3.0	2.8

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 38

Formosa, China (25.0°N, 121.5°E) — May 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	7.0					5.2	2.8
01	280	7.5					4.6	3.0
02	240	6.8					4.0	3.1
03	240	5.7					3.6	3.3
04	<250	4.0					4.5	3.2
05	240	4.3					2.8	3.1
06	240	5.4	220	---	---	E	4.1	3.4
07	250	6.0	240	4.3	---	E	4.8	3.4
08	280	6.6	220	4.3	(120)	---	6.0	3.2
09	310	7.4	220	4.5	(110)	---	6.0	3.0
10	330	8.5	220	4.8	(100)	---	6.8	2.9
11	340	9.6	230	4.8	(100)	---	7.3	2.9
12	330	11.3	230	(4.8)	(110)	---	6.0	3.0
13	300	12.4	220	4.6	(100)	---	5.6	3.1
14	300	13.3	220	4.7	(100)	3.5	6.0	3.2
15	300	13.2	220	4.5	(100)	3.2	5.6	3.2
16	280	13.3	220	4.3	(110)	3.0	5.6	3.1
17	280	>14.0	230	4.0	---	E	5.4	3.2
18	240	13.5	240	---	---	E	4.2	3.2
19	220	11.1					4.0	3.4
20	230	8.4					3.3	3.0
21	280	7.8					4.2	2.9
22	300	7.1					4.5	2.8
23	290	7.6					4.6	2.8

Time: 120.0°E.
Sweep: 2.5 Mc to 14.2 Mc in 15 minutes, manual operation.

Table 39

Townsville, Australia (19.3°S, 146.8°E) — May 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	3.0						3.1
01	240	3.2					2.6	3.0
02	240	3.0					2.2	3.1
03	230	3.3					2.8	3.1
04	220	3.0					2.5	3.0
05	240	2.8					2.3	3.0
06	240	3.1					2.9	3.1
07	210	5.3			125	1.9	3.8	3.5
08	220	6.6	200	3.4	100	2.3	4.4	3.5
09	240	7.5	200	4.1	100	2.8	4.5	3.5
10	240	7.7	200	4.3	100	3.0	4.4	3.5
11	240	7.4	200	4.4	100	3.2	4.8	3.4
12	250	7.3	200	4.4	100	3.2	5.0	3.3
13	250	7.9	200	4.3	100	3.2	6.0	3.3
14	250	7.5	200	4.3	110	3.1	5.5	3.3
15	240	7.5	200	4.0	105	3.0	5.8	3.3
16	240	7.6	200	3.4	100	2.6	4.4	3.4
17	210	6.6			110	2.2	4.4	3.5
18	210	5.6					3.9	3.4
19	200	4.5					3.2	3.3
20	200	3.4					3.3	3.3
21	240	3.4					2.8	3.1
22	240	3.2						3.1
23	235	3.0						3.0

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 40

Brisbane, Australia (27.5°S, 153.0°E) — May 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.8					2.0	3.0
01	260	4.0					2.0	3.0
02	270	3.8					2.0	3.0
03	260	3.8					1.9	3.1
04	240	3.8					1.9	3.2
05	235	3.1						3.2
06	240	3.4						3.2
07	220	5.2			130	2.0		3.5
08	240	6.0	230	3.7	110	2.6		3.5
09	250	6.5	220	4.2	110	2.9		3.4
10	250	6.8	215	4.3	110	3.0		3.5
11	260	6.6	210	4.4	110	3.1		3.4
12	265	6.6	210	4.5	100	3.1		3.3
13	270	6.9	210	4.4	100	3.1		3.3
14	260	7.5	210	4.2	100	3.0	3.2	3.3
15	245	7.4	230	3.8	110	2.8	3.3	3.4
16	230	6.5	220	3.0	120	2.3	3.8	3.4
17	220	5.6			---	E	3.4	3.4
18	230	4.5					3.1	3.2
19	250	4.0						3.1
20	250	4.1						3.1
21	255	3.8						3.0
22	250	3.8						3.1
23	250	3.8						3.0

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 41

Hobart, Tasmania (42.8°S, 147.4°E) — May 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.3					3.0	2.9
01	280	2.2					3.0	3.0
02	295	2.2					3.1	3.0
03	300	2.1					3.0	2.9
04	300	2.0					3.0	2.9
05	270	2.1					2.7	3.0
06	255	2.0					2.6	3.1
07	250	3.0					2.8	3.1
08	245	4.6			110	2.0	3.0	3.2
09	230	5.2			100	2.5	3.1	3.2
10	230	5.5	220	4.0	100	2.7	3.0	3.2
11	240	6.0	220	4.1	100	3.0	3.1	3.2
12	250	6.4	210	4.2	100	3.[illegible]	3.5	3.1
13	245	6.5	220	4.2	100	3.0	3.0	3.1
14	230	6.5	230	4.0	100	2.8	3.1	3.2
15	220	6.4	---	---	100	2.5	3.0	3.2
16	230	6.2			110	2.0	3.0	3.2
17	220	5.6					3.0	3.1
18	220	4.5					2.8	3.0
19	250	3.5						3.0
20	250	2.9						3.0
21	260	2.5						2.9
22	260	2.5						3.0
23	260	2.4						3.0

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 42*

Inverness, Scotland (57.4°N, 4.2°W) — April 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	(2.4)					1.2	2.7
01	325	(2.2)					1.0	2.6
02	325	(2.0)					1.3	2.5
03	330	(2.0)			(140)	(0.9)	2.1	2.6
04	315	(2.1)			150	1.0	1.8	2.6
05	290	2.6			130	1.5		3.0
06	250	3.3	250	3.1	120	1.9		3.1
07	300	3.6	230	3.5	115	2.3		3.1
08	395	4.0	230	3.7	110	2.5		3.1
09	435	4.3	220	3.9	110	2.7		2.9
10	430	4.5	215	4.0	110	2.9		2.9
11	410	4.8	210	4.1	110	3.0		2.9
12	445	4.9	215	4.1	110	3.0		2.9
13	420	4.9	220	4.2	110	3.0		2.9
14	425	4.9	225	4.1	110	3.0		2.9
15	370	5.2	235	4.0	110	2.9		2.9
16	360	5.2	230	3.9	115	2.7		2.9
17	315	5.2	240	3.6	120	2.4		3.0
18	300	5.0	250	(3.3)	130	2.2		3.0
19	275	4.8	265		155	1.8		3.0
20	280	4.4				(1.5)		3.0
21	290	3.8						2.9
22	300	3.1						2.8
23	330	2.4						2.8

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
* Average values except foF2 and fEs, which are median values.

Table 43*

Slough, England (51.5°N, 0.6°W) April 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	315	3.2					2.4	2.6
01	310	2.8					2.6	2.6
02	315	2.5					3.0	2.6
03	310	2.4					3.2	2.6
04	305	2.1					3.9	2.8
05	295	2.8			140	1.6	4.2	3.0
06	275	3.6	235	3.2	130	2.0	4.0	3.2
07	325	4.0	235	3.6	120	2.4	3.9	3.2
08	355	4.3	225	3.9	115	2.7	4.3	3.2
09	370	4.8	220	4.0	115	2.9	4.1	3.2
10	370	5.2	215	4.2	115	3.1	4.2	3.1
11	380	5.3	215	4.3	115	3.2	4.4	3.1
12	360	5.6	220	4.3	115	3.2	4.4	3.0
13	375	5.6	225	4.4	115	3.2	4.5	3.2
14	350	5.6	225	4.3	115	3.1	4.1	3.0
15	335	5.7	230	4.2	120	3.0	4.0	3.0
16	320	5.6	230	4.0	120	2.8	3.6	3.0
17	300	5.8	240	3.7	120	2.4	2.6	3.0
18	275	5.8	250	3.3	135	2.0	2.6	3.0
19	260	5.8			165	1.8	2.4	3.0
20	255	5.2					2.3	2.9
21	265	4.4					2.1	2.8
22	290	3.8					1.9	2.7
23	305	3.4					2.0	2.7

Time: 0.0°.
Sweep: 0.55 Mc to 16.5 Mc in 5 minutes.
* Average values except foF2 and fEs, which are median values.

Table 44*

Ibadan, Nigeria (7.4°N, 4.0°E) April 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	(7.6)					2.2	(3.2)
01	270	(8.1)					2.3	3.2
02	255	(5.1)					2.1	3.2
03	240	>4.1					1.9	3.4
04	240	(2.5)					1.3	3.4
05	250	(1.8)					2.2	(3.6)
06	250	5.6	240 -		130	1.9	1.9	3.4
07	245	7.8	245		120	2.6		3.3
08	290 -	8.8	225	4.4	120	3.1	5.2	3.1
09	315	9.5	215	4.6	115	3.4	7.0	2.8
10	340	9.6	205	4.7	120	3.6	9.2	2.6
11	330	9.4	205	4.8	120	3.7	11.0	2.5
12	335	8.9	200	4.8	115	3.7	12.4	2.6
13	330	9.1	200	4.7	115	3.6	12.3	2.5
14	---	9.1	200		110	3.5	11.2	2.5
15	315	9.5	210		115	3.2 -	5.6	2.6
16	---	10.2	225		120	2.8	5.2	2.6
17	255	10.2	240	2.5 -	120	2.1	3.2	2.6
18	270	10.4			145	1.3	3.8	2.7
19	310	9.7					2.4	2.6
20	305	>9.4					2.2	2.8
21	290	>8.8					1.9	(2.8)
22	295	(8.6)					2.1	(2.7)
23	300	---					2.0	(3.1)

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
Average values except foF2 and fEs, which are median values.
- One or two observations only.

Table 45*

Singapore, British Malaya (1.3°N, 103.8°E) April 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	7.6						3.0
01	230	6.1						3.3
02	230	4.4						3.1
03	245	3.6					3.0	3.0
04	245	3.1					3.2	3.1
05	250	2.8					3.1	3.2
06	260	3.5					4.6	3.0
07	245	7.1			120	2.2	3.9	3.2
08	280	8.8	225		115	2.8	3.9	2.8
09	285	11.0	220		(115)	3.2	5.0	2.8
10	300	11.0	210	4.6	110	3.4	4.8	2.5
11	320	11.2	205	4.7	110	3.6		2.2
12	330	10.8	200	4.8	110	3.6		(2.4)
13	315	10.9	205	4.7	110	3.6		2.6
14	305	11.0	210	(4.6)	110	3.5	4.3	2.6
15	300	10.9	220		110	3.3	4.2	2.6
16	285	11.4	225		115	2.9	3.6	2.6
17	(270)	11.6	245		120	2.4	4.0	2.7
18	255	11.9					3.2	2.8
19	265	11.7					3.1	2.8
20	250	11.7					3.4	3.0
21	225	11.0					3.0	3.1
22	220	9.4					3.0	3.2
23	225	7.6					2.7	3.1

Time: 105.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
* Average values except foF2 and fEs, which are median values.

Table 46

Godhavn, Greenland (69.2°N, 53.5°W) March 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	(3.0)					4.1	(3.1)
01	(260)	(2.9)					2.7	(3.0)
02	280	(3.0)					3.5	(3.0)
03	(290)	(2.8)					3.5	(3.0)
04	---	(2.8)					4.4	(3.1)
05	---	---					5.2	---
06	(290)	---			---	---	5.4	---
07	(280)	(3.0)			---	---	5.6	(3.1)
08	270	(3.1)	---	---	---	---	3.5	(3.2)
09	---	(4.0)	---	---	---	---		(3.2)
10	(360)	(4.2)	240	3.3	120	2.5		(3.0)
11	(320)	(4.2)	230	(3.5)	120	2.7		(3.1)
12	320	(4.4)	220	(3.6)	120	2.6		(3.0)
13	---	(4.5)	240	(3.5)	(120)	(2.7)		---
14	(350)	(4.2)	220	3.4	120	2.5		(3.0)
15	340	(4.5)	240	3.4	120	2.5	3.6	(3.1)
16	310	(4.2)	220	3.3	120	(2.3)	3.4	3.2
17	(270)	(4.0)	240	---	(120)	2.1		(3.1)
18	260	(4.0)	240	---	130	1.9		(3.1)
19	260	(3.7)			---	---	3.7	(3.1)
20	(260)	(3.5)					3.5	(3.0)
21	260	(3.2)					4.2	(3.1)
22	(260)	(3.0)					3.9	(3.1)
23	260	(3.1)					3.0	(3.0)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 47

Tananarive, Madagascar (18.8°S, 47.8°E) March 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	252	3.9					2.2	3.2
01	240	3.7					1.9	3.4
02	240	3.4					1.6	3.2
03	240	2.6					1.6	3.0
04	260	2.3					1.5	3.0
05	280	2.4					1.6	3.0
06	250	4.1			151	1.5	1.5	3.3
07	240	6.0	240	---	115	2.2	2.5	3.4
08	275	6.9	230	4.2	111	2.8	3.1	3.3
09	290	7.7	220	4.4	111	3.1	3.5	3.2
10	290	8.2	220	4.6	111	3.3	3.5	3.2
11	300	8.3	220	4.7	109	3.4	3.7	3.2
12	300	8.6	225	4.8	109	3.5	3.8	3.1
13	290	9.2	225	4.7	111	3.5	3.8	3.0
14	290	8.5	230	4.6	111	3.4	3.7	3.1
15	280	8.6	230	4.4	111	3.2	3.5	3.2
16	270	8.6	230	---	113	2.8	3.1	3.2
17	245	7.7	---	---	121	2.4	3.6	3.3
18	235	7.0			---	1.6	3.0	3.3
19	230	5.8					2.4	3.2
20	240	4.9					2.2	3.2
21	270	4.2					2.2	3.0
22	282	4.0					2.2	3.0
23	280	4.1					2.2	3.0

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 48*

Falkland Is. (51.7°S, 57.8°W) March 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	4.4					2.0	2.6
01	320	4.1					1.9	2.6
02	300	4.0						2.7
03	300	3.7					2.2	2.7
04	300	3.7						2.8
05	300	3.7						2.7
06	260	4.3	(270)	(2.8)	160	1.8		3.1
07	240	5.2	(260)	(3.1)	130	2.0	2.6	3.4
08	280	5.6	240	3.5	120	2.4	3.4	3.4
09	(310)	6.2	240	4.1	110	2.7	4.1	3.2
10	280	7.2	230	4.3	110	2.8	4.6	3.2
11	280	7.6	230	4.4	110	2.9	5.2	3.2
12	270	8.2	230	4.4	120	2.9	5.4	3.3
13	260	7.2	220	4.3	(110)	(2.9)	5.1	3.3
14	270	6.9	220	4.3	(110)	(2.9)	5.0	3.3
15	250	6.4	230	3.9	110	2.7	4.4	3.4
16	250	6.2	230	3.5	120	2.4	3.8	3.4
17	240	6.0	(240)	(3.3)	120	2.1	3.8	3.4
18	250	6.0			(160)	(1.6)	4.1	3.3
19	250	6.0					3.2	3.1
20	280	5.8					3.0	3.2
21	220	5.4						2.9
22	300	4.9					2.4	2.7
23	310	4.6					2.5	2.6

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
* Average values except foF2 and fEs, which are median values.

Table 49*

Port Lockroy (64.8°S, 63.5°W) March 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.						
01	3[illegible]0	3.8						
02	290	3.5						
03	290	3.0						
04	270	3.1						
05	260	3.1						
06	250	3.5						
07	230	4.0			(145)	(1.9)		
08	240	4.8	(240)	(3.4)	(135)	(2.3)		
09	250	5.2	(225)	(3.6)	(120)	(2.5)	2.8	
10	(240)	5.6	(215)	(3.8)	(120)	(2.7)	2.6	
11	(240)	5.7	(210)	(3.9)	(115)	(2.7)	3.1	
12	240	6.1	(210)	(4.0)	(115)	(2.8)	3.2	
13	250	6.2	(215)	(4.0)	(110)	(2.8)		
14	250	5.8	(205)	(3.8)	(110)	(2.7)		
15	230	5.6	(210)	(3.7)	(115)	(2.6)		
16	230	5.7	(210)	(3.7)	(120)	(2.3)		
17	230	5.6	(225)	(3.5)	(130)	(2.2)		
18	230	5.6			(135)	(2.0)		
19	240	5.9						
20	250	5.8						
21	250	5.3						
22	260	4.6						
23	270	3.9						

Time: 60.0°W.
Sweep: 1.4 Mc to 16.0 Mc, manual operation.
*Average values except foF2 and fEs, which are median values.

Table 50

Tananarive, Madagascar (18.8°S, 47.8°E) February 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	5.5					2.2	3.1
01	245	4.7					2.2	3.2
02	240	4.0					2.4	3.1
03	250	3.4					2.0	3.2
04	245	3.2					2.0	3.2
05	258	2.6					1.8	3.0
06	255	4.3			141	1.6	2.4	3.2
07	235	5.6	240	---	119	2.4	3.6	3.3
08	295	6.8	225	4.2	113	2.9	3.4	3.2
09	320	7.6	230	4.6	112	3.3	3.6	3.6
10	345	8.4	220	4.7	113	3.4	3.8	2.8
11	340	9.0	222	4.8	115	3.6	3.8	2.9
12	325	9.5	218	4.8	113	3.7	3.8	2.9
13	328	9.6	210	4.7	113	3.6	2.5	3.0
14	305	9.8	225	4.7	115	3.5	3.7	3.1
15	290	9.5	225	4.6	115	3.3	3.6	3.0
16	290	8.8	230	4.3	119	3.0	3.6	3.1
17	278	8.3	235	---	121	2.6	3.7	3.1
18	250	8.1	---	---	130	2.0	3.4	3.1
19	232	7.7					2.5	3.1
20	260	6.9					3.0	3.1
21	265	6.0					3.0	3.0
22	280	5.5					2.8	3.0
23	270	5.5					2.4	3.0

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 51

Djibouti, French Somaliland (11.5°N, 43.1°E) January 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	>6.6						(3.2)
01	240	6.3						3.3
02	230	5.5						3.5
03	225	4.5						3.4
04	232	3.6						3.4
05	245	2.6						3.4
06	255	2.2						3.5
07	250	5.6			109	1.8		3.4
08	230	7.9	---	---	111	2.5	3.3	3.3
09	[illegible]	9.3	220	---	111	3.0	6.2	3.0
10	312	9.5	210	---	109	3.2	6.5	2.8
11	328	9.8	[illegible]	4.9	---	3.5	6.5	2.7
12	334	8.7	195	4.9	110	3.4	6.6	2.6
13	340	9.0	200	4.9	109	---	6.6	2.6
14	345	9.3	200	---	110	3.4	6.6	2.6
15	330	9.7	21	---	111	3.3	6.3	2.7
16	32[illegible]	[illegible]	220	---	109	[illegible]	[illegible]	2.7
17	24[illegible]	[illegible]	230	---	112	2.6	4.2	2.8
18	25[illegible]	10.0			125	1.8	3.0	2.8
19	270	9.0					2.8	(2.8)
20	290	>[illegible].5						2.7
21	272	[illegible].5					2.2	(3.0)
22	242	7.5					2.4	(3.1)
23	230	6.9					2.4	3.2

Time: Local.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

Table 52

Godhavn, Greenland (69.2°N, 53.5°W) December 1951

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(260)	(2.7)					3.7	(3.1)
01	---	(2.8)					4.6	(3.0)
02	(300)	(2.7)						(3.0)
03	---	(2.8)					5.0	---
04	---	(2.8)					3.8	---
05	---	(2.6)					4.7	---
06	---	---					6.6	---
07	---	---					3.6	---
08	---	(3.6)					4.0	---
09	(250)	(4.0)					4.2	---
10	250	(4.0)						(3.2)
11	(250)	(4.5)						(3.2)
12	270	(4.2)					4.6	(3.1)
13	(240)	(4.4)					4.1	(3.1)
14	(240)	(4.4)					3.6	(3.2)
15	(250)	(4.2)					4.5	(3.1)
16	(240)	(3.8)					4.4	(3.1)
17	(240)	(3.9)					3.6	(3.0)
18	(250)	(3.9)					4.0	(3.1)
19	(240)	(3.5)					3.5	(3.1)
20	(250)	(3.6)						(3.1)
21	---	(3.2)						(3.1)
22	(250)	(3.2)					4.0	(3.1)
23	(260)	(3.3)					4.0	(3.1)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 53

Calcutta, India (22.6°N, 88.4°E) December 1951

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	(5.8)						2.6
01	270	(5.2)						
02	(240)	(4.3)						
03	---	(3.0)						---
04	---	(2.6)						
05	---	(3.8)						
06	(240)	3.2						---
07	(240)	(6.8)				2.5		
08	240	(8.5)				2.5		
09	(240)	8.5				2.6		2.9
10	(240)	9.4				2.8		
11	(210)	(10.6)				3.3		
12	(240)	(10.8)				3.5		---
13	(240)	10.8				3.6		
14	---	(11.0)				3.3		
15	---	(10.8)				3.1		---
16	---	(10.5)				2.8		
17	(240)	(10.0)				2.7		
18	---	([illegible].5)				2.2		---
19	(240)	(9.0)				2.2		
20	---	(8.0)						
21	(270)	(7.0)						2.9
22	(270)	(7.1)						
23	(270)	6.5						

Time: Local.

Table 54

Calcutta, India (22.6°N, 88.4°E) November 1951

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	6.1						2.6
01	240	5.9						
02	(240)	5.2						
03	(220)	(4.7)						---
04	(270)	[illegible].1						
05	---	(4.1)						
06	(240)	5.6				2.2		(2.8)
07	(240)	(7.4)				2.5		
08	240	9.1				2.8		
09	240	9.5				3.0		2.6
10	260	9.6				3.5		
11	(260)	(10.8)				3.6		
12	270	(10.9)				---		(2.6)
13	(270)	(11.0)				4.0		
14	270	(11.0)				3.6		
15	(270)	(8.5)				3.2		---
16	240	(10.5)				[illegible]		
17	240	(9.5)				2.6		
18	240	[illegible].5				2.[illegible]		2.[illegible]
19	240	8.5				2.1		
20	240	8.5						
21	(240)	([illegible].0)						(2.6)
22	(270)	(7.2)						
23	270	6.8						

Time: Local.

Table 55

Buenos Aires, Argentina (34.5°S, 58.5°W) April 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	8.0						2.7
01	300	7.0						2.7
02	300	6.7						2.8
03	290	6.4						3.0
04	270	5.4						2.9
05	290	4.3						2.8
06	290	4.9						2.8
07	250	8.4						3.3
08	250	10.6	---	---	120	2.9		3.3
09	270	11.3	240	---	120	3.2	3.7	3.2
10	270	12.6	230	---	110	3.4	4.9	3.1
11	300	13.5	230	---	---	---	4.3	3.1
12	3[illegible]0	14.4	240	4.3	---	---	4.2	3.1
13	310	14.8	240	4.2	---	---	4.2	3.0
14	310	15.1	250	---	---	---	4.2	3.1
15	290	15.6	260	---	---	---	4.0	3.2
16	270	15.2	---	---	---	---	3.5	3.2
17	240	14.1					3.4	3.3
18	230	12.9						3.2
19	250	12.8						3.1
20	260	12.2						3.1
21	250	10.4						3.1
22	280	9.2						3.0
23	290	8.2						2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 56

Buenos Aires, Argentina (34.5°S, 58.5°W) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	9.0						2.8
01	300	8.3						2.8
02	290	8.5						2.9
03	250	8.0						3.2
04	230	6.3						2.9
05	280	5.2						2.8
06	270	6.0						3.0
07	240	8.3				---		3.2
08	240	9.6	230			3.0	3.4	3.2
09	260	10.6	220			3.2	4.1	3.1
10	(290)	11.4	220			3.4	4.6	3.0
11	300	12.6	220			---	4.7	3.1
12	300	13.4	230			---	4.9	3.0
13	320	14.0	230			---	4.9	3.0
14	310	14.1	250			---	4.6	3.1
15	300	14.1	250			---	4.5	3.2
16	280	14.2	260			---	4.0	3.3
17	270	14.0	---				3.3	3.3
18	250	13.6						3.3
19	240	12.8						3.2
20	260	11.9						3.1
21	280	10.8						3.1
22	280	9.7						3.0
23	290	9.2						2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 57

Buenos Aires, Argentina (34.5°S, 58.5°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	9.1						2.9
01	290	9.2						2.9
02	280	9.0						3.0
03	260	8.4					3.1	3.0
04	260	7.7						2.9
05	280	6.8						2.8
06	240	7.5				---		3.2
07	240	7.9	---	---		2.8	3.6	3.2
08	250	8.3	220	---		3.3	4.1	3.1
09	(290)	8.4	220	---		3.5	4.6	3.0
10	(320)	(9.6)	220	---		---	4.6	2.9
11	350	11.0	210	---		---	4.2	2.8
12	340	12.0	220	---		---	4.8	2.9
13	340	12.8	220	5.2		---	4.8	3.0
14	310	13.0	230	5.2		---	4.6	3.1
15	310	13.0	220	---		---	4.0	3.1
16	300	12.9	230	---		---	3.4	3.1
17	290	13.0	240	---		---	3.1	3.2
18	270	13.0	---	---				3.2
19	270	12.6						3.2
20	270	11.1						3.1
21	290	(10.7)						3.0
22	300	10.4						2.9
23	300	9.6						2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Form adopted June 1946

TABLE 58

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat. 38.7°N, Long. 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.C.K., E.J.W., McC.

Calculated by: A.C.K., E.J.W., McC.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(280)S	300	(300)S	340	330K	CK	CK	270K	420K	480K	350K	650K	450K	380K	380K	400K	370K	300K	270K	260K	230K	250K	270KH	280K
2	300K	320K	(350)KS	(410)KS	[380]KS	(350)KS	260K	(260)KL	390K	450K	GK	GK	510K	410K	410K	390K	310K	280K	260K	240K	230K	(240)KS	280K	[260]KA
3	(280)KS	(300)KS	(360)KS	BK	BK	BK	250	(300)L	260	320	370	340	310	330	320	310	290	280	240	230	240	230	250	(280)S
4	270	270	250	280	(290)S	(290)S	[270]C	[280]C	300	280	330	320	310	M	M	M	300	270	240	210	220	240	(250)S	(270)S
5	(290)S	280	(280)S	(280)S	(290)S	(290)S	220	230	230H	(300)H	320	320	340	300	290	290	270	260	230	230	230	(220)S	250	(270)S
6	270	290	(290)S	300	(280)S	(260)S	230	250	280	350	320	320	330	340	310	280	280	(270)L	250	240	250	250	250	250
7	280	290	(270)S	260	250	250	230	250	350KH	350K	400KH	460KH	360K	400K	400K	380K	360K	300K	270K	240K	220K	270K	250K	260K
8	300K	280K	(300)KS	300K	BK	SK	280K	240K	GK	GK	GK	420K	450K	400K	380K	360K	290K	300K	270K	260K	260K	220K	280K	280K
9	300K	300K	(340)KS	(390)KS	(440)KS	(400)KS	280K	240K	GK	(490)KL	580K	580K	440K	390K	370K	420K	330K	310K	270K	(270)KA	260	250	280	290
10	290	270	290	360	(410)S	[340]S	270	230	350	380H	350H	360H	270	330	340	310	290	270	230	230	240	230	240	280
11	220	280	280	220	(300)S	(270)S	240H	220	290	320	310	340H	370	340	310	300	310	280	250	220	250	250	260	270
12	280	270	270	240	240	320	250	270	280	280	320	330H	330	330	330	340	280	270	260	220	230	230	270	[illegible]
13	(290)S	(300)S	(310)S	300	(300)S	[280]S	220	280	280H	270	(320)L	320	330H	320	300	300	280	270	240	220	230	240	250	270
14	(300)S	250	(290)S	(290)A	(280)A	260	260	(280)L	(280)L	290	300H	360H	330	320	290	300	270	280	250	(240)A	230	230	230	[illegible]
15	270	(300)A	(300)A	(290)A	(310)A	(290)S	250	(260)L	270	290	290	330	330	360	330	300	290	260	260	220	230	250	250	270
16	280	260	260	270	300	[320]A	250	(300)L	330	390	300	320	320	320	320	290	270	270	250	220	230	240	250	260
17	(290)S	(290)S	270	270	250	(310)S	250	250	270H	270	[280]C	280	300	290	270	270	260	250	230	220	210	250	250	250
18	(270)S	260	270	250	260	(270)S	240	240	260	260	270	260	260	280	290	270	270	250	220	210	220	240	(250)S	260
19	250	250	240	260	250	260	240H	220	230	(260)L	260	280	290	280	280	270	260	250	230	220	220	220	230	230
20	240	250	C	C	C	C	C	230	250	260	250	250	290	280	270	270	260	240	240	230	270	250	270	270
21	220	200	C	C	C	C	C	(250)L	240	260H	290H	280	260	280H	280	270	260	250	230	220	240	270	260	270
22	260	[270]C	270	C	C	C	C	230	260	270	280	270	270H	280	280	270	250H	250	230	210	230	250	260	260
23	270	260	250	230	250	(260)S	230	250	260	(270)L	280	260	270	280	280	270	260	240	220	220	210	220	240	220
24	(260)S	260	270	220	250	250	240	240	250	250	270	280	310	300	280	270	260	250	230	220	230	260	250	250
25	250	250	240	240	240	250	240	230	240	280K	270K	250K	290K	300K	320K	290K	270K	240K	220K	270K	(280)KS	(290)KS	(310)KS	340K
26	320K	CK	CK	CK	CK	C	CK	CK	LK	540KH	470K	440KH	430K	400KH	400K	(410)KL	340K	280K	240K	230K	250K	(300)KS	(310)KS	(290)KS
27	(300)KS	(300)KS	300K	300	280	[280]S	220	240	(310)L	(340)L	310	360H	320	290	280	280	270	250	230	(230)A	260	250	(280)A	280
28	300	290	290	300	(330)S	[300]S	260	250	(280)L	300	340	330H	310	330	310	300	310	250	230	220	240	270	(310)S	(300)S
29	250	250	260	270K	(290)KS	BK	300K	GK	GK	GK	660K	450K	340K	330K	300K	290K	320K	270K	260K	(290)KS	310K	250K	290K	300K
30	300K	300K	270K	EK	EK	EK	270K	250K	440K	510K	GK	430K	520K	470K	450K	360K	290K	270K	230K	250K	260K	(310)KS	(300)KS	(330)KS
31																								
Median	280	280	280	280	(290)	(280)	250	250	280	300	320	330	330	330	310	300	280	270	240	230	230	250	260	270
Count	30	29	27	24	23	22	25	29	29	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 59

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.C.K., E.J.W., McC.

Calculated by: A.C.K., E.J.W., McC.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.3	4.2	(3.2) JS	(2.5) JS	S 2.4 JK	C K	C K	3.7 K	4.9 K	4.6 K	5.1 K	4.9 K	5.4 K	5.8 K	5.2 K	5.4 K	5.6 K	6.0 K	5.6 K	5.6 K	5.4 K	J 4.8 SK	J 3.9 SK	3.3 K
2	3.0 K	2.4 K	2.5 K	[2.2] FK	S [2.0] FK	S (1.9) FK	3.0 K	S 3.9 JK	4.5 K	4.5 K	<4.4 GK	<4.5 GK	5.0 K	5.4 K	5.1 K	5.3 K	5.9 K	5.5 K	5.? K	5.1 K	J 5.0 SK	4.2 K	3.8 FK	(3.4) HK
3	J 2.7 KF	(2.1) FK	F (1.8) SK	B FK	B K	B K	3.2	4.1	4.9	5.3	5.8	6.2	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.0	5.8 JS	5.0	3.6 F	3.4 JF
4	(3.5) S	3.3 F	3.3 F	3.0 JS	(2.4) S	(2.4) JF	[3.8] C	[4.7] C	5.4	5.6	5.4	6.1	6.7 V	M	M	M	6.5	6.8	7.0	6.5	5.2	4.4 S	3.7 JF	3.4 F
5	3.1 F	2.9 F	2.9 JS	(2.9) JF	(2.6) FP	(2.7) FS	4.6	5.3	6.0 JH	(5.8) H	6.6	7.2	7.9	9.0	8.4	9.2	7.8	6.8	6.0	5.8	5.6	4.3	4.0 JS	3.6
6	3.7	3.5	3.2	2.9	2.8	2.6	3.5	4.4	5.2	5.1	6.2	6.0	6.2	6.7	6.8	6.4	6.0	5.8	5.8	6.4	6.0	(5.5) S	4.7	(4.0) JS
7	3.5	3.4 JS	3.2	3.0	2.4	2.1	3.5	4.3	(4.7) SK	4.8 K	5.0 HK	5.0 HK	5.3 K	5.4 K	5.2 K	5.6 K	5.1 K	5.8 K	(5.9) SK	J 6.6 SK	6.0 K	5.4 K	4.5 K	4.6 K
8	4.0 K	3.8 FK	3.2 K	F 2.9 JK	B K	S K	3.0 K	3.6 K	<3.9 GK	<4.0 GK	<4.1 GK	4.7 K	4.8 K	5.2 K	5.4 K	5.0 K	5.0 K	5.4 K	5.3 K	5.1 K	4.7 K	4.? K	3.9 K	3.4 K
9	3.0 FK	(2.3) FK	(2.0) FK	(1.8) FK	S FK	F SK	2.9 K	3.3 K	<3.7 GK	4.3 K	4.3 K	4.5 K	5.0 K	5.1 K	5.2 K	4.9 K	5.2 K	5.1 K	5.6 K	4.7 K	4.5	3.9	3.3	3.2
10	2.7 F	2.6 F	(2.4) F	(2.2) F	F	F	3.0	(3.7) S	4.5	4.6 H	4.8 H	5.0 H	5.3	5.6	5.8	5.9	6.2	5.9	5.7	5.0	4.6	4.0 F	3.4 F	2.8 F
11	(2.5) F	(2.3) F	(2.2) F	(2.0) F	(1.4) F	(2.0) F	3.4 HF	4.7	4.9	5.3	5.5	5.2 H	5.5	5.7	5.8	5.7	5.5	5.8	6.1	5.1	5.0	4.3	(3.5) F	3.4 F
12	3.1	3.1	3.0 F	2.4 F	(2.2) FS	(1.4) F	3.6 F	4.9	5.7	5.9	5.7	6.0 H	6.1	6.0	5.1	6.4	6.2	7.1	6.0	6.2	4.8	3.8	2.9	2.5 F
13	2.2	2.1 F	2.0	1.8 SJ	(1.7) ST	1.6 SJ	3.2	4.5	5.3 H	5.6	5.1	5.5	5.7 H	5.6	5.7	5.8	6.6	6.3	6.7	6.5	(4.9) S	4.3	3.7	3.3
14	2.9	2.8	2.4	(2.3) SF	2.1	2.0 F	3.6	4.4 H	4.8 H	5.7	5.3 H	5.7	6.0	6.4	6.0	6.1	5.9	6.2	6.?	6.1	5.4	4.5	3.5	2.7
15	2.3	2.1	2.0	2.0	2.1	2.3	3.7	4.5	5.3	5.4	5.7	5.3	5.7	5.9	6.2	6.1	6.5	6.4	6.4	6.2	5.1	4.3	3.7	3.2
16	3.0	2.4	2.5	2.4 F	2.0 F	(1.8) SA	2.9	(4.0) SH	4.3	4.6	5.3	5.4	5.8	5.7	6.0	6.2	6.0	6.2	6.5	5.4	4.8	4.0	3.2	2.6
17	2.4	2.2	2.2	2.2	2.0	(2.0) S	3.4	4.9	5.5 H	6.0	[6.0] C	6.0	6.4	6.8	7.0	7.3	7.0	6.7	6.8	6.0	4.6	4.0	3.6	3.3
18	3.1	2.9	2.6	2.5	2.3	2.2 F	3.9	5.3	6.2	6.0	6.6	7.3	6.8	6.4	6.6	6.3	6.6	6.8	6.6	6.0	4.8	4.2	3.7	3.5
19	3.3	3.1	2.7 F	2.5	2.4	2.4	4.1 H	5.4	6.3	6.3	6.2	6.8	7.3 V	7.0	7.1	7.1	6.8	6.6	7.0	6.7	5.5	4.8	4.4	4.0
20	3.4	3.0	C	C	C	C	C	5.6	6.4	6.6	6.9	6.7	6.7	7.1	7.0	7.3	6.8	6.6	6.4	7.0	5.8	5.8	5.6	4.9
21	4.5	C	C	C	C	C	C	5.1 H	6.2	6.2 H	6.1 H	7.0	6.3	6.3 H	6.8	6.6	6.2	6.2	5.9	5.4	4.4	4.2	4.0	3.1
22	3.5	[3.0] C	2.6	C	C	C	C	4.7	5.6	6.4	6.1	7.0	7.1 H	6.8	7.2	7.2	6.8 H	6.2	6.4	5.9	4.5	4.1	3.7	3.4
23	3.1	3.0	2.8	2.8	2.4	2.4	3.8	5.4	5.6	6.2 H	7.6	7.6	7.4	7.0	7.2	7.2	6.7	6.6	6.5	6.0	5.5	4.3	3.6	3.5
24	3.3	3.1	2.8	2.7	2.5	2.4	3.3	5.1	5.5	6.1	6.4	6.1	6.4	6.9	7.3	7.0	6.6	6.0	6.0	5.9	4.8	(4.1) F	4.0	3.5 F
25	3.3 F	3.3 F	3.1 F	2.8 F	2.7 F	2.8 F	4.0	5.5	6.6	6.1 K	7.5 K	7.3 K	6.8 K	6.1 K	6.5 K	7.2 K	7.4 K	7.0 K	6.0 K	5.8 K	(5.2) SK	4.2 K	3.5 K	3.4 K
26	3.3 K	C K	C K	C K	C K	C K	C K	C K	4.0 K	4.2 HK	4.5 K	4.5 HK	4.7 K	4.6 HK	4.6 K	4.6 K	4.7 K	4.7 K	4.5 K	(3.9) FK	(2.9) FK	2.8 FK	2.7 FK	2.6 FK
27	2.5 K	2.3 FK	2.1 FK	(2.0) F	1.4 F	1.6 JS	2.6 F	4.2	4.8	5.0	5.?	5.? H	6.4	6.6	6.1	5.6	6.0	6.6	5.8	4.8	4.1	3.8	3.3	2.9 F
28	2.5	2.4 F	(2.1) F	(1.8) F	(1.8) F	[1.7] S	3.0	4.1	4.8	5.3	5.1	5.7 H	5.?	5.8	5.7	6.2	6.4	6.7	5.4	5.3	3.8	3.2	2.5	2.7
29	2.6	2.2 F	(2.1) F	(2.0) FK	S (1.5) FK	B K	2.5 K	[3.0 GK	<3.4 GK	<3.6 GK	4.4 K	4.8 K	5.2 K	5.5 K	5.5 K	5.9 K	5.9 K	7.3 K	6.6 K	5.8 K	J (3.8) FK	(3.3) FK	3.0 FK	2.5 FK
30	2.3 FK	2.0 K	1.6 FK	S (1.4) FK	(1.3) SK	[1.4] HK	2.4 K	3.4 K	3.9 SK	4.0 HK	<3.8 GK	4.3 K	4.5 K	4.6 K	4.5 K	4.7 K	4.6 K	4.3 K	3.0 K	3.0 K	2.5 K	2.2 K	2.1 K	1.9 K
31																								
Median	3.1	2.9	2.5	2.4	2.2	2.0	3.3	4.5	5.0	5.4	5.6	5.8	6.0	6.0	6.0	6.2	6.2	6.2	6.0	5.8	4.8	4.2	3.6	3.4
Count	30	28	27	26	24	20	26	29	30	30	30	30	30	29	29	29	30	30	30	3.0	3.0	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 60

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), September (Month), 1952

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: A.C.K., McC., E.J.W.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

Calculated by: A.C.K., McC., E.J.W.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	4.6	(3.9) S	2.9 JS	(2.4) S	C K	C K	3.4 K	4.2 K	<4.0 GK	5.2 K	5.0 K	5.2 K	5.0 K	5.4 K	5.2 K	5.4 K	5.6 C	5.6 K	5.4 K	5.6 K	4.6 K	4.4 F	3.5 F	3.1 K
2	J 2.9 SK	J 2.5 SK	2.1 K	J 2.2 SK	S [2.5] FK	2.4 K	3.4 K	<3.7 GK	4.7 K	4.8 K	<4.5 GK	<4.5 GK	5.2 K	5.4 K	5.0 K	5.1 K	5.5 K	5.3 K	5.2 K	J 5.3 SK	4.6 K	S (4.4) JK	3.7 K	3.4 K
3	J 2.7 SK	(2.1) FK	B K	B K	B K	(2.5) SK	3.7	4.6	5.5	5.4	5.8	6.3	6.0	6.1	6.5	6.5	6.4	6.6	6.4	6.4	5.6 JS	4.3 JS	(3.0) JS	(3.5) JF
4	3.3 F	3.3 JS	3.1 F	(3.0) JS	2.5 F	3.2	4.5	4.9	5.4	5.6	5.7	6.6	M	M	M	6.5	6.7	7.0	6.7	5.6	4.5	3.9 J	(3.7) JS	(3.2) JS
5	2.9 F	2.9 JS	2.9 JF	(2.9) JF	(2.5) FS	(3.5) JF	5.0	6.6	6.3 JS	5.9	6.7	7.4	8.4	9.0	9.0	9.0	7.2	6.4	5.5	5.8	5.0	4.2	3.7	3.5
6	3.3	3.3	3.0	2.8	2.7	2.8	3.4 JS	5.0	4.9	5.8	6.2	6.6	6.6	6.9	7.0	6.0	5.9	5.7	(6.2) S	6.1	(5.8) S	5.2	4.4	3.8 J
7	3.3	3.4	3.0 F	2.6 JS	2.4 JS	2.8	4.0	4.5 K	4.6 R	4.8 K	5.0 K	5.2 K	5.1 K	5.4 K	5.4 K	5.8 K	5.4 K	5.7 K	6.2 K	6.6 K	5.4 K	(5.2) S	4.5 K	3.8 FK
8	(3.9) SJ	3.6 K	JS 3.0 FK	(1.8) PS	B K	2.3 K	3.5 K	4.0 HK	<3.8 GK	<4.0 GK	<4.0 GK	4.7 K	5.0 K	5.1 K	5.3 K	4.8 K	5.3 K	5.0 F	5.2 F	5.0 K	4.5 K	4.4 F	3.7 K	3.1 K
9	(2.5) FK	J (2.2) FK	(1.9) FK	B FK	S FK	2.2 FK	3.4 K	4.1 K	4.1 K	4.3 K	<4.2 GK	4.7 K	5.1 K	5.0 K	5.0 K	5.3 K	5.2 K	5.3 K	5.6 K	4.8 K	4.3	3.4	3.2	3.0
10	2.6 F	(2.5) F	(2.2) F	(1.8) F	[2.0] F	2.2 F	3.8 H	4.0	4.5 H	4.7 H	4.9	5.1	5.6	5.5	5.8	6.0	6.1	6.1	5.2	4.8	4.4	3.1 F	2.9 F	(2.6) F
11	(2.5) F	(2.3) F	(2.1) F	(1.9) F	(1.9) F	(2.5) F	(4.0) F	4.7	5.2	5.6	5.7 H	5.4	5.6	5.8	5.7	5.7	5.5	6.0	5.6	5.1	4.7	(3.7) F	3.3 F	3.2 F
12	3.1	3.0 F	(2.8) F	(2.3) F	(2.1) F	2.6	4.2	5.6	5.8	5.6	5.9	6.0 H	6.2	5.9 H	5.5	6.7	6.5	6.8	7.1	5.4	4.5	3.2	(2.1) F	2.4
13	2.2	2.1	1.9	1.8	1.6 SJ	2.3	4.1	4.9	5.6 H	5.4	5.3	5.6	5.6	5.7	5.6	6.1	6.3	6.6	6.8	5.5	4.7	4.0	3.5	3.1
14	2.7	2.4	2.5 F	2.2	2.2 F	2.2	3.6	4.6	5.1	5.6	5.2	6.1	5.7	6.8	5.8	6.3	5.7 H	6.2	6.5	5.7	5.2	4.1	3.0	4.5
15	2.2	2.0	2.0	2.1	2.2	2.6	4.1	5.1 H	5.6	5.6	5.4	5.4 H	5.8	6.4	6.6	6.2	6.6	5.9	6.7	5.6	4.5	4.0	3.4	3.6
16	3.6	2.7	2.5	2.2 F	1.9 F	2.3	3.6	4.2	4.5	5.0	5.5	5.6	5.8	6.1	6.2	6.1	5.9	6.4	6.2	5.2	4.4	3.6	2.8	2.4
17	2.2	2.2	(2.1) SJ	(2.2) SA	(2.0) S	2.3	4.3	5.0 H	5.5 H	[5.7] C	5.8	6.2	6.6	6.9	7.1	6.9	6.6	6.7	6.7	5.3	4.2	3.7	3.5	3.1
18	3.0	2.7	2.5	2.5	2.3	2.7	4.7	5.9	6.3	6.5	6.8	7.0	6.7	6.4	6.6	6.3	6.8	6.9	6.1	5.4	4.5	3.9	3.5	3.4
19	3.3	2.9	2.5	2.3	2.5 F	2.7	5.3	6.2	6.7	6.4	6.4	7.5 H	7.2	7.0	7.2	7.0	6.7	6.7	6.8	6.0	5.2	4.6	4.2	3.8
20	3.1	2.7	C	C	C	C	4.8	6.0	6.2	7.0	6.8	6.7 H	6.8	7.1	7.2	7.3	6.6	6.7	7.0	6.6	6.0	5.4	4.9	3.0
21	4.2	C	C	C	C	C	4.4 H	5.6 H	6.1	5.9	6.0 H	7.1	6.0	6.6	7.0	6.5	6.2	6.1	5.7	4.7	4.2	4.2	3.7	3.5
22	3.2	2.8	C	C	C	C	4.1	5.1	5.8 H	6.2 H	6.9	7.0	6.7	6.9	7.4	7.0	6.4	6.2	6.3	5.1	4.2	[3.9] C	3.6	[3.2] C
23	3.0	[3.0] C	2.8 F	[2.6] C	2.4	[2.7] C	4.6	5.6	6.0	6.0	8.1	7.5	7.2	7.0	7.3	6.9	6.7	6.6	6.3	6.0	4.8	3.7	3.5	3.4
24	3.2	3.0	2.9	2.7	2.6	2.7	4.4 V	5.4	5.6	6.2	6.0	6.1	6.8	7.3	7.1	6.9	6.3	6.1	6.1	5.6	(4.1) C	4.1	3.6 F	3.3 F
25	3.2 F	3.2 F	2.9 F	2.8 F	2.8 F	3.1 F	4.8	5.7	6.0	6.8 K	7.5 K	6.9 K	6.6 K	6.2 K	6.4 K	7.3 K	7.1 K	7.5 K	6.4 K	5.4 K	4.6 K	3.9 K	3.5 K	3.3 K
26	C K	C K	C K	C K	C K	C K	C K	3.8 K	4.1 K	4.5 K	4.5 K	4.6 K	4.5 HK	4.7 K	4.7 K	4.7 K	4.5 K	4.7 FK	4.0 FK	(3.5) FK	2.9 FK	2.5 FK	2.7 K	2.5 K
27	2.4 K	2.3 K	2.0 FK	2.0 F	1.9	(1.8) F	3.6 F	4.2	5.1	5.4	5.7	6.1 H	6.5	6.4	6.0	5.9	5.1	5.4	5.5	4.3	3.8	3.6	3.1	2.7 F
28	2.4 F	2.3 F	[2.0] F	[1.8] F	(1.5) SF	(1.9) F	3.4	4.4	4.8	5.2	5.4	5.8	5.8	6.0	6.0	6.0	6.7	6.6	5.5	4.4	3.4	4.3 F	3.6	2.9 H
29	2.5 Z	1.9 F	(1.1) F	F K	S K	F K	2.9 FK	3.5 K	<3.5 GK	4.2 K	4.5 K	5.0 K	5.2 K	5.5 K	5.9 K	6.0 K	6.6 K	7.0 K	5.6 K	(4.2) FK	3.5 K	(3.1) FK	4.6 FK	(2.5) FK
30	2.1 K	1.8 K	(1.4) SK	J 1.3 SK	[1.5] AK	(1.8) AK	3.3 K	3.0 K	4.1 K	<3.9 GK	<4.0 GK	4.4 K	4.7 K	4.5 K	4.5 K	4.8 K	4.4 K	4.2 K	3.3 K	3.0 K	2.2 K	2.2 K	2.1 K	1.8 K
31																								
Median	3.0	2.7	2.5	2.2	2.3	2.5	4.0	4.9	5.3	5.6	5.7	6.0	5.8	6.2	6.0	6.2	6.3	6.2	6.2	5.4	4.5	3.9	3.5	3.2
Count	29	28	25	23	21	24	29	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 61

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'F1 (Characteristic), Km (Unit), September (Month), 1952

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: A.C.K., McC., E.J.W.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

Calculated by: A.C.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1								QK	220K	230K	210K	190HK	230K	230K	220K	220K	230K	240K	250K							
2								220K	200K	220K	200K	200K	190HK	190HK	210HK	210HK	240K	220K	240K							
3								240	(240)A	200H	200H	180H	180H	200	210	210	210	220	230							
4								C	220	[210]A	200H	210	190H	M	M	M	210	230	230							
5								210	210H	190H	190H	220H	190H	200H	210	210	210	220H	Q							
6								200	200	200H	200	190	200	200H	220	210	220	230	Q							
7								230	210K	200K	200HK	200HK	190HK	200K	220K	220K	230K	230HK	QK							
8								QK	220K	210K	200K	190HK	200HK	210K	230K	230K	230K	240K	AK							
9								QK	210K	200K	200K	210K	220K	220K	220K	220K	220HK	230K	AK							
10								210	200H	210	200	200H	190	190	190	220	220	230	Q							
11								230	210	220	210	190H	190	210	220	220	210	220	240							
12								230	210H	220	200	190H	190	190H	200	220	230	230	Q							
13								230H	200H	200H	200	210	190	200H	220	210	220	230	Q							
14								230	230	200	200H	200H	180H	180H	220	220	230	230H	Q							
15								230	220	220	190H	190H	210	230	210H	240	240	230	Q							
16								230	220	220	190H	190	200H	190	210	210	200	240	Q							
17								230	210	190	[200]C	220	190	180H	200	210	220	210	Q							
18								230	230	220	200	190H	190H	180	190H	200H	230	230	Q							
19								220	210	200	200	190	200	190	200	210	220	230								
20								220	220	210	200H	190	190	170H	190H	220	230	230								
21								230	200	(200)A	(220)A	180H	190H	190H	190	240	220	240								
22								200	220	220	170	210	200H	220	200H	220	220	220								
23								230	210	200	190	230	200	190	190	200H	220	230								
24								210	200	190	190	190H	190	230	200	210	210	220								
25								220	220	210K	200K	190K	190HK	190HK	260K	230K	230K	230K								
26								CK	220K	200HK	200K	190K	200K	200HK	200K	220K	220K	240K								
27								Q	230	210	200	210	200	220	200H	210	230	230								
28								230	220	200	200	200	190H	200H	220	220	240	230								
29								260K	240K	220K	210HK	230K	220K	210K	210K	210K	230K	250K								
30								QK	230K	210HK	220K	200K	210K	200HK	210HK	220K	240K	240K								
31																										
Median								230	220	210	200	200	190	200	210	220	220	230	240							
Count								23	30	30	30	30	30	29	29	29	30	30	5							

Sweep 1.0 Mc to 25.0 Mc In 0.25 min

Manual ☐ Automatic ☒

TABLE 62

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

foF1 (Characteristic), Mc (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.C.K., McC., E.J.W.

Calculated by: A.C.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								QK	4.0K	4.1K	4.3K	4.5HK	4.5K	4.5K	4.3K	4.3K	4.1K	3.9K	LK					
2								LK	3.9K	4.3K	4.4K	4.5K	4.5HK	4.4HK	4.4HK	4.3HK	4.0K	LK	LK					
3								L	4.0H	4.2H	(4.4)H	4.6H	4.6H	4.5	4.4	4.4	4.2	3.5	L					
4								C	4.0	(4.2)A	(4.2)F	4.5	4.6H	M	M	M	4.2	L	L					
5								L	L	4.3H	4.5H	4.6H	(4.6)H	4.4H	4.3	4.3	3.9	L	Q					
6								2.9	[3.6]L	4.3H	4.4	4.5	4.5	4.4H	4.4	4.3	L	L	Q					
7								L	4.2K	4.2K	4.2HK	4.3HK	(4.4)HK	4.3K	4.2K	4.2K	4.0K	3.5HK	QK					
8								QK	3.9K	4.0K	4.1K	4.2HK	4.2HK	4.3K	4.1K	4.1K	3.9K	LK	AK					
9								QK	3.7K	(4.0)LK	4.1K	4.2K	4.2K	4.3K	4.2K	4.1K	3.9HK	3.4K	AK					
10								L	3.9H	4.0	4.2	4.4H	4.4	4.4	4.3	4.1	3.9	L	Q					
11								L	3.7	4.2	4.3	4.3H	4.3	4.2	4.2	4.1	3.7	L	L					
12								L	L	4.1	4.2	4.3H	4.3	4.3H	4.2	4.2	3.8	3.3	Q					
13								L	3.7H	3.9H	(4.2)L	4.3	4.4	4.3H	4.3	4.1	3.9	L	Q					
14								L	L	4.1	4.2H	4.4H	4.3H	4.3H	4.2	4.1	[3.7]L	3.3H	Q					
15								L	3.7	4.1	4.2H	4.4H	4.3	4.4	4.4H	4.2	3.9	3.1	Q					
16								L	3.8	4.0	4.1H	4.2	4.4H	4.4	4.3	4.2	3.8	L	Q					
17								L	3.6	4.1	[4.2]L	4.3	4.4	4.4H	4.2	4.1	3.8	3.9	Q					
18								L	L	(4.1)L	4.3	4.3H	4.5H	4.3	4.3H	(4.1)L	3.8	L	Q					
19								L	L	L	4.2	4.3	4.5	4.3	4.2	4.1	3.5	L						
20								L	L	4.1	[4.2]L	4.3	4.5	4.3H	4.3H	4.2	L	L						
21								L	L	L	4.3	4.2H	4.4H	4.3H	4.2	4.1	L	L						
22								L	L	4.1	4.4	4.4	4.5H	4.4	4.3H	4.1	L	L						
23								L	L	L	4.2	4.4	4.4	4.4	4.3	L	L	L						
24								L	L	L	4.2	4.3H	4.5	4.5	4.3	4.1	L	L						
25								L	L	LK	4.2K	4.2K	4.5HK	4.4HK	4.4K	4.2K	LK	LK						
26								CK	LK	3.8HK	4.0K	4.1K	4.1K	4.1HK	4.1K	(4.0)LK	3.7K	LK						
27								Q	L	(4.0)L	4.2	4.4	4.3	4.3	4.2H	L	L	L						
28								L	L	3.9	4.2	4.2	4.3H	4.2H	4.2	4.0	3.2	L						
29								3.0K	3.4K	3.6K	3.8HK	4.0K	4.2K	4.2K	4.1K	3.9K	3.7K	LK						
30								QK	3.5K	3.2HK	3.8K	4.0K	4.0K	4.0HK	3.9HK	3.8K	3.5K	LK						
31																								
Median								—	3.8	4.1	4.2	4.3	4.4	4.3	4.3	4.1	3.8	3.4	—					
Count								2	16	25	30	30	30	29	29	29	22	8	0					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 63

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.C.K., McC., E.J.W.

Calculated by: A.C.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C K	110 K H	110 K	110 K	110 K	110 K	110 K	110 K	110 K	110 K	110 K	110 K	(110) S K					
2							110 K	110 K	110 K	110 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	110 K H	120 K					
3							S	110 H	110	110	100	110	100 H	110	100	100	110	110	(120) S					
4							C	C	(110) A	(110) A	100	100	110	M	M	M	110	110 H	A					
5							A	110	110	100	110	110	110 H	100	100	110	110	110	S					
6							S	110	[100] A	100	100	100	100	110	100	100	100	110	S					
7							S	110	110 K	110 K	110 K	100 K	100 K	(120) B K	110 K	110 K	110 K	110 K	S K					
8							S K	120 K	110 K	110 K	110 K	110 K	100 K	100 K	110 K	110 K	110 K	110 K	120 K					
9							A K	110 K	110 K	110 K	110 K	110 K	110 K	100 K	110 K	110 K	110 K	110 K	A K					
10							120	110	110	100	100	100	100	100	100	110	110	120	S					
11							110	120	110	100	100	100	100	100	100	110	110	100	100					
12							110	120	110	110	100	110	110	110 H	100 H	110	110	120	120					
13							S	120	110	110	(120) A	100 H	110	110	110	110	110	[100] A	100					
14							(130) A	120	110	110	110	110	110	110	110 H	110	120	120	(130) S					
15							120	120	110	110	100	110	110	110	110	110	110	120	(120) S					
16							120	120	110	110	110	110	110	110	110	100	100	110	110					
17							A	(120) A	110	110	[110] C	(110) A	110	100	100	100	110	110	130					
18							S	110	100	100	100	100	100	100	100	110	110	110	130					
19							A	110	100	100	100	100	100	110	100	100	110	110	120					
20							C	110	100	100	100	100	100	100	100	100	110	110	130					
21							C	100	100	100	100	[100] A	100	100	100	100	110	110	120					
22							C	100	100	100	100	100	100	100	100	100	110	110	(120) S					
23							S	A	100	100	100	100	100	100	100	100	100	100	120					
24							S	110	100	100	100	100	100	100	100	100	110	110	(120) S					
25							S	A	A	100 K	100 K	100 K	100 K	100 K	100 K	100 K	110 K	110 K	140 K					
26							C K	C K	110 K	110 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	110 K	110 K					
27							S	100	100	100	100	100	100	100	100	100	100	120	120					
28							S	A	100	100	100	100	100	100 H	100	100	100	110	120					
29							S K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	[110] A K	120 S K					
30							A K	110 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	110 K	A K					
31																								
Median							120	110	110	100	100	100	100	100	100	100	110	110	120					
Count							7	25	29	30	30	30	30	29	29	29	30	30	23					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 64

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

foE, Mc, September 1952
(Characteristic) (Unit) (Month)

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards
(Institution)

Scaled by: A.C.K., McC., E.J.W.

Calculated by: A.C.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C K	2.5 HK	2.7 K	3.1 K	3.2 K	(3.3) PK	3.4 K	3.4 K	3.3 K	3.1 F	3.0 K	2.5 K	1.9 K					
2							1.9 K	2.3 K	2.9 K	[3.0] AK	3.2 K	3.5 K	3.4 K	3.4 K	(3.3) FK	(3.1) FK	(2.7) AK	2.4 HK	S K					
3							(1.8) H	(2.4) H	2.6	[2.9] A	3.2	3.4	3.4 H	3.4	3.3	3.1	2.8	[2.2] A	1.7					
4							C	C	A	A	(3.2) F	3.4	3.5	M	M	M	2.9	2.4 H	A					
5							A	2.4 H	[2.7] A	3.0	3.2	(3.5) F	(3.5) H	3.4	3.2	3.2	[2.8] A	2.4	S					
6							S	2.2	[2.6] A	3.0	3.3	3.4	3.4	3.3	3.2	3.0	2.8	2.4	S					
7							S	2.4	2.7 K	[2.9] HK	3.1 K	3.2 K	3.4 K	3.4 K	3.3 K	3.1 K	2.8 K	2.3 K	S K					
8							S K	2.3 K	2.7 K	3.0 K	3.2 K	3.2 K	3.3 K	3.2 K	3.1 K	3.0 K	2.7 K	2.3 K	A K					
9							A K	(2.2) AK	[2.4] AK	2.9 K	3.1 K	3.2 K	3.2 K	[3.2] AK	3.1 K	2.9 K	2.6 K	2.3 K	A K					
10							S	2.2	2.6	2.8	2.9	3.1	3.2	3.2	3.0	2.9	2.7	2.2	S					
11							S	2.2	2.6	2.9	3.0	3.1	3.2	3.2	3.1	2.9	2.7	A	S					
12							S	2.3	2.6	2.9	3.0	3.1	3.2	3.2 H	3.1 H	2.9	2.7	2.3	A					
13							S	2.2	2.6	2.8	3.2	3.2 H	[3.2] A	3.2	3.1	2.9	2.7	A	S					
14							S	2.2	2.6	2.8	3.0	3.1	3.2	3.2	3.2 H	2.9	2.6	2.2	S					
15							A	2.2	2.7	2.9	3.0	3.2	3.3	3.2	3.1	2.9	2.5	2.2	A					
16							S	2.2	2.5	(2.9) F	3.1	3.2	3.2	3.2	3.1	2.9	A	A	S					
17							A	2.3	(2.7) A	(2.9) A	[3.1] C	3.3	3.3	3.2	3.1	2.9	2.6	A	S					
18							S	A	2.6	2.9	3.0	3.2	3.2	3.2	3.1	2.9	2.7	2.3	S					
19							S	2.2	2.7	2.9	3.1	3.2	3.3	3.2	3.1	3.0	2.7	2.1	S					
20							C	A	2.6	2.9	3.1	3.2	3.3	3.2	3.1	3.0	2.7	A	S					
21							C	A	A	A	A	3.2	3.2	3.2	3.1	2.9	2.6	2.1	A					
22							C	2.1	(2.6) A	3.0	3.1	3.2	3.2	3.2	3.1	3.0	2.7	2.2	S					
23							S	2.2	2.6 A	3.0	3.2	3.3	3.3	3.2	[3.0] A	2.9	2.7	2.2	S					
24							S	A	2.6	[2.8] A	3.1	[3.2] A	3.2	3.2	3.1	A	A	A	S					
25							S	A	A	2.9 K	3.0 K	3.1 K	3.2 K	3.1 K	3.0 K	2.8 K	2.6 K	2.2 K	S K					
26							C K	C K	2.5 K	2.7 K	2.9 K	3.1 K	3.1 K	3.1 K	3.0 K	2.7 K	2.4 K	2.1 K	S K					
27							S	2.1	2.5	2.7	2.9	3.0	3.1	3.1	2.9	[2.7] A	2.5	2.1	S					
28							S	2.0	2.5	2.7	2.9	3.0	3.1	3.1 H	2.9	2.7	2.4	2.0	S					
29							S K	A K	2.4 K	2.7 K	2.9 K	3.1 K	3.1 K	3.1 K	3.0 K	2.7 K	2.4 K	1.9 K	S K					
30							A K	2.1 K	2.5 K	2.7 K	2.9 K	3.0 K	3.0 K	3.0 K	2.9 K	2.7 K	2.4 K	2.0 HK	A K					
31																								
Median							—	2.2	2.6	2.9	3.1	3.2	3.2	3.2	3.1	2.9	2.7	2.2	—					
Count							2	22	27	28	29	30	30	29	29	28	28	24	2					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 65

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

Es (Characteristic), Mc, Km (Unit), September (Month), 1952

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: A.C.K., Mc C., E.J.W.

Lat 38.7° N, Long 77.1° W

75° W Mean Time

Calculated by: A.C.K., Mc C., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E	2.2Y/130	E	E	E	C	C	G	G	G	G	3.[?]/120	G	G	G	G	4.0/120	G	G	E	E	E	E	E
2	E	E	B	E	E	E	20Y/110	30Y/110	G	35/110	G	G	G	G	G	G	4.4/120	34Y/120	G	E	E	E	E	49/110
3	E	E	E	B	(6.2)Y/120	B	G	G	4.2/120	39Y/120	G	G	G	G	G	42Y/120	G	31Y/120	G	E	22/100	E	E	E
4	E	E	E	E	E	56Y/120	C	C	4.0/100	38/100	G	G	G	M	M	M	G	G	24/110	E	E	E	E	E
5	E	E	E	E	E	E	94Y/120	G	70Y/100	G	G	G	G	G	G	G	38/110	58Y/30	G	30/120	E	E	E	E
6	E	E	E	[illegible]/110	E	32/120	27/110	30Y/110	37/110	44/120	G	G	G	G	G	G	G	G	20/120	E	E	26/110	E	[illegible]
7	E	E	E	2[?]/110	E	E	G	G	36/120	M	G	G	G	G	80Y/120	G	G	G	G	E	E	E	E	[illegible]
8	E	E	E	E	B	E	17/130	58/140	G	G	G	G	G	66/130	90/120	G	35/120	35/12[?]	35/110	E	E	E	E	E
9	37/110	30 H/100	39/120	30/120	46/3[?]	68 H/110	47 H/110	74 H/100	40/120	70/120	74 H/120	63/110	G	45/110	G	G	33/120	36/130	36/120	52/10	E	E	E	E
10	E	E	70/110	65Y/20	33 H/110	70/100	20 H/120	37Y/120	42/120	G	39/120	G	G	40/100	G	38Y/120	G	32/130	G	30/100	25/00	E	E	E
11	E	36/140	40/100	38/110	4[?]/11[?]	39/120	36/120	24/100	68Y/120	115/100	70/100	G	G	G	4.2/110	60/120	G	36 H/100	25/100	32/100	30/100	30/10	20/110	E
12	E	E	36 H/110	23/00	E	45Y/110	52/110	110/110	50/100	G	70 H/110	18.0/110	G	G	G	35/110	G	30 H/100	18/120	E	E	E	E	E
13	E	30/110	E	74 H/110	E	38/110	G	G	G	G	28/100	G	74 H/110	G	G	G	G	5.4/110	60/100	E	1.3/120	E	E	E
14	E	E	23/130	38/130	31/120	[illegible]/110	37/130	10.0 H/110	35/130	74 H/110	40/00	35/120	G	5.0/110	G	34/110	3.5/130	G	28/130	38/110	E	E	E	E
15	E	40/110	40 H/110	30/110	7.0/110	30/110	27/110	38 H/110	34/110	40/100	70Y/110	6.8 H/110	G	10.2/110	64/120	4.1/120	6.2 H/120	66/110	27/110	43/110	E	23/110	24/110	23/110
16	23/110	[?]0Y/110	30/110	3[?]/110	21/110	40/110	3.0/110	3.0/130	G	G	4.6/100	3.3/100	3.5/100	2.1/100	G	4.0/120	4.6/110	45/110	50Y/110	29/110	27/110	E	E	E
17	E	E	E	30/120	40/110	36/120	3.0/110	3.6/100	3.3/110	3.7/110	C	2.5/100	G	G	4.5/120	36/120	36/120	3.4/120	G	23/110	E	E	E	E
18	23/100	E	E	E	E	115Y/110	G	35 H/110	G	G	G	G	9.0/120	G	G	G	G	G	G	E	E	2.5/100	2.8/100	2.4/100
19	E	E	E	37/110	30/110	3.7/100	7.0 H/110	35/120	G	G	G	G	4.0/120	33/110	G	G	G	31/120	G	E	E	E	E	E
20	E	E	C	C	C	C	C	32/100	3.4/100	G	3.3/120	3.2/100	G	G	G	G	G	3.0/120	G	E	E	E	E	E
21	E	C	C	C	C	C	C	32/110	3.7/100	49/100	6.2/100	30/100	G	G	G	4.2/110	3.7/110	G	3.0/110	2.6/110	E	2.8/100	E	E
22	E	E	E	C	C	C	C	28/110	3.3/110	G	G	G	G	G	G	3.7/110	G	3.1/120	G	23/100	2.3/100	E	E	E
23	E	2.7/100	E	E	E	4.2/130	G	3.0/120	3.3/110	37/110	36/100	3.6/100	3.1/100	G	3.9/110	G	G	G	G	E	E	E	E	E
24	E	E	E	4.0/140	24/100	E	G	31/120	3.5/120	39/110	4.0/110	6.0/120	G	G	G	3.2/110	36/110	3.1/100	2.4/100	2.9/100	3.2/100	39/100	2.3/100	E
25	E	36/100	1.9/110	E	E	E	1.2/100	30/100	3.9/100	G	G	G	G	G	G	G	G	6.6 H/110	G	E	E	E	3.2/100	E
26	E	C	C	C	C	C	C	C	G	7.0Y/130	G	G	G	G	G	G	7.2Y/120	G	G	E	E	2.8/100	37/100	27/100
27	E	E	E	E	2.1/110	2.5/110	150Y/100	G	3.2/100	6.8Y/110	G	G	G	G	G	3.5/100	G	G	30Y/120	4.0/110	50 H/100	E	37/100	4.8Y/100
28	E	2.4/100	3.8/100	6.7 H/110	3.7/110	E	30/100	64Y/100	3.0/110	G	G	G	G	G	G	G	G	2.9/110	G	E	E	E	E	E
29	2.3/100	E	6.7 H/120	4.1/130	4.0/100	B	4.5/110	7.0/100	3.0/110	G	G	G	G	G	G	G	G	2.4/120	G	E	E	E	E	E
30	E	4.0/130	3.1/110	E	E	2.9/150	1.75/110	3.7/110	G	G	G	G	8.0/100	G	G	G	G	G	1.4/110	23/120	E	E	E	E
31																								
Median	**	**	**	30	2.1	3.2	2.7	3.2	34	**	**	**	**	**	**	**	**	3.0	**	**	**	**	**	**
Count	30	28	27	25	25	23	24	28	30	29	29	30	30	29	29	29	30	30	30	30	30	30	30	30

** MEDIAN fEs LESS THAN foE, OR LESS THAN LOWER FREQUENCY LIMIT OF THE RECORDER

Sweep 1.0 Mc to 25.0 Mc in 25 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE : 1948 O - 702519

Form adopted June 1946

TABLE 66

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M1500)F2 (Characteristic), ____ (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.C.K., McC., E.J.W.

Calculated by: A.C.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.8	1.9	(1.9)JS	(1.7)JS	(1.7)SK	C	CK	2.0K	1.9K	1.7K	2.1K	1.5K	1.8K	1.9K	2.0K	1.9K	1.9K	2.0K	2.1K	2.0K	2.1K	J(2.1)SK	J(2.0)SK	2.0K
2	1.8K	1.8K	1.8K	FK	FSK	F(1.8)SK	2.0K	J(2.1)SK	1.9K	1.8K	GVK	GK	1.7K	1.9K	1.9K	1.9K	2.1K	2.2K	2.1K	2.1K	J(2.1)SK	1.9K	2.0FK	(2.0)AK
3	J(1.9)FK	(2.0)FK	FSK	BK	BK	BK	2.3	2.2	2.0	2.1	1.9	2.0	2.2	2.0	2.0	2.0	2.1	2.1	2.3	2.1	(2.1)JS	2.1	2.0F	(2.0)JF
4	(2.1)S	2.0F	2.0F	(1.9)JS	(1.9)S	(1.9)JF	C	C	2.3	2.3	2.0	2.1	2.0V	M	M	M	2.1	2.2	2.2	2.3	2.2	2.0S	(2.0)JF	2.2F
5	2.0F	2.0F	(1.9)JS	(1.9)JF	(2.0)FP	(2.0)FS	2.5	2.5	(2.4)JH	(2.1)H	2.1	2.0	1.9	2.0	2.0	2.1	2.1	2.2	2.1	2.0	2.0	1.9	(2.0)JS	1.9
6	2.0	1.9	1.9	1.9	2.0	2.2	2.4	2.2	2.3	2.0	2.1	2.1	2.0	2.0	2.1	2.3	2.2	2.2	2.0	2.1	2.0	(2.0)S	2.0	(2.1)JS
7	2.0	(2.0)JS	1.9	2.0	2.1	2.1	2.4	2.3	(2.0)SK	2.0K	1.9HK	1.8HK	2.0K	1.8K	1.9K	1.9K	1.9K	2.0K	(2.0)SK	J(2.0)SK	2.1K	1.9K	1.8K	2.0K
8	1.8K	1.9FK	1.9K	F(2.0)JK	BK	SK	2.0K	2.1K	GK	GK	GK	1.7K	1.7K	1.9K	1.9K	2.0K	1.9K	2.0K	2.2K	2.0K	1.9K	1.9K	1.9K	1.8K
9	1.8FK	(1.9)FK	(1.8)FK	(1.7)FK	SFK	SFK	2.1K	2.4K	GK	1.7K	1.6K	1.6K	1.8K	1.9K	2.0K	1.8K	2.1K	2.0K	2.1K	2.0K	1.9	2.0	1.9	1.9
10	1.9F	2.0F	(1.9)F	(1.7)F	F	F	2.2	(2.3)S	2.1	1.9H	2.1H	2.0H	2.0	2.1	2.0	2.1	2.2	2.2	2.3	2.1	2.0	2.1F	2.2F	1.9F
11	(2.0)F	(1.9)F	(1.9)F	(2.0)F	(1.9)F	(2.0)F	2.3HF	2.3	2.1	2.1	2.2	2.2H	1.9	2.1	2.1	2.1	2.0	2.1	2.2	2.1	2.0	2.0	(2.0)F	2.0F
12	1.9	2.0	2.0F	2.1F	(2.2)FS	(1.7)F	2.2F	2.2	2.2	2.3	2.2	2.1H	2.0	2.1	2.1	2.0	2.0	2.2	2.1	2.3	2.2	2.1	2.0	1.9F
13	2.0	1.9F	1.8	(1.9)SJ	(1.9)SJ	(1.9)SJ	2.3	2.3	2.3H	2.3	2.0	2.2	2.1H	2.1	2.2	2.2	2.2	2.2	2.3	2.3	(2.1)S	2.0	2.0	2.0
14	1.9	2.1	1.9	(1.9)SF	1.9	2.0F	2.2	2.1H	2.3H	2.3	2.2H	2.0	2.0	2.1	2.3	2.1	2.2	2.2	2.1	2.0	2.0	2.1	2.1	2.0
15	2.0	1.9	1.9	1.9	1.9	2.0	2.2	2.2	2.3	2.3	2.3	2.2	2.1	2.0	2.0	2.1	2.1	2.2	2.1	2.3	2.1	2.0	2.0	2.0
16	2.0	2.1	2.1	2.0F	1.9F	(1.8)SH	2.2	(2.2)SH	2.1	2.0	2.3	2.1	2.1	2.1	2.1	2.1	2.3	2.2	2.3	2.2	2.1	2.0	2.0	2.0
17	2.0	1.9	2.0	2.2	2.1	(1.9)S	2.3	2.4	2.4H	2.3	C	2.3	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.1	2.1	2.0	2.1
18	2.0	2.1	2.0	2.1	2.0	2.0F	2.3	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.0	2.0	2.0
19	2.1	2.1	2.1F	2.0	2.1	2.2	2.5H	2.6	2.5	2.4	2.3	2.3	2.3V	2.2	2.2	2.3	2.3	2.2	2.3	2.2	2.2	2.2	2.2	2.2
20	2.1	2.3	C	C	C	C	C	2.5	2.5	2.3	2.3	2.4	2.2	2.3	2.2	2.3	2.3	2.2	2.2	2.2	1.9	2.0	1.9	1.9
21	2.2	C	C	C	C	C	C	2.3H	2.5	2.3H	2.4H	2.3	2.3	2.1H	2.3	2.3	2.3	2.3	2.3	2.3	2.0	2.0	2.0	1.9
22	2.0	C	2.1	C	C	C	C	2.2	2.4	2.4	2.3	2.3	2.1H	2.2	2.2	2.3	2.2H	2.3	2.3	2.3	2.1	2.1	2.0	2.0
23	2.1	2.1	2.1	2.3	2.2	2.1	2.3	2.3	2.3	2.2H	2.2	2.3	2.3	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.0	2.0
24	2.0	2.0	1.9	2.0	2.1	2.1	2.3	2.5	2.4	2.4	2.3	2.3	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	(2.0)F	2.0	1.9F
25	2.0F	2.2F	2.1F	2.1F	2.1F	2.1F	2.3	2.3	2.5	2.3K	2.3K	2.4K	2.3K	2.1K	2.0H	2.1K	2.1K	2.3K	2.3K	1.9K	(1.9)SK	1.8K	1.7K	1.7K
26	1.8K	CK	CK	CK	CK	CK	CK	CK	1.8K	1.6HK	1.7K	1.9HK	1.9K	1.9HK	1.9K	1.9K	2.1K	2.1K	2.2K	(2.1)FK	(1.9)FK	1.9FK	1.9FK	1.9FK
27	2.0K	1.8FK	1.8FK	(1.8)F	1.9F	(1.8)JS	2.3F	2.3	2.1	2.0	2.2	1.9H	2.1	2.2	2.3	2.2	2.3	2.3	2.3	2.2	2.0	2.0	2.0	1.9F
28	2.0	1.9F	(1.9)F	(1.8)F	(1.8)F	S	2.3	2.3	2.3	2.3	2.0	2.0H	2.2	2.0	2.1	2.1	2.0	2.2	2.1	2.2	2.0	2.0	1.8	1.9
29	2.0	2.0F	(2.1)F	(2.0)FK	F(1.9)SK	BK	2.0K	GK	GK	GK	1.5K	1.7K	2.1K	2.1K	2.1K	2.2K	2.0K	2.1K	2.0K	1.8K	J(1.7)FK	(1.9)FK	1.8FK	1.8FK
30	1.8FK	1.8K	1.8FK	S(1.8)KF	SK	AK	2.2K	2.2K	(1.8)SK	1.7HK	GK	1.9K	1.6K	1.8K	1.8K	2.0K	2.2K	2.3K	2.2K	2.1K	2.0K	1.9K	1.9K	1.9K
31																								
Median	2.0	2.0	1.9	(2.0)	2.0	2.0	2.3	2.3	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.0	2.0	2.0	2.0
Count	30	27	26	24	20	18	24	28	30	30	29	30	30	29	29	29	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 67

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M3000)F2, ______ September, 1952
(Characteristic) (Unit) (Month)

National Bureau of Standards
(Institution)

Observed at Washington, D.C.

Scaled by: A.C.K., Mc C., E.J.W.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

Calculated by: A.C.K., Mc C., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	27	2.8	(2.8) JS	(26) JS	K(26) JS	C K	C K	30 K	28 K	26 K	31 K	23 K	27 K	29 K	29 K	28 K	28 K	3.0 K	3.1 K	30 K	31 K	K(31) JS	K(3.0) JS	2.9 K
2	2.7 K	2.7 K	27 K	F K	F SK	K(27) FS	3.0 K	K(31) JS	2.9 K	28 K	G K	G K	2.5 K	28 K	2.8 K	2.8 K	3.2 K	3.2 K	3.2 K	31 K	K(3.1) JS	29 K	30 FK	(30) AK
3	K(2.9) JF	(30) FK	F SK	B K	B K	B K	34	32	30	31	2.9	30	3.2	30	30	30	3.1	31	33	31	(31) JS	31	2.9 F	(30) JF
4	(3.1) S	29 F	2.9 F	(28) JS	(28) S	(2.9) JF	C	C	33	34	30	3.1	30 V	M	M	M	31	3.2	33	33	32	2.9 S	(30) JF	32 F
5	3.0 F	30 F	(2.9) JS	(29) JF	(30) PF	(30) FS	36	36	(34) JH	(31) H	31	3.0	2.8	3.0	[illegible]	31	31	3.2	31	30	30	[illegible]	(30) JS	29
6	2.9	28	2.9	2.8	3.0	32	35	32	34	30	31	31	30	30	31	33	3.2	31	30	31	30	(30) S	30	(31) JS
7	30	(30) JS	28	30	31	31	35	34	(30) SK	30 Y	2.9 HK	27 HK	29 K	2.7 K	28 K	2.8 K	29 K	3.0 K	(29) SK	K(2.9) JS	31 K	29 K	28 K	30 K
8	2.7 K	29 FK	2.8 K	K(30) JF	B K	S K	30 K	31 K	G K	G K	G K	26 K	26 K	2.8 K	2.8 K	30 K	28 K	30 K	32 K	30 K	28 K	2.8 K	2.8 K	27 K
9	27 FK	(28) FK	(27) FK	(26) FK	S FK	S FK	31 K	35 K	G K	2.6 K	24 K	24 K	27 K	2.9 K	2.9 K	27 K	3.0 K	30 K	31 K	29 K	29	2.9	28	29
10	28 F	30 F	(2.8) F	(2.6) F	F	F	32	(34) S	31	2.9 H	31 H	3.0 H	3.0	3.1	3.0	31	32	3.2	34	31	30	31 F	32 F	28 F
11	(30) F	(28) F	(2.9) F	(30) F	(27) F	(30) F	34 HF	33	31	31	32	32 H	2.9	31	31	31	30	3.1	32	31	30	30	(30) F	30 F
12	2.9	30	30 F	31 F	(3.2) FS	(26) F	32 F	3.2	32	33	3.2	3.1 H	3.0	31	31	3.0	3.0	32	3.1	33	32	31	30	29 F
13	3.0	2.8 F	28	(2.8) SF	(2.8) SJ	(29) SJ	33	33	33 H	34	30	3.2	3.0 H	31	3.2	32	3.2	32	33	33	(31) S	30	30	29
14	28	31	28	(2.8) SF	29	30 F	3.2	3.1 H	33 H	33	3.2 H	2.9	30	31	3.3	31	3.2	32	31	30	30	31	31	30
15	30	28	2.8	28	2.9	30	32	32	3.4	33	33	32	31	30	3.0	31	31	32	31	33	31	30	30	3.0
16	3.0	31	31	30 F	29 F	(27) SA	3.2	(32) SH	31	29	33	31	31	31	3.1	31	33	32	33	3.2	31	30	30	30
17	29	28	30	3.2	31	(28) S	34	35	35 H	34	C	34	32	32	33	34	34	3.4	34	33	31	31	3.0	31
18	3.0	3.1	30	31	30	30 F	34	35	3.5	3.4	3.3	34	3.4	3.3	3.2	32	3.2	3.4	34	33	33	30	30	30
19	31	31	31 F	30	3.1	32	36 H	37	36	35	34	33	33 V	3.2	32	33	33	3.2	3.3	32	32	32	32	32
20	3.1	3.3	C	C	C	C	C	35	36	33	33	35	32	3.3	3.2	33	34	3.2	3.2	32	28	29	2.8	29
21	32	C	C	C	C	C	C	3.3 H	36	33 H	34 H	34	3.4	31 H	33	33	3.3	34	34	33	30	2.9	30	2.9
22	30	C	31	C	C	C	C	3.2	35	35	33	34	31 H	3.2	3.2	34	3.2 H	3.3	33	34	31	31	30	30
23	31	31	31	33	3.2	31	33	34	34	3.2 H	32	33	3.3	31	32	3.2	3.3	33	34	33	34	32	30	29
24	30	30	2.9	30	31	31	3.3	36	35	35	34	34	3.1	31	32	3.2	3.2	3.2	32	3.2	31	(30) F	30	29 F
25	30 F	3.2 F	31 F	3.1 F	31 F	3.1 F	33	3.4	3.6	3.3 K	3.3 K	34 K	33 K	31 K	3.0 K	31 K	3.1 K	33 K	3.3 K	2.9 K	(29) SK	2.7 K	2.6 K	26 K
26	2.7 K	C K	C K	C K	C K	C K	C K	C K	2.7 K	25 HK	2.6 K	2.8 HK	2.8 K	2.9 HK	2.9 K	28 K	3.1 K	3.1 K	32 K	(31) FK	(29) FK	28 FK	2.8 FK	29 FK
27	30 K	2.7 FK	27 FK	(27) F	2.8 F	(2.7) JS	3.3 F	34	3.1	30	32	2.8 H	3.1	32	3.3	32	34	33	33	32	3.0	3.0	30	2.9 F
28	2.9	29 F	(28) F	(2.7) F	(2.7) F	S	33	3.4	33	34	3.0	3.0 H	3.2	3.0	3.1	3.1	3.0	3.2	3.1	32	3.0	30	27	28
29	2.9	30 F	(31) F	(30) FK	K(28) FS	B K	30 K	G K	G K	G K	2.2 K	26 K	31 K	31 K	3.1 K	3.2 K	30 K	3.1 K	3.0 K	2.7 K	K(2.6) JF	(2.9) FK	27 FK	27 FK
30	2.7 FK	2.7 K	2.8 FK	K(27) SF	S K	A K	32 K	3.2 K	(27) SK	2.6 HK	G K	2.8 K	2.5 K	2.7 K	2.7 K	30 K	3.2 K	3.3 K	3.2 K	3.1 K	30 K	28 K	2.9 K	2.8 K
31																								
Median	3.0	3.0	29	(30)	30	3.0	3.3	3.3	3.3	3.2	3.1	31	3.0	31	3.1	31	3.2	32	32	32	30	3.0	3.0	29
Count	30	27	26	24	20	18	24	28	30	30	29	30	30	29	29	29	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 68

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M3000)F1 (Characteristic), ____ (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.G.K., McC., E.J.W.

Calculated by: A.G.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								Q K	3.4 K	3.7 K	3.5 K	3.5 HK	3.4 K	3.8 K	3.5 K	3.6 K	3.5 K	3.5 K	L K					
2								L K	3.6 K	3.5 K	3.7 K	3.8 K	3.8 HK	3.8 HK	3.7 HK	3.6 HK	3.5 K	L K	L K					
3								L	3.7 H	3.6 H	(3.8) H	3.7 H	3.7 H	3.5	3.6	3.5	3.4	3.8	L					
4								C	3.5	A	(3.9) P	3.8	3.6 H	M	M	M	3.6	L	L					
5								L	L	3.9 H	3.7 H	3.6 H	(3.7) H	3.8 H	3.8	3.6	3.6	L	Q					
6								4.0	L	3.7 H	3.7	3.7	3.8	3.7 H	3.5	3.6	L	L	Q					
7								L	3.3 K	3.5 K	3.9 HK	3.8 HK	(4.0) HK	3.8 K	3.8 K	3.5 K	3.5 K	3.5 HK	Q K					
8								Q K	3.5 K	3.7 K	3.8 K	3.8 HK	3.7 HK	3.6 K	3.6 K	3.6 K	3.4 K	L K	A K					
9								Q K	3.5 K	(3.6) LK	3.9 K	4.0 K	3.7 K	3.6 K	3.6 K	3.8 K	3.5 HK	3.5 K	A K					
10								L	3.5 H	3.8	3.9	3.7 H	3.8	3.6	3.6	3.6	3.5	L	Q					
11								L	3.7	3.7	3.8	3.9 H	3.9	3.0	3.5	3.6	3.5	L	L					
12								L	L	3.7	3.9	3.9 H	3.7	3.6 H	3.7	3.5	3.6	3.7	Q					
13								L	3.9 H	4.0 H	(3.8) L	3.7	3.7	3.6 H	3.7	3.7	3.7	L	Q					
14								L	L	3.5	3.9 H	3.8 H	3.7 H	3.7 H	3.6	3.5	L	3.6 H	Q					
15								L	3.7	3.6	3.8 H	3.7 H	3.8	3.6	3.5 H	3.5	3.6	3.8	Q					
16								L	3.7	3.8	3.8 H	4.0	3.6 H	3.6	3.8	3.6	3.5	L	Q					
17								L	3.9	3.7	C	3.9	3.9	3.8 H	3.8	3.6	3.8	4.0	Q					
18								L	L	(3.9) L	3.9	3.8 H	3.8 H	3.8	3.6 H	(3.8) L	3.7	L	Q					
19								L	L	L	3.8	3.7	3.9	3.9	3.6	3.7	3.9	L						
20								L	L	3.9	L	3.9	3.8	3.8 H	3.7 H	3.8	L	L						
21								L	L	L	3.9	4.1 H	3.8 H	4.0 H	3.6	3.7	L	L						
22								L	L	3.7	3.7	3.8	3.7 H	3.8	3.6 H	3.7	L	L						
23								L	L	L	3.7	3.7	3.7	3.8	3.7	L	L	L						
24								L	L	L	4.0	3.9 H	3.8	3.7	3.7	3.7	L	L						
25								L	L	L K	4.0 K	4.1 K	3.7 HK	3.7 HK	3.5 K	3.6 K	L K	L K						
26								C K	L K	3.5 HK	3.8 K	3.8 K	3.9 K	3.6 HK	3.8 K	(3.9) LK	3.5 K	L K						
27								Q	L	(3.6) L	3.5	3.6	3.7	3.8	3.7 H	L	L	L						
28								L	L	3.6	3.6	3.7	3.7 H	3.6 H	3.6	3.5	3.5	L						
29								3.3 K	3.7 K	3.8 K	3.8 HK	3.6 K	3.5 K	3.7 K	3.6 K	3.6 K	3.5 K	L K						
30								Q K	3.5 K	3.7 HK	3.7 K	3.8 K	3.8 K	3.7 HK	3.7 HK	3.5 K	3.6 K	L K						
31																								
Median								—	3.6	3.7	3.8	3.8	3.7	3.7	3.6	3.6	3.5	3.6						
Count								2	15	24	18	30	30	29	29	27	21	8						

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 69

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M1500)E (Characteristic), ____ (Unit), September (Month), 1952

Observed at Washington, D.C.

Lat 38.7° N, Long 77.1° W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: A.C.K., McC., E.J.W.

Calculated by: A.C.K., McC., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							CK	4.3HK	4.2K	4.0K	4.1K	(4.1)PK	4.2K	4.2K	4.3K	4.4K	4.2K	4.2K	3.7K					
2							4.4K	4.3K	4.2K	AK	4.1K	4.3K	4.3K	4.3K	(4.3)PK	(4.3)PK	(4.4)AK	4.2HK	SK					
3							(4.1)H	(4.2)H	4.3	A	4.3	4.3	4.1H	4.2	4.3	4.2	4.2	A	4.1					
4							C	C	A	A	(4.2)P	4.3	4.3	M	M	M	4.5	4.3H	A					
5							A	4.2H	A	4.3	4.3	(4.4)P	(4.2)H	4.1	4.3	4.2	A	4.1	S					
6							S	4.1	A	4.4	3.8	4.3	4.1	4.3	4.2	4.2	4.2	4.1	S					
7							S	4.3	4.2K	MK	4.2K	4.3K	4.3K	4.2K	4.1K	4.1K	4.2K	4.3K	SK					
8							SK	4.3K	4.1K	4.1K	4.2K	4.1K	4.2K	4.3K	4.2K	4.2K	4.5K	4.3K	AK					
9							AK	(4.2)AK	AK	4.3K	4.3K	4.2K	4.4K	AK	4.3K	4.1K	4.1K	4.0K	AK					
10							S	4.1	4.1	4.2	4.3	4.4	4.2	4.1	4.2	4.2	4.1	4.3	S					
11							S	4.2	4.1	4.2	4.2	4.2	4.2	4.2	4.0	4.3	4.2	A	S					
12							S	4.1	4.2	4.1	4.2	4.2	4.3	4.1H	4.2H	4.2	4.0	4.0	A					
13							S	4.3	4.1	4.2	4.1	4.0H	A	4.1	4.1	4.2	4.1	A	S					
14							S	4.0	4.1	4.1	4.2	4.2	4.1	4.0	4.0H	4.1	4.1	4.2	S					
15							A	4.2	4.0	4.1	4.2	4.1	4.0	4.2	4.2	4.2	4.2	4.2	A					
16							S	4.2	4.2	(4.3)P	4.2	4.2	4.2	4.3	4.3	4.2	A	A	S					
17							A	4.1	(4.1)A	(4.2)A	C	4.3	4.3	4.3	4.3	4.4	4.3	A	S					
18							S	A	4.3	4.2	4.3	4.5	4.3	4.3	4.2	4.2	4.2	4.0	S					
19							S	4.4	4.3	4.2	4.4	4.3	4.3	4.2	4.2	4.3	4.2	4.4	S					
20							C	A	4.2	4.4	4.3	4.3	4.2	4.4	4.2	4.3	4.3	A	S					
21							C	A	A	A	A	4.3	4.4	4.3	4.2	4.3	4.2	4.3	A					
22							C	4.2	(4.3)A	4.3	4.4	4.3	4.4	4.2	4.3	4.3	4.3	4.3	S					
23							S	4.1	4.3A	4.4	4.3	4.4	4.4	4.3	A	4.3	4.4	4.0	S					
24							S	A	4.3	A	4.5	A	4.5	4.5	4.2	A	A	A	S					
25							S	A	A	4.3K	4.4K	4.6K	4.5K	4.3K	4.2K	4.1K	4.2K	3.9K	SK					
26							CK	CK	4.2K	4.3K	4.4K	4.2K	4.3K	4.2K	4.4K	4.4K	4.3K	4.0K	SK					
27							S	4.1	4.2	4.3	4.3	4.4	4.4	4.3	4.4	A	4.5	4.0	S					
28							S	4.3	4.3	4.3	4.2	4.3	4.3	4.3H	4.3	4.4	4.4	4.3	S					
29							SK	AK	4.3K	4.5K	4.5K	4.3K	4.4K	4.4K	4.3K	4.3K	4.1K	3.9K	SK					
30							AK	4.3K	4.5K	4.4K	4.5K	4.4K	4.3K	4.4K	4.3K	4.4K	4.3K	4.0HK	AK					
31																								
Median							—	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.2	—					
Count							2	22	24	24	28	29	29	28	28	27	27	23	2					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Table 70

Ionospheric Storminess at Washington, D. C.

September 1952

Day	Ionospheric character* 00-12 GCT	Ionospheric character* 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12 GCT	Geomagnetic character** 12-24 GCT
1	2	4	0900	----	5	4
2	4	5	----	----	5	3
3	4	1	----	1100	4	3
4	1	1			3	2
5	2	3			3	3
6	2	1			4	2
7	1	4	1300	----	3	4
8	4	4	----	----	6	4
9	4	5	----	----	5	4
10	3	3	----	0100	5	3
11	2	2			3	3
12	1	2			3	3
13	3	2			2	2
14	2	1			4	3
15	3	2			2	3
16	1	2			2	2
17	2	1			2	1
18	1	1			2	1
19	0	2			1	2
20	0	2			2	3
21	2	2			3	2
22	1	2			3	2
23	0	2			2	1
24	1	1			3	3
25	1	4	1400	----	1	3
26	4	5	----	----	3	2
27	4	3	----	0800	4	2
28	2	3			4	4
29	3	4	0800	----	5	5
30	4	6	----	----	6	3

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D. C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

----Dashes indicate continuing storm.

Table 71a

Radio Propagation Quality Figures
(Including Comparisons with Short-Term and Advance Forecasts)

August 1952

Day	North Atlantic quality figure		Short-term forecasts issued about one hour in advance of 12-hour period, UT:				Advance forecasts (J-reports) for whole day; issued in advance by:			Geomagnetic K_{Ch}	
	Half Day UT		00 to 12	06 to 18	12 to 24	18 to 06	1 to 3/4 days	4/5 to 7 days	8 to 25 days	Half day UT	
Aug	(1)	(2)								(1)	(2)
1	5	7	5	5	6	7	(4)	(4)		3	2
2	6	8	7	6	7	7	5	(4)		3	2
3	6	6	7	5	(4)	(4)	5	5		(5)	3
4	(4)	7	(4)	(4)	5	6	5	5		3	3
5	6	7	6	5	6	6	6	5		3	3
6	5	7	6	(4)	(4)	5	5	6		(4)	3
7	5	7	5	(4)	5	6	(4)	6		(4)	2
8	6	7	6	6	6	6	(4)	7		3	2
9	6	7	6	6	7	7	6	5		2	3
10	7	7	6	5	6	6	6	5		3	3
11	5	7	6	5	5	5	6	6		3	3
12	5	6	6	(4)	5	6	6	6		(4)	3
13	6	7	6	5	6	6	6	7		2	2
14	6	8	6	6	6	7	5	7		2	2
15	7	8	7	6	7	7	5	7		1	2
16	7	8	7	7	7	7	6	6		2	1
17	7	7	7	5	5	6	5	5		(4)	(4)
18	5	7	5	(4)	6	6	5	5		(4)	(4)
19	5	7	5	(4)	5	5	6	6		(4)	3
20	5	6	5	5	5	5	5	7		(4)	3
21	5	8	5	5	6	6	6	7		3	2
22	6	7	6	5	7	7	6	7		2	2
23	6	8	6	5	7	6	7	6		3	2
24	7	8	5	5	6	7	6	6		3	2
25	7	8	6	6	6	7	(4)	6		1	2
26	7	7	6	5	7	7	(4)	6		1	2
27	7	7	6	6	6	6	5	5		(4)	2
28	6	8	5	5	6	6	(4)	6		2	1
29	7	7	6	6	6	7	(4)	6		2	3
30	5	7	5	(4)	5	6	6	5		(4)	3
31	5	7	6	5	6	6	6	6		3	3
Score:											
P			18		3		1	4			
S			30		18		13	16			
H			1		0		0	0			
(M)			0		0		1	1			
M			0		0		0	0			
(O)			0		0		0	0			
O			0		2		7	2			
G			30		29		23	28			

Scales:

Q-scale of Radio Propagation Quality

- (1) - useless
- (2) - very poor
- (3) - poor
- (4) - poor to fair
- 5 - fair
- 6 - fair to good
- 7 - good
- 8 - very good
- 9 - excellent

K-scale of Geomagnetic Activity

0 to 9, 9 representing the greatest disturbance; $K_{Ch} \geq 4$ indicates significant disturbance, enclosed in ( ) for emphasis

Symbol

X- probable disturbed date.

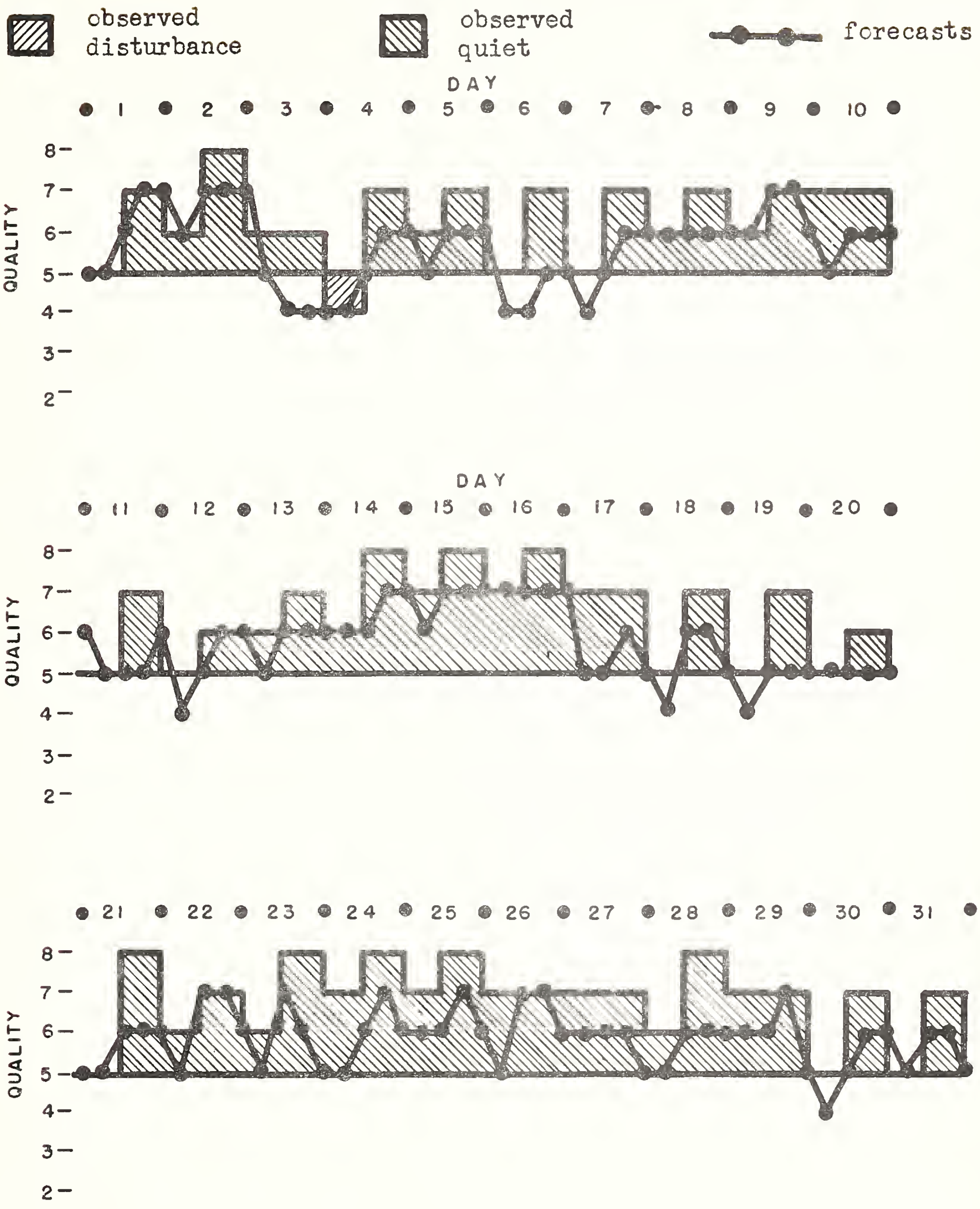
Scoring:

- P - Perfect forecast; observed equal to forecast
- S - Satisfactory forecast; P plus other times correctly designated as disturbed or quiet, within one grade
- H - Storm (Q≤ 4) hit, except (M)
- (M)- Storm hit, severity underestimated by two grades or a 5 forecast for Q=4 day
- M - Storm missed
- (O)- Overwarning on observed fair day
- O - Other overwarnings
- G - Good (quiet) day forecast

Note: See above for scoring legend, scales and symbols, see text for scoring conventions and other information.

Table 71b

Short-Term Forecasts--August 1952



Advance Forecasts (1 to 3/4 days ahead)--August 1952

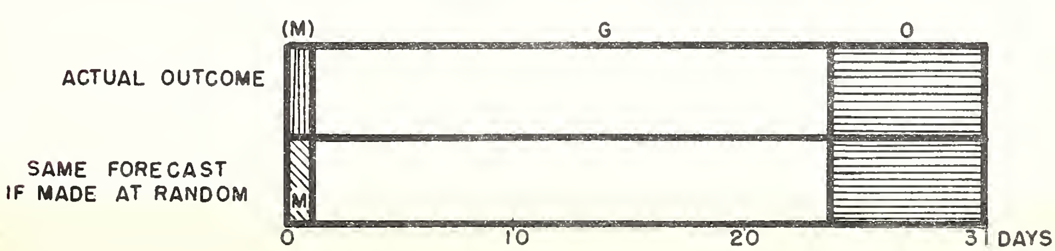


Table 72a

Coronal observations at Climax, Colorado (5303A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	6	9	8	7	9	12	18	13	9	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	4	4	5	7	17	20	16	11	18	11	9	8	6	5	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	3	3	4	6	10	15	14	12	5	18	17	11	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	7	6	4	5	10	12	9	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-
5.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	10	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	X	X	X	X	X	-	5	6	8	7	5	5	5	6	10	10	10	7	5	4	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X
8.7a	-	X	X	X	X	X	4	6	5	4	4	4	4	4	6	10	11	7	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.8a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	6	10	11	9	6	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11.7a	-	-	-	-	-	-	5	7	7	6	6	6	6	6	6	5	5	5	-	-	5	6	6	6	5	5	-	-	-	-	-	-	-	-	-	-	-
13.8	-	-	-	-	-	-	6	7	6	-	6	8	11	11	12	10	10	8	8	9	10	9	7	6	-	-	-	-	-	-	-	-	X	X	X	X	X
14.8	-	-	-	-	-	5	5	6	6	5	4	4	6	15	20	22	19	10	6	5	5	5	5	5	5	4	4	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	7	10	11	16	20	13	10	9	6	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	5	5	-	-	-	-	5	7	9	11	12	14	18	15	10	6	5	4	4	-	5	5	-	-	-	-	-	-	-	-
18.9a	-	-	-	-	-	-	-	-	-	4	4	4	4	4	4	4	4	5	5	10	15	13	12	9	4	-	-	-	-	-	-	-	-	-	4	4	4
19.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	9	12	11	10	12	12	8	4	4	-	-	-	-	-	-	-	X	X	X	X	X
22.7	-	-	3	3	3	2	3	3	2	3	3	3	3	3	6	9	13	20	20	15	12	10	5	3	3	3	4	4	3	3	2	-	-	-	-	-	-
23.6	-	-	-	-	-	2	3	3	3	3	2	2	2	3	6	8	10	10	11	13	18	16	10	6	3	2	2	3	3	2	2	2	-	-	-	-	-
24.6	-	-	-	-	-	-	2	2	3	3	2	2	2	2	2	2	3	3	3	11	12	13	10	7	5	3	3	3	3	3	2	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	3	3	3	3	3	4	4	5	6	6	7	8	9	9	9	8	6	5	3	4	3	3	3	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	6	7	7	7	6	5	5	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	6	6	5	5	5	4	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X

Table 73a

Coronal observations at Climax, Colorado (6374A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.7	-	-	-	-	-	-	-	-	-	2	2	2	2	2	3	4	2	3	6	14	6	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	2	6	14	15	12	14	10	2	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	4	12	17	18	17	12	9	5	4	3	3	2	-	-	-	-	-	-	-	3
4.7	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	5	5	3	11	12	13	12	9	4	3	3	2	2	2	-	-	-	-	-	-	-	-
5.8a	-	-	-	-	-	-	-	-	-	-	3	3	3	4	3	9	4	3	3	4	4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	X	X	X	X	X	-	-	-	-	-	2	2	4	3	2	-	-	-	2	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X
8.7a	-	X	X	X	X	X	-	-	-	-	-	-	-	-	-	4	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3
9.8a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
13.8	-	-	-	-	-	-	-	-	-	-	-	-	4	5	5	7	7	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X
14.8	-	-	-	-	-	-	-	1	3	1	-	1	8	1	10	4	15	6	2	5	4	6	8	2	3	3	4	3	1	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	12	11	9	4	3	-	4	5	4	2	2	-	-	-	-	-	-	-	-	-	-	-
17.7	-	2	2	2	-	-	-	-	2	2	2	3	4	2	5	8	21	18	3	6	4	3	3	3	3	3	2	1	-	-	-	-	-	-	4	4	4
18.9a	4	4	-	-	-	-	-	-	-	4	4	6	8	9	10	10	12	11	9	4	5	7	4	3	3	4	3	-	-	-	-	-	-	-	-	4	4
19.8	-	-	-	-	-	-	-	-	-	-	-	-	3	3	4	5	10	8	6	5	4	3	2	3	5	5	3	2	-	-	-	-	X	X	X	X	X
22.7	2	3	3	3	2	3	1	2	3	2	2	2	3	3	3	2	10	3	5	11	3	1	1	1	1	2	2	1	1	1	1	2	2	2	3	4	5
23.6	3	2	2	2	1	1	2	2	3	2	3	3	4	4	5	6	11	11	10	12	10	2	1	2	2	3	2	1	2	2	2	2	2	2	2	2	3
24.6	-	-	-	-	-	-	1	2	2	3	3	3	3	2	2	2	3	4	2	2	3	2	2	1	-	-	-	1	1	1	1	2	2	2	2	3	2
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X

Table 72b

Coronal observations at Climax, Colorado (5303A), west limb

Date	Degrees south of the solar equator																			Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0°	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	8	8	7	9	15	21	22	13	11	7	6	5	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	8	9	7	9	18	28	21	15	11	8	6	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	3	3	3	6	13	15	12	9	9	11	16	14	9	3	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	4	6	19	18	12	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
5.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	6	11	11	10	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8.7	-	-	-	-	-	-	-	-	-	-	-	3	3	4	6	12	16	20	21	21	15	10	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-
9.8a	X	X	X	X	X	-	-	-	-	-	-	-	-	6	8	10	11	12	13	15	14	12	7	6	-	-	-	-	-	-	-	-	X	X	X	X	X
11.7	-	-	-	-	-	-	-	-	-	-	5	5	5	6	9	11	12	13	11	8	6	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-	-	5	6	5	-	-	5	6	10	11	12	12	11	12	13	14	16	12	5	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	11	15	12	10	6	7	10	12	13	6	5	-	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	6	14	9	7	9	13	15	16	8	5	-	-	-	-	-	-	-	-	-	-	-
18.9a	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	4	5	8	9	8	7	5	4	3	-	-	-	-	-	-	-	-
19.8a	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	5	4	-	-	-	-	-	-	-	-	-	-	-	-
22.7	-	-	-	-	-	-	-	-	-	2	2	3	4	5	5	3	3	5	8	10	11	12	13	11	6	5	4	4	4	3	3	-	-	-	-	-	-
23.6	-	-	-	-	-	-	-	4	4	5	4	4	4	6	7	8	6	5	4	5	6	7	7	7	6	5	4	3	4	4	3	3	-	-	-	-	-
24.6a	-	-	-	-	-	-	-	-	-	3	3	3	3	3	5	7	6	4	3	4	5	5	5	5	4	3	3	2	2	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	3	3	4	4	4	5	6	6	6	5	4	3	3	3	3	3	3	3	4	5	4	3	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	4	4	4	5	6	6	6	6	5	5	4	6	6	4	4	-	4	4	4	4	-	-	-	-	-	-	-	-
27.6a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-

Table 73b

Coronal observations at Climax, Colorado (6374A), west limb

Date	Degrees south of the solar equator																			Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0°	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	7	8	6	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	-	2	5	11	7	10	6	2	-	-	-	-	-	-	-	-	-	-	-	-
3.7	3	2	-	-	-	-	-	-	-	-	-	-	-	2	3	3	6	2	2	4	10	12	9	2	7	6	4	2	-	-	-	-	-	3	3	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	10	13	3	1	2	4	6	6	3	3	2	2	1	-	-	-	-	-	-	-	-	-
5.8a	-	-	-	-	-	-	-	-	-	2	2	2	4	4	3	3	12	5	3	8	10	11	11	10	6	3	1	2	1	-	-	-	-	-	-	-	-
7.7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8.7	3	2	-	-	-	-	-	-	-	2	3	3	2	2	3	11	15	23	15	21	14	4	3	3	3	-	-	-	-	-	-	3	3	-	-	-	-
9.8a	X	X	X	X	X	-	-	-	-	-	5	6	6	5	5	7	12	12	12	15	5	12	5	-	5	5	-	-	-	-	-	X	X	X	X	X	X
11.7	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	4	4	-	-
14.8	-	-	-	-	-	-	-	-	-	-	-	-	2	2	5	10	7	3	3	3	2	2	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	4	4	5	5	6	9	12	6	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7	4	-	-	-	-	-	4	5	6	9	9	7	7	7	7	9	15	21	12	8	4	-	7	-	-	-	-	-	-	-	-	-	2	2	2	2	-
18.9a	4	-	-	-	-	-	5	5	6	6	6	7	7	6	5	5	6	8	9	5	2	3	2	2	2	2	2	3	-	-	-	-	-	-	-	-	4
19.8a	X	X	X	X	2	2	2	3	3	3	4	3	3	4	3	3	3	3	4	3	-	-	-	3	3	3	3	2	-	-	-	-	-	-	-	-	-
22.7	5	5	4	3	3	4	4	4	5	6	6	5	4	4	5	5	6	5	3	3	2	3	4	4	2	2	2	2	2	1	1	2	2	3	4	3	2
23.6	3	2	3	2	2	2	2	2	2	2	2	2	2	1	5	5	6	5	3	2	1	1	2	3	3	3	2	2	1	1	1	2	2	2	3	3	3
24.6a	2	2	2	2	2	2	2	2	2	1	-	-	-	1	1	2	4	4	3	1	1	3	1	2	1	1	-	-	-	1	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3	3	3	2	2	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-

Table 74a

Coronal observations at Climax, Colorado (6702A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X
8.7a	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.8a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X
14.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X
22.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X

Table 75a

Coronal observations at Sacramento Peak, New Mexico (5303A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.8	2	2	2	2	2	2	3	3	3	4	5	3	4	6	10	14	16	13	11	16	25	15	11	6	5	4	3	3	3	3	4	3	2	2	-	-	-
3.7	3	3	3	3	2	2	3	4	5	5	5	6	5	5	8	15	22	20	14	28	34	11	4	4	3	2	2	2	2	3	2	2	2	2	2	-	-
5.7a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3	3	3	3	4	3	3	4	4	5	5	4	4	X	X	X	X	X	X	X
6.7	-	-	-	-	-	-	2	3	5	7	6	7	4	4	5	6	11	13	5	5	4	4	4	4	3	3	2	2	2	-	-	-	-	-	-	-	-
7.7	-	-	-	2	2	-	3	6	11	10	8	7	6	5	6	8	13	12	8	5	5	9	11	8	5	4	3	3	2	2	2	2	-	-	2	-	-
8.7	2	3	3	3	3	3	3	5	6	5	4	4	5	5	6	8	11	8	7	5	8	7	6	5	4	3	4	5	5	3	3	3	2	2	2	2	-
9.7	-	2	2	3	3	3	4	5	5	5	4	5	5	6	8	10	14	13	11	5	8	9	9	5	3	3	3	2	2	2	2	2	-	-	-	-	-
11.7a	3	2	2	2	2	2	3	4	5	5	4	5	5	5	5	5	5	5	5	5	8	7	8	9	7	5	4	3	4	3	2	2	2	2	-	-	-
12.7a	2	2	2	-	-	2	3	4	5	5	5	5	5	6	4	6	5	5	4	3	5	6	5	6	6	5	3	3	3	5	4	3	2	2	2	2	2
13.7	-	-	-	-	-	3	4	10	11	10	8	9	11	14	15	16	18	13	13	11	13	14	15	12	14	10	8	5	5	5	3	2	-	-	-	-	-
15.7	-	-	-	2	2	2	3	4	5	5	4	4	4	5	11	18	40	41	38	16	14	11	8	5	3	2	2	3	3	3	2	2	2	-	-	-	-
16.7	-	-	-	-	2	2	3	3	4	4	4	4	4	4	5	11	20	38	26	14	11	10	9	5	3	2	2	2	2	3	2	2	2	2	-	-	-
17.8	2	2	2	3	3	3	4	4	4	4	3	3	3	4	5	8	11	14	15	20	34	36	14	15	11	3	2	2	2	3	3	3	2	2	-	-	-
18.7	2	-	-	-	-	-	2	2	3	4	3	3	4	5	5	6	7	8	8	11	39	41	16	15	4	2	3	3	5	5	3	2	-	-	-	-	-
19.7	-	-	-	-	-	2	2	3	3	3	3	3	3	2	4	4	5	8	13	12	11	14	11	8	5	3	4	4	2	3	2	2	2	-	-	-	-
23.6a	X	X	X	X	X	5	5	4	3	3	3	3	2	2	3	4	5	7	7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25.6	-	-	-	-	2	3	3	3	2	2	3	2	3	5	8	12	11	13	14	14	16	16	17	14	11	8	5	5	6	8	7	4	3	2	-	-	-
26.7	2	2	2	2	2	3	3	3	4	4	4	3	4	5	8	11	13	16	16	16	14	11	10	8	8	6	3	3	4	5	8	5	3	2	2	-	-
27.7	2	2	2	[illegible]	[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	4	4	5	6	8	11	12	13	13	13	14	11	10	8	5	3	2	2	2	4	5	4	3	2	2	-	-
28.7	-	2	2	2	3	2	3	3	3	3	3	3	3	4	8	13	14	11	8	13	14	13	11	7	5	4	3	2	3	5	7	5	2	-	2	2	-

Note: Yellow line (5694A): Sep. 15.7 at N02 - N07, intensity 4.

Table 74b

Coronal observations at Climax, Colorado (6702A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	3	4	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.8a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-
14.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.8a	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-

Table 75b

Coronal observations at Sacramento Peak, New Mexico (5303A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.8	-	2	2	2	2	3	2	3	4	4	4	4	5	4	4	5	5	5	8	11	28	28	30	11	5	4	3	3	3	4	3	3	3	2	2	2	2
3.7	-	-	-	2	2	2	3	3	4	5	4	4	3	3	5	8	18	16	12	16	30	23	16	10	5	5	3	3	3	3	3	3	3	2	2	3	3
5.7a	X	X	X	X	X	X	X	4	5	5	4	4	4	4	3	3	4	4	5	5	5	5	4	5	4	5	5	5	5	6	X	X	X	X	X	X	X
6.7	-	-	-	-	-	2	2	2	3	4	5	5	5	5	4	5	7	11	14	16	16	7	5	3	3	2	3	2	2	2	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	2	3	4	4	5	5	5	5	6	7	8	28	30	30	32	11	8	5	3	2	4	3	3	3	2	2	-	-	-	-	-
8.7	-	-	-	-	-	2	2	2	3	4	3	2	3	4	5	11	14	36	39	40	22	16	8	5	3	3	4	4	4	3	3	2	2	2	2	2	2
9.7	-	-	-	-	-	2	2	3	3	4	5	5	3	5	6	13	18	20	24	23	23	18	11	5	4	3	3	3	2	2	2	-	-	-	-	-	-
11.7	-	-	-	2	2	3	3	3	3	3	4	4	4	5	6	10	14	16	17	13	10	8	5	4	3	3	3	3	3	3	2	3	3	2	2	2	3
12.7	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	5	6	8	10	11	11	10	8	5	4	3	3	3	4	3	2	2	2	2	2	2	2
13.7	-	-	-	-	-	2	3	5	7	8	8	9	8	5	9	16	20	20	24	28	28	22	20	19	16	8	4	4	3	3	2	3	2	2	-	-	-
15.7	-	-	-	-	2	2	3	4	4	4	4	3	4	4	4	5	16	23	20	15	16	18	20	22	20	10	5	4	5	5	3	2	3	2	-	-	-
16.7	-	-	-	2	2	2	2	3	4	4	4	4	4	4	5	5	14	26	28	11	14	22	16	13	7	4	3	3	4	4	3	3	2	2	-	-	-
17.8	-	-	-	2	2	2	3	3	3	3	3	2	3	3	3	3	4	5	16	11	5	6	8	14	11	5	5	5	5	5	5	4	3	3	2	2	2
18.7	-	-	-	-	-	2	2	2	2	3	2	2	3	3	2	3	5	6	7	5	5	11	13	12	8	8	7	5	5	7	8	6	5	3	2	2	2
19.7a	-	-	-	-	2	2	3	3	3	4	3	3	3	3	3	3	3	4	4	5	3	4	5	5	4	3	3	3	5	5	5	4	4	3	4	4	-
23.6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25.6	-	-	-	-	-	2	2	2	3	5	5	6	6	8	11	13	14	13	8	8	11	10	8	8	7	12	13	13	11	8	9	9	6	3	-	-	-
26.7	-	-	-	-	-	-	-	2	3	4	6	6	6	5	8	12	13	14	14	14	14	12	13	8	6	7	6	6	6	5	5	5	4	2	3	2	2
27.7	-	-	-	-	-	2	3	3	3	4	4	4	5	5	5	8	10	11	14	16	23	26	22	14	8	5	5	6	8	8	11	10	8	5	3	3	2
28.7	-	-	-	-	-	2	2	2	2	3	3	4	4	4	4	4	4	5	11	14	23	46	44	20	20	11	4	5	5	6	8	8	5	3	2	-	-

Table 76a

Coronal observations at Sacramento Peak, New Mexico (6374A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.8	3	3	3	3	4	3	2	2	2	2	3	3	4	3	3	3	4	4	5	5	11	14	8	3	2	2	3	3	3	2	3	3	2	2	2	2	2
3.7	3	5	4	4	4	3	3	2	3	2	3	4	3	4	3	3	6	4	3	8	16	20	14	7	4	3	4	3	3	3	2	3	2	3	3	3	3
5.7a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	5	4	4	4	4	4	5	5	6	4	4	4	5	5	X	X	X	X	X	X	X
6.7	3	2	2	3	2	2	2	3	2	2	3	3	4	5	5	5	11	7	4	4	5	4	3	5	5	4	5	5	4	3	3	2	2	2	2	2	2
7.7	3	3	3	3	2	3	3	2	3	2	2	3	3	5	11	12	6	5	5	6	4	5	5	3	6	5	5	5	5	5	3	3	2	3	3	2	3
8.7	3	3	3	2	2	2	2	2	2	3	2	2	2	3	4	4	4	4	5	5	4	4	4	3	2	4	3	3	3	2	3	2	2	2	2	2	2
9.7	3	3	2	3	3	2	2	2	-	2	3	3	3	3	4	5	3	3	4	5	4	5	3	3	3	3	4	5	4	3	2	2	2	3	2	3	3
11.7a	3	3	2	3	3	2	2	2	2	2	2	2	3	3	3	3	3	4	5	5	3	4	3	3	2	2	3	3	2	2	3	3	2	2	2	2	2
12.7a	2	3	3	3	3	2	2	2	2	3	3	2	3	3	3	3	4	4	3	3	4	4	2	2	2	3	3	2	3	3	3	3	-	3	2	2	3
13.7	3	4	4	4	4	4	2	3	2	3	4	4	4	6	5	8	12	13	11	7	6	6	5	6	6	4	5	4	4	3	3	3	2	3	3	3	4
15.7	3	4	3	4	3	3	4	2	2	3	5	3	3	2	5	5	20	18	16	5	5	6	8	10	10	10	9	4	4	3	3	2	2	2	2	3	3
16.7	3	3	3	4	4	3	3	2	3	4	5	5	5	4	4	5	20	39	13	3	2	3	5	8	4	4	2	3	3	4	3	2	2	3	3	4	4
17.8	3	3	2	2	2	3	2	2	3	3	3	5	5	7	5	5	10	18	11	5	10	5	4	7	5	6	6	6	4	3	3	2	3	2	2	2	2
18.7	3	5	4	4	3	2	3	2	2	3	3	8	8	7	11	11	14	16	11	10	8	13	5	5	8	10	11	6	4	4	4	3	2	2	3	2	4
19.7	3	4	3	3	3	2	2	2	2	2	3	5	5	5	8	7	11	15	11	8	5	4	3	3	8	11	6	5	2	3	3	2	2	2	2	3	3
23.6a	X	X	X	X	X	3	2	3	2	2	2	2	3	2	3	3	3	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25.6	5	7	5	5	4	4	3	2	3	4	5	9	10	8	5	6	5	6	6	6	5	3	4	3	4	4	4	5	4	4	3	4	2	3	3	5	4
26.7	3	5	4	5	4	4	4	4	4	5	5	6	6	5	4	4	4	4	3	3	5	4	4	5	4	4	3	4	5	3	3	3	2	3	3	2	4
27.7	3	2	3	2	3	2	2	3	4	3	3	3	4	3	3	2	3	3	5	4	3	4	4	5	5	5	4	5	3	2	2	2	2	2	2	3	3
28.7	3	2	4	3	3	2	2	2	2	3	3	4	4	5	3	2	3	3	4	5	8	6	4	3	7	7	7	8	6	3	3	4	4	3	2	3	3

Table 77a

Coronal observations at Sacramento Peak, New Mexico (6702A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.8	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	3	2	2	2	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	4	5	3	3	3	2	2	-	-	-	-	-	-	-	-	-	-
5.7a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	5	5	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	3	4	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	4	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.6a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 76b

Coronal observations at Sacramento Peak, New Mexico (6374A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.8	2	2	2	3	3	3	2	3	2	3	2	2	3	4	3	3	3	4	3	14	13	11	12	5	3	2	3	3	3	2	2	2	2	2	3	3	3
3.7	3	2	2	3	2	3	2	2	2	3	2	2	3	3	4	5	12	8	4	8	14	16	14	10	11	10	5	5	3	3	3	3	3	3	4	4	3
5.7a	X	X	X	X	X	X	X	4	4	5	4	3	4	5	5	5	4	8	9	5	5	5	6	5	5	4	4	4	X	X	X	X	X	X	X	X	X
6.7	2	2	2	3	3	2	2	2	2	3	3	3	4	5	5	4	3	5	5	8	12	10	8	8	7	8	7	5	5	4	3	3	3	2	2	3	3
7.7	3	2	3	3	3	3	2	3	2	3	3	5	5	6	8	6	8	14	20	11	23	16	8	6	8	6	5	4	3	4	2	3	2	2	3	2	3
8.7	2	3	3	3	3	2	3	2	3	3	3	4	5	4	3	3	8	28	20	23	16	11	4	5	8	5	4	4	2	2	2	3	3	3	3	3	3
9.7	3	3	2	2	3	2	2	2	2	2	3	5	5	4	3	4	10	14	23	14	14	13	3	5	5	4	3	3	3	2	2	3	3	2	2	3	3
11.7	2	3	3	3	2	2	2	2	2	3	3	3	3	3	2	2	2	3	2	3	2	2	2	2	3	3	3	3	3	2	2	3	3	2	2	3	3
12.7	3	3	2	2	2	2	-	-	-	-	2	2	2	2	2	2	2	3	-	-	2	2	2	2	3	3	4	3	2	2	2	2	2	2	3	3	2
13.7	4	4	3	3	2	2	3	2	2	3	3	4	4	4	4	5	4	3	4	3	3	2	2	2	3	5	6	4	4	3	2	2	3	3	2	3	3
15.7	3	3	3	3	3	3	3	3	2	3	3	4	4	5	4	5	12	11	9	8	3	3	2	3	3	4	8	8	4	3	2	3	3	4	4	4	3
16.7	4	3	3	3	2	3	2	3	2	3	3	3	4	3	4	4	5	14	23	4	2	2	3	2	2	3	3	5	3	2	2	2	3	3	4	4	3
17.8	2	2	2	2	3	2	3	3	2	3	3	4	4	4	5	3	3	8	13	5	3	3	3	2	2	2	3	3	2	3	2	2	3	2	3	3	3
18.7	4	3	3	4	3	4	3	3	3	4	5	6	7	5	4	5	8	10	15	10	6	5	4	3	4	5	4	5	3	2	2	2	3	2	4	3	3
19.7a	3	3	2	2	2	3	3	3	2	3	3	4	3	4	4	5	4	3	4	4	3	3	3	4	4	5	5	4	2	2	2	2	2	3	3	3	3
23.6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25.6	4	4	4	5	5	5	4	3	3	4	3	2	2	3	2	2	3	4	5	6	5	5	4	4	4	8	4	3	3	2	3	3	3	3	3	4	5
26.7	4	3	4	4	3	3	2	2	2	3	2	3	4	5	4	3	2	3	4	4	5	5	4	5	4	3	3	2	2	2	2	2	2	3	3	3	3
27.7	3	3	2	2	2	2	2	2	2	2	3	4	4	5	5	4	4	5	3	4	5	13	5	4	4	3	3	2	2	3	2	2	3	3	3	3	3
28.7	3	2	3	3	3	2	2	3	2	3	2	3	3	5	6	5	4	3	3	5	6	13	7	4	3	5	3	3	2	2	-	2	2	3	3	4	3

Table 77b

Coronal observations at Sacramento Peak, New Mexico (6702A), west limb

Date GCT	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1952																																					
Sep. 1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	=	-	-	-	2	2	2	3	2	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	5	4	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	3	3	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	5	3	2	-	-	-	-	-	-	-	-	-	-	-	-

Table 78

Zürich Provisional Relative Sunspot Numbers

September 1952

Date	R_Z*	Date	R_Z*
1	89	17	11
2	75	18	23
3	55	19	17
4	35	20	20
5	32	21	27
6	30	22	29
7	20	23	42
8	7	24	45
9	15	25	38
10	16	26	38
11	7	27	37
12	0	28	31
13	7	29	28
14	0	30	19
15	8		
16	8	Mean:	27.0

*Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 79

American Relative Sunspot Numbers

August 1952

Date	$R_{A'}$*	Date	$R_{A'}$*
1	36	17	46
2	32	18	41
3	38	19	32
4	46	20	26
5	46	21	31
6	43	22	40
7	52	23	58
8	57	24	59
9	59	25	66
10	54	26	72
11	46	27	93
12	58	28	81
13	53	29	75
14	49	30	85
15	45	31	89
16	42	Mean:	53.2

* Combination of reports from 28 observers; see page 10.

Table [illegible]

Solar Flares, August–September 1952

Observatory	Date 1952	Time Observed: Beginning (GCT)	Time Observed: Ending (GCT)	Duration (Min)	Area (Mill) (of) (Visible) (Hemisph)	Position: Latitude (Deg)	Position: Longitude (Deg)	Time of Maximum (GCT)	Int. of Maximum	Relative Area of Maximum (Tenths)	Importance	SID Observed
Sac.Peak	Aug. 2	1715	1724	9	34	S12	W11	1717	15	6	1 -	
"	" 2	1805	1855	50	183	N05	E41	1817	20	4	2	
"	" 22	1503	1510	7	22	N08	E49	1505	1[illegible]	8	1 -	
"	" 22	2031?	2044	13	-	S17	E72	2045	1[illegible]	-	-	
McMath	" 23	1313				N1[illegible]	E39	-			1 -	
Sac.Peak	" 24	2350	0006A	>16	67	N1[illegible]	E12	[illegible]	-	5	1 -	
McMath	" 25	1907				S15	E37	-			1	
Sac.Peak	" 25	1955	2021	26	50	N12	E12	1957?	12	9	1 -	
McMath	" 26	1315				N12	E09	-			1	
"	" 26	1[illegible]				S15	E22	-			1	
McMath	" 28	1750				S04	E55	-			1	
Sac.Peak	" 29	1630	1645	15	55	S13	E74	1632	9	8	1 -	
McMath	" 30	1400				S13	W32	-			1	
Sac.Peak	" 30	1400	1430	30	39	S14	W36	1411	11	7	1 -	
"	" 30	1605	1625	20	45	S07	W29	1612	[illegible]	8	1 -	
Sac.Peak	" 30	2110	2119	9	22	N07	W70	2116	9	6	1 -	
"	" 30	2210	2223	13	28	N07	W70	2214	10	8	1 -	
"	" 30	2305	2319	14	62	N07	W70	2310	6	5	1 -	
"	" 30	2309	2330	21	40	S16	E66	2314	12	8	1 -	
"	" 31	2130	2220	50	78	N01	E11	2154	15	7	1 -	
Sac.Peak	" 31	1400	1409	9	22	N05	W90	1407	7	6	1 -	
"	" 31	1445	1528	43	77	N07	W76	1500	[illegible]	8	1 -	
"	" 31	1529	1550	21	35	N05	W90	1534	[illegible]	7	1 -	
"	" 31	1805	1915	70	135	N02	E11	1828	[illegible]	[illegible]	1	
"	" 31	2058	2115	17	23	N11	W77	2105	1[illegible]	[illegible]	1	
Sac.Peak	" 31	2255	2330	35	56	N11	W77	2308	7	[illegible]	1 -	
"	" 31	2340	2406A	>[illegible]	67	N08	W04	2404A	13	[illegible]	1 -	
"	Sep. 3	1555	1615	20	50	S04	W30	1605	[illegible]	8	1 -	
"	" 3	2255	2320	25	61	S02	W31	2308	14	6	1 -	
Boulder	" 3	2300			100	S03	W14	-			1 -	
McMath	" 24	1415				N04	E40	-			1 -	
Sac.Peak	" 24	1415	1428	13	44	N03	E32	1419	9	8	1 -	
McMath	" 24	1950				N04	E40	-			1 -	
"	" 24	2040				N04	E40	-			1	
Sac.Peak	" 24	2324V			50	N03	E32	-	12	-	1 -	
Sac.Peak	" 27	2140	2150	10	28	N07	W04	2146	9	6	1 -	
"	" 28	1925	1945	20	197	S01	W21	1930	9	4	1	
"	" 30	14[illegible]	1515	>2[illegible]	62	N05	W41	1458	10	7	1 -	

Sac.Peak = Sacramento Peak

B Flare began before given time
A Flare ended after given time
? Time reported as questionable
V Visual observation

Table 81

Indices of Geomagnetic Activity for August 1952

Preliminary values of international character-figures, C;
Geomagnetic planetary three-hour-range indices, Kp;
Magnetically selected quiet and disturbed days

GR. Day 1952	C	Values Kp, three-hour interval 1	2	3	4	5	6	7	8	Sum	Final Selected Days
1	0.5	2+	3o	2+	2-	2o	1+	3o	2o	18-	Five
2	0.7	3-	2o	2-	2-	2+	2-	3+	3o	18+	Quiet
3	1.2	2-	4+	5-	4o	6-	5o	3-	2+	30+	
4	0.9	3o	3+	3+	2o	2+	3-	4o	4o	25-	14
5	0.8	4-	3-	3-	3o	1+	3-	3-	2+	21o	16
											25
6	1.0	5-	5-	4o	3o	2+	3-	2+	3-	26+	26
7	0.9	4o	3-	4o	2o	2+	1o	2o	3o	21o	28
8	0.5	3-	3-	3-	2+	2+	1+	2o	2o	18o	
9	0.4	1o	1+	1+	1+	2-	1+	3o	3-	14-	
10	0.9	4+	3-	2o	3-	4+	4-	3o	2+	25o	
11	0.8	4-	2o	1+	3-	3+	2-	2+	4o	21o	Five
12	1.0	5o	2+	3o	3+	3o	4o	4-	2+	27-	Disturbed
13	0.2	1+	2o	2+	2-	2-	2-	1-	1o	12+	
14	0.0	1+	2o	1+	1+	1+	1-	1+	1-	10o	3
15	0.6	2o	1-	0+	1-	1-	1o	3o	3o	11+	12
											17
16	0.1	3-	3-	1+	1o	0+	0+	0+	0+	9o	18
17	1.4	2+	3o	4+	5+	5-	4-	5+	4-	32+	30
18	1.3	5o	4+	3+	3-	4-	5-	4+	5o	33o	
19	0.9	4o	4-	3-	3+	2+	3+	2o	2-	23o	
20	1.0	3o	4+	4-	4-	3o	2+	2+	3+	26-	
21	0.4	2o	1o	1o	3-	1+	2-	1+	1o	12o	Ten
22	0.4	1-	1-	2-	2-	1-	1+	1+	3-	11-	Quiet
23	0.6	4o	2+	1+	2-	2-	2o	2o	1o	16o	
24	0.4	1o	1+	3-	2o	1o	2-	1+	0+	11+	9
25	0.2	0o	1-	1+	2-	2o	1o	1o	1o	9-	13
											14
26	0.2	1-	2-	1o	2o	1o	1o	2-	2o	11o	16
27	0.6	3o	3-	4o	3o	1+	2-	2-	1+	19-	21
28	0.0	2o	3-	1+	1o	0+	1o	1-	1-	9+	22
29	0.9	2-	1o	1+	2-	2+	4o	4o	4o	20o	24
30	1.1	5-	6-	5-	2-	2-	3-	3o	3-	27-	25
31	0.6	1+	3o	1+	2+	2+	1o	2o	4o	17+	26
											28
Mean	0.66										

Table 82

Sudden Ionosphere Disturbances Observed at Washington, D. C.

September 1952

1952 Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
September					
1	1235	1255	Ohio, D. C.	0.03	
21	1220	1240	Ohio, D. C.	0.2	

*Ratio of received field intensity during SID to average field intensity before and after, for station KQ2XAU (formerly W8XAL), 6080 kilocycles, 600 kilometers distant.

Table 83

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in England

1952 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters
August				
30	0900	0930	Brentwood	Barbados, Belgian Congo, Canary Is., Eritrea, Iran, Malta, New York, Thailand, Trans-Jordan, Turkey
30	0855	0910	Somerton	Argentina, Ceylon, China, Cyprus, Egypt, Gold Coast, India, Iran
September				
1	1235	1300	Brentwood	Afghanistan, Austria, Belgian Congo, Brazil, Canary Is., Chile, Portugal

Table 84

Sudden Ionosphere Distrubances Reported by Institut für Ionosphärenforschung,

as Observed at Lindau/Harz, Germany

1952 Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
August					
30	0858	0916	Lindau, Munich	0.1	
30	1003	1011	Lindau	not measured	
31	1212	1215	Lindau, Munich	total absorption	

*Ratio of received field intensity during SID to average field intensity before and after, for station Munich, 6160 kilocycles, 400 kilometers distant.

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

GRAPHS OF IONOSPHERIC DATA

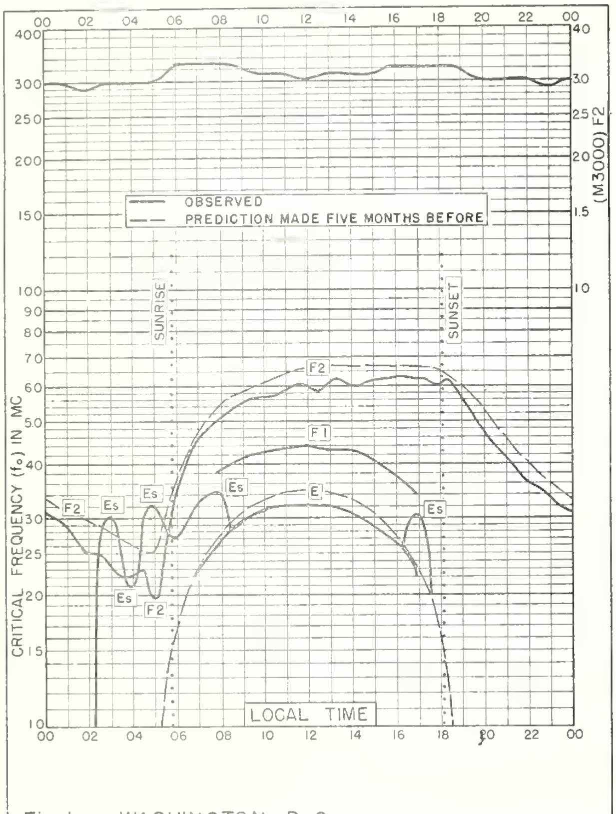


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W SEPTEMBER 1952

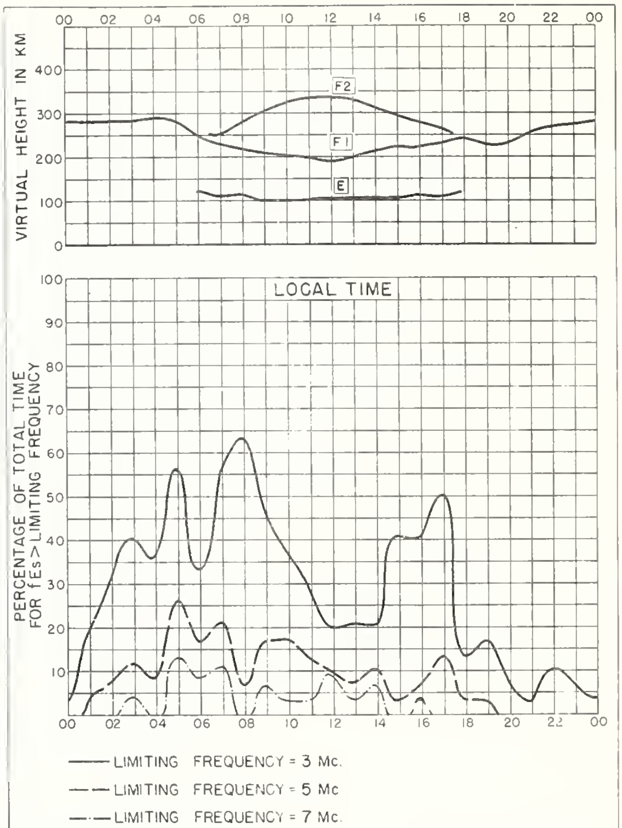


Fig. 2. WASHINGTON, D. C. SEPTEMBER 1952

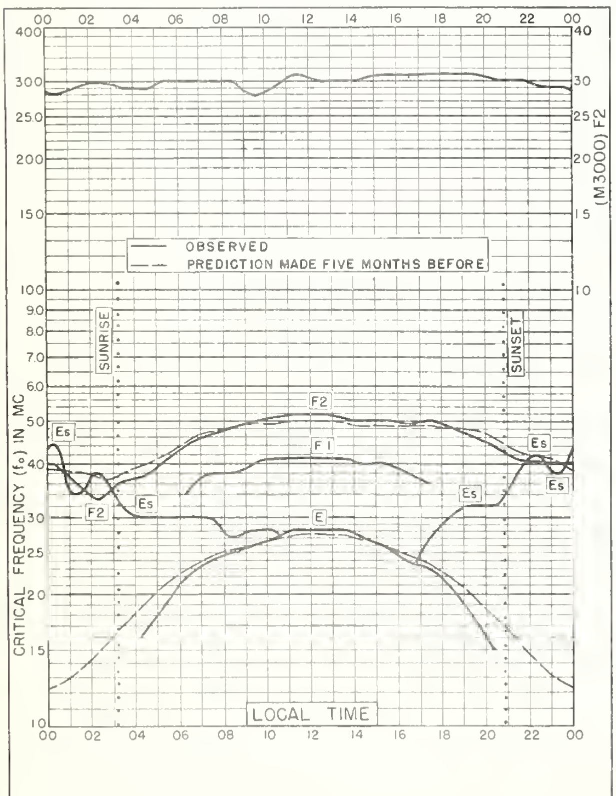


Fig. 3. TROMSO, NORWAY
69.7°N, 19.0°E AUGUST 1952

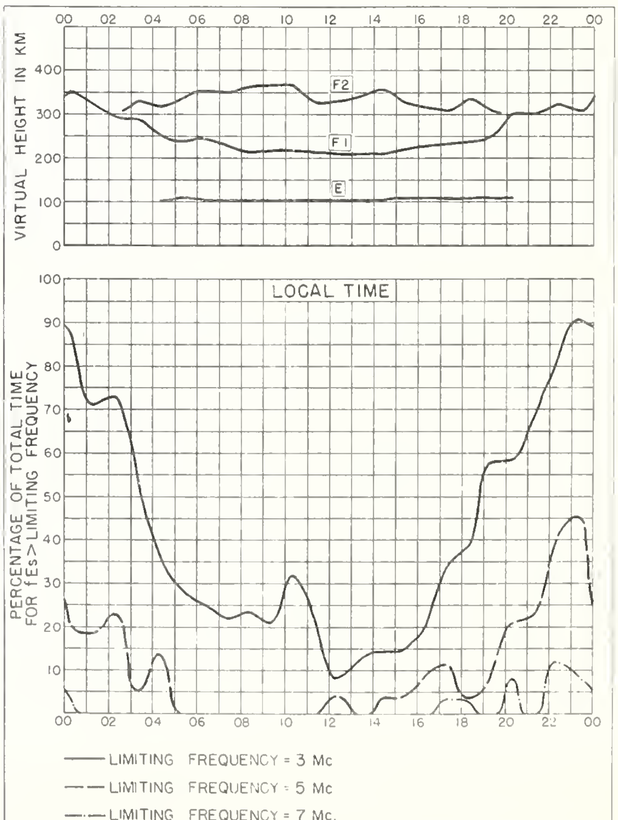


Fig. 4. TROMSO, NORWAY AUGUST 1952

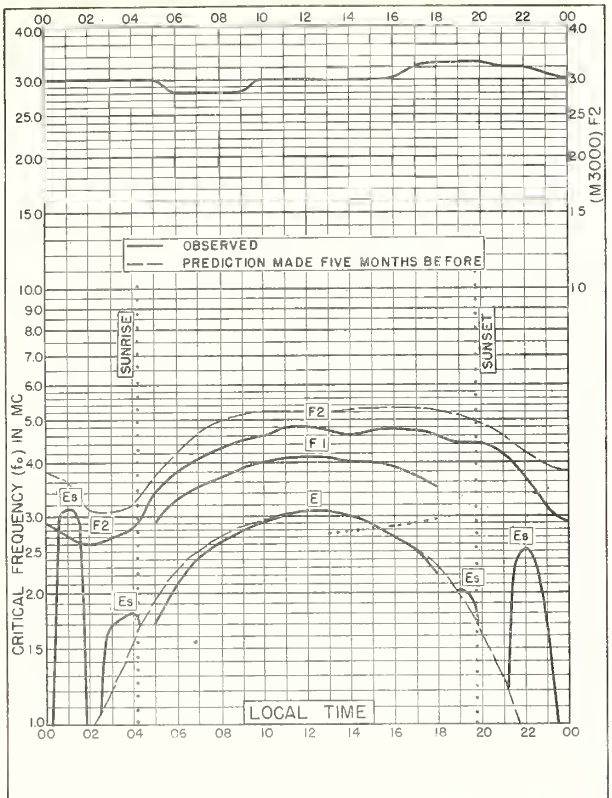


Fig. 5 ANCHORAGE, ALASKA
61.2°N, 149.9°W AUGUST 1952

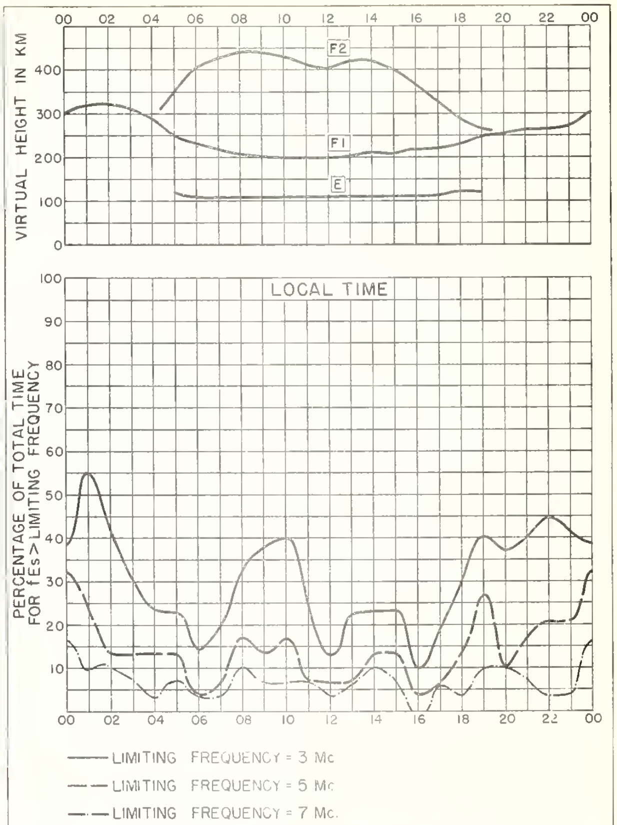


Fig. 6 ANCHORAGE, ALASKA AUGUST 1952

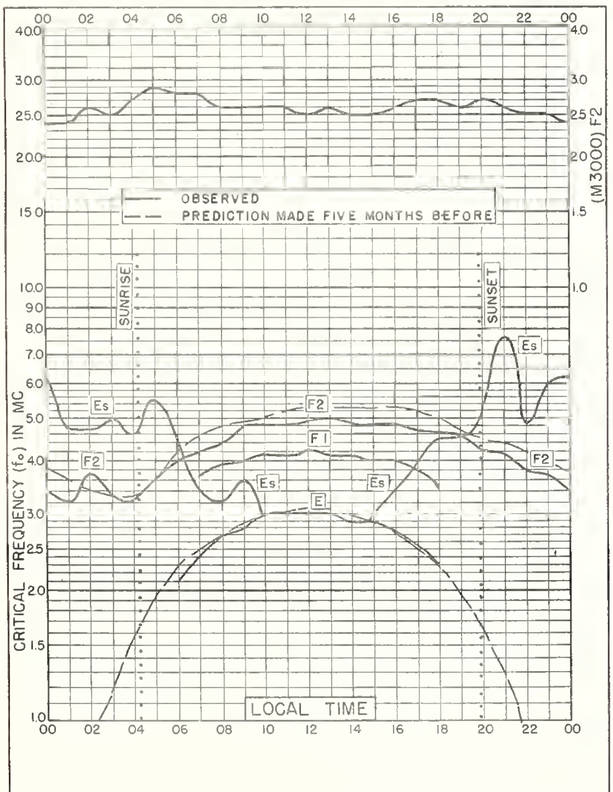


Fig. 7. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W AUGUST 1952

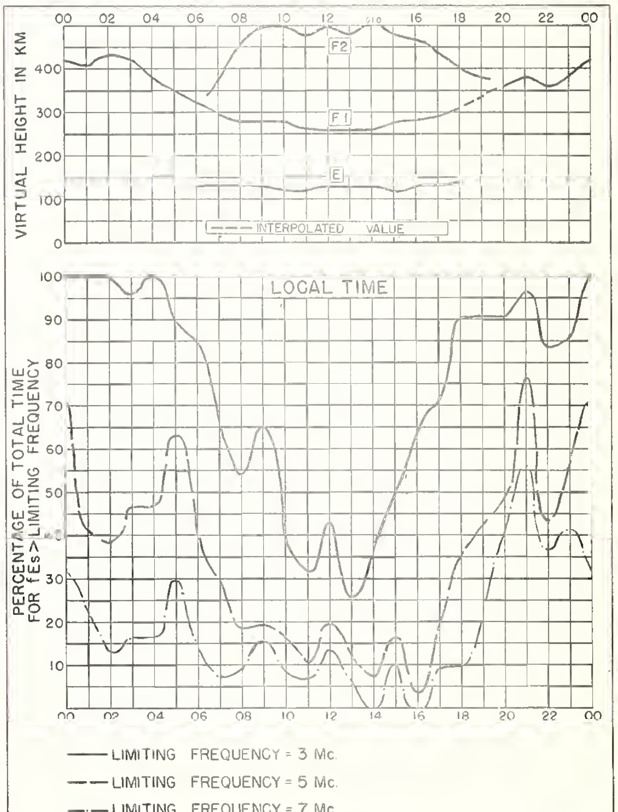


Fig. 8. NARSARSSUAK, GREENLAND AUGUST 1952

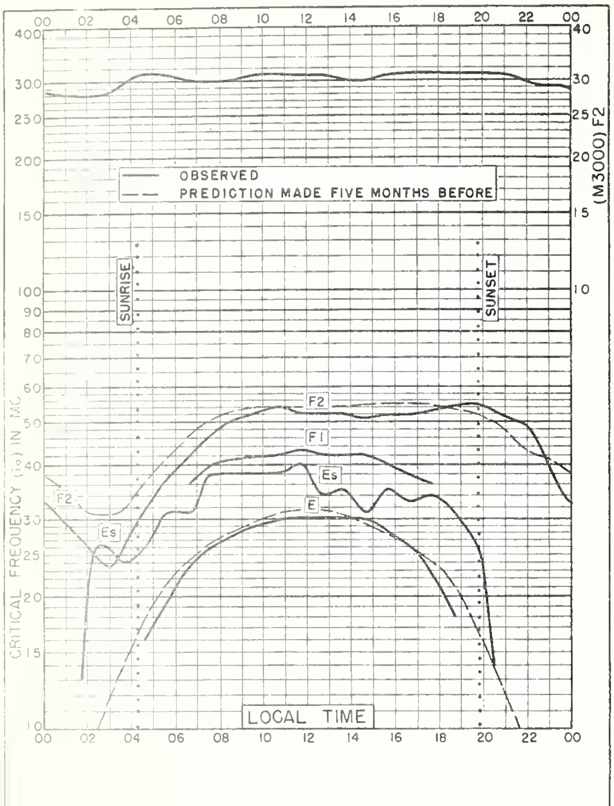


Fig. 9 OSLO, NORWAY
60.0°N, 11.1°E . AUGUST 1952

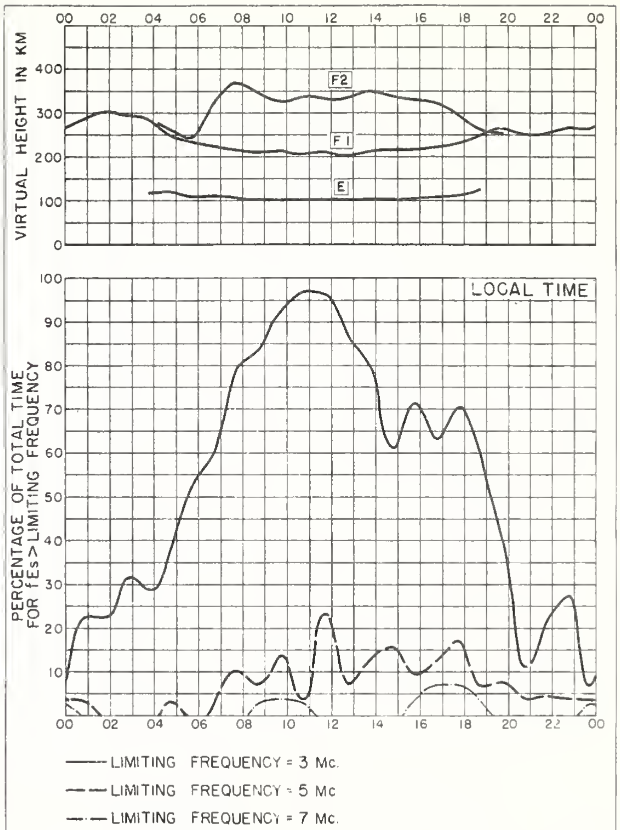


Fig. 10 OSLO, NORWAY AUGUST 1952

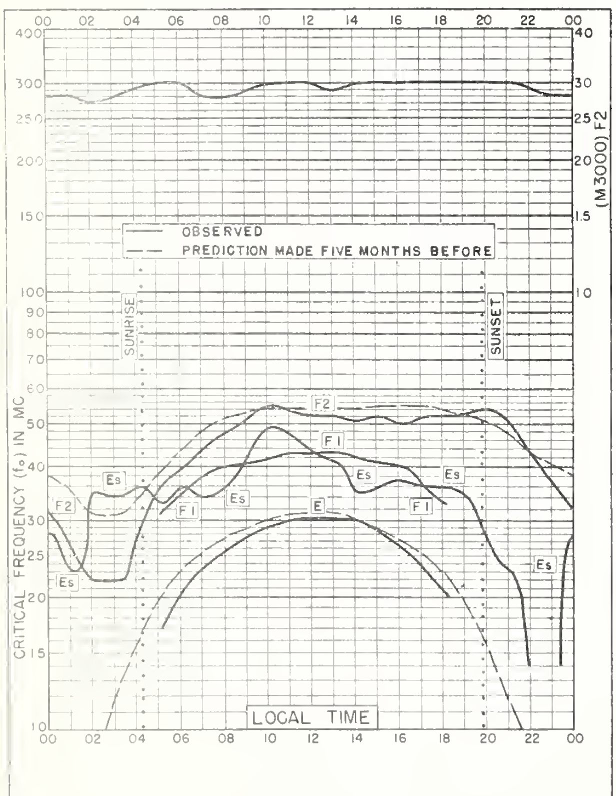


Fig. 11. UPSALA, SWEDEN
59.8°N, 17.6°E AUGUST 1952

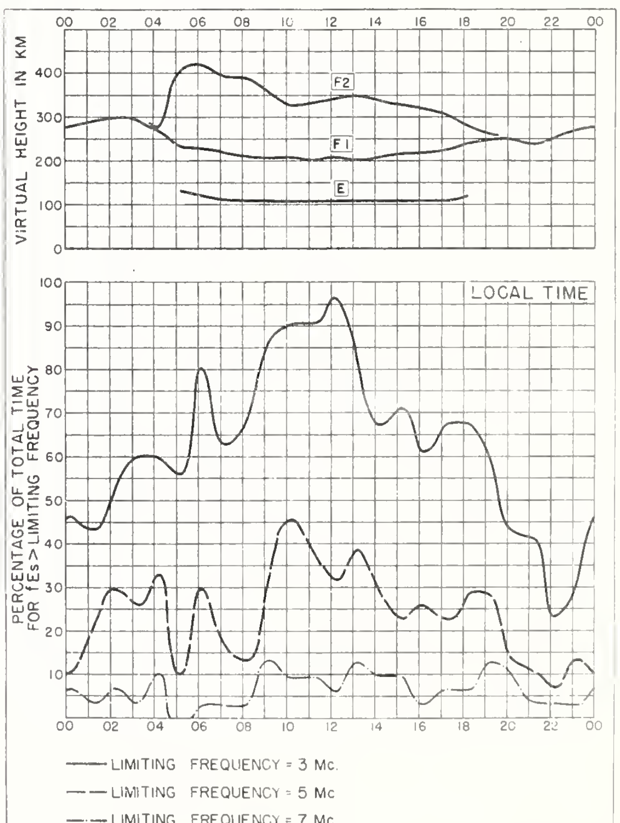


Fig. 12. UPSALA, SWEDEN AUGUST 1952

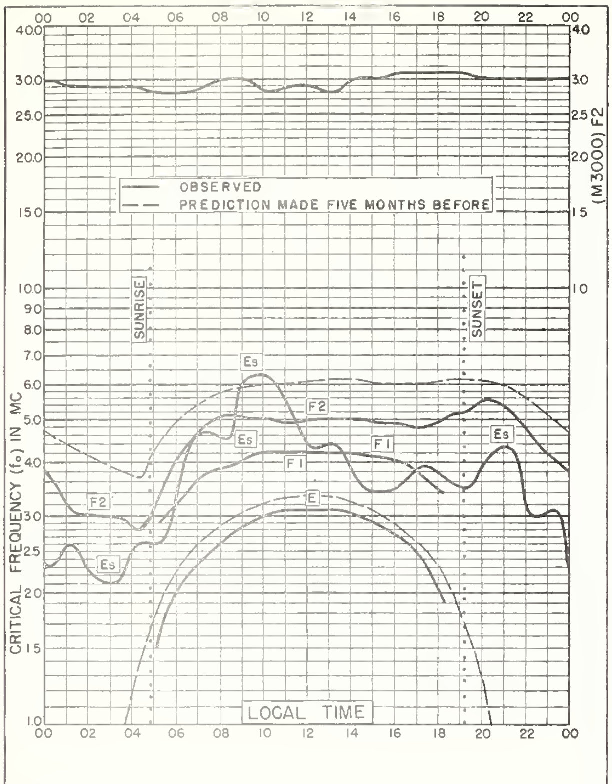


Fig. 13. ADAK, ALASKA
51. 9°N, 176.6°W AUGUST 1952

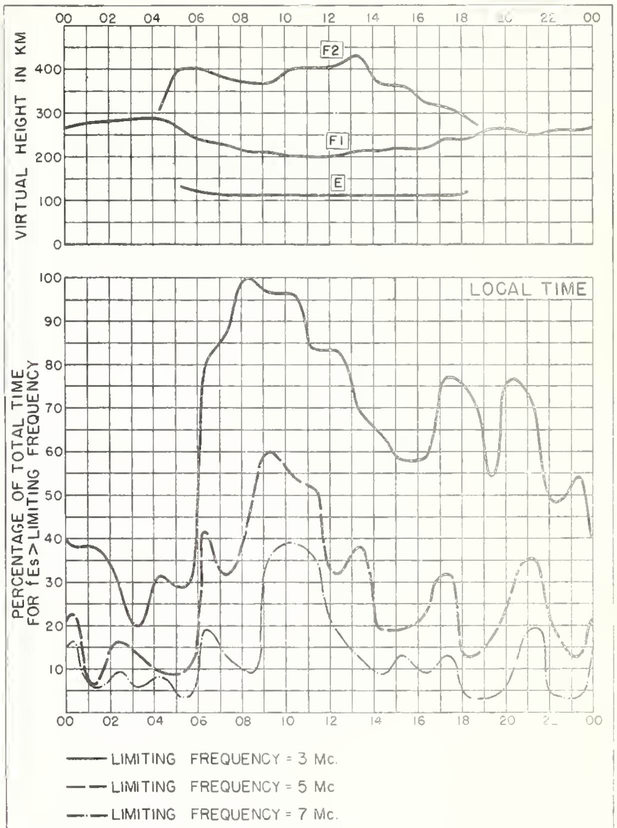


Fig. 14. ADAK, ALASKA AUGUST 1952

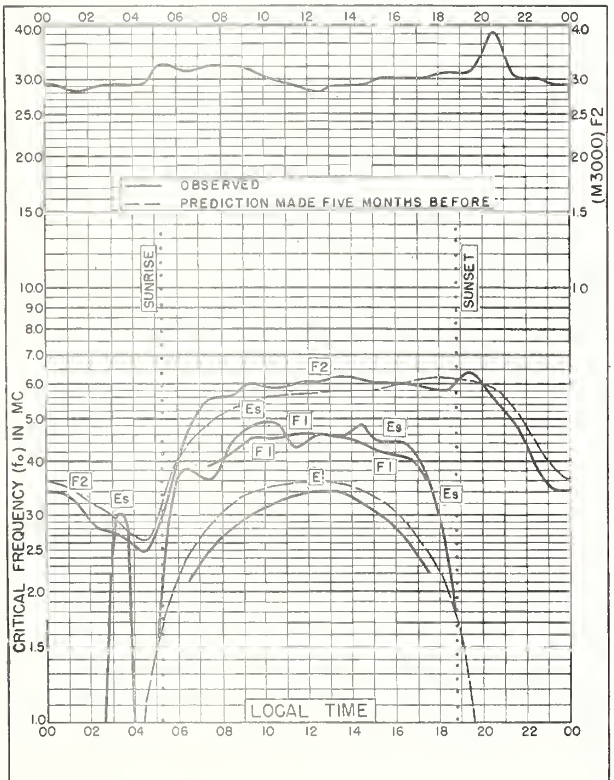


Fig. 15. BATAVIA, OHIO
39.1°N, 84.1°W AUGUST 1952

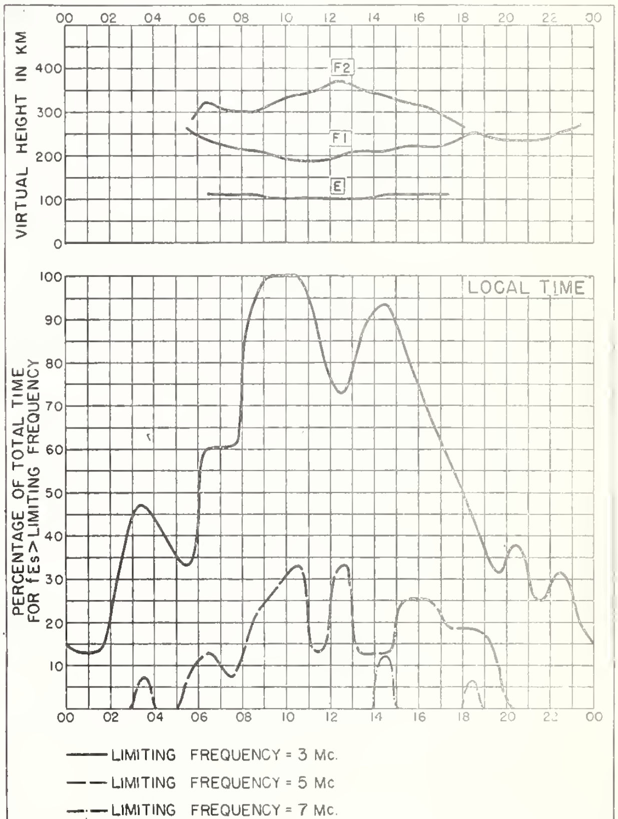


Fig. 16. BATAVIA, OHIO AUGUST 1952

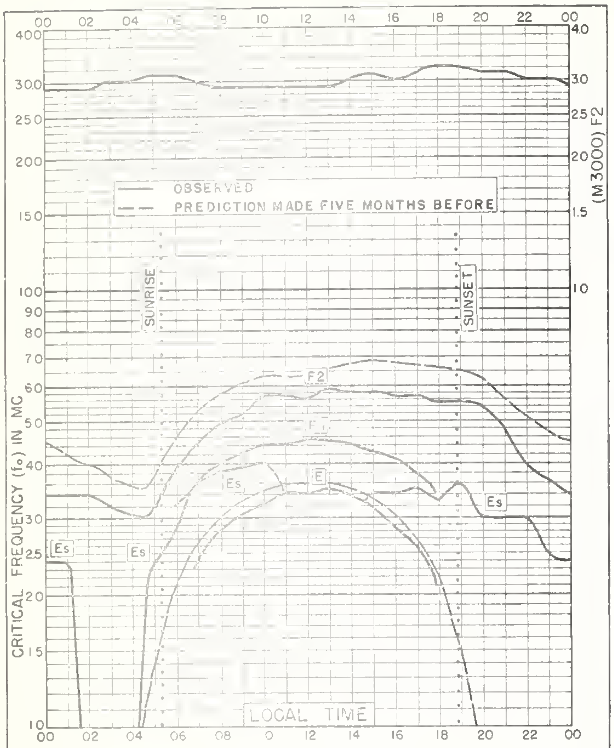


Fig. 17. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W AUGUST 1952

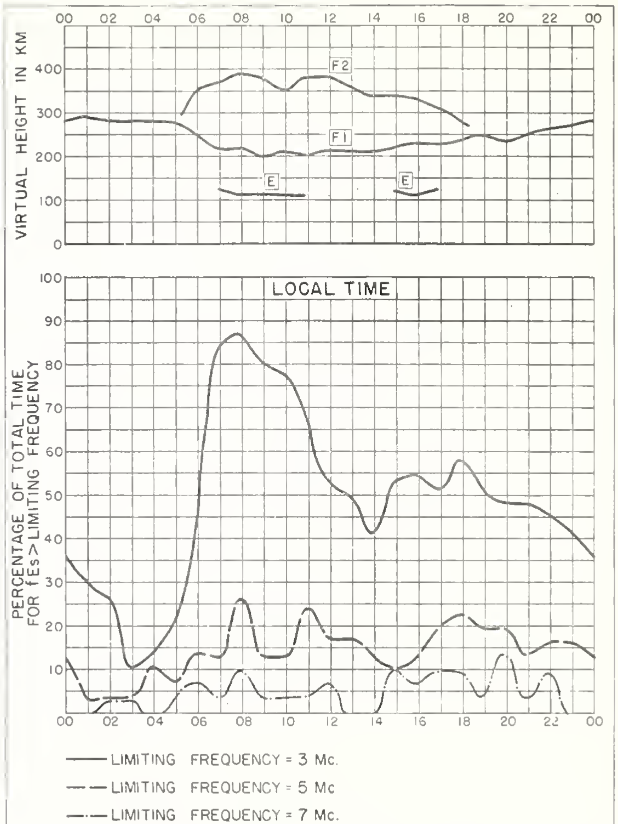


Fig. 18. SAN FRANCISCO, CALIFORNIA AUGUST 1952

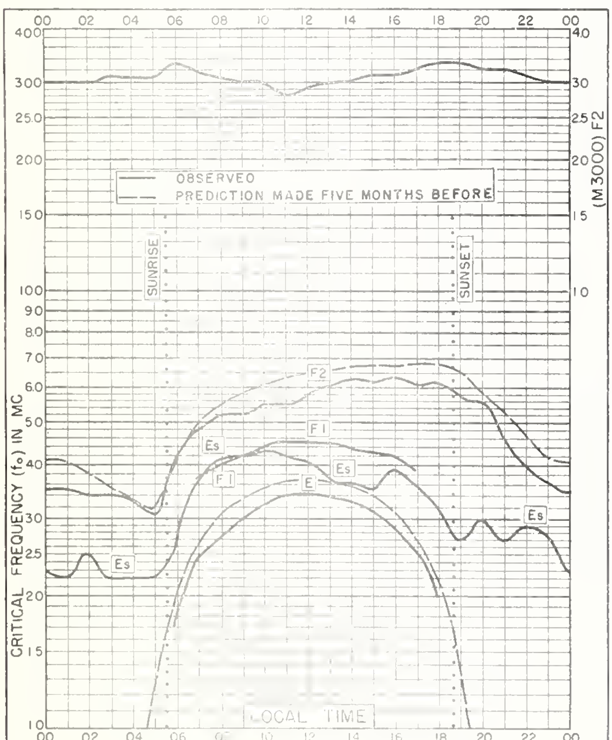


Fig. 19. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W AUGUST 1952

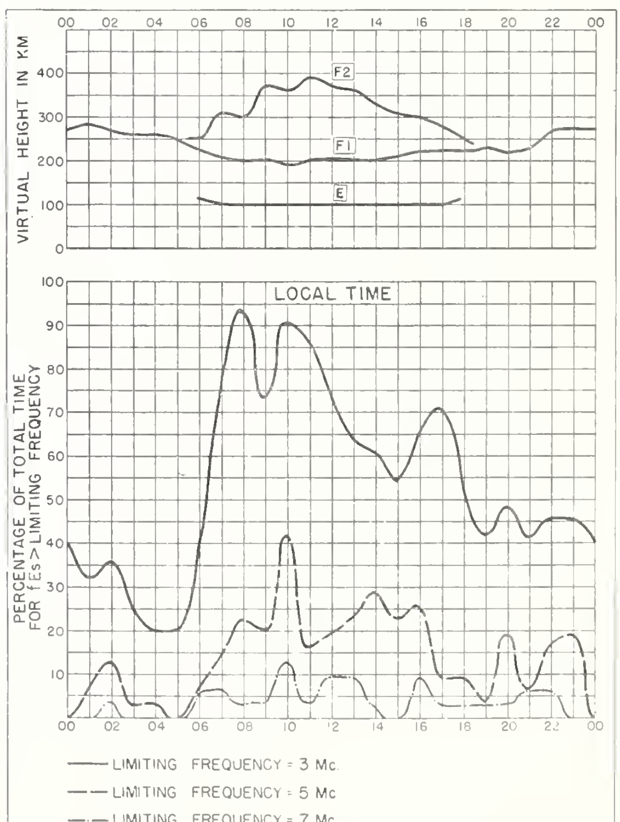


Fig. 20. WHITE SANDS, NEW MEXICO AUGUST 1952

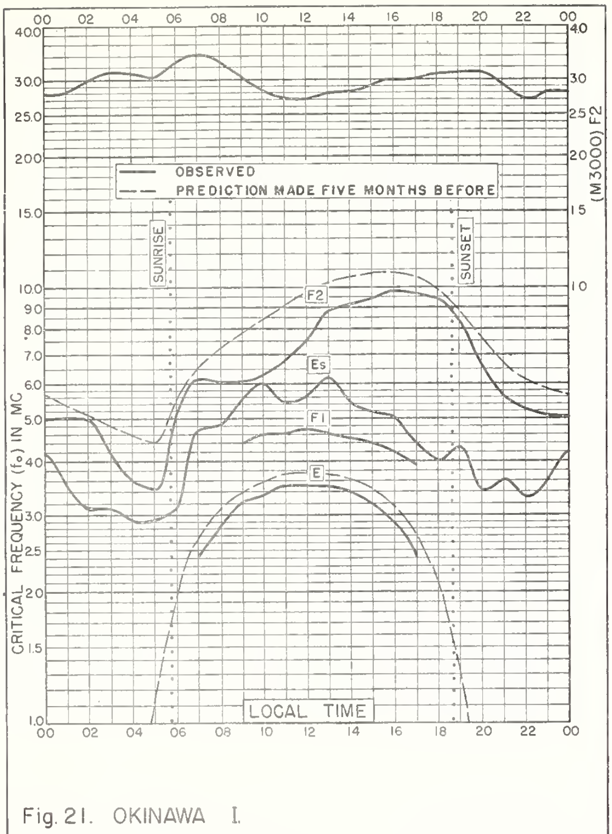


Fig. 21. OKINAWA I.
26.3°N, 127.8°E AUGUST 1952

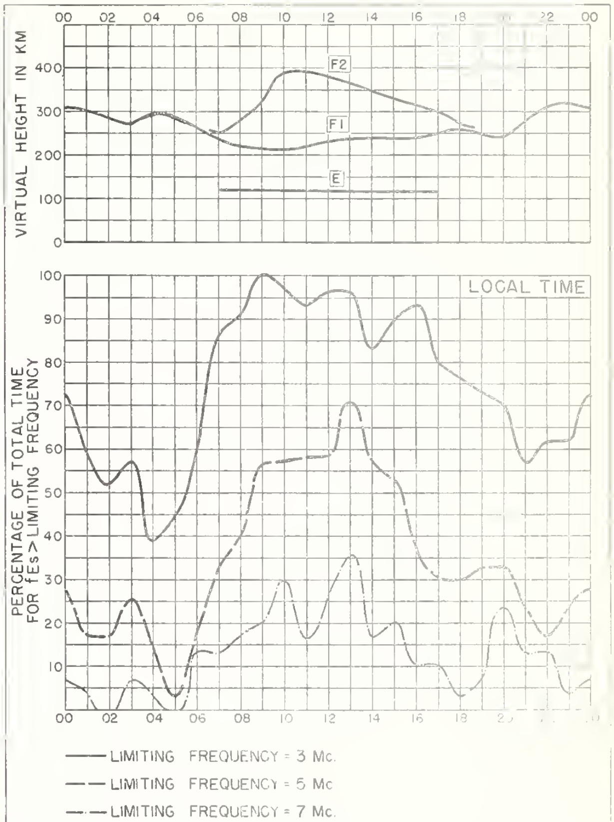


Fig. 22. OKINAWA I. AUGUST 1952

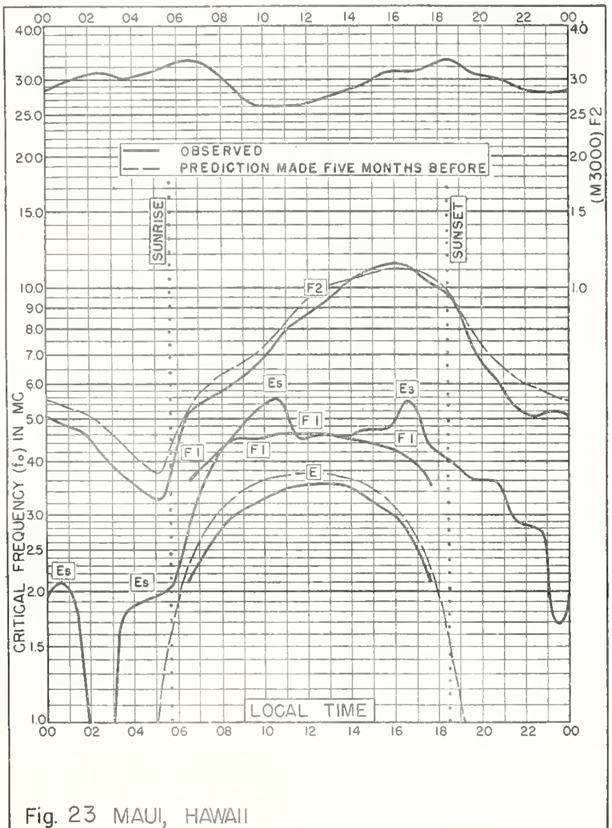


Fig. 23 MAUI, HAWAII
20.8°N, 156.5°W AUGUST 1952

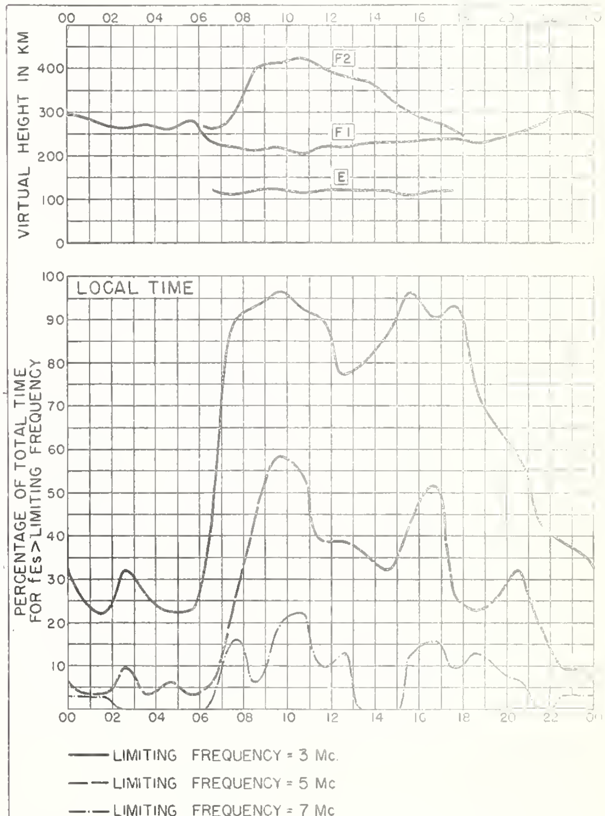


Fig. 24 MAUI, HAWAII AUGUST 1952

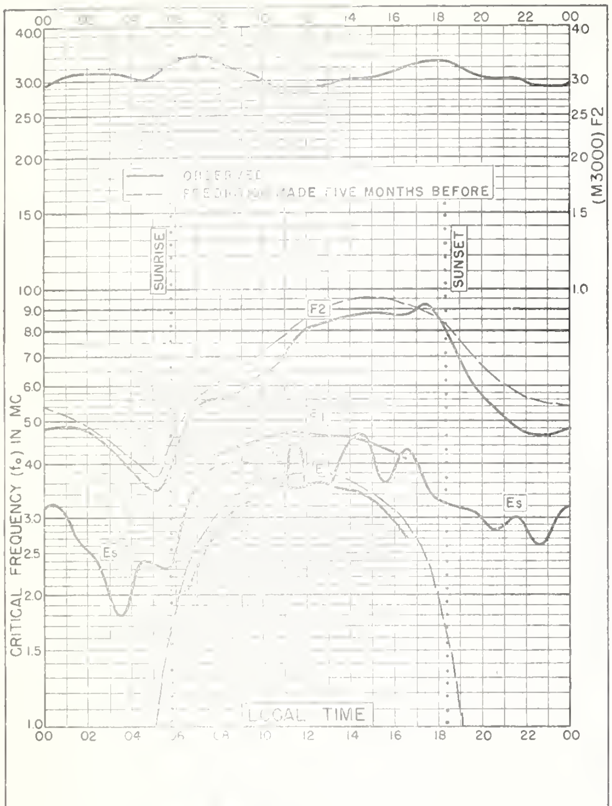


Fig. 25 PUERTO RICO, W.I.
18.5°N, 67.2°W
AUGUST 1952

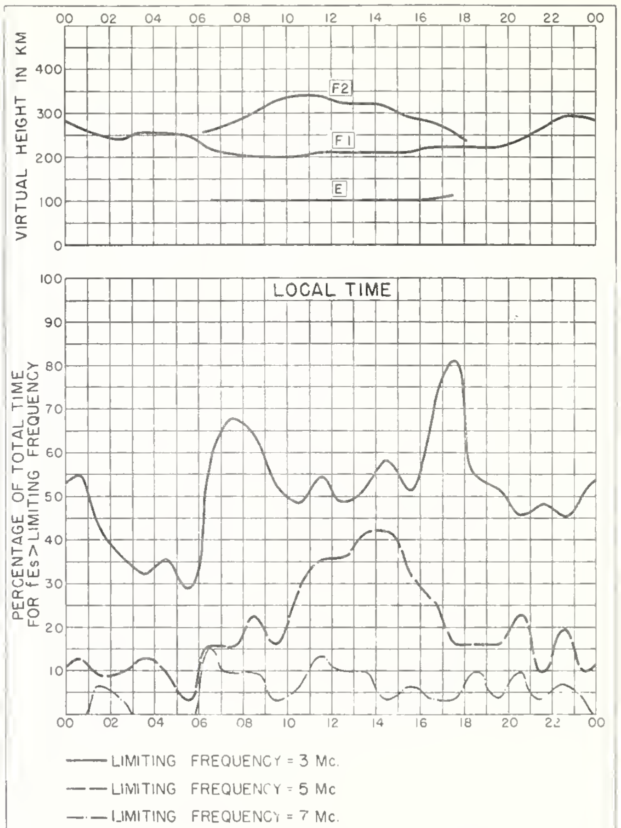


Fig. 26 PUERTO RICO, W.I.
AUGUST 1952

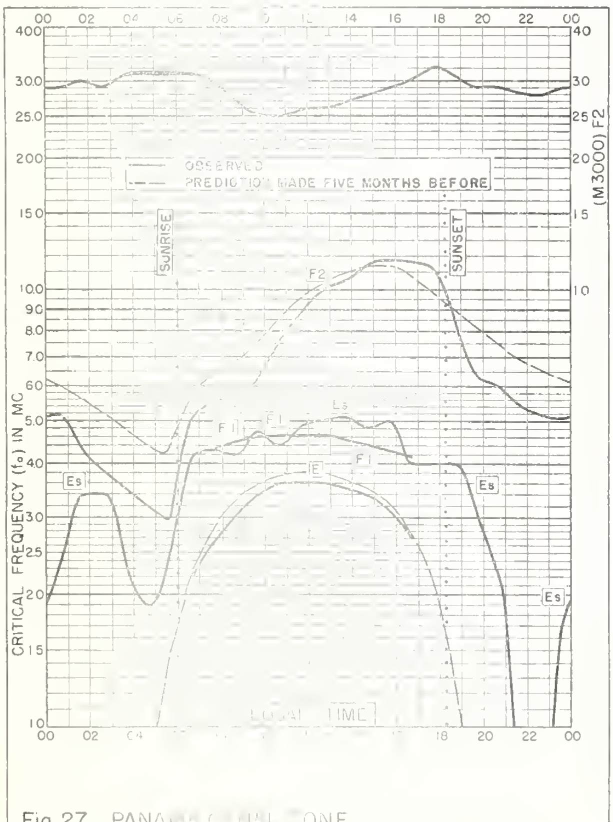


Fig. 27 PANAMA CANAL ZONE
9.4°N
AUGUST 1952

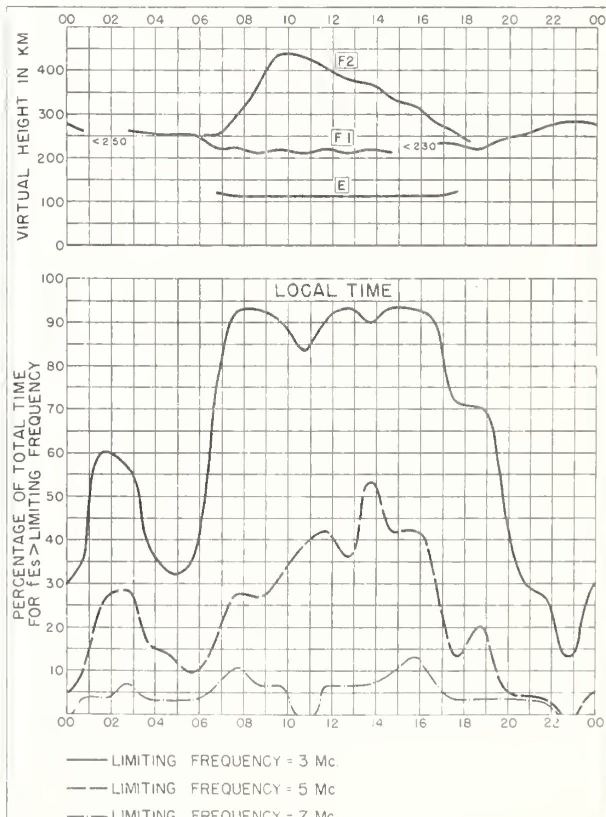


Fig. 28. PANAMA CANAL ZONE
AUGUST 1952

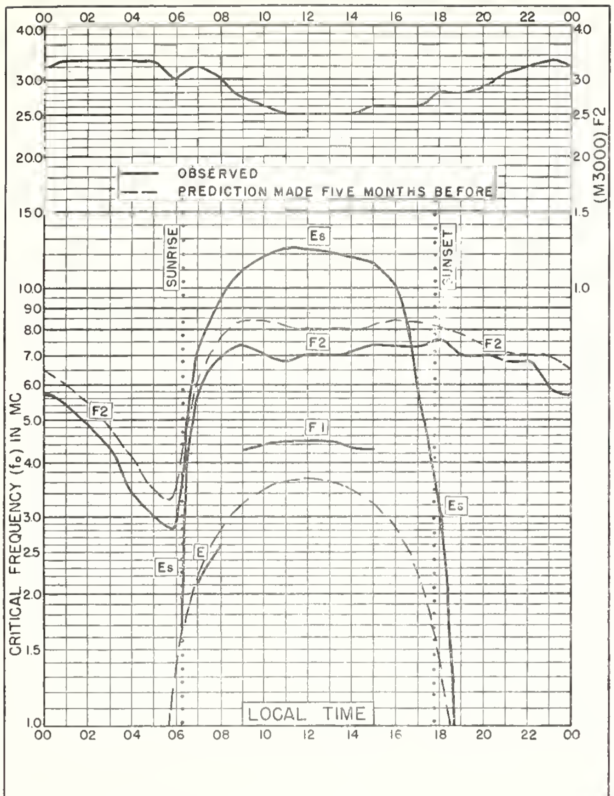


Fig. 29. HUANCAYO, PERU
12. 0°S, 75. 3°W AUGUST 1952

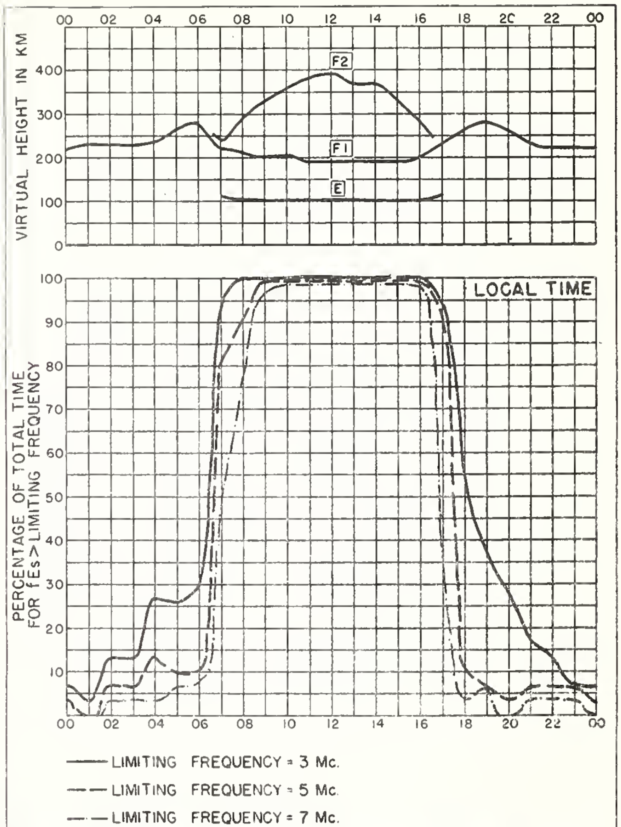


Fig. 30. HUANCAYO, PERU AUGUST 1952

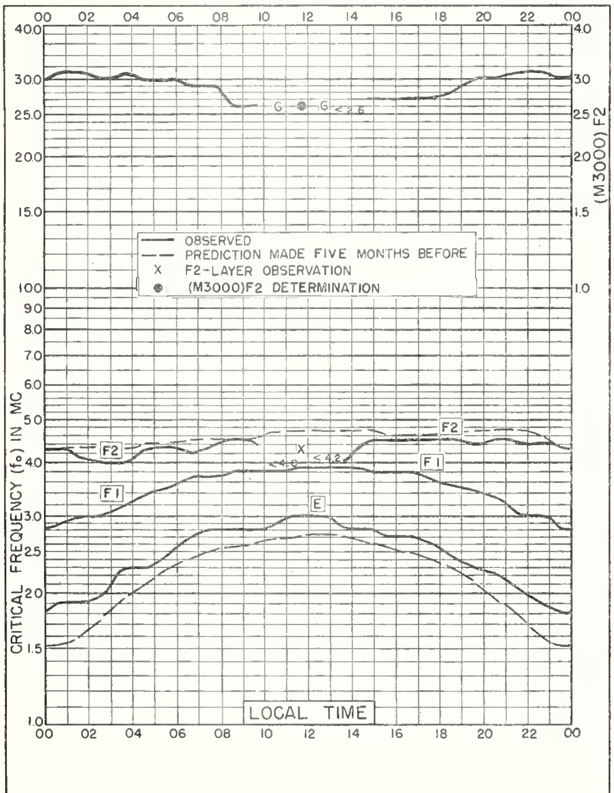


Fig. 31. RESOLUTE BAY, CANADA
74.7°N, 94.9°W JULY 1952

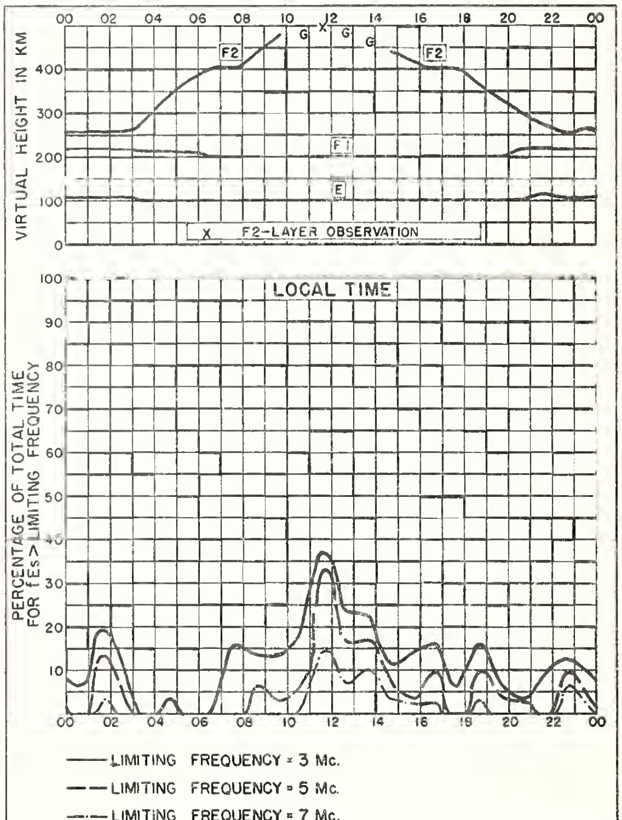


Fig. 32. RESOLUTE BAY, CANADA JULY 1952

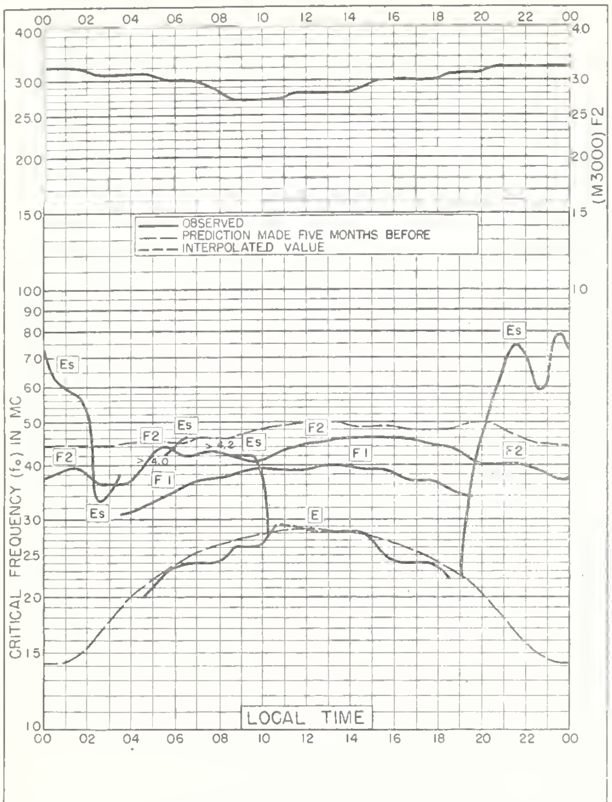


Fig. 33. POINT BARROW, ALASKA
71.3° N, 156.8°W JULY 1952

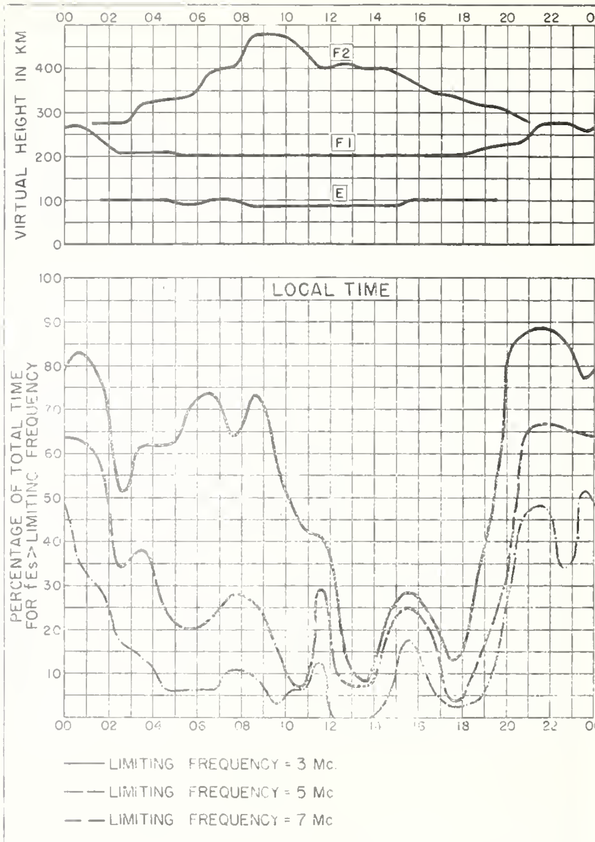


Fig. 34. POINT BARROW, ALASKA JULY 1952

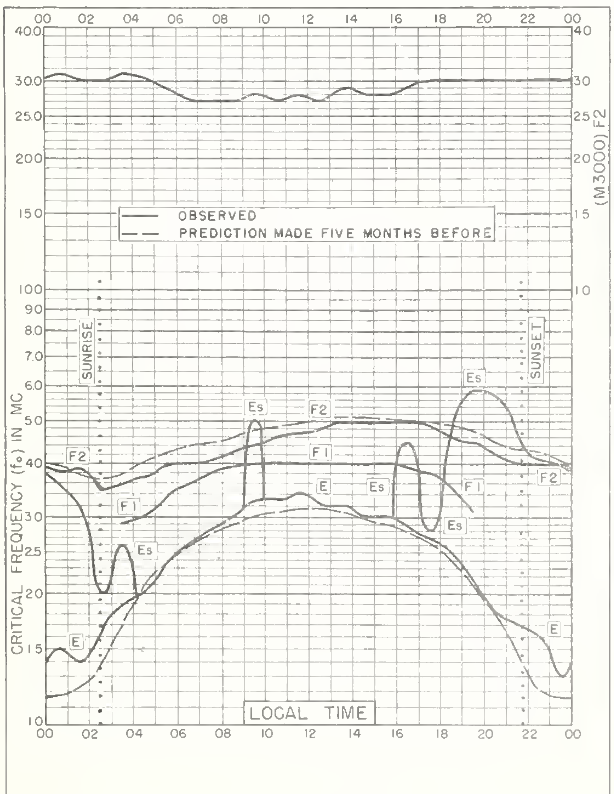


Fig. 35. BAKER LAKE, CANADA
64.3°N, 96.0°W JULY 1952

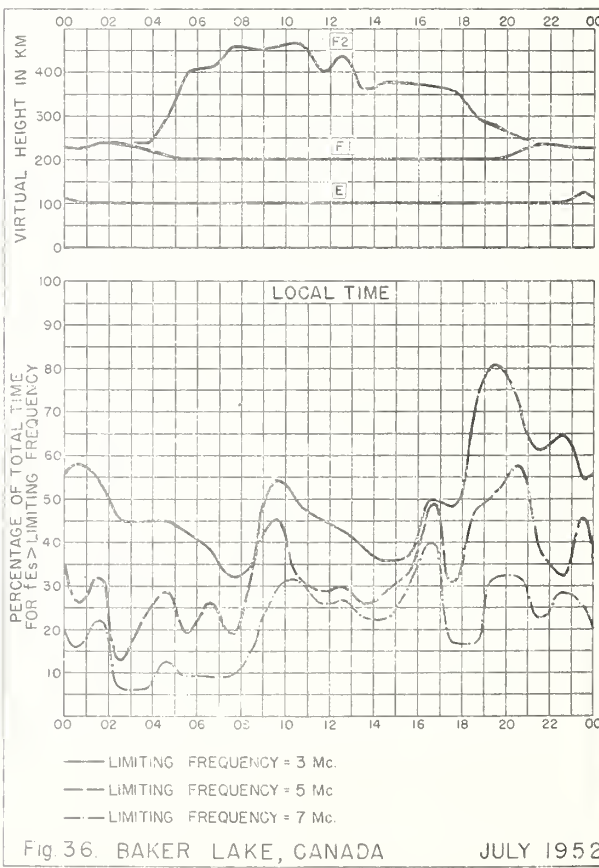


Fig. 36. BAKER LAKE, CANADA JULY 1952

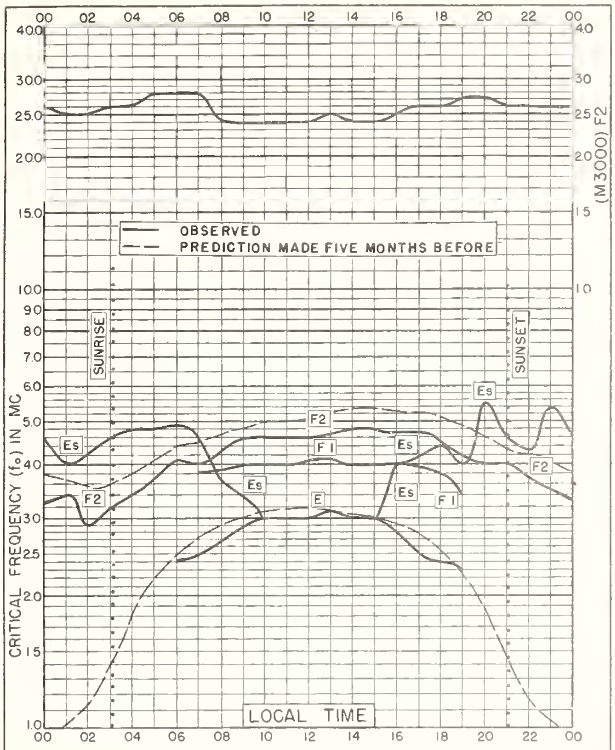


Fig. 37. NARSARSSUAK, GREENLAND
61.2° N, 45.4° W JULY 1952

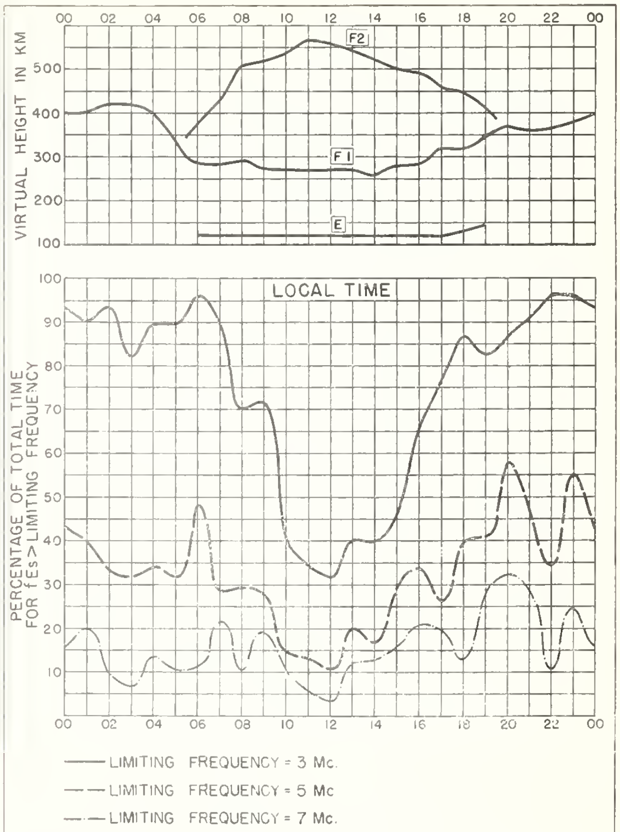


Fig. 38. NARSARSSUAK, GREENLAND JULY 1952

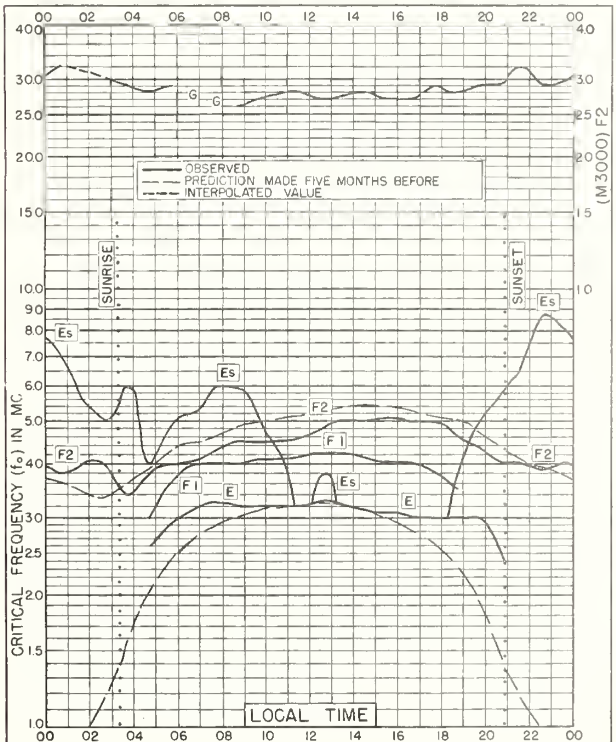


Fig. 39. CHURCHILL, CANADA
58.8° N, 94.2° W JULY 1952

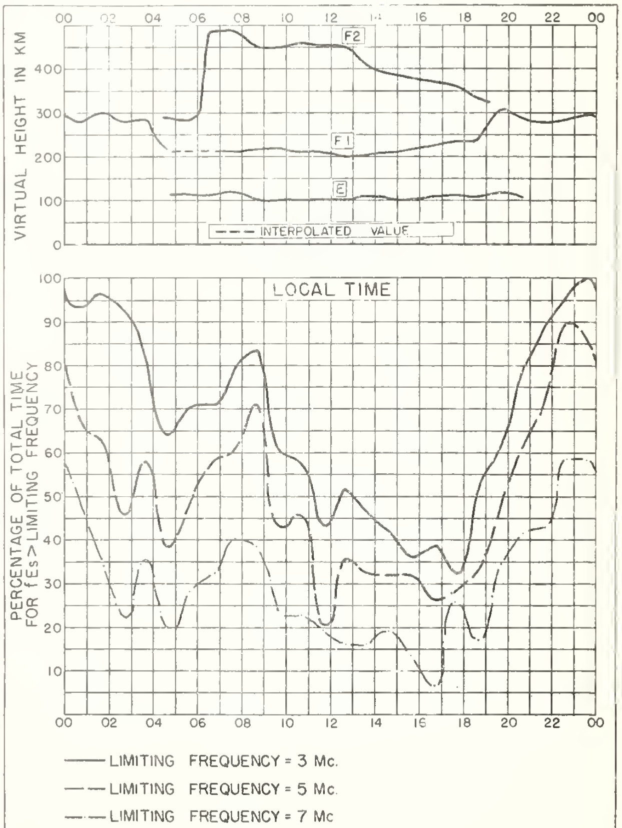


Fig. 40. CHURCHILL, CANADA JULY 1952

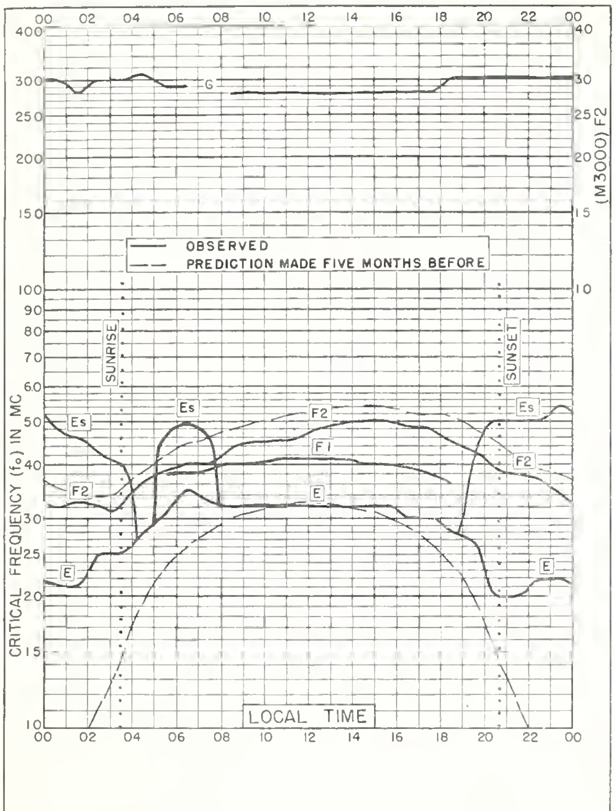


Fig. 41. FORT CHIMO, CANADA
58.1° N, 68.3°W JULY 1952

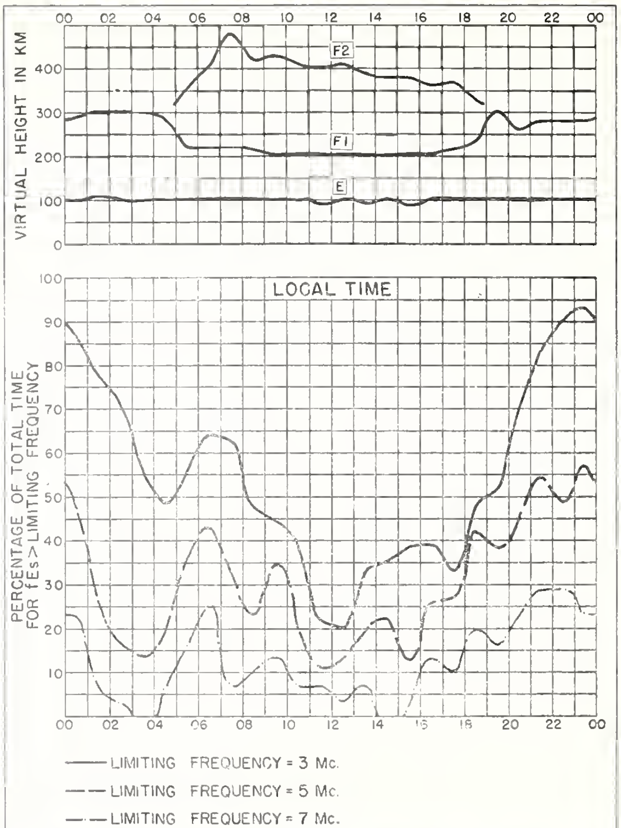


Fig. 42. FORT CHIMO, CANADA JULY 1952

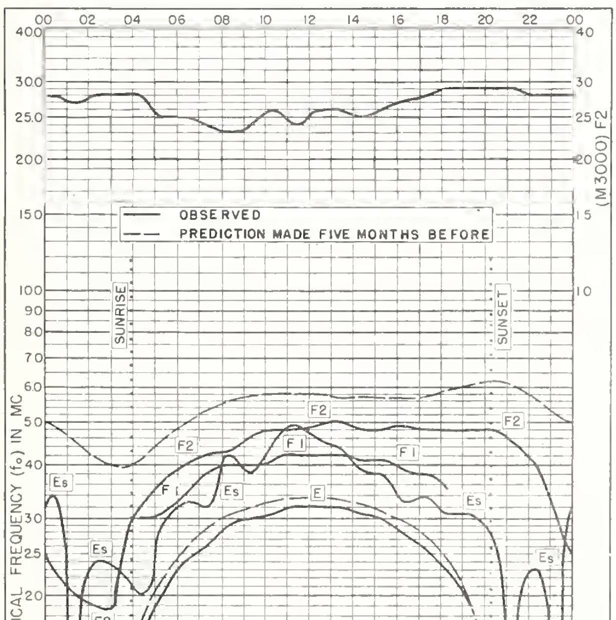


Fig. 43. PRINCE RUPERT, CANADA
54.3° N, 130.3° W JULY 1952

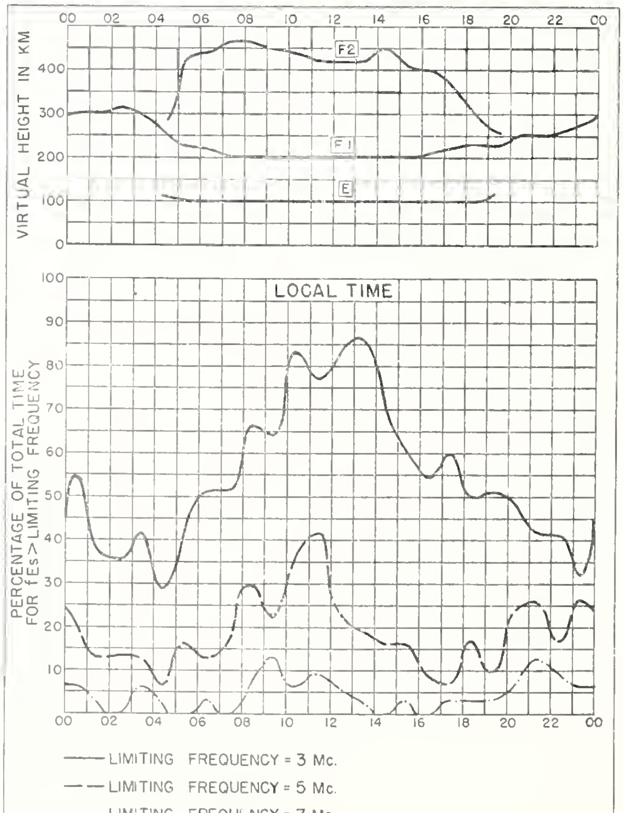


Fig. 44. PRINCE RUPERT, CANADA JULY 1952

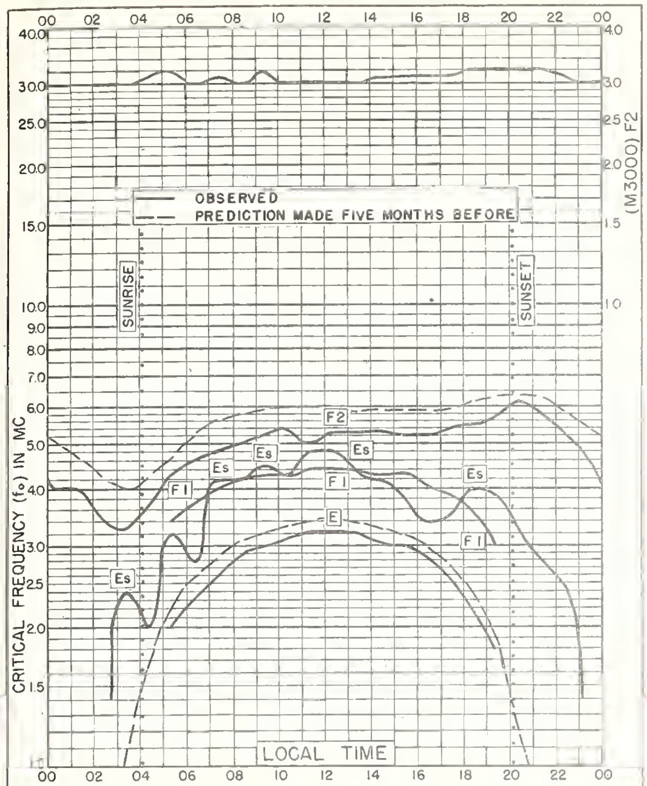


Fig. 45. De BILT, HOLLAND
52.1°N, 5.2°E JULY 1952

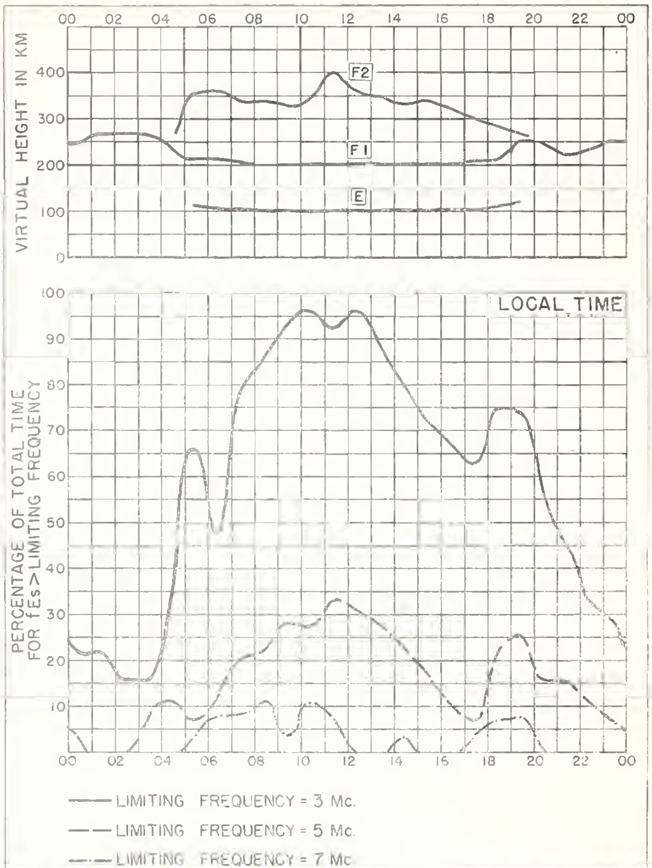


Fig. 46. De BILT, HOLLAND JULY 1952

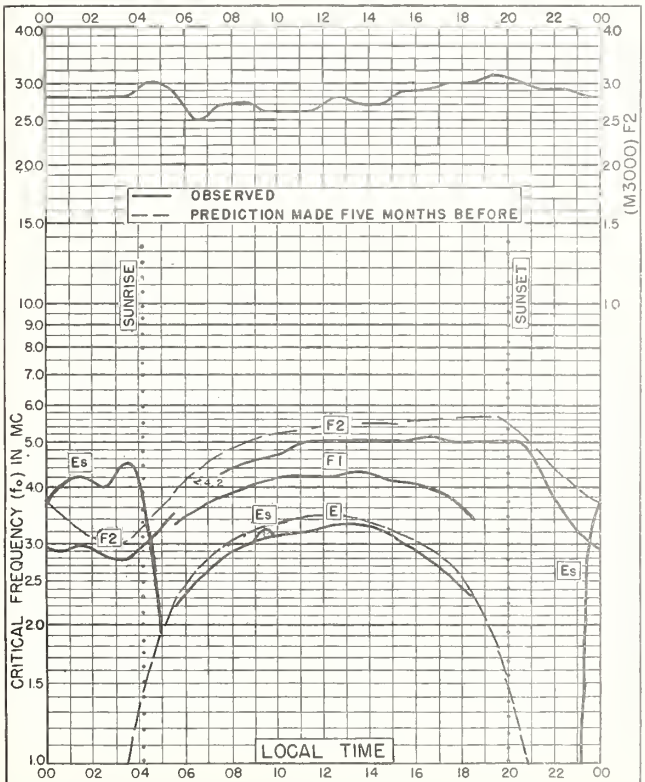


Fig. 47. WINNIPEG, CANADA
49.9°N, 97.4°W JULY 1952

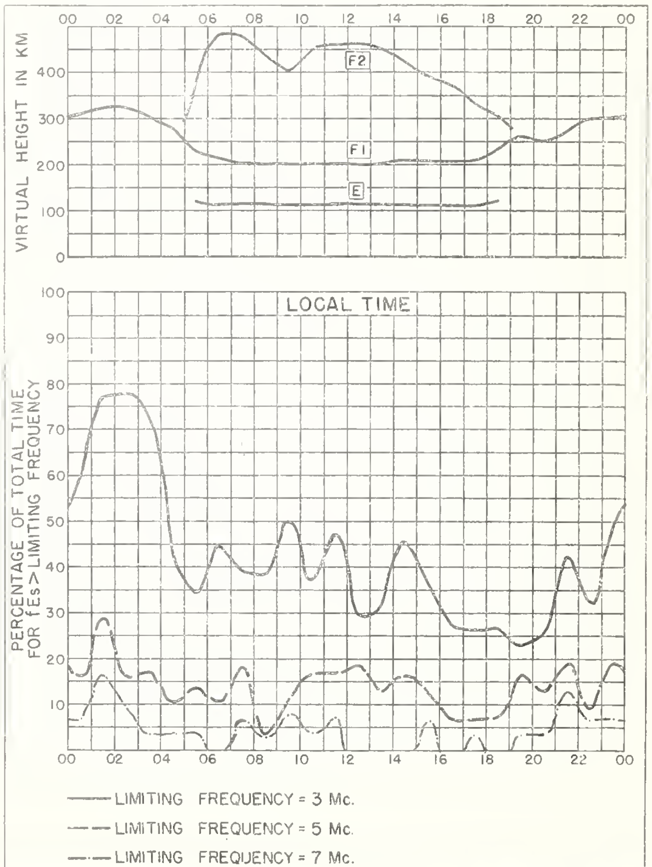


Fig. 48. WINNIPEG, CANADA JULY 1952

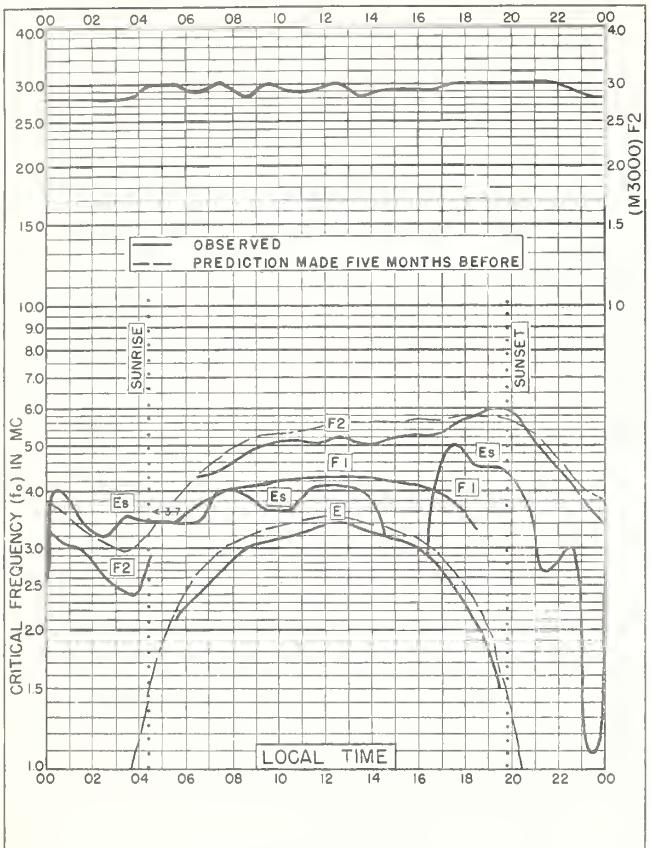


Fig. 49. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W JULY 1952

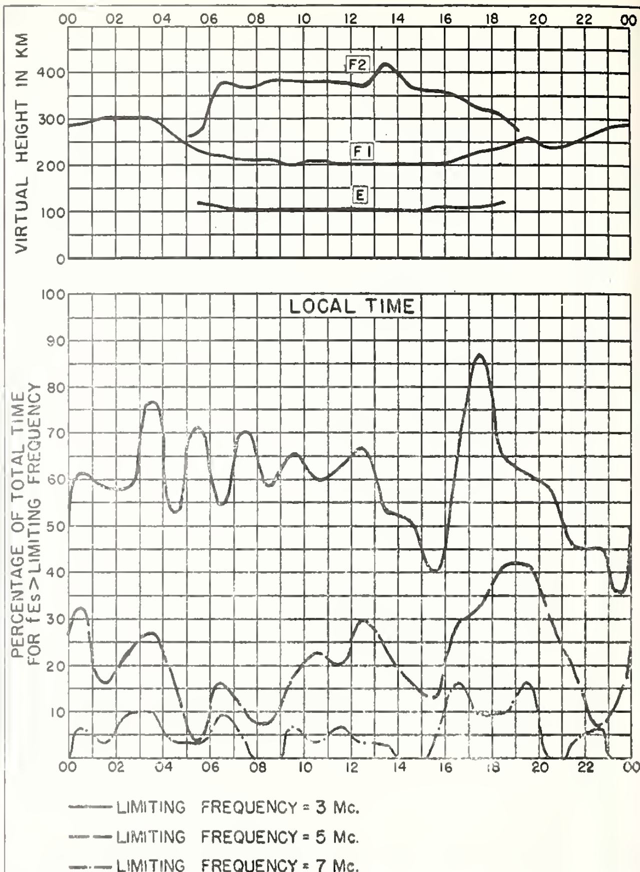


Fig. 50. ST. JOHN'S, NEWFOUNDLAND JULY 1952

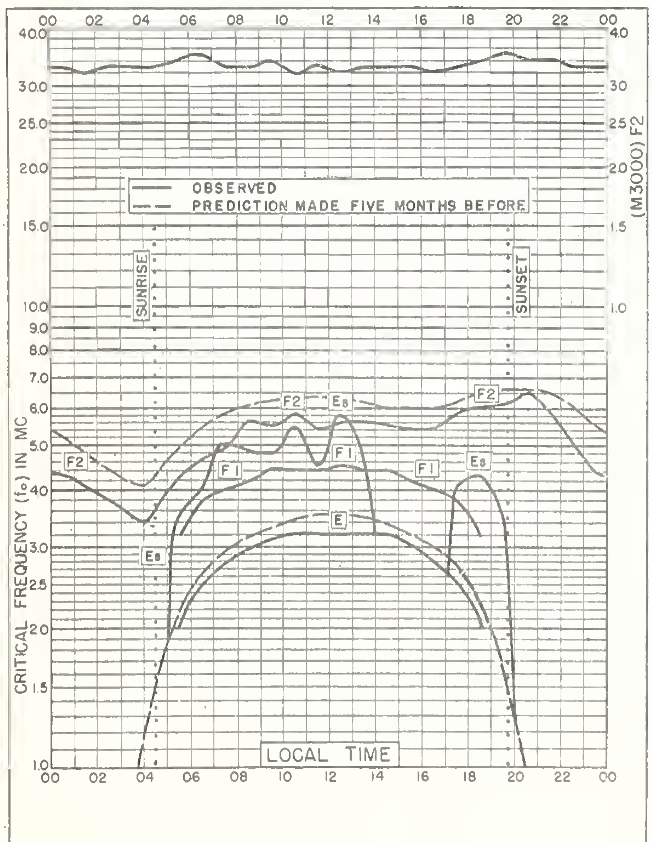


Fig. 51. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E JULY 1952

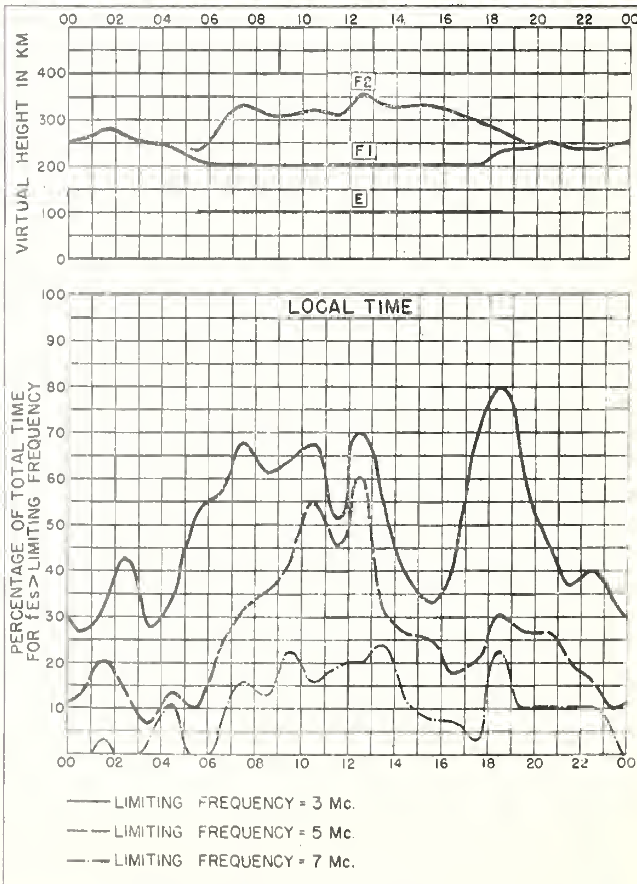


Fig. 52. SCHWARZENBURG, SWITZERLAND JULY 1952

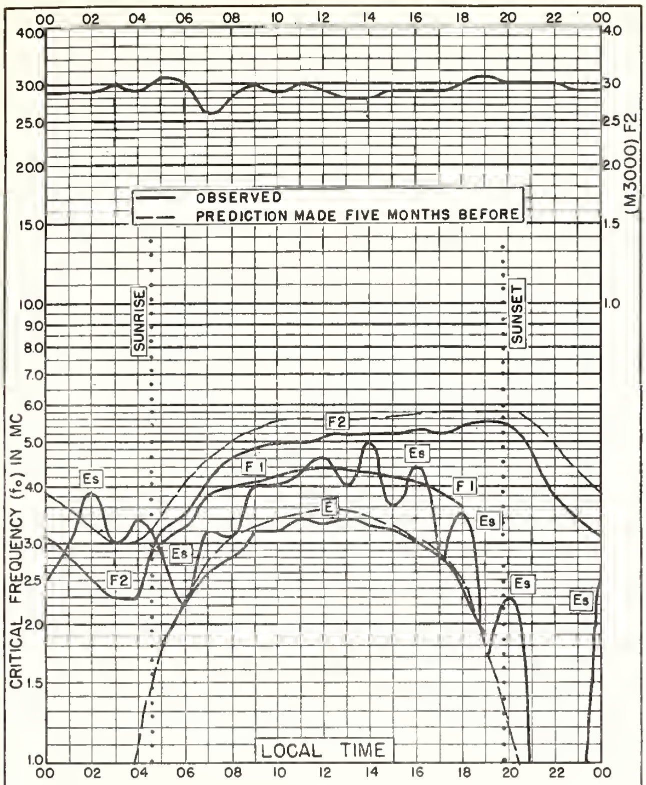


Fig. 53. OTTAWA, CANADA
45.4° N, 75.7° W JULY 1952

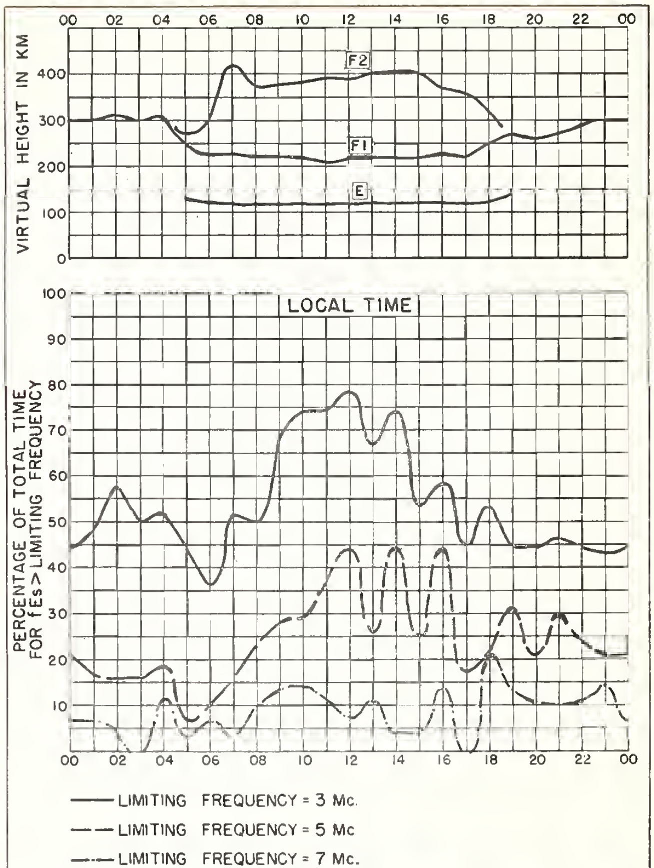


Fig. 54. OTTAWA, CANADA JULY 1952

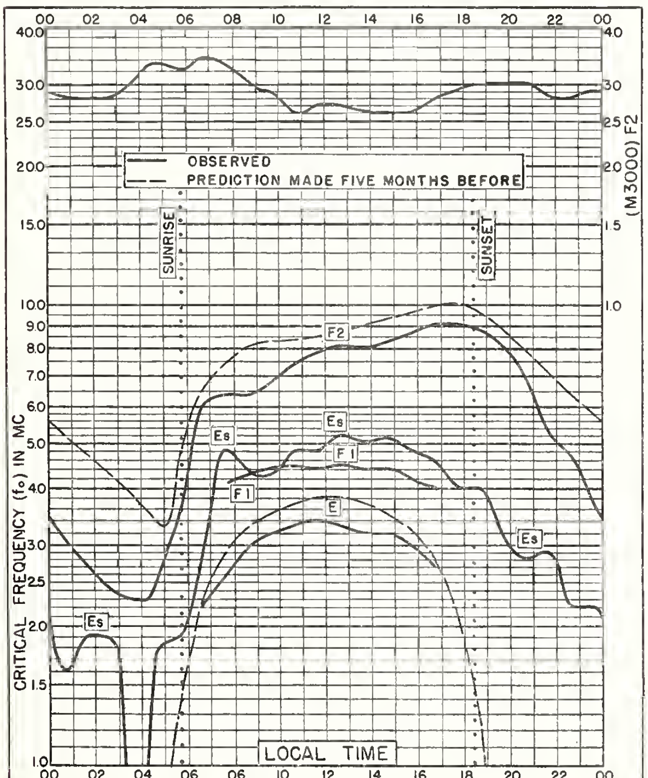


Fig. 55 GUAM I.
13.6°N, 144.9°E JULY 1952

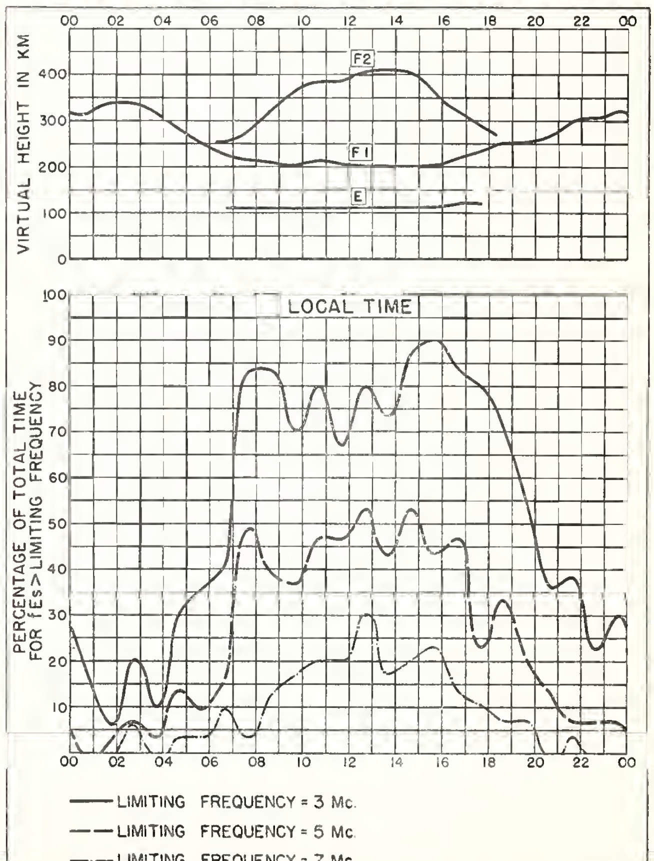


Fig. 56 GUAM I. JULY 1952

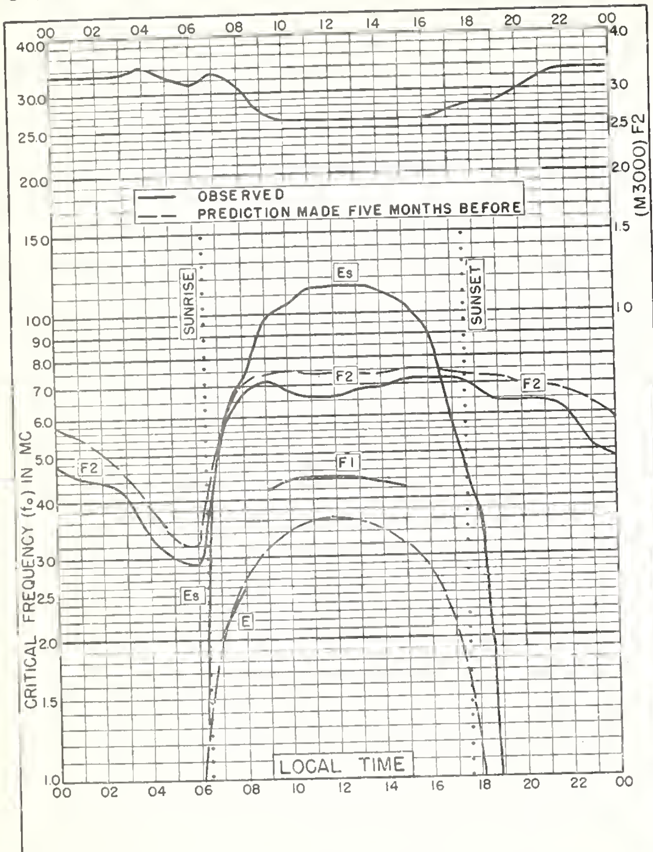


Fig. 57. HUANCAYO, PERU
12.0°S, 75.3°W
JULY 1952

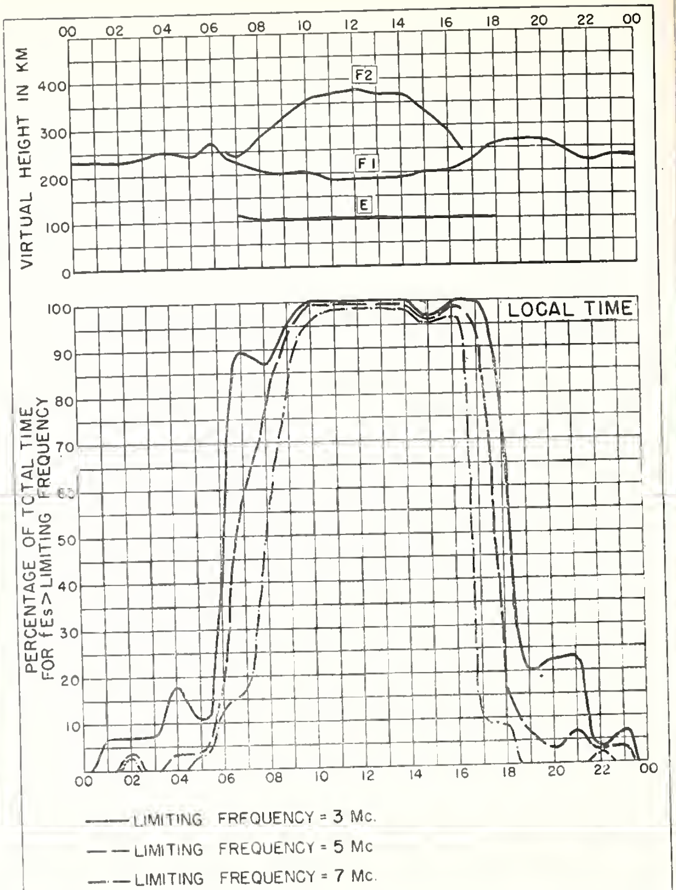


Fig. 58. HUANCAYO, PERU
JULY 1952

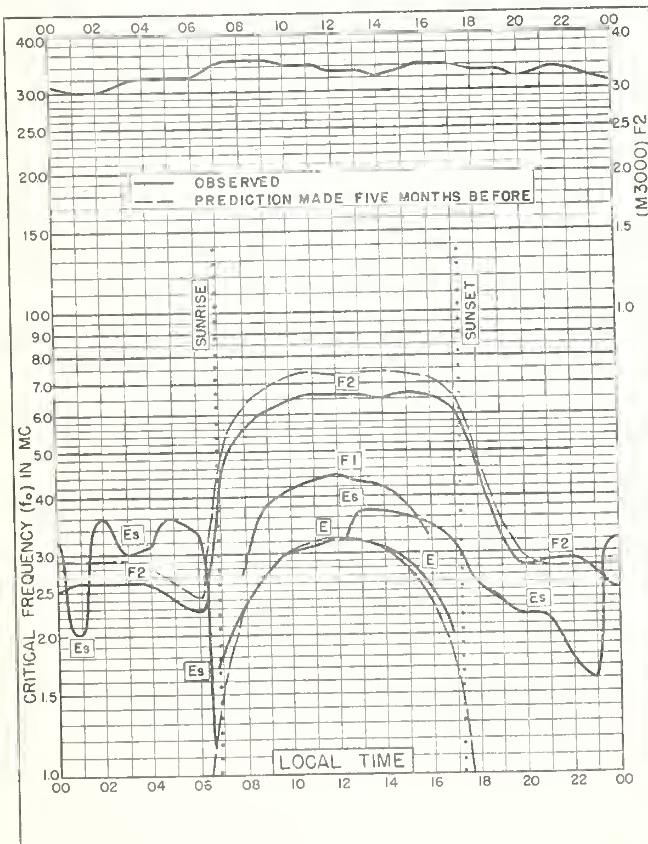


Fig. 59. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.1°E
JULY 1952

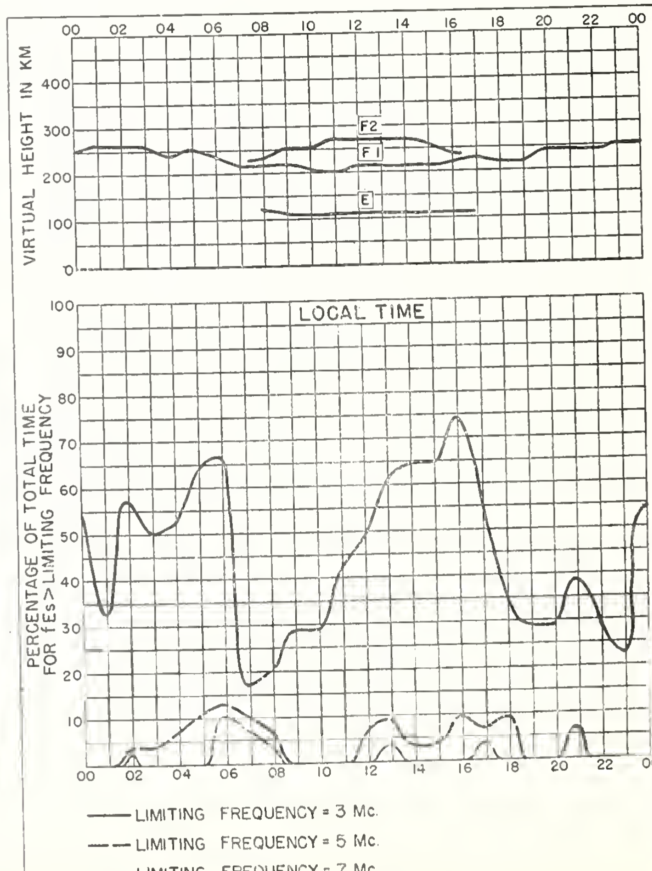


Fig. 60. JOHANNESBURG, U. OF S. AFRICA
JULY 1952

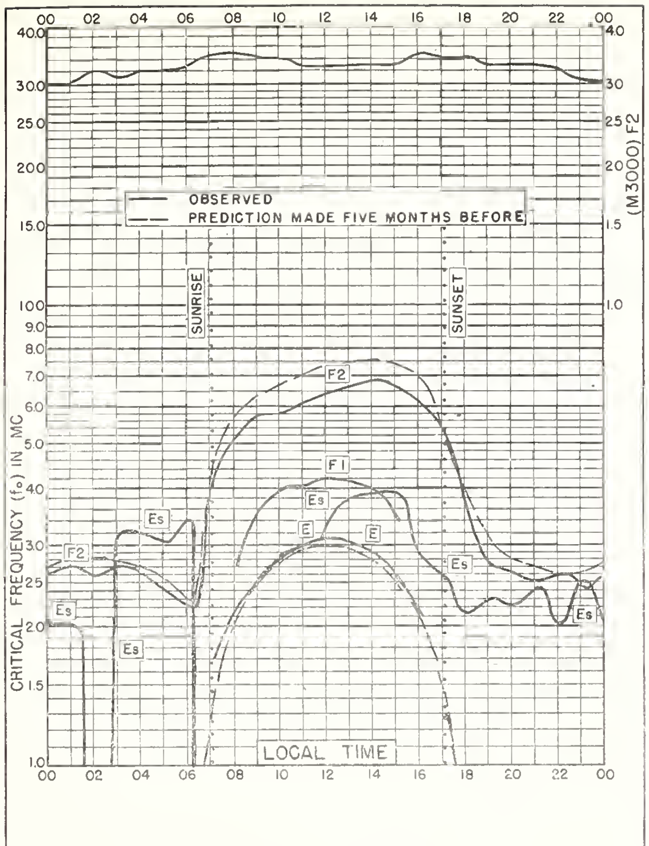


Fig. 61. CAPETOWN, U. OF S. AFRICA
34.2° S, 18.3° E JULY 1952

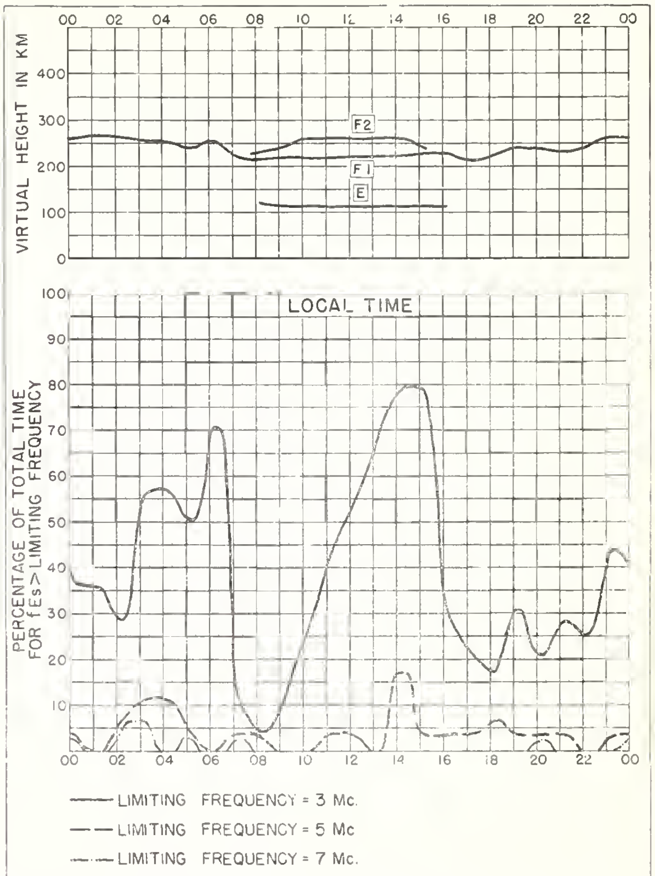


Fig. 62. CAPETOWN, U. OF S. AFRICA JULY 1952

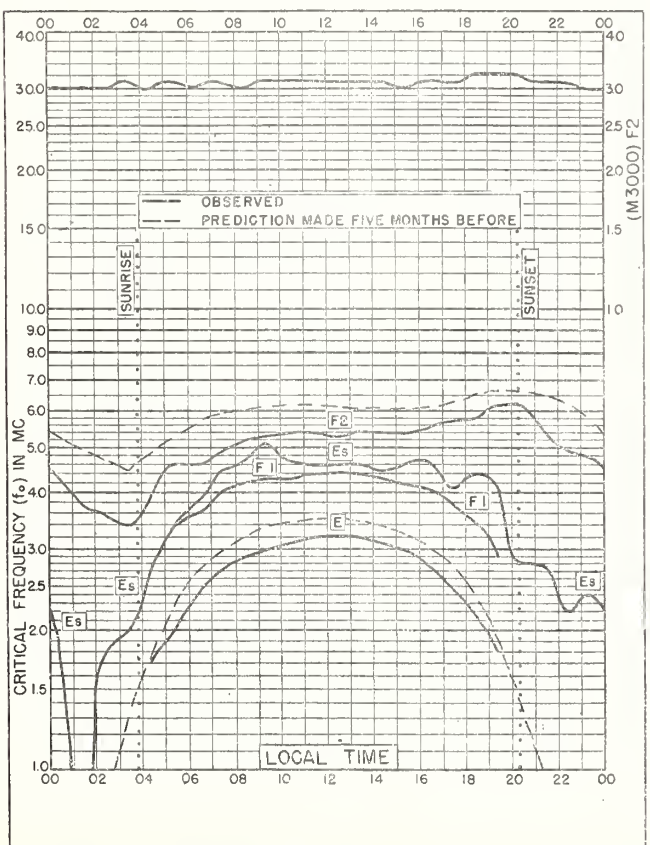


Fig. 63. De BILT, HOLLAND
52.1° N, 5.2° E JUNE 1952

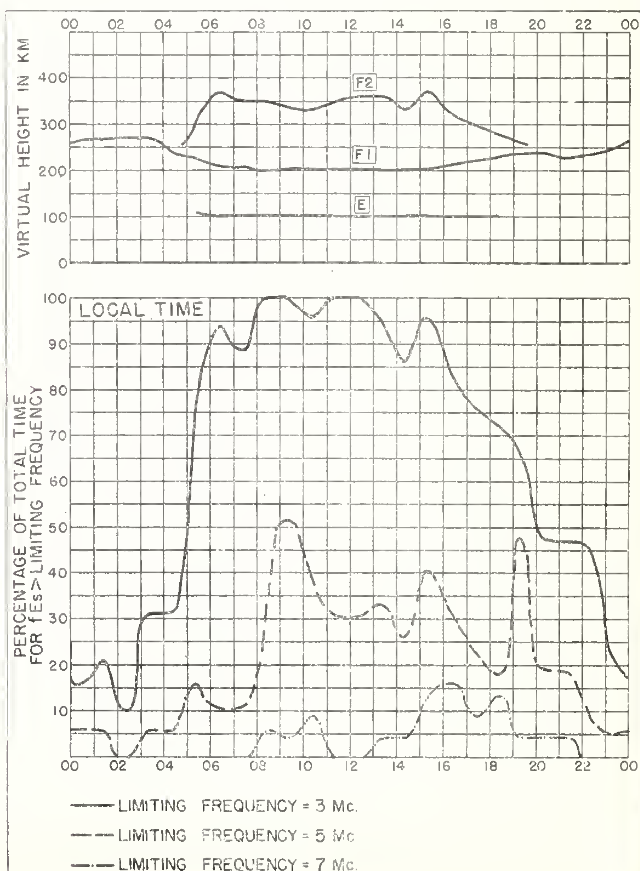


Fig. 64. De BILT, HOLLAND JUNE 1952

63.0° S, 60.7° W JUNE 1952 Fig. 72. DECEPTION

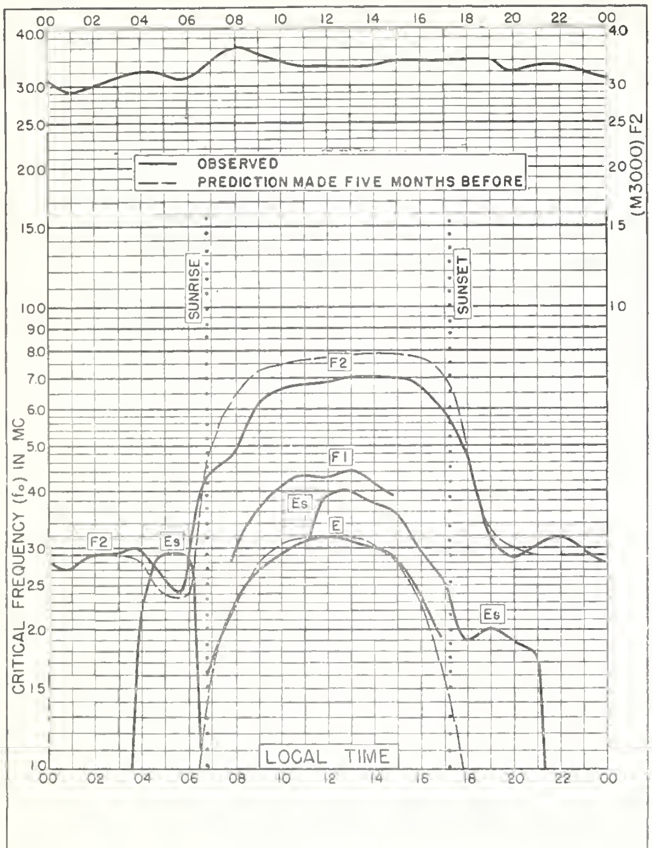


Fig. 65. JOHANNESBURG, U. OF S. AFRICA
26. 2°S, 28. 1°E JUNE 1952

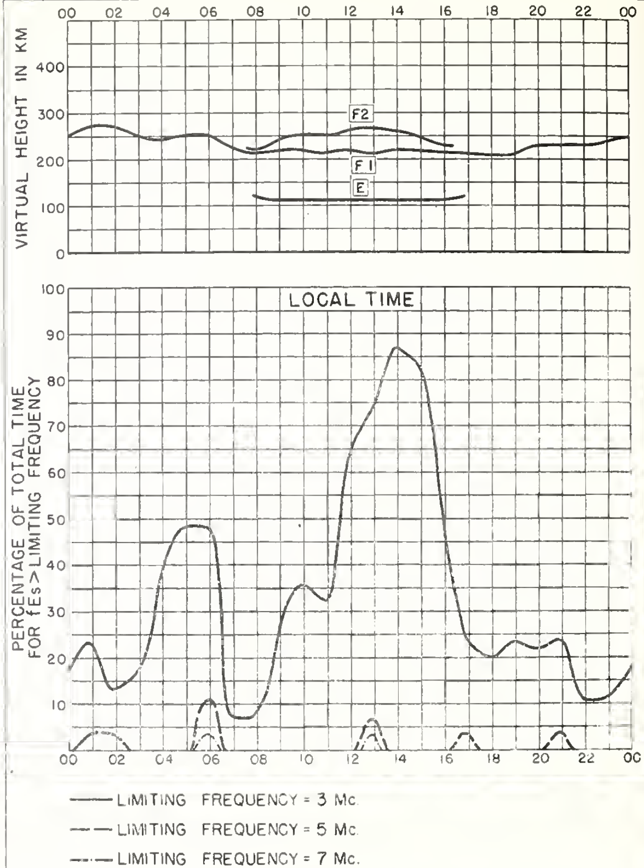


Fig. 66. JOHANNESBURG, U. OF S. AFRICA JUNE 1952

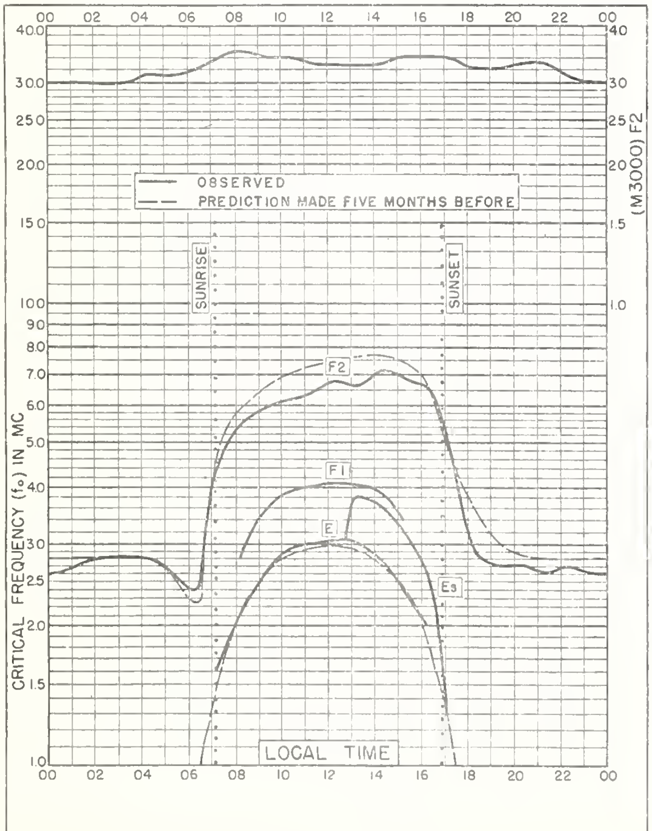


Fig. 67. CAPETOWN, U. OF S. AFRICA
34. 2° S, 18. 3° E JUNE 1952

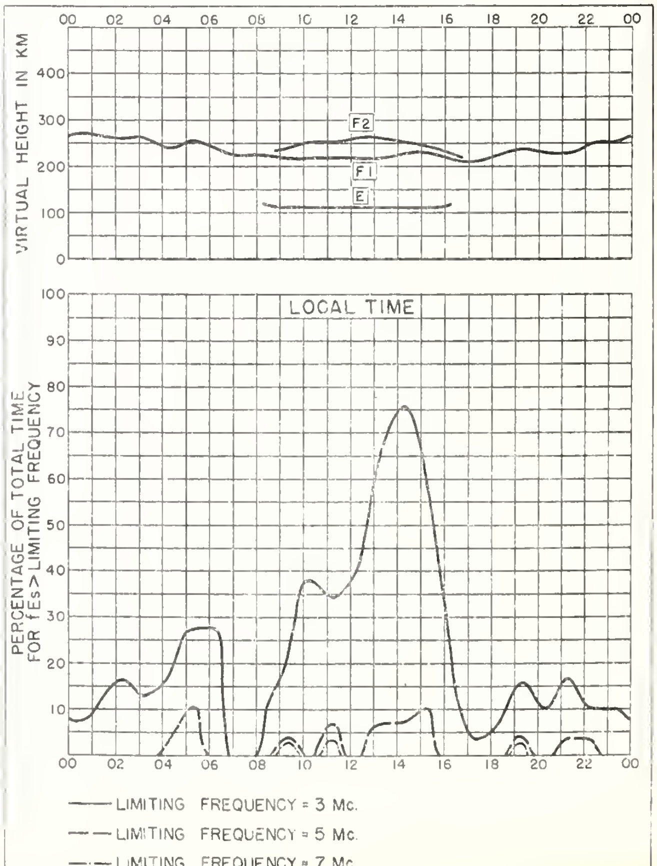


Fig. 68. CAPETOWN, U. OF S. AFRICA JUNE 1952

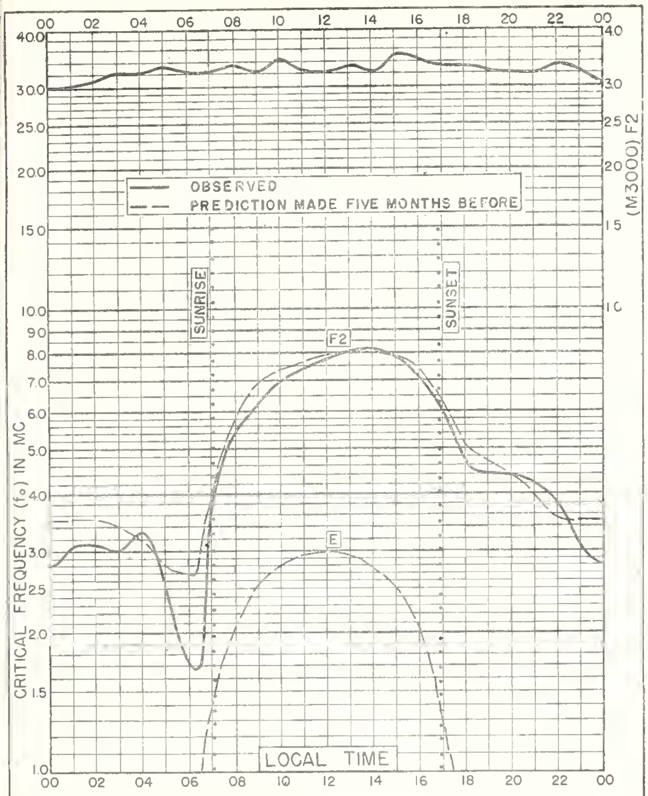


Fig. 69. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W JUNE 1952

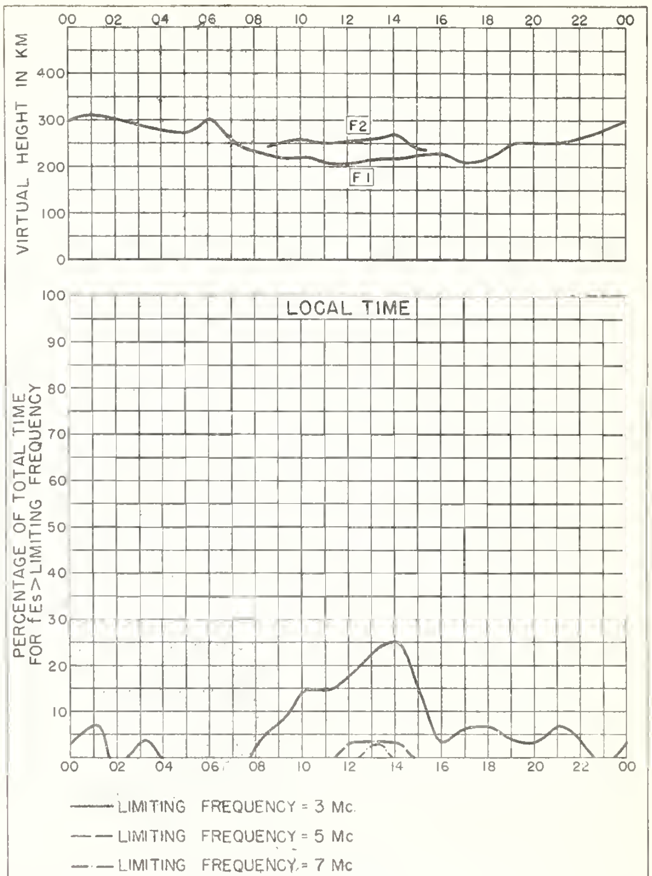


Fig. 70. BUENOS AIRES, ARGENTINA JUNE 1952

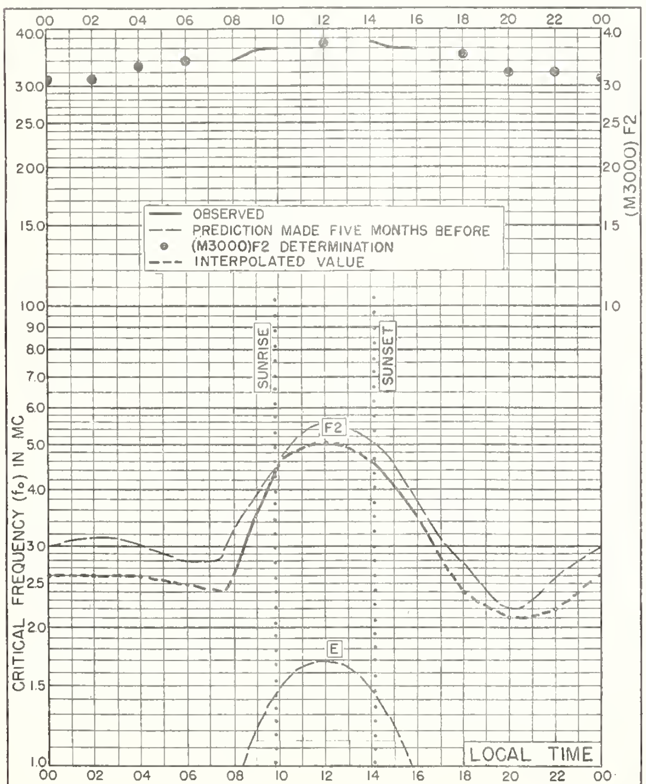
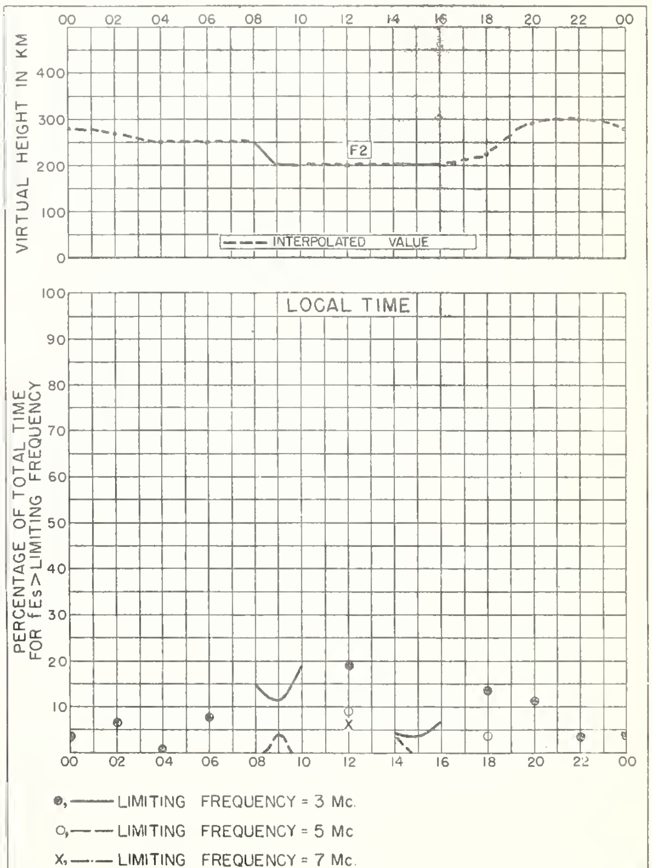


Fig. 71. DECEPCION I.



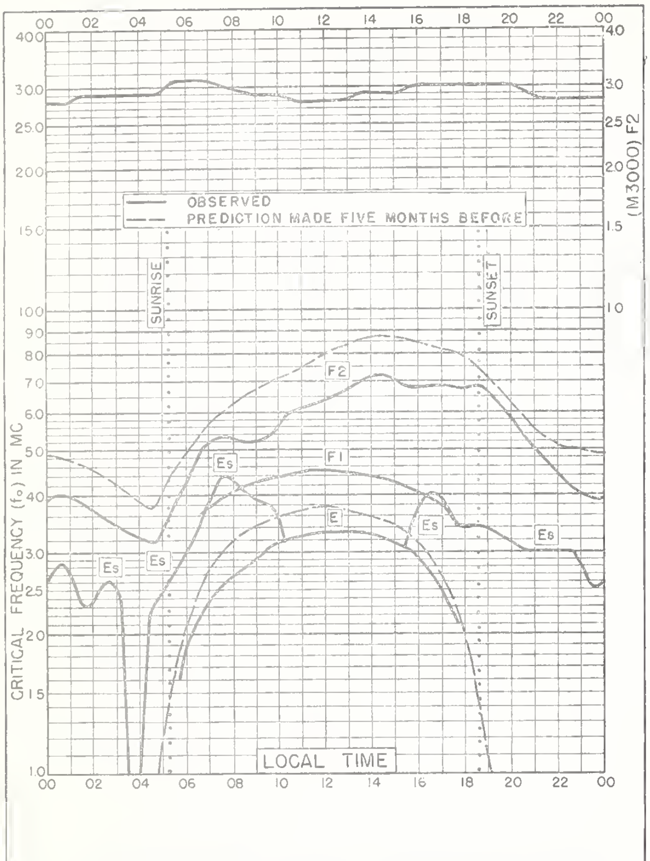


Fig. 73. COCOA, FLORIDA
28.2°N, 80.6°W MAY 1952

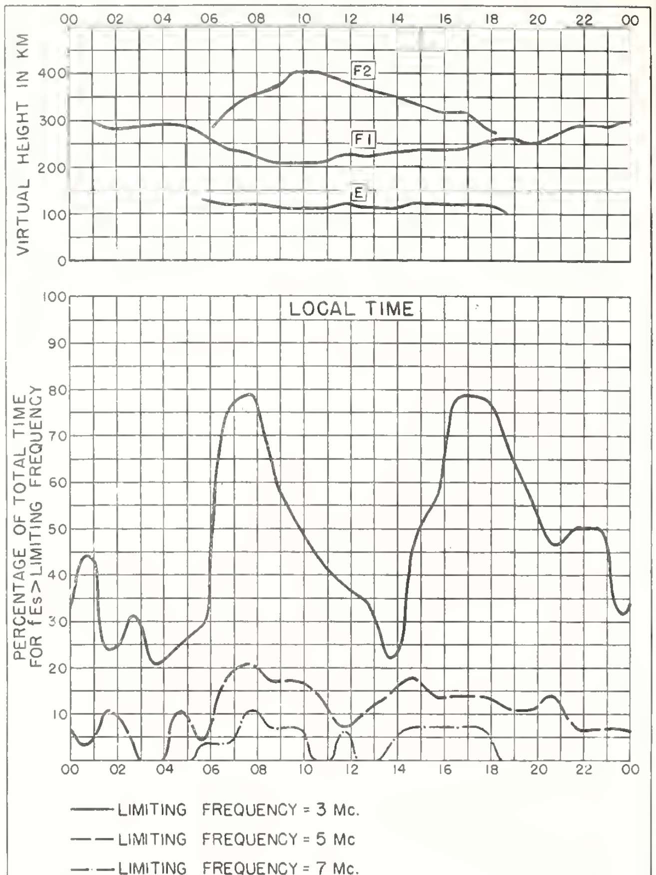


Fig. 74. COCOA, FLORIDA MAY 1952

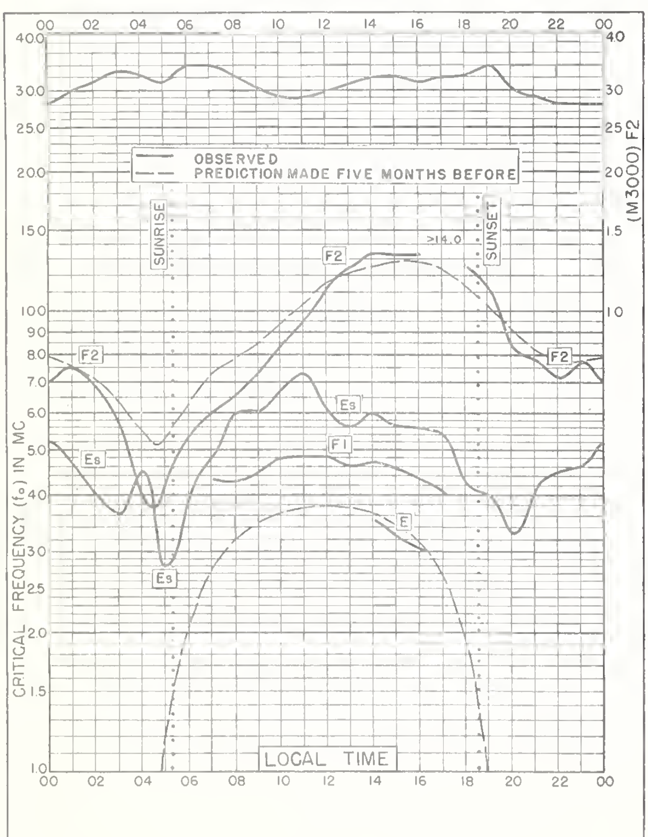


Fig. 75. FORMOSA, CHINA
25.0°N, 121.5°E MAY 1952

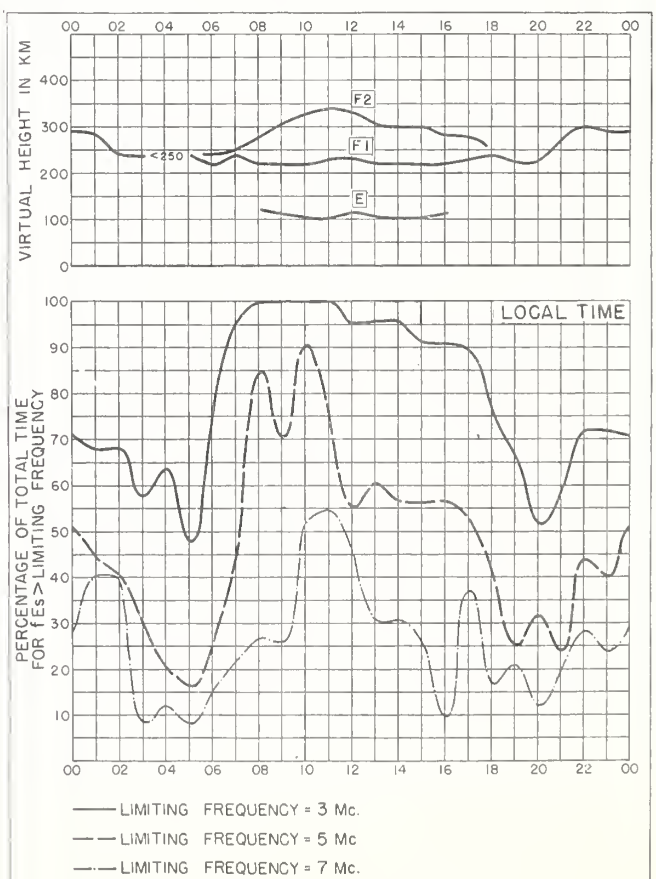


Fig. 76. FORMOSA, CHINA MAY 1952

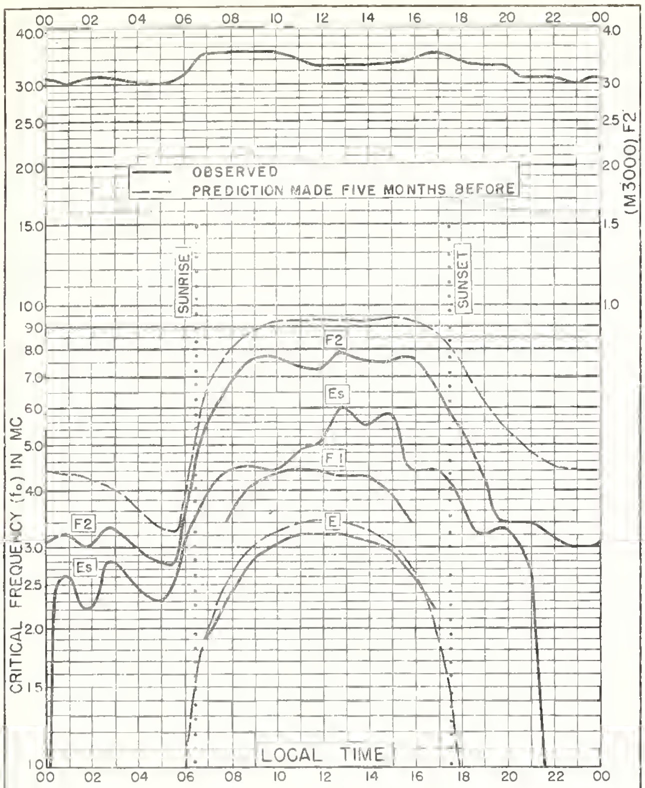


Fig. 77. TOWNSVILLE, AUSTRALIA
19.3°S, 146.8°E MAY 1952

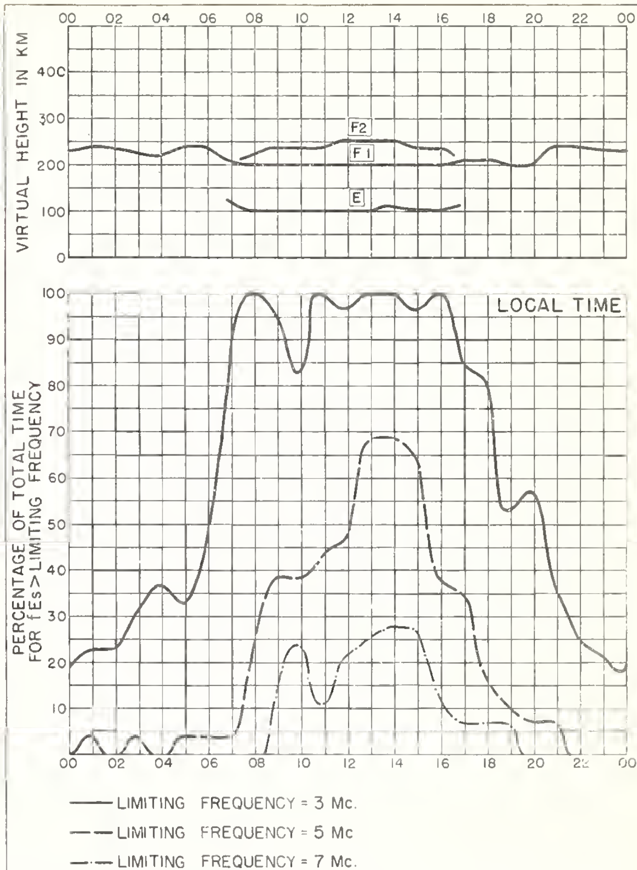


Fig. 78. TOWNSVILLE, AUSTRALIA MAY 1952

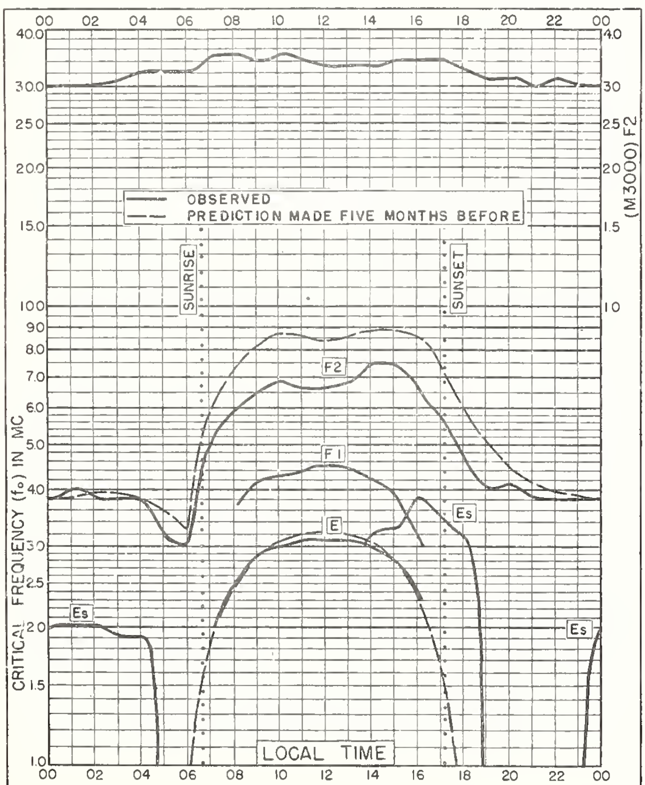


Fig. 79. BRISBANE, AUSTRALIA
27.5°S, 153.0°E MAY 1952

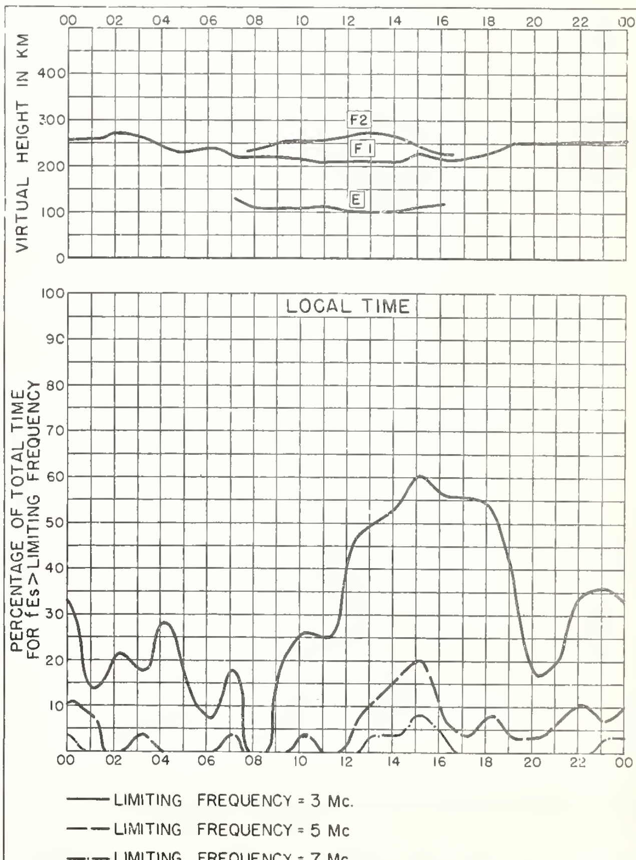


Fig. 80. BRISBANE, AUSTRALIA MAY 1952

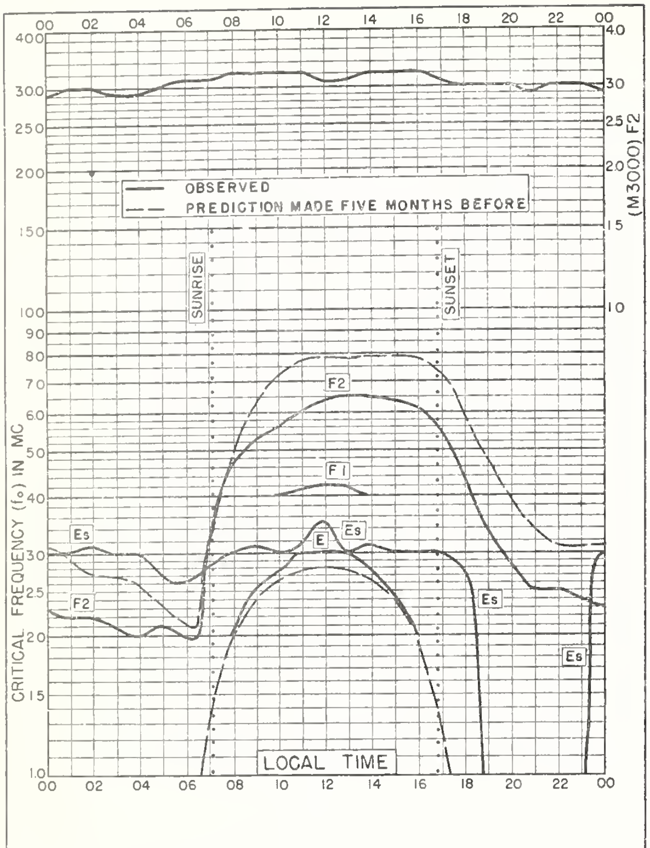


Fig. 81. HOBART, TASMANIA
42.8°S, 147.4°E MAY 1952

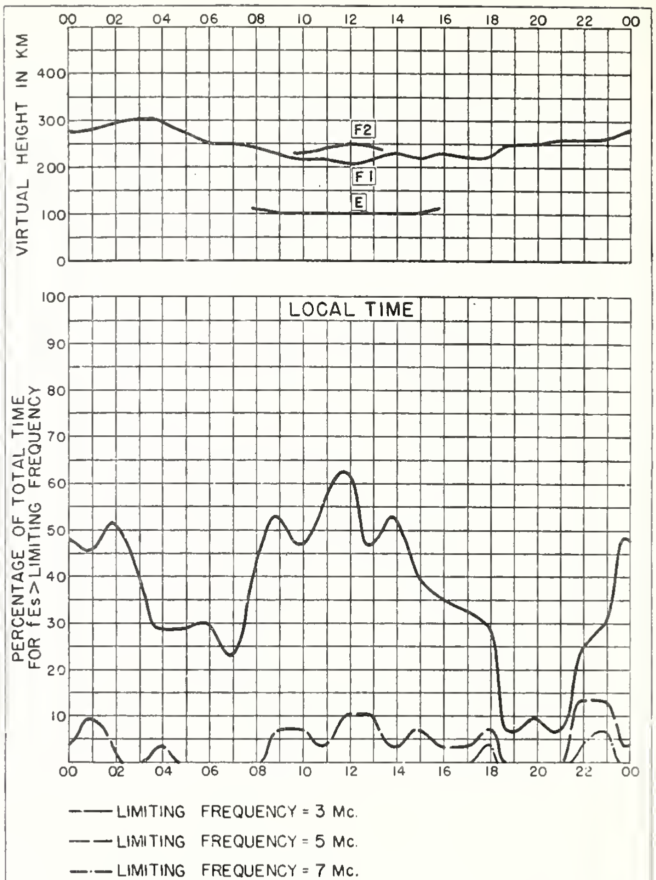


Fig. 82. HOBART, TASMANIA MAY 1952

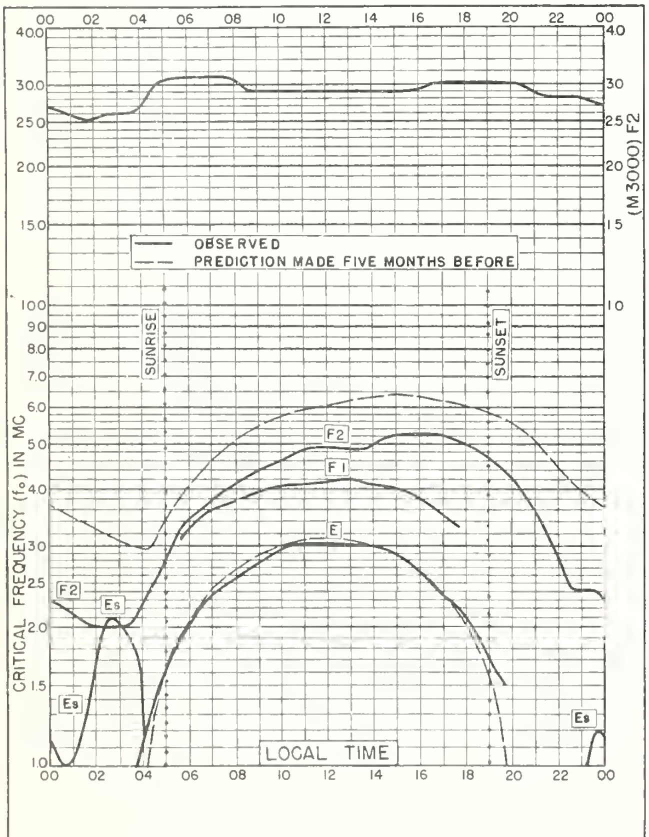


Fig. 83. INVERNESS, SCOTLAND
57.4°N, 4.2°W APRIL 1952

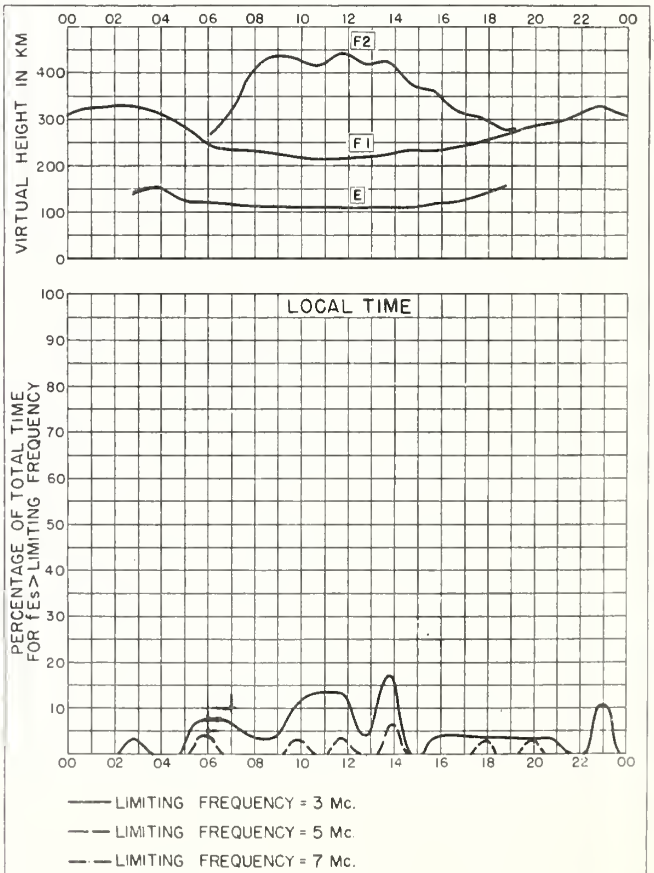


Fig. 84. INVERNESS, SCOTLAND APRIL 1952

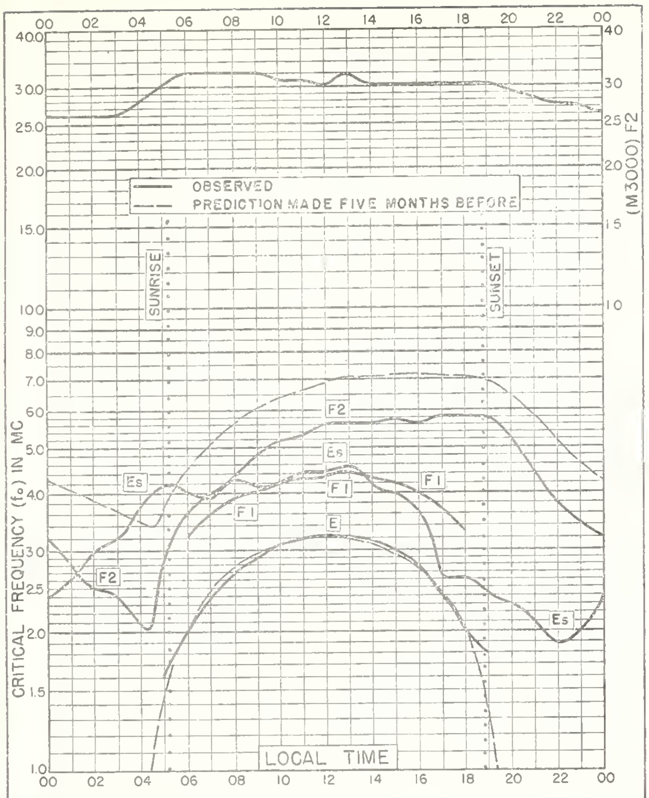


Fig. 85 SLOUGH, ENGLAND
51.5°N, 0.6°W APRIL 1952

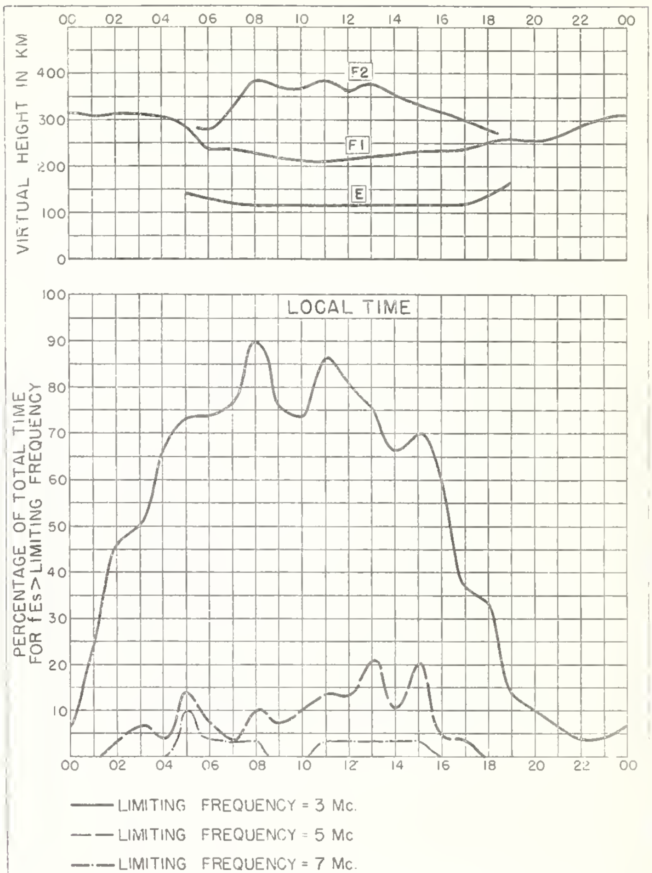


Fig. 86 SLOUGH, ENGLAND APRIL 1952

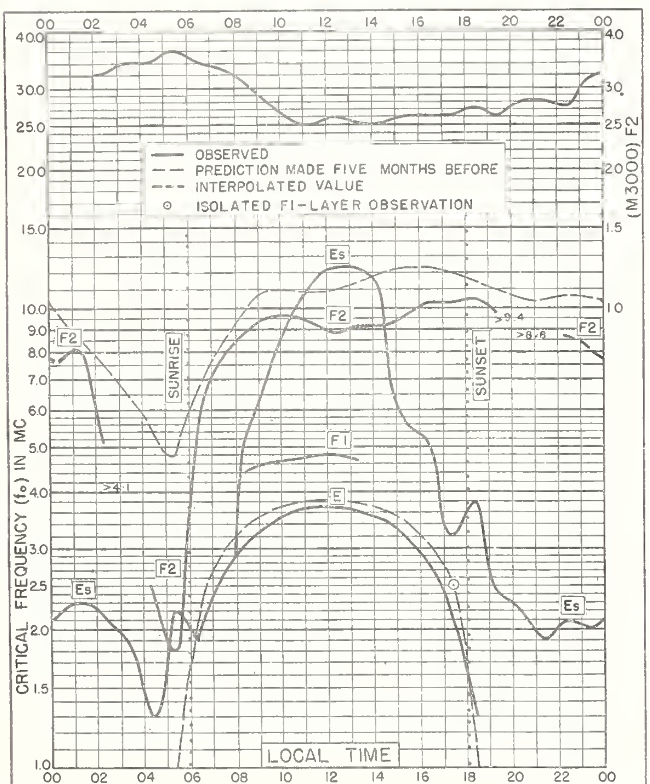


Fig. 87. IBADAN, NIGERIA
7.4°N, 4.0°E APRIL 1952

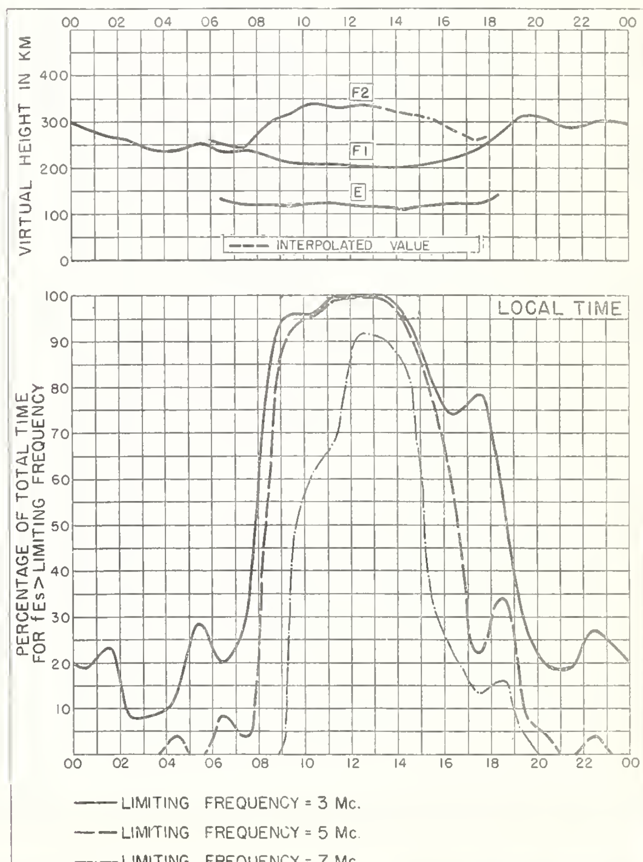


Fig. 88. IBADAN, NIGERIA APRIL 1952

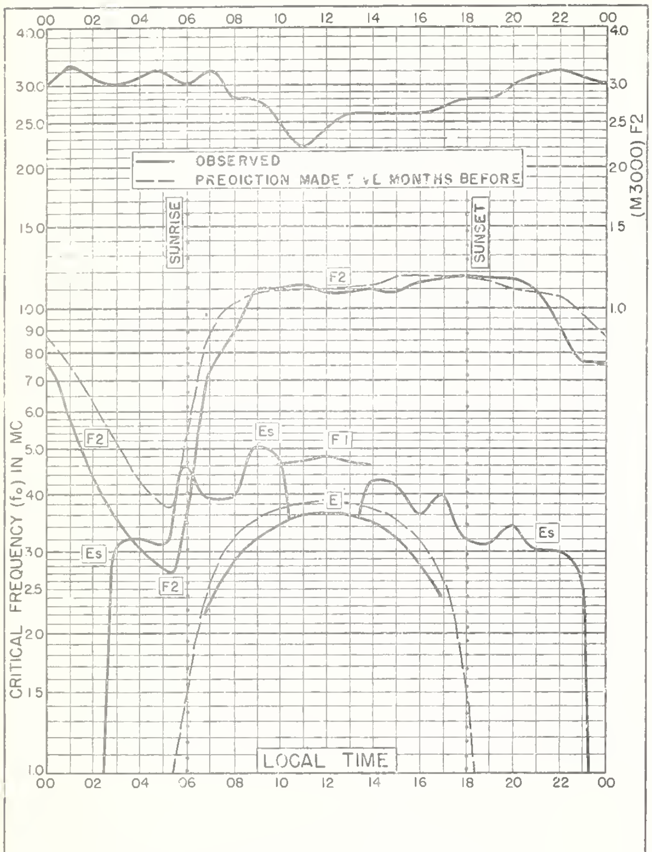


Fig 89 SINGAPORE, BRIT. MALAYA
1.3°N, 103.8°E APRIL 1952

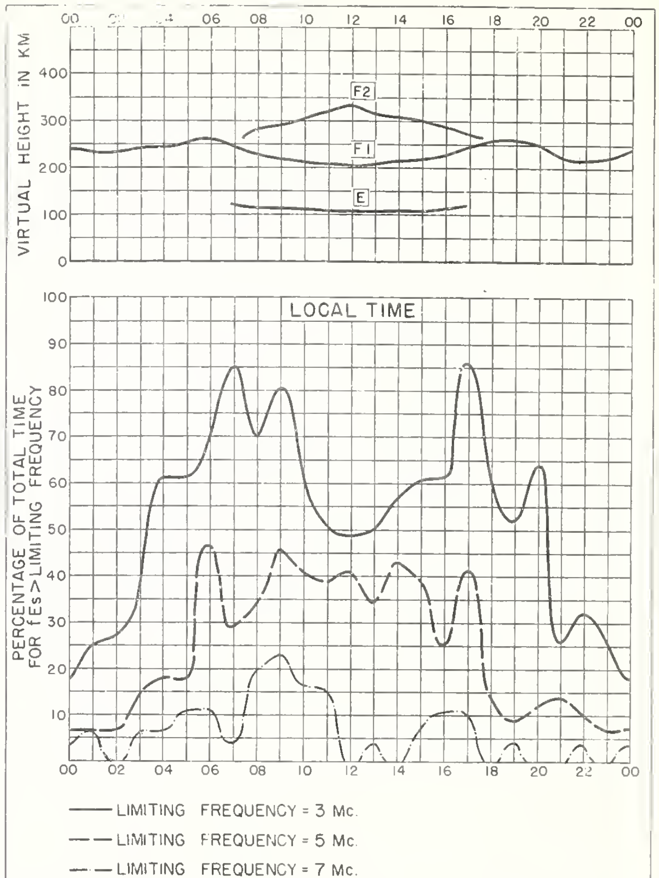


Fig.90 SINGAPORE, BRIT. MALAYA APRIL 1952

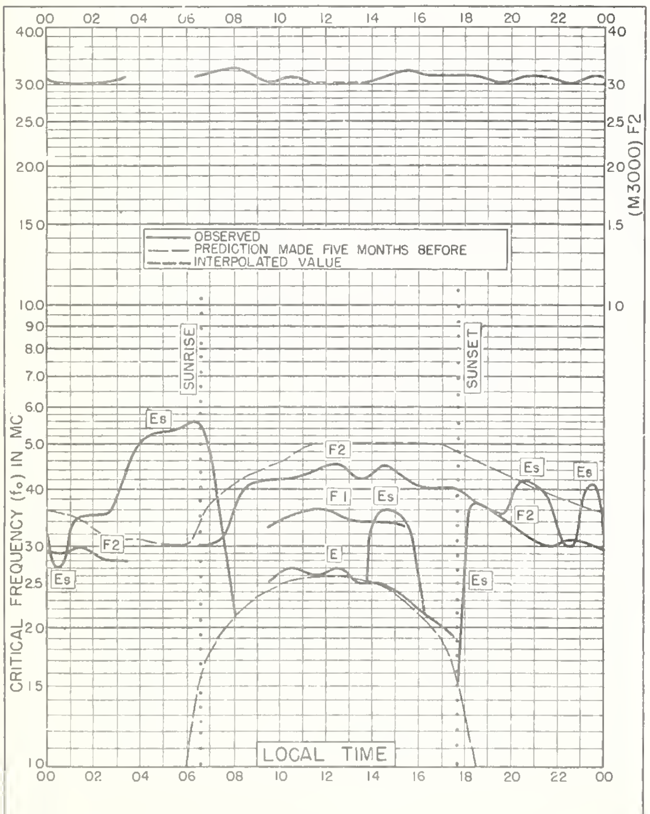
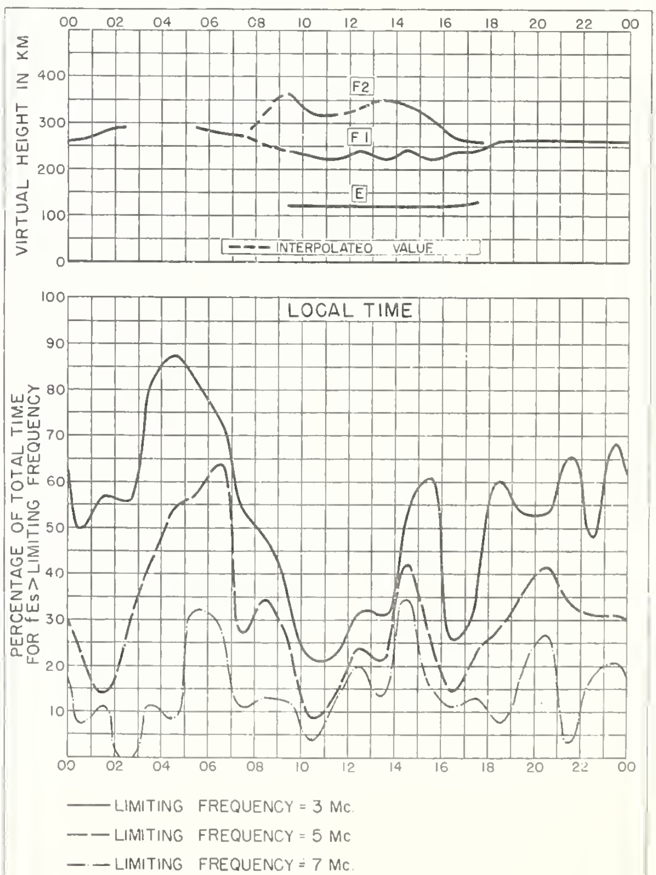


Fig. 91. GODHAVN, GREENLAND



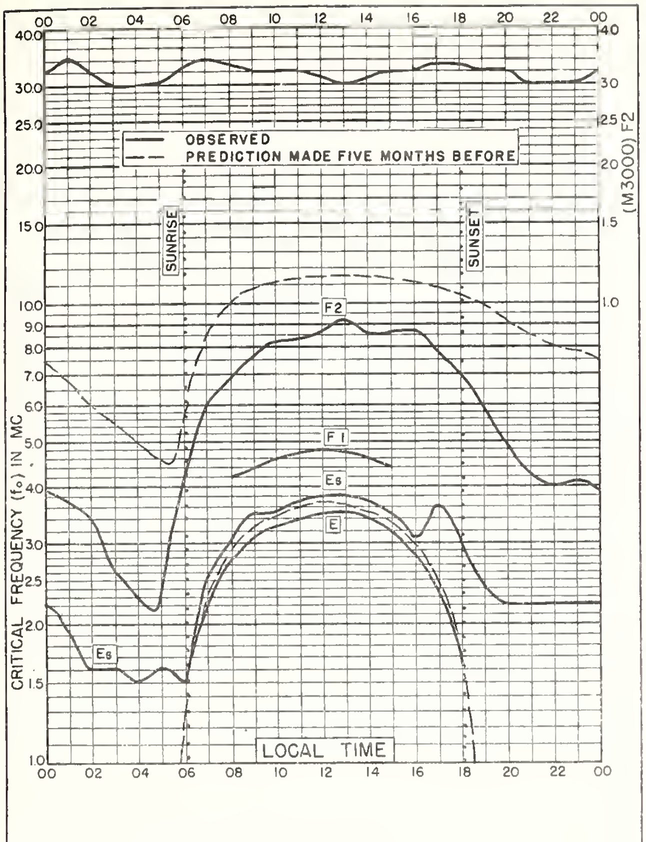


Fig. 93. TANANARIVE, MADAGASCAR
18.8°S, 47.8°E MARCH 1952

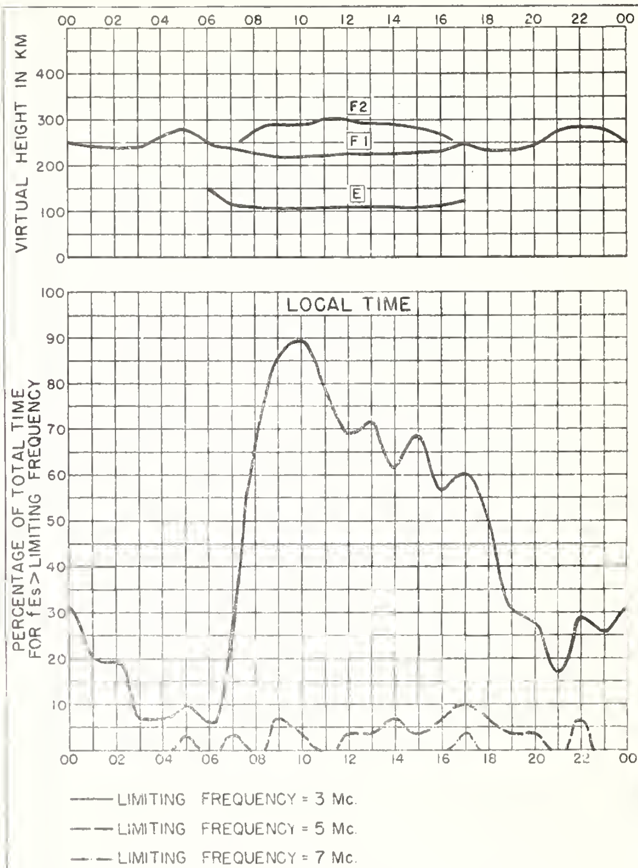


Fig. 94. TANANARIVE, MADAGASCAR MARCH 1952

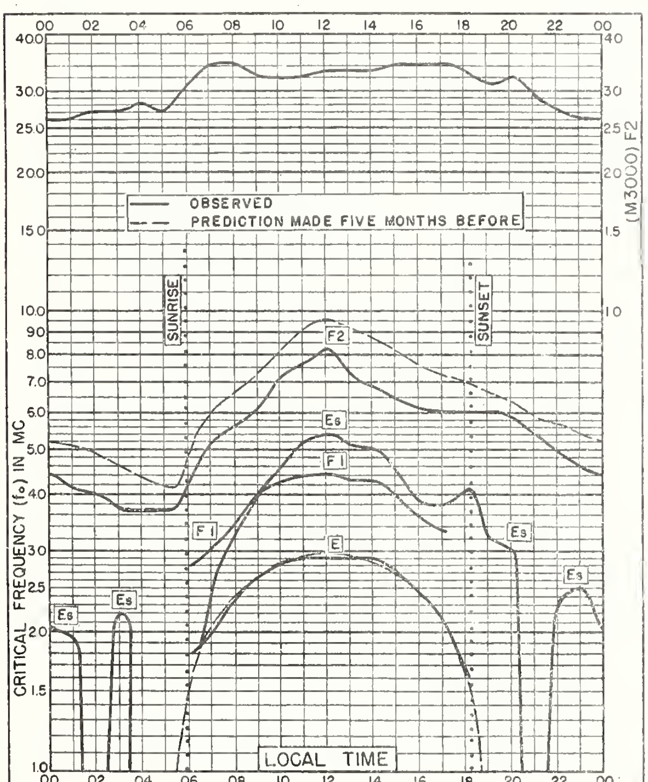


Fig. 95 FALKLAND IS.
51.7°S, 57.8°W MARCH 1952

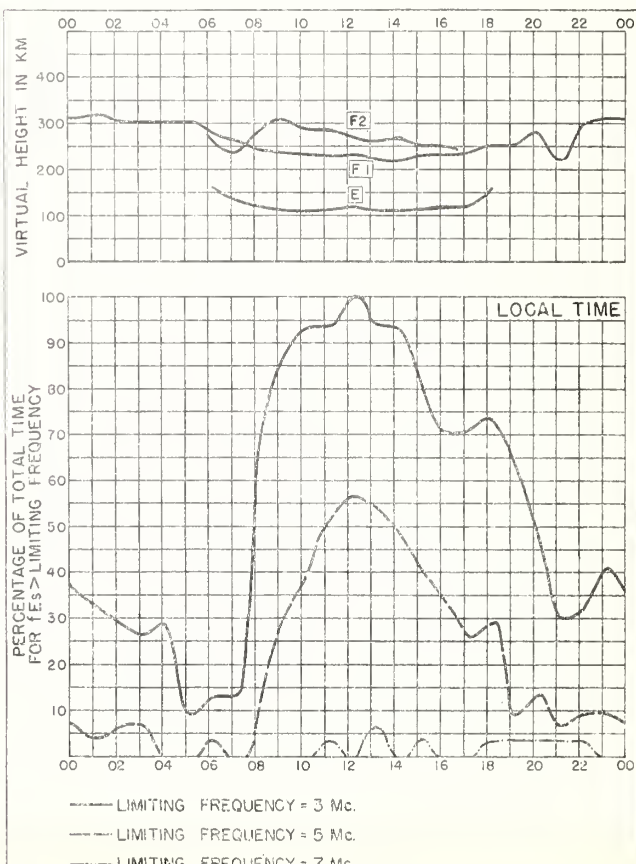


Fig. 96 FALKLAND IS. MARCH 1952

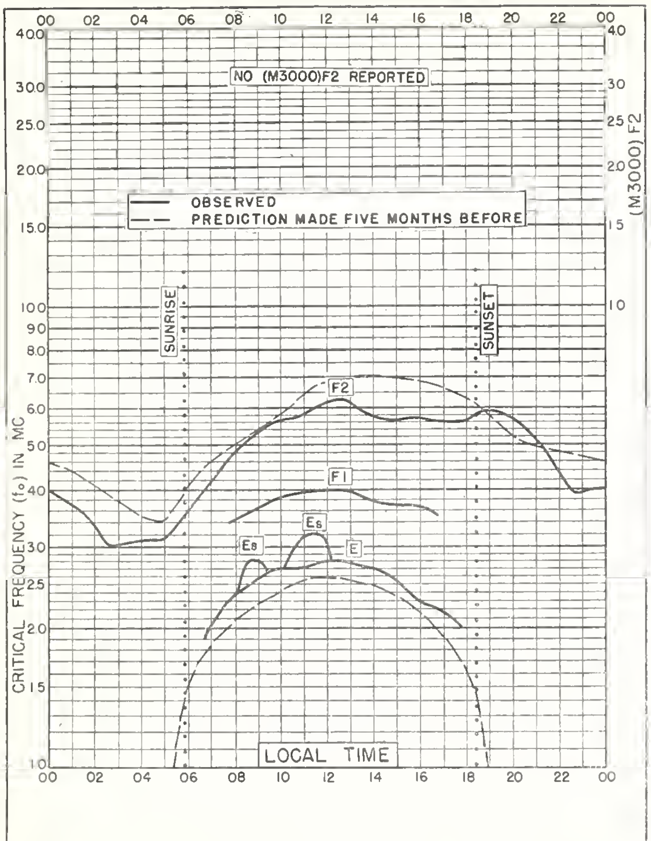


Fig. 97 PORT LOCKROY
64.8° S, 63.5° W MARCH 1952

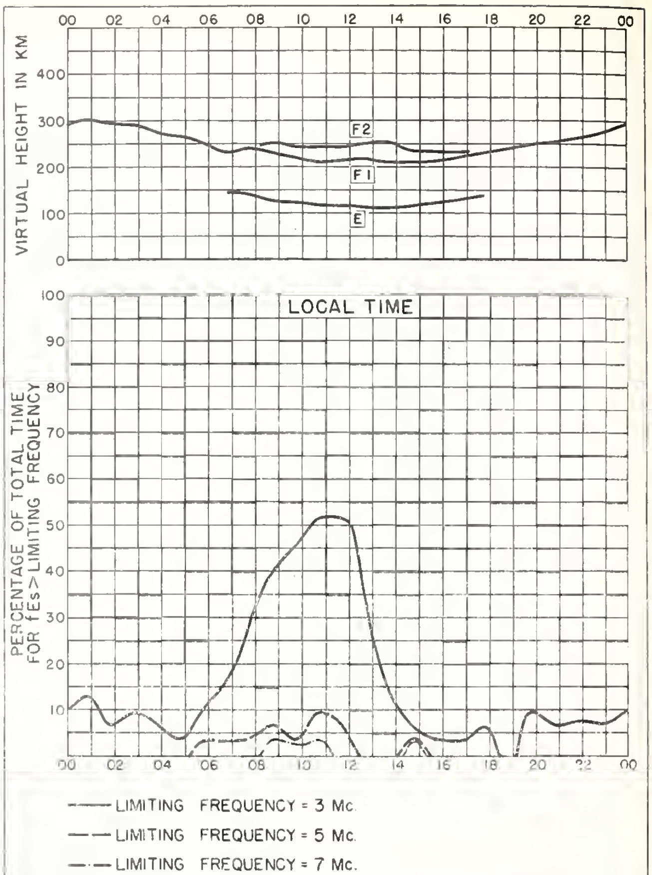


Fig. 98 PORT LOCKROY MARCH 1952

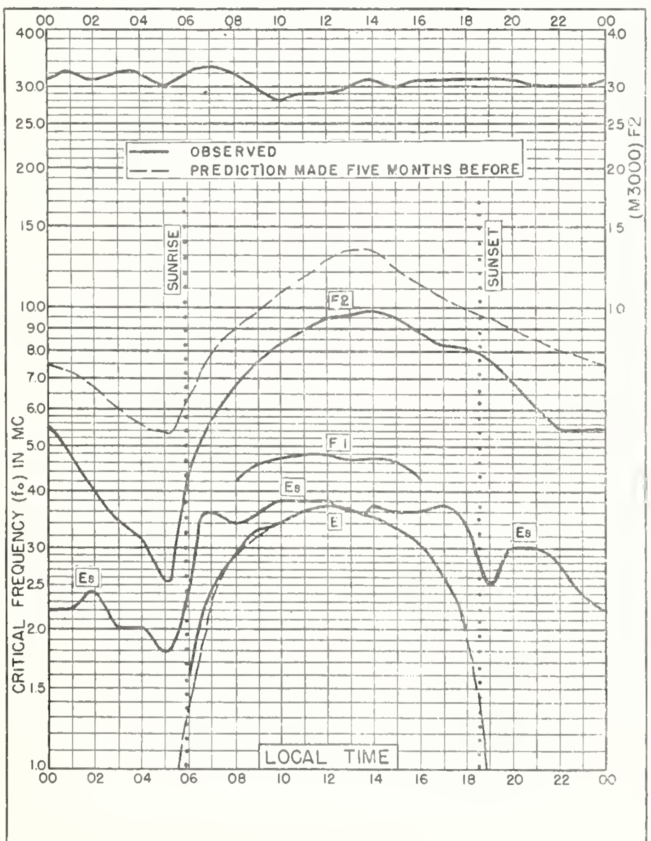


Fig. 99. TANANARIVE, MADAGASCAR
18.8°S, 47.8°E FEBRUARY 1952

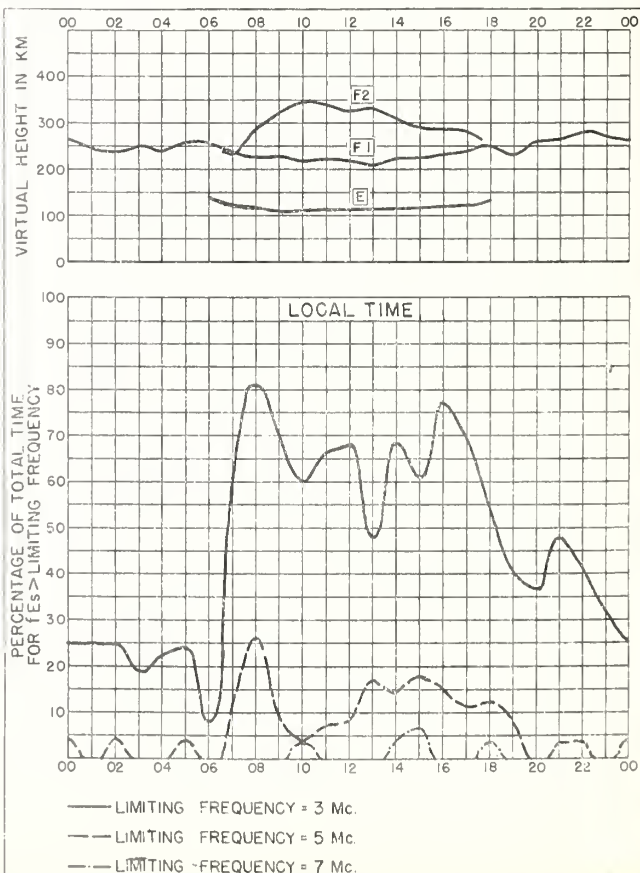


Fig. 100. TANANARIVE, MADAGASCAR FEBRUARY 1952

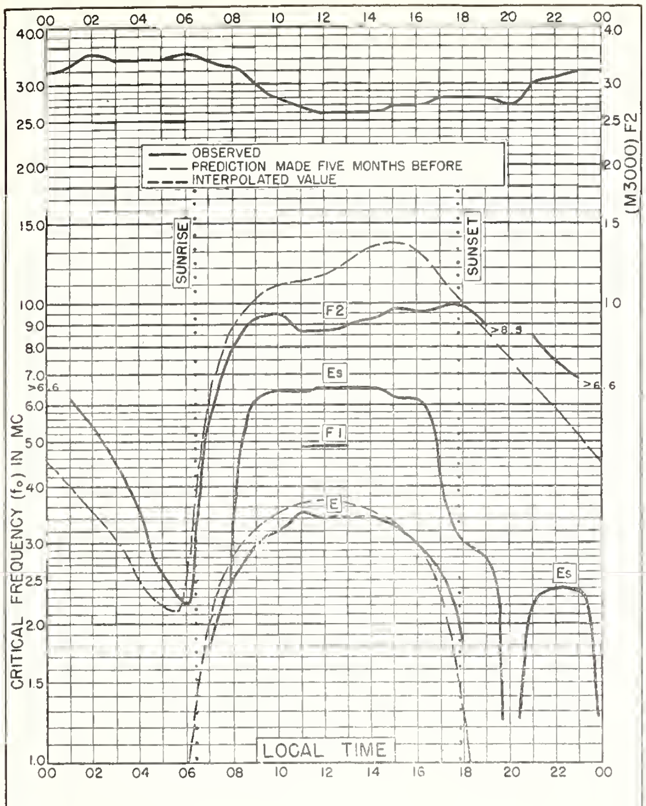


Fig. 101. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E JANUARY 1952

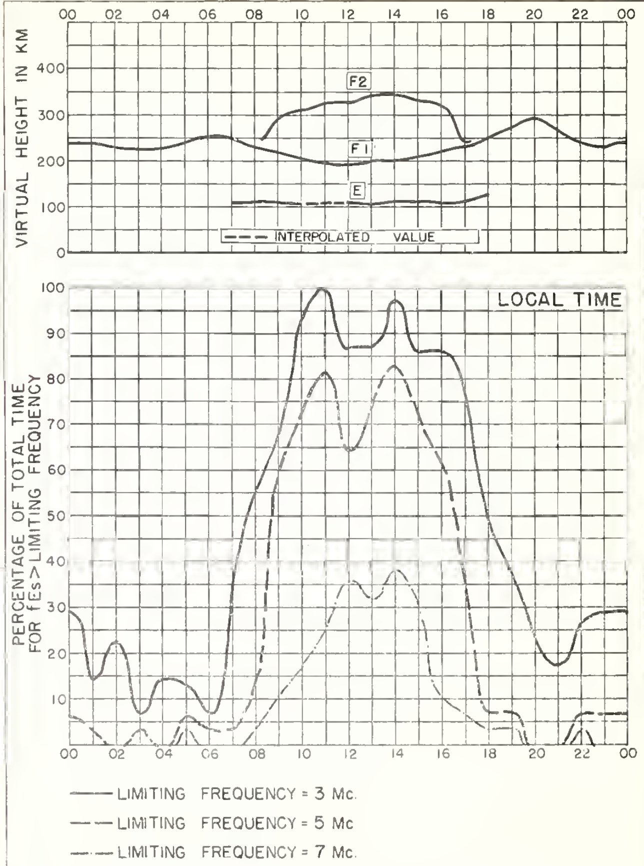


Fig. 102. DJIBOUTI, FRENCH SOMALILAND JANUARY 1952

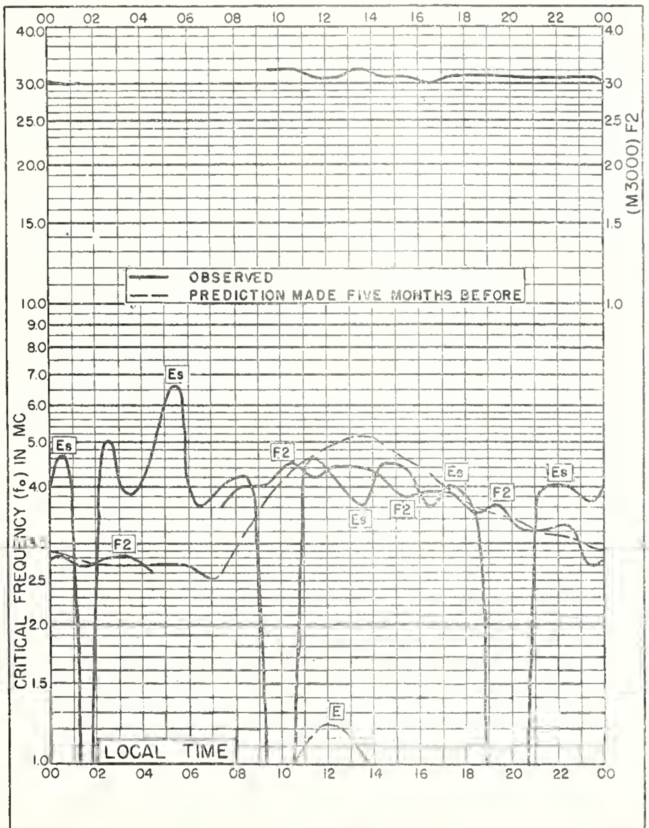


Fig. 103. GODHAVN, GREENLAND
69.2°N, 53.5°W DECEMBER 1951

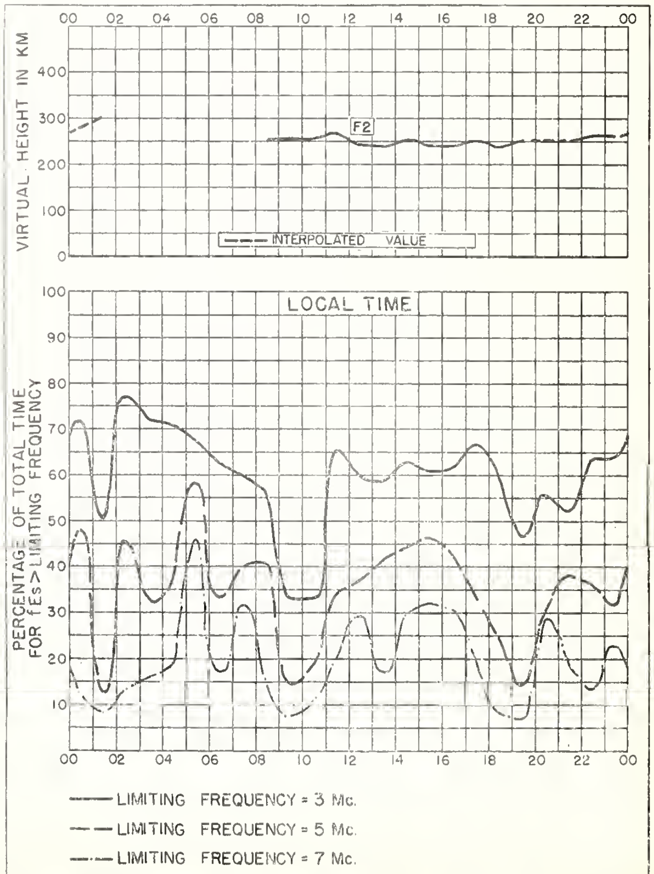


Fig. 104. GODHAVN, GREENLAND DECEMBER 1951

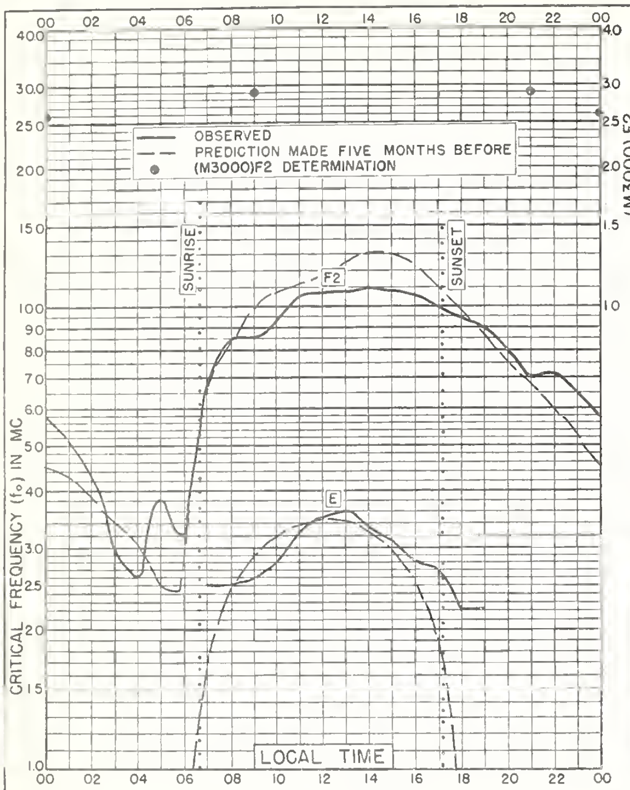


Fig. 105. CALCUTTA, INDIA
22.6°N, 88.4°E DECEMBER 1951

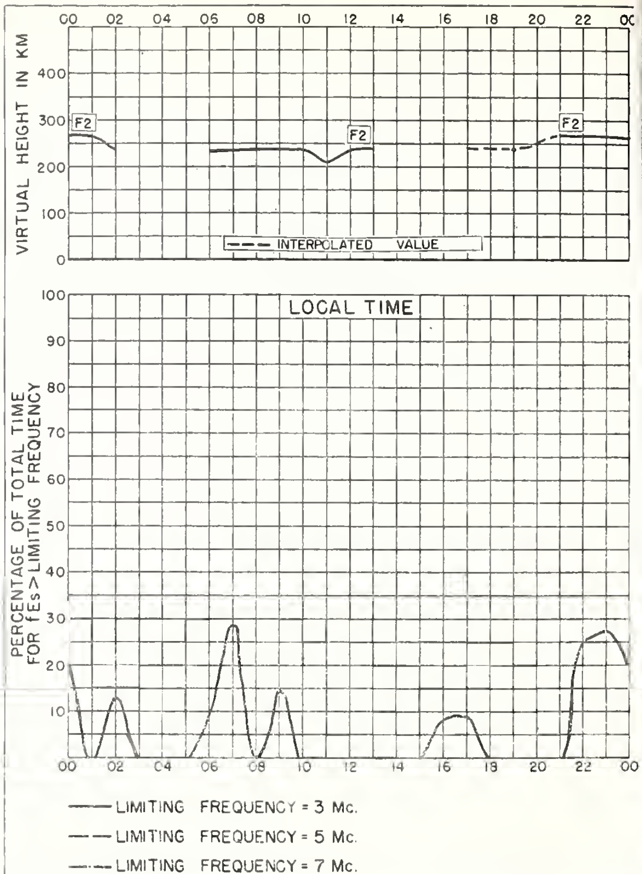


Fig. 106. CALCUTTA, INDIA DECEMBER 1951

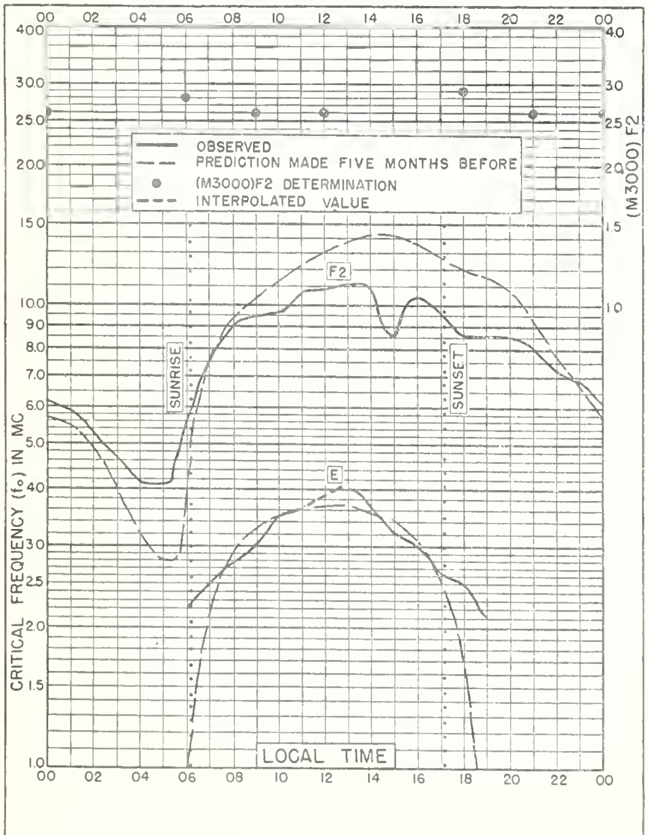


Fig. 107. CALCUTTA, INDIA
22.6°N, 88.4°E NOVEMBER 1951

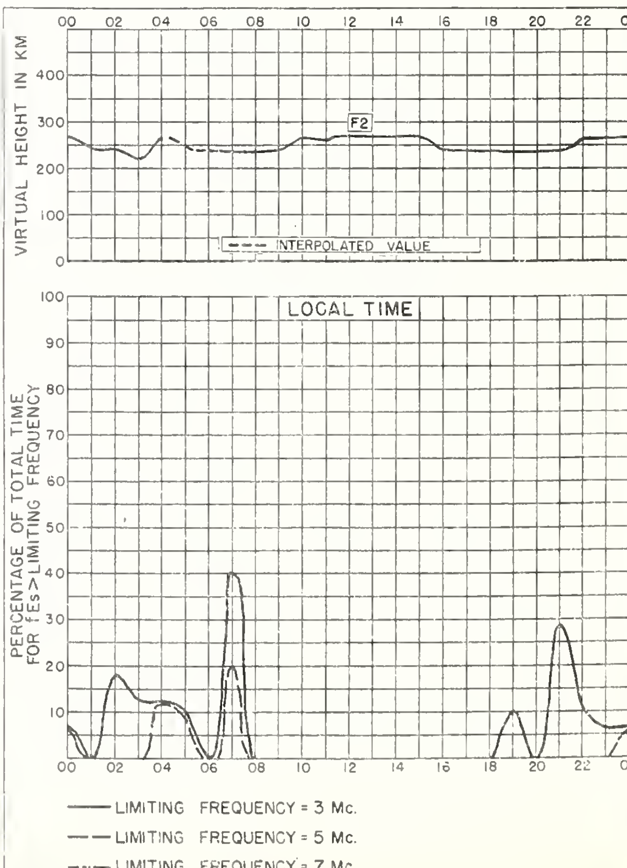


Fig. 108. CALCUTTA, INDIA NOVEMBER 1951

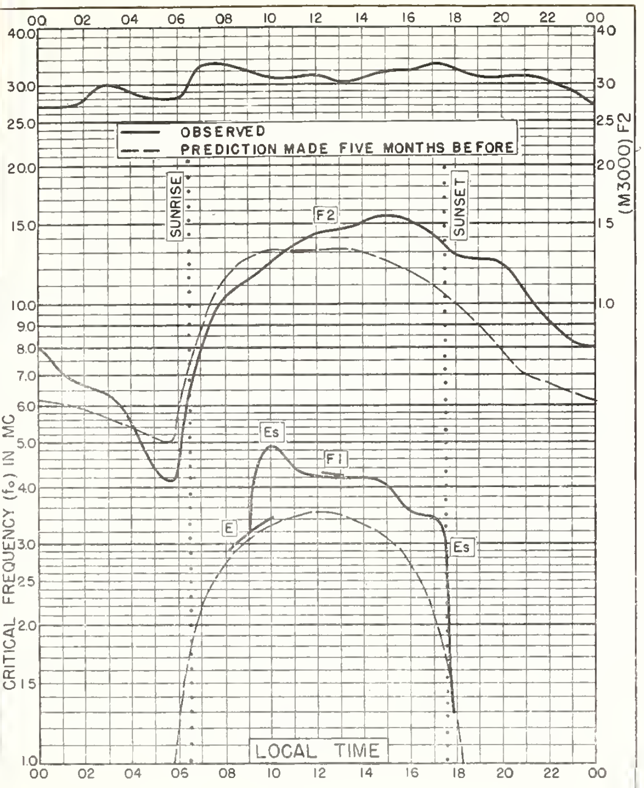


Fig. 109. BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W APRIL 1950

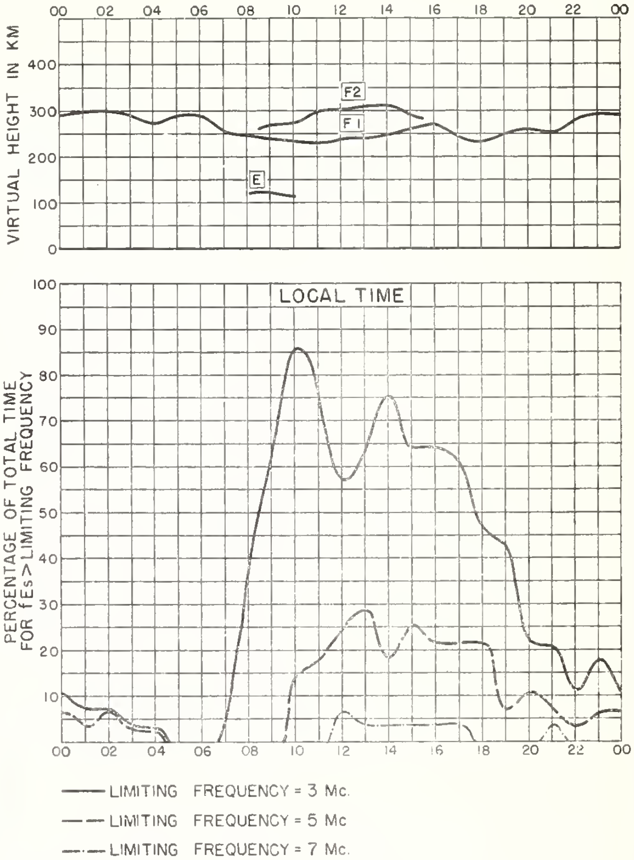


Fig. 110. BUENOS AIRES, ARGENTINA APRIL 1950

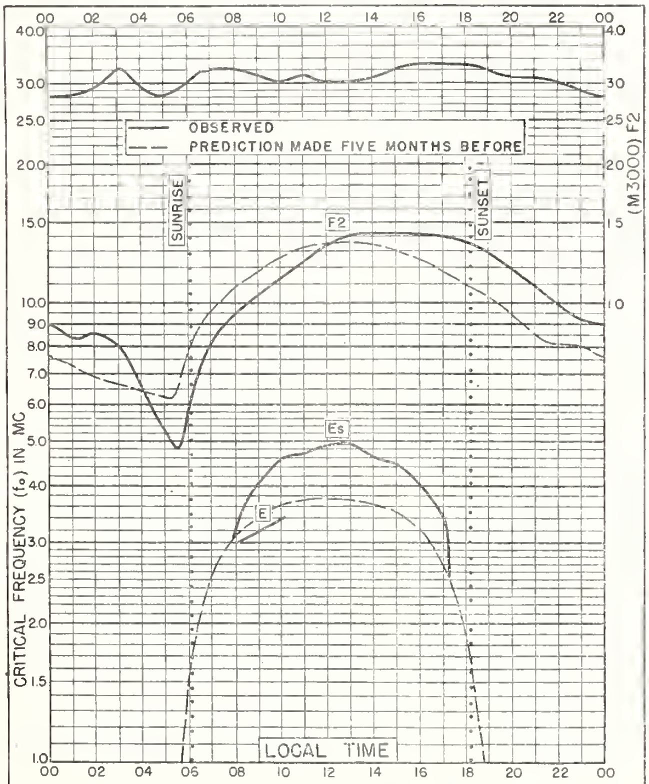


Fig. 111. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W MARCH 1950

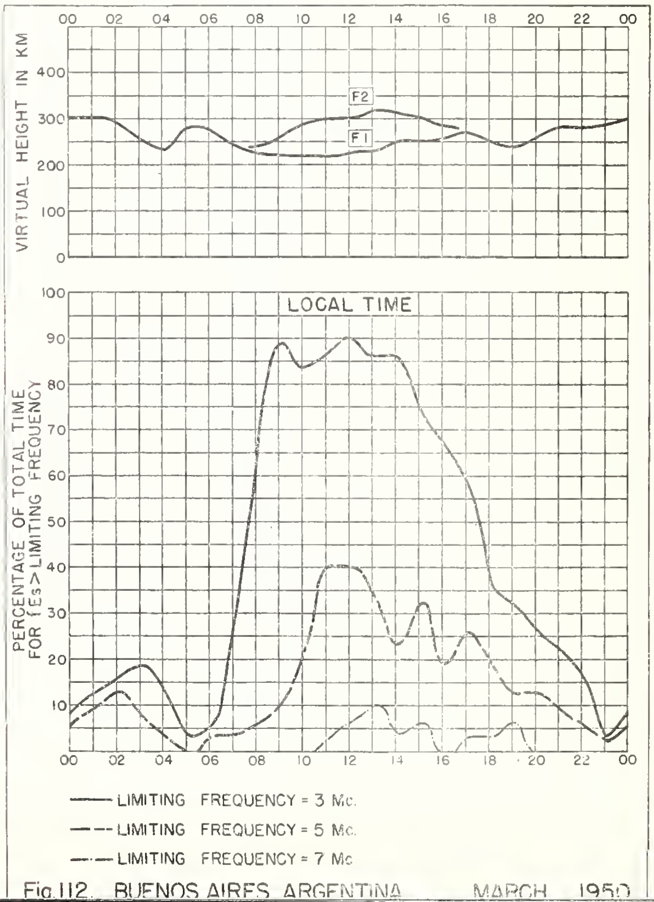


Fig. 112. BUENOS AIRES, ARGENTINA MARCH 1950

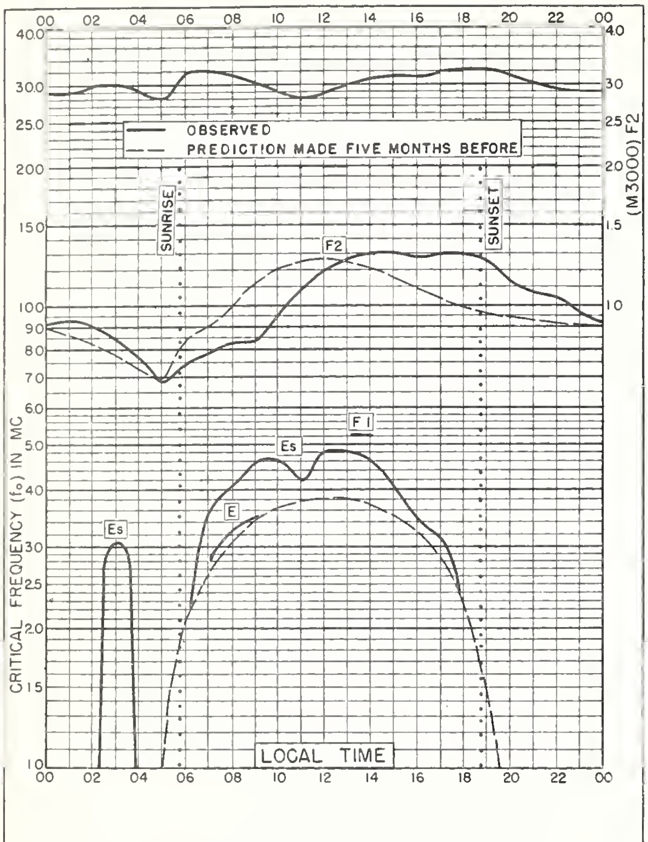


Fig. 113 BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W FEBRUARY 1950

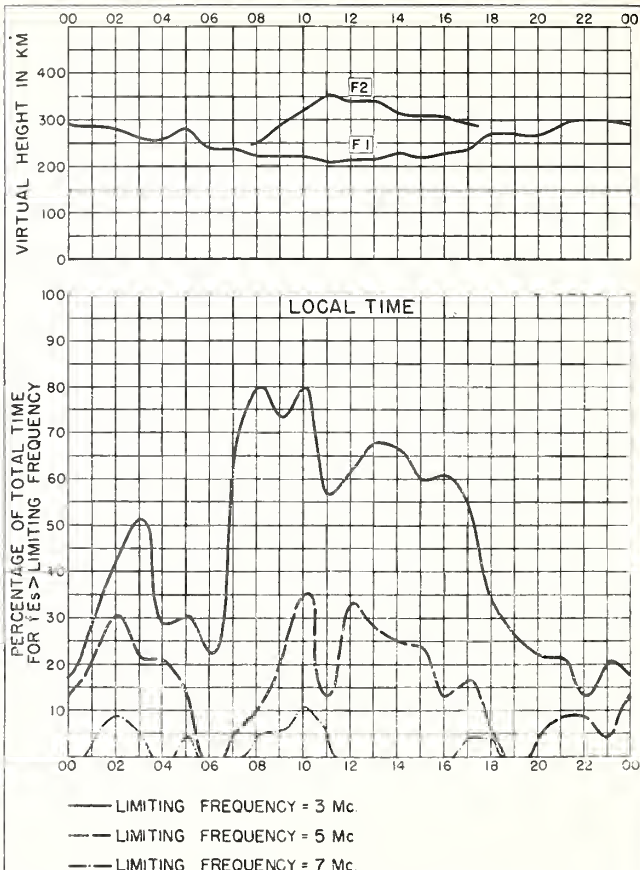


Fig. 114 BUENOS AIRES, ARGENTINA FEBRUARY 1950

Index of Tables and Graphs of Ionospheric Data

in CRPL-F98

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Index (CRPL-F98, concluded)

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[A list of CRPL Section Reports is available from the Central Radio Propagation Laboratory upon request]

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CRPL—F. Ionospheric Data.
*IRPL—A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.
*IRPL—H. Frequency Guide for Operating Personnel.

Circulars of the National Bureau of Standards:

NBS Circular 462. Ionospheric Radio Propagation.
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:

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IRPL—G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.
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**R6. Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
R7. Second Report on Experimental Studies of Ionospheric Propagation as Applied to the Loran System.
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**R26. The Ionosphere as a Measure of Solar Activity.
R27. Relationships Between Radio Propagation Disturbance and Central Meridian Passage of Sunspots Grouped by Distance From Center of Disc.
**R30. Disturbance Rating in Values of IRPL Quality-Figure Scale from A. T. & T. Co. Transmission Disturbance Reports to Replace T. D. Figures as Reported.
**R31. North Atlantic Radio Propagation Disturbances, October 1943 Through October 1945.
**R33. Ionospheric Data on File at IRPL.
**R34. The Interpretation of Recorded Values of *fEs*.
**R35. Comparison of Percentage of Total Time of Second-Multiple *Es* Reflections and That of *fEs* in Excess of 3 Mc.
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