CRPL-F 110

FOR OFFICAL USE

IONOSPHERIC DATA

ISSUED
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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								
	1953	1952	1951	1950	1949	1948	1947	1946	1945
December		33	53	86	108	114	126	85	38
November		38	52	87	112	115	124	83	36
October		43	52	90	114	116	119	81	23
September	18	46	54	91	115	117	121	79	22
August	18	49	57	96	111	123	122	77	20
July	20	51	60	101	108	125	116	73	
June	21	52	63	103	108	129	112	67	
May	22	52	68	102	108	130	109	67	
April	24	52	74	101	109	133	107	62	
March	27	52	78	103	111	133	105	51	
February	29	51	82	103	113	133	90	46	
January	30	53	85	105	112	130	88	42	

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 69 and figures 1 to 138 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
Canberra, Australia
Hobart, Tasmania
Townsville, Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
Leopoldville, Belgian Congo

British Department of Scientific and Industrial Research, Radio Research Board:
Falkland Is.
Ibadan, Nigeria
Inverness, Scotland
Khartoum, Sudan (University College of Khartoum)
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 Taiwan University, Taipeh, Formosa, China:
Formosa, China

French Ministry of National Defense (Section for Scientific Research):
Dakar, French West Africa
Djibouti, French Somaliland
Fribourg, Germany
Tananarive, Madagascar

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

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

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
Akita, Japan
Tokyo, Japan
Wakkanai, Japan
Yamagawa, Japan

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

Research Laboratory of Electronics, Chalmers University of Technology, Gothenburg, Sweden:
Kiruna, Sweden

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

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

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

National Bureau of Standards (Central Radio Propagation Laboratory):
Anchorage, Alaska
Baton Rouge, Louisiana (Louisiana State University)
Fairbanks, Alaska (Geophysical Institute of the University of Alaska)
Guam I.
Huancayo, Peru (Instituto Geofisico de Huancayo)
Maui, Hawaii
Narsarssuak, Greenland
Panama Canal Zone
Puerto Rico, W. I.
San Francisco, California (Stanford University)
Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 70 through 81 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 82 presents ionosphere character figures for Washington, D. C., during September 1953, 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.

SUDDEN IONOSPHERE DISTURBANCES

Table 83 shows that no sudden ionosphere disturbances were observed at Washington, D. C., September 1953.

RADIO PROPAGATION QUALITY FIGURES

Tables 84a and 84b give for August 1953 the radio propagation quality figures for the North Atlantic area, CRPL advance and short-term forecasts, a summary geomagnetic activity index and sundry comparisons, specifically as follows:

(a) radio propagation quality figures, separately for each 6-hour interval of the Greenwich day, viz., 00-06, 06-12, 12-18, 18-24 hours UT (Universal Time or GCT).
(b) whole-day radio quality indices (beginning October 1952). Each index is a weighted average of the four quarter-day Q-figures, before rounding off, with half weight given to quality grades 5 and 6. This procedure tends to give whole-day indices suitable for comparison with whole-day advance forecasts which designate whenever possible the days when significant disturbance or unusually quiet conditions will occur.
(c) short-term forecasts, issued by CRPL every six hours (nominally one hour before 00^h, 06^h, 12^h, 18^h UT) and applicable to the period 1 to 13 (especially 1 to 7) hours ahead. Note that new scoring rules have been adopted beginning with October 1952 data.
(d) advance forecasts, issued semiweekly (CRPL-J reports) and applicable 1 to 3 or 4 days ahead, 4 or 5 to 7 days ahead, and 8 to 25 days ahead. These forecasts are scored against the whole-day quality indices.
(e) half-day averages of the geomagnetic K indices measured by the Cheltenham Magnetic Observatory of the U. S. Coast and Geodetic Survey.
(f) illustration of the comparison of short-term forecasts with Q-figures and also with estimates of radio quality based on CRPL observations only.
(g) illustration of the outcome of advance forecasts (1 to 3 or 4 days ahead) and, for comparison, the outcome of a type of "blind" forecast. For the latter the frequency for each quality grade, as determined from the distribution of quality grades in the four most recent months of the current season, is partitioned among the grades observed in the current month in proportion to the frequencies observed in the current month.

The radio propagation quality figures are prepared from radio traffic data reported to CRPL by American Telephone and Telegraph Company, Mackay Radio and Telegraph Company, RCA Communications, Inc., Marconi Company, British Admiralty Signal and Radar Establishment, and the following agencies of the U. S. Government:--Coast Guard, Navy, Army Signal Corps, and State Department. The method of calculation, summarized below, is similar to that described in a 1946 report, IRPL-R31, now out of print. Beginning with 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 6-hour interval are averaged on the quality scale of the original reports. These 6-hour indices are then adjusted to the 1 to 9 quality-figure scale by a conversion table 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 originally 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. The 6-hourly quality figures are (subjectively) weighted means of the reports received for that period. These 6-hourly quality figures replace, beginning January 1953, the half-daily quality figures which formerly appeared in this table.

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.

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 85 through 87 give the observations of the solar corona during September 1953, obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 88 through 90 list the coronal observations obtained at Sacramento Peak, New Mexico, during September 1953, derived by Harvard College Observatory as a part of its performance of a research contract with the Upper Air Research Observatory, Geophysical Research Directorate, Air Force Cambridge Research Center. 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 85 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 86 gives similarly the intensities of the first red (6374A) coronal line; and table 87, the intensities of the second red (6702A) coronal line; all observed at Climax in September 1953.

Table 88 gives the intensities of the green (5303A) coronal line; table 89, the intensities of the first red (6374A) coronal line; and table 90, the intensities of the second red (6702A) coronal line; all observed at Sacramento Peak in September 1953.

The following symbols are used in tables 85 through 90: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

RELATIVE SUNSPOT NUMBERS

Table 91 lists the daily provisional Zürich relative sunspot number, R_Z, as communicated by the Swiss Federal Observatory. Publication of the American relative sunspot numbers, R_A', which usually appear monthly in these pages, is temporarily suspended until new arrangements are made for the reduction of the observations made by the Solar Division of the AAVSO.

OBSERVATIONS OF SOLAR FLARES

Table 92 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 93 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. Kp is available from 1937 to date as noted in F108.

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. Current tables are also published quarterly in the Journal of Geophysical Research along with data on sudden commencements (sc) and solar flare effects (sfe).

ERRATUM

Table 39 and figs 77 and 78 in CRPL-F109 (Point Barrow, March 1953) supersede table 34 and figs 67 and 68 in CRPL-F107.

TABLES OF IONOSPHERIC DATA

Table 1

Washington, D. C. (38.7°N, 77.1°W) September 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.8						3.0
01	270	2.7						(3.0)
02	270	2.5						3.0
03	270	2.2						(3.1)
04	(250)	(2.2)						(3.0)
05	(260)	(2.0)						(3.1)
06	240	3.2	---	---	---	---	1.9	3.4
07	250	4.4	220	3.3	110	2.1	2.4	3.4
08	260	5.0	210	3.7	110	2.5	3.4	3.4
09	280	5.2	200	4.0	100	2.8	3.0	3.3
10	300	5.5	200	4.2	100	3.0		3.2
11	320	5.7	200	4.3	100	3.1		3.2
12	310	6.0	200	4.3	100	3.2		3.2
13	310	5.9	200	4.3	100	3.1		3.1
14	300	6.0	210	4.2	100	3.0		3.2
15	300	5.8	210	4.0	100	2.9		3.2
16	300	5.6	220	3.8	100	2.5		3.2
17	250	5.6	230	3.4	110	2.2	2.2	3.2
18	240	5.6	240	---	---	---		3.2
19	230	5.2						3.2
20	240	4.5						3.2
21	250	3.8						3.1
22	270	3.4						3.0
23	280	3.0						(3.0)

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 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(290)	3.6					4.9	(3.0)
01	300	3.6					4.0	3.0
02	(325)	3.4	---	---			3.9	3.0
03	(315)	3.3	---	---	---	---	3.4	3.0
04	---	3.4	250	---	---	---	3.7	(3.0)
05	---	3.6	240	---	100	1.8	3.0	3.0
06	405	4.0	230	3.4	100	2.0	2.8	3.0
07	400	4.2	225	3.6	100	2.2	2.8	2.9
08	390	4.4	220	3.8	100	2.4	2.8	2.9
09	390	4.4	220	3.8	100	2.4	2.9	2.9
10	380	4.6	210	3.9	100	2.6	2.9	3.0
11	380	4.5	200	4.0	100	2.6	2.9	3.0
12	420	4.4	210	4.0	100	2.7	2.8	2.9
13	400	4.4	210	3.9	105	2.6	2.7	3.0
14	390	4.2	215	3.9	100	2.6	2.8	3.0
15	420	4.2	220	3.8	100	2.6	2.8	2.9
16	390	4.2	230	3.8	100	2.4	2.8	3.1
17	370	4.2	240	3.6	110	2.2	3.2	3.2
18	(370)	4.1	230	---	110	2.0	3.4	3.2
19	270	4.0	235	---	110	---	3.7	3.2
20	275	3.8	---	---	---	---	3.8	3.2
21	325	3.7	---	---	---	---	4.2	3.0
22	(265)	(3.8)					4.3	(3.0)
23	(285)	(3.8)					4.4	(3.0)

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

Table 3

Fairbanks, Alaska (64.9°N, 147.8°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	(3.0)			---	---	5.1	(3.0)
01	300	3.1			---	---	5.2	(3.0)
02	280	3.2			---	---	5.3	3.0
03	320	3.4			---	---	4.2	3.0
04	340	3.4	---	---	---	---	4.4	2.9
05	360	3.7	240	3.0	---	---	3.0	3.0
06	400	3.7	220	3.3	110	2.2		2.8
07	380	4.1	200	3.5	---	---		3.0
08	450	4.0	200	3.7	---	---		2.6
09	450	(4.0)	200	3.8	---	---		2.7
10	400	4.4	200	3.8	---	---		2.9
11	380	4.4	200	3.9	---	---		2.9
12	440	4.4	200	3.9	---	---		2.8
13	0	< 4.0	200	3.9	---	---		0
14	440	4.2	200	3.9	---	---		2.8
15	430	4.2	210	3.8	---	---		2.8
16	380	4.2	210	3.7	---	---		3.0
17	330	4.0	220	3.6	---	---		3.1
18	300	4.0	230	3.4	---	---		3.2
19	250	4.2	---	---				3.3
20	240	(4.0)					3.0	(3.3)
21	240	(3.8)						(3.2)
22	260	(3.4)					3.4	(3.0)
23	300	(3.2)					4.4	(2.9)

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

Table 4

Anchorage, Alaska (61.2°N, 149.9°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	350	(2.6)					3.1	2.8
01	340	2.4					3.0	2.7
02	<320	2.3					3.4	2.8
03	310	2.1					2.8	2.9
04	280	2.6	---	---	---	---	2.2	3.0
05	410	3.2	230	2.9	120	1.7	1.9	2.8
06	490	3.5	210	3.2	110	2.0	2.4	2.6
07	500	3.8	210	3.5	110	2.3		2.6
08	520	3.9	210	3.6	110	2.6		2.6
09	530	4.0	200	3.7	110	2.6		2.5
10	530	4.1	200	3.9	110	2.8		2.6
11	460	4.4	200	3.9	110	2.9		2.8
12	540	4.2	200	3.9	110	2.9		2.5
13	530	4.2	200	3.9	110	2.9		2.6
14	490	4.2	200	3.9	110	2.9		2.6
15	510	4.1	220	3.9	110	2.8		2.6
16	430	4.2	210	3.8	110	2.6		2.8
17	360	4.2	220	3.6	100	2.4		3.0
18	320	4.1	230	3.3	110	2.0		3.1
19	280	4.2	230	3.0	130	1.7		3.2
20	260	4.0	---	---	---	---	2.2	3.2
21	260	3.7					2.6	3.0
22	270	3.0					2.4	3.0
23	290	2.8					2.7	3.0

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

Table 5

Narsarssuak, Greenland (61.2°N, 45.4°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.9					4.9	(3.0)
01	(320)	3.0					4.5	(3.1)
02	---	(3.0)					4.4	---
03	---	---					4.5	---
04	---	---					4.5	---
05	(280)	(3.6)	---	---	---	---	4.5	(3.3)
06	300	3.9	220	3.6	100	2.1	4.2	3.4
07	500	4.0	220	3.6	100	2.4	3.4	3.2
08	400	4.3	200	3.8	100	2.6	3.2	3.1
09	380	4.4	200	3.9	100	2.8	3.4	3.1
10	420	4.4	200	4.0	100	2.8	3.5	3.1
11	430	4.5	200	4.0	100	2.9	3.0	2.9
12	470	4.2	200	4.0	100	2.9		2.6
13	420	4.4	200	4.0	100	2.9	3.2	2.9
14	420	4.3	210	4.0	100	2.9	2.9	(2.8)
15	400	4.3	210	3.9	100	2.8	3.2	(3.0)
16	360	4.4	220	3.8	100	2.6	3.5	(3.0)
17	360	4.3	220	3.6	100	2.4	4.3	(3.0)
18	290	4.1	240	3.5	100	2.1	4.4	(3.2)
19	300	4.1	---	---	---	---	4.2	3.2
20	300	3.8	---	---	---	---	5.0	(3.1)
21	280	3.6					4.9	(3.0)
22	290	3.4					7.0	(2.9)
23	290	3.3					6.4	(3.1)

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

Table 6

Oslo, Norway (60.0°N, 11.1°E) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	2.7						2.9
01	270	2.4						2.9
02	285	2.1					2.7	2.9
03	275	2.0					2.4	2.9
04	270	2.4	---	---	125	1.0	2.4	2.9
05	(315)	3.0	250	---	100	1.5	3.6	(3.0)
06	(445)	3.4	240	3.2	105	1.9	3.0	(2.9)
07	(500)	3.8	220	3.5	105	2.2	3.6	(2.8)
08	450	4.0	210	3.7	100	2.4	4.0	2.8
09	390	4.3	210	3.8	100	2.6	3.7	2.9
10	360	4.4	205	4.0	100	2.6	3.9	3.0
11	365	4.5	200	4.0	100	2.7	4.0	3.0
12	400	4.4	200	4.0	100	2.8	3.8	2.9
13	400	4.6	205	4.1	100	2.9	3.8	3.0
14	400	4.5	205	4.0	100	2.8	3.7	3.0
15	360	4.4	205	4.0	100	2.7	3.7	3.1
16	360	4.4	210	3.8	100	2.6	3.5	3.0
17	340	4.5	225	3.7	100	2.4	3.5	3.1
18	325	4.5	235	3.4	110	2.1	3.5	3.1
19	270	4.5	245	---	120	1.7	3.1	3.1
20	255	4.4	250	---	---	---	2.1	3.1
21	250	4.4						3.1
22	250	4.2						3.1
23	250	3.4						3.1

Time: 15.0°E.
Sweep: 0.6 Mc to 14.0 Mc in 8 minutes, automatic operation.

Table 7

Upsala, Sweden (59.8°N, 17.6°E) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	2.5					2.3	2.8
01	280	2.3					3.0	2.8
02	290	2.1					2.7	2.8
03	300	2.0					2.8	2.9
04	280	2.6	250	---	---	E	2.6	2.9
05	G	< 3.3	240	2.8	---	(1.6)	2.4	2.9
06	G	3.6	230	3.4	120	2.0	2.8	2.7
07	530	3.8	225	3.6	115	2.3	2.5	G
08	460	4.1	220	3.8	115	2.5	3.0	2.6
09	400	4.5	215	3.9	110	2.6	3.4	2.8
10	380	4.5	210	4.0	110	2.8	3.2	2.9
11	410	4.5	205	4.1	110	2.8	3.2	2.8
12	400	4.6	210	4.1	110	2.9	3.0	2.8
13	395	4.5	215	4.1	110	2.9	3.2	2.8
14	390	4.5	215	4.0	110	2.8	3.0	2.9
15	360	4.6	215	3.9	110	2.6		2.9
16	360	4.4	225	3.8	110	2.5		2.9
17	330	4.4	230	3.6	115	2.3	3.2	3.0
18	290	4.6	250	3.2	120	2.0	3.5	3.0
19	265	4.4	255	(2.8)	---	E	3.3	3.0
20	255	4.4	---	---	---	E	2.6	3.0
21	250	4.2					2.2	3.0
22	255	3.9					1.9	3.0
23	250	3.1					2.2	2.9

Time: 135.0°E.
Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 8

Adak, Alaska (51.9°N, 176.6°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.2					3.1	3.0
01	280	3.0					2.4	3.0
02	300	3.0					2.3	3.0
03	300	3.0					2.4	2.9
04	290	2.8			---	E	4.1	2.9
05	330	3.3	250	3.1	130	1.5	2.5	3.0
06	460	3.8	240	3.3	120	2.1	3.3	2.6
07	420	4.2	230	3.6	110	2.4	5.0	2.8
08	460	4.1	210	3.7	110	2.6	6.0	2.6
09	490	4.3	210	3.9	110	2.8	6.2	2.6
10	490	4.4	200	4.0	110	3.0	7.2	2.6
11	530	4.5	200	4.1	110	3.0	6.2	2.5
12	460	4.5	210	4.0	110	3.0	5.4	2.7
13	520	4.4	210	4.1	110	2.9	4.2	2.5
14	460	4.3	210	4.0	110	2.8	4.4	2.7
15	450	4.4	210	4.0	110	2.8	3.4	2.7
16	390	4.2	220	3.8	110	2.6	3.3	2.9
17	380	4.3	240	3.6	110	2.3	3.1	2.9
18	300	4.3	250	3.3	120	1.9	3.9	3.1
19	270	4.3	----	---	140	1.3	3.9	3.1
20	260	4.8					3.6	3.0
21	260	4.6					3.1	3.1
22	260	4.0					2.6	3.1
23	270	3.6					2.4	3.0

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 9

San Francisco, California (37.4°N, 122.2°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(260)	(3.0)					3.5	(3.2)
01	(270)	(2.9)					2.5	(3.2)
02	(280)	(2.9)					2.4	(3.1)
03	(270)	(2.9)					2.4	(3.1)
04	(280)	(2.8)					2.0	(3.2)
05	(260)	(2.7)					3.7	(3.2)
06	(420)	< 3.4	230	3.2	---	---	3.0	(3.0)
07	(440)	(3.8)	220	(3.4)	110	2.2	4.3	(2.9)
08	(410)	(4.1)	200	(3.8)	100	(2.5)	4.8	(2.9)
09	(450)	(4.5)	200	4.0	100	(2.7)	6.0	(2.8)
10	410	4.7	190	4.0	100	(2.8)	4.3	2.9
11	400	5.0	190	4.2	100	(3.0)	4.4	2.9
12	410	4.9	200	4.2	100	(2.9)	4.1	2.8
13	400	5.0	190	4.2	100	(3.0)	4.2	2.9
14	390	4.9	210	(4.1)	100	(3.0)	4.4	2.9
15	390	4.7	210	(4.0)	100	(2.9)	4.1	3.0
16	370	4.8	220	(3.9)	110	(2.7)	3.8	3.0
17	340	4.7	220	3.6	110	2.5	3.8	3.2
18	300	4.6	230	---	110	1.9	3.8	3.2
19	250	4.6					3.0	3.2
20	240	4.8					3.2	3.3
21	(240)	(4.2)					3.6	(3.2)
22	(240)	(3.6)					3.6	(3.2)
23	(260)	(3.4)					3.7	(3.1)

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 10

White Sands, New Mexico (32.3°N, 106.5°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.3						3.0
01	280	3.2						3.0
02	270	3.0						3.0
03	290	2.8					2.0	3.0
04	290	2.8						3.0
05	280	2.8						3.1
06	290	3.4	230	3.1	120	1.8	2.3	3.2
07	400	4.0	220	3.5	110	2.2	3.5	3.0
08	350	4.5	210	3.8	110	2.5	3.7	3.0
09	350	4.8	200	4.0	110	2.8	4.2	3.1
10	390	4.9	200	4.2	110	3.0	4.0	2.9
11	400	5.0	190	4.3	110	3.1	3.9	2.8
12	410	5.2	200	4.3	110	3.2	3.9	2.8
13	380	5.4	200	4.2	110	3.2	3.9	2.9
14	370	5.3	210	4.2	110	3.2	2.9	2.9
15	350	5.4	210	4.1	110	3.0	3.8	3.0
16	330	5.2	220	3.9	110	2.8	3.5	3.0
17	300	5.2	220	3.6	110	2.4	3.8	3.2
18	270	5.2	230	---	110	2.0	3.1	3.2
19	240	4.9						3.2
20	230	5.1						3.2
21	260	4.2					3.4	3.1
22	280	3.5						3.0
23	280	3.4					2.4	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 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.6					3.9	2.9
01	290	3.6					3.4	3.0
02	280	3.4					3.3	3.0
03	290	3.4					3.2	3.0
04	300	3.2					3.1	(3.1)
05	270	(3.1)					2.8	(3.1)
06	250	4.7	240	---	---	---	3.5	3.4
07	250	6.0	220	---	110	2.4	3.0	3.5
08	260	5.4	210	4.1	110	2.6	3.7	3.6
09	320	5.4	220	4.3	110	2.9	3.2	3.2
10	360	5.4	200	4.3	110	3.1	3.8	3.0
11	400	5.9	210	4.4	110	3.2	3.3	2.8
12	340	6.6	220	4.4	110	3.3	4.8	2.9
13	340	7.2	210	4.4	110	3.2	3.0	3.0
14	360	7.2	230	4.3	110	3.2	3.4	2.8
15	330	7.9	220	4.1	110	3.1	3.3	2.9
16	300	8.2	220	4.0	110	2.8	4.3	3.1
17	280	8.2	220	3.8	110	2.4	4.6	3.2
18	250	7.8	230	---	---	---	4.3	3.3
19	230	7.0					4.0	3.4
20	240	5.6					4.0	3.2
21	260	4.3					4.1	3.0
22	300	3.8					3.6	2.9
23	300	3.6					3.9	2.9

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

Table 12

Maui, Hawaii (20.8°N, 155.6°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.0					2.8	3.0
01	280	3.6					2.8	3.0
02	260	3.6					2.4	3.1
03	280	3.4					2.4	3.1
04	250	3.4					1.8	3.1
05	240	3.0					1.8	3.3
06	250	3.3			---	---	1.8	3.4
07	240	4.7	220	3.4	110	2.0	3.9	3.4
08	290	5.2	210	3.9	110	2.6	5.0	3.3
09	360	4.8	200	4.2	110	2.9	4.8	2.9
10	440	5.2	200	4.2	110	3.2	5.4	2.6
11	460	5.4	200	4.4	110	3.3	5.6	2.5
12	420	6.4	210	4.3	110	3.3	5.4	2.5
13	400	7.4	210	4.3	110	3.4	5.0	2.7
14	380	7.6	220	4.3	110	3.3	5.0	2.8
15	360	8.5	220	4.1	110	3.2	4.7	2.9
16	320	9.0	220	4.0	110	3.0	4.8	3.0
17	280	9.2	230	3.9	110	2.6	4.8	3.2
18	260	8.9	230	3.4	120	2.0	4.0	3.3
19	230	7.5					3.3	3.4
20	230	5.9					3.1	3.2
21	260	5.0					3.3	3.0
22	280	4.3					3.5	3.0
23	280	3.9					3.1	3.0

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 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.6					3.2	2.9
01	270	3.7					2.6	3.0
02	250	3.6					2.4	3.1
03	240	3.6					2.5	3.2
04	240	3.2					2.2	3.1
05	240	2.9					2.2	3.2
06	230	3.0			---	---	2.3	3.3
07	240	4.5	200	---	110	1.9	2.8	3.4
08	260	5.1	200	3.8	100	2.5	3.1	3.6
09	300	5.0	200	4.1	100	2.9	3.6	3.3
10	320	5.4	200	4.2	100	3.1	4.3	3.1
11	360	5.4	200	4.3	100	3.3		2.9
12	360	6.2	200	4.4	100	3.4		3.0
13	330	7.1	210	4.4	100	3.4		3.0
14	310	7.4	210	4.3	100	3.3	4.9	3.0
15	300	7.8	200	4.2	100	3.2	4.7	3.0
16	280	7.6	200	4.1	100	3.0	4.8	3.2
17	270	7.4	220	3.8	100	2.6	4.3	3.3
18	240	7.2	210	---	100	2.0	3.4	3.4
19	220	6.2					3.2	3.4
20	220	5.5					3.0	3.3
21	240	4.6					3.0	3.2
22	260	4.0					2.9	3.1
23	280	3.6					2.8	2.9

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

Table 14

Guam I. (13.6°N, 144.9°E) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.2						3.0
01	300	3.2						3.1
02	290	2.6						3.1
03	310	2.4						3.2
04	300	2.1						3.1
05	280	(2.2)					1.6	3.1
06	260	2.7						3.4
07	260	5.2	220	---	120	2.0	2.4	3.4
08	290	6.1	210	---	110	2.7	3.6	3.2
09	320	6.8	210	4.1	110	(3.0)	5.2	3.0
10	360	6.8	210	4.2	110	3.2	4.6	2.8
11	390	7.1	210	4.3	110	3.3	4.0	2.6
12	410	7.6	200	4.3	110	3.4	3.9	2.6
13	410	7.6	200	4.3	110	3.3	4.4	2.6
14	400	7.6	200	4.2	110	3.3	4.7	2.6
15	380	8.0	210	4.1	110	3.2	5.2	2.6
16	340	8.6	220	4.0	110	3.0	6.0	2.8
17	320	8.8	220	---	110	---	4.8	2.9
18	280	9.2	230	---	---	---	4.0	3.0
19	250	8.8					3.0	3.1
20	240	7.4					3.0	3.1
21	250	6.1					2.7	3.2
22	260	5.2						3.1
23	300	3.6						3.0

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

Table 15

Panama Canal Zone (9.4°N, 79.9°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.2						2.9
01	270	4.1					2.3	3.1
02	260	3.9					2.2	3.2
03	240	3.7					1.3	3.2
04	250	3.5						3.2
05	240	2.7					2.0	3.3
06	260	2.9					2.7	3.3
07	250	4.6	220	(3.4)	120	(2.0)	4.1	3.3
08	320	5.1	210	4.1	110	2.6	3.9	3.2
09	360	5.3	210	4.2	110	3.0	4.6	2.9
10	430	5.7	210	4.3	110	3.2	4.3	2.6
11	420	6.7	210	4.3	110	3.4	4.3	2.6
12	390	7.9	200	4.3	110	3.5	4.3	2.7
13	370	8.9	210	4.3	110	3.4	4.7	2.8
14	350	9.6	220	4.3	110	3.4	4.6	2.9
15	320	10.2	220	4.2	110	3.2	4.9	3.0
16	300	10.0	220	4.1	110	2.9	4.7	3.1
17	270	10.3	220	3.8	110	(2.5)	4.2	3.2
18	250	9.6	220	(3.0)	---	---	4.2	3.3
19	210	7.7					3.2	3.4
20	230	5.9					2.8	3.2
21	250	5.2					2.2	3.1
22	270	4.6					1.9	3.0
23	280	4.3						2.9

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

Table 16

Huancayo, Peru (12.0°S, 75.3°W) August 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	4.8						3.3
01	240	4.5						3.2
02	240	4.1						3.2
03	250	3.5						3.3
04	260	2.6						3.3
05	250	2.3						3.3
06	280	2.5			---	1.0		3.0
07	240	5.0	230	---	110	2.0	5.8	3.2
08	320	6.0	210	3.9	110	2.6	9.4	2.9
09	350	6.4	200	4.1	110	---	10.3	2.7
10	380	6.4	200	4.2	110	---	11.6	2.6
11	390	6.1	190	4.2	110	---	12.0	2.6
12	400	6.0	190	4.3	110	---	12.0	2.6
13	400	6.4	190	4.2	110	---	11.7	2.6
14	380	6.4	190	4.1	110	---	11.9	2.6
15	370	6.6	190	4.1	110	---	10.4	2.6
16	(300)	6.7	190	---	110	---	9.2	2.6
17	(260)	6.6	230	---	110	2.3	6.7	2.8
18	260	6.7			---	---		2.9
19	260	6.4						3.0
20	260	6.0						3.1
21	250	5.8						3.2
22	230	5.6						3.2
23	230	5.2						3.3

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

Table 17

Kiruna, Sweden (67.8°N, 20.5°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.9					3.6	3.0
01	275	3.9					4.1	3.0
02	320	4.0	250	2.8	---	---	3.5	3.0
03	350	3.8	240	3.0	100	2.0	3.2	2.9
04	360	4.0	230	3.2	105	2.1	3.9	2.9
05	380	4.0	210	3.4	100	2.2		2.9
06	450	4.2	210	3.7	105	2.5		2.8
07	445	4.2	200	3.8	105	2.8		2.7
08	410	4.4	205	3.9	100	2.9		2.9
09	400	4.7	200	4.0	100	2.9	3.1	2.9
10	410	4.8	200	4.0	100	3.0		2.9
11	430	4.7	200	4.1	100	3.1	3.5	2.9
12	440	(4.8)	200	4.1	100	3.1		(2.8)
13	435	(4.7)	200	4.0	100	3.0		(2.9)
14	375	(4.6)	200	4.0	100	3.0	3.7	3.0
15	450	4.6	200	3.9	105	2.8		2.9
16	390	4.3	210	3.9	105	2.8		3.0
17	370	4.2	220	3.8	105	2.6		3.0
18	325	4.2	230	3.7	110	2.3	3.0	3.1
19	300	4.1	220	3.4	110	2.1	3.8	3.0
20	275	4.0	230	3.1	115	2.0	3.0	3.0
21	280	4.0	240	2.8	---	---	3.2	3.2
22	255	4.2	---	---	---	---	3.5	3.1
23	270	4.0					4.0	3.1

Time: 15.0°E.
Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Table 18

De Bilt, Holland (52.1°N, 5.2°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.6					2.1	3.1
01	260	3.0					2.1	3.1
02	270	3.0						3.1
03	260	2.8						3.1
04	250	3.3	220	---	---	E	1.9	3.2
05	360	3.6	210	3.2	105	1.9	2.8	3.0
06	390	3.9	210	3.5	100	2.3	3.2	3.0
07	390	4.2	200	3.8	100	2.5	3.6	3.0
08	340	4.6	200	3.9	100	2.7	4.2	3.2
09	360	4.7	200	4.0	100	2.9	4.1	3.1
10	370	4.7	200	4.1	100	3.0	4.1	3.1
11	370	4.8	200	4.2	100	3.0	4.4	3.1
12	380	4.7	200	4.2	100	3.0	3.8	3.0
13	400	4.6	200	4.1	100	3.1	3.8	3.0
14	390	4.6	200	4.2	100	3.0	3.5	3.0
15	400	4.5	200	4.0	100	3.0	3.6	3.0
16	360	4.5	200	3.8	100	2.7	3.5	3.1
17	330	4.6	210	3.6	100	2.5	4.2	3.1
18	300	4.7	220	3.4	100	2.1	4.3	3.2
19	250	5.2	210	2.8	---	E	3.6	3.3
20	220	5.1					3.5	3.3
21	220	5.0					2.6	3.3
22	230	4.5					2.4	3.2
23	240	3.8					< 1.4	3.2

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

Table 19

Schwarzenburg, Switzerland (46.8°N, 7.3°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.9					2.6	3.3
01	270	3.8						3.3
02	290	3.4						3.3
03	290	3.0						3.3
04	300	2.8					3.0	3.3
05	250	3.1	——	——				3.4
06	235	3.8	200	3.1	100	2.0	3.5	3.6
07	300	4.0	200	3.5	100	2.3	3.8	3.4
08	300	4.5	200	3.8	100	2.6	4.2	3.4
09	350	4.6	200	3.9	100	2.8	5.0	3.3
10	310	5.0	200	4.0	100	2.9	4.6	3.4
11	360	5.0	200	4.0	100	3.0	4.5	3.2
12	390	5.0	200	4.1	100	3.0		3.1
13	390	4.9	200	4.1	100	3.0	4.6	3.1
14	345	4.9	200	4.0	100	3.0		3.2
15	355	4.8	200	4.0	100	3.0		3.2
16	330	4.6	200	4.0	100	2.8		3.3
17	330	4.8	200	3.8	100	2.7		3.3
18	300	4.9	200	3.6	100	2.4	4.0	3.3
19	300	4.8	200	3.2	100	2.0		3.4
20	240	5.5			——	——	4.0	3.5
21	210	5.3					3.5	3.5
22	250	4.8						3.5
23	250	4.4						3.4

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

Table 20

Baton Rouge, Louisiana (30.5°N, 91.2°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.2					3.8	3.1
01	280	3.2					3.8	3.1
02	280	3.0					3.9	3.1
03	290	2.6					2.9	3.1
04	300	2.6					3.1	3.1
05	290	2.7					3.2	3.2
06	270	3.4	230	——	120	1.8	3.7	3.4
07	400	4.0	230	3.5	110	2.3	3.9	2.8
08	440	4.4	210	3.8	110	2.6	6.2	2.9
09	450	4.5	210	4.0	110	2.9	6.0	2.7
10	420	4.7	200	4.1	110	3.1	5.4	2.9
11	430	4.8	210	4.2	110	3.2	5.6	3.0
12	470	4.7	210	4.2	110	3.2	4.6	2.7
13	440	5.0	210	4.2	110	3.3	4.3	2.8
14	400	5.0	220	4.1	110	3.2	4.5	2.8
15	350	5.3	220	4.0	110	3.1	5.2	3.0
16	360	5.3	230	3.9	110	2.8	4.2	3.0
17	330	5.2	230	3.6	120	2.5	4.3	3.1
18	280	5.4	240	3.2	120	2.0	4.2	3.3
19	250	5.3					3.9	3.3
20	250	5.1					4.0	3.2
21	260	4.4					3.2	3.2
22	270	3.8					3.0	3.1
23	280	3.4					3.6	3.1

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 21

Formosa, China (25.0°N, 121.5°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	---					5.9	---
01	280	---					6.0	---
02	280	---					6.3	---
03	280	---					4.6	---
04	260	(4.4)					4.2	(3.0)
05	280	3.4					3.7	3.1
06	250	4.7	---	---	100	2.0	3.7	3.3
07	260	5.2	200	3.8	100	2.4	4.8	3.4
08	300	5.1	230	4.1	100	2.8	6.2	(3.1)
09	350	5.1	220	4.3	100	3.0	7.2	(2.8)
10	360	5.4	220	4.4	---	---	6.7	(3.0)
11	380	5.6	200	---	---	---	6.3	2.7
12	380	6.5	---	---	---	---	6.6	2.7
13	380	6.8	220	4.5	---	---	6.1	2.8
14	370	7.6	240	4.4	---	---	5.6	2.8
15	360	8.5	240	4.3	---	---	6.4	2.8
16	320	8.8	240	4.1	100	2.9	5.5	3.0
17	300	9.1	240	3.7	110	2.6	5.4	3.2
18	240	7.8	---	---			5.0	3.4
19	240	7.1					4.7	3.3
20	260	5.8					4.0	3.0
21	280	5.4					3.8	3.0
22	300	4.8					4.0	2.9
23	320	4.4					4.3	2.8

Time: 120.0°E.
Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 22

Leopoldville, Belgian Congo (4.2°S, 15.3°E) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(220)	(3.7)					2.6	(2.4)
01	(220)	(3.2)					2.9	(2.4)
02	250	3.0					3.2	2.2
03	(240)	2.6					3.1	2.2
04	——	(2.2)					3.1	(2.3)
05	250	3.0			——	——	2.8	2.3
06	245	5.4	245	——	125	2.1	3.1	2.4
07	235	6.2	230	4.0	120	2.6	3.6	2.4
08	270	6.5	225	4.1	120	3.0	4.4	2.4
09	290	6.8	210	4.3	115	3.2	4.2	2.3
10	290	7.1	210	4.3	115	3.3	4.3	2.2
11	290	7.3	200	4.4	115	3.4	4.3	2.2
12	300	7.3	200	4.3	115	3.4	4.0	2.1
13	300	8.0	200	4.2	115	3.2	4.0	2.0
14	300	8.7	195	4.0	120	3.0	4.0	2.1
15	285	9.0	240	4.0	120	2.6	3.5	2.1
16	260	8.9	250	——	125	2.1	3.1	2.2
17	235	8.0			——	——	3.4	2.2
18	220	8.0					2.9	2.4
19	210	7.2					2.5	2.8
20	210	4.0					2.4	2.5
21	220	3.8					2.2	2.2
22	240	3.3					2.4	2.2
23	230	3.8					2.4	2.2

Time: 0.0°.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 23

Huancayo, Peru (12.0°S, 75.3°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.0						3.2
01	250	3.8						3.2
02	260	3.2						3.2
03	260	3.0						3.3
04	250	2.6						3.4
05	270	2.1						3.2
06	300	2.1			---	1.0		2.9
07	240	4.6	---	---	110	1.8	5.6	3.2
08	300	5.8	220	---	110	2.5	8.0	3.0
09	350	6.0	210	4.0	110	---	11.0	2.8
10	390	5.8	200	4.1	110	---	11.8	2.6
11	410	5.8	200	4.2	110	---	12.8	2.6
12	410	6.0	190	4.2	100	---	12.0	2.6
13	400	6.0	190	4.1	110	---	11.8	2.6
14	380	6.2	200	4.1	110	---	11.5	2.6
15	380	6.2	200	4.0	110	---	10.5	2.6
16	(310)	6.2	200	---	110	---	9.4	2.6
17	260	6.5	230	---	110	2.0	5.6	2.8
18	260	6.6			---	---		2.9
19	260	6.0						3.0
20	270	5.5						3.1
21	250	5.3						3.1
22	240	5.1						3.3
23	240	4.4						3.3

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

Table 24

Buenos Aires, Argentina (34.6°S, 58.5°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	2.4						2.9
01	320	2.4						2.9
02	300	2.7						3.0
03	260	2.8						3.2
04	220	2.7						3.5
05	240	(2.0)						(3.4)
06	300	(1.8)						(3.2)
07	240	3.4						3.5
08	240	4.8	——	——	——	——		3.6
09	250	4.8	230	——	——	——	3.4	3.5
10	270	5.2	220	——	110	2.7	3.8	3.5
11	260	5.7	210	3.8	110	2.6	3.7	3.5
12	270	8.0	210	3.9	110	2.8	3.9	3.4
13	260	8.0	210	3.9	——	——	3.9	3.5
14	250	6.1	210	(3.8)	——	——	3.5	3.4
15	240	6.5	220	——	——	2.5	3.5	3.5
16	220	5.5	(220)	——			3.4	3.8
17	220	5.2						3.5
18	220	4.3						3.4
19	240	3.3						3.4
20	260	3.1						3.2
21	270	3.1						3.2
22	270	2.9						3.3
23	300	2.6						(3.0)

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

Table 25

Decepcion I. (63.0°S, 60.7°W) July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.6						(3.1)
01	310	2.5						(3.0)
02	310	2.5						(3.1)
03	300	2.6						(3.1)
04	300	2.6						(3.1)
05	300	2.7						(3.1)
06	270	2.6						(3.2)
07	280	2.6						(3.3)
08	280	2.5						(3.2)
09								
10	210	4.0					3.4	(3.6)
11	210	4.6					3.0	(3.6)
12								
13	220	4.8					3.0	(3.7)
14	210	4.5					2.6	(3.6)
15	220	4.4					1.8	(3.6)
16	220	3.7						(3.5)
17								
18	250	2.7						(3.3)
19	300	2.6						(3.2)
20	300	2.3						(3.1)
21	300	2.5						(3.1)
22	310	2.4						(3.1)
23	310	2.5						(3.0)

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

Table 26

Resolute Bay, Canada (74.7°N, 94.9°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.0	220	(2.9)	110	1.8		3.1
01	270	3.8	210	3.0	110	1.8		3.1
02	280	3.8	210	3.0	110	1.9		3.1
03	300	3.8	200	3.1	100	2.0		3.0
04	350	3.9	200	3.2	110	2.1		3.0
05	380	3.7	210	3.3	100	2.3		2.9
06	410	3.7	210	3.4	100	2.4		(2.7)
07	0	<3.8	200	3.6	100	2.5		0
08	0	<3.7	200	3.6	100	2.6		0
09	0	<3.9	200	3.7	100	2.7		0
10	0	3.9	200	3.7	100	2.8		0
11	0	<4.0	200	3.7	100	2.9		0
12	0	<4.0	200	3.8	100	2.9		0
13	0	<3.9	200	3.8	100	2.9		0
14	0	<3.9	200	3.8	100	2.8		0
15	0	<3.8	200	3.7	100	2.7		0
16	440	4.2	200	3.6	100	2.6		(2.7)
17	410	4.0	200	3.6	100	2.5		(2.7)
18	400	4.0	200	3.4	100	2.4		2.7
19	340	4.0	200	3.4	100	2.3		2.9
20	350	4.0	200	3.3	100	2.2		3.0
21	300	4.1	220	3.2	110	2.1		3.1
22	280	4.1	220	3.0	110	1.9		3.1
23	270	4.0	220	(3.0)	110	1.8		3.1

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

Table 27

Baker Lake, Canada (64.3°N, 96.0°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	3.9			---	---	4.2	3.0
01	240	3.6			---	(1.4)	4.1	3.0
02	240	3.4			---	1.5	3.7	3.0
03	240	3.3	---	---	120	1.8	2.8	3.0
04	270	3.5	220	3.0	110	1.9	3.8	3.0
05	360	3.6	200	3.2	100	2.2	3.7	2.8
06	420	3.8	200	3.4	100	2.3	4.0	2.7
07	450	4.0	200	3.7	100	2.5	5.9	2.7
08	530	4.0	200	3.8	100	2.8	4.0	2.5
09	520	4.2	200	3.9	100	3.0	4.4	2.6
10	545	4.2	220	4.0	100	3.2	4.0	2.6
11	500	4.2	210	4.0	100	3.2	3.8	2.5
12	480	4.2	200	4.0	100	3.2	3.7	2.7
13	470	4.4	210	4.0	100	3.2	3.6	2.7
14	390	4.8	200	4.0	100	3.1	4.7	2.8
15	400	4.7	200	3.9	100	3.0		2.8
16	400	4.6	200	3.8	100	3.0		2.8
17	390	4.4	200	3.8	100	2.8	6.2	2.8
18	380	4.4	210	3.7	100	2.6	6.6	2.9
19	330	4.3	210	3.4	100	2.4	6.2	2.9
20	290	4.0	220	3.2	100	2.1	4.0	3.0
21	270	4.0	210	2.7	120	1.8	6.0	3.0
22	250	3.8			---	1.8	4.0	3.0
23	250	3.8			---	(1.5)	4.0	3.0

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

Table 28

Churchill, Canada (58.8°N, 94.2°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.8			---	---	6.5	3.0
01	280	3.5			---	---	8.2	---
02	300	3.5			---	---	7.2	3.0
03	290	3.4			(100)	(2.5)	6.6	(3.0)
04	280	3.5	---	---	120	2.4	6.8	(3.1)
05	300	3.8	(240)	3.2	110	2.6	5.6	2.9
06	360	<4.0	230	<3.6	110	3.2	5.9	0
07	460	<4.0	230	3.8	100	3.5	5.8	2.6
08	500	4.2	210	4.0	100	3.4	6.4	2.4
09	470	4.3	210	4.0	100	3.2	6.0	2.6
10	440	4.4	210	4.0	100	3.2	6.0	2.6
11	490	4.5	210	4.1	100	3.2		2.6
12	460	4.4	200	4.1	100	3.2	6.9	2.7
13	420	4.7	210	4.1	100	3.2		2.6
14	400	5.0	210	4.1	100	3.2	4.0	2.7
15	390	5.0	210	4.0	100	3.1		2.8
16	370	4.9	210	4.0	100	3.0		2.8
17	350	4.9	220	3.9	100	3.0		2.9
18	360	4.8	230	3.7	110	3.0		2.9
19	340	4.5	270	3.5	110	2.9		2.9
20	300	4.0	---	---	110	2.9		3.0
21	290	4.0			120	2.4	6.0	3.0
22	280	3.8			120	(2.0)	10.0	3.0
23	280	3.8			---	---	9.0	3.0

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 16 seconds.

Table 29

Fort Chimo, Canada (58.1°N, 68.3°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.4			120	2.3	6.2	3.0
01	280	3.2			---	---	5.0	(3.0)
02	300	3.2			100	2.5	5.0	3.0
03	290	3.5			100	2.8		3.0
04	300	<3.8			100	3.4		3.0
05	320	3.8	250	3.6	100	3.2		3.0
06	480	4.0	250	3.8	100	3.2		2.7
07	460	4.2	240	3.8	100	3.0		2.6
08	430	4.4	230	4.0	100	3.0		2.8
09	420	4.5	210	4.0	100	3.0		2.8
10	410	4.6	210	4.0	100	3.1		2.8
11	400	4.7	200	4.0	100	3.0		2.8
12	420	4.6	200	4.0	100	3.0		2.7
13	420	4.8	200	4.0	100	3.0		2.8
14	400	4.8	200	4.0	100	3.0		2.8
15	400	4.9	210	4.0	100	3.0		2.8
16	420	4.7	230	3.9	100	3.0		2.7
17	390	4.7	250	3.8	100	3.0		2.9
18	390	4.3	280	3.5	100	2.8		2.8
19	300	4.0	250	3.2	100	2.8		2.9
20	280	4.0			110	2.4	4.2	3.0
21	270	3.8			100	2.1	6.0	3.0
22	280	3.7			---	---	6.0	3.0
23	280	3.5			100	2.8	6.0	3.0

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

Table 30

Prince Rupert, Canada (54.3°N, 130.3°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.0					4.4	
01	290	2.4					3.3	
02	300	2.2					4.0	
03	300	2.0					3.2	
04	280	2.6			---	---	2.8	---
05	300	3.2	240	2.8	110	1.6	3.0	3.2
06	500	3.6	220	3.2	110	2.0	3.2	0
07	500	3.8	210	3.5	100	2.4	3.8	0
08	0	4.0	200	3.8	100	2.6	3.7	0
09	500	4.3	200	3.9	100	2.8	4.1	2.7
10	440	4.6	200	4.0	100	3.0	4.4	2.7
11	400	4.8	200	4.0	100	3.0	4.0	2.8
12	410	4.8	200	4.1	100	3.0	4.2	2.9
13	410	4.8	200	4.1	100	3.1	4.0	2.9
14	450	4.6	200	4.1	100	3.1	4.0	2.9
15	470	4.5	200	4.1	100	3.0	4.6	2.8
16	450	4.4	210	4.0	100	3.0	4.0	2.8
17	400	4.4	210	3.9	100	2.8	3.8	2.9
18	360	4.4	220	3.7	110	2.5	3.4	3.1
19	320	4.3	230	3.4	110	2.2	3.0	3.2
20	260	4.5	240	---	120	1.9	3.5	3.2
21	260	4.4			---	---	4.0	3.2
22	250	4.1			---	---	4.0	---
23	260	3.9					4.2	

Time: 120.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 31

Winnipeg, Canada (49.9°N, 97.4°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	2.8						(3.0)
01	310	2.4					3.2	(2.9)
02	330	2.5					3.2	---
03	320	2.8					3.3	---
04	290	2.6					2.8	(3.0)
05	260	3.1	220	3.0	120	1.7	2.6	(3.0)
06	470	3.6	220	3.3	120	2.1	3.4	(2.6)
07	560	3.7	200	3.6	110	2.5		G
08	500	4.1	200	3.8	110	2.8		(2.6)
09	450	4.3	200	4.0	110	3.9	4.5	(2.7)
10	520	4.2	200	4.0	110	3.0	4.6	2.8
11	440	4.5	200	4.1	110	3.1	4.5	2.8
12	440	4.6	200	4.1	110	3.1		2.7
13	440	4.6	200	4.1	110	3.1	4.2	3.8
14	440	4.6	200	4.1	110	3.1	4.5	2.8
15	400	4.7	210	4.1	110	3.0		2.9
16	400	4.7	210	4.0	110	3.0		3.0
17	360	4.8	210	3.9	110	2.8		3.0
18	330	4.8	220	3.7	110	2.5		3.0
19	290	4.9	230	3.3	120	3.1	3.0	3.2
20	250	4.6	240	---	---	---	3.2	3.2
21	250	4.5					3.4	3.2
22	260	3.7					3.4	(3.3)
23	280	3.0					3.3	(3.0)

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 16 seconds.

Table 32

St. John's, Newfoundland (47.6°N, 52.7°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.9					2.4	3.0
01	270	2.6						3.0
02	270	2.4						3.0
03	280	2.3					2.8	3.0
04	240	3.1			120	E	1.8	3.3
05	260	3.6	220	3.2	120	2.1		3.2
06	330	4.0	220	3.6	110	2.5	2.9	3.2
07	360	4.5	220	3.9	110	2.8	4.0	3.0
08	330	4.6	200	4.0	110	3.0	3.2	3.2
09	360	4.6	200	4.1	100	3.1		3.0
10	380	4.7	200	4.3	100	3.2	4.3	2.9
11	400	4.9	200	4.3	110	3.2	4.1	2.8
12	390	4.9	200	4.3	100	3.3	4.1	2.8
13	400	4.8	200	4.2	100	3.2	4.0	2.8
14	400	4.9	200	4.1	110	3.2	3.5	2.9
15	380	5.0	210	4.0	110	3.0	3.0	3.0
16	360	5.0	220	4.0	110	2.8	3.2	3.0
17	330	5.1	230	3.7	110	2.5	3.3	3.1
18	300	5.4	240	3.3	120	2.1	4.3	3.3
19	250	5.7	240	---	---	E	3.2	3.3
20	240	5.3					1.5	3.2
21	240	4.8					2.6	3.2
22	250	3.9					2.3	3.0
23	270	3.3					3.0	3.0

Time: 60.0°W.
Sweep: 0.8 Mc to 10.0 Mc in 18 seconds.

Table 33

Ottawa, Canada (45.4°N, 75.7°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.5						3.0
01	300	2.2					2.0	3.0
02	300	1.9					2.7	3.0
03	---	2.0			---	---	3.2	2.9
04	290	2.2			---	---		3.0
05	260	3.2	220	3.3	120	1.8		3.0
06	G	3.8	220	3.6	110	2.3	2.9	G
07	G	3.9	200	3.7	110	2.7		3.5
08	550	4.2	200	3.9	110	2.9		G
09	460	4.2	200	4.0	100	3.0		2.8
10	500	4.5	200	4.1	100	3.3	4.3	G
11	480	4.6	200	4.2	100	3.2	4.0	2.6
12	500	4.6	200	4.2	100	3.3	4.0	2.6
13	450	4.8	200	4.2	100	3.3	4.3	2.7
14	440	4.8	200	4.1	100	3.3	3.9	2.7
15	400	4.8	210	4.0	110	3.1		2.9
16	380	4.8	210	3.9	100	3.0		2.9
17	350	5.0	210	3.8	110	2.7		3.0
18	300	6.0	220	3.5	110	2.3		3.0
19	260	5.0	220	---	120	1.9	3.0	3.1
20	240	5.0					3.0	3.1
21	250	4.2						3.1
22	260	3.3						3.0
23	270	2.9						3.0

Time: 75.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 34

Buenos Aires, Argentina (34.5°S, 58.5°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.5						2.9
01	300	2.6						3.0
02	280	2.6						3.0
03	260	2.6						3.2
04	230	2.5						3.3
05	220	2.0						3.5
06	260	(1.5)						3.2
07	230	3.5						3.5
08	220	4.7	200	2.4			2.9	3.6
09	240	5.0	210	---	---	---	3.4	3.6
10	250	5.4	220	---	110	2.8	3.7	3.6
11	250	5.4	200	3.3	110	2.8	3.8	3.6
12	250	6.2	200	3.8	120	2.8	4.0	3.5
13	260	6.4	200	3.6	110	2.8	3.6	3.4
14	250	6.4	200	3.1	110	2.7	3.8	3.4
15	240	6.4	220	---	120	2.4	3.0	3.4
16	220	6.4	220	---			2.7	3.6
17	210	5.2						3.5
18	210	4.2						3.4
19	240	3.6						3.2
20	240	3.6						3.2
21	240	3.1						3.3
22	260	2.6						3.2
23	300	2.4						3.1

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

Table 35

Decepcion I. (63.0°S, 60.7°W) June 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	2.7						2.8
01	310	2.6						2.8
02	310	2.7						2.8
03	310	2.8						2.9
04	310	2.6						2.8
06	300	2.6						(2.8)
06	290	2.6						(2.9)
07	280	2.4						(3.1)
08	260	2.5					2.0	(3.1)
09								
10	220	4.0					2.8	(3.5)
11	220	4.7					3.0	(3.5)
12								
13	210	4.8					2.2	(3.7)
14	220	4.6						(3.6)
15	210	4.2						(3.4)
16	220	3.3						(3.4)
17								
18	270	2.7						(3.0)
19	300	2.6						(2.9)
20	300	2.4						(2.9)
21	310	2.4						(2.9)
22	310	2.4						(2.9)
23	330	2.7						(2.9)

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

Table 36

Wakkanai, Japan (45.4°N, 141.7°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.8						2.8
01	300	4.5						2.8
02	300	4.2						2.9
03	300	4.0						2.9
04	300	3.7						3.0
05	300	4.3	290	---	130	1.6	1.4	3.0
06	300	5.0	270	3.6	120	3.4	3.5	3.0
07	300	5.4	280	3.8	130	2.8	3.6	3.1
08	(330)	(5.9)	270	---	120	3.0	4.0	(3.0)
09	---	---	---	---	120	3.1	4.4	---
10	(350)	(5.8)	---	---	120	3.2	5.0	(3.0)
11	(360)	(5.3)	250	4.5	120	3.3	4.1	(2.9)
13	(400)	(5.5)	220	4.4	120	3.3	3.8	(3.7)
13	(350)	(5.5)	230	---	120	3.1	3.8	(3.8)
14	(330)	5.4	240	4.0	120	3.1	3.6	3.0
15	360	5.6	230	4.0	120	2.9		3.0
16	320	5.5	250	3.9	120	3.7		2.9
17	320	5.6	280	3.8	130	3.4		3.0
18	300	5.4	290	3.2	---	---	3.8	3.0
19	300	5.7					3.2	3.0
20	290	5.8					2.8	2.9
21	300	5.3					3.9	2.9
22	300	5.2					2.8	2.8
23	300	4.9						3.8

Time: 135.0°E.
Sweep: 1.0 Mc to 15.5 Mc in 2 minutes.

Table 37

Akita, Japan (39.7°N, 140.1°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.6					2.5	2.8
01	290	4.4					2.3	2.8
02	270	4.2					2.6	2.6
03	270	3.9					2.6	2.9
04	250	3.7					2.3	3.0
05	250	4.1	250	2.4	130	1.6	3.5	3.3
06	270	4.6	250	3.4	120	3.3	3.4	3.3
07	270	4.8	240	3.7	110	3.7	4.5	3.3
08	290	5.2	250	4.0	110	3.9	5.5	3.3
09	330	5.3	230	4.3	110	3.1	5.5	3.1
10	360	5.3	220	4.2	110	3.3	5.3	3.9
11	350	5.4	230	4.3	110	3.2	5.4	3.0
12	390	5.5	240	4.3	110	3.3	5.0	2.9
13	370	5.7	230	4.2	110	3.1	4.6	3.0
14	330	6.2	240	4.1	110	3.0	4.7	3.1
15	320	6.3	230	4.0	110	3.6	4.2	3.1
16	300	6.0	240	3.8	110	2.6	4.1	3.1
17	280	6.0	240	3.5	120	3.3	3.5	3.2
18	270	5.6	250	2.8	130	1.6	4.0	3.2
19	260	5.7					4.0	3.1
20	270	5.6					3.1	3.0
21	280	5.5					3.1	2.9
22	280	4.9					3.0	2.6
23	290	4.7					3.4	2.6

Time: 135.0°E.
Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 38

Tokyo, Japan (35.7° N, 139.5°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.8					3.0	2.9
01	300	4.5					2.9	2.9
02	270	4.4					2.5	2.9
03	260	4.4					2.9	2.9
04	250	4.0					2.3	3.0
05	250	4.2			140	1.6	3.9	3.2
06	260	5.1	250	3.3	120	2.2	4.0	3.2
07	280	5.5	250	3.8	110	2.6	4.9	3.2
08	300	5.6	260	4.0	110	3.0	5.5	3.1
09	320	5.5	230	4.3	110	3.0	6.2	2.9
10	380	5.4	220	4.2	110	3.2	5.6	2.9
11	380	5.7	220	4.4	110	3.2	6.0	2.6
12	370	6.0	240	4.3	110	3.2	6.2	3.6
13	340	6.8	240	4.3	110	3.2	5.5	3.9
14	330	7.3	240	4.2	110	3.1	5.5	3.0
15	300	7.5	240	4.1	110	3.0	5.0	3.0
16	300	7.3	250	3.9	110	3.7	5.0	3.0
17	280	5.6	240	3.5	120	3.3	4.6	3.1
18	260	6.6	250	---	120	1.6	4.4	3.2
19	260	6.5					4.2	3.0
20	260	5.9					4.0	3.0
21	300	5.3					3.6	2.6
22	290	4.9					3.5	2.8
23	300	4.9					4.2	2.9

Time: 135.0°E.
Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 39

Yamagawa, Japan (31.2°N, 130.6°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	5.0					3.2	3.1
01	250	4.8					3.2	3.1
02	230	4.6					3.6	3.2
03	220	3.9					2.4	3.3
04	240	3.4					2.4	3.3
05	240	3.4					3.0	3.3
06	220	4.8	---	---	110	1.6	3.1	3.6
07	220	5.8	220	---	100	2.3	4.6	3.6
08	230	5.3	210	4.0	100	2.8	5.4	3.6
09	270	5.6	210	4.2	100	3.0	5.6	3.4
10	310	5.8	210	4.4	100	3.1	6.4	3.2
11	300	6.2	200	4.4	100	3.2	5.7	3.2
12	320	5.7	210	4.4	100	3.3	5.4	3.1
13	300	8.0	200	4.4	100	3.3	5.5	3.1
14	290	6.4	200	4.4	100	3.2	5.7	3.2
15	270	8.6	200	4.3	100	3.2	5.4	3.3
16	250	9.0	220	4.2	100	2.9	5.1	3.4
17	250	8.0	210	3.8	100	2.6	5.6	3.5
18	240	7.5	220	3.4	100	2.1	5.6	3.5
19	230	6.6					4.6	3.4
20	230	6.0					3.6	3.3
21	260	5.6					4.0	3.0
22	270	5.1					3.7	3.0
23	280	5.0					3.6	3.0

Time: 135.0°E.
Sweep: 1.0 Mc to 17.5 Mc in 15 minutes, manual operation.

Table 40

Calcutta, India (22.6°N, 88.4°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.4						2.8
01	(300)	(4.7)						
02	(285)	(4.7)						
03	285	4.2						3.6
04	270	(3.2)						
05	(255)	(3.6)					2.5	
06	240	5.0				---	2.4	3.1
07	210	5.9				3.6	3.0	
08	210	6.5				3.9		
09	225	7.6				3.4	4.2	3.8
10	240	6.4				3.6	4.1	
11	240	10.0				---		
12	240	10.2				---		3.6
13	270	10.5				---		
14	270	10.5				---		
15	260	10.5				---		2.8
16	240	10.5				---		
17	240	10.7				---	4.3	
18	(240)	10.2					3.4	(3.1)
19	225	9.6					3.2	
20	240	8.1					3.5	
21	(240)	(6.3)					(2.6)	(3.1)
22	230	(4.8)					(3.0)	
23	270	(4.6)					2.8	

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 41

Buenos Aires, Argentina (34.5°S, 58.5°W) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	2.8						2.9
01	320	3.1						2.9
02	310	2.8						3.0
03	270	3.0						3.2
04	240	3.2						3.5
05	280	E						3.6
06	300	E						3.2
07	220	4.3						3.6
08	230	5.1	220	---	---	---	3.4	3.6
09	240	5.6	220	---	120	2.7	3.6	3.5
10	250	6.3	210	4.0	120	2.8	4.0	3.5
11	250	7.2	210	4.0	120	2.9	3.9	3.5
12	250	7.0	210	4.0	110	3.0	3.9	3.5
13	250	7.2	200	3.8	120	3.0	3.9	3.4
14	250	7.5	210	3.7	---	---	3.8	3.4
15	240	8.0	230	---	---	---	3.8	3.5
16	220	7.2	220	---			3.8	3.6
17	210	5.6					4.0	3.6
18	220	4.1						3.5
19	250	3.7						3.1
20	240	3.6						3.3
21	240	3.7						3.3
22	270	3.3						3.2
23	300	3.0						3.0

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

Table 42

Decepcion I. (63.0°S, 60.7°W) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.6						2.9
01	300	2.6						2.9
02	310	2.8						2.9
03	300	2.6						2.9
04	300	2.8						2.9
06	290	2.8						2.9
06	270	2.6						(3.2)
07	240	2.6						(3.3)
08	240	3.3						(3.3)
09								
10	200	5.4						(2.6)
11	210	6.6					2.0	(3.7)
12								
13	210	5.8					2.0	(3.7)
14	210	5.6					2.0	(3.7)
16	210	5.0						(3.7)
16	210	4.6						(3.5)
17								
16	250	2.9						(3.3)
19	270	2.8						(3.3)
20	300	2.6						(3.0)
21	300	2.4						(2.9)
22	310	2.4						2.9
23	310	2.6						2.9

Time: 60.0°W.
Sweep: 1.5 Mc to 16.0 Mc in 16 minutes, manual operation.

Table 43

Calcutta, India (22.6°N, 88.4°E) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.3						2.8
01	270	4.6						
02	270	4.2						
03	(270)	3.4					2.4	(3.0)
04	270	3.0						
05	240	2.5						
06	240	4.6						3.1
07	225	6.4				2.4	2.7	
08	240	7.8				2.7	2.9	
09	240	8.4				3.2		3.0
10	255	9.6				3.4		
11	240	10.5				4.0		
12	240	10.2				---		3.0
13	240	10.5				3.8		
14	240	10.8				3.5		
15	240	10.7				---		3.1
16	240	10.5				3.0		
17	240	11.0				2.8		
18	240	11.0				---		3.1
19	225	10.4						
20	240	8.3						
21	240	6.0						3.0
22	300	5.2						
23	300	4.8						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 44

Buenos Aires, Argentina (34.5°S, 58.5°W) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.6						2.9
01	300	3.5					3.6	2.9
02	300	3.4					2.6	2.9
03	270	3.5						3.1
04	230	3.6						3.4
05	250	1.8						(3.3)
06	260	3.2						3.2
07	230	5.7					2.4	3.5
08	240	6.5	230	---	---	---	3.8	3.5
09	250	7.2	220	---	110	2.6	3.6	3.4
10	260	6.0	220	3.6	110	3.0	4.2	3.3
11	280	9.0	200	4.1	100	3.1	4.6	3.1
12	270	9.5	200	4.0	110	3.2	4.5	3.2
13	270	10.4	200	3.6	---	---	4.8	3.2
14	250	10.6	220	---	---	---	4.4	3.3
15	240	9.2	230	---	---	---	4.5	3.4
16	230	6.3	220	---			4.2	3.6
17	220	6.6	---	---			3.7	3.6
18	210	5.3					3.6	3.5
19	240	4.4					2.4	3.2
20	250	4.8						3.1
21	240	4.2						3.2
22	280	3.6						3.0
23	300	3.6						2.9

Time: 60.0°W.
Sweep: 1.0 Mc to 26.0 Mc in 30 seconds.

Table 45

Decepcion I. (63.0°S, 60.7°W) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	3.1						2.9
01	310	3.0						2.9
02	310	3.1						2.9
03	300	3.0						2.9
04	300	3.1						2.9
05	300	3.0						2.9
06	280	3.0						(3.1)
07	230	3.9						(3.4)
08	220	5.2					2.0	(3.6)
09								
10	220	6.2					2.5	(3.7)
11	220	6.7					2.5	(3.7)
12								
13	210	6.8					2.0	(3.8)
14	220	6.5					2.0	(3.6)
15	210	5.8					2.0	(3.7)
16	220	5.5						(3.7)
17								
18	220	4.9						(3.5)
19	220	4.5						(3.4)
20	250	4.0						(3.2)
21	290	3.3						(3.1)
22	290	3.1						(3.0)
23	310	3.1						2.9

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

Table 46*

Inverness, Scotland (57.4°N, 4.2°W) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	345	(2.0)						(2.6)
01	335	(1.6)					2.1	(2.7)
02	340	(1.6)					2.3	
03	345	(1.6)					2.0	
04	340	(1.5)					2.2	
05	310	(1.6)					2.3	
06	290	(2.0)						(3.1)
07	255	3.1			140	1.7	2.3	3.3
08	245	3.7	225	3.3	125	2.0	2.3	3.4
09	300	4.2	210	3.5	115	2.2	2.7	3.2
10	320	4.3	205	3.6	115	2.4	2.7	3.2
11	330	4.5	205	3.8	110	2.5	2.8	3.3
12	335	4.7	210	3.8	110	2.6	2.8	3.1
13	325	4.6	210	3.9	115	2.6	2.7	3.1
14	320	4.9	210	3.8	115	2.6	2.5	3.2
15	305	4.8	225	3.5	120	2.4	1.6	3.2
16	295	4.8	225	3.4	125	2.4	2.5	3.2
17	270	4.8	240	3.0	140	1.9	2.0	3.2
18	250	4.7			150	1.8		3.2
19	255	4.6						3.1
20	270	4.0						3.1
21	290	3.0						2.9
22	315	2.4						2.9
23	365	---						(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 47*

Slough, England (51.5°N, 0.6°W) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	2.5					2.5	2.8
01	285	2.4					2.6	2.8
02	290	2.3					2.6	2.8
03	285	2.2					3.0	2.8
04	285	2.0					3.1	2.8
05	280	1.8					3.8	2.9
06	270	2.6					2.6	3.0
07	245	3.6	225	(2.8)	135	1.8	3.6	3.4
08	300	4.3	225	3.4	125	2.2	4.0	3.4
09	305	4.7	215	3.7	120	2.5	3.9	3.3
10	325	4.9	215	3.9	120	2.7	4.2	3.4
11	330	5.0	215	4.0	120	2.6	4.3	3.2
12	335	5.1	210	4.1	120	2.9	4.0	3.2
13	310	5.3	215	4.0	120	2.9	3.9	3.2
14	305	5.4	225	4.0	120	2.8	3.8	3.2
15	285	5.4	225	3.8	120	2.6	3.5	3.2
16	275	5.4	230	3.6	125	2.4	3.0	3.2
17	260	5.2	235	3.3	125	2.0	2.6	3.3
18	245	5.1					2.5	3.2
19	245	4.8					2.2	3.2
20	250	4.3					2.1	3.2
21	265	3.4					2.1	3.0
22	285	2.6					1.9	2.9
23	295	2.4					2.4	2.8

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 48

Calcutta, India (22.6°N, 88.4°E) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.5						3.0
01	240	4.4						
02	240	4.0						
03	(240)	(3.6)						(3.1)
04	(240)	(3.1)						
05	(240)	(2.6)						
06	240	3.2						3.1
07	210	5.2				2.2	2.5	
08	210	6.6				2.4		
09	210	7.9				2.8		3.0
10	220	8.8				3.2		
11	240	11.0				3.4		
12	240	11.0				3.4		3.1
13	230	11.0				3.4		
14	(240)	11.0				---		
15	240	11.2				---		(3.1)
16	240	11.2				2.6		
17	(210)	(10.9)				2.2		
18	(225)	(10.5)				---		(3.2)
19	210	9.8						
20	210	8.5						
21	225	6.2						3.1
22	(240)	(5.3)						
23	240	5.2						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 49*

Singapore, British Malaya (1.3°N, 103.8°E) — March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	205	7.0						3.4
01	215	4.6						3.2
02	240	4.2					1.8	3.0
03	245	3.7					1.8	3.1
04	250	2.8					1.8	3.1
05	260	2.4					1.8	3.3
06	260	2.7					2.8	3.1
07	245	6.0	235		125	2.1	3.3	3.3
08	230	7.4	225		120	2.7	4.0	3.1
09	310	8.1	220	4.4	115	3.0	4.5	2.7
10	350	8.9	210	4.5	110	3.3	5.4	2.4
11	370	9.1	205	4.5	110	3.5	5.1	2.3
12	375	9.2	205	4.6	110	3.5	4.3	2.1
13	360	9.6	205	4.5	110	3.5	4.2	2.3
14	335	9.8	205	4.5	110	3.4		2.5
15	315	10.0	205	4.3	110	3.2	3.8	2.6
16	290	9.8	215		115	2.8	4.2	2.7
17	280	9.5	230		120	2.4	3.8	2.7
18	255	9.6			(125)	1.5	3.2	2.6
19	230	9.2					2.8	2.6
20	280	9.2					2.4	2.8
21	255	9.2					2.3	2.9
22	235	8.5					1.6	3.1
23	215	8.7						3.3

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 50

Townsville, Australia (19.3°S, 146.8°E) — March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.8					3.0	3.1
01	245	3.7					3.2	3.1
02	240	3.6					3.2	3.2
03	230	3.3					2.6	3.3
04	230	3.2					2.8	3.1
05	240	2.7					2.5	3.2
06	240	2.9			---	E		3.1
07	230	4.6	---	---	115	1.8	3.6	3.4
08	235	5.7	205	3.6	110	2.6	4.3	3.3
09	300	5.8	205	4.2	110	2.9	4.4	3.2
10	280	6.8	215	4.3	110	3.2	4.4	3.2
11	295	7.8	200	4.4	110	3.3	4.3	3.2
12	290	8.0	200	4.4	110	3.4	4.4	3.2
13	290	8.0	205	4.4	110	3.3	4.5	3.2
14	280	8.3	205	4.4	110	3.3	4.4	3.2
15	280	8.4	220	4.3	110	3.2	4.5	3.2
16	2[illegible]0	8.5	220	4.0	115	2.8	4.7	3.4
17	240	7.2	---	3.7	110	2.5	4.6	3.4
18	230	6.6			---	E	4.4	3.4
19	235	4.9					3.8	3.2
20	240	4.2					3.4	3.1
21	270	4.2					3.0	3.0
22	275	4.0					3.5	2.9
23	270	3.9					2.7	3.0

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

Table 51

Brisbane, Australia (27.[illegible]°S, 153.0°E) — March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.8					3.0	3.0
01	2[illegible]	3.8					2.7	3.0
02	260	[illegible]					3.0	3.1
03	[illegible]	[illegible]					2.8	3.1
04	2[illegible]0	[illegible]					2.0	3.2
05	2[illegible]0	[illegible]					2.0	3.1
06	[illegible]	[illegible]			---	1.6		3.4
07	[illegible]	[illegible]	230	3.4	110	2.3		[illegible]
08	27[illegible]	[illegible]	220	[illegible]	110	2.8		3.3
09	280	[illegible]	210	[illegible]	100	3.1		[illegible]
10	300	[illegible]	200	4.4	100	3.2		3.2
11	300	[illegible]	20[illegible]	4.4	100	3.3		3.2
12	300	[illegible]	200	4.4	100	3.4	2.8	3.1
13	290	[illegible]	210	4.4	100	3.4		3.2
14	300	[illegible]	200	4.3	100	3.2		3.1
15	29[illegible]	7.0	220	4.2	100	3.0		3.1
16	270	7.0	230	3.8	110	2.7		[illegible]
17	240	6.8	230	3.3	120	---		[illegible]
18	270	6.1			---	E	3.2	[illegible]
19	230	[illegible]						3.2
20	240	[illegible]						3.0
21	270	4.0						2.9
22	270	4.0						3.0
23	280	[illegible]					2.[illegible]	3.0

Time: 1[illegible]0.0°E
Sweep: 1.0 Mc to 16.0 Mc in 1 minute [illegible] seconds.

Table 52

Buenos Aires, Argentina (34.5°S, 58.5°W) — March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.2					3.0	2.8
01	300	4.2						2.8
02	300	3.7					2.2	2.9
03	270	3.9					3.2	3.0
04	250	3.9					3.9	3.0
05	280	3.4					1.8	3.0
06	240	4.4						3.2
07	220	5.5	—	—	—	—	2.4	3.5
08	250	6.0	220	—	110	2.7	3.4	3.4
09	270	6.5	220	—	110	2.9	3.8	3.3
10	290	8.7	210	4.2	110	3.1	4.3	3.2
11	300	8.3	200	4.4	110	3.2	4.5	3.1
12	290	9.8	200	4.5	110	3.2	4.4	3.1
13	290	10.0	200	4.4	110	3.2	4.6	3.1
14	280	10.5	200	—	—	—	4.5	3.2
15	270	9.9	220	—	—	—	4.5	3.2
16	260	9.0	240	—	—	—	4.2	3.3
17	240	9.3	240	—	—	—	3.7	3.3
18	220	8.5					3.7	3.4
19	210	7.8					3.1	3.5
20	220	5.3					3.7	3.1
21	270	4.6					3.5	3.0
22	280	4.4					3.0	3.0
23	300	4.3					2.4	3.0

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

Table 53

Canberra, Australia ([illegible]°S, 149.0°E) — March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	2[illegible]	3.4					2.8	3.0
01	2[illegible]0	3.3					2.8	3.1
02	[illegible]	[illegible]					3.[illegible]	3.2
03	([illegible])	[illegible]					3.3	3.1
04	[illegible]	[illegible]					2.8	3.1
05	2[illegible]	3.[illegible]					2.[illegible]	3.2
06	27[illegible]	3.2			--	E	2.[illegible]	3.4
07	22[illegible]	[illegible]	220	---	100	1.8	2.[illegible]	3.[illegible]
08	2[illegible]	[illegible]	210	3.[illegible]	100	2.[illegible]		3.4
09	[illegible]	[illegible]	21[illegible]	4.0	100	2.5	3.2	3.2
10	[illegible]	[illegible]	20[illegible]	4.1	100	3.0	3.[illegible]	3.3
11	[illegible]	[illegible]	2[illegible]	4.2	100	3.2	3.7	3.3
12	[illegible]	[illegible]	1[illegible]0	[illegible]	1[illegible]	3.3	3.6	3.3
13	2[illegible]	[illegible]	19[illegible]	4.2	100	3.2	3.7	3.3
14	[illegible]	[illegible]	200	[illegible]	10[illegible]	3.2	3.8	3.2
15	2[illegible]	[illegible]	21[illegible]	[illegible]	1[illegible]	3.[illegible]	3.[illegible]	3.3
16	2[illegible]	[illegible]	[illegible]	3.9	1[illegible]0	2.7	3.[illegible]	3.3
17	2[illegible]	[illegible]	[illegible]2[illegible]	3.[illegible]	110	2.0	3.4	3.3
18	2[illegible]	[illegible]		[illegible]	---	1.[illegible]	3.2	3.3
19	2[illegible]	[illegible]					2.8	3.3
20	[illegible]	[illegible]					2.8	3.2
21	2[illegible]	[illegible]					2.[illegible]	3.2
22	([illegible])	[illegible]					2.[illegible]	3.1
23	[illegible]	[illegible]					2.6	3.1

Time: 150.0°E
Sweep: 1.0 Mc to 1[illegible] Mc in 1 minute [illegible] seconds.

Table 54

Hobart, Tasmania (42.9°S, 147.3°E) — March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.6						2.8
01	290	2.[illegible]						2.9
02	29[illegible]	2.[illegible]						2.9
03	28[illegible]	2.2						3.0
04	270	2.0						3.0
05	290	2.1						3.0
06	2[illegible]0	3.0			---	E		3.0
07	2[illegible]0	3.8			100	2.0		3.1
08	240	4.1			100	2.[illegible]		3.1
09	3[illegible]0	4.6	210	4.0	100	2.8		2.9
10	360	5.0	200	4.1	100	3.0		2.8
11	370	[illegible].2	200	4.2	100	3.0		2.8
12	3[illegible]0	[illegible]	200	4.3	100	3.0		2.9
13	3[illegible]0	[illegible]	200	4.3	100	3.0		2.9
14	320	[illegible]	200	4.2	100	3.0		3.0
15	300	[illegible]	20[illegible]	4.0	100	2.8		3.0
16	2[illegible]	[illegible]	---	---	100	2.[illegible]		3.0
17	2[illegible]	[illegible]			100	2.1		3.0
18	2[illegible]0	[illegible]			---	E		3.0
19	2[illegible]0	5.[illegible]						3.0
20	2[illegible]0	[illegible]						3.0
21	2[illegible]0	[illegible]						3.0
22	270	3.0						3.0
23	290	2.6						2.9

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute [illegible] seconds.

Table 55

Decepcion I. (63.0°S, 60.7°W) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	3.4						2.9
01	320	3.3						2.9
02	310	3.2						(3.0)
03	310	3.2						3.0
04	290	3.3						(3.0)
05	280	3.2					2.0	(3.1)
06	250	3.6					2.0	(3.2)
07	250	3.7					2.2	(3.3)
08	240	4.0					2.8	(3.4)
09								
10	230	5.0					3.8	3.4
11	250	5.4					3.5	(3.4)
12								
13	240	5.7					3.0	(3.4)
14	240	5.5					3.0	(3.4)
15	240	5.3					3.0	(3.5)
16	230	5.1					2.0	(3.4)
17								
18	240	5.1						3.3
19	250	5.4						3.2
20	250	4.8						3.3
21	250	4.8						3.2
22	280	4.2						3.0
23	300	3.6						3.0

Time: 60.0°W.
Sweep: 1.5 Mc to 15.0 Mc in 15 minutes, manual operation.

Table 56

Calcutta, India (22.6°N, 88.4°E) February 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	4.2						2.9
01	240	4.2						
02	250	4.5						
03	240	3.8						(3.1)
04	240	3.2						
05	240	2.8						
06	270	2.5						3.0
07	240	5.2				——		
08	210	6.6				2.4		
09	210	8.0				2.8		3.1
10	210	9.5				3.0		
11	220	10.5				3.2		
12	210	11.2				3.4		2.8
13	210	11.1				3.4		
14	240	11.8				3.2		
15	240	11.8				3.0		3.2
18	240	11.2				2.8		
17	240	10.2				2.4		
18	240	9.5				——		3.2
19	210	8.0						
20	240	7.1						
21	240	5.6						3.1
22	240	5.3						
23	240	4.5						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 57*

Khartoum, Sudan (15.6°N, 32.6°E) February 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.4						3.0
01	290	4.8						3.0
02	250	4.8						3.2
03	215	4.5						3.5
04	220	2.9						3.6
05	240	1.8				1.0		3.5
06	270	2.3				1.2	2.0	3.0
07	250	5.5			120	2.1		3.4
08	250	7.0	230	4.3	120	2.7		3.2
09	300	8.4	220	4.5	115	3.1		2.9
10	320	9.1	210	4.6	120	3.3		2.5
11	330	9.1	210	4.6	110	3.4		2.8
12	320	8.8	200	4.6	110	3.4		2.8
13	330	9.1	200	4.6	110	3.4		2.7
14	300	9.8	210	4.4	110	3.3		2.9
15	300	10.0	220	4.4	120	3.1		3.0
16	280	10.0	220	3.9	120	2.7		3.1
17	250	10.2			130	2.3	3.3	3.2
18	240	9.6			150	1.4	2.8	3.3
19	240	9.0					2.5	3.1
20	220	7.9					2.2	3.2
21	240	7.0					2.5	3.1
22	260	8.0						2.9
23	270	8.0						2.9

Time: 30.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.

Table 58*

Falkland Is. (51.7°S, 57.8°W) February 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.4					4.0	2.9
01	300	5.1					5.0	2.8
02	300	4.9					4.0	2.8
03	280	4.8					3.1	2.8
04	270	4.6					3.1	2.9
05	260	4.6			165	1.5	2.2	3.1
06	255	5.0			130	2.0	3.0	3.2
07	255	5.2			115	2.4	4.0	3.3
08	310	5.4		(4.0)	110	2.7	4.8	3.1
09	305	5.7	(230)	4.2	110	2.9	5.3	3.1
10	320	5.1		4.2	105	3.1	5.9	3.2
11	315	6.3	(215)	4.3	105	3.1	5.3	3.1
12	325	5.4	(230)	4.3	105	3.2	6.3	3.1
13	300	5.8	220	4.4	105	3.2	5.7	3.2
14	315	5.0	(220)	4.4	110	3.1	5.5	3.2
15	300	5.9	230	4.2	110	3.0	5.3	3.2
16	290	5.0	230	4.0	110	2.8	4.8	3.3
17	280	5.9	(225)	3.7	110	2.5	5.0	3.3
18	255	5.8			115	2.1	4.6	3.3
19	255	5.6					3.7	3.1
20	270	6.1					3.6	3.0
21	280	6.1					3.1	2.9
22	290	5.7					3.8	2.9
23	290	5.8					4.7	2.9

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 59*

Port Lockroy (64.8°S, 63.5°W) February 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	255	(6.3)						
01	265	5.8						
02	255	(5.4)						
03	250	(5.4)						
04	245	(5.0)						
05	240	4.8						
06		(4.6)						
07	260	(4.6)	215	3.4				
08		4.5	210	3.8				
09	285	4.8	210	3.9	110	2.7	4.4	
10		(5.0)		4.0	105	2.8	4.5	
11	285	5.4	205	4.1	105	2.9	4.7	
12	275	5.2	210	4.0	105	2.9	4.8	
13	280	5.1	210	4.1			4.6	
14		(5.1)	205	4.0			4.0	
15	260	(5.2)		4.0			4.9	
16	245	5.2	210	3.9	105	2.9		
17		(5.0)	220				3.6	
18	260	(5.0)					4.4	
19	250	5.8						
20	250	(5.8)						
21	260	(6.2)						
22	235	5.8						
23	250	(6.7)						

Time: 60.0°W.
Sweep: 1.1 Mc to 16.0 Mc, manual operation.
*Average values except foF2 and fEs, which are median values.

Table 60

Calcutta, India (22.6°N, 88.4°E) January 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.5						3.0
01	240	3.8						
02	(240)	4.2						
03	(240)	(3.4)						(3.1)
04	(240)	(2.8)						
05	(255)	(2.2)					(1.8)	
06	(240)	(2.1)						(2.8)
07	240	5.0						
08	240	7.1				2.4		
09	240	9.2				2.7	3.4	3.1
10	240	10.9				3.0	3.5	
11	225	10.5				3.2		
12	240	11.2				3.2		3.0
13	240	11.4				3.3		
14	230	11.2				3.1		
15	230	10.5				2.8		3.1
16	240	10.0				2.4	2.4	
17	240	8.9				2.0	3.0	
18	225	7.4					3.0	3.1
19	240	8.4					2.7	
20	240	6.4						
21	240	5.0						3.1
22	270	4.2						
23	280	3.7						

Time: 90.0°E.
Sweep: 0.5 Mc to 18.0 Mc in 10 minutes, semi-automatic operation.

Table 61*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	255	> 5.9						
01	250	> 5.6						
02	260	> 5.3						
03	255	> 5.2					1.3	
04	230	> 4.3						
05	215	3.0						
06	250	4.6			118	1.7	1.9	
07	240	7.3			107	2.4		
08	(230)	8.0	220		104	2.9	5.3	
09	(320)♯	7.8	205	(4.3)♯	107	3.2	5.3	
10	(360)	7.0	205	(4.7)♯	105	3.4	5.2	
11	365	7.0	200	4.6	107	3.5	5.2	
12	360	7.1	200	4.5	103	3.5	5.4	
13	345	8.2	200	4.5	105	(3.4)	5.2	
14	(330)♯	8.4	205	(4.3)♯	107	(3.2)	5.2	
15	(305)♯	8.6	205		108	(3.0)	4.9	
16	230	8.5	225		105	2.6	4.8	
17	250	8.4			110	1.9		
18	275	> 8.6					2.0	
19	300	8.2						
20	295	8.2						
21	265	> 8.2						
22	240	(7.6)						
23	245	> 7.2						

Time: 0.00°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.
*Average values except foF2 and fEs, which are median values.
♯Indicates less than 5 values.

Table 62

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	265	6.3						3.1
01	250	5.4						3.1
02	250	4.7						3.1
03	270	4.0						3.0
04	278	3.5						3.0
05	300	3.2						2.9
06	255	4.7	255	---	131	1.9		3.1
07	320	5.9	240	4.2	121	2.5	3.0	3.0
08	340	6.6	235	4.3	121	2.9	3.1	2.9
09	360	7.4	230	4.5	119	3.2	3.4	2.8
10	348	8.1	230	4.6	119	3.4	3.5	2.8
11	350	8.7	220	4.7	120	3.4	3.6	2.8
12	350	8.5	220	4.6	120	3.5	3.4	2.8
13	340	8.7	215	4.6	119	3.5	2.9	2.8
14	320	8.8	220	4.5	119	3.4	2.9	2.9
15	320	8.8	230	4.5	119	3.3		2.9
16	310	8.1	230	4.3	121	2.9	3.0	3.0
17	292	7.8	232	4.0	124	2.5		3.0
18	265	7.9	252	---	---	1.8	3.0	3.0
19	260	7.4					2.8	2.9
20	270	7.1					1.5	2.9
21	270	6.8					1.8	2.9
22	275	6.9						2.9
23	270	6.7						3.0

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

Table 63

Dakar, French W. Africa (14.6°N, 17.4°W) September 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	>5.0					2.2	2.8
01	290	4.8					2.0	2.9
02	260	4.8						3.0
03	250	3.7						3.0
04	270	3.4						3.0
05	260	2.8					1.9	3.2
06	240	4.7			---	---	2.5	3.5
07	240	6.6	230	---	115	2.4	3.3	3.6
08	268	6.8	220	4.2	110	2.8	3.5	3.4
09	300	8.2	205	4.6	109	3.2	3.6	3.1
10	318	9.6	210	4.7	111	3.4	3.6	3.0
11	328	11.0	208	4.8	111	3.5	3.9	2.9
12	340	11.8	210	4.9	111	---	4.1	2.9
13	350	12.3	202	4.8	111	3.5	4.2	2.8
14	340	>12.4	225	4.8	111	3.4	4.2	2.9
15	315	13.2	230	4.6	107	3.2	3.6	3.1
16	290	14.4	230	4.3	110	2.8	3.5	3.1
17	270	13.2	240	---	110	2.4	3.4	3.2
18	250	11.6			---	---	2.9	3.2
19	250	9.8					2.2	3.0
20	280	>9.2						2.9
21	300	8.1					2.7	2.8
22	330	6.3						2.7
23	335	5.2					1.5	2.6

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

Table 64

Fribourg, Germany (48.1°N, 7.8°E) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	4.2					3.0	2.8
01	280	3.9					3.1	2.8
02	280	3.4					3.2	2.8
03	285	3.3					2.6	2.8
04	280	3.1					3.1	2.9
05	265	3.4	---	---	---	---	3.2	3.0
06	280	4.4	240	3.4	118	2.1	3.5	3.2
07	300	5.0	230	3.9	109	2.5	3.7	3.2
08	325	5.4	228	4.1	109	2.8	4.2	3.1
09	312	5.8	222	4.3	107	3.0	4.5	3.2
10	340	5.7	210	4.4	105	3.2	4.6	3.1
11	320	5.9	215	4.5	105	3.2	4.8	3.1
12	350	5.8	220	4.5	105	3.2	4.9	3.1
13	340	5.5	225	4.4	105	3.3	4.3	3.1
14	340	5.6	220	4.4	105	3.2	4.0	3.0
15	328	5.6	225	4.4	107	3.1	3.4	3.1
16	310	5.5	220	4.2	109	2.8	3.6	3.1
17	310	5.5	235	4.0	109	2.6	3.4	3.1
18	290	5.9	240	3.4	115	2.2	3.2	3.1
19	260	6.6	---	---	---	E	3.4	3.1
20	250	6.5					3.8	3.1
21	248	6.2					3.2	3.1
22	245	5.3					3.5	3.0
23	252	4.6					3.4	2.9

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

Table 65

Dakar, French W. Africa (14.6°N, 17.4°W) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	350	3.8					3.4	2.6
01	< 320	3.8					2.3	(2.8)
02	320	3.4					2.2	2.9
03	310	3.0					2.4	2.8
04	300	2.8					2.4	2.8
05	260	2.8					2.8	3.4
06	230	4.7					2.6	3.5
07	240	6.0	220	---	111	2.3	3.4	3.5
08	270	6.0	210	---	105	2.9	3.5	3.4
09	320	6.5	210	4.5	105	3.2	3.8	3.1
10	350	7.2	200	4.7	105	3.5	3.8	2.8
11	380	8.3	200	4.7	111	---	3.8	2.7
12	400	> 9.6	200	4.7	110	---	3.5	2.7
13	400	10.2	210	4.6	105	---	3.7	2.6
14	370	10.7	200	4.6	107	3.5	3.5	2.8
15	330	11.6	210	4.6	106	3.3	3.5	2.9
16	300	11.6	220	4.4	105	3.0	3.4	3.0
17	280	> 11.4	230	---	111	2.5	3.5	(3.1)
18	240	10.0	240	---	151	1.9	3.2	3.1
19	230	8.6					2.7	3.0
20	270	6.4					< 2.5	2.8
21	300	> 5.0					2.0	2.8
22	340	4.0					3.0	2.6
23	350	3.9					3.4	2.6

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

Table 66

Fribourg, Germany (48.1°N, 7.8°E) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	4.4					2.6	2.8
01	270	4.1					2.2	2.8
02	280	4.0					2.4	2.8
03	270	3.4					2.4	2.8
04	275	3.3	---	---	---	---	2.5	2.9
05	300	4.0	240	3.2	124	1.8	3.2	2.9
06	315	4.8	235	3.6	112	2.3	3.7	3.0
07	330	5.0	235	4.0	107	2.6	4.5	3.0
08	335	5.2	225	4.2	104	2.9	4.6	3.0
09	350	5.4	225	4.3	103	3.1	4.8	3.0
10	335	5.8	220	4.4	102	3.2	4.9	3.0
11	340	5.5	220	4.5	101	3.2	4.8	3.0
12	375	5.5	215	4.5	102	3.3	4.5	2.9
13	360	5.6	220	4.5	102	3.2	4.9	2.9
14	350	5.6	215	4.4	103	3.2	4.3	2.9
15	350	5.5	222	4.3	103	3.1	3.8	3.0
16	350	5.4	225	4.2	103	2.9	3.5	2.9
17	330	5.6	230	4.0	106	2.7	3.7	2.9
18	298	6.0	240	3.6	109	2.3	3.9	3.0
19	272	6.0	245	---	117	1.9	4.1	3.0
20	250	6.6					3.7	3.0
21	255	6.2					3.1	3.0
22	250	5.4					3.2	2.9
23	255	4.7					2.4	2.9

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

Table 67

Dakar, French W. Africa (14.6°N, 17.4°W) July 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	3.6					3.0	(2.7)
01	305	3.9					2.9	(2.9)
02	300	(3.1)					2.7	(2.8)
03	300	2.8					2.8	(2.8)
04	300	3.0					2.8	(2.9)
05	272	(3.0)					3.0	(3.2)
06	238	5.0	—	—	—	1.8	4.0	3.6
07	240	6.0	215	—	105	2.4	4.4	3.6
08	262	6.9	210	4.2	105	—	4.4	3.2
09	335	6.3	206	4.6	104	—	4.8	3.0
10	360	7.1	200	4.8	105	—	4.4	2.6
11	425	8.1	200	4.7	105	3.6	4.5	2.6
12	410	9.0	210	4.6	103	—	4.4	2.7
13	405	9.8	202	4.8	105	3.8	4.4	2.6
14	350	10.2	202	4.6	105	3.4	4.2	2.7
15	255	11.0	218	4.5	105	3.2	4.4	2.7
16	320	11.0	220	4.4	105	2.9	4.4	2.9
17	300	11.2	220	4.0	105	2.6	4.4	2.9
18	245	10.8	235	—	—	—	3.4	3.1
19	235	9.0					3.2	3.0
20	270	6.4					3.0	2.8
21	308	4.9					2.8	2.7
22	340	3.9					2.9	2.6
23	340	4.0					2.8	2.6

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

Table 68

Fribourg, Germany (48.1°N, 7.8°E) June 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	4.6					2.8	2.8
01	270	4.4					2.0	2.8
02	270	4.0					2.2	2.8
03	265	3.8					2.3	2.8
04	275	3.7	280	—	—	E	2.5	2.9
05	302	4.4	242	3.1	119	1.8	2.8	3.0
06	332	4.8	220	3.7	109	2.4	3.4	3.0
07	340	5.1	228	4.0	107	2.6	4.2	3.0
08	355	5.4	222	4.2	105	2.8	4.8	2.9
09	345	5.6	210	4.3	103	3.0	4.6	3.0
10	355	5.6	222	4.4	103	3.2	4.8	2.9
11	360	5.6	215	4.4	101	3.2	4.6	2.9
12	350	5.6	222	4.5	103	3.2	4.3	2.8
13	370	5.7	220	4.5	103	3.2	4.6	2.8
14	362	5.6	220	4.5	103	3.2	4.3	2.9
15	358	5.6	232	4.4	107	3.1	3.4	2.9
16	345	5.6	222	4.2	107	2.9	3.5	3.0
17	310	5.8	247	4.0	107	2.7	3.4	3.0
18	295	6.1	240	3.7	108	2.4	4.2	3.0
19	280	6.3	250	3.0	115	1.9	3.4	3.0
20	250	6.5			---	E	3.7	3.1
21	252	6.2					4.0	3.0
22	250	5.6					3.6	2.9
23	235	5.0					3.5	2.8

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

Table 69

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	< 325	(4.0)						2.7
01	340	(3.6)					2.3	2.6
02	323	(3.6)					1.6	—
03	340	—					2.0	—
04	250	(3.4)					2.1	3.3
05	250	3.6					2.4	3.2
06	232	6.3	232	—	115	2.2	3.4	3.3
07	280	7.5	220	4.2	103	2.8	4.1	3.1
08	305	8.0	220	4.5	103	3.2	6.0	3.0
09	350	8.0	212	4.7	103	3.4	6.3	2.7
10	370	8.0	210	4.8	105	3.6	6.8	2.5
11	390	7.9	210	4.7	—	3.6	7.6	2.5
12	390	7.7	205	4.8	101	3.6	7.8	2.5
13	395	7.9	200	4.7	103	3.6	> 6.5	2.5
14	380	8.4	208	4.6	104	3.4	6.8	2.6
15	350	9.0	210	4.4	102	—	6.8	2.7
16	(330)	9.4	220	4.2	103	2.8	4.7	(2.8)
17	280	(9.3)	228	—	105	2.2	4.0	(2.8)
18	250	> 9.2	—	—	—	—	3.4	(2.9)
19	< 240	(8.4)					3.3	(3.0)
20	260	> 7.0					2.8	(3.0)
21	275	(6.8)					2.7	(2.8)
22	320	(4.8)					2.6	(2.8)
23	330	(4.2)					2.2	(2.7)

Time: 35.6°E.
Sweep: 1.25 Mc to 20.0 Mc in 10 minutes, automatic operation.

TABLE 70

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

Form adopted June 1946

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), September (Month), 1953

Observed at Washington, D. C.

Lat. 38.7°N, Long. 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E. J. W., J. W. P.

Calculated by: Mc C., E. J. W., J. W. P.

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	A K	A K	A K	(300)S K	(230)S K	[230]S K	230 K	320 K	G K	470 K	440 K	450 K	500 K	500 K	520 K	500 K	540 K	350 K	260 K	230 K	230	260	230	(270)S
2	(270)S	260	(290)S	260	(300)S	(290)S	220	320	300	380	370	370	400	360	390	330	300	300	260	230	230	210	270	(290)S
3	(300)S	(280)S	250	(290)S	(250)S	[240]S	230	270 H	G	360	370	300	320	370	380	380	340	320 K	310 K	260 K	310 K	290 K	S K	S K
4	E K	E K	E K	E K	E K	E K	G K	G K	G K	300 K	G K	G K	G K	G K	G K	G K	G K	(500)S K	(350)L K	270 K	(260)S K	(300)S K	300 K	(340)S K
5	(340)S K	E K	A K	A K	A K	S K	270 K	G K	G K	G K	420 K	470 K	530 K	540 K	470 K	490 K	380 K	330 K	270 K	240 K	230 K	240 K	(250)S K	(260)S K
6	(320)S K	S K	S K	E K	(320)S K	(330)E K	(240) A	[260] L	280	280	320	300	340	330	360	320	310	270	240	(230) A	[240] A	240	(240)S	250
7	(260)S	260	(260)S	(300)S	(240)S	S	230	(250) L	280	340	350	350	300	330	340	310	300	270	250	240	(260) A	240	(270)S	280
8	(270)S	270	240	(250)S	(310)S	[290]S	270	280	260	280	300	320	340	320	300	320	310	280	240	220	230	220	(240)S	(260)S
9	270	270	240	250	(250)S	(240)S	[250] M	250	240 H	240	310	320	310 H	300	300	300	310	280	250	220	210	220	250	270
10	270	270	270	250	240	(280)S	230	270	260	270	300	320	300	320	310	300	270	250	250	210	260	(270)S	260	260
11	250	(270)S	250	(260) A	A	(340)S	260	320	250	240	280	240 H	310	240	300	300	290	270	230	230	230	240	250	(280)S
12	(280)S	(300)S	(270)S	A	A	A	240	(250) L	(300) L	270	300 H	300	350	[340] A	340	320	320	270	250	240	250	[280] A	(300)S	A
13	S	260	(270)S	270	(270)S	[270]S	250	220	280	270	280	340	300	310	300	290	[270] M	250	(270) A	220	230	250	270	270
14	250	250	270	270	(280)S	(280)S	250	(240) L	230	270	270	280	300	300	310	300	300	250	230	(210)S	230	240	(260)S	(280)S
15	280	310	260	(270)S	240	280	230	230	250	280	310	330	300	300	340	280	320	280	240	[240] A	(240) A	240	(240)S	(300)S
16	(300)S	280	270	(280)S	S	S	240 F	(250) H	260 H	290	280	320	310	330	300	300	270	250	220	220	210	(260) A	280	(290)S
17	270	260	250	270	250	[240] A	240	230	240	270	280	270	300	280	290	270	260	240	230	220	240	250	250	250
18	260	250	240	270	260	250	230	230	250	230	280	300	290	280	290	290	270	250	250	250	280	230	300	(310)S K
19	(300)S K	250 K	(320)S K	<410 E K	S K	E K	320 K	270 K	(250) L K	G K	G K	G K	780 K	420 K	430 K	670 K	470 K	(210) K L	270 K	(270)S K	(300)S K	(320)S K	[290]S K	260 K
20	(280)S K	300 K	(300)S K	(320)S K	<400 E K	S K	280 K	200 K	G K	G K	G K	550 K	440 K	420 K	360 K	390 K	330 K	290 K	250 K	250 K	270 K	(280)S K	(300)S K	E K
21	(300)S K	280 K	300 K	(350 E K	<280 E K	S K	250 K	G K	(400) L K	320 K	320 K	330 K	300 K	330 K	320 K	300 K	300 K	250 K	240 K	210 K	260 K	300 K	(310)S K	S K
22	S K	(310)S K	250 K	270 K	S K	S K	270	250	260	280	270	300	280	290	270	280	260	230	220	230	240	230 K	240 K	280 K
23	(300)S K	S K	(350)S K	(320)S K	(260)S K	S K	260	(250) L	300	320	390	370	320	300	280	310	270	270	230	240	250	(260)S	(250)S	(270)S
24	(280)S	(280)S	(290)S	<320 E	<310 E	S	250	240	260	300	330	310	320	290	290	280	270	240	230	230	230	250	270	260
25	270	260	270	250	(280)S	S	230	230	230	270	280 H	290	290	280	300	270	260	240	220	220	230	(280) A	280	270
26	260	250	230	240	(240)S	(250)S	220	210	220	250	270	270	280	300	280	260	250	250	210	210	230	260	280	280
27	270	270	260	250	250	250	230	210	(230) L	340	310	310	300	300	270	260	260	230	210	230	250	250	280	280
28	(290)S	(280)S	250	220	240	(260)S	250	220	250	260	270	280	270	300	280	270	250	230	210	210	230	250	260	270
29	280	280	250	230	230	240	230	220	(240) L	280	280 H	300	300	290	280	260	250	230	210	(240) A	230	240	260	280
30	270	270	270	240	240	250	230	240	250	290	300	290	310	310	290	290	250	230	220	220	240	(250)S	(270)S	(280)S
31																								
Median	280	270	270	270	(250)	(260)	240	250	260	280	300	320	310	310	300	300	300	250	240	230	240	250	270	280
Count	26	25	27	25	21	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	26

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 71

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

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), September (Month), 1953

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W., J.W.P.

Calculated by: McC., E.J.W., J.W.P.

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	A K	A K	A K	K(1.8) 3	(1.8) 3 K	(1.9) 3 K	3.0 K	4.0 K	(3.8 G K	4.2 K	4.4 K	4.5 K	4.5 K	4.4 K	4.3 K	4.2 K	4.1 K	4.5 K	4.5 K	4.4 K	4.2	3.4 F3	3.2 F	2.5 F
2	2.5 F	2.5	2.3 F	2.3 F	(2.1) F	(2.1) F	3.1	4.0	4.5	4.4	4.6	4.7	4.8	4.8	4.8	5.2	5.1	4.7	5.0	5.2	(4.9) S	3.4 S	(2.6) F	2.3 F
3	2.2 F	2.3 3	2.5	2.2 3	2.2	2.1	3.0	(3.4) M	(3.7 G	4.5	4.6	5.0	5.1	5.0	5.2	4.8	5.0	5.2 K	6.0 K	K 7.2 3	(4.1) F K	[3.1] F K	[2.6] F K	K 1.8 3
4	[1.6] 3 K	K(1.4) 3	K 1.0 F K	K 1.0 F K	K 1.0 F K	K 1.0 F K	K 2.5 G K	(3.1 G K	(3.5 G K	(3.9) F K	(3.7 G K	(3.9 G K	(3.9 G K	(3.9 G K	(3.8 G K	(3.7 G K	(3.5 G K	3.7 K	3.9 K	4.2 K	3.7 K	3.1 K	2.7 3 K	K 2.1 3
5	K 2.0 3 K	1.7 3	A K	A K	A K	(2.3) F K	2.7 K	(3.3 G K	(3.5 G K	(3.8 G K	4.3 K	K(4.2) B	(4.4) B K	4.4 K	4.5 K	4.5 K	4.7 K	5.0 K	5.2 K	5.1 K	4.5 K	3.5 K	2.7 K	2.3 K
6	K(1.9) 3	[1.8] 3 K	[1.6] 3 K	K 1.0 F K	K(1.7) 3 K	1.7 F K	2.7	3.9	4.6	5.0	4.9	5.2	5.2	5.0	5.0	5.1	5.1	5.3	5.1	5.3	5.0	4.5 3	4.1 3	3.3 F
7	2.7 F	(2.7) F	2.0	(1.8) 3	(1.8) B	5	3.4	4.3	4.7	4.9	5.1	5.7	6.1	5.4	5.3	5.6	5.5	5.4	5.3	5.3	4.9	4.2 3	(3.6) 3	3.2 3
8	2.8 3	3.0 F3	2.6 F	2.1	(1.9) B	(1.7) 3	3.3	5.0	5.5	5.2	5.5	5.7	5.4	5.7	5.7	5.6	5.3	5.5	5.8	5.7	5.6	4.6	3.8	3.5
9	3.3	3.1	2.9	2.5	2.4	2.4 S	[3.8] M	5.2	5.6 H 3	5.6	5.7	5.8	5.9 3 M	5.7	5.6	5.4	5.4	5.5	5.8	6.2	5.4	4.1	3.4	3.1
10	3.0	3.0	2.9	2.7	2.5	2.3	3.7	4.7	5.1	5.7	5.4	5.6	5.9	5.8	6.0	6.0	6.0	5.5	5.8	6.4	5.6	4.7	4.7	4.3
11	4.0	3.7	3.5	2.5	[2.3] A	2.1	3.3	4.8	6.0 3	5.0	5.5	5.2 M	5.8	5.5	6.0	5.6	5.6	5.4	5.4	5.4	5.0	4.1 3	3.3	2.9
12	(2.8) S	2.7	2.2	[2.2] A	[2.0] A	(1.7) 3 A	3.0	(4.2) S	4.4	(5.2) S	(5.4) 3 M	5.0	5.2	[5.3] A	5.4	5.7	5.6	5.8	5.8	5.6	(4.6) S	[4.2] A	(3.8) 3	[3.4] A
13	(3.0) 3	3.0 3	(2.6) S	(2.3) S	(2.1) 3 F	[2.2] 3 F	3.3	4.2	5.0	5.4	5.4	5.8	5.6	6.0	6.1	6.0	[5.8] M	5.5	5.6	5.8	4.8 3	3.9 3	3.1 3	3.4 3
14	(3.3) 3	(2.8) 3 F	[2.5] F	(2.3) 3 F	(2.4) F	(2.3) F	3.4	4.8	(5.2) S	5.8	6.3	6.2	6.2	6.0	5.7	6.0	5.8	6.0	5.9	5.3 F3	(4.5) P F	(3.7) P F	(3.5) P F	(3.3) P F
15	(2.7) 3 F	(2.7) F	(2.7) F	(2.2) 3 F	(2.5) F	(2.4) F	3.6	4.8	5.6	5.6	6.2	7.1	7.5	7.5	7.6	8.2	8.0	8.3	7.0	6.8	5.6	4.7	(3.5) S	3.2
16	2.5	(2.4) B 3	(2.0) B 3	(1.7) S	(1.7) S	(1.7) 3 S	(3.2) B 3	(4.3) M	5.2 M	5.7	6.1	6.4	6.5	6.5	7.2	7.5	7.1	6.0	6.2	6.0	4.7	4.0	3.5	3.2
17	3.3	3.0	2.7	2.5	2.4	(2.0) A	3.6 H	4.6	5.2	6.0	6.2	6.2	6.2	6.4	6.0	6.0	6.2	5.8	5.6	5.7	5.4	4.8	4.4	(3.6) F
18	(3.0) 3	(3.1) 3 F	(3.0) 3 F	(2.7) 3 F	(2.5) 3 F	(2.6) 3 F	(3.8) S	5.2	5.9	6.2	6.0	6.3	6.2	6.7	6.8	6.5	7.2	7.0	7.2	7.4	6.6	4.5	4.0	3.2 K
19	3.2 K	3.2 K	K(2.2) 3 F	K 1.4 3 F	K(1.6) 3 F	K 1.0 F K	2.3 K	3.0 K	3.3 K	(3.5 G K	(3.7 G K	(3.8 G K	4.1 K	4.8 K	4.6 K	K 4.0 3 F	4.0 K	4.0 K	2.9 K	3.1 K	2.8 K	2.3 F K	(1.9) 3 K	K(2.4) 3 F
20	2.3 K	2.4 F K	2.3 F K	2.0 F K	F 3 F	F 3 F	2.5 K	3.4 K	(3.6 G K	(3.8 G K	(3.8 G K	4.2 K	4.5 K	4.6 K	4.8 K	4.4 K	4.4 K	4.6 K	4.5 K	3.9 K	3.3 K	2.4 K	2.2 K	K 1.8 F
21	K(2.1) 3 F	(2.3) 3 F	K 2.0 F K	K 1.4 3 F	(1.4) 3 K	K(2.0) 3 F	2.6 K	(3.4 G K	4.1 K	4.9 K	K 4.8 3	5.6 K	6.0 K	5.6 K	5.8 K	5.8 K	5.6 K	6.8 K	5.4 K	4.6 K	3.1 K	K 2.7 F	(2.3) F K	(2.2) F K
22	2.1 F K	2.3 F K	K(2.4) 3 F	[1.6] F K	F 3 K	K(1.5) 3 F	3.1	5.1	5.9	6.5	6.6	6.7	6.8	6.8	7.0	6.4	6.3	5.8	5.6	4.7	4.2	4.1 K	3.0 F K	K 2.1 F
23	2.0 K	K 1.6 3	F 3 K	F 3 K	F 3 K	F 3 K	3.0	4.2	5.0	6.0	5.3	5.7 F	6.2 F	6.2	6.0	5.6	5.9	5.6	5.9	4.9	4.5 3	3.8 S	(2.5) 3 F	(2.7) 3 F
24	(2.6) F	(2.4) F	(2.3) 3 F	(1.8) F	F	(1.6) 3 F	(3.3) 3	4.6	5.0	5.2	5.6	6.2	6.6	6.4	6.2	5.7	5.5	5.4	5.0	5.0	4.2	(3.7) 3	(3.4) 3	2.9 F
25	2.9 F	(2.6) F	2.5 F	(2.4) F	(1.8) 3	(1.8) 3 F	3.2 F	4.6	5.0 F	5.6	(6.0) H	6.4	6.7	6.5	6.7	6.8	6.5	6.7	6.2	4.9	4.3	3.9 F3	4.0 F3	3.8
26	3.6 F3	3.5 F3	3.0 F	2.7 F	(2.2) 3 F	(2.0) F	3.2 F3	4.7	5.2	5.8	5.9	6.7	6.6	6.8	6.8	6.0	5.7	6.0	5.7	4.9	4.4	4.4	4.3	4.0
27	3.8	3.3	2.9	2.9	2.7 F	2.0	3.2	4.4	4.7	5.6	5.8	6.2	6.2	6.4	6.5	6.1	5.5	5.7	5.5	(4.0) 3	(3.2) 3	(3.6) 3	(3.0) F	(2.9) 3 F
28	(2.9) 3 F	(2.9) 3 F	3.0	2.7	2.4	2.2 3 F	3.3	5.0	5.5	5.9	5.6	5.7	6.2	6.1	6.6	6.5	6.7	6.8	6.0	4.8	(3.8) S	(3.3) S	(2.8) 3	(2.8) 3 F
29	(2.6) 3 F	(2.9) 3 F	(3.1) 3	(3.0) 3 F	(2.6) 3 F	(2.2) 3 F	(3.1) S F	4.5	5.3	5.7	5.6 H	5.9	6.0	6.3	6.4	6.6	6.2	6.8	5.5	4.7	(4.0) 3	(3.4) 3	(3.2) S	3.0 3
30	3.0 3	(2.9) F3	2.8 F	(2.9) 3 F	(2.5) F	2.7	3.5	5.0	5.2	5.2	5.8	5.6	5.6	6.1	6.4	6.7	6.9	5.6	4.7	4.3	3.7	3.4	3.3	3.1
31																								
Median	2.8	2.7	2.5	2.2	(2.2)	(2.0)	3.2	4.4	5.0	5.2	5.5	5.7	6.0	5.9	6.0	5.8	5.6	5.6	5.6	5.2	4.5	3.8	3.4	3.0
Count	29	29	27	28	25	27	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 72

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

Form accepted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), September (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: McC., E.J.W., J.W.P.

Lat 38.7°N, Long 77.1°W — 75°W Mean Time

Calculated by: McC., E.J.W., J.W.P.

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	A K	A K	A K	(1.6) S K	<1.0 E K	(2.1) S K	3.6 K	4.2 K	<3.7 G K	4.2 K	4.6 K	4.6 K	4.3 K	4.4 K	4.3 K	<3.9 G K	4.2 K	4.7 K	4.7 K	4.5 K	3.6 F	3.1 F	2.7 F	2.4 F
2	2.5 F	2.4	2.0 F	2.3 F	[2.4] F	2.5	3.5	4.1	4.4	4.6	4.7	4.7	4.9	4.7	5.0	5.0	4.9	4.8	5.0	(5.0) S	4.5	(3.4) F	(2.5) S F	2.2 F
3	2.3 J S	2.3	2.0 J S	2.3	2.1	2.5	3.7 H	(3.6) H	4.1	4.8	4.6	4.9	5.2	5.0	5.4	4.6	5.1	5.4 K	5.4 K	6.2 K	(4.2) F K	(3.0) Z K	2.2 F K	1.6 F K
4	<1.0 E K	<1.0 E K	<1.0 E K	<1.0 E K	<1.0 E K	K (2.0) S F	<3.0 G K	<3.5 G K	<3.6 G K	<3.7 G K	<3.8 G K	<3.9 G K	<3.9 G K	<3.8 G K	<3.7 G K	<3.6 G K	(3.7) S K	K 3.8 P S	4.1 K	K 4.0 S J	K (3.2) S J	K 3.1 P S	K [2.7] S K	K (1.8) S J
5	K 1.9 S J	K (1.7) S J	A K	A K	A K	K (2.0) S F	3.1 K	<3.3 G K	<3.7 G K	K <(3.9) H G K	K (4.5) S P	K (4.2) H P	[4.4] S K	4.5 K	4.6 K	4.5 K	4.8 K	5.1 K	5.2 K	4.8 K	3.8 K	3.1 K	2.5 K	K 2.1 A J
6	K (1.8) A J	K (1.7) B J	5 K	<1.0 E K	1.8 F K	2.2 K	3.5	4.1	4.7	4.8	4.8	5.0	5.0	5.0	5.2	5.0	5.2	5.2	5.2	5.4	4.5	4.1 J S	(3.7) J S	3.3 F S
7	(2.8) F S	2.4 F S	2.0	(1.7) P S	[1.8] P	(2.3) P S	4.3	4.8	4.9	5.3	5.5	6.1	5.7	5.4	5.5	5.3	5.5	5.2	5.1	5.2	4.0 F S	3.9	3.5	(3.2) J S
8	2.9	2.8 F	2.2 J F	[1.9] S	(1.8) J S	2.4	4.2	5.3	5.7	5.7	5.8	5.8	5.4	5.5	5.5	5.4	5.3	5.8	5.8	5.7	5.4 J S	4.2	3.5	3.4
9	3.2	3.0	2.6 J S	2.4	2.5 P S	[3.5] M	4.5	5.5	6.0	5.7	5.8 H	5.8	5.8	5.6	5.6	6.3	5.2	5.6	6.0	5.9	4.5	3.7	3.2	3.0
10	3.0	2.9	2.8	2.5	2.2	2.6	4.4	5.0	5.4	5.6	5.6	5.7	5.9	5.8	6.0	6.0	5.7	5.5	6.5	5.8	5.0	4.7	4.4	4.2
11	3.9	3.6	3.2	[3.5] A	1.9	2.5	4.1	5.4	5.2	5.4	5.5	5.6	5.3	5.6	5.8	5.6	5.4	5.6	5.4	5.1	4.7	3.8	3.1 J S	2.7 J S
12	3.0 J S	2.6 J S	(2.1) S	[1.9] A	1.7	[2.4] A	4.0	4.5	4.8	4.7 H	5.1	4.9	5.2	5.4	5.8	5.6	5.8	5.6	5.6	(5.4) S	4.3	(3.9) S	A	A
13	(2.9) J S	(2.8) J S	(2.4) S	1.7 F S	(2.0) S	2.5	(4.0) J S	5.0	5.1	5.4	5.6	6.2	5.8	5.8	6.2	[6.3] M	5.8	5.7	5.6	(5.4) S	4.2 F S	3.9	3.6 J S	3.4 J S
14	3.2 J F	[2.9] F	(2.5) F J	(2.5) J F	(2.3) F	2.5	4.2	5.1	5.9	6.1	6.2	6.0	6.2	5.7	6.0	5.6	5.9	6.0	5.6	4.9 P S	(4.2) J F	(3.5) P F	(3.4) P F	(3.1) P F
15	(2.7) F	(2.5) F	(2.7) F	[2.4] F	[2.3] F	(2.5) F	4.5	5.4 J S	(5.6) S	5.8	6.2	7.4	7.6	7.0	7.8	7.9	8.0	8.4	6.8	6.2	5.1	(4.3) S	3.3	(2.6) P S
16	2.5	(2.2) D S	[1.9] S	(1.7) J S	(1.6) J S	2.2	3.7 H	4.9	(5.5) H	5.9	6.0	6.3	6.5	6.8	7.5	7.6	6.4	6.6	6.4	5.4	4.3	3.7	3.3	3.3
17	3.0	2.9	2.5	2.5	2.3	2.6	4.3	5.2	5.6	6.0	6.4	6.6	6.3	6.2	6.0	6.0	6.2	5.8	5.8	5.4	5.0	(4.5) S	4.3	(3.7) J F
18	(3.0) J F	(2.9) J F	(2.9) J F	(2.5) J F	(2.5) J F	[3.2] F S	5.0	5.6	5.8	6.0 J H	6.1	6.4	6.2	6.6	6.6	6.7	7.4	7.2	7.2	6.4	6.6	4.0	3.8	3.1 K
19	3.4 K	2.6 K	[3.2] K	K (1.9) J S	(1.4) J S	<1.0 E K	2.7 K	3.2 K	<3.4 G K	<3.6 G K	<3.7 G K	<3.8 G K	4.6 K	4.7 K	4.3 K	4.1 K	4.1 K	K 3.9 J S	3.5 K	3.1 K	2.8 K	K 2.1 F J	(3.0) K F	(2.4) J F K
20	2.4 F K	2.4 F K	2.2 F K	F K	3 K	K 1.7 J S	3.1 K	<3.5 G K	<3.6 G K	<3.8 G K	4.3 K	4.5 F K	4.5 K	4.6 K	4.4 K	4.5 K	4.2 K	4.7 K	4.2 K	3.5 K	3.2 K	2.3 F K	K 1.8 F J	(2.1) J F K
21	K 2.2 J F	(2.2) C K	K 1.4 J	K 1.4 J S	K (1.5) J S	[2.2] F K	3.3 K	3.7 K	4.4 K	4.8 F K	5.0 K	5.8 K	5.4 K	5.6 K	6.0 K	5.6 K	6.2 K	7.0 K	5.2 K	3.7 K	2.7 K	(2.5) F K	(2.0) F K	2.1 F K
22	(2.4) F K	K 2.4 J F	K (1.7) J F	K (1.6) J S	[1.5] S H	F K (1.5) J S	4.4	5.3	6.2	6.7	6.4	6.6	6.6	6.8	6.5	6.2	6.4	6.4	4.8	4.3	4.0	3.3 K	2.7 K	(2.6) F K
23	1.9 K	K 1.1 J S	F K	F K	F K	F K	3.8	4.2	5.0	5.0	5.1 F	6.2	6.0 F	6.3	5.3	5.8	5.4	5.7	5.6	4.5	4.1 J S	(3.6) J S	(2.6) F S	(2.5) F S
24	2.5 F S	2.3 F	[2.7] F	(1.5) F S	(1.7) F	F	4.2	4.9	5.3	5.3	6.0	6.4	6.8	6.2	6.2	5.6	5.4	5.0	5.3	4.6	(3.8) J S	(3.3) D S	(3.2) S F	2.9 F
25	(2.8) J F	2.5 F	2.4 F	(2.2) F	(1.7) F	2.3 J F	4.2	5.0 F	5.5 H	5.8	6.4	6.4	6.7	6.7	6.9	6.5	6.8	6.3	5.5	4.7	(4.2) P S	(4.2) J S	3.9 J S	3.5 F
26	3.5 F S	3.2 F	2.7 F	(2.4) P F	2.1 F J	(2.3) P F	4.2	5.2	5.4	6.0	6.5	6.8	6.7	7.1	6.5	6.2	5.7	6.0	5.2	4.8	4.5	(4.3) S	4.3	3.9
27	3.5	3.2	3.0	2.7	2.3	2.2	4.0	4.6	4.7	5.9	6.0	6.0	6.4	6.4	6.4	5.7	5.5	5.7	4.4	(3.9) J S	(3.7) J S	(3.1) J F	(3.2) F	(2.9) F
28	(2.9) F	2.9	2.9	2.5	2.3 F	2.3	4.0	5.0 J S	5.3	5.9	5.8	6.0	5.9	6.5	6.5	6.5	6.6	6.0 J S	5.2	(4.3) S	(3.8) S	(3.2) S	(2.9) F	2.7 F
29	(2.8) J F	(2.9) J F	(2.9) J F	(2.6) J F	2.4 F	2.2 J F	4.2	5.0	5.6	5.8	5.8	6.1	6.3	6.3	6.4	6.4	5.8	5.8	5.0	4.9	(3.7) S	3.4 J S	3.1 J S	(3.0) J S
30	(2.9) J S	2.9 J F	(2.8) S	2.8 J F	2.8	3.0	4.4	5.1	5.0	5.4	5.8	5.7	5.9	6.4	6.4	6.8	6.5	4.9	4.9	3.9	3.5	3.4	3.2	3.0 F
31																								
Median	2.8	2.6	2.4	(2.3)	(2.0)	2.3	4.0	5.0	5.2	5.4	5.7	5.9	5.8	5.8	6.0	5.6	5.6	5.6	5.2	4.8	4.2	3.6	3.2	2.9
Count	29	27	26	27	27	28	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 73

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), 1953

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E. J. W., J. W. P.

Calculated by: Mc C., E. J. W., J. W. P.

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								210 K	220 K	200 K	190 K	180 K	190 K	190 K	210 K	200 K	200 K	(220) H/K	230 K					
2								220	200	200 H	190	190	200	200	200	210	210	220	230					
3								210 H	210	200	200	180	190	200	210	210	210	230 K	250 K					
4							250 K	230 K	220 K	200 K	200 H/K	200 K	210 K	220 H/K	220 K	220 K	210 K	230 K	250 K					
5								240 K	210 K	200 K	210 H/K	200 H/K	190 H/K	(200) H/K	230 K	220 K	220 K	220 K	(240) S/K					
6								230	(220) A	200 H	180 H	180 H	220	200	210	210	220	220 H	Q					
7								220	190 H	190 H	180 H	190	(210) H	230	220	220	220	230	Q					
8								(240) A	(240) A	200 H	200 H	220	210	200	200	220	220	240	Q					
9								(220) A	210	210 H	190	180	200 H	200	220	200	[220] A	240	Q					
10								200	210	210	180 H	180	200	210	210	220	220	220	230					
11								220	210	220	220	210 H	210	190 H	200 H	210	220	240	Q					
12								220	(220) A	210	(210) A	(210) A	200 H	A	A	A	A	230	Q					
13								Q	220 H	210	A	A	(260) A	190	220	200	M	Q	A					
14								220	200	210	200	210	180	200	220	220	210	230	Q					
15								200	210	210	220 H	210 H	220 H	200 H	210 H	220	220	(230) S	Q					
16								(190) H	230	210 H	200	210	220	210	220	230	230	220						
17								220	200	200	210	200 H	220	190	200	200 H	210	Q						
18								Q	220	210 H	200 H	210 H	220	200	200 H	220 H	220	A						
19								Q K	190 K	210 K	240 K	210 K	200 H/K	220 K	220 K	220 K	220 K	260 K						
20								Q K	220 H/K	200 H/K	200 H/K	210 K	200 K	200 K	210 K	220 K	230 K	250 K						
21								220 K	200 K	190 K	200 K	200 K	210 K	200 K	200 K	220 K	230 K	230 K						
22								240	210	200 H	210 H	210	210	210	210	200 H	200 H	Q						
23								230	210	210	210	210	210	220 H	220	210	230	250						
24								Q	210	200 H	200	200 H	190 H	200 H	210	200 H	220	230						
25								220	210	200	190 H	190 H	200	200	200 H	220	210	240						
26								200	200	210	210	190	190 H	210	210	210	220	240						
27								Q	190	210	190 H	200	210	210 H	190	200 H	200	220						
28								Q	190	190	200	200	200	190	250	210	220	Q						
29								Q	220	220	210	210	200	200	200	210	210	Q						
30								230	220	200	210	200 H	200	200	200 H	230	220	210						
31																								
Median							—	220	210	200	200	200	200	200	210	210	220	230	240					
Count							1	22	30	30	29	29	30	29	29	29	28	24	6					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 74

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

Form adopted June 1946

IONOSPHERIC DATA

foF1 (Characteristic), Mc (Unit), September (Month), 1953

Observed at Washington, D.C.

Lat. 38.7°N, Long. 77.1°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E.J.W., J.W.P.

Calculated by: Mc C., E.J.W., J.W.P.

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								3.4[K]	3.8[K]	3.9[K]	4.0[K]	4.0[K]	4.0[K]	4.0[A]	4.0[K]	3.9[K]	3.7[K]	3.4[H,K]	L[K]					
2								3.4	3.7	4.1[H]	4.1	4.1	4.2	4.1	4.0	4.0	3.7	3.5	L					
3								(3.0)[H]	3.7	3.8	3.9	4.2	4.2	4.1	4.1	4.0	3.7	3.7[K]	2.8[K]					
4							2.5[K]	3.1[K]	3.5[K]	3.7[K]	(3.7)[H,K]	3.9[K]	3.9[K]	3.9[H,K]	3.8[K]	3.7[K]	3.5[F,K]	3.3[K]	(2.8)[L,K]					
5								3.3[K]	3.5[K]	3.8[K]	4.0[H,K]	4.0[H,K]	(4.1)[H,K]	4.2[H,K]	4.1[K]	4.0[K]	3.8[K]	3.5[K]	L[K]					
6								(3.3)[L]	3.8	4.0[H]	4.2[H]	4.2[H]	4.3	4.3	4.3	4.2	3.9	L	Q					
7								L	(3.7)[P]	4.1[H]	4.1[H]	4.3	4.3[H]	4.3	4.2	4.1	3.9	L	Q					
8								L	3.9	4.1[H]	4.2[H]	4.4	4.4	4.3	4.2	4.1	3.9	L	Q					
9								L	(3.9)[L]	(4.0)[H]	4.3	4.4	4.4[H]	4.3	4.3	3.9	[3.7][A]	3.4	Q					
10								L	3.7	4.1	(4.2)[L]	4.3	4.3	4.4	4.2	4.1	3.7	L	L					
11								L	3.8	4.1	4.2	4.4[H]	4.3	4.3[H]	4.1[H]	4.1	3.8	L	Q					
12								L	3.8	4.1	[4.3][A]	(4.2)[A]	4.3[H]	A	A	4.1	L	L	Q					
13								Q	L	4.1	[4.3][A]	4.5	4.4	4.4	4.3	4.2	M	Q	A					
14								L	L	4.0	4.2	4.3	4.4	4.4	4.2	(4.1)[F]	(3.9)[P]	L	Q					
15								L	L	L	4.3[H]	4.5[H]	4.5[H]	4.3[H]	4.2[H]	4.1	3.9	L	Q					
16								L	L	(3.9)[F]	4.2	4.5	4.5	4.3	4.2	4.1	L	L						
17								L	L	3.0	3.2	4.4[H]	4.4	4.3	4.2	4.0[H]	L	Q						
18								Q	L	L	4.3[H]	4.3[H]	4.3	4.2	4.3[H]	4.3[H]	L	A						
19								Q[K]	L[K]	3.5[K]	3.7[K]	3.8[H,K]	3.8[H,K]	4.0[K]	3.9[K]	3.7[K]	3.5[K]	L[K]						
20								Q[K]	3.6[H,K]	3.8[H,K]	3.8[H,K]	3.9[K]	4.0[K]	4.0[K]	3.9[K]	3.8[K]	3.6[K]	L[K]						
21								3.4[K]	3.7[K]	3.9[K]	4.1[K]	4.2[K]	4.2[K]	4.3[K]	4.2[K]	4.0[K]	L[K]	L[K]						
22								L	(3.5)[F]	(4.1)[H]	(4.2)[P]	4.3	4.3	4.3	4.0	L	L	Q						
23								L	3.5	4.0	4.3	4.3	4.2	4.2[H]	4.1	3.9	(3.6)[L]	L						
24								Q	L	3.7[H]	4.2	4.4[H]	4.3[H]	4.1[H]	4.2	L	L	L						
25								L	L	L	4.1[H]	4.3[H]	4.4	4.3	4.2[H]	4.0	L	L						
26								L	L	4.0	(4.1)[H]	4.1	4.3[H]	4.3	4.2	(3.1)[L]	L	L						
27								Q	L	4.1	4.1[H]	4.3	4.3	4.3[H]	4.1	4.0[H]	L	L						
28								Q	L	(3.5)[H]	(4.1)[L]	4.2	4.2	4.3	4.4	4.9	L	Q						
29								Q	L	4.1	4.1	4.2	4.3	4.2	4.1	3.9	L	Q						
30								L	L	3.9	4.2	4.2[H]	4.3	4.2	4.1[H]	4.0	L	L						
31																								
Median							—	3.3	3.7	4.0	4.2	4.3	4.3	4.3	4.2	4.0	3.8	3.4	—					
Count							1	7	16	3.7	30	30	30	29	29	28	16	6	2					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 75

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

Form adopted June 1946

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), September (Month), 1953

Observed at Washington, D.C.

Lat. 38.7°N, Long. 77.1°W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W., J.W.P.

Calculated by: McC., E.J.W., J.W.P.

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								100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	100K	5K					
2								100	100	100	100	100	100	100	100	100	100	100	5					
3								100	100	100	100	100	100	100	100	100	100	100K	5K					
4							5K	100K	100K	100K	00K	100K	100K	100K	100K	100K	100K	120K	5K					
5								120K	110K	110K	[110]HA	110K	(120)SK	100K	110K	110K	110K	(110)SK	5K					
6								A	110	100	100	A	A	A	(00)A	110	110	120	5					
7								120	110	110	110H	10	110H	100	100H	(120)H	110	A	5					
8								5	110	[100]A	100	[100]A	100H	100	110	110	110	(120)F	5					
9								A	A	A	100H	100	100	100	100	100	100	100	5					
10								110H	110	(110)A	[100]A	100	(100)A	100	100	110	110	110	A					
11								5	A	100	100	100	100	100	100	100	100	120	A					
12								120	110	100	100	100	100	100	100	100	110	5	A					
13								120	110	110	100	00	100	110	110	110	[110]H	120	A					
14								110	110	110	110	100	[100]FA	100	100H	100	100	120						
15								110	110	100	100	100	100	100	110	110	110	(130)S	5					
16								(120)S	110	110	100	100	100H	100	100	110	00	100						
17								110	110	110	110	100	100	100	100	100	100	100	(120)S					
18								120	110	110	100	100	100	100	100	100	100	110						
19								100K	110K	110K	110K	110K	110K	110K	110K	100K	110K	120K						
20								110K	110K	100K	110K	100K	100K	100K	100K	100K	110K	(120)K						
21								110K	100K	100K	100K	110K	100K	100K	100K	0K	110K	110K						
22								110	110	110	110	110	110	100	100	00	110	(120)S						
23								A	110	100	110	110	110	110	110	(110)A	110	(120)S						
24								120H	110	110H	110	00	100	100	100	100	100	110H						
25								A	110H	100	100	100	100	100	110	110	110	120H						
26								120H	110	A	A	110H	110	110	100	100	10	A						
27								100H	100	100	100	100	100	100	100	00H	100	110						
28								110H	110	100	100	100	100	100	100	100	100	00						
29								110	100	100	100	100	100	100	100	(100)A	100H	100						
30								120	110	100	100	100	100	100	100H	10GH	100	120H						
31																								
Median							—	110	110	100	100	100	100	100	100	100	100	110	—					
Count								24	28	29	29	29	29	29	30	30	30	27	1					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 76

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

Form adopted June 1946

IONOSPHERIC DATA

foE (Characteristic), Mc (Unit), September (Month), 1953

Observed at Washington, D.C.

Lat. 38.7° N, Long. 77.1° W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E.J.W., J.W.P.

Calculated by: Mc C., E.J.W., J.W.P.

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								A^{K}	A^{K}	2.9^{K}	(3.0)$^{P}_{K}$	3.1^{K}	3.1^{K}	3.1^{K}	3.0^{K}	2.9^{K}	2.6^{K}	2.2^{K}	A^{K}							
2								(2.0)^{A}	[2.5]^{A}	3.0	3.1	(3.2)^{A}	3.2	3.1	3.0	3.0	2.6	(2.2)^{A}	A							
3								2.0	2.4	2.7	A	A	3.1	3.1	3.0	(2.8)^{A}	2.6	2.4^{K}	1.9^{K}							
4							1.7^{K}	A^{K}	A^{K}	A^{K}	A^{K}	3.1^{K}	[3.0]$^{A}_{K}$	(3.0)$^{P}_{K}$	[2.9]$^{A}_{K}$	(2.7)$^{A}_{K}$	2.6^{K}	2.2^{K}	5^{K}							
5								(2.0)$^{P}_{K}$	(2.4)$^{A}_{K}$	(2.5)$^{P}_{K}$	[2.6]$^{A}_{K}$	(2.8)$^{A}_{K}$	(2.9)$^{P}_{K}$	3.0^{K}	(3.0)$^{P}_{K}$	(2.9)$^{P}_{K}$	2.6^{K}	2.1^{K}	5^{K}							
6								A	2.5	2.8	(2.9)^{A}	A	A	A	(3.0)^{A}	2.9	2.7	2.4	5							
7								2.0	(2.4)^{A}	2.6	3.4^{H}	(3.0)^{A}	(3.1)^{P}	(3.1)^{P}	3.1^{H}	3.0	2.8	2.1	5							
8								A	(2.5)^{A}	[2.7]^{A}	2.9^{H}	[3.0]^{A}	3.1^{H}	3.1	3.1	3.0	2.7	(2.3)^{C}	5							
9								A	A	A	3.0^{H}	(3.1)^{A}	(3.2)^{A}	3.2	3.2	3.0	2.7	2.2	5							
10								2.2^{H}	(2.7)^{A}	3.0^{H}	[3.1]^{A}	(3.2)^{A}	(3.3)^{A}	3.3	3.2	2.9	2.7	2.2	A							
11								A	A	A	3.2	[3.2]^{A}	3.2	3.2	3.1	2.9	2.5	2.2	A							
12								2.1	2.5	(2.8)^{A}	(2.9)^{A}	A	A	A	3.0	(3.0)^{S}	(2.5)^{S}	S	A							
13								A	2.5	2.9	A	A	A	A	A	(3.0)^{A}	[2.6]^{M}	2.3	A							
14								(2.3)^{A}	[2.4]^{A}	2.9	3.1	(3.2)^{P}	[3.2]^{A}	3.1	3.1^{H}	3.0	2.7	A								
15								2.4	[2.7]^{A}	3.0	3.2	3.3	3.3	3.1	3.1	(2.9)^{P}	(2.5)^{P}	(2.2)^{P}	S							
16								2.1	2.5	2.8	3.1	3.2	3.2^{H}	(3.1)^{P}	3.0	2.9	2.5	2.0								
17								2.2	[2.5]^{A}	(2.8)^{A}	3.1	3.2	(3.3)^{P}	3.2	3.1	2.8	2.5	2.2	S							
18								A	2.6	2.8	2.9	[3.1]^{A}	3.3	3.2	3.0	2.9	2.6	2.1								
19								2.1^{K}	2.3^{K}	2.6^{K}	2.9^{K}	3.0^{K}	3.0^{K}	3.1^{K}	2.9^{K}	2.7^{K}	2.4^{K}	2.0^{K}								
20								2.0^{K}	2.4^{K}	2.8^{K}	2.9^{K}	3.0^{K}	3.1^{K}	3.0^{K}	2.9^{K}	2.7^{K}	2.4^{K}	2.0^{K}								
21								2.1^{K}	2.5^{K}	2.8^{K}	3.0^{K}	3.1^{K}	3.2^{K}	(3.1)$^{P}_{K}$	3.0^{K}	2.7^{K}	2.5^{K}	2.0^{K}								
22								2.1	(2.5)^{A}	(2.8)^{A}	[3.0]^{A}	3.1	3.2	3.1	3.0	2.8	2.4	2.0								
23								A	2.5	2.8	3.0	3.1	3.2	3.1	3.0	[2.8]^{A}	(2.5)^{P}	2.1^{H}								
24								(2.1)^{H}	2.5^{P}	2.7^{H}	3.0	3.2	3.2	3.2	(3.1)^{A}	2.8	2.4	2.0^{H}								
25								A	2.7^{H}	2.8	3.1	3.2	3.2	3.1	3.0	2.9	2.6	2.0^{H}								
26								2.1^{H}	2.6	(2.8)^{A}	[3.0]^{A}	3.2^{H}	3.2	3.1	3.1	2.8	2.4	A								
27								2.0^{H}	2.4	2.8	3.0	3.2	3.2	3.1	3.0	2.8^{H}	2.5	A								
28								2.0^{H}	(2.5)^{P}	2.8	3.0	(3.2)^{P}	3.1	3.1	3.0	2.8	2.4	A								
29								2.0	(2.5)^{P}	(2.7)^{P}	2.9	(3.0)^{P}	3.1	3.1	3.0	(2.8)^{A}	[2.4]^{A}	(2.1)^{H}								
30								1.9^{H}	2.4	2.8	2.9	3.0	[3.0]^{A}	(3.0)^{P}	2.9^{H}	2.7^{H}	2.5^{H}	2.0^{H}								
31																										
Median							—	2.1	2.5	2.8	3.0	3.1	3.2	3.1	3.0	2.9	2.5	2.2	—							
Count							1	20	26	29	27	26	27	27	29	30	30	24	1							

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 77

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

IONOSPHERIC DATA

Es (Characteristic), Mc, Km (Unit) September (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat. 38.7° N, Long 77.1° W

75° W Mean Time

Scaled by: McC., E.J.W., J.W.P.

Calculated by: McC., E.J.W., J.W.P.

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	5.0 100	5.0 100	4.6 100	2.4 100	2.2Y 100	2.4Y 100	E	2.2 110	3.7 100	G	G	G	G	G	G	G	G	3.4Y 110	3.4 120	E	E	3.0Y 110	E	E
2	E	E	3.0 100	E	E	E	E	2.3Y 120	4.3 100	G	G	3.7 110	G	G	G	G	3.4Y 110	3.8 100	3.2Y 110	1.9Y 100	3.8 100	E	E	E
3	E	E	E	1.3 110	E	E	1.7Y 100	7.6Y 100	* G	3.7Y 110	3.7Y 100	3.7 100	G	G	3.7 100	3.0 90	3.2Y 110	G	G	E	E	E	E	E
4	E	E	E	E	E	E	E	3.0Y 100	3.6Y 100	3.5Y 100	3.0 120	G	3.6 100	G	3.1 100	2.8 110	G	G	G	E	E	E	E	E
5	E	E	2.9 110	2.7 110	3.2 110	E	1.9 120	2.2 120	2.5 120	2.7 110	3.2 110	3.3 110	3.2 120	G	G	G	G	G	G	E	E	E	E	E
6	E	3.0 110D	E	E	4.5 100	3.0 100	2.7Y 100	2.3 110D	4.1 110	4.0Y 110	3.5 100	3.7Y 100	3.7Y 100	3.7Y 110	3.1 100	G	G	G	2.0 120	3.5 120	5.8 110	2.6Y 110	E	E
7	E	E	E	E	5.2Y 130	7.2 110	E	G	3.8Y 120	3.1Y 130	G	3.9Y 120	G	G	G	3.5Y 100	G	2.3 100M	1.9Y 110	2.9Y 120	4.0 110	2.4Y 110	E	E
8	E	E	E	E	6.6Y 130	4.0Y 110	1.7Y 120	3.2Y 110	9.6 110	3.0Y 110	G	3.9 100	G	G	G	G	G	G	1.9 120	E	E	E	E	E
9	E	E	E	E	E	E	M	3.6 120	3.6Y 110	10.0Y 100	G	9.0 100	3.4 100	G	G	G	4.8 120	3.7 120	3.5 110	E	E	E	E	E
10	E	E	E	4.2Y 130	E	E	E	G	3.7Y 110	15.0Y 110	3.7 110	3.6 120	3.6 120	G	4.2 110	15.5 100	G	G	1.9 120	1.8 110	3.7 110	E	E	E
11	E	2.2 130	E	3.9 120	4.3 120	2.5 110	2.5Y 110	2.5Y 110	3.3Y 110	4.0Y 110D	6.9Y 130	3.4 110	3.5Y 100	G	G	G	G	14.5Y 120	1.8 130	2.6Y 120	2.4Y 110	2.4 110	E	E
12	E	E	E	4.5Y 100	5.0 100	4.2 100	5.0 110M	3.7Y 120	4.2 110	4.9 110	5.6 110	5.2 100	4.0Y 100	7.8 110	6.0 110	4.5 120	4.2 110	6.8Y 130	7.0 110	3.8 110	3.9 110	8.2 110	4.3 110	6.6 110
13	5.8 100	3.9 120	2.8Y 100	4.9Y 120	E	E	2.3 120	3.4Y 120	10.0Y 110	4.1 120	5.4 110	5.2 110	5.0 100	4.2Y 110	3.3 120	4.2Y 130	M	4.4 130	7.8 120	7.4 120	3.3 110	E	E	1.8Y 110
14	E	E	3.0Y 100	E	E	3.8 110M	4.8 110	6.6Y 100	3.5 110	3.5Y 120	G	G	4.2 100	3.4 140	3.5 130	G	G	3.7Y 120	E	E	2.1Y 100	E	E	E
15	E	E	E	E	E	2.4 110	4.3Y 100	G	4.3 130	G	G	G	G	G	G	G	G	G	G	3.6 100M	3.3 100M	1.9Y 120	E	E
16	E	E	E	E	4.2Y (110)S	E	7.8Y 120	G	G	G	G	G	G	G	G	G	G	G	E	E	E	3.0Y 100	E	E
17	E	E	E	E	E	2.8 110	E	3.0Y 120	3.8 110	4.3Y 110	G	G	G	G	G	G	G	3.4Y 120	G	E	E	E	E	E
18	E	E	E	E	E	E	E	3.2Y 120	4.4Y 120	7.8Y 110	3.6Y 120	3.6Y 120	G	G	G	G	G	4.3 120	E	E	E	E	E	E
19	E	E	E	3.1 130	E	E	E	G	G	G	G	G	G	G	G	3.9Y 120	G	2.5 130	E	E	E	E	E	2.3 150
20	E	E	E	E	E	E	2.4Y 110	G	G	8.4Y 110	G	G	G	G	G	G	G	G	E	E	E	E	E	E
21	E	E	E	E	E	E	3.1 110M	G	G	G	4.9Y 110	G	G	G	G	G	G	2.3 120	E	E	E	2.4 110	E	E
22	E	E	E	3.1 130	E	E	2.6Y 110	3.0Y 120	3.3Y 130	3.0Y 130	3.1 120	G	G	4.1Y 120	G	G	G	3.4Y 130	3.0 120	E	E	E	E	E
23	E	E	E	E	2.3 100	2.3Y 100	2.6Y 120	3.0Y 110	G	G	G	G	G	G	G	2.7 110	G	2.3 140	3.5 120	3.0 120	E	2.3 110	E	E
24	E	E	E	E	3.9Y 110	E	2.5Y 130	G	G	G	G	G	3.5 110	G	3.4 110	G	G	G	2.8Y 120	4.1 110	E	E	E	E
25	E	E	E	E	2.7 160	E	2.2 110	3.7 110	G	G	G	G	G	G	G	G	G	G	1.9 110	3.2Y 110	2.1Y 110	3.2 100	3.2Y 100	2.9Y 100
26	E	E	E	4.3Y 100	E	E	E	G	G	3.5Y 100M	4.9 100	G	G	G	G	G	G	2.1 120	E	E	E	E	E	E
27	E	E	E	E	E	6.4Y 90	E	G	G	G	G	10.4Y 110	G	G	G	G	G	1.9 120	E	E	E	E	E	E
28	E	E	E	E	E	2.2Y 110	4.2 110	2.7Y 120	G	G	G	G	G	G	G	G	3.8 110	3.7 100	E	E	3.0Y 120	E	E	E
29	E	E	E	E	E	E	E	G	G	G	G	G	G	11.5 100	G	3.7Y 110	3.4Y 110	G	2.3 100	4.4 100	E	E	E	E
30	E	E	E	E	E	E	E	10.0Y 130	7.0Y 110	4.0 120M	4.1Y 120M	3.3 110	9.8Y 100M	G	3.3 130	3.1 130	G	G	E	3.2 110	E	E	E	E
31																								
Median	* *	* *	* *	* *	* *	* *	1.9	2.4	3.4	3.0	* *	* *	* *	* *	* *	* *	* *	2.2	* *	* *	* *	* *	* *	* *
Count	30	30	30	30	30	30	29	30	30	30	30	30	30	30	30	30	29	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 0.25 min

Manual ☐ Automatic ☒

TABLE 78

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

Form accepted June 1946

IONOSPHERIC DATA

(M1500)F2 (Characteristic), _____ (Unit), September (Month), 1953

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W., J.W.P.

75°W Mean Time

Calculated by: McC., E.J.W., J.W.P.

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	A K	A K	A K	K(2.1)J3	(2.0)S K	E K	2.4 K	2.3 K	G K	1.8 K	1.8 K	1.8 K	1.7 K	1.7 K	1.6 K	1.7 K	1.6 K	2.0 K	2.2 K	2.2 N	2.2	2.1 F5	2.3 F	2.1 F
2	2.1 F	2.0	2.0 F	2.1 F	(2.0)J F	(2.1)F P	2.3	2.2	2.3	2.0	2.1	2.1	1.9	2.1	2.0	2.1	2.3	2.1	2.2	2.2	(2.1)S	2.2 S F	(2.0)F	(2.0)J H
3	2.0 F	(2.1)J S	2.3	(2.1)J S	2.3	2.0	2.4	(2.6)H	G	2.2	2.0	2.3	2.2	2.0	1.9	1.9	2.0	1.9 K	1.8 K	K(2.0)J S	(1.8)F K	F K	F K	K(1.7)J S
4	E K	K(1.9)S E	E K	E K	E K	E K	G K	G K	G K	(2.4)S K	G K	G K	G K	G K	G K	G K	G K	1.7 K	1.9 K	1.9 K	1.9 K	1.8 K	2.0 S K	K(1.8)J S
5	K(1.9)J S	K(1.9)J S	A K	A K	A K	(1.8)S K	2.1 K	G K	G K	G K	1.9 K	K(1.8)P S	(1.6)P K	1.6 K	1.8 K	1.7 K	2.0 K	2.0 K	2.2 K	2.2 K	2.2 K	2.1 K	2.2 K	2.1 K
6	K(2.0)P S	E K	E K	E K	A K	A K	2.2	2.2	2.4	2.4	2.2	2.4	2.1	2.2	2.1	2.2	2.2	2.3	2.3	2.1	2.2	2.0 S	(2.0)J S	2.1 F
7	2.2 F	(2.0)F P	2.1	(2.0)J S	(2.4)P S	E	2.4	2.4	2.3	2.1	2.1	2.0	2.3	2.1	2.0	2.1	2.2	2.3	2.2	2.1	2.1	(2.2)J S	(2.0)F S	(2.0)J S
8	2.2 F	2.0 F S	2.3 F	2.1	(2.0)P S	S	2.2	2.2	2.4	2.3	2.3	2.2	2.1	2.2	2.3	2.1	2.2	2.2	2.3	2.2	2.2	2.2	2.1	2.0
9	2.1	2.1	2.2	2.1	2.2	2.3 S	M	2.4	(2.3)H J	2.6	2.2	2.2	(2.1)H J	2.3	2.4	2.2	2.2	2.2	2.3	2.3	2.4	2.2	2.1	2.1
10	2.0	2.0	2.0	2.1	2.3	2.1	2.3	2.4	2.5	2.3	2.3	2.2	2.3	2.1	2.2	2.2	2.3	2.2	2.2	2.3	2.4	1.9	2.0	2.0
11	2.0	2.0	2.1	2.4	A	1.9	2.2	2.1	(2.4)J S	2.3	2.4	2.1 H	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.2	2.2	(2.1)J S	2.0	2.0
12	(2.0)S	1.9	2.0	A	A	A	2.3	(2.3)S	2.4	(2.4)S	(2.3)J H	2.4	2.1	A	2.0	2.1	2.0	2.2	2.3	2.2	(2.2)S	A	(2.0)J S	A
13	(2.0)J S	(2.0)J S	(2.1)S	(2.0)S	(1.9)J F	S F	2.4	2.3	2.3	2.3	2.1	2.1	2.2	2.2	2.3	2.3	M	2.1	2.3	2.3	(2.1)J S	(2.1)J S	(2.0)J S	(2.0)J S
14	(2.0)J S	(2.2)J F	F	(2.0)J F	(1.9)J F	(2.1)F	2.3	2.4	(2.1)S	2.4	2.3	2.3	2.3	2.3	2.1	2.2	2.2	2.4	2.4	2.3 F S	(2.2)P F	(2.1)P F	(2.1)J F	(2.1)P F
15	(2.0)J F	(1.9)F	(2.0)F	(2.0)J F	(1.9)F	(2.0)F	2.3	2.4	2.5	2.3	2.1	2.0	2.1	2.1	1.9	2.0	1.8	2.0	2.0	2.1	2.2	2.1	(2.0)S	1.9
16	1.9	(1.9)P S	(2.0)P S	(2.0)S	S	S	(2.4)P S	(2.3)H	2.2 H	2.2	2.3	2.2	2.2	2.0	2.0	2.1	2.2	2.1	2.3	2.3	2.0	2.0	1.9	1.9
17	2.0	2.1	2.1	2.1	2.1	(2.1)A	2.4 H	2.4	2.4	2.4	2.4	2.3	2.2	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.2	(2.1)F
18	(2.1)J S	(2.0)J F	(2.0)J F	(1.9)J F	(2.1)J F	(2.1)J F	(2.4)S	2.4	2.1	2.5	2.3	2.2	2.3	2.3	2.2	2.0	2.1	2.2	2.1	2.0	1.9	1.8	1.8	1.9 K
19	1.9 K	2.2 K	K(1.9)J F	K(1.6)J S	K(1.6)J S	E K	2.0 K	2.3 K	2.5 K	G K	G K	G K	1.4 K	1.8 K	1.8 K	K(1.5)J S	1.8 K	2.0 K	2.1 K	1.9 K	1.9 K	1.9 F K	(1.9)S K	K(2.3)J F
20	1.9 K	2.0 F K	1.9 F K	2.0 F K	F S K	F K	2.1 K	2.4 K	G K	G K	G K	1.6 K	1.8 K	1.8 K	2.0 K	1.9 K	2.1 K	2.2 K	2.1 K	2.0 K	2.0 K	2.0 K	2.0 K	K(1.9)J F
21	K(1.9)J F	(1.9)F K	K(1.9)J F	K(1.9)J S	(1.9)S K	F S K	2.3 K	G K	1.9 K	2.2 K	K(2.3)J S	2.1 K	2.3 K	2.2 K	2.1 K	2.3 K	2.1 K	2.4 K	2.4 K	2.3 K	2.1 K	K(1.9)J F	(2.3)F K	(1.9)F K
22	1.9 F K	2.0 F K	K(2.3)J F	F K	S K	K(1.8)J S	2.3	2.4	2.3	2.3	2.2	2.2	2.3	2.3	2.4	2.2	2.3	2.2	2.3	2.1	2.1	2.3 K	2.1 F K	K(2.0)J F
23	2.0 K	K(1.7)J S	K(1.7)J S	F K	F K	F K	2.3	2.4	2.3	2.2	1.9	1.9 F	2.0 F	2.1	2.4	2.1	2.3	2.1	2.2	2.1	(2.1)J S	2.0 S	(2.0)J S	(2.2)F S
24	(2.1)F	(2.1)F	(2.0)J F	(1.8)P F	F	F	(2.3)J S	2.4	2.3	2.2	2.1	2.1	2.0	2.2	2.2	2.3	2.3	2.4	2.2	2.2	2.3	(2.1)J S	(2.0)F S	2.0 F
25	2.0 F	(2.0)F	2.0 F	(2.2)F	(2.2)J F	(2.0)F S	2.4 F	2.4	2.3 F	2.4	(2.2)H	2.3	2.2	2.2	2.1	2.3	2.2	2.4	2.4	2.2	2.2	2.1 F S	2.1 F S	2.1
26	2.1 F S	2.2 F S	2.3 F	2.2 F	(2.3)J F	(2.3)P F	2.4 F S	2.5	2.4	2.4	2.1	2.3	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.2	2.3	2.0	2.0	1.9
27	1.9	2.0	2.0	2.1	2.0 F	2.1	2.4	2.4	2.1	2.0	2.1	2.1	2.1	2.1	2.3	2.3	2.3	2.4	2.5	(2.2)J S	(2.1)J S	(2.0)J S	(2.1)F	(1.9)J F
28	(2.0)J F	(2.0)J F	2.1	2.3	2.1	(2.3)J F	2.3	2.1	2.6	2.3	2.3	2.4	2.5	2.2	2.2	2.3	2.3	2.4	2.4	2.4	(2.2)S	(2.2)S	(2.2)S J	(2.1)J F
29	(2.0)J F	(2.1)J F	(2.2)J S	(2.1)J F	(2.3)J F	(2.4)J F	(2.4)S F	2.6	2.5	2.3	2.3 H	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	(2.3)J S	(2.2)J S	(2.1)S	(2.0)J S
30	(2.1)J S	(2.1)F S	(2.1)J F	(2.1)J F	(2.0)F	2.1	2.4	2.5	2.0	2.2	2.2	2.3	2.1	2.1	2.2	2.2	2.3	2.4	2.2	2.3	2.1	2.1	2.0	2.0
31																								
Median	2.0	(2.0)	(2.0)	(2.1)	(2.0)	(2.1)	2.3	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.0	(2.0)
Count	28	28	25	24	20	17	29	30	30	30	30	30	30	29	30	30	29	30	30	30	30	28	29	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 79

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

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F2 (Characteristic) , ____ (Unit) September (Month) , 1953

Observed at Washington, D.C.

Lat. 38.7°N , Long. 77.1°W 75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: Mc C., E.J.W., J.W.P.

Calculated by: Mc C., E.J.W., J.W.P.

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	A K	A K	A K	K(3.1)S S	(3.0)S K	E K	3.4 K	3.3 K	G K	2.7 K	2.7 K	2.7 K	2.6 K	2.6 K	2.5 K	2.6 K	2.5 K	3.0 K	3.2 K	3.2 K	3.2	3.1 S S	F	F
2	3.1 F	3.0	3.0 F	3.1 F	(3.0)F F	(3.1)F F	3.4	3.2	3.4	3.0	3.1	3.1	2.9	3.1	3.0	3.1	3.3	3.1	3.2	3.2	(3.1)S	3.2 S F	(3.0)F	(3.0)F F
3	3.0 F	(3.1)T S	3.3	(3.1)T S	3.3	3.0	3.4	(3.7) H	G	3.2	3.0	3.3	3.2	3.0	2.9	2.8	3.0	2.8 K	2.8 K	K(2.9)T S	(2.7)F K	F K	F K	K(2.6)T S
4	E K	K(3.0)S S	E K	E K	E K	E K	G K	G K	G K	(3.5)S K	G K	G K	G K	G K	G K	G K	G K	2.6 K	2.9 K	2.9 K	2.9 K	2.7 K	3.0 S	K(2.7)T S
5	K(2.9)T S	K(2.7)T S	A K	A K	A K	(2.7)S K	3.1 K	G K	G K	G K	2.9 K	K(2.7)H S	(2.5)F K	2.5 K	2.7 K	2.6 K	3.0 K	3.0 K	3.2 K	3.2 K	3.2 K	3.1 K	3.2 K	3.1 K
6	K(3.0)S S	E K	E K	E K	A K	F K	3.2	3.3	3.5	3.5	3.2	3.4	3.1	3.2	3.1	3.2	3.2	3.3	3.3	3.1	3.2	3.0 S	(2.9)T S	3.1 F
7	3.2 F	(3.0)F F	3.1	(3.0)T S	(3.4)S S	S	3.4	3.5	3.3	3.1	3.1	3.0	3.3	3.1	3.0	3.1	3.2	3.3	3.3	3.2	3.1	(3.2)T S	(3.0)S S	(3.0)T S
8	3.2 S S	3.0 S S	3.3 F	3.2	(3.0)S S	S 0	3.2	3.3	3.5	3.4	3.4	3.3	3.1	3.2	3.3	3.1	3.2	3.2	3.3	3.2	3.2	3.2	3.1	3.0
9	3.1	3.1	3.3	3.2	3.3	3.4 S	M	3.5	(3.4)H S	3.7	3.3	3.2	(3.2)H S	3.3	3.4	3.2	3.2	3.2	3.3	3.3	3.4	3.2	3.1	3.1
10	3.0	3.0	3.0	3.1	3.3	3.1	3.3	3.4	3.6	3.4	3.3	3.2	3.3	3.1	3.2	3.3	3.4	3.2	3.2	3.3	3.5	2.9	2.9	3.0
11	3.0	3.0	3.1	3.5	A	2.8	3.2	3.1	(3.5)T S	3.3	3.4	3.1 H	3.1	3.1	3.2	3.2	3.3	3.3	3.2	3.2	3.2	(3.1)T S	3.0	3.0
12	(3.0)S	2.9	3.0	A	A	A	3.3	(3.3)S	3.4	(3.5)S	(3.3)T H	3.5	3.1	A	3.0	3.1	3.0	3.2	3.3	3.2	(3.2)S	A	(3.0)T S	A
13	(3.0)T S	(3.0)T S	(3.1)S	(3.0)S	(2.9)T F	S F	3.4	3.3	3.4	3.4	3.5	3.1	3.2	3.2	3.3	3.3	M	3.1	3.3	3.3	(3.1)T S	(3.1)T S	(3.0)T S	(3.0)T S
14	(3.0)T S	(3.2)T F	F	(3.0)T F	(2.9)T F	(3.1)F	3.3	3.5	(3.1)S	3.5	3.4	3.4	3.3	3.3	3.2	3.3	3.2	3.4	3.4	3.3 S	(3.2)P F	(3.1)P F	(3.1)F F	(3.1)P F
15	(2.9)T F	(2.9)F	(3.0)F	(3.0)T F	(2.8)F	(3.0)F	3.4	3.5	3.5	3.3	3.1	3.0	3.1	3.1	2.9	3.0	2.7	3.0	3.0	3.1	3.2	3.1	(3.0)S	2.8
16	2.9	(2.8)T S	(3.0)P S	(3.0)S	S	S	(3.5)P S	(3.4)H	3.2 H	3.3	3.3	3.2	3.2	3.0	3.0	3.1	3.2	3.1	3.4	3.3	3.0	3.0	2.9	2.8
17	3.0	3.1	3.1	3.1	3.1	(3.1)A	3.5 H	3.5	3.4	3.4	3.4	3.3	3.2	3.4	3.2	3.3	3.4	3.3	3.2	3.2	3.1	3.1	3.2	(3.1)F
18	(3.1)T S	(3.0)T F	(3.0)T F	(2.9)T F	(3.1)T F	(3.1)T F	(3.5)S	3.4	3.1	3.6	3.4	3.2	3.3	3.3	3.2	3.0	3.1	3.2	3.1	3.0	2.9	2.7	2.7	2.8 K
19	2.8 K	3.2 K	K(2.8)T F	K(2.5)T S	K(2.4)T S	E K	3.0 K	3.3 K	3.6 K	G K	G K	G K	2.0 K	2.7 K	2.7 K	K(2.2)T S	2.7 K	3.0 K	3.1 K	2.8 K	2.8 K	2.8 F K	(2.8)S K	K(3.3)T F
20	2.9 K	3.0 F K	2.8 F K	3.0 K	F S K	S K	3.1 K	3.4 K	G K	G K	G K	2.5 K	2.7 K	2.7 K	3.0 K	2.9 K	3.1 K	3.2 K	3.1 K	3.0 K	3.0 K	3.0 K	3.0 K	K(2.8)T F
21	K(2.8)T F	(2.9)F F	K(2.8)T F	K(2.8)S S	(2.8)S K	F S K	3.3 K	G K	2.8 K	3.2 K	K(3.3)T S	3.1 K	3.3 K	3.2 K	3.1 K	3.3 K	3.1 K	3.5 K	3.4 K	3.3 K	3.1 K	K(2.9)T F	(3.3)K K	(2.9)K K
22	2.8 F K	3.0 F K	K(3.3)T F	F K	F S K	K(2.7)T S	3.3	3.5	3.3	3.3	3.3	3.2	3.3	3.3	3.4	3.2	3.3	3.2	3.4	3.1	3.1	3.3 K	3.1 F K	K(3.0)T F
23	3.0 K	K(2.6)S S	K(2.6)S S	F K	F K	F K	3.3	3.5	3.3	3.2	2.9	2.9 F	3.0 F	3.1	3.4	3.1	3.3	3.1	3.2	3.1	(3.1)T S	3.0 S	(3.0)T S	(3.2)F S
24	(3.1)F	(3.1) F	(3.0)T F	(2.7)F F	F	F S	(3.4)T S	3.4	3.3	3.2	3.1	3.1	3.0	3.2	3.2	3.3	3.3	3.4	3.2	3.2	3.3	(3.1)T S	(3.0)F S	3.0 F
25	3.0 F	(3.0)F	3.0 F	(3.2)F	(3.2)T F	(3.0)T F	3.4 F	3.6	3.4 F	3.5	(3.2) H	3.3	3.2	3.2	3.2	3.3	3.2	3.4	3.5	3.3	3.3	3.1 F S	3.1 F S	3.1
26	3.1 F S	3.2 F S	3.3 F	3.2 F	(3.3)T F	(3.4)F F	3.4 F S	3.6	3.5	3.4	3.1	3.4	3.3	3.2	3.3	3.4	3.4	3.5	3.5	3.2	3.3	3.0	3.0	2.9
27	2.8	3.0	3.0	3.1	3.0 F	3.1	3.4	3.5	3.1	3.0	3.1	3.1	3.1	3.1	3.3	3.4	3.4	3.5	3.6	(3.2)T S	(3.1)T S	(3.0)T S	(3.1) F	(2.8)T F
28	(2.9)T F	(3.0)F F	3.1	3.3	3.1	(3.3)T F	3.3	3.2	3.7	3.4	3.4	3.4	3.6	3.2	3.2	3.3	3.4	3.5	3.5	3.4	(3.2)S	(3.2)S	(3.2)T S	(3.1)T F
29	(3.0)T F	(3.1)T F	(3.2)T S	(3.1)T F	(3.3)T F	(3.4)T F	(3.5)S F	3.7	3.5	3.3	3.3 H	3.3	3.4	3.3	3.3	3.4	3.5	3.5	3.5	3.3	(3.3)T S	(3.3)T S	(3.1)S	(3.0)T S
30	(3.1)T S	(3.1)S S	(3.1)T F	(3.1)T F	(3.0)H	3.1	3.4	3.6	3.0	3.2	3.2	3.4	3.1	3.1	3.2	3.2	3.3	3.5	3.2	3.3	3.1	3.1	3.0	3.0
31																								
Median	3.0	(3.0)	3.0	(3.1)	(3.0)	(3.1)	3.4	3.4	3.4	3.3	3.2	3.2	3.2	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1	3.0	(3.0)
Count	28	28	25	24	20	17	29	30	30	30	30	30	30	29	30	30	29	30	30	30	30	28	28	28

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 80

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

IONOSPHERIC DATA

(M 3000)F1 (Characteristic), ____ (Unit), September (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: McC., E.J.W., J.W.P.

Lat 38.7°N, Lang 77.1° W — 75° W Mean Time

Calculated by: McC., E.J.W., J.W.P.

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								3.5K	3.6K	3.9K	3.9K	3.8K	3.9A	3.8IK	3.8K	3.8K	3.7K	3.6MK	L K							
2								3.8	4.0	3.9H	3.9	4.0	3.8	3.9	3.7	3.5	3.7	3.6	L							
3								(4.0)H	3.7	4.0	3.9	3.9	3.8	3.6	3.6	3.5	3.7	3.7K	3.4K							
4							3.6K	3.6K	3.8K	3.9K	(4.0)HK	3.9K	3.8K	3.7HK	3.8K	3.8K	3.7FK	3.5K	(3.4)L IG							
5								3.4K	3.6K	3.9K	3.8HK	4.0HK	4.1HK	3.6HK	3.7K	3.7K	3.5K	3.4K	L K							
6								(3.7)L	3.7	3.8H	3.8H	3.7H	3.8	3.9	3.7	3.7	3.7	L	Q							
7								L	(3.2)P	3.9H	3.9H	3.7	3.6H	3.7	3.7	3.6	3.7	L	Q							
8								L	3.6	3.8H	3.9H	3.8	3.8	3.7	3.6	3.7	3.6	L	Q							
9								L	(3.8)L	(3.7)H	3.8	3.8	3.8	4.0	3.8	3.8	A	3.7	Q							
10								L	3.9	3.8	(3.9)L	3.8	3.8	3.6	3.7	3.7	3.6	L	L							
11								L	3.7	3.7	3.8	3.8H	3.8	3.9H	3.9H	3.6	3.6	L	Q							
12								L	3.7	3.6	A	(3.6)A	3.8H	A	A	3.6	L	L	Q							
13								Q	L	3.8	A	3.5	3.7	3.7	3.7	3.8	H	Q	A							
14								L	L	4.0	4.0	4.0	3.8	3.8	3.7	(3.7)L	(3.7)P	L	Q							
15								L	L	L	3.8H	3.6H	3.6H	3.8H	3.6H	3.6	3.4	L	Q							
16								L	L	(3.7)F	3.7	3.7	3.7	3.7	3.6	3.6	L	L								
17								L	L	3.9	3.6	3.9H	3.7	3.6	3.7	3.7H	L	Q								
18								Q	L	L	3.8H	3.9H	3.7	3.8	3.6H	3.7H	L	A								
19								Q K	L K	3.7K	3.8K	3.8HK	3.8HK	3.6K	3.6K	3.7K	3.6K	L K								
20								Q K	3.4HK	4.0HK	3.6HK	3.8K	3.7K	3.7K	3.7K	3.7K	3.6K	L K								
21								3.5K	3.6K	3.9K	3.7K	3.7IK	3.7K	3.7IK	3.5K	3.7K	L K	L K								
22								L	(3.9)L	(3.7)H	(3.7)P	3.6	3.8	3.6	3.7	L	L	Q								
23								L	3.6	3.5	3.5	3.4	3.6	3.7H	3.7	3.7	(3.8)L	L								
24								Q	L	3.9H	3.6	3.5H	3.8H	3.9H	3.6	L	L	L								
25								L	L	L	3.8H	3.7H	3.7	3.8	3.6H	3.7	L	L								
26								L	L	4.0	(3.9)H	4.1	3.7H	3.7	3.8	(3.8)L	L	L								
27								Q	L	3.6	3.6H	3.6	3.7	3.8H	3.6	3.7	L	L								
28								Q	L	(4.1)H	(3.9)L	3.9	4.0	3.6	3.7	3.7	L	Q								
29								Q	L	3.7	3.9	3.7	3.7	3.7	3.7	3.8	L	Q								
30								L	L	3.8	3.8	3.8H	4.0	3.8	3.7H	3.5	L	L								
31																										
Median								3.6	3.7	3.8	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.6	—							
Count							1	7	16	27	29	30	30	29	29	28	5	6	2							

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 81

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

Form adopted June 1946

IONOSPHERIC DATA

(M1500) E (Characteristic), _____ (Unit), September (Month), 1953

Observed at Washington, D.C.

Lat. 38.7°N, Long. 77.1° W

75° W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., E.J.W., J.W.P.

Calculated by: McC., E.J.W., J.W.P.

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								A^{K}	A^{K}	4.3^{K}	(4.4)$^{D}_{K}$	4.3^{K}	4.2^{K}	4.2^{K}	4.2^{K}	4.2^{K}	4.4^{K}	4.2^{K}	A^{K}					
2								(4.2)^{A}	A	4.5	4.4	(4.4)^{A}	4.0	4.2	4.4	4.2	4.2	(4.3)^{A}	A					
3								4.4	4.5	4.5	A	A	4.3	4.4	4.1	(4.2)^{A}	4.3	4.0^{K}	3.8^{K}					
4							4.5^{K}	A^{K}	A^{K}	A^{K}	A^{K}	4.5^{K}	A^{K}	(4.4)$^{D}_{K}$	A^{K}	(4.5)$^{A}_{K}$	4.5^{K}	4.3^{K}	5^{K}					
5								(4.5)$^{D}_{K}$	(4.5)$^{A}_{K}$	(4.5)$^{D}_{K}$	A^{K}	(4.5)$^{A}_{K}$	(4.5)$^{D}_{K}$	4.4^{K}	(4.2)$^{D}_{K}$	(4.3)$^{D}_{K}$	4.3^{K}	4.2^{K}	5^{K}					
6								A	4.4	4.5	(4.4)^{M}	A	A	A	(4.4)^{M}	4.3	4.3	4.3	5					
7								4.4	(4.3)^{A}	4.3	4.4^{M}	(4.5)^{A}	(4.5)^{D}	(4.3)^{D}	4.3^{M}	4.2	4.2	A	5					
8								A	(4.3)^{A}	A	4.4^{M}	A	4.4^{M}	4.2	4.2	4.3	4.3	(4.1)^{C}	5					
9								A	A	A	4.3^{M}	(4.3)^{A}	(4.3)^{A}	4.3	4.3	4.3	3.9	4.4	5					
10								4.2^{M}	(4.3)^{A}	4.3^{M}	A	(4.4)^{A}	(4.3)^{A}	4.3	4.4	4.4	4.3	4.3	A					
11								A	A	A	4.2	A	4.3	4.3	4.3	4.2	4.4	4.0	A					
12								4.4	4.3	(4.4)^{A}	(4.3)^{A}	A	A	A	4.1	(4.2)^{S}	(4.3)^{S}	5	A					
13								A	4.3	4.3	A	A	A	A	A	(4.4)^{A}	M	4.3	A					
14								(4.0)^{A}	A	4.3	4.2	(4.2)^{P}	A	4.3	4.2^{M}	4.2	4.3	A						
15								4.0	A	4.1	4.2	4.1	4.1	4.2	4.3	(4.4)^{P}	(4.5)^{P}	(4.0)^{P}	5					
16								4.3	4.3	4.2	4.3	4.4	4.3^{M}	(4.3)^{P}	4.3	4.3	4.3	4.3						
17								4.4	A	(4.3)^{A}	4.4	4.1	4.2	4.4	4.2	4.2	4.1	4.1	5					
18								A	4.2	4.3	4.3	A	4.1	4.2	4.3	3.9	4.3	4.4						
19								4.3^{K}	4.4^{K}	4.3^{K}	4.3^{K}	4.1^{K}	4.2^{K}	4.2^{K}	4.1^{K}	4.3^{K}	4.1^{K}	4.2^{K}						
20								4.3^{K}	4.3^{K}	4.0^{K}	4.2^{K}	4.2^{K}	(4.2)$^{D}_{K}$	4.3^{K}	4.2^{K}	4.2^{K}	4.4^{K}	3.9^{K}						
21								4.2^{K}	4.1^{K}	4.2^{K}	4.3^{K}	4.3^{K}	4.1^{K}	(4.4)$^{D}_{K}$	4.5^{K}	4.4^{K}	4.5^{K}	4.4^{K}						
22								4.3	(4.3)^{A}	(4.3)^{A}	A	4.3	4.3	4.4	4.3	4.2	4.2	4.0						
23								A	4.1	4.1	4.3	4.1	4.3	4.3	4.5	A	(4.3)^{D}	3.9^{M}						
24								4.4^{K}	4.2^{D}	4.2^{M}	4.4	4.5	4.3	4.4	(4.2)^{A}	4.4	4.3	4.3						
25								A	4.3^{M}	4.3	4.1	4.2	4.2	4.3	4.3	4.2	4.2	(4.2)^{M}						
26								4.4^{M}	4.2	(4.3)^{A}	A	4.3	4.3	4.4	4.3	4.4	4.5	A						
27								4.1^{M}	4.2	4.2	4.0	4.1	4.1	4.3	4.1	4.2^{M}	4.3	A						
28								4.4^{M}	(4.3)^{D}	4.4	4.4	(4.3)^{D}	4.2	4.4	4.4	4.3	4.4	.1						
29								4.2	(4.4)^{D}	(4.4)^{D}	4.1	(4.2)^{D}	4.2	4.1	4.3	(4.4)^{A}	A	(4.0)^{M}						
30								4.2^{M}	4.5	4.3	4.2	4.2	A	(4.3)^{D}	4.3^{M}	4.4^{M}	4.3^{M}	4.0^{M}						
31																								
Median							—	4.3	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.3	4.3	4.2	—					
Count							1	28	28	26	29	23	24	27	28	29	28	24	1					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

Table 82

Ionospheric Storminess at Washington, D. C.

September 1953

Day	Ionosphere character* 00-12 GCT	12-24 GCT	Principal storms Beginning GCT	End GCT	Geomagnetic character** 00-12 GCT	12-24 GCT
1	4	4	----	----	3	3
2	1	2	----	0100	4	2
3	2	2	2200	----	2	4
4	6	5	----	----	6	4
5	4	4	----	----	4	3
6	4	3	----	1100	3	2
7	1	1			3	3
8	1	1			3	1
9	1	2			3	1
10	1	2			2	2
11	2	2			3	2
12	2	2			2	3
13	1	2			3	2
14	1	1			1	1
15	2	3			2	4
16	3	2			3	3
17	1	2			3	2
18	1	2			3	3
19	4	6	0400	----	6	4
20	4	5	----	----	5	4
21	4	4	----	----	4	4
22	4	1	----	1100	5	3
23	4	2	0200	1100	5	4
24	2	1			5	3
25	1	1			3	2
26	0	1			2	2
27	1	1			4	1
28	1	2			3	1
29	1	1			1	1
30	1	2			2	2

*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 83

Sudden Ionosphere Disturbances Observed at Washington, D. C.

September 1953

No sudden ionosphere disturbances were observed during the month of September.

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.

Table 84a

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

August 1953

Day	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day quality index	Advance forecasts (J-reports) for whole day; issued in advance by:			Geomagnetic K_{Ch}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-4 days	4-7 days	8-25 days	Half day (1)	Half day (2)
1	6	6	6	6	(4)	(4)	6	6	6	(4)	6		3	3
2	5	5	6	7	5	5	6	6	6	5	6		3	2
3	6	6	7	7	5	6	6	6	6	6	6		2	2
4	6	6	7	7	6	5	6	7	7	6	6		3	3
5	6	6	7	7	6	5	6	7	7	6	6		3	2
6	6	5	7	7	7	6	7	7	7	7	7		1	2
7	6	5	6	7	7	6	6	7	6	7	7		3	2
8	6	(4)	7	7	6	5	6	7	6	6	7		3	2
9	6	(3)	6	7	6	(4)	6	7	5	5	6		3	3
10	7	6	7	7	5	5	6	7	7	5	6		(4)	3
11	5	(4)	6	6	7	5	6	7	5	6	6		(4)	3
12	(4)	(3)	5	5	5	(3)	5	5	(4)	5	7		(5)	3
13	(4)	(4)	7	6	(4)	(3)	6	7	5	5	7		3	(4)
14	5	5	6	6	5	(4)	6	7	6	7	7		3	3
15	6	6	7	7	6	5	7	8	6	6	7		2	2
16	7	7	7	7	7	6	7	7	7	6	7		3	3
17	7	6	7	7	5	6	7	7	7	6	7		1	1
18	7	6	7	7	7	6	7	7	7	6	6		2	2
19	7	5	7	7	6	6	7	7	7	6	5		2	1
20	7	7	7	7	7	6	7	7	7	6	5		1	1
21	7	7	7	7	7	7	7	7	7	6	5		1	1
22	7	7	7	7	7	6	7	7	7	6	5		2	1
23	7	6	7	6	7	5	6	5	6	(4)	(4)	X	(4)	(4)
24	(3)	(3)	5	(4)	(4)	(3)	(4)	5	(4)	(4)	(4)	X	(5)	(5)
25	(3)	(2)	(4)	5	(3)	(2)	5	(4)	(3)	(4)	(4)	X	(5)	3
26	5	(3)	6	6	(3)	(3)	5	6	(4)	(3)	(4)	X	(4)	(4)
27	(4)	(3)	5	(4)	5	(2)	(4)	5	(4)	(4)	5		(5)	(4)
28	(3)	(2)	5	5	(4)	(3)	5	(4)	(3)	(4)	5		(5)	(4)
29	(3)	(2)	5	5	(4)	(3)	5	(4)	(4)	(4)	5		(5)	(4)
30	(3)	(2)	(4)	5	(3)	(2)	(4)	(3)	(3)	5	6		(5)	(4)
31	(3)	(2)	5	6	(2)	(2)	(4)	(4)	(4)	6	7		(4)	(4)

Score:

Quiet periods	P	13	5	18	17	6	6
	S	4	12	11	10	13	10
	U	4	0	0	1	1	5
	F	1	1	0	1	2	1
Disturbed periods	P	3	6	1	0	3	2
	S	6	7	1	2	4	3
	U	0	0	0	0	1	1
	F	0	0	0	0	1	3

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

Scoring: (beginning October 1952)
- P - Perfect: forecast quality equal to observed
- S - Satisfactory: (beginning October 1952) forecast quality one grade different from observed
- U - Unsatisfactory: forecast quality two or more grades different from observed when both forecast and observed were ≥ 5, or both ≤ 5
- F - Failure: other times when forecast quality two or more grades different from observed

Symbols:
- X - probable disturbed date

Note: All times are UT (Universal Time or GCT)

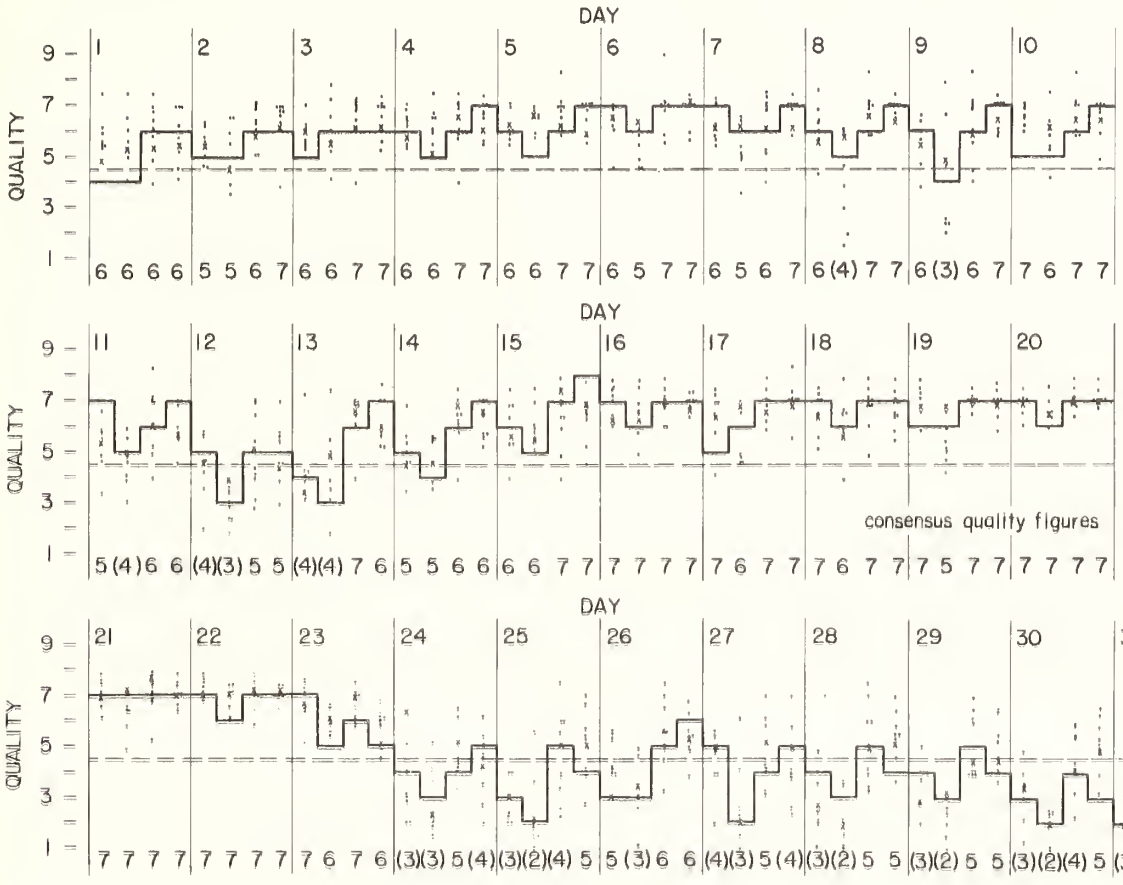
Short-Term Forcasts---August 1953

— forecast

• individual reports of quality

X CRPL observation (not in consensus)

(adjusted to CRPL scale)



Outcome of Advance Forecasts (1 to 4 days ahead) --- August 1953

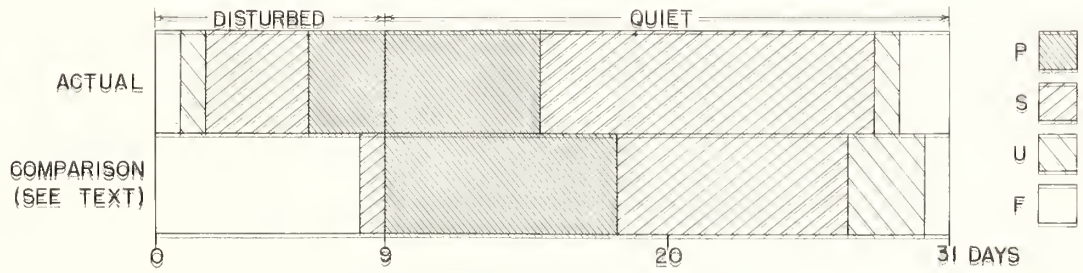


Table 85a

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
1953																																						
Sep 1.7	-	-	-	-	-	2	3	3	3	2	2	2	3	4	4	4	3	3	4		5	5	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	2	3	4	3	3	2	3	2	3	4	4	3	3		4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	1	2	1	2	3	3	3	4	2	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	2	3	3	3	2	2	2	2	3	4	5	4	4	4		3	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	2	4	4	3	1	1	1	2	2	9	8	5	5	6		3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	2	3	2	2	2	2	3	6	6	6	7	7		7	2	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.8a	-	-	-	-	-	-	-	2	2	1	1	1	1	1	2	2	3	3	3		2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	1	2	2	2	1	1	1	1	1	1	1	1	2		2	1	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X
10.8	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	1	1	2	2		2	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2		3	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2		3	6	15	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	2		2	5	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	9	7		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	1	2	2	5		2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X
18.8a	-	-	-	-	-	-	-	-	1	1	2	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.6	-	-	-	-	-	-	-	-	-	-	1	1	1	1	2	2	1	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.7a	-	-	-	-	-	-	-	1	2	2	4	2	2	4	3	4	4	1	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8a	-	-	-	-	-	-	-	-	-	-	-	1	2	2	3	6	3	2	2		1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
23.7a	-	-	-	-	-	-	-	-	-	-	-	3	3	3	5	9	8	5	4		2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	-	1	1	3	4	5	9	9	9	6		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	1	2	2	2	2	3	3	4	7	7	8	5	3		3	1	1	-	-	-	-	1	2	1	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	1	2	3	4	4	3	1	1	1		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	1	1	1	1	1	2	2	2	2	2	1	1	1		2	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1		1	2	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	1	3	3	3	2	2	2	3	2	2	2	1	2		4	5	4	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	2	3	1	3	3	2	3	3	2	3	2	2		2	4	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-

Table 86a

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
1953																																						
Sep 1.7	2	2	2	2	2	2	1	1	1	1	1	2	3	4	2	2	2	2	2		8	2	5	3	3	3	4	4	3	2	1	1	1	1	1	2	2	2
2.7	2	2	1	-	-	-	-	-	-	-	1	1	1	1	1	2	2	3	4		4	9	6	5	4	3	3	3	2	2	2	2	2	2	2	2	2	2
3.7a	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	3	5	4	4		4	4	4	4	2	2	4	2	2	-	-	-	-	-	-	-	-	-
4.7	1	1	-	-	-	-	-	-	-	-	-	-	1	1	1	5	8	9	9		6	4	3	3	2	1	1	1	-	-	-	-	1	1	1	1	1	1
5.7a	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	6	5	5		8	8	5	4	4	2	1	1	1	1	1	1	1	1	1	2	1	1
6.7	2	2	1	2	2	2	1	1	1	1	1	1	1	1	2	2	5	1	3		8	10	4	5	3	2	2	2	2	1	1	2	3	3	3	2	2	2
8.8a	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		3	4	5	4	4	4	2	1	1	1	1	2	2	2	2	3	2	2
9.7	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3		5	3	5	4	4	4	2	3	3	3	X	X	X	X	X	X	X	X
10.8	2	1	1	1	1	1	1	1	2	2	2	3	3	2	2	3	3	3	3		5	6	7	4	4	5	4	1	1	1	1	1	1	1	1	3	3	3
11.6a	2	2	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3	2	2		4	6	6	3	2	3	3	2	1	1	1	1	1	1	1	1	1	2
12.6	2	2	2	2	1	1	1	1	1	2	2	3	3	3	3	3	3	5	4		5	18	9	4	3	3	2	2	1	1	1	1	1	1	2	2	2	2
13.7a	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	4	6	5		3	10	10	4	3	1	1	-	-	-	-	-	-	-	-	-	-	2
14.6	2	2	2	3	3	2	2	2	2	2	1	1	2	3	3	3	5	12	9		3	12	12	5	3	1	1	1	1	1	2	2	2	2	2	3	2	2
15.7	2	2	2	1	1	-	-	-	-	-	-	-	1	2	1	1	1	3	8		5	3	2	4	3	3	2	1	-	-	-	-	-	-	-	-	-	-
16.7	-	1	1	1	1	1	1	1	1	1	1	1	1	2	3	3	4	5	6		5	4	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	2
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	3	2	3	3		3	3	3	3	3	3	3	3	1	1	2	1	1	1	1	1	X	X	X
18.8a	1	1	1	1	1	1	1	1	1	-	-	-	4	5	4	3	4	4	4		5	5	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2
19.6	1	1	2	2	1	1	1	1	2	3	2	2	4	3	4	5	6	6	6		6	6	6	3	3	3	3	3	1	1	1	1	1	1	1	2	2	2
20.7a	2	2	2	2	2	2	1	1	1	1	1	1	2	3	3	4	5	5	6		5	5	4	3	3	2	2	2	2	2	2	2	2	2	2	3	2	2
21.7a	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	4	2		4	5	5	3	2	2	2	1	1	1	1	1	2	2	2	2	2	2
22.8a	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	1	5	8	4		4	3	3	3	3	1	1	1	1	-	-	-	-	-	-	-	-	X
23.7a	1	-	-	-	2	2	-	-	-	-	-	-	-	-	-	1	2	6	4		2	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	1	1	2	2	1	1	1	1	1	1	1	1	1	3	3	5	4	5	4		3	3	4	4	5	3	2	1	1	1	1	1	1	1	2	2	2	2
25.6	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	5	6	5	5		5	6	7	8	9	7	4	2	3	3	3	3	3	3	3	3	3	3
26.7	1	1	1	1	1	1	1	1	1	2	2	3	5	3	2	2	2	3	4		4	4	4	4	4	3	4	3	1	1	1	1	1	2	1	1	1	1
27.7	2	2	1	1	1	1	1	1	1	1	2	3	1	1	1	1	4	4	5		5	5	4	4	3	4	5	5	3	2	2	2	2	2	3	3	4	4
28.7	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	3		4	3	3	3	3	3	3	4	3	2	2	2	2	2	2	2	2	2
29.6	1	1	1	1	1	1	1	1	1	1	3	4	5	4	4	4	4	5	12		18	14	9	6	4	5	5	5	4	3	3	3	3	3	4	3	3	3
30.7a	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1	2	4	3	4	7	9	5	3	1	1	1	1	2	.2	2	1	1	1	1	1	1

Table 85b

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

Date GCT	Degrees south of the solar equator 90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0°	Degrees north of the solar equator 5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																				
Sep 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	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	-
10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	4	9	15	9	6	2	2	2	1	1	-	-	-	-	-	-	-
11.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	9	9	4	3	1	2	2	1	-	-	-	-	-	-	-
12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	4	3	3	1	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	1	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-
18.8a	-	-	-	-	-	-	3	4	2	-	-	-	-	-	-	1	4	2	3	4	5	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-
19.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	3	6	7	7	4	1	1	1	1	1	2	-	-	-	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	4	5	5	6	3	3	2	2	2	1	-	-	-	-	-	-	-
21.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	2	1	-	-	-	-	-	-	-	-	-
22.8a	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	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	11	11	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	1	1	2	1	1	1	1	3	14	14	4	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	7	3	2	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	1	1	2	2	1	-	-	-	-	4	3	3	5	5	6	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	4	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	2	2	3	4	4	3	1	1	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 86b

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

Date GCT	Degrees south of the solar equator 90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5	0°	Degrees north of the solar equator 5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1953																																				
Sep 1.7	2	2	2	2	2	2	1	1	1	1	1	2	3	3	4	4	4	4	5	5	5	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2
2.7	2	2	2	2	2	2	2	1	1	1	2	2	3	3	3	3	3	3	3	4	3	2	1	2	1	1	1	1	1	2	2	2	2	2	2	2
3.7a	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	1	3	3	2	2	2	2	1	1	1	2	2	-	-	-	-	-	-	-	-
4.7a	1	-	-	1	1	1	-	-	-	-	-	3	3	3	2	2	2	3	4	3	3	3	2	2	2	1	1	1	-	-	-	-	-	1	1	1
5.7	1	1	1	1	1	1	1	1	1	2	2	4	4	4	3	4	4	5	6	4	4	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1
6.7	2	2	3	3	3	3	1	1	1	3	3	3	3	3	4	4	5	5	4	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	2	2
8.8	2	2	2	3	2	2	2	2	2	3	3	3	3	3	3	3	4	4	5	4	4	6	7	3	3	3	2	2	2	2	2	2	2	2	2	2
9.7	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	2
10.8	3	3	2	2	2	2	2	2	2	2	3	3	3	4	5	5	5	6	10	12	12	14	3	3	1	1	2	2	1	1	1	1	1	2	2	2
11.6	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	4	5	5	4	4	3	3	3	2	2	2	2	2	2	2	3	2	2
12.6	2	2	2	2	1	1	1	1	1	2	2	3	2	2	2	4	5	4	4	4	4	3	5	1	1	3	2	1	1	1	1	1	1	1	2	2
13.7a	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14.6	2	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	3	3	2	3	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2
15.7	-	1	1	1	2	1	1	1	1	1	2	2	1	1	1	1	1	2	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2
16.7	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	X	2	2	1	-	-	-	-	-	1	1	2	3	2	1	1	1	1	1	1	1	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-
18.8a	2	2	2	2	2	2	2	2	2	2	2	1	1	2	4	2	1	1	2	2	5	4	3	1	1	1	1	1	1	1	1	1	1	2	1	1
19.6	2	1	1	1	1	1	1	1	1	1	1	1	1	3	4	3	3	3	3	3	3	9	10	2	1	2	1	1	1	1	2	2	2	2	1	1
20.7a	2	2	2	2	2	2	2	2	3	3	4	3	3	3	4	4	4	2	2	2	2	9	3	3	2	1	1	1	1	1	1	1	1	1	2	2
21.7	2	2	2	2	2	1	1	1	1	1	1	2	3	5	4	4	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
22.8a	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	-	-	-	-	-	-	-	-	2	2
23.7a	-	-	-	-	-	-	-	-	-	-	-	1	1	2	3	5	5	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	1
24.7	2	1	1	1	1	1	1	1	1	1	1	2	3	3	3	6	7	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1
25.6	3	3	2	1	1	1	1	1	1	2	2	2	2	3	3	5	10	18	6	5	3	3	2	3	3	5	5	5	2	3	2	2	2	2	2	1
26.7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	4	5	12	4	3	4	4	4	4	2	2	2	2	2	1	1	1	1	2	1	1
27.7	4	2	2	2	2	2	1	1	1	1	1	2	3	2	2	3	3	5	5	5	5	5	4	3	3	3	3	1	2	2	1	1	1	1	2	2
28.7a	2	2	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	3	3	2	3	2	2	2	2	2	2	1	1	1	2	2	2
29.6	3	2	2	2	2	1	1	1	2	2	1	2	5	4	3	3	3	3	5	5	7	6	3	3	3	4	3	4	3	2	1	1	2	2	3	2	1
30.7a	1	1	1	1	1	1	1	1	1	1	1	2	3	2	2	2	3	3	4	4	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1

Table 87a

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
1953																																						
Sep 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	2		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	X
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1		3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
22.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 88a

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
1953																																						
Sep 2.9	-	-	-	-	2	3	3	4	3	3	4	3	4	5	5	8	7	8		7	6	8	7	4	3	2	2	2	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	2	2	2	3	5	5	6	5	6	5	7	8	9	9	12		8	5	4	3	2	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-
4.9a	-	-	-	-	-	-	-	4	3	3	4	3	4	4	5	4	3	3		3	3	4	4	4	3	3	3	4	5	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	2	2	2	3	3	3	4	2	3	2	3	4	5	5	5	4		4	3	2	3	3	3	3	2	2	3	4	5	2	-	-	-	-	-	-	-
6.7	-	-	2	2	2	-	2	2	-	2	2	3	3	3	4	8	7	7		11	10	4	5	4	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	2	3	3	2	3	3	3	3	4	5	5		4	4	3	2	2	-	-	-	-	2	3	2	2	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	2	3	3	3	3	4	4	5	5	4	3		3	4	4	3	2	2	-	-	-	-	3	3	2	2	-	-	-	-	-	-
9.7a	-	-	-	-	-	-	2	2	3	3	3	3	3	2	3	3	2	-		-	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	2	2	2	2	3	3	3	3	2		2	5	13	14	5	3	2	2	2	2	3	3	3	3	2	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2		-	3	8	13	5	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	2	2	3	2	2	2	2	3		6	5	5	13	10	4	3	3	2	2	2	-	-	-	-	-	-	-	-	-
14.7a	-	-	-	-	-	-	-	-	-	2	2	2	2	2	3	3	3	8		11	6	4	3	3	3	2	2	-	3	3	3	2	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	2	3	3	4	4	3	2	4	6		11	10	3	2	2	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	2	3	3	3	4	3	3	2	3	3		3	3	2	3	3	3	3	4	3	2	2	2	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	2	2	2	2	-	-	2	2	3	3	2	3	3		2	3	3	3	2	2	2	2	3	3	3	3	3	2	2	-	-	-	-	-
18.7a	-	-	-	-	-	-	-	2	2	2	2	2	2	3	3	2	3	3		3	3	3	2	2	2	3	3	2	3	-	-	-	-	-	-	-	-	-	-
19.8	-	-	-	-	-	-	-	-	2	2	3	3	3	4	3	2	2	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.7a	-	3	2	3	2	3	2	2	2	3	3	4	3	4	3	2	2	2		3	3	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8a	-	-	-	-	-	-	2	2	3	3	3	3	2	3	2	4	4	5		4	3	3	2	3	2	3	3	4	3	3	3	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	2	2	2	2	3	4	3	6	8	11		6	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8	-	-	-	-	-	-	-	2	2	3	3	3	2	3	4	5	9	11		10	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	2	2	3	3	2	4	5	9	6		4	5	4	4	3	2	2	2	2	2	2	2	3	2	2	-	-	-	-	-
26.7a	-	-	-	-	-	-	2	2	3	3	3	3	4	5	5	4	3	3		3	3	3	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	-	-	-	-	-	2	2	3	2	3	3	3	2	3	3	3	2	2		2	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	2	3	3	3	3	2	3	3	3	2		3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	2	4	5	4	5	3	3	3	5	4	3		3	4	9	10	4	2	3	2	3	2	2	3	2	-	-	-	-	-	-	-
30.7a	-	-	2	2	3	3	3	3	3	4	3	3	3	4	3	3	2	3		3	3	3	4	4	3	3	4	3	3	-	-	-	-	-	-	-	-	-	-

Table 87b

Coronal observations at Climax, Colorado (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
1953																																						
Sep 1.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	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	-
10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8a	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	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 88b

Coronal observations at Sacramento Peak, New Mexico (5303A), 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
1953																																						
Sep 2.9	-	-	-	-	-	-	-	2	3	3	2	3	3	2	2	2	2	3	2	2	3	3	3	3	3	2	3	4	3	3	2	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	2	3	3	3	3	3	3	2	3	3	3	3	2	2	-	-	-	-	-	-	-
4.9a	-	-	-	-	-	-	-	2	2	2	2	2	3	2	3	3	3	3	3	2	2	2	-	3	3	2	3	3	3	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	2	2	3	3	3	3	4	3	3	3	2	2	3	3	4	3	3	3	3	2	2	3	3	3	3	2	2	-	-	-	-	-	-	-	-
6.7	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	3	3	2	2	-	-	-	-	-	2	2	2	3	3	3	2	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	2	2	2	2	3	2	2	-	-	3	3	3	2	2	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	5	4	3	2	3	5	4	2	2	2	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	4	6	13	11	8	4	3	2	2	3	3	2	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	2	2	2	3	3	2	3	2	-	4	8	10	18	19	15	11	3	3	3	4	3	2	2	-	2	-	-	-	-
12.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	4	3	3	2	3	4	4	4	3	3	2	2	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3	3	2	3	2	-	-	-	-	-	-
14.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	4	3	2	3	4	4	3	2	3	3	3	2	2	-	-	-	-	-	-	-
15.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	4	5	6	7	6	5	3	3	3	2	2	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	2	2	2	3	3	3	3	2	2	2	2	2	3	3	4	6	5	5	4	4	3	3	3	4	3	2	2	-	-	-	-	-
17.6	-	-	-	-	2	2	3	3	3	3	3	2	2	2	3	3	3	2	2	5	5	6	7	5	5	3	2	3	3	3	3	3	2	-	-	-	-	-
18.7a	-	-	-	-	2	-	-	-	-	2	2	3	3	2	3	2	2	3	4	5	5	6	6	5	4	3	3	3	3	4	3	2	2	-	-	-	-	-
19.8	-	2	2	-	2	2	3	2	3	3	3	4	2	3	3	3	6	7	8	13	13	13	14	13	7	5	4	5	6	5	6	4	3	2	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	2	3	3	3	2	3	3	2	2	-	2	2	3	4	4	4	3	3	4	4	4	3	4	3	2	-	-	-	-	-
22.8a	-	-	-	-	-	-	2	2	2	3	3	2	2	2	3	3	3	2	3	3	3	3	2	3	2	3	3	3	3	3	2	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	3	3	2	3	3	3	3	2	2	3	2	2	3	3	2	-	-	-	-	-	-	-	-
24.8	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	5	11	14	3	3	3	2	2	2	2	3	2	2	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	3	2	2	2	3	4	12	14	11	2	2	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	2	3	3	3	3	3	4	4	8	14	12	5	7	8	3	3	3	3	3	3	2	2	-	-	-	-	-	-	-	-
27.6	-	-	-	-	-	-	2	2	2	3	3	3	2	3	3	3	4	5	4	5	8	12	3	3	3	2	2	3	2	2	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	2	3	2	3	3	2	2	3	3	4	3	4	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	2	4	4	3	2	3	2	2	3	3	5	8	9	9	5	3	2	3	3	4	3	2	-	-	-	-	-	-	-
30.7a	-	2	3	2	3	3	2	2	2	3	3	3	2	3	3	3	2	2	2	2	3	2	2	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-

Table 89a

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
1953																																						
Sep 2.9	3	2	4	3	3	2	3	2	-	-	4	3	2	4	3	2	5	5	7		8	15	4	4	4	4	3	3	3	2	2	2	2	2	2	3	2	3
3.7	3	2	3	4	3	3	3	-	2	2	2	3	3	4	2	3	9	13	9		11	12	7	6	6	5	5	4	3	3	2	3	-	3	3	3	2	3
4.9a	-	2	2	2	3	2	2	-	-	-	2	-	2	-	2	3	5	6	8		11	5	4	3	3	3	2	3	-	-	2	2	-	-	-	2	3	3
5.7a	3	3	2	2	3	3	-	-	-	3	3	2	-	-	2	3	3	5	4		5	8	7	3	4	3	2	-	-	3	-	2	2	3	-	3	3	2
6.7	3	3	3	-	2	2	-	-	-	2	3	-	-	2	3	-	2	5	2		5	10	6	4	3	3	2	3	-	-	-	-	-	-	-	-	-	-
7.7a	3	3	4	-	-	2	-	-	-	2	2	2	2	2	2	3	2	-	2		3	5	6	5	4	4	4	3	2	2	-	2	2	3	3	2	2	2
8.7	3	3	3	2	2	3	-	2	-	2	3	3	2	2	-	-	2	3	3		5	6	7	7	6	6	5	3	2	-	2	-	-	2	2	-	-	2
9.7a	3	3	2	2	2	2	-	-	-	2	2	3	3	2	2	3	2	3	4		5	4	4	4	3	2	2	1	3	2	2	-	2	-	-	2	2	2
11.7a	3	4	3	4	4	2	2	2	2	2	2	4	3	4	3	3	4	5	4		5	8	11	9	5	3	2	3	2	3	3	2	-	2	3	-	-	3
12.7	3	2	3	2	2	2	-	-	2	2	3	3	3	2	2	3	3	3	6		8	12	14	10	8	3	2	3	2	3	-	3	3	2	-	3	3	2
13.7a	2	2	2	3	-	2	2	2	-	-	2	3	3	3	2	3	5	5	11		8	11	16	8	5	3	3	-	-	-	-	-	-	2	-	-	2	-
14.7a	2	2	-	3	2	2	2	2	-	-	2	2	-	3	3	3	3	5	13		8	5	11	9	8	5	4	3	2	2	2	-	-	-	-	-	2	2
15.7	3	3	3	4	3	3	-	-	2	2	2	-	3	3	4	4	3	6	14		11	5	5	4	3	3	4	3	2	-	-	-	-	-	-	2	3	2
16.7	2	3	2	3	4	2	2	2	-	2	2	-	-	2	3	5	6	6	8		9	6	4	4	3	4	4	3	2	2	3	2	2	3	3	3	-	-
17.6	2	3	2	3	3	2	-	2	-	2	2	-	-	3	4	5	5	6	8		7	6	5	5	4	3	3	5	3	-	-	-	2	-	2	-	-	2
18.7a	3	-	2	2	-	-	-	-	-	-	-	2	2	2	3	4	4	4	3		4	4	4	3	2	2	2	-	-	2	2	2	-	2	-	-	2	2
19.8	3	4	2	4	3	2	2	-	-	-	3	3	4	5	5	6	8	9	8		10	11	11	5	4	3	4	3	3	2	2	2	3	2	2	2	-	2
20.7a	-	2	2	3	2	-	-	-	-	-	2	2	2	-	4	4	10	11	12		8	5	6	6	4	2	2	2	2	2	-	-	-	2	2	2	3	2
22.8a	2	2	2	-	-	-	-	-	2	2	2	2	2	-	2	4	2	6	3		3	3	4	3	3	3	4	4	3	-	-	2	-	2	2	2	2	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	11	12	12		5	3	3	4	3	2	2	2	2	-	-	-	-	-	-	-	-	-
24.8	2	3	2	2	-	-	2	-	-	-	2	2	2	3	-	-	5	7	8		5	6	7	7	5	3	2	2	-	-	-	-	-	-	-	-	-	-
25.7	3	3	2	3	3	2	2	-	-	2	3	2	2	2	3	4	3	4	5		6	5	4	5	4	3	2	2	-	-	-	-	-	-	-	2	2
26.7a	3	3	3	2	3	2	-	-	2	2	5	7	8	3	2	2	4	3	4		4	5	3	3	3	3	4	3	2	2	2	-	2	-	2	3		
27.6a	2	2	3	2	2	2	2	-	2	2	3	4	5	3	2	2	2	3	3		3	3	2	2	2	3	3	3	2	2	-	2	2	2	-	-	-	-
28.7a	-	2	-	2	2	2	3	-	-	2	3	2	3	2	2	2	2	3	3		3	5	4	3	3	2	2	3	2	-	-	2	2	2	-	-	2	2
29.7	4	3	2	3	2	3	2	-	-	-	3	3	5	4	3	2	3	4	5		8	16	17	13	7	5	5	4	4	4	3	-	2	2	-	-	2	2
30.7a	2	2	-	2	-	-	-	-	-	-	2	2	3	2	-	3	3	3	-		3	5	4	2	3	2	2	2	3	-	-	-	-	-	-	-	-	-

Table 90a

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
1953																																						
Sep 2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	2	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3		3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	3		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3			3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	3		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 89b

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
1953																																						
Sep 2.9	3	3	2	2	3	3	2	2	2	3	3	3	5	5	6	5	6	7		8	7	8	11	10	6	5	5	4	5	3	3	2	2	2	3	4	3	3
3.7	3	4	4	4	3	3	4	4	4	3	2	5	4	4	5	4	5	5		9	5	8	8	7	5	4	3	2	-	2	-	3	-	-	-	3	5	3
4.9a	3	-	-	-	3	2	-	-	-	-	-	2	3	3	3	2	2	3		3	4	4	2	2	3	3	-	-	-	-	2	-	-	-	-	-	-	-
5.7a	2	2	2	-	2	2	-	-	-	3	3	4	3	3	3	4	3	4		5	3	5	3	4	3	2	3	4	3	2	2	3	2	-	-	3	2	3
6.7	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	5	5	8		7	5	4	5	4	3	2	3	5	3	2	2	-	-	-	2	-	2	3
7.7a	2	2	2	3	2	2	3	2	-	2	3	3	2	2	2	3	4	6		5	5	4	5	4	3	2	3	3	2	-	2	2	2	-	-	2	2	3
8.7a	2	3	2	2	2	2	2	-	-	2	3	3	2	3	4	4	4	5		5	6	6	8	11	5	3	2	3	2	2	-	-	2	2	2	3	3	3
9.7	2	2	2	2	3	2	2	3	2	3	3	2	2	3	4	5	5	8		8	10	14	13	16	14	3	3	3	3	3	2	2	-	-	-	2	3	3
11.7	3	3	2	3	3	2	2	2	3	3	3	4	5	4	5	8	7	6		7	14	11	12	11	5	4	5	4	2	3	2	2	2	2	2	3	2	3
12.7a	2	3	3	3	-	-	-	-	3	2	2	2	4	-	-	3	3	3		2	4	5	4	3	7	-	2	2	2	2	-	2	-	2	2	-	3	3
13.7a	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	2	2	2	-	2	2	-	-	-	2	2
14.7a	2	2	2	2	2	2	-	2	2	2	3	4	3	3	2	3	3	3		5	4	3	3	2	-	4	3	4	3	2	3	2	2	2	2	-	-	2
15.7a	2	3	3	3	2	3	-	-	2	3	5	6	4	3	3	2	3	3		6	5	3	3	2	2	-	2	3	2	2	2	-	-	2	2	-	2	3
16.7	-	3	2	2	2	3	-	2	3	4	3	2	5	2	2	4	4	4		5	8	10	13	12	2	3	3	3	3	2	2	-	2	3	3	3	2	2
17.6	2	2	2	3	2	-	2	2	-	2	2	2	2	2	3	2	2	3		-	4	5	11	14	-	-	3	2	2	2	-	2	3	3	2	3	3	2
18.7a	2	2	2	-	2	-	-	-	-	-	2	2	-	-	3	3	2	-		2	2	3	11	6	3	2	-	2	2	-	2	3	-	-	2	2	2	3
19.8	2	2	2	2	2	-	2	-	-	2	2	2	3	5	4	3	2	2		2	3	2	8	14	10	2	2	3	2	-	-	2	-	2	2	3	3	3
20.7a	2	3	2	-	-	2	2	-	2	-	2	3	2	2	2	3	3	3		3	2	2	3	5	3	3	2	-	-	-	-	-	-	-	-	-	2	-
22.8a	-	-	2	2	3	-	-	-	2	-	-	2	2	3	3	4	3	4		4	2	2	2	2	-	-	-	2	2	2	3	2	2	2	-	2	-	2
23.7a	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	5	7	5		4	3	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8	-	2	2	2	2	2	-	-	-	2	2	-	3	4	3	3	8	13		5	3	3	2	2	-	2	3	3	2	2	-	2	2	-	2	2	2	2
25.7	2	2	2	-	-	-	2	2	2	2	2	3	2	3	3	8	14		13	8	6	4	3	3	3	4	5	6	2	2	2	-	2	2	2	2	3
26.7	3	2	2	2	2	2	2	-	2	-	2	3	5	5	5	6	10	22		13	8	9	8	6	5	7	7	8	5	4	3	3	2	2	3	2	3	3
27.6	-	2	2	2	2	2	3	3	2	2	3	2	4	3	3	2	3	4		5	8	8	7	7	5	7	6	5	4	3	2	2	2	-	2	-	-	2
28.7a	2	2	3	2	-	-	-	-	-	-	-	2	3	3	4	3	3	2		3	5	8	2	3	3	5	5	3	3	2	-	2	-	-	-	-	-	-
29.7	2	2	3	-	2	2	-	-	-	-	2	3	4	5	4	4	4	6		6	8	11	12	7	5	5	6	8	9	8	4	3	2	3	2	2	5	4
30.7a	-	2	2	-	-	-	-	-	-	-	2	2	3	3	3	3	3	3		4	4	5	4	3	3	2	2	3	3	3	2	2	2	-	-	-	-	2

Table 90b

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
1953																																						
Sep 2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	2	3	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2	2	2	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-
12.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7a	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-
14.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	2	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-
18.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	2	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 91

Zürich Provisional Relative Sunspot Numbers

September 1953

Date	R_Z*	Date	R_Z*
1	0	17	38
2	0	18	38
3	7	19	34
4	0	20	17
5	7	21	25
6	7	22	16
7	9	23	9
8	24	24	15
9	23	25	14
10	27	26	14
11	32	27	0
12	29	28	9
13	18	29	7
14	30	30	9
15	43		
16	42	Mean:	18.1

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

Table 92

Solar Flares, September 1953

Observatory	Date 1953	Time Observed Beginning (GCT)	Time Observed Ending (GCT)	Duration (Min)	Area (Mill) (of) (Visible) (Hemisph)	Position Latitude (Deg)	Position Longitude Diff (Deg)	Time of Maximum (GCT)	Int. of Maximum	Relative Area of Maximum (Tenths)	Importance	SID Observed
McMath	Sept. 26	1305				N10	E53				1 -	

B Flare began before given time.
A Flare ended after given time.
Q Time reported as questionable.

Table 93

Indices of Geomagnetic Activity for August 1953

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

Gr. Day 1953	C	Values Kp three-hour interval 1 2 3 4	5 6 7 8	Sum	Final Selected Days
1	0.8	3o 3o 2o 2o	3o 3o 3+ 4-	23o	Five
2	0.6	2+ 3+ 3- 3o	1+ 2o 3- 2o	19+	Quiet
3	0.4	2+ 2- 2+ 1-	2o 2- 2o 2-	14+	
4	0.5	3o 2+ 2o 1o	2- 3- 2+ 2-	17-	17
5	0.4	1+ 1o 2o 2o	1- 1- 3- 2o	12+	19
					20
6	0.4	1- 1- 1+ 2o	2- 3- 2o 2o	13o	21
7	0.6	4- 2+ 2- 3o	1+ 1+ 2o 2+	18-	22
8	0.3	2+ 2+ 2+ 2-	1+ 1+ 1- 2-	14-	
9	1.0	3+ 4- 3- 2o	3+ 2+ 4+ 3-	24+	
10	1.0	2+ 2+ 5o 3+	2+ 3- 2+ 4+	25-	
11	1.0	4+ 4+ 3+ 3-	2+ 3+ 3o 3-	26o	Five
12	1.4	4+ 5+ 5o 5+	4+ 6- 3+ 3+	37-	Disturbed
13	1.2	4o 3+ 3o 1o	4- 4- 5o 5-	28+	
14	0.8	3+ 4- 2- 2+	2- 2+ 2+ 2-	19o	12
15	0.6	2o 1+ 2o 1+	2- 1o 4- 3-	16-	23
					24
16	0.6	3o 2- 2o 4-	2o 2o 2+ 2+	19o	27
17	0.1	2- 1o 1- 0+	2+ 1+ 1- 1-	9-	30
18	0.2	3- 2o 1- 0+	2- 2- 1o 2-	12-	
19	0.1	2- 2- 1- 1o	2- 1o 1- 1-	9o	
20	0.0	1+ 0+ 1- 1-	1- 0+ 0+ 1o	5+	
21	0.0	1- 1o 1o 1o	1- 1- 0+ 0+	6-	Ten
22	0.1	0+ 2- 1+ 1+	1+ 1- 1o 1o	9-	Quiet
23	1.6	4- 3+ 3+ 5+	4+ 5o 5o 6+	36+	
24	1.6	5+ 6o 4+ 4-	5- 6- 5+ 7-	42-	3
25	1.3	4o 4+ 5o 5+	5- 3- 3o 3-	32-	5
					6
26	1.1	4o 5- 3+ 2o	3+ 3+ 4o 5-	29+	8
27	1.5	5o 5o 4+ 5o	5- 5+ 5- 4o	38o	17
28	1.3	5- 5- 4o 5-	4- 5o 4o 5-	35+	18
29	1.4	3+ 5o 5o 5+	4- 4+ 5+ 4o	36o	19
30	1.5	5+ 5o 5+ 5-	5o 6- 4o 4o	39o	20
31	1.3	5- 4+ 3- 4-	5o 4o 3+ 4-	31+	21
					22
Mean:	0.80				

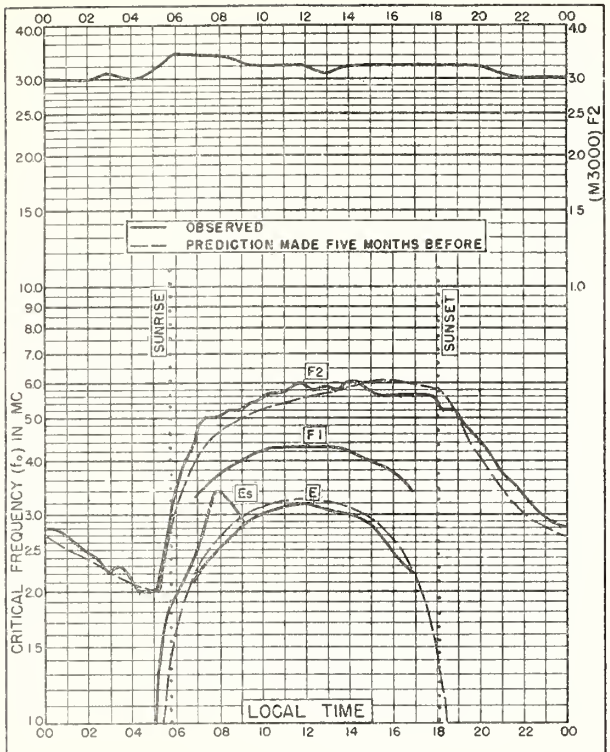


Fig. 1. WASHINGTON, D.C.
38.7° N, 77.1° W SEPTEMBER 1953

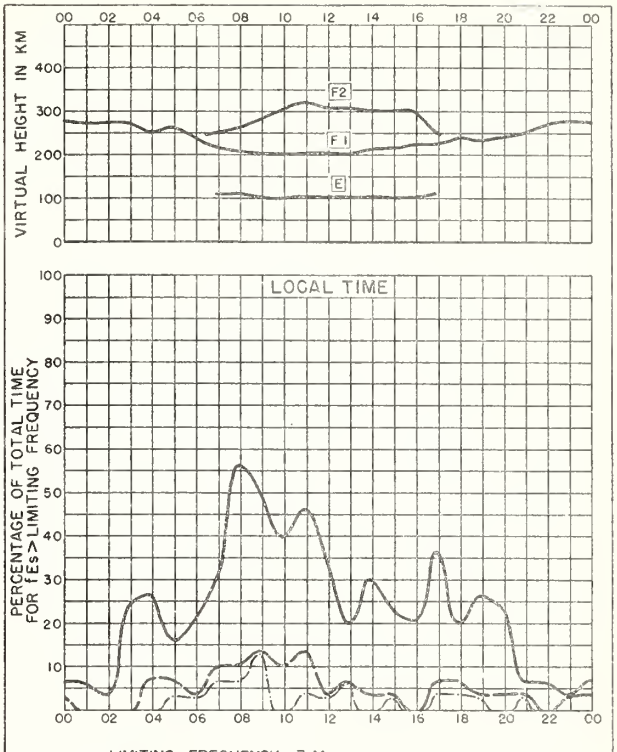


Fig. 2. WASHINGTON, D. C. SEPTEMBER 1953

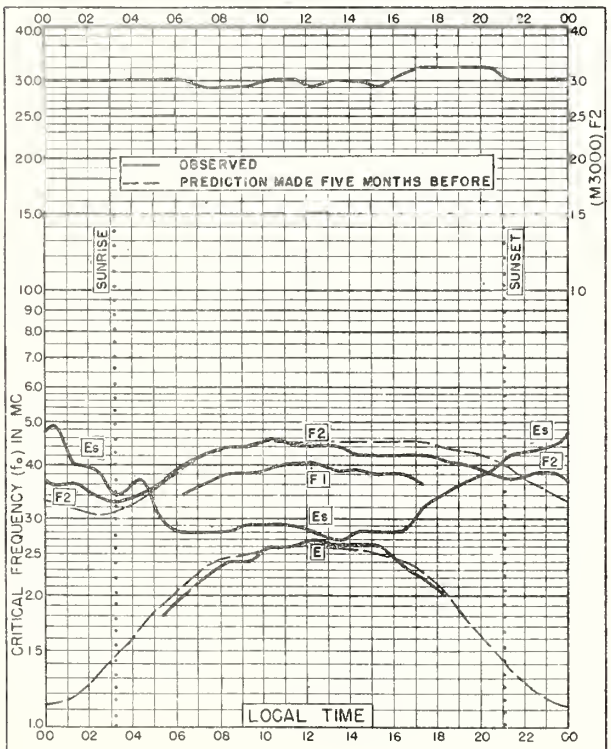


Fig. 3. TROMSO, NORWAY
69.7° N, 19.0° E AUGUST 1953

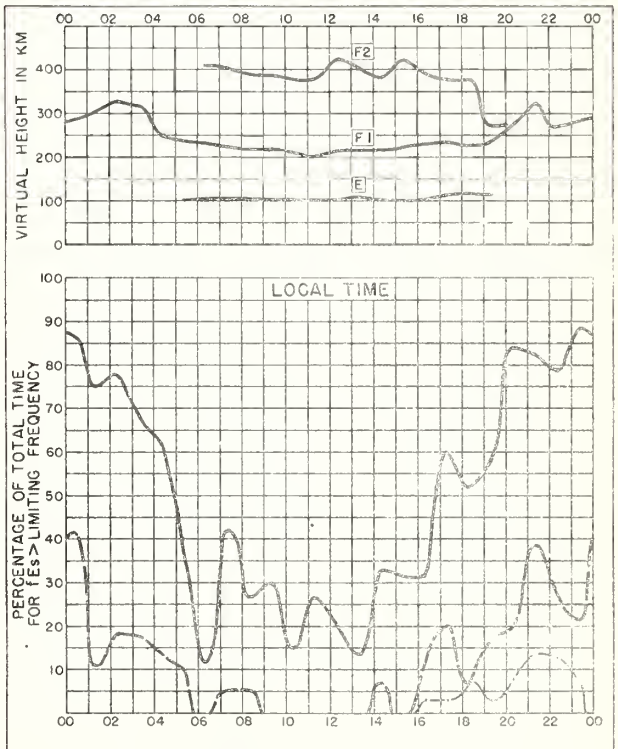


Fig. 4. TROMSO, NORWAY AUGUST 1953

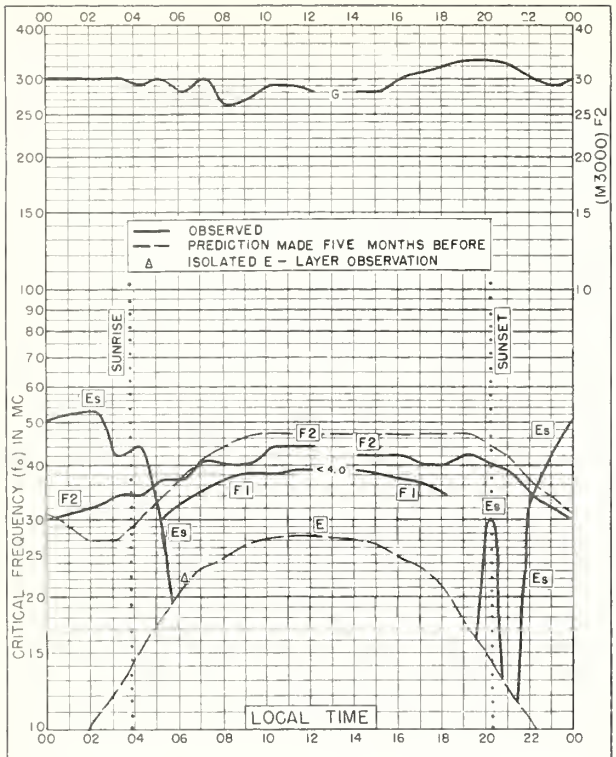


Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W AUGUST 1953

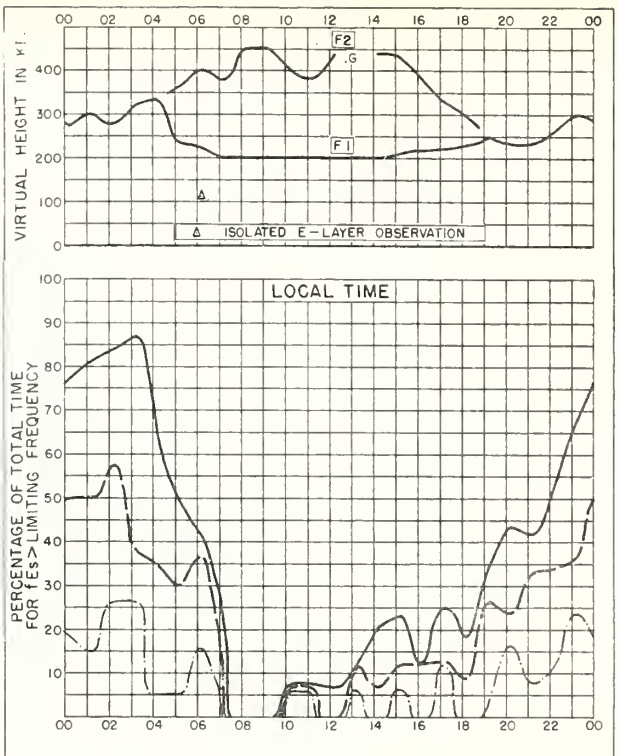


Fig. 6. FAIRBANKS, ALASKA AUGUST 1953

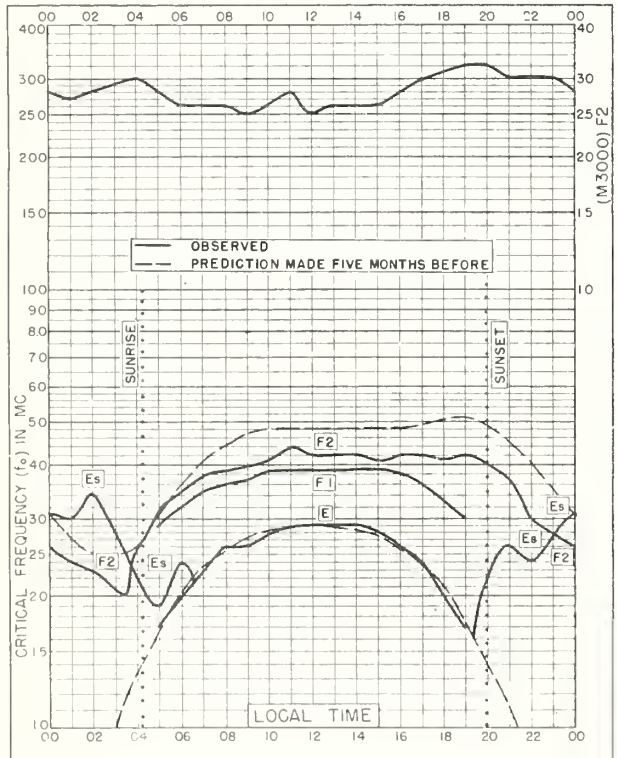


Fig. 7. ANCHORAGE, ALASKA
61.2°N, 149.9° W AUGUST 1953

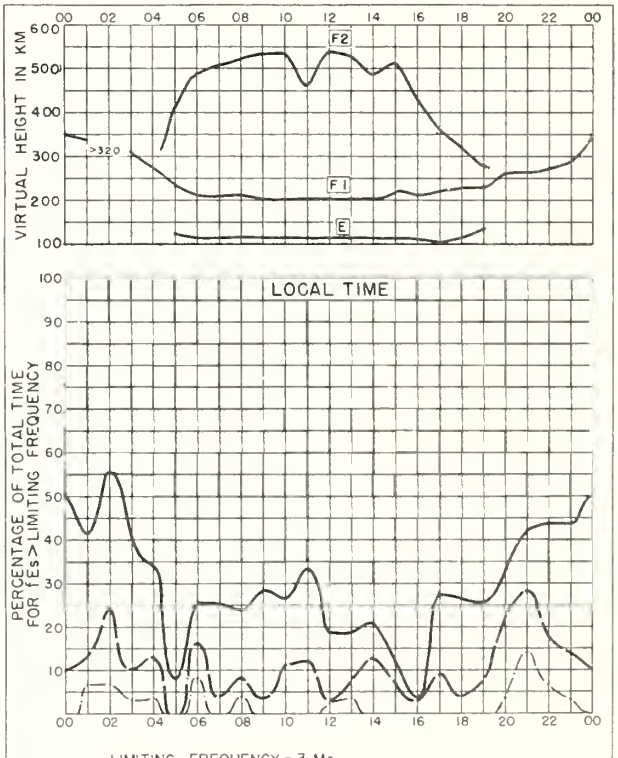


Fig 8. ANCHORAGE, ALASKA AUGUST 1953

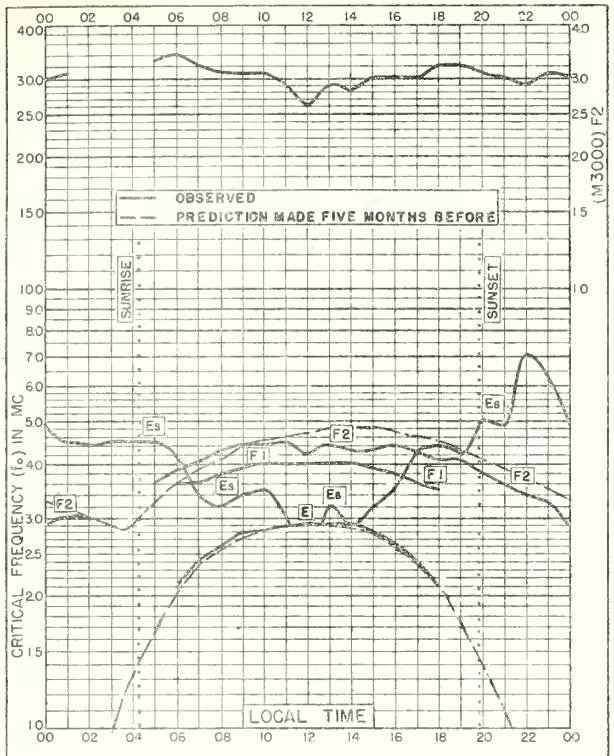


Fig. 9. NARSARSSUAK, GREENLAND
61.2° N, 45.4° W AUGUST 1953

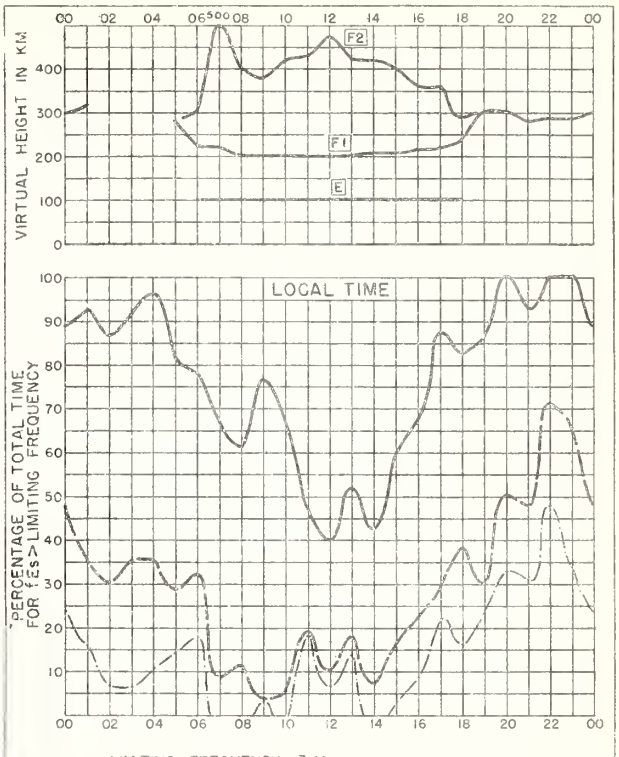


Fig. 10. NARSARSSUAK, GREENLAND AUGUST 1953

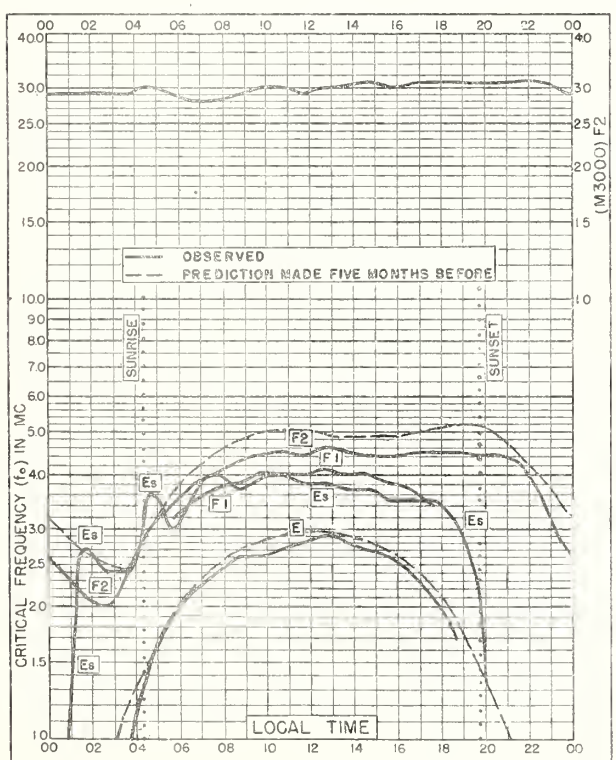


Fig. 11. OSLO, NORWAY
60.0° N, 11.1° E AUGUST 1953

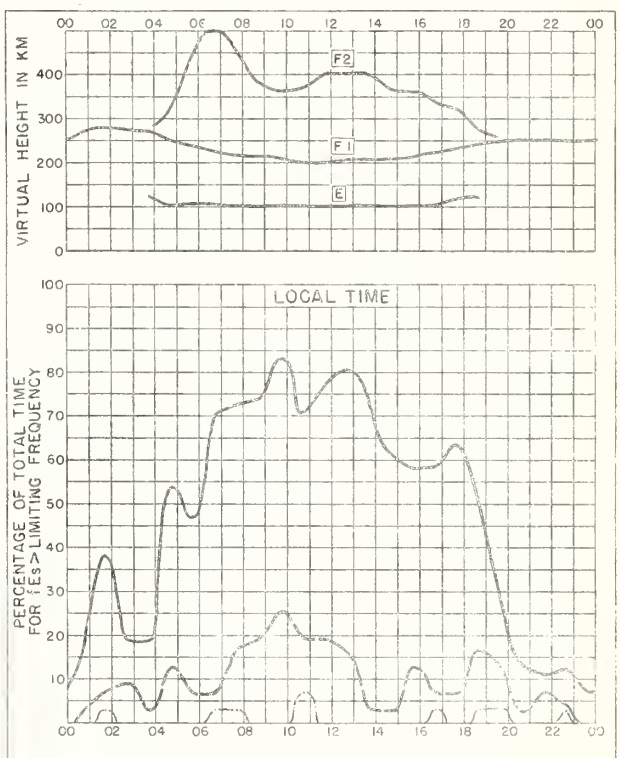


Fig. 12. OSLO, NORWAY AUGUST 1953

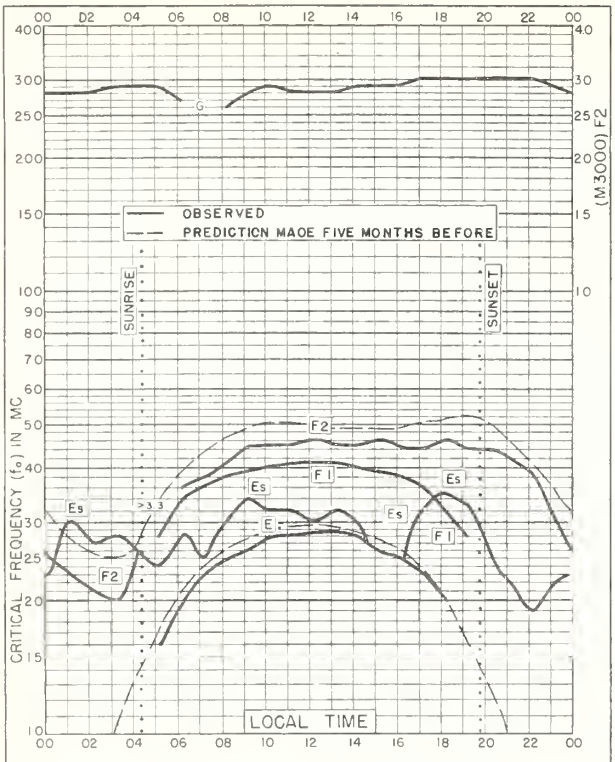


Fig 13. UPSALA, SWEDEN
59.8° N, 17.6° E
AUGUST 1953

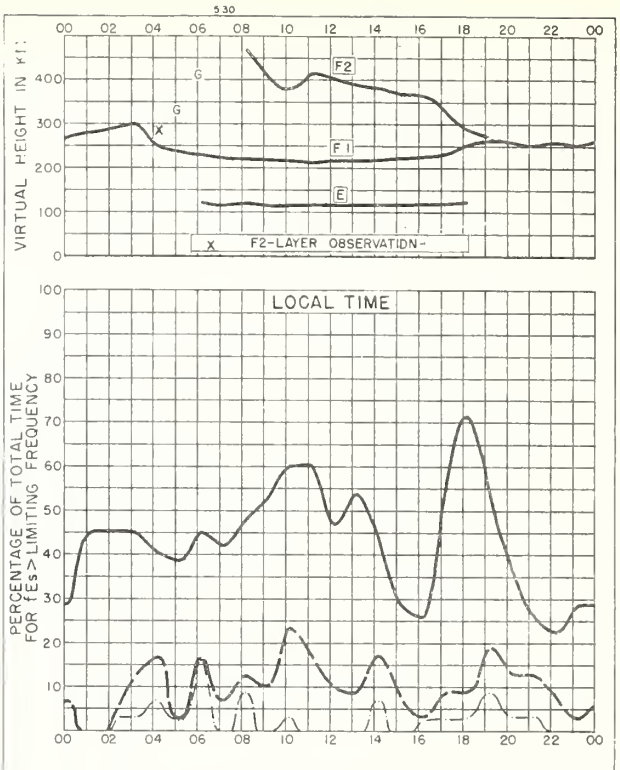


Fig 14. UPSALA, SWEDEN
AUGUST 1953

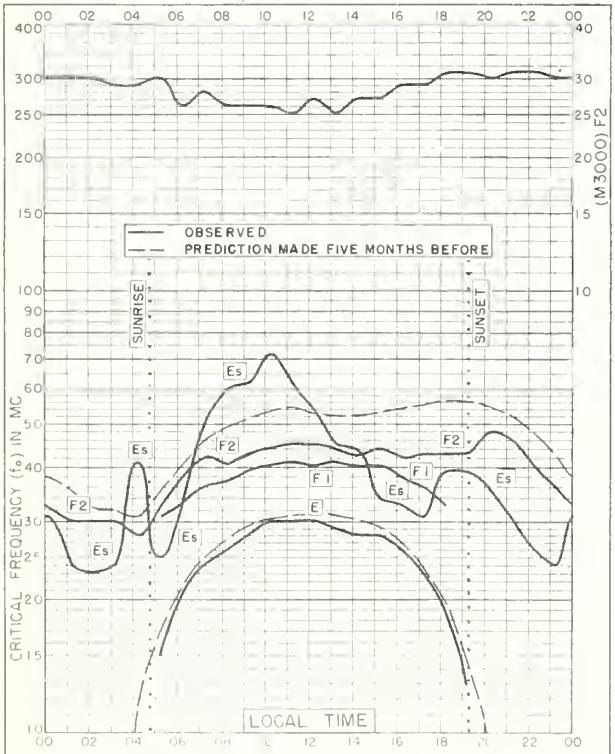


Fig 15. ADAK, ALASKA
51.9° N, 176.6° W
AUGUST 1953

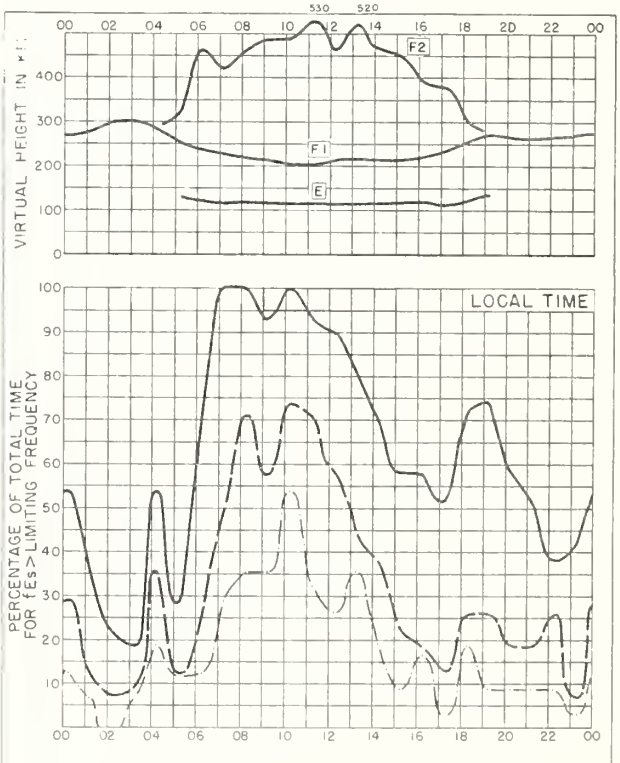


Fig 16. ADAK, ALASKA
AUGUST 1953

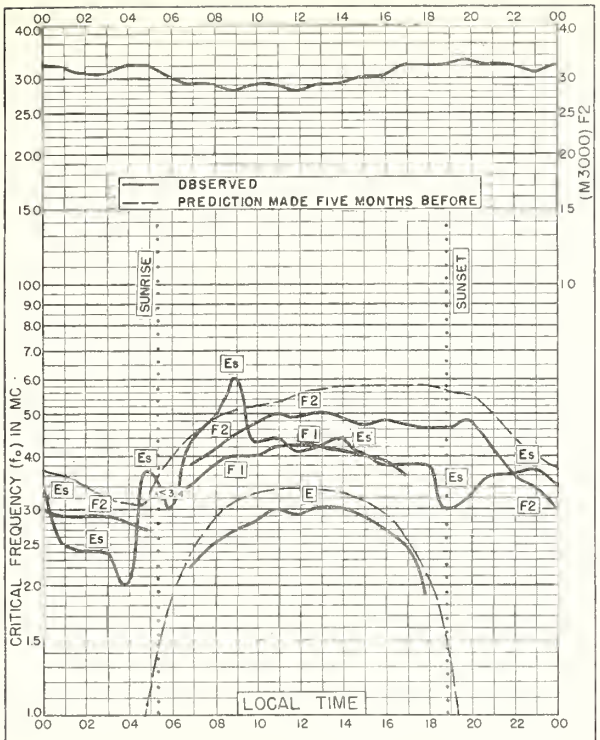
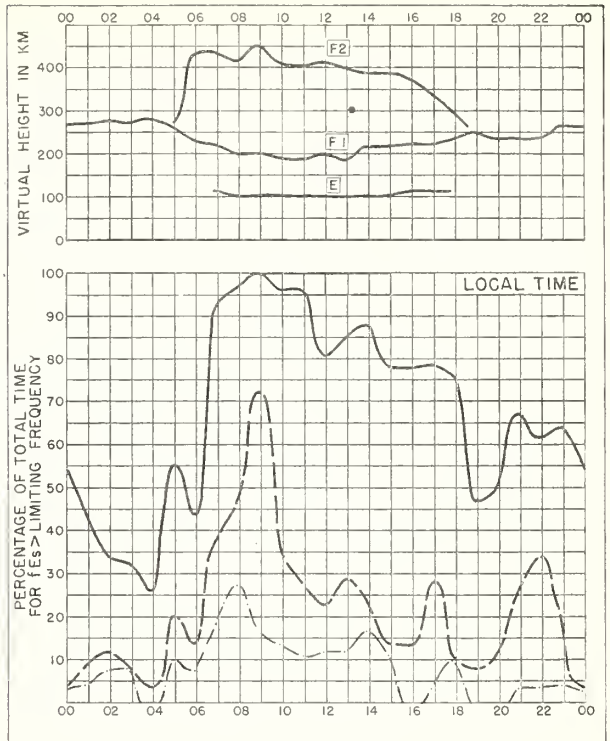


Fig. 17. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W AUGUST 1953



AUGUST 1953

Fig. 18. SAN FRANCISCO, CALIFORNIA

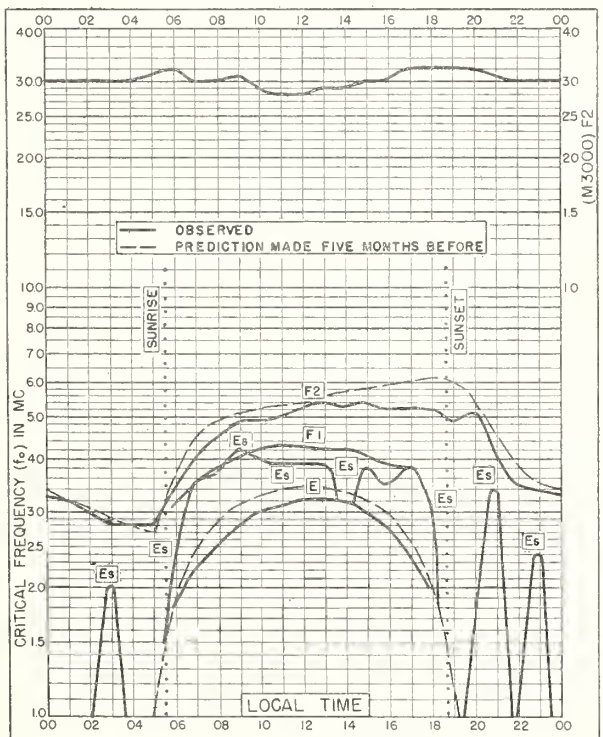
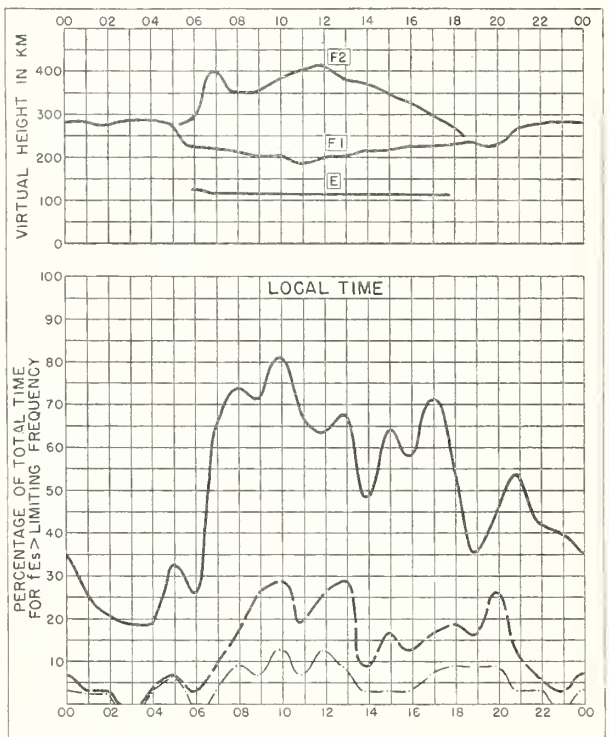


Fig. 19. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W AUGUST 1953



AUGUST 1953

Fig 20. WHITE SANDS, NEW MEXICO

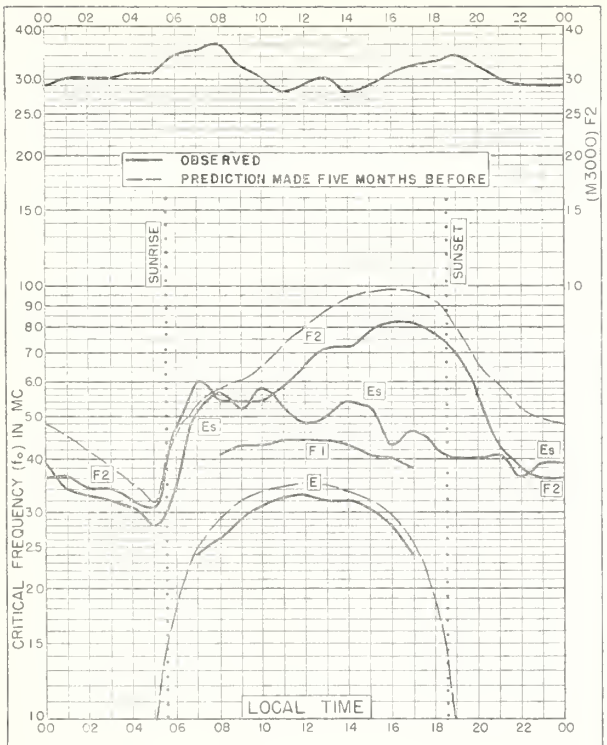


Fig. 21. OKINAWA I.
26.3°N, 127.8°E AUGUST 1953

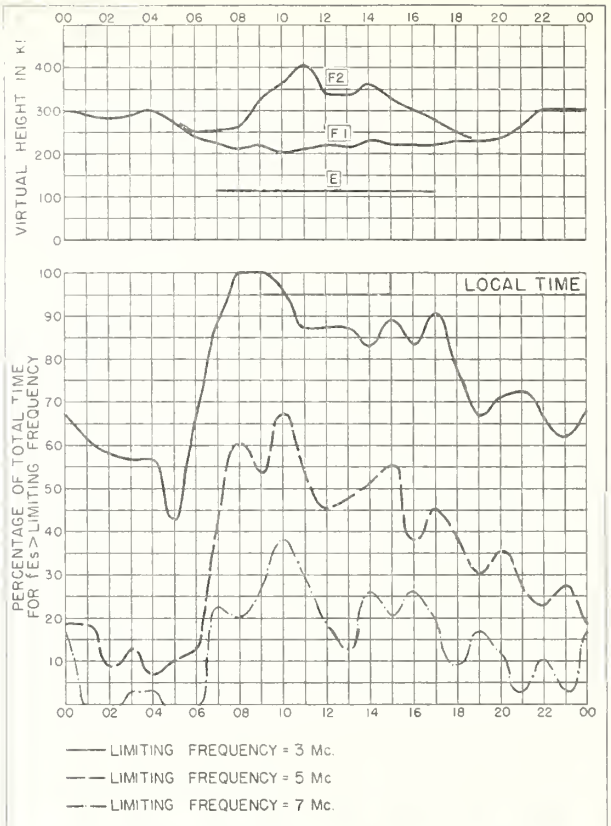


Fig. 22. OKINAWA I. AUGUST 1953

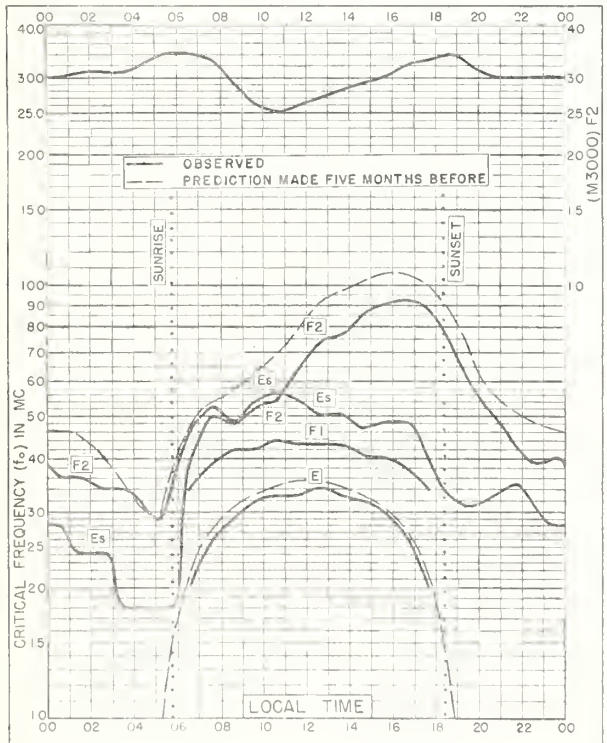


Fig. 23 MAUI, HAWAII
20.8° N, 156.5°W AUGUST 1953

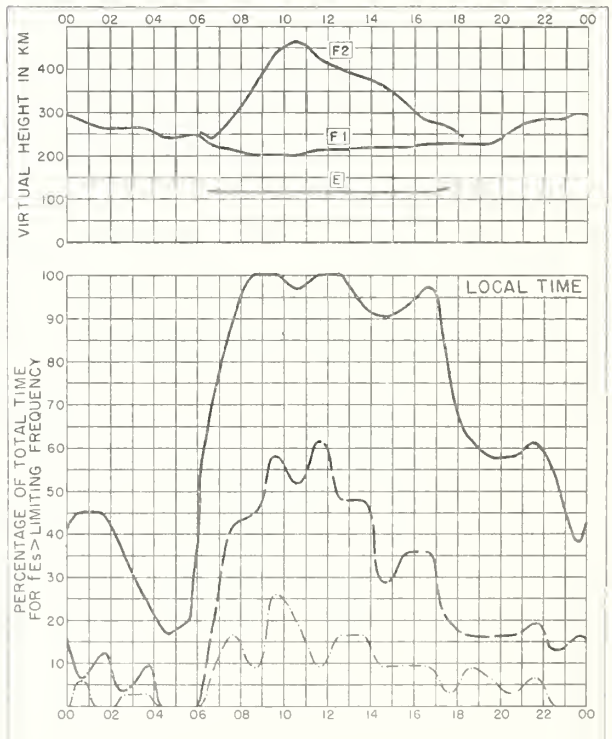


Fig. 24 MAUI, HAWAII AUGUST 1953

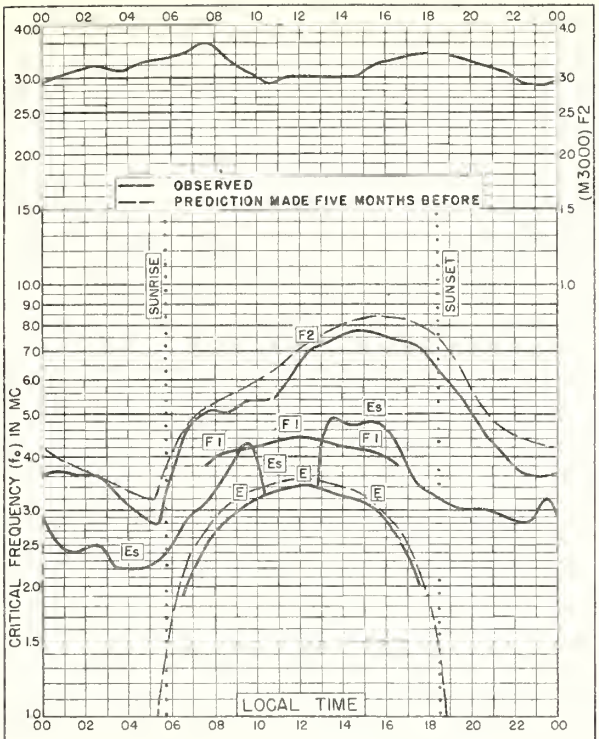


Fig. 25. PUERTO RICO, W. I.
18.5°N, 67.2° W AUGUST 1953

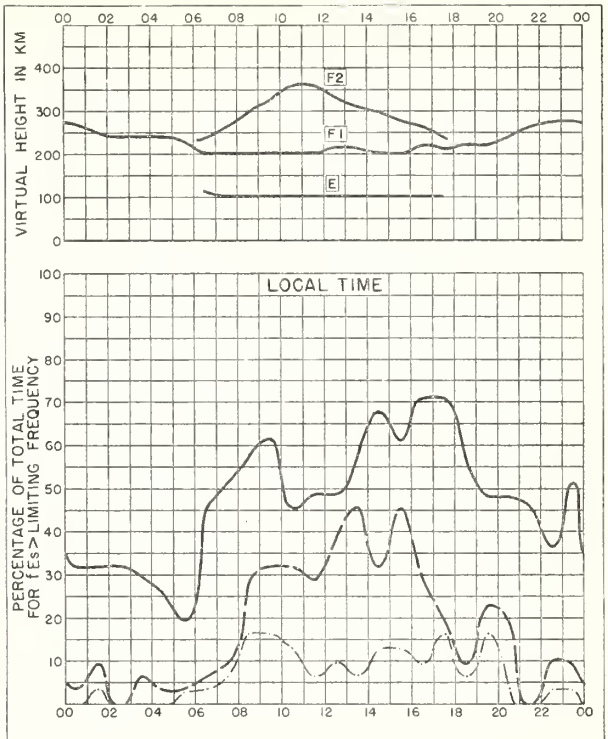


Fig. 26. PUERTO RICO, W. I. AUGUST 1953

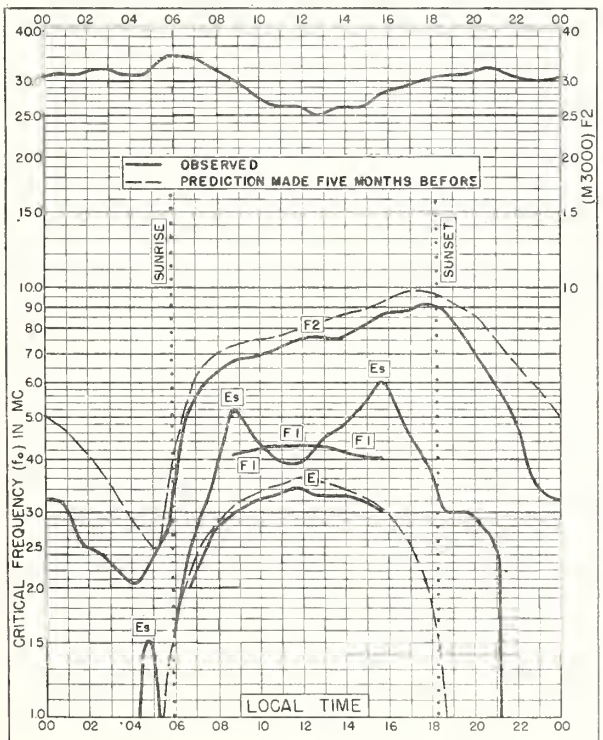


Fig. 27. GUAM I.
13.6°N, 144.9°E AUGUST 1953

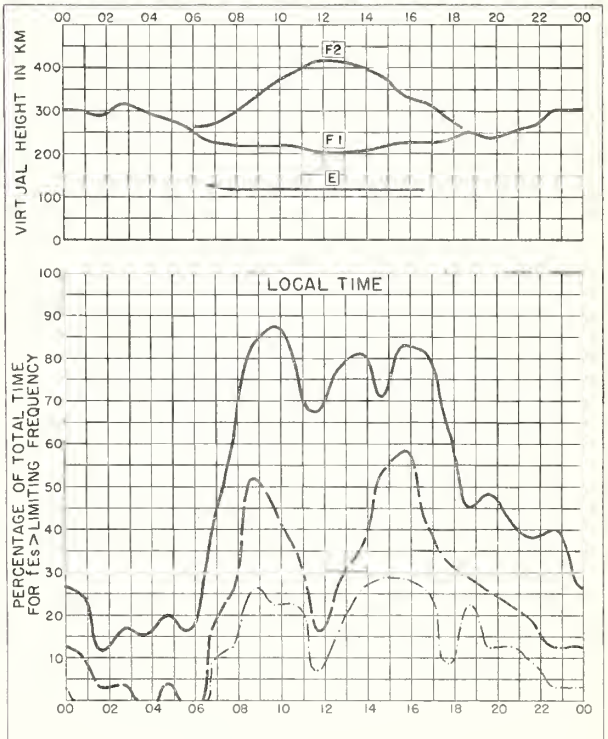


Fig. 28. GUAM I AUGUST 1953

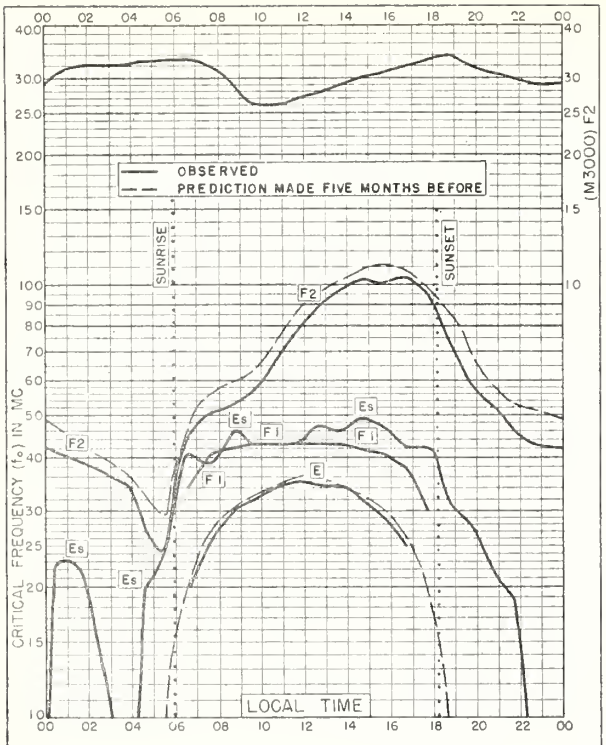


Fig. 29. PANAMA CANAL ZONE
9.4° N, 79.9° W AUGUST 1953

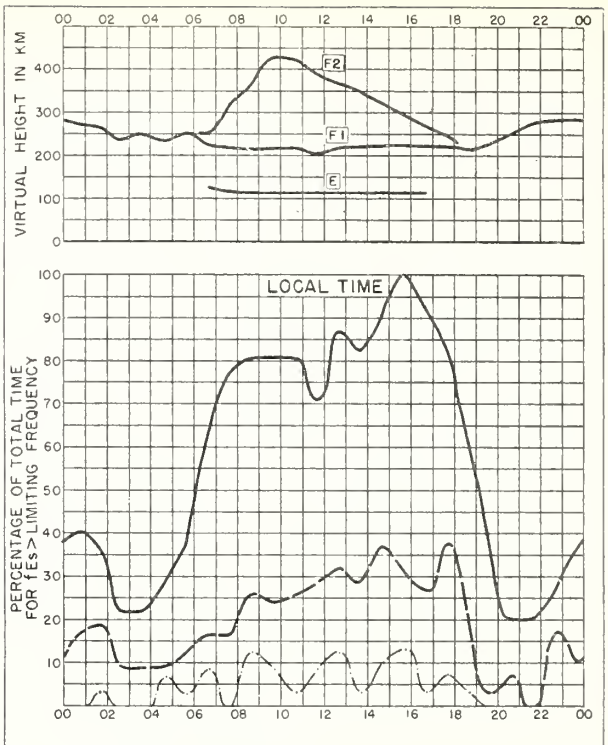


Fig. 30. PANAMA CANAL ZONE AUGUST 1953

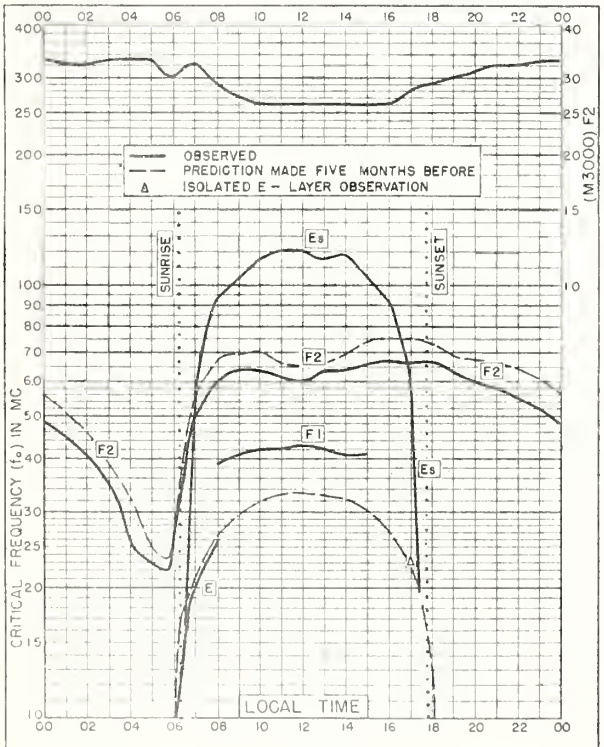


Fig 31. HUANCAYO, PERU
12.0° S, 75.3° W AUGUST 1953

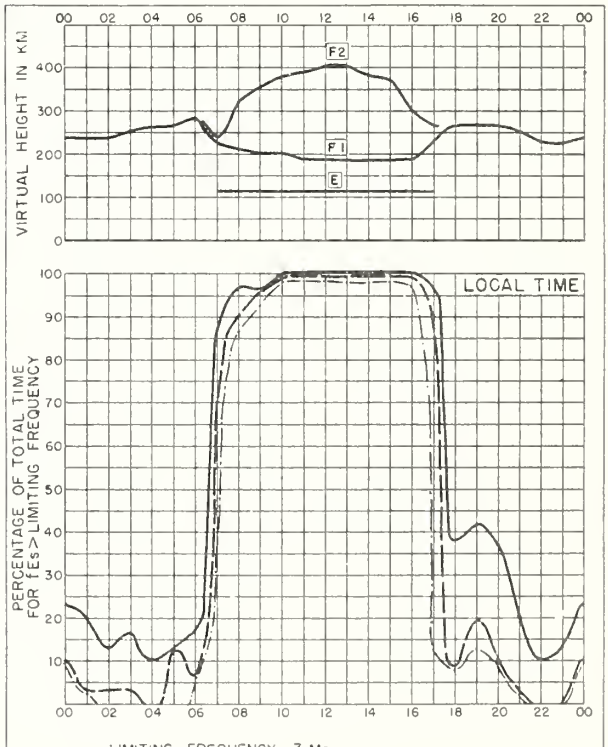


Fig. 32. HUANCAYO, PERU AUGUST 1953

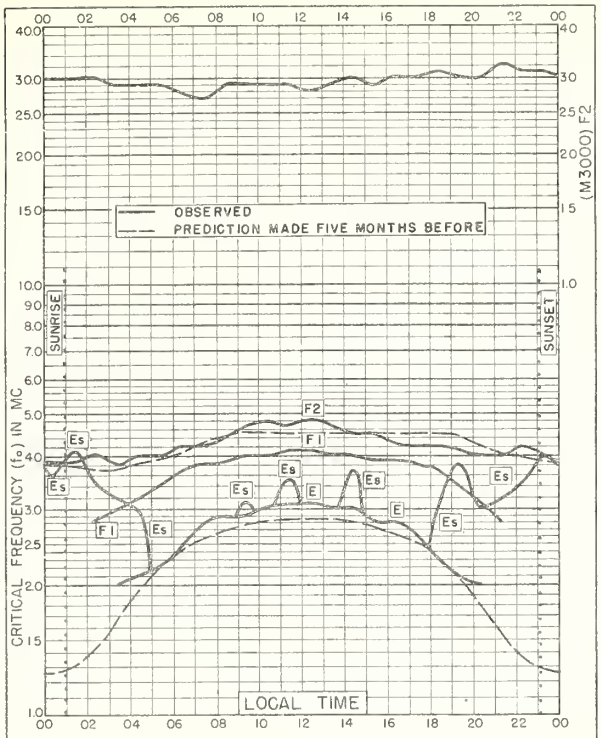


Fig. 33. KIRUNA, SWEDEN
67.8°N, 20.5°E JULY 1953

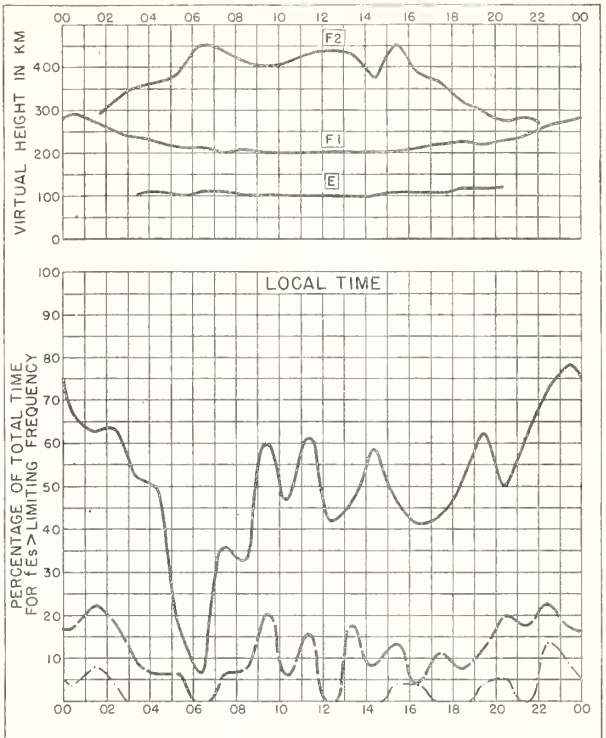


Fig. 34. KIRUNA, SWEDEN JULY 1953

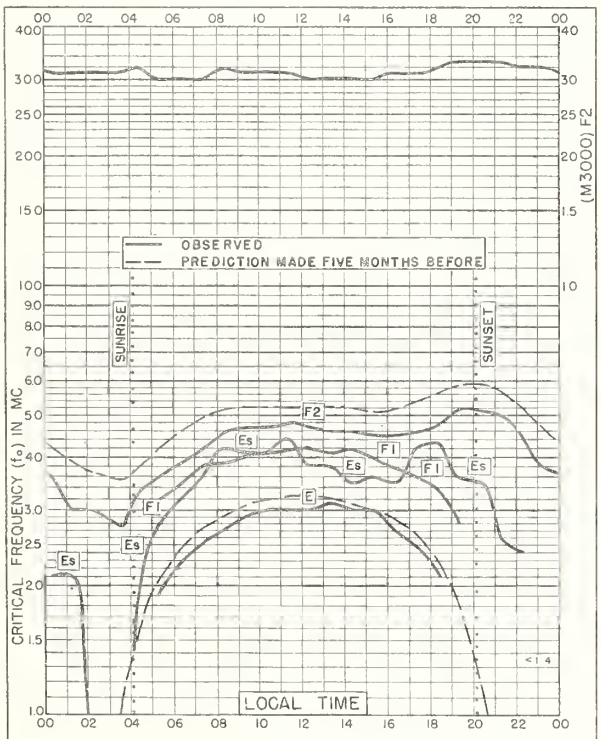


Fig. 35. De BILT, HOLLAND
52.1°N, 5.2°E JULY 1953

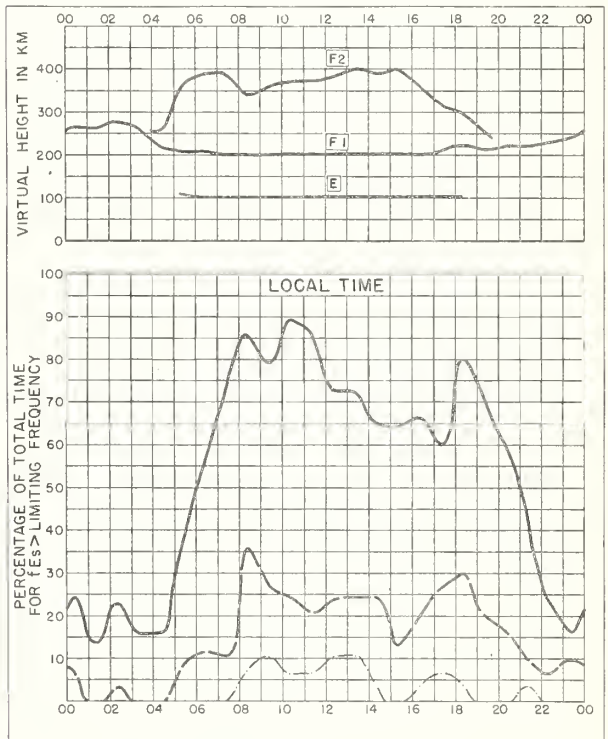


Fig. 36. De BILT, HOLLAND JULY 1953

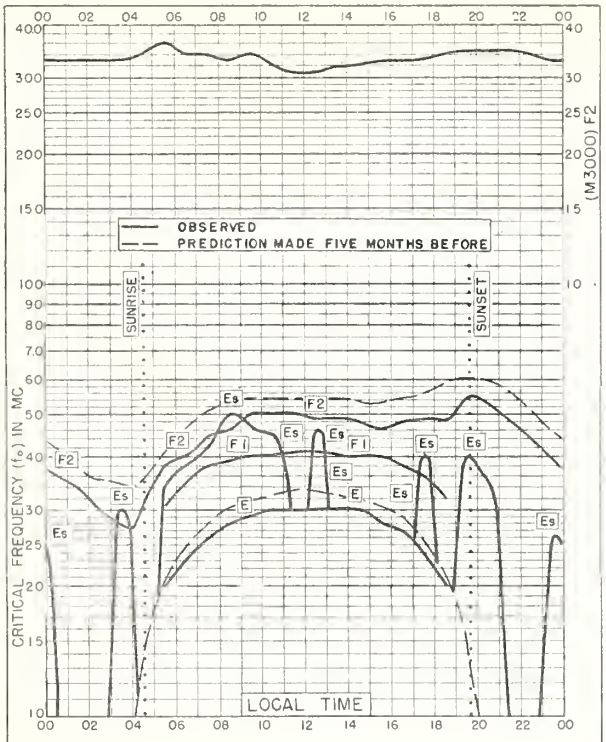


Fig. 37. SCHWARZENBURG, SWITZERLAND
46.8° N, 7.3° E JULY 1953

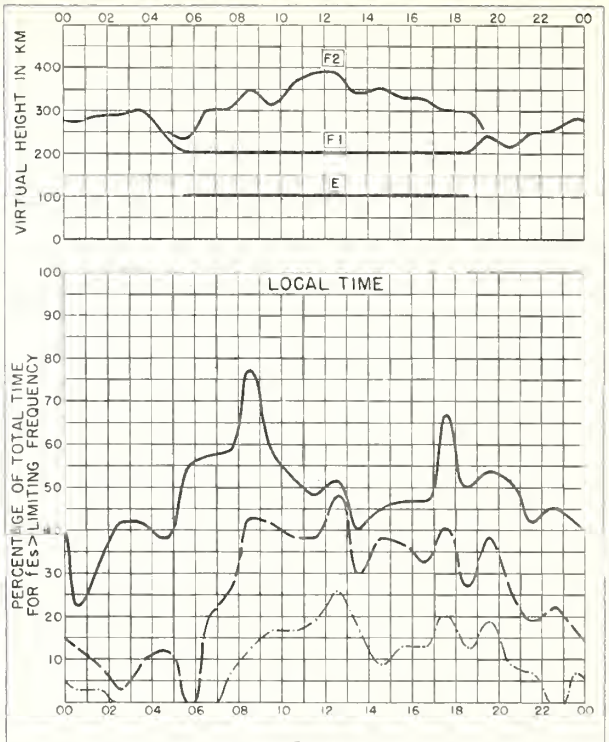


Fig. 38. SCHWARZENBURG, SWITZERLAND JULY 1953

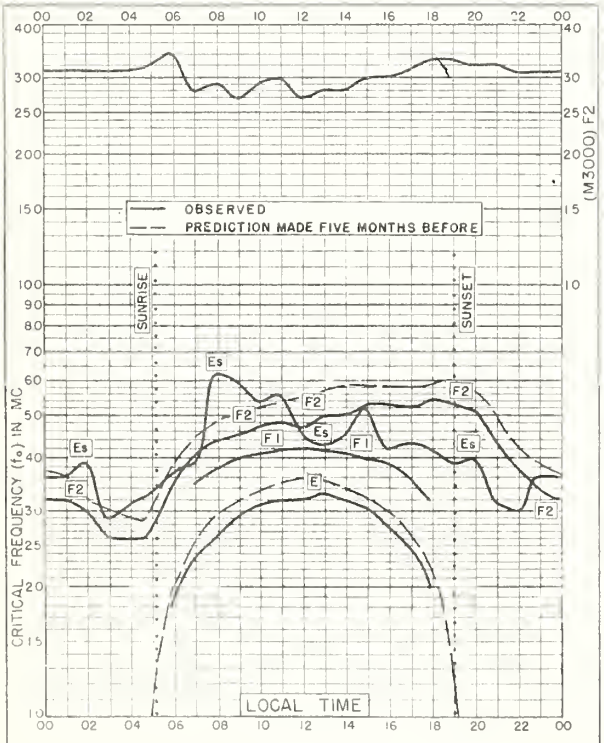


Fig. 39 BATON ROUGE, LOUISIANA
30.5° N, 91.2° W JULY 1953

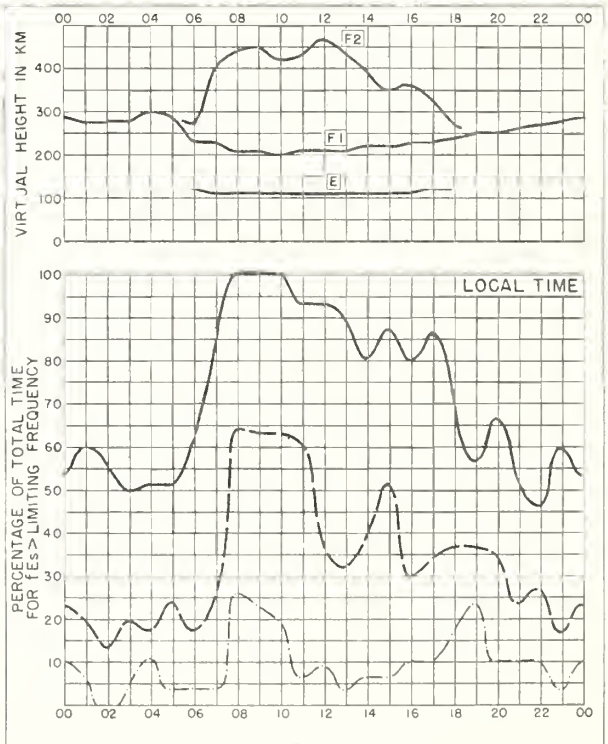


Fig 40. BATON ROUGE, LOUISIANA JULY 1953

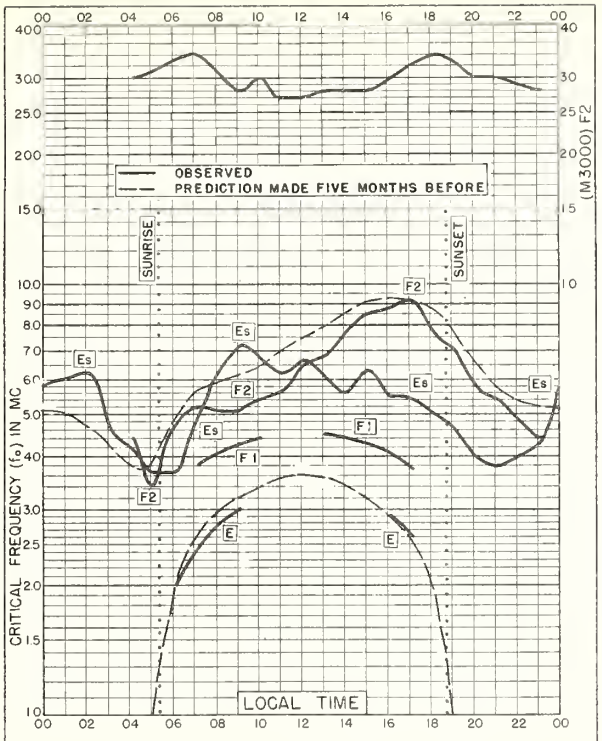


Fig. 41. FORMOSA, CHINA
25.0° N, 121.5° E JULY 1953

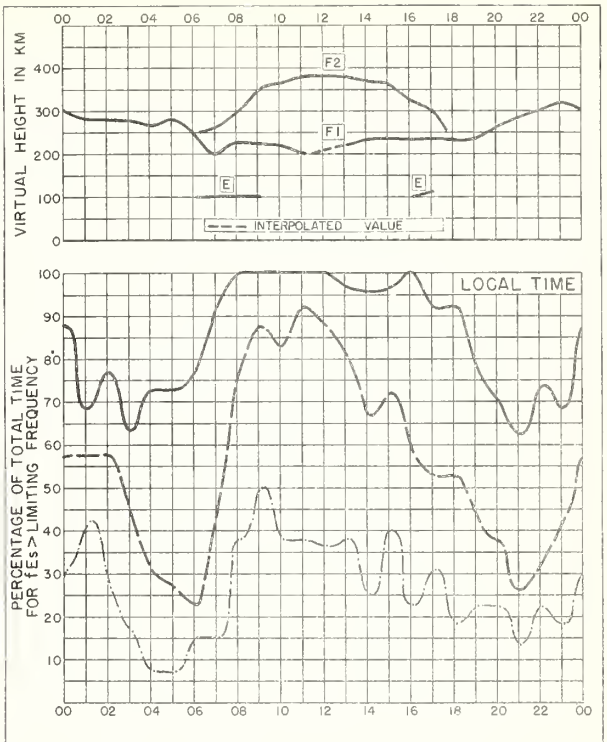


Fig. 42. FORMOSA, CHINA JULY 1953

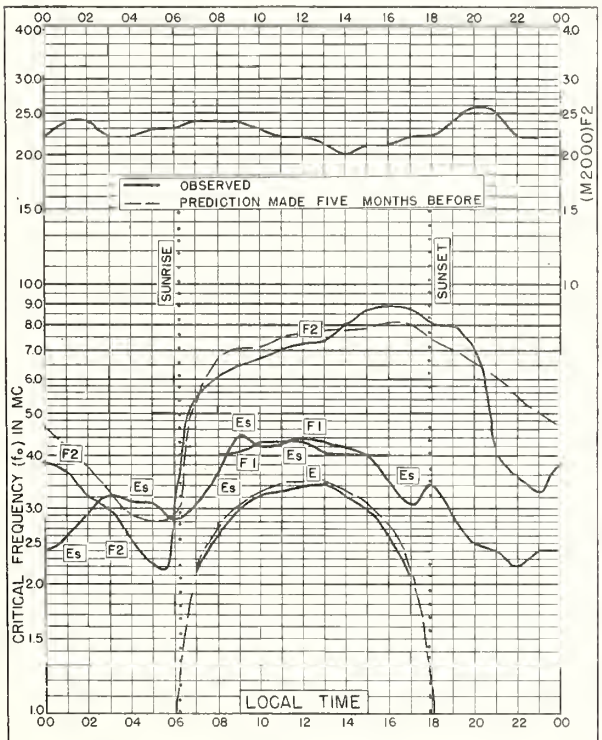


Fig. 43. LEOPOLDVILLE, BELGIAN CONGO
4.3° S, 15.3° E JULY 1953

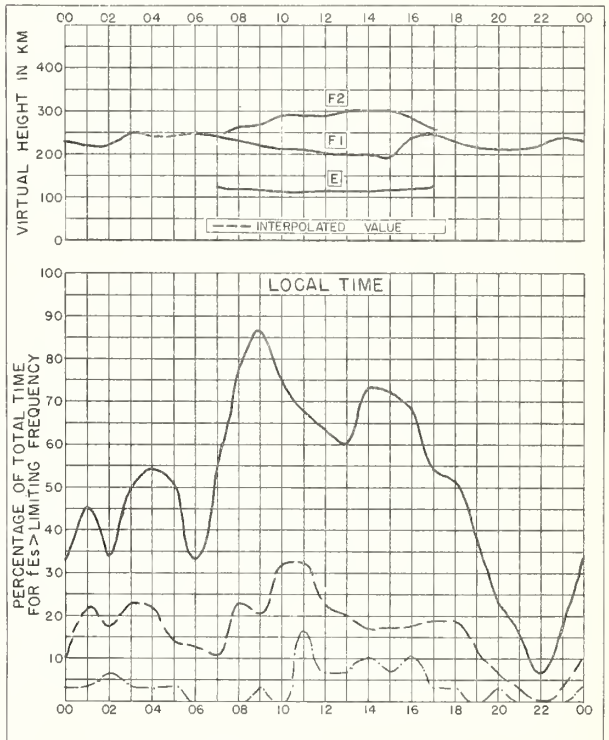


Fig. 44. LEOPOLDVILLE, BELGIAN CONGO JULY 1953

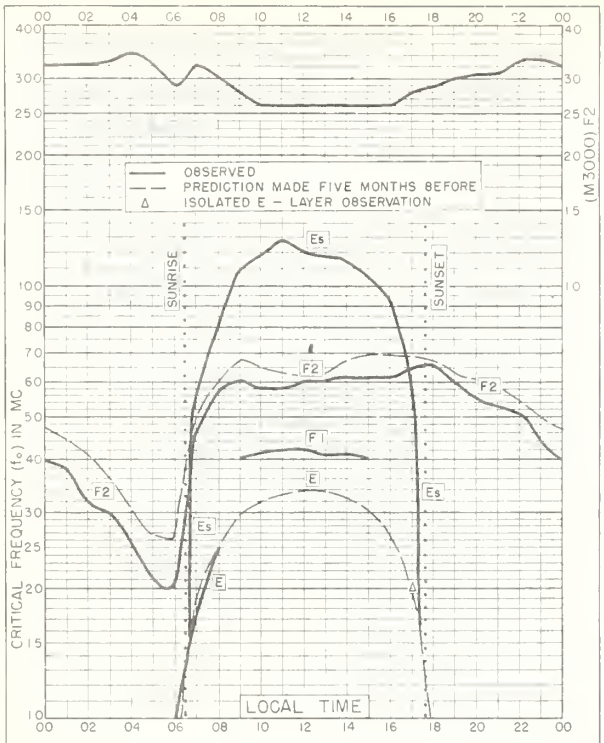


Fig. 45. HUANCAYO, PERU
12.0° S, 75.3° W JULY 1953

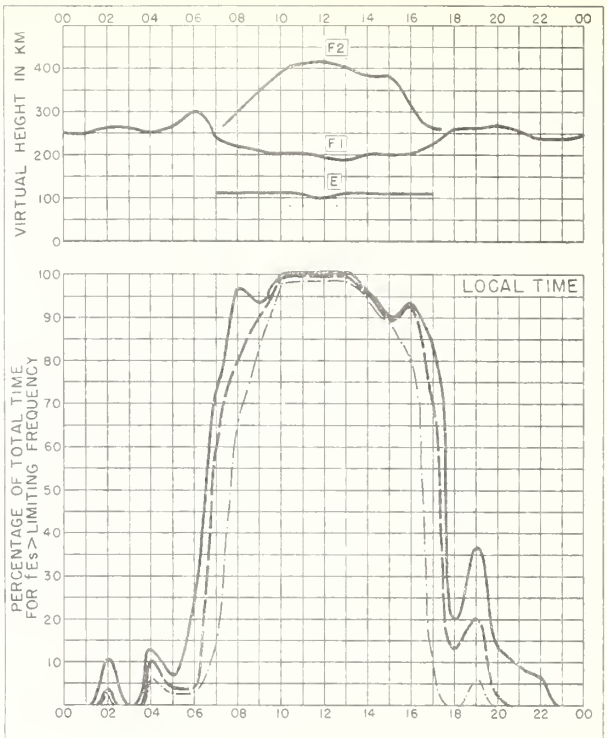


Fig. 46. HUANCAYO, PERU JULY 1953

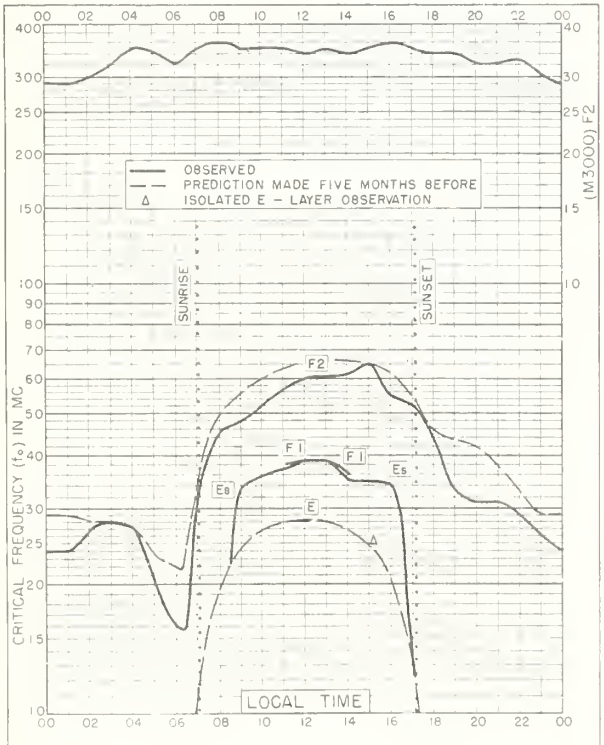


Fig 47 BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W JULY 1953

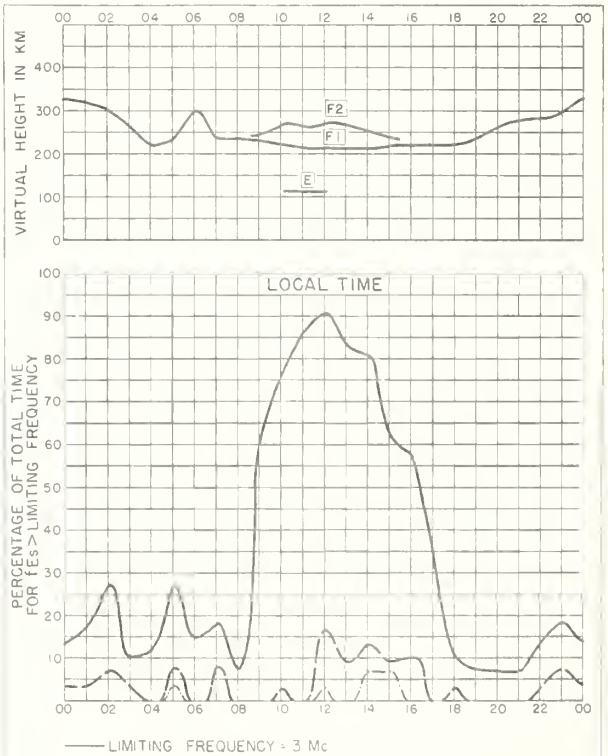


Fig 48 BUENOS AIRES, ARGENTINA JULY 1953

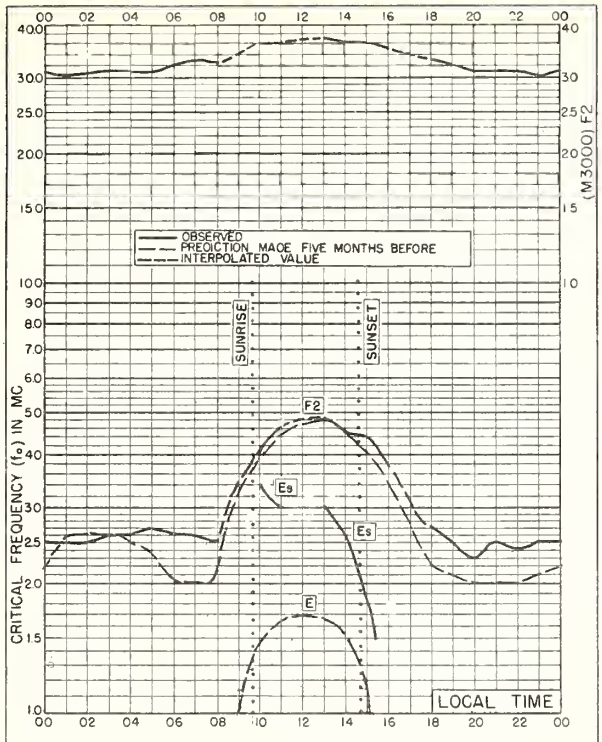


Fig. 49. DECEPCION I.
63.0°S, 60.7°W
JULY 1953

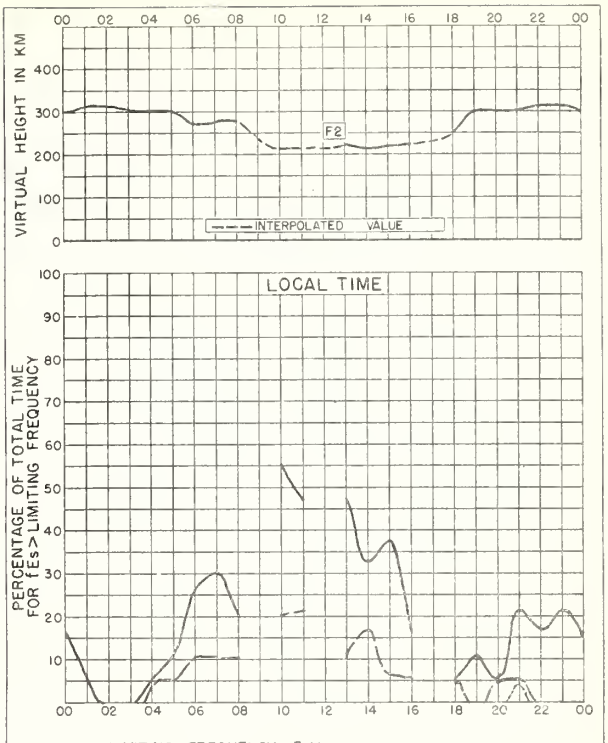


Fig. 50. DECEPCION I.
JULY 1953

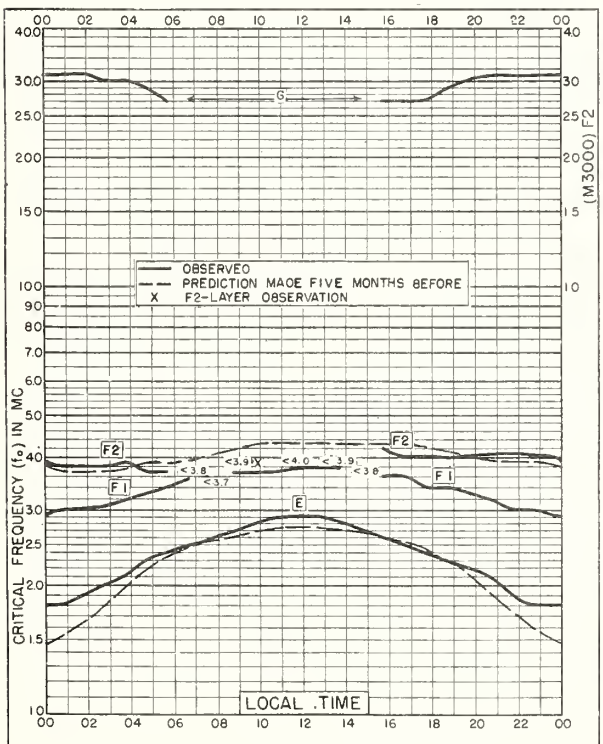


Fig. 51. RESOLUTE BAY, CANADA
74.7°N, 94.9°W
JUNE 1953

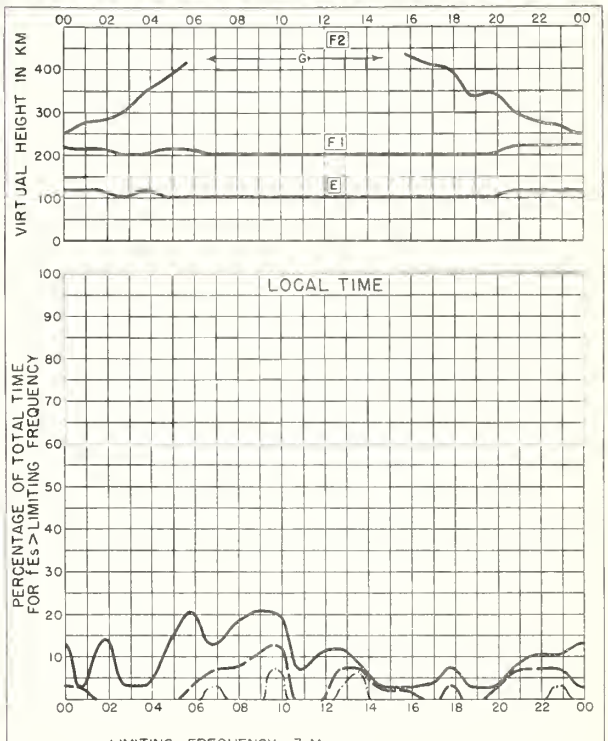


Fig. 52. RESOLUTE BAY, CANADA
JUNE 1953

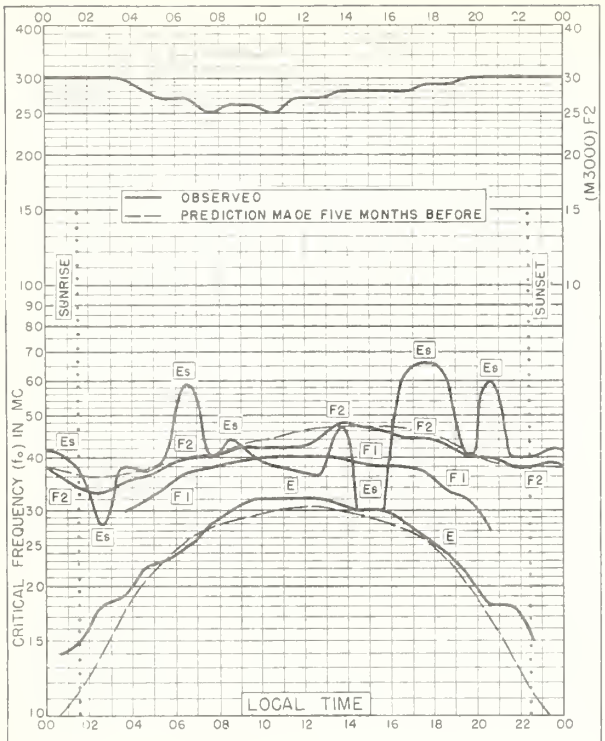


Fig 53. BAKER LAKE, CANADA
64.3° N, 96.0° W JUNE 1953

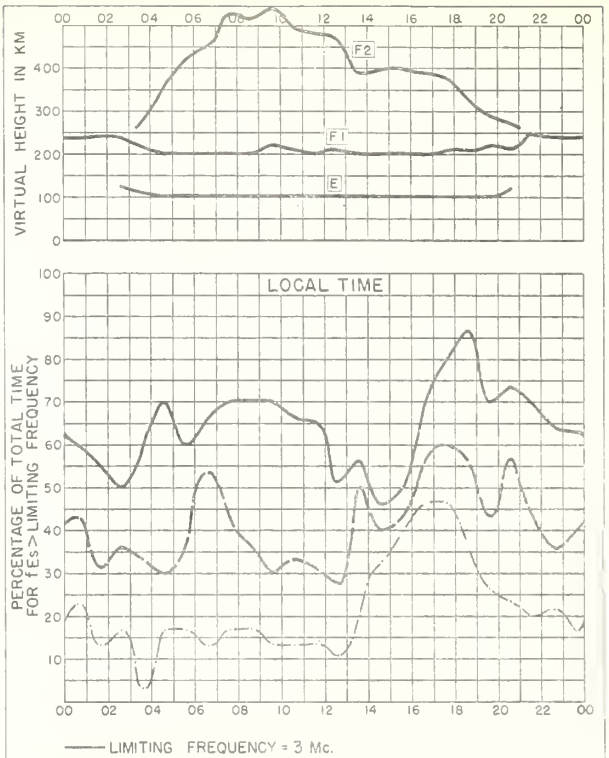


Fig. 54. BAKER LAKE, CANADA JUNE 1953

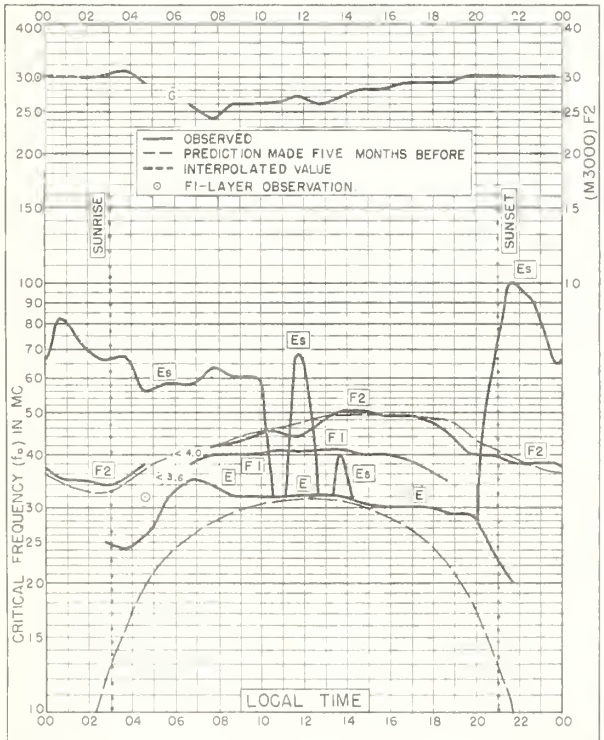


Fig. 55. CHURCHILL, CANADA
58.8° N, 94.2° W JUNE 1953

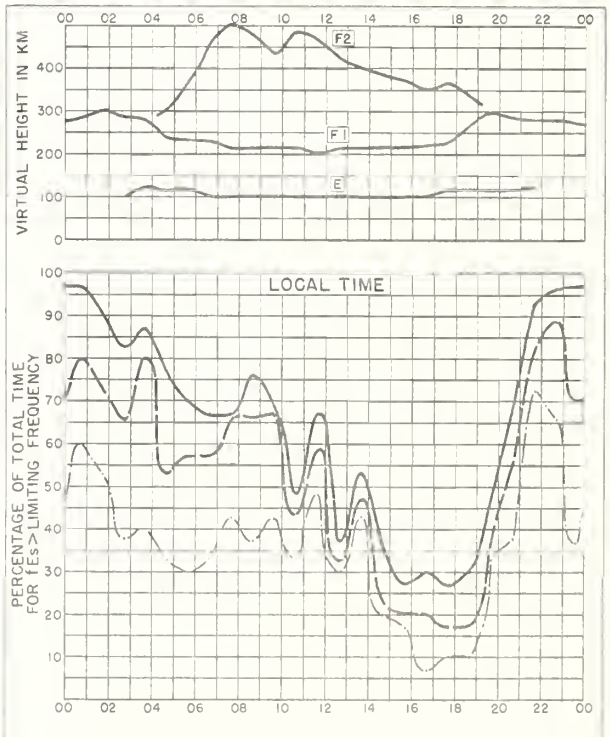


Fig 56. CHURCHILL, CANADA JUNE 1953

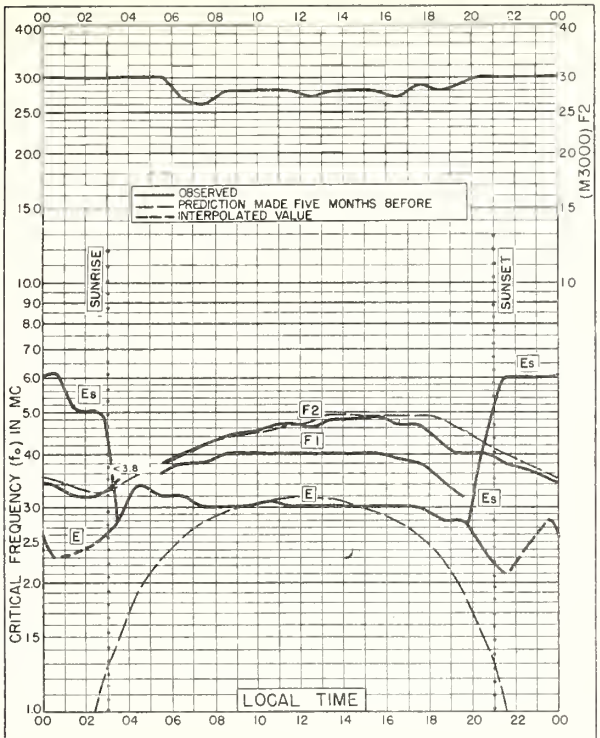


Fig. 57. FORT CHIMO, CANADA
58.1° N, 68.3° W JUNE 1953

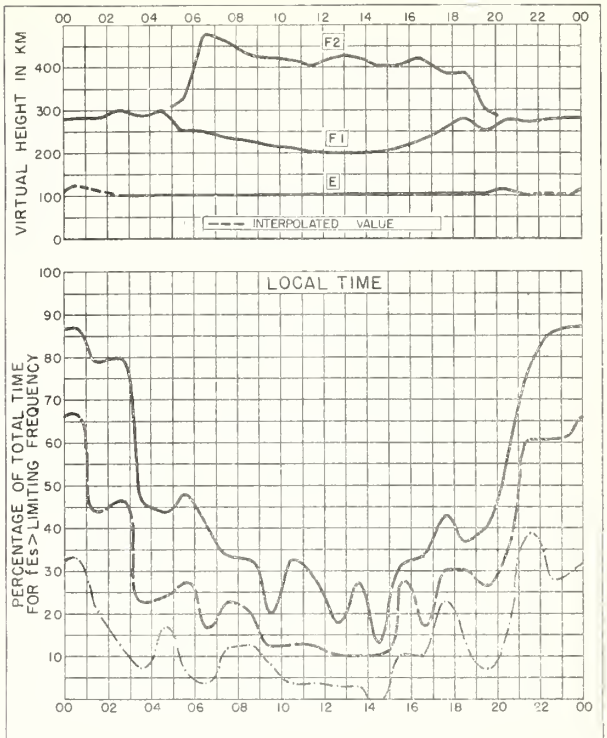


Fig. 58. FORT CHIMO, CANADA JUNE 1953

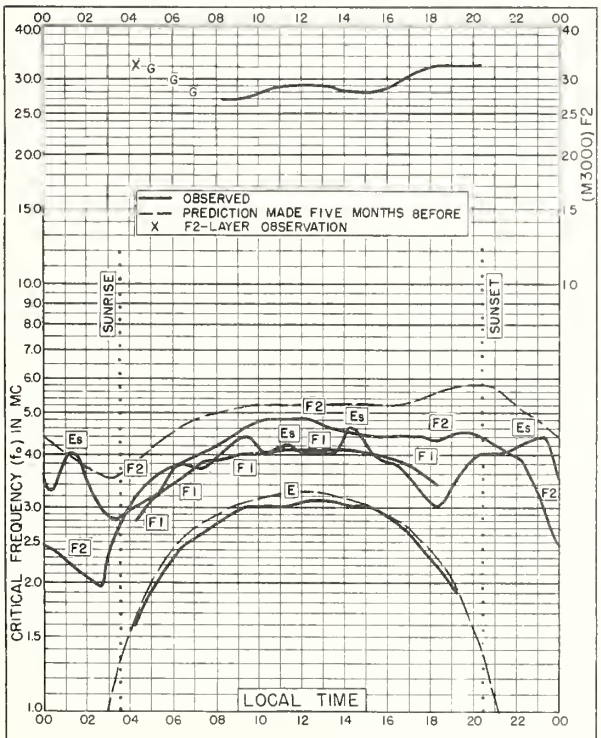


Fig. 59. PRINCE RUPERT, CANADA
54.3° N, 130.3° W JUNE 1953

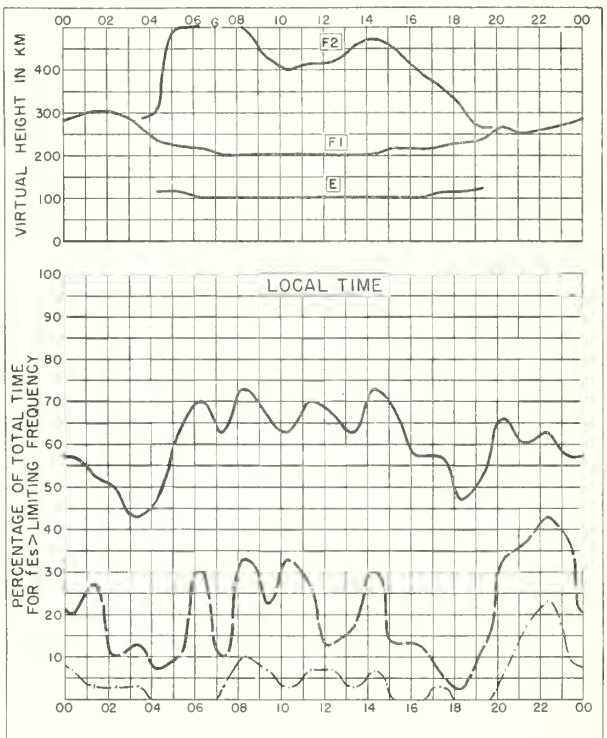


Fig. 60. PRINCE RUPERT, CANADA JUNE 1953

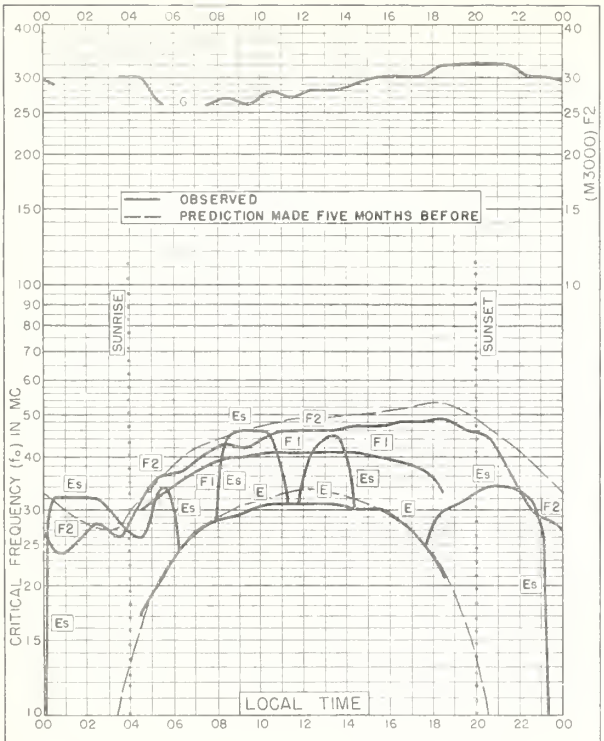


Fig. 61. WINNIPEG, CANADA
49.9° N, 97.4° W JUNE 1953

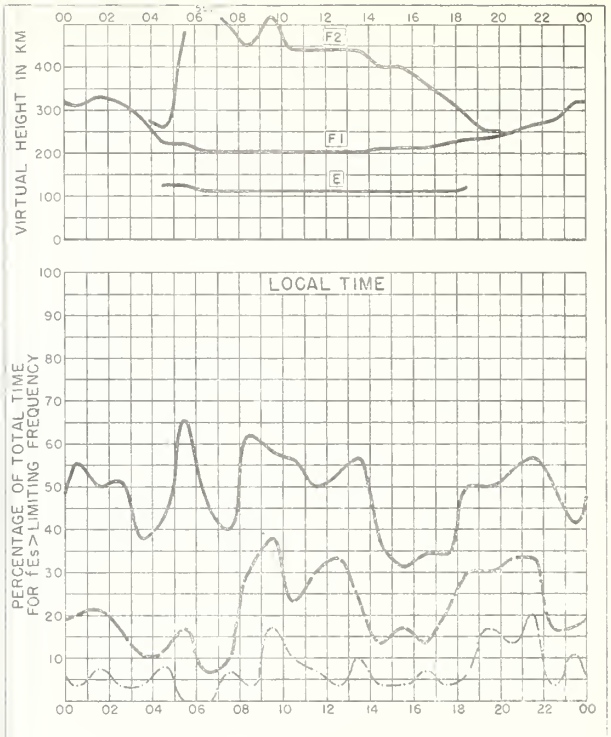


Fig. 62. WINNIPEG, CANADA JUNE 1953

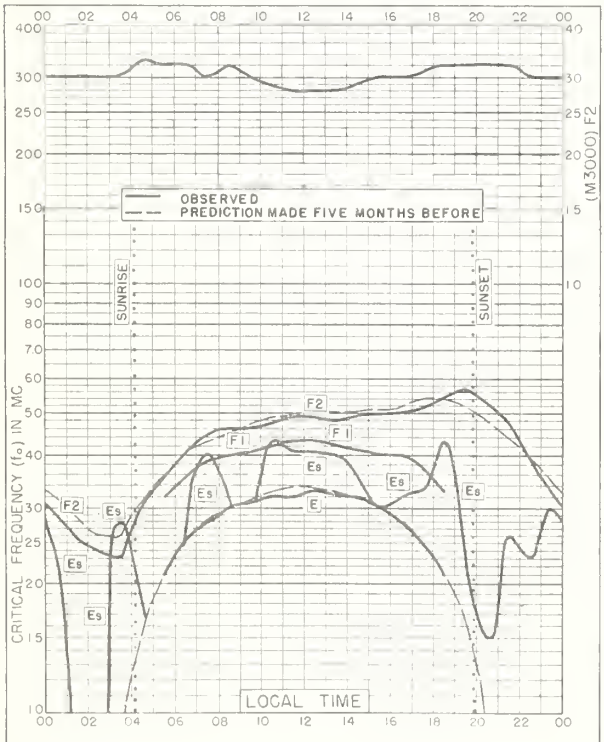


Fig. 63. ST JOHN'S, NEWFOUNDLAND
47.6° N, 52.7° W JUNE 1953

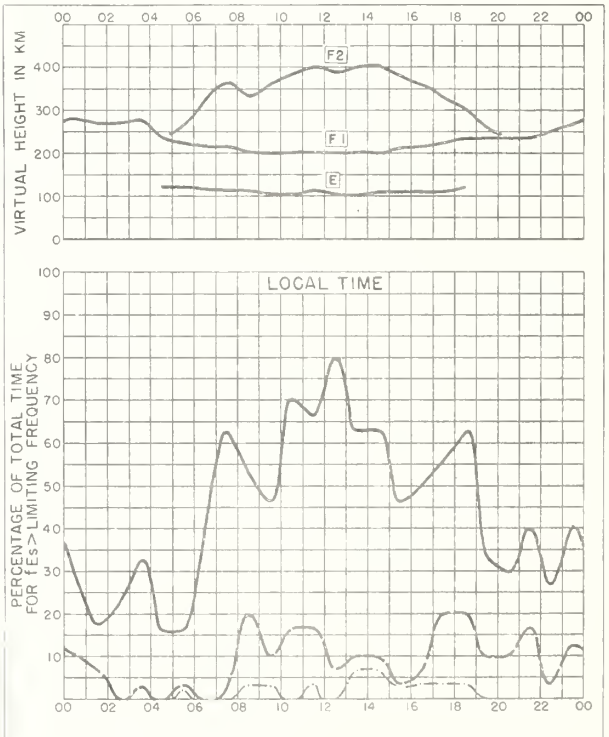


Fig. 64. ST. JOHN'S, NEWFOUNDLAND JUNE 1953

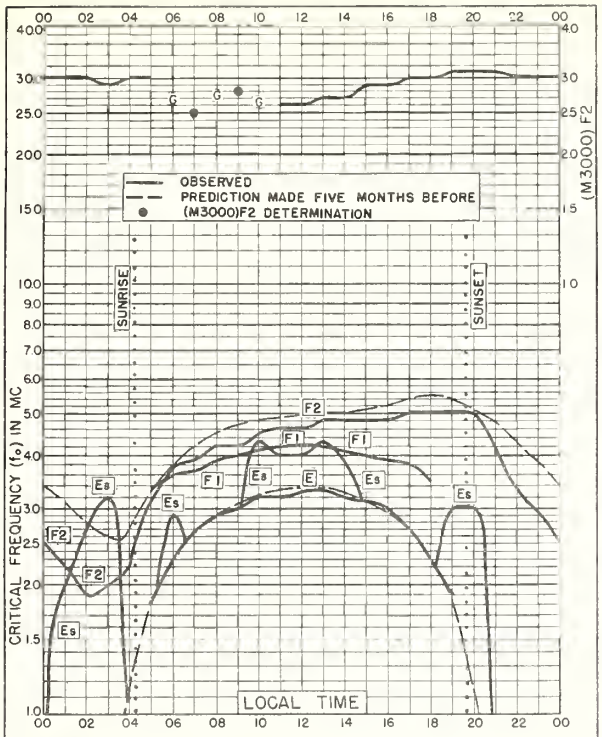


Fig. 65. OTTAWA, CANADA
45.4°N, 75.7°W JUNE 1953

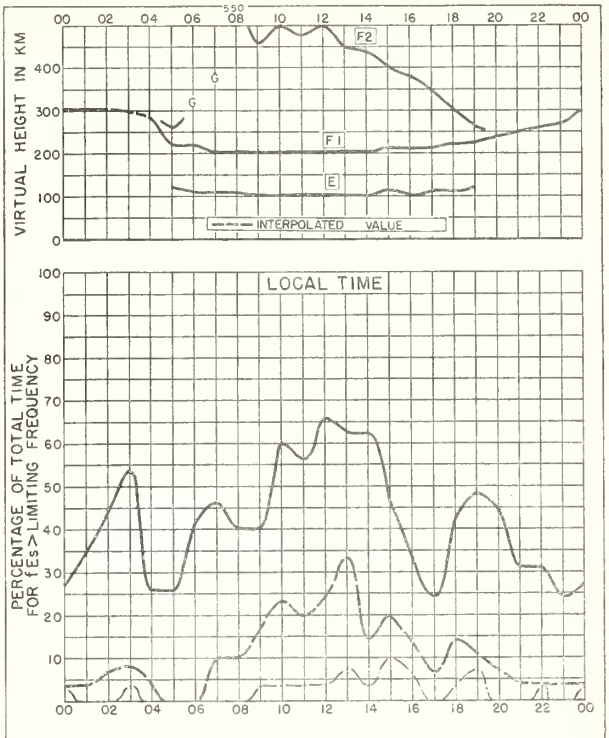


Fig. 66. OTTAWA, CANADA JUNE 1953

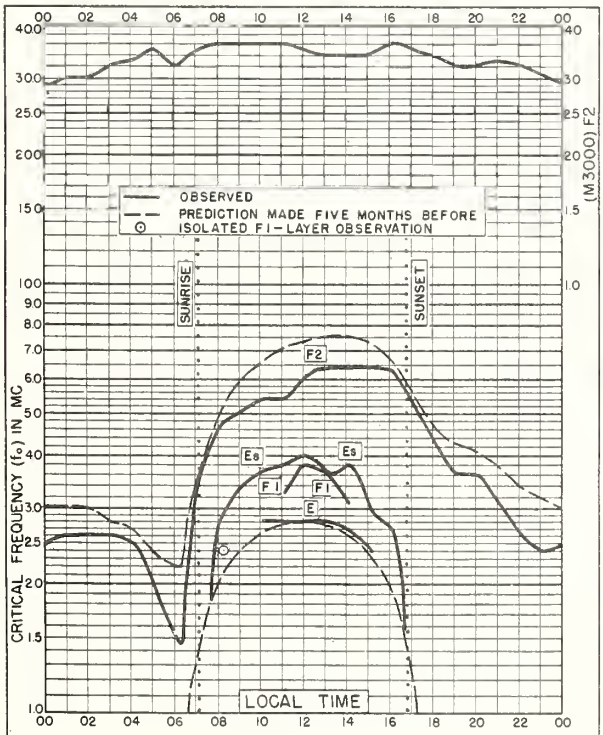


Fig. 67. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W JUNE 1953

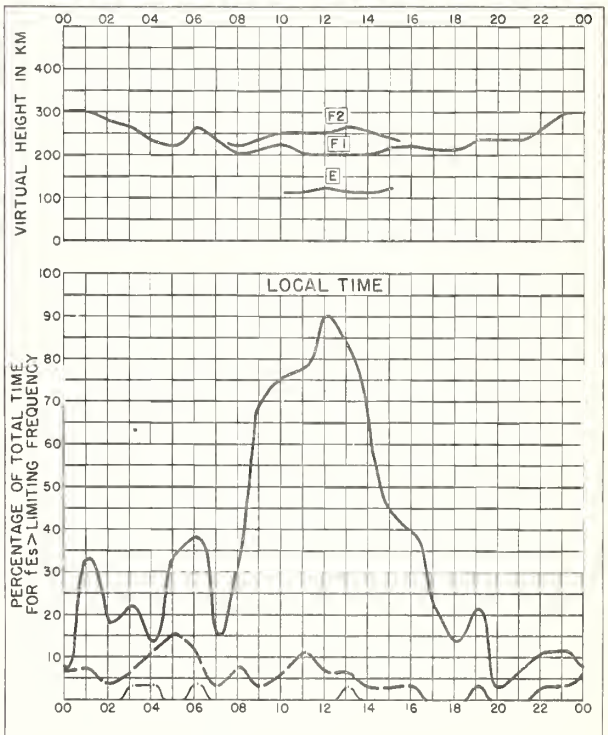


Fig. 68. BUENOS AIRES, ARGENTINA JUNE 1953

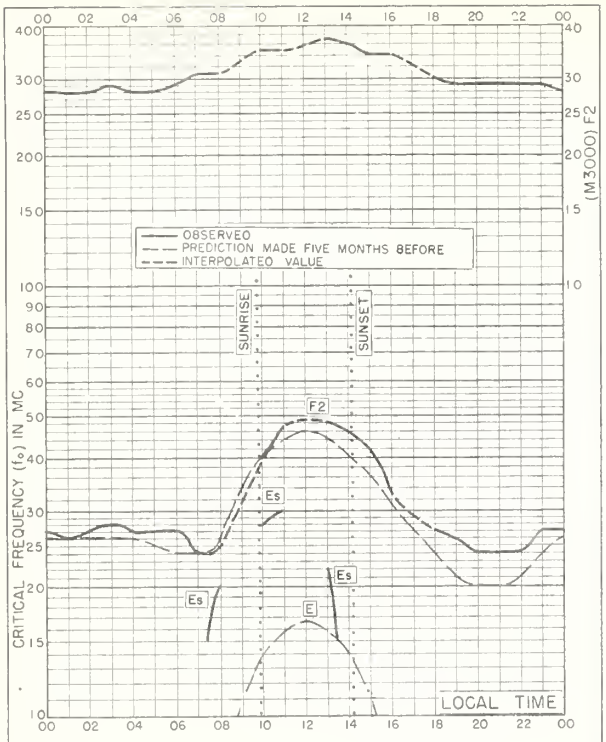


Fig. 69. DECEPCION I.
63.0° S, 60.7° W
JUNE 1953

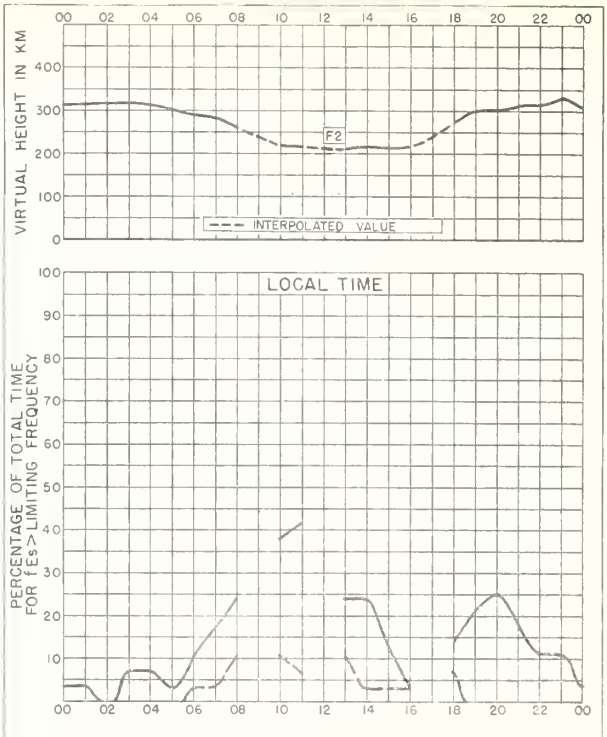


Fig. 70. DECEPCION I.
JUNE 1953

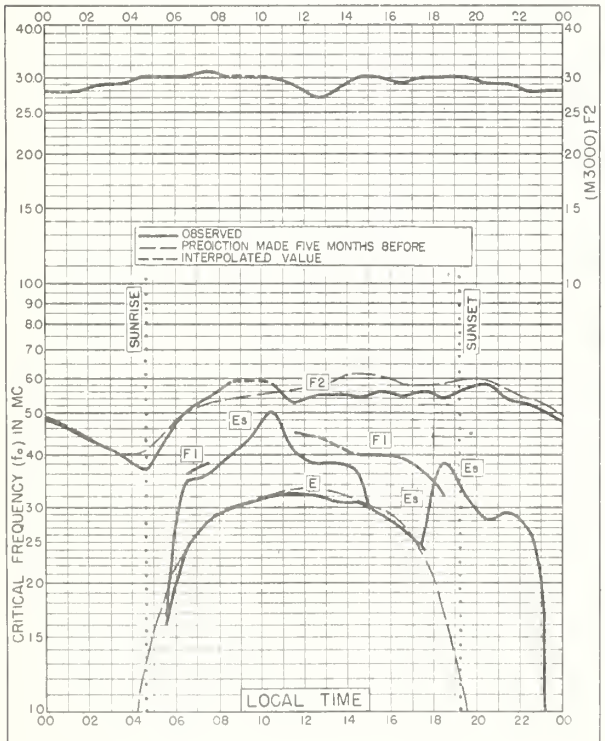


Fig. 71. WAKKANAI, JAPAN
45.4°N, 141.7° E
MAY 1953

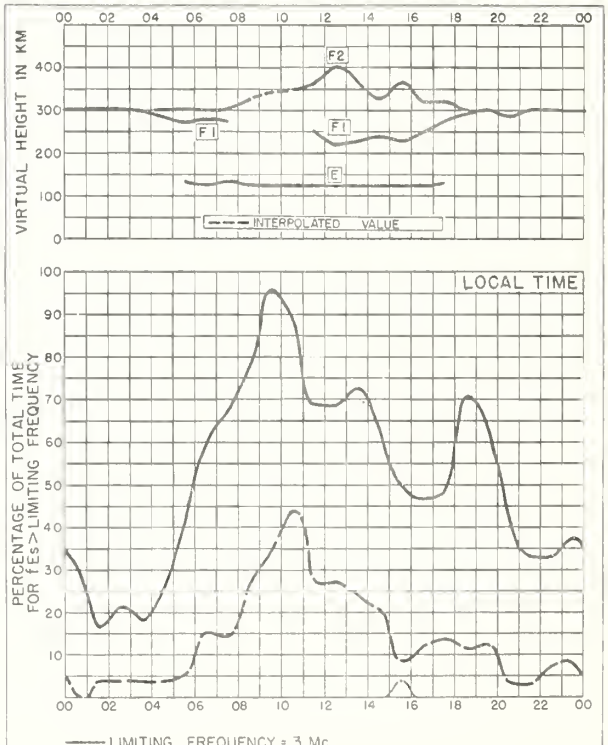


Fig. 72. WAKKANAI, JAPAN
MAY 1953

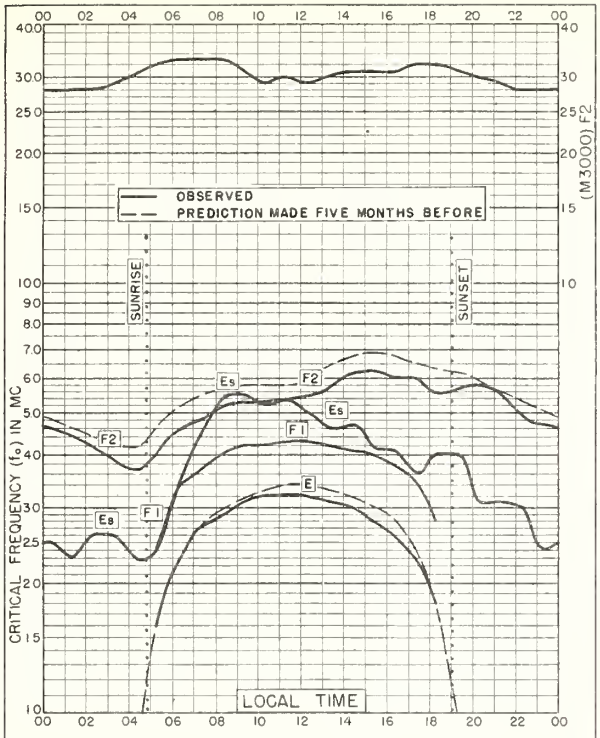


Fig. 73. AKITA, JAPAN
39.7° N, 140.1° E
MAY 1953

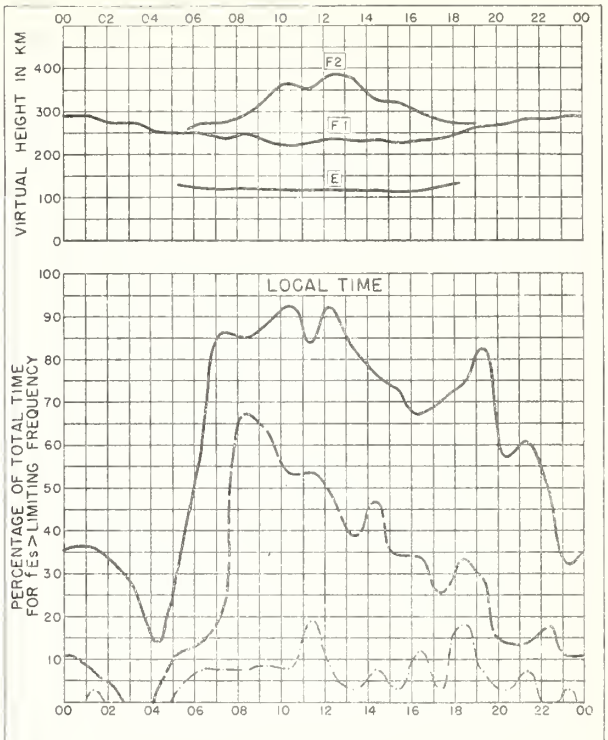


Fig. 74. AKITA, JAPAN
MAY 1953

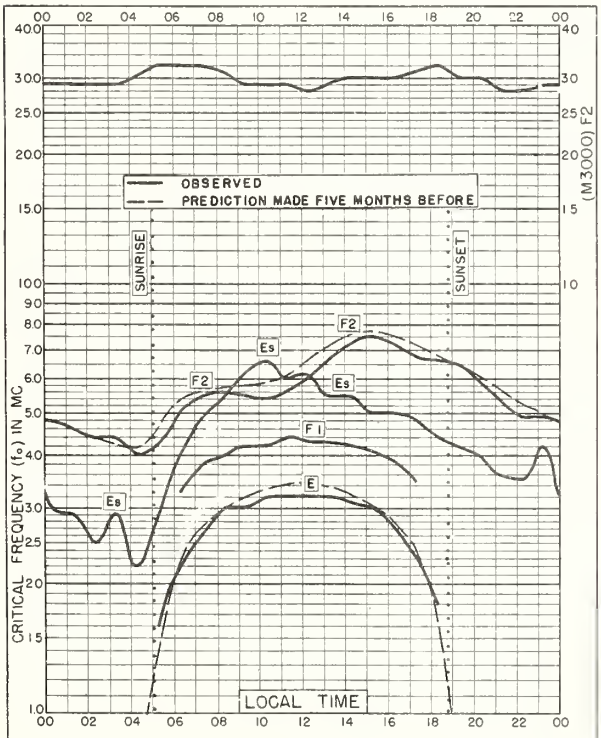


Fig. 75. TOKYO, JAPAN
35.7° N, 139.5° E
MAY 1953

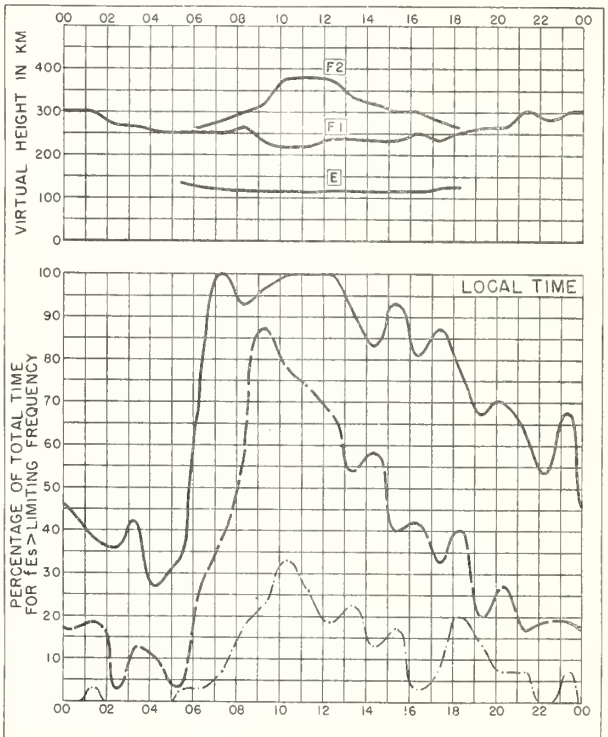


Fig. 76. TOKYO, JAPAN
MAY 1953

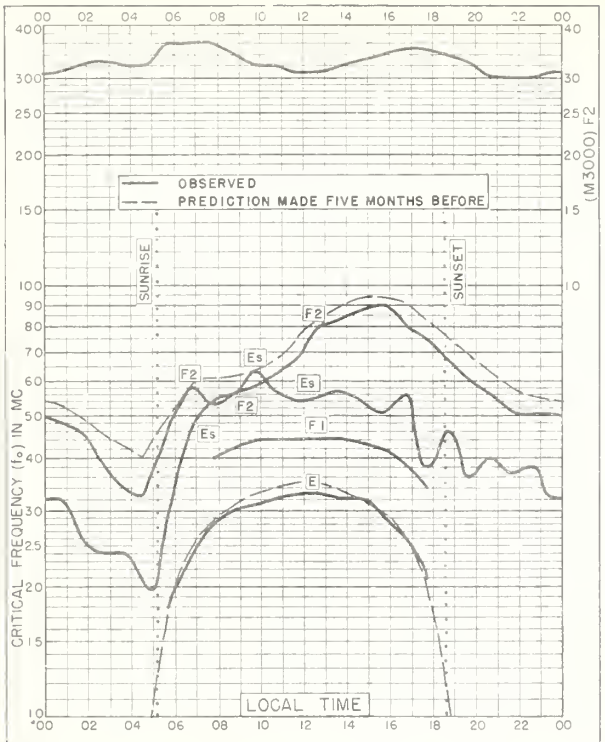


Fig. 77. YAMAGAWA, JAPAN
31.2° N, 130.6° E
MAY 1953

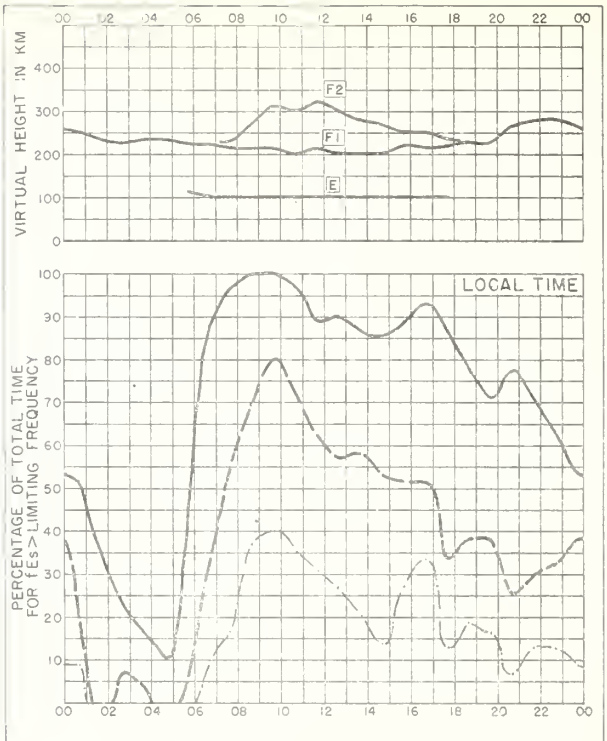


Fig. 78. YAMAGAWA, JAPAN
MAY 1953

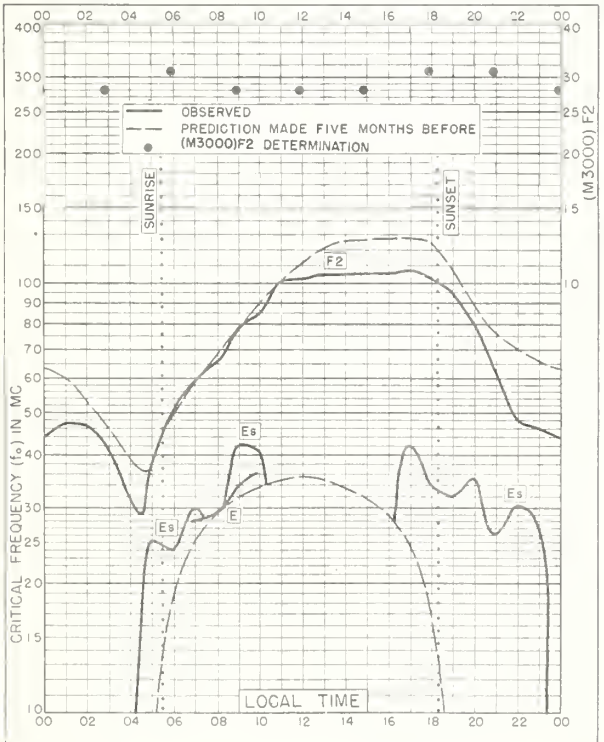


Fig 79. CALCUTTA, INDIA
22.6° N, 88.4° E
MAY 1953

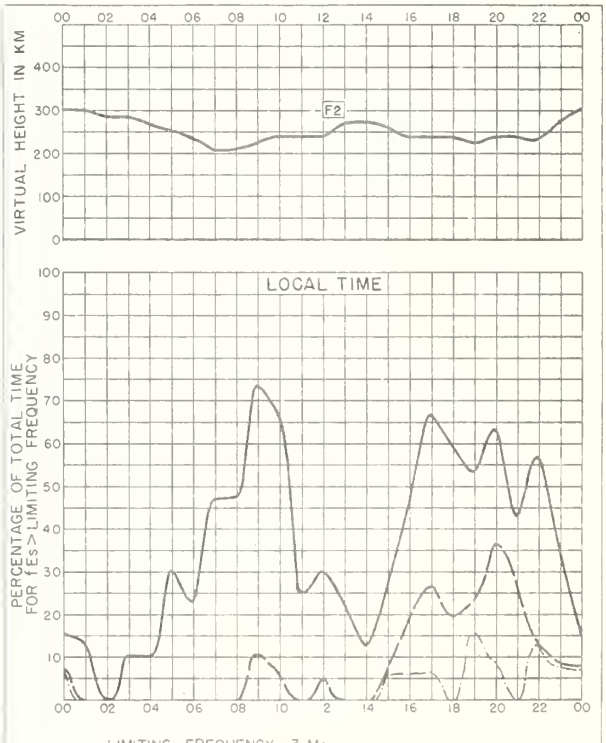


Fig 80. CALCUTTA, INDIA
MAY 1953

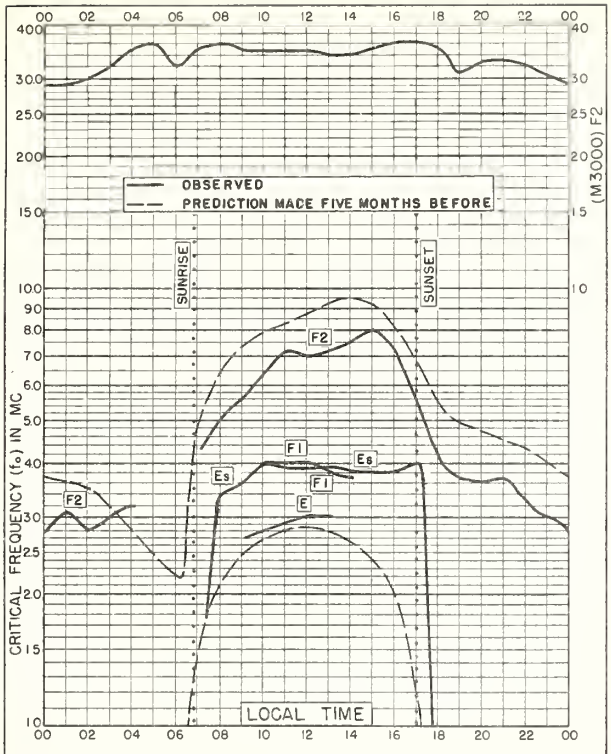


Fig. 81. BUENOS AIRES, ARGENTINA
34.5°S, 58.5° W MAY 1953

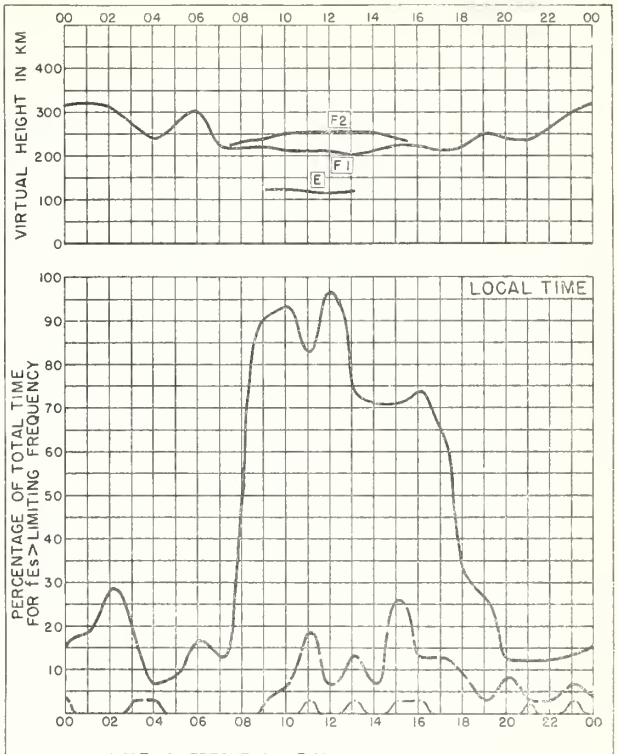


Fig. 82. BUENOS AIRES, ARGENTINA MAY 1953

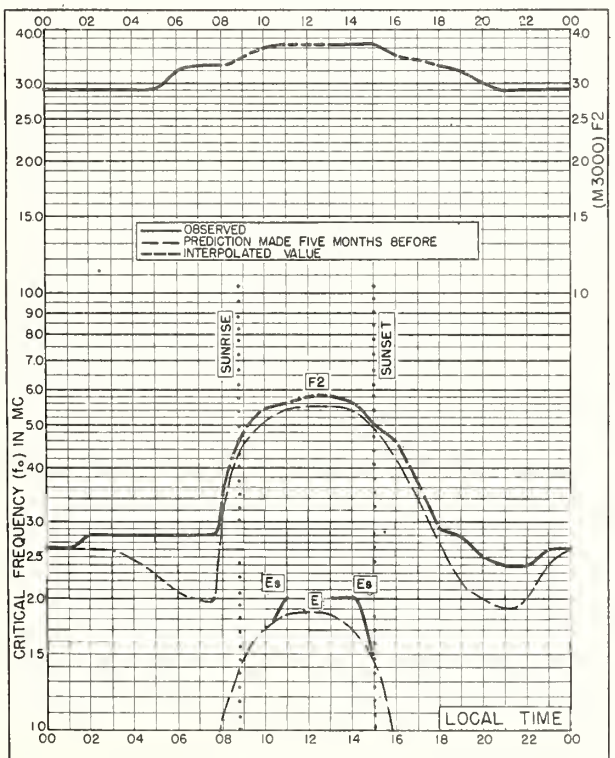


Fig. 83. DECEPCION I.
63.0° S, 60.7° W MAY 1953

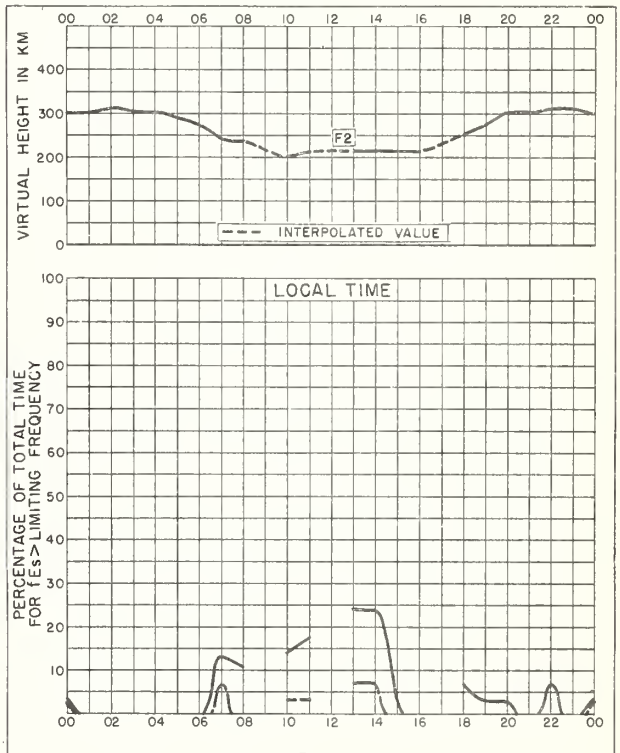


Fig. 84. DECEPCION I. MAY 1953

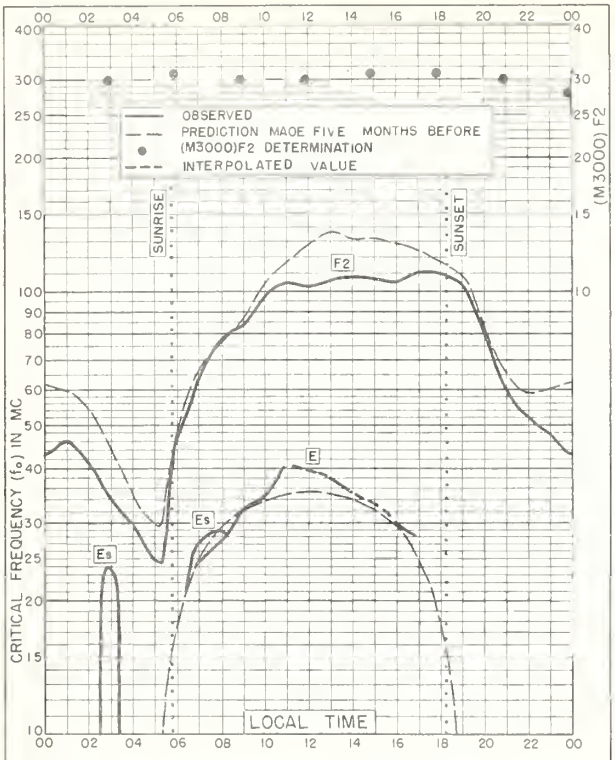


Fig. 85. CALCUTTA, INDIA
22.6° N, 88.4° E
APRIL 1953

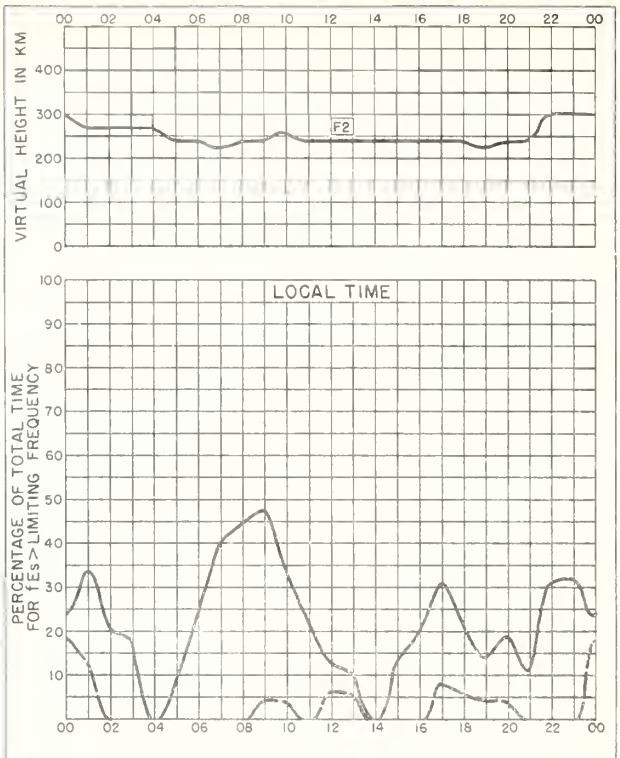


Fig. 86. CALCUTTA, INDIA
APRIL 1953

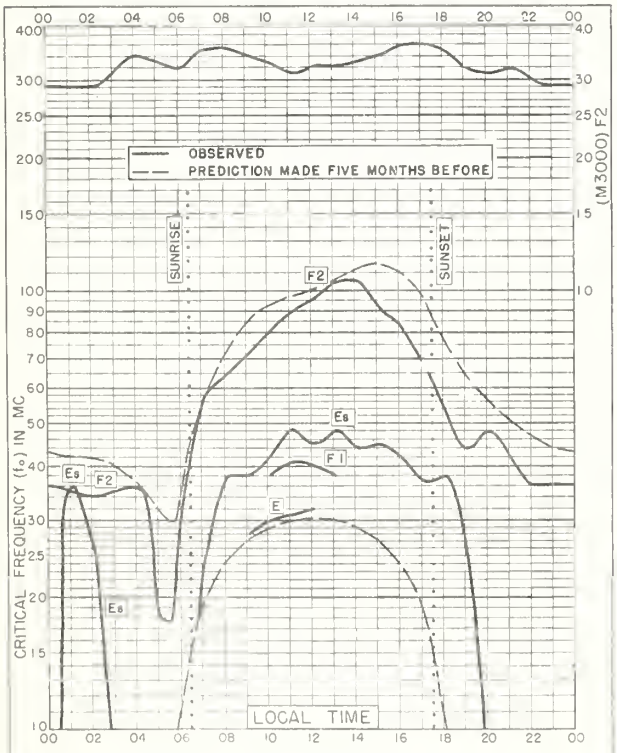


Fig. 87. BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W
APRIL 1953

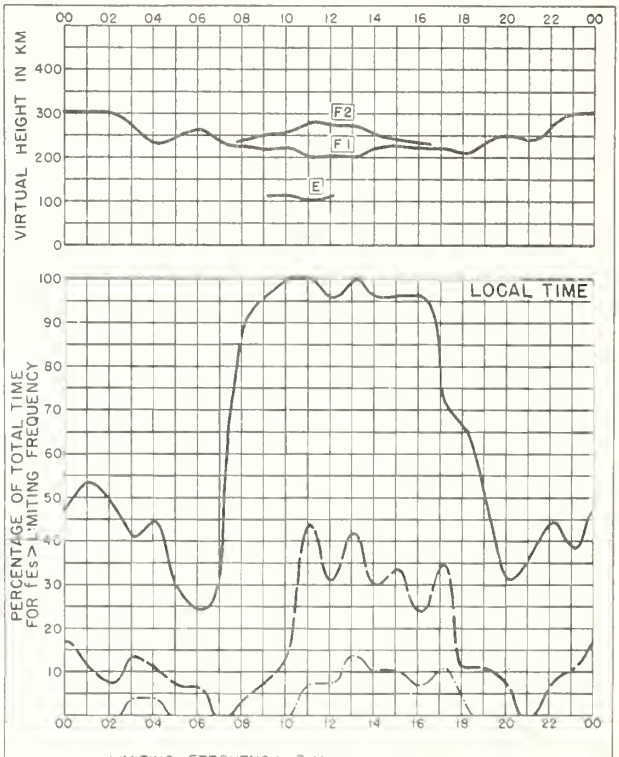


Fig. 88. BUENOS AIRES, ARGENTINA
APRIL 1953

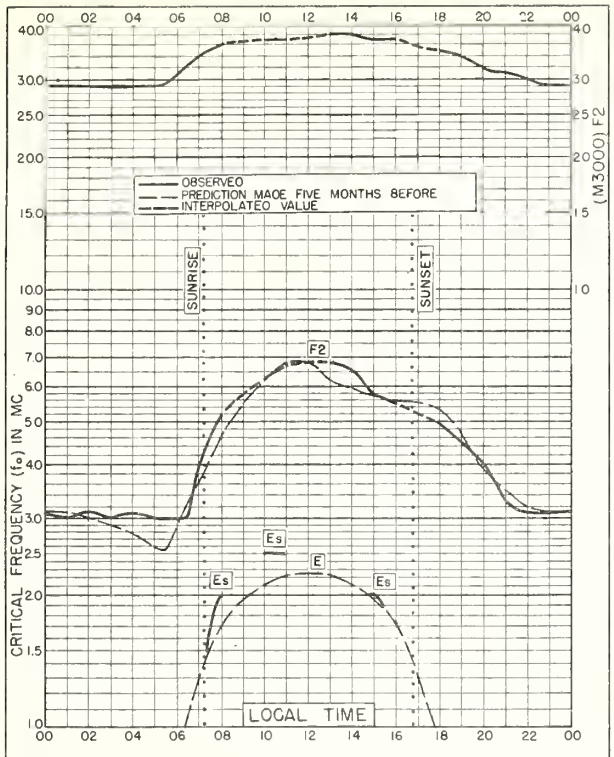


Fig. 89. DECEPCION I.
63.0° S, 60.7° W APRIL 1953

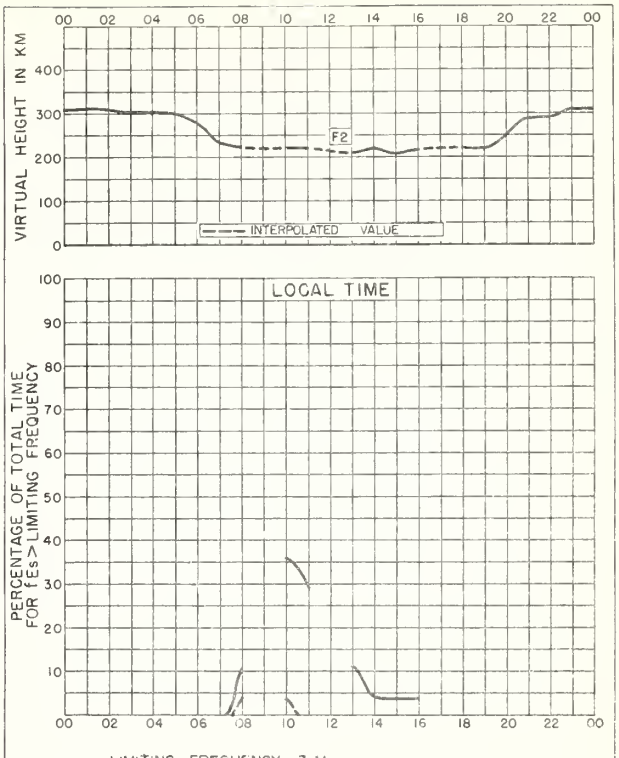


Fig. 90. DECEPCION I. APRIL 1953

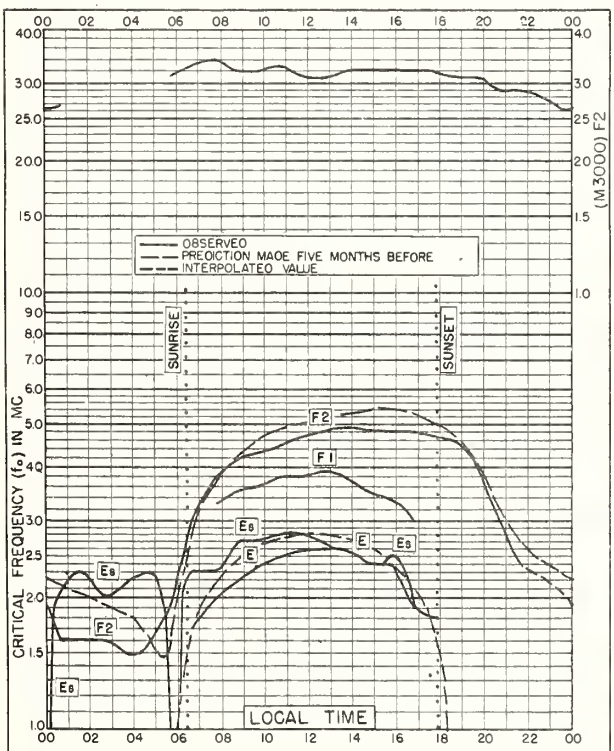


Fig. 91. INVERNESS, SCOTLAND
57.4° N, 4.2° W MARCH 1953

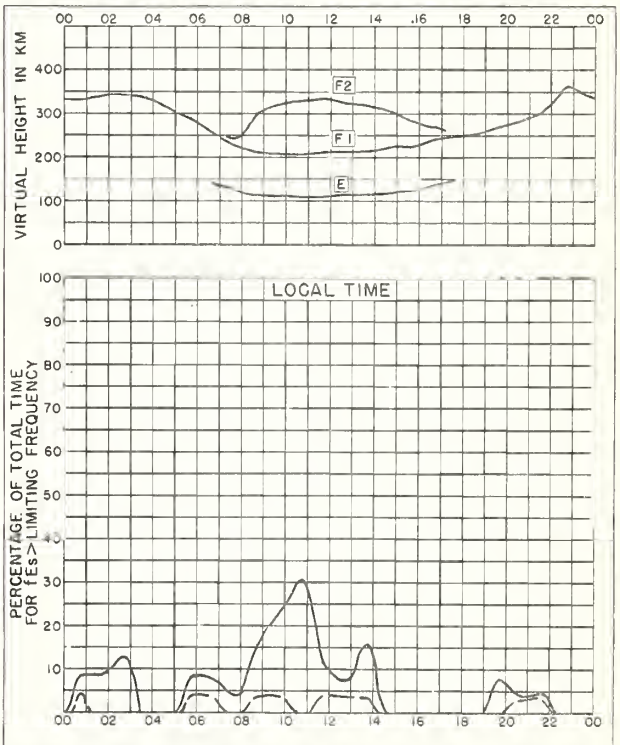


Fig. 92. INVERNESS, SCOTLAND MARCH 1953

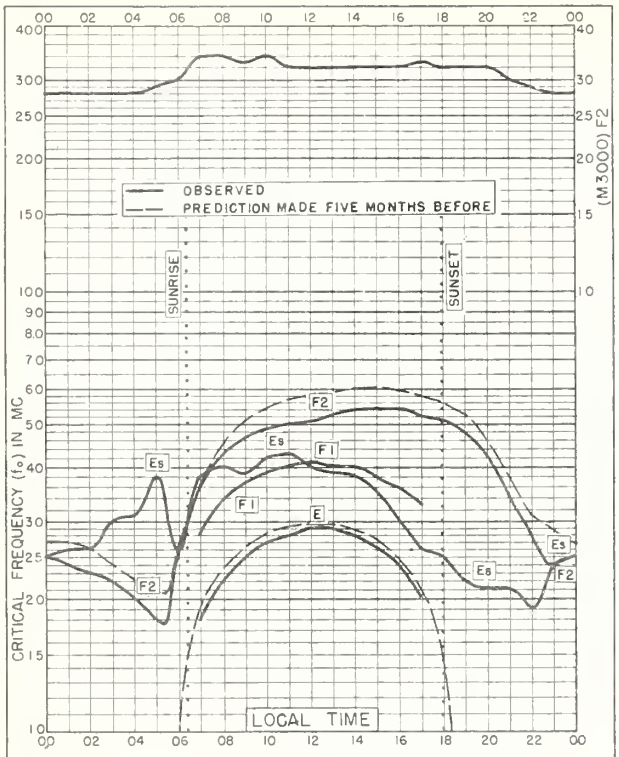


Fig. 93. SLOUGH, ENGLAND
51.5° N, 0.6° W
MARCH 1953

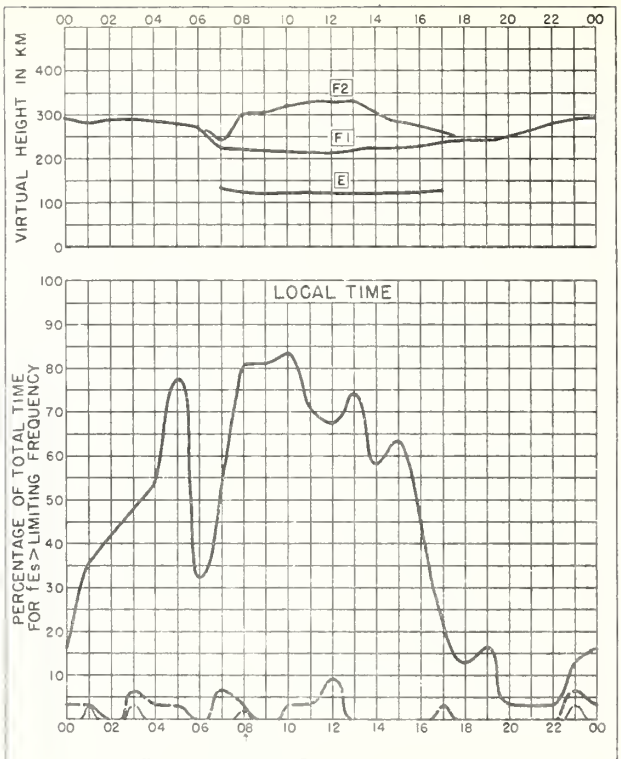


Fig. 94. SLOUGH, ENGLAND
MARCH 1953

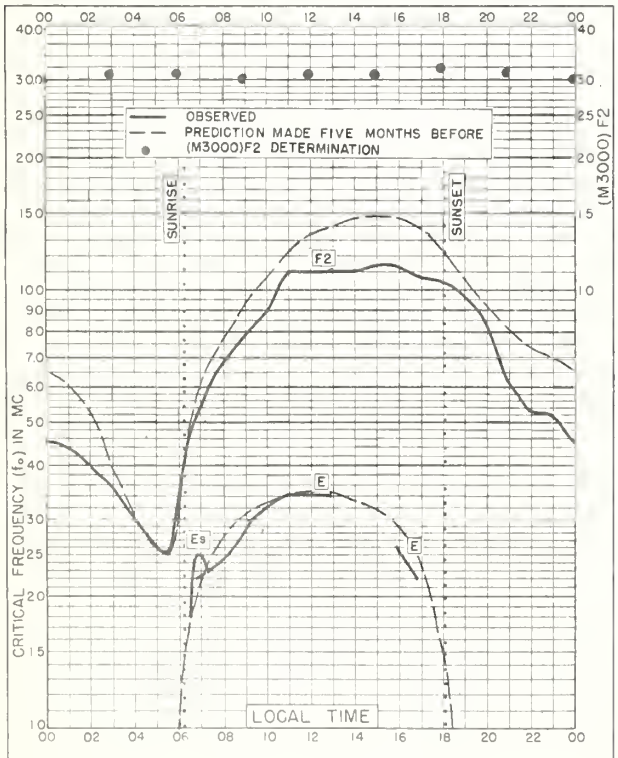


Fig. 95. CALCUTTA, INDIA
22.6°N, 88.4° E
MARCH 1953

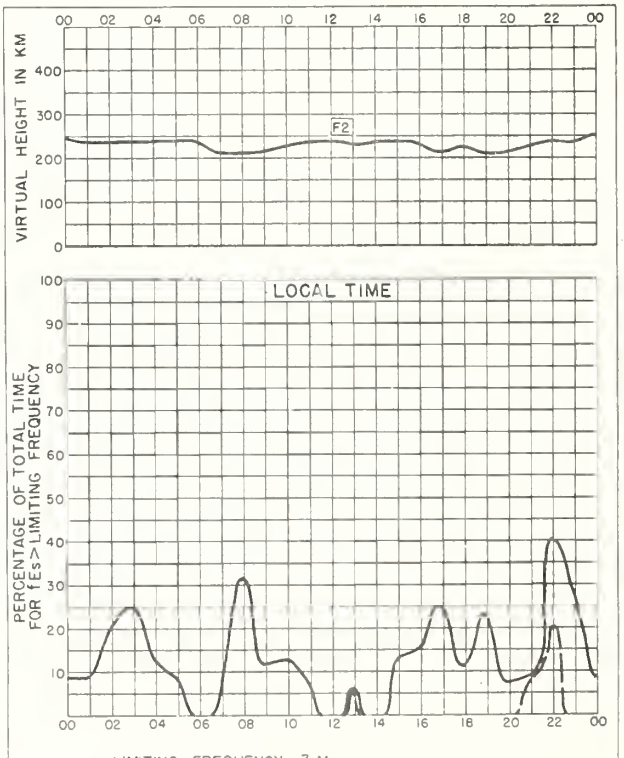


Fig. 96. CALCUTTA, INDIA
MARCH 1953

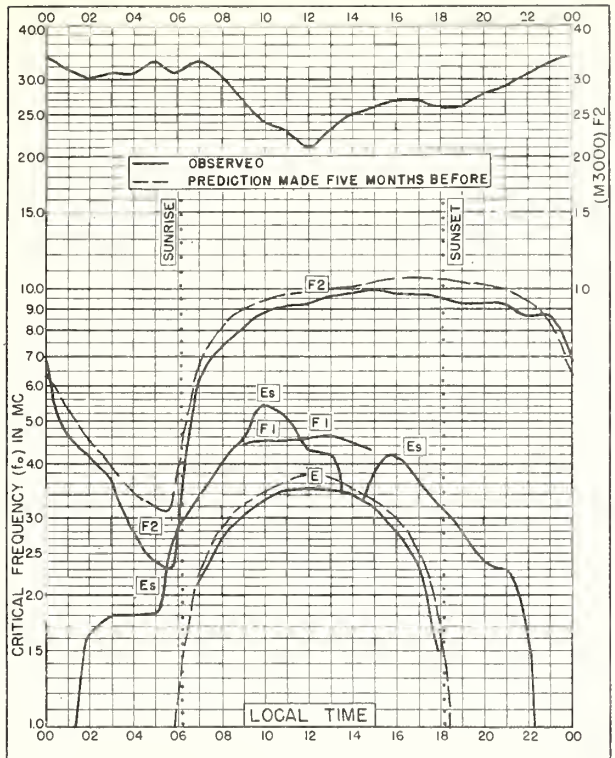
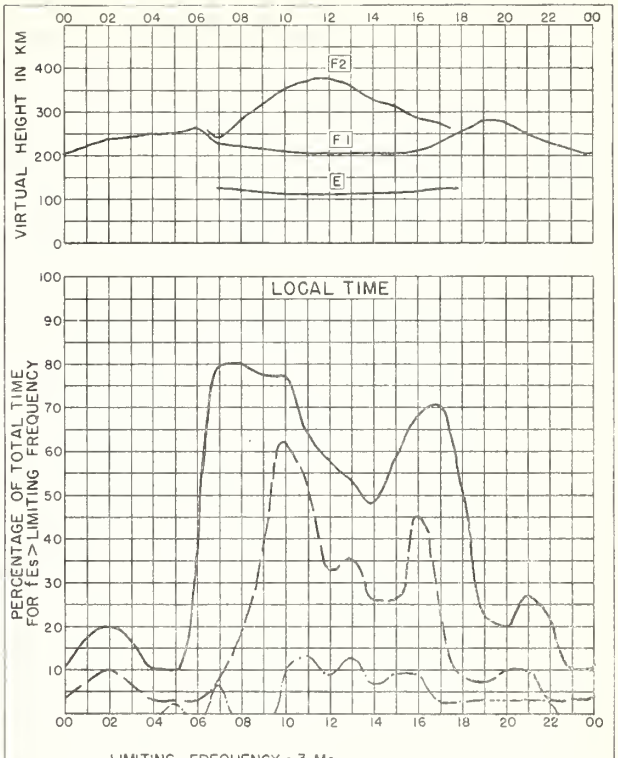


Fig. 97. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E MARCH 1953



MARCH 1953
Fig. 98. SINGAPORE, BRITISH MALAYA

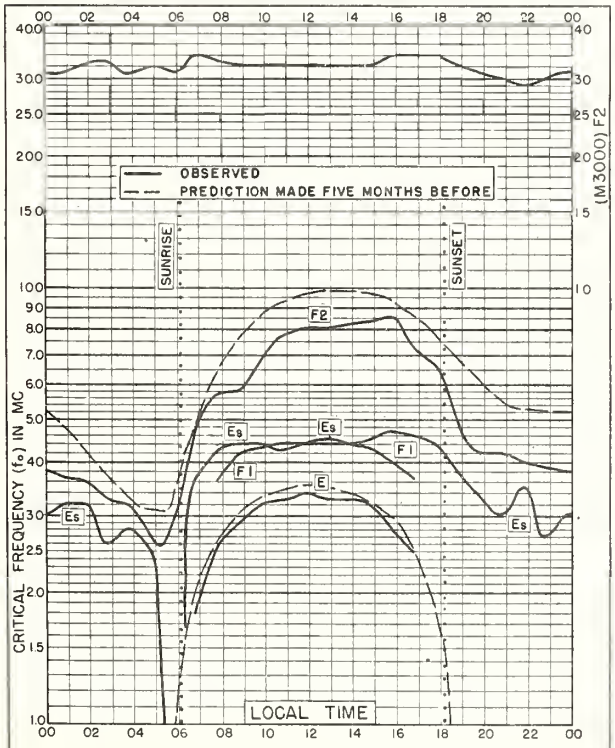


Fig. 99. TOWNSVILLE, AUSTRALIA
19.3°S, 146.8°E MARCH 1953

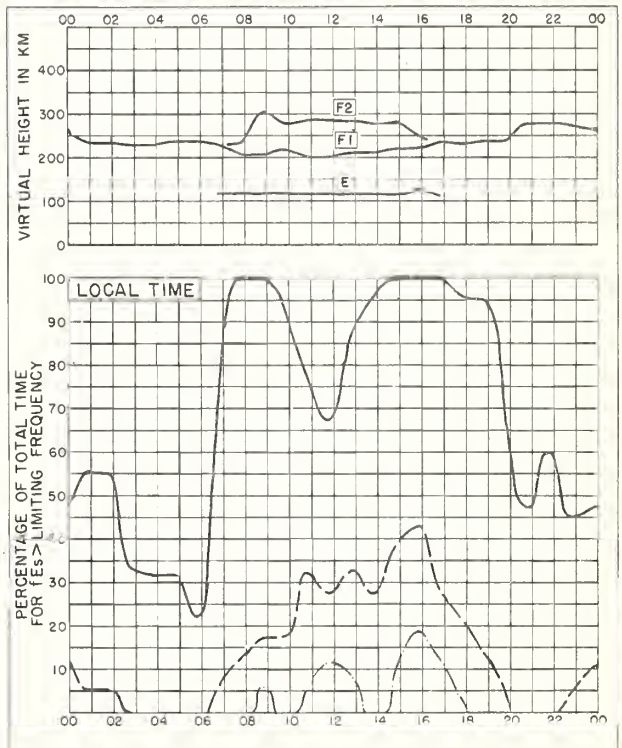


Fig. 100. TOWNSVILLE, AUSTRALIA MARCH 1953

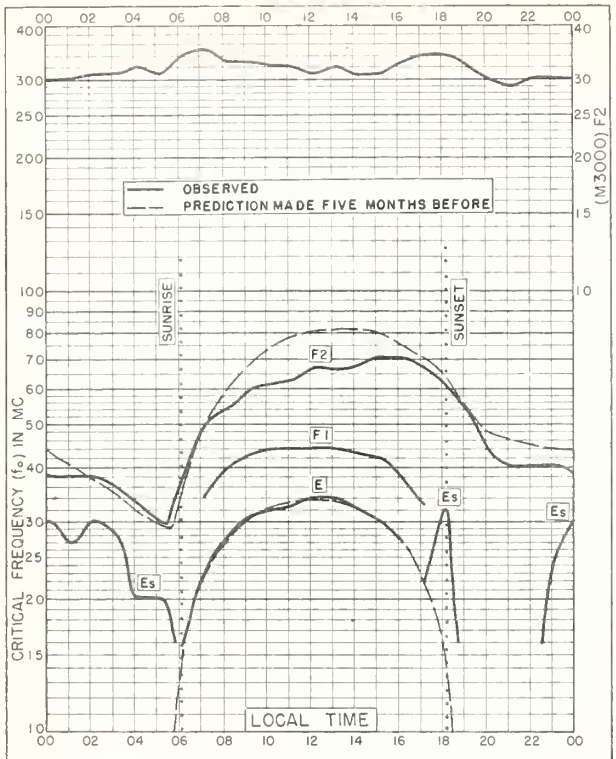


Fig. 101. BRISBANE, AUSTRALIA
27.5° S, 153.0° E MARCH 1953

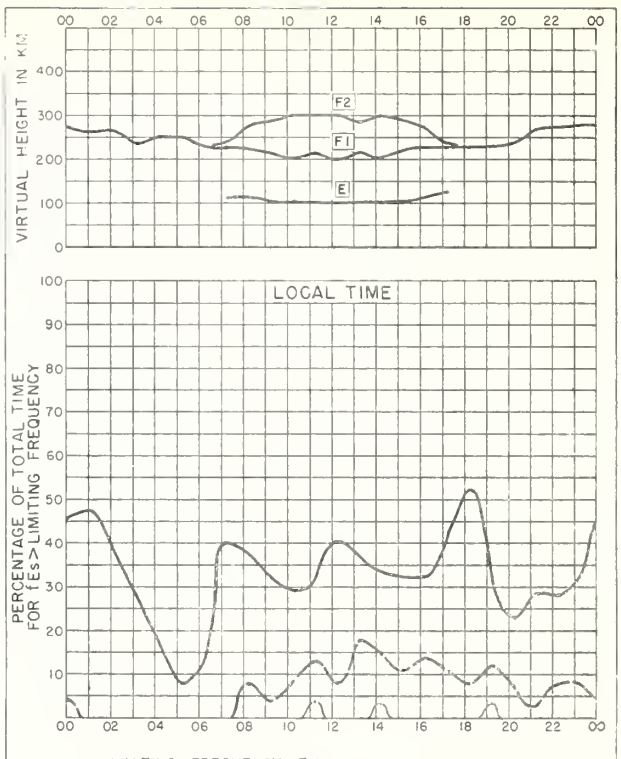


Fig. 102. BRISBANE, AUSTRALIA MARCH 1953

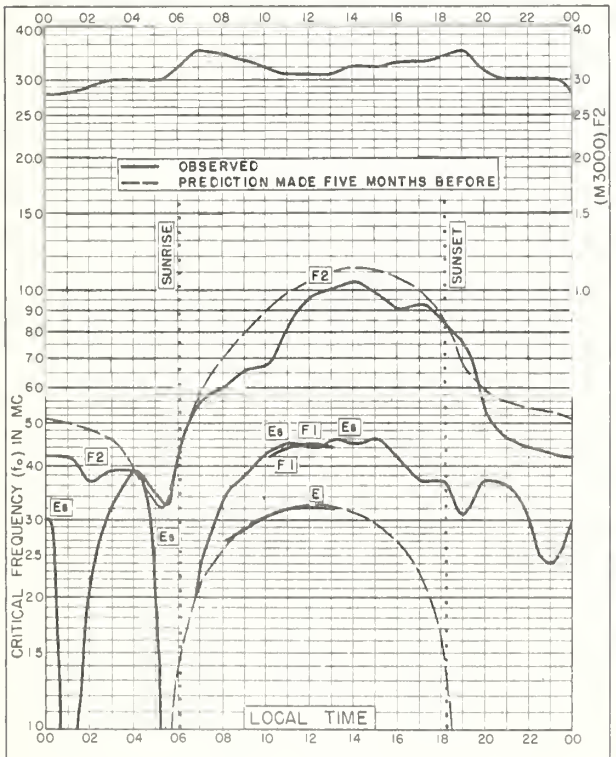


Fig. 103. BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W MARCH 1953

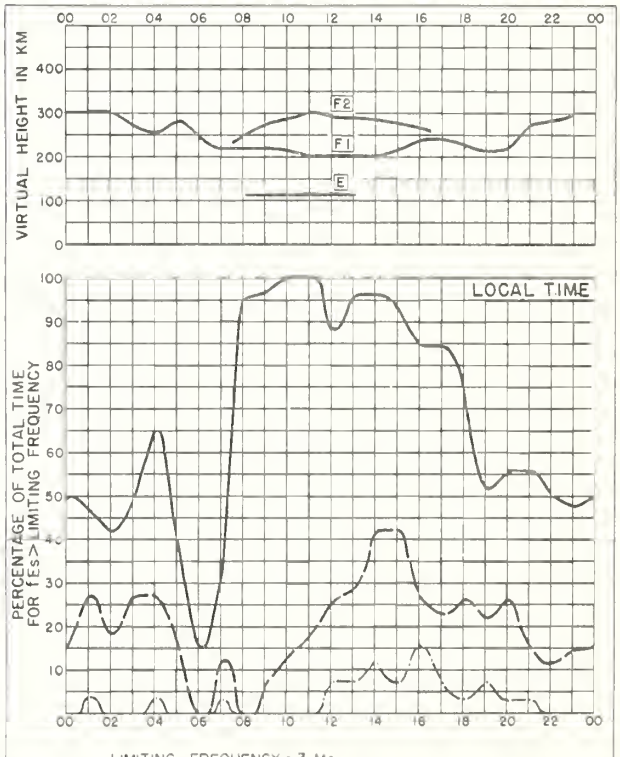


Fig. 104 BUENOS AIRES, ARGENTINA MARCH 1953

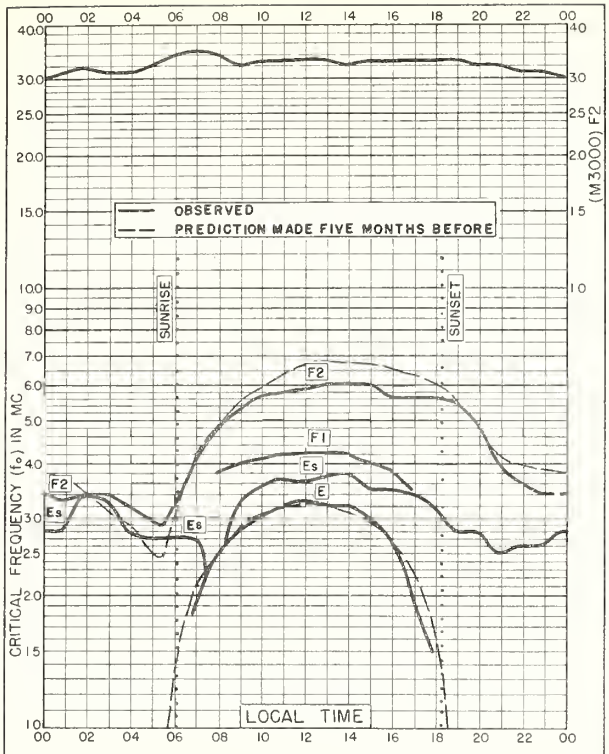


Fig. 105. CANBERRA, AUSTRALIA
35.3° S, 149.0° E MARCH 1953

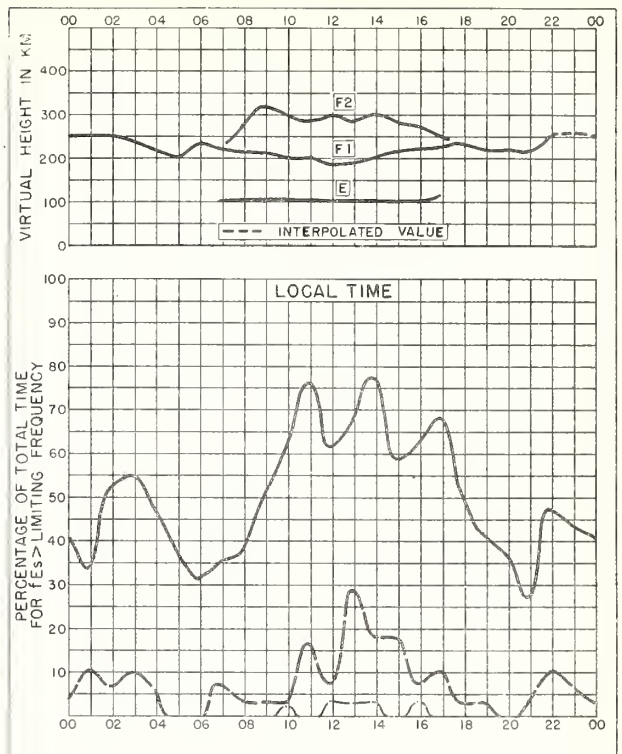
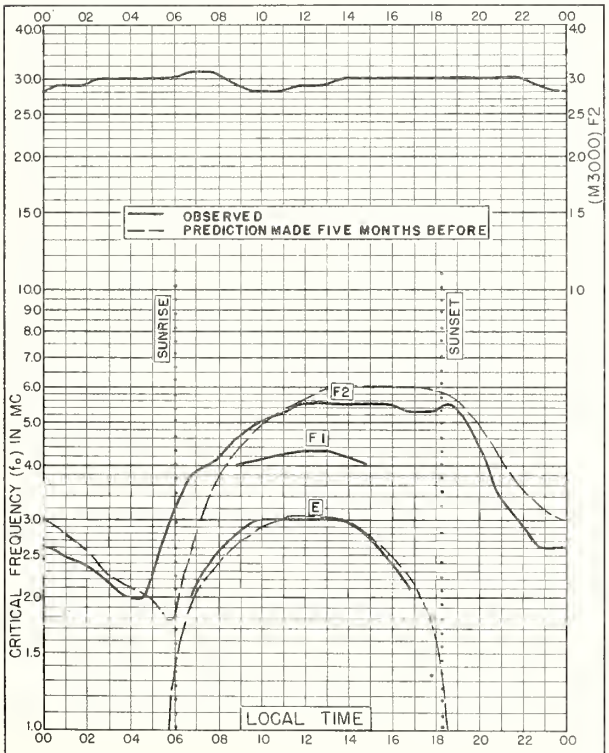


Fig. 106. CANBERRA, AUSTRALIA MARCH 1953



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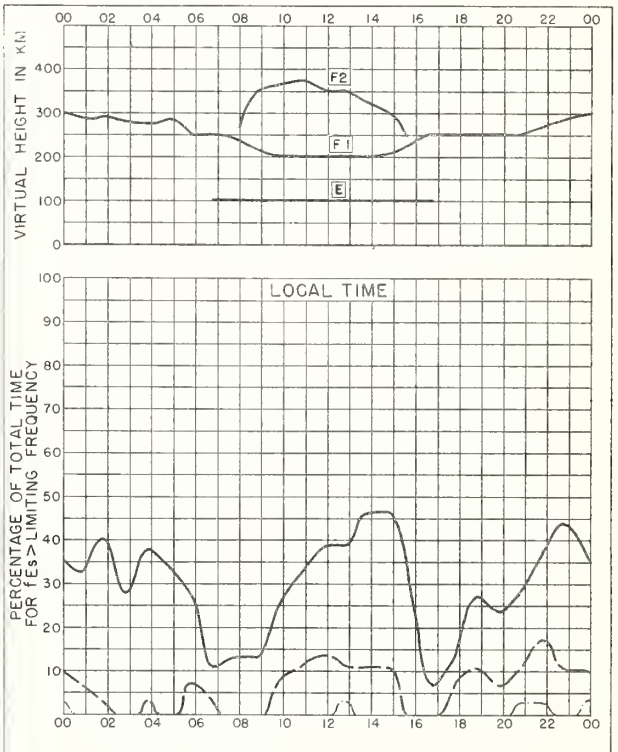
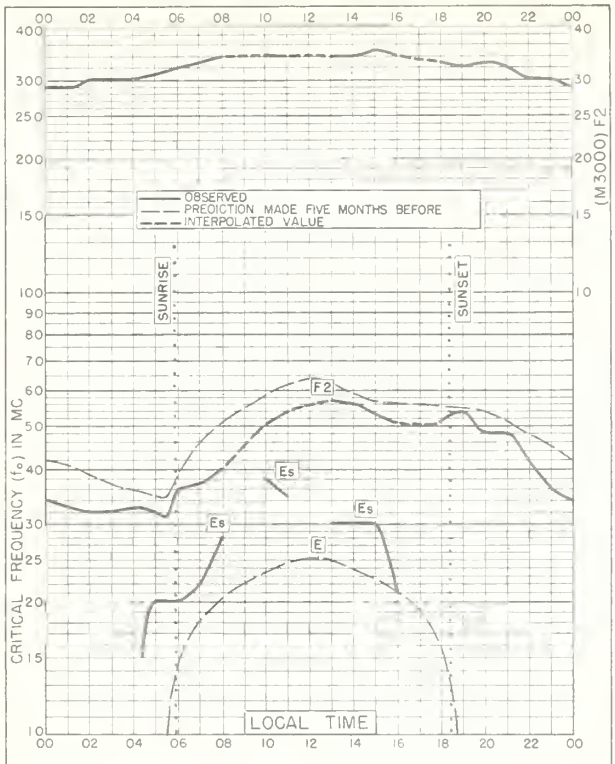


Fig. 108. HOBART, TASMANIA MARCH 1953



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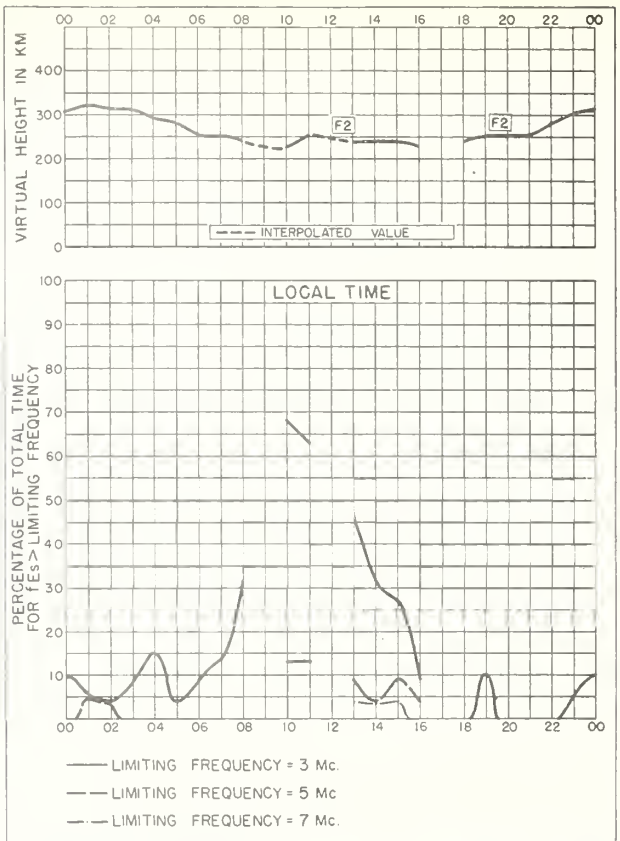


Fig. 110. DECEPCION I.
MARCH 1953

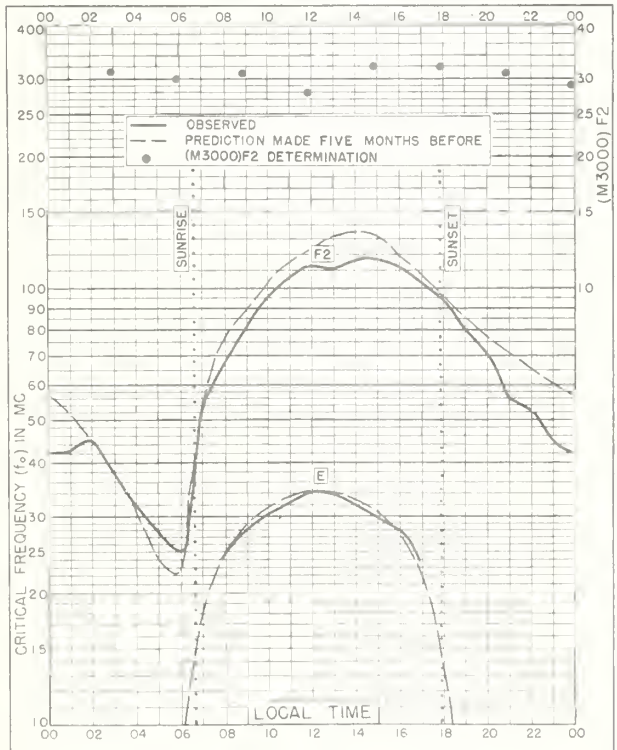
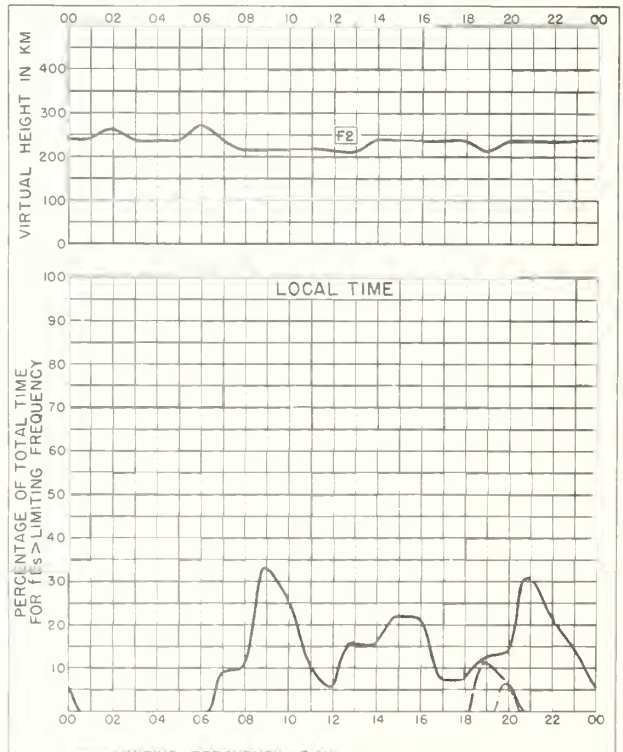


Fig. 111. CALCUTTA, INDIA
22.6° N, 88.4° E
FEBRUARY 1953



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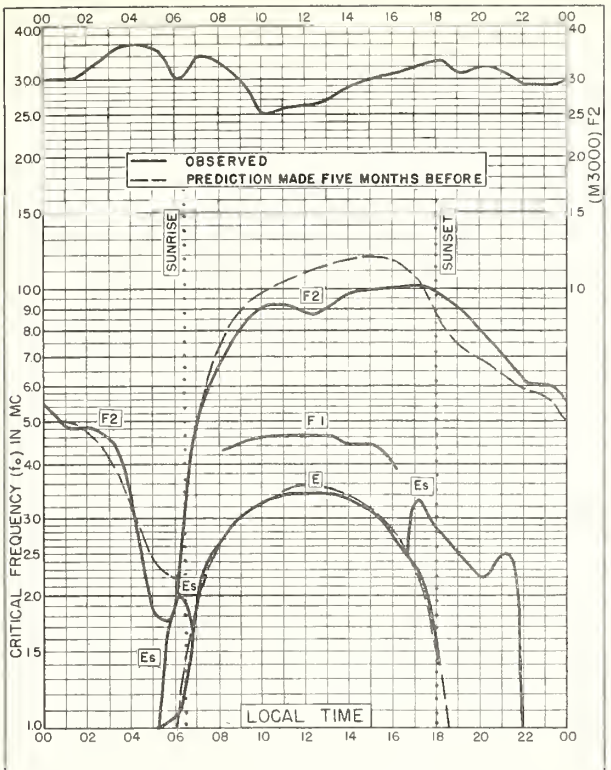
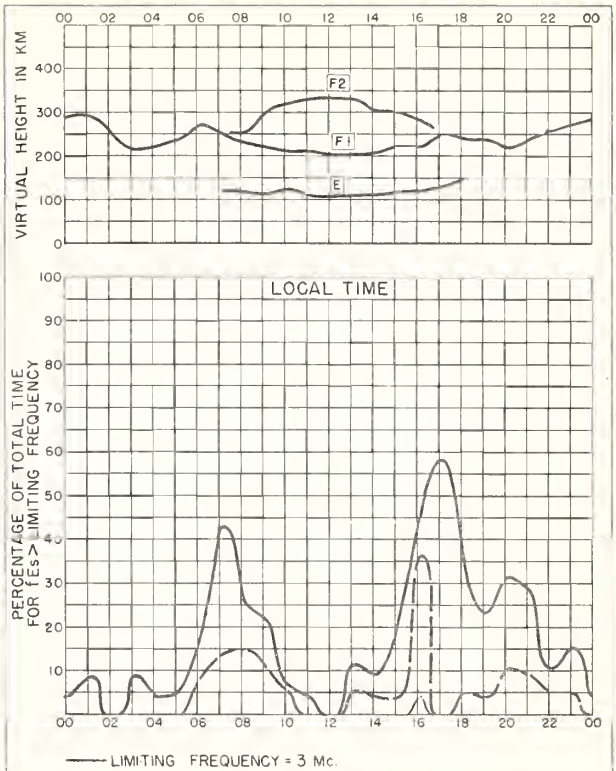


Fig. 113. KHARTOUM, SUDAN
15.6° N, 32.6° E FERUARY 1953



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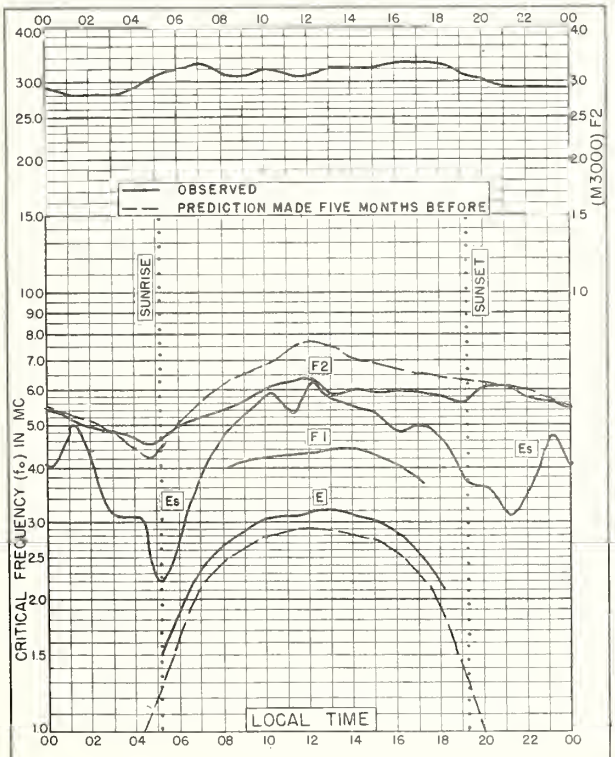

Fig. 115. FALKLAND IS.
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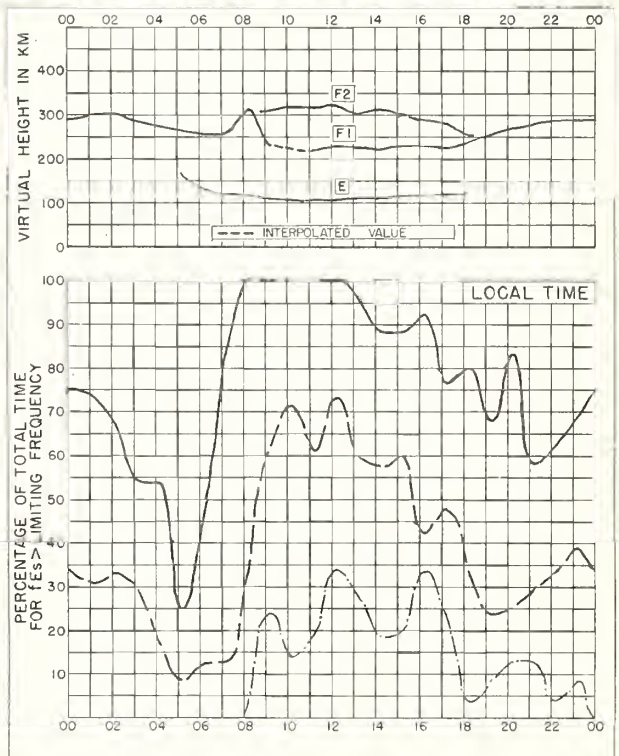

Fig. 116. FALKLAND IS. FEBRUARY 1953

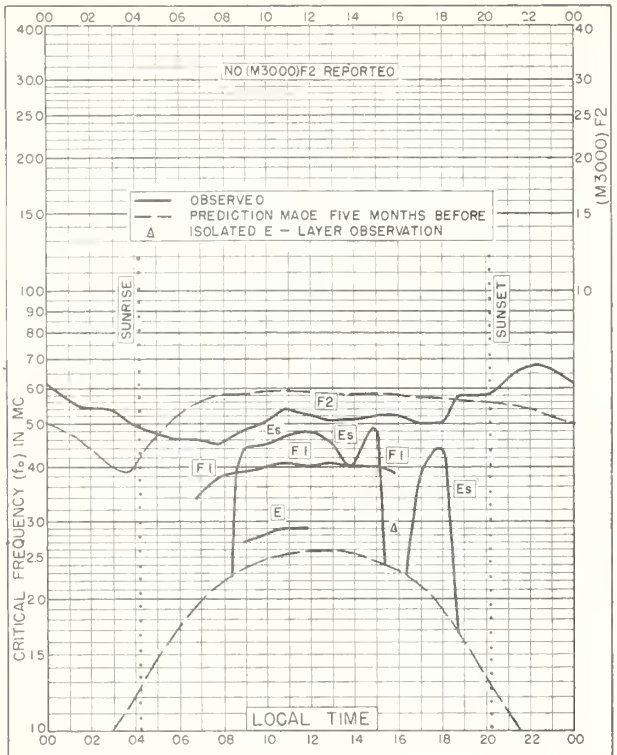

Fig. 117. PORT LOCKROY
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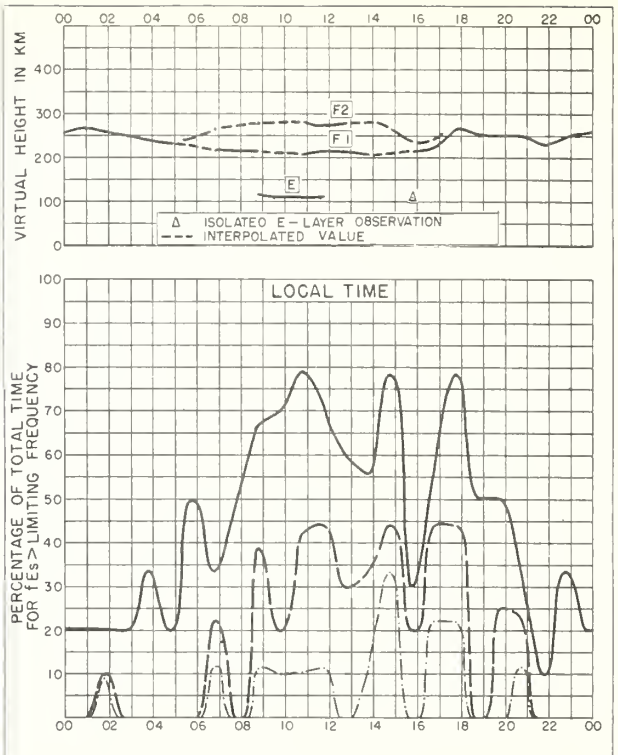
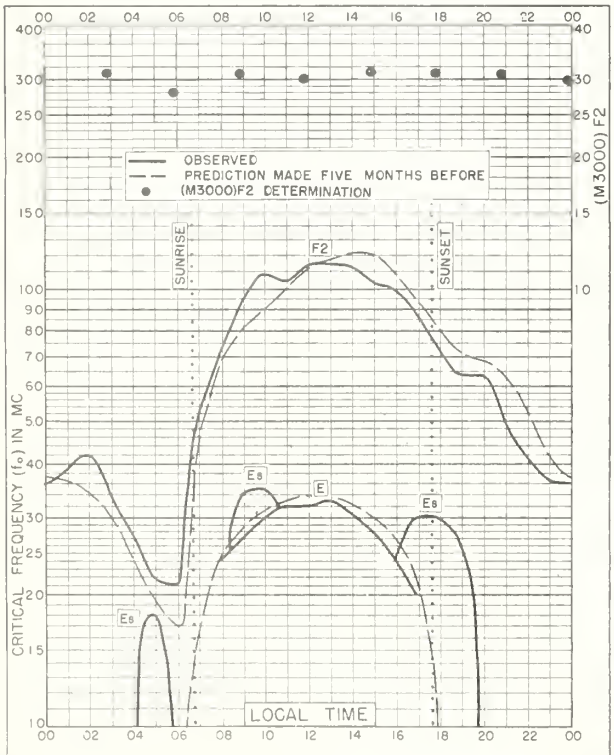


Fig. 118. PORT LOCKROY FEBRUARY 1953



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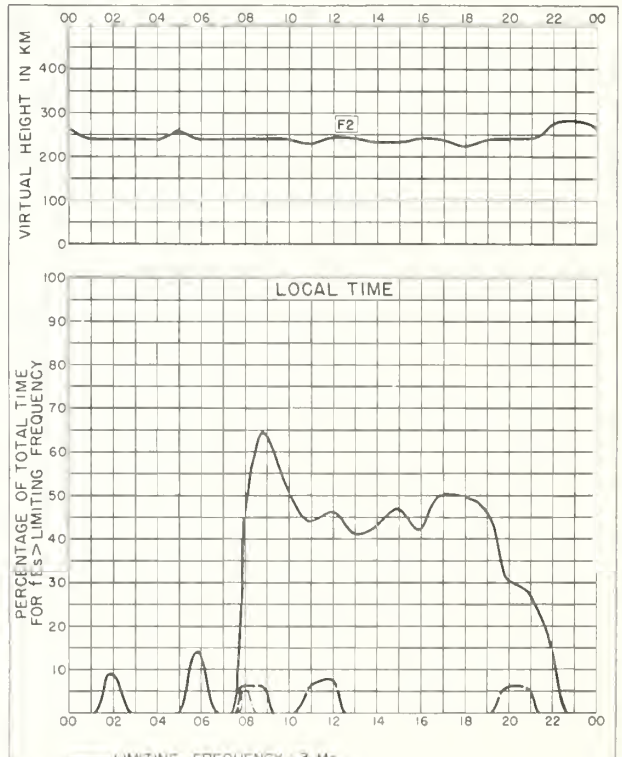

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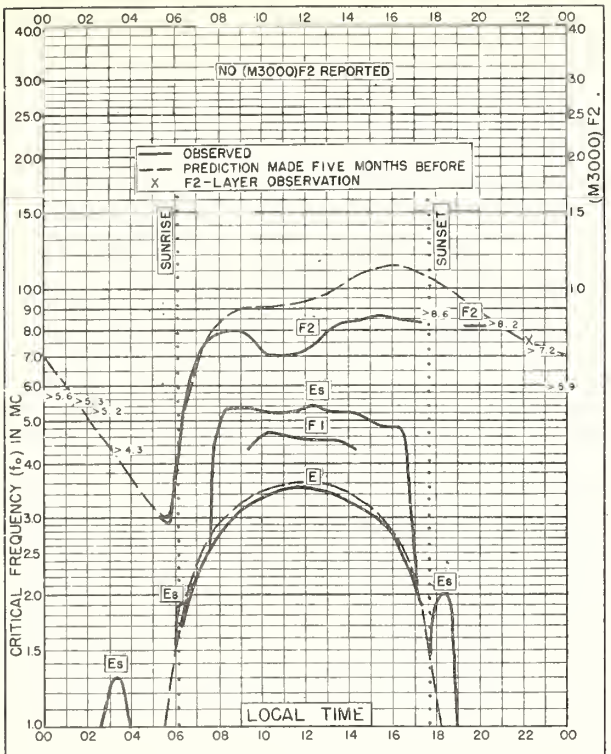

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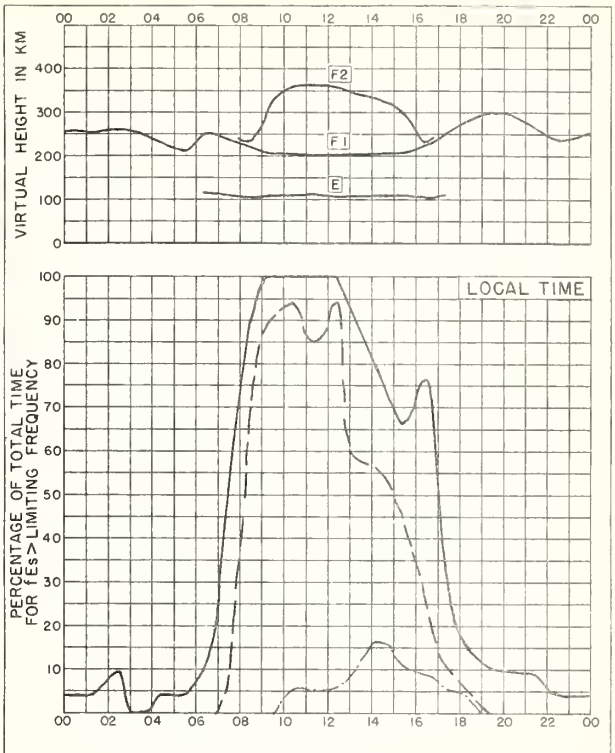

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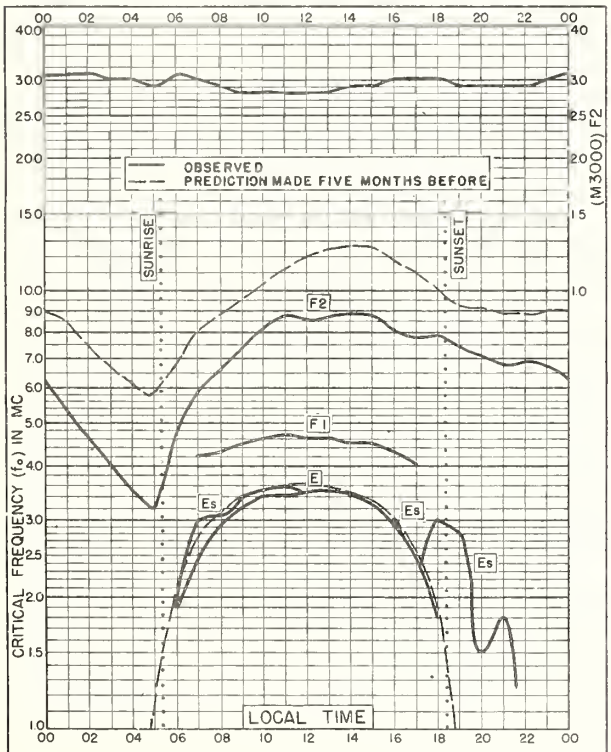

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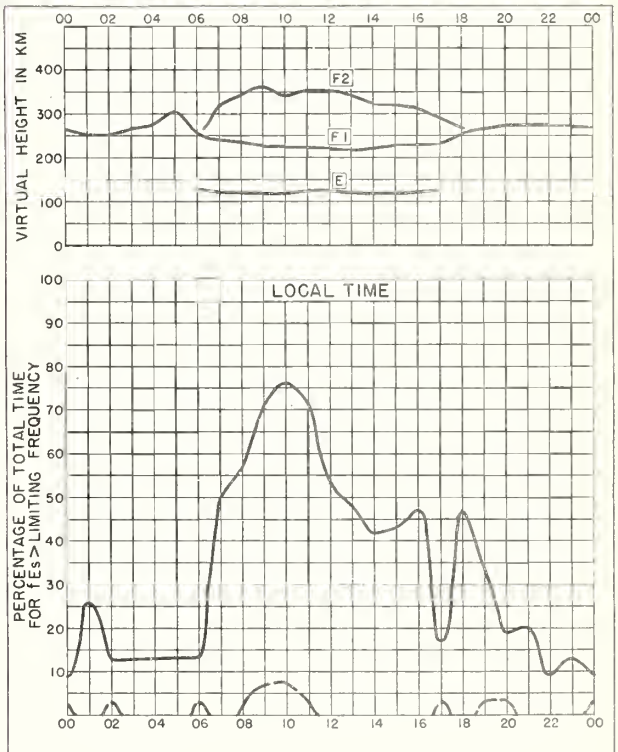

DECEMBER 1952
Fig. 124. TANANARIVE, MADAGASCAR

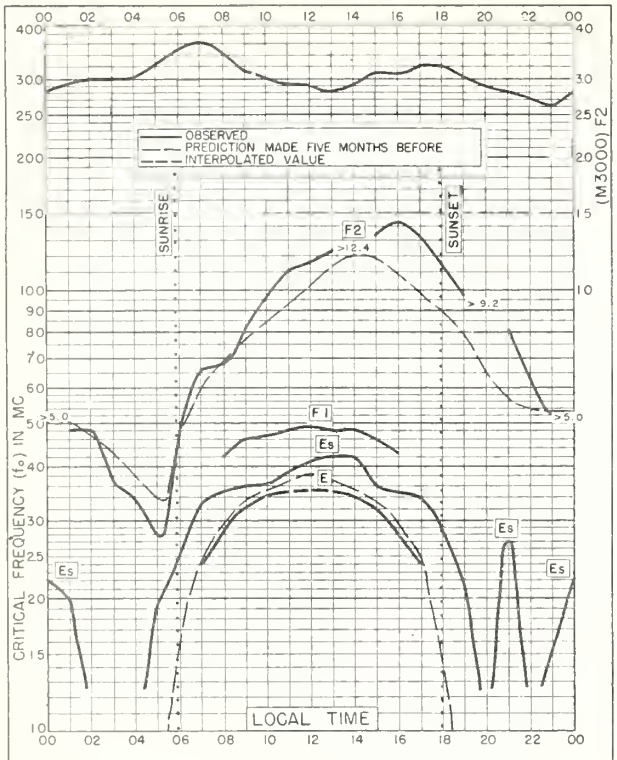

Fig. 125. DAKAR, FRENCH W. AFRICA
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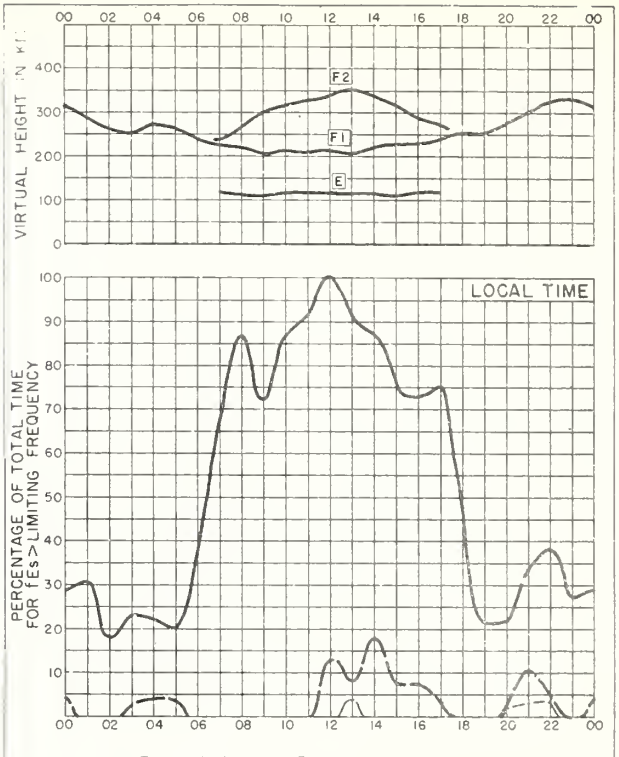

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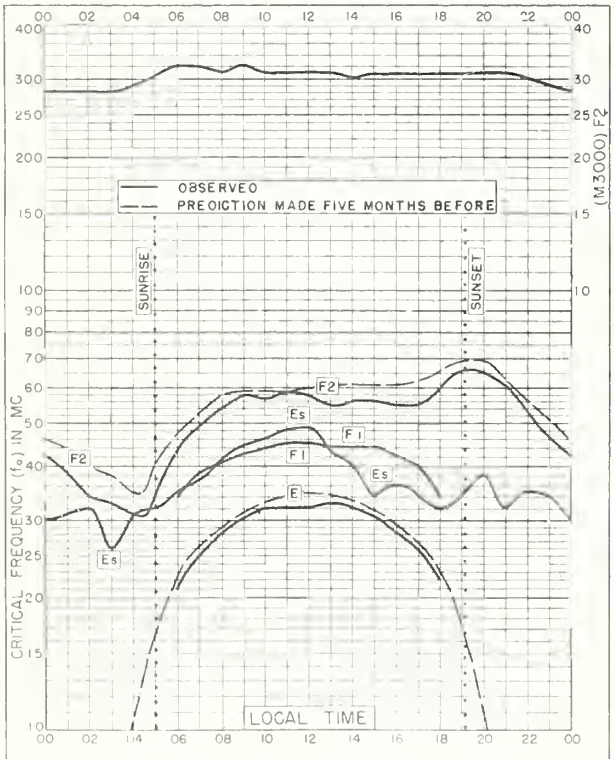

Fig. 127. FRIBOURG, GERMANY
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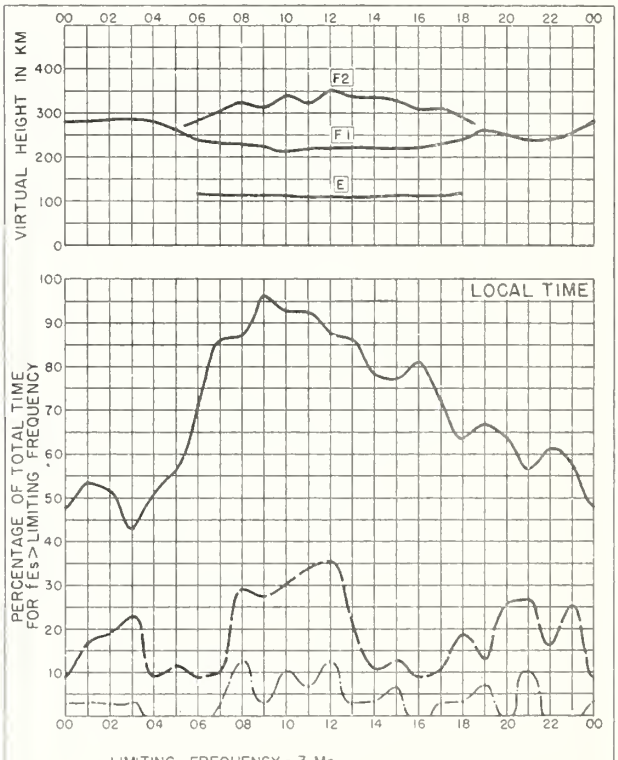

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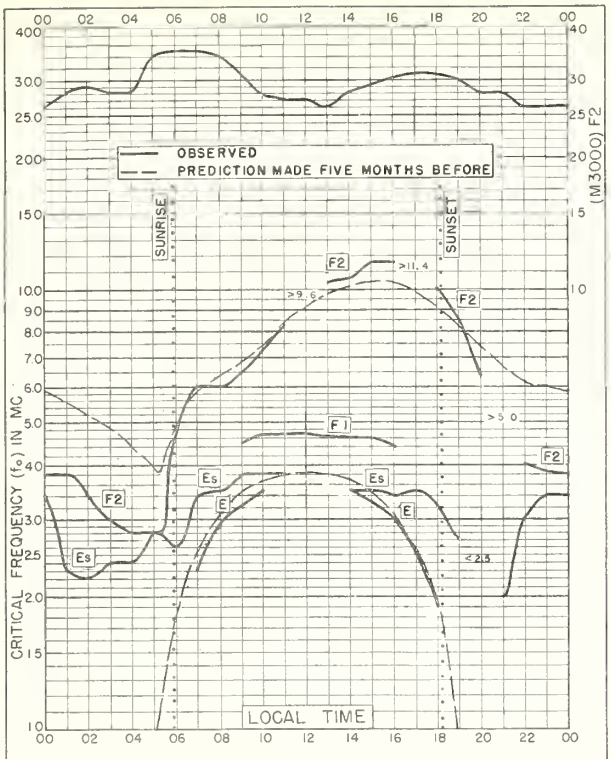

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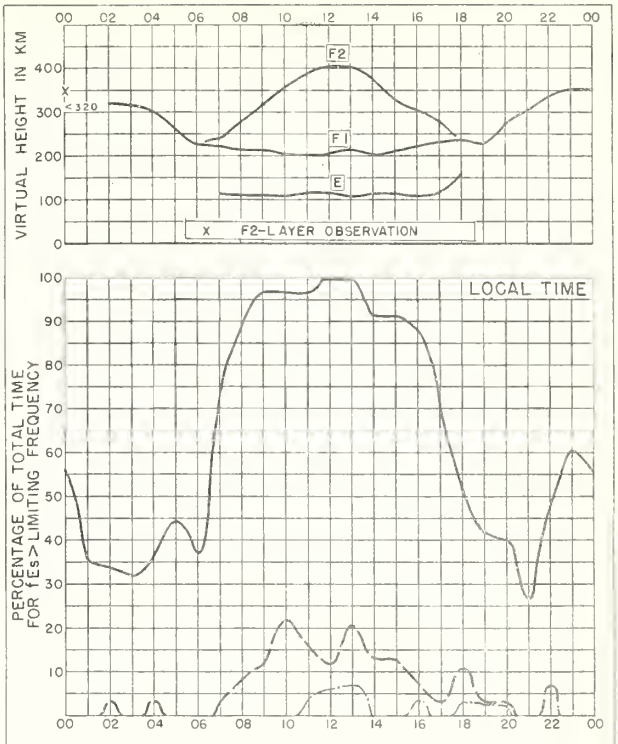

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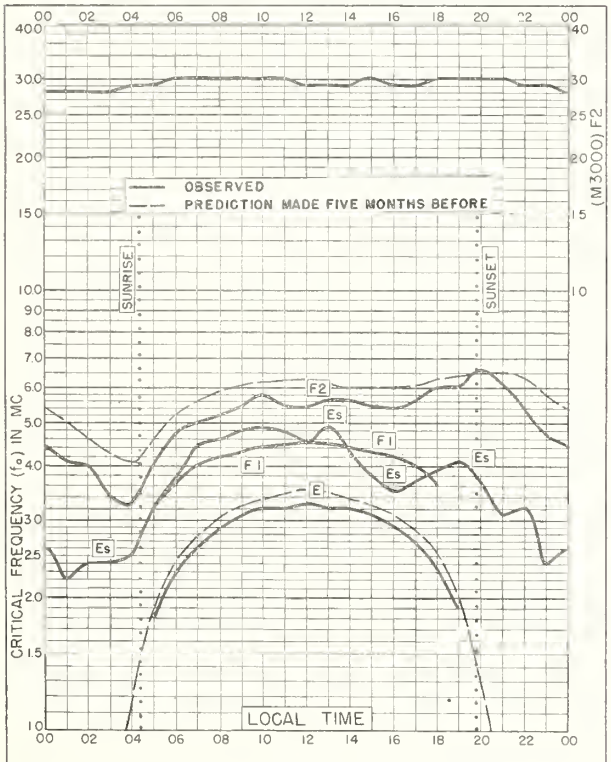

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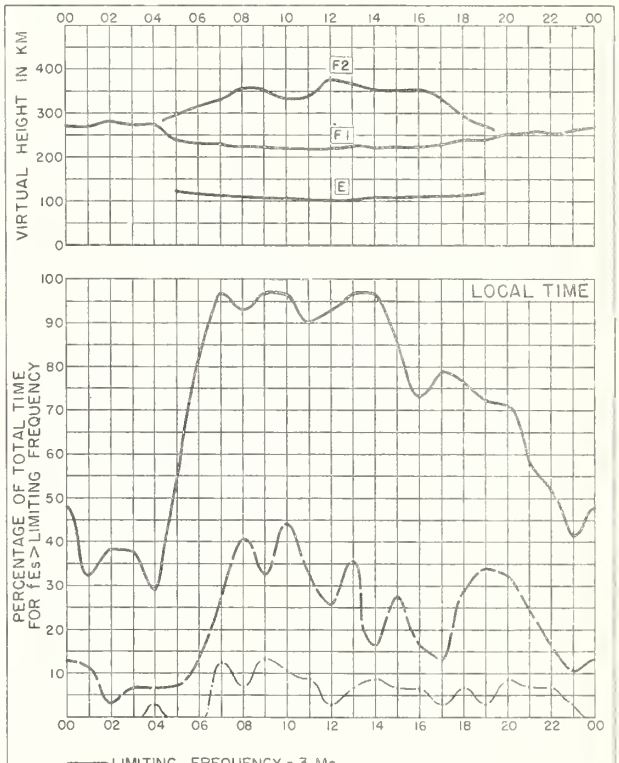

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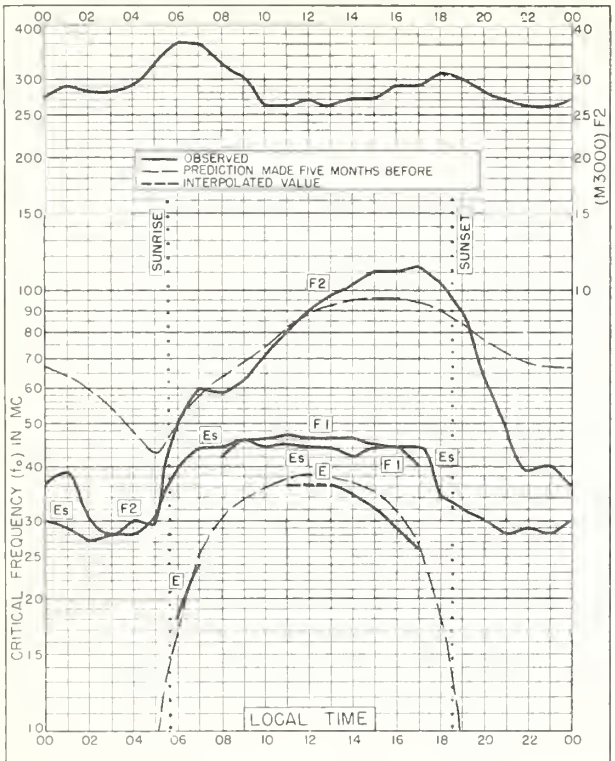

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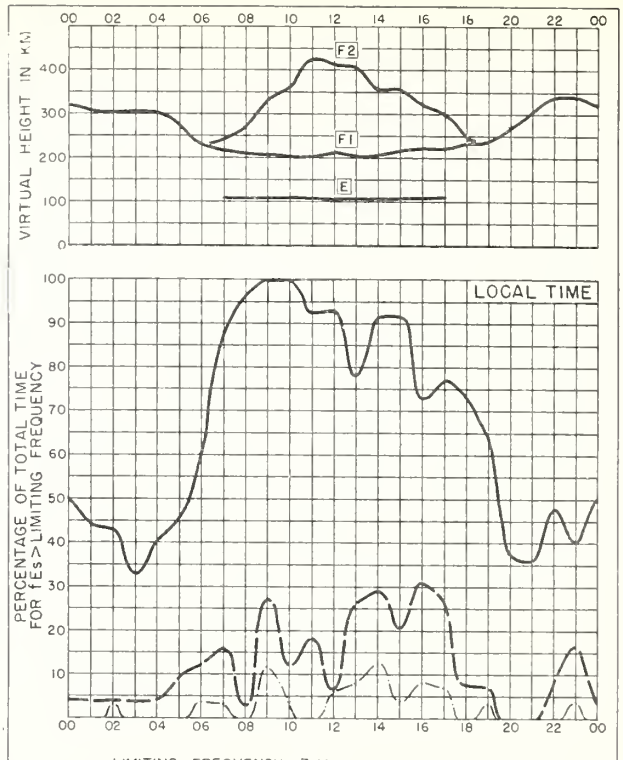

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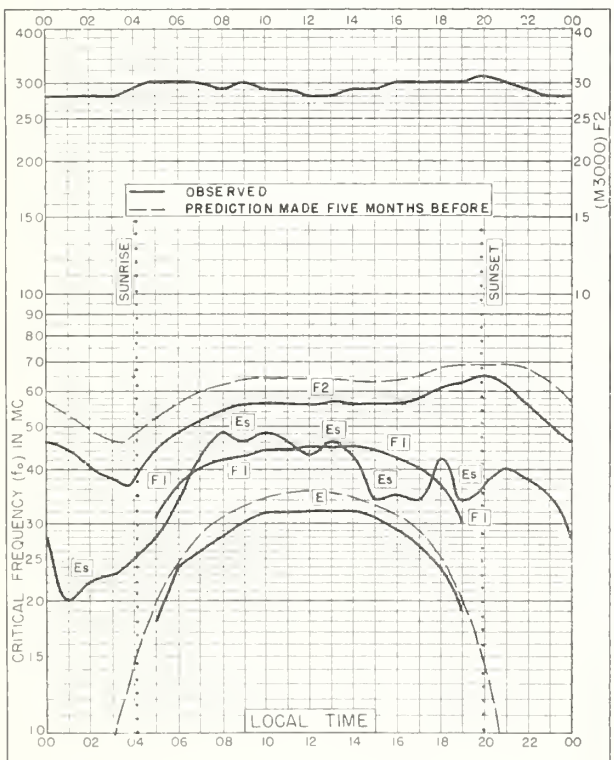

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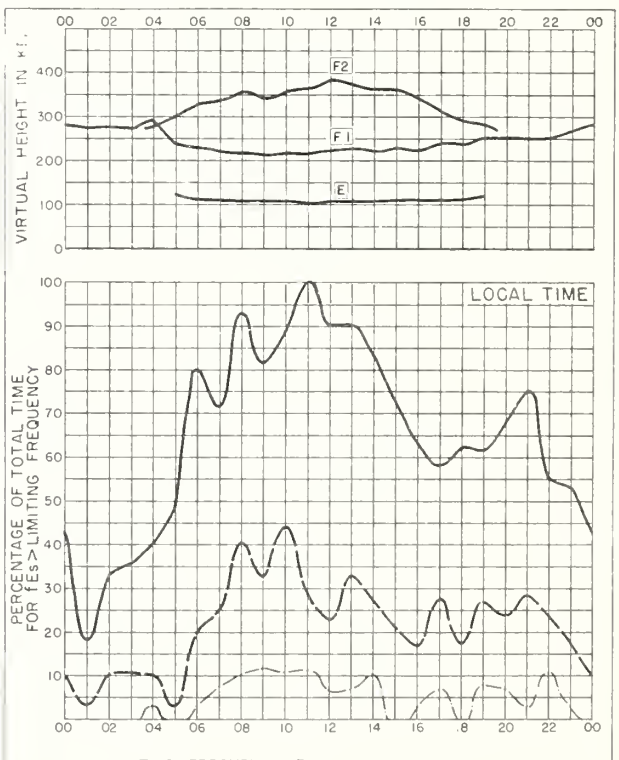

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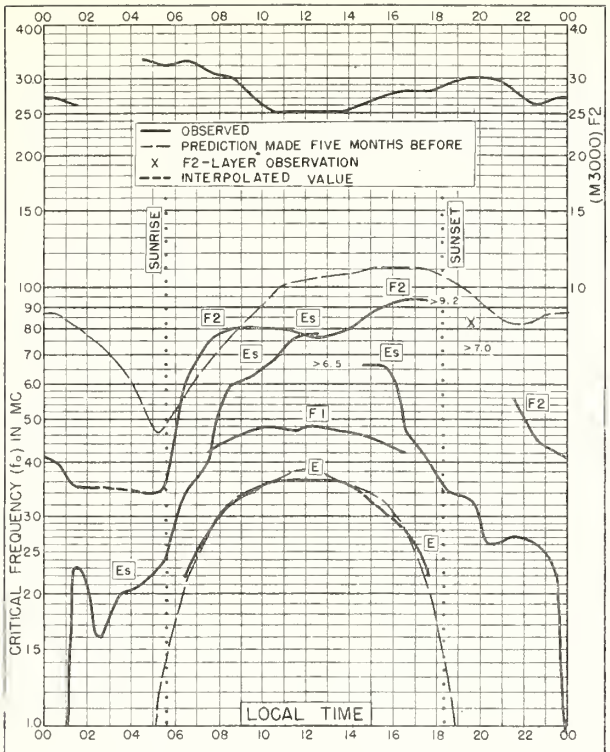

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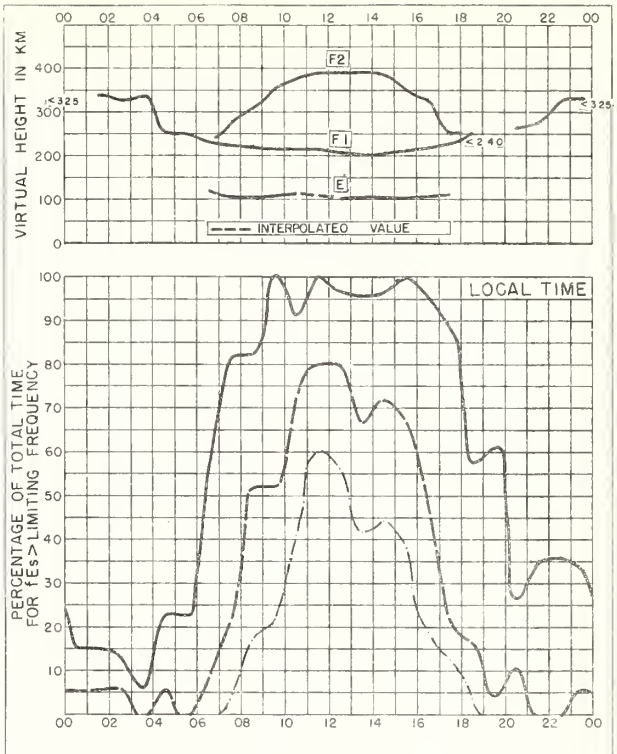

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CRPL and IRPL Reports

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

Daily:

Radio disturbance forecasts, every half hour from broadcast station WWV of the National Bureau of Standards. Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Semiweekly:

CRPL—J. North Atlantic Radio Propagation Forecast (of days most likely to be disturbed during following month).

CRPL—Jp. North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11-499-, monthly supplements to TM 11-499; Dept. of the Navy, DNC 13 ( ) series; Dept. of the Air Force, TO 16-1B-2 series.)

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:

IRPL—C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL—G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions. (G1, G3, available. Others out of print; see second footnote.)

IRPL—R. Nonscheduled reports:

R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.

R5. Criteria for Ionospheric Storminess.

**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.

R9. An Automatic Instantaneous Indicator of Skip Distance and MUF.

R10. A Proposal for the Use of Rockets for the Study of the Ionosphere.

**R11. A Nomographic Method for both Prediction and Observation Correlation of Ionosphere Characteristics.

**R12. Short Time Variations in Ionosphere Characteristics.

R14. A Graphical Method for Calculating Ground Reflection Coefficients.

**R15. Predicted Limits for F2-Layer Radio Transmission Throughout the Solar Cycle.

**R17. Japanese Ionospheric Data—1943.

R18. Comparison of Geomagnetic Records and North Atlantic Radio Propagation Quality Figures—October 1943 Through May 1945.

**R21. Notes on the Preparation of Skip-Distance and MUF Charts for Use by Direction-Finder Stations. (For distances out to 4000 km.)

**R23. Solar-Cycle Data for Correlation with Radio Propagation Phenomena.

**R24. Relations Between Band Width, Pulse Shape and Usefulness of Pulses in the Loran System.

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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.

IRPL—T. Reports on tropospheric propagation:

T1. Radar operation and weather. (Superseded by JANP 101.)

T2. Radar coverage and weather. (Superseded by JANP 102.)

CRPL—T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG—5.)

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**Out of print; information concerning cost of photostat or microfilm copies is available from CRPL upon request.