CRPL-F 107

IONOSPHERIC DATA

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

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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

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

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

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

a. For all ionospheric characteristics:

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

b. For critical frequencies and virtual heights:

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

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

Values missing because of G are counted:

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

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

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

c. For MUF factor (M-factors):

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

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

d. For spóradic 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		46	54	91	115	117	121	79	22
August		49	57	96	111	123	122	77	20
July		51	60	101	108	125	116	73	
June	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 72 and figures 1 to 144 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:

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

University of Graz:
- Graz, Austria

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

British Department of Scientific and Industrial Research, Radio Research Board:
- Falkland Is.
- 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
- Winnipeg, Canada

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

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

National Laboratory of Radio-Electricity (French Ionospheric Bureau):
- Poitiers, France

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
- Lindau/Harz, Germany

The Royal Netherlands Meteorological Institute:
- De Bilt, Holland

Icelandic Post and Telegraph Administration:
- Reykjavik, Iceland

Ministry of Postal Services, Radio Research Laboratories, Tokyo, Japan:
- Akita, Japan
- Tokyo (Kokubunji), Japan
- Wakkanai, Japan
- Yamagawa, Japan

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

Manila Observatory:
- Baguio, P. I.

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa
Nairobi, Kenya (East African Meteorological Department)

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
Point Barrow, Alaska
Puerto Rico, W. I.
San Francisco, California (Stanford University)
Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 73 through 84 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 85 presents ionosphere character figures for Washington, D.C., during June 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.

RADIO PROPAGATION QUALITY FIGURES

Tables 86a and 86b give for May 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 and Q-figures.
(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:— FCC, 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 87 through 89 give the observations of the solar corona during June 1953, obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 90 through 92 list the coronal observations obtained at Sacramento Peak, New Mexico, during June 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 87 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 88 gives similarly the intensities of the first red (6374A) coronal line; and table 89, the intensities of the second red (6702A) coronal line; all observed at Climax in June 1953.

Table 90 gives the intensities of the green (5303A) coronal line; table 91, the intensities of the first red (6374A) coronal line; and table 92, the intensities of the second red (6702A) coronal line; all observed at Sacramento Peak in June 1953.

The following symbols are used in tables 87 through 92: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

Tables 93 and 94 give details of the Climax, Colorado, and Sacramento Peak, New Mexico, observations, respectively, from January 1953 through June 1953. The first column lists the Greenwich date of observation; the following columns give the threshold or lowest observable intensity of 5303A for each spectrum plate centered at the astronomical position angle indicated; the last two columns indicate the observer and the person responsible for the intensity estimates of the observation. These tables continue the presentation of coronal data in the manner of table 1 of CRPL-1-4 and appear in the F series regularly at intervals of six months.

RELATIVE SUNSPOT NUMBERS

Table 95 lists the daily provisional Zürich relative sunspot number, R_Z, as communicated by the Swiss Federal Observatory. Table 96 continues the new series of American relative sunspot numbers, $R_{A'}$. Beginning with 1951, the observations collected by the Solar Division, AAVSO, have been reduced according to a new procedure, such that only high quality observations of experienced observers are combined into $R_{A'}$. Observatory coefficients for each of the 28 selected observers were recomputed on data for 1948-1950, years when there was a wide range of solar activity. Otherwise, the procedure is that outlined in Publication of the Astronomical Society of the Pacific, 61, 13, 1949. The scale of the American numbers in 1951 differs from that of the reports for earlier years because of these changes, and the new series is designated $R_{A'}$ rather than R_A. The American relative sunspot numbers appear monthly in these pages as communicated by the Solar Division.

OBSERVATIONS OF SOLAR FLARES

Table 97 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-UBSIgram 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 98 lists various indices of geomagnetic activity based on data from magnetic observatories widely distributed throughout the world. The indices are: (1) preliminary international character-figures, C; (2) geomagnetic planetary three-hour-range indices, Kp; (3) magnetically selected quiet and disturbed days.

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

Kp is the mean standardized K-index from 11 observatories between geomagnetic latitudes 47 and 63 degrees. The scale is 0 (very quiet) to 9 (extremely disturbed), expressed in thirds of a unit, e.g., 5- is 4 2/3, 5o is 5 0/3, and 5+ is 5 1/3. This planetary index is designed to measure solar particle-radiation by its magnetic effects, specifically to meet the needs of research workers in the ionospheric field. A complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948," published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics. Tables of Kp for 1945-48 are in Bulletin 12b; for 1940-44

and 1949, in these CRPL-F reports, F65-67; for 1950, monthly in F68 and following issues. Current tables are also published quarterly in the Journal of Geophysical Research along with data on sudden commencements (sc) and solar flare effects (sfe).

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

SUDDEN IONOSPHERE DISTURBANCES

Table 99 shows that no sudden ionosphere disturbances were observed during the month of June 1953 at Washington, D. C.

TABLES OF IONOSPHERIC DATA

Table 1

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	3.1					2.7	3.0
01	(280)	2.8					2.8	3.0
02	(270)	2.5					2.8	3.0
03	(270)	2.2					2.6	3.0
04	(270)	2.1					2.4	3.0
05	250	3.0	220	—	120	—	2.7	3.2
06	320	3.7	220	3.3	110	2.1	3.4	3.1
07	390	4.1	220	3.7	110	2.4	3.8	2.9
08	440	4.4	210	3.9	100	2.8	4.4	2.7
09	420	4.6	210	4.0	100	3.0	4.4	2.8
10	400	4.8	200	4.2	100	3.2	4.2	2.9
11	440	4.8	190	4.3	100	3.2	4.6	2.8
12	420	4.8	200	4.3	100	3.2	4.6	2.8
13	460	4.6	200	4.3	100	3.2	4.6	2.7
14	420	4.8	200	4.2	100	3.2	3.8	2.8
15	400	4.8	200	4.1	100	3.2	3.7	2.9
16	350	5.0	220	4.0	110	3.0		3.0
17	320	5.0	220	3.7	110	2.7	4.1	3.0
18	300	5.2	220	3.4	110	2.2	3.5	3.1
19	260	5.4	230	—	110	—	3.8	3.2
20	240	5.2					3.9	3.2
21	240	4.8					2.8	3.1
22	260	3.8					3.2	3.1
23	260	3.5					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) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(310)	4.0					3.6	2.9
01	316	3.6			---	---	3.5	3.0
02	(315)	3.8	260	—	120	—	3.4	(3.0)
03	(335)	3.8	250	—	110	1.5	3.1	3.0
04	(385)	3.6	250	3.3	110	1.8	3.0	2.9
05	(460)	4.0	240	3.3	110	2.0	3.1	2.9
06	(475)	4.1	235	3.4	105	2.2	2.8	2.8
07	390	4.4	230	3.7	110	2.4	3.1	2.8
08	415	4.4	220	3.8	100	2.6	3.2	2.8
09	380	4.7	220	3.9	100	2.6	2.9	2.9
10	375	4.6	220	4.0	105	2.6	3.0	3.0
11	400	4.6	220	4.0	110	---		2.9
12	380	4.4	215	4.0	110	2.8	2.8	2.9
13	380	4.4	215	3.9	115	2.8		3.0
14	400	4.4	215	3.9	110	2.7	3.0	3.0
15	390	4.3	215	3.8	110	2.5	3.1	3.0
16	385	4.2	220	3.7	110	2.4	2.6	3.0
17	355	4.2	240	3.6	110	2.2	3.0	3.0
18	360	4.1	240	3.4	110	2.0	3.1	3.1
19	330	4.0	240	---	110	1.8	3.3	3.1
20	285	4.2	---	---	120	---	3.8	3.1
21	(290)	(4.0)	---	---	110	---	3.5	(3.1)
22	(305)	(4.0)			—	—	3.2	(3.0)
23	(315)	(4.0)			—	—	3.6	3.0

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

Table 3

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	(3.4)					5.6	(3.0)
01	300	3.6					4.8	2.9
02	320	3.6			---	---	4.0	2.9
03	320	3.9			---	---	4.2	2.9
04	340	4.0	240	3.0	---	---	4.0	2.9
05	360	4.0	240	3.3	---	---		2.9
06	380	4.1	230	3.5	---	---		2.9
07	400	4.1	210	3.6	---	---		2.8
08	420	4.1	200	3.7	110	---		2.7
09	450	4.2	200	3.8	---	---		2.7
10	G	< 4.0	200	3.8	---	---		G
11	420	4.3	210	3.8	---	---		2.6
12	420	4.5	210	3.8	---	---		2.9
13	(460)	4.3	220	3.9	---	---		(2.7)
14	450	4.3	220	3.8	---	---		2.7
15	420	4.3	220	3.7	---	---		2.7
16	380	4.4	220	3.8	---	---		3.0
17	340	4.4	< 250	3.6	---	---		3.1
18	320	4.5	230	3.4	---	---		3.0
19	280	4.4	240	---	---	---		3.1
20	260	4.2	---	---	---	---		3.2
21	260	4.4					3.2	3.2
22	250	4.0					4.1	3.1
23	260	3.4					3.8	3.0

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) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.1					2.3	2.8
01	300	2.7					1.9	2.8
02	300	2.5					1.6	2.8
03	305	3.1	260	—	140	1.2	2.1	2.8
04	385	3.4	250	2.9	130	1.6	1.9	2.7
05	430	3.8	240	3.2	110	1.8	2.4	2.7
06	440	3.9	220	3.4	110	2.2		2.7
07	450	4.0	220	3.6	110	2.4		2.7
08	510	4.0	220	3.7	110	2.6		2.6
09	500	4.4	210	3.8	100	2.8		2.6
10	500	4.3	210	3.9	110	2.8		2.4
11	470	4.4	215	4.0	110	2.9		2.6
12	445	4.5	210	4.0	110	2.9		2.7
13	510	4.3	210	4.0	110	2.9		2.6
14	515	4.3	210	3.9	110	2.9		2.6
15	450	4.3	210	3.9	110	2.8		2.7
16	420	4.4	220	3.8	110	2.6		2.8
17	370	4.4	230	3.7	110	2.4		2.9
18	345	4.5	240	3.5	120	2.2		3.0
19	300	4.5	240	3.1	120	1.9		3.1
20	270	4.4	---	---	---	---	2.6	3.1
21	250	4.2	---	---			2.6	3.1
22	260	3.8					2.3	3.0
23	270	3.2					2.4	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) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	(3.4)					4.9	(2.8)
01	340	(3.2)					4.4	(2.8)
02	(320)	(3.4)					4.6	(3.0)
03	—	(3.0)					6.0	(3.0)
04	(290)	(3.4)	—	—	—	—	4.9	(3.2)
05	(300)	< 3.6	—	—	—	—	4.5	(3.2)
06	(370)	(4.0)	230	(3.6)	100	2.2	4.6	3.2
07	360	4.0	220	3.8	100	2.6	3.8	3.1
08	(400)	4.5	210	3.8	100	2.8	2.9	3.0
09	380	4.4	210	4.0	100	2.8		3.0
10	420	(4.6)	210	(4.0)	100	3.0		(2.9)
11	420	4.7	210	4.0	100	3.0		2.9
12	390	(4.7)	200	4.1	100	3.1		2.9
13	400	(4.8)	210	4.1	100	3.0		(2.9)
14	(420)	(4.8)	200	4.0	100	2.9		(2.8)
15	380	(4.8)	220	4.0	100	2.9	3.4	(2.9)
16	400	(4.6)	230	3.9	100	2.7	4.0	(3.0)
17	(380)	(4.5)	(240)	(3.8)	100	2.5	4.3	(3.0)
18	(380)	(4.3)	240	(3.6)	(110)	2.3	4.4	(3.0)
19	(320)	(4.1)	280	(3.3)	—	—	4.8	(3.0)
20	(270)	(3.9)					6.9	(3.1)
21	(260)	(3.9)					4.9	(3.0)
22	300	(3.5)					5.4	(3.0)
23	(300)	(3.5)					5.2	(2.9)

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) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.3						3.0
01	275	2.8			---	---	2.2	2.9
02	260	2.8			---	---	2.7	2.9
03	265	2.8	---	---	120	1.0	1.7	2.9
04	280	3.3	250	---	110	1.4	2.1	3.0
05	(G)	3.5	240	3.0	100	1.7	3.6	(2.9)
06	(440)	3.9	220	3.6	100	2.1	3.8	(2.7)
07	370	4.2	220	3.6	100	2.3	3.8	2.9
08	420	4.4	210	3.8	100	2.5	3.8	2.9
09	410	4.5	200	3.9	100	2.6	4.0	2.9
10	395	4.7	200	4.0	100	2.8	3.9	2.9
11	375	4.8	200	4.1	100	2.8	4.2	3.0
12	385	4.7	200	4.1	100	2.9	4.0	3.0
13	360	4.8	200	4.1	100	2.9	3.8	3.1
14	370	4.8	200	4.1	100	2.9	3.8	3.0
15	375	4.7	200	4.0	100	2.8	3.7	3.0
16	355	4.8	220	3.9	100	2.6	3.9	3.0
17	345	4.8	220	3.7	100	2.4	4.0	3.0
18	310	4.8	240	3.5	106	2.2	2.8	3.1
19	280	4.9	240	---	110	1.8	2.9	3.1
20	260	4.8	250	---	110	1.6	2.0	3.2
21	250	4.4	---	---			1.8	3.1
22	250	4.2	---	---				3.1
23	265	3.8	---	---				3.0

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

Table 7

Uppsala, Swedon (59.8°N, 17.6°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	275	3.0					2.3	3.0
01	275	2.6					2.4	3.0
02	280	2.5					2.8	3.0
03	275	2.8	---	---	---	---	2.8	3.0
04	265	3.3	240	2.9	---	---	3.1	3.0
05	350	3.7	240	3.3	125	1.8	3.2	3.0
06	430	4.0	230	3.5	115	2.2	3.3	2.8
07	425	4.2	225	3.7	110	2.4	3.6	2.9
08	400	4.4	220	3.9	110	2.6	3.6	3.0
09	415	4.6	210	4.0	110	2.7	3.7	2.9
10	380	4.8	210	4.0	105	2.8	3.3	3.0
11	360	4.8	210	4.1	105	2.9	3.6	3.0
12	380	4.8	210	4.2	105	2.9	3.3	3.0
13	370	4.8	210	4.1	105	2.9	3.6	3.1
14	380	4.6	215	4.1	105	2.8	3.3	3.1
15	370	4.7	215	4.0	105	2.6	3.4	3.0
16	360	4.8	220	3.9	110	2.5	3.3	3.1
17	335	4.7	225	3.7	110	2.2	3.4	3.1
18	300	4.8	235	3.3	115	2.0	3.6	3.1
19	265	4.9	245	2.8	125	1.6	3.4	3.2
20	250	4.5	---	---	---	---	2.8	3.2
21	250	4.5			---	---	2.6	3.2
22	255	4.1					2.3	3.1
23	260	3.5					2.2	3.0

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

Table 8

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.7						2.9
01	290	3.4						2.9
02	300	3.1					2.1	2.8
03	300	3.0					2.3	2.9
04	340	3.2	280	2.5	---	E	2.7	2.8
05	420	3.7	260	3.0	130	1.8	3.1	2.7
06	430	4.1	240	3.4	120	2.2	2.9	2.7
07	420	4.4	240	3.6	110	2.5	4.6	2.8
08	420	4.6	230	3.9	110	2.8	5.0	2.7
09	450	4.4	220	4.0	110	3.0	6.4	2.8
10	460	4.5	210	4.1	110	3.0	5.3	2.7
11	430	4.7	220	4.2	110	3.1	7.4	2.9
12	440	4.7	210	4.2	110	3.1	6.4	2.6
13	420	4.8	220	4.1	110	3.0	4.4	2.8
14	440	4.5	230	4.0	110	2.9	4.9	2.7
15	430	4.5	230	4.0	110	2.9	5.8	2.8
16	400	4.4	230	3.9	110	2.7	4.7	2.9
17	360	4.6	240	3.7	110	2.4	4.2	3.0
18	320	4.8	250	3.3	120	2.0	3.9	3.1
19	280	4.9	260	---	130	1.4	3.8	3.1
20	270	5.1					3.6	3.0
21	260	5.3					2.5	3.0
22	260	4.9					2.1	3.0
23	270	4.1					2.4	3.0

Time: 160.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 9

Graz, Austria (47.1°N, 15.5°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.8						
01	290	3.5						
02	290	3.3						
03	300	3.2						
04	300	3.2						
05	280	3.6						
06	280	4.2	220	3.5				
07	280	4.9	210	3.8			3.8	
08	300	5.2	200	4.0			4.4	
09	300	5.1	200	4.2	100	(3.0)	3.8	
10	300	5.5	200	4.2	110	(3.2)	3.7	
11	300	5.4	190	4.3	100	3.2	3.8	
12	300	5.2	200	4.3	100	3.4	3.6	
13	310	5.2	200	4.3	---	3.4	3.6	
14	300	5.2	200	4.2	100	3.3	3.7	
15	300	5.2	200	4.2	100	3.1	3.7	
16	300	5.2	200	4.0	---	(2.9)	4.2	
17	280	5.3	200	3.8			4.0	
18	270	5.6	225	3.5			3.6	
19	240	6.0					3.0	
20	230	6.1						
21	240	5.1						
22	250	4.8						
23	260	4.1						

Time: 15.0°E.
Sweep: 2.5 Mc to 12.0 Mc in 2 minutes.

Table 10

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	(3.1)					2.7	(3.0)
01	(280)	(3.0)					3.8	(3.0)
02	280	(2.9)					2.7	(3.0)
03	(270)	(2.8)					3.2	(3.1)
04	(260)	(2.7)					2.5	(3.2)
05	260	3.0					2.4	(3.2)
06	340	(3.6)	220	(3.1)	110	1.9	4.0	3.2
07	350	(4.2)	210	3.4	100	(2.4)	4.0	3.2
08	360	4.5	200	3.7	100	(2.6)	4.7	3.0
09	410	4.8	200	(4.0)	100	(2.8)	4.5	2.9
10	390	5.0	190	4.0	110	(3.0)	4.6	2.9
11	370	5.0	190	(4.1)	110	(3.1)	4.5	2.9
12	400	4.9	190	4.1	100	3.3	4.3	2.9
13	380	5.0	200	4.2	100	---	4.3	2.9
14	360	5.3	200	(4.1)	100	(3.0)	4.4	3.0
15	340	5.3	210	4.0	100	(3.0)	4.0	3.1
16	330	5.0	220	(3.9)	100	(2.8)	4.1	3.1
17	300	5.0	220	(3.6)	100	2.5	4.0	3.2
18	280	5.1	220	(3.3)	110	2.0	3.7	3.3
19	240	5.2	240	---			3.8	3.3
20	220	5.1					3.0	3.3
21	(230)	(4.4)					3.7	(3.2)
22	(250)	(3.7)					3.0	(3.1)
23	(270)	(3.3)					3.1	(3.0)

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

Table 11

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.1					2.4	2.9
01	290	3.0						3.0
02	280	3.0					2.4	3.0
03	270	2.9						3.0
04	270	2.8						3.0
05	270	3.0					2.3	3.1
06	300	< 4.2	220	---	110	1.9	3.6	3.2
07	340	4.7	220	3.6	100	2.4	3.9	3.1
08	340	5.4	210	3.9	100	2.8	4.1	3.1
09	320	5.5	200	4.1	100	3.0	4.2	3.0
10	360	5.5	200	4.3	100	3.1	4.5	2.9
11	340	5.8	200	4.3	100	3.1	5.0	2.9
12	360	5.9	200	4.3	100	3.2	4.5	2.9
13	360	5.8	210	4.3	100	3.2	4.5	2.8
14	330	5.8	210	4.2	100	3.1	3.2	3.0
15	320	6.0	210	4.1	110	3.0		3.0
16	300	6.0	220	4.0	110	2.8	4.0	3.1
17	280	5.9	220	3.7	110	2.4	4.0	3.2
18	260	5.0	230	---	110	1.9	3.6	3.2
19	230	5.8					3.2	3.3
20	220	5.6					3.0	3.3
21	230	4.2					3.3	3.2
22	260	3.4					2.7	3.0
23	290	3.2					2.9	2.9

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 12

Okinawa I. (26.3°N, 127.8°E) May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.2					5.2	3.0
01	270	5.1					5.0	3.1
02	240	4.4					4.2	3.3
03	250	3.6					3.8	3.2
04	250	3.3					3.1	3.2
05	250	3.3					2.8	3.2
06	240	4.9	---	---	110	---	3.9	3.5
07	250	5.2	230	---	110	(2.4)	5.1	3.5
08	280	5.5	220	---	110	2.7	6.0	3.3
09	< 320	5.8	220	---	110	3.0	6.6	3.1
10	360	6.0	220	4.3	110	3.1	6.9	2.9
11	370	7.0	230	4.4	110	3.2	7.0	2.8
12	350	8.2	220	4.4	110	3.2	5.6	2.9
13	330	9.8	220	4.4	110	3.2	5.8	3.0
14	310	10.5	220	4.4	110	3.2	5.2	3.0
15	300	10.5	230	4.2	110	3.1	5.0	3.1
16	290	10.6	230	4.0	110	2.8	4.9	3.2
17	260	10.5	230	---	110	2.4	4.8	3.2
18	250	8.6	---	---	---	---	4.8	3.3
19	250	7.2					4.0	3.2
20	270	6.1					5.4	3.0
21	280	5.4					3.7	2.9
22	310	5.3					4.2	2.8
23	300	5.6					4.7	2.9

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

Table 13

Maui, Hawaii (20.8°N, 156.5°W) — May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.2					2.9	2.9
01	270	5.1					3.0	3.1
02	260	4.4					3.0	3.1
03	260	3.7					2.5	3.1
04	270	3.4					2.9	3.0
05	270	3.1					3.0	3.1
06	260	3.9	250	---	140	(1.4)	2.4	3.2
07	(310)	4.7	230	(3.7)	120	(2.2)	4.9	3.0
08	390	5.4	220	4.1	110	2.7	5.2	2.7
09	420	6.0	210	4.3	110	3.0	5.0	2.6
10	420	7.4	220	4.3	110	3.2	8.4	2.6
11	390	8.4	230	4.4	110	3.3	5.5	2.7
12	370	9.1	230	4.4	110	3.4	5.7	2.8
13	340	9.9	220	4.4	110	3.4	5.0	2.9
14	310	10.3	220	4.3	110	3.3	4.3	3.0
15	310	10.0	220	4.2	110	3.1	4.5	3.0
16	310	9.7	220	4.1	110	2.9	3.7	3.0
17	290	10.0	240	3.9	110	2.5	3.9	3.1
18	270	9.4	240	---	120	2.0	3.7	3.1
19	240	8.8	---	---			3.7	3.2
20	240	7.1					4.0	3.1
21	260	6.1					3.7	3.0
22	280	5.4					2.8	2.9
23	290	5.4					2.8	2.8

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

Table 14

Puerto Rico, W.I. (18.5°N, 67.2°W) — May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	4.5					2.8	3.1
01	250	4.8					2.4	3.1
02	240	4.3					2.9	3.3
03	240	3.7					3.2	3.4
04	240	3.4					2.5	3.4
05	240	2.8					2.6	3.4
06	230	3.5	---	---	100	---	3.0	3.5
07	250	4.7	200	---	100	2.1	3.4	3.6
08	280	5.1	200	3.9	90	2.6	4.4	3.3
09	310	5.4	200	4.2	90	3.0	4.6	3.2
10	360	5.7	200	4.3	90	3.2		3.0
11	360	6.5	210	4.4	100	3.4	4.7	2.9
12	340	7.6	200	4.4	100	3.4	4.4	3.0
13	310	8.5	200	4.4	100	3.4		3.0
14	300	8.8	210	4.4	100	3.4	4.6	3.1
15	280	9.4	210	4.3	100	3.2	4.7	3.2
16	280	9.1	210	4.1	100	3.0	4.5	3.2
17	250	8.6	210	3.8	100	2.6	4.6	3.3
18	230	8.4	210	---	100	---	3.8	3.4
19	210	7.4					3.3	3.4
20	230	5.8					3.1	3.2
21	250	5.3					3.2	3.1
22	260	4.5					3.1	3.1
23	280	4.4					2.9	3.1

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

Table 15

Guam I. (13.6°N, 144.9°E) — May 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	4.5					2.3	2.8
01	300	4.2					2.6	3.0
02	290	4.0					2.4	3.0
03	280	3.6						3.1
04	250	3.4						3.4
05	240	3.3						3.8
06	240	3.7			---	---	2.2	3.4
07	230	5.2	---	---	120	2.2	3.0	3.5
08	280	5.8	230	---	110	2.7	3.8	3.3
09	320	5.2	220	4.2	110	3.0	7.1	3.1
10	350	6.6	220	4.3	110	3.2	7.2	2.8
11	390	7.1	200	4.3	110	3.3	7.2	2.8
12	390	7.5	200	4.3	110	3.4	6.4	2.5
13	390	7.8	200	4.3	110	3.3	8.5	2.5
14	380	8.3	200	4.2	110	(3.2)	6.6	2.5
15	360	8.2	210	4.2	110	3.1	8.8	2.6
16	340	8.2	210	4.0	110	2.9	8.8	2.7
17	310	8.7	220	---	110	2.4	6.2	2.8
18	250	9.2	240	---	---	---	3.7	3.0
19	260	9.3					3.7	3.1
20	250	7.5					2.7	3.1
21	280	6.0					1.9	2.9
22	300	5.3						2.8
23	330	4.8					2.7	2.8

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

Table 16

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	5.0						2.9
01	270	4.6						2.9
02	280	4.1					2.0	2.9
03	270	4.0					1.8	2.9
04	260	3.7					1.7	3.0
05	250	3.0					2.8	3.1
06	260	3.3					3.0	3.1
07	270	4.7	230	---	120	2.2	3.8	3.2
08	340	5.0	230	4.1	110	2.7	4.6	3.0
09	410	5.5	220	4.2	110	(3.0)	4.2	2.8
10	420	6.7	220	4.3	110	3.2	4.3	2.5
11	430	7.6	220	4.3	110	3.4	4.4	2.6
12	390	8.9	220	4.4	110	3.4	4.3	2.6
13	370	9.8	220	4.3	110	3.4	4.4	2.7
14	350	10.6	220	4.3	110	3.3	4.6	2.8
15	330	10.8	230	4.2	110	3.1	4.6	2.8
16	310	10.8	230	4.1	110	2.8	4.6	2.9
17	290	10.3	230	3.8	120	(2.5)	4.3	3.0
18	260	9.4	250	---			3.9	3.0
19	240	8.0					3.4	3.0
20	260	6.6					2.8	2.8
21	280	5.9					2.4	2.8
22	280	5.5					2.2	2.8
23	280	5.1						2.8

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) — April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(300)	(3.2)					4.1	(3.0)
01	(320)	(3.1)					3.2	(2.8)
02	315	3.2					2.2	2.8
03	(300)	3.1						2.8
04	(280)	(3.2)	---	---	---	---		(2.9)
05	260	3.8	---	---	115	2.1		3.0
06	290	3.9	230	3.4	115	2.2		3.1
07	400	4.0	220	3.4	110	2.4		2.8
08	430	4.1	220	3.6	110	2.7		2.8
09	390	4.2	210	3.8	110	2.9		2.9
10	400	4.3	210	3.9	110	3.0		2.8
11	360	4.5	220	3.9	110	3.0		G
12	360	4.5	215	4.0	110	3.0		2.9
13	360	4.6	215	3.9	110	2.9		3.0
14	330	4.7	215	3.9	110	2.8		3.0
15	315	4.7	220	3.8	110	2.6		3.1
16	310	4.2	240	3.6	110	2.5		3.2
17	290	4.2	235	3.4	110	2.2		3.2
18	270	4.0	240	3.1	---	2.1		3.1
19	260	4.0	---	---	---	---	2.2	3.1
20	265	3.6					3.2	3.1
21	305	3.3					3.2	3.0
22	(300)	(3.6)					3.2	(3.0)
23	(300)	(3.4)					3.7	(3.0)

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

Table 18

Reykjavik, Iceland (64.1°N, 21.8°W) — April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	(3.0)					4.8	---
01	---	---					5.1	---
02	---	---					4.6	---
03	(340)	(2.3)					4.6	(2.9)
04	(300)	(2.6)					4.0	(3.0)
05	(270)	< 2.7	---	---	---	---		3.3
06	(280)	3.2	220	3.1	---	---		3.3
07	(280)	3.8	210	3.3	(100)	---		3.2
08	(360)	4.0	210	3.4	100	---		3.0
09	390	4.1	200	3.7	100	2.5		2.9
10	410	4.4	200	3.8	100	2.7		2.8
11	370	4.5	200	3.8	100	2.8		3.0
12	370	4.6	200	3.8	100	2.8		3.0
13	390	4.6	200	3.9	90	(2.8)		2.8
14	370	4.6	200	3.8	100	2.8		2.9
15	340	4.8	200	3.8	100	2.6		3.0
16	340	4.5	210	3.7	100	2.6		3.0
17	320	4.2	220	3.4	100	2.2	3.2	3.1
18	290	4.0	220	---	100	2.2	3.8	3.2
19	280	3.8	230	---	---	---	4.2	3.2
20	300	3.7			---	---	4.2	3.1
21	(300)	(3.4)					5.8	(3.2)
22	(340)	(3.2)					5.2	(3.1)
23	---	(2.9)					5.2	(3.0)

Time: 15.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 19

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(340)	(2.9)					4.9	(2.7)
01	(320)	(2.8)					4.3	(2.7)
02	—	(3.3)					5.0	—
03	—	(3.1)					5.2	—
04	—	—					5.2	—
05	(290)	(3.1)	—	—			5.0	(3.1)
06	(280)	3.6	—	—	—	—	4.7	3.1
07	(280)	4.0	250	—	100	3.4	4.1	3.1
08	(340)	(4.2)	220	3.6	100	2.6		(3.0)
09	(390)	(4.3)	220	3.9	100	2.8		(2.9)
10	420	(4.6)	210	3.9	100	2.8		(2.8)
11	(460)	4.6	210	(3.9)	100	2.9		2.7
12	420	4.7	210	4.0	100	2.9		2.8
13	400	4.7	220	4.0	100	2.9		2.9
14	400	4.7	220	3.9	100	2.8		2.9
15	400	(4.5)	220	3.8	100	2.7		(2.9)
16	390	(4.4)	230	3.7	100	2.6	3.6	(2.9)
17	380	4.4	260	3.5	100	2.3	4.3	2.9
18	320	(4.0)	—	—	—	—	4.6	3.0
19	300	(4.0)			—	—	5.6	(3.0)
20	280	(3.7)					6.4	(3.0)
21	(290)	(3.5)					5.2	(2.9)
22	(290)	(3.2)					6.8	(2.8)
23	(300)	(3.1)					5.2	(2.8)

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

Table 20

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.0			—	—	6.2	—
01	300	2.9			110	2.2	5.9	—
02	310	2.9			110	(2.6)	4.2	(2.9)
03	300	2.7			130	2.0	5.2	—
04	300	2.6			120	2.0	3.8	(3.0)
05	300	3.2			110	2.5	3.8	(3.1)
06	290	3.5	—	—	120	2.6	4.1	(3.2)
07	340	<3.8	240	3.8	100	3.1		(2.7)
08	(560)	3.8	250	3.7	110	3.3	5.5	0
09	640	4.0	240	3.9	110	3.1	5.4	2.3
10	510	4.0	220	3.8	110	3.0	3.8	2.6
11	580	<4.0	220	3.9	110	3.0		0
12	520	4.2	230	3.9	110	3.0		2.6
13	450	4.5	230	3.9	110	3.1		2.7
14	440	4.5	230	3.9	110	3.0		2.7
15	410	4.6	230	3.8	110	2.9		2.8
16	380	4.6	240	3.8	110	2.8		2.8
17	360	4.4	250	3.5	110	2.6		3.0
18	310	4.4	250	3.1	110	2.7		3.0
19	310	4.0	—	—	110	3.0		3.0
20	300	3.8			110	2.9	6.5	(3.0)
21	290	3.5			120	2.5	7.8	(3.0)
22	290	3.2			120	2.8	8.7	—
23	300	3.2			130	1.7	9.2	—

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 21

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	1.9						—
01	300	1.8					1.4	—
02	320	1.7					1.0	—
03	310	1.9					2.2	—
04	320	1.8					3.1	—
05	300	2.0			—	—	3.1	(3.1)
06	270	2.8	—	—	110	1.8	2.8	3.2
07	250	3.1	220	3.2	110	2.0		3.2
08	560	<3.6	220	3.4	110	2.4		0
09	0	<3.7	210	3.7	110	2.6		0
10	0	<3.8	200	3.8	110	2.8		0
11	0	<4.0	200	3.9	100	2.9		0
12	490	4.4	200	4.0	100	3.0		2.4
13	500	4.4	200	4.0	100	3.0		2.7
14	440	4.5	210	4.0	110	3.0		2.8
15	440	4.4	220	4.0	110	2.9		0
16	390	4.4	220	3.8	110	2.7		2.9
17	320	4.4	220	3.7	110	2.5		3.1
18	280	4.3	240	—	110	2.2		3.2
19	260	4.1	—	—	140	1.9		3.2
20	260	3.6			130	1.4		3.2
21	260	3.1			—	—	1.4	3.1
22	260	2.7			—	—	1.8	(3.1)
23	270	2.0					2.1	(3.0)

Time: 120.0°W.
Sweep: (Day) 1.0 Mc to 10.0 Mc in 15 seconds.
(Night) 0.5 Mc to 4.0 Mc in 15 seconds.

Table 22

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.0						3.0
01	290	3.0						3.0
02	290	2.8						3.0
03	280	2.6						3.0
04	270	2.5					2.1	3.1
05	245	3.0	—	—	—	E		3.3
06	230	4.0	210	—	110	2.0		3.4
07	300	4.3	205	3.6	105	2.3		3.2
08	300	4.7	200	3.9	100	2.6		3.2
09	330	4.8	200	4.0	100	2.9		3.1
10	340	5.2	200	4.2	100	3.0		3.0
11	300	5.4	200	4.2	100	3.0	3.9	3.2
12	300	5.5	200	4.3	100	3.1	3.6	3.3
13	310	5.6	200	4.3	100	3.0	3.5	3.2
14	300	5.6	205	4.2	100	3.0	3.5	3.2
15	300	5.3	210	4.0	100	2.8		3.2
16	290	5.4	210	3.8	105	2.5		3.2
17	270	5.4	220	3.4	110	2.1	2.4	3.3
18	240	5.4	225	—	—	E		3.3
19	230	5.5						3.2
20	220	5.0						3.2
21	230	4.2						3.2
22	270	3.4						3.1
23	280	3.3						3.0

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

Table 23

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	2.6						—
01	360	2.5					2.8	—
02	330	2.6					3.0	—
03	340	2.3					2.9	—
04	320	2.3					2.8	—
05	320	2.5			—	—	2.2	—
06	270	2.9	—	—	130	1.9		3.1
07	250	3.3	230	3.1	120	2.2		(3.0)
08	0	<3.7	220	3.5	120	2.5		0
09	0	<3.8	210	3.8	110	2.8		0
10	0	<4.1	200	3.9	110	3.0		0
11	500	4.2	200	4.0	110	3.0		0
12	510	4.2	200	4.0	110	3.0		0
13	500	4.4	210	4.0	110	3.1		(2.7)
14	490	4.5	220	4.0	110	3.0		0
15	430	4.4	220	3.9	110	2.9		2.8
16	410	4.4	230	3.8	110	2.8		2.8
17	360	4.4	230	3.7	120	2.4		3.0
18	300	4.4	240	3.2	120	2.2		2.9
19	260	4.1	—	—	130	1.8		3.0
20	260	3.9						3.0
21	270	3.2						(3.0)
22	290	3.0						—
23	330	2.7						—

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

Table 24

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.2						3.1
01	300	3.3						3.1
02	300	3.2						3.1
03	300	3.0						3.2
04	280	3.0						3.2
05	250	2.7						3.4
06	220	3.2			—	—		3.7
07	200	3.8	—	—	100	2.0		3.7
08	230	4.4	200	3.6	100	2.4		3.6
09	300	4.9	200	3.9	100	2.7		3.5
10	300	5.0	200	4.0	100	2.8		3.4
11	300	5.4	200	4.1	100	3.0		3.4
12	310	5.5	200	4.2	100	3.0		3.3
13	300	5.5	200	4.2	100	3.0		3.4
14	300	5.6	200	4.1	100	3.0		3.4
15	300	5.8	200	4.0	100	3.0		3.5
16	300	5.8	200	4.0	100	2.8		3.5
17	250	5.6	200	3.7	100	2.5		3.5
18	210	5.5	—	—	100	2.0		3.5
19	220	5.5						3.5
20	210	5.5						3.5
21	220	5.0						3.5
22	215	4.2						3.5
23	260	3.5						3.2

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

Table 25

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	2.2						3.0
01	340	2.2						(3.0)
02	(360)	2.2					2.3	(3.0)
03	---	(2.0)					2.0	---
04	---	(2.0)						---
05	280	2.1						3.2
06	280	3.0	230	3.2	120	1.9		3.2
07	---	<3.6	220	3.4	110	2.3		C
08	---	<3.8	210	3.7	110	2.7		C
09	---	<3.9	220	3.9	110	2.8		C
10	---	4.2	210	3.9	110	3.0		C
11	480	4.3	200	4.0	110	3.1		2.6
12	420	4.5	200	4.1	110	3.2		2.8
13	420	4.6	220	4.0	110	3.1		3.0
14	400	4.8	220	4.0	110	3.0		3.0
15	360	4.9	220	3.9	110	2.9		3.0
16	330	4.8	220	3.8	110	2.8		3.1
17	310	4.8	230	3.6	110	2.4		3.2
18	280	4.9	240	-	120	2.0		3.2
19	260	4.8						3.1
20	250	4.4						3.1
21	260	3.8						3.1
22	270	2.7						3.1
23	300	2.4						3.1

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

Table 26

Baton Rouge, Louisiana (30.6°N, 91.2°W) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.4						3.0
01	280	3.2						3.0
02	270	3.2						3.1
03	270	3.2						3.1
04	270	3.0						3.1
05	280	3.0						3.1
06	250	4.0	---	---	---	---		3.3
07	280	5.0	230	3.6	120	2.1	3.2	3.3
08	280	5.4	220	3.8	110	2.6	5.2	3.4
09	320	5.2	210	4.1	110	2.9	5.4	3.2
10	350	5.3	200	4.2	110	3.0	5.7	3.0
11	350	5.6	200	4.3	110	3.1	4.0	3.0
12	340	6.1	200	4.4	110	3.2		3.0
13	330	6.4	220	4.4	110	3.2	3.7	3.1
14	320	6.4	220	4.2	110	3.2	3.9	3.1
15	310	6.6	230	4.2	110	3.0	4.1	3.1
16	290	6.2	230	4.0	110	2.8	3.9	3.2
17	280	6.1	230	---	120	2.3	3.9	3.3
18	250	6.1					3.4	3.4
19	230	6.0					2.4	3.4
20	230	4.8						3.3
21	260	3.8						3.1
22	280	3.6						3.0
23	290	3.4						3.0

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

Table 27

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.0					3.0	2.8
01	270	5.0					3.4	3.1
02	240	4.4					3.2	3.2
03	245	3.7					2.9	3.4
04	275	2.9					3.0	2.9
05	260	2.6					2.4	3.0
06	240	4.8			(100)	---	2.7	3.4
07	240	6.2	---	---	(100)	---	3.6	3.6
08	260	7.0	230	4.1	(100)	---	4.1	3.3
09	280	7.2	230	4.4	(100)	3.2	4.2	3.1
10	310	8.6	210	4.8	(110)	---	4.8	3.1
11	320	9.4	200	(4.6)	(110)	---	4.6	3.0
12	320	10.8	200	4.6	(110)	---	4.6	3.1
13	305	13.0	220	4.6	(110)	---	4.5	3.2
14	310	12.6	220	4.6	(110)	---	4.8	3.2
15	280	12.8	220	4.3	(110)	---	4.2	3.3
16	270	12.2	210	4.0	(100)	---	4.1	3.3
17	240	11.2	230	3.8	(100)	---	3.7	3.6
18	220	8.9			(100)	---	3.3	3.4
19	220	7.4					3.2	3.4
20	230	5.9					3.2	3.1
21	280	4.9					2.4	2.9
22	315	4.8					3.0	2.7
23	320	5.1					3.1	2.8

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

Table 28

Baguio, P.I. (16.4°N, 120.6°E) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	7.1						3.0
01	230	7.6					2.2	3.4
02	210	6.3					2.5	3.5
03	220	4.3						3.3
04	240	3.3					2.4	3.2
05	250	3.1					2.5	3.3
06	240	4.7			---	---	3.8	3.3
07	230	6.4			100	2.2	5.0	3.4
08	(270)	7.3	---	---	100	2.8	6.5	3.1
09	(310)	8.2	220	---	100	(3.0)	5.6	2.8
10	330	9.0	200	4.4	100	3.2	6.2	2.5
11	340	9.6	200	4.5	100	(3.3)	8.2	2.4
12	340	9.6	190	4.4	100	(3.5)	6.2	2.5
13	330	10.2	190	4.4	100	3.4	5.9	2.8
14	320	10.4	190	4.4	100	3.2	6.6	2.7
15	300	10.8	200	(4.2)	100	3.0	5.3	2.9
16	280	11.3	220	---	100	2.7	4.8	3.1
17	230	11.3	---	---	100	2.2	4.1	3.2
18	230	10.6					3.8	3.2
19	230	9.2					3.2	3.1
20	250	9.0					2.5	3.0
21	260	8.3					2.4	3.0
22	270	7.6						3.0
23	300	7.0						2.9

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

Table 29

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	5.6						2.9
01	250	5.5						3.1
02	240	4.3					2.1	3.1
03	260	3.3					1.8	2.9
04	260	3.1						2.9
05	260	2.9						3.0
06	270	3.0					1.7	3.0
07	250	4.9	230	---	120	2.0	2.8	3.2
08	300	5.7	240	(4.2)	110	2.7	3.5	3.0
09	350	6.5	220	4.5	110	3.0	3.8	2.7
10	360	7.9	240	4.6	110	3.3	4.2	2.7
11	370	9.1	230	4.6	110	3.5	4.2	2.7
12	360	10.0	230	4.6	110	3.5	4.1	2.7
13	340	10.9	220	4.6	110	3.5	4.8	2.8
14	320	11.3	220	4.5	110	3.4	4.7	2.9
15	300	11.5	230	4.4	110	3.2	4.7	3.0
16	280	11.2	230	4.3	110	3.0	4.4	3.0
17	270	10.9	240	(4.0)	120	2.5	4.0	3.0
18	250	9.7	---	---	---	---	3.5	3.2
19	240	7.8					3.4	2.9
20	260	7.1					2.4	2.8
21	270	6.7						2.8
22	270	6.5						2.9
23	270	5.6						2.8

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

Table 30

Leopoldville, Belgian Congo (4.3°S, 15.3°E) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	5.4						2.6
01	230	4.1						2.4
02	235	3.4					2.2	2.4
03	225	2.6					2.1	2.6
04	(240)	2.1					2.9	2.6
05	240	3.5					2.6	2.5
06	240	5.7	230	---	125	2.3	3.4	2.6
07	275	6.5	230	---	120	2.8	3.7	2.4
08	300	7.4	220	4.3	120	3.2	4.0	2.3
09	315	8.2	210	4.5	115	3.4	3.7	2.1
10	350	9.2	200	4.6	115	3.5		2.0
11	340	10.3	200	4.6	115	3.6		2.1
12	310	11.4	200	4.4	115	3.5	4.0	2.2
13	300	11.8	220	4.5	115	3.3	4.0	2.2
14	300	11.9	220	4.3	120	3.1	4.0	2.2
15	290	11.9	235	---	120	2.7	3.8	2.2
16	265	11.8	245	---	120	2.3	3.4	2.3
17	235	11.6					2.8	2.4
18	220	11.2					2.6	<2.5
19	210	10.2					2.2	2.6
20	205	7.7						2.5
21	220	6.2					1.8	2.2
22	225	5.6					2.0	2.2
23	240	5.2						2.4

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

Table 31

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	5.8						3.3
01	230	6.6					3.6	3.2
02	230	5.7						3.3
03	240	4.8						3.3
04	250	4.2						3.3
05	270	3.5						3.2
06	270	3.4			---	E	4.8	3.0
07	240	6.5	240	---	120	2.1	5.5	3.3
08	280	8.1	220	---	110	2.5	11.1	3.1
09	300	8.6	210	4.3	110	---	11.5	2.8
10	320	8.2	200	4.4	110	---	12.0	2.5
11	340	7.4	200	4.5	100	---	12.3	2.6
12	350	7.6	200	4.5	100	---	12.3	2.5
13	330	8.0	200	4.4	110	---	12.0	2.6
14	320	8.4	200	4.3	100	---	11.7	2.7
15	(300)	8.5	200	---	100	---	11.2	2.7
16	(270)	9.0	200	---	110	---	10.2	2.7
17	240	8.5	240	---	110	2.4	6.4	2.6
18	270	8.5			110	---		2.5
19	300	7.8						2.7
20	270	7.5						2.7
21	240	8.2					4.1	3.0
22	230	8.0					4.5	3.2
23	230	7.0					4.4	3.2

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

Table 32

Johannesburg, Union of S. Africa (26.2°S, 28.1°E) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.2					2.4	3.0
01	260	3.1					2.4	3.0
02	260	3.1					2.6	3.0
03	260	3.2					2.1	3.2
04	260	3.1					1.9	3.2
05	260	2.8					1.8	3.2
06	260	3.0						3.2
07	260	5.4	---	---	130	2.0		3.5
08	260	6.5	220	3.7	110	2.6		3.5
09	250	6.8	220	4.1	110	2.9	3.3	3.4
10	260	7.5	210	4.4	110	3.1	3.7	3.3
11	270	8.0	210	4.5	110	3.2	3.7	3.2
12	280	7.6	200	4.5	110	3.3	3.6	3.1
13	280	8.1	200	4.5	110	3.3	3.5	3.1
14	270	8.4	220	4.4	110	3.2	3.8	3.2
15	260	8.3	220	4.1	110	3.0	3.7	3.2
16	250	8.0	220	3.6	110	2.7	3.4	3.3
17	230	7.1	230	---	120	2.0	2.8	3.4
18	230	6.1			---	---	2.4	3.4
19	230	4.6					2.0	3.3
20	230	3.6					1.7	3.2
21	240	3.5						3.2
22	220	3.4						3.2
23	240	3.2					1.9	3.1

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

Table 33

Capetown, Union of S. Africa (34.2°S, 18.3°E) April 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.0					2.1	3.1
01	260	3.0					1.8	3.0
02	270	3.1					1.9	3.0
03	260	3.2						3.0
04	250	3.2						3.2
05	240	3.1						3.1
06	250	3.0						3.2
07	230	3.6						3.3
08	220	5.6	220	---	120	2.0		3.5
09	240	6.3	220	3.6	110	2.6		3.5
10	260	6.9	220	4.0	110	2.9	3.4	3.3
11	270	7.1	210	4.3	110	3.1	3.8	3.2
12	280	7.8	210	4.3	110	3.2	3.7	3.1
13	280	8.6	200	4.4	110	3.2	3.8	3.1
14	270	8.9	210	4.3	110	3.2	3.5	3.1
15	270	8.8	230	4.1	110	3.0	3.5	3.2
16	250	8.5	230	3.8	110	2.8	3.3	3.3
17	240	7.9	230	3.2	120	2.3	3.1	3.4
18	220	6.7			110	1.9	2.5	3.4
19	210	5.0					1.5	3.4
20	230	3.3					1.9	3.3
21	240	3.3					1.8	3.2
22	240	3.0					2.1	3.3
23	250	3.0					1.8	3.2

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

Table 34

Point Barrow, Alaska (71.3°N, 156.8°W) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	(3.2)					7.0	(3.0)
01	(280)	---					7.5	---
02	300	(2.8)					4.5	(3.2)
03	(320)	(2.1)					4.5	---
04	(300)	---					4.1	---
05	(330)	---					4.6	---
06	350	(3.1)					4.2	(2.8)
07	---	---	---	---			4.6	---
08	(280)	(3.0)	---	---	---	---	4.9	(2.9)
09	(290)	3.4	---	---	---	---	4.8	3.1
10	(310)	3.5	---	---	---	---	4.0	3.1
11	300	3.7	210	---	120	2.0	3.2	3.1
12	(300)	3.9	220	---	120	---	3.2	(3.2)
13	300	3.8	240	---	120	---	2.9	3.1
14	310	3.8	250	3.4	120	2.1		3.1
15	280	4.0	240	---	120	---		3.1
16	300	3.9	240	---	120	---		3.0
17	270	4.0	270	---	---	---	2.2	3.2
18	270	3.4	---	---	---	---	3.2	3.2
19	290	3.2			---	---	3.9	3.2
20	(270)	---					4.5	---
21	(320)	---					4.9	---
22	---	---					5.0	---
23	---	---					6.2	---

Time: 160.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 35

Baker Lake, Canada (64.3°N, 95.0°W) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	2.4			---	---	8.0	3.0
01	260	2.2			---	---	5.0	3.0
02	260	1.9			---	---	4.4	2.9
03	260	1.9			---	---	4.0	2.9
04	270	1.9			---	---	4.0	3.0
05	280	2.1			---	E	5.2	2.9
06	260	2.4	---	---	110	1.7	4.0	3.0
07	260	2.9	---	---	110	1.9	5.0	3.0
08	280	3.2	---	---	110	2.4	5.3	3.0
09	280	3.5	210	3.0	110	2.5	5.0	3.0
10	300	3.8	250	3.3	110	2.8	3.8	3.0
11	280	4.0	220	3.6	100	2.9	4.1	3.0
12	330	4.0	240	3.5	100	2.8	4.0	2.9
13	370	3.8	220	3.5	110	2.7	3.1	2.8
14	370	4.2	220	3.5	100	2.5		2.9
15	310	4.3	220	3.4	110	2.5	3.1	2.9
16	300	4.0	250	3.2	110	2.5	4.2	2.9
17	280	4.0	260	---	120	2.4	5.5	3.0
18	250	3.7	---	---	120	1.9	4.3	3.0
19	260	3.2			110	1.8	4.0	2.9
20	280	2.8			---	E	5.9	2.9
21	260	2.8			---	E	5.0	2.9
22	260	2.9			---	---	4.0	2.9
23	250	2.5					4.8	2.9

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

Table 36

Reykjavik, Iceland (64.1°N, 21.8°W) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	---					5.3	---
01	---	---					5.2	---
02	---	---					5.0	---
03	---	---					5.2	---
04	---	---					5.0	---
05	---	---					4.4	---
06	(275)	(2.1)					3.4	(3.3)
07	240	3.0			110	---		3.4
08	240	3.5	220	---	110	(1.8)		3.4
09	240	3.9	210	---	100	2.1		3.4
10	(250)	4.0	210	3.3	100	(2.3)		3.2
11	300	4.2	200	3.6	100	2.4		3.2
12	285	4.5	200	3.4	100	2.5		3.3
13	290	4.7	200	3.5	100	2.5		3.3
14	300	4.3	200	3.5	110	2.4		3.2
15	300	4.4	220	3.4	110	2.3		3.2
16	270	4.3	220	3.2	110	(2.0)		3.3
17	250	4.2	230	---	120	1.8	2.3	3.3
18	270	(3.6)	---	---	---	---	3.9	(3.2)
19	(230)	(2.6)					4.4	(3.4)
20	---	---					5.5	---
21	---	---					4.5	---
22	---	---					5.6	---
23	(290)	---					4.8	---

Time: 15.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13 seconds.

Table 37

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.4			—	—	8.0	—
01	300	2.5			110	4.0	7.0	—
02	(300)	2.3			110	3.4	4.0	—
03	300	2.1			120	1.9	5.2	—
04	(300)	<2.2			110	2.3	4.0	—
05	—	<2.8			110	2.8	3.6	—
06	—	2.6			110	3.0	4.1	—
07	(300)	3.2			110	3.2	4.0	(3.1)
08	(290)	3.8	—	—	110	3.6		2.8
09	310	3.8	220	3.4	110	2.8	3.4	3.0
10	380	4.0	230	3.8	110	2.8	3.3	2.7
11	380	4.0	220	3.7	110	2.8		2.8
12	430	4.2	220	3.8	110	2.8		2.5
13	410	4.2	210	3.8	110	2.8		2.6
14	380	4.4	220	3.7	110	2.8		2.8
15	350	4.5	230	3.6	110	2.8		2.9
16	320	4.4	230	3.4	110	2.6		2.9
17	300	4.0	240	3.2	110	2.4		2.8
18	290	3.8			110	2.4	3.4	2.8
19	300	3.3			110	3.0	4.4	2.9
20	310	3.0			110	2.8	6.5	(3.0)
21	300	2.7			120	2.8	6.1	(2.8)
22	300	2.8			120	2.8	6.2	(2.8)
23	300	2.8			120	2.1	7.3	(2.9)

Time: 90.0°W.
Sweep: 1.0 Mc to 10.0 Mc in 15 seconds.

Table 38

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(350)	2.4			110	3.6	5.0	(2.9)
01	(300)	2.2			110	3.0	4.5	—
02	(360)	2.3			110	2.8	4.2	—
03	—	<3.0			100	3.1		—
04	—	<3.0			100	3.2		—
05	—	—			100	3.2		—
06	(310)	3.3	—	—	110	3.0		(3.0)
07	300	<3.5	—	—	100	3.1		3.0
08	350	3.8	260	3.7	110	2.6		3.0
09	360	4.0	240	3.6	100	2.5		3.0
10	380	4.2	230	3.8	100	2.8		3.0
11	400	4.2	220	3.8	100	2.9		2.9
12	400	4.3	230	3.8	110	3.0		2.8
13	400	4.4	220	3.8	110	2.8		2.8
14	400	4.5	230	3.7	110	2.8		2.8
15	310	4.7	260	3.4	110	2.6		2.9
16	300	4.2	290	3.2	110	2.6		2.9
17	300	4.0	—	—	110	2.8		2.9
18	300	3.8			110	3.0	3.8	2.9
19	300	3.2			110	2.4	4.6	3.0
20	300	2.8			100	2.2	5.0	2.9
21	300	2.8			120	2.4	5.8	3.0
22	(280)	<2.8			120	2.8	7.0	(3.0)
23	300	2.5			100	3.2	4.8	(3.0)

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

Table 39

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	1.6					1.0	—
01	300	1.5					1.8	—
02	320	1.7					2.8	—
03	350	2.0					2.4	—
04	(320)	(2.0)					>4.0	—
05	(320)	(2.0)					3.6	—
06	300	1.8					1.6	—
07	270	2.5	—	—	120	1.6	1.5	3.2
08	250	3.3	230	3.2	110	2.0		3.4
09	G	<3.6	210	3.4	110	2.3		G
10	580	<4.0	200	3.6	110	2.5		G
11	530	4.0	200	3.8	110	2.8		G
12	440	4.2	200	3.8	110	2.8		<2.8
13	440	4.2	200	3.8	110	2.9		2.4
14	380	4.4	210	3.8	110	2.8		2.8
15	370	4.4	230	3.7	110	2.7		3.0
16	320	4.5	220	3.6	110	2.5		3.2
17	250	4.4	230	3.5	120	2.2		3.2
18	240	4.0	—	—	120	1.9		3.3
19	250	3.9			—	—		3.2
20	250	3.0						3.0
21	260	2.2						—
22	260	1.9						—
23	280	1.7					1.0	—

Time: 120.0°W.
Sweep: (Day) 1.0 Mc to 10.0 Mc in 15 seconds.
(Night) 0.5 Mc to 4.0 Mc in 15 seconds.

Table 40

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	2.5						2.9
01	295	2.3						2.9
02	290	2.1					2.2	3.0
03	300	2.1					1.9	3.0
04	280	1.9						3.0
05	260	1.8						3.0
06	245	2.8			—	E		3.2
07	225	3.8	—	—	115	2.0		3.4
08	260	4.4	205	3.4	105	2.3		3.4
09	280	4.6	205	3.8	105	2.5	2.6	3.4
10	290	4.9	200	3.9	100	2.7	3.2	3.3
11	295	5.1	200	3.9	100	2.8	2.8	3.3
12	300	5.2	200	3.9	100	2.8		3.3
13	300	5.1	205	3.9	100	2.8		3.3
14	280	5.2	205	3.8	105	2.6		3.3
15	265	5.2	215	3.5	105	2.4		3.3
16	250	5.1	220	3.3	110	2.2		3.4
17	230	4.9	235	—	125	1.8		3.3
18	220	5.0						3.2
19	225	4.5						3.2
20	230	3.7						3.2
21	250	3.0						3.1
22	280	2.7						3.0
23	<290	2.5						3.0

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

Table 41

Lindau/Harz, Germany (51.6°N, 10.1°E) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.7						3.0
01	280	2.6					2.0	3.0
02	270	2.4					2.0	3.0
03	270	2.4					2.0	3.0
04	275	2.2					2.0	3.0
05	280	1.9					2.0	3.2
06	255	2.2			—	E	2.0	3.3
07	245	3.5	230	3.2	—	E	2.0	3.5
08	270	4.2	220	3.4	115	2.0	2.3	3.4
09	290	4.6	215	3.7	110	2.4	3.1	3.4
10	280	5.0	215	3.8	110	2.6	3.2	3.4
11	290	5.0	210	3.9	105	2.7	3.4	3.4
12	300	5.2	200	4.0	110	2.8	3.3	3.3
13	290	5.2	210	3.9	105	2.8	3.2	3.3
14	280	5.2	210	3.9	110	2.7	2.9	3.4
15	280	5.2	210	3.7	110	2.8	2.4	3.3
16	260	5.1	220	3.5	115	2.4	2.5	3.4
17	250	5.0	230	—	120	2.0	2.4	3.4
18	240	4.7	240	—	—	E	2.1	3.4
19	230	4.7			—	E	2.0	3.3
20	240	4.2					2.0	3.2
21	240	3.6					1.7	3.2
22	260	3.0						3.2
23	280	2.8						3.0

Time: 15.0°E.
Sweep: 1.0 Mc to 18.0 Mc in 8 minutes.

Table 42

Schwarzenburg, Switzerland (48.8°N, 7.3°E) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.0						3.2
01	300	3.0						3.3
02	290	2.9						3.2
03	280	2.7						3.3
04	275	2.7						3.3
05	250	2.4						3.5
06	280	2.3						3.5
07	210	3.2						3.7
08	200	4.1	—	—	100	2.1		3.8
09	210	4.5	200	3.6	100	2.4		3.6
10	260	5.0	200	3.8	100	2.6		3.5
11	300	5.3	200	4.0	100	2.8		3.6
12	280	5.4	200	4.0	100	2.8		3.6
13	300	5.4	200	4.0	100	2.8		3.5
14	290	5.6	200	4.0	100	2.8		3.6
15	260	5.6	200	3.8	100	2.7		3.6
16	230	5.2	200	3.8	100	2.5		3.7
17	200	5.4	—	—	100	2.2		3.7
18	210	5.1			—	—		3.7
19	200	5.0						3.7
20	210	4.5						3.6
21	215	4.0						3.5
22	230	3.5						3.5
23	280	3.2						3.3

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

Table 43

Baguio, P.I. (16.4°N, 120.6°E) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	6.2						2.1
01	240	5.9						3.2
02	220	5.8						3.4
03	200	3.6						3.5
04	220	3.1						3.6
05	260	(1.7)						3.3
06	250	3.0					1.9	3.2
07	230	5.6			100	2.0	2.2	3.5
08	(260)	6.4	220	---	100	2.6	4.1	3.3
09	(300)	7.7	200	---	100	2.9	4.2	3.0
10	320	8.9	200	4.5	100	3.1	5.4	2.7
11	320	9.2	200	4.3	100	3.2	5.4	2.6
12	320	9.3	190	4.4	100	(3.3)	5.1	2.4
13	320	9.4	190	4.3	100	3.2	5.0	2.6
14	320	9.7	190	4.3	100	3.1	4.8	2.7
15	300	10.4	200	---	100	3.0	4.1	2.9
16	270	10.6	220	---	100	2.6	3.7	3.1
17	230	10.4	---	---	100	2.2	3.2	3.2
18	240	10.3					3.3	3.3
19	230	10.0						3.1
20	220	9.4						3.2
21	220	8.3						3.3
22	230	7.3						3.0
23	240	6.6						3.0

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

Table 44

Johannesburg, Union of S.Africa (26.2°S, 28.1°E) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.2						3.0
01	250	3.2						3.1
02	240	3.2						3.2
03	240	3.0						3.2
04	240	2.6						3.1
05	<250	3.4						3.0
06	250	3.0			---	---		3.2
07	240	4.8	240	---	120	2.0		3.4
08	280	6.0	230	3.9	110	2.6		3.3
09	290	6.3	230	4.2	110	2.9	3.6	3.3
10	290	6.7	200	4.3	110	3.1	3.8	3.3
11	310	6.7	200	4.5	110	3.3	3.6	3.0
12	300	7.4	210	4.5	110	3.4	3.7	3.1
13	300	7.3	220	4.5	110	3.4	3.6	3.0
14	300	7.6	210	4.4	110	3.2	3.7	3.1
15	280	7.8	230	4.2	110	3.1	4.0	3.2
16	270	7.1	220	4.0	110	2.8	3.7	3.2
17	250	7.0	230	3.6	110	2.4	3.6	3.3
18	230	6.3			110	1.8	2.8	3.4
19	220	5.5					2.3	3.3
20	230	4.4					1.9	3.3
21	260	3.7					1.9	3.1
22	260	3.5					1.6	3.0
23	260	3.5						3.0

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 45

Capetown, Union of S. Africa (34.8°S, 18.3°E) March 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.2						3.1
01	260	3.2						3.1
02	260	3.1						3.0
03	280	3.0						3.1
04	260	3.0						3.1
05	250	2.8						3.1
06	250	3.7						3.0
07	240	3.9	---	---	140	1.7		3.3
08	260	5.0	230	3.2	120	3.2		3.3
09	280	5.7	220	3.9	110	3.6		3.3
10	290	6.1	220	4.1	110	3.9	3.6	3.1
11	300	6.2	210	4.2	110	3.1	3.8	3.1
12	320	6.8	210	4.3	110	3.3	3.6	3.0
13	300	7.0	210	4.4	110	3.5	3.4	3.0
14	300	7.0	220	4.3	110	3.3	3.5	3.0
15	300	7.1	220	4.2	110	3.1		3.1
16	290	6.9	220	4.1	110	2.9	3.5	3.2
17	270	6.8	220	3.8	110	3.6	3.2	3.3
18	240	6.2	230	3.1	120	3.1	3.0	3.4
19	230	6.8	---	---	---	---	2.6	3.4
20	230	4.5					1.9	3.3
21	240	3.7						3.3
22	<260	3.4						3.0
23	260	3.4						3.1

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 46

Wakkanai, Japan (65.4°E, 141.7°E) February 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.1						2.9
01	300	3.0						3.0
02	300	3.1						2.9
03	300	3.1						2.9
04	300	3.4						2.9
05	290	2.9						2.9
06	280	3.8						2.9
07	260	4.2			110	---		2.2
08	(280)	(5.7)	---	---	120	2.0		(3.1)
09	280	(5.8)	260	3.6	120	2.5		(3.1)
10	300	(6.2)	260	---	120	2.6		(3.0)
11	300	7.4	260	3.8	120	2.7		3.1
12	280	7.0	270	3.9	120	2.7		3.2
13	300	6.4	260	3.8	120	2.6		3.1
14	290	6.2	280	3.6	120	2.6		3.2
15	280	6.0	---	---	110	2.2		3.1
16	270	5.4	240	---	120	2.0		3.3
17	260	4.4						3.1
18	270	3.1						3.1
19	280	2.0						3.0
20	290	2.8						3.0
21	300	3.0						3.0
22	300	2.8						2.8
23	300	3.2						2.9

Time: 135.0°E.
Sweep: 1.0 Mc to 15.5 Mc in 3 minutes.

Table 47

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.4					2.2	2.9
01	260	3.3					2.2	3.0
02	270	3.3					2.0	3.0
03	260	3.2					2.0	3.0
04	250	3.4					2.0	3.2
05	250	2.8					2.2	3.1
06	250	2.7						3.2
07	240	4.5	---	---	140	1.6	3.2	3.5
08	240	5.5	230	3.2	120	2.2	3.0	3.6
09	250	5.9	230	3.8	110	2.5	3.4	3.5
10	250	6.2	220	4.0	110	2.8	3.5	3.3
11	270	7.0	230	4.2	110	3.0	3.5	3.3
12	270	7.8	230	4.2	110	3.0	3.5	3.3
13	260	7.0	230	4.0	110	3.0	3.5	3.4
14	260	6.3	230	3.9	110	2.8	3.4	3.4
15	250	6.0	230	3.5	110	2.5	3.4	3.4
16	240	5.5	240	3.0	120	2.2	2.9	3.5
17	230	4.7			130	1.7	3.4	3.5
18	230	3.7					2.4	3.3
19	250	3.6					2.3	3.2
20	250	3.2					2.2	3.2
21	260	3.2					2.3	3.1
22	280	3.1					2.3	3.0
23	280	3.2					2.3	3.0

Time: 135.0°E.
Sweep: 0.85 Mc to 22.0 Mc in 6 minutes, automatic operation.

Table 48

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.0						2.9
01	270	3.2						3.0
02	270	3.0					1.3	3.0
03	260	3.1						3.0
04	230	3.3						3.3
05	250	2.5						3.0
06	270	2.5						3.0
07	230	4.5			140	1.9	2.4	3.4
08	240	5.6	230	3.4	120	2.3	2.9	3.4
09	250	6.0	230	4.0	120	2.6	3.2	3.4
10	270	6.5	230	4.1	120	2.8	3.0	3.3
11	270	6.6	230	4.2	110	3.0		3.3
12	270	7.0	230	4.2	110	3.1		3.3
13	270	7.2	230	4.2	110	3.0		3.2
14	260	6.9	240	4.0	120	3.0	3.5	3.3
15	250	6.3	230	3.7	120	2.6	3.0	3.4
16	240	5.8	230	3.2	120	2.2	3.0	3.4
17	230	5.0					2.7	3.4
18	230	3.7					2.6	3.3
19	250	3.4					2.5	3.1
20	250	3.2					2.3	3.1
21	260	3.0					2.4	3.0
22	280	2.9					2.2	3.0
23	300	3.0					2.5	2.9

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

Table 49

Yamagawa, Japan (31.2°N, 130.6°E) February 1963

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.9						3.0
01	280	2.9						3.1
02	270	2.9					2.0	3.2
03	260	2.9					1.7	3.2
04	240	3.2						3.4
05	240	2.8						3.2
06	290	2.4						3.1
07	240	3.4						3.4
08	230	5.0	---.	—	130	2.0		3.5
09	250	6.0	240	4.0	110	2.4		3.4
10	270	6.2	230	4.2	100	2.8		3.4
11	280	7.0	220	4.4	100	3.0		3.3
12	270	7.2	200	4.6	100	3.0		3.4
13	280	7.4	220	4.4	100	3.0		3.3
14	270	7.9	220	4.2	100	3.0	3.3	3.4
15	250	6.8	240	4.0	100	2.9		3.4
16	250	6.3	220	3.7	110	2.5	3.3	3.5
17	230	5.4	240	2.8	120	2.2	3.0	3.6
18	220	4.7					2.3	3.6
19	220	3.5					2.2	3.4
20	240	3.0					2.3	3.3
21	250	3.0					2.0	3.2
22	260	2.7					2.0	3.2
23	280	2.8					2.0	3.1

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 2 minutes.

Table 50

Townsville, Australia (19.3°S, 146.8°E) January 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	5.3					3.5	3.2
01	220	5.5					4.3	3.3
02	220	4.2					3.1	3.1
03	240	3.2					2.6	3.0
04	260	3.1					2.5	2.9
05	250	2.8			—	E		3.0
06	240	3.4			130	1.8	3.0	3.1
07	240	5.0	—	3.8	110	2.2	4.2	3.2
08	300	5.8	220	4.0	110	2.8	4.8	3.2
09	300	6.4	210	4.3	110	3.2	5.3	3.2
10	350	6.8	200	4.4	100	3.3	5.4	2.9
11	350	7.4	200	4.4	110	3.4	5.4	2.9
12	340	8.3	200	4.5	110	3.5	4.8	3.0
13	300	9.2	200	4.5	100	3.5	5.0	3.0
14	300	8.3	210	4.5	100	3.4	5.2	3.0
15	300	8.9	200	4.3	100	3.3	4.7	3.1
16	280	8.2	210	4.2	115	3.0	4.7	3.2
17	260	7.4	210	4.0	110	2.7	4.0	3.1
18	240	6.0	210	—	110	2.2	4.0	3.1
19	250	5.8			—	E	3.5	3.0
20	290	5.9					3.4	3.0
21	280	5.8					4.1	3.0
22	300	5.8					2.6	2.9
23	270	5.3					3.6	3.0

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

Table 51

Brisbane, Australia (27.5°S, 153.0°E) January 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	5.5					4.2	3.1
01	230	4.8					3.9	3.2
02	245	3.6					3.0	3.2
03	270	3.2					3.1	3.1
04	280	3.2					2.6	3.0
05	270	3.2					2.0	3.1
06	240	4.4	230	3.4	120	—		3.4
07	280	5.1	210	3.9	100	—		3.2
08	330	5.1	210	4.1	100	—		3.1
09	310	6.3	200	4.3	100	—	4.0	3.1
10	340	6.3	200	4.4	100	—		3.0
11	340	6.6	200	4.6	100	3.5		3.0
12	340	7.0	200	4.6	100	—	4.2	3.0
13	320	7.0	200	4.6	100	—	4.2	3.0
14	310	6.6	200	4.4	100	3.2		3.0
15	300	6.7	210	4.4	100	—	3.6	3.1
16	300	6.1	220	4.0	100	2.9		3.1
17	280	6.0	220	3.8	110	2.6		3.1
18	260	5.8	230	3.2	125	—		3.2
19	240	5.9			—	E	3.4	3.0
20	260	6.0					4.0	3.0
21	290	5.9					3.1	2.9
22	265	5.9					3.5	2.9
23	270	5.8					4.1	3.0

Time: 160.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 52

Canberra, Australia (35.3°S, 149.0°E) January 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.9					4.0	3.1
01	240	4.8					3.9	3.1
02	240	4.0					3.8	3.1
03	(240)	3.7					3.3	(3.1)
04	240	(3.2)					2.9	(3.1)
05	250	3.3			—	E	3.1	3.2
06	240	4.2	—	—	110	1.8	3.5	3.2
07	350	4.7	220	4.0	100	2.6	3.8	3.1
08	310	5.4	210	4.1	100	3.0	3.8	3.2
09	340	5.1	200	4.2	100	3.2	5.6	3.0
10	320	6.6	200	4.3	100	3.4	6.0	3.2
11	315	6.1	190	4.4	100	3.5	6.5	3.1
12	340	5.6	190	4.5	100	3.5	6.4	3.1
13	350	5.8	190	4.6	100	3.5	4.7	3.0
14	340	6.0	200	4.5	100	3.5	4.5	3.0
15	325	6.0	210	4.4	100	3.3	4.0	3.1
16	310	6.0	210	4.2	100	3.2	4.0	3.1
17	290	5.6	220	4.0	100	2.8	4.0	3.2
18	270	5.6	240	(3.5)	100	2.2	4.0	3.2
19	240	5.7	—	—	—	1.6	3.8	3.1
20	240	6.0					3.8	3.0
21	260	5.9					4.0	2.9
22	260	6.0					3.8	2.9
23	250	5.5					3.8	3.0

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

Table 53

Hobart, Tasmania (42.8°S, 147.4°E) January 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	4.0						3.0
01	250	3.5						3.0
02	250	3.0						2.9
03	260	2.8						3.0
04	260	2.6						3.0
05	250	3.5			—	E	2.5	3.1
06	220	4.0			100	2.2	2.6	3.2
07	220	4.5	200	4.2	100	2.6	3.5	3.1
08	350	5.0	200	4.4	100	3.0	4.2	2.9
09	360	5.5	200	4.5	—	—	5.5	2.8
10	340	6.0	200	4.5	—	—	5.2	2.9
11	350	6.0	200	4.6	—	—	5.3	2.9
12	340	6.0	200	4.7	—	—	4.3	3.0
13	350	6.0	200	4.7	—	—	4.3	2.9
14	340	6.0	200	4.6	—	—	4.2	2.9
15	350	6.2	200	4.6	—	—	4.1	3.0
16	320	5.8	200	4.5	100	3.3	4.8	3.0
17	300	5.8	200	4.2	100	3.0	3.5	3.0
18	230	5.6	—	—	100	2.5	4.0	3.0
19	240	5.5			—	—	3.0	3.1
20	250	5.6						3.1
21	250	5.8						3.0
22	250	5.5						2.9
23	250	4.7						3.0

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

Table 54*

Invernese, Scotland (57.4°N, 4.2°W) December 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	345	(1.5)						(2.7)
01	330	(1.5)						2.7
02	320	1.5						(2.7)
03	330	1.6						2.7
04	320	1.6					1.8	2.7
05	305	(1.6)						2.8
06	300	<1.6						2.9
07	(325)	(1.6)						(2.8)
08	280	(2.2)						(2.8)
09	230	3.8				(1.7)	2.7	3.4
10	220	4.7			(140)	1.9	2.5	3.6
11	225	5.2			(140)	2.0	2.4	3.6
12	225	5.8			145	2.1	2.4	3.5
13	225	5.9			145	2.1	2.5	3.6
14	225	5.8			(145)	1.9	2.6	3.6
15	220	5.1			(130)	1.7	2.3	3.5
16	225	4.5					2.3	3.3
17	235	3.7						3.2
18	255	2.8						3.1
19	265	2.0						3.1
20	315	1.8						(2.8)
21	335	(1.8)						
22	(340)	(1.6)						
23	(345)	<1.6						

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 55*

Slough, England (51 5°N, 0.6°W) December 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	2.7					2.6	2.9
01	275	2.8					2.9	2.3
02	275	2.8					3.1	2.8
03	270	2.4					3.0	2.9
04	265	2.3					3.6	2.9
05	265	2.1					3.3	3.0
06	270	1.8					3.6	3.0
07	270	2.0					3.2	3.0
08	225	5.8	230	2.1ϕ	130ϕ	1.7ϕ	4.0	3.5
09	220	5.0	220	3.0	135	1.8	4.1	3.5
10	230	6.0	230	3.2	130	2.2	4.2	3.6
11	230	6.0	220	3.4	130	2.3	4.2	3.6
12	230	6.3	220	3.5	130	2.4	4.6	3.6
13	225	6.4	225	3.3	130	2.3	4.7	3.5
14	225	6.1	220ϕ	2.9ϕ	130	2.1	4.2	3.5
15	230	5.8			140	1.9	3.9	3.5
16	230	5.5					3.1	3.4
17	225	4.1					2.5	3.3
18	240	3.5					2.4	3.2
19	250	3.0					2.4	3.2
20	265	2.7					2.5	3.0
21	280	2.6					2.3	3.0
22	275	2.6					2.5	2.9
23	285	2.9					2.6	2.9

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

Table 55*

Khartoum, Sudan (15.6°N, 32.6°E) December 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	275	5.3						2.9
01	270	5.7						3.1
02	250	6.0						3.2
03	250	6.4						3.9
04	250	3.0				(1.2)		3.5
05	250	2.2				1.0		3.3
06	270	3.2				1.2	2.6	3.0
07	240	6.0			130	2.1	4.0	3.5
08	250	7.5	220		120	2.7	4.2	3.2
09	230	9.2	220	(4.3)	120	3.0	4.0	3.1
10	300	9.6	220	4.6	120	3.3	3.9	2.9
11	310	9.8	220	4.6	120	3.4		2.9
12	330	9.9	220	4.7	120	3.3		2.7
13	320	10.2	230	4.7	120	3.3		2.8
14	310	10.5	220	4.6	120	3.2	4.0	2.9
15	290	10.2	230	4.3	120	2.9	3.5	3.0
16	260	10.1	230		120	2.5	4.4	3.2
17	250	10.2			130	1.8	5.6	3.2
18	240	10.4				(1.3)	2.7	3.3
19	240	8.4					3.6	3.0
20	250	7.5					4.2	3.2
21	260	7.0						3.1
22	260	6.5						3.1
23	260	5.3						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 57*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.8					2.4	2.9
01	275	3.4					1.8	2.9
02	280	3.4					1.9	2.8
03	280	3.0					1.9	2.9
04	285	3.0					1.8	3.0
05	275	2.5					3.4	3.1
06	260	3.9					3.5	3.1
07	255	6.3	240		(120)	2.3	4.1	3.2
08	235	7.1	225		120	2.8	5.2	2.8
09	240	7.7	220	(4.5)	115	3.1	5.9	2.5
10	270	8.0	210	4.6	110	3.4	6.5	2.3
11	410	8.0	205	4.6	110	3.5	6.1	2.1
12	405	8.8	205	4.6	110	3.5	5.7	2.0
13	400	8.7	200	4.6	110	3.5	6.4	2.2
14	385	8.7	200	4.5	110	3.3	5.9	2.2
15	365	8.7	215		110	3.1	4.8	2.2
16	335	8.8	230		115	2.7		2.3
17	280	8.7			120	2.2	3.4	2.4
18	270	8.6			(145)	(1.6)	3.0	2.4
19	305	8.0					3.1	2.5
20	310	7.2					3.0	2.6
21	285	7.5					3.0	2.9
22	220	7.4					2.6	3.3
23	220	4.5					2.4	3.1

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

Table 58*

Inverness, Scotland (57.4°N, 4.2°W) November 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	335	(1.7)						2.8
01	330	(1.6)						2.7
02	320	1.6					1.0	2.7
03	330	(1.6)					1.2	2.7
04	310	1.5					2.1	2.8
05	310	1.5					2.2	2.8
06	300	(1.5)						---
07	315	(1.8)						3.0
08	240	3.5				(1.7)	1.7	3.2
09	230	4.5			(145)	1.9	2.0	3.4
10	235	5.3	(225)	(3.1)	125	2.2	2.3	3.4
11	240	5.6	(230)	(3.3)	(130)	2.2	2.3	3.5
12	240	6.2	(230)	(3.3)	(130)	2.3	2.3	3.5
13	230	6.1	(225)	(3.2)	(130)	(2.3)	2.0	3.6
14	235	5.9	(225)		(135)	2.1	1.9	3.5
15	225	5.6			(155)	1.9	2.0	3.5
16	225	5.1					2.3	3.3
17	240	4.4					2.3	3.2
18	245	3.9						3.2
19	265	2.7						3.1
20	295	2.2						3.0
21	355	(1.8)						3.0
22	(355)	(1.7)						2.7
23	350	(1.7)						

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 59*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	2.9					2.6	2.8
01	290	3.0					2.8	2.8
02	285	2.9					3.0	2.8
03	275	2.6					2.8	2.8
04	270	2.3					3.7	2.9
05	265	2.1					3.8	3.0
06	265	1.9					3.1	3.0
07	245	3.0					3.0	3.2
08	225	4.8	220	2.8	135	1.9	3.4	3.6
09	230	5.8	220	3.3	125	2.2	3.8	3.5
10	235	6.3	225	3.5	125	2.4	4.0	3.4
11	235	7.0	220	3.7	125	2.5	4.3	3.4
12	240	6.8	220	3.6	130	2.6	4.5	3.4
13	235	6.7	225	3.5	130	2.5	4.6	3.5
14	235	6.6	225	3.5	130	2.3	4.2	3.4
15	230	6.1	235	3.5ϕ	135	2.0	3.9	3.4
16	220	5.4			150ϕ	1.8ϕ	3.4	3.4
17	230	4.7					3.0	3.2
18	235	4.1					2.6	3.2
19	245	3.4					2.6	3.2
20	255	2.9					2.4	3.1
21	290	2.6					2.6	2.8
22	295	2.6					2.4	2.8
23	300	2.8					2.6	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.
ϕOne or two observations only.

Table 60*

Khartoum, Sudan (15.6°N, 32.6°E) November 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	6.4						2.9
01	250	7.0						3.2
02	230	(7.3)						3.7
03	210	(4.4)						3.5
04	230	2.4						3.3
05	250	1.6						3.5
06	260	4.4			145	1.6		3.3
07	240	7.0			130	2.3		3.3
08	275	(8.6)	230		120	2.8	(5.4)	3.0
09	300	(9.6)	230	4.5	120	2.9	(4.8)	2.7
10	290	(9.7)	210	4.7	120	3.3		2.7
11	305	(9.7)	210	4.5	120	3.4		2.8
12	320	(10.6)	210	4.7	120	3.5		2.8
13	300	11.5	220	4.7	120	3.4		3.0
14	290	11.6	220	4.4	120	3.2		3.0
15	270	11.4	230	4.2	120	2.9	4.2	3.2
16	260	11.7	240	3.8	130	2.5	5.2	3.2
17	245	11.3			120	1.9	5.7	3.4
18	246	10.1					(3.8)	3.1
19	250	9.2					3.9	3.0
20	250	8.5					4.0	3.1
21	260	7.5					2.5	2.9
22	280	6.9						3.0
23	295	(6.1)						3.0

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 61*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	4.4					2.5	3.0
01	260	3.8					2.3	2.9
02	270	3.6					2.2	2.9
03	270	3.4					2.1	2.9
04	265	3.2					1.8	3.0
05	250	3.8					3.4	3.2
06	255	4.6				1.5	3.5	3.1
07	265	6.9	235		120	2.4	3.7	3.1
08	285	7.6	225		115	2.9	3.9	2.8
09	340	8.1	215	4.6	115	3.2	5.6	2.4
10	375	8.7	210	4.7	110	3.4	6.6	2.2
11	380	9.2	210	4.7	110	3.5	5.9	2.0
12	375	9.1	200	4.7	110	3.5	5.3	2.1
13	355	9.2	205	4.6	110	3.5	5.3	2.2
14	340	9.3	210	4.6	110	3.3	4.7	2.3
15	330	9.4	220		115	3.0	5.6	2.4
16	310	9.5	235		115	2.7	5.4	2.4
17	255	9.5			125	2.2	4.6	2.4
18	275	9.4					3.0	2.5
19	310	8.9					3.1	2.5
20	300	8.5					3.0	2.7
21	260	8.6					3.0	3.0
22	215	8.9					3.0	3.4
23	210	8.3					2.9	3.2

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 62*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	275	6.2					2.4	2.8
01	290	6.1					2.8	2.7
02	285	5.9					2.3	2.8
03	270	5.8					1.0	2.9
04	270	5.6	(235)		170	(1.6)		2.9
05	260	5.8	250	(3.0)	120	1.8	2.4	3.0
06	290	5.6	245	3.8	115	2.3	3.1	3.1
07	(375)	5.7	240	4.1	110	2.7	4.8	3.0
08	(350)	6.1	225	4.3	105	2.9	4.6	3.0
09	345	6.3	220	4.5	105	3.1	4.8	3.0
10	330	6.5	220	4.5	105	3.2	5.1	3.0
11	335	6.8	225	4.5	105	3.2	4.6	3.0
12	330	6.8	240	4.5	105	3.3	4.0	3.0
13	320	7.0	240	4.5	105	3.2	4.2	3.0
14	315	6.9	235	4.4	105	3.1	4.2	3.1
15	300	6.8	220	4.3	110	3.0	3.8	3.1
16	285	6.5	240	4.1	115	2.8	3.5	3.2
17	275	6.7	220	3.9	115	2.5	4.2	3.2
18	260	6.6	230	(3.8)	125	2.1	3.8	3.3
19	280	6.1					3.3	3.1
20	275	6.2					3.5	2.9
21	290	6.6					3.2	2.8
22	295	6.3					3.0	2.8
23	300	6.2					3.1	2.6

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

Table 63*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	(7.0)					(3.0)	
01	(270)	(6.0)					(2.8)	
02	(275)	(5.6)						
03		(4.6)						
04	---	---						
05	(275)	(5.0)						
06	---	---					(4.3)	
07	(280)	(5.0)					(4.5)	
08		(5.3)			(105)	(2.6)	4.4	
09		(5.2)			(110)	(2.8)	4.5	
10	(320)	(5.5)					(5.1)	
11	(330)	5.2		(4.3)	(105)	(3.0)	4.4	
12	(305)	5.4	(215)	(4.2)	(105)	(2.9)	4.5	
13	(315)	5.4	(210)	(4.2)			4.6	
14	(295)	5.6	(210)	(4.3)				
15	(295)	(5.4)		(4.0)				
16	(280)	(5.4)		(3.8)			3.6	
17	(265)	5.7	(210)	(3.7)				
18	(270)	6.0	(225)	(3.6)				
19	(265)	(6.3)						
20	(255)	7.1						
21	(250)	7.1						
22	(260)	(7.2)						
23	(260)	7.8						

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 64*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	5.4						2.7
01	290	5.2						2.8
02	285	5.0						2.8
03	280	4.8						2.8
04	275	4.6						2.8
05	265	5.2			160	1.7		3.1
06	285	5.5			125	2.0	2.5	3.4
07	290	6.0	235		115	(2.5)	3.1	3.3
08	280	6.2	230	(4.1)	110		2.6	3.3
09	280	6.6	225	(4.2)	110		3.8	3.1
10	305	7.6	220	4.4	110	(3.1)	3.7	3.1
11	295	8.2	215	4.5	110	(3.3)	3.7	3.1
12	270	8.6	215	4.5	110		3.7	3.2
13	285	8.7	220	4.5	110	(3.2)	3.6	3.3
14	260	7.6	220	4.4	110	(3.0)	3.1	3.3
15	260	6.7	220	4.1	110	3.9	2.8	3.3
16	260	6.7	220	(3.4)	115	2.6	2.7	3.3
17	240	6.4	220	(3.4)	125	2.1	2.4	3.3
18	230	6.0			145	(1.7)	2.0	3.2
19	255	6.1					2.1	3.0
20	270	6.3					2.1	2.9
21	275	6.1						2.8
22	285	5.8					1.8	2.8
23	290	5.6						2.7

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 65*

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	5.1						2.9
01	265	4.8						2.9
02	270	4.2						2.9
03	265	4.2						3.0
04	250	4.0						3.0
05	240	4.0						3.2
06	235	4.5				(2.2)		3.3
07	225	4.6	(215)		120	2.3		3.4
08	230	5.2	205	3.6	115	2.5		(3.4)
09	245	5.4	210	3.8	110	2.7		(3.4)
10	270	5.8	205	4.0	105	2.8		(3.4)
11	260	6.0	205	4.0	105	2.9		(3.4)
12	265	6.0	200	4.0	100	2.9		(3.4)
13	255	6.4	205	4.0	105	2.9		(3.4)
14	250	6.3	200	3.8	105	2.8		(3.5)
15	250	6.0	205	3.8	105	2.7		3.5
16	230	5.9	210	3.5	110	2.5		3.5
17	230	5.8	210	(3.3)	(115)	2.4		3.4
18	230	5.8	(225)			(2.1)		3.3
19	235	6.2						3.2
20	245	6.8						3.1
21	250	6.7						3.0
22	255	6.3						2.9
23	260	5.9						2.9

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 66

Poitiers, France (46.6°N, 0.3°E) September 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	< 280	3.8					2.1	2.8
01	< 275	3.7					2.0	2.8
02	< 275	3.4						2.9
03	< 255	3.4					2.0	3.0
04	260	3.2					2.0	3.0
05	245	2.8					2.4	3.1
06	240	3.9	---	---	---	1.8	2.4	3.3
07	250	4.4	220	3.0	120	2.2	2.7	3.4
08	280	5.1	220	4.0	115	2.6	3.1	3.4
09	290	5.6	215	4.1	110	2.8	3.4	3.6
10	300	5.9	205	4.3	110	3.0	3.4	3.4
11	295	5.6	200	4.4	110	3.0	3.5	3.2
12	310	5.8	200	4.4	110	3.0	3.4	3.3
13	280	6.3	205	4.4	110	3.0	3.2	3.3
14	280	6.0	210	4.3	110	3.0	3.2	3.4
15	275	6.0	220	4.1	110	2.9	3.2	3.3
16	260	6.0	230	3.8	110	2.5	3.1	3.2
17	255	6.5	235	3.5	115	2.2	3.0	3.3
18	240	6.5	---	---	---	---	3.0	3.3
19	230	5.9					3.0	3.2
20	230	6.5					3.0	3.2
21	235	4.9					2.6	3.2
22	< 250	4.2					2.3	3.0
23	(255)	3.9					2.3	2.9

Time: 0.0°.
Sweep: 1.6 Mc to 15.8 Mc in 1 minute.

Table 67

Tananarive, Madagascar (18.8°S, 47.6°E) September 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	4.7						3.5
01	240	3.7						3.0
02	240	2.6						3.0
03	< 230	2.5						2.8
04	230	2.6						3.0
05	230	2.5						2.9
06	230	4.1			150	< 1.4	1.8	3.1
07	250	6.2	240	---	120	2.0	2.8	3.3
08	270	7.0	235	4.2	115	2.8	2.1	3.1
09	280	8.4	235	4.5	113	3.0	3.4	3.1
10	280	9.2	225	4.7	113	3.6	3.8	3.1
11	270	9.4	215	4.6	112	3.4	3.8	3.3
12	280	8.1	210	4.7	111	3.4	3.5	3.2
13	285	7.5	200	4.6	113	3.4	3.2	3.1
14	280	7.6	215	4.5	111	3.2	3.7	3.1
15	300	7.6	220	4.4	115	3.0	3.4	3.1
16	270	7.0	230	---	124	2.7	3.5	3.2
17	270	7.0	208	---	126	2.2	2.8	3.2
18	280	6.3			---	< 1.5	2.1	3.2
19	240	5.6					2.7	3.0
20	240	4.7					2.7	3.1
21	25[illegible]	4.2						3.[illegible]
22	270	4.0						3.[illegible]
23	30[illegible]	4.0						3.1

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

Table 68

Poitiers, France (46.6°N, 0.3°E) August 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	4.2					2.7	2.9
01	280	3.9					2.4	2.9
02	<270	3.6					2.6	2.8
03	<280	3.4					2.6	2.9
04	<270	3.4					2.7	2.9
05	280	3.8	---	---			2.9	3.1
06	290	4.4	240	3.3	120	2.0	3.4	3.3
07	300	5.0	230	3.9	110	2.4	3.6	3.3
08	300	5.4	210	4.1	105	2.8	4.6	3.4
09	310	5.7	205	4.4	105	3.0	4.4	3.2
10	300	6.0	200	4.5	105	3.2	4.3	3.3
11	300	5.9	200	4.5	105	3.1	3.8	3.2
12	310	5.5	200	4.6	105	3.2	3.7	(3.3)
13	305	5.9	200	4.6	105	3.2	5.8	3.2
14	295	5.9	210	4.5	105	3.0	4.0	(3.1)
15	300	5.9	210	4.4	105	3.0	3.6	3.2
16	310	5.6	220	4.2	110	2.9	3.6	3.1
17	300	5.4	225	3.9	110	2.6	3.6	3.2
18	280	6.1	245	3.4	115	2.0	3.4	3.1
19	250	6.1	---	(2.6)			3.4	3.2
20	240	6.4					3.1	3.1
21	235	6.0					3.5	3.2
22	245	5.0					2.8	3.2
23	<250	4.1					2.6	3.0

Time: 0.0°
Sweep: 1.6 Mc to 16.8 Mc in 1 minute.

Table 69

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	(4.0)					2.0	(3.9)
01	315	(5.0)					1.6	---
02	310	(4.1)					2.3	---
03	285	(4.6)					2.6	(3.8)
04	275	4.0					2.3	(3.6)
05	215	3.2						3.3
06	250	4.6			---	< 1.4	3.5	3.4
07	245	7.0	215	---	105	2.4	4.2	3.5
08	275	7.0	230	---	105	2.8	4.1	3.3
09	300	8.0	210	4.6	---	---	6.3	3.9
10	340	8.3	202	4.8	---	---	7.6	3.7
11	330	7.7	200	4.9	---	---	8.8	3.7
12	360	8.1	200	4.8	---	---	9.0	3.7
13	345	8.4	190	4.8	---	---	9.0	3.7
14	330	8.8	200	4.7	---	---	7.4	3.7
15	320	9.0	200	4.5	---	---	5.5	(3.8)
16	315	(9.0)	210	4.2	---	---	5.7	(3.9)
17	340	> 9.0	208	---	---	---	4.4	3.9
18	360	(10.2)	---	---	---	---	3.7	(3.9)
19	335	(10.4)					3.1	(3.8)
20	280	> 9.0					2.8	(3.1)
21	280	(7.5)					2.8	(3.3)
22	305	5.8					2.6	3.4
23	310	(5.4)					2.5	(3.4)

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

Table 70

Nairobi, Kenya (1.3°S, 36.2°E) May 1952

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	>8.0						3.2
01	230	8.7					2.4	3.2
02	220	6.3					3.1	3.3
03	230	>4.8					2.6	3.1
04	250	4.1					2.9	3.2
05	(240)	2.9					3.5	(3.2)
06	260	3.3					3.3	3.4
07	240	5.4	240	---	120	---	3.1	3.4
08	260	8.0	230	---	110	2.7	3.3	3.3
09	270	9.1	220	4.3	110	3.1		3.7
10	280	9.5	210	4.6	110	3.3		3.1
11	300	10.2	---	4.7	110	3.4		3.0
12	310	11.1	---	4.9	110	3.5		2.9
13	320	>11.0	---	---	110	---		3.0
14	330	>11.2	---	---	110	---		2.9
15	310	11.2	---	4.6	100	3.2	3.4	2.9
16	300	>11.0	---	---	110	3.0	3.3	3.0
17	270	10.9	240	---	110	2.4	3.4	3.1
18	250	11.2	250	---	---	---	3.5	3.1
19	---	---						---
20	---	---						---
21	240	>7.0						---
22	210	7.0						3.3
23	240	>7.4						3.0

Time: 45.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 71

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	(8.0)					2.6	---
01	295	(8.5)						(3.9)
02	280	(5.5)					2.1	3.1
03	240	5.6						3.4
04	230	5.0						3.5
05	220	3.3						3.6
06	240	3.7			---	1.4		3.3
07	235	7.0	---	---	128	2.3	3.5	2.8
08	270	8.4	220	---	103	2.8	5.0	3.3
09	290	9.4	210	(4.8)	105	(3.3)	4.5	3.9
10	320	9.8	210	(4.9)	---	(3.4)	7.9	3.6
11	330	>7.4	200	(5.0)	---	3.6	8.3	3.6
12	330	10.0	200	(5.0)	---	(3.7)	8.0	3.7
13	330	10.2	205	(5.0)	---	3.7	7.5	3.7
14	320	11.0	200	(4.9)	---	3.6	7.9	3.7
15	300	12.0	205	(4.9)	105	(3.4)	7.9	3.9
16	290	12.7	215	(4.9)	(105)	(3.2)	4.5	3.9
17	240	11.9	220	---	---	2.7	4.6	3.0
18	240	11.8	---	---	---	---	3.3	3.9
19	260	11.5					3.0	(3.4)
20	275	>10.0					3.0	3.8
21	280	>9.6					2.5	(2.8)
22	250	>9.0					2.4	(2.8)
23	300	8.6					2.7	3.9

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

Table 72

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	8.7						2.8
01	275	8.5						2.3
02	250	6.4						3.1
03	250	6.9						3.1
04	270	4.5						3.0
05	285	3.4						2.8
06	260	2.3					2.1	3.0
07	245	5.6	255	---	---	(1.9)	3.7	3.2
08	275	8.8	235	---	119	2.7	4.2	3.1
09	275	11.2	230	4.6	111	3.0	4.3	3.1
10	285	11.6	220	4.8	108	3.3	4.6	3.0
11	285	11.4	210	4.8	105	3.4	4.6	2.8
12	300	11.6	208	5.0	107	3.5	4.4	2.6
13	335	11.9	212	4.9	105	(3.6)	4.6	2.6
14	320	11.8	230	(4.7)	110	3.4	4.3	2.6
15	310	11.8	230	4.6	111	3.2	4.1	(2.6)
16	(275)	11.4	238	---	107	2.8	4.2	2.6
17	275	12.2	260	---	111	2.2	4.3	(2.8)
18	270	11.6					3.4	(2.7)
19	270	11.4					3.1	(2.6)
20	260	11.6					2.3	(2.8)
21	255	12.4						(2.8)
22	245	(10.8)						3.0
23	245	9.3						(2.9)

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

TABLE 73

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

Form adopted June 1946

IONOSPHERIC DATA

h' F2 (Characteristic), Km (Unit), June (Month), 19 53

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., L.A.L., E.J.W.

Calculated by: McC., L.A.L., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	S	(290)^{S}	S	S	280	240	230	230	500	450	410	G	G	570	540	390	330	290	300	[270]^{A}	(240)^{A}	240	280	(280)^{S}
2	270	270	[280]^{S}	280	[260]^{S}	250^{H}	270^{K}	290^{K}	G^{K}	G^{K}	G^{K}	G^{K}	420^{K}	A^{K}	G^{K}	A^{K}	400^{K}	[390]$^{A}_{K}$	380^{K}	(280)$^{A}_{K}$	[270]$^{A}_{K}$	260^{K}	250	(310)^{S}
3	310	(300)^{S}	220	[260]^{S}	240	300^{K}	580^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	550^{K}	410^{K}	400^{K}	380^{K}	320^{K}	270^{K}	260^{K}	220^{K}	290	280
4	(300)^{S}	(280)^{S}	(270)^{S}	300	(300)^{S}	(270)^{A}	G	G	G	G	400	450	390	350	470	400	390^{H}	370	300	250	230	240	270	290
5	S	A	260	[260]^{A}	250	230	G	G	G	420	G	G	420	450	420	440	320	300	330	250	230	(240)^{A}	250	(280)^{S}
6	(300)^{S}	270	280	240	(260)^{S}	240	G	G	G	340	380	G	420	G	400	380	400	310	290	240	240	280	(300)^{A}	280
7	270	240	[280]^{A}	(320)^{S}	[290]^{H}	240	250	350	460	420	320^{K}	A^{K}	A^{K}	G^{K}	G^{K}	G^{K}	G^{K}	A^{K}	A^{K}	270^{K}	240	230	(270)^{A}	[260]^{A}
8	250	(270)^{S}	280	270	260	280	[290]^{A}	340	[390]^{A}	440^{H}	690	A	A	470	370	400	340	320	310	250	(230)^{A}	(240)^{S}	270	(280)^{A}
9	(250)^{S}	(250)^{S}	(250)^{S}	250	(250)^{S}	250	(300)^{L}	320	350	440	400	330	(420)^{A}	G	370	370	480	320	300	(230)^{L}	240	240	240	270
10	(280)^{A}	(300)^{S}	(300)^{S}	(300)^{S}	270	250^{H}	G	400	440	420	A	A	A	G	540	[380]^{A}	[340]^{A}	360	290	(250)^{A}	[260]^{A}	(260)^{A}	(270)^{A}	(250)^{A}
11	(220)^{A}	(280)^{S}	(290)^{S}	(280)^{S}	(270)^{S}	260	220	G	360^{H}	350	350	380	360	380	400	340^{H}	330	360	A	A	(250)^{A}	220	(270)^{A}	250
12	250	[260]^{A}	(280)^{A}	[300]^{A}	(310)^{A}	(250)^{A}	370	G	430	380	300	330	420	350	340	300	330	280	250	250	230	210	(260)^{S}	260
13	(270)^{S}	(290)^{S}	[300]^{S}	(300)^{S}	[280]^{S}	260	G	A	A	340	A	+^{H}	A	A	460	[400]^{A}	350	330	(300)^{S}	[260]^{C}	230	(270)^{A}	270	260
14	(270)$^{S}_{K}$	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	G^{K}	G^{K}	G^{K}	G^{K}	350	G	380	430	370	[360]^{A}	360	470	300	270	230	220	230	(230)^{S}
15	270	(290)^{A}	[300]^{A}	(300)^{S}	(280)^{S}	(290)^{A}	A	A	A	380^{H}	330	400	420	400	520	480^{H}	350	310	290	[260]^{A}	220	230	(280)^{A}	(290)^{A}
16	(270)^{A}	[290]^{A}	(310)$^{A}_{S}$	[300]^{H}	(240)^{S}	(260)^{H}	310	330	330	290	340	300	330^{H}	380	370	360	330	320	290	(260)^{A}	230	240	(240)^{A}	(258)^{S}
17	(250)^{S}	250	(270)^{S}	(240)^{S}	240	230	320	370	340	350	400	430	460	340	350	360	280	350	280	(270)^{L}	240	250	250	250^{H}
18	(230)^{H}	(260)$^{H}_{S}$	S	A	(300)^{S}	240	280	(310)^{S}	G	G	G	440	400	400	400	(380)^{H}	320	320	300	250	230	220	220	250
19	(270)^{A}	250	240	270	240	240	420	300	420	460	[420]^{A}	380	390	340	450	450	350	360	270	250	240	(240)^{A}	230	230
20	240	240	[260]^{S}	(270)^{S}	(260)^{S}	230	310	300	320	350	360	390	350	320	400	350	320	310	250	270	320	200	210	(280)^{S}
21	A	S	S	270	(260)^{A}	270	A	A	A	310	[350]^{A}	390	450	460	360	360	300	280	290	250	220	200	220	240
22	260	280	[260]^{A}	(240)^{A}	[240]^{A}	(250)^{A}	A	A	430	520	450	320	440	A	S	400	350	[320]^{A}	290	240	220	230	250	280
23	250	250	230	240	(270)^{S}	250	250	310	200	430	320	340	360	300	420	350	330	A	A	A	(250)^{A}	(250)^{A}	(270)^{A}	A
24	A	(300)^{S}	270	A	S	300	G	G	A	A	A	A	H	H	A	(440)^{A}	(340)^{A}	340	[300]^{A}	(250)^{A}	[240]^{A}	230	240	260
25	(280)^{S}	(300)^{S}	(300)^{S}	[290]^{S}	(280)^{S}	230	340	G	350	280	(370)^{H}	G	410	460	350	430	370	320	310	260	220	220	240^{H}	(270)^{S}
26	(270)^{S}	(280)^{S}	260	220	(220)^{S}	230	G	G	380	380	400	S	G	520	530	400	350	(320)^{A}	(300)^{A}	230	230	250	240	260
27	260	270	(240)^{S}	S	S	270	240	320	340	390	(370)^{A}	550	410	G	410	370	340	330	270	(250)^{A}	[250]^{A}	250	260	250
28	260	220	(260)^{S}	270	(270)^{S}	230	360	380	(460)^{H}	370	(380)^{A}	G	440	350	A	A	G	400	300	270	250	(240)^{A}	270	250
29	A	A	250	270	(270)^{S}	250	230	G	G	470	400	340	420	G	460	G	400	330	340	(310)^{A}	270	(280)^{S}	330	(310)^{S}
30	280	[300]^{A}	(320)$^{S}_{K}$	(320)$^{S}_{K}$	E^{K}	300^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	460^{K}	360^{K}	330^{K}	320^{K}	[290]$^{K}_{C}$	260^{K}	(250)^{S}	(260)^{S}	290
31																								
Median	(270)	(280)	(270)	(270)	(270)	250	320	390	440	420	400	440	420	460	420	400	350	320	300	260	240	240	260	260
Count	25	26	26	25	27	24	27	26	26	29	27	24	25	26	27	28	30	28	27	28	30	30	30	29

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 accepted June 1946

IONOSPHERIC DATA

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

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: McC., L.A.L., E.J.W.

Lat 38.7°N, Lang 77.1°W

75° W Mean Time

Calculated by: McC., L.A.L., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.4	2.4	2.1	1.9	1.8	2.9	3.6	4-	4.3	4.2	4.4	(4.1)G	(4.2)G	4.4	4.8	5.0	5.5	5.4	5.0	5.0	4.8	4.5	3.6	3.4
2	3.3	3.0	2.6	2.3	2.0H	(2.7)F	3.0K	3.3K	(3.5)K	(3.8)K	(3.9)K	(4.0)K	4.7A	AK	(4.0)K	AK	4.5K	(4.2)A	4.0K	4.2K	4.3KA	3.4)S	(3.7)F	2.8F
3	2.4	2.4F	2.4F	(1.9)S	(2.2)S	2.5K	3.8A	(3.6)K	(3.7)K	(4.0)K	(4.0)K	(4.0)K	(4.0)K	(4.2)K	4.3K	4.5K	4.5K	4.4K	4.5K	4.5K	4.7K	4.1K	3.3	(3.4)S
4	3.0F	2.8F	(2.4)F	2.2F	(2.1)F	2.8	(3.2)G	(3.6)G	(4.0)G	(4.0)K	4.6	4.7	4.7	4.4	4.6	4.7	4.7H	4.7	5.0	5.5	4.2F	3.6F	3.3F	2.4F
5	2.0	[2.2]A	2.3F	(2.5)S	2.6F	3.3	(3.6)G	(3.5)G	(3.8)G	4.3	(4.1)G	(4.2)G	4.6	4.6	4.6	4.6	5.4	5.0	5.1	5.7	5.8	5.2F	3.2	2.6
6	2.6F	2.5	2.5	2.4	2.3	3.0	(3.6)G	(3.6)G	(3.8)G	5.0	4.7	(4.1)G	4.5	(4.1)G	4.8	4.7	4.6	5.0	4.8	4.9	4.2	3.6	(3.1)S	3.1
7	3.1	2.9	[2.6]A	2.2	1.9	2.8	3.8	4.3	4-	4.5	5.0K	H	AK	(4.2)K	(4.1)K	(4.1)K	(3.9)K	AK	AK	4.6K	5.0	4.5	(3.7)FA	(3.2)FA
8	2.7	2.5	2.2F	2.1S	2.3	3.3	(3.8)FA	(4.3)FA	(4.3)H	4.5H	(4.5)P	A	A	4.6	4.4	4.8	4.9	4.7	4.6	4.9	5.2	4.5	3.9	3.5SA
9	3.3	2.8S	2.6S	2.2	(2.0)S	3.1	4.2	4.7	4.5	4.6	(4.9)H	5.0	(4.6)A	(4.3)G	5.0	5.0	4.8	5.0	4.7	5.2	5.2	4.7	3.6	3.2
10	(3.1)S	2.8	2.7S	2.3	2.3	2.8H	(3.3)G	4.3	(4.4)S	4.5	(4.6)SA	A	A	(4.3)K	4.6	[4.8]A	[4.6]A	(4.7)A	5.4	5.1	[5.2]A	5.4	4.7	4.6
11	3.3E	2.5	2.3	2.1	2.0	2.4	3.7	(3.8)G	4.7H	(4.6)A	5.0	4.9	5.2	5.0	4.8	5.4H	5.2	4.9	5.6	[6.0]A	6.4	4-	3.6	3.3F
12	3.2ES	3.2	2.6F	[2.5]A	2.4	2.9A	3.7	(4.1)G	4.5	4.9	5.8	5.5	5.3	5.9	6.6	6.6	7.2	6.0	7.6	6.0	6.0	4.5	3.8	4.6S
13	2.6	2.2	1.9S	(1.8)S	1.9S	3.0	(3.3)G	A	A	4.7	A	A	A	A	4.5	[4.8]S	5.2	5.0	(5.2)S	[5.1]C	5.0	4.2	3.7	(3.4)S
14	3.1K	AK	AK	AK	AK	[2.6]AK	(3.2)GK	(3.1)GK	(3.9)GK	(4.0)GK	4.8	(4.2)G	5.0	4.7	(5.1)S	4.6SA	4.8	4.5	5.0	5.4	5.0	5.1	4.0	3.2
15	2.5	2.4	[2.2]A	2.1	[2.0]S	3.1	A	A	4	4.5K	(4.7)S	5.1	4.4	(4.8)S	4.7	4.8)M	4.8	4.9	5.4	[5.2]A	5.0	4.3	4.0S	(3.7)S
16	2.9	[2.6]A	2.4	[2.4]A	2.3	3.3	4.0	4.8	5.0S	5.6	5.4	5.8	5.0M	5.3	5.4	5.4	5.4	5.5	5.5	5.9	5.8	4.4	4.2	3.7
17	(3.3)S	3.1	2.5	2.3	2.3	3.3	4.0	4.5	5.0	4.8	5.0	5.0	4.8	5.2	5.4	5.6	5.8	5.4	5.2	5.4	(5.8)S	(5.4)S	(4.8)S	4.2H
18	3.6S	2.5A	2.1S	[2.0]H	(1.8)S	(2.7)S	(3.3)S	4.1	(3.9)G	(4.0)G	(4.3)G	5.0	4.4	4.4	4.5	5.0H	5.3	5.0	5.2	5.2	5.6	5.0S	4.7	3.6
19	(3.5)A	(3.2)AS	2.6	2.2F	2.3	3.1	4.0	4.4	4.4	4.7	[4.8]A	5.0	5.0	5.0	4.7	4.8	4.7	5.0	5.2	5.4	5.8	5.2S	4.4	3.6
20	3.3F	(3.1)S	(2.8)S	(2.2)F	2.0S	3.0	4.1	4.2	4.8	(5.0)A	5.4	5.2	5.8	5.4	5.2	5.8	6.2	6.8	7.2	7.0	6.8S	(5.4)S	(4.2)S	2.9
21	[3.4]A	2.8	2.4S	2.2F	2.2S	3.0	A	H	A	4.8	[4.8]A	4.8	4.8	4.8	5.4	5.4	6.0	5.5S	5.6	5.6	6.2	5.0	(3.5)S	3.0F
22	2.6	2.5F	2.6	(2.5)A	(2.2)F	3.3	(4.1)A	[4.4]A	4.6	4.5	4.9	5.3	(4.8)S	A	5	4.8	5.0	[5.0]A	5.4	5.6	5.4	4.5	3.9	3.7F
23	3.5F	3.2	2.7S	2.6	2.3F	3.5	4.1	5.0	5.5	4.9	5.3	5.2	5.3	5.6	5.2	5.3	6.0	6.6	[6.3]A	(6.0)A	4.7	4.2	3.[illegible]	A S
24	A	2.6	2.5S	[2.3]S	(2.1)S	2.8	(3.5)G	(3.7)G	A	A	A	A	A	A	A	4.9	5.4	5.8	6.1S	6.2	[5.6]A	5.3	4.3	3.6
25	2.9	2.5	2.3	2.1	2.0	3.3	4.1	(3.8)G	4.7	4.8	(4.4)K	(4.3)G	(4.5)A	4.9	5.2	4.8	5.0	5.4	5.4	5.5	6.0	4.9	3.5H	3.1
26	(2.8)S	2.9	2.6	2.4	1.7S	3-	(3.2)G	(3.7)G	4.6	4.7	4.6	5-	(4.3)G	4.6	4.7	5.0	5.3	(5.0)A	5.4	6.0	5.0	4.5	4.0	3.8
27	3.1F	(3.0)ES	2.4S	1.9F	1.7S	2.8	3.6	3.8	4.6	4.9	(4.9)A	4.5	5.0	(4.3)G	4.9	5.1	5.2	5.4	5.2	4.9	5.0	4.9	4.2	4.1
28	3.8	(3.3)S	2.6	2.5	2.1	2.3	3.8	4.1	(4.5)H	4.7	(4.8)A	(4.2)G	4.7	5.4	A	A	<4.0G	4.7	5.4	5.5	5.8	4.9	4.3	3.8
29	3.8	3.3	2.9	2.4	1.9C	2.9	3.8	(3.7)G	(3.8)G	4.5	5.0	5.4	4.6	(3.4)G	4.7	(3.8)G	4.4	5.2	4.7	4.5	4.0	3.9	3.1	3.2S
30	2.8	[2.4]A	1.9KA	(1.8)S	<1.0EK	2.4K	(3.0)GK	(3.4)GK	(3.6)GK	(3.7)GK	(4.1)GK	(4.2)GK	(4.2)K	(4.2)GK	(4.1)GK	4.4A	4.7K	4.8K	4.3K	[4.3]GK	4.3K	4.2	(4.0)RS	(3.5)RS
31																								
Median	3.1	2.8	2.5	2.2	2.1	3.0	3.7	(4.1	4.4	4.6	4.8	4.5	4.8	4.6	4.8	4.8	5.0	5.0	5.2	5.4	5.2	4.8	3.8	3.5
Count	29	29	29	29	29	31	28	27	26	29	28	24	25	26	27	23	30	29	29	30	30	30	30	29

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 accepted June 1946

IONOSPHERIC DATA

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

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: McC., E.J.W., L.A.L.

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

Calculated by: McC., E.J.W., L.A.L.

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

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

h' F1 (Characteristic), Km (Unit), June (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: McC., E.J.W., L.A.I.

Lat 38.7° N, Lang 77.1° W

75° W Mean Time

Calculated by: McC., E.J.W., L.A.I., B.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1							210	210	210	210	190 H	200	210	180	190 H	230	220	[240] A	(250) A	A						
2							200 K	180 K	200 H K	200 H K	190 H K	220 K	200 K	[220] A K	(230) A K	A K	A K	A K	(250) A K	A K						
3							240 K	210 H K	210 H K	200 K	200 H K	180 K	210 K	190 H K	210 H K	200 K	200 K	230 K	(230) A K	A K						
4							250	210 H	220	210	200	190	190	220	200	200	210	210	[220] A	230						
5							200	200 H	200	210	200	190	200	220	200	200	230	[220] B	220	220						
6							230 H	220	[220] A	220	200 H	230	240	200	200	200 H	230	(220) B	220	(230) A						
7							A	220	210	210	A K	A K	A K	220 K	200 K	200 K	210 K	A K	A K	A K						
8							Q	(220) A	[210] A	200	190	A	A	(210) A	200	200 H	220 H	210 H	220	A						
9							230	(230) A	220	200	200	A	A	200	(230) A	[220] A	(220) A	220 H	[220] A	210						
10							240	210	220	200	A	A	A	(220) A	(230) A	A	A	(230) A	●30 H	A						
11							Q	220	(230) A	[210] A	190	200	180	200	200	200 H	190 H	190 H	A	A						
12							A	(240) A	(220) A	220	190	170	180 H	210	210	200 H	220 H	210 H	240	230						
13							220	A	A	190	A	A	A	A	(230) A	[240] A	(250) A	A	A	C						
14							220 K	220 K	200 H K	200 K	200	190	190	220	200	[210] A	220	210	(250) A	(250) A						
15							A	A	A	200	200	200	210	200	200 H	200	200	220	A	Q						
16							A	A	210 H	A	A	190 H	230 H	190	200	190	190	220	240	A						
17							230	210	210	200	200	190	200	190	210	230	230	210 H	200	240						
18							230	180	200 H	180	230 H	190	190	230 H	190 H	210	200 H	200	200	230						
19							Q	200	(230) A	(200) A	[240] A	(230) A	200	(240) H A	230	200	200	200	200 H	Q						
20							200	200	200	A	A	220	210	200	230	220	190	190 H	220	230						
21							A	A	A	180	[180] A	170	190	200	180	210	[210] H	210	190 H	230						
22							A	A	200	210	210	200	(210) S	(170) H	220	200	210	A	A	A						
23						220	230	[220] A	220	190	230 H	A	A	A	A	200	250	A	A	A						
24						200	220	A	A	A	A	A	A	A	A	A	A	230	A	A						
25						Q	210 H	(210) A	(210) A H	200 H	210 H	190	[180] A	180	200	200	210 H	200	(250) A	A						
26						(220) A	(200) H	220	200	180	130 H	180	200	200	180	200	230	A	A	A						
27						200	[220] A	230	220 H	210	(210) A	[200] A	190 H	S	H A	210	230	220 H	230	A						
28						Q	220	220	210	210	[200] A	200 H	250	220	A	A	210	[230] A	(250) A	240						
29						Q	Q	230	220	210	200 H	220	190	(240) A	200	220	230	230	230	A						
30						230 K	250 K	220 K	200 K	220 K	210 K	190 K	180 K	[200] A K	210 H K	210 H K	230 H K	210 H K	200 H K	C K						
31																										
Median						220	220	220	210	210	200	190	200	200	200	200	220	220	220	230						
Count						5	20	24	20	21	24	23	23	20	26	26	27	24	22	11						

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 77

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

Form accepted June 1946

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

IONOSPHERIC DATA

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Lat 38.7°N, Lang 77.1° W

75° W Mean Time

Scaled by: McC., E.J.W., L.A.L.

Calculated by: McC., E.J.W., L.A.L.

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							L	3.6	4.0	4.0	4.1 H	4.1	4.2	4.1	4.1 H	4.0	3.9	A	L	A				
2							2.6 K	3.1 K	3.5 H K	3.8 H K	3.9 H K	4.0 K	4.0 K	[4.0] A K	4.0 K	[3.8] H K	(3.7) B K	[3.5] A K	3.5 K	A K				
3							3.0 K	3.6 H K	3.1 H K	4.0 K	4.0 H K	4.0 K	4.0 K	4.2 H K	4.0 H K	3.9 H K	3.8 H K	3.5 K	3.2 K	L K				
4							3.2	3.6 H	4.0	4.0	4.2	4.2	4.2	4.0	4.0	4.0	3.9	3.5	4	L				
5							3.6	3.5 H	3.8	4.0	4.1	4.2	4.2	4.2	4.1	4.0	3.9	(3.7) B	3.3	L				
6							3.6 H	3.6	3.8	4.0	4.1 H	4.1	4.1	4.1	4.1	4.0 H	3.9	[3.6] B	3.2	L				
7							A	3.7	3.9	4.1	4.1 K	A K	A K	4.2 K	4.1 K	4.1 K	3.9 K	4 K	A K	4 K				
8							Q	3.7	(3.1) A	4.0	4.1	4	4	4.3	(4.1) H	4.1 H	4.0 H	3.6 H	3.3	4				
9							(3.3) P	3.7	3.1	4.0	4.1	[4.1] A	(4.2) A	4.3	4.2	[4.2] A	4.1	3.7 H	3.1	L				
10							3.3	3.1	4.0	4.0	4	A	4	4.3	4.2	A	4	3.7	3.4 H	4				
11							Q	3.8	3.1	[4.3] H	4.0	4.3	4.3	4.2	4.3	4.1 H	4.0 H	3.7 H	A	4				
12							3.3	4.1	4.0	4.2	(4.3) P	4.3	4.4 H	(4.4) S H	4.2	4.1 H	(4.0) S H	3.9 H	L	L				
13							3.3	4	4	4.0	4	A	4	4	(4.2) H	[4.1] H	4.0	(3.8) A	S	C				
14							S 3.2 K J	3.7 K	(3.9) H K	4.2 K	4.2	4.2	4.4	4.2	4.2	4.1	4.0	3.9	3.4	L				
15							A	4	4	4.2	4.3	4.4	4.4	4.3	4.3 H	4.2	4.0	3.7	4	Q				
16							3.4	3.8	4.1 H	4.2	[4.2] A	4.3 H	4.4 H	4.4	4.3	4.2	4.0	3.9	L	H				
17							3.4	3.8	4.0	4.2	4.2	4.4	4.4	4.3	4.2	4.2	4.1	4.1 H	L	L				
18							(3.4) A	3.7	3.9 H	4.0	4.3 H	(4.3) P	4.3	4.3 H	4.3 H	4.2	4.0 H	3.8	3.6	L				
19							Q	3.6	4.1	4.2	[4.2] A	4.3	4.3	4.4 H	4.3	4.2	4.1	(3.4) S	3.6 H	Q				
20							3.4	3.8	4.0	[4.2] A	4.3	4.4	4.4	4.4	4.4	4.3	4.0	3.9 H	3.4	L				
21							A	4	A	4.1	[4.2] H	4.3	4.3	4.3	4.3	4.1	[4.0] A	3.8	3.4 H	L				
22							A	4	4.0	4.1	4.3	4.3	(4.3) S	4.3 H	(4.3) S	4.2	4.0	H	A	H				
23						L	L	4	4.1	4.2	(4.3) H	4.3	4.3	H	A	4.2	4.0	A	4	4				
24						2.1	3.5	3.7 H	4	A	H	A	4	4	H	4	A	3.7	A	A				
25						Q	(3.2) H J	3.9	(3.1) H	(4.1) H	4.2 H	4.3	[4.2] A	4.2	4.2	4.0	4.0 H	3.5	3.5	L				
26						1.9	3.6 H	3.7	3.7	4.0	4.3 H	4.3	4.3	4.4	4.2	4.2	3.9	[3.6] A	(3.4) H	L				
27						2.0	[2.8] A	3.5	3.7 H	4.1	(4.2) A	4.2	4.3 H	(4.3) H	4.2 H	4.2	4.0	3.9 H	3.4	A				
28						Q	3.2	3.7	4.0	4.2	[4.4] H	4.2 H	4.2	4.2	A	H	4.0	3.8	3.4	L				
29						Q	Q	3.7	3.9	4.0	4.2 H	4.2	4.2	(3.9) A	3.9	3.8	3.8	3.7	3.4	4				
30						1.9 K	3.0 K	3.4 K	3.6 S K	3.7 K	4.1 K	4.2 K	(4.2) A K	(4.2) H K	4.1 H K	(3.9) H K	3.8 H K	3.6 H K	3.3 H K	Q K				
31																								
Median						—	3.3	3.7	3.7	4.0	4.2	4.3	4.3	4.3	4.2	4.1	4.0	3.7	3.4	—				
Count						4	20	25	26	29	27	25	25	27	27	27	28	26	18					

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

h' E (Characteristic), Km (Unit), June (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, L. A. L.

Calculated by: McC., E. J. W, L. A. L.

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	110	110	100	100	100	100	100	100	100	100	110	110	120	A				
2							120 K	110 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	110 K	(110) B K	(110) B K	S K				
3						S K	A K	110 K	110 K	100 K	100 K	100 K	100 K	100 K	100 K	100 K	110 K	110 K	110 K	S K				
4						A	110	110	100	100	100	100	100	100	100	100	100	A	A	S				
5						A	100	100	100	[100] A	100	100	(100) A	100	100	100	110	(110) B	(120) B	S				
6						S	110	110	110	110	110	110	110	(110) A	(100) A	(110) A	(110) A	[110] B	110	(110) S				
7						S	120	110	110	110	110 K	100 K	110 K	100 K	100 K	[100] B K	110 K	110 K	110 K	S K				
8						S	A	110 H	110 H	110	110	110	A	A	100	100 H	(110) S	110	(100) S	A				
9						110	(110) S	A	A	110 H	110	110	110	110	110	A	A	110	120	(120) S				
10						140	110	110	110 H	(110) A	110	110	A	A	A	A	A	A	(100) A	S				
11						(120) S	110	110	110	100	100	100	100	100	100	100	110	110	A	A				
12							110	110	100	100	100	100	100	100	100	110	110	110	110	A				
13						S	110	110	110	110	110	[110] A	(110) A	(110) A	110	100	110	110	110	C				
14							110 K	(110) A K	110 K	100 K	(100) A	100	100	100	100	100	100	110 H	110	A				
15						S	110	100	[100] A	(100) A	A	A	A	100	100	100	100	110	110					
16						S	110	110	110	110	110	100	110	100	100	110	110	110 H	110	S				
17						120	110	110	100	100	100	100	100	(110) A	110	100	110	110	110	S				
18						A	A	A	(110) A	110	100	100	100	100	100	100	(100) A	100	100	S				
19						S	100	100	100	100	100	100	100	100	100	100	100	100	100	110				
20						A	(100) A	100	(100) A	100	100	100	(100) A	(100) A	100	100	100	100	100	100				
21						A	100	100	100	100	100	100	100	100	100	100	100	100	100	100				
22						A	A	A	(100) A	(100) A	(100) A	(100) A	(100) A	(100) A	(100) A	100	100	100	100	A				
23						S	100	100	100	100	90	90	90	[100] A	100	100	100	110	110	A				
24						A	(110) A	110	100	100	100	110	100	110	100	(100) A	100	110	110	110				
25						120	110	(110) A	A	A	A	A	A	100	100	100	100	100	100	A				
26						110	110	100	100	100	100	[100] A	100	100	100	100	100	110	110	A				
27						A	110	110	110	110	110	110	110	110	[110] A	110	110	110	120	A				
28						110	[110] A	110	110	110	110	110	110	110	110	110	110	120	120	120				
29						110	110	110	110	110	110	110	110	110	110	110	110	120	120	S				
30						120 K	120 K	110 K	110 K	110 K	110 K	110 K	110 K	A K	A K	100 K	100 K H	110 K H	110 K H	C K				
31																								
Median						120	110	110	100	100	100	100	100	100	100	100	110	110	110	110				
Count						9	26	27	28	29	28	28	26	27	28	28	28	28	28	7				

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

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

IONOSPHERIC DATA

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., L.A.L., E.J.W.

Calculated by: McC., L.A.L., E.J.W., B.W.

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

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 80

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

Form adopted June 1946

IONOSPHERIC DATA

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

Observed at Washington, D.C.

Lat. 38.7°N, Lang 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: McC., L.A.L., E.J.W.

Calculated by: McC., L.A.L., E.J.W.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	3.3	2.6	E	E	2.4	4.4	2.9	7.2	G	G	G	G	3.5	3.7	G	G	G	4.7	3.7	4.7	3.5	E	E	E
2	E	E	2.7	E	E	E	G	G	G	G	G	3.9	6.6	5.3	3.9	5.5	3.5	5.3	2.7	3.9	4.9	E	3.7	E
3	E	E	E	2.7	E	3.3	2.0	3.2	G	G	3.3	G	G	G	3.6	G	6.8	4.8	2.6	3.6	4.0	2.9	3.0	E
4	E	E	E	2.5	5.2	3.7	3.2	3.5	4.1	4.1	3.5	3.8	G	G	4.5	3.6	4.5	6.9	4.9	2.1	E	E	E	3.0
5	E	3.9	E	3.2	E	3.9	G	3.6	3.5	4.5	3.4	G	2.7	3.1	G	G	G	G	G	1.9	E	3.7	E	E
6	E	E	E	E	E	2.9	3.5	G	3.9	3.0	2.9	3.0	G	3.0	2.9	2.8	2.5	2.3	2.5	2.1	3.1	3.2	3.2	E
7	E	3.0	4.3	4.3	3.5	G	3.0	2.6	G	G	G	5.3	4.8	G	G	B	G	6.4	6.3	3.9	7.0	9.0	6.0	4.6
8	5.2	2.5	2.6	8.0	2.6	2.4	7.0	3.7	4.8	3.3	4.0	7.8	7.4	8.1	G	G	G	G	2.5	3.6	3.3	3.5	3.0	4.8
9	3.5	E	E	E	E	G	2.5	4.9	4.4	4.3	4.7	4.0	5.0	3.7	6.9	5.6	4.5	3.7	3.1	G	E	E	2.4	3.5
10	6.8	7.4	4.2	2.6	2.5	G	G	3.6	4.2	7.0	5.3	6.6	5.9	5.2	6.8	5.6	6.5	4.7	3.9	4.5	6.8	5.4	4.3	4.9
11	3.0	2.9	2.8	E	E	G	3.4	3.7	4.5	5.4	4.3	4.6	G	4.0	3.8	3.8	G	G	8.0	11.0	7.0	4.5	4.3	6.8
12	5.3	4.0	3.0	4.7	4.5	4.1	4.1	4.6	4.5	4.5	G	6.9	G	G	G	G	G	G	3.4	3.1	2.9	E	E	F
13	E	E	2.6	E	E	7.0	3.3	5.2	5.4	8.0	6.4	8.4	9.0	8.4	4.7	6.6	7.0	7.4	4.1	C	4.6	4.7	3.4	4.2
14	5.4	7.2	8.4	8.0	5.6	6.0	3.5	3.8	4.1	G	4.0	3.8	4.4	G	G	6.0	G	G	3.6	3.6	5.5	2.7	E	5.2
15	2.4	4.4	4.0	4.4	E	3.6	5.8	9.2	10.5	5.4	5.0	4.1	4.5	G	4.0	G	5.8	4.3	5.8	9.0	4.8	2.2	5.0	4.5
16	4.9	4.2	3.8	4.0	1.9	4.8	4.0	5.0	4.0	4.7	5.8	G	3.6	7.0	3.8	G	G	G	2.6	6.6	(4.8)	3.2	3.8	2.1
17	E	E	E	7.0	E	2.4	3.2	7.2	4.8	4.8	4.8	6.8	3.9	5.2	4.5	4.0	G	G	3.3	G	E	(2.4)	(3	5.1
18	3.3	2.9	3.8	3.8	4.2	3.7	4.9	5.0	6.4	4.3	4.7	5.0	5.2	5.0	5.2	6.8	3.7	G	G	2.9	2.2	2.6	2.7	3.0
19	4.5	4.0	3.8	2.5	E	E	3.7	4.2	5.0	7.3	5.9	5.6	3.9	4.7	3.8	3.8	2.8	3.4	3.4	2.4	4.7	4.3	3.6	3.3
20	3.3	2.6	E	3.9	E	2.5	3.2	3.7	4.4	7.0	4.9	3.8	3.7	4.4	3.5	G	G	G	G	3.0	E	E	2.4	6.8
21	6.6	6.6	4.2	2.8	3.3	3.5	7.0	4.9	5.3	5.7	7.0	6.7	6.0	7.5	G	4.8	4.6	5.8	3.4	4.7	6.9	3.1	F	
22	E	E	3.9	6.4	3.7	4.6	9.0	13.0	4.4	7.0	6.0	6.0	5.3	5.1	3.6	G	G	6.2	5.8	5.8	5.2	3.2	3.8	
23	E	E	E	E	E	G	3.3	7.6	7.0	11.1	3.6	9.0	7.0	5.5	6.4	G	G	7.2	11.1	9.8	5.4	4.3	3.1	
24	5.2	9.2	4.2	3.8	3.1	1.7	6.0	4.9	6.4	10.0	8.0	7.6	10.0	8.5	5.8	9.4	6.4	3.7	6.0	5.6	7.6	4.5		E
25	E	E	4.4	E	2.5	4.7	3.3	7.6	8.2	4.1	3.5	4.2	5.1	3.5	3.5	4.0	G	5.6	5.6	3.1	2.5	2.5	3.0	E
26	E	E	E	E	E	G	15.0	G	4.2	G	G	5.0	4.5	4.2	4.5	G	5.0	5.5	5.4	6.6	3.8	3.2		3.2
27	3.4	4.7	3.0	2.9	2.7	1.8	3.1	3.7	4.2	4.4	4.9	5.1	5.8	6.2	5.8	11.0	G	4.8	3.1	5.4	5.6	E	3.3	2.5
28	2.4	2.2	E	E	6.8	1.4	4.7	3.6	3.1	4.4	7.0	4.6	4.7	4.9	9.0	7.1	G	5.0	4.5	3.1	4.5	4.9	3.6	3.1
29	5.7	4.5	2.5	E	2.4	10.5	3.1	3.7	3.9	G	G	4.5	4.4	7.4	6.4	5.0	3.7	G	G	4.8	E	E	E	E
30	E	4.0	7.0	E	7.4	G	3.5	3.5	6.6	G	G	G	6.8	4.2	4.3	G	G	3.9	G	C	E	E	3.8	2.3
31																								
Median	2.7	2.8	2.8	2.6	2.4	2.7	3.4	3.8	4.4	4.4	4.2	4.6	4.6	4.6	3.8	3.7	* *	4.1	3.5	3.8	3.9	2.8	3.2	3.0
Count	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	28	30	30	30	30

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

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 accepted June 1946

IONOSPHERIC DATA

(M1500)F2 (Characteristic), — (Unit), June (Month), 1953

National Bureau of Standards (Institution)

Observed at Washington, D.C.

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

Lat. 38.7°N, Long. 77.1°W

75° W Mean Time

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

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.9	2.0	2.1	(2.1)J S	2.1	2.4	2.4	2.0	1.7	1.9	1.9	G	G	1.6	1.6	1.9	2.0	2.2	2.1	2.1	2.1	2.1	2.0	1.9
2	2.0	2.0	1.9	2.0	1.8 F	(2.1)H	2.4 K	2.5 K	G K	G K	G K	G K	1.8 K	A K	G K	A K	1.9 K	A K	1.9 K	2.0 K	2.2 K	(1.9)J S	(2.0) F	(1.9)J F
3	1.8	2.0 F	2.1 F	(1.8) S	(2.0) S	2.0 K	1.6 K	G K	G K	G K	G K	G K	G K	G K	1.6 K	1.9 K	1.9 K	1.9 K	2.0 K	2.1 K	2.1 K	2.1 K	1.9	(1.9) S
4	1.9 F	2.2 F	(1.8) F	1.9 F	(1.9)J F	2.2	G	G	G	G	1.9	1.8	2.0	2.1	1.7	1.9	2.0 H	1.9	2.1	2.3	2.3 F	2.0 F	1.9 F	(2.1)J F
5	1.9	A	2.6 C	(2.2)A S	2.2 F	2.3	G	G	G	1.9	G	G	1.9	1.8	1.9	1.7	2.0	2.2	2.0	2.2	2.2	(2.3)J F	2.1	2.0
6	1.9 F	2.0	2.6	2.1	2.0	2.3	G	G	G	2.1	2.1	G	1.9	G	1.9	2.0	1.9	2.1	2.2	2.3	2.1	2.0	(2.0) S	2.1
7	2.1	1.9	A	2.0	A	2.0	2.3	2.2	1.8	1.9	2.2 K	A K	A K	G K	G K	G K	G K	A K	A K	2.2 K	2.1	2.1	(2.2) F A	(2.1) P A
8	2.1	2.0	2.1 F	(2.0)J S	2.2	2.3	(2.5) P A	(2.0) P S	A	1.8 H	(1.4) P	A	A	1.8	2.0	1.9	2.1	2.1	2.1	2.2	2.2	2.2	2.1	(2.1)J A
9	2.1	(2.1)J S	2.0 S	2.1	(2.0) F S	2.2	2.2	2.2	2.0	1.8	(1.9) H	2.2	(1.9) A	G	1.9	1.9	1.9	2.0	2.2	2.2	2.1	2.1	2.2	2.0
10	(2.1) S	2.0	(1.9)J S	2.0	2.0	2.2 H	G	1.9	(1.9) S	1.9	(1.8)J A	A	A	G	1.6	A	A	(1.9) A	2.2	2.2	A	2.1	2.0	2.2
11	2.2 F	2.0	1.9	2.1	2.0	2.1	2.1	G	2.0 H	(2.1) A	2.1	2.1	2.0	2.0	2.0	2.1 H	2.2	1.9	A	A	2.3	2.3	2.1	2.0 F
12	(2.1) F J	2.0	2.1 F	A	2.0	(2.3)J A	2.0	G	2.0	2.0	2.2	2.2	1.8	1.9	1.9	1.9	1.9	2.0	2.3	2.1	2.2	2.0	2.1	(2.0)J S
13	1.9	1.9	(1.5)J S	(2.0)J S	(1.9)J S	2.3	G	A	A	2.1	A	A	A	A	1.8	A	2.0	2.0	(2.0) S	C	2.1	1.9	1.9	(1.9) S
14	2.0 K	A K	A K	A K	A K	A K	G K	G K	G K	G K	2.2	G	1.9	1.9	(2.0) S	(1.8)J A	2.0	1.8	2.0	2.0	2.1	2.2	2.2	2.2
15	2.0	1.9	A	2.0	S	2.4	A	A	A	1.9 H	(1.8) S	2.3	1.9	(1.9)J S	1.7	(1.8) H	2.1	2.2	2.2	A	2.1	2.1	(2.1)J S	(2.0) S
16	2.2	A	2.0	A	1.9	2.2	2.2	2.2	(2.1)J S	2.3	2.0	2.2	2.3 H	2.0	1.9	2.0	2.1	2.0	2.1	2.2	2.2	2.1	2.1	2.0
17	(2.1) S	2.0	2.0	2.0	2.0	2.2	2.2	2.0	2.0	2.0	1.9	1.9	1.8	1.9	2.0	2.0	2.2	1.9	2.1	1.9	(2.1) S	(2.0) S	(2.1) S	2.1 H
18	2.1 S H	2.1 H	1.9 S	A	(2.0) S	(2.2)J S	(2.4) S	2.4	G	G	G	1.7	1.9	2.0	1.9	2.0 H	2.1	2.0	2.1	2.1	2.2	(2.1)J S	2.2	2.0
19	(2.1) A	(2.2) S A	2.2	2.0 F	2.2	2.2	2.3	2.3	1.9	1.8	A	2.0	1.9	2.2	1.8	1.8	2.0	2.0	2.2	2.3	2.3	(2.2)J S	2.3	2.1
20	2.2 F	(2.3) S	(2.2)J S	(1.9) S F	(2.1)J S	2.2	2.3	2.3	2.3	(2.0) A	2.0	1.9	2.0	2.1	1.9	1.9	2.0	2.0	2.0	2.1	(2.2)J S	(2.5) S	S	2.1
21	A	1.9	2.0 S F	2.0 F	(1.8)J S	2.3	A	A	A	2.3	A	2.0	1.8	1.8	2.0	2.0	2.2	(2.1)J S	2.1	2.1	2.3	2.3	(2.2) S	(2.0)J S
22	2.0	2.0 F	2.3	(2.3)J A	(2.3) S F	2.3	(2.3)J A	A	1.8	1.7	1.8	2.1	(1.8) S	A	S	1.9	2.0	A	2.1	2.3	2.2	2.0	2.0	1.9 F
23	2.0 F	2.1	(2.2)J S	2.2	2.1 F	2.4	2.4	2.2	2.5	1.9	2.3	2.1	2.0	2.0	1.9	2.0	2.0	A	A	(2.2) A	2.3	1.9	2.0	A S
24	A	1.9	(2.0) S	S	(2.0) S	2.0	G	G	A	A	A	A	A	A	A	1.7	1.9	1.9	(2.2)J S	2.3	A	2.0	2.2	2.0
25	1.8	1.9	2.0	1.9	2.0	2.5	2.1	G	2.1	2.4	(2.0)J H	G	(2.0) A	1.8	2.0	1.9	2.0	2.1	2.0	2.1	2.3	2.2	2.1 H	2.0
26	(2.0)J S	2.0	2.1	2.4	(2.3)J S	2.4	G	G	2.0	2.0	2.0	S	G	1.7	1.6	1.9	2.0	(2.1) A	2.1	2.4	2.3	2.0	2.0	2.0
27	2.0 F	(2.0) F S	(2.3)J S	2.3 F	S	2.2	2.2	2.3	1.9	1.9	(2.1) A	1.6	1.8	G	1.9	2.0	2.1	2.0	2.1	2.3	2.1	2.0	2.1	2.1
28	2.0	(2.3) S	2.1	2.0	2.0	2.0	1.9	2.0	(1.8) H	2.2	(2.0) A	G	1.9	2.0	A	A	G	1.9	2.1	2.0	2.2	2.3	2.0	2.1
29	2.1	2.1	2.1	2.2	2.0 F	2.3	2.1	G	G	1.7	1.9	2.1	1.8	G	1.6	G	1.8	2.0	2.0	2.0	1.9	1.9	1.8	(1.9)J S
30	1.9	A	1.9 F K	K (1.9)J S	E K	2.2 K	G K	G K	G K	G K	G K	G K	G K	G K	G K	1.7 K	2.0 K	2.1 K	2.1 K	C K	2.0 K	2.0	(1.9) P S	(1.9) P S
31																								
Median	2.0	2.0	2.0	2.0	2.0	2.2	2.1	2.0	1.8	1.9	1.9	1.8	1.9	1.8	1.9	1.9	2.0	2.0	2.1	2.2	2.2	2.1	2.1	2.0
Count	28	26	27	25	25	29	28	26	25	29	26	24	25	26	27	26	29	26	27	26	28	30	29	29

Sweep 1.0 Mc to 2.50 Mc in .025 min

Manual ☐ Automatic ☒

TABLE 82

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

Form accepted June 1946

IONOSPHERIC DATA

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

Observed at Washington, D.C.

Lat 38.7° N, Lang 77.1° W

75° W Mean Time

National Bureau of Standards (Institution)

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

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

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.9	3.0	3.1	(3.1)$^{J}_{S}$	3.1	3.4	3.4	3.0	2.6	2.8	2.9	G	G	2.4	2.4	2.9	3.0	3.2	3.1	3.1	3.1	3.1	3.0	2.9
2	3.0	3.0	2.9	3.0	2.7^{F}	(3.1)$^{J}_{H}$	3.4$^{F}_{K}$	3.5$^{F}_{K}$	G^{K}	G^{K}	G^{K}	G^{K}	2.7^{K}	A^{K}	G^{K}	A^{K}	2.9^{K}	A^{K}	2.9^{K}	3.0^{K}	3.2^{K}	(2.9)$^{J}_{S}$	(3.0)^{F}	(2.9)$^{J}_{F}$
3	2.7	3.0^{C}	3.1^{F}	(2.7)^{S}	(3.0)^{S}	3.0^{K}	2.3^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	2.5^{K}	2.9^{K}	2.8^{K}	2.8^{K}	3.0^{K}	3.1^{K}	3.1^{K}	3.1^{K}	2.9	(2.7)^{L}
4	2.8^{F}	3.2^{F}	(2.7)^{F}	2.8^{F}	(2.9)$^{J}_{F}$	3.2	G	G	G	G	2.9	2.8	3.0	3.1	2.6	2.9	3.0^{H}	2.9	3.1	3.3	3.3^{F}	3.0^{F}	2.9^{F}	(3.1)$^{J}_{F}$
5	2.9	A	3.0^{F}	(3.2)$^{A}_{S}$	3.2^{F}	3.4	G	G	G	2.8	G	G	2.8	2.7	2.8	2.7	3.0	3.2	3.0	3.2	3.2	(3.3)$^{J}_{F}$	3.1	3.0
6	2.9^{F}	3.0	3.0	3.1	3.0	3.3	G	G	G	3.1	3.1	G	2.9	G	2.8	3.0	2.9	3.1	3.2	3.4	3.1	3.0	(3.0)^{S}	3.1
7	3.1	2.8	A	3.0	A	3.0	3.4	3.2	2.7	2.9	3.2^{K}	A^{K}	A^{K}	G^{K}	G^{K}	G^{K}	G^{K}	A^{K}	A^{K}	3.2^{K}	3.1	3.1	(3.2)$^{J}_{A}$	(3.1)$^{P}_{A}$
8	3.1	3.0	3.2^{F}	(3.0)$^{J}_{S}$	3.2	3.3	(3.5)$^{P}_{A}$	(3.2)$^{P}_{S}$	A	2.8^{H}	(2.1)^{P}	A	A	2.7	3.0	2.9	3.1	3.2	3.1	3.2	3.2	3.2	3.1	(3.1)$^{J}_{A}$
9	3.1	(3.1)$^{J}_{S}$	3.0^{S}	3.1	(3.0)$^{P}_{S}$	3.2	3.2	3.2	3.0	2.8	(2.9)^{H}	3.3	(2.9)^{A}	G	2.9	2.9	2.8	3.0	3.2	3.2	3.1	3.1	3.2	3.0
10	(3.1)^{S}	3.0	(2.9)$^{J}_{S}$	3.0	3.0	3.2^{H}	G	2.8	(2.8)^{S}	2.8	(2.7)$^{J}_{A}$	A	A	G	2.5	A	A	(2.9)^{A}	3.2	3.2	A	3.1	3.0	3.2
11	3.2^{F}	3.0	2.9	3.1	3.0	3.1	3.1	G	3.0^{H}	(3.1)^{A}	3.1	3.1	3.0	3.0	3.0	3.1^{H}	3.2	2.8	A	A	3.3	3.4	3.1	3.0^{F}
12	(3.1)$^{F}_{J}$	3.0	3.1^{F}	A	3.0	(3.3)$^{J}_{A}$	3.0	G	3.0	3.0	3.2	3.2	2.8	2.9	2.9	2.9	2.8	3.0	3.3	3.1	3.2	3.0	3.1	(3.0)$^{J}_{S}$
13	2.8	2.9	(2.8)$^{J}_{S}$	(2.9)$^{J}_{S}$	(2.8)$^{J}_{S}$	3.3	G	A	A	3.1	A	A	A	A	2.7	A	3.0	3.0	(3.0)^{S}	C	3.1	2.9	2.9	(2.9)^{S}
14	3.0^{K}	A^{K}	A^{K}	A^{K}	A^{K}	A^{K}	G^{K}	G^{K}	G^{K}	G^{K}	3.2	G	2.9	2.8	(3.0)^{S}	(2.7)$^{J}_{A}$	3.0	2.7	3.0	3.0	3.1	3.2	3.2	3.2
15	2.9	2.9	A	3.0	S	3.4	A	A	A	2.9^{H}	(2.8)^{S}	3.3	2.8	(2.8)$^{J}_{S}$	2.5	(2.7)^{H}	3.1	3.2	3.2	A	3.1	3.1	(3.1)$^{J}_{S}$	(3.0)^{S}
16	3.2	A	3.0	A	2.9	3.2	3.2	3.2	(3.1)$^{J}_{S}$	3.3	3.0	3.2	3.3^{H}	3.0	2.9	3.0	3.1	3.0	3.1	3.2	3.2	3.1	3.1	3.0
17	(3.1)^{S}	3.0	3.0	3.0	3.0	3.2	3.2	3.0	3.0	3.0	2.8	2.8	2.7	2.9	3.0	3.0	3.2	2.9	3.1	2.9	(3.1)^{S}	(3.0)^{S}	(3.1)^{S}	3.1^{H}
18	3.1$^{H}_{S}$	3.1^{H}	2.9^{S}	A	(3.0)^{S}	(3.2)$^{J}_{S}$	(3.4)^{S}	3.4	G	G	G	2.6	2.9	3.0	2.9	3.0^{H}	3.1	3.0	3.1	3.1	3.2	(3.1)$^{J}_{S}$	3.2	3.0
19	(3.1)^{A}	(3.2)$^{S}_{A}$	3.2	3.0^{F}	3.2	3.2	3.3	3.3	2.8	2.7	A	3.0	2.9	3.2	2.8	2.7	3.0	3.0	3.2	3.3	3.3	(3.2)$^{J}_{S}$	3.3	3.1
20	3.2^{F}	(3.2)^{S}	(3.2)$^{J}_{S}$	(2.9)$^{S}_{F}$	(3.1)$^{S}_{J}$	3.2	3.3	3.3	3.3	(3.0)^{A}	3.0	2.9	2.9	3.1	2.9	2.9	3.0	2.9	3.0	3.1	(3.2)$^{J}_{S}$	(3.6)^{S}	S	3.1
21	A	2.9	2.9$^{F}_{S}$	3.0^{F}	(2.8)$^{J}_{S}$	3.4	A	A	A	3.4	A	3.0	2.7	2.7	3.0	3.0	3.2	(3.1)$^{J}_{S}$	3.1	3.1	3.3	3.4	(3.4)^{S}	(3.0)$^{J}_{F}$
22	3.0	3.0^{F}	3.4	(3.4)$^{J}_{A}$	(3.3)$^{S}_{F}$	3.4	(3.3)$^{J}_{A}$	A	2.7	2.6	2.7	3.1	(2.7)^{S}	A	S	2.9	3.0	A	3.1	3.3	3.2	3.0	3.0	2.8^{F}
23	3.0^{F}	3.1	(3.2)$^{J}_{S}$	3.2	3.1^{F}	3.5	3.4	3.2	3.5	2.8	3.3	3.1	3.0	3.0	2.9	2.9	3.0	A	A	(3.3)^{A}	3.3	2.9	3.0	A^{S}
24	A	2.9	(3.0)$^{J}_{S}$	S	(3.0)^{S}	3.0	G	G	A	A	A	A	A	A	A	2.6	2.9	2.8	(3.2)$^{J}_{S}$	3.3	A	3.0	3.2	3.0
25	2.7	2.9	3.0	2.8	3.0	3.6	3.1	G	3.1	3.5	(2.9)$^{J}_{H}$	G	(3.0)^{A}	2.7	3.0	2.8	3.0	3.1	3.0	3.1	3.3	3.2	3.1^{H}	3.0
26	(3.0)$^{J}_{S}$	3.0	3.1	3.5	(3.3)$^{J}_{S}$	3.5	G	G	3.0	3.0	3.0	S	G	2.6	2.5	2.9	3.0	(3.1)^{A}	3.1	3.4	3.3	3.0	3.0	3.0
27	3.0^{F}	(3.0)$^{F}_{S}$	(3.3)$^{J}_{S}$	3.3^{F}	S	3.2	3.2	3.3	2.9	2.8	(3.1)^{A}	2.4	2.8	G	2.8	3.0	3.1	3.0	3.1	3.3	3.1	3.0	3.1	3.1
28	3.0	(3.3)^{S}	3.1	3.0	3.0	3.0	2.9	3.0	(2.7)^{H}	3.2	(3.0)^{A}	G	2.8	3.0	A	A	G	2.8	3.1	3.0	3.2	3.3	3.0	3.1
29	3.1	3.1	3.2	3.2	2.9^{F}	3.3	3.1	G	G	2.6	2.8	3.1	2.8	G	2.5	G	2.7	3.0	3.0	3.0	2.8	2.8	2.7	(2.8)$^{J}_{S}$
30	2.9	A	2.8$^{F}_{K}$	(2.9)$^{J}_{S}$	E^{K}	3.2^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	G^{K}	2.7^{K}	3.0^{K}	3.1^{K}	3.1^{K}	C^{K}	3.0^{K}	3.1	(2.9)$^{P}_{S}$	(2.9)$^{P}_{S}$
31																								
Median	3.0	3.0	3.0	3.0	3.0	3.2	3.1	2.9	2.7	2.8	2.9	2.8	2.8	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.2	3.1	3.1	3.0
Count	28	26	27	25	25	29	28	26	25	29	26	24	25	26	27	26	29	26	27	26	28	30	29	29

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

Manual ☐ Automatic ☒

TABLE 83

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

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F1 (Characteristic), ____ (Unit), June (Month), 1953

Observed at Washington, D.C.

Lat. 38.7°N, Long 77.1°W

National Bureau of Standards (Institution)

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

75° W Mean Time

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

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							L	3.9	3.8	3.8	3.9 H	4.2	3.9	4.0	3.9 H	3.8	3.7	A	L	A				
2							4.0 K	4.1 K	3.8 H K	3.9 H K	4.0 H K	3.8 K	4.0 K	A K	3.8 K	A K	(3.7) B K	A K	3.3 K	A K				
3							3.7 K	3.8 H K	3.6 H K	3.7 K	4.0 H K	4.2 K	3.9 K	3.9 H K	4.1 K	4.2 H K	4.0 H K	3.7 K	3.5 K	L K				
4							3.6	3.7 H	3.7	4.0	4.0	4.1	4.1	4.0	4.0	3.8	3.8	3.8	A	L				
5							3.5	3.7 H	3.8	3.9	4.0	3.9	4.0	4.1	3.8	3.8	3.6	(3.7) B	3.4	L				
6							3.4 H	3.7	A	4.0	3.8 H	3.9	3.8	3.8	3.8	3.7 H	3.7	B	3.8	L				
7							A	3.7	3.8	3.7	A K	A K	A H	3.8 K	3.9 K	3.6 K	3.7 K	A K	A K	A K				
8							Q	3.7	A	3.9	4.2	A	A	3.9	(4.0) P	3.8 H	3.8 H	3.8 H	3.6	A				
9							(3.8) P	3.7	3.9	4.1	4.1	A	(4.4) A	4.0	4.0	A	3.7	3.7 H	3.7	L				
10							3.5	3.6	3.9	3.9	A	A	A	4.0	3.6	A	A	3.6	3.5 H	A				
11							Q	3.7	3.9	A	4.1	4.0	4.1	4.0	4.1	4.2 H	3.7 H	3.5 H	A	A				
12							A	3.4	3.8	3.7	(4.0) P	3.9	3.9 H	(3.7) S	3.8	3.9 H	(4.0) H S	3.5 H	L	L				
13							3.5	A	A	4.2	A	A	A	A	(3.8) A	A	3.6	A	S	C				
14							K (3.6) S S	4.0 K	K (3.7) H S	3.8 K	3.9	4.2	4.1	4.0	3.9	3.6	3.7	3.7	3.6	L				
15							A	A	A	3.8	3.9	4.0	4.0	4.0	4.0 H	3.9	3.9	3.9	A	Q				
16							3.7	3.5	3.7 H	3.8	A	4.0 H	4.0 H	4.0	3.8	3.8	3.6	3.7	L	A				
17							3.6	3.8	3.8	3.9	3.9	3.7	3.8	3.7	4.0	3.8	3.7	3.4 H	L	L				
18							(3.6) A	3.9	4.0 H	4.0	4.0 H	(4.3) P	4.4	4.0 H	4.1 H	3.9	3.9 H	3.8	3.7	L				
19							Q	3.7	3.9	3.6	A	3.7	4.0	3.8 H	3.8	4.0	3.9	(3.8) S	3.7 H	Q				
20							3.6	3.6	3.7	A	3.6	3.8	3.9	3.9	4.0	3.4	4.0	3.7 H	3.7	L				
21							A	A	A	4.1	A	4.2	4.1	4.0	3.9	3.8	A	3.8	3.7 H	L				
22							A	A	3.6	4.0	4.0	3.9	(4.1) S	4.2 H	(4.0) S	3.4	3.7	A	A	A				
23						L	L	A	3.9	4.0	(3.5) H	A	A	A	A	3.8	3.6	A	A	A				
24						3.7	3.5	3.8 H	A	A	A	A	A	A	A	A	A	3.6	A	A				
25						Q	(3.4) H H	3.4	(3.8) H	(4.0) H	3.9 H	4.0	A	4.0	3.8	3.9	3.4 H	3.9	3.6	L				
26						4.0	3.5 H	3.8	4.1	4.2	3.9 H	4.1	4.0	3.8	4.1	3.7	3.7	A	A	L				
27						3.8	A	3.8	3.6 H	3.9	(4.2) A	A	4.3 H	(3.8) A	A H	3.9	3.6	3.5 H	3.7	A				
28						Q	3.7	3.7	3.8	3.9	A	3.9 H	3.8	4.1	A	A	3.8	3.5	3.4	L				
29						Q	Q	3.6	3.7	3.6	3.6 H	4.0	4.1	(4.0) A	4.1	3.8	3.7	3.6	3.4	A				
30						3.8 K	3.5 K	3.8 K	K (3.7) H S	3.9 K	3.7 K	4.2 K	(4.3) A K	(3.7) H K	3.8 H K	(3.8) H K	3.8 H K	3.7 H K	3.6 H K	C K				
31																								
Median						—	3.6	3.7	3.8	3.9	4.0	4.0	4.0	4.0	3.9	3.8	3.7	3.7	3.6	—				
Count						4	18	25	24	27	22	22	23	26	26	24	27	22	17					

Sweep 1.0 Mc to 25.0 Mc in 0.25 min

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TABLE 84

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

Form adopted June 1946

IONOSPHERIC DATA

(M1500) E (Characteristic), _____ (Unit), June (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., L.A.L.

Calculated by: McC., E.J.W., L.A.L.

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	A	4.3	4.3	4.2	4.3	4.3	4.3	(4.2)^{P}	4.3	4.2	4.2	4.0	4.3	A						
2							4.3^{K}	4.2^{K}	4.5^{K}	4.3^{K}	4.4^{K}	4.4^{K}	4.3^{K}	4.3^{K}	4.1^{K}	4.1^{K}	B^{K}	B^{K}	4.4^{K}	S^{K}						
3						S^{K}	A^{K}	(4.3)$^{A}_{K}$	(4.3)$^{P}_{K}$	4.3^{K}	4.4^{K}	4.4^{K}	4.3^{K}	4.3^{K}	(4.1)$^{P}_{K}$	4.3^{K}	4.0^{K}	4.1^{A}	4.3^{K}	S^{K}						
4						A	A	4.2	4.5	A	A	A	4.5	4.3	A	A	A	A	A	S						
5						A	4.2	A	4.5	A	A	4.3	B	(4.3)^{P}	4.3	(4.4)^{P}	4.3	B	B	S						
6						S	4.3	4.3	4.3	(4.4)^{A}	A	A	4.3	B	B	B	(4.3)^{P}	B	4.2	A						
7						S	4.1	4.3	4.1	4.0	4.2^{A}	4.3^{K}	4.3^{K}	4.0^{K}	4.2^{K}	B^{K}	B^{K}	(4.3)$^{B}_{K}$	4.3^{A}	S^{K}						
8						S	A	4.3^{H}	4.5^{H}	(4.5)^{B}	(4.6)^{P}	(4.6)^{H}	A	A	(4.2)^{P}	4.2^{H}	4.3	4.2	4.2	A						
9						S	A	A	A	4.4^{H}	4.5	4.4^{H}	(4.4)^{H}	A	4.3	A	A	A	4.3	S						
10						S	3.9	A	4.3^{H}	(4.2)^{P}	4.4	A	A	A	A	A	A	A	4.0	A						
11						S	A	4.1	4.3	A	(4.4)^{A}	(4.4)^{A}	4.5	A	4.3	4.2	(4.2)^{P}	4.4	A	A						
12							4.2	4.3	A	4.4	4.5	4.5	4.6	4.3	(4.3)^{S}	4.3	4.1	4.1	4.2	A						
13						S	4.1	4.1	4.3	4.3	4.3	A	A	A	3.9	4.2	4.2	A	4.2	C						
14							(4.1)$^{A}_{K}$	4.3^{K}	4.4^{K}	4.2^{K}	A	4.2	4.3	4.3	4.2	4.3	4.2	4.1^{H}	4.2	A						
15						S	4.4	4.3	A	A	A	A	A	4.3	4.1	4.2	4.1	4.3	4.3							
16						S	(4.3)^{A}	4.3	(4.3)^{A}	4.4	4.3	(4.4)^{P}	A	4.3	A	4.1	4.3	4.1^{H}	4.4	S						
17						S	4.1	4.1	4.2	(4.3)^{P}	A	4.3	4.3	4.3	A	A	4.3	4.1	H	S						
18						A	A	A	A	A	4.4	4.4	(4.3)^{P}	A	4.4	4.3	4.1	4.2	4.0	S						
19						S	4.2	4.3	4.3	4.2	4.2	4.3	4.3	4.2	4.3	4.2	A	4.2	4.3	4.1						
20						A	A	4.4	4.3	4.4	A	A	A	A	A	4.2	4.3	4.4	4.2	S						
21						A	A	4.5	4.5	4.4	4.4	A	A	A	4.5	4.4	4.4	4.5	4.5	A						
22						A	A	A	A	A	A	A	A	A	A	4.4	4.3	4.3	4.3	A						
23						S	A	4.5	4.5	A	(4.5)^{P}	A	A	A	A	4.2	4.2	(4.1)^{A}	4.3	A						
24						S	A	4.4	4.3	4.3	4.3	4.3	A	A	(4.4)^{A}	A	A	4.4	(4.3^{A}	S						
25						S	(4.1)^{A}	A	A	A	A	A	A	A	A	4.2	4.2	4.3	A	A						
26						S	(4.0)^{A}	4.3	A	4.3	4.1	A	A	A	4.2	4.2	4.1	4.3	4.5	S						
27						A	4.2	4.3	4.3	4.3	4.2	(4.3)^{A}	A	A	A	(4.3)^{P}	4.1	4.0	4.0	A						
28						4.0	A	4.2	4.2	4.3	(4.4)^{A}	4.1	B	(4.3)^{P}	B	3.9	(4.1)$^{S}_{P}$	4.1	4.2	A						
29						S	A	A	4.3	4.2	4.3	4.2	(4.3)^{A}	H	A	A	A	4.3	4.4	S						
30						4.3^{K}	A^{K}	(4.3)$^{A}_{K}$	4.2^{K}	4.3^{K}	4.3^{K}	(4.3)$^{P}_{K}$	A^{K}	A^{K}	A^{K}	(4.3)$^{H}_{K}$	(4.2)$^{P}_{K}$	(4.2)$^{H}_{K}$	(4.2$^{H}_{K}$	C^{K}						
31																										
Median						–	4.2	4.3	4.3	4.3	4.4	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.3	–						
Count						2	15	23	23	22	21	19	14	13	17	22	22	23	25	1						

Sweep 1.0 Mc to 25.0 Mc in .025 min

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Table 85

Ionospheric Storminess at Washington, D. C.

June 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	3	3			2	2
2	2	4	1100	----	4	4
			----	0300		
3	2	4	1000	----	5	3
4	2	2	----	0300	4	3
5	3	3			3	3
6	2	3			3	3
7	2	4	1500	----	3	2
8	1	2	----	0100	2	2
9	1	2			1	2
10	2	3			3	3
11	1	2			2	2
12	1	3			2	4
13	3	2			3	3
14	4	3	0500	1500	3	3
15	2	2			1	2
16	3	2			1	2
17	1	1			2	3
18	1	1			2	2
19	1	1			2	2
20	0	3			2	4
21	2	1			3	3
22	1	2			3	3
23	0	3			1	2
24	2	3			2	2
25	2	1			2	2
26	2	3			0	2
27	1	1			1	2
28	1	1			2	2
29	1	2			3	5
30	3	4	0700	----	5	3

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

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

----Dashes indicate continuing storm.

Table 86a

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

May 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	7	6	7	7	5	5	6	5	7	5	5		2	2
2	7	7	7	7	6	5	6	6	7	6	5		2	1
3	7	6	7	7	6	6	6	6	7	6	6		1	2
4	7	6	7	7	6	6	6	7	7	7	6		3	2
5	7	6	7	7	6	5	6	7	7	7	6		3	2
6	6	(4)	5	5	6	5	5	5	5	6	6		(4)	(4)
7	(4)	(3)	6	6	(4)	(4)	(4)	(4)	(4)	5	5		(5)	3
8	5	(4)	6	6	(4)	(4)	5	5	5	5	5		(5)	(4)
9	(4)	(4)	7	6	(4)	(4)	5	5	5	5	6		(4)	3
10	6	5	6	7	(4)	(4)	6	6	6	6	6		3	3
11	6	6	7	7	5	5	6	6	6	6	6		3	2
12	6	6	7	7	6	5	6	7	7	5	5		2	2
13	7	7	7	7	6	6	7	6	7	(4)	(4)	X	2	1
14	7	6	7	7	7	6	6	6	7	(4)	(4)	X	2	2
15	7	5	6	(4)	6	6	6	5	6	5	5		2	(5)
16	(3)	(2)	(4)	(3)	(4)	(3)	5	(4)	(3)	(4)	5		(5)	(5)
17	(2)	(2)	5	5	(3)	(2)	(4)	(4)	(3)	(4)	(4)	X	(4)	3
18	5	(3)	5	6	(4)	(3)	5	(4)	(4)	(4)	(4)	X	3	3
19	5	(3)	5	6	(4)	(4)	5	5	(4)	(4)	(4)	X	(4)	3
20	5	(4)	7	6	(4)	(4)	5	5	5	(4)	(4)	X	3	3
21	5	5	6	6	5	(4)	6	6	6	5	5		2	2
22	5	5	7	6	5	5	6	6	6	5	6		3	3
23	6	6	7	7	5	(4)	6	6	6	6	6		3	2
24	7	6	7	7	6	5	6	7	7	6	6		1	3
25	7	6	7	7	6	5	6	7	7	6	7		1	2
26	7	5	7	7	6	6	6	7	7	7	7		2	2
27	7	(4)	5	7	7	5	6	5	6	7	7		(5)	3
28	6	5	7	7	5	(4)	6	6	6	7	7		3	2
29	7	6	7	7	6	5	6	6	7	7	7		2	2
30	7	6	7	7	6	6	7	7	7	7	7		2	2
31	8	6	7	7	6	6	6	7	7	7	7		2	2
Score:														
Quiet periods				P	5	6	8	11		11	10			
				S	19	13	19	14		11	11			
				U	2	1	2	2		2	3			
				F	1	1	1	2		2	2			
Disturbed periods				P	2	5	0	0		2	2			
				S	2	5	1	2		3	2			
				U	0	0	0	0		0	1			
				F	0	0	0	0		0	0			

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

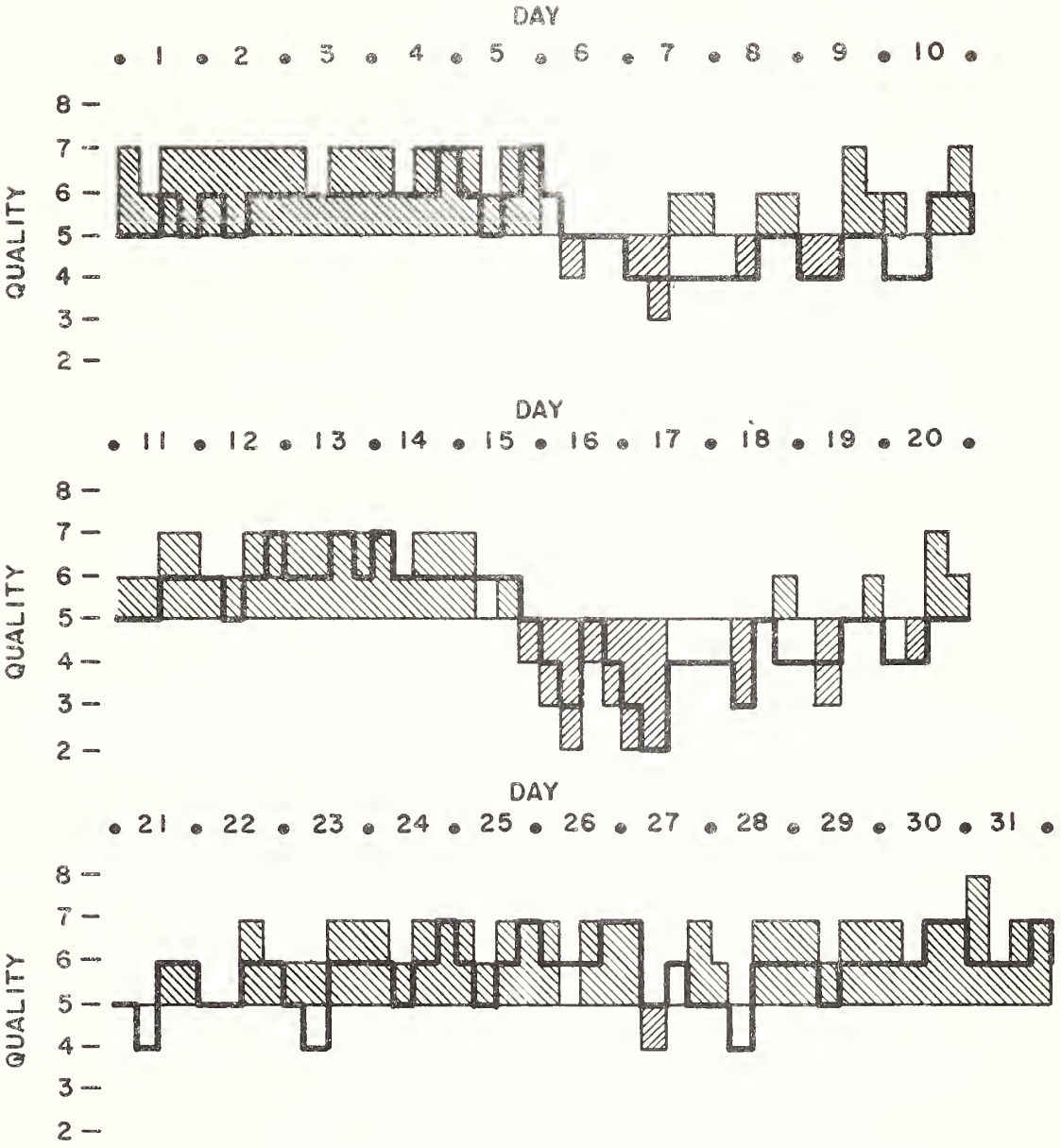
Scoring: (beginning October 1952)
P - Perfect: forecast quality equal to observed
S - Satisfactory: (beginning October 1952) forecast quality one grade different from observed
U - Unsatisfactory: forecast quality two or more grades different from observed when both forecast and observed were ≥ 5, or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

Table 86b

Short-Term Forecasts--May 1953



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

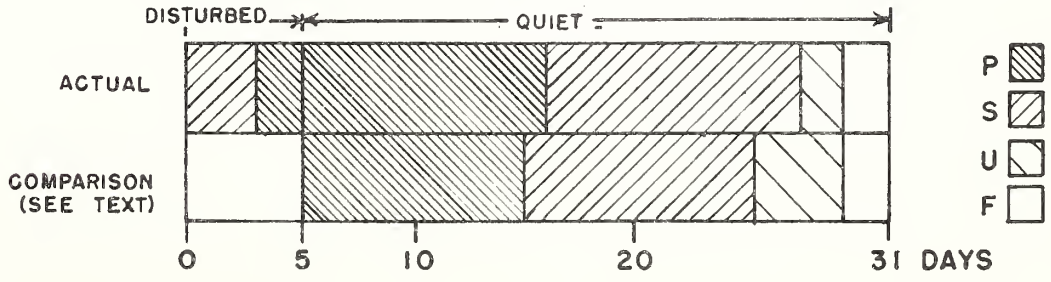


Table 87a

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																																						
Jun 1.9a	-	-	-	-	-	-	-	-	2	2	2	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-	-
3.8	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	4	1	-	-	-	-	-	1	2	2	1	-	-	-	-	-	-	-	-	-	-	-
8.6a	-	-	-	-	-	-	2	2	1	1	-	-	-	-	-	2	3	3	-	-	-	-	-	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-
9.8	-	-	-	-	-	2	2	1	1	3	3	2	1	2	3	2	3	1	1	1	1	1	1	1	1	3	1	2	1	-	-	-	-	-	-	-	-	-	-
10.6a	-	-	-	-	-	2	2	2	1	1	1	1	2	2	3	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	1	4	4	3	3	2	2	2	3	3	5	6	7	5	3	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	2	2	2	2	2	2	3	5	9	13	6	5	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.0a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
15.8	-	-	-	-	-	-	1	1	1	1	1	1	2	3	3	6	9	14	14	12	7	4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	1	2	2	1	2	2	3	5	6	6	6	3	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	1	1	1	1	2	3	3	2	3	4	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7a	-	-	-	-	-	-	-	-	-	-	1	1	1	1	3	3	5	4	4	3	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	1	1	1	2	4	5	3	3	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7a	-	-	-	-	-	-	-	-	-	2	3	3	3	4	4	5	5	2	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 88a

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																																						
Jun 1.9a	3	3	3	2	2	2	1	1	1	1	1	1	2	4	2	2	3	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	2
2.9a	3	3	2	2	2	2	1	1	1	1	2	2	2	3	4	5	3	3	3	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1			
3.8	3	3	2	1	1	1	-	-	-	-	2	3	3	3	5	4	5	5	5	5	5	4	5	4	5	3	2	2	2	2	2	2	2	2	3	3		
4.7a	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	4	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2			
5.6a	X	X	X	X	X	1	1	1	1	1	2	2	1	1	1	3	3	4	4	3	3	3	4	4	3	3	3	1	1	1	1	1	1	1	2	2		
8.0	2	2	-	-	-	-	-	-	-	-	1	2	2	2	2	4	5	6	4	3	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1		
8.6a	2	2	2	1	1	1	1	1	1	1	3	3	3	3	3	4	6	5	4	5	4	4	4	2	2	2	2	2	2	2	2	2	2	2	2	3		
9.8	2	2	1	1	1	1	1	1	1	1	2	3	3	3	4	3	3	4	3	3	4	5	5	4	3	2	2	3	2	2	2	2	2	2	2	3		
10.6a	2	2	1	1	-	-	-	-	-	-	-	2	3	2	2	2	4	3	4	5	5	6	5	5	4	3	1	1	2	2	2	2	2	2	2	2		
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	2	3	3	2	1	-	-	-	-	-	-	-	-	1	1	1	1	2	9	10	8	2	3	4	5	5	3	2	1	1	1	1	2	2	3	3	3	
13.7	3	2	1	1	-	-	2	-	-	-	-	-	-	-	-	-	1	6	6	5	2	2	2	3	4	2	1	1	1	1	1	1	1	2	2	2	2	
15.0a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
15.8	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	5	4	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	2	
16.7a	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7a	2	2	1	1	-	-	-	-	-	-	-	-	-	1	2	3	1	1	1	1	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	
20.8a	3	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1	2	2	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1		
21.9a	-	-	-	-	-	-	-	-	3	3	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	-	2	2	-	-	-	-	-	-	2	-		
22.7a	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-		
23.7a	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-		
24.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	3	3	3	3	3	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	2	2	2		
29.6a	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 87b

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

Date GCT	Degrees south of the solar equator																			0°	Degrees north of the solar equator																
	90	85	80	75	70	65	50	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																																					
Jun 1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	6	5		6	10	8	9	4	3	2	2	2	2	2	3	3	-	-	-	-	-
2.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	4		4	5	6	6	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-
3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	6	6	8		10	10	7	7	4	3	2	2	2	2	2	2	2	1	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	5	5	5		5	5	5	4	3	3	2	2	1	1	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1		2	3	5	4	2	2	1	-	-	-	-	-	-	-	-	-	-	X
8.0	-	-	-	-	-	-	X	-	-	-	-	-	2	2	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-
8.6	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-		-	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-
9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	5	4	3	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	X	X	X	X	X	X	X	X	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	4	2	1		1	-	-	3	5	3	2	2	2	2	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	1	4	7	4	-	-	-	-	-	-	-	-	-	-	-	-
15.0	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	-
15.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	-
20.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		2	5	2	1	-	-	-	2	2	3	-	-	-	-	-	-	-
27.7a	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2		3	7	7	3	2	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	3	4	4	3	3	3	2	1	1	1	1	-	-	-	-	-
29.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3		4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 88b

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

Date GCT	Degrees south of the solar equator																			0°	Degrees north of the solar equator																
	90	85	80	75	70	65	50	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																																					
Jun 1.9	2	1	1	1	1	1	1	1	1	2	2	2	2	3	2	2	2	2	2		5	7	6	6	1	1	1	1	1	1	1	1	1	2	2	2	3	3
2.9a	1	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2	3	3		4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3
3.8	3	3	3	3	3	2	2	2	2	2	2	3	3	3	2	5	5	3	2		10	3	6	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
4.7a	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	3	3	2	2		5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.6a	2	2	2	2	2	2	2	1	1	1	1	1	2	3	2	1	1	1	1		1	2	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	X
8.0	1	1	1	1	2	1	X	1	1	1	1	1	1	1	3	2	2	2	3		4	3	3	3	2	2	2	3	2	2	2	2	2	2	1	2	2	2
8.6	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	4		4	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	3	2
9.8	3	3	3	2	2	2	2	1	1	1	2	2	2	3	4	5	5	4	4		5	4	3	3	2	2	2	2	3	2	2	1	1	1	1	2	2	2
10.8	2	3	2	2	2	2	2	2	3	3	2	2	3	3	3	5	5	5	4		2	2	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	2		-	-	-	-	-	-	X	X	X	X	X	X	X	X	-	-	-	-
12.7	3	3	3	3	2	2	2	1	1	1	2	3	3	2	5	5	3	3	3		3	3	4	5	4	3	2	2	1	1	1	1	1	1	1	1	2	2
13.7	2	2	2	2	2	1	1	1	1	2	2	2	2	3	3	4	3	4	4		3	9	8	8	5	2	2	2	1	1	1	1	1	1	1	2	2	3
15.0	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	-
15.3	2	1	1	1	1	1	1	1	1	1	1	3	4	3	2	3	4	4	3		4	4	6	5	3	3	2	2	1	1	1	1	1	1	1	2	2	2
16.7a	-	-	-	-	-	-	-	-	-	1	1	1	1	2	2	3	4	3	2		2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2		2	2	2	2	2	2	2	2	1	1	1	1	1	1	2	2	2	2
18.7a	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	2
20.8a	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3
21.8a	-	3	2	1	1	2	2	2	2	1	2	2	2	3	2	2	2	2	2		2	3	3	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	3	3	3		3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3
23.7a	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	2
24.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	1	3	3	3	3	3	5		6	7	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3		3	9	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	2	2	2	-	-	-	-	-	-	-	-	-	2	2	1	1	2	2	2		3	4	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
29.8a	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 89a

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																																						
Jun 1.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	3	3		2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2		2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
15.0a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2		2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 90a

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																																						
Jun 3.7a	-	-	-	-	2	3	2	2	3	3	3	2	3	2	2	3	3	2		3	3	2	2	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	2	3	3	2	2	3	2	2	2		2	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	2	3	2	2	2	2	3	3	3	2	2	2	2	-		2	2	2	2	3	3	3	2	3	2	4	4	3	2	2	-	-	-	-
6.7a	-	-	-	-	-	2	2	3	3	5	5	4	3	2	3	3	3	3		3	4	4	3	3	3	2	3	3	3	3	2	2	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	2	3	3	4	3	2	2	2	2	3	5		4	3	2	2	2	2	2	3	3	3	3	2	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	2	2	2	2	2	3	3	3	3	3		3	3	3	2	3	2	2	2	-	3	2	2	2	-	-	-	-	-	-
15.7a	-	-	-	-	-	-	2	3	3	4	3	3	3	3	4	5	8	12		11	5	4	3	2	3	3	3	2	2	2	-	-	-	-	-	-	-	-
18.8	-	-	-	2	2	2	2	2	3	2	2	3	3	4	5	6	14	13		7	5	5	4	4	3	3	2	2	-	-	2	3	2	2	-	-	-	-
20.8a	-	-	-	-	-	2	2	2	3	4	3	3	3	3	4	4	3	3		3	3	3	3	4	3	4	3	2	2	2	-	-	-	-	-	-	-	-
21.7a	-	-	-	-	2	2	3	3	3	3	4	3	4	4	4	3	3	4		3	3	3	3	2	2	2	2	2	2	3	3	3	3	2	-	-	-	-
22.7a	-	-	-	-	-	-	2	2	2	2	2	3	3	3	3	3	3	3		3	2	2	3	3	3	2	2	3	2	2	3	2	2	-	-	-	-	-
23.9a	-	-	-	-	-	3	3	3	3	3	3	2	3	2	2	3	4	4		3	3	3	3	3	4	4	2	2	2	2	2	3	3	2	2	-	-	-
25.7	-	-	-	-	-	2	2	2	-	-	2	2	3	3	3	2	3	3		2	2	2	6	11	6	3	2	2	2	2	-	3	3	-	-	-	-	-
29.7a	-	-	-	-	-	4	4	4	3	4	3	2	3	3	2	3	3	3		4	3	3	4	4	5	4	3	3	3	4	3	3	3	3	-	-	-	-
30.7a	-	-	-	2	3	4	4	4	5	4	3	3	3	3	4	4	4	3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 89b

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																																					
Jun 1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
8.0	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	X	X	X	X	X	X	X	X	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	2	2	2	2	2	1	-	-	-	1	1	1	-	-	-	-
15.0	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	-
15.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	-
20.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.6a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 90b

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																																					
Jun 3.7a	-	-	-	-	-	3	3	3	3	3	3	4	3	3	4	4	5	8		7	11	10	10	8	7	5	3	3	4	2	4	4	3	2	2	-	-	-
4.7a	-	-	-	-	-	-	-	2	2	3	3	3	2	2	3	4	5	8		10	11	12	11	8	5	5	4	4	3	4	5	4	4	3	4	2	2	-
5.7	-	-	-	-	-	-	-	2	2	3	3	3	3	2	2	3	4	5		6	8	10	16	18	10	5	4	3	4	3	2	5	4	2	2	-	-	-
6.7a	-	-	-	-	-	-	3	3	3	3	2	2	3	3	3	3	2	3		3	3	3	3	2	2	2	4	5	4	3	3	2	2	3	3	3	3	-
7.7a	-	-	-	-	-	-	-	-	2	2	2	3	2	4	3	3	2	2		2	2	2	2	2	2	3	4	3	2	3	3	2	2	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	2	2	3	3	2	3	2	3	3	2	2		2	-	-	-	-	-	2	3	2	2	2	-	-	-	-	-	-	-	-
15.7a	-	-	-	-	-	-	-	3	3	3	2	2	2	2	2	2	2	3		3	3	3	2	4	3	4	3	3	3	4	4	3	4	4	3	3	2	-
18.8	-	-	-	-	-	-	2	2	3	3	3	3	3	2	3	2	2	3		4	3	3	3	3	3	4	3	2	2	2	2	3	2	3	3	2	-	-
20.8a	-	-	-	-	-	-	2	2	2	3	3	-	2	2	2	-	2	2		2	2	2	3	8	5	4	4	3	3	3	3	2	3	3	2	-	-	-
21.7	-	-	-	-	-	-	-	-	2	2	3	3	3	4	4	4	2	2		3	3	4	4	4	3	3	3	3	4	3	4	3	2	3	3	2	-	-
22.7a	-	-	-	-	-	2	2	3	2	2	3	3	3	2	2	2	3	3		3	3	3	2	2	2	2	-	-	3	3	4	4	3	3	3	3	2	-
23.9a	-	-	-	-	-	-	2	2	3	3	2	3	3	3	3	3	3	3		3	2	2	3	2	3	3	2	3	3	3	3	3	3	3	3	4	4	-	-
25.7	-	-	-	-	2	2	2	2	2	2	3	3	3	4	3	3	3	3		3	5	13	12	10	5	3	3	2	3	3	2	3	2	3	3	2	2	-
29.7a	-	-	-	-	-	3	3	2	2	3	3	3	3	3	4	5	3	2		2	2	3	3	3	3	3	3	3	2	2	3	3	4	3	3	-	-	-
30.7a	-	-	3	3	3	3	3	3	4	3	2	2	3	3	2	3	3	3		3	3	3	2	2	2	3	3	3	2	2	3	3	4	3	2	-	-	-

Table 91a

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																																						
Jun 3.7a	3	1	3	-	2	2	-	-	2	3	2	3	3	4	3	4	4	5	4	5	5	5	5	4	3	4	3	3	2	2	2	2	-	2	2	-	3
4.7a	3	2	2	2	2	3	2	2	-	-	2	3	3	4	4	5	6	7	7	9	9	7	6	5	4	4	4	3	3	2	2	3	3	2	3	4	3	2
5.7a	3	3	2	2	3	3	3	2	2	3	2	3	3	4	4	5	5	8	9	9	7	6	5	6	5	5	5	6	3	2	2	2	3	3	3	3	3	3
6.7a	2	2	2	-	-	-	-	-	-	2	-	-	2	3	2	3	3	6	7	5	4	3	3	2	2	3	4	3	2	3	2	2	-	2	-	3	2	
7.7	3	2	3	2	3	2	3	3	3	2	3	3	3	5	6	5	4	18	15	11	10	7	6	4	5	4	5	3	2	2	2	2	3	2	2	3	2	
8.7a	2	2	3	2	2	2	-	-	-	2	3	3	3	4	4	7	6	6	5	6	5	5	5	4	3	2	2	3	2	-	-	2	3	3	3	3	-	
15.7a	-	2	-	-	2	2	2	-	2	-	2	2	3	2	2	3	3	3	3	3	2	2	2	3	3	2	-	-	2	2	-	2	2	3	2	2	-	
18.3	3	2	2	-	2	2	-	2	2	2	2	3	-	2	2	3	11	2	2	-	3	2	3	7	3	2	2	3	3	2	2	3	2	2	2	2	2	
20.8a	3	2	2	2	2	3	2	2	2	3	2	3	2	3	-	4	4	5	3	4	4	5	4	5	4	4	3	2	-	2	2	2	2	2	2	2	3	
21.7a	2	2	2	3	4	3	3	2	3	3	3	3	2	4	2	3	3	4	4	4	5	4	5	4	3	2	3	2	3	-	2	3	2	3	2	3	2	
22.7a	2	3	2	2	3	3	2	3	3	3	3	2	3	2	4	3	3	2	3	3	4	4	4	3	2	-	-	2	2	2	2	-	3	2	2	3	3	
23.9a	2	-	2	-	-	2	-	2	-	2	2	3	3	3	2	3	2	2	3	4	5	6	7	5	4	3	3	2	2	2	2	2	2	2	2	2	3	
25.7	3	3	2	2	2	3	2	2	3	3	4	3	4	5	6	3	6	5	4	4	4	8	14	3	2	2	2	2	2	2	2	-	-	-	3	2	2	
29.7a	-	-	-	-	-	3	3	3	-	-	-	-	-	3	3	3	3	2	3	-	-	-	-	-	2	2	3	3	3	-	-	-	-	-	-	-	-	
30.7a	-	-	2	2	-	-	-	-	2	-	2	2	3	2	4	5	4	5	3	4	5	5	4	3	3	-	-	-	-	-	-	-	-	-	-	-	-	

Table 92a

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																																						
Jun 3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 91b

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																																					
Jun 3.7a	3	2	2	-	2	-	-	-	-	2	2	2	3	2	2	2	2	2		2	7	6	4	3	2	2	2	3	-	-	2	2	2	2	2	4	4	3
4.7a	2	2	3	4	2	2	2	3	3	2	3	3	3	4	4	2	4	5		3	4	11	4	4	2	2	-	-	-	-	-	-	-	-	2	3	2	3
5.7	3	2	3	3	3	3	2	2	-	2	3	-	3	4	5	5	6	7		5	5	6	7	14	5	2	3	2	2	2	-	-	-	2	2	3	2	3
6.7a	2	-	-	-	-	-	-	-	-	2	3	-	2	2	3	2	3	4		2	3	3	5	4	2	2	3	2	3	3	3	-	-	2	3	3	3	2
7.7a	2	2	2	2	2	2	2	2	-	3	3	2	2	2	3	2	4	4		4	5	5	4	5	3	2	2	3	3	3	2	2	2	2	2	3	3	3
8.7a	-	-	-	-	-	-	-	-	2	3	2	2	2	2	3	3	3	3		3	4	5	3	2	2	2	3	3	2	3	2	-	2	-	3	3	2	2
15.7a	-	2	2	2	3	2	-	2	2	-	2	3	2	3	-	2	2	3		3	3	2	2	3	-	-	-	-	-	-	-	2	2	3	2	2	2	-
18.8	2	2	-	-	2	3	2	-	2	2	2	-	-	2	5	6	3	4		5	6	5	5	5	4	4	4	3	2	2	-	2	2	2	2	2	2	3
20.8a	3	-	2	2	3	3	2	2	-	3	2	3	3	3	2	4	4	5		4	4	3	6	11	5	5	4	3	3	2	-	2	2	2	3	2	2	3
21.7	2	2	3	2	3	2	2	-	2	2	2	4	3	4	4	6	6	6		5	4	5	6	7	4	5	4	3	2	-	2	2	2	2	3	3	2	2
22.7a	3	2	2	2	2	2	2	2	2	-	-	2	4	3	4	4	4	7		7	3	3	5	4	2	3	3	2	2	2	2	3	3	2	-	2	2	2
23.9a	3	2	2	3	3	3	3	2	2	2	-	-	-	3	3	3	3	3		3	3	4	4	3	2	2	2	2	2	3	3	2	2	3	2	-	2	2
25.7	2	-	3	4	3	2	2	-	-	2	2	2	3	4	7	4	3	6		8	11	19	16	10	2	2	2	3	2	3	2	2	2	2	3	2	3	3
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	3	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	2	3	2	-	2	2	2	3	3		-	-	2	2	2	-	2	2	-	-	2	2	3	2	2	-	2	3	-

Table 92b

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																																					
Jun 3.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20.8a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.9a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		3	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 93

Particulars of Observations, Climax, Colorado
January - June 1953

Date GCT	Green line threshold intensity at 45°	90°	135°	225°	270°	315°	Obs.	Meas.
1953								
Jan. 4.7	9	4	9	10	7	10	H	B
7.7	5	6	5	5	5	5	D	B
9.7	5	4	4	6	5	5	D/H	B
10.7	3	3	3	4	3	3	D	B
11.7	4	3	7	5	4	3	H	B
12.7	3	3	4	3	5	5	H	B
13.7	7	3	5	6	3	4	H	B
16.7	2	2	2	3	2	2	D	B
20.7	12	7	10	11	9	10	D	B
24.8	-	2	-	2	2	1	H/D	B
25.8	-	5	3	-	-	-	H	B
27.9	5	5	5	5	5	4	D	B
31.9	3	3	4	4	4	4	D	B
Feb. 1.7	3	2	3	3	3	3	H	B
2.7	2	2	2	2	2	2	H	B
4.0	2	2	3	2	2	2	H	B
4.7	3	4	3	4	-	3	D	B
10.7	7	4	4	3	3	3	D	B
11.7	5	3	3	3	3	2	H	B
12.9	5	3	-	4	7	6	D	B
13.7	2	2	3	3	3	4	H	B
12.9	5	3	-	4	7	6	D	B
13.7	2	2	3	3	3	4	H	B
14.9	6	4	4	4	3	-	H	B
17.8	4	-	4	-	7	-	H	B
18.7	6	6	7	6	6	5	D	B
21.9	7	7	12	7	7	11	D	B
23.6	4	4	4	5	5	4	D	B
25.7	6	6	6	6	5	5	D	B
26.7	4	5	5	5	5	4	H	B
27.8	5	5	5	6	6	6	D	B
28.7	2	-	5	-	-	-	H	B
Mar. 1.6	2	5	2	3	3	2	D	B
4.9	5	-	4	4	-	4	H	B
5.8	5	6	6	8	7	6	D	B
6.8	4	5	5	5	5	4	H	B
7.7	3	3	3	5	-	4	D	B
8.9	5	5	5	4	5	4	H	B
9.8	5	4	4	5	5	4	D	B
10.8	3	4	2	3	3	2	H	B
12.7	4	3	5	4	5	4	H	B
15.9	4	5	5	5	5	5	D	B
16.8	4	5	4	5	5	5	H	B
17.7	4	4	9	5	5	4	D	B
19.7	3	-	6	-	-	-	H	B
24.7	1	2	-	2	2	2	H	B
25.7	4	4	3	4	4	5	D	B
27.7	5	5	6	5	6	5	H	B
28.9	4	4	3	3	3	4	D	B
Apr. 1.7	5	8	10	7	4	7	D	B
3.8	6	6	6	7	6	6	H	B

Date GCT	Green line threshold intensity at 45°	90°	135°	225°	270°	315°	Obs.	Meas.
1953								
Apr. 5.8	7	7	6	7	7	7	D	B
8.0	6	5	6	6	6	5	H	B
10.0	-	-	-	-	4	-	D	B
15.7	8	5	5	6	7	6	D	B
19.6	3	3	3	4	4	4	H	B
22.7	10	9	9	9	9	8	D	B
24.7	8	8	7	7	7	10	H	B
25.6	5	6	5	5	5	4	D	B
26.8	5	6	5	5	5	6	D	B
May 5.6	4	-	4	5	4	-	D	B
6.7	4	4	4	5	5	4	H	B
7.8	8	13	8	7	5	11	D	B
8.7	9	10	9	10	10	8	D	B
9.6	10	10	10	11	11	10	D	B
11.6	14	13	14	13	14	>15	H	B
14.8	-	6	-	-	-	-	H	B
21.7	6	6	6	6	6	6	D	B
22.8	6	6	6	8	8	8	H	B
23.8	5	4	8	6	7	6	D	B
24.8	8	7	7	6	8	8	D	B
25.8	7	6	7	6	5	7	D	B
26.6	6	7	7	8	7	-	H	B
27.7	5	5	5	5	5	5	H	B
28.8	5	5	6	6	6	6	D	B
29.7	10	11	10	12	11	11	H	B
30.8	4	5	5	5	6	6	H	B
31.7	7	8	7	6	6	6	H	B
Jun. 1.9	4	5	-	6	7	7	H	B
2.9	10	11	10	9	9	7	D	B
3.8	5	5	5	5	5	5	D	B
4.7	11	10	8	8	9	9	H	B
5.6	8	8	8	-	10	-	D	B
8.0	4	5	5	-	6	-	D	B
8.6	5	5	4	5	5	3	H	B
9.8	5	4	5	5	5	5	D	B
10.6	4	4	4	4	4	4	H	B
11.6	11	11	12	11	-	-	D	B
12.7	4	5	5	5	8	7	H	B
13.7	8	9	8	8	7	6	D	B
15.0	>15	>15	>15	-	-	-	H	B
15.8	6	6	5	7	6	6	H	B
16.7	9	10	11	9	10	10	D	B
17.7	8	9	10	9	9	9	H	B
18.7	8	8	7	10	15	-	D	B
20.8	10	10	12	13	14	-	H	B
21.8	13	11	11	11	10	12	H	B
22.7	11	12	11	13	13	11	D	B
23.7	13	13	11	13	14	-	H	B
24.8	>15	>15	>15	>15	15	14	-	B
25.7	11	12	11	10	11	11	H/D	B
27.7	13	13	14	>15	14	14	H	B
28.7	14	13	13	13	14	13	D	B
29.6	14	14	15	15	14	14	H	B

B = Billings
D = Dolder
H = Hansen

Table 94

Particulars of Observations, Sacramento Peak, New Mexico
January - June 1953

Date GCT	Green line threshold intensity at 0°	45°	90°	135°	180°	225°	270°	315°	Obs.	Meas.
1953										
Jan. 2.8	5	6	5	6	9	6	6	5	R	Y
3.7	5	4	4	5	5	4	5	4	R	Y
4.7	5	5	5	6	7	6	6	6	S	Y
5.9	3	3	3	4	4	4	4	3	S	Y
8.7	6	5	6	5	6	5	6	5	R	Y
9.7	5	5	5	5	6	6	6	6	R	Y
10.7	4	3	4	4	5	6	4	3	S	Y
11.7	3	3	4	4	5	5	5	4	S	Y
15.8	6	5	6	7	6	6	6	6	S	Y
17.8	5	5	6	6	7	6	6	6	S	Y
20.7	4	3	3	4	4	4	4	4	R	Y
21.7	4	4	4	4	5	4	4	4	R	Y
23.9	9	8	9	9	10	9	9	10	S	Y
24.7	4	7	3	4	4	5	5	5	S	Y
25.7	3	3	3	4	3	3	4	4	R	Y
26.7	13	7	8	7	7	5	5	7	R	Y
27.8	6	5	5	5	7	6	7	6	R	Y
28.7	4	4	3	4	5	5	5	5	S	Y
29.7	4	5	4	4	5	5	5	5	S	Y
30.7	5	4	4	4	5	5	5	5	S	Y
31.7	6	6	6	7	8	7	10	9	R	Y
Feb. 1.7	4	4	4	4	5	5	5	5	R	Y
2.7	5	4	4	4	5	5	6	5	R	Y
3.7	6	5	5	6	6	5	5	5	S	Y
6.9	9	8	9	8	11	10	12	11	R	Y
7.8	5	5	5	5	6	5	5	5	R	Y
11.9	11	8	8	8	8	9	8	7	S	Y
12.7	6	6	6	6	7	7	7	7	S	Y
14.7	5	5	5	5	5	5	5	5	S	Y
15.7	5	3	3	4	4	4	4	4	R	Y
16.7	6	5	7	5	5	8	7	5	S	Y
17.7	8	7	7	7	8	8	8	7	S	Y
18.7	7	6	7	7	6	6	7	7	R	Y
21.7	13	13	12	10	11	13	11	11	R	Y
22.7	10	9	8	8	9	9	8	9	S	Y
25.7	8	7	7	6	6	6	7	6	R	Y
26.7	5	4	5	4	4	5	5	4	S	Y
27.7	4	4	4	5	6	6	5	5	R	Y
Mar. 4.7	7	7	6	6	7	7	7	6	B/S	Y
5.7	5	5	5	4	5	6	5	5	R/B	Y
11.8	8	7	6	7	7	6	6	6	R	Y
12.7	3	3	3	3	5	4	4	3	S	Y
13.7	5	5	5	5	6	5	6	6	S	Y
14.7	10	9	9	9	9	9	9	8	R	Y
15.7	11	11	9	8	9	8	9	7	R	Y
17.9	11	8	7	7	8	9	8	7	R	Y
18.7	5	4	4	4	4	4	4	4	S	Y
19.7	8	5	6	4	11	7	10	7	S	Y
20.7	5	5	5	5	5	4	4	4	R	Y
21.8	12	12	12	12	>15	14	15	15	R	Y
22.7	7	7	6	6	7	6	6	7	S	Y
23.7	6	5	6	9	7	6	5	6	R	Y
24.6	5	4	4	4	4	4	4	4	S	Y
26.7	7	7	7	7	7	7	7	6	R	Y
27.6	8	8	7	7	8	7	8	7	R	Y
30.7	15	15	15	>15	-	-	-	-	S	Y

Date GCT	Green line threshold intensity at 0°	45°	90°	135°	180°	225°	270°	315°	Obs.	Meas.
1953										
Mar. 31.7	5	5	5	5	5	5	5	5	S	Y
Apr. 1.9	>15	>15	15	>15	>15	14	14	14	R	Y
2.8	11	10	10	10	10	10	10	10	R	Y
6.7	10	10	10	10	10	10	10	10	S	Y
7.7	12	11	11	10	11	10	9	10	R	Y
8.7	10	9	9	10	10	9	10	10	R	Y
9.7	9	9	8	9	9	9	9	8	S	Y
10.7	10	9	9	9	8	8	9	8	R	Y
12.7	6	6	6	6	8	8	7	7	S	Y
13.7	7	6	5	5	6	6	5	5	R	Y
14.7	>15	11	11	11	13	12	11	12	R	Y
15.7	8	8	8	11	7	7	7	7	S	Y
16.7	8	6	6	6	7	7	7	7	R	Y
17.7	12	12	13	11	12	13	13	12	S	Y
18.7	6	6	6	6	6	7	7	6	S	Y
19.7	11	11	11	11	10	10	9	9	R	Y
20.8	11	11	11	11	11	11	11	11	R	Y
24.7	11	11	10	10	10	10	9	9	S	Y
25.7	10	10	9	9	10	9	9	9	R	Y
26.8	11	11	11	10	11	10	11	11	R	Y
May 1.7	7	7	7	7	7	6	6	7	R	Y
2.7	9	7	6	7	7	7	7	7	R	Y
4.7	13	11	11	12	8	10	9	11	R	Y
5.8	12	13	11	-	-	-	-	-	S	Y
6.7	8	9	8	8	8	8	8	8	S	Y
7.7	12	11	11	11	11	11	12	12	R	Y
8.7	10	8	8	8	8	7	7	7	R	Y
10.6	6	5	6	5	5	5	5	5	R	Y
11.7	9	8	8	8	10	10	9	9	S	Y
17.7	5	5	4	4	5	4	4	4	S	Y
18.7	7	7	7	7	7	6	6	6	S	Y
19.6	7	7	7	7	7	6	7	7	R	Y
21.7	4	4	5	5	5	4	4	4	S	Y
22.7	12	7	6	6	6	-	-	-	R	Y
24.6	5	5	5	5	4	4	4	4	R	Y
25.7	5	5	4	4	5	5	5	5	R	Y
27.9	14	13	11	11	11	11	12	11	S	Y
28.8	11	11	11	11	12	11	11	11	R	Y
29.7	7	7	8	7	8	8	7	7	S	Y
31.6	7	7	7	7	8	7	7	7	R	Y
Jun. 3.7	12	11	11	11	12	11	12	11	R	Y
4.7	10	8	8	9	8	10	10	11	S	Y
5.7	9	9	8	7	7	7	8	8	S	Y
6.7	14	13	12	13	13	13	13	13	R	Y
7.7	9	7	7	6	6	5	5	7	B	Y
8.7	9	8	8	8	10	8	8	7	B	Y
15.7	13	11	12	11	13	13	>15	>15	F	Y
18.8	9	8	7	7	7	7	7	7	R	Y
20.8	9	8	8	7	9	9	8	8	R	Y
21.7	9	9	8	7	7	7	8	8	R	Y
22.7	10	10	10	9	10	8	8	8	R	Y
23.9	14	10	11	10	11	11	11	12	B	Y
25.7	10	9	8	8	8	7	7	7	R	Y
29.7	>15	>15	>15	15	15	15	14	15	R	Y
30.7	11	11	11	11	11	10	12	12	B	Y

B = Bergstrom
F = Foster
R = Ramsey
S = Schnable
Y = Yu

Table 95

Zürich Provisional Relative Sunspot Numbers

June 1953

Date	R_Z*	Date	R_Z*
1	15	17	33
2	28	18	20
3	23	19	25
4	53	20	26
5	35	21	22
6	32	22	20
7	36	23	10
8	30	24	11
9	28	25	10
10	24	26	17
11	18	27	21
12	7	28	7
13	0	29	8
14	12	30	7
15	24		
16	33	Mean:	21.2

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

Table 96

American Relative Sunspot Numbers

May 1953

Date	R_A:*	Date	R_A:*
1	39	17	5
2	39	18	3
3	32	19	13
4	15	20	12
5	11	21	11
6	10	22	12
7	9	23	13
8	0	24	13
9	0	25	14
10	0	26	12
11	0	27	13
12	0	28	16
13	0	29	19
14	0	30	22
15	1	31	6
16	0	Mean:	11.0

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

Table 97

Solar Flares, June 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
Sac.Peak	June 4	1500	1555	55	106	N16	E38	1525	.10	7	1	
"	4	1555	1720	85	154	N16	E38	1629	20	2	2	
McMath	16	1335F				N07	E55	-			2	
"	18	1530F				N08	E26	-			1	
Sac.Peak	19	2315	2345	30	48	N13	E08	2320	8	-	1 -	

Sac.Peak = Sacramento Peak

F Time of First Observation

Table 98

Indices of Geomagnetic Activity for May 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	0.2	1o 1- 1+ 2-	2- 2+ 0+ 1o	10o	Five
2	0.1	2o 1+ 0+ 2-	1+ 0+ 1- 1-	8+	Quiet
3	0.1	0+ 0+ 1o 1-	1o 2- 2- 1+	8o	
4	0.2	1+ 2+ 1+ 2+	0+ 1o 1- 2-	11o	2
5	0.6	2- 3+ 3- 3o	2o 2- 2+ 3-	19+	3
					12
6	1.4	5- 3+ 4+ 6-	5- 3+ 4o 5o	35o	13
7	1.2	4+ 5- 5- 5-	3+ 2+ 2- 3o	29-	14
8	1.2	4+ 4+ 5o 3+	4- 3o 5- 4-	32o	
9	1.1	4+ 4o 4o 4o	3- 3o 3o 4-	29-	
10	0.6	2o 1+ 2+ 3-	3+ 2+ 3o 2o	19o	
11	0.4	3- 2o 2+ 3o	2o 1+ 1o 1o	15+	Five
12	0.2	1+ 2o 2- 0+	1o 1- 1+ 1+	10-	Disturbed
13	0.1	1o 1o 0+ 1+	1o 0+ 1o 0+	6+	
14	0.1	1o 1- 1- 0+	1o 1o 1o 2o	8-	6
15	1.6	1o 3o 3- 2+	5+ 5+ 8- 7-	34o	8
					15
16	1.8	6- 6o 5- 5+	6+ 6o 7- 7+	48o	16
17	1.2	7- 5- 3o 1+	2o 3o 3- 4-	27o	19
18	0.9	3+ 4- 4- 3+	3- 2- 2+ 3+	24o	
19	1.2	4o 5o 4- 4+	4- 1+ 4- 4+	30o	
20	0.8	4- 2+ 4- 3o	2+ 2+ 3o 3+	24-	
21	0.6	2+ 3- 3o 2-	1+ 2+ 3o 2+	19-	Ten
22	0.9	2o 4- 2o 2o	3- 2+ 5- 3+	23-	Quiet
23	0.4	2+ 1+ 2o 2+	2- 1+ 2+ 2-	15o	
24	0.3	1o 1- 2o 1o	2+ 2o 2+ 2-	13o	1
25	0.2	1- 1- 1+ 1+	1+ 2o 1- 2+	10+	2
					3
26	0.3	1+ 1o 1+ 1+	1+ 1- 3o 3-	13-	4
27	1.1	3+ 5- 5+ 4+	3- 3+ 2- 2+	28-	12
28	0.4	2o 3- 2- 2-	2o 2+ 2o 1o	15+	13
29	0.2	1- 1o 2- 2o	2+ 1+ 1- 1+	11o	14
30	0.2	2+ 1+ 1- 1-	1o 1o 1o 2-	10-	25
31	0.4	2- 0+ 1- 2o	2+ 2+ 4- 1+	14+	29
					30
Mean	0.65				

Table 99

Sudden Ionosphere Disturbances Observed at Washington, D. C.

June 1953

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

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

GRAPHS OF IONOSPHERIC DATA

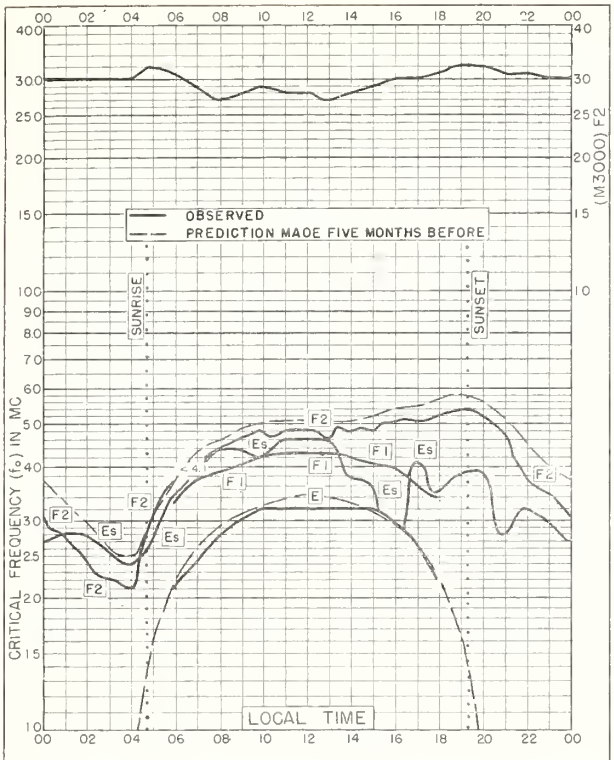


Fig. 1. WASHINGTON, D.C.
38.7° N, 77.1° W
JUNE 1953

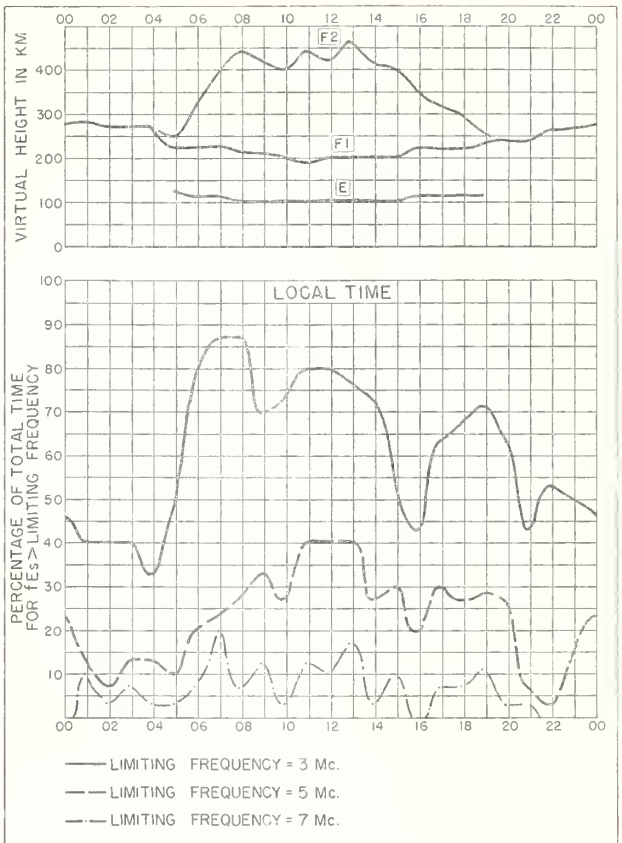


Fig. 2. WASHINGTON, D.C. JUNE 1953

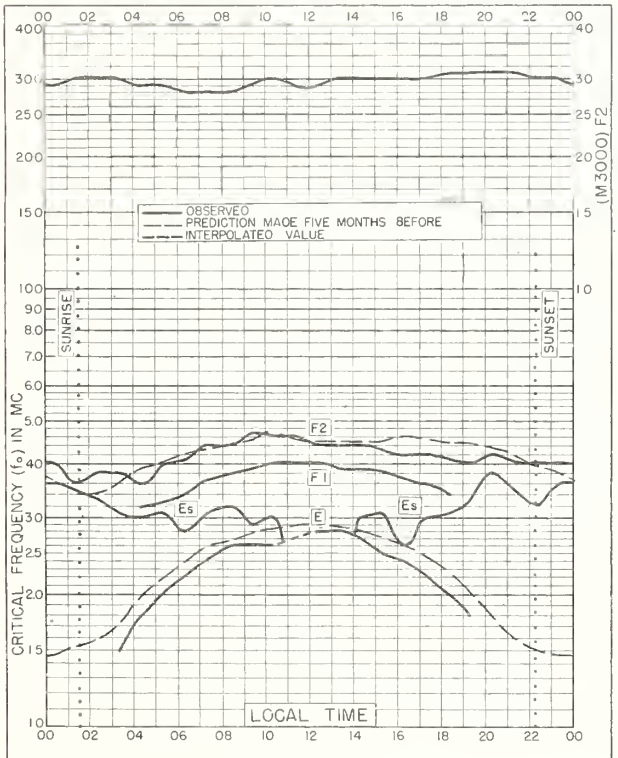


Fig. 3. TROMSO, NORWAY
69.7°N, 19.0°E
MAY 1953

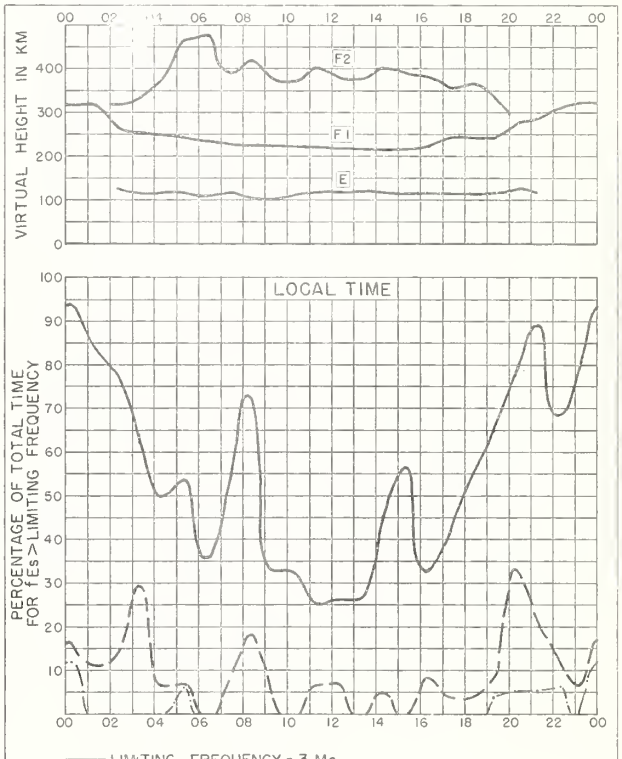


Fig. 4. TROMSO, NORWAY MAY 1953

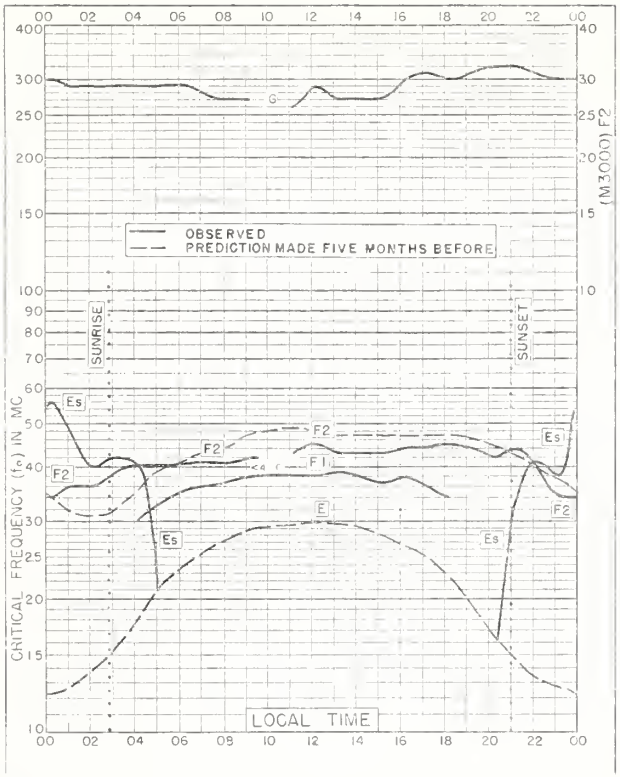


Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W MAY 1953

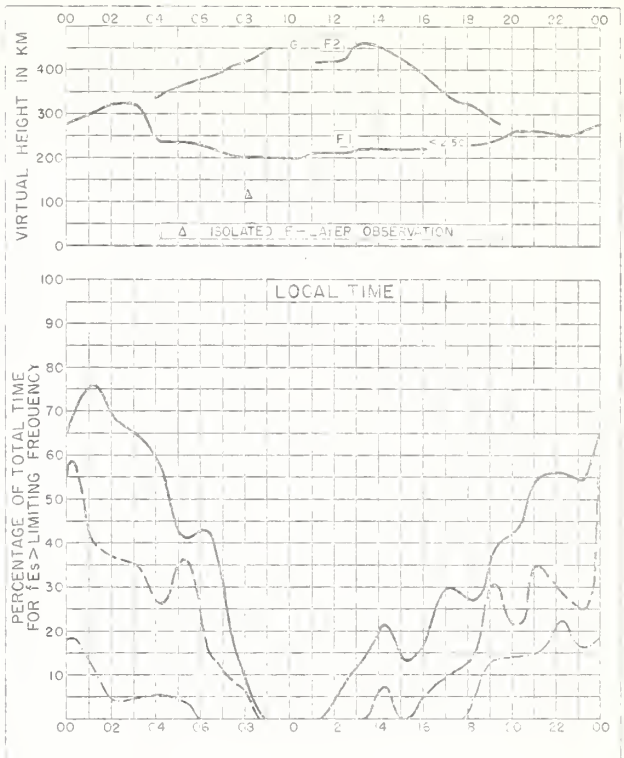


Fig. 6. FAIRBANKS, ALASKA MAY 1953

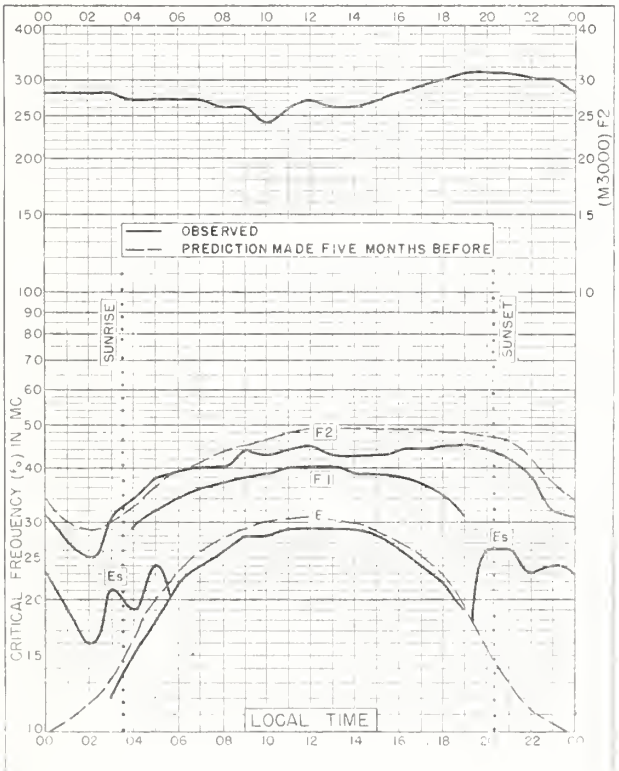


Fig. 7. ANCHORAGE, ALASKA
61.2°N, 149.9°W MAY 1953

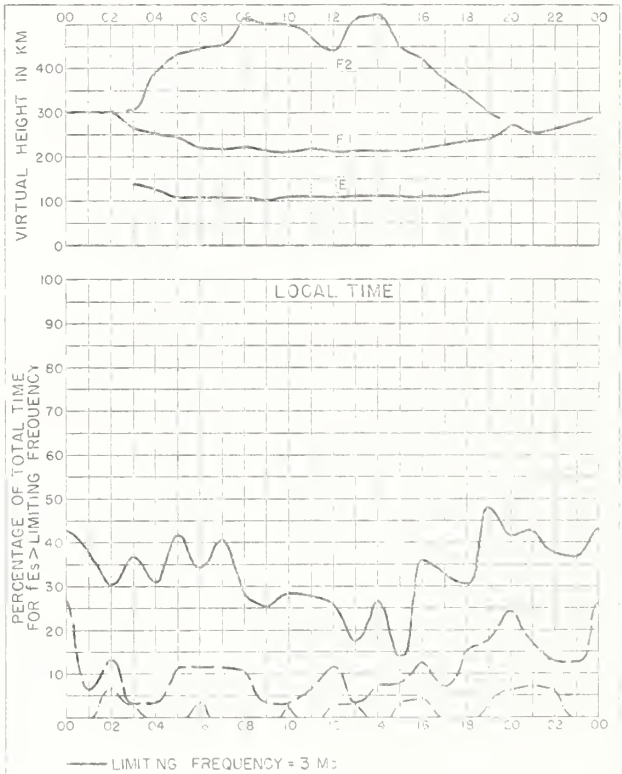


Fig. 8. ANCHORAGE, ALASKA MAY 1953

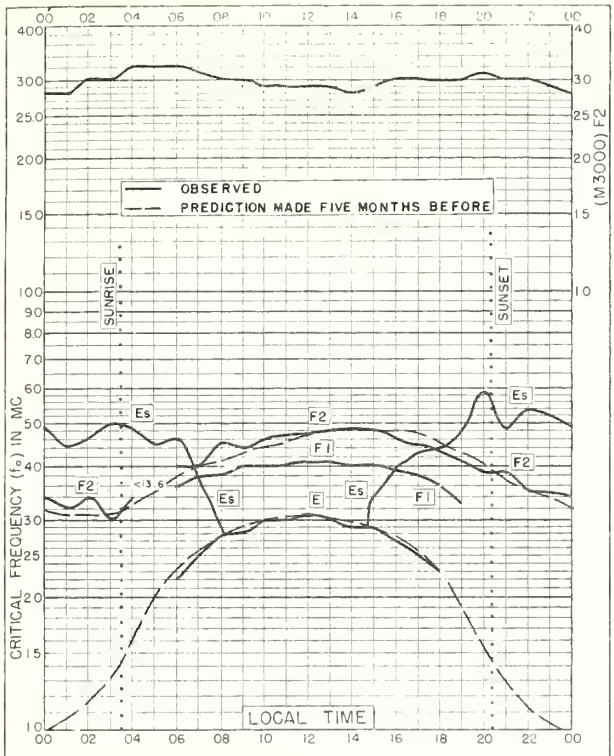


Fig. 9. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W MAY 1953

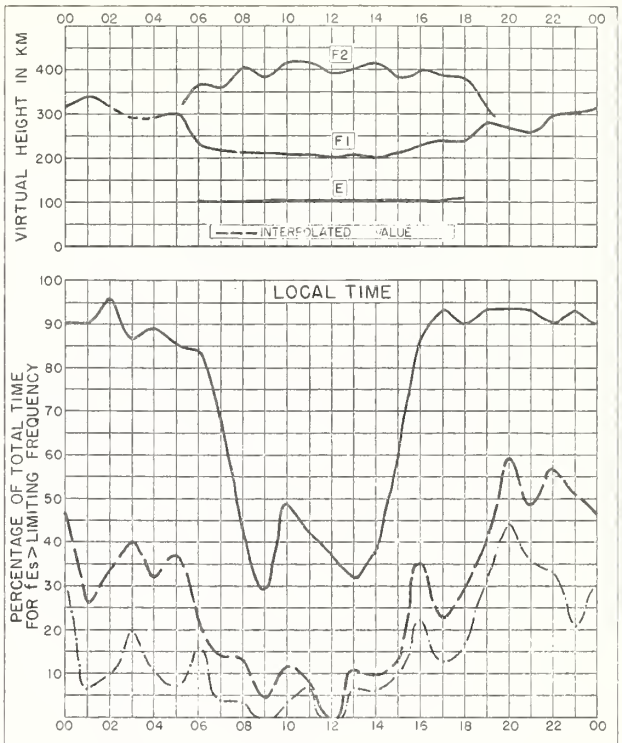


Fig. 10. NARSARSSUAK, GREENLAND MAY 1953

NBS 490

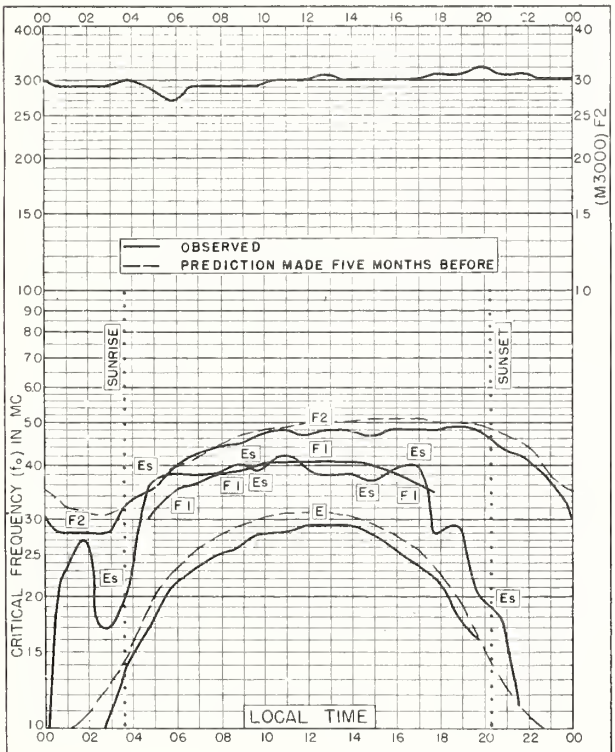


Fig. 11. OSLO, NORWAY
60.0°N, 11.1° E MAY 1953

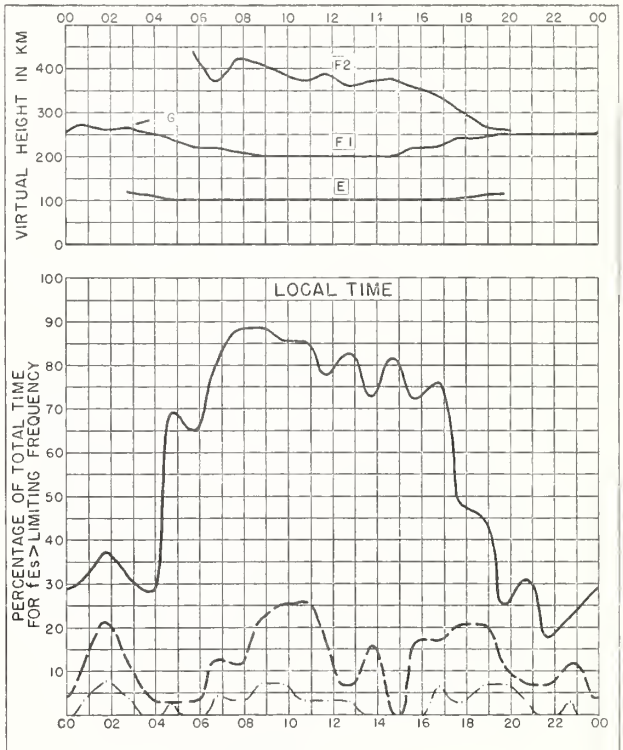


Fig. 12. OSLO, NORWAY MAY 1953

NBS 490

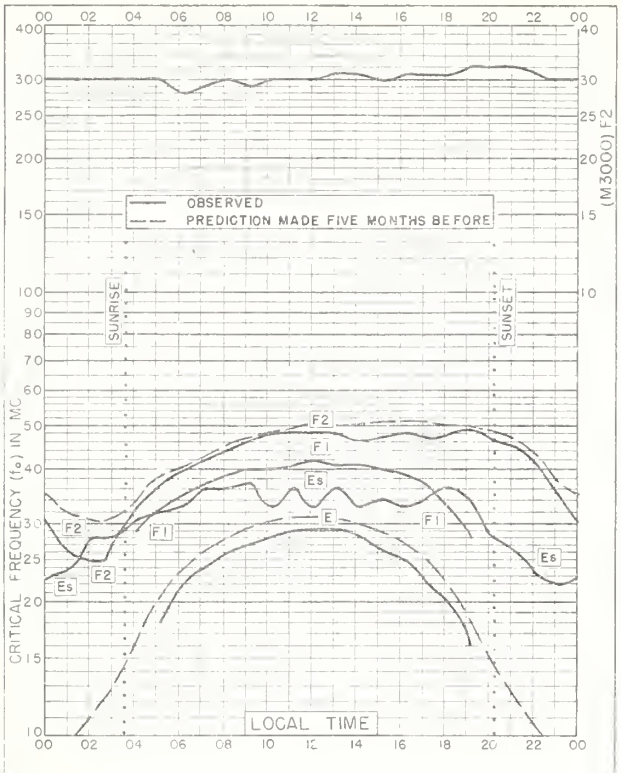


Fig. 13. UPSALA, SWEDEN
59.8°N, 17.6°E MAY 1953

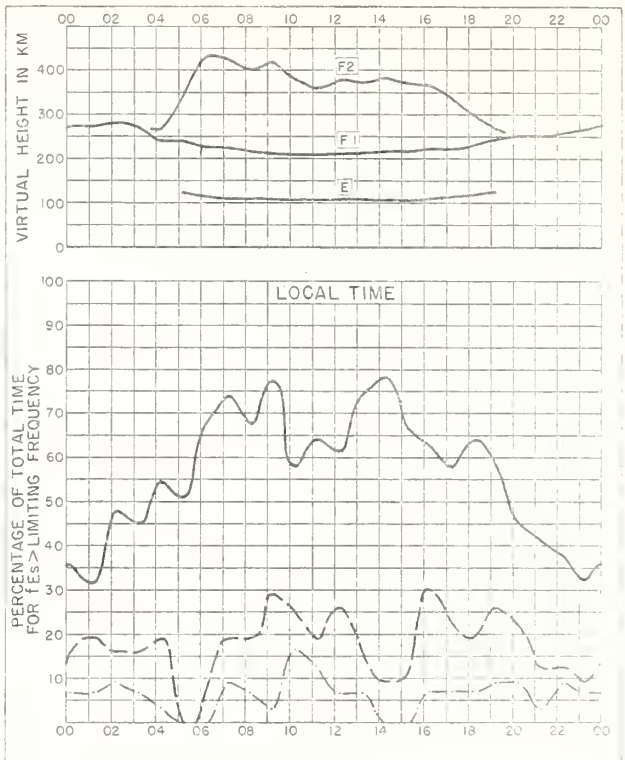


Fig. 14. UPSALA, SWEDEN MAY 1953

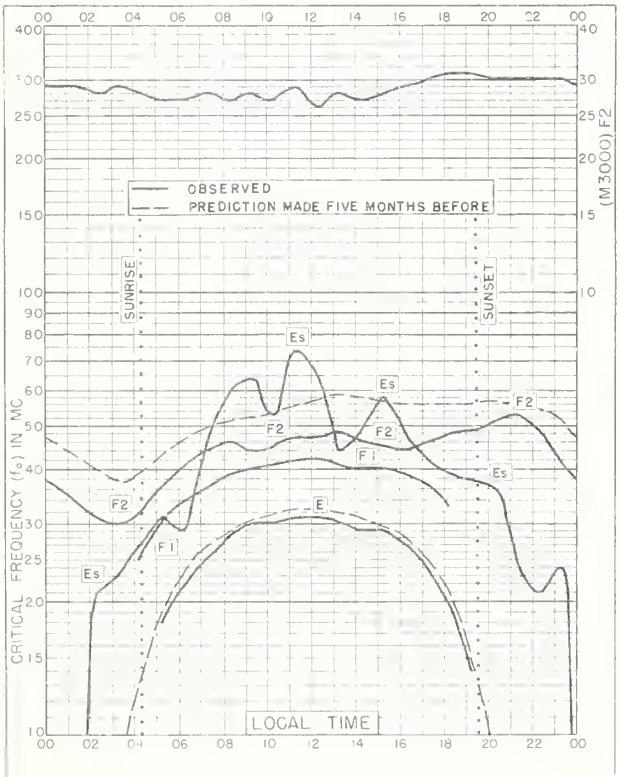


Fig. 15. ADAK, ALASKA
51.9° N, 176.6° W MAY 1953

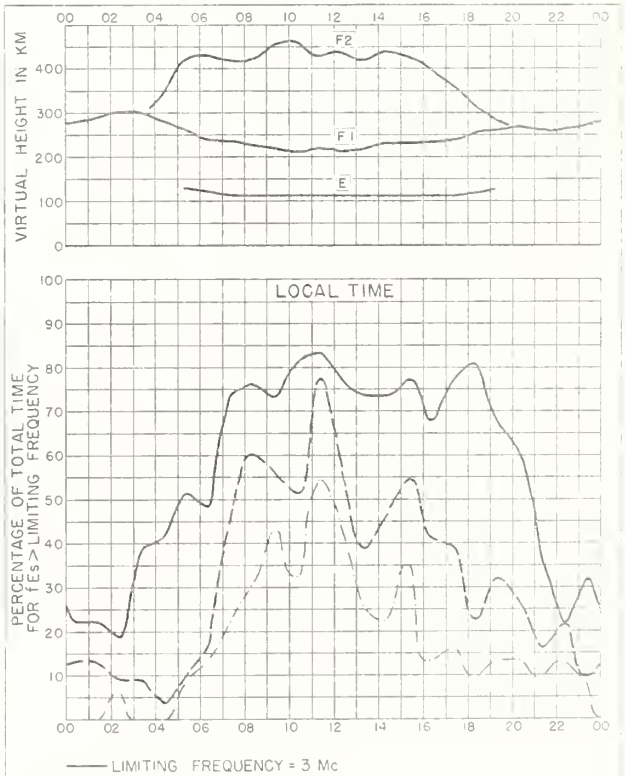


Fig. 16. ADAK, ALASKA MAY 1953

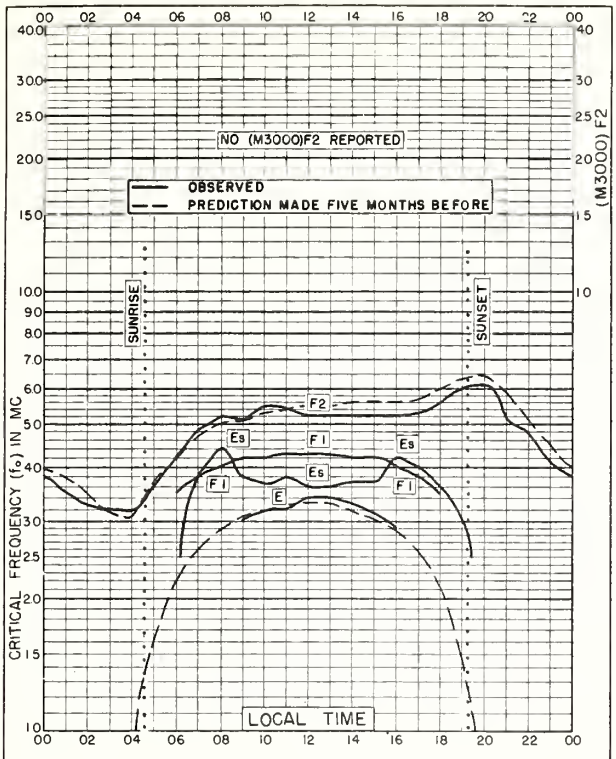


Fig. 17. GRAZ, AUSTRIA
47.1°N, 15.5°E MAY 1953

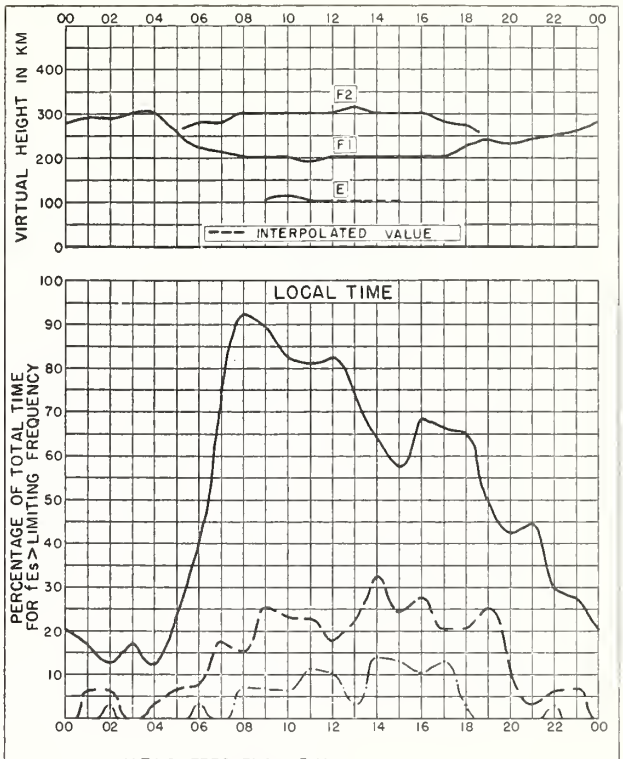


Fig. 18 GRAZ, AUSTRIA MAY 1953

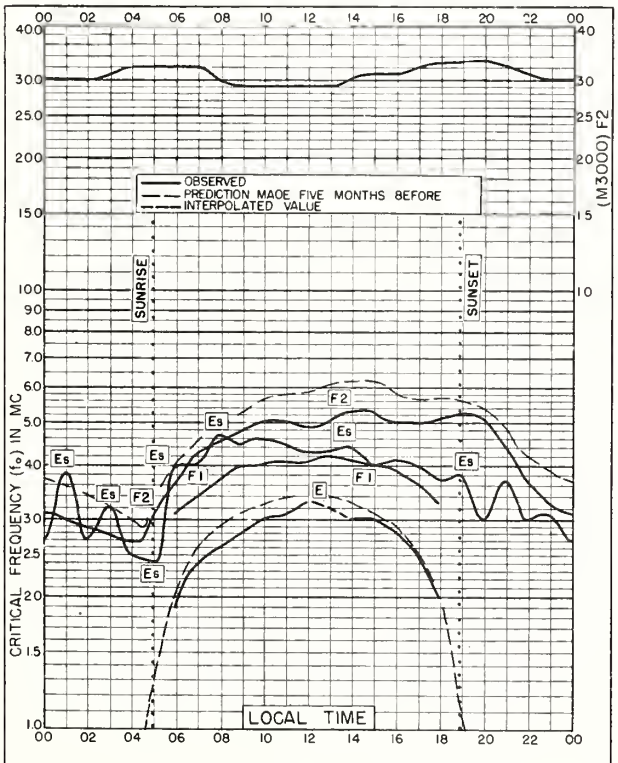


Fig. 19. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY 1953

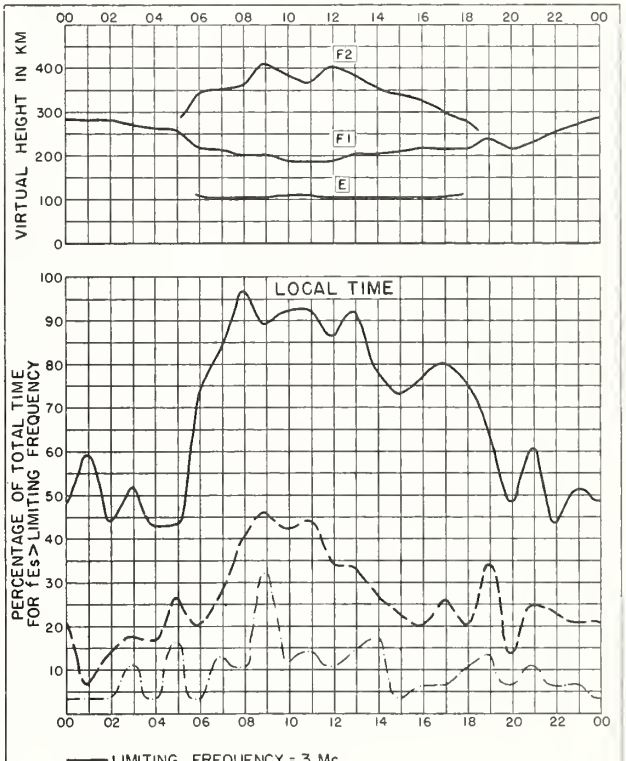


Fig. 20. SAN FRANCISCO, CALIFORNIA MAY 1953

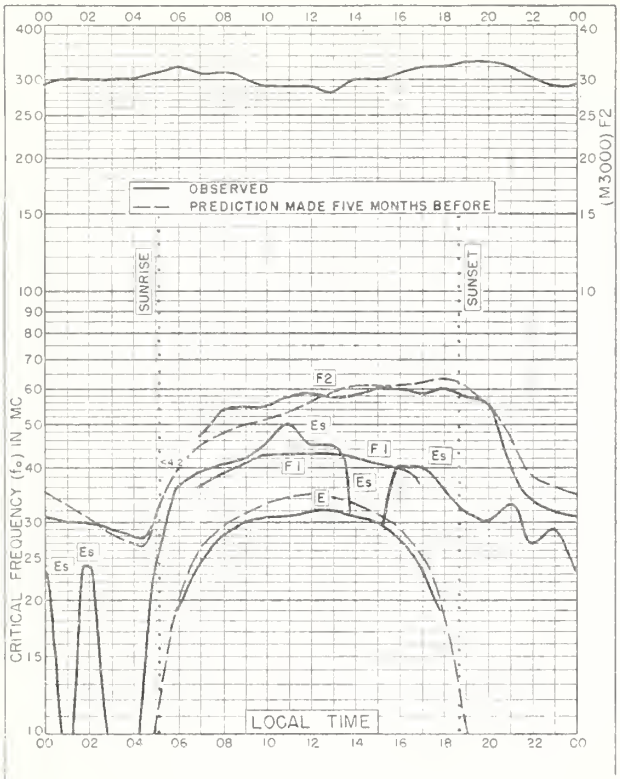


Fig. 21. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W MAY 1953

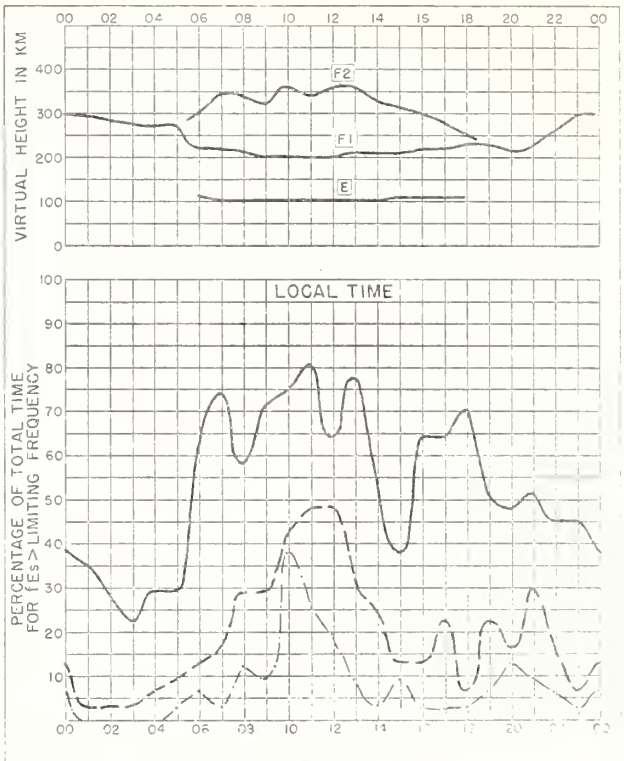


Fig. 22. WHITE SANDS, NEW MEXICO MAY 1953

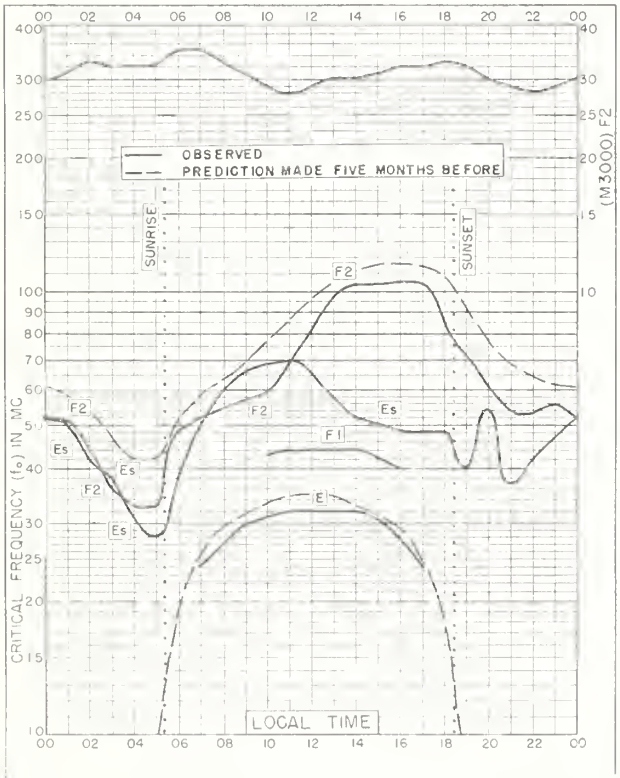


Fig. 23. OKINAWA I
26.3°N, 127.8°E MAY 1953

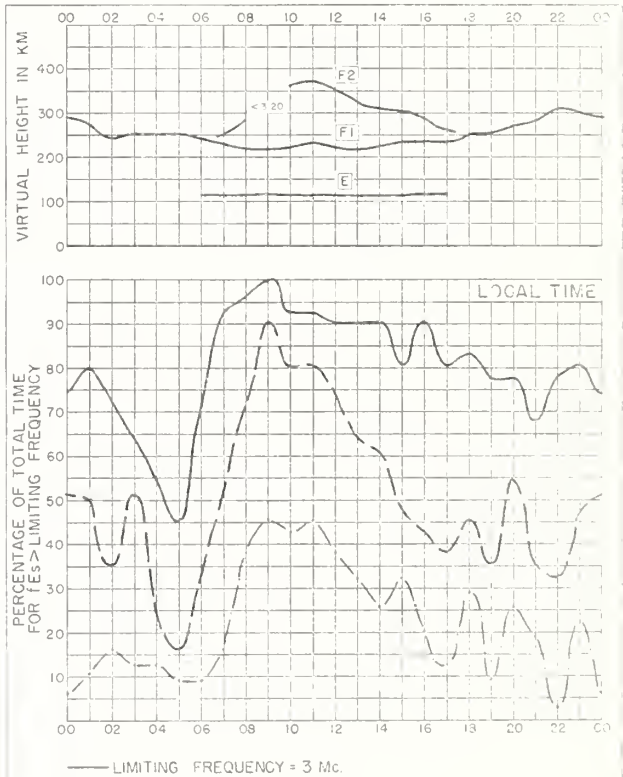


Fig. 24. OKINAWA I. MAY 1953

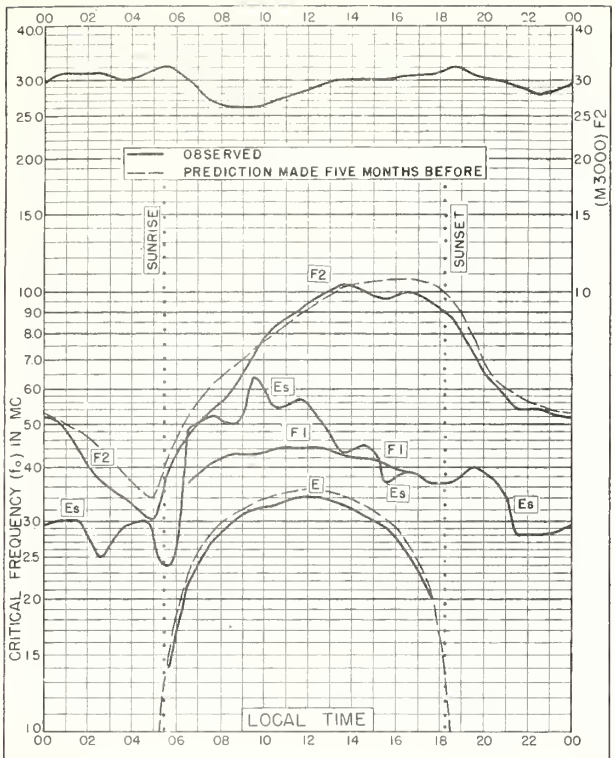


Fig. 25. MAUI, HAWAII
20.8°N, 156.5°W MAY 1953

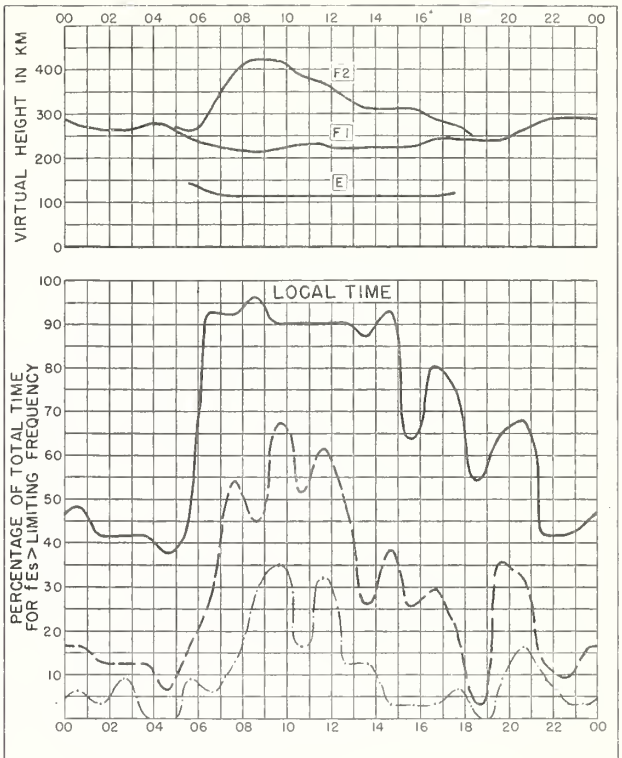


Fig. 26. MAUI, HAWAII MAY 1953

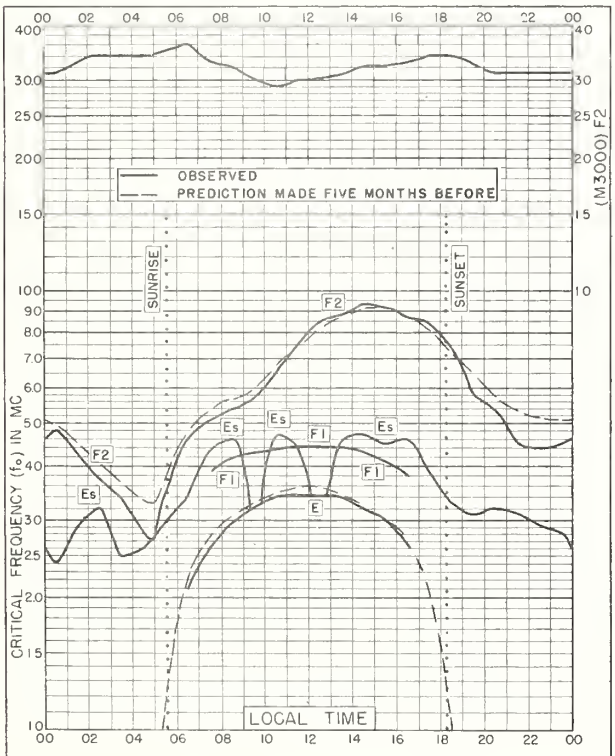


Fig. 27. PUERTO RICO, W. I.
18.5°N, 67.2° W MAY 1953

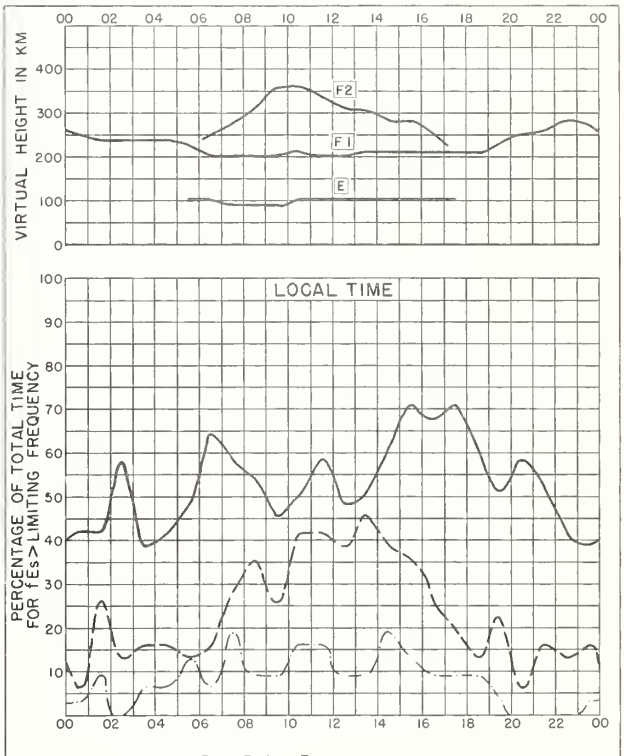


Fig. 28. PUERTO RICO, W. I. MAY 1953

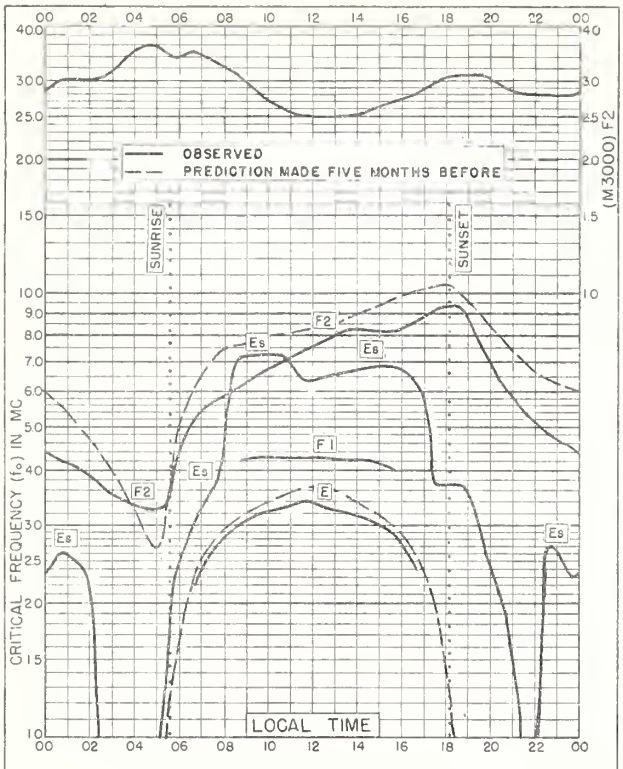


Fig. 29. GUAM I.
13.6°N, 144.9°E MAY 1953

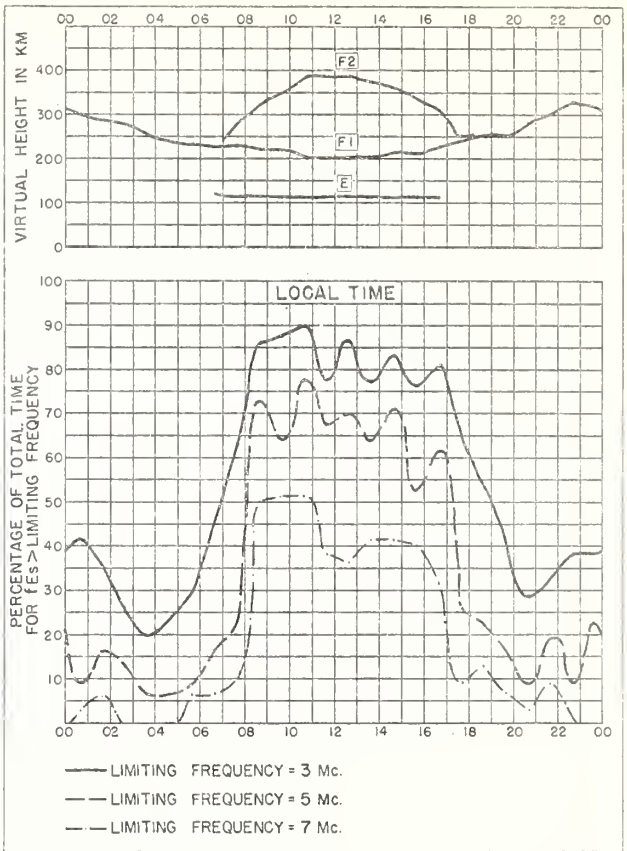


Fig. 30. GUAM I. MAY 1953

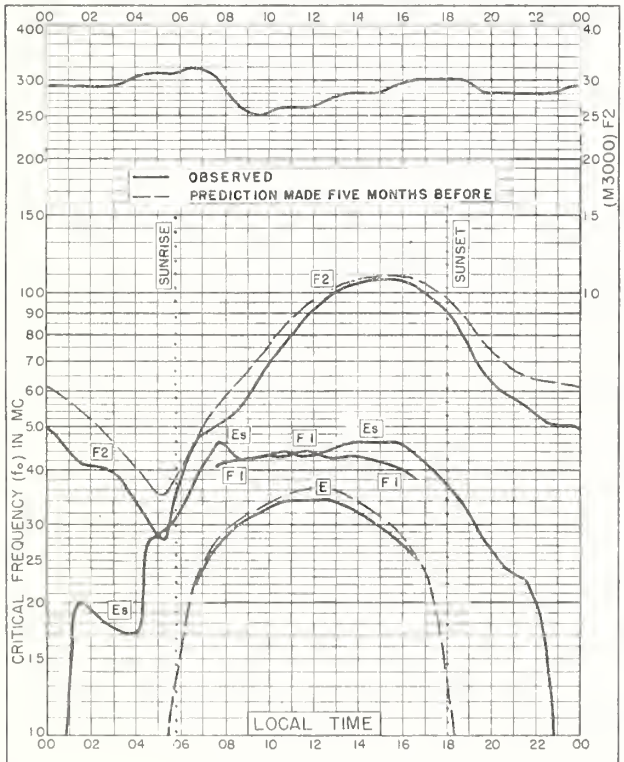


Fig. 31. PANAMA CANAL ZONE
9.4°N, 79.9°W MAY 1953

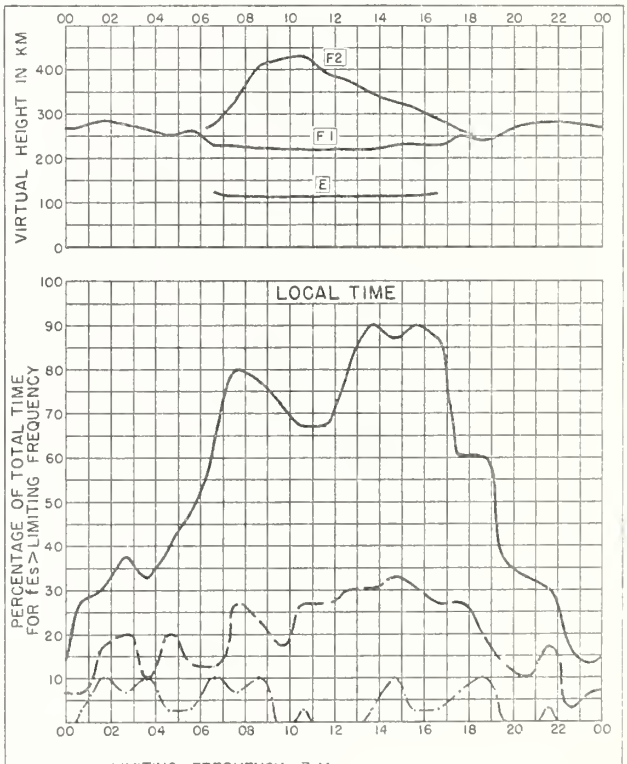


Fig. 32. PANAMA CANAL ZONE MAY 1953

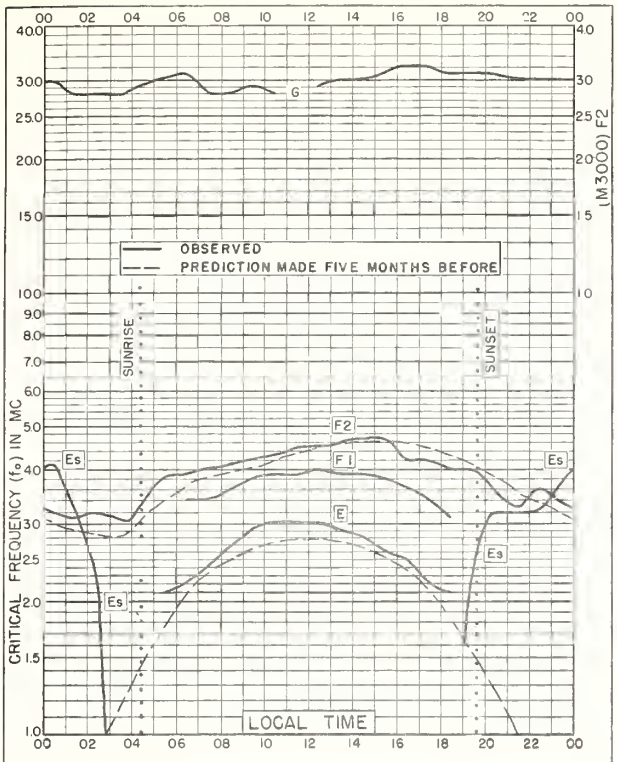


Fig. 33. KIRUNA, SWEDEN
67.8°N, 20.5°E APRIL 1953

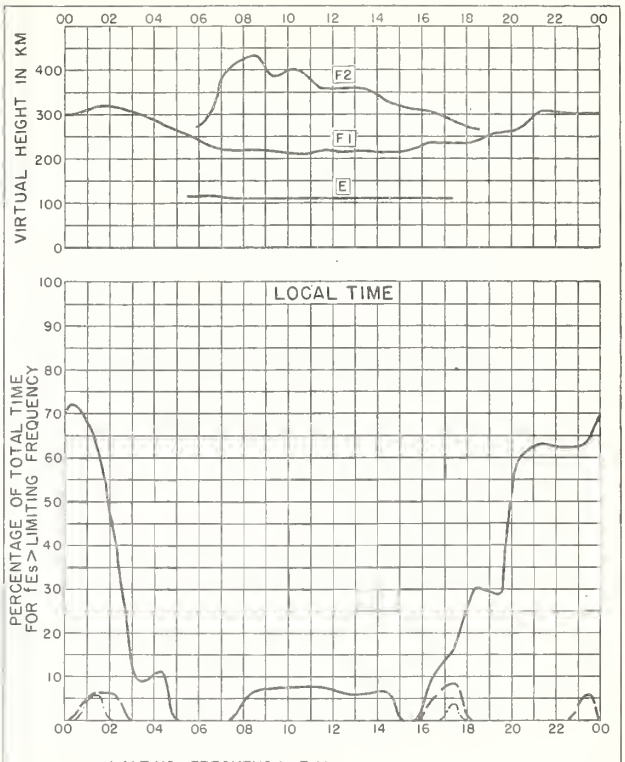


Fig. 34. KIRUNA, SWEDEN APRIL 1953

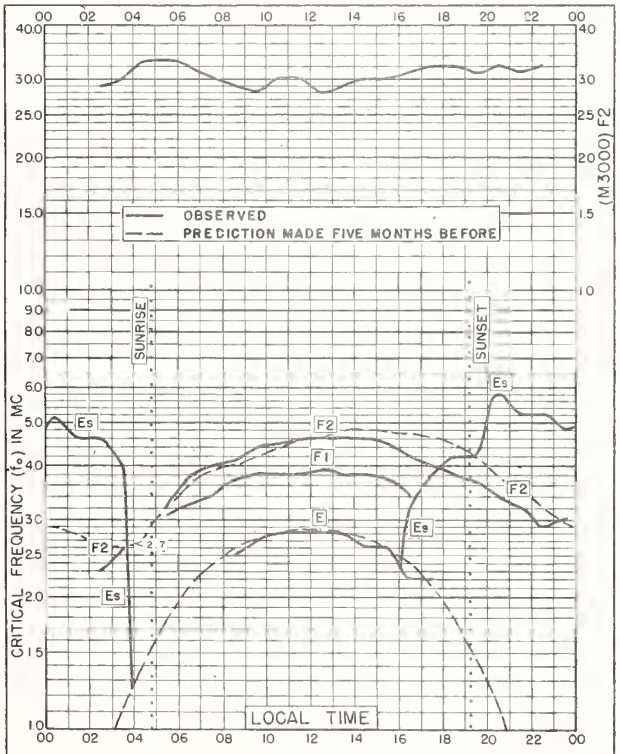


Fig. 35. REYKJAVIK, ICELAND
64.1°N, 21.8°W APRIL 1953

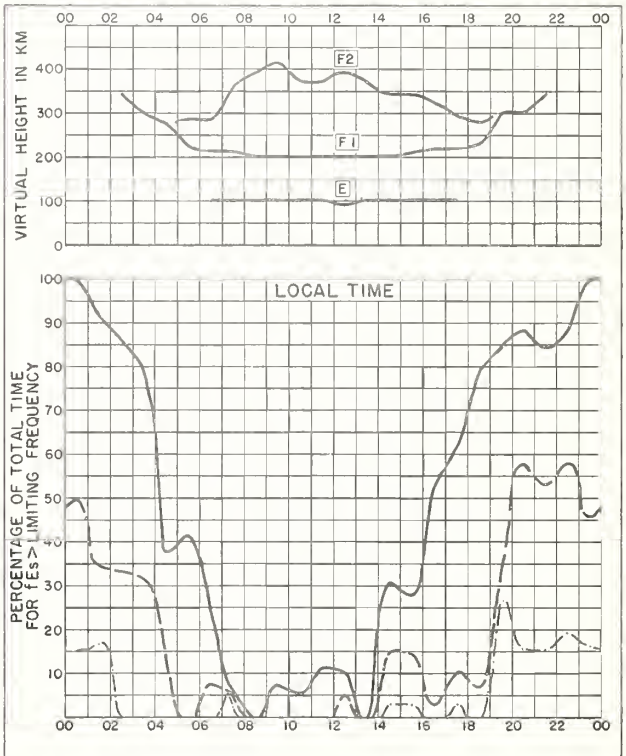


Fig. 36. REYKJAVIK, ICELAND APRIL 1953

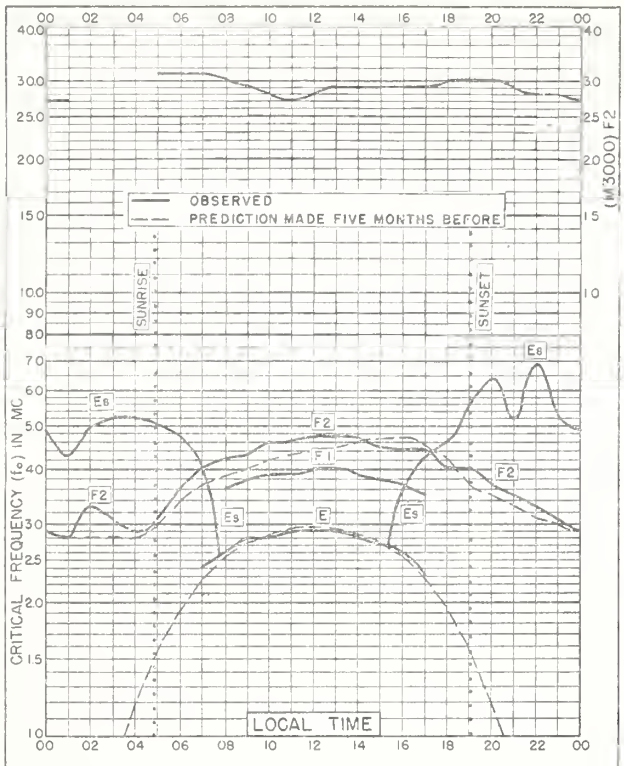
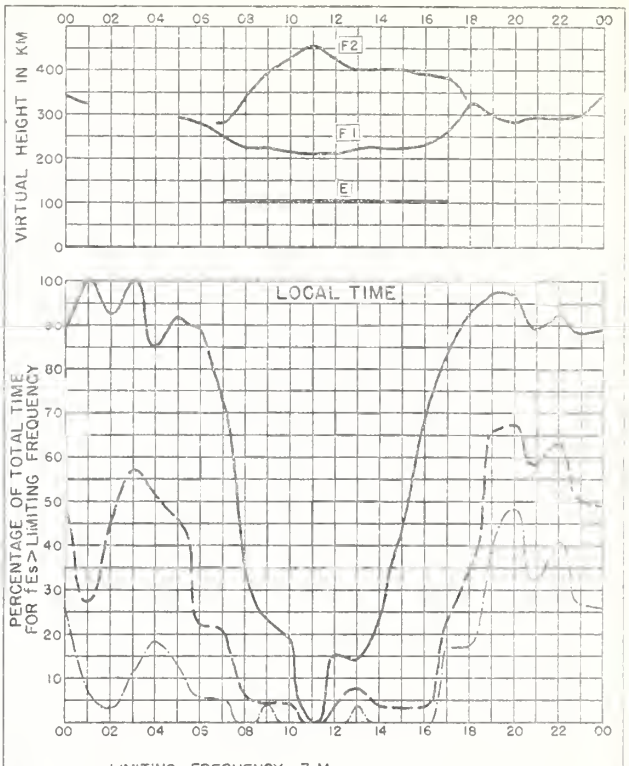


Fig. 37. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W APRIL 1953



APRIL 1953

Fig. 38. NARSARSSUAK, GREENLAND

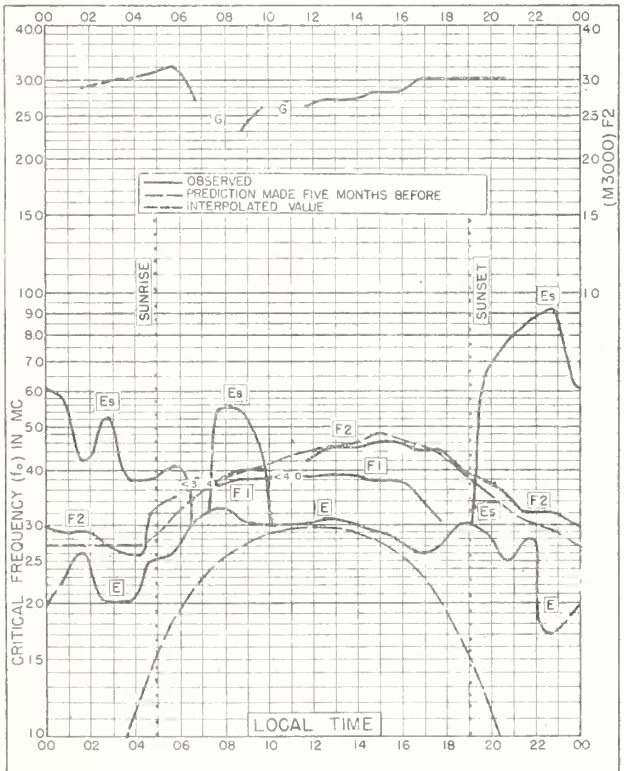


Fig. 39. CHURCHILL, CANADA
58.8°N, 94.2°W APRIL 1953

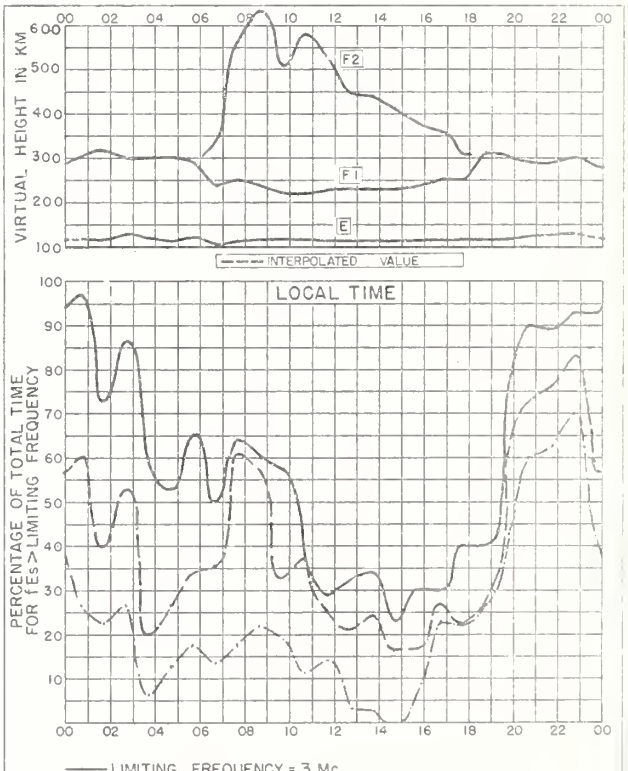


Fig. 40. CHURCHILL, CANADA APRIL 1953

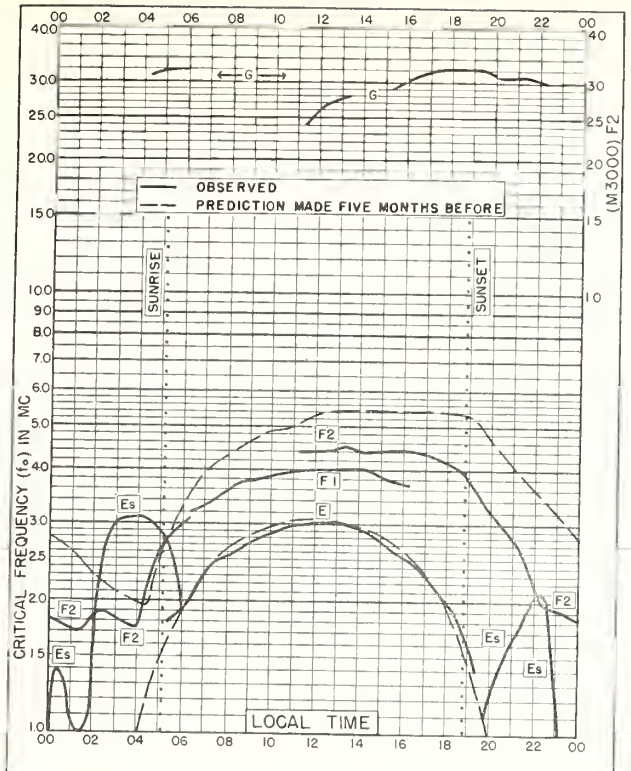


Fig. 41. PRINCE RUPERT, CANADA
54.3°N, 130.3°W APRIL 1953

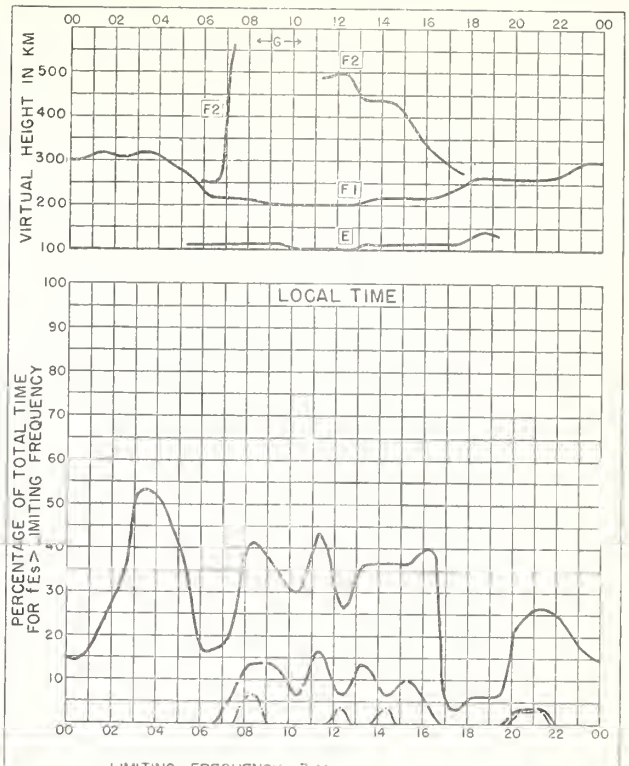


Fig. 42 PRINCE RUPERT, CANADA APRIL 1953

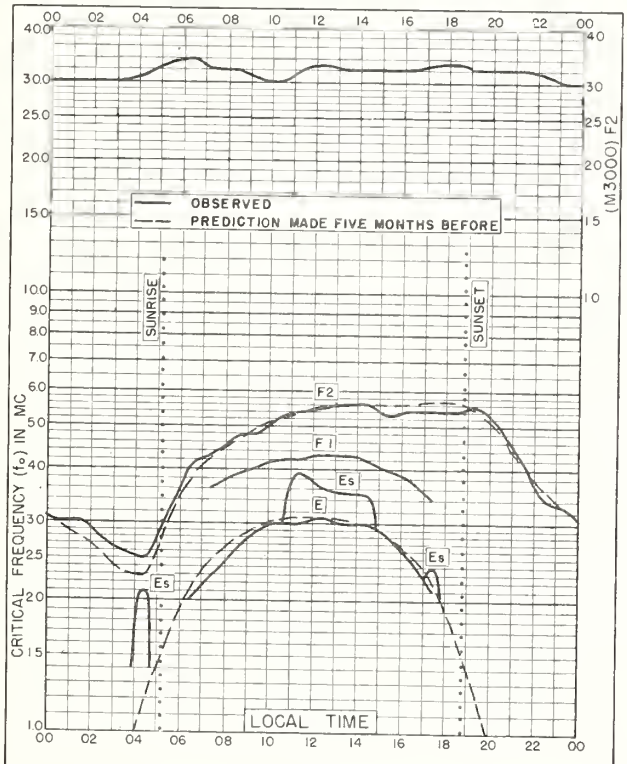


Fig. 43. DE BILT, HOLLAND
52.1°N, 5.2°E APRIL 1953

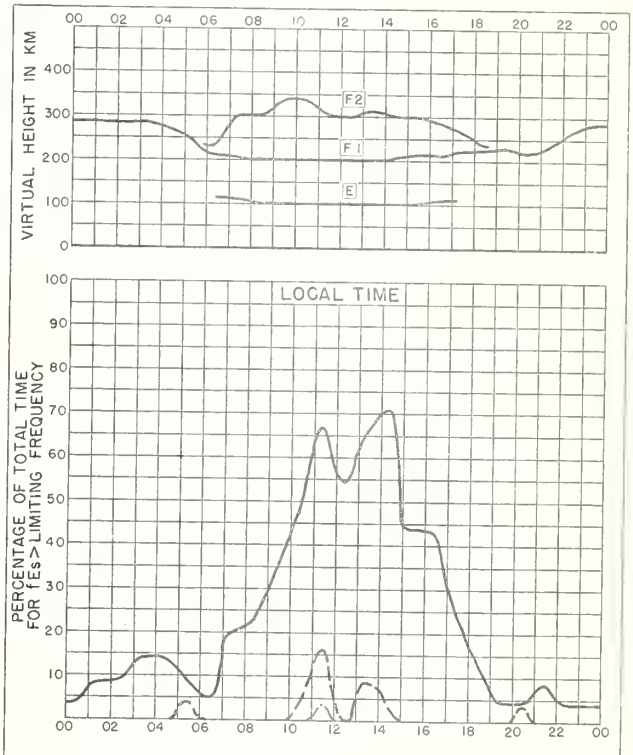


Fig. 44. DE BILT, HOLLAND APRIL 1953

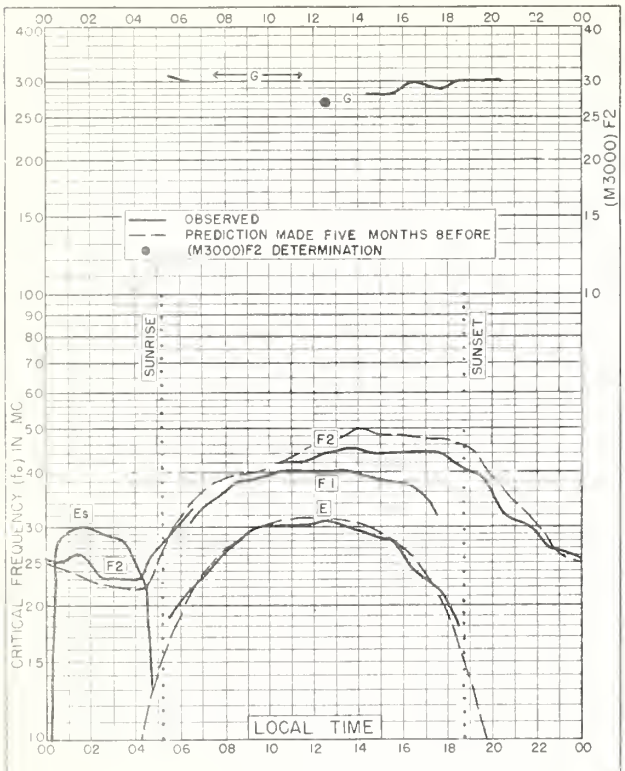


Fig. 45. WINNIPEG, CANADA
49.9°N, 97.4°W APRIL 1953

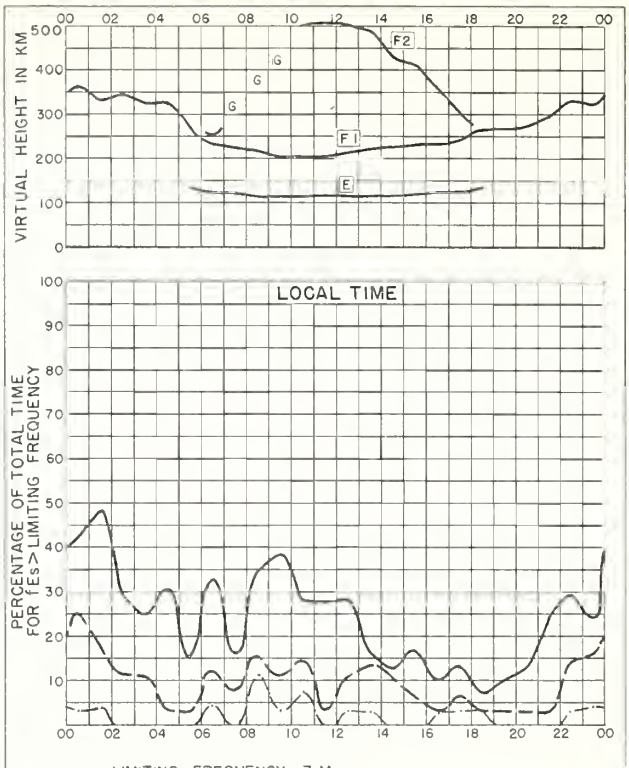


Fig. 46. WINNIPEG, CANADA APRIL 1953

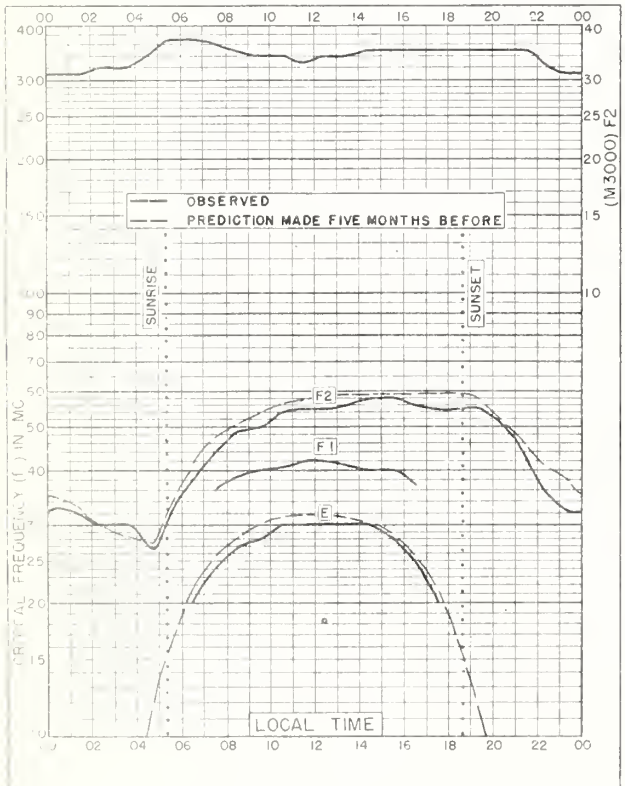


Fig. 47. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E APRIL 1953

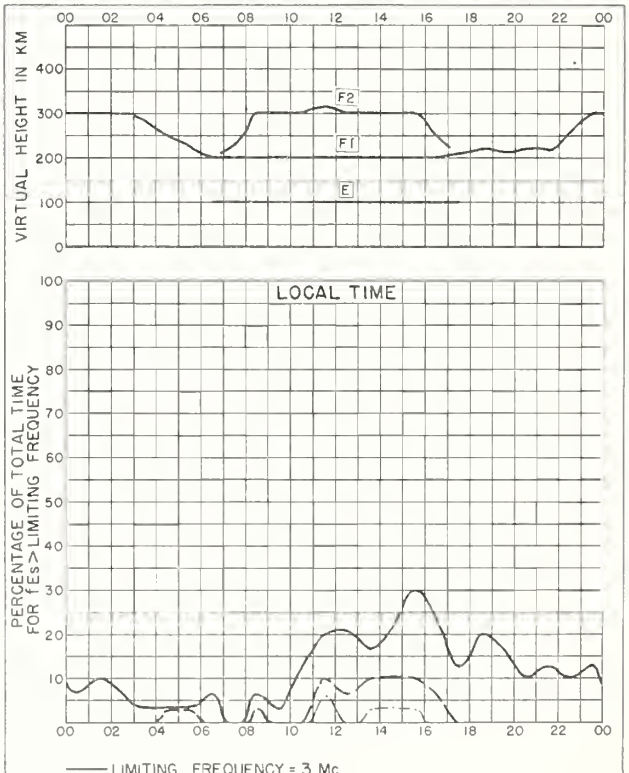


Fig. 48. SCHWARZENBURG, SWITZERLAND APRIL 1953

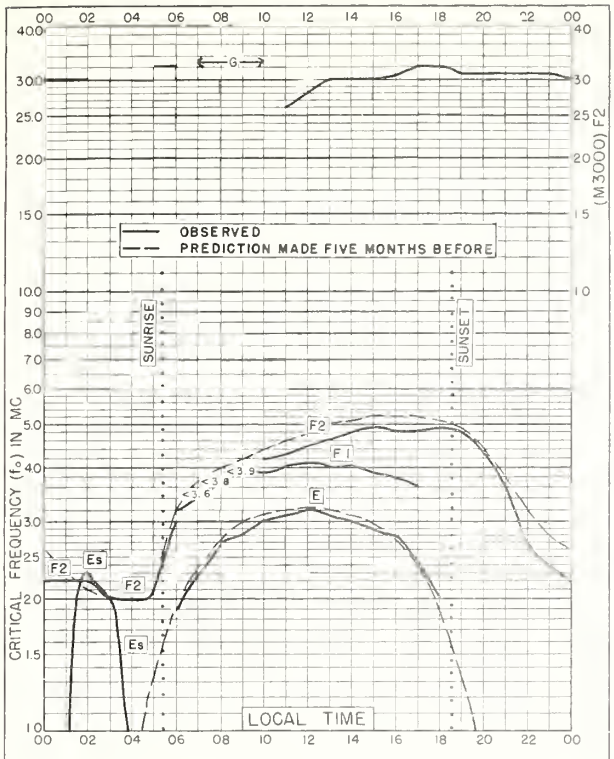


Fig. 49. OTTAWA, CANADA
45.4°N, 75.7°W APRIL 1953

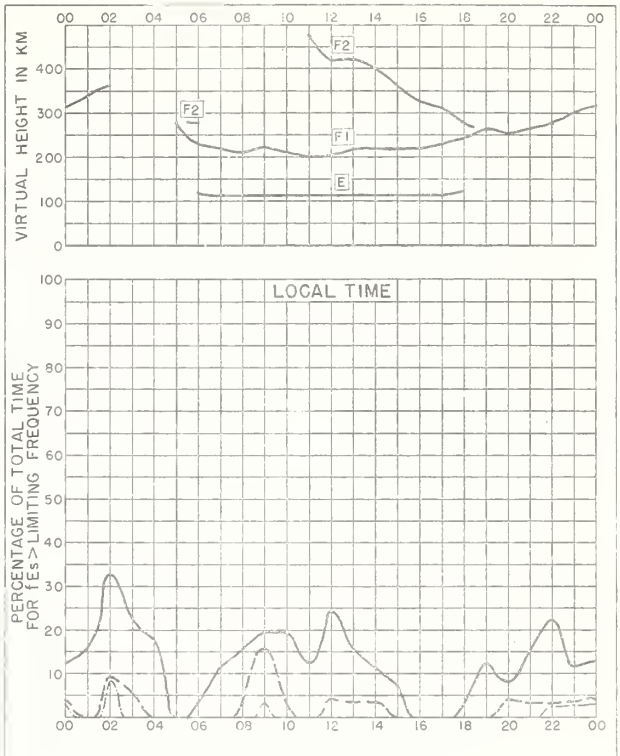


Fig. 50. OTTAWA, CANADA APRIL 1953

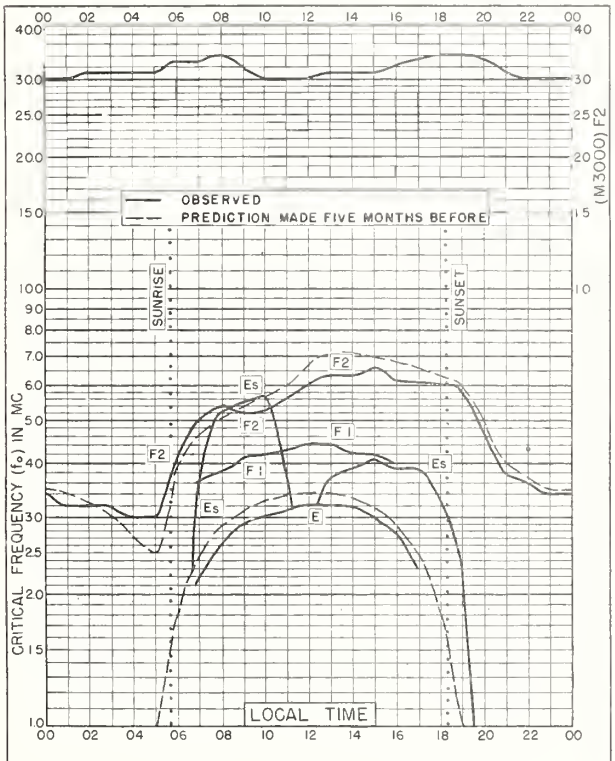


Fig.51. BATON ROUGE, LOUISIANA
30.5°N, 91.2° W APRL 1953

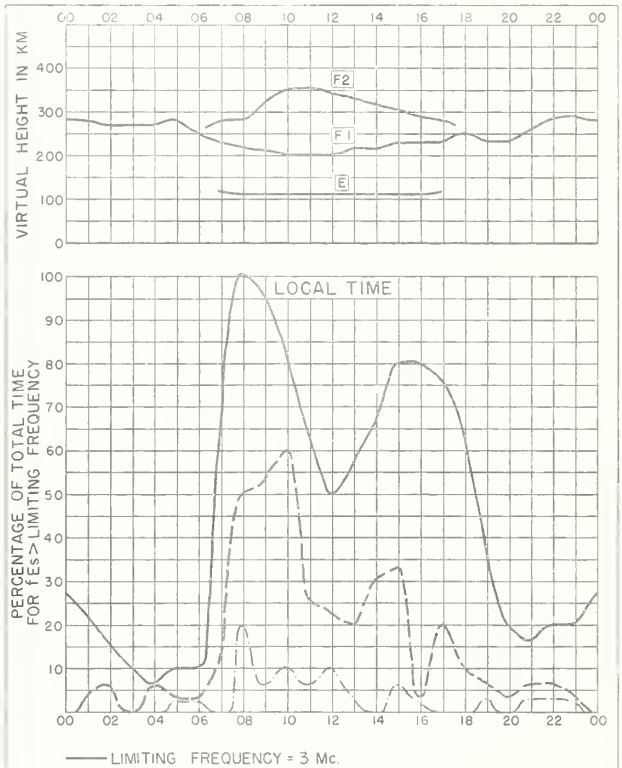


Fig.52. BATON ROUGE, LOUISIANA APRIL 1953

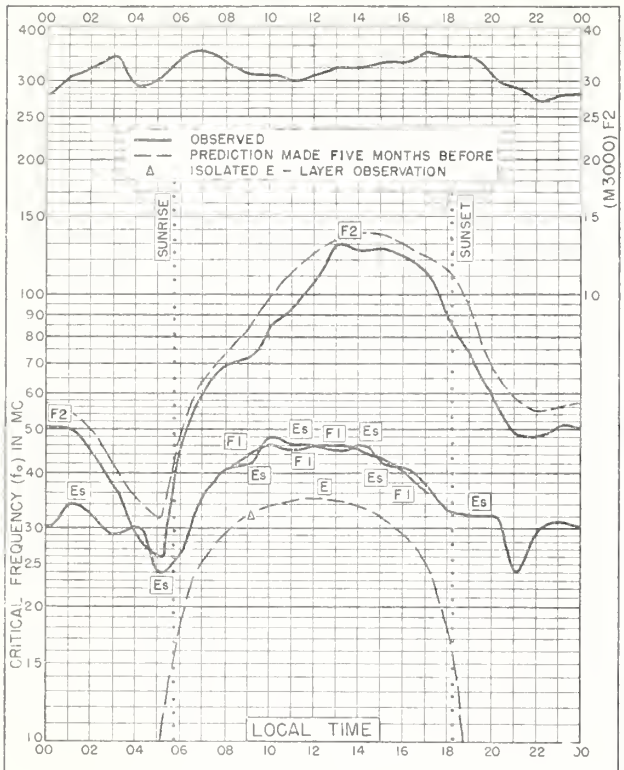


Fig. 53. FORMOSA, CHINA
25.0° N, 121.5° E APRIL 1953

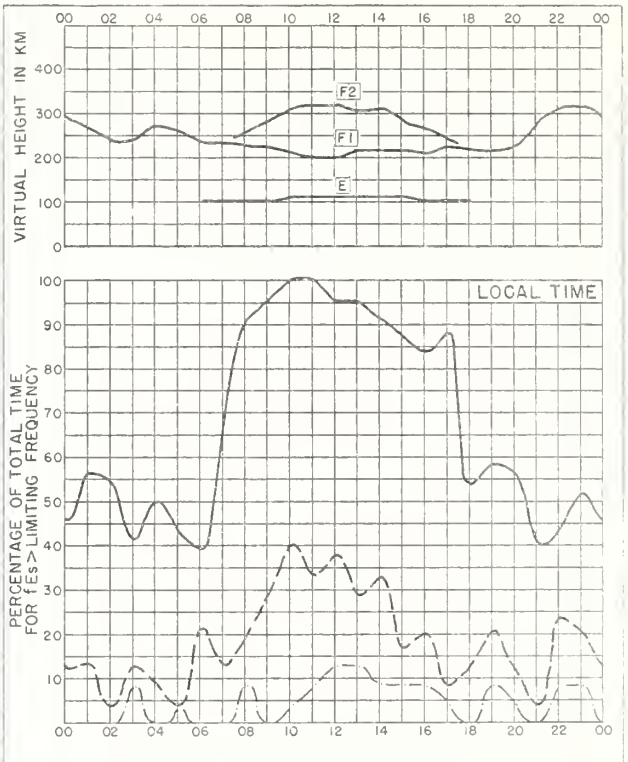


Fig. 54. FORMOSA, CHINA APRIL 1953

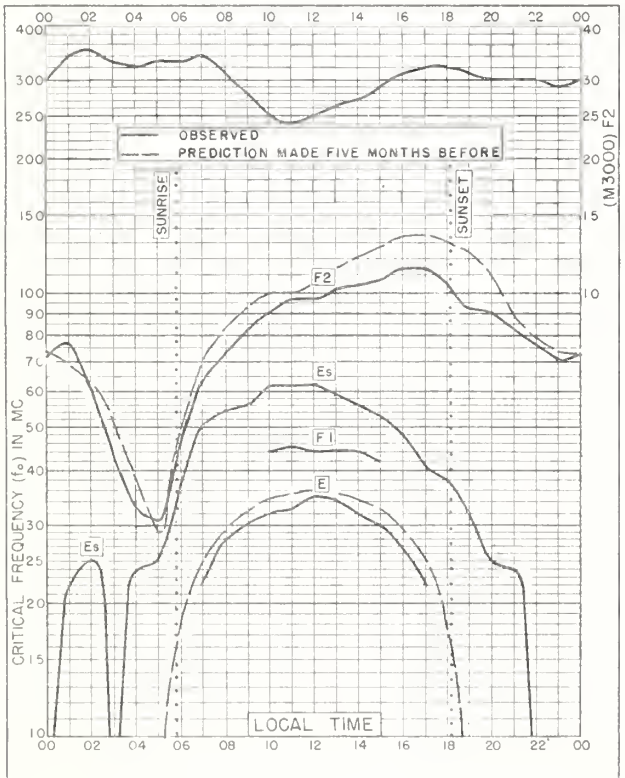


Fig. 55. BAGUIO, P. I.
16.4° N, 120.6° E APRIL 1953

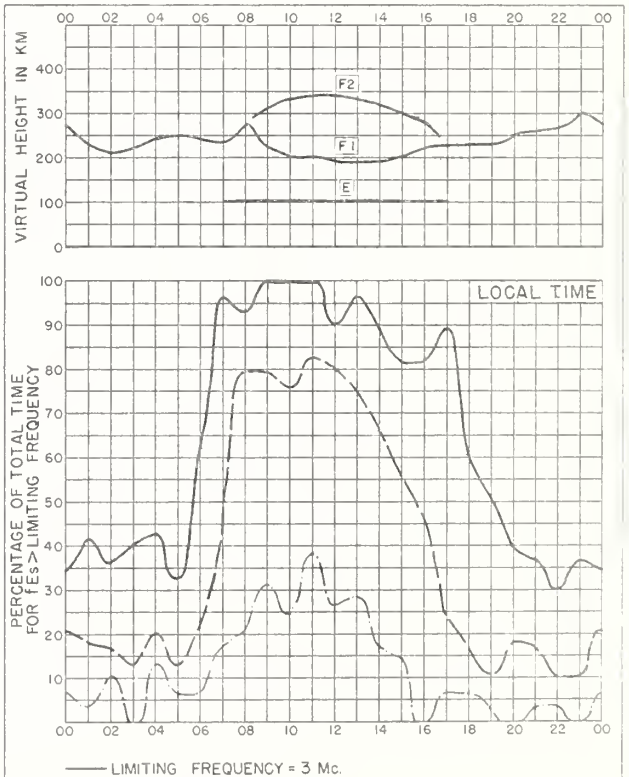


Fig. 56. BAGUIO, P. I. APRIL 1953

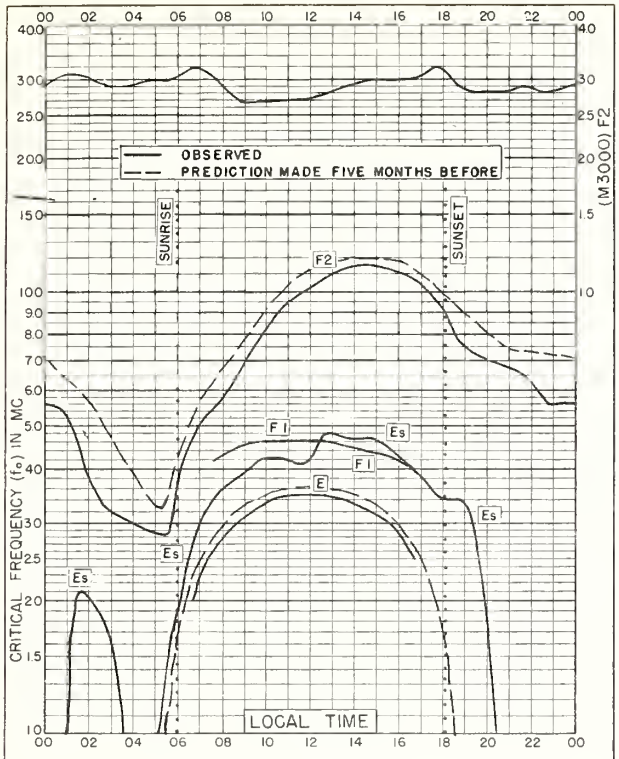


Fig.57. PANAMA CANAL ZONE
9.4°N, 79.9°W APRIL 1953

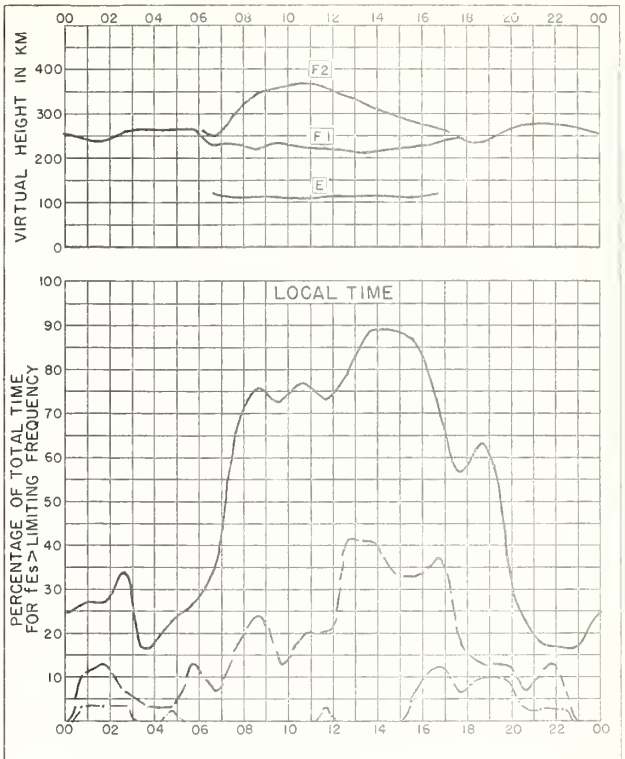


Fig.58. PANAMA CANAL ZONE APRIL 1953

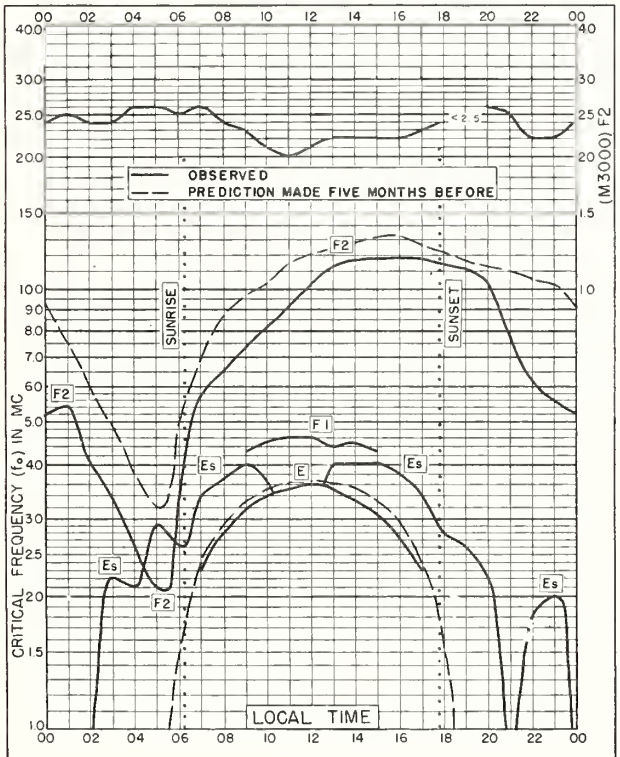


Fig.59. LEOPOLDVILLE, BELGIAN CONGO
4.3°S, 15.3°E APRIL 1953

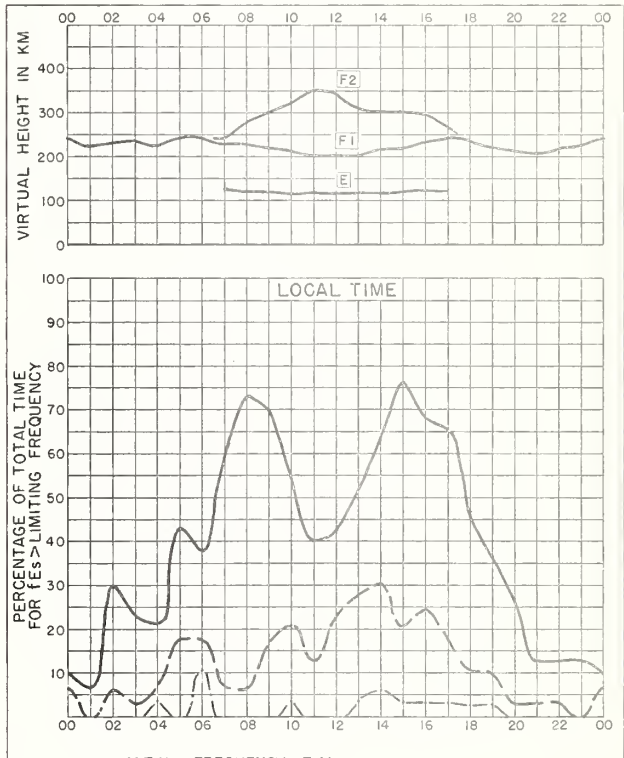


Fig.60. LEOPOLDVILLE, BELGIAN CONGO APRIL 1953

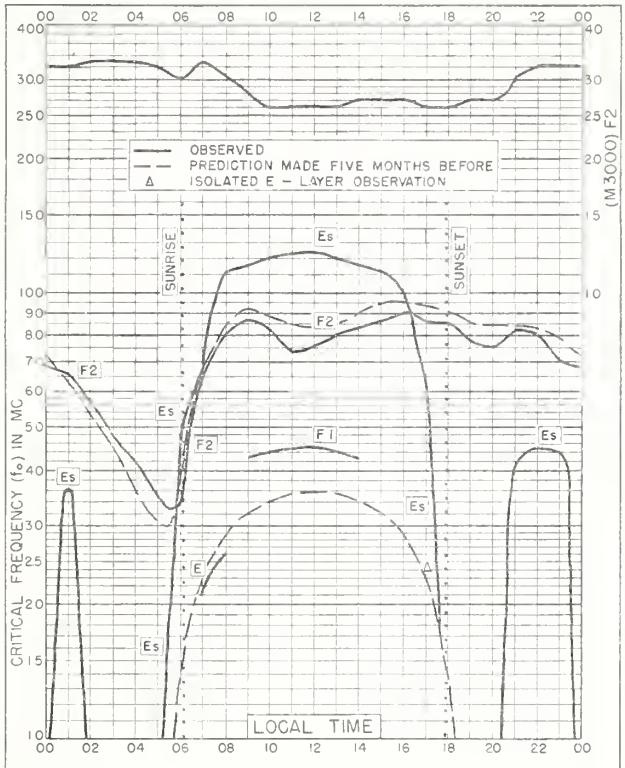


Fig. 61. HUANCAYO, PERU
12.0°S, 75.3°W APRIL 1953

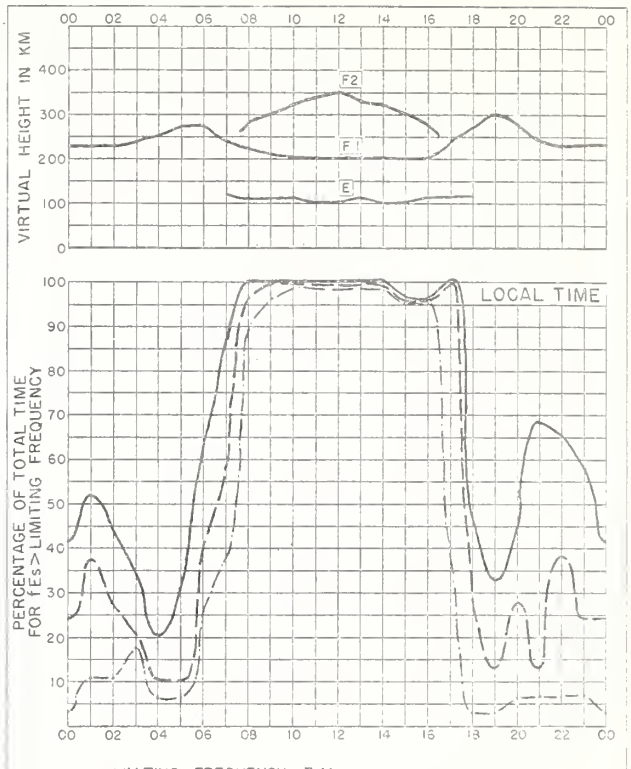


Fig. 62. HUANCAYO, PERU APRIL 1953

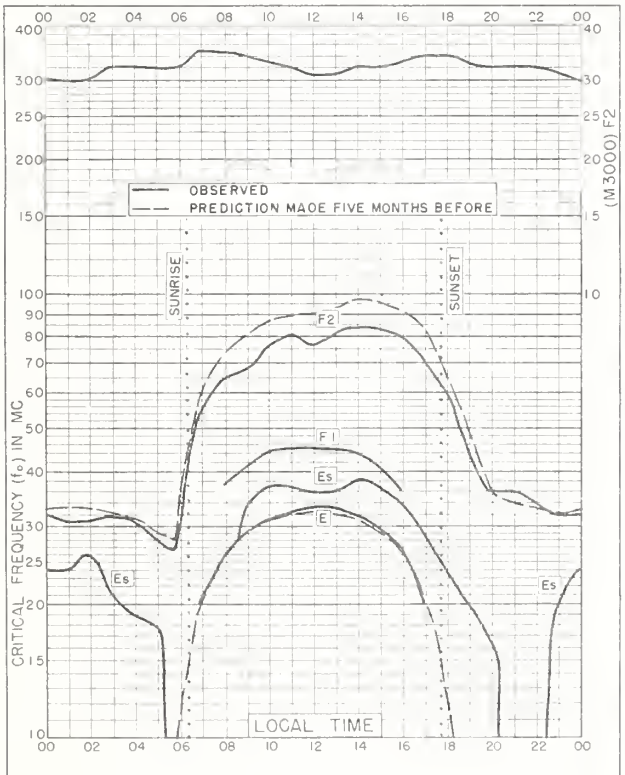


Fig. 63. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E APRIL 1953

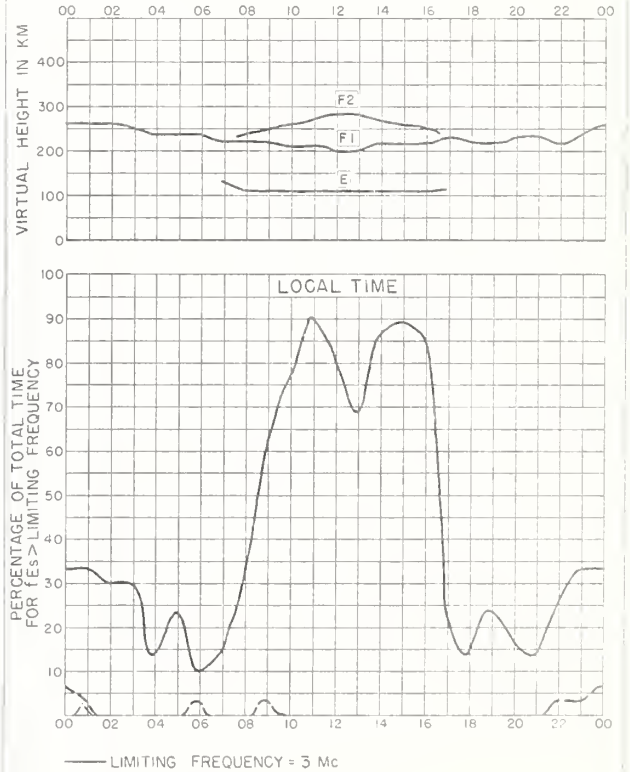


Fig. 64. JOHANNESBURG, UNION OF S. AFRICA APRIL 1953

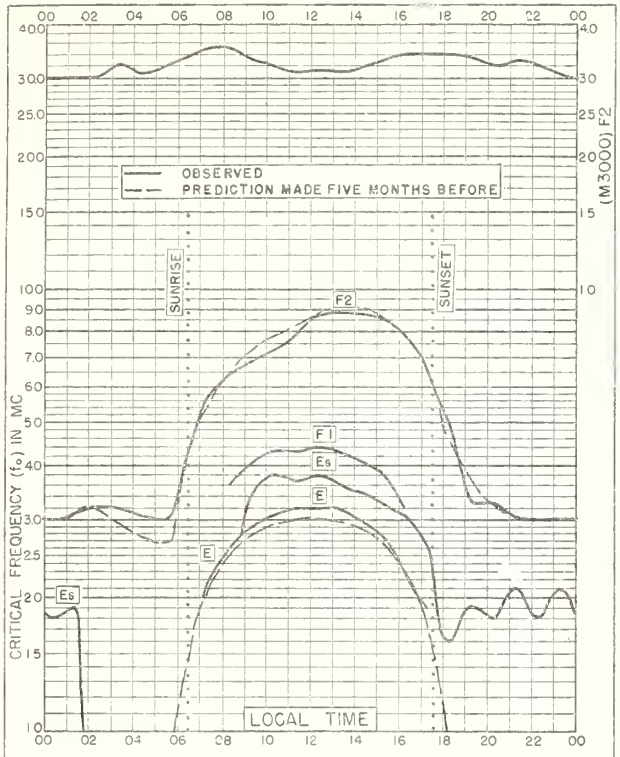


Fig. 65. CAPETOWN, U. OF S. AFRICA
34.2°S, 18.3°E APRIL 1953

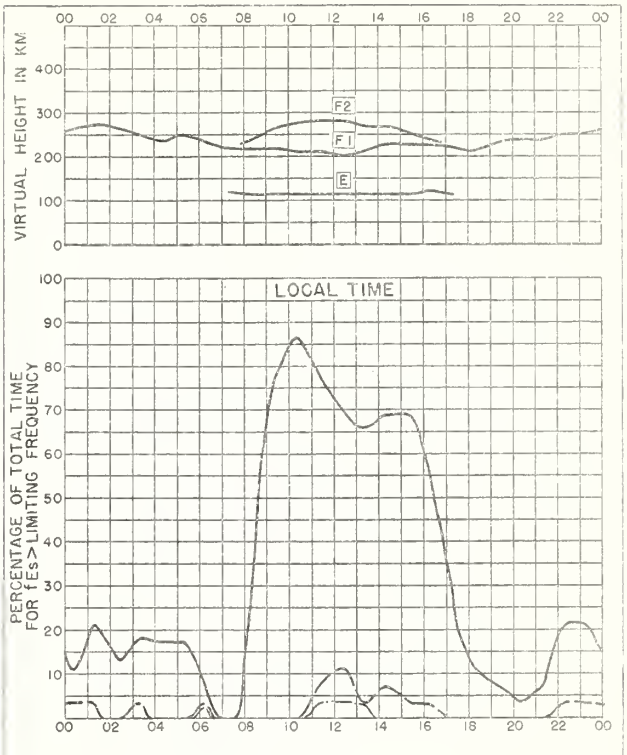


Fig. 66. CAPETOWN, U. OF S. AFRICA APRIL 1953

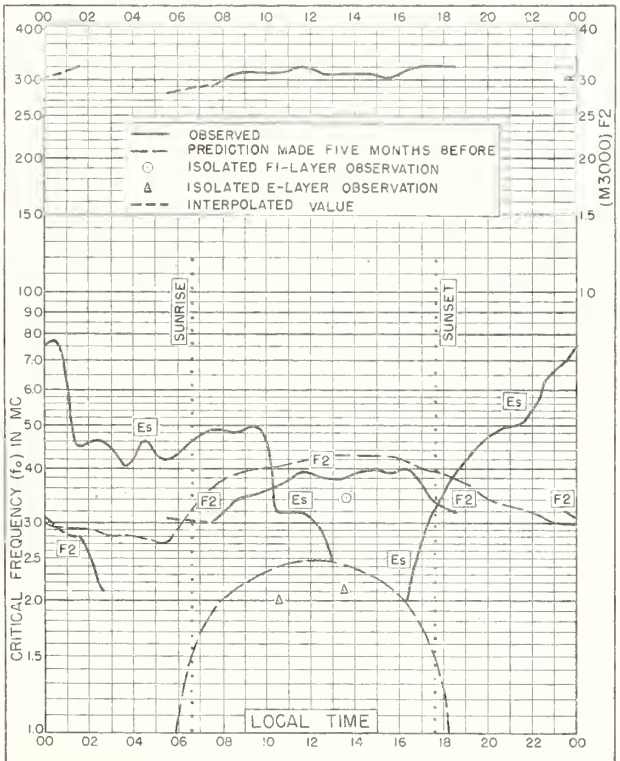
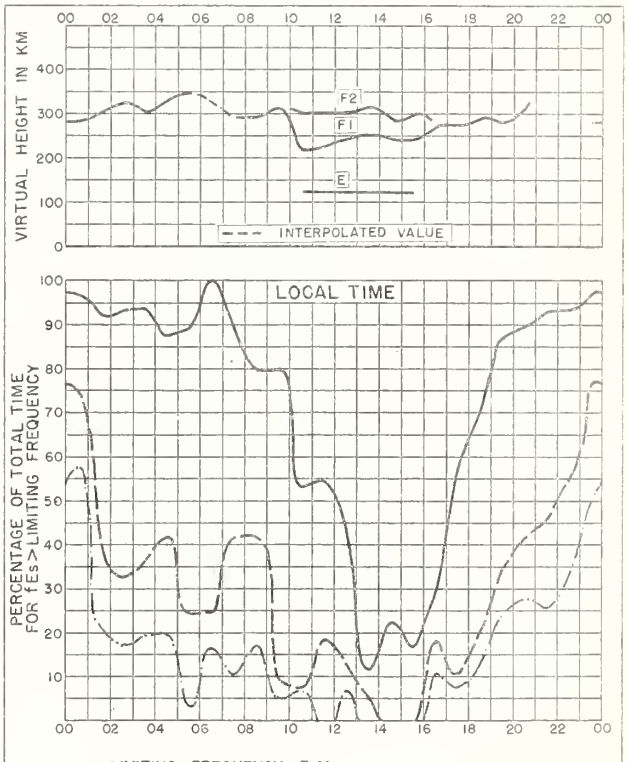


Fig. 67. POINT BARROW, ALASKA
71.3°N, 156.8°W MARCH 1953



MARCH 1953

Fig. 68. POINT BARROW, ALASKA

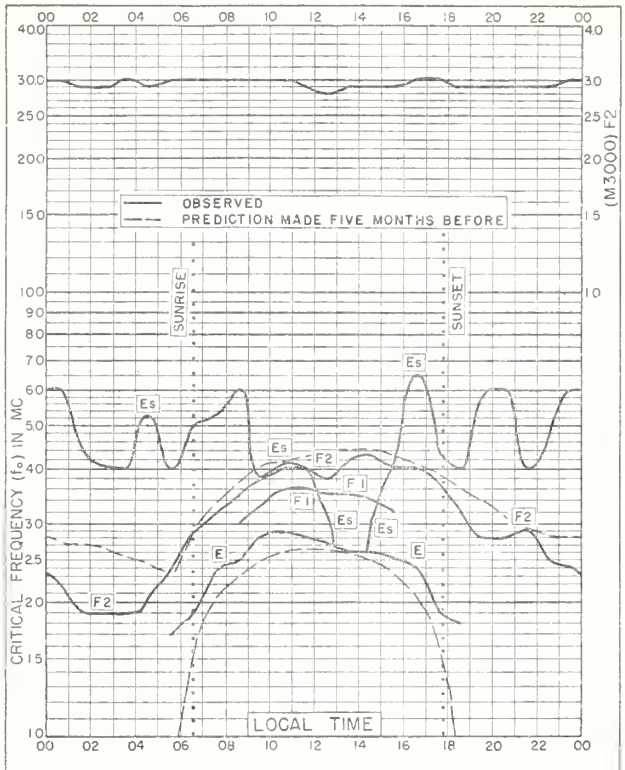


Fig. 69. BAKER LAKE, CANADA
64.3°N, 96.0° W MARCH 1953

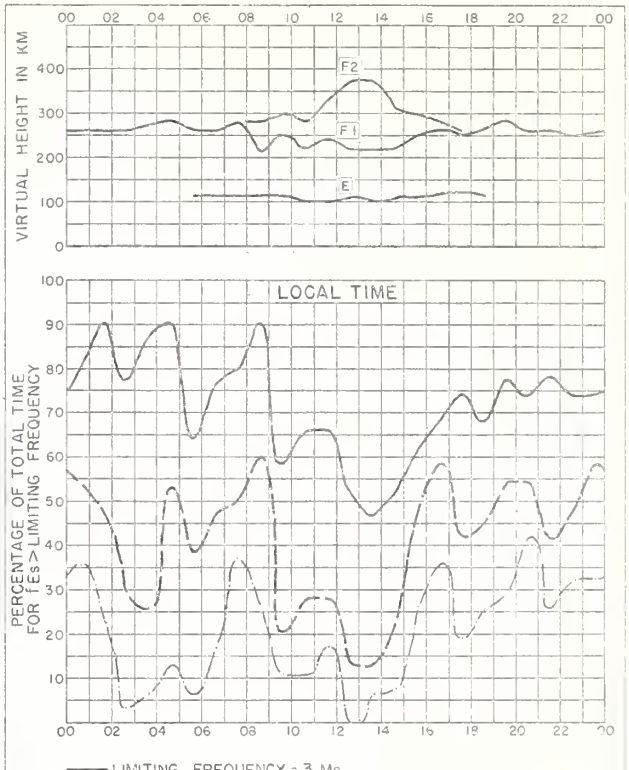


Fig. 70. BAKER LAKE, CANADA MARCH 1953

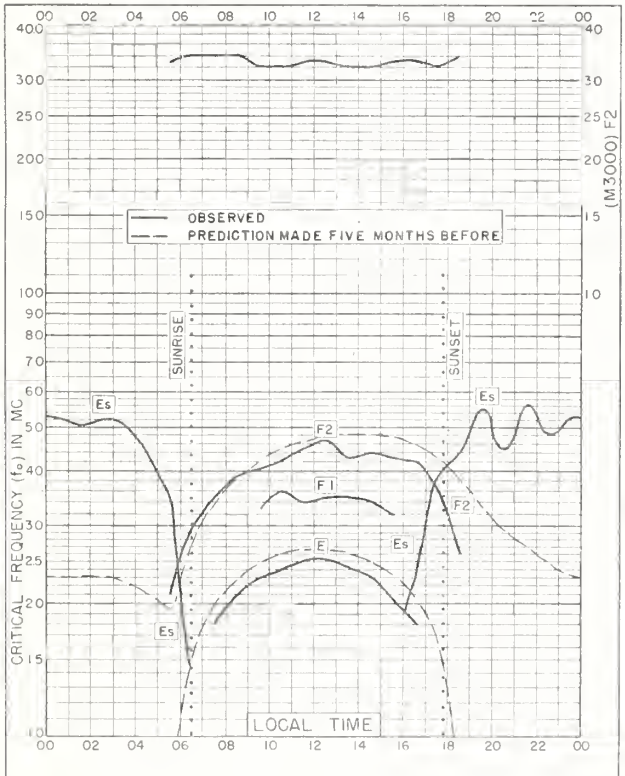


Fig. 71. REYKJAVIK, ICELAND
64.1°N, 21.8° W MARCH 1953

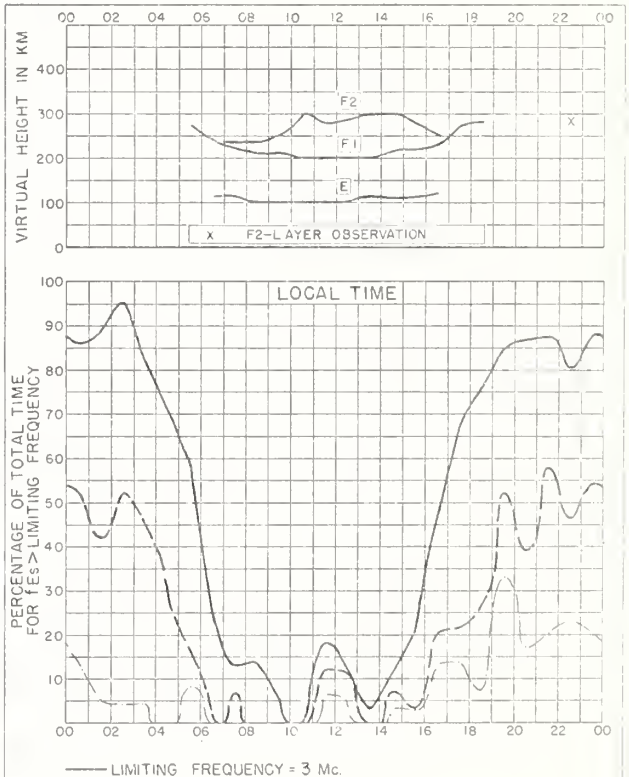


Fig. 72. REYKJAVIK, ICELAND MARCH 1953

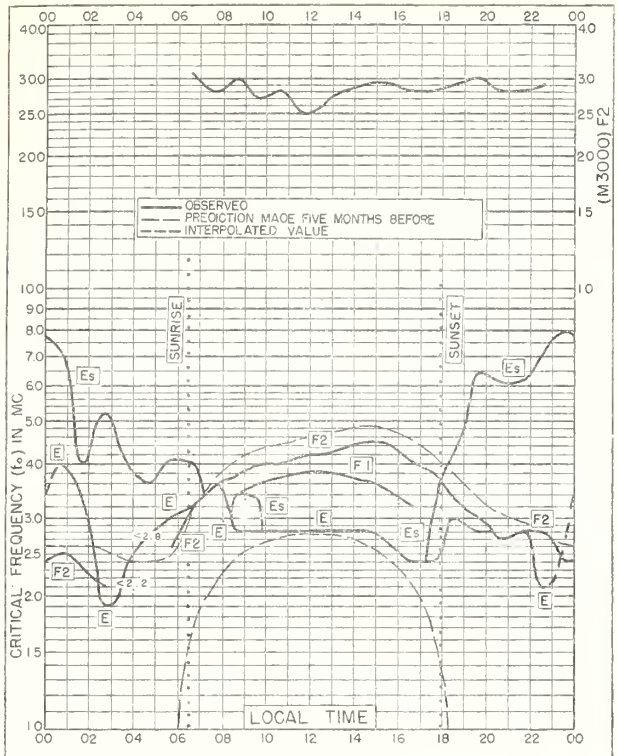


Fig. 73. CHURCHILL, CANADA
58.8°N, 94.2°W MARCH 1953

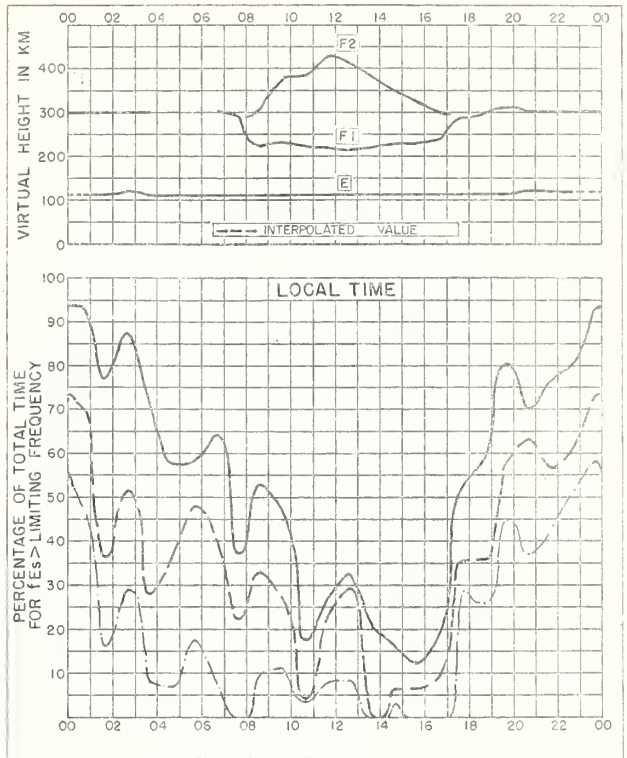


Fig. 74. CHURCHILL, CANADA MARCH 1953

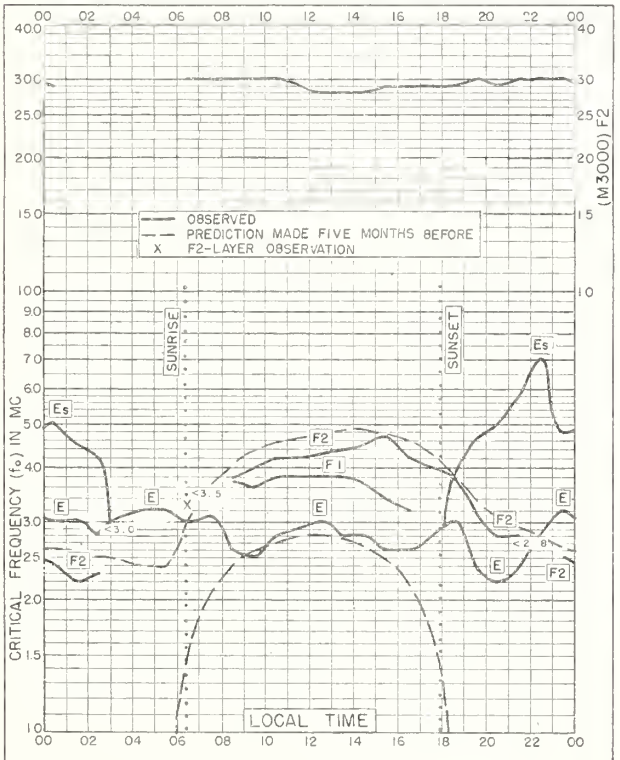


Fig. 75. FORT CHIMO, CANADA
58.1°N, 68.3°W MARCH 1953

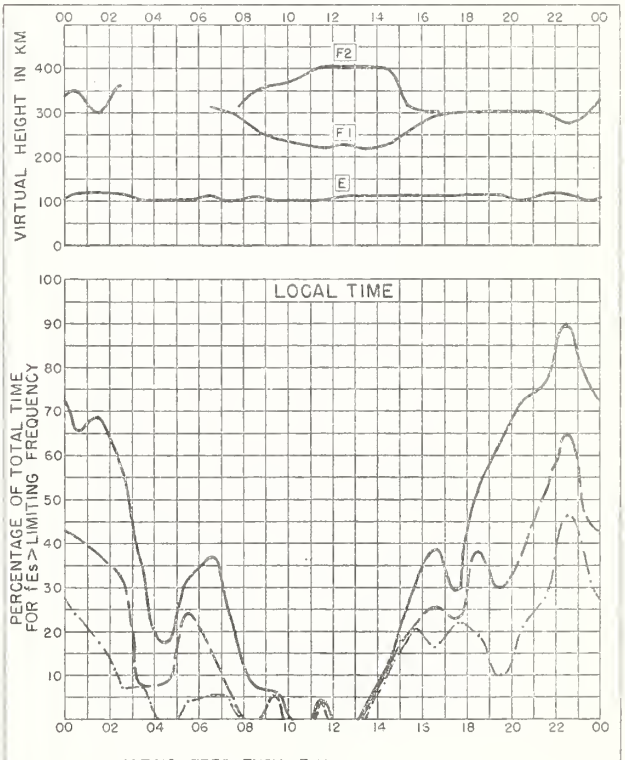


Fig. 76. FORT CHIMO, CANADA MARCH 1953

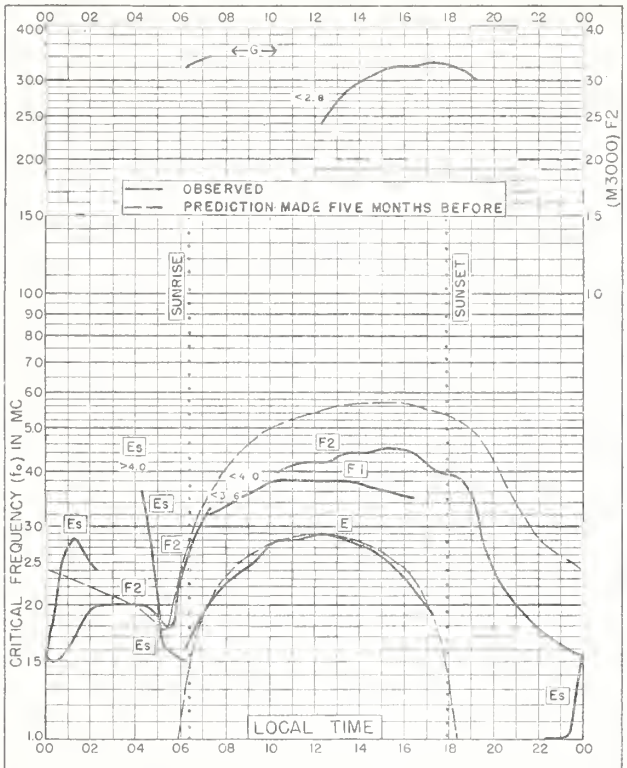


Fig. 77 PRINCE RUPERT, CANADA
54.3° N, 130.3° W MARCH 1953

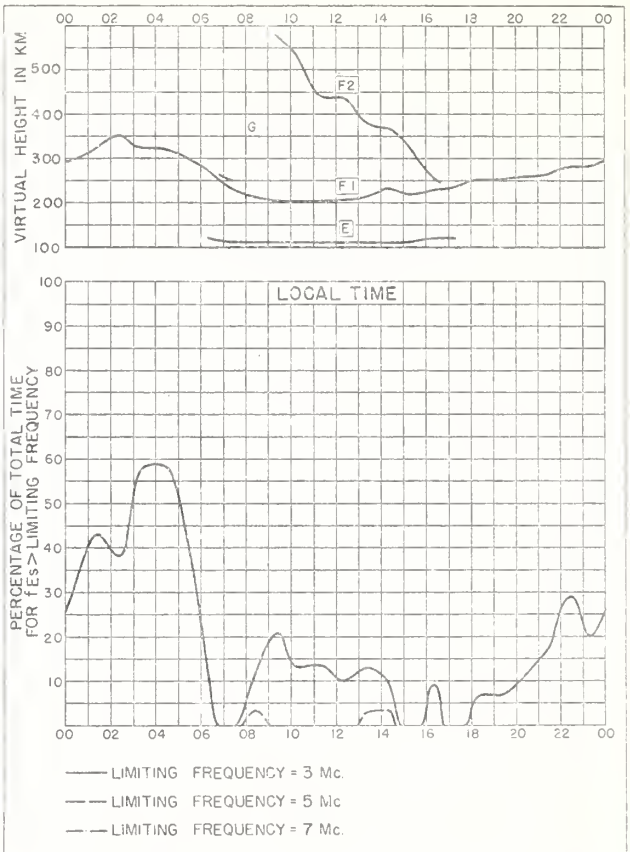


Fig. 78 PRINCE RUPERT, CANADA MARCH 1953

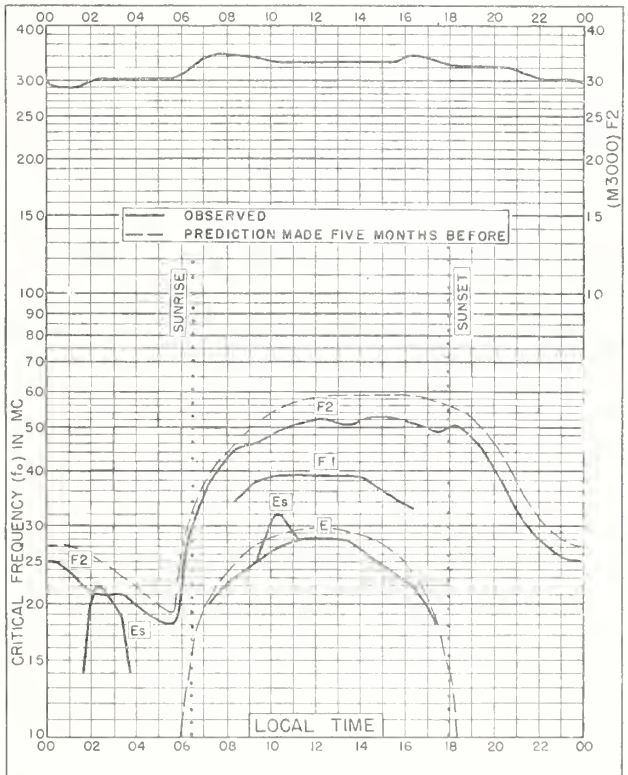


Fig. 79 De BILT, HOLLAND
52.1° N, 5.2° E MARCH 1953

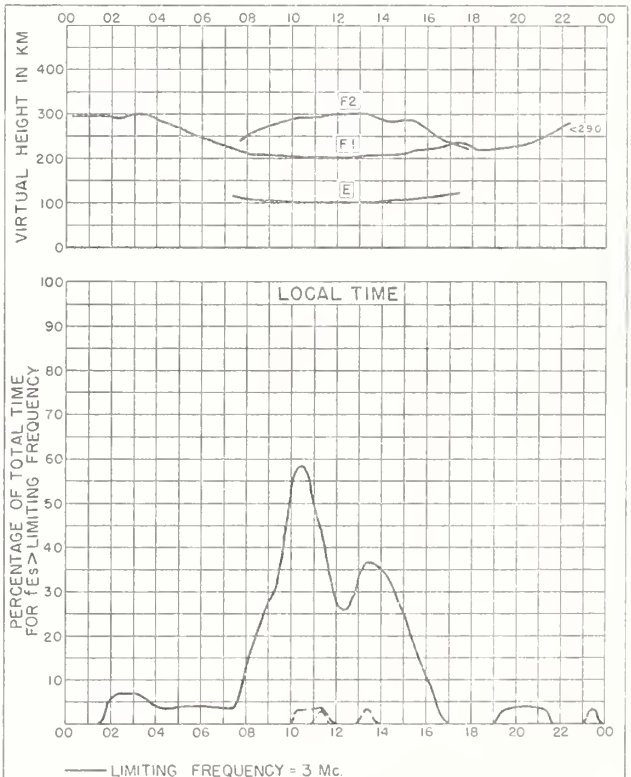


Fig. 80. De BILT, HOLLAND MARCH 1953

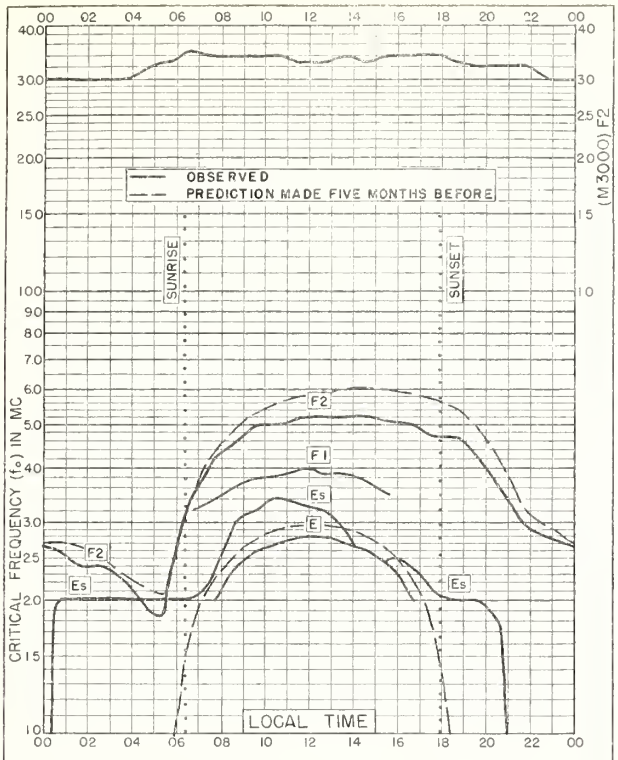


Fig. 81. LINDAU / HARZ, GERMANY
51.6°N, 10.1°E MARCH 1953

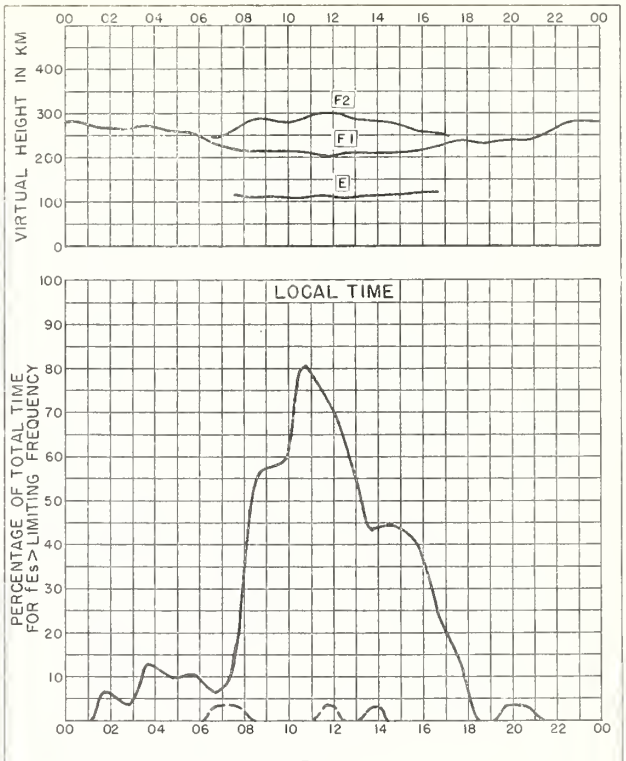


Fig. 82. LINDAU / HARZ, GERMANY MARCH 1953

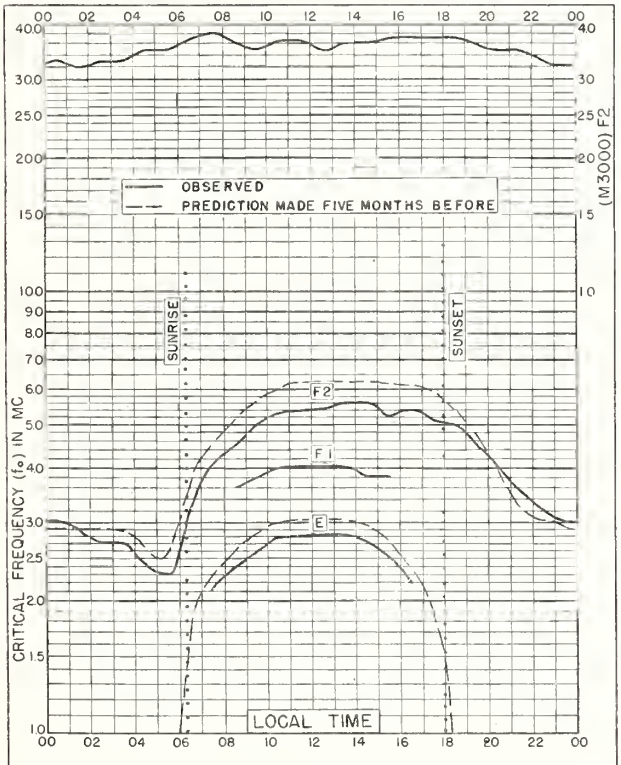


Fig. 83. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E MARCH 1953

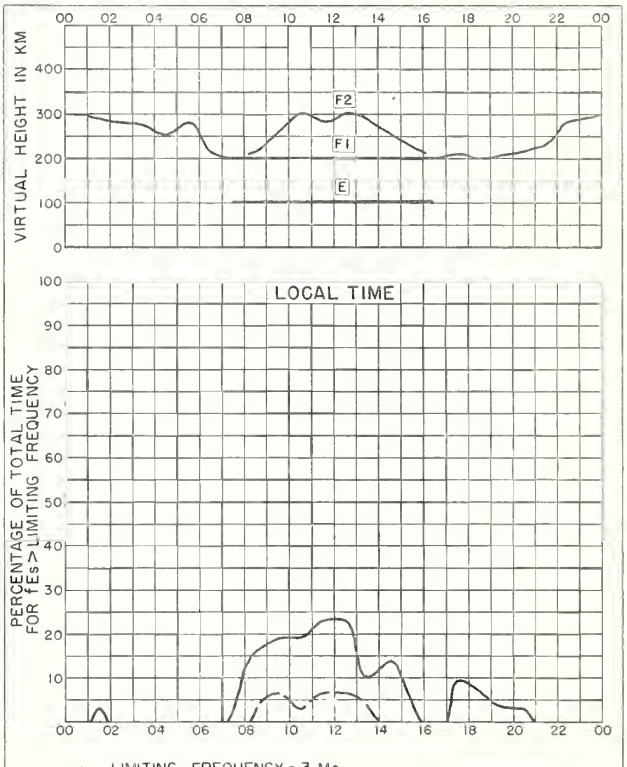


Fig. 84. SCHWARZENBURG, SWITZERLAND MARCH 1953

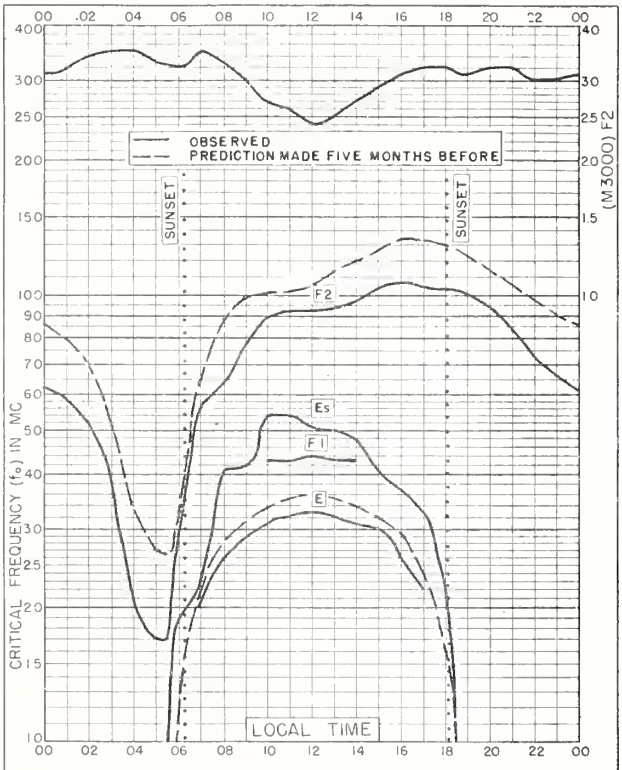


Fig. 85 BAGUIO, P. I.
16.4°N, 120.6°E MARCH 1953

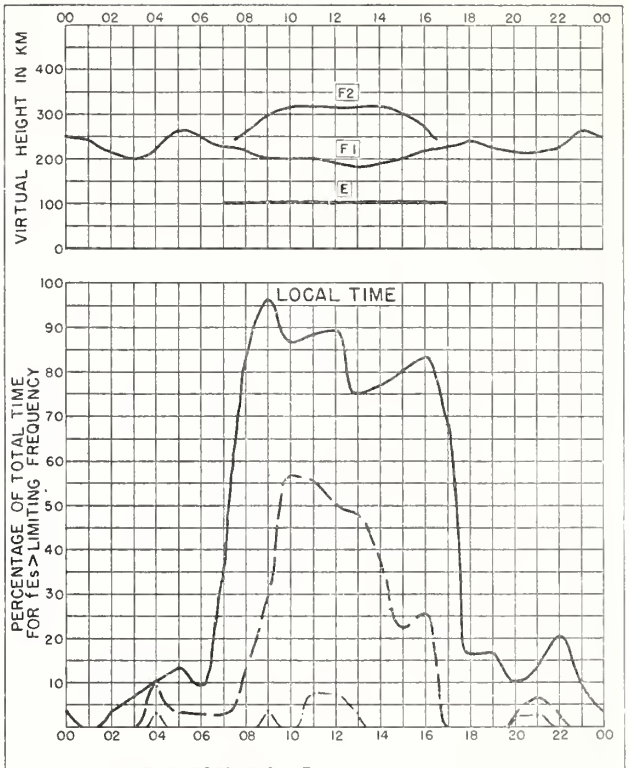


Fig. 86. BAGUIO, P. I. MARCH 1953

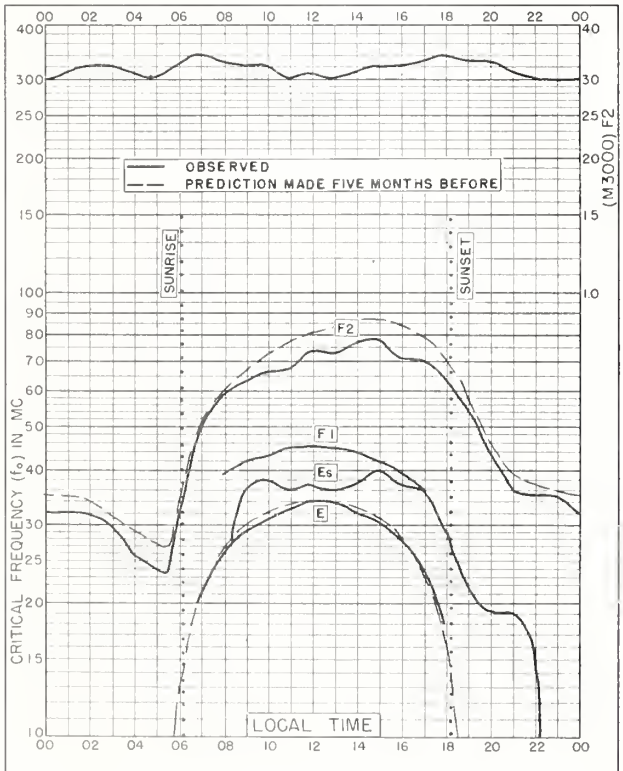


Fig. 87. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E MARCH 1953

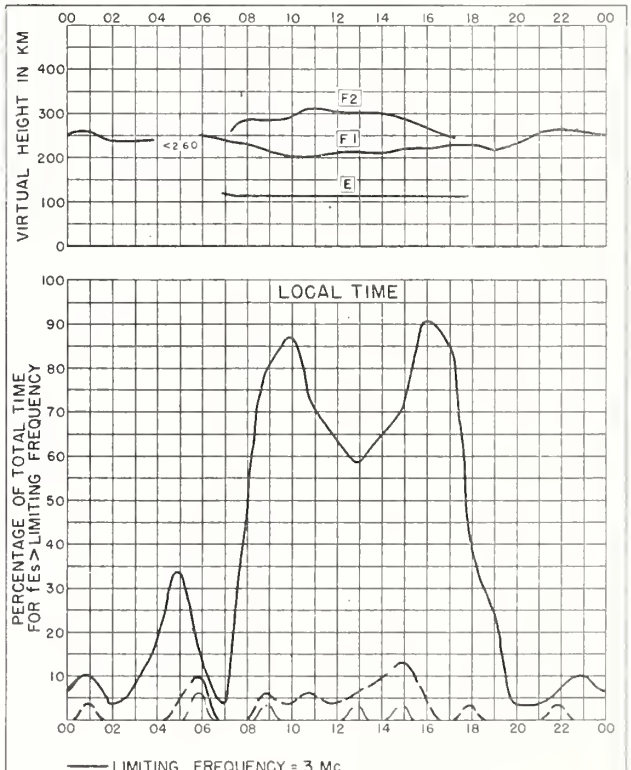


Fig. 88. JOHANNESBURG, UNION OF S. AFRICA MARCH 1953

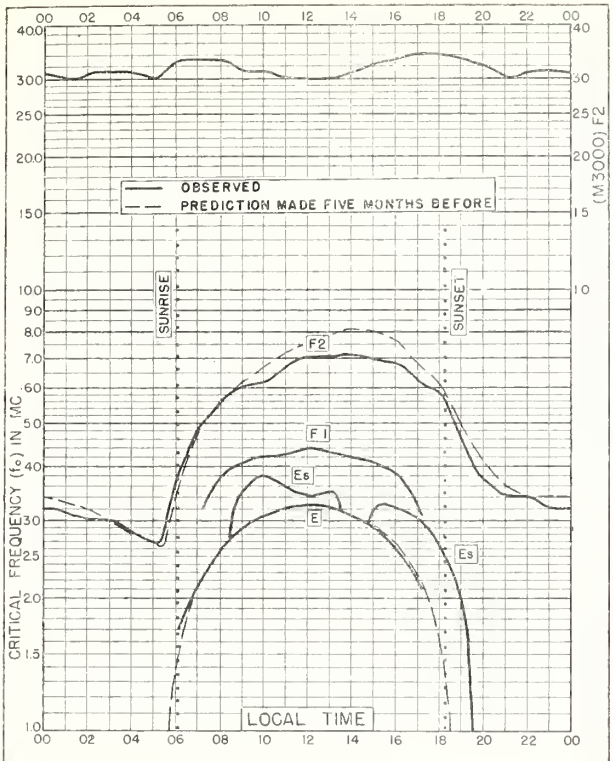
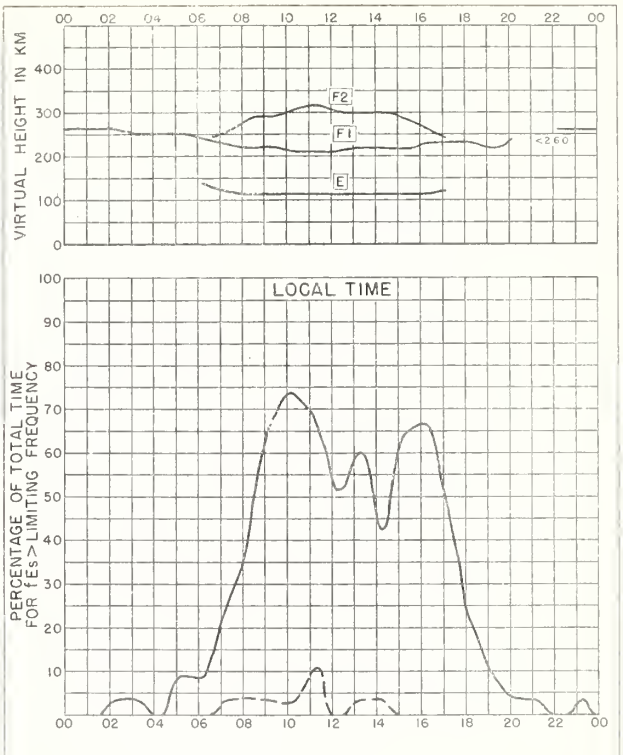


Fig. 89. CAPETOWN, UNION OF S. AFRICA
34.2°S, 18.3°E MARCH 1953



MARCH 1953
Fig. 90. CAPETOWN, UNION OF S. AFRICA

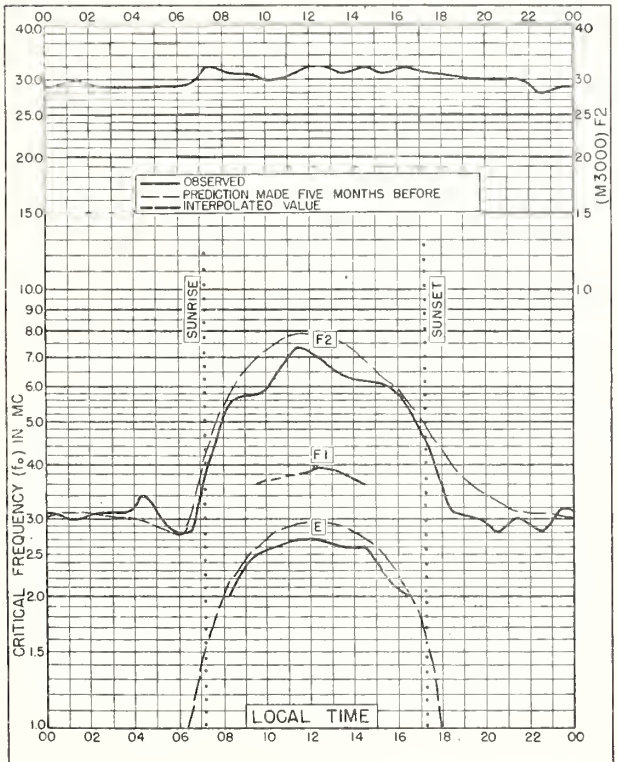


Fig. 91. WAKKANAI, JAPAN
45.4°N, 141.7°E FEBRUARY 1953

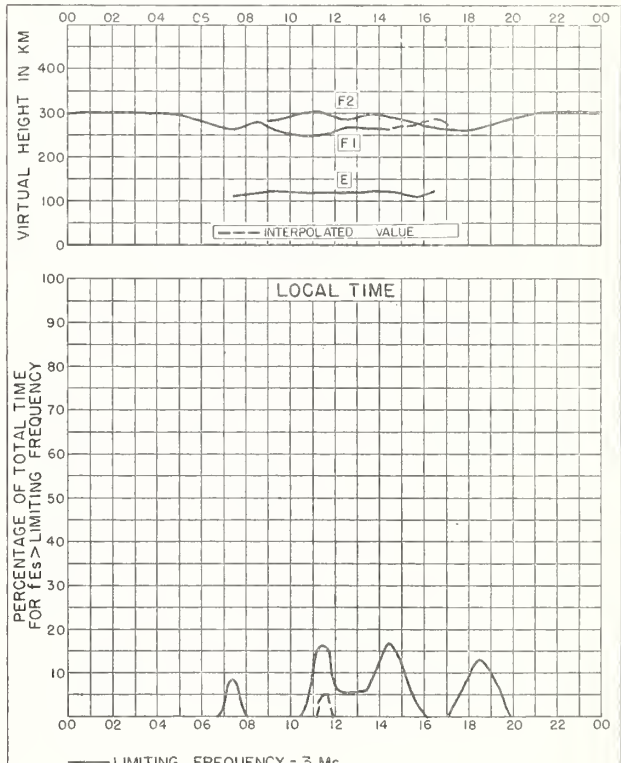


Fig. 92. WAKKANAI, JAPAN FEBRUARY 1953

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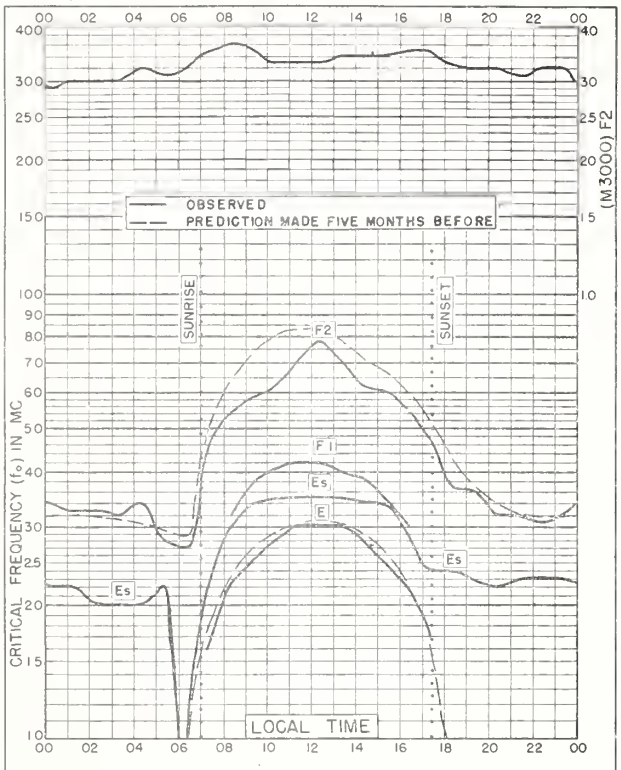


Fig. 93. AKITA, JAPAN
39.7°N, 140.1°E , FEBRUARY 1953

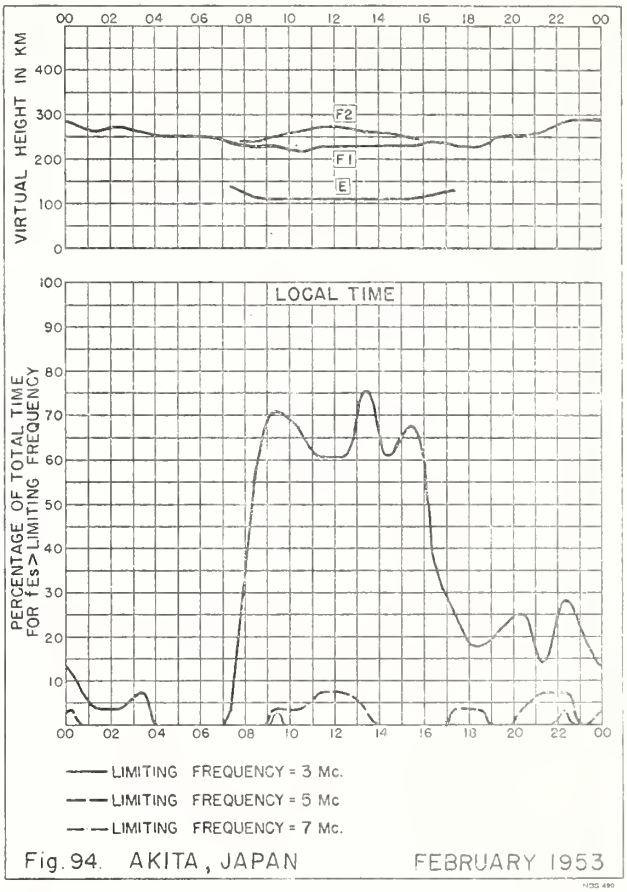


Fig. 94. AKITA, JAPAN FEBRUARY 1953

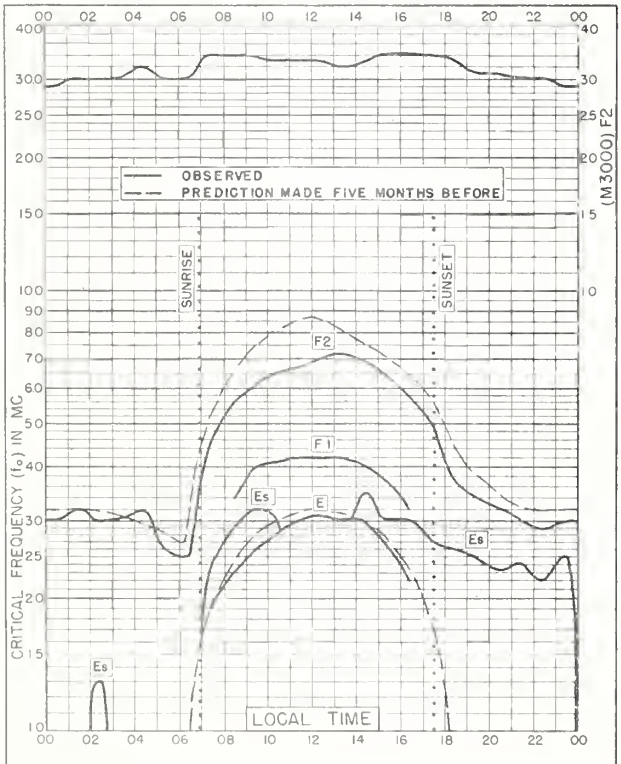


Fig. 95. TOKYO, JAPAN
35.7°N, 139.5°E FEBRUARY 1953

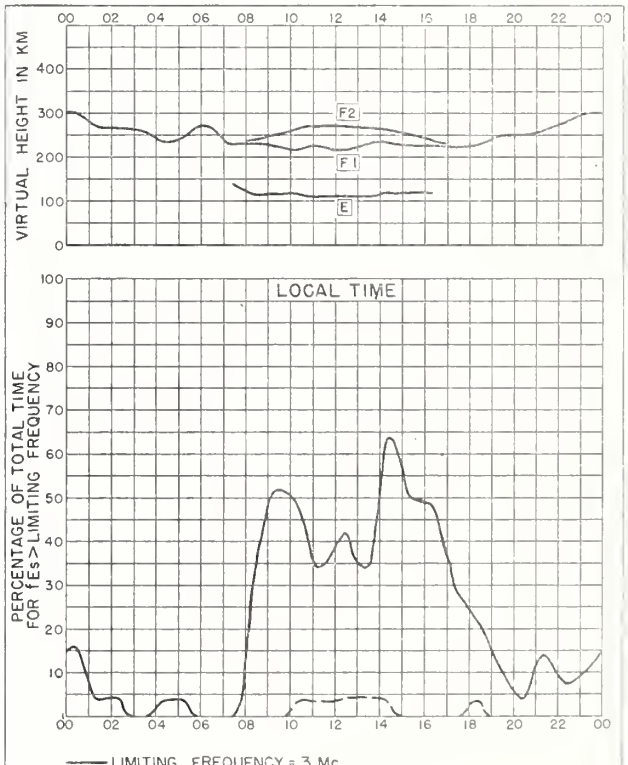


Fig. 96. TOKYO, JAPAN FEBRUARY 1953

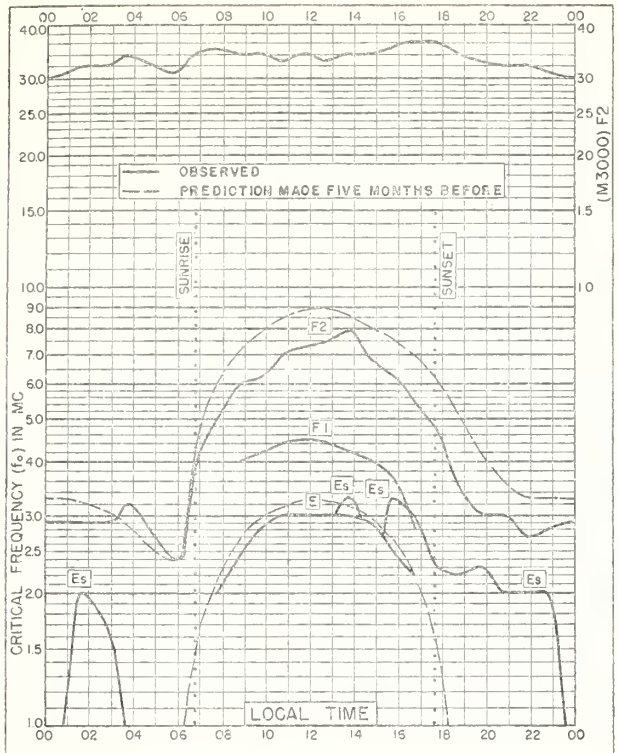


Fig. 97. YAMAGAWA, JAPAN
31.2°N, 130.6°E FEBRUARY 1953

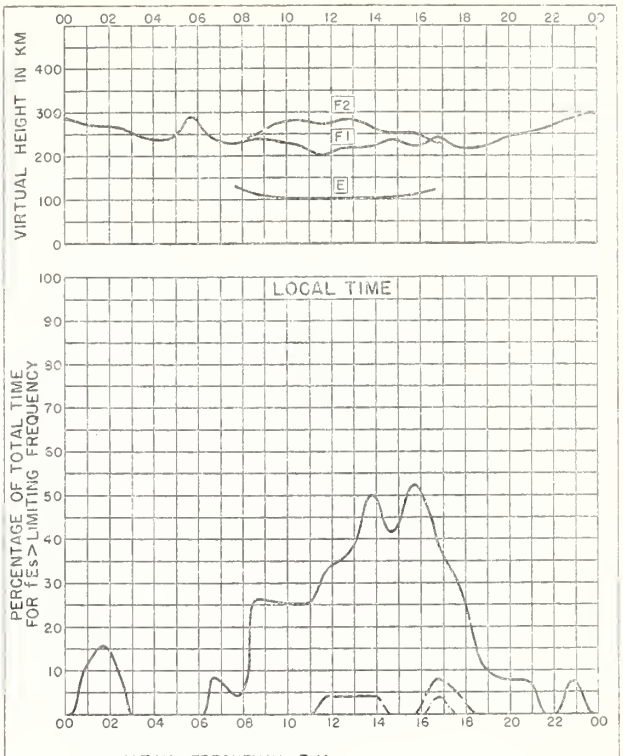


Fig. 98. YAMAGAWA, JAPAN FEBRUARY 1953

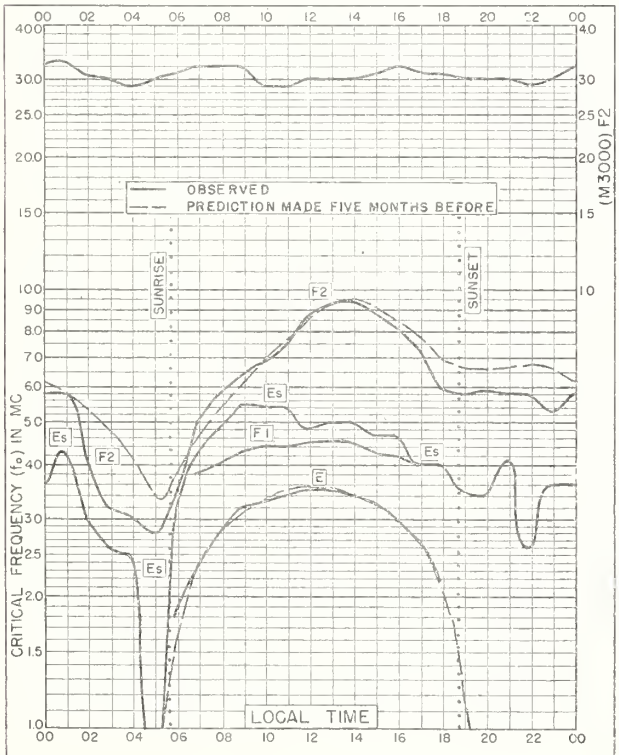


Fig. 99. TOWNSVILLE, AUSTRALIA
19.3°S, 146.8°E JANUARY 1953

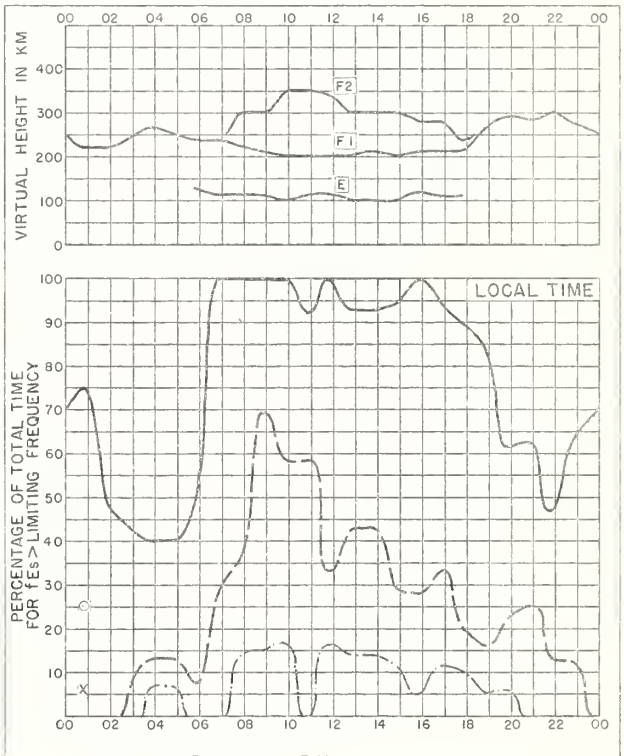


Fig. 100. TOWNSVILLE, AUSTRALIA JANUARY 1953

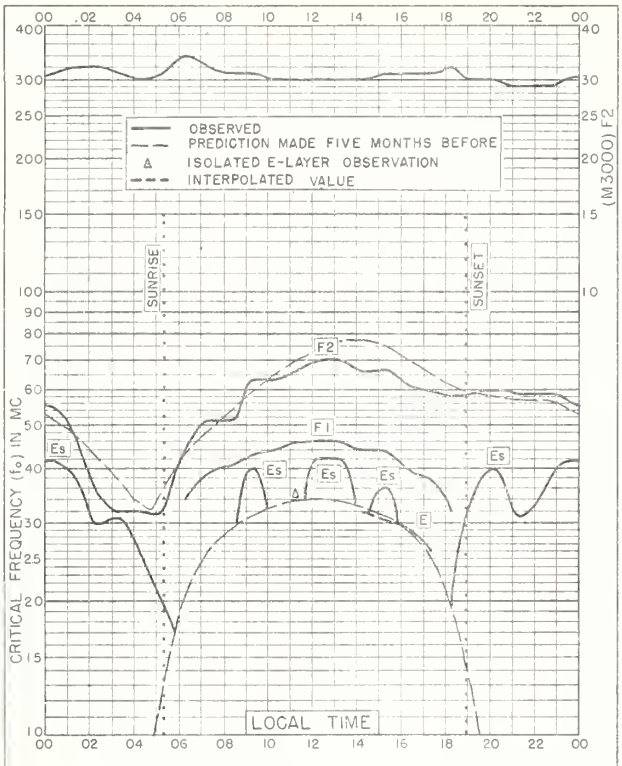
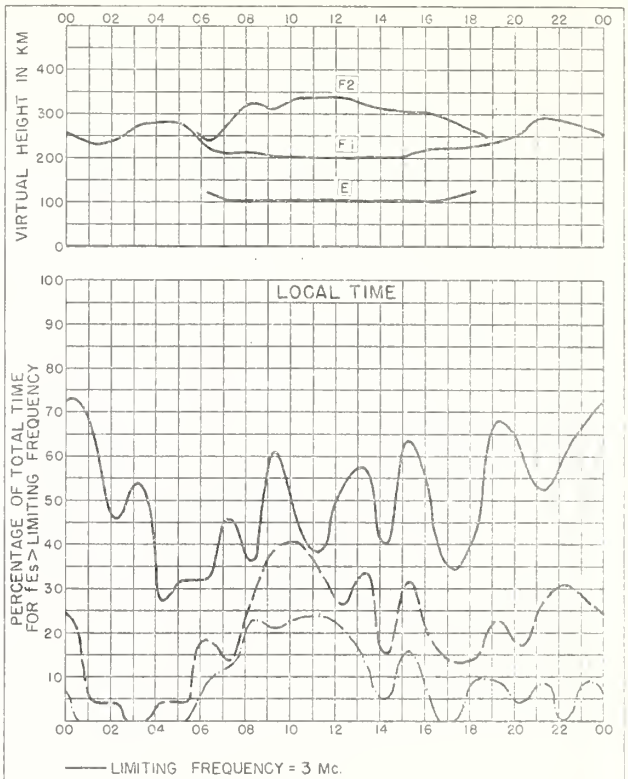


Fig. 101. BRISBANE, AUSTRALIA
27.5°S, 153.0°E JANUARY 1953



JANUARY 1953

Fig. 102. BRISBANE, AUSTRALIA

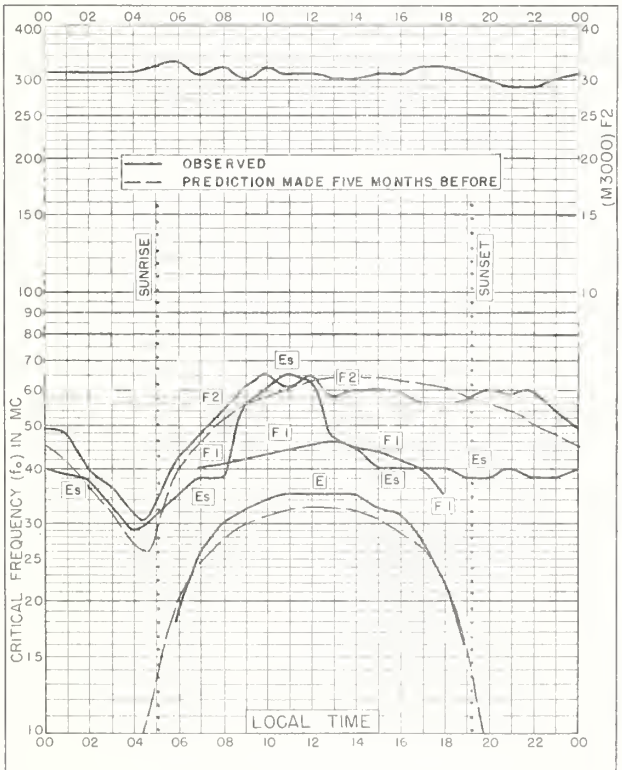


Fig. 103. CANBERRA, AUSTRALIA
35.3°S, 149.0°E JANUARY 1953

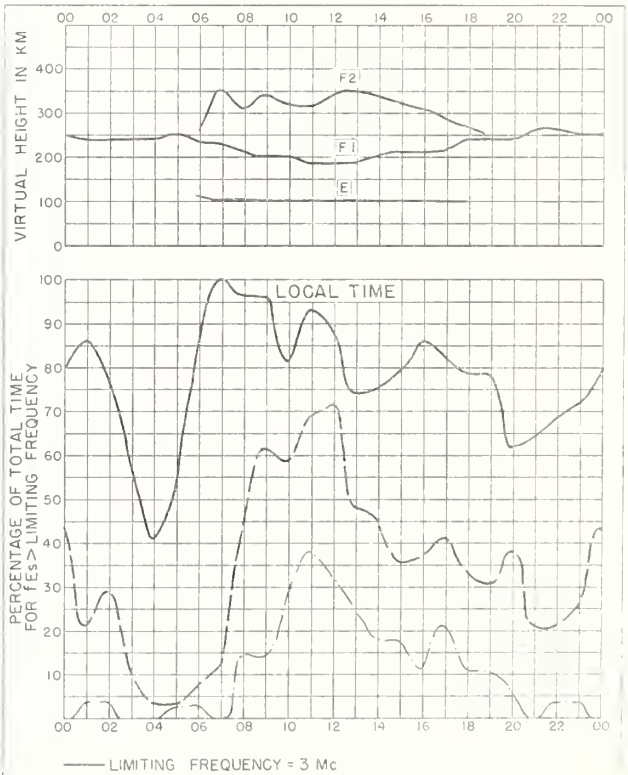


Fig. 104. CANBERRA, AUSTRALIA JANUARY 1953

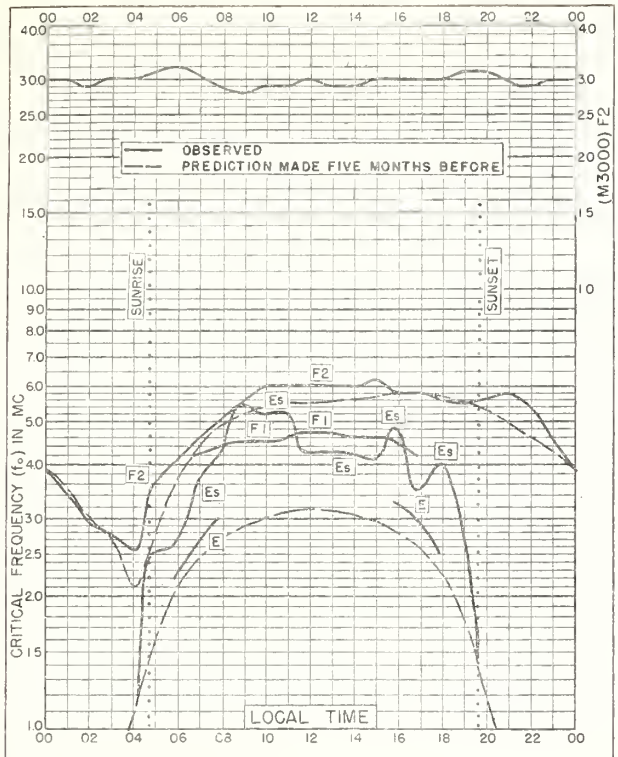


Fig. 105. HOBART, TASMANIA
42.8°S, 147.4°E JANUARY 1953

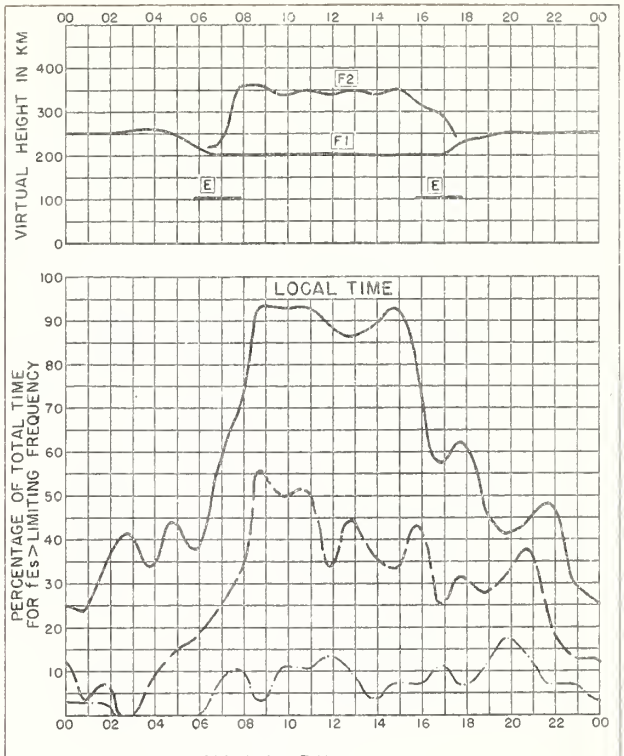


Fig. 106. HOBART, TASMANIA JANUARY 1953

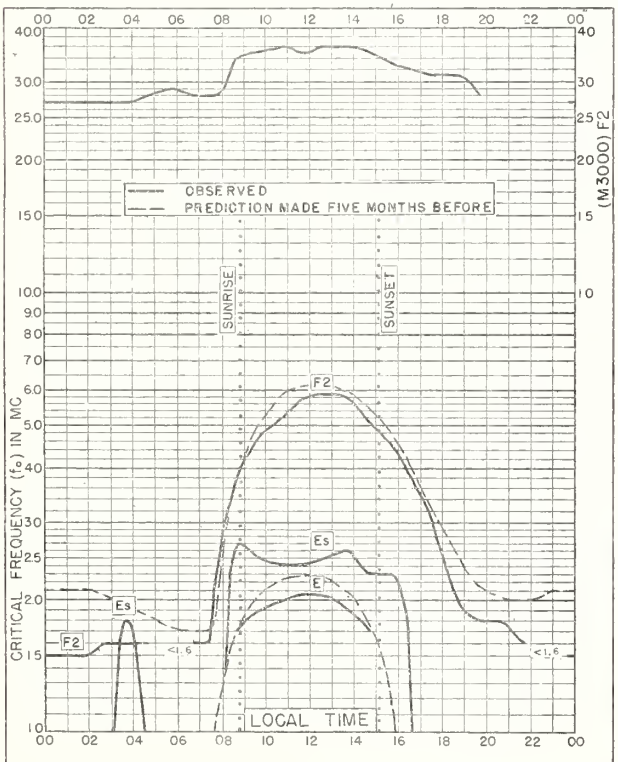


Fig. 107. INVERNESS, SCOTLAND
57.4°N, 4.2°W DECEMBER 1952

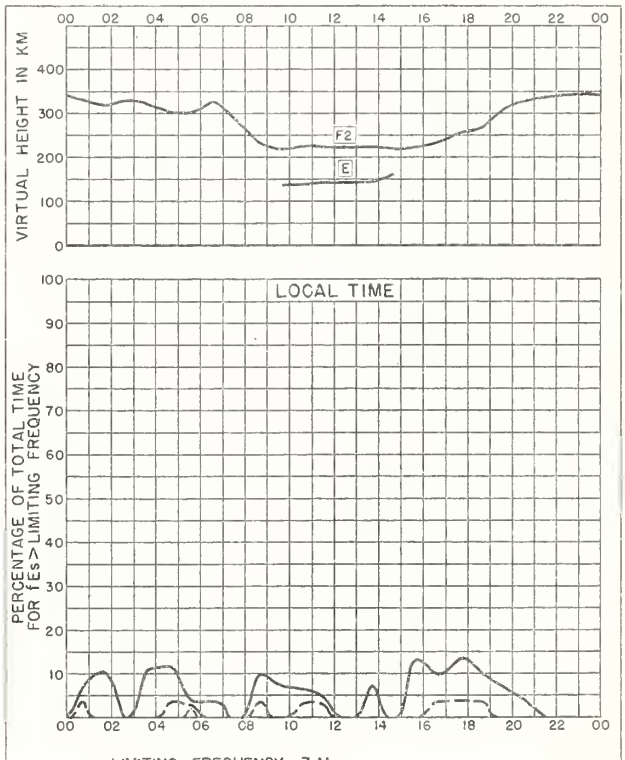


Fig. 108. INVERNESS, SCOTLAND DECEMBER 1952

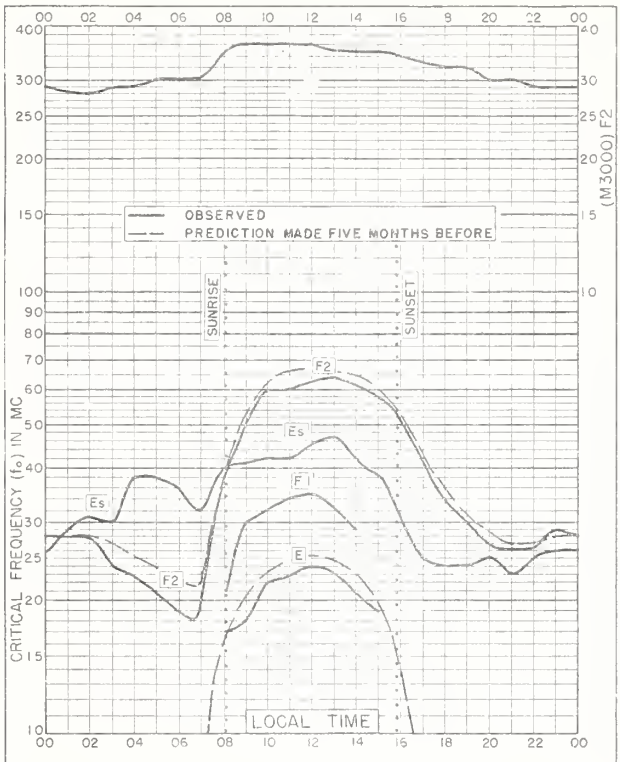


Fig.109. SLOUGH, ENGLAND
51.5°N, 0.6°W DECEMBER 1952

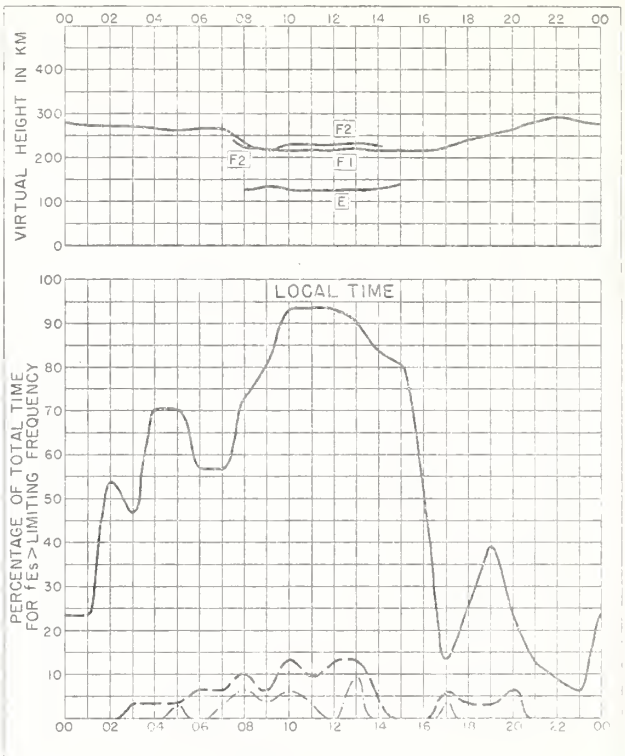


Fig.110. SLOUGH, ENGLAND DECEMBER 1952

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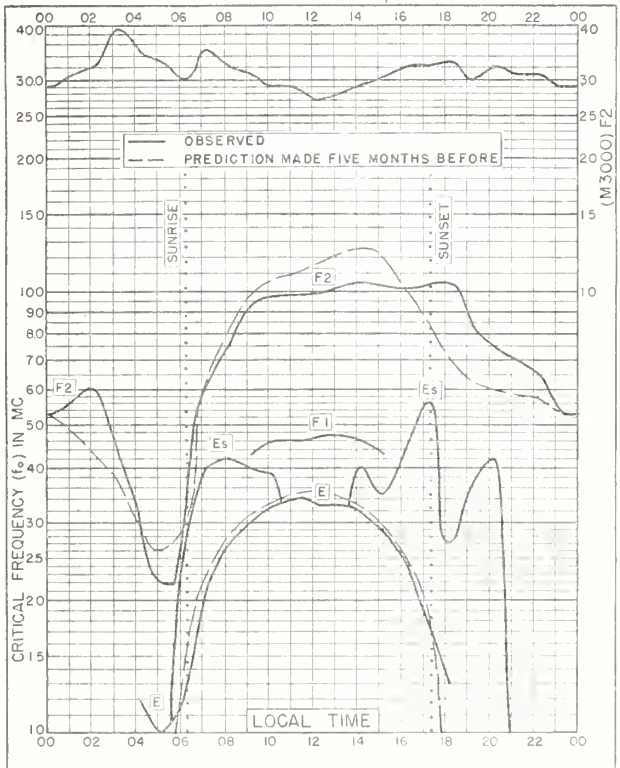


Fig. 111. KHARTOUM, SUDAN
15.6°N, 32.6°E DECEMBER 1952

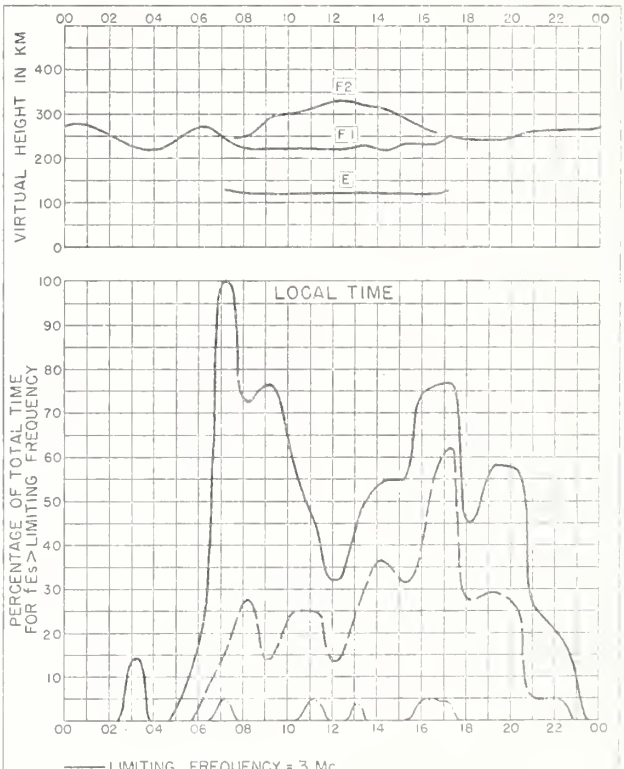


Fig 112. KHARTOUM, SUDAN DECEMBER 1952

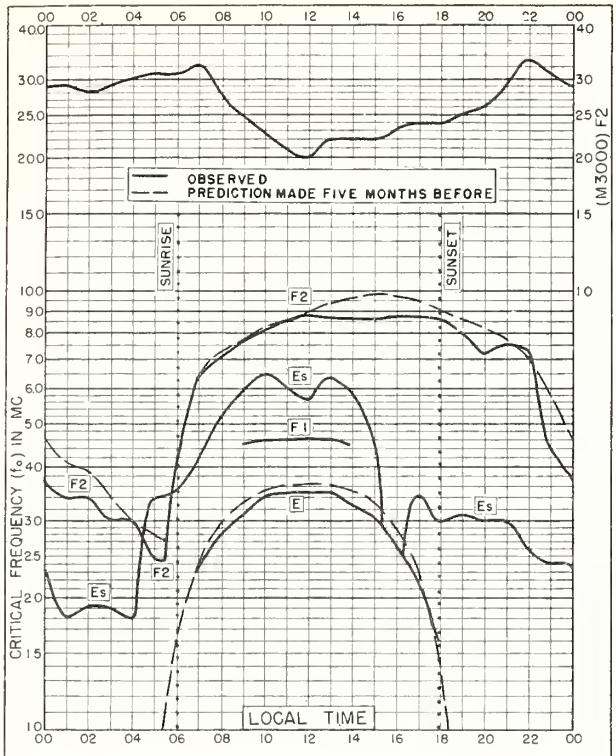
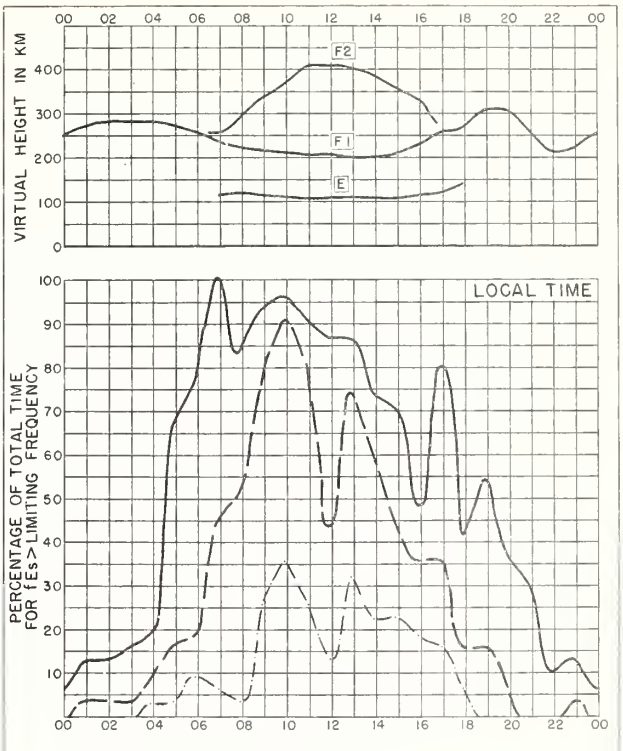


Fig. 113 SINGAPORE, BRIT. MALAYA
1.3°N, 103.8°E DECEMBER 1952



DECEMBER 1952
Fig. 114. SINGAPORE, BRIT. MALAYA

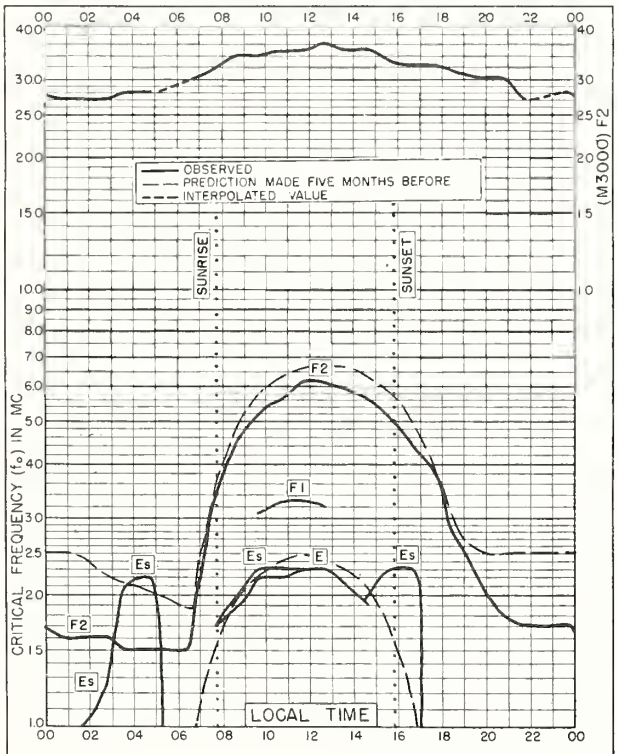


Fig. 115. INVERNESS, SCOTLAND
57.4°N, 4.2°W NOVEMBER 1952

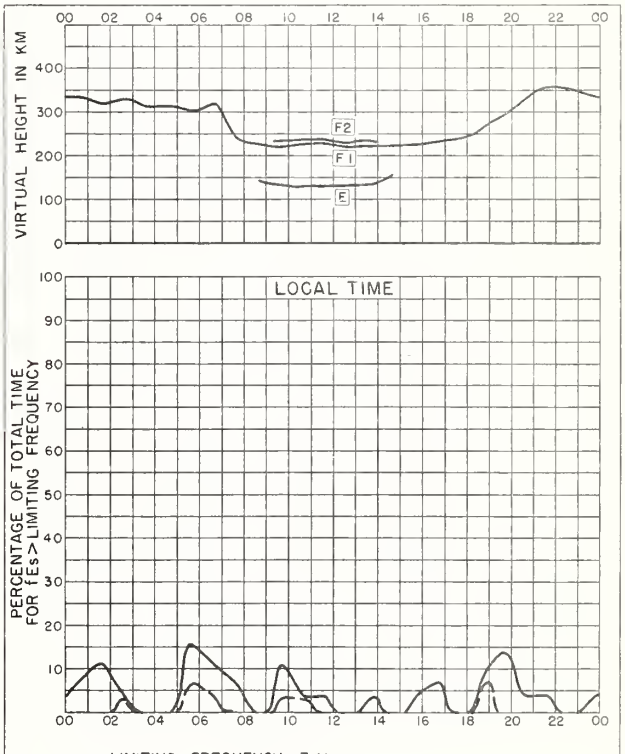


Fig. 116. INVERNESS, SCOTLAND NOVEMBER 1952

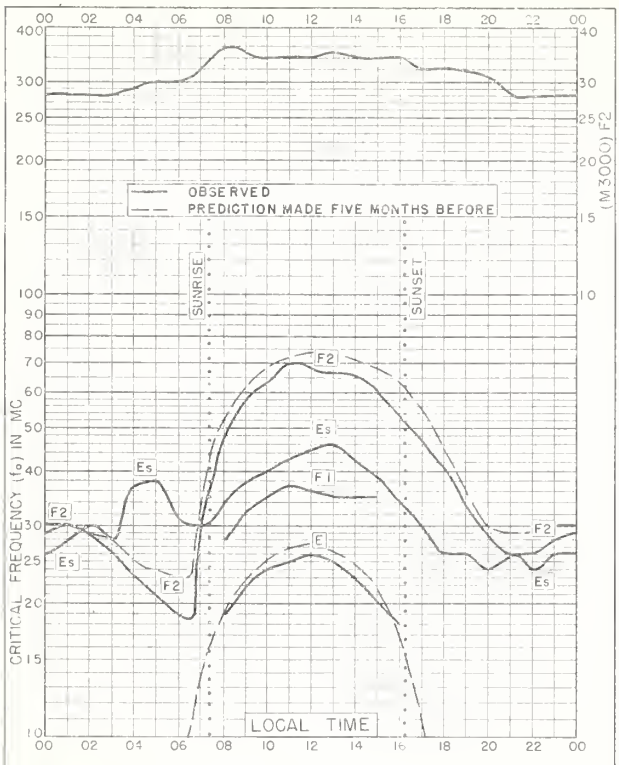


Fig. 117. SLOUGH, ENGLAND
51.5° N, 0.6° W NOVEMBER 1952

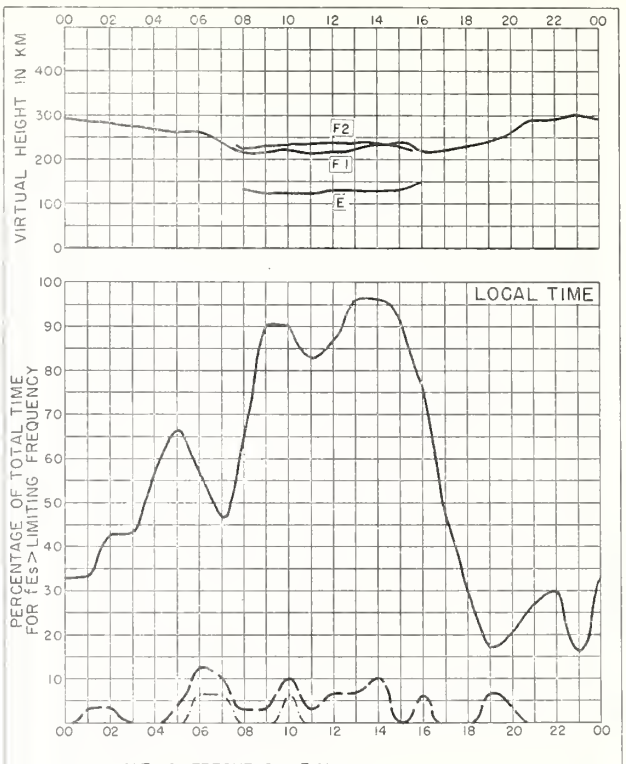


Fig. 118. SLOUGH, ENGLAND NOVEMBER 1952

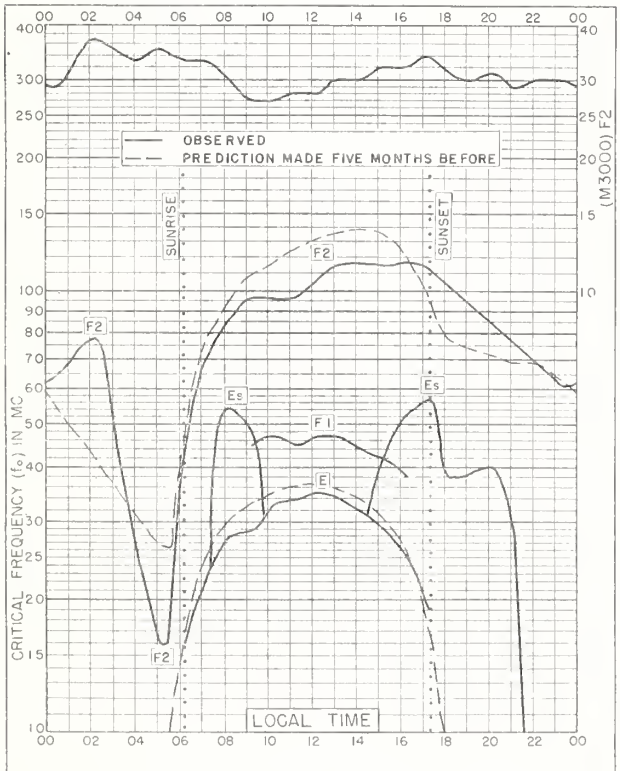


Fig. 119. KHARTOUM, SUDAN
15.6° N, 32.6° E NOVEMBER 1952

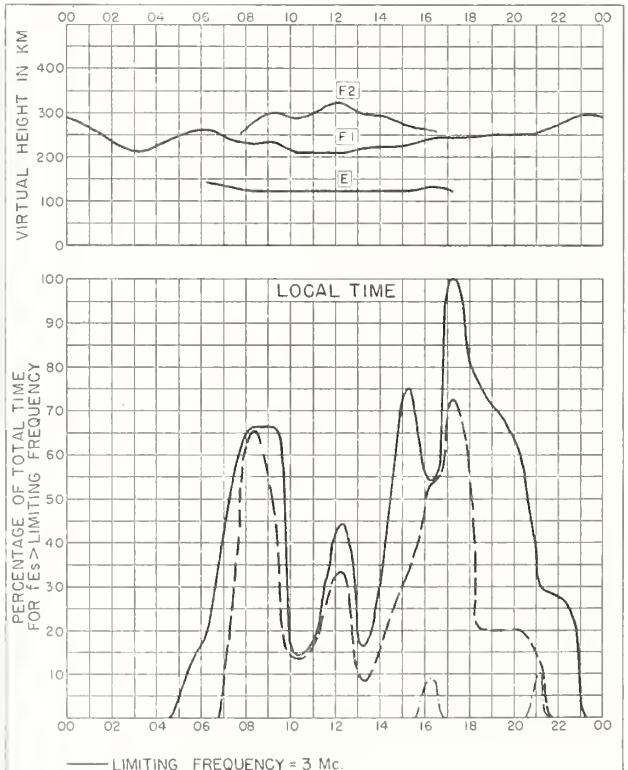


Fig. 120. KHARTOUM, SUDAN NOVEMBER 1952

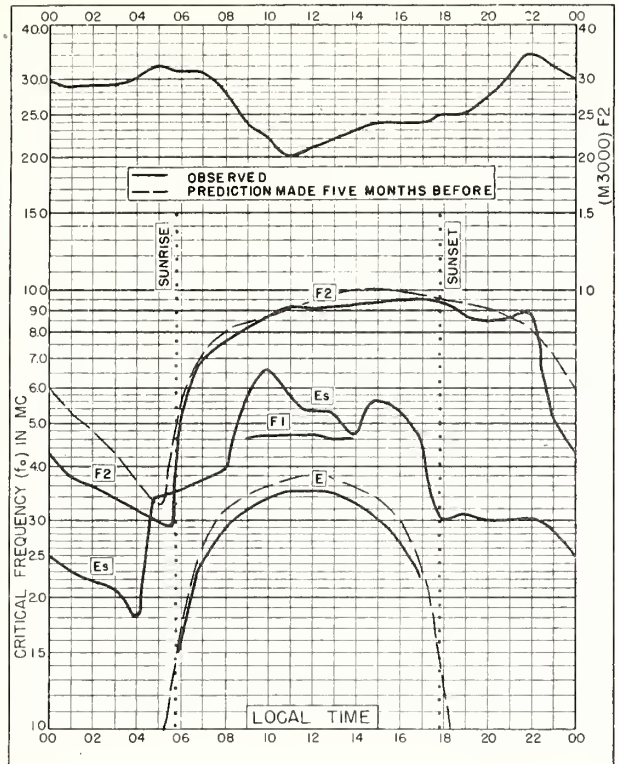


Fig. 121. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E NOVEMBER 1952

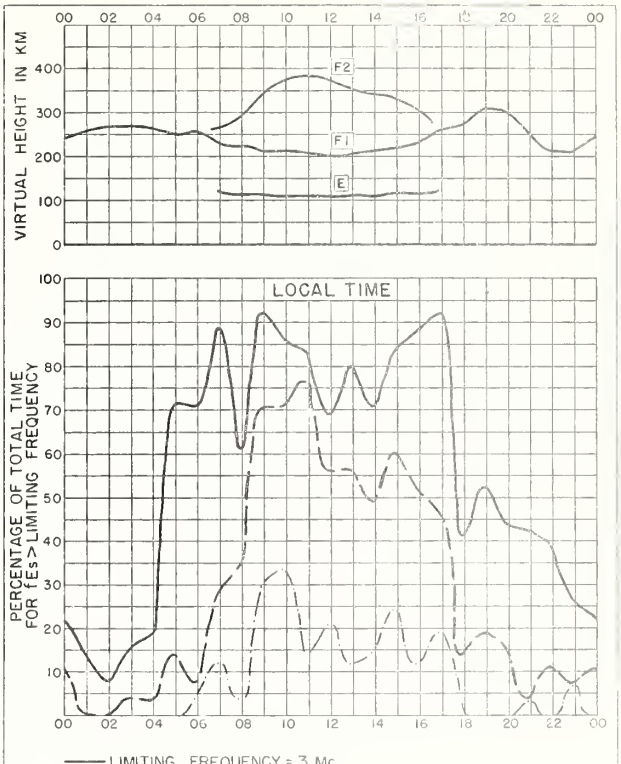


Fig. 122. SINGAPORE, BRITISH MALAYA NOVEMBER 1952

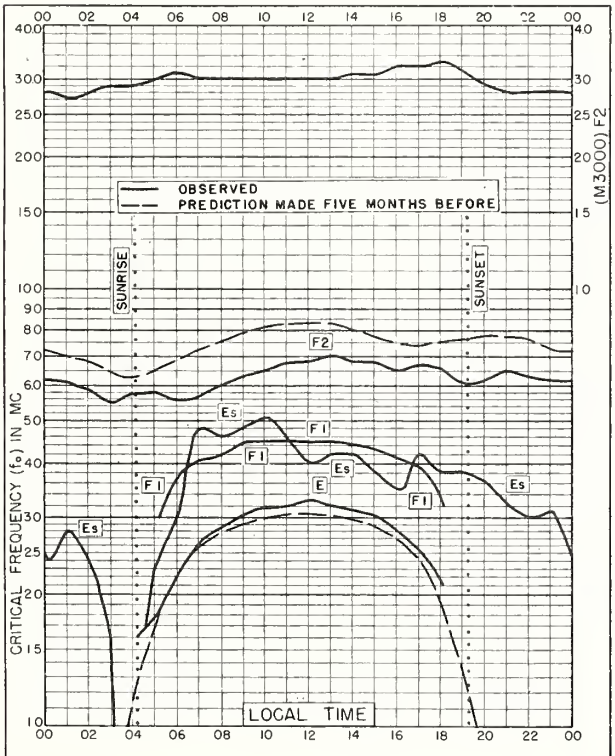


Fig. 123. FALKLAND IS.
51.7° S, 57.8° W NOVEMBER 1952

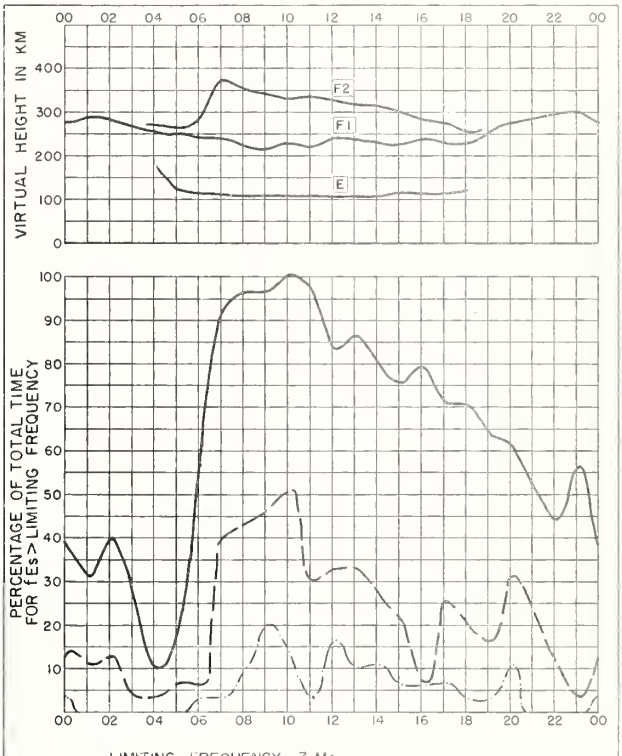


Fig. 124. FALKLAND IS. NOVEMBER 1952

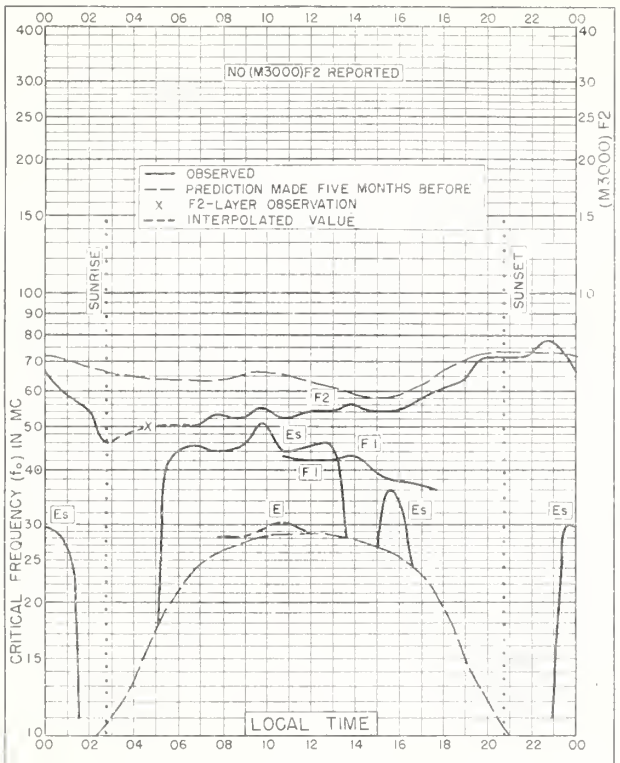


Fig. 125. PORT LOCKROY
64.8°S, 63.5°W NOVEMBER 1952

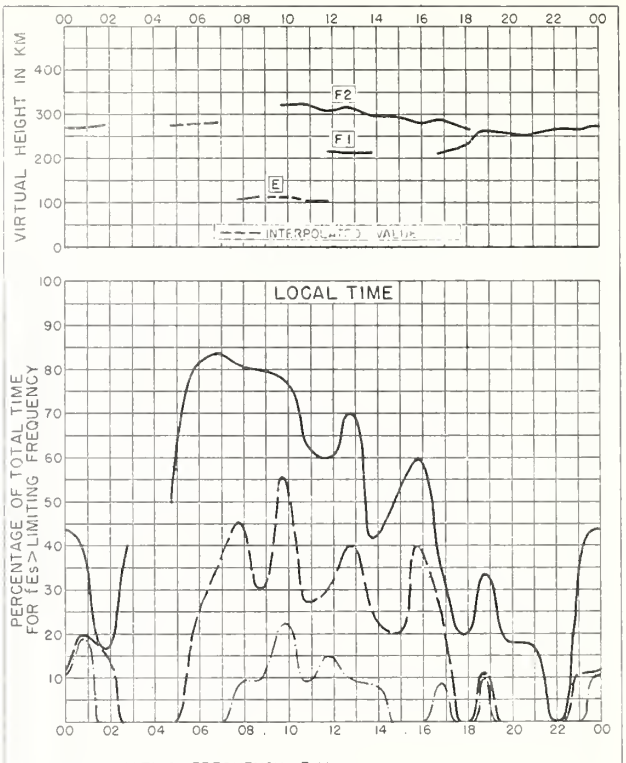


Fig. 126. PORT LOCKROY NOVEMBER 1952

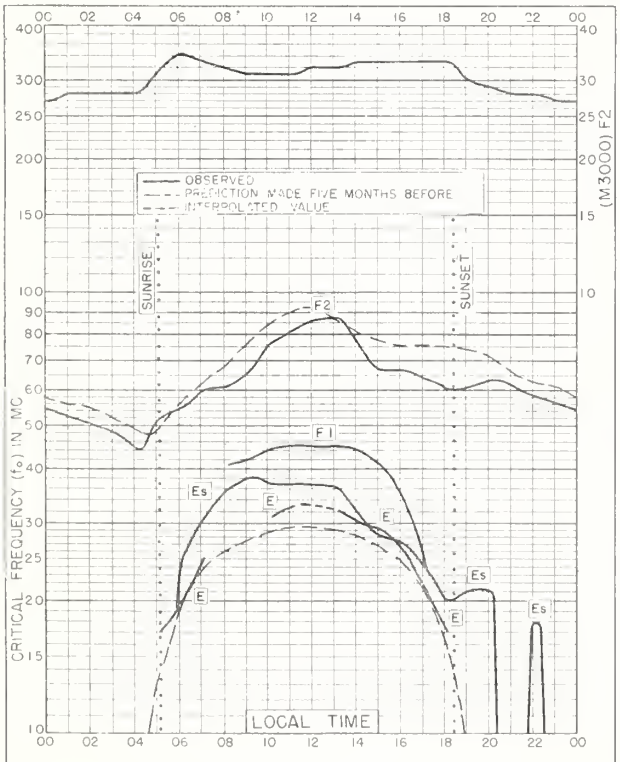


Fig. 127. FALKLAND IS.
51.7°S, 57.8°W OCTOBER 1952

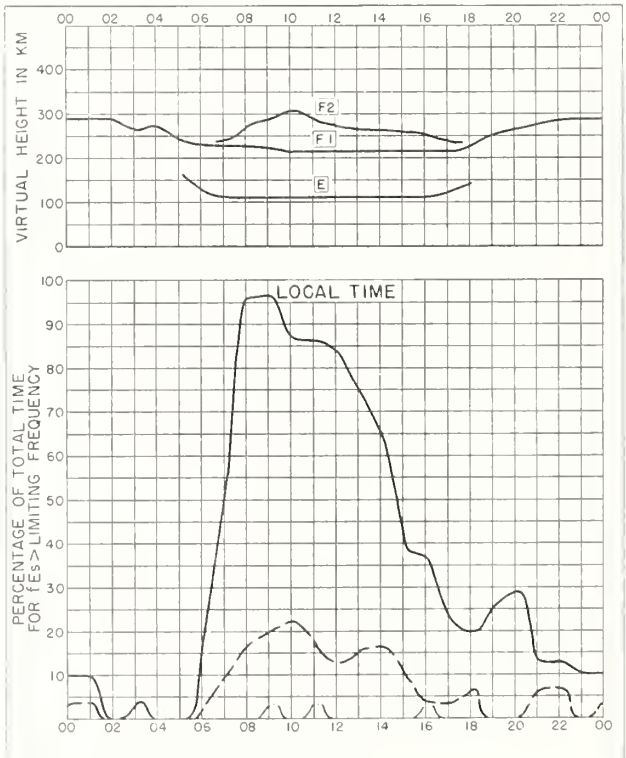


Fig. 128. FALKLAND IS. OCTOBER 1952

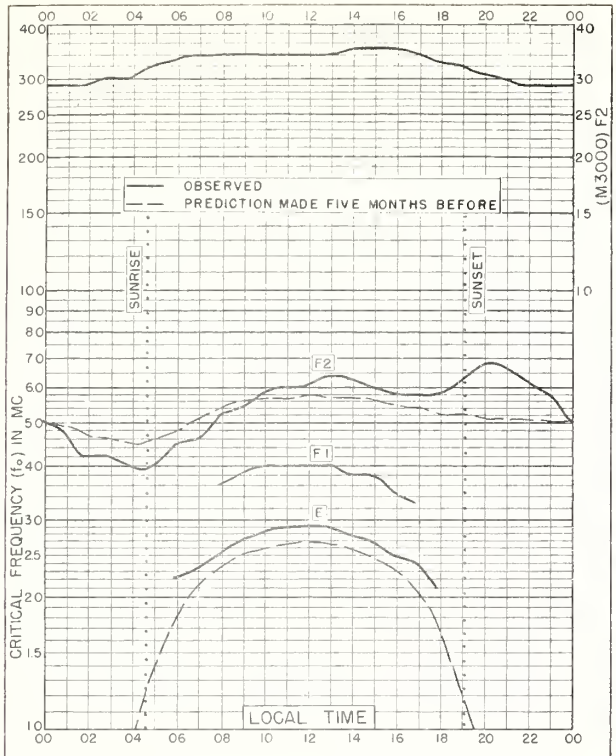


Fig.129. PORT LOCKROY
64.8°S, 63.5°W OCTOBER 1952

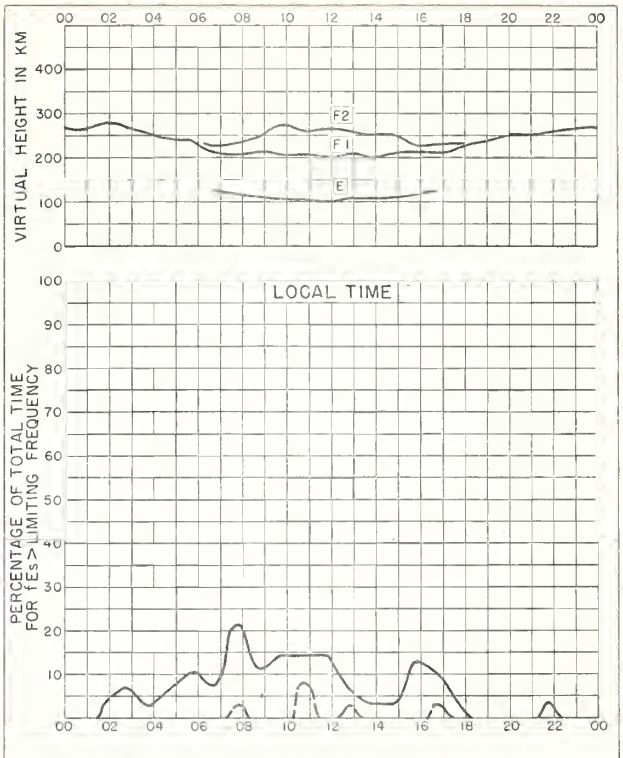


Fig.130. PORT LOCKROY OCTOBER 1952

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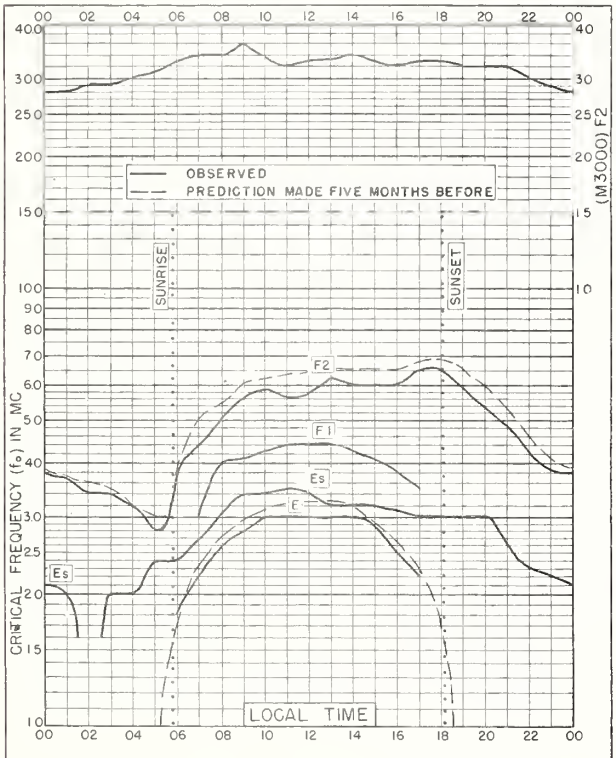


Fig. 131. POITIERS, FRANCE
46.6°N, 0.3°E SEPTEMBER 1952

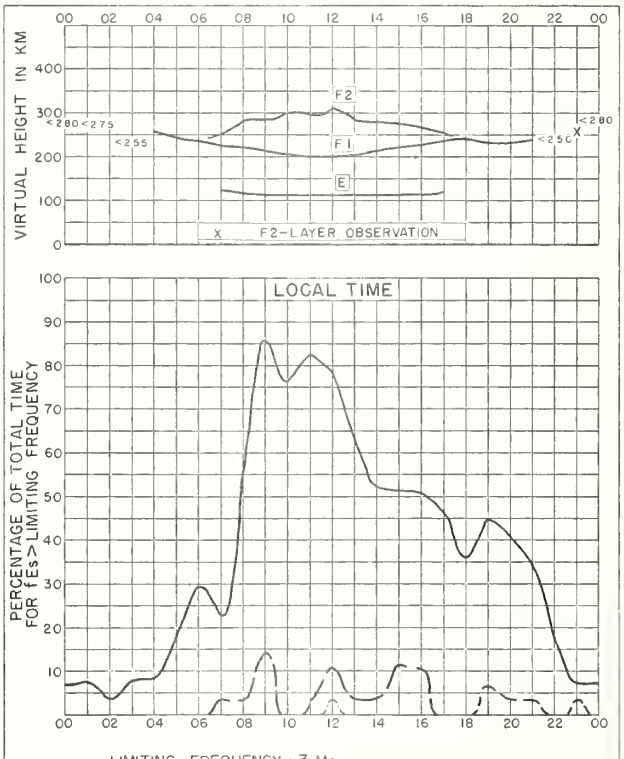


Fig. 132. POITIERS, FRANCE SEPTEMBER 1952

NBS 490

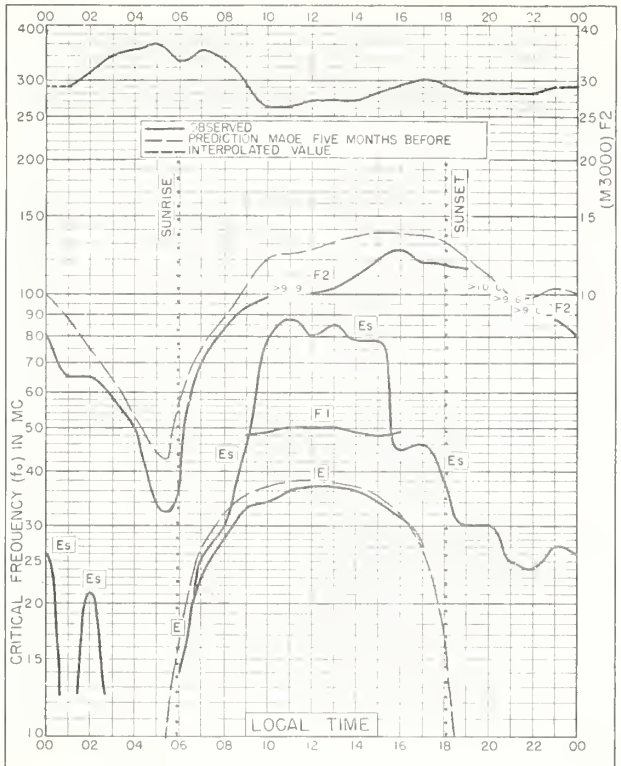


Fig. 141. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E APRIL 1952

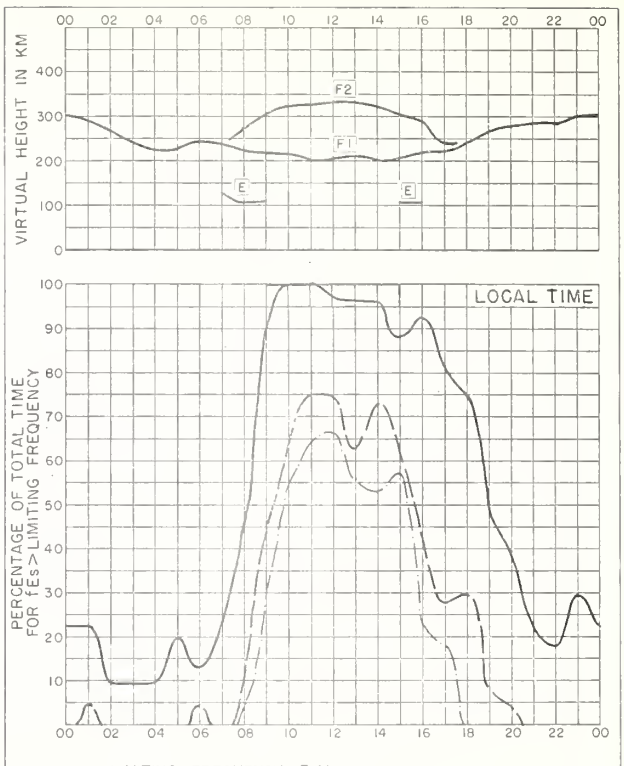


Fig. 142. DJIBOUTI, FRENCH SOMALILAND
APRIL 1952

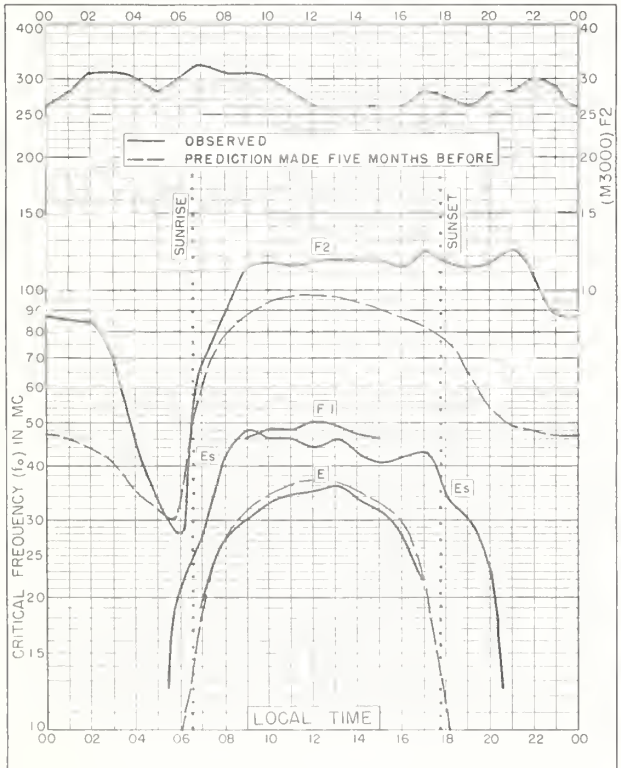


Fig. 143. DAKAR, FRENCH W. AFRICA
14.6°N, 17.4°W JANUARY 1952

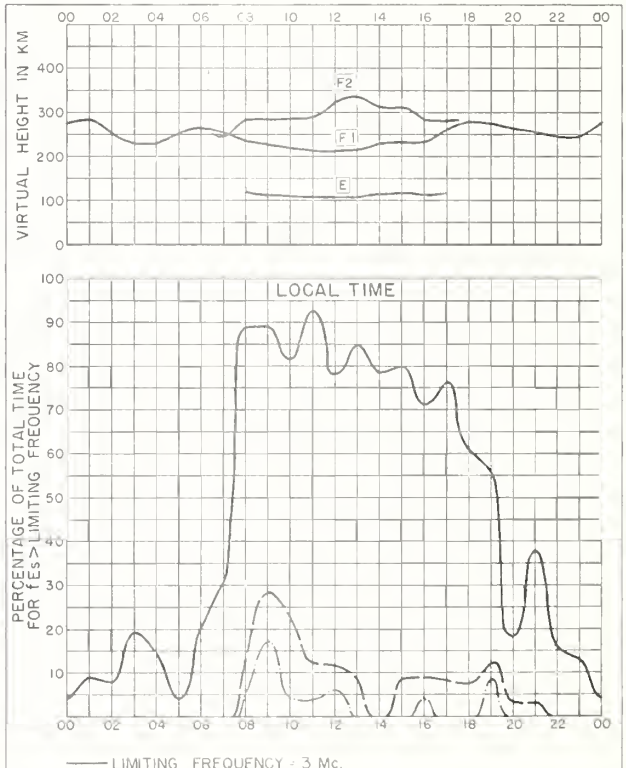


Fig. 144. DAKAR, FRENCH W. AFRICA
JANUARY 1952

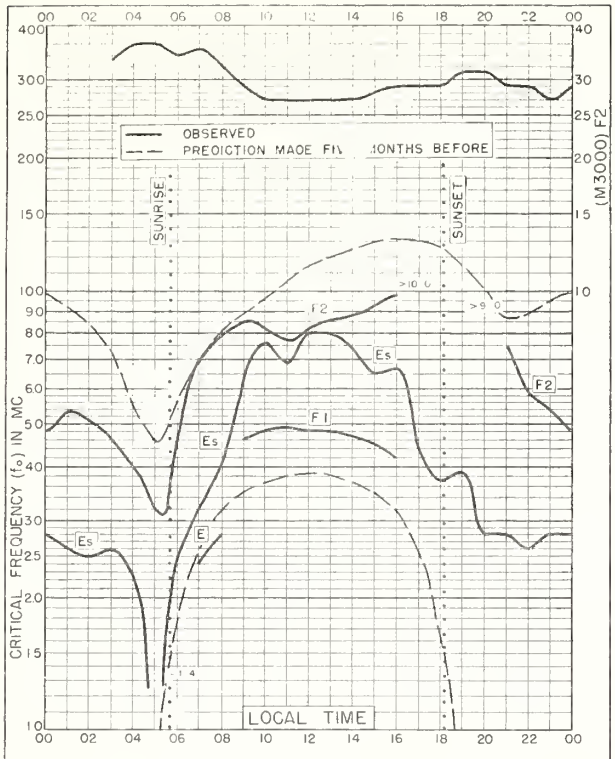


Fig. 137. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E MAY 1952

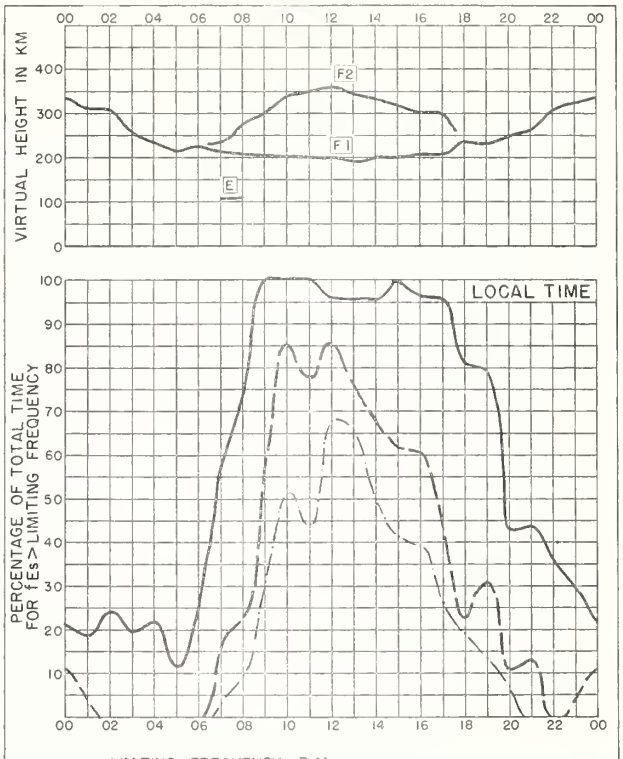


Fig. 138. DJIBOUTI, FRENCH SOMALILAND MAY 1952

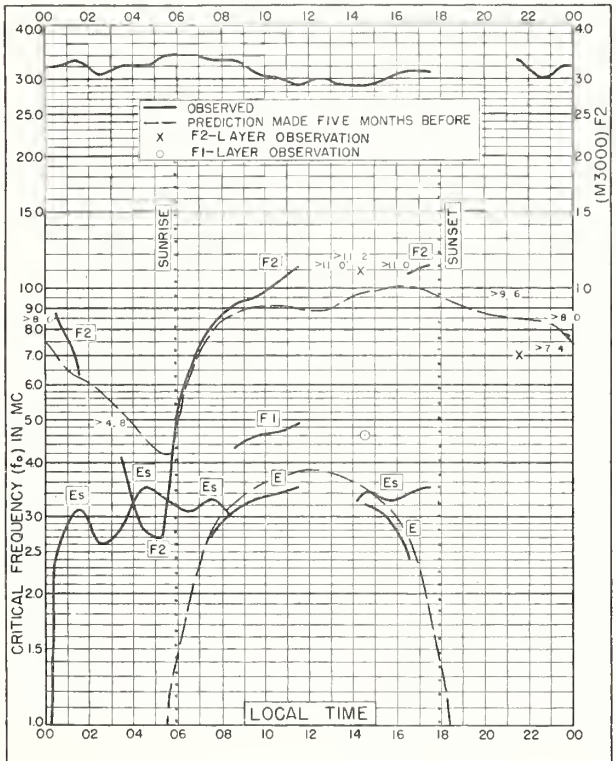


Fig. 139. NAIROBI, KENYA
1.3°S, 36.8°E MAY 1952

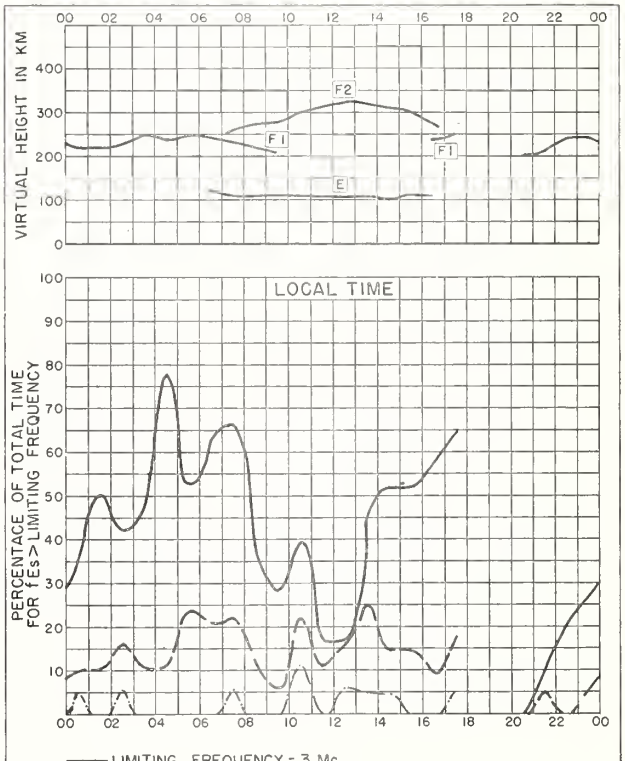


Fig. 140. NAIROBI, KENYA MAY 1952

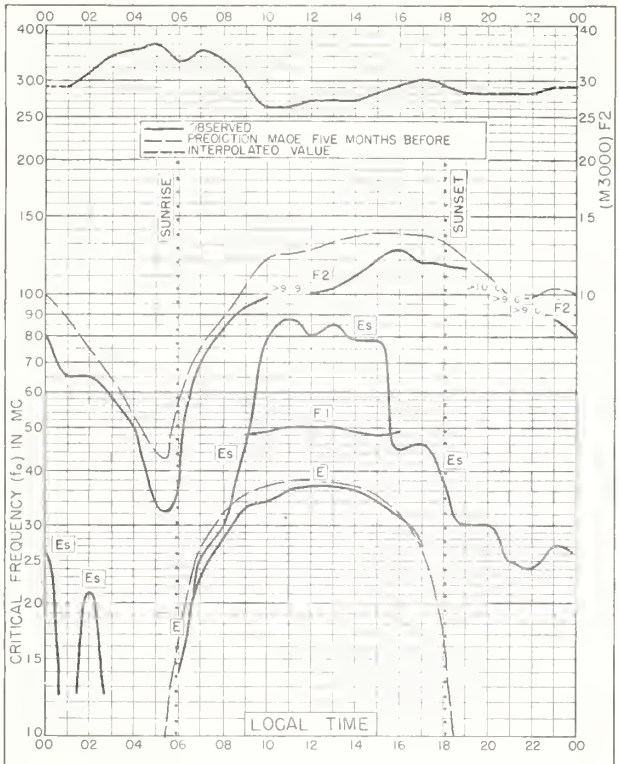
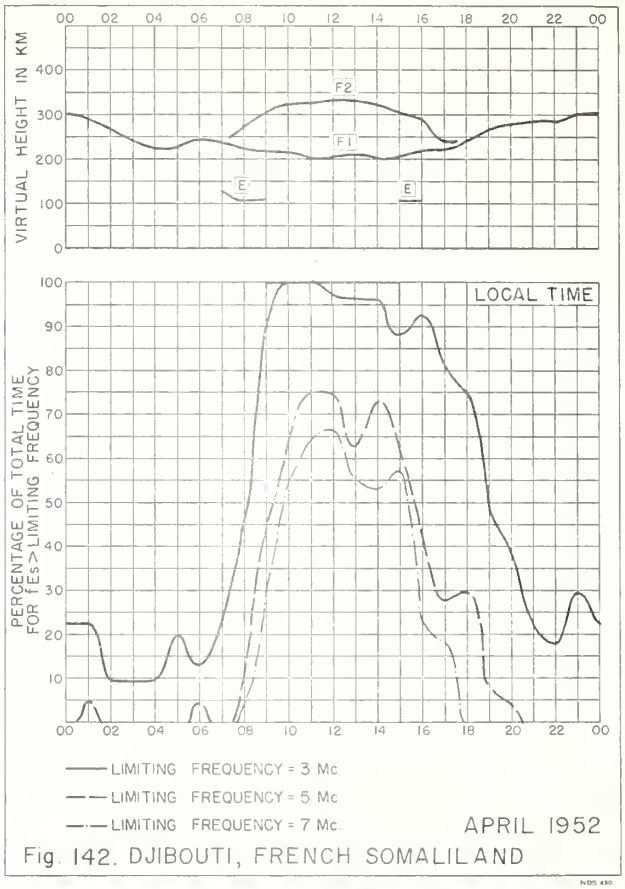


Fig. 141. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E APRIL 1952



APRIL 1952

Fig. 142. DJIBOUTI, FRENCH SOMALILAND

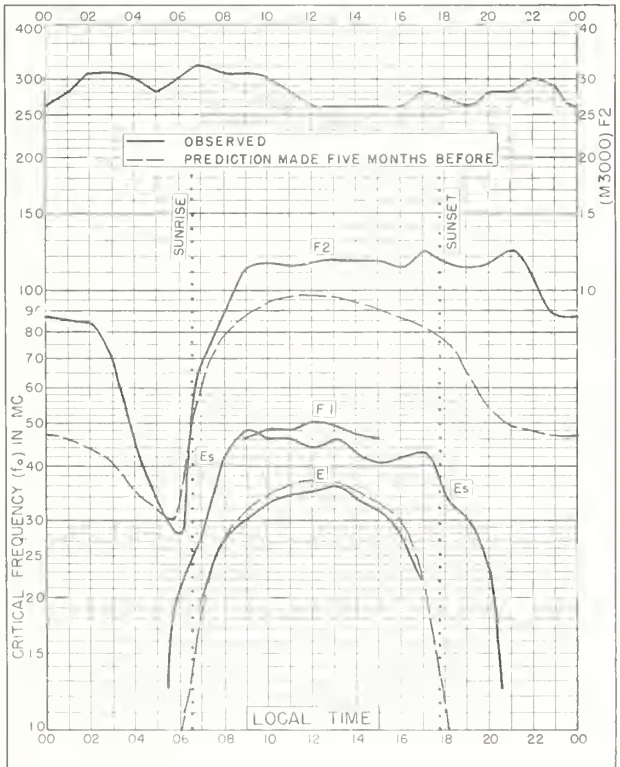
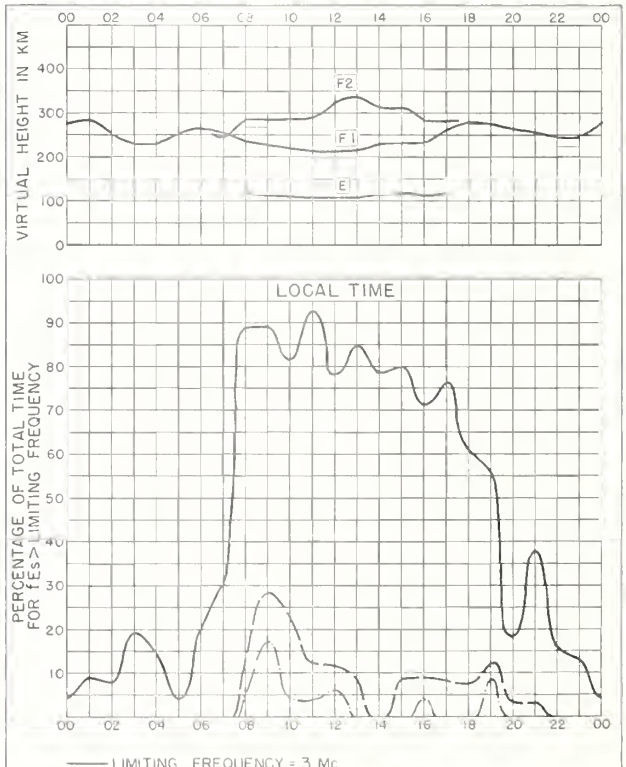


Fig. 143. DAKAR, FRENCH W. AFRICA
14.6°N, 17.4°W JANUARY 1952



JANUARY 1952

Fig. 144. DAKAR, FRENCH W. AFRICA

Index of Tables and Graphs of Ionospheric Data

in CRPL-F107

Index (CRPL-F107, continued)

Index (CRPL-F107, concluded)

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.
**R25. The Prediction of Solar Activity as a Basis for the Prediction of Radio Propagation Phenomena.
**R26. The Ionosphere as a Measure of Solar Activity.
R27. Relationships Between Radio Propagation Disturbance and Central Meridian Passage of Sunspots Grouped by Distance From Center of Disc.
**R30. Disturbance Rating in Values of IRPL Quality-Figure Scale from A. T. & T. Co. Transmission Disturbance Reports to Replace T. D. Figures as Reported.
**R31. North Atlantic Radio Propagation Disturbances, October 1943 Through October 1945.
**R33. Ionospheric Data on File at IRPL.
**R34. The Interpretation of Recorded Values of *fEs*.
**R35. Comparison of Percentage of Total Time of Second-Multiple *Es* Reflections and That of *fEs* in Excess of 3 Mc.
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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