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# IONOSPHERIC DATA

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PREPARED BY INTERSERVICE RADIO PROPAGATION LABORATORY  
National Bureau of Standards  
Washington, D.C.



Organized under Joint U.S. Communications Board

# IONOSPHERIC DATA

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Washington, D.C.

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## TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the section on "Terminology", in reports IRPL-F1, 2, 3, 4, 5.

Beginning with data reported for September, a new symbol L, defined as follows, is adopted for use in detailed tabulations of hourly values of ionosphere characteristics observed at Washington:

L or l = critical frequency, muf, or muf factor for F1 layer omitted because no definite and abrupt change in slope of the h'f curve occurs either for the first reflection or for any of the multiples. (See "Report of International Radio Propagation Conference," IRPL-C61, June 1944, VI 3c, p.37).

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values, for each hour of the day, for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May 1944, beginning with data for 1 Jan. 1945, median values were used by IRPL wherever possible. Thus, median values are given for Washington, for all stations reporting directly to the IRPL, for the Canadian stations, and for all others sending in detailed tabulations to the IRPL, from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data existed.

The monthly median values used here are the values equalled or exceeded on half the days of the month at the given hour. 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 the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:

Values missing because of A, B, C or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:

Values missing because of E are counted as equal to or less than the lower limit of the recorder.

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  $f^0F2$ , as equal to or less than  $f^0F1$ .

2. For  $h'F2$ , as equal to or greater than the median.

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

c. For muf factors (M-factors):

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

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

d. For sporadic E ( $E_s$ ):

Values of  $fE_s$  missing because no  $E_s$  reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the lower limit of the recorder.

Values of  $fE_s$  missing for any other reason, and values of  $hE_s$  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, no median value is computed, the data being considered insufficient.

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, so long as there are at least five values, the median is not considered as 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.

It is expected that this practice will be of assistance in evaluating the monthly median Washington data.

## MONTHLY AVERAGE AND MEDIAN VALUES OF IONOSPHERIC DATA

The ionospheric data given here in graphical and tabular form were assembled by the Interservice Radio Propagation Laboratory for analysis and correlation, incidental to IRPL predictions of radio propagation conditions. The following are the sources of the data:

Australian Council for Scientific and Industrial Research,  
Radio Research Board, Australia;  
Brisbane, Australia  
Canberra, Australia  
Cape York, Australia  
Hobart, Tasmania

British National Physical Laboratory, and Inter-Services Ionosphere Bureau:  
Slough, England  
Great Baddow, England  
Burghead, Scotland  
Capetown, Union of S. Africa  
Colombo, Ceylon  
Oslo, Norway  
Cairo, Egypt  
Falkland Is.

Canadian Radio Wave Propagation Committee:  
Churchill, Canada  
Ottawa, Canada  
St. John's, Newfoundland  
Prince Rupert, Canada  
Clyde, Baffin I.  
Victoria Beach, Canada

New Zealand Radio Research Committee:  
Kermadec Is.  
Christchurch (Canterbury University College Observatory)  
Campbell I.  
Pitcairn I.  
Rarotonga I.

Scientific Research Institute of Terrestrial Magnetism, Moscow, U.S.S.R.:  
Bukhta Tikhaya, U.S.S.R.  
Tomsk, U.S.S.R.  
Sverdlovsk, U.S.S.R.  
Moscow, U.S.S.R.  
Leningrad, U.S.S.R.  
Alma Ata, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism);  
Christmas I.  
Fairbanks, Alaska (University of Alaska, College, Alaska)  
Maui, Hawaii  
Trinidad, Brit. West Indies  
Huancayo, Peru  
Watheroo, W. Australia  
Adak, Alaska

United States Army Signal Corps;  
Leyte, Philippine Is.  
Guam I.  
Tokyo, Japan

National Bureau of Standards;  
Washington, D.C.

Stanford University,  
San Francisco, California

Louisiana State University;  
Baton Rouge, Louisiana

University of Puerto Rico;  
San Juan, P.R.

Harvard University;  
Boston, Massachusetts

All India Radio (Government of India), New Delhi, India;  
Bombay, India  
Delhi, India  
Madras, India  
Peshawar, India

Radio Wave Research Laboratories, Central Broadcasting Administration;  
Chungking, China

National Wuhan University;  
Loshan, China

The tables of "provisional data" give values as reported to the IRPL by telephone or telegraph. Any errors in these values will be corrected in later issues of the F-series reports. In final data tabulations, any omission of values previously given in provisional tabulations is indicated by a dash.

The tables and graphs of "final data" are correct for the values reported to the IRPL, 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 these errors are due to:

- a. Differences in scaling records where spread echoes are present.
- b. Omission of values where  $F_2^0$  is less than or equal to  $F_1^0$ , leading to erroneously high values of monthly average or median values.
- c. Omission of values where 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 P-series reports, IRPL-F1, 2, 3, 4, and 5. Discrepancies between predicted and observed values are often ascribable to these effects.

## IONOSPHERIC DATA FOR EVERY DAY AND HOUR

These data, observed at Washington, D.C., 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 under "Terminology and Scaling Practices" above.

## IONOSPHERE DISTURBANCES

Table 102 presents ionosphere character figures for Washington, D.C., during March 1946, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess", together with American magnetic K-figures which are usually covariant with them.

Table 105 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, February 1946, compared with the IRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, and ISIB daily warnings, the IRPL semiweekly radio propagation forecasts for the A-zone, and the half-day American geomagnetic K-figures.

The radio propagation quality figures for the North Atlantic were prepared from radio traffic and ionospheric data, reported to the IRPL, in the manner described in detail in report IRPL-R31, "North Atlantic Radio Propagation Disturbances October 1943 through October 1945", issued 1 Feb. 1946.

The radio propagation quality figures for the North Pacific were prepared from radio traffic and ionospheric data, reported to the IRPL, in the manner described in detail in report IRPL-R13, "Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945", issued 24 May 1945.

## THE VARIATIONS OF F2-LAYER MAXIMUM USABLE FREQUENCY FACTORS

The value of the maximum usable frequency factor, - the ratio between the maximum usable frequency for any transmission distance and the corresponding critical frequency - depends upon the variation of the virtual height of ionospheric reflection with frequency at vertical incidence. If both the earth's surface and the ionosphere were flat, the maximum usable frequency would be obtained by the simultaneous solution of the two equations

$$(1) \quad h' = h'(f)$$

$$\text{and} \quad (2) \quad f = f'/\sec \phi.$$

for that solution giving a maximum value of  $f'$ , where Eq. (1) expresses the variation of virtual height  $h'$  with the vertical-incidence reflected frequency  $f$ , and Eq. (2) gives the relationship between the vertically reflected frequency and the equivalent frequency reflected at oblique incidence,  $f'$ , in terms of  $\phi$ , the angle of incidence of the transmitted wave upon the ionospheric layer, this last quantity being dependent upon both the distance of transmission and the virtual height of reflection,  $h'$ .

Since both the earth's surface and the ionosphere are curved, Eq. (2) is, in actuality, somewhat modified. Values of maximum-usable-frequency factors (M-factors) have been obtained for a number of years at Washington, D.C., using the modification of Eq. (2) derived and presented in "The Relation of Radio Sky-Wave Transmission to Ionosphere Measurements," N. Smith, Proc. I.R.E., 27, 5, 1939, 332. Values of F2-M4000 at Washington, D.C., are available for each hour of the day beginning February 1941.

Early in 1943, comparison was made between transmission curves expressing the modified relationship of Eq. (2) used by the Inter-Services Ionosphere Bureau and by the Interservice Radio Propagation Laboratory. The former had been derived by a combination of theoretical and empirical methods, but were in rather good agreement, throughout the entire range of distances, with those of the Interservice Radio Propagation Laboratory, the principal difference being that of slightly increased values for long transmission distances, as given by the Inter-Services Ionosphere Bureau curves. A compromise between the two types of curves was effected, for further use by both laboratories. At the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May 1944, transmission curves used in all the principal laboratories for obtaining maximum-usable-frequency factors were compared, and, since the differences among them were but small, standardization was effected by the adoption of a transmission curve which was the mean of all, and very closely resembling that in previous use at the Interservice Radio Propagation Laboratory.

At this conference, standardization was also effected in the method of use of these transmission curves. Up to this time, several laboratories had maintained the practice of applying their transmission curves to the vertical-incidence frequency-virtual height curves represented by Eq. (1), in such a manner that the outside edge of spread echoes on the curve, rather than the true values of  $f$  and  $h'$ , for Eq. (1), determined the solution. This resulted in values given for maximum-useable-frequency factor considerably in excess of true values.

It is evident, from the comparative recency of most of these developments, that but little is known at present concerning the world-wide secular variation of maximum-useable-frequency factors. The longest time series of these factors is that for Washington, D.C. Here it has been found that the values of maximum-useable-frequency factors for the E- and F1-layers are relatively constant with time. Values of maximum-useable-frequency factors for the F2-layer, for any given transmission distance, however, vary in such manner that, for any hour, their twelve-month running average decreases linearly with increased smoothed sunspot number. Thus their variation may be mathematically expressed by

$$(3) \quad F2-M = f(t) - S f'(t)$$

where  $F2-M$  represents the F2-layer maximum-useable-frequency factor for any given transmission distance,  $f(t)$  is a function of the time of day, expressing the diurnal variation of  $F2-M$  at a sunspot number of 0,  $S$  is the smoothed Zurich sunspot number, and  $f'(t)$  is another time function representing the diurnal variation of the slopes of the linear trend curves.

It was demonstrated in the report IRPL-R11, "A Nomographic Method for both Prediction and Observation Correlation of Ionosphere Characteristics", that the relationship expressed by Eq. (3) could be conveniently expressed in nomographic form, as a condensed survey of these trends. Fig. 95 presents, in this fashion, the variation of yearly-average values of  $F2-M4000$  at Washington, D.C. Inspection of this nomogram shows that values of  $F2-M4000$  at the hours 0800 and 2000 are relatively invariant with sunspot number, and that the maximum variations, even though they are small, occur near midday and, again, near midnight.

Small convolutions in the central curve of this nomogram are probably of little, if any, significance, since the variations entailed by them are comparable with the precision with which these variations are known. However, the fact that the larger convolutions present a pair of narrow loops, one containing daytime hours, the other containing night hours, and both lying diagonally between the vertical scales, with slight displacement, shows that the variation of  $F2-M4000$  may be approximately expressed as

$$(4) \quad -(F2-M4000_{\text{day}}) + C_1 = K f_1(t) (S + C_2)$$

and

$$(5) \quad -(F2-M4000_{\text{night}}) + C_3 = K f_2(t) (S + C_4),$$

$C_1, C_2, C_3, C_4$  and  $K$  being constants.

The seasonal variation is such that the value of  $F2-M4000$  for any month may be obtained by multiplying the yearly-average value by an appropriate constant for the season and hour of day under consideration. Figs. 96, 97, and 98 present, nomographically, the variation of  $F2-M4000$  at Washington, D.C., for the months of June, September, and December, respectively. Inspection of these nomograms shows that the minimum variation of  $F2-M4000$  with sunspot number occurs, for all three months, at 0800 and 2000, although the times of maximum variation do not remain fixed.

Lack of data over a sufficiently long time period from other stations, as mentioned before, prevents exact knowledge of the variations of  $F2-M4000$  with solar cycle on a world-wide scale. However, sufficient data have been accumulated from other places to show that the trend of the variations, at all places, is of the type expressed by Eq. (3), and that the variation is small.

Because of the slight amount of these secular variations, and the relatively greater variations entailed by lack of standardization of scaling practices, and random variations in the observations, a survey of world-wide variation of  $F2-M4000$  was made, using the average value of this quantity reported at any location, for the hour and season under consideration, this average being taken over the entire extent of available data, after deletion of all values where improper scaling procedure (scaling spread echoes, etc.) was considered to effect gross error. Since little, if any, variation was evident between the series of values for northern and southern hemispheres at opposite seasons, or with geomagnetic latitude, values observed at any location were also used, for the opposite season, at reversed latitude, to provide a better estimate of world-wide variation of the quantity, and no separation was made of values pertinent especially to stations in the E, I and W zones used for the IRPL predictions of  $F2$ -layer  $f_0$  and  $muf$ .

Figs. 99 through 104 present charts of the world-wide variation of  $F2-M4000$  for the months of January through June. If values of  $F2-M4000$  are read at reversed latitudes to those under consideration, at opposite season, these charts also serve for the presentation of values for July through December. Small variations exhibited by the contours shown on these charts are probably of low significance. It is generally apparent, however, that there is a tendency for low values of  $F2-M4000$  to be associated with low values of solar zenith angle, and that, in equatorial regions, especially, there is slower change in the values with time in the afternoon than during morning hours.

## COMPARISON OF IONOSPHERIC DATA FOR LOSHAN AND CHUNGKING, CHINA FOR JANUARY AND FEBRUARY, 1946

It is fortunate that at the present time there are two ionosphere stations in China about 200 km apart. The first one is located at Chungking, China ( $29.4^{\circ}\text{N}$ ,  $106.3^{\circ}\text{E}$ ) and operated by the Radio Wave Research Laboratories of the Central Broadcasting Administration under the direction of Dr. Fung Chien; the second one is located on the temporary campus of the National Wuhan University at Loshan, China ( $29.5^{\circ}\text{N}$ ,  $103.7^{\circ}\text{E}$ ) and was erected by Dr. Paul C. T. Kwei and Dr. Eugene Hsu, being now operated by U.S. Navy personnel.

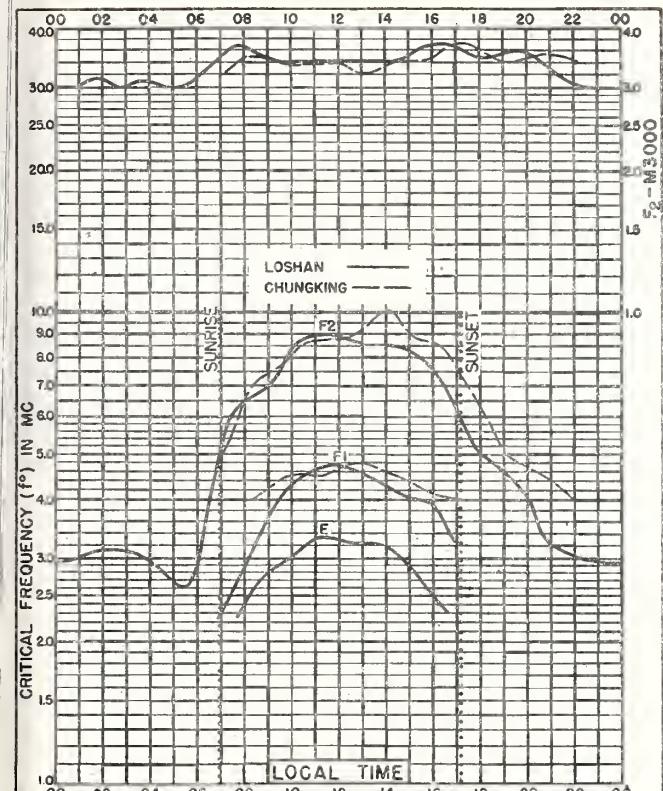
The equipment at Loshan is a manual type of recorder built by the Department of Terrestrial Magnetism, Carnegie Institution of Washington. The Chungking apparatus is also manually operated and the range is from 3.3 to 12.3 Mc, which the operators cover in 15 minutes.

The men in charge of the Loshan station studied at the Department of Terrestrial Magnetism, Carnegie Institution of Washington, and at the Interservice Radio Propagation Laboratory before returning to China with their equipment, so that their scaling techniques may more nearly represent practices in use in the United States than would those of the other group.

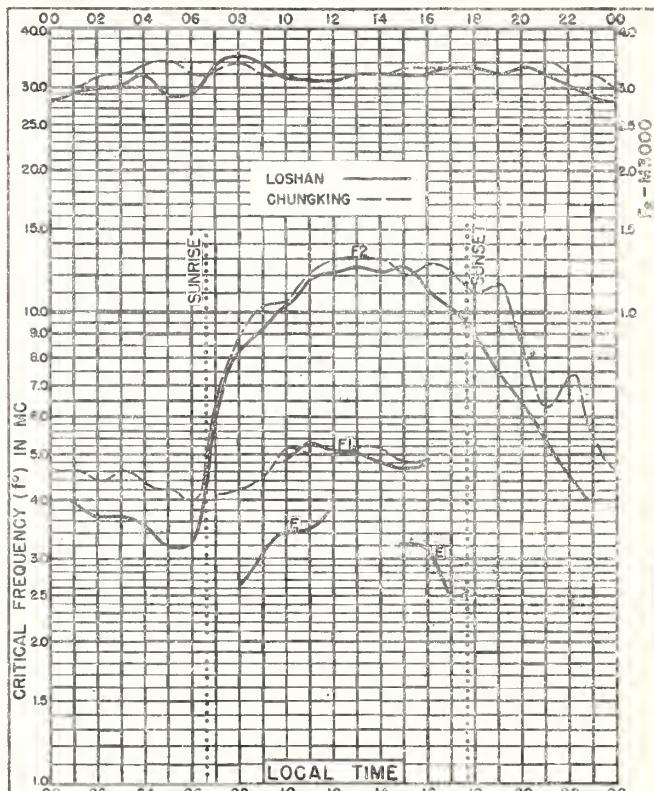
Some deviations from standard practices seem to have occurred however. In February, the Loshan group adopted the practice of not counting median values unless 10 observations were available at a given hour; in January this practice was not observed. In the case of the Chungking group sample records for December 1945 showed excellent progress in development of scaling techniques, although there was some question regarding spread echoes and some  $f^{\circ}\text{F1}$  values were scaled incorrectly. Because of lack of information on symbols, the conventional symbols were not used in the data sheets and the blank spaces were thus difficult to interpret.

Median hourly values of  $f^{\circ}\text{F2}$ ,  $f^{\circ}\text{F1}$ ,  $f^{\circ}\text{E}$  and  $\text{F2-M3000}$  as reported from Loshan for January and February 1946 are shown graphically below, plotted with median values of the same characteristics for Chungking for those months, as calculated from the tabulations at IRPL. The higher values at Chungking in the afternoon and night are probably a result of the fact that many of the missing data were either spread echoes or below the lower limit of the recorder.

It is understood that the Chungking group is making great progress in erecting several more ionosphere stations throughout China. This program would be a great step toward insuring predictions of radio propagation in China which are compatible with predictions for parts of the world where ionosphere work has been going on for many years.



COMPARISON OF MEDIAN VALUES OF  
IONOSPHERIC DATA FOR CHUNGKING AND  
LOSHAN, CHINA OBSERVED DURING  
JANUARY, 1946



COMPARISON OF MEDIAN VALUES OF  
IONOSPHERIC DATA FOR CHUNGKING AND  
LOSHAN, CHINA OBSERVED DURING  
FEBRUARY, 1946

## ERRATA

1. Adak, Alaska, should have been listed under Carnegie Institution of Washington (Department of Terrestrial Magnetism) instead of under United States Army Signal Corps as erroneously listed in IRPL-F19, p. 9.

2. The value of  $f^o F2$  for April 1945, hour 2200, for Canberra, Australia, should have been 4.2 instead of 4.0, as stated in IRPL-F18, Table 63.

Table I (continued)

Time	h <sup>h</sup> P2	r <sup>r</sup> P2	h <sup>h</sup> P1	r <sup>r</sup> P1	h <sup>h</sup> E	r <sup>r</sup> E	Y <sup>Y</sup>	T <sup>T</sup> E	T <sup>T</sup> S	Y <sup>Y</sup> -H <sup>H</sup> 000
00	4.0						3.1	3.1		
01		4.6					3.0	3.0		
02		3.5					3.1	3.1		
03		3.8					3.1	3.1		
04		3.0					3.1	3.1		
05		3.5					3.1	3.1		
06		3.9					3.1	3.1		
07		4.4					3.1	3.1		
08		5.1					3.2	3.2		
09		5.8					3.2	3.2		
10		5.7					3.3	3.3		
11		5.5					3.2	3.2		
12		5.6					3.1	3.1		
13		5.6					3.3	3.3		
14		5.7					3.1	3.1		
15		5.6					3.1	3.1		
16		5.6					3.2	3.2		
17		5.6					3.2	3.2		
18		5.4					3.2	3.2		
19		5.3					3.1	3.1		
20		5.4					3.1	3.1		
21		5.2					3.3	3.3		
22		4.3					3.1	3.1		
23							4.7	3.1		

Time: 76.00%.  
Length of time sweep: 2.0 Ms to 16.0 Ms in one minute.  
Median values.

**Table 2** (Provisional Data)

Time	h <sup>1</sup> T2	h <sup>1</sup> T2	h <sup>1</sup> T1	h <sup>1</sup> T1	h <sup>1</sup> E	h <sup>1</sup> E	FES	FES	F2-M5000
00	350	2.9					4.0		2.7
01	350	3.0					4.3		2.6
02	350	3.4					3.5		2.6
03	550	5.2					3.2		2.6
04	340	3.9					3.6		2.6
05	340	4.0					3.0		2.6
06	310	4.2					2.5		2.5
07	270	4.9					2.0		2.5
08	270	5.5					2.4		2.9
09	260	5.8					2.8		2.9
10	270	6.5	220	4.0			2.9		2.8
11	300	6.6	240	4.2			2.9		2.8
12	260	7.0	240	4.2			2.8		2.9
13	260	7.4	240	4.2			2.9		2.9
14	240	7.5					2.8		2.9
15	240	7.9					2.6		2.9
16	260	7.8					2.5		2.9
17	240	7.5					2.3		2.9
18	240	7.0					2.0		2.9
19	250	6.4					1.6		2.9
20	280	4.5					1.6		2.9
21	300	3.6					1.6		2.7
22	310	3.6					1.4		3.2
23	320	3.4					1.4		3.2

Length: 160.0M. Length of time sweep: 16.0 Ms to 0.5 Ms in fifteen minutes.

Table 3 (Provisional Data)

Time	h <sup>1</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	h <sup>1</sup> T <sub>1</sub>	h <sup>1</sup> E	h <sup>1</sup> E	PE-M3000
00	4.5						2.6
01	4.5						2.6
02	4.4						2.7
03	5.6						2.7
04	3.4						2.8
05	3.4						2.7
06	4.0						2.9
07	4.6						3.0
08	5.6						3.1
09	6.0						3.0
10	6.6						3.0
11	6.8						2.9
12	7.5						2.9
13							2.8
14							2.9
15							2.9
16							2.9
17							2.9
18							3.0
19							2.9
20							2.9
21							2.8
22							2.8
23							2.6

Time: 3:00 P.M.  
Length: 30 minutes.

Table 4 (continued)

Time	Prince Rupert, Canada (64.5°N, 130.5°W)						March 1966
	h'F2	r'F2	h'F1	r'F1	h'E	r'E	
00							5.1
01	5.6	5.2					5.0
02	3.1						3.0
03	3.0						2.9
04	2.7						2.9
05	2.9						2.8
06	5.2						2.9
07	4.1						3.1
08	5.4						3.3
09	6.2						3.2
10	6.7						3.2
11	7.0						3.3
12	7.7						3.2
13	8.6						3.2
14	9.0						3.3
15	9.5						3.5
16	9.0						3.5
17	9.0						3.4
18	8.6						3.4
19	8.6						3.4
20	7.7						3.3
21	6.9						3.3
22	6.7						3.3
23	4.5						3.3
24	3.8						3.3

Time: 120.0<sup>0</sup>N. Length of time sweep: Manual operation.

Table 5 (Provisional Data)

St. John's, Newfoundland (47. <sup>0</sup> N, 52. <sup>7</sup> W)						March 1946					
Time	h <sup>0</sup> F2	f <sup>0</sup> F2	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> W	f <sup>0</sup> W	h <sup>2</sup> W
00	5.0		3.1		0.0		5.1		5.1		2.8
01	5.1		3.1		0.1		4.6		4.6		2.8
02	4.7		3.1		0.2		4.4		4.4		2.8
03	4.0		3.1		0.5		4.1		4.1		2.8
04	3.7		3.2		0.4		3.6		3.6		2.8
05	3.7		3.2		0.5		3.6		3.6		2.9
06	3. <sup>9</sup>		3.2		0.6		3.5		3.5		3.0
07	5.4		3.4		0.7		5. <sup>7</sup>		5. <sup>7</sup>		3.1
08	6.3		3.5		0.8		6.9		6.9		3.1
09	8. <sup>1</sup>		3.5		0.9		7.3		7.3		3.1
10	8.4		3.2		1.0		8.4		8.4		3.0
11	8.7		3.2		1.1		8.9		8.9		2.9
12	9. <sup>3</sup>		3.2		1.2		9.3		9.3		2.9
13	9.6		3.2		1.3		9.4		9.4		2.9
14	9. <sup>7</sup>		3.1		1.4		9.7		9.7		2.9
15	9. <sup>7</sup>		3.2		1.5		9.6		9.6		2.8
16	9.3		3.2		1.6		9.3		9.3		2.8
17	9.5		3.2		1.7		9.0		9.0		2.9
18	9.4		3.2		1.8		9.0		9.0		2.9
19	8.8		3.2		1.9		8.1		8.1		2.9
20	7.8		3.0		2.0		7.3		7.3		2.8
21	6.4		3.0		2.1		6.6		6.6		2.9
22	6.1		3.1		2.2		6.0		6.0		2.8
23	5.7		3.1		2.3		5.8		5.8		2.8

Time: 52.<sup>5</sup>W.  
Length of time sweep: Manual operation.  
Median values.

\*Data for 1-19 March, inclusive.

Table 7 (Provisional Data)

Boston, Massachusetts (42. <sup>4</sup> N, 71. <sup>2</sup> W)						March 1946					
Time	h <sup>0</sup> F2	f <sup>0</sup> F2	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> W	f <sup>0</sup> W	h <sup>2</sup> W
00	6.0		2.7		0.0		4.7		4.7		2.7
01	4.9		2.7		0.1		4.3		4.3		2.6
02	4.7		2.7		0.2		4.2		4.2		2.6
03	4.2		2.7		0.3		4.1		4.1		2.7
04	4.0		2.7		0.4		4.1		4.1		2.7
05	3.8		2.8		0.5		4.0		4.0		2.7
06	5.6		3.0		0.6		4.4		4.4		2.7
07	6.5		3.1		0.7		4.1		4.1		3.1
08	7.3		3.0		0.8		4.7		4.7		3.1
09	9.4		2.9		0.9		9.4		9.4		3.0
10	10.0		3.0		1.0		10.5		10.5		2.9
11	10.7		2.9		1.1		10.8		10.8		2.8
12	10.8		2.8		1.2		11.1		11.1		2.8
13	10.7		2.8		1.3		10.8		10.8		2.8
14	10.9		2.9		1.4		11.0		11.0		2.8
15	10.0		2.9		1.5		10.5		10.5		2.9
16	9.6		2.9		1.6		10.1		10.1		2.8
17	9.5		2.9		1.7		9.6		9.6		3.0
18	8.9		2.9		1.8		8.8		8.8		3.0
19	7.6		2.9		1.9		7.3		7.3		3.0
20	6.6		2.9		2.0		6.1		6.1		2.8
21	5.9		2.8		2.1		5.5		5.5		2.8
22	5.4		2.7		2.2		5.0		5.0		2.8
23	5.0		2.7		2.3		4.9		4.9		2.7

Time: 52.<sup>5</sup>W.  
Length of time sweep: Manual operation.  
Median values.

Table 7 (Provisional Data)

San Francisco, California (37. <sup>4</sup> N, 122. <sup>2</sup> W)						March 1946					
Time	h <sup>0</sup> F2	f <sup>0</sup> F2	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> W	f <sup>0</sup> W	h <sup>2</sup> W
00	2.7		2.7		0.0		4.7		4.7		2.7
01	4.1		2.7		0.1		4.3		4.3		2.6
02	4.7		2.7		0.2		4.2		4.2		2.6
03	4.2		2.7		0.3		4.1		4.1		2.7
04	4.0		2.7		0.4		4.1		4.1		2.7
05	3.8		2.8		0.5		4.0		4.0		2.7
06	5.6		3.0		0.6		4.4		4.4		2.7
07	6.5		3.1		0.7		4.1		4.1		3.1
08	7.3		3.0		0.8		4.7		4.7		3.1
09	9.4		2.9		0.9		9.4		9.4		3.0
10	10.0		3.0		1.0		10.5		10.5		2.9
11	10.7		2.9		1.1		10.8		10.8		2.8
12	10.8		2.8		1.2		11.1		11.1		2.8
13	10.7		2.8		1.3		10.8		10.8		2.8
14	10.9		2.9		1.4		11.0		11.0		2.8
15	10.0		2.9		1.5		10.5		10.5		2.9
16	9.6		2.9		1.6		10.1		10.1		2.8
17	9.5		2.9		1.7		9.6		9.6		3.0
18	8.9		2.9		1.8		8.8		8.8		3.0
19	7.6		2.9		1.9		7.3		7.3		3.0
20	6.6		2.9		2.0		6.1		6.1		2.8
21	5.9		2.8		2.1		5.5		5.5		2.8
22	5.4		2.7		2.2		5.0		5.0		2.8
23	5.0		2.7		2.3		4.9		4.9		2.7

Time: 75.<sup>0</sup>W.  
Length of time sweep: 0.8 Mc to 12.0 Mc in six minutes.  
Record centered on hour.  
Median values.

Table 9 (Provisional Data)					
March 1946					
Time	h <sup>0</sup> W	f <sup>0</sup> W	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E
00	2.7		2.7		2.7
01	4.1		4.3		4.3
02	4.7		4.2		4.2
03	4.2		4.1		4.1
04	4.0		4.1		4.1
05	3.8		4.0		4.0
06	5.6		4.4		4.4
07	6.5		4.1		4.1
08	7.3		4.7		4.7
09	9.4		9.4		9.4
10	10.0		10.5		10.5
11	10.7		10.8		10.8
12	10.8		11.1		11.1
13	10.7		10.8		10.8
14	10.9		11.0		11.0
15	10.0		10.5		10.5
16	9.6		10.1		10.1
17	9.5		9.6		9.6
18	8.9		8.8		8.8
19	7.6		7.3		7.3
20	6.6		6.1		6.1
21	5.9		5.5		5.5
22	5.4		5.0		5.0
23	5.0		4.9		4.9

Time: 160.0W.  
Length of time sweep: 0.8 Mc to 12.0 Mc in one minute.  
Record centered on hour.  
Median values.

Table 9 (Provisional Data)

Baton Rouge, Louisiana (30.5°N, 91.2°W)							March 1946						
Time	h <sup>0</sup> Y2	f <sup>0</sup> Y2	h <sup>1</sup> Y1	f <sup>0</sup> Y1	h <sup>1</sup> Y	f <sup>0</sup> Y	h <sup>2</sup>	f <sup>0</sup> Y	h <sup>3</sup>	f <sup>0</sup> Y	h <sup>4</sup>	f <sup>0</sup> Y	h <sup>5</sup>
00	5.0		2.8		0.0		260		7.4		2.9		
01	5.8		2.7		0.1		240		6.6		3.0		
02	4.9		2.8		0.2		230		6.2		3.0		
03	4.6		2.9		0.3		230		5.8		3.2		
04	4.4		2.8		0.4		230		4.8		3.2		
05	4.4		2.8		0.5		240		4.1		3.0		
06	4.4		2.9		0.6		260		4.5		3.0		
07	5.6		2.9		0.7		230		7.7		2.3		
08	6.1		3.2		0.8		230		9.6		2.6		
09	6.1		2.1		0.9		240		10.7		2.8		
10	9.4		2.0		1.0		260		12.0		3.3		
11	9.5		2.0		1.1		270		13.0		3.6		
12	9.5		2.1		1.2		280		15.0		2.9		
13	9.5		2.1		1.3		290		15.0		3.0		
14	9.5		2.1		1.4		280		14.6		3.0		
15	9.5		3.1		1.5		270		14.5		3.1		
16	9.5		3.2		1.6		270		14.0		3.1		
17	9.5		1.7		1.7		240		13.7		2.7		
18	9.2		3.2		1.8		230		13.5		2.1		
19	7.4		3.1		1.9		230		13.0		3.1		
20	6.0		3.1		2.0		220		12.0		3.0		
21	5.9		3.0		2.1		220		9.7		3.0		
22	5.5		2.9		2.2		240		8.4		3.0		
23	5.3		2.8		2.3		250		7.9		3.0		

Time: 90.00%.  
Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.  
Median values.

Table 11 (Provisional Data)

Huancayo, Peru (12.0°S, 75.3°W)							March 1946						
Time	h <sup>0</sup> Y2	f <sup>0</sup> Y2	h <sup>1</sup> Y1	f <sup>0</sup> Y1	h <sup>1</sup> Y	f <sup>0</sup> Y	h <sup>2</sup>	f <sup>0</sup> Y	h <sup>3</sup>	f <sup>0</sup> Y	h <sup>4</sup>	f <sup>0</sup> Y	h <sup>5</sup>
00	9.0		3.0		0.0		3.8		3.3				
01	6.1		3.0		0.1		3.7		3.3				
02	7.2		3.0		0.2		3.4		3.3				
03	6.3		2.9		0.3		3.2		3.5				
04	5.2		3.1		0.4		3.3		3.3				
05	4.4		3.0		0.5		3.4		3.3				
06	5.4		3.0		0.6		3.5		3.2				
07	9.3		3.1		0.7		3.5		3.2				
08	9.0		2.8		0.8		4.3		3.4				
09	12.0		2.6		0.9		5.2		3.4				
10	12.2		2.4		1.0		5.4		3.5				
11	11.2		2.3		1.1		5.4		3.5				
12	11.0		2.4		1.2		5.7		3.4				
13	11.3		2.3		1.3		5.2		3.2				
14	11.8		2.2		1.4		5.4		3.4				
15	11.9		2.3		1.5		5.2		3.4				
16	11.6		2.3		1.6		5.3		3.4				
17	11.6		2.3		1.7		5.2		3.4				
18	11.4		2.2		1.8		5.2		3.4				
19	10.1		2.1		1.9		4.8		3.4				
20	9.6		2.4		2.0		4.2		3.3				
21	9.7		2.6		2.1		3.8		3.5				
22	9.8		2.7		2.2		3.5		3.2				
23	9.2		2.9		2.3		3.6		3.3				

Time: 105.00%.  
Length of time sweep: Manual operation.  
Median values.

Table 11 (Provisional Data)

Loftan, China (29.5°N, 103.7°E)							March 1946						
Time	h <sup>0</sup> Y2	f <sup>0</sup> Y2	h <sup>1</sup> Y1	f <sup>0</sup> Y1	h <sup>1</sup> Y	f <sup>0</sup> Y	h <sup>2</sup>	f <sup>0</sup> Y	h <sup>3</sup>	f <sup>0</sup> Y	h <sup>4</sup>	f <sup>0</sup> Y	h <sup>5</sup>
00	2.8		0.0		260		7.4		2.9				
01	2.7		0.1		240		6.6		3.0				
02	2.8		0.2		230		5.8		3.2				
03	2.9		0.3		240		4.8		3.0				
04	2.8		0.4		240		4.1		3.0				
05	2.9		0.5		260		4.5		3.0				
06	2.9		0.6		230		7.7		2.3				
07	2.1		0.7		220		4.6		2.8				
08	2.1		0.8		220		4.3		2.8				
09	2.0		0.9		240		4.0		2.8				
10	2.0		1.0		240		3.4		2.8				
11	1.9		2.4		11		5.4		2.5				
12	1.9		2.4		12		5.7		2.4				
13	1.8		2.3		12		5.2		2.4				
14	1.8		2.2		14		5.4		2.4				
15	1.9		2.3		14		5.2		2.4				
16	1.6		2.3		15		5.3		2.4				
17	1.6		2.3		16		5.2		2.4				
18	1.6		2.2		17		5.2		2.4				
19	10.1		2.1		18		4.8		2.4				
20	9.6		2.4		19		4.2		2.4				
21	9.7		2.6		20		4.2		2.4				
22	9.8		2.7		21		3.8		2.5				
23	9.2		2.9		22		3.5		2.5				

Time: 75.00%.  
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.  
Median values.

Table 12 (Provisional Data)

Clyde, Baffin I. (70.5°N, 68.6°W)							February 1946						
Time	h <sup>0</sup> Y2	f <sup>0</sup> Y2	h <sup>1</sup> Y1	f <sup>0</sup> Y1	h <sup>1</sup> Y	f <sup>0</sup> Y	h <sup>2</sup>	f <sup>0</sup> Y	h <sup>3</sup>	f <sup>0</sup> Y	h <sup>4</sup>	f <sup>0</sup> Y	h <sup>5</sup>
00	9.0		3.0		0.0		3.8		3.3				
01	6.1		3.0		0.1		3.7		3.3				
02	7.2		3.0		0.2		3.4		3.3				
03	6.3		2.9		0.3		3.2		3.5				
04	5.2		3.1		0.4		3.3		3.3				
05	4.4		3.0		0.5		3.4		3.3				
06	5.4		3.0		0.6		3.5		3.2				
07	9.3		3.1		0.7		3.5		3.2				
08	9.0		2.8		0.8		4.3		3.4				
09	12.0		2.6		0.9		5.2		3.4				
10	12.2		2.4		10		5.4		3.4				
11	11.2		2.3		11		5.4		3.5				
12	11.0		2.4		12		5.7		3.4				
13	11.3		2.3		12		5.2		3.2				
14	11.8		2.2		14		5.4		3.4				
15	11.9		2.3		15		5.2		3.4				
16	11.6		2.3		16		5.3		3.4				
17	11.6		2.2		17		5.2		3.4				
18	11.4		2.1		18		4.8		3.4				
19	10.1		2.1		19		4.2		3.4				
20	9.6		2.4		20		4.2		3.3				
21	9.7		2.6		21		3.8		3.5				
22	9.8		2.7		22		3.5		3.5				
23	9.2		2.9		23		3.6		3.3				

Time: 105.00%.  
Length of time sweep: Manual operation.  
Median values.

Time: 75.00%.  
Length of time sweep: 2.0 Mc to 16.0 Mc in one minute.  
Median value.

Table 13 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	3.5				
01	3.6				
02	3.5				
03	3.3				
04	3.3				
05	3.3				
06	3.3				
07	3.8				
08	5.2				
09	6.1				
10	7.1				
11	7.2				
12	7.5				
13	7.6				
14	7.6				
15	7.5				
16	7.2				
17	7.1				
18	6.5				
19	5.4				
20	4.4				
21	4.4				
22	3.8				
23	3.5				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 15 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.8				
05	3.0				
06	3.1				
07	6.5				
08	8.6				
09	9.6				
10	10.4				
11	11.0				
12	11.2				
13	11.3				
14	11.1				
15	10.8				
16	10.2				
17	9.5				
18	7.8				
19	6.2				
20	6.1				
21	5.4				
22	4.8				
23	4.5				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 15 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.8				
05	3.0				
06	3.1				
07	6.5				
08	8.6				
09	9.6				
10	10.4				
11	11.0				
12	11.2				
13	11.3				
14	11.1				
15	10.8				
16	10.2				
17	9.5				
18	7.8				
19	6.2				
20	6.1				
21	5.4				
22	4.8				
23	4.5				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 16 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.1				
05	3.3				
06	3.1				
07	3.0				
08	3.4				
09	3.5				
10	3.2				
11	3.2				
12	3.1				
13	3.1				
14	3.2				
15	3.2				
16	3.3				
17	3.4				
18	3.4				
19	3.1				
20	3.1				
21	3.0				
22	2.9				
23	2.8				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 16 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.8				
05	3.0				
06	3.1				
07	6.5				
08	8.6				
09	9.6				
10	10.4				
11	11.0				
12	11.2				
13	11.3				
14	11.1				
15	10.8				
16	10.2				
17	9.5				
18	7.8				
19	6.2				
20	6.1				
21	5.4				
22	4.8				
23	4.5				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 16 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.1				
05	3.3				
06	3.1				
07	3.0				
08	3.4				
09	3.5				
10	3.2				
11	3.2				
12	3.1				
13	3.1				
14	3.2				
15	3.2				
16	3.3				
17	3.4				
18	3.4				
19	3.1				
20	3.1				
21	3.0				
22	2.9				
23	2.8				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 16 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.8				
05	3.0				
06	3.1				
07	6.5				
08	8.6				
09	9.6				
10	10.4				
11	11.0				
12	11.2				
13	11.3				
14	11.1				
15	10.8				
16	10.2				
17	9.5				
18	7.8				
19	6.2				
20	6.1				
21	5.4				
22	4.8				
23	4.5				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 16 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.8				
05	3.0				
06	3.1				
07	6.5				
08	8.6				
09	9.6				
10	10.4				
11	11.0				
12	11.2				
13	11.3				
14	11.1				
15	10.8				
16	10.2				
17	9.5				
18	7.8				
19	6.2				
20	6.1				
21	5.4				
22	4.8				
23	4.5				

Time: 0.0°.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.  
Average values.

Table 16 (Provisional Data)

February 1946					
Time	h <sub>Y2</sub>	F <sub>0F2</sub>	h <sub>Y1</sub>	F <sub>0F1</sub>	h <sub>Y</sub>
00	4.4				
01	4.2				
02	4.2				
03	4.3				
04	3.8				
05	3.0				
06	3.1				
07	6.5				
08	8.6				
09	9.6				
10	10.4				
11	11.0				
12	11.2</				

Table 17 (Provisional Data)

Cape York, Australia (11°30'S, 142°42'E)						February 1946					
Time	h <sup>0</sup> F2	f <sup>0</sup> F2	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E
00	9.3		8.4		3.1		3.0		6.6		3.0
01			7.6		3.2		0.1		6.2		3.0
02			6.5		3.0		0.2		5.5		3.0
03			5.9		0.4		0.3		4.9		3.0
04			5.8		5.0		0.5		4.7		3.0
05			5.2		3.1		0.5		5.4		3.1
06			6.8		3.1		0.6		6.4		3.4
07			8.1		3.3		0.7		6.4		3.4
08			8.1		3.1		0.8		7.1		3.2
09			8.9		2.9		0.9		7.8		3.0
10			9.7		2.8		1.0		8.8		3.0
11			10.8		2.8		1.1		9.0		2.9
12							1.2		9.7		3.0
13							1.3		9.5		3.0
14							1.4		9.2		3.0
15							1.5		9.2		3.0
16							1.6		9.1		3.0
17			11.1		3.0		1.7		8.8		3.1
18			10.5		2.9		1.8		8.5		3.0
19			10.0		2.8		1.9		8.0		3.0
20			10.0		2.8		2.0		7.4		2.8
21			9.2		2.8		2.1		7.2		2.8
22			9.4		2.8		2.2		7.1		2.8
23			9.3		2.9		2.3		7.2		2.9

Time: Local.  
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five  
seconds.  
Median values.

Table 19 (Provisional Data)

Watheroo, W. Australia (30.2°S, 115.9°E)						February 1946					
Time	h <sup>0</sup> F2	f <sup>0</sup> F2	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E
00			5.8		2.8		2.8		5.7		2.9
01			5.3		2.9		0.1		5.7		3.0
02			4.8		2.8		0.2		5.0		3.0
03			4.3		2.8		0.3		4.5		2.9
04			3.8		2.8		0.4		4.0		2.8
05			3.7		2.8		0.5		3.8		2.9
06			4.8		3.0		0.6		4.6		3.0
07			5.8		3.1		0.7		5.5		3.0
08			5.5		3.0		0.8		5.1		3.0
09			7.3		3.0		0.9		5.7		2.9
10			8.0		3.0		1.0		7.7		2.9
11			8.3		2.9		1.1		7.6		3.0
12			8.7		2.9		1.2		7.9		2.9
13			8.8		2.8		1.3		7.9		3.0
14			9.0		2.9		1.4		7.6		2.9
15			8.8		2.9		1.5		7.6		2.9
16			8.4		3.0		1.6		7.6		3.0
17			8.1		3.0		1.7		7.0		3.0
18			7.7		3.1		1.8		7.0		3.0
19			7.4		3.0		1.9		7.0		3.0
20			6.9		2.9		2.0		6.6		2.9
21			6.4		2.8		2.1		6.0		2.9
22			6.2		2.7		2.2		5.7		2.9
23			6.0		2.8		2.3		5.8		2.9

Time: Local.  
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five  
seconds.  
Median values.

Table 20 (Provisional Data)

Canberra, Australia (35.3°S, 149.0°E)						February 1946					
Time	h <sup>0</sup> F2	f <sup>0</sup> F2	h <sup>1</sup> F1	f <sup>0</sup> F1	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> E
00			5.8		2.8		0.0		5.7		2.9
01			5.3		2.9		0.1		5.7		3.0
02			4.8		2.8		0.2		5.0		3.0
03			4.3		2.8		0.3		4.5		2.9
04			3.8		2.8		0.4		4.0		2.8
05			3.7		2.8		0.5		3.8		2.9
06			4.8		3.0		0.6		4.6		3.0
07			5.8		3.1		0.7		5.5		3.0
08			5.5		3.0		0.8		5.1		3.0
09			7.3		3.0		0.9		5.7		2.9
10			8.0		3.0		1.0		7.7		2.9
11			8.3		2.9		1.1		7.6		3.0
12			8.7		2.9		1.2		7.9		2.9
13			8.8		2.8		1.3		7.9		3.0
14			9.0		2.9		1.4		7.6		2.9
15			8.8		2.9		1.5		7.6		2.9
16			8.4		3.0		1.6		7.6		3.0
17			8.1		3.0		1.7		7.0		3.0
18			7.7		3.1		1.8		7.0		3.0
19			7.4		3.0		1.9		7.0		3.0
20			6.9		2.9		2.0		6.6		2.9
21			6.4		2.8		2.1		6.0		2.9
22			6.2		2.7		2.2		5.7		2.9
23			6.0		2.8		2.3		5.8		2.9

Time: Local.  
Length of time sweep: 1.0 Mc to 13.0 Mc in fifteen minutes.  
Median values.

Time	h'F2	f'F2	h'F1	f'F1	h'F0	f'F0	F2-M3000
00	5.4	2.9	2.9	0.0	3.3	2.9	
01	4.9	2.8	2.8	0.1	3.0	3.0	
02	4.4	2.9	2.9	0.2	3.4	3.2	
03	3.7	3.0	3.0	0.3	3.4	3.3	
04	3.4	3.0	3.0	0.4	3.1	3.3	
05	3.6	3.1	3.1	0.5	2.4	3.2	
06	4.6	3.2	3.2	0.6	2.7	3.5	
07	5.2	3.2	3.2	0.7	5.1	3.8	
08	5.5	3.2	3.2	0.8	7.0	3.8	
09	6.0	3.0	3.0	0.9	7.4	3.6	
10	6.0	2.9	2.9	1.0	7.9	3.8	
11	6.4	2.9	2.9	1.1	8.0	3.5	
12	6.6	3.0	3.0	1.2	8.0	3.2	
13	6.8	2.9	2.9	1.3	7.9	3.4	
14	6.9	2.9	2.9	1.4	7.7	3.4	
15	7.0	2.9	2.9	1.5	7.6	3.6	
16	6.8	3.0	3.0	1.6	7.2	3.6	
17	7.1	3.0	3.0	1.7	6.3	3.4	
18	7.4	3.0	3.0	1.8	5.7	3.4	
19	7.6	3.0	3.0	1.9	4.4	3.3	
20	7.0	3.0	3.0	2.0	4.4	3.3	
21	6.4	2.9	2.9	2.1	3.7	3.1	
22	6.9	2.8	2.8	2.2	3.4	3.0	
23	5.6	2.8	2.8	2.3	3.3	3.2	

Time: Local.  
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.

Median values.

Table 23 (Provisional Data)

Time	h'F2	f'F2	h'F1	f'F1	h'F0	f'F0	F2-M3000
00	290	2.9	100	1.0	1.0	0.0	7.2
01	280	3.0	250	100	3.0	0.1	7.2
02	280	3.1	260	110	3.1	0.2	5.9
03	260	3.1	270	110	3.0	0.3	5.6
04	250	3.0	270	110	3.1	0.4	5.8
05	270	2.7	260	100	3.0	0.5	5.0
06	270	2.7	260	100	3.1	0.6	5.2
07	250	4.6	240	2.4	3.4	0.7	6.5
08	230	6.3	200	2.7	2.3	0.8	7.5
09	230	6.9	210	3.5	2.5	0.9	8.5
10	260	8.3	210	4.3	3.0	1.0	10.0
11	260	8.7	210	4.6	3.3	1.1	10.7
12	260	9.0	210	4.7	3.3	1.2	11.0
13	260	8.6	210	4.6	3.2	1.3	11.9
14	260	8.6	220	4.4	3.2	1.4	13.1
15	250	8.4	210	4.1	3.0	1.5	12.7
16	230	7.9	220	4.0	3.0	1.6	11.9
17	220	6.5	200	3.3	2.3	1.7	9.0
18	220	5.1	210	1.0	3.5	1.8	8.1
19	230	4.8	220	1.0	3.5	1.9	7.4
20	230	4.3	240	1.0	3.3	2.0	7.9
21	250	3.3	230	1.0	3.4	2.1	8.2
22	250	3.1	220	1.0	3.1	2.2	8.2
23	250	3.0	250	1.0	3.0	2.3	8.2

Time: Local.  
Length of time sweep: 1.0 Mc to 13.0 Mc in one minute, fifty-five seconds.

Table 24 (Provisional Data)

Time	h'F2	f'F2	h'F1	f'F1	h'F0	f'F0	F2-M3000
00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
01	1.0	0.0	3.0	0.1	3.0	0.1	5.9
02	1.0	0.0	3.1	0.2	3.1	0.2	5.6
03	1.0	0.0	3.0	0.3	3.0	0.3	5.6
04	1.0	0.0	3.1	0.4	3.1	0.4	5.8
05	1.0	0.0	3.0	0.5	3.0	0.5	5.0
06	1.0	0.0	3.1	0.6	3.1	0.6	5.2
07	1.0	0.0	3.4	0.7	3.7	0.7	6.5
08	1.0	0.0	3.7	0.8	3.7	0.8	7.5
09	1.0	0.0	3.5	0.9	3.5	0.9	8.5
10	1.0	0.0	3.4	1.0	3.4	1.0	10.0
11	1.0	0.0	3.4	1.1	3.4	1.1	10.7
12	1.0	0.0	3.4	1.2	3.4	1.2	11.0
13	1.0	0.0	3.4	1.3	3.4	1.3	11.9
14	1.0	0.0	3.4	1.4	3.4	1.4	13.1
15	1.0	0.0	3.4	1.5	3.4	1.5	12.7
16	1.0	0.0	3.7	1.6	3.7	1.6	11.9
17	1.0	0.0	3.7	1.7	3.7	1.7	9.0
18	1.0	0.0	3.5	1.8	3.5	1.8	8.1
19	1.0	0.0	3.5	1.9	3.5	1.9	7.4
20	1.0	0.0	3.3	2.0	3.3	2.0	7.9
21	1.0	0.0	3.4	2.1	3.4	2.1	8.2
22	1.0	0.0	3.1	2.2	3.1	2.2	8.2
23	1.0	0.0	3.0	2.3	3.0	2.3	8.2

Time: 30.0°E.  
Average values.

Table 24 (Provisional Data)

Time: 105.0°E.  
Length of time sweep: Manual operation.  
Median values.

Time: 157.5°W.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

Table 25 (Provisional Data)

Kermadec Islands (29°20'S, 177°50'W)							January 1946							
Time	h <sup>h</sup> F2	f <sup>0</sup> F2	h <sup>h</sup> F1	f <sup>0</sup> F1	h <sup>h</sup> E	f <sup>0</sup> E	h <sup>h</sup> ES	f <sup>0</sup> ES	h <sup>h</sup> S	f <sup>0</sup> S	h <sup>h</sup> SE	f <sup>0</sup> SE	h <sup>h</sup> SW	f <sup>0</sup> SW
00	275	7.4					2.8							
01									0.9					
02	295	5.5							0.1					
03									1.3					
04	275	4.6	255	3.2	120	2.0			0.2					
05	270	5.6	250	4.0	120	2.0			0.3					
06	285	6.6	235	4.4	120	3.0			0.5					
07	300	7.1	225	4.6	115	3.4			0.8					
08	325	7.5	225	4.8	115	3.4			0.9					
09	325	7.9	225	4.8	115	3.5			1.0					
10	330	8.1	220	4.8	115	3.5			1.1					
11	350	7.7	225	4.9	115	3.6			1.2					
12	350	7.8	220	4.8	115	3.6			1.3					
13	340	8.4	225	4.7	115	3.5			1.4					
14	320	8.2	240	4.6	115	3.4			1.5					
15	320	7.8	250	4.4	120	3.2			1.6					
16	305	7.7	250	4.0	120	2.8			1.7					
17	290	7.4	255	3.4	120	2.1			1.8					
18	275	7.4	275	7.4	120	2.1			1.9					
19	280	7.6	280	7.4	120	2.1			2.0					
20	300	7.2							2.1					
21									2.2					
22									2.3					
23									2.4					

Time: 180.00E.  
Length of time sweep: 1.8 Mc to 12.0 Mc. Manual operation.  
Median values.

Table 27 (Provisional Data)

Christchurch, N. Z. (43°50'S, 172°60'E)							January 1946							
Time	h <sup>h</sup> F2	f <sup>0</sup> F2	h <sup>h</sup> F1	f <sup>0</sup> F1	h <sup>h</sup> E	f <sup>0</sup> E	h <sup>h</sup> ES	f <sup>0</sup> ES	h <sup>h</sup> S	f <sup>0</sup> S	h <sup>h</sup> SE	f <sup>0</sup> SE	h <sup>h</sup> SW	f <sup>0</sup> SW
00	260	3.8					3.9							
01	260	5.1					5.1							
02	250	4.4					4.1							
03	260	3.9					3.8							
04	260	3.5					3.0							
05	260	3.9	240	3.8	120	2.8			1.3					
06	270	5.0	240	5.4	220	4.5			2.3					
07	290	6.0	220	4.6	220	4.6			2.8					
08	330	6.5	220	4.6	210	4.8			3.1					
09	300	6.5	230	6.6	210	4.8			3.3					
10	340	6.6	230	6.9	220	4.8			3.4					
11	330	6.5	220	4.8	220	4.8			3.5					
12	350	6.5	220	4.8	220	4.8			3.6					
13	350	6.5	220	4.8	220	4.8			3.6					
14	340	6.5	220	4.8	220	4.8			3.5					
15	310	6.5	240	4.8	220	4.5			3.4					
16	320	6.9	230	4.5	220	4.8			3.2					
17	300	6.9	220	4.8	220	4.8			3.3					
18	290	6.8	240	3.8	220	4.8			2.9					
19	280	6.7							3.0					
20	250	6.8							4.9					
21		6.6							4.3					
22	270	6.4							3.6					
23	280	6.1							3.6					

Time: 172.50E.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Automatic.  
Median values.

Table 28 (Provisional Data)

Falkland Is. (51°17'S, 58.00W)							January 1946							
Time	h <sup>h</sup> F2	f <sup>0</sup> F2	h <sup>h</sup> F1	f <sup>0</sup> F1	h <sup>h</sup> E	f <sup>0</sup> E	h <sup>h</sup> ES	f <sup>0</sup> ES	h <sup>h</sup> S	f <sup>0</sup> S	h <sup>h</sup> SE	f <sup>0</sup> SE	h <sup>h</sup> SW	f <sup>0</sup> SW
00							7.0							
01	0.1						0.1							
02	0.2						0.2							
03	0.3						0.3							
04	0.4						0.4							
05	0.5						0.5							
06	0.6						0.6							
07	0.7						0.7							
08	0.8						0.8							
09	0.9						0.9							
10	1.0						1.0							
11	1.1						1.1							
12	1.2						1.2							
13	1.3						1.3							
14	1.4						1.4							
15	1.5						1.5							
16	1.6						1.6							
17	1.7						1.7							
18	1.8						1.8							
19	1.9						1.9							
20	2.0						2.0							
21	2.1						2.1							
22	2.2						2.2							
23	2.3						2.3							

Time: 172.50E.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Automatic.  
Median values.

Time: 60.00W.  
Average values.

Table 29 (Provisional Data)

Table 30 (Provisional Data)

Time: 50.00s.

**Table 31** (Provisional Data)

Average values.  
Time: 90.00E.

Leningrad, U.S.S.R. (59.7°N, 30.5°E)

**Time: 30.00%.**  
Average values.

**Table 12** (Continued Data)

Final 60.0ct.

-WWS 1st-12 December only.

Table 33 (Provisional Data)

Tomasik, U.S.S.R. (56°50'N, 84°90'E)

October 1945

Washington, D.C. (39°00'N, 77°50'W)

March 1945

Time	h <sup>1</sup> F2	f <sup>2</sup> F2	h <sup>1</sup> F1	f <sup>2</sup> F1	h <sup>1</sup> S	f <sup>2</sup> S	R2-M5000
00	3.0						
01	4.6						
02	6.0						
03	6.8						
04	7.7						
05	8.0						
06	8.2						
07	8.4						
08	8.4						
09	8.2						
10	7.9						
11	7.2						
12	6.7						
13	5.6						
14	5.1						
15	4.2						
16	3.6						
17	3.3						
18	3.2						
19	3.1						
20	3.0						
21	3.0						
22	2.9						
23	2.9						

Time: 0.0°.  
Average values.

Table 34

Time	h <sup>1</sup> F2	f <sup>2</sup> F2	h <sup>1</sup> F1	f <sup>2</sup> F1	h <sup>1</sup> S	f <sup>2</sup> S	R2-M5000
00	280	5.1					
01	280	4.9					
02	270	4.5					
03	260	4.4					
04	260	3.8					
05	270	3.6					
06	270	3.6					
07	240	6.0					
08	250	7.2					
09	250	5.2					
10	260	5.8					
11	250	9.4					
12	280	9.7					
13	280	9.7					
14	290	9.9					
15	270	9.8					
16	260	9.7					
17	245	9.4					
18	240	8.9					
19	230	7.9					
20	240	6.9					
21	240	6.2					
22	260	5.8					
23	270	5.5					

Time: 75.0°.  
Length of time sweep: 0.75 Mc to 11.5 Mc in 3.4 minutes supplemented by  
0.8 Mc to 14.0 Mc in two minutes.  
Median values.

Table 35

Time	h <sup>1</sup> F2	f <sup>2</sup> F2	h <sup>1</sup> F1	f <sup>2</sup> F1	h <sup>1</sup> S	f <sup>2</sup> S	R2-M5000
00	320	2.6					
01	350	2.5					
02	350	2.5					
03	370	2.8					
04	(340)	2.7					
05	340	2.7					
06	332	2.7					
07	305	3.2					
08	275	4.2					
09	260	5.3					
10	258	5.3					
11	250	7.0					
12	250	7.4					
13	250	7.2					
14	250	7.8					
15	250	7.6					
16	240	7.0					
17	240	5.9					
18	240	5.7					
19	250	5.5					
20	270	2.8					
21	280	2.7					
22	295	2.2					
23	305	2.3					

Time: 150.0°.  
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.  
Median values.

Table 36

Time	h <sup>1</sup> F2	f <sup>2</sup> F2	h <sup>1</sup> F1	f <sup>2</sup> F1	h <sup>1</sup> S	f <sup>2</sup> S	R2-M5000
00	290						
01	295						
02	285						
03	300						
04	335						
05	350						
06	315						
07	300	2.8	0.7				
08	280	2.7	0.6				
09	270	2.6	0.5				
10	270	3.1	0.9				
11	270	3.0	1.0				
12	280	3.0	1.2				
13	270	3.0	1.3				
14	270	3.0	1.4				
15	275	3.0	1.5				
16	260	3.1	1.6				
17	255	3.1	1.7				
18	280	3.0	1.8				
19	280	3.1	1.9				
20	270	3.0	2.0				
21	285	2.8	2.1				
22	295	2.9	2.2				
23	290	3.4	2.3				

Time: 90.0°.  
Length of time sweep: 2.0 Mc to 16.0 Mc in one minute.  
Median values.



Table 42

(Corrections and additions to previously published provisional data)

Baton Rouge, Louisiana (30.5°N, 91.2°W)							February 1946							
Time	h <sub>Y2</sub>	f <sub>Y2</sub>	h <sub>Y1</sub>	f <sub>Y1</sub>	h <sub>12</sub>	f <sub>12</sub>	h <sub>15</sub>	f <sub>15</sub>	h <sub>18</sub>	f <sub>18</sub>	h <sub>21</sub>	f <sub>21</sub>	h <sub>24</sub>	f <sub>24</sub>
00	300	3.5			3.0		3.0		00		3.7			
01	300	3.7			2.9		3.0		01		3.8			
02	300	3.7			3.0		3.0		02		3.3			
03	300	3.6			3.0		3.0		03		3.2			
04	300	3.2			3.0		3.0		04		2.2			
05	305	3.2			2.9		2.9		05		2.2			
06	330	3.4			2.9		2.9		06		2.3			
07	285	6.0			3.1		3.1		07					
08	275	8.0			3.6	130	2.4	3.2	08		7.8			
09	270	8.5			250	4.1	2.9	3.1	09	255				
10	290	9.2			250	4.4	120	3.2	10					
11	300	9.5			250	4.5	120	3.3	11					
12	300	9.5			250	4.6	120	3.3	12					
13	300	9.5			250	4.6	120	3.3	13					
14	300	9.5			250	4.6	120	3.3	14					
15	290	9.6			250	4.2	120	3.1	15		12.8			
16	285	9.6			250	3.7	120	2.8	16		11.6			
17	270	9.4					130		17					
18	250	8.0					130		18					
19	250	5.8					130		19					
20	250	4.7					130		20					
21	280	3.9					130		21					
22	300	3.6					130		22					
23	300	3.5					130		23					

Time: 90.0°W.  
Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.  
Median values.

Table 43

San Juan, Puerto Rico (18.4°N, 66.1°W)							February 1946							
Time	h <sub>Y2</sub>	f <sub>Y2</sub>	h <sub>Y1</sub>	f <sub>Y1</sub>	h <sub>12</sub>	f <sub>12</sub>	h <sub>15</sub>	f <sub>15</sub>	h <sub>18</sub>	f <sub>18</sub>	h <sub>21</sub>	f <sub>21</sub>	h <sub>24</sub>	f <sub>24</sub>
00		4.2			2.7		00							
01	4.4				2.8		01							
02	4.4				3.0		02							
03	4.2				3.1		03							
04	3.8				2.9		04							
05	3.4				2.8		05							
06	3.4				2.7		06							
07	280	5.4			3.0		07							
08	250	8.4			3.2		08							
09	270	9.3			3.9	3.0	09							
10	300	10.0			220	4.4	3.2	3.1	10	10.3				
11	290	10.6			220	4.6	3.3	3.1	11	11.2				
12	300	10.2			210	4.8	3.4	3.0	12	11.1				
13	300	10.1			210	4.8	3.5	2.9	13					
14	300	9.8			220	4.6	3.4	2.8	14					
15	310	10.0			220	4.6	3.5	2.8	15					
16	300	9.8			220	4.0	3.1	2.9	16					
17	290	9.4					220		17					
18	240	9.4					210		18					
19		6.5					210		19					
20		6.5					210		20					
21		5.1					210		21					
22		4.9					210		22					
23		4.9					210		23					

Time: 90.0°W.  
Length of time sweep: 1.9 Mc to 9.8 Mc in one minute.  
Median values.

Table 44

Trinidad, Brit. West Indies (10.6°N, 61.2°W)							February 1946							
Time	h <sub>Y2</sub>	f <sub>Y2</sub>	h <sub>Y1</sub>	f <sub>Y1</sub>	h <sub>12</sub>	f <sub>12</sub>	h <sub>15</sub>	f <sub>15</sub>	h <sub>18</sub>	f <sub>18</sub>	h <sub>21</sub>	f <sub>21</sub>	h <sub>24</sub>	f <sub>24</sub>
00		4.2			2.7		00							
01	4.4				2.8		01							
02	4.4				3.0		02							
03	4.2				3.1		03							
04	3.8				2.9		04							
05	3.4				2.8		05							
06	3.4				2.7		06							
07	280	5.4			3.0		07							
08	250	8.4			3.2		08							
09	270	9.3			3.9	3.0	09							
10	300	10.0			220	4.4	3.2	3.1	10	10.3				
11	290	10.6			220	4.6	3.3	3.1	11	11.2				
12	300	10.2			210	4.8	3.4	3.0	12	11.1				
13	300	10.1			210	4.8	3.5	2.9	13					
14	300	9.8			220	4.6	3.4	2.8	14					
15	310	10.0			220	4.6	3.5	2.8	15					
16	300	9.8			220	4.0	3.1	2.9	16					
17	290	9.4					220		17					
18	240	9.4					210		18					
19		6.5					210		19					
20		6.5					210		20					
21		5.1					210		21					
22		4.9					210		22					
23		4.9					210		23					

Time: 60.0°W.  
Length of time sweep: Record centered on hour.  
Median values.

Time: 60.0°W.  
Length of time sweep: Manual operation.  
Median values.

Table 45

Christmas Island (1.9°N, 157.3°W)							February 1946						
Time	h <sup>h</sup> F2	f <sub>0</sub> F2	h <sup>h</sup> T1	f <sub>0</sub> T1	h <sup>h</sup> E	f <sub>0</sub> E	foE	f <sub>0</sub> S	f <sub>0</sub> E	foS	f <sub>0</sub> M5000	foM5000	
00	240	9.6	2.9	3.2	2.3	3.2	2.0	2.0	2.0	2.0	9.4	210	
01	235	8.0	2.2	2.2	3.2	3.2	0.2	0.1	0.1	0.1	7.1	250	
02	240	7.0	2.1	2.1	3.2	3.2	0.3	0.2	0.2	0.2	5.9	210	
03	245	6.5	2.1	2.1	3.2	3.2	0.4	0.3	0.3	0.3	4.9	210	
04	240	5.6	2.1	2.1	3.2	3.2	0.4	0.4	0.4	0.4	4.4	210	
05	240	5.1	2.1	2.1	3.2	3.2	0.5	0.5	0.5	0.5	3.1	210	
06	240	4.5	2.1	2.1	3.2	3.2	0.7	0.7	0.7	0.7	2.9	210	
07	270	6.5	2.7	3.0	3.2	3.2	0.8	0.8	0.8	0.8	2.6	210	
08	240	8.8	110	2.9	5.6	2.9	0.9	0.9	0.9	0.9	3.2	230	
09	240	9.9	220	5.0	7.0	2.6	1.0	1.0	1.0	1.0	3.0	230	
10	290	9.8	220	5.0	7.0	2.4	1.0	1.0	1.0	1.0	2.6	220	
11	320	9.5	210	5.1	8.0	2.4	1.1	1.1	1.1	1.1	2.4	310	
12	320	9.8	210	5.1	8.0	2.4	1.2	1.2	1.2	1.2	2.4	310	
13	315	10.0	200	5.1	7.7	2.4	1.3	1.3	1.3	1.3	2.4	320	
14	310	10.6	210	5.1	7.0	2.4	1.4	1.4	1.4	1.4	2.4	310	
15	280	11.0	215	4.8	110	3.4	0.4	0.4	0.4	0.4	2.4	215	
16	220	11.5	210	5.0	110	3.4	0.5	0.5	0.5	0.5	2.4	225	
17	240	11.6	120	3.1	120	3.1	0.6	0.6	0.6	0.6	2.4	217	
18	250	11.0	105	2.6	105	4.9	2.7	2.7	2.7	2.7	2.4	275	
19	280	11.8	119	3.4	119	3.4	2.7	2.7	2.7	2.7	2.4	320	
20	300	11.1	280	11.2	280	2.1	2.6	2.6	2.6	2.6	2.4	220	
21	280	11.2	280	11.2	280	2.6	2.6	2.6	2.6	2.6	2.4	345	
22	265	10.7	265	10.7	265	2.6	2.6	2.6	2.6	2.6	2.4	315	
23	245	10.4	245	10.4	245	3.0	3.0	3.0	3.0	3.0	2.4	295	

Time: 150.0°W.  
Length of time sweep: 1.5 Mc to 13.0 Mc in one minute, thirty seconds.  
Median values.

Table 47

Christchurch, N.Z. (43.5°S, 172.6°E)							February 1946						
Time	h <sup>h</sup> F2	f <sub>0</sub> F2	h <sup>h</sup> T1	f <sub>0</sub> T1	h <sup>h</sup> E	f <sub>0</sub> E	foE	f <sub>0</sub> S	f <sub>0</sub> E	foS	f <sub>0</sub> M5000	foM5000	
00	265	6.1	2.8	2.8	3.0	3.0	0.1	0.1	0.1	0.1	3.2	00	
01	260	5.8	2.8	2.8	3.0	3.0	0.2	0.2	0.2	0.2	2.3	210	
02	250	5.4	2.8	2.8	3.0	3.0	0.2	0.2	0.2	0.2	2.5	210	
03	260	4.8	4.3	4.3	2.7	2.7	0.3	0.3	0.3	0.3	2.4	210	
04	260	4.8	2.9	2.9	2.9	2.9	0.5	0.5	0.5	0.5	2.4	210	
05	250	4.8	2.9	2.9	3.5	3.5	0.6	0.6	0.6	0.6	2.4	210	
06	275	5.8	250	4.2	2.8	3.5	0.7	0.7	0.7	0.7	2.4	200	
07	275	6.1	300	4.2	2.8	3.5	0.8	0.8	0.8	0.8	2.4	200	
08	320	6.6	235	4.8	3.3	5.4	0.9	0.9	0.9	0.9	2.4	200	
09	320	6.6	230	6.8	230	5.0	5.0	10	10	10	2.4	200	
10	320	6.3	325	7.3	220	5.1	4.2	12	12	12	2.4	200	
11	320	7.3	320	7.3	210	5.2	3.7	12	12	12	2.4	200	
12	330	7.4	220	5.2	220	5.2	4.2	12	12	12	2.4	200	
13	330	7.4	220	5.2	220	5.2	3.8	12	12	12	2.4	200	
14	330	7.5	220	5.0	220	5.0	3.6	14	14	14	2.4	200	
15	320	7.2	230	4.9	230	4.9	3.6	15	15	15	2.4	200	
16	320	7.5	230	4.6	230	4.6	3.5	16	16	16	2.4	200	
17	290	7.5	230	4.3	230	4.3	2.9	17	17	17	2.4	200	
18	255	7.4	250	3.3	250	4.4	1.7	19	19	19	2.4	200	
19	260	7.9	260	7.9	260	7.9	3.2	20	20	20	2.4	200	
20	260	6.0	260	7.5	260	7.5	3.2	21	21	21	2.4	200	
21	260	6.6	275	6.6	275	6.6	3.1	22	22	22	2.4	200	
22	275	6.6	275	6.5	275	6.5	3.0	23	23	23	2.3	200	
23	290	6.5	290	6.5	290	6.5	3.0	23	23	23	2.3	200	

Time: 172.5°E.  
Length of time sweep: 1.0 Mc to 13.0 Mc. Automatic.  
Median values.

Table 48

Hancockayo, Fern (12.0°S, 75.3°W)							February 1946						
Time	h <sup>h</sup> F2	f <sub>0</sub> F2	h <sup>h</sup> T1	f <sub>0</sub> T1	h <sup>h</sup> E	f <sub>0</sub> E	foE	f <sub>0</sub> S	f <sub>0</sub> E	foS	f <sub>0</sub> M5000	foM5000	
00	240	9.6	2.9	3.2	2.3	3.2	0.1	0.1	0.1	0.1	3.0	00	
01	235	8.0	2.2	2.2	3.2	3.2	0.2	0.2	0.2	0.2	3.2	210	
02	240	7.0	2.1	2.1	3.2	3.2	0.3	0.3	0.3	0.3	3.2	210	
03	245	6.5	2.1	2.1	3.2	3.2	0.4	0.4	0.4	0.4	3.2	210	
04	240	5.6	2.1	2.1	3.2	3.2	0.4	0.4	0.4	0.4	3.2	210	
05	240	5.1	2.1	2.1	3.2	3.2	0.5	0.5	0.5	0.5	3.2	210	
06	240	4.5	2.1	2.1	3.2	3.2	0.7	0.7	0.7	0.7	3.2	210	
07	270	6.5	2.7	3.0	3.2	3.2	0.8	0.8	0.8	0.8	3.2	230	
08	240	8.8	110	2.9	5.6	2.9	0.9	0.9	0.9	0.9	3.0	230	
09	240	9.9	220	5.0	7.0	2.6	1.0	1.0	1.0	1.0	3.0	230	
10	290	9.8	210	5.1	8.0	2.4	1.1	1.1	1.1	1.1	3.0	310	
11	320	9.8	210	5.1	8.0	2.4	1.2	1.2	1.2	1.2	3.0	310	
12	315	10.0	200	5.1	7.7	2.4	1.3	1.3	1.3	1.3	3.0	320	
13	310	10.6	210	5.1	7.0	2.4	1.4	1.4	1.4	1.4	3.0	310	
14	280	11.0	215	4.8	110	3.4	0.4	0.4	0.4	0.4	2.7	215	
15	220	11.5	210	5.0	7.0	2.4	1.5	1.5	1.5	1.5	2.7	310	
16	240	11.6	120	3.1	120	3.1	0.6	0.6	0.6	0.6	2.7	217	
17	250	11.0	105	2.6	105	4.9	2.7	2.7	2.7	2.7	2.4	275	
18	280	11.8	119	3.4	119	3.4	2.7	2.7	2.7	2.7	2.4	320	
19	300	11.1	200	11.2	200	2.1	2.6	2.6	2.6	2.6	2.4	220	
20	280	11.2	280	11.2	280	2.6	2.6	2.6	2.6	2.6	2.4	345	
21	265	10.7	265	10.7	265	3.0	3.0	3.0	3.0	3.0	2.4	315	
22	245	10.4	245	10.4	245	3.2	3.2	3.2	3.2	3.2	2.4	295	
23	290	6.5	290	6.5	290	3.0	3.0	3.0	3.0	3.0	2.3	230	

Time: 150.0°W.  
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.  
Median values.

Oslo, Norway (59.9°N, 11.0°E)							January 1946						
Time	h <sup>h</sup> F2	f <sub>0</sub> F2	h <sup>h</sup> T1	f <sub>0</sub> T1	h <sup>h</sup> E	f <sub>0</sub> E	foE	f <sub>0</sub> S	f <sub>0</sub> E	foS	f <sub>0</sub> M5000	foM5000	
00	265	6.1	2.8	2.8	3.0	3.0	0.1	0.1	0.1	0.1	3.2	00	
01	260	5.8	2.8	2.8	3.0	3.0	0.2	0.2	0.2	0.2	2.5	210	
02	250	5.4	2.8	2.8	3.0	3.0	0.2	0.2	0.2	0.2	2.5	210	
03	260	4.8	4.3	4.3	2.7	2.7	0.3	0.3	0.3	0.3	2.4	210	
04	260	4.8	2.9	2.9	2.9	2.9	0.5	0.5	0.5	0.5	2.4	210	
05	270	5.8	4.8	4.8	2.8	2.8	0.6	0.6	0.6	0.6	2.4	230	
06	250	5.8	4.8	4.8	2.8	2.8	0.7	0.7	0.7	0.7	2.4	230	
07	275	6.0	270	5.0	5.0	5.0	0.7	0.7	0.7	0.7	2.4	230	
08	300	6.1	235	4.8	3.3	5.4	0.8	0.8	0.8	0.8	2.4	230	
09	320	6.6	230	4.8	3.3	5.5	0.9	0.9	0.9	0.9	2.4	310	
10	330	6.8	230	4.6	3.5	5.5	1.0	1.0	1.0	1.0	2.4	310	
11	325	7.3	220	5.1	5.1	4.2	1						

Table 50  
Table 49

(Corrections and additions to previously published provisional data)

(Corrections and additions to previously published provided material data)

Table 50

(Corrections and additions to previously published provided material data)

Great Budworth, England (51.17°E, 0.5°N)		January 1946					
Time	UT	1902	1911	1921	1931	1941	1950
00		2.5	0.6-	3.2	3.2	3.2	3.2
01		2.8	0.8	3.2	3.2	3.2	3.2
02		2.8	0.8	3.3	3.3	3.3	3.2
03		2.4	0.9	3.3	3.3	3.3	3.2
04		2.4	0.9	3.4	3.4	3.4	3.2
05		2.2	0.7	3.4	3.4	3.4	3.2
06		2.2	0.8	3.5	3.5	3.5	3.2
07		1.6	1.8	3.5	3.5	3.5	3.2
08		1.6	2.2	4.0	4.0	4.0	3.2
09		2.3	2.5	4.0	4.0	4.0	3.2
10	6.6	2.5	2.6	4.0	4.0	4.0	3.2
11		7.1	2.5	3.8	3.8	3.8	3.2
12		6.9	2.5	3.7	3.7	3.7	3.2
13		6.9	2.5	3.7	3.7	3.7	3.2
14		6.6	2.4	3.6	3.6	3.6	3.2
15		6.6	2.1	3.2	3.2	3.2	3.2
16		6.6	1.6	2.2	2.2	2.2	3.2
17		5.9	1.6	2.2	2.2	2.2	3.2
18		5.9	1.6	2.2	2.2	2.2	3.2
19		5.0	0.0	3.5	3.5	3.5	3.2
20		5.0	0.0	3.5	3.5	3.5	3.2
21		2.7	1.6	3.5	3.5	3.5	3.2
22		2.7	1.6	3.5	3.5	3.5	3.2
23				1.6	1.6	1.6	3.2

Time: 0.00  
Length of time exceed: Manual operation.

Time: 105.0%. Length of time: seven minutes. Manner:

Table 5

(Corrections and additions to previously published provisional data)

(Corrections and additions to previously published protocol data)

Corrections and allowances on previous purchases		January 1946		January 1946	
Christmas I. (1.9%W, 157.5%W)		PE-35000		PE-35000	
Time	h'72	10'72	h'72	10'72	h'72
00	5.9		*		3.2
01					3.2
02					
03					
04					
05					
252					
07					
08	7.2	220	4.6	110	4.4
09					6.6
10					
11	325	210	4.9		
12	358	210	4.9		
13	370	210	4.9		
14	370	210	4.9		
15					
16					
17					
18					
19					
20					
21					
22					
23					
245	6.5				

Time: 150.00W.

Time: 15.00<sup>0</sup>.  
Length of +ve secund 2.2 Mc to 16.0 Mc in one minute.

Table 50

(Corrections and additions to previously published provided material data)

Francesco Gherardi 1063

Time: 105.0%. Length of time: seven minutes. Name:

Table 52

(Corrections and additions to previously published provisional data)						
Cape Town, Union of S. Africa (33°9.9S, 18°7.0E) January 1946						
Time	h'92	90°2	h'91	90°1	h'90	90°0
00	3.9				3.6	
01		3.8			4.2	
02	3.7				4.5	
03					4.5	
04	3.4				4.6	
05					4.7	
06	5.2				4.7	
07					4.7	
08	7.4				4.7	
09					4.7	
10	7.7				4.6	
11	8.0				4.6	
12					4.5	
13	8.0				4.5	
14	8.1				4.5	
15	8.0				4.3	
16					3.9	
17	6.7				3.9	
18	6.3				3.9	
19					3.9	
20	5.7				3.9	
21	5.0				3.9	
22					3.9	
23	4.3					

Table 53

Sverdlovsk, U.S.S.R. (56°7'N, 61.1°E) December 1945

Time: 60.00%.  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.  
Manual operation.  
Median values.

Table 55

(Corrections and additions to previously published provisional data)  
 Changting, China (29.4°N, 106.8°E) December 1945  
 Time h<sub>1/2</sub> sec<sub>2</sub> min<sub>1</sub> min<sub>2</sub> sec<sub>3</sub> sec<sub>4</sub>

**Time: 105.00.** Length of time sweep: 3.3 Mc to 12.3 Mc in fifteen minutes. Manual operation.

Table 54

Tomsk, U.S.S.R. (56°40'N, 84°9'E)

Time	h'12	20°2	h'11	20°1	h'10	20°0	h'9	19°50'
00	2.6							
01	3.0	2.7						
02	2.9	2.7						
03	2.9	2.8						
04	2.9	2.7						
05	2.9	2.6						
06	2.8	2.5						
07	2.7	2.3						
08	2.5	3.0						
09	2.3	5.4						
10	2.0	6.7						
11	2.1	7.4						
12	2.0	7.4						
13	2.1	7.6						
14	2.1	7.3						
15	2.0	6.8						
16	2.0	5.8						
17	2.0	4.9						
18	2.0	3.5						
19	2.0	2.8						
20	2.0	2.4						
21	2.1	2.7						
22	2.2	2.4						
23	2.3	3.0						

Time: 90.0%  
 Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual operation.  
 Average values.

Table 56

Time: 120.00%.  
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.  
Median values.

Table 57

Bulava Michura, U.S.S.R. (80.3°N, 52.7°E)						November 1945						
Time	h'F2	f0F2	h'F1	f0F1	h'E	10°	f0E	h'E	10°	f0E	h'E	10°
00	250	5.9										
01	250	5.6										
02												
03												
04												
05												
06												
07												
08												
09												
10	250	5.0										
11												
12	250	5.1										
13												
14	250	5.5										
15												
16												
17												
18												
19	250	5.8										
20												
21												
22	230	6.3										
23												
24												
25												

Time: 60.0°E.  
Length of time sweep: 1.5 Mc to 9.5 Mc in five to ten minutes. Manual  
operation.  
Average values.

Table 59

Leningrad, U.S.S.R. (LURS Ionosphere Station) (59.9°N, 10.1°E)						November 1945						
Time	h'F2	f0F2	h'F1	f0F1	h'E	10°	f0E	h'E	10°	f0E	h'E	10°
00	390	3.0										
01	390	2.6										
02	390	2.9										
03	390	2.9										
04	390	3.1										
05	390	3.3										
06												
07												
08												
09	260	6.2										
10	260	6.2										
11	260	6.4										
12	260	6.4										
13	260	6.4										
14	290	6.5										
15	290	6.3										
16	290	6.2										
17	290	5.9										
18	290	5.5										
19												
20												
21	310	3.9										
22	330	3.4										
23	350	3.1										
24	370	3.3										

Time: 60.0°E.  
Length of time sweep: 1.5 Mc to 9.0 Mc in five to ten minutes. Manual  
operation.  
Average values.

Table 60

Sverdlovsk, U.S.S.R. (55.7°N, 61.1°E)						November 1945						
Time	h'F2	f0F2	h'F1	f0F1	h'E	10°	f0E	h'E	10°	f0E	h'E	10°
00	390	3.0										
01	390	2.6										
02	390	2.9										
03	390	2.9										
04	390	3.1										
05	390	3.3										
06												
07												
08												
09	260	6.2										
10	260	6.2										
11	260	6.4										
12	260	6.4										
13	260	6.4										
14	290	6.5										
15	290	6.3										
16	290	6.2										
17	290	5.9										
18	290	5.5										
19												
20												
21	310	3.9										
22	330	3.4										
23	350	3.1										
24	370	3.3										

Time: 60.0°E.  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.  
Manual operation.  
Median values.

Time: 70.0°E.  
Length of time sweep: 1.5 Mc to 9.0 Mc in five to ten minutes.  
Manual operation.  
Average values.

Time: 70.0°E.  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.  
Manual operation.  
Median values.

Table 61

Tomak, U.S.S.R. (56.4°N, 84.9°E)							November 1945							
Time	h 1Y2	f <sub>0</sub> F2	h 1Y1	f <sub>0</sub> F1	h 1E	f <sub>0</sub> E	1E	f <sub>0</sub>	1S	f <sub>0</sub> S	1E	f <sub>0</sub>	1S	f <sub>0</sub>
00	290	2.8												
01	290	2.8												
02	290	2.8												
03	290	2.8												
04	280	2.9												
05	270	2.9												
06	270	2.8												
07	250	3.0												
08	230	5.2												
09	220	6.8												
10	220	7.9												
11	230	9.0												
12	200	9.4												
13	220	8.8												
14	220	8.6												
15	220	8.0												
16	220	7.2												
17	220	6.0												
18	220	5.0												
19	230	3.8												
20	240	3.0												
21	260	2.6												
22	280	2.6												
23	290	2.7												

Time: 90.0°  
Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual operation.  
Average values.

Table 63

Slough, England (51.5°N, 0.6°W)							November 1945							
Time	h 1Y2	f <sub>0</sub> F2	h 1Y1	f <sub>0</sub> F1	h 1E	f <sub>0</sub> E	1E	f <sub>0</sub>	1S	f <sub>0</sub> S	1E	f <sub>0</sub>	1S	f <sub>0</sub>
00	3.7													
01	3.4													
02	3.3													
03	3.0													
04	2.9													
05	2.8													
06	2.6													
07	3.8													
08	6.1													
09	7.3													
10	7.8													
11	8.4													
12	8.2													
13	7.8													
14	7.8													
15	7.5													
16	6.6													
17	5.9													
18	5.0													
19	4.0													
20	3.2													
21	3.0													
22	3.2													
23	3.2													

Time: 90.0°  
Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual operation.  
Average values.

Table 64

Alma Ata, U.S.S.R. (43.2°N, 76.9°E)							November 1945							
Time	h 1Y2	f <sub>0</sub> F2	h 1Y1	f <sub>0</sub> F1	h 1E	f <sub>0</sub> E	1E	f <sub>0</sub>	1S	f <sub>0</sub> S	1E	f <sub>0</sub>	1S	f <sub>0</sub>
00	210	3.4												
01	200	3.4												
02	200	3.4												
03	210	3.5												
04	200	3.5												
05	200	3.9												
06	200	4.6												
07	200	6.0												
08	200	6.4												
09	200	6.9												
10	200	7.2												
11	200	7.0												
12	200	7.2												
13	190	7.2												
14	200	7.1												
15	200	7.3												
16	190	6.8												
17	200	5.9												
18	210	4.6												
19	200	4.6												
20	200	4.6												
21	210	3.8												
22	210	4.0												
23	210	3.4												

Time: 0.0°  
Length of time sweep: 0.5 Mc to 16.0 Mc in one minute.  
Median values.

Time: 75.0°  
Length of time sweep: 2.0 Mc to 14.0 Mc in ten to twenty minutes.  
Manual operation.  
Average values.

Table 65

(Corrections and additions to previously published provisional data)

Honolulu, Hawaii (20°39'W, 156°50'W)							November 1945										
Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	h <sub>1</sub> E	f <sub>0</sub> E	Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	
00							00					00					
01	255						01	270				01	270				
02							02	249				02	249				
03	250						03	254				03	254				
04	250						04	243				04	243				
05	300						05	251				05	251				
06							06	240				06	240				
07							07	259				07	225				
08	275						08	320				08	4.6				
09							09	340				09	215				
10	275	12.8	212				10	349				10	218				
11	275						11	347				11	215				
12	12						12	335				12	220				
13	275						13	324				13	220				
14							14	321				14	5.0				
15	240						15	314				15	230				
16	225						16	298				16	225				
17	225						17	259				17	232				
18	210						18	256				18	256				
19	205						19	236				19	236				
20	225						20	235				20	235				
21							21	248				21	248				
22							22	268				22	268				
23	248						23	275				23	275				

Time: 150.00<sup>E</sup>.  
Length of time sweep: 2.2 Mc to 16.0 Mc in one minute.  
Median values.

Table 67

Bukitaya, U.S.S.R. (80°39'N, 52.70'E)							October 1945										
Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	h <sub>1</sub> E	f <sub>0</sub> E	Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	
00	260	5.7					00	360	4.0			00	360	4.0			
01	250	4.9					01	340	3.7			01	340	3.7			
02							02	350	4.0			02	350	4.0			
03							03	330	3.5			03	330	3.5			
04							04	330	3.5			04	330	3.5			
05							05	290	3.1			05	290	3.1			
06							06	270	4.2			06	270	4.2			
07							07	240	5.1			07	240	5.1			
08							08	250	5.6			08	250	5.6			
09							09	250	5.2			09	250	5.2			
10	270	5.9					10	260	6.5			10	260	6.5			
11							11	260	6.8			11	260	6.8			
12	250	6.1					12	270	6.7			12	270	6.7			
13							13	260	6.7			13	260	6.7			
14	260	5.9					14	260	6.8			14	260	6.8			
15							15	250	6.6			15	250	6.6			
16							16	260	6.0			16	260	6.0			
17							17	250	5.8			17	250	5.8			
18							18	260	5.4			18	260	5.4			
19	270	6.5					19	250	5.1			19	250	5.1			
20							20	250	4.5			20	250	4.5			
21							21	290	4.1			21	290	4.1			
22	260	6.2					22	300	4.1			22	300	4.1			
23							23	320	3.7			23	320	3.7			

Time: 150.00<sup>E</sup>.  
Length of time sweep: 2.2 Mc to 16.0 Mc in ten minutes.  
Average values.

Table 68

Leningrad, U.S.S.R. (Leningrad, Ionosphere Station)							October 1945										
Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H	Time	h <sup>1</sup> F2	f <sub>0</sub> F2	h <sub>1</sub> H	f <sub>0</sub> H			
00					00	360	4.0			00	360	4.0					
01					01	340	3.7			01	340	3.7					
02					02	350	4.0			02	350	4.0					
03					03	330	3.5			03	330	3.5					
04					04	330	3.5			04	330	3.5					
05					05	290	3.1			05	290	3.1					
06					06	270	4.2			06	270	4.2					
07					07	240	5.1			07	240	5.1					
08					08	250	5.6			08	250	5.6					
09					09	250	5.2			09	250	5.2					
10	270	5.9			10	260	6.5			10	260	6.5					
11					11	260	6.8			11	260	6.8					
12	250	6.1			12	270	6.7			12	270	6.7					
13					13	260	6.7			13	260	6.7					
14	260	5.9			14	260	6.8			14	260	6.8					
15					15	250	6.6			15	250	6.6					
16					16	260	6.0			16	260	6.0					
17					17	250	5.8			17	250	5.8					
18					18	260	5.4			18	260	5.4					
19	270	6.5			19	250	5.1			19	250	5.1					
20					20	250	4.5			20	250	4.5					
21					21	290	4.1			21	290	4.1					
22	260	6.2			22	300	4.1			22	300	4.1					
23					23	320	3.7			23	320	3.7					

Time: 50.00<sup>E</sup>.  
Length of time sweep: 1.5 Mc to 9.5 Mc in five to ten minutes.  
Average values.

Time: 50.00<sup>E</sup>.  
Length of time sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.  
Average value.

Time: 50.00<sup>E</sup>.  
Length of time sweep: 1.5 Mc to 9.5 Mc in one minute.  
Average value.

Time: 50.00<sup>E</sup>.  
Length of time sweep: 1.5 Mc to 9.5 Mc in one minute.  
Average value.

Time: 50.00<sup>E</sup>.  
Length of time sweep: 1.5 Mc to 9.5 Mc in one minute.  
Average value.

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Leningrad, U.S.S.R. (IMRS, Ionosphere Station) (59° 9'N 20° 7'E)		October 195		October 195	
Time	h:m:s	top2	h:m:s	top2	h:m:s
00	340	3°4	08	290	5°2
01	350	3°3	09	280	5°6
02	340	3°1	10	260	5°8
03	350	3°2	11	260	5°9
04	350	3°2	12	280	6°1
05	350	3°2	13	280	6°1
06			14	270	5°9
07			15	270	5°9
08			16	250	5°9
09			17	260	6°0
10			18		
11			19	310	5°1
12			20	300	4°8
13			21	320	3°8
14			22	340	3°9
15			23	340	3°7

Time: 30<sup>0</sup><sub>0</sub><sup>T</sup>. Length of time sweep: 1.5 Mc to 9.0 Mc in five to ten minutes. Manual operation. Average values.

Table 7

Time: 0.00.  
Length of time sweep: 0.5 Mc to 16.0 Mc in one minute.  
Median values.

Table 72

(Corrections and additions to previously published provisional data)

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Time: 60.0°C.  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.

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Table 73

September 1945						
Time	h 1/2	f 1/2	h 1/2	f 1/2	h 1/2	f 1/2
00	250	3.7				
01	270	3.4				
02	270	3.2				
03	270	3.2				
04	260	3.1				
05	250	3.3				
06	250	3.9	230	1.6		
07	240	4.9	230	1.0		
08	250	5.5	220	3.6		
09	270	6.2	220	3.7		
10	280	6.1	220	4.0		
11	280	6.6	220	4.1		
12	270	7.0	210	4.2		
13	270	7.1	210	4.1		
14	260	7.0	210	4.0		
15	260	6.7	220	3.6		
16	250	6.5	220	3.6		
17	240	6.3	220	3.6		
18	230	6.0				
19	220	5.9				
20	230	5.6				
21	230	5.2				
22	210	4.6				
23	210	4.1				

Time: 90.0%  
Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual  
operation.

Average values.

Table 75

(Corrections and additions to previously published provisional data)						
Rarotonga I. (21.4°S, 159.6°W) September 1945						
Time	h 1/2	f 1/2	h 1/2	f 1/2	h 1/2	f 1/2
00						
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11	8.4					
12						
13	7.4					
14						
15	285	7.4	208			
16						
17	250					
18						
19						
20						
21						
22						
23						

Time: 90.0%  
Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual  
operation.

Average values.

Table 76

(Corrections and additions to previously published provisional data)						
Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) August 1945						
Time	h 1/2	f 1/2	h 1/2	f 1/2	h 1/2	f 1/2
00						
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11	218					
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

Time: 157.5%  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

Time: 90.0%  
Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual  
operation.

Median values.

Table 74

Slough, England (51.5°N, 0.6°W) September 1945						
Time	h 1/2	f 1/2	h 1/2	f 1/2	h 1/2	f 1/2
00						
01	343	4.3				
02	334	4.0				
03	341	3.8				
04	324	3.5				
05	294	3.2				
06	256	3.5				
07	250	5.3				
08	259	5.6				
09	252	6.1				
10	267	6.4				
11	274	6.5				
12	274	6.4				
13	282	6.5				
14	282	6.2				
15	284	6.2				
16	284	6.4				
17	290	6.7				
18	287	6.7				
19	294	6.9				
20	296	6.1				
21	299	5.6				
22	318	5.9				
23	334	4.4				

Time: 0.0%  
Length of time sweep: 0.5 Mc to 16.0 Mc in one minute.  
Median values.

\*Designated on original data sheet as  $h_m$  for region Y.

Median values.

Table II

(Corrections and additions to previously published provisional data)

Tonasket, U.S.S.R. (56°57'N, 84°9'W) August 1945

Time	h <sub>1945</sub>	2 <sub>1945</sub>										
00	300											
01	290											
02	280											
03	260											
04	240											
05	240	2.4	3.7	1.0	1.8	1.0	2.0	1.0	2.5	1.0	2.5	1.0
06	310	2.30	3.7	1.0	2.5	1.0	2.7	1.0	2.7	1.0	2.7	1.0
07	320	2.30	3.9	1.0	2.7	1.0	3.1	1.0	3.1	1.0	3.1	1.0
08	340	2.30	4.2	1.0	3.1	1.0	3.1	1.0	3.1	1.0	3.1	1.0
09	310	220										
10	300											
11	300	200	4.4	1.0	3.5	1.0	3.5	1.0	3.5	1.0	3.5	1.0
12	280	6.2	220	4.4	3.4	1.0	3.2	1.0	3.2	1.0	3.2	1.0
13	300	240	4.3	1.0	3.4	1.0	3.2	1.0	3.2	1.0	3.2	1.0
14	330	230	4.0	1.0	3.2	1.0	3.0	1.0	3.0	1.0	3.0	1.0
15	300	220	3.9	1.0	3.0	1.0	3.0	1.0	3.0	1.0	3.0	1.0
16	300	230	3.7	1.0	2.6	1.0	2.6	1.0	2.6	1.0	2.6	1.0
17	300	230	3.6	1.0	2.5	1.0	2.5	1.0	2.5	1.0	2.5	1.0
18	290	230	3.6	1.0	2.5	1.0	2.5	1.0	2.5	1.0	2.5	1.0
19	280	240	3.5	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0	1.0
20	280	240	3.2	1.0	1.6	1.0	1.6	1.0	1.6	1.0	1.6	1.0
21	260											
22	260											
23	270											
24												

Time: 90.0°  
Length of time sweep: 1.2 Mc to 10.0 Mc in five to ten minutes. Manual  
operation.  
Average values.

Table II

(Corrections and additions to previously published provisional data)  
Rarotonga I. (21°49'S, 159°56'W) August 1945

Time	h <sub>1945</sub>	2 <sub>1945</sub>										
00												
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
11	262	8.0	210									
12												
13		6.8	202									
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

Time: 157.5°W.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

Time: 60.0°  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.  
Manual operation.  
Median values.

Above data are tabulations sent from U.S.S.R. and supersede final  
data published in Table 31, IRP-115.

Table II

(Corrections and additions to previously published provisional data)

Slough, England (51°57'N, 0.6°W) August 1945

Time	h <sub>1945</sub>	2 <sub>1945</sub>										
00												
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

Time: 0.0°  
Length of time sweep: 0.5 Mc to 16.0 Mc in four minutes.  
Median values.  
Designated on original data sheet as h<sub>0</sub> for region Y.

Table II

(Corrections and additions to previously published data)  
Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) July 1945

Time	h <sub>1945</sub>	2 <sub>1945</sub>										
00												
01												
02												
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

Time: 157.5°W.  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.  
Manual operation.  
Median values.

Above data are tabulations sent from U.S.S.R. and supersede final  
data published in Table 31, IRP-115.

Table A2

(Corrections and additions to previously published provisional data)

Time	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
00	5.0	4.7	4.3	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.6
01	5.2	4.9	4.6	4.4	4.2	4.0	3.8	3.6	3.4	3.2	3.0
02	5.3	5.0	4.7	4.5	4.3	4.1	3.9	3.7	3.5	3.3	3.1
03	5.4	5.1	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4	3.2
04	5.5	5.2	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.5	3.3
05	5.6	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4
06	5.7	5.4	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.5
07	5.8	5.5	5.2	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6
08	5.9	5.6	5.3	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7
09	5.9	5.6	5.3	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7
10	5.9	5.6	5.3	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7
11	5.9	5.6	5.3	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7
12	5.6	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4
13	5.6	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4
14	5.6	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4
15	5.7	5.4	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.5
16	5.7	5.4	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.5
17	5.6	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4
18	5.6	5.3	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.4
19	5.7	5.4	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.5
20	6.0	5.7	5.4	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7
21	6.3	6.0	5.7	5.4	5.2	5.0	4.8	4.6	4.4	4.2	4.0
22	6.0	5.7	5.4	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7
23	5.4	5.1	4.8	4.5	4.3	4.1	3.9	3.7	3.5	3.3	3.1

Time: 0.0°.  
Length of time sweep: 0.5 Mc to 16.0 Mc in four minutes.  
Median values.

Table B3

(Corrections and additions to previously published data)  
Sverdlovsk, U.S.S.R. (56°0'N, 61.1°E)

Time	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
00	225	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6	1.1
01	230	5.2	4.9	4.6	4.3	4.0	3.7	3.4	3.1	2.8	2.5
02	235	5.0	4.8	4.5	4.2	3.9	3.6	3.3	3.0	2.7	2.4
03	240	5.0	4.8	4.5	4.2	3.9	3.6	3.3	3.0	2.7	2.4
04	240	5.0	4.8	4.5	4.2	3.9	3.6	3.3	3.0	2.7	2.4
05	260	5.0	4.8	4.5	4.2	3.9	3.6	3.3	3.0	2.7	2.4
06	265	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	3.2
07	280	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	3.2
08	280	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	3.2
09	280	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	3.2
10	280	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.8	3.5	3.2
11	270	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
12	270	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
13	270	6.1	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6
14	270	6.1	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6
15	270	5.9	5.7	5.5	5.3	5.0	4.7	4.4	4.1	3.8	3.5
16	270	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.9	3.6	3.3
17	255	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.9	3.6	3.3
18	225	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.9	3.6	3.3
19	200	6.0	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.4	4.2
20	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	4.0	3.8
21	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	4.0	3.8
22	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	4.0	3.8
23	6.1	5.9	5.7	5.5	5.3	5.1	4.8	4.5	4.2	4.0	3.8

Time: 0.0°.  
Length of time sweep: 0.5 Mc to 16.0 Mc in five to thirteen minutes.  
Median values.

Table B4

(Corrections and additions to previously published data)  
Kuretoega I. (21.4°N, 159.6°W)

Time	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
00	255	5.2	4.8	4.4	4.0	3.6	3.2	2.8	2.4	2.0	1.6
01	230	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
02	230	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
03	230	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
04	220	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
05	260	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
06	265	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
07	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
08	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
09	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
10	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
11	270	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
12	270	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
13	270	6.1	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6
14	270	6.1	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6
15	270	5.9	5.7	5.5	5.3	5.0	4.5	4.2	3.8	3.5	3.2
16	270	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.8	3.5	3.2
17	255	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.8	3.5	3.2
18	225	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.8	3.5	3.2
19	200	6.0	5.8	5.6	5.4	5.2	4.8	4.5	4.2	3.9	3.6
20	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6
21	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6
22	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6
23	6.1	5.9	5.7	5.5	5.3	5.0	4.7	4.4	4.1	3.8	3.5

Time: 60.0°.  
Length of time sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes.  
Manual operation.

Table B5

Time	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
00	255	5.2	4.8	4.4	4.0	3.6	3.2	2.8	2.4	2.0	1.6
01	230	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
02	230	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
03	230	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
04	220	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
05	260	5.0	4.6	4.2	3.8	3.4	3.0	2.6	2.2	1.8	1.4
06	265	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
07	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
08	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
09	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
10	280	5.9	5.5	5.1	4.7	4.3	3.9	3.5	3.1	2.7	2.3
11	270	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
12	270	6.5	6.0	5.5	5.0	4.5	4.0	3.5	3.0	2.5	2.0
13	270	6.1	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6
14	270	6.1	5.6	5.1	4.6	4.1	3.6	3.1	2.6	2.1	1.6
15	270	5.9	5.7	5.5	5.3	5.0	4.5	4.2	3.8	3.5	3.2
16	270	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.8	3.5	3.2
17	255	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.8	3.5	3.2
18	225	5.7	5.5	5.3	5.1	4.8	4.5	4.2	3.8	3.5	3.2
19	200	6.0	5.8	5.6	5.4	5.2	4.8	4.5	4.2	3.9	3.6
20	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6
21	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6
22	210	6.3	6.0	5.7	5.4	5.1	4.8	4.5	4.2	3.9	3.6
23	6.1	5.9	5.7	5.5	5.3	5.0	4.7	4.4	4.1	3.8	3.5

Time: 157.5°.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.

Table B6

Time	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955

<tbl\_r cells="12" ix="1" maxcspan="1" maxrspan="1" usedcols="1

Table 35

(Corrections and additions to previously published data)

Rarotonga I. (21°40'S., 159.6°W.)						
Time	h P2	f P2	h P1	f P1	h' E	f E
00	3.3					
01						
02						
03						
04						
05						
06	5.3					
07						
08	8.6					
09						
10						
11	7.8					
12	7.9					
13	7.6					
14						
15	7.0					
16						
17	7.5					
18						
19	5.4					
20						
21						
22						
23	3.4					

Time: 157.5°W.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

Previously published final values appeared in Table 34 IRPL-T1.

Table 37

Rarotonga I. (21°40'S., 159.6°W.)						
Time	h P2	f P2	h P1	f P1	h' E	f E
00						
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

Time: 157.5°W.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

Previously published final values appeared in Table 31 IRPL-F10.

Table 36

Trinidad, Brit. West Indies (10.5°N., 61.2°W.)						
Time	h P2	f P2	h P1	f P1	h' E	f E
00						
01						
02						
03						
04						
05						
06	5.3					
07						
08	8.6					
09						
10						
11	7.8					
12	7.9					
13	7.6					
14						
15	7.0					
16						
17	7.5					
18						
19	5.4					
20						
21						
22						
23	3.4					

Time: 60.0°W.  
Length of time sweep: Manual operation.  
Median values.

(Corrections and additions to previously published data)

Barotonga I. (21°40'S., 159.6°W.)						
Time	h P2	f P2	h P1	f P1	h' E	f E
00						
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

Time: 157.5°W.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

(Corrections and additions to previously published data)

April 1945						
Time	h P2	f P2	h P1	f P1	h' E	f E
00						
01						
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

Time: 157.5°W.  
Length of time sweep: 2.0 Mc to 16.0 Mc. Manual operation.  
Median values.

Previously published final values appeared in Table 31 IRPL-F10.

Table 88

(Corrections and additions to previously published data)

Rarotonga I. (21.4°S, 159.6°W)

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
00										
01										
02										
03										
04	3.8									
05	6.9	2.2								
06	8.6	3.1	4.2	3.4						
07	2.0	2.0	3.1	3.1						
08	3.0	4.2	4.2	3.1						
09	2.0	2.0	4.0	3.1						
10	3.0	3.0	4.0	3.1						
11	2.0	2.0	3.0	3.1						
12	2.0	2.0	3.0	3.2						
13	10.4	2.0								
14	2.0	2.0	4.5	3.3	3.4	3.5				
15	9.0	2.2	4.5	3.3	3.4	3.5				
16	8.4	2.5	—	4.0	4.0	3.5				
17	2.0	2.0	—	—	—	—				
18	2.0	7.0	—	—	3.9	3.1				
19	2.0	7.0	—	—	—	—				
20	6.1	—	—	—	3.7	2.8				
21	6.0	—	—	—	3.0	2.9				
22	—	—	—	—	—	—				
23	—	—	—	—	—	—				

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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23										

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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Table 89

(Corrections and additions to previously published data)

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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22										
23										

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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21										
22										
23										

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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23										

Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h <sup>1</sup> T <sub>1</sub>	f <sup>0</sup> T <sub>1</sub>	h <sup>1</sup> E	f <sup>0</sup> E	h <sup>1</sup> S	f <sup>0</sup> S	h <sup>1</sup> M3000	f <sup>0</sup> M3000
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Time	h <sup>1</sup> T <sub>2</sub>	f <sup>0</sup> T <sub>2</sub>	h<
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TABLE 91

Washington, D.C.

Ionosphere Station

IONOSPHERE DATA-2

National Bureau Of Standards

(Institution)

TIME: 75°W MERIDIAN

Hourly values of  $f_0 F_2$  for March 1946  
(Month)Records measured by: J.M.C.  
A.K.B.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	4.7	5.3	5.5	5.0	(3.2) <sup>F</sup>	(3.2) <sup>F</sup>	3.3 <sup>F</sup>	3.3 <sup>F</sup>	5.2	(7.4)	7.6	8.8	10.4	10.4	(10.3)	(10.6)	10.6	9.6	8.8	8.0	(7.0)	6.2	6.2	6.2		
2	6.1	5.8	4.5	4.3	4.3	3.9 <sup>F</sup>	3.8	5.6	8.0	9.2	9.6	10.8	11.0	11.0	10.4	10.4	10.2	9.6	9.0	8.4	6.8	6.2	6.0	5.3		
3	5.1	4.9	4.4	4.4	4.4	4.0	3.8 <sup>F</sup>	6.4	8.4	9.0	10.4	11.0	11.0	11.0	10.9	10.4	10.4	10.4	9.6	9.0	7.6	7.0	5.8	6.0		
4	5.7	5.8	5.7	5.3	5.0	5.0	5.0	6.7	8.6	10.0	11.5	(11.5)	(11.6)	(11.6)	(11.7)	11.4	11.4	11.0	(11.0)	(11.0)	8.8	(7.8)	(6.2)	5.9	6.0	
5	4.8	4.5 <sup>F</sup>	3.8 <sup>F</sup>	3.5 <sup>F</sup>	(3.3) <sup>F</sup>	(3.4) <sup>F</sup>	(3.3) <sup>F</sup>	(2.2) <sup>F</sup>	5.7 <sup>F</sup>	6.8 <sup>F</sup>	6.6 <sup>F</sup>	7.0 <sup>F</sup>	7.2 <sup>F</sup>	7.0 <sup>F</sup>	7.4 <sup>F</sup>	7.4 <sup>F</sup>	7.2 <sup>F</sup>	7.2 <sup>F</sup>	7.0 <sup>F</sup>	(7.2) <sup>F</sup>	6.8 <sup>F</sup>	5.9 <sup>F</sup>	5.6	(5.2)		
6	5.0	5.0	4.8	4.7 <sup>F</sup>	(3.6) <sup>F</sup>	3.6 <sup>F</sup>	3.7 <sup>F</sup>	5.7	7.2	8.8	9.8	10.4	11.0	11.0	10.4	10.4	10.2	9.6	(9.5)	(9.6)	8.4	(7.8)	(6.5)	6.0	5.6	
7	5.2	5.4	5.0	4.9 <sup>F</sup>	4.3 <sup>F</sup>	3.5 <sup>F</sup>	3.8 <sup>F</sup>	6.6	(9.2)	9.4	10.6	11.4	11.5	11.2	11.3	11.0	11.2	11.2	11.3	11.0	10.8	(9.6)	8.0	7.8	(6.4)	
8	5.7	5.5	5.2	5.0	4.7 <sup>F</sup>	4.2 <sup>F</sup>	(4.3) <sup>F</sup>	7.1	8.6	9.2	10.2	11.0	11.5	11.0	11.5	11.0	11.5	11.0	11.5	11.0	10.8	(10.6)	(10.5)	(9.0)	(8.2)	6.8
9	5.6	5.6	5.3	5.2	5.1	5.0 <sup>F</sup>	4.8 <sup>F</sup>	7.0	9.2	10.2	10.5	10.8	11.1	11.1	10.7	11.5	(11.8)	12.0	(11.2)	11.3	9.4 <sup>F</sup>	(8.0)	8.0 <sup>F</sup>	7.6 <sup>F</sup>	6.6 <sup>F</sup>	
10	6.6 <sup>K</sup>	6.8 <sup>K</sup>	5.8 <sup>K</sup>	5.8 <sup>K</sup>	4.1 <sup>K</sup>	4.0 <sup>K</sup>	(6.2) <sup>K</sup>	(6.8) <sup>K</sup>	7.4 <sup>K</sup>	6.7 <sup>K</sup>	6.7 <sup>K</sup>	6.4 <sup>K</sup>	6.4 <sup>K</sup>	6.2 <sup>K</sup>	6.2 <sup>K</sup>	6.4 <sup>K</sup>	6.8 <sup>K</sup>	7.0 <sup>K</sup>	4.3 <sup>K</sup>	(2.3) <sup>K</sup>	(2.0) <sup>K</sup>	(1.8) <sup>K</sup>	(2.0) <sup>E</sup>			
11	(1.7) <sup>E</sup>	(1.7) <sup>K</sup>	1.6 <sup>E</sup>	1.6 <sup>F</sup>	1.6 <sup>E</sup>	1.6 <sup>E</sup>	2.3 <sup>E</sup>	4.7 <sup>E</sup>	5.6 <sup>E</sup>	5.5 <sup>K</sup>	5.8 <sup>K</sup>	6.2 <sup>K</sup>	5.9 <sup>K</sup>	6.0 <sup>K</sup>	6.2 <sup>K</sup>	6.2 <sup>K</sup>	6.5 <sup>K</sup>	6.6 <sup>K</sup>	6.0 <sup>K</sup>	5.6 <sup>K</sup>	5.0 <sup>K</sup>	4.0 <sup>K</sup>	3.4 <sup>F</sup>			
12	3.3 <sup>E</sup>	3.1 <sup>E</sup>	2.7 <sup>F</sup>	2.5 <sup>F</sup>	2.3 <sup>E</sup>	2.1 <sup>E</sup>	2.7 <sup>F</sup>	5.5	7.0	7.3	8.6	8.5	9.1	9.0	8.6	8.6	8.6	8.6	8.6	8.6	8.4	7.3	6.8	5.8	5.0 <sup>E</sup>	
13	(4.7) <sup>F</sup>	4.3 <sup>F</sup>	(4.2) <sup>F</sup>	4.0 <sup>F</sup>	3.9 <sup>F</sup>	4.0 <sup>F</sup>	4.0 <sup>F</sup>	6.2	7.7	8.4	8.8	9.7	10.0	10.1	9.7	9.7	9.7	9.8	(9.8)	(9.8)	(9.4)	(7.9)	(7.2)	(6.5)	(5.8)	
14	4.8 <sup>F</sup>	4.7 <sup>F</sup>	4.8 <sup>F</sup>	4.7 <sup>F</sup>	4.4 <sup>F</sup>	3.7 <sup>F</sup>	3.8 <sup>F</sup>	6.7	(8.1)	9.1	9.8	10.5	10.6	10.6	10.4	10.4	10.3	10.2	10.2	10.1	(9.4)	(7.9)	(7.0)	6.2	5.8	
15	5.5	5.4	5.0	4.6	4.0 <sup>F</sup>	3.2 <sup>F</sup>	3.0 <sup>F</sup>	5.6	6.8	7.6	8.4	9.4	9.7	9.7	9.8	10.4	10.4	10.0	9.6	9.6	9.6	8.2	7.3	6.6	6.2	5.5 <sup>F</sup>
16	4.8 <sup>F</sup>	4.6 <sup>F</sup>	4.5 <sup>F</sup>	3.4 <sup>F</sup>	(3.4) <sup>F</sup>	(3.2) <sup>F</sup>	(3.2) <sup>F</sup>	5.4	7.3	(8.2) <sup>F</sup>	7.0	9.8	10.4	10.4	10.4	10.4	10.2	10.0	10.0	10.0	(9.8)	(8.4)	(7.0)	(6.0)	5.5 <sup>F</sup>	
17	5.8	5.1 <sup>F</sup>	4.9 <sup>F</sup>	4.7 <sup>F</sup>	4.0 <sup>F</sup>	4.1 <sup>F</sup>	4.2 <sup>F</sup>	5.4	6.4	7.6	8.6	8.7	8.7	8.7	8.4	9.2	9.4	8.8	9.0	8.4	(7.7)	(6.2)	5.9	5.8	5.5	
18	5.2	4.9 <sup>F</sup>	4.3 <sup>F</sup>	4.0 <sup>F</sup>	3.7 <sup>F</sup>	3.6 <sup>F</sup>	4.4	7.1	8.4	8.8	9.6	9.6	9.8	9.8	10.3	10.3	10.3	10.0	(10.0)	(8.9)	(7.8)	6.7	(6.0)	(5.9)	(5.8)	
19	5.3	4.9	4.8	4.4	3.8	3.6	4.0	6.0	7.4	8.4	9.0	9.4	9.2	9.3	10.4	(9.6)	9.7	9.7	9.2	(8.8)	6.9	(7.8)	6.9	(6.4)	(6.3)	6.0
20	(6.0)	6.0	5.5	5.0	(4.6)	4.2	4.4	6.4	7.2	7.2	10.2	10.0	10.3	10.3	10.6	10.4	9.8	9.8	9.6	9.4	8.6	7.0	6.4	5.8	5.5 <sup>F</sup>	
21	5.1	5.1	4.9	4.8	4.6	4.3	4.5	6.8	7.8	8.6	9.2	9.3	10.0	10.0	9.6	(10.0)	9.8	9.6	9.2	(9.4)	7.8	7.0	(6.5)	6.0	(5.4)	
22	(4.6) <sup>F</sup>	4.1 <sup>F</sup>	(4.0) <sup>F</sup>	(3.2) <sup>F</sup>	2.8 <sup>F</sup>	(3.2) <sup>F</sup>	3.6 <sup>F</sup>	4.9 <sup>F</sup>	6.2 <sup>F</sup>	6.4	7.6	8.3	9.7	9.6	9.4	9.7	(9.0)	8.8	8.0	7.6	6.8	6.2	6.0	(5.8)		
23	5.9	5.6	5.2	5.1	4.8	4.4	4.3	5.3	6.4	7.0	8.0	8.6	9.3	9.8	9.9	10.1	(10.0)	9.4	8.9	8.7 <sup>K</sup>	(4.9) <sup>E</sup>	(3.0) <sup>K</sup>	(3.0) <sup>A</sup>	4.3 <sup>K</sup>		
24	(2.4) <sup>E</sup>	3.5 <sup>F</sup>	3.5 <sup>F</sup>	3.2 <sup>F</sup>	3.0 <sup>F</sup>	3.2 <sup>F</sup>	3.3 <sup>F</sup>	<3.3 <sup>F</sup>	<3.7 <sup>F</sup>	<4.1 <sup>F</sup>	B <sup>K</sup>	5.3 <sup>K</sup>	5.5 <sup>K</sup>	5.7 <sup>K</sup>	5.6 <sup>K</sup>	4.8 <sup>K</sup>	3.3 <sup>K</sup>	(2.7) <sup>K</sup>								
25	2.2 <sup>E</sup>	2.3 <sup>E</sup>	(2.5) <sup>F</sup>	B <sup>K</sup>	A <sup>K</sup>	A <sup>K</sup>	2.4 <sup>F</sup>	<3.3 <sup>F</sup>	<3.6 <sup>F</sup>	<3.9 <sup>F</sup>	<4.2 <sup>F</sup>	<4.2 <sup>F</sup>	<4.2 <sup>F</sup>	<4.2 <sup>F</sup>	<4.4 <sup>F</sup>	<4.4 <sup>F</sup>	5.2 <sup>K</sup>	5.6 <sup>K</sup>	5.6 <sup>K</sup>	5.6 <sup>K</sup>	4.2 <sup>K</sup>	3.9 <sup>K</sup>	2.5 <sup>K</sup>			
26	(1.8) <sup>E</sup>	(2.9) <sup>E</sup>	2.2 <sup>F</sup>	(1.9) <sup>F</sup>	(1.3) <sup>F</sup>	(1.6) <sup>F</sup>	(2.8) <sup>F</sup>	4.7	7.2	8.4	8.6	9.7	9.9	9.2	9.4	9.2	9.6	9.6	9.6	9.6	(9.6)	(8.8)	6.4	5.3	4.2 <sup>E</sup>	
27	(2.4) <sup>E</sup>	(2.5) <sup>F</sup>	(2.5) <sup>F</sup>	(2.2) <sup>F</sup>	2.3 <sup>F</sup>	3.7 <sup>F</sup>	5.1 <sup>F</sup>	5.3 <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	C <sup>K</sup>	5.8 <sup>K</sup>	5.8 <sup>K</sup>	5.6 <sup>K</sup>	5.6 <sup>K</sup>	5.2 <sup>K</sup>	5.2 <sup>K</sup>	3.6 <sup>K</sup>			
28	4.5 <sup>F</sup>	(4.0) <sup>F</sup>	(3.4) <sup>F</sup>	2.8 <sup>F</sup>	2.4 <sup>F</sup>	3.0 <sup>F</sup>	(2.5) <sup>F</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	B <sup>K</sup>	5.2 <sup>K</sup>	5.0 <sup>K</sup>	4.9 <sup>K</sup>	4.9 <sup>K</sup>	2.9 <sup>K</sup>	1.9 <sup>K</sup>	(1.8) <sup>F</sup>			
29	(2.3) <sup>E</sup>	(2.2) <sup>F</sup>	(1.7) <sup>F</sup>	(1.4) <sup>F</sup>	(1.3) <sup>F</sup>	(1.4) <sup>F</sup>	6.0	8.8	(9.5)	9.0	(9.4)	9.4	9.4	9.1	8.6	9.0	8.8	8.8	8.8	8.8	(7.8)	6.6	5.9	5.4	5.2	
30	5.3	4.8	4.5	4.0 <sup>F</sup>	3.6 <sup>F</sup>	2.7 <sup>F</sup>	4.0 <sup>F</sup>	6.0	6.9	8.0	8.4	9.2	9.2	9.2	8.6	8.6	8.8	8.8	8.4	7.3	6.8	5.8	5.3			
31	5.1	4.7	4.6 <sup>F</sup>	4.0 <sup>F</sup>	3.4 <sup>F</sup>	4.6 <sup>F</sup>	6.4	7.1	7.2	8.0	8.8	9.4	(9.2)	9.2	9.2	9.0	9.0	8.6	(7.9)	7.4	(7.2)	6.8	6.4			
Sum	5.1	4.9	4.5	4.4	3.8	3.6	3.8	6.0	7.2	8.8	9.4	9.7	9.9	9.8	9.7	9.4	8.9	7.9	7.9	6.9	6.2	5.8	5.5			
Median	5.1	4.9	4.5	4.4	3.8	3.6	3.8	6.0	7.2	8.2	8.8	9.4	9.7	9.9	9.8	9.7	9.4	8.9	7.9	7.9	6.9	6.2	5.8	5.5		

Table ICD

## Ionospheric Storminess, March 1946

Day	Ionospheric Characters*		Principal Storms		Geomagnetic Characters**	
	00-12 GCT	12-24 GCT	Beginning GCT	End GCT	00-12 GCT	12-24 GCT
March						
1	1	0	0800	—	2	2
2	2	2	—	—	2	2
3	0	2	—	—	2	2
4	2	2	—	—	2	2
5	5	5	—	—	2	2
6	6	6	—	—	2	2
7	7	7	—	—	2	2
8	8	8	—	—	2	2
9	9	9	—	—	2	2
10	0	0	—	—	2	2
11	1	1	—	—	2	2
12	1	1	—	—	2	2
13	1	1	—	—	2	2
14	1	1	—	—	2	2
15	1	1	—	—	2	2
16	1	1	—	—	2	2
17	1	1	—	—	2	2
18	1	1	—	—	2	2
19	0	0	—	—	2	2
20	0	0	—	—	2	2
21	0	0	—	—	2	2
22	1	1	—	—	2	2
23	2	2	—	—	2	2
24	1	1	0000	—	2	2
25	5	5	—	—	2	2
26	7	7	—	—	2	2
27	7	7	1200	—	2	2
28	4	6	0300	—	2	2
29	4	6	—	—	2	2
30	5	7	—	—	2	2
31	1	2	1100	—	2	2
	1	1	—	—	2	2

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

\*\*Average for 12 hours of American magnetic K-figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

/Dashes indicate continuing storm.

Table 103  
Sudden Ionosphere Disturbances Observed at Washington, D.C.

Table 103 (continued)

Day	GCT Beginning End	Locations of transmitters	Relative intensity at minimum	Other phenomena	Day	GCT Beginning End		Locations of transmitters	Relative intensity at minimum	Other phenomena
						Beginning	End			
March 1	1756 2000	Ohio, D.C., England, Mexico, New Brunswick, Surinam, Chile, Gold Coast, Hawaii	0.0		March 28	2214	2305	Ohio, D.C., Mexico, New Brunswick	0.02	
2	1921 1930	Ohio, D.C., New Brunswick Chile, Gold Coast, Hawaii	0.1		29	1439	1610	Ohio, D.C., England, Mexico, Surinam, Chile, Gold Coast	0.02	
5	1128 2000	England, Surinam	0.0							
6	2011 2050	Ohio, D.C., Mexico, Hawaii	0.5							
8	1756 1845	Ohio, D.C., England, Mexico, New Brunswick, Surinam, Chile, Gold Coast, Hawaii	0.0							
	2141 2205	Ohio, D.C., New York, Mexico, Chile, Gold Coast	0.05							
12	1121 1145	Ohio	0.04							
18	1216 1245	New York, England, Surinam, Gold Coast	0.04							
19	2048 2120	Ohio, D.C., Mexico, Chile, Hawaii	0.01							
20	1446 1510	Ohio, D.C., England, Surinam, Chile, Gold Coast	0.4							
24	1548 1650	Ohio, D.C., New York, England, Mexico, New Brunswick, Chile, Gold Coast	0.0							
24	2006 2036	England	0.1							

\*Ratio of received field intensity during SID to average field intensity before and after, for station WHAL, 680 kilocycles, 600 kilometers distant, for all SID except those on 5, 18, and 24 March, which are for station GH, 13555 kilocycles, received in New York, 5340 kilometers distant.

\*\*As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

\*\*\*Incomplete recovery of SID.

Terr. Mag. Pulses\*\*  
1800-1835

Terr. Mag. Pulses\*\*  
2047-2120

Terr. Mag. Pulses\*\*  
1416-1440

Table 104

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief

Cable and Wireless, Ltd.

Day	GCT		Receiving Station	Locations of transmitters
	Beginning	End		
February 27	08320	0700	Brentwood, England	Greece, India, Iran, Kenya, Madagascar, South Rhodesia, Switzerland
	1730	1800	Brentwood, England	Colombia
27	1730	1750	Shererton, England	Argentina, Barbados, Canada, New York
28	1810	2000	Brentwood, England	Chile, Colombia
	1810	1849	Shererton, England	Argentina, Barbados, Canada, New York
March 1	1815	1925	Brentwood, England	Colombia, Venezuela, Argentina, Barbados, Canada, New York
	1815	1850	Shererton, England	Kenya, Palestine, Portugal, South Rhodesia, Turkey, Yugoslavia
2	1020	1050	Brentwood, England	Austria, Belgian Congo, Bulgaria, Canary Islands, Chile, Curacao, Greece, India, Iran, Kenya, Madagascar, Mozambique, Palestine, Portugal, U.S.S.R., South Rhodesia, Spain, Switzerland, Syria, Thailand, Turkey, Uruguay, Yugoslavia, Zanzibar.
	1130	1230	Brentwood, England	Argentina, Ascension Island, Australia, Canada, Ceylon, China, Egypt, Gold Coast India, New York, Union of South Africa
5	1130	1220	Shererton, England	

Table 104 (continued)

Day	GCT Beginning	End	Receiving Station	Locations of transmitters
6 March	0835	0920	Brentwood, England	Austria, Belgian Congo, Bulgaria, Canary Islands, French Equatorial Africa, Greece, India, Iran, Kenya, Madagascar, Mozambique, Palestine, Portugal, U.S.S.R., South Rhodesia, Spain, Syria, Thailand, Yugoslavia.
6	0840	0905	Somerton, England	Ascension Island, Barbados, Canada, China, Egypt, Gold Coast, India, Japan, New York, Union of South Africa

Table 195

Provisional Radio Propagation Quality Figures  
February 1946  
Compared with IRPL and ISIB Warnings and IRPL A-Zone Forecasts.

Bay	North Atlantic			North Pacific			Geo-magnetic K <sub>A</sub>	Quality Figure and Forecast Scale:
	Quality Figure	IRPL	ISIB	A-Zone Warning	Geo-magnetic Forecast	IRPL Warning		
1	5	5			6	1	5	6
2	(4)	(4)	X		6	3	6	6
3	5	(4)			5	1	5	5
4	(4)	(4)	X		(4)	2	2	2
5	(4)	5			{3}	2	3	2
6	(4)	(4)		X	{3}	1	3	3
7	(3)	(2)	X	X	{4}	4	7	4
8	(2)	(2)	X	X	{4}	7	4	7
9	(3)	(4)	X	X	5	2	2	4
10	(4)	(4)	X	X	5	2	5	2
11	(4)	(4)	X	X	(4)	2	1	1
12	5	(4)			5	1	2	5
13	(4)	(4)	X		(4)	3	3	5
14	(4)	(4)	X		(4)	3	2	3
15	(4)	5			{4}	2	6	6
16	(4)	5			5	2	5	(4)
17	5	5			6	2	6	5
18	5	5			5	1	2	2
19	(4)	5			(4)	3	3	5
20	(4)	(4)	X	X	(4)	2	3	3
21	(3)	(5)	X	X	{4}	3	7	7
22	(3)	5	X	X	{5}	5	5	X
23	(3)	(4)	X	X	{5}	4	2	7
24	(5)	5	X	X	6	2	2	6
25	(4)	5	X	X	6	3	2	7
26	5	5			6	2	1	6
27	5	6			6	0	1	7
28	5	6			5	1	1	5
<u>Score:</u>								
H	14	9			11		3	1
M	8	13			11		3	5
G	6	6			6		6	2
(S)	0	0			0		6	7
S	0	0			0		5	5

Symbols

X = Warning given.  
H = Quality 4 or worse on day or half-day of warning.  
M = Quality 4 or worse on day or half-day of no warning.  
G = Quality 5 or better on day of no warning.  
(S) = Quality 5 on day of warning.  
S = Quality 6 or better on day of warning.  
( ) = Quality or forecast 4 or worse (disturbed)

Geomagnetic K<sub>A</sub> on the standard scale of 0 to 9, 9 representing the greatest disturbance.

\*IRPL warnings broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half-day as broadcast.

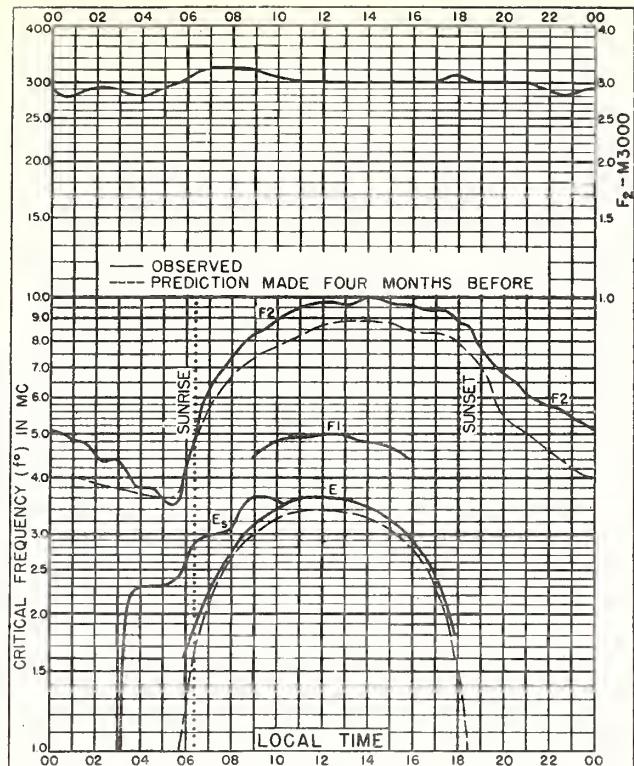


Fig. 1. WASHINGTON, D.C.  
39.0°N, 77.5°W

MARCH, 1946

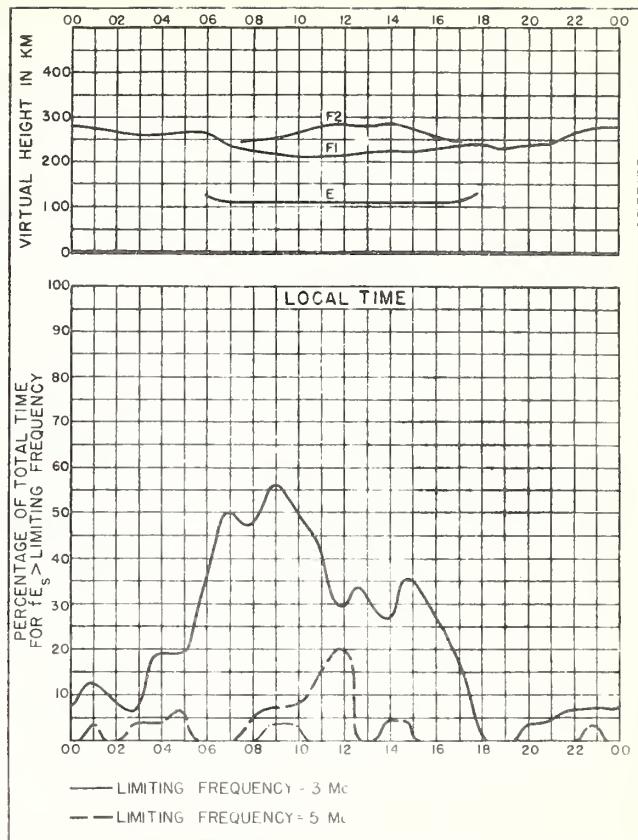


Fig. 2. WASHINGTON, D.C.

MARCH, 1946

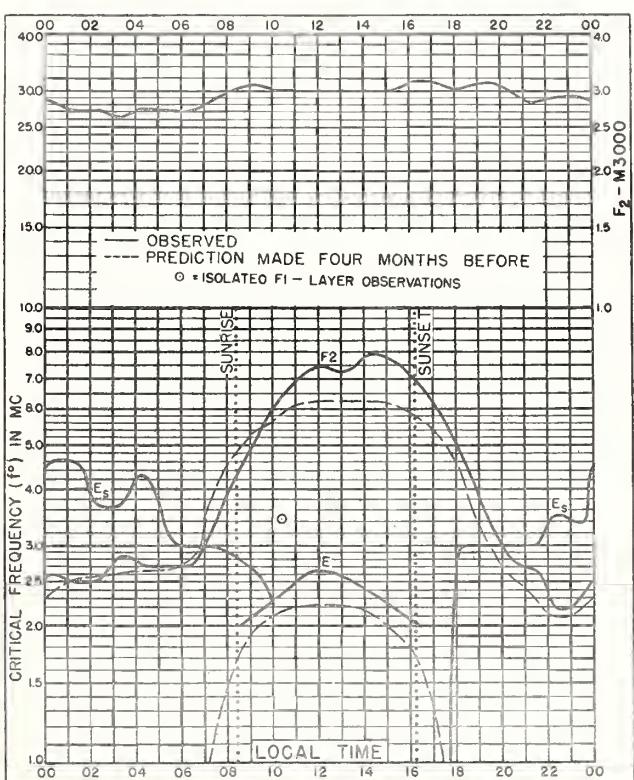


Fig. 3. FAIRBANKS, ALASKA  
64.9°N, 147.8°W

FEBRUARY, 1946

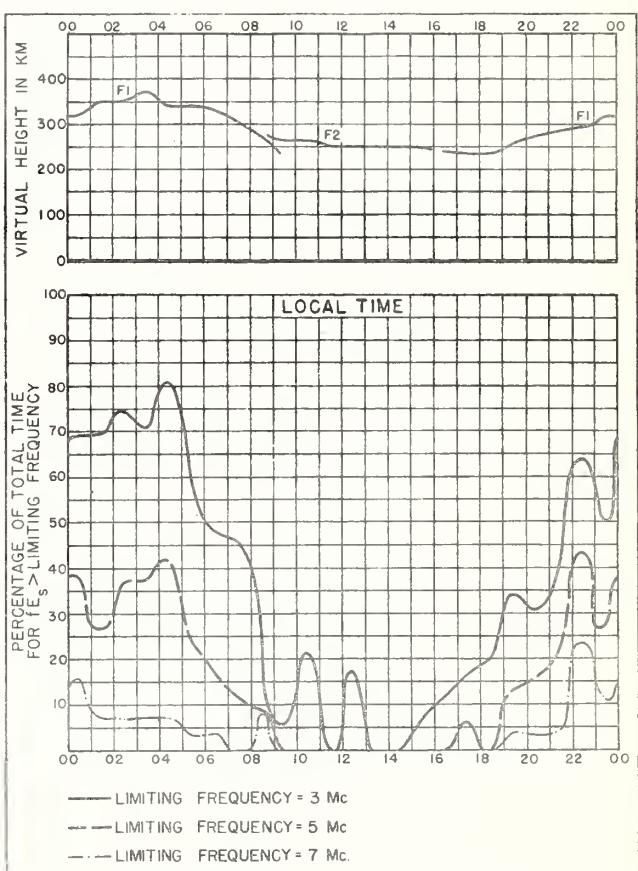


Fig. 4. FAIRBANKS, ALASKA

FEBRUARY, 1946

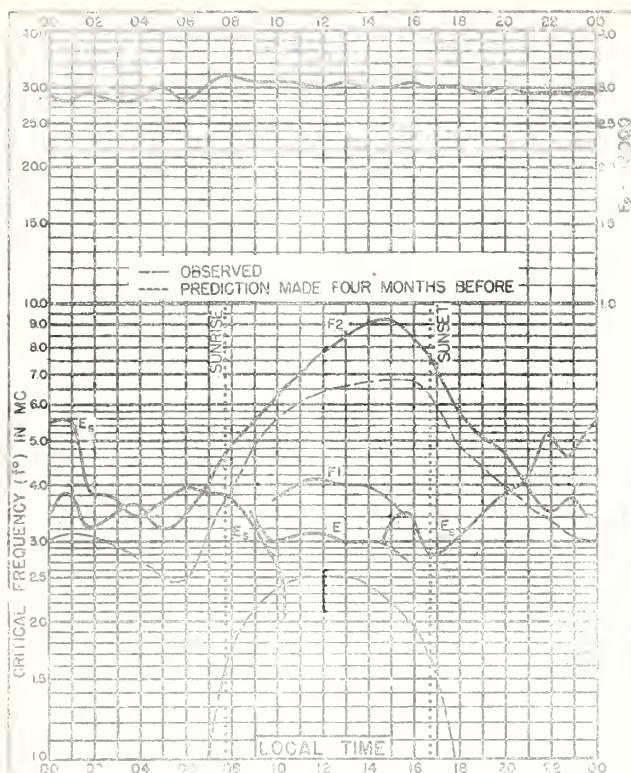


Fig. 5. CHURCHILL, CANADA  
58.8°N, 94.2°W FEBRUARY, 1946

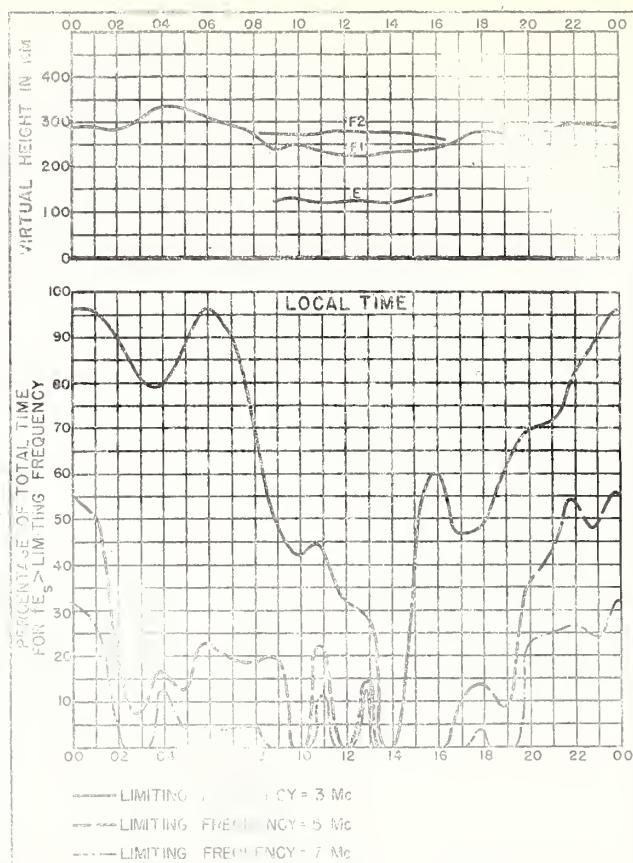


Fig. 6. CHURCHILL, CANADA FEBRUARY, 1946

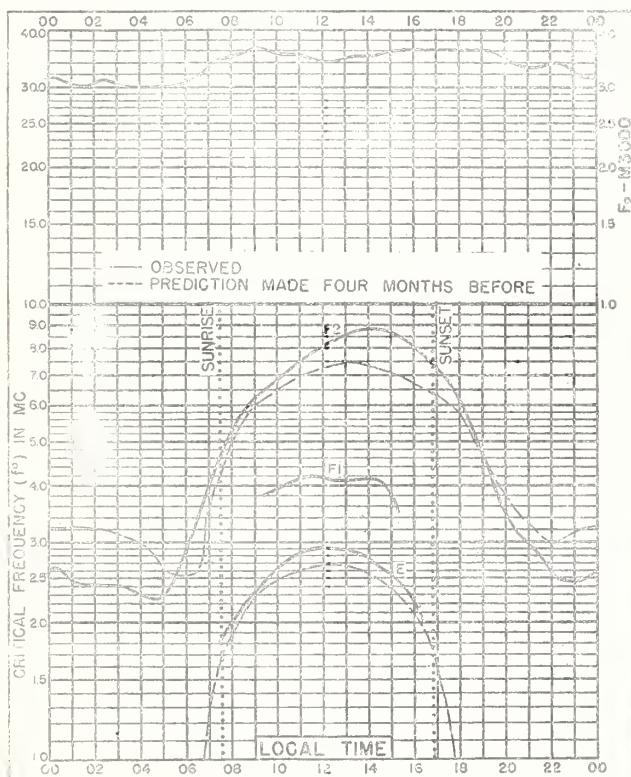


Fig. 7. PRINCE RUPERT, CANADA  
54.3°N, 130.3°W FEBRUARY, 1946

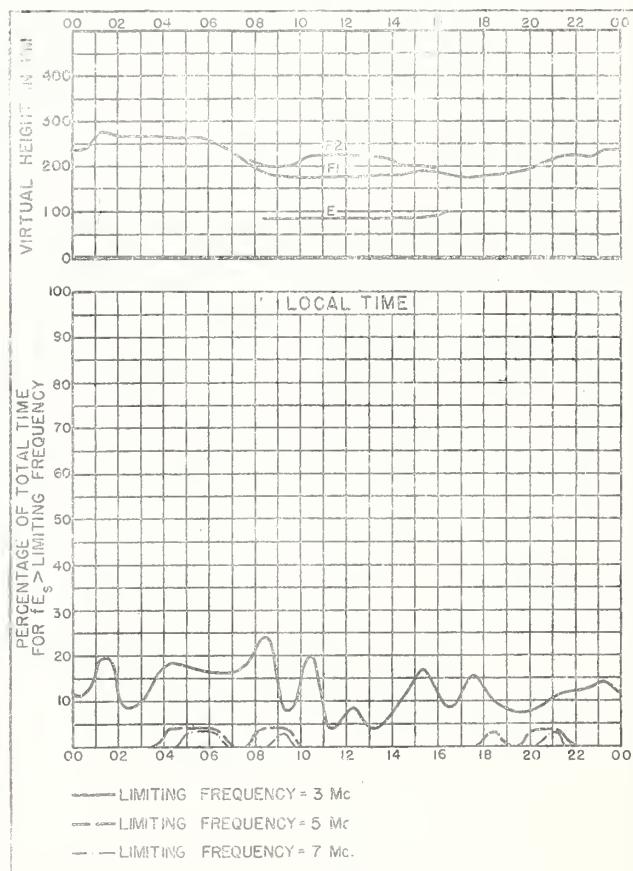
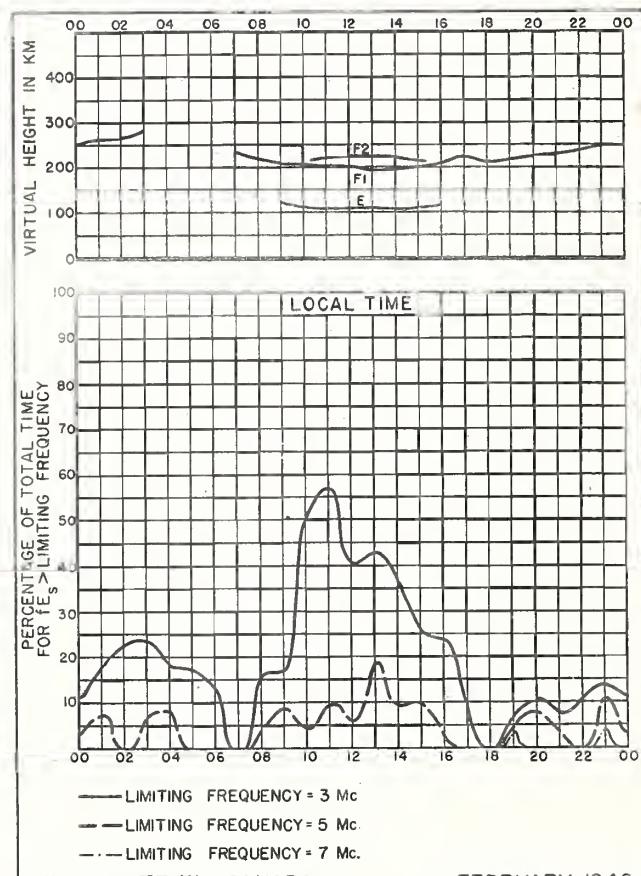
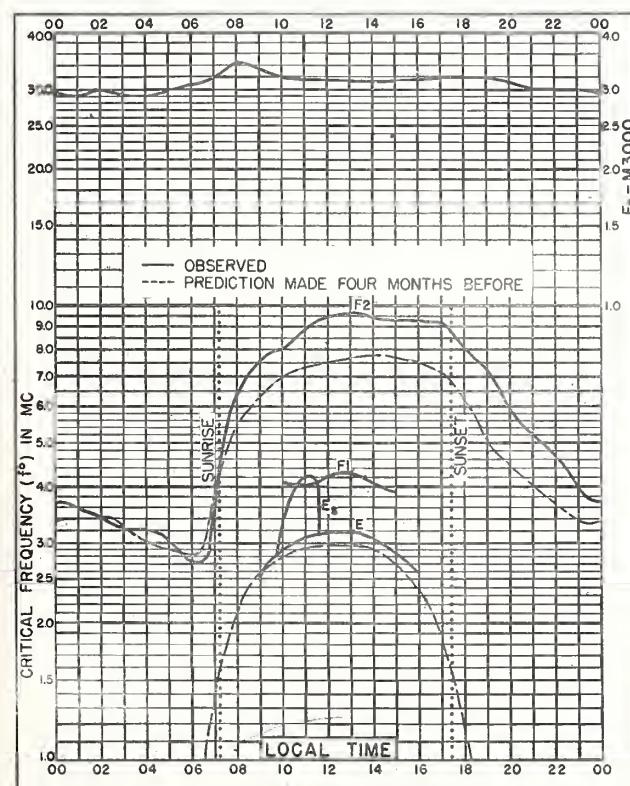
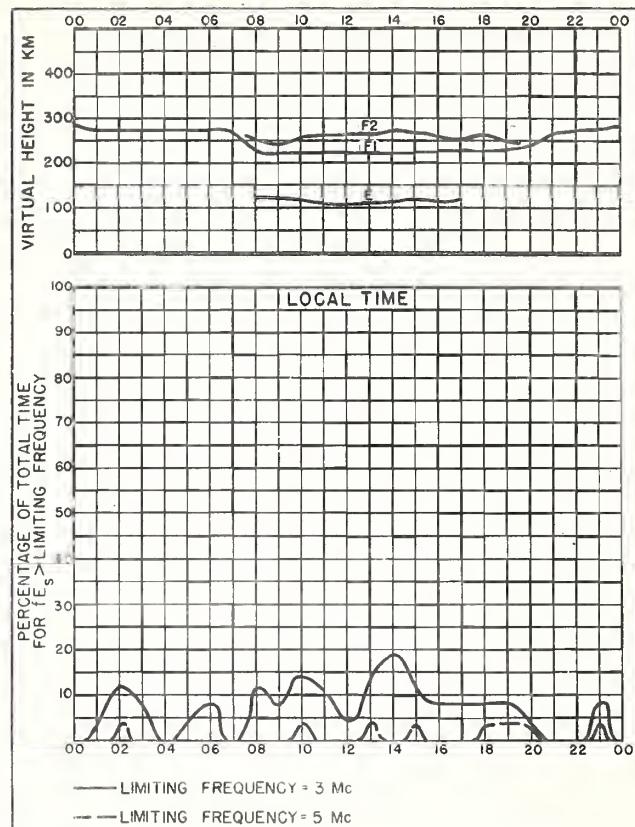
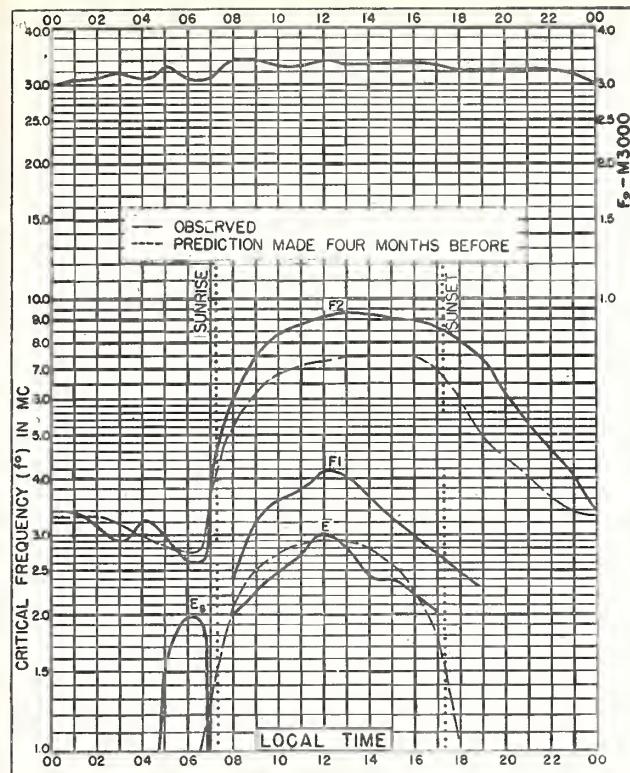
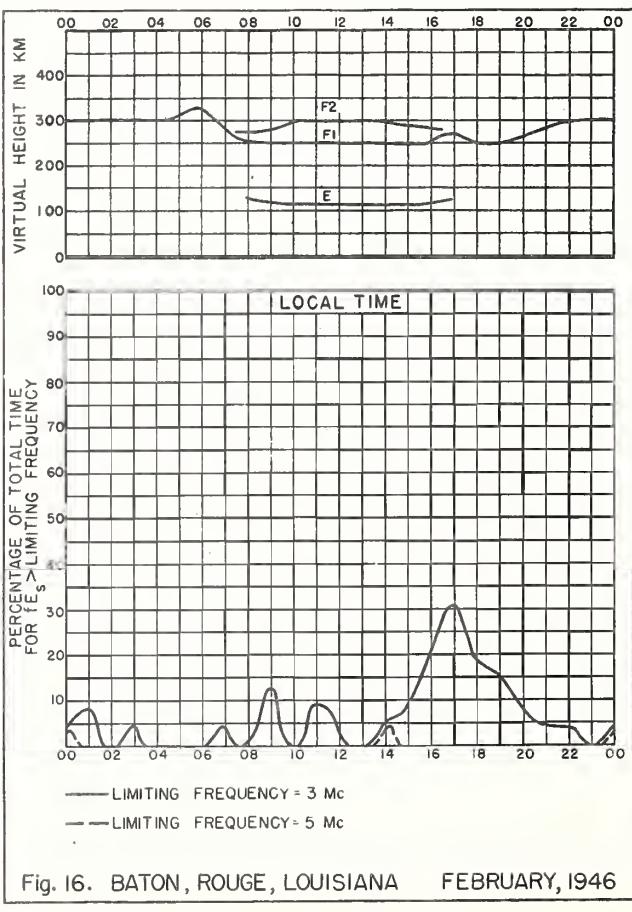
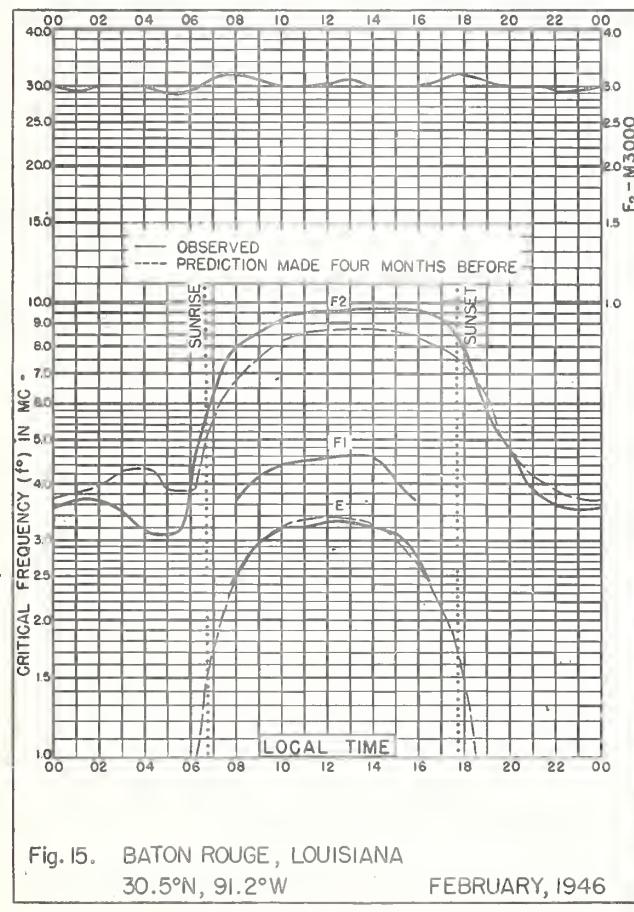
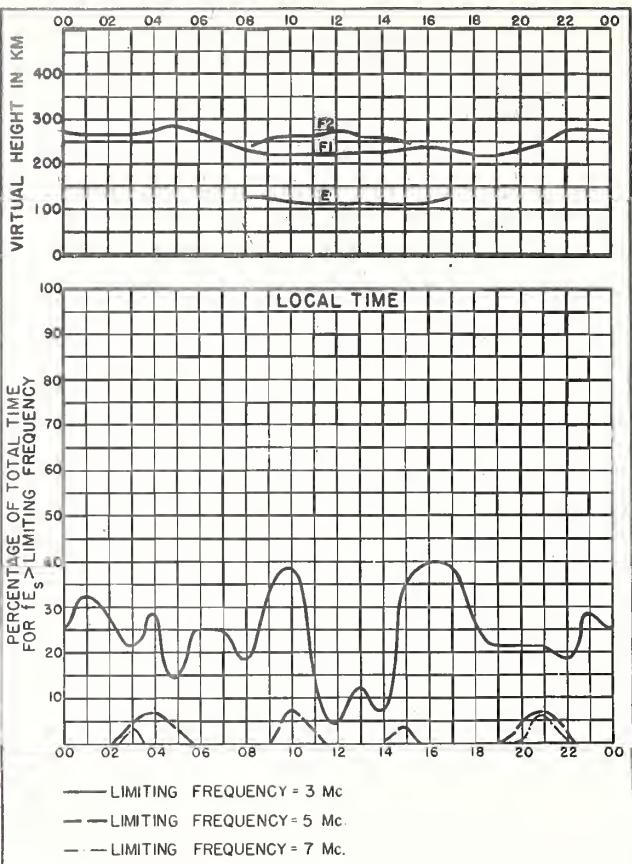
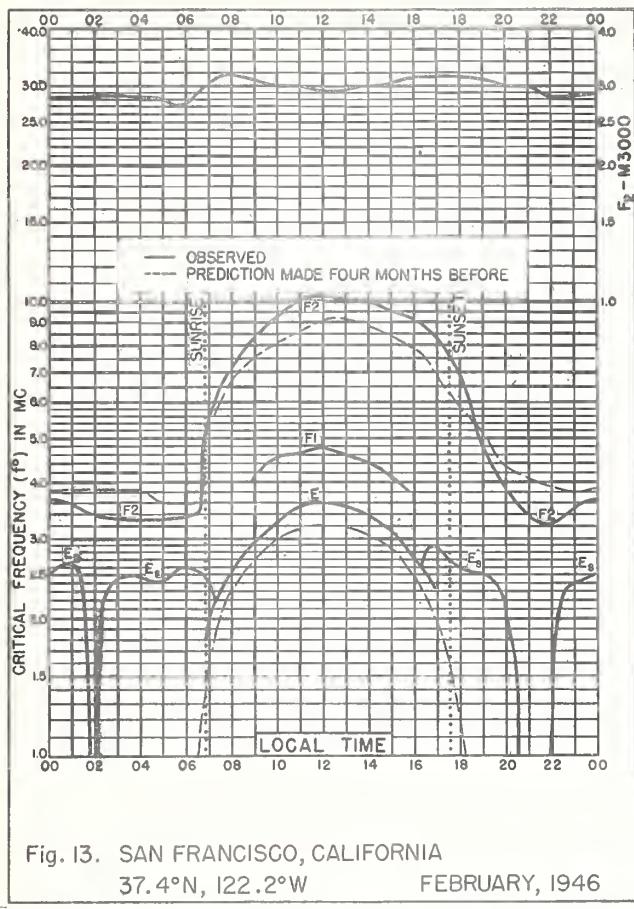
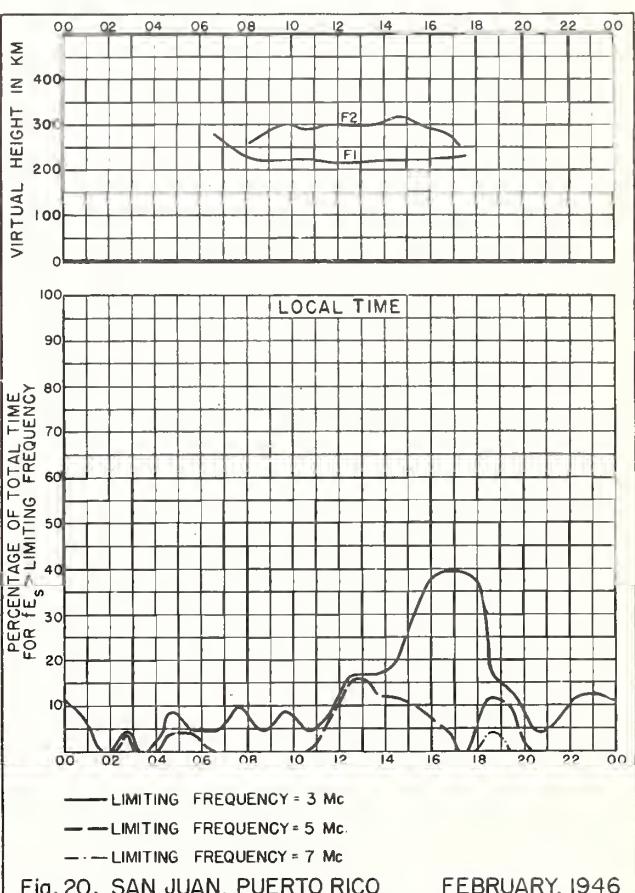
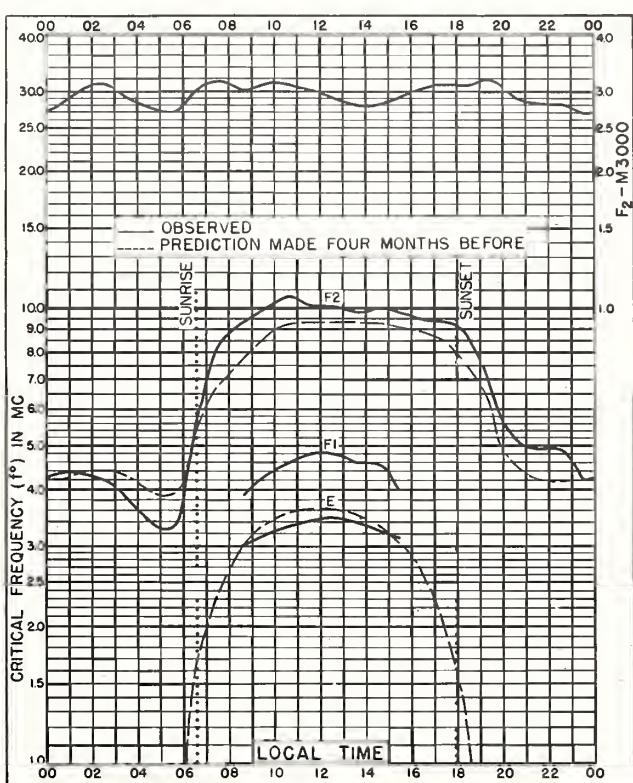
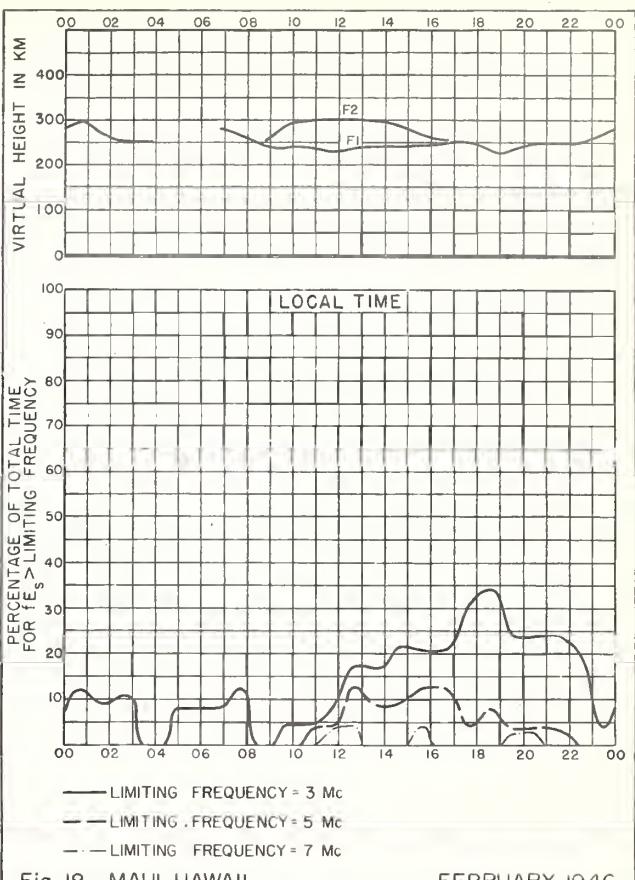
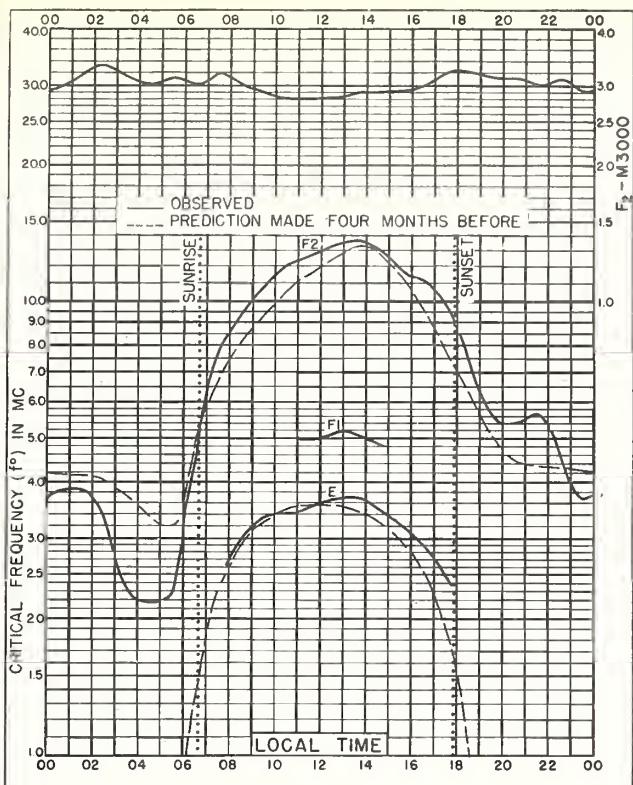


Fig. 8. PRINCE RUPERT, CANADA FEBRUARY, 1946







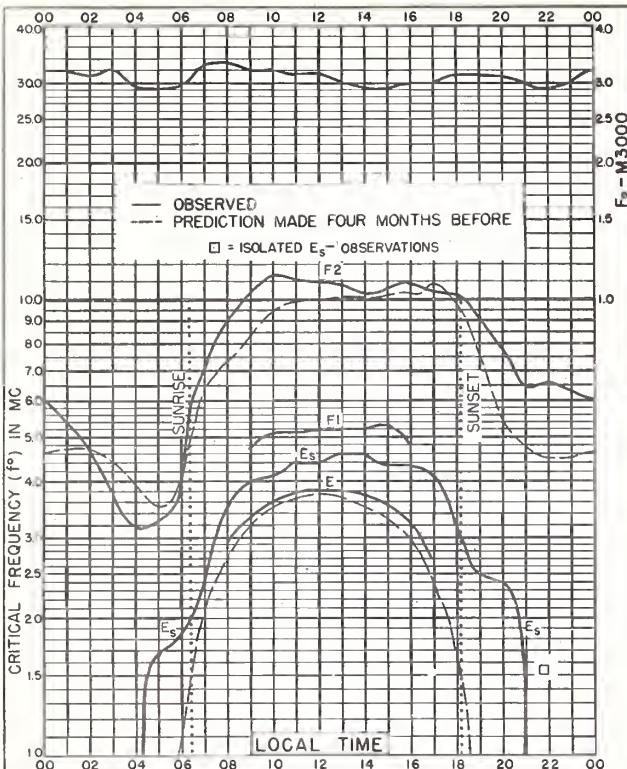


Fig.21. TRINIDAD, BRIT. WEST INDIES  
 10.6°N, 61.2°W FEBRUARY, 1946

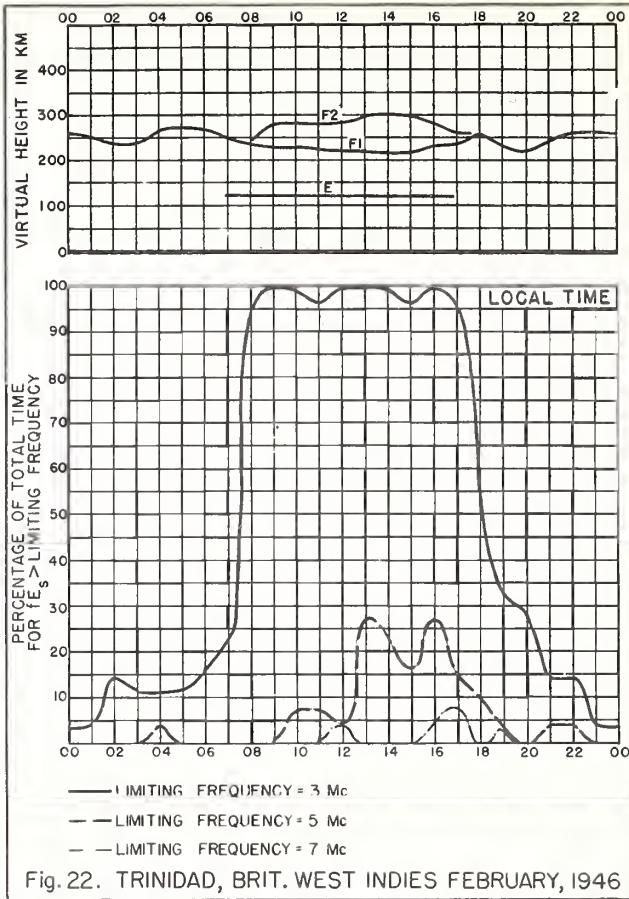


Fig. 22. TRINIDAD, BRIT. WEST INDIES FEBRUARY, 1946

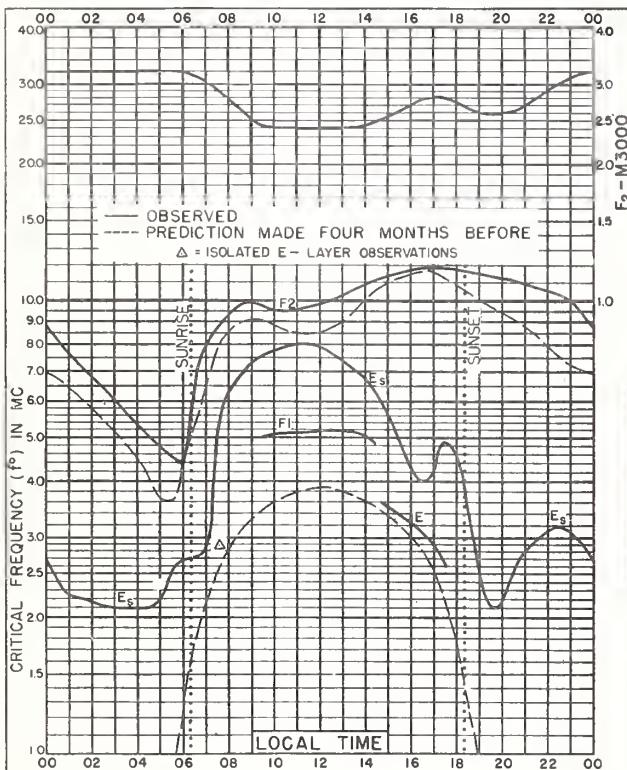


Fig. 23. CHRISTMAS I.  
1.9°N, 157.3°W FEBRUARY, 1946

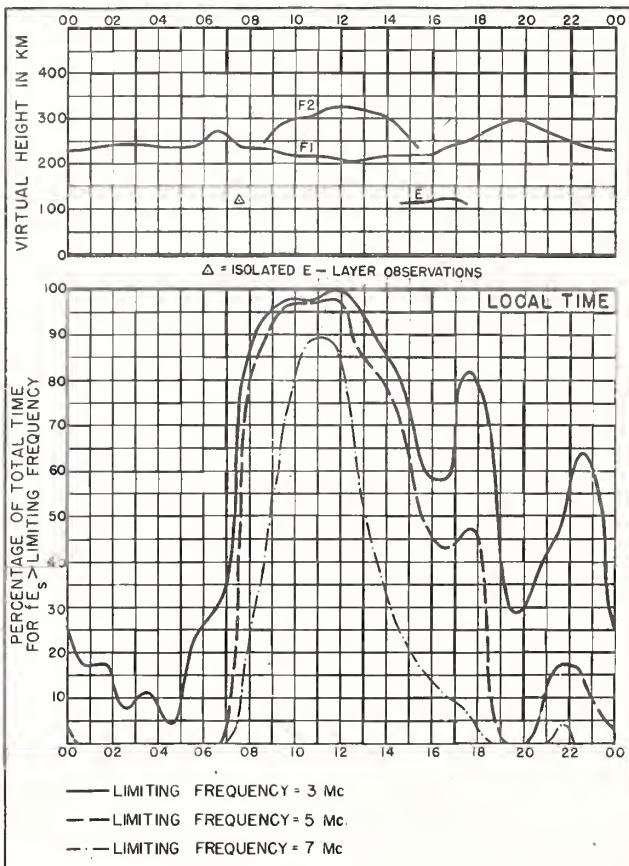
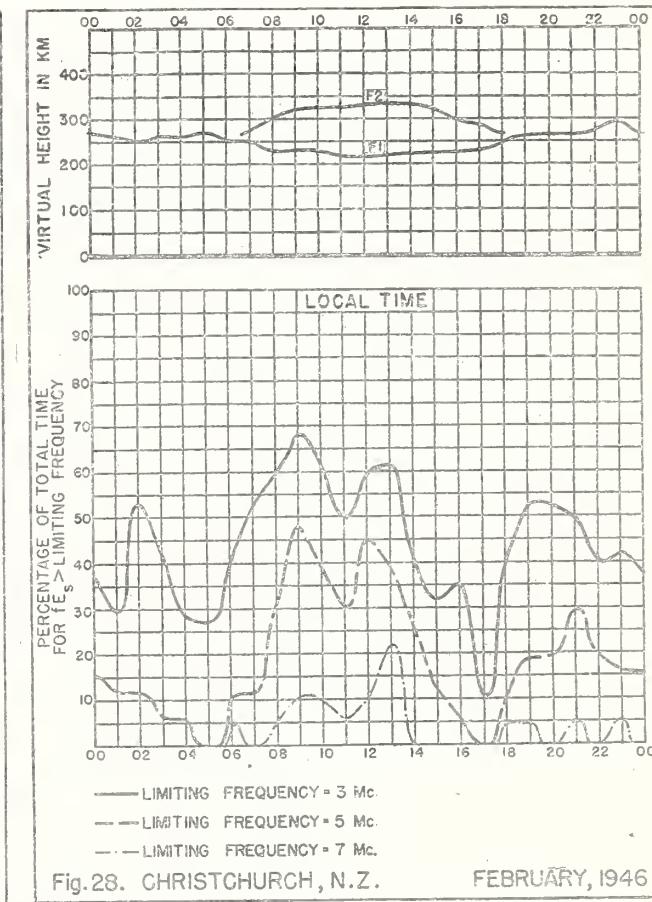
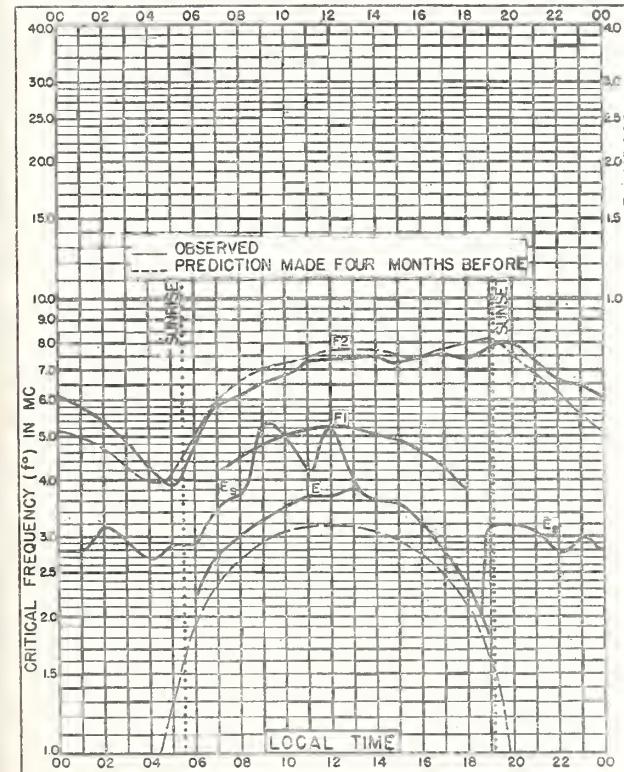
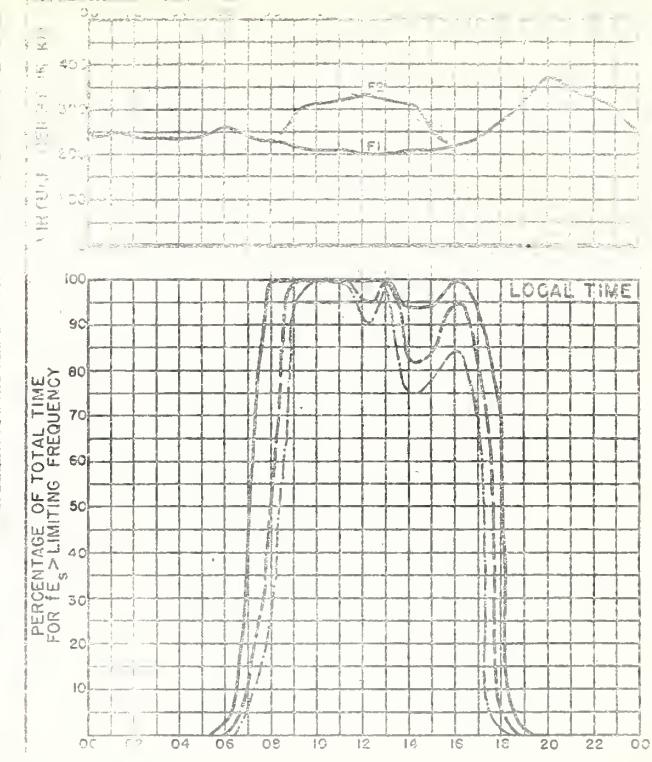
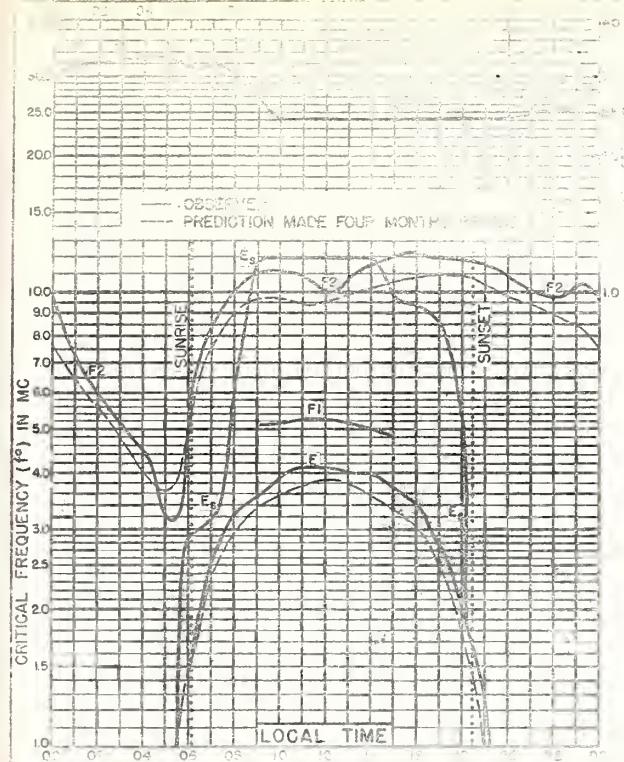


Fig. 24. CHRISTMAS I. FEBRUARY, 1946



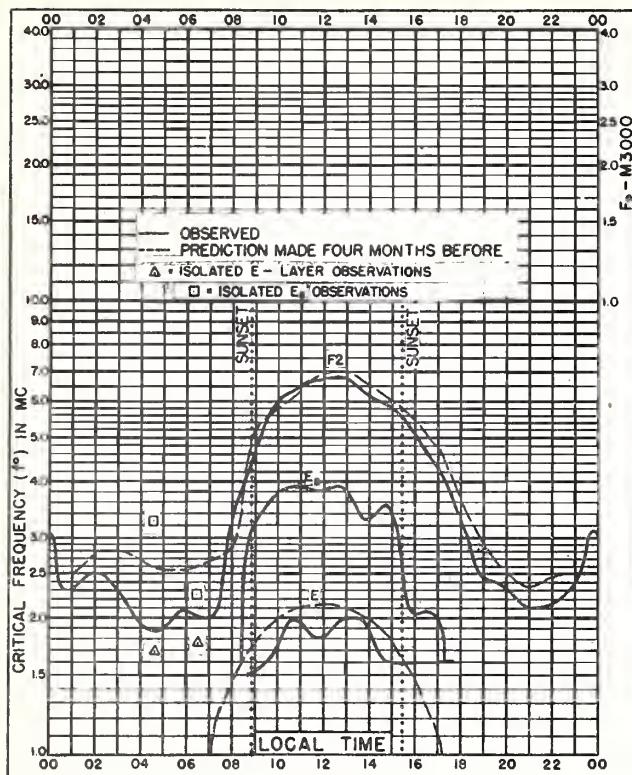


Fig. 29. OSLO, NORWAY  
59.9°N, 11.0°E JANUARY, 1946

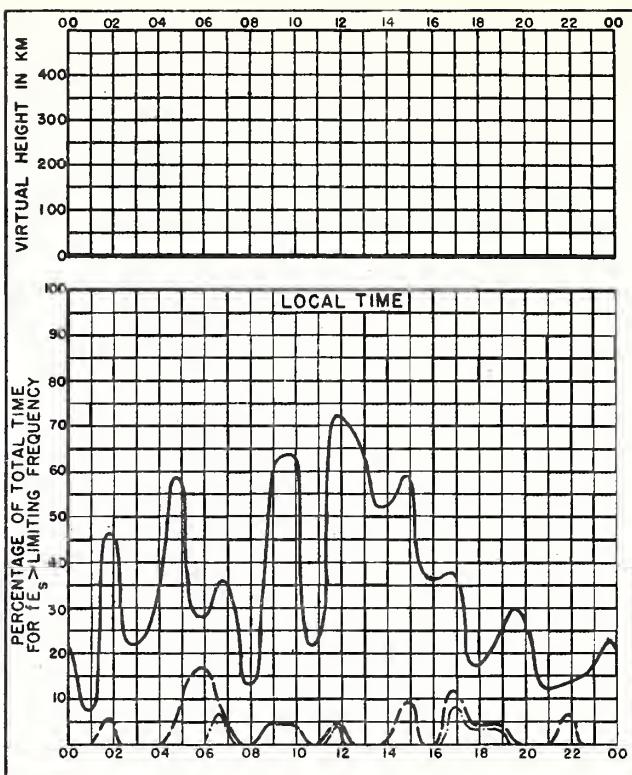


Fig. 30. OSLO, NORWAY JANUARY, 1946

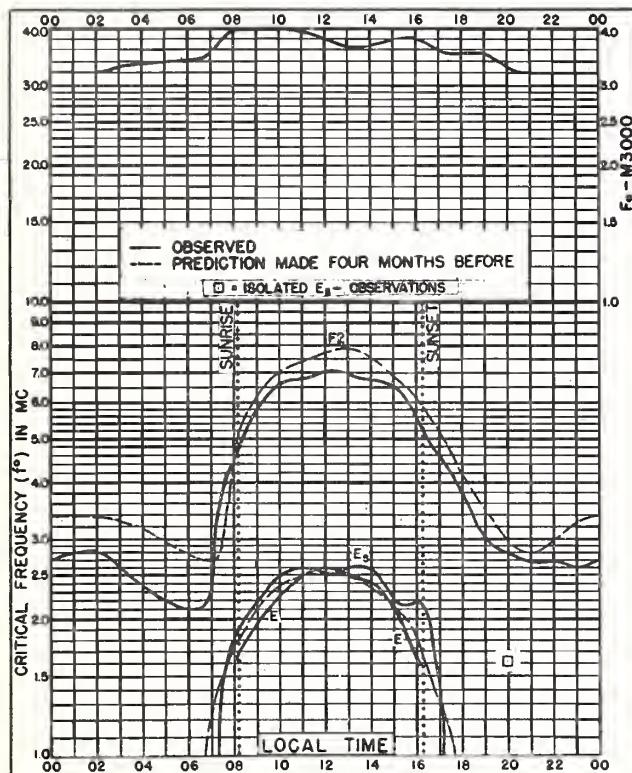


Fig. 31. GREAT BADDOW, ENGLAND  
51.7°N, 0.5°E JANUARY, 1946

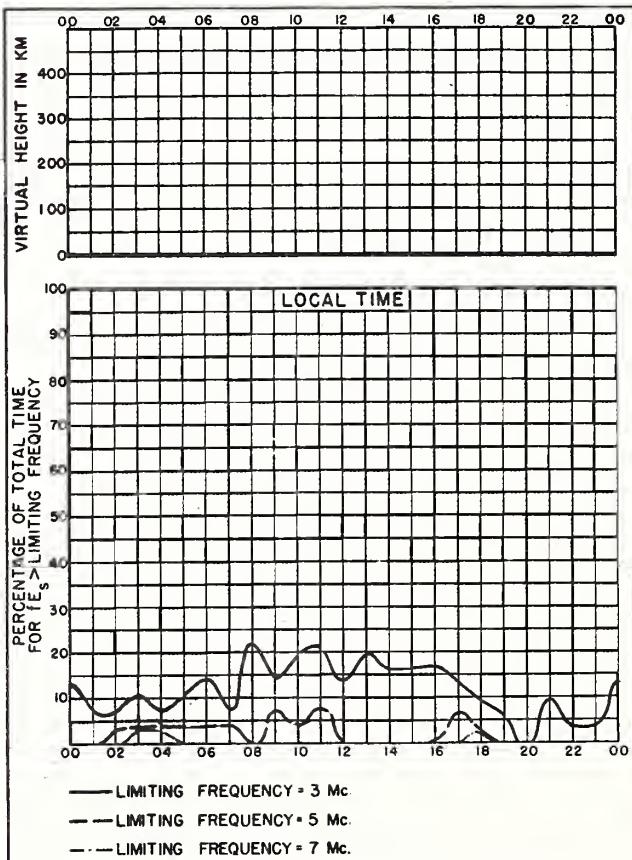


Fig. 32. GREAT BADDOW, ENGLAND JANUARY, 1946

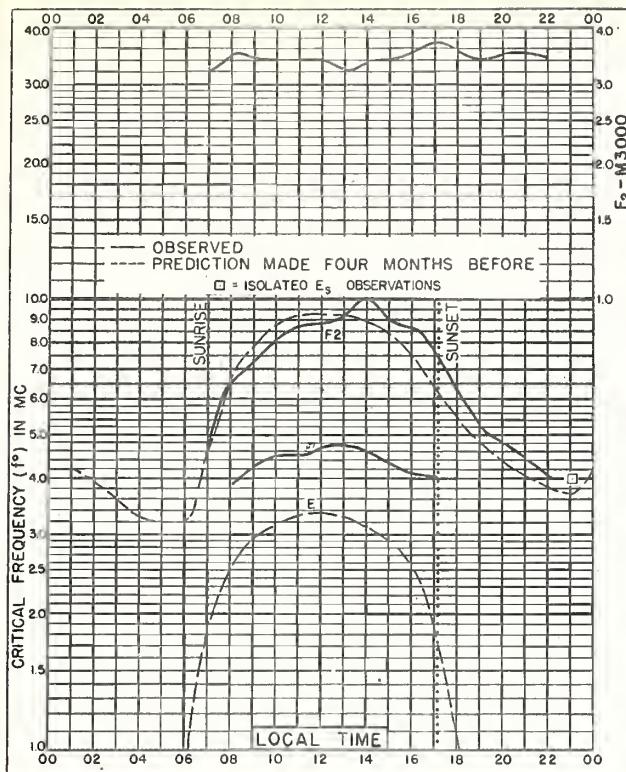


Fig. 33. CHUNGKING, CHINA  
29.4°N, 106.8°E JANUARY, 1946

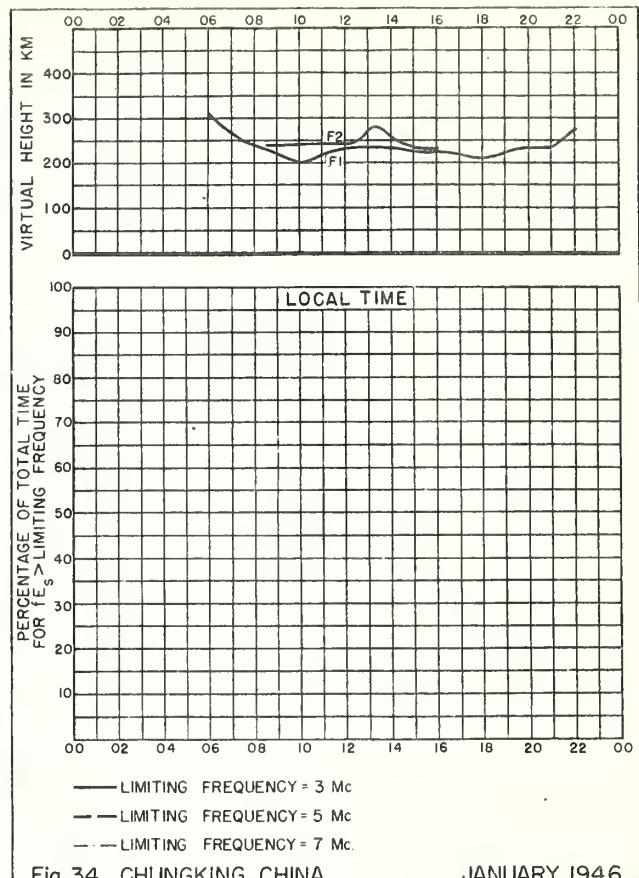


Fig. 34. CHUNGKING, CHINA JANUARY, 1946

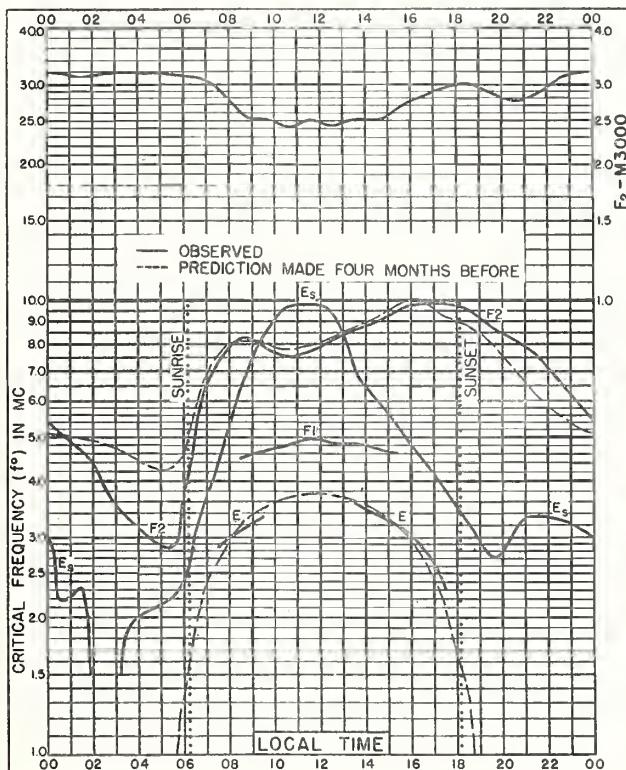


Fig. 35. CHRISTMAS I.  
1.9°N, 157.3°W JANUARY, 1946

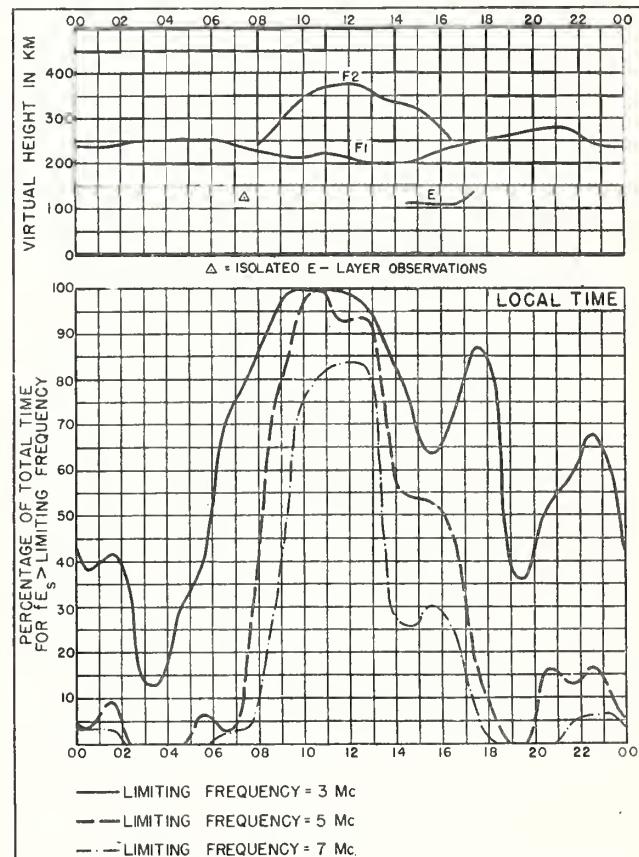


Fig. 36. CHRISTMAS I. - JANUARY, 1946

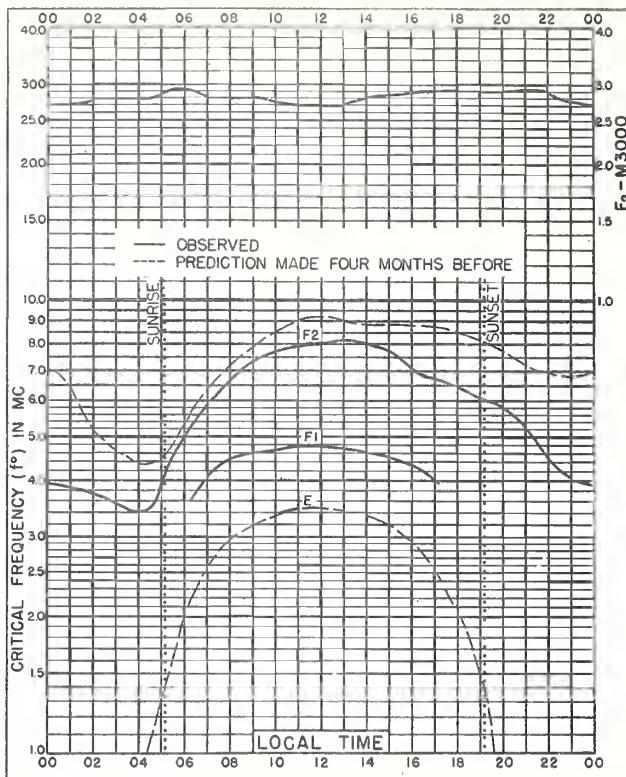


Fig. 37. CAPE TOWN (SIMONSTOWN), UNION OF S. AFRICA  
33.9°S, 18.7°E  
JANUARY, 1946

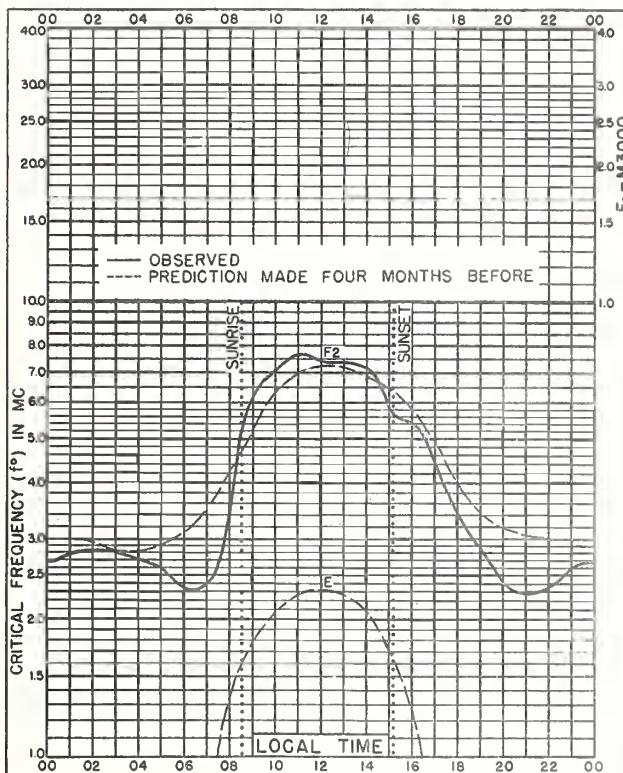


Fig. 38. SVERDLOVSK, U.S.S.R.  
56.7°N, 61.1°E  
DECEMBER, 1945

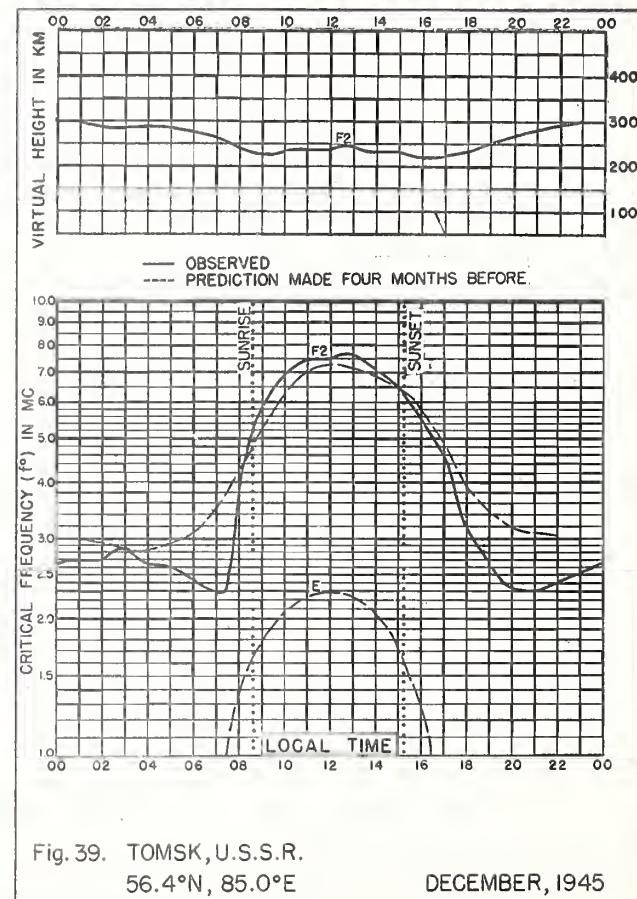


Fig. 39. TOMSK, U.S.S.R.  
56.4°N, 85.0°E  
DECEMBER, 1945

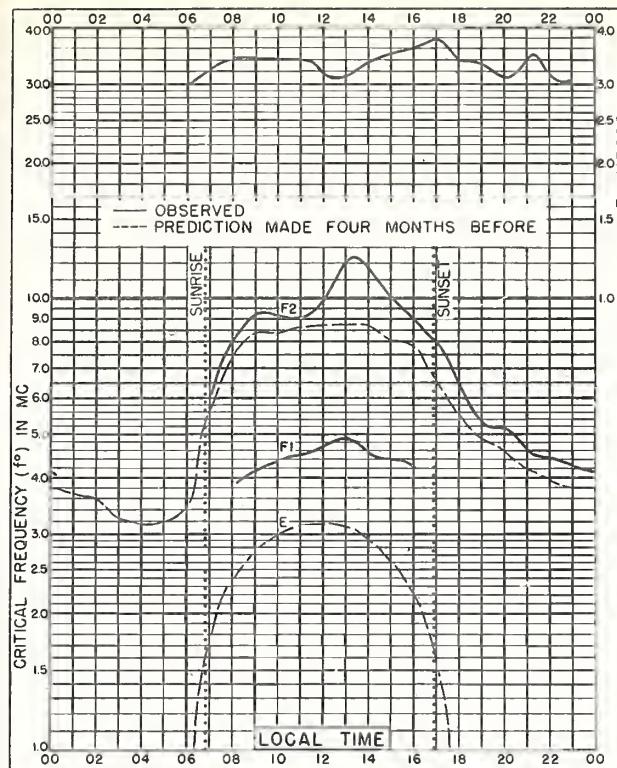


Fig. 40. CHUNGKING, CHINA  
29.4°N, 106.8°E

DECEMBER, 1945

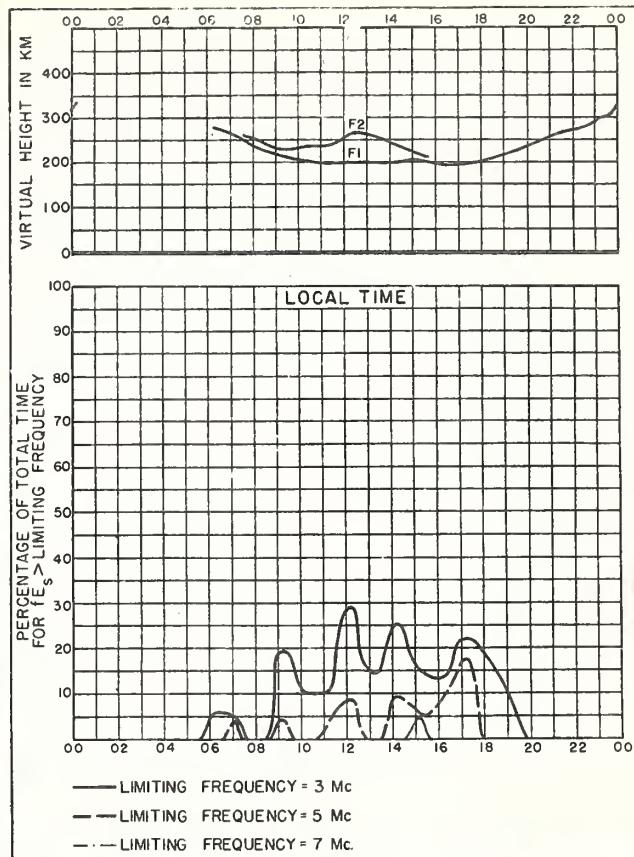


Fig. 41. CHUNGKING, CHINA

DECEMBER, 1945

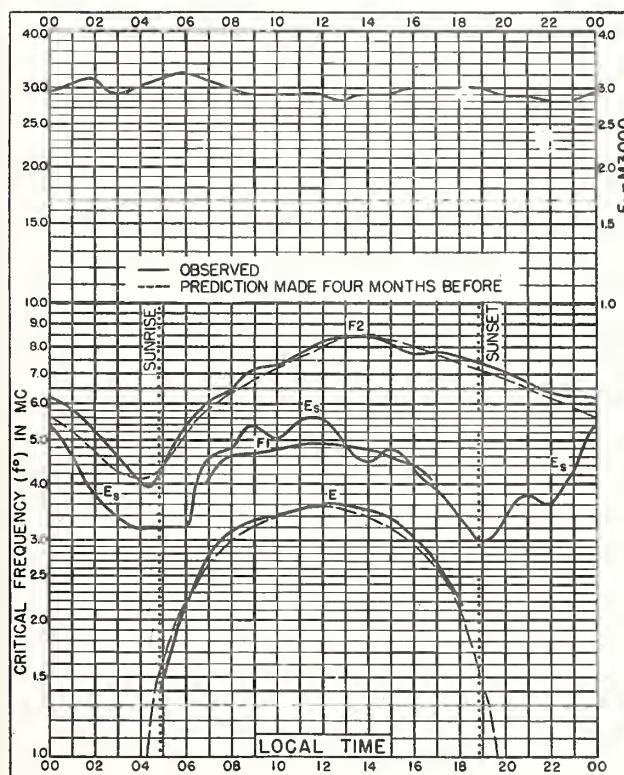


Fig. 42. WATHEROO, W. AUSTRALIA  
30.3°S, 115.9°E

DECEMBER, 1945

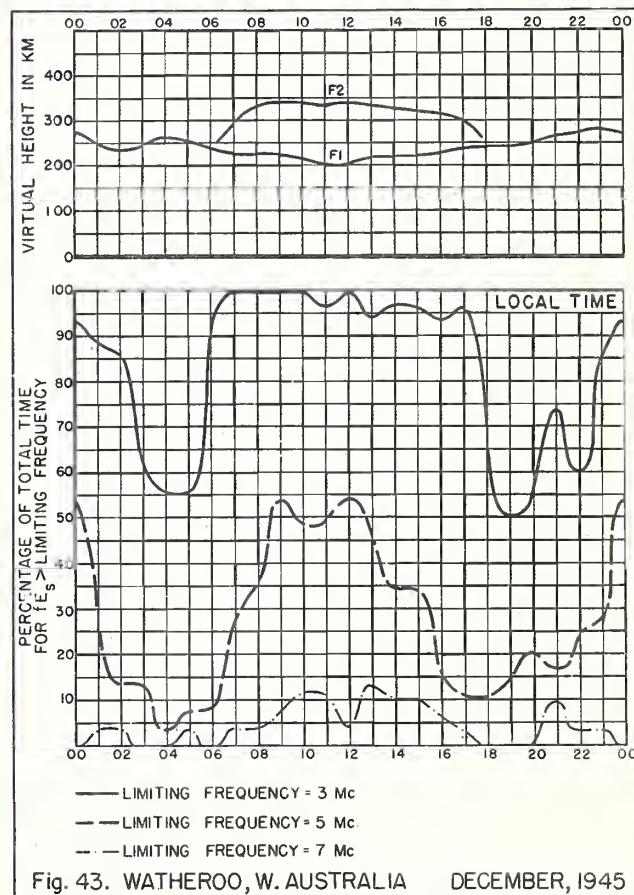
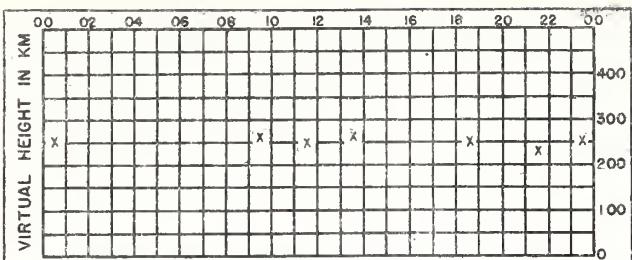


Fig. 43. WATHEROO, W. AUSTRALIA

DECEMBER, 1945



PREDICTION MADE FOUR MONTHS BEFORE  
X = ISOLATED F2 - LAYER OBSERVATIONS

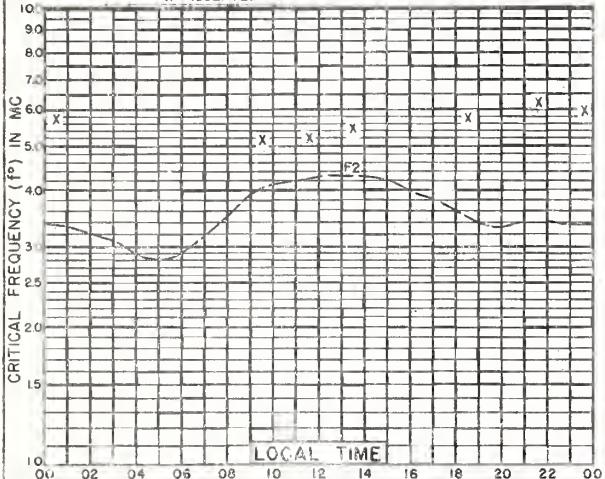
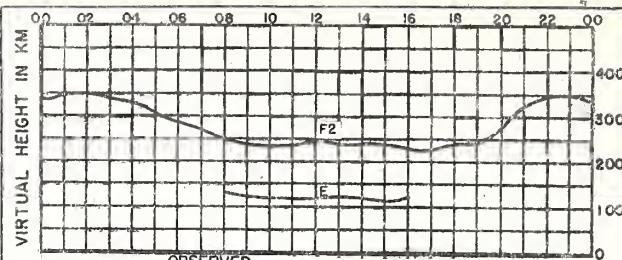


Fig. 44. BUKHTA TIKHAYA  
80.3°N, 52.7°E  
NOVEMBER, 1945



OBSERVED  
PREDICTION MADE FOUR MONTHS BEFORE

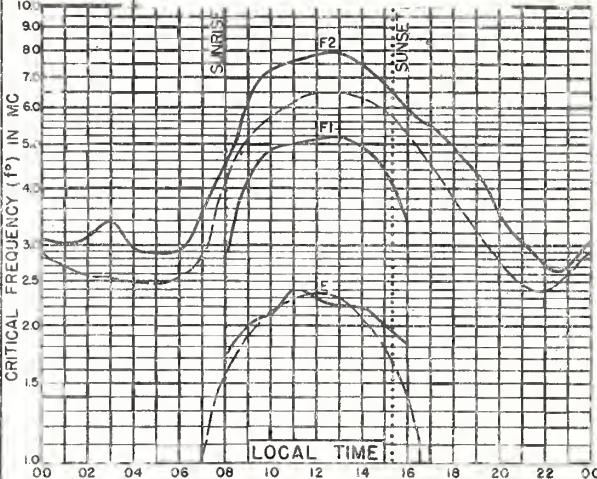
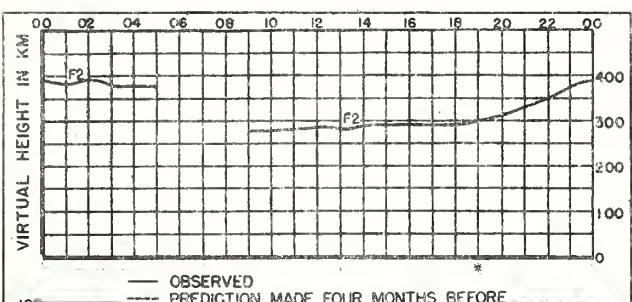
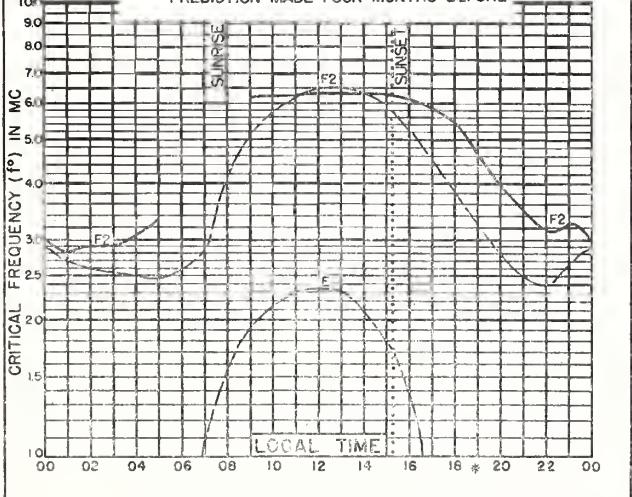


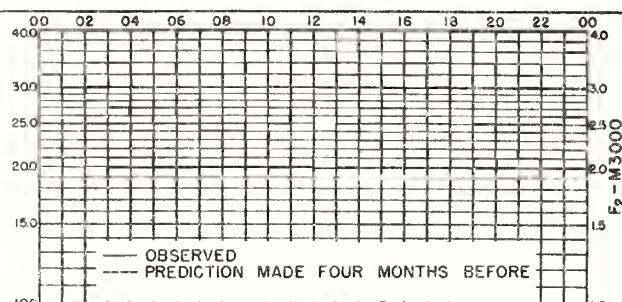
Fig. 45. LENINGRAD (WETKAS), U.S.S.R.  
60.0°N, 30.3°E  
NOVEMBER, 1945



OBSERVED  
PREDICTION MADE FOUR MONTHS BEFORE



\* DENOTES INTERPOLATED VALUES  
FOR HOURS INDICATED  
Fig. 46. LENINGRAD (LDRS), U.S.S.R.  
59.9°N, 30.3°E  
NOVEMBER, 1945



OBSERVED  
PREDICTION MADE FOUR MONTHS BEFORE

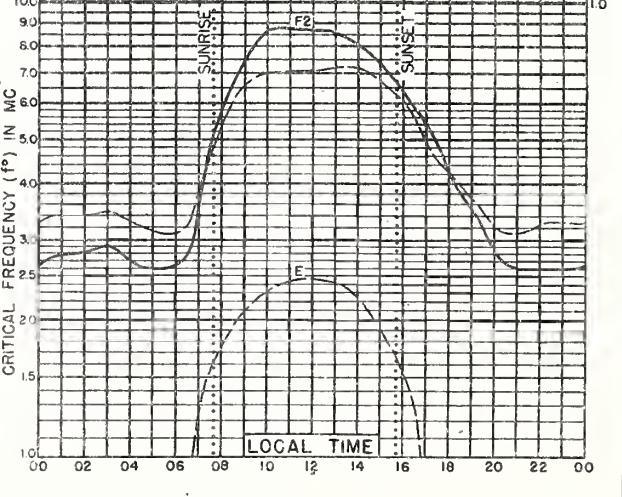


Fig. 47. SVERDLOVSK, U.S.S.R.  
56.7°N, 61.1E  
NOVEMBER, 1945

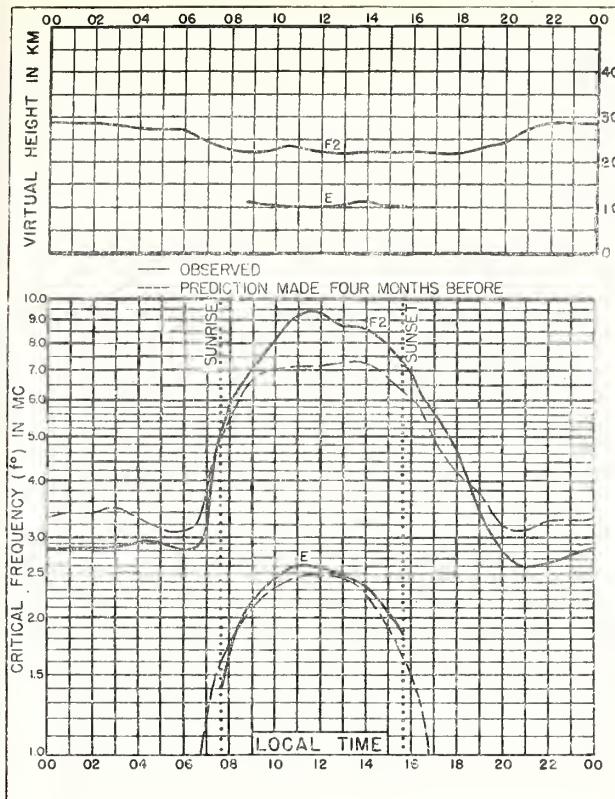


Fig. 48. TOMSK, U.S.S.R.  
56.4°N, 85.0°E NOVEMBER, 1945

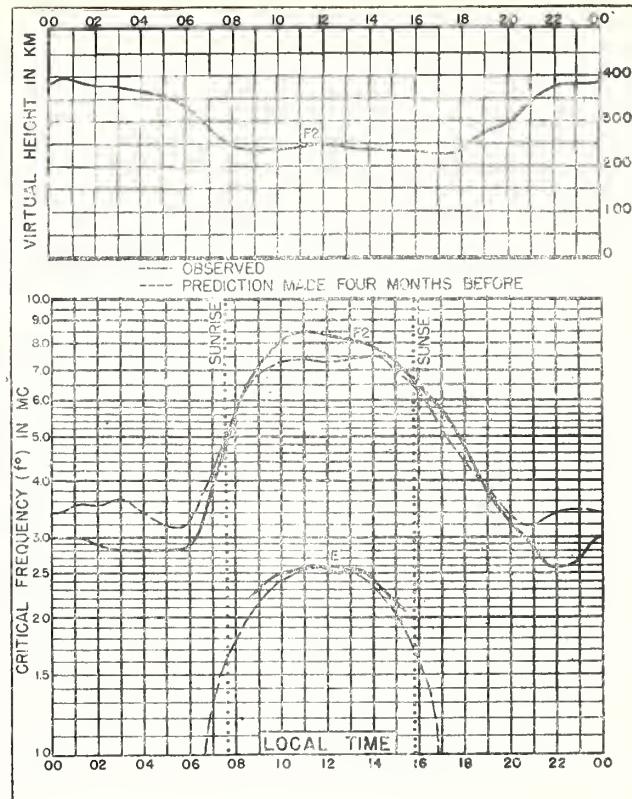


Fig. 49. MOSCOW, U.S.S.R.  
55.9°N, 37.3°E NOVEMBER, 1945

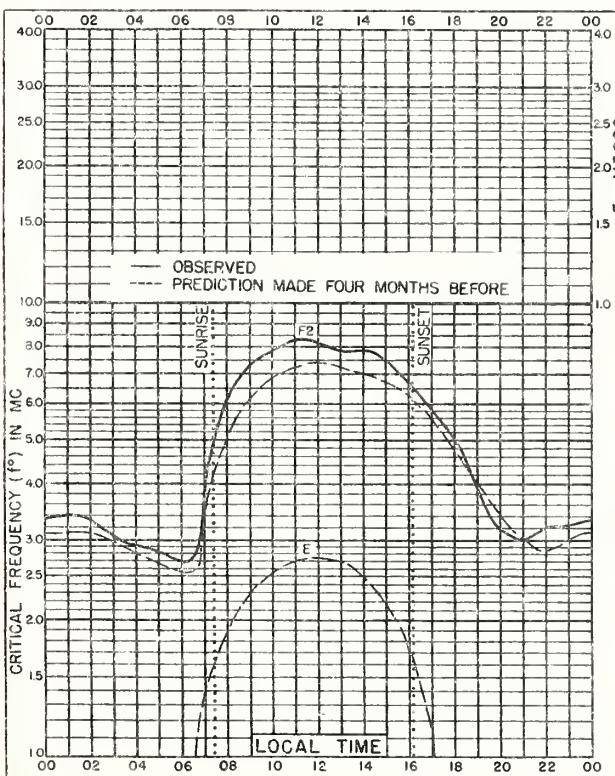


Fig. 50. SLOUGH, ENGLAND  
51.5°N, 0.6°W NOVEMBER, 1945

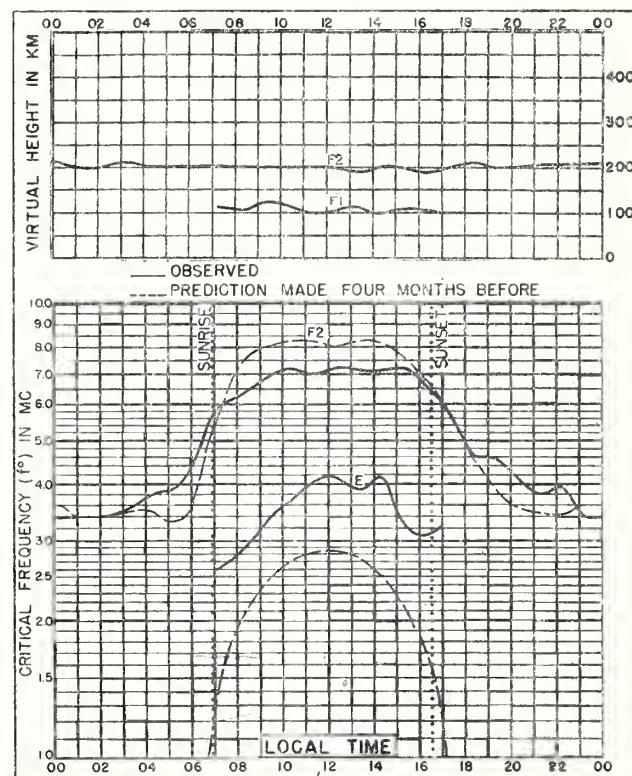
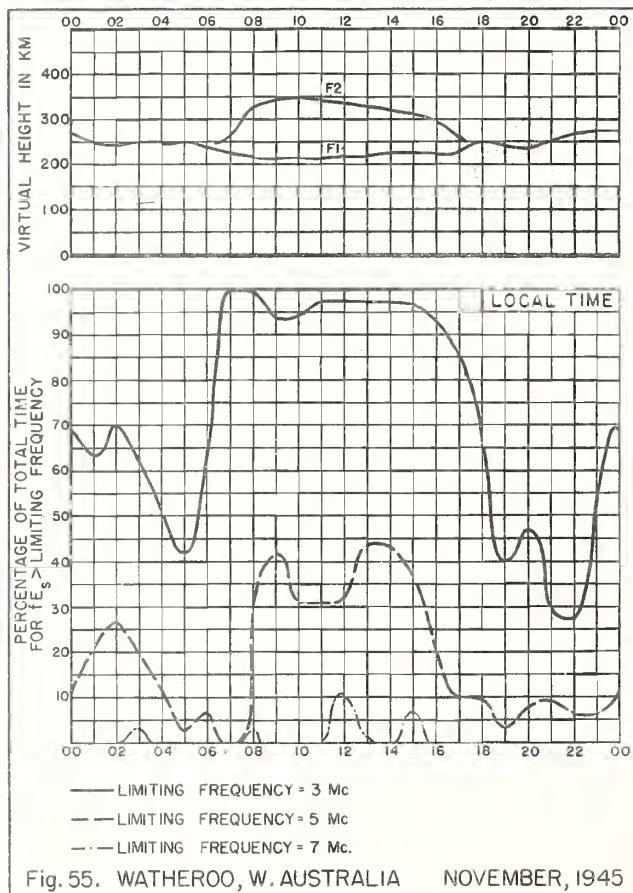
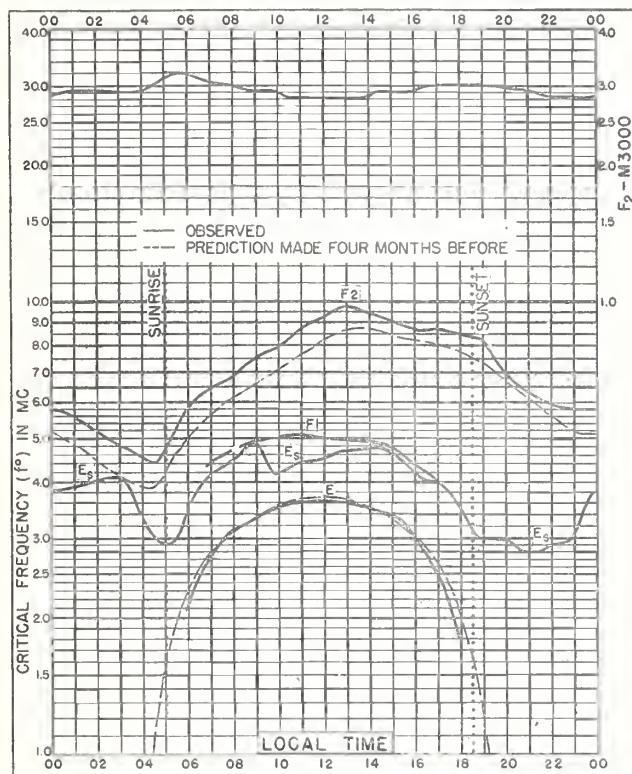
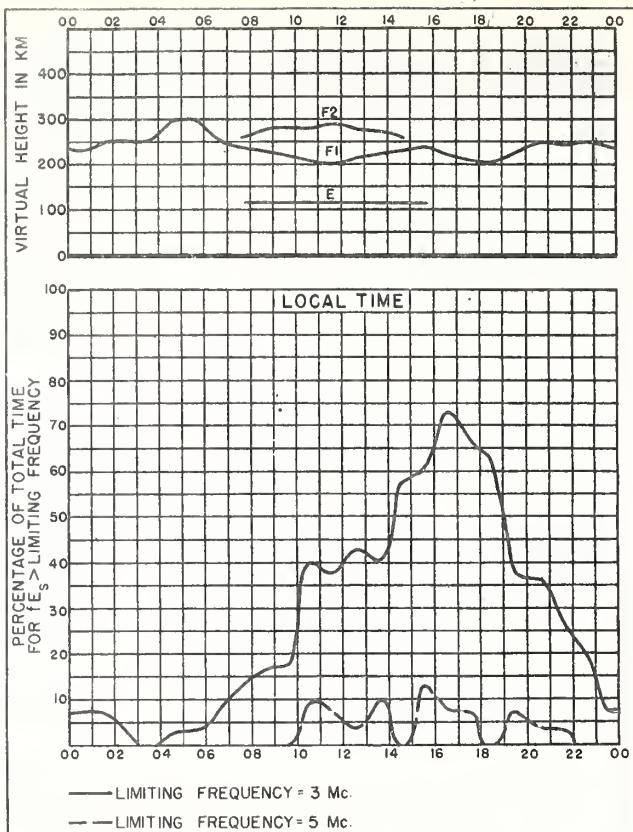
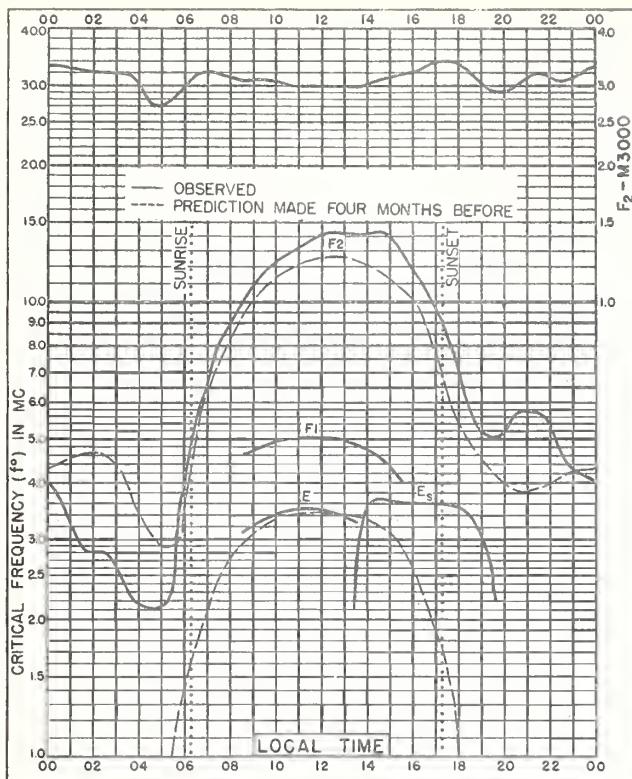


Fig. 51. ALMA ATA, U.S.S.R.  
43.5°N, 76.5°E NOVEMBER, 1945



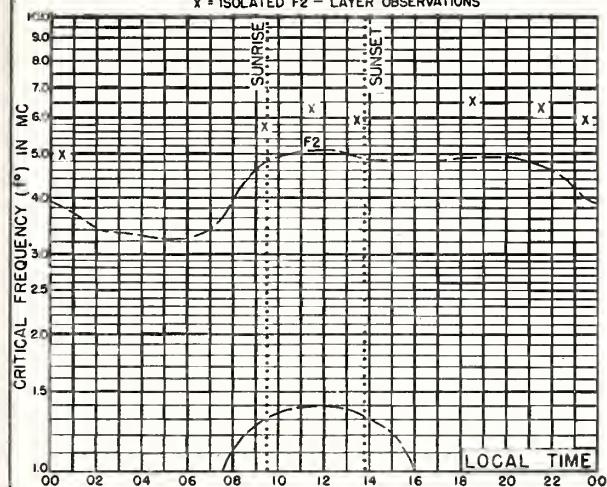
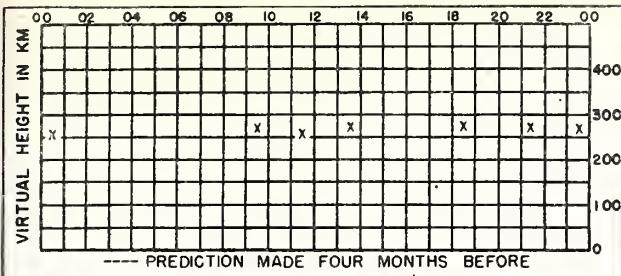


Fig. 56. BUKHTA TIKHAYA  
80.3°N, 52.7°E OCTOBER, 1945

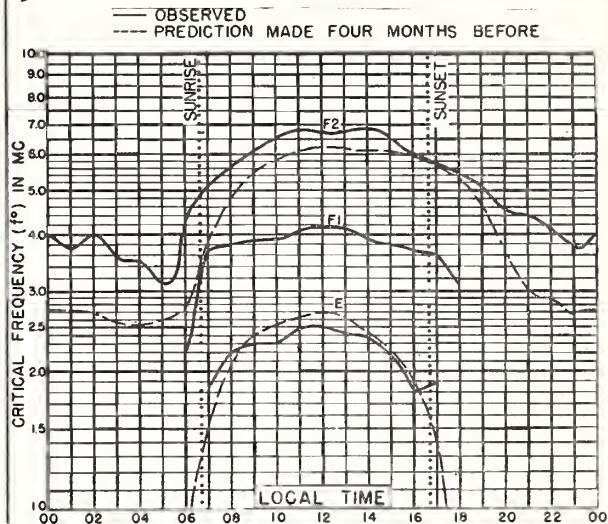
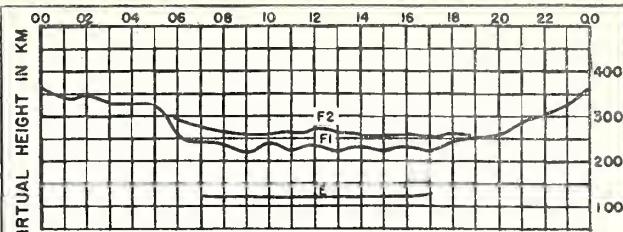
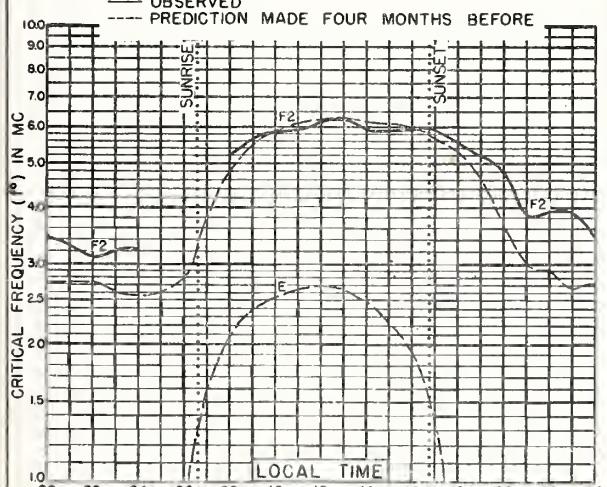
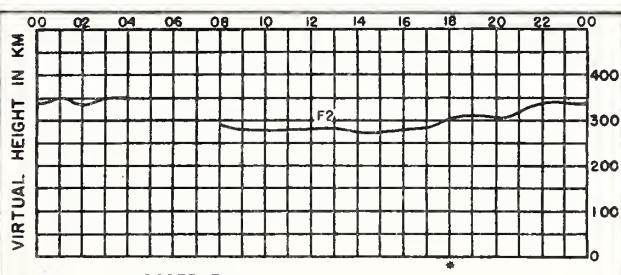


Fig. 57. LENINGRAD (WETKAS), U.S.S.R.  
60.0°N, 30.3°E OCTOBER, 1945



\* DENOTES INTERPOLATED VALUES  
FOR HOURS INDICATED

Fig. 58. LENINGRAD (LDRS), U.S.S.R.  
59.9°N, 30.3°E OCTOBER, 1945

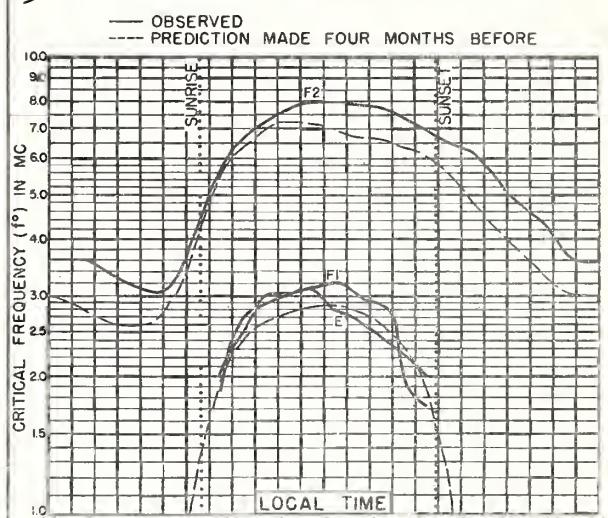
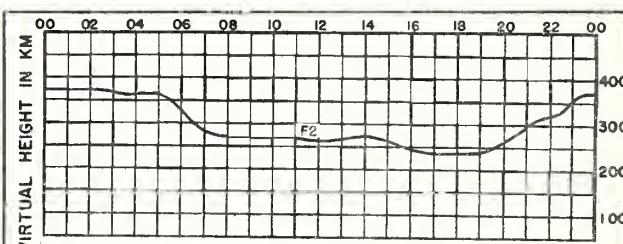


Fig. 59. MOSCOW, U.S.S.R.  
55.9°N, 37.3°E OCTOBER, 1945

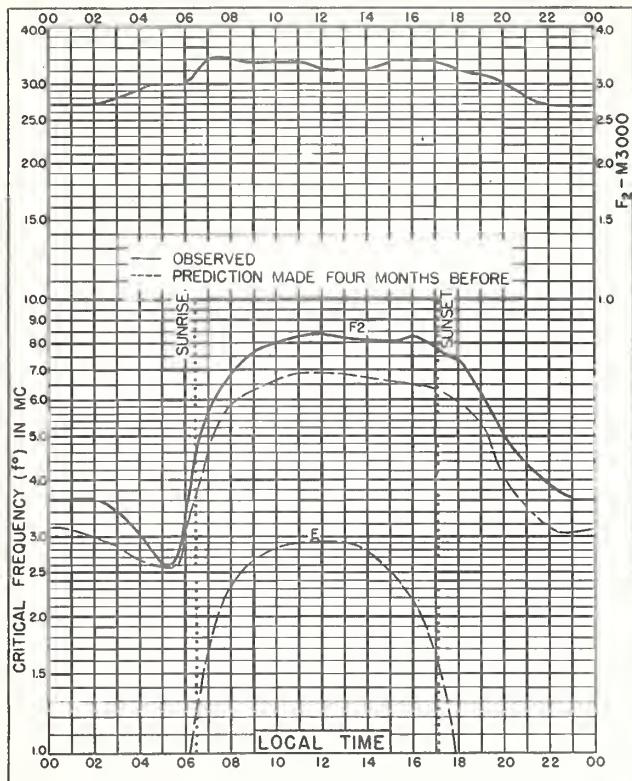


Fig. 60. SLOUGH, ENGLAND  
51.5°N, 0.6°W OCTOBER, 1945

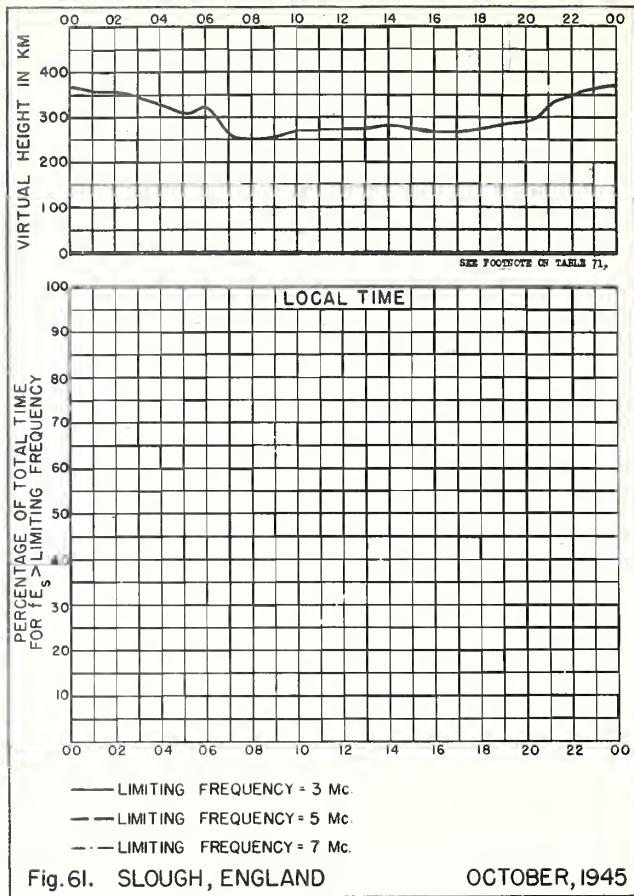


Fig. 61. SLOUGH, ENGLAND OCTOBER, 1945

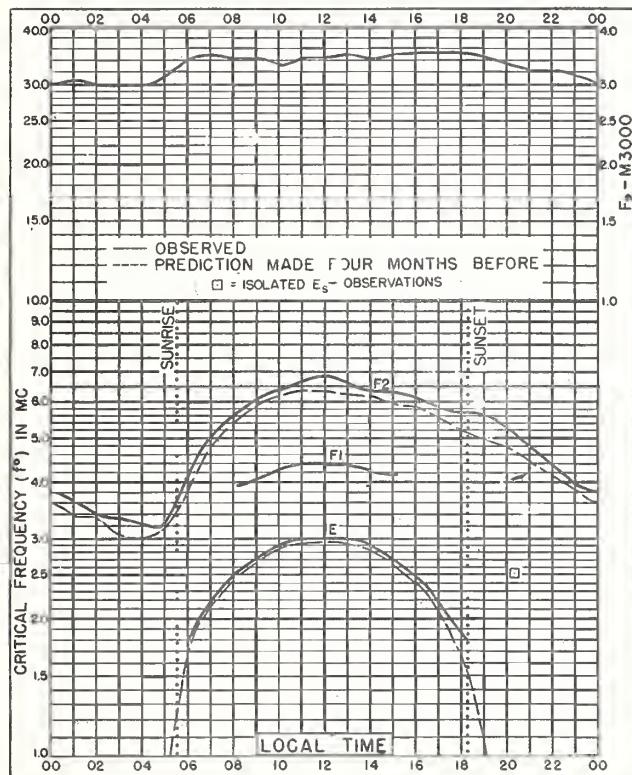


Fig. 62. SVERDLOVSK, U.S.S.R.  
56.7°N, 61.1°E SEPTEMBER, 1945

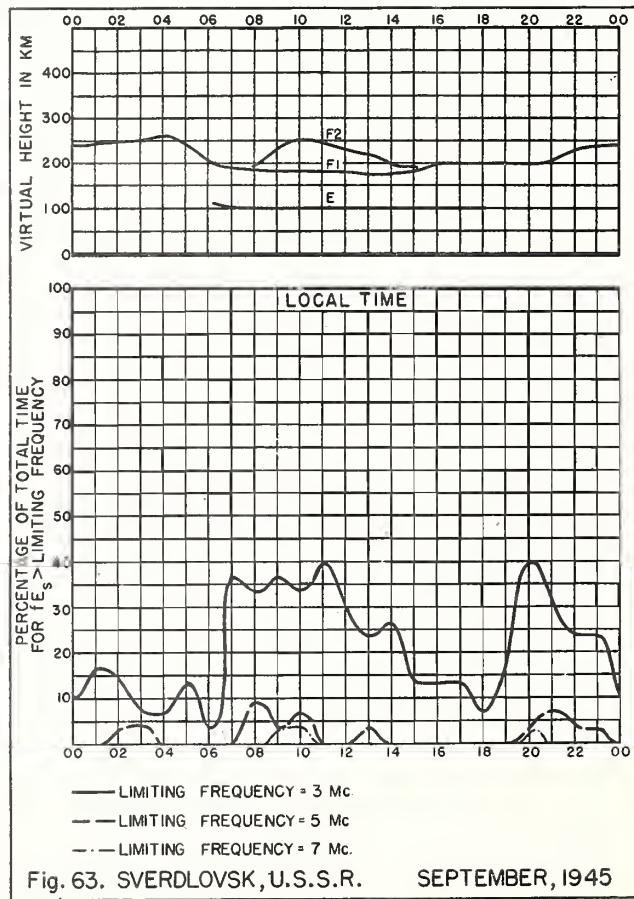


Fig. 63. SVERDLOVSK, U.S.S.R. SEPTEMBER, 1945

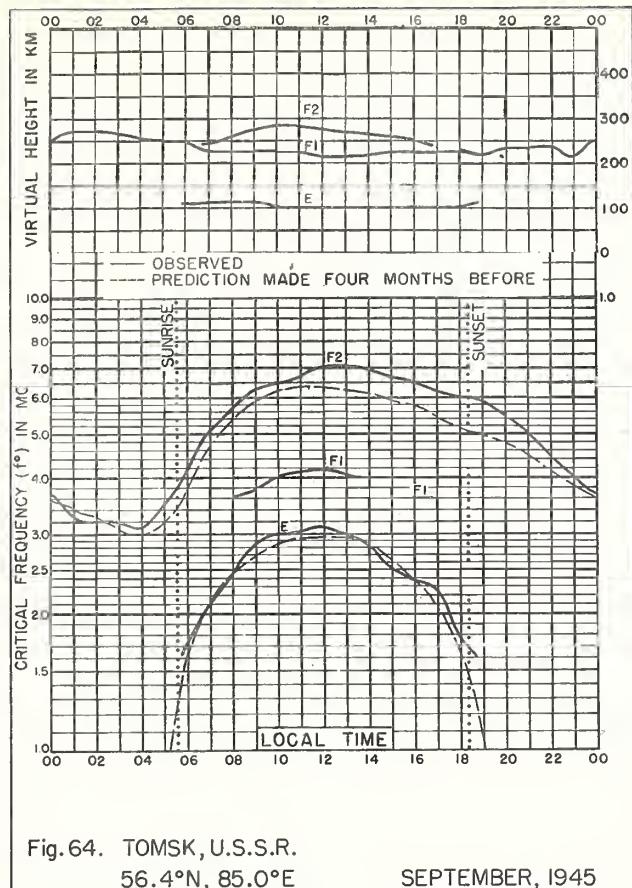


Fig. 64. TOMSK, U.S.S.R.

56.4°N, 85.0°E

SEPTEMBER, 1945

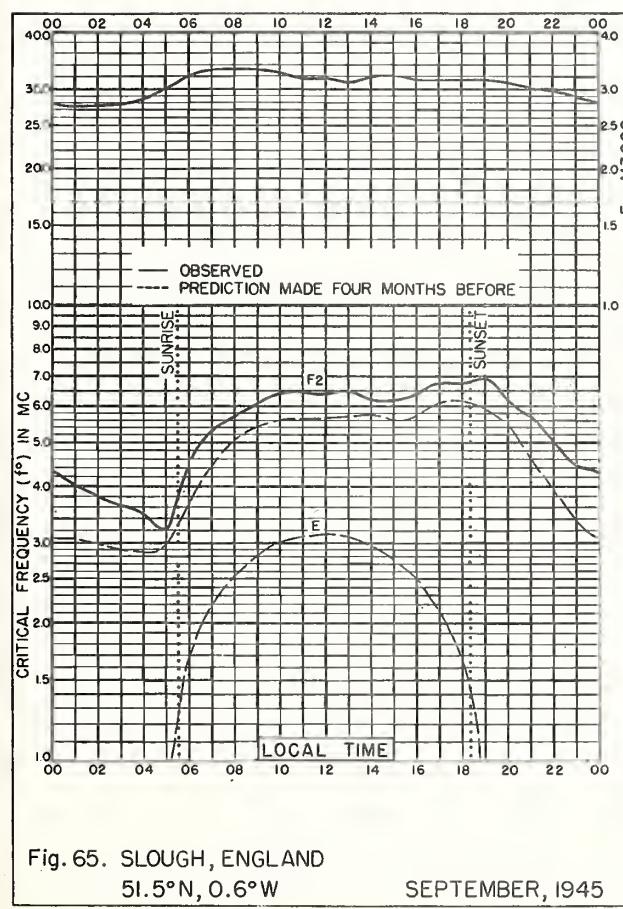


Fig. 65. SLOUGH, ENGLAND

51.5°N, 0.6°W

SEPTEMBER, 1945

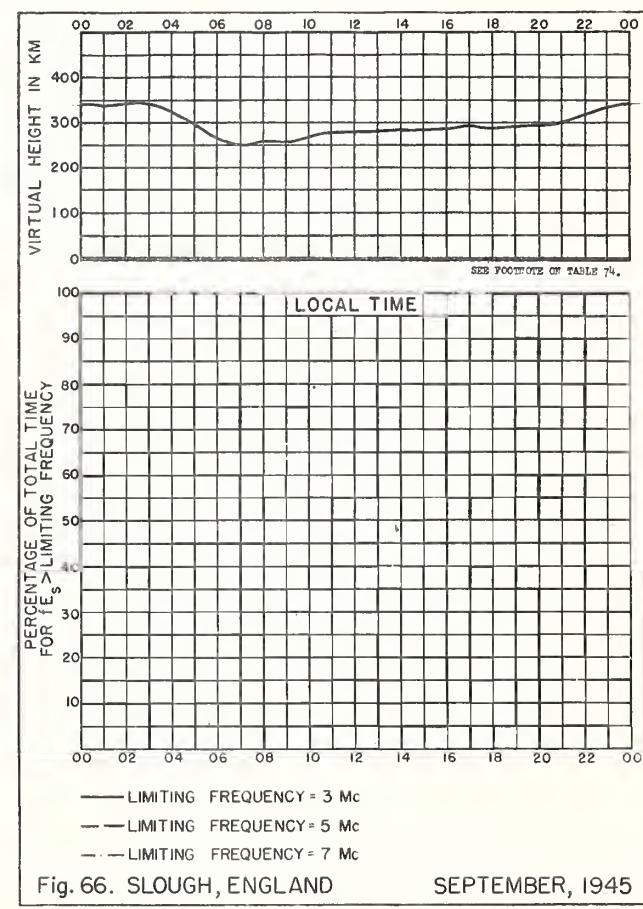
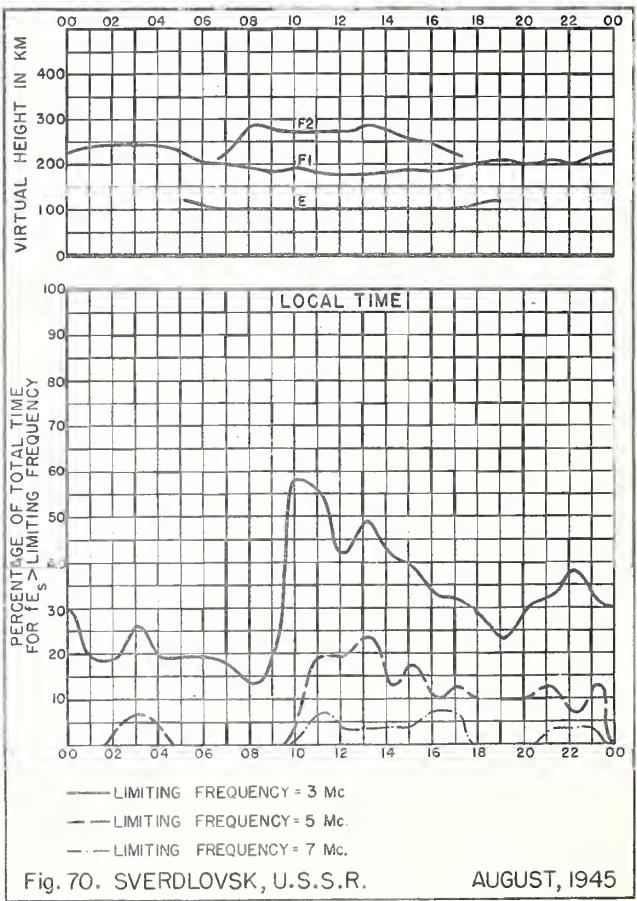
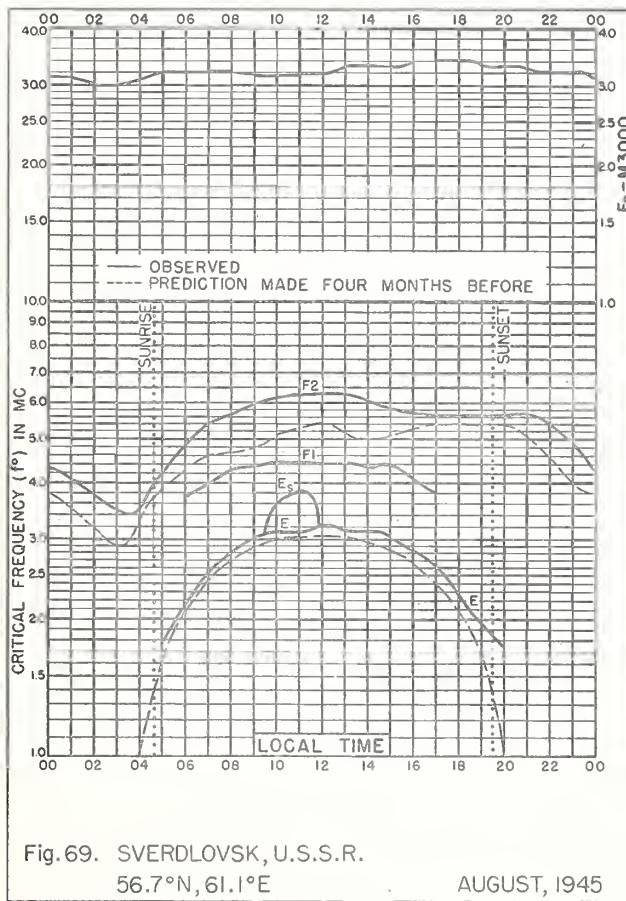
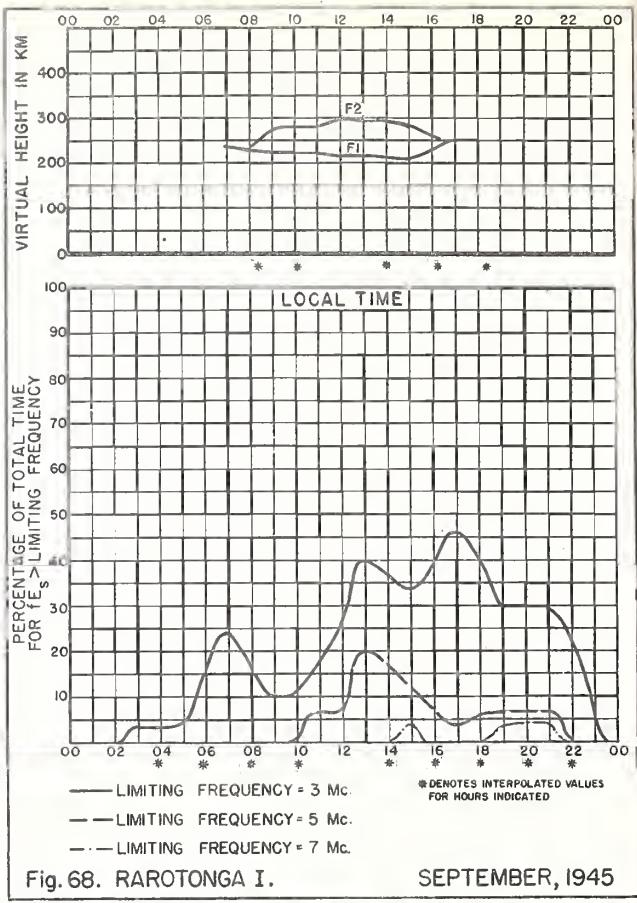
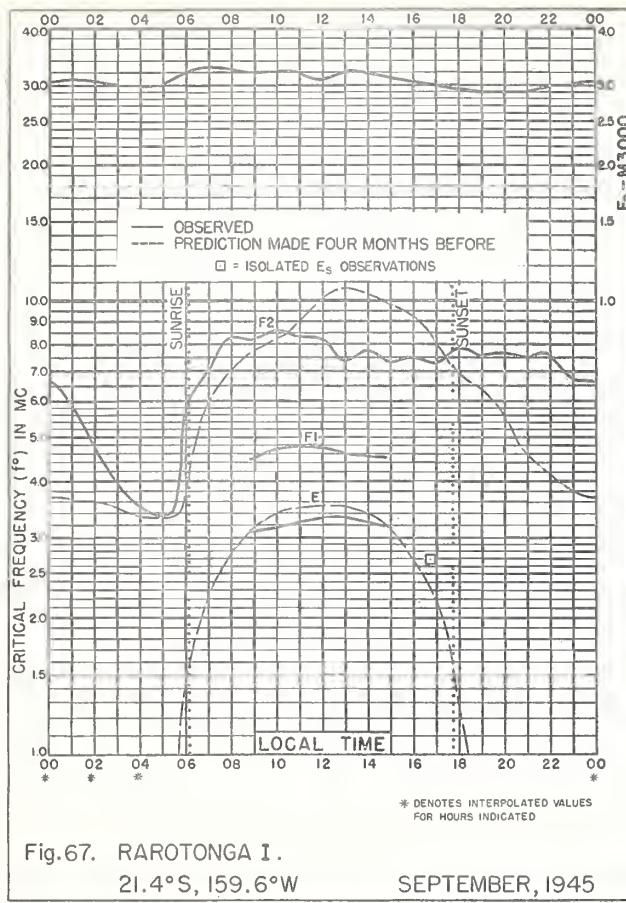
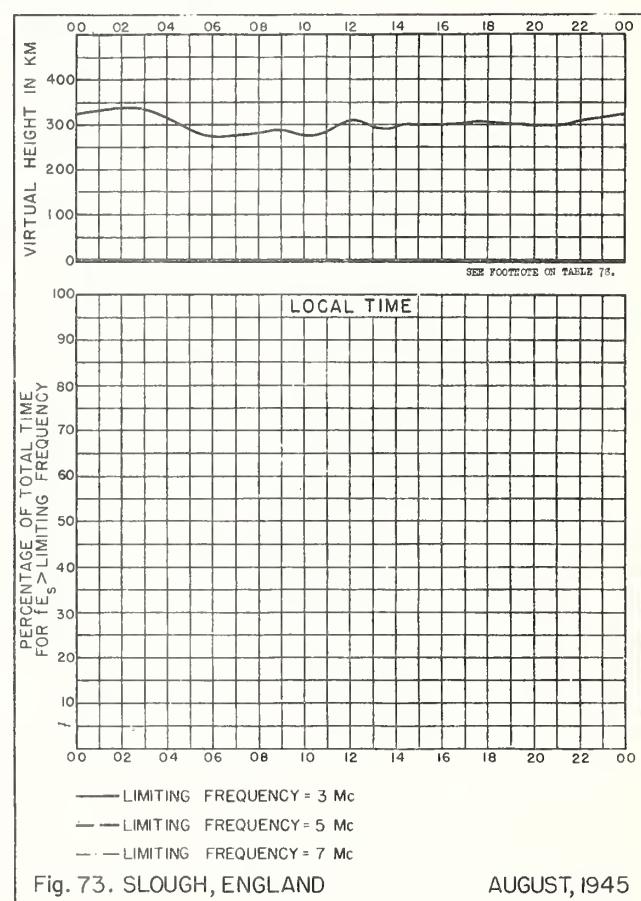
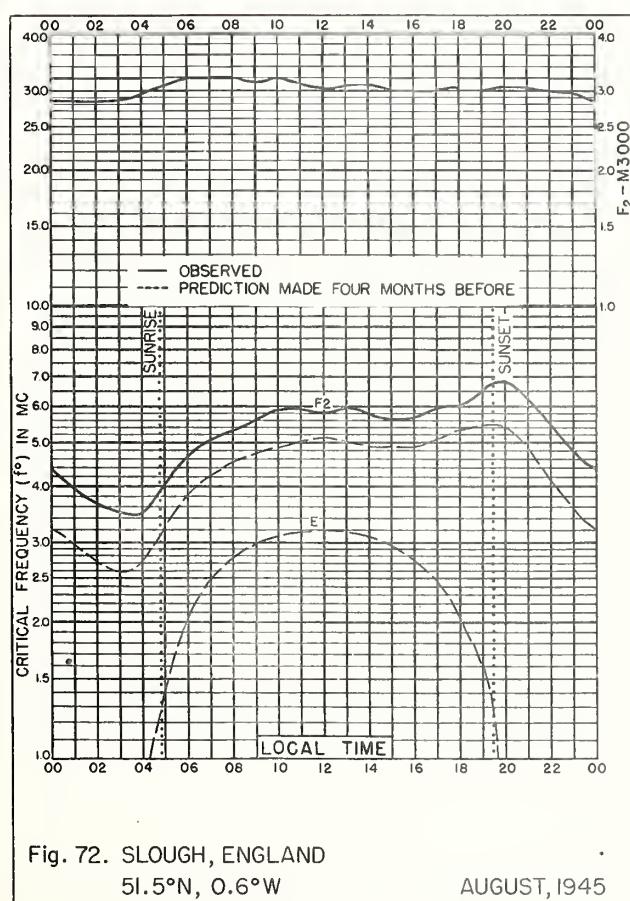
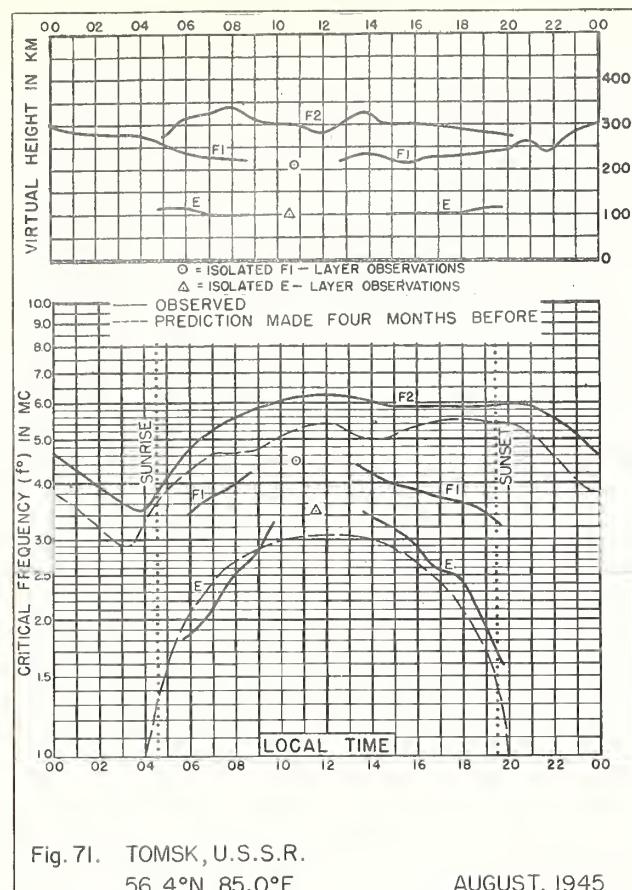
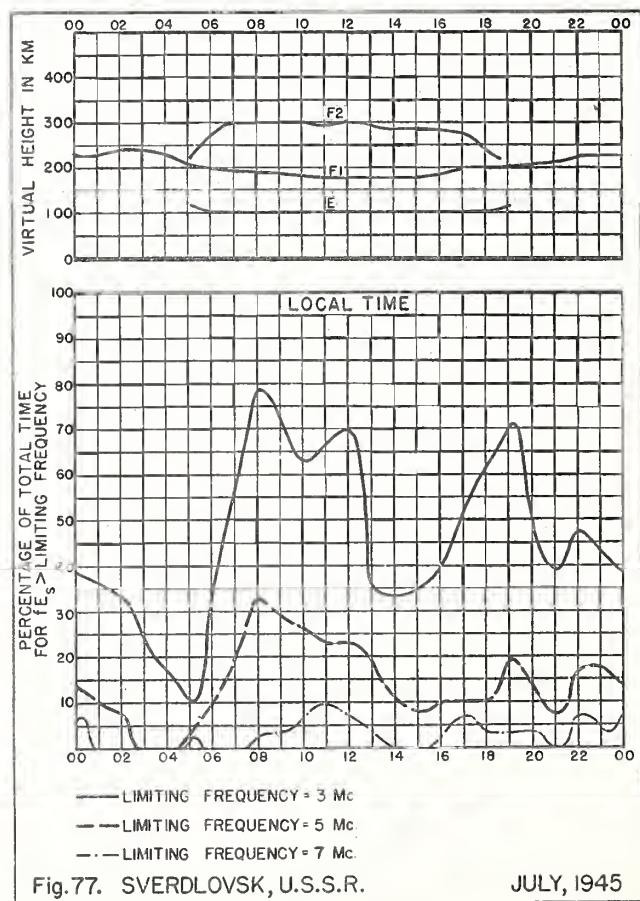
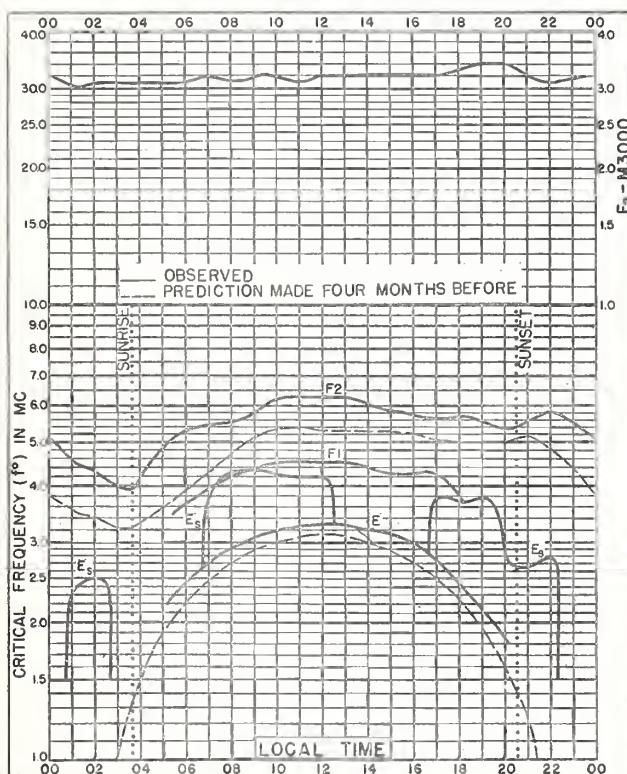
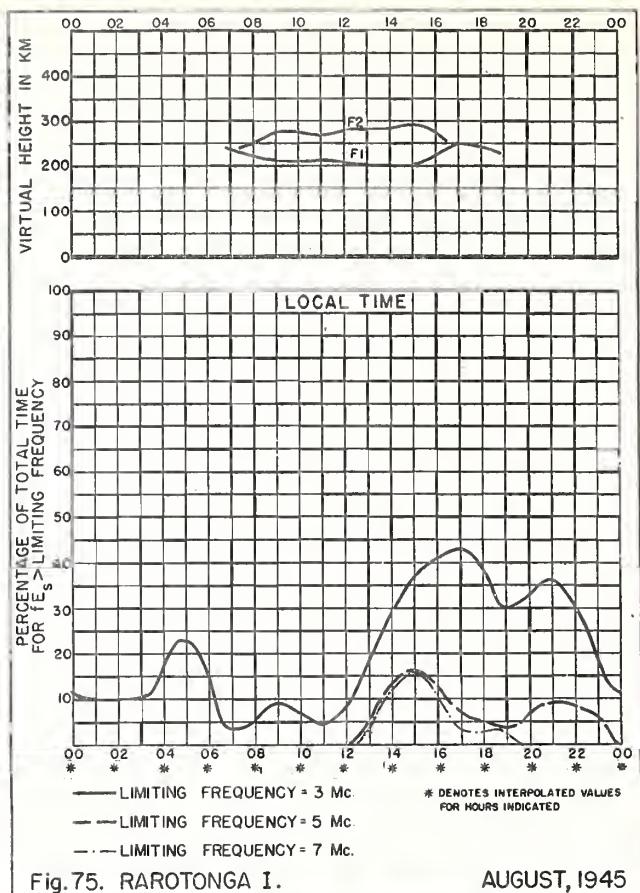
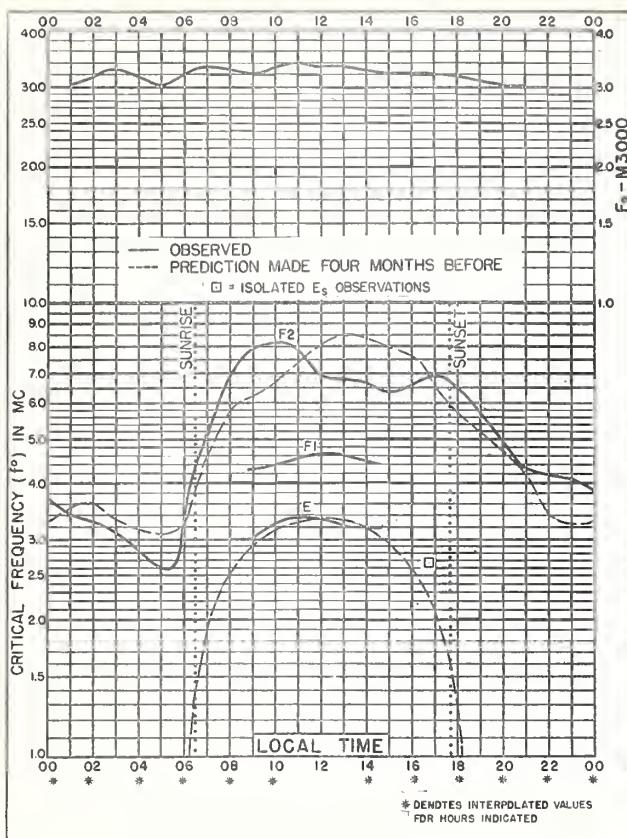


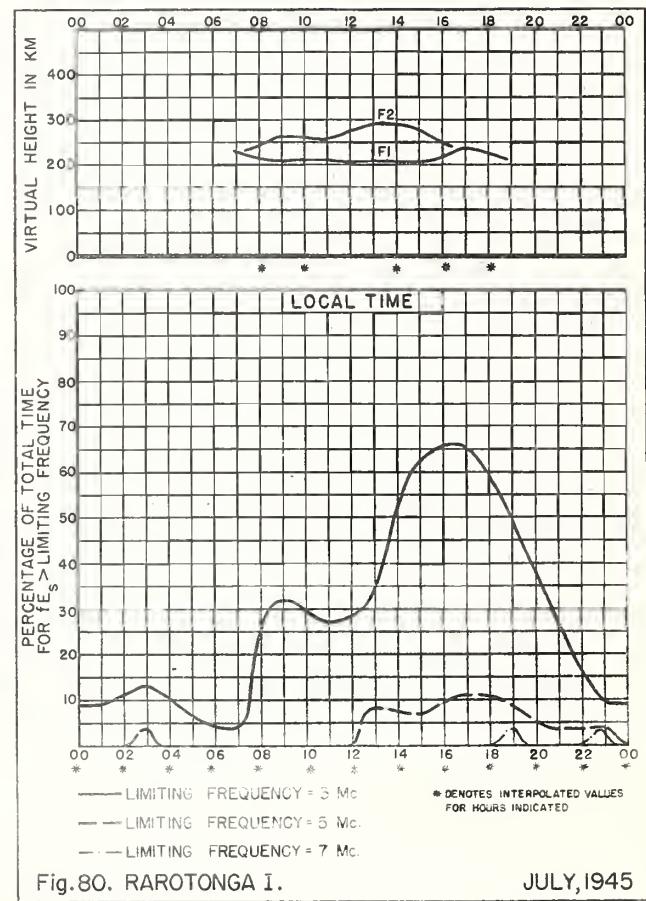
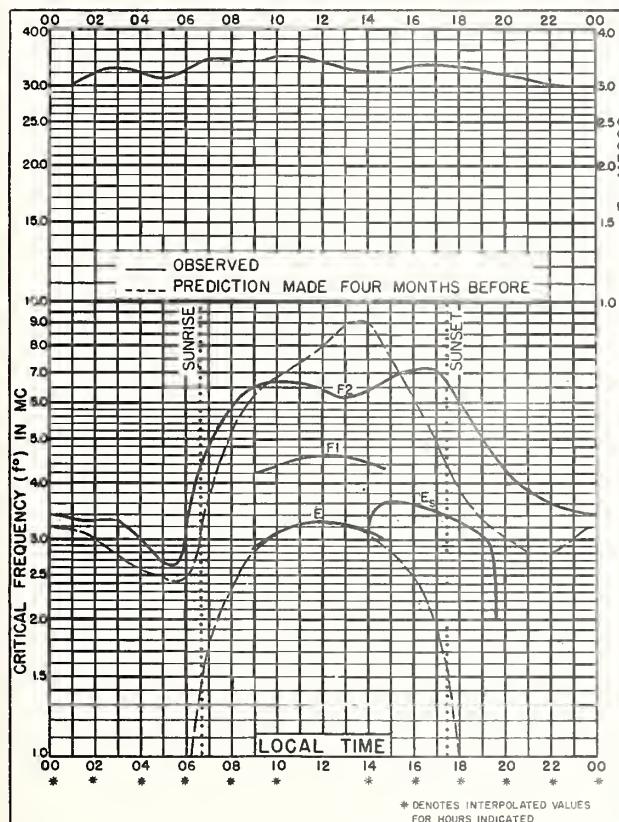
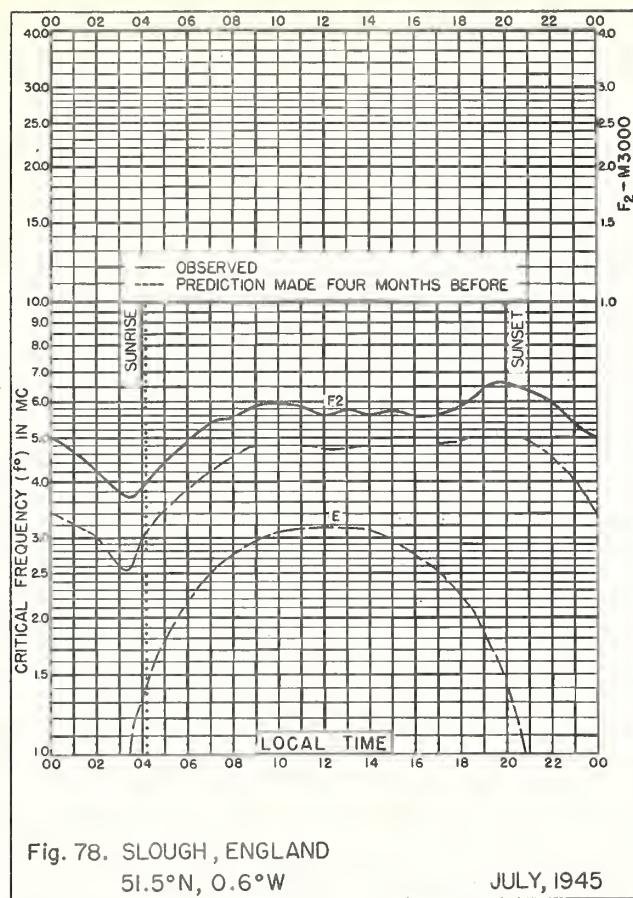
Fig. 66. SLOUGH, ENGLAND

SEPTEMBER, 1945









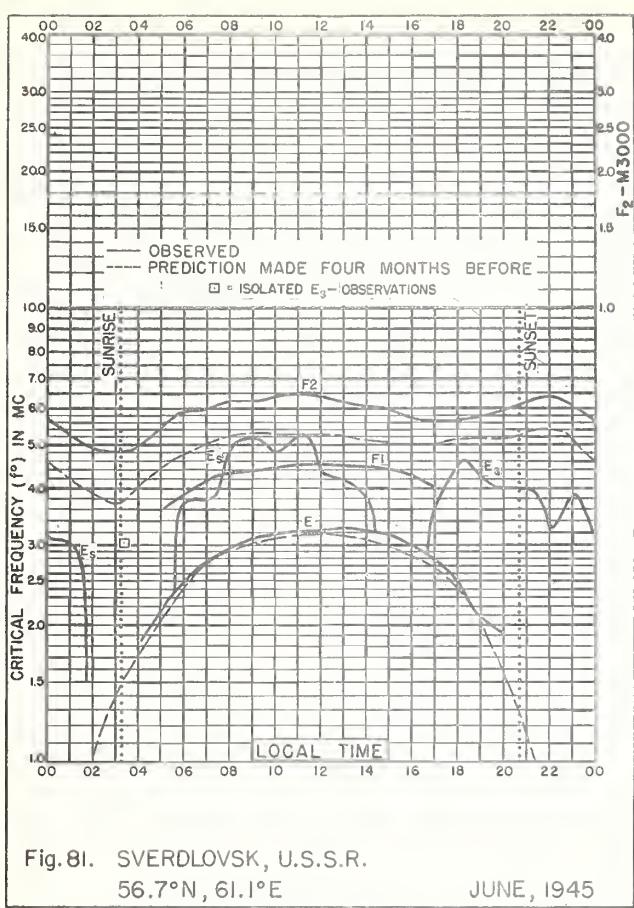


Fig. 81. SVERDLOVSK, U.S.S.R.

56.7°N, 61.1°E

JUNE, 1945

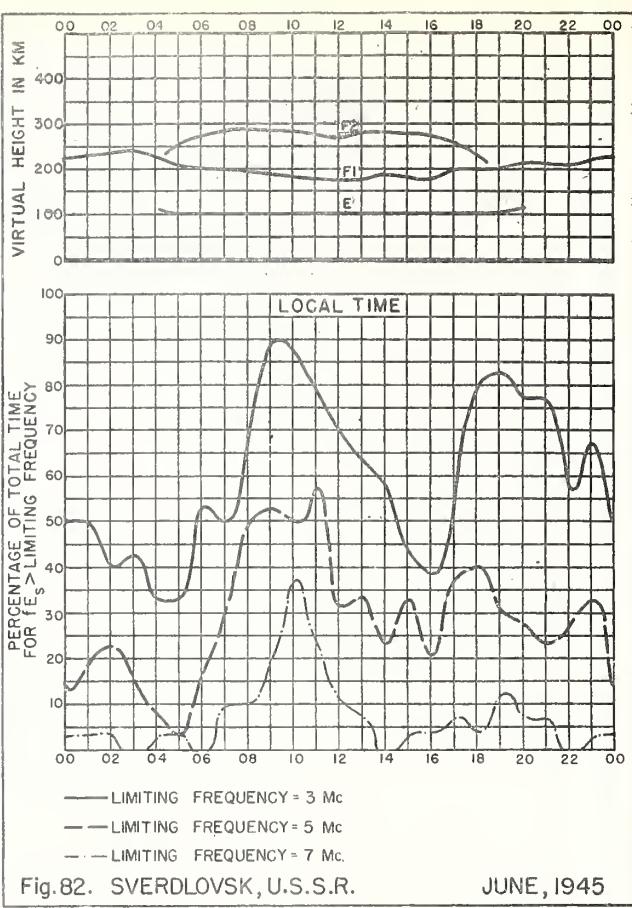


Fig. 82. SVERDLOVSK, U.S.S.R.

JUNE, 1945

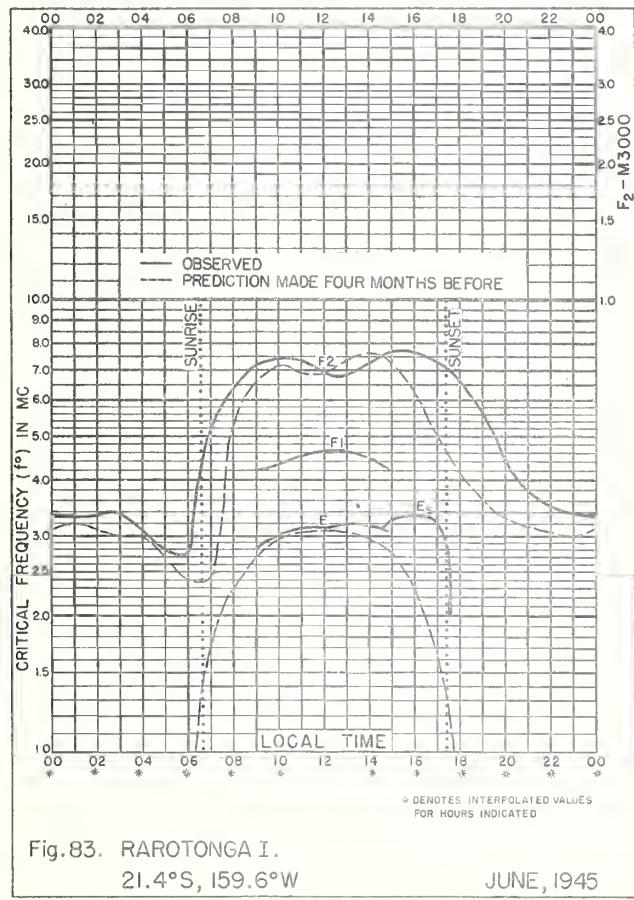


Fig. 83. RAROTONGA I.

21.4°S, 159.6°W

JUNE, 1945

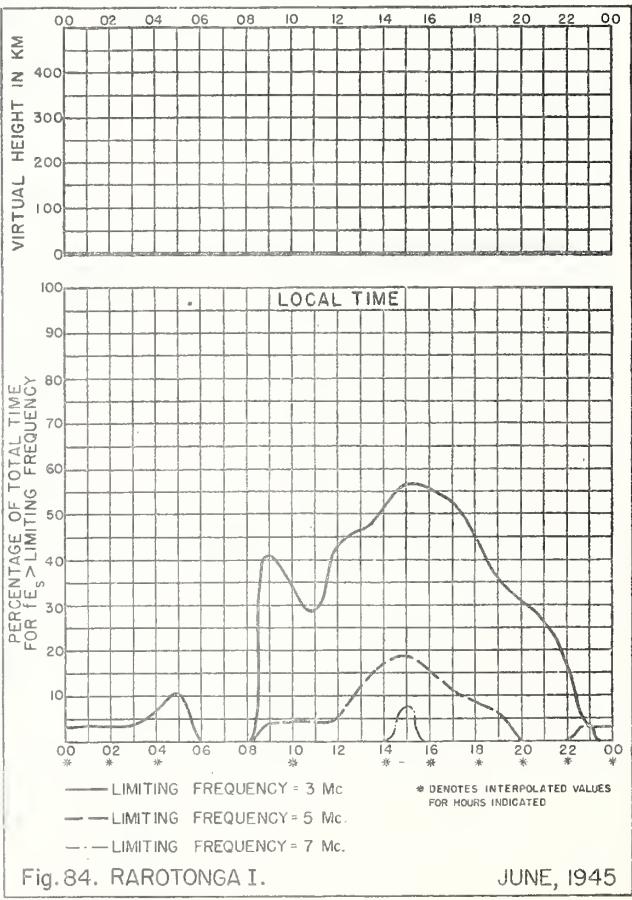


Fig. 84. RAROTONGA I.

JUNE, 1945

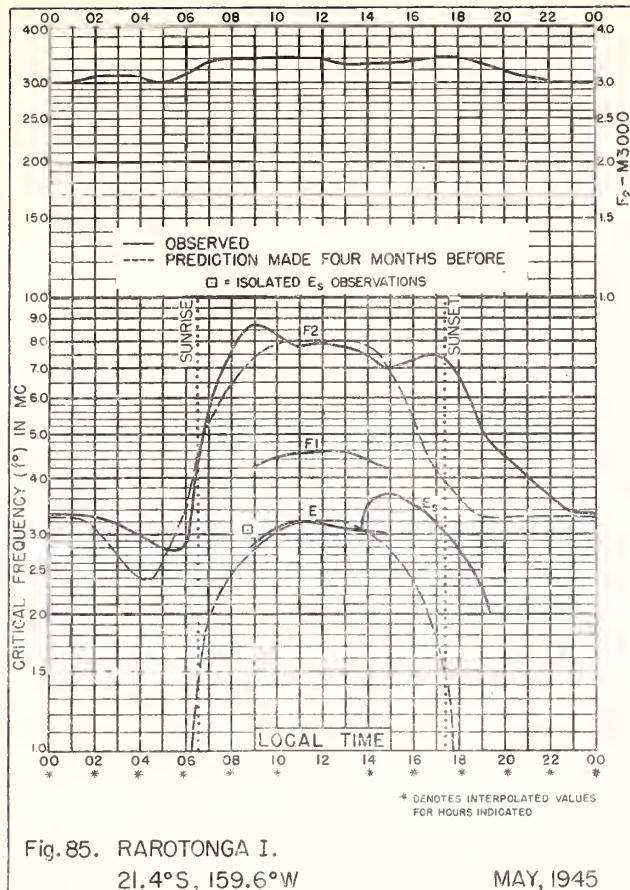


Fig. 85. RAROTONGA I.

21.4°S, 159.6°W

MAY, 1945

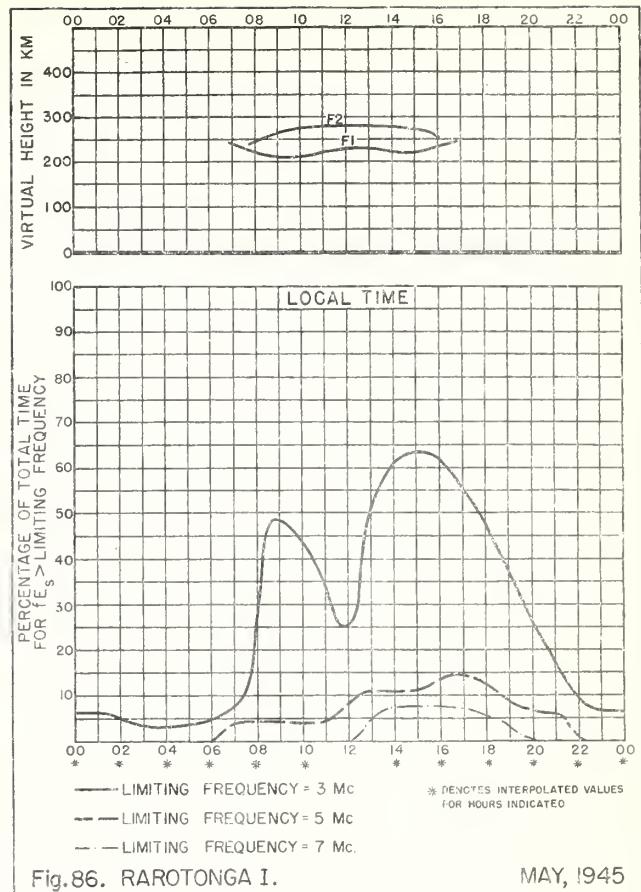


Fig. 86. RAROTONGA I.

MAY, 1945

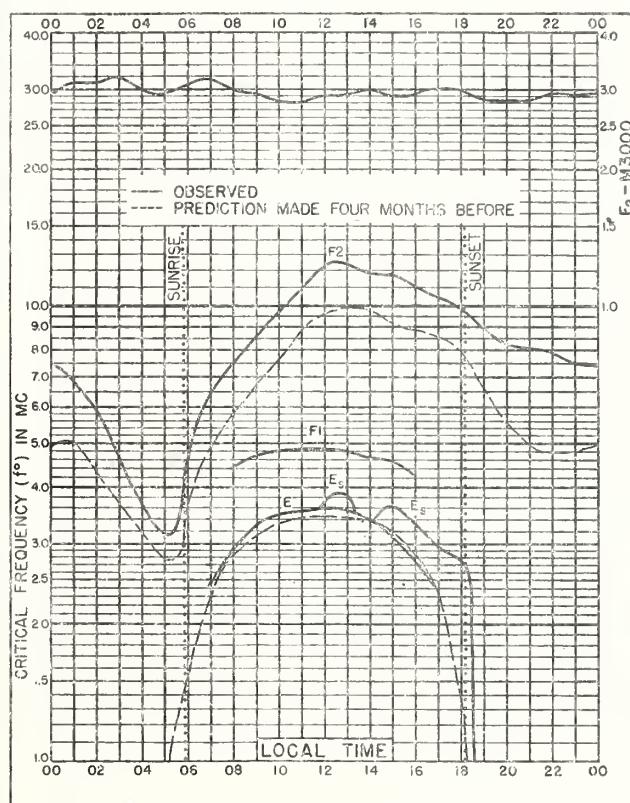


Fig. 87. TRINIDAD, BRIT. WEST INDIES

10.6°N, 61.2°W

APRIL, 1945

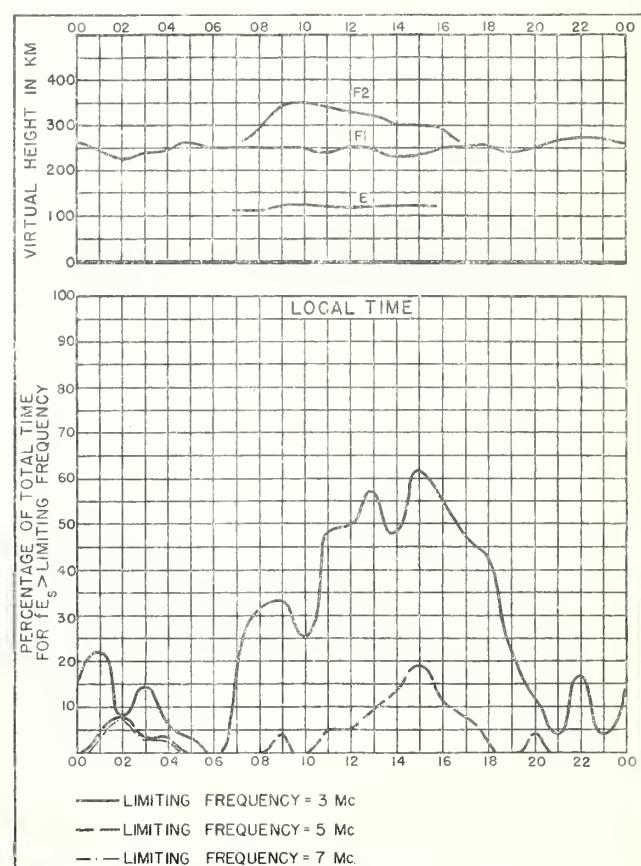


Fig. 88. TRINIDAD, BRIT. WEST INDIES

APRIL, 1945

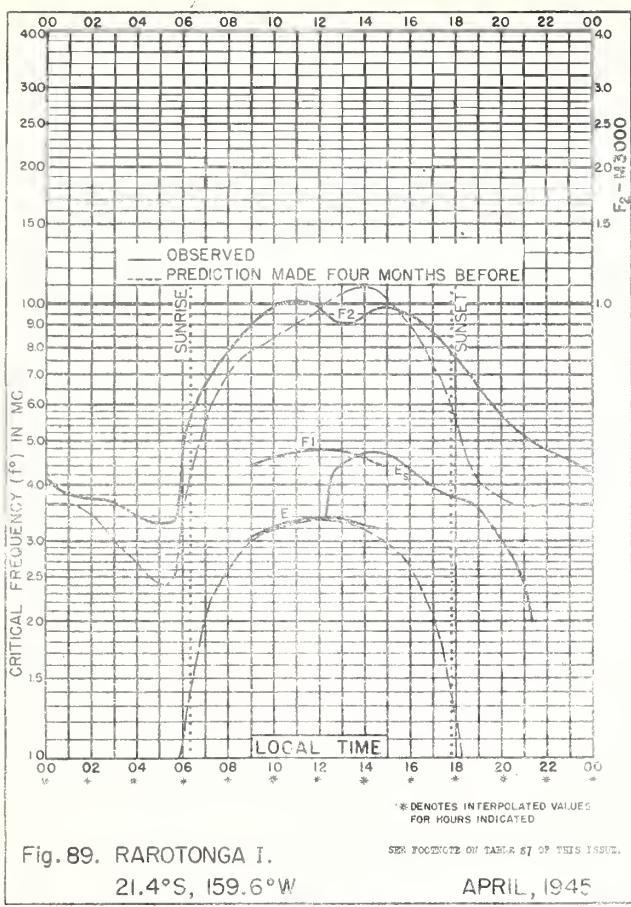


Fig. 89. RAROTONGA I.

21.4°S, 159.6°W

SEE FOOTNOTE ON TABLE 87 OF THIS ISSUE.

APRIL, 1945

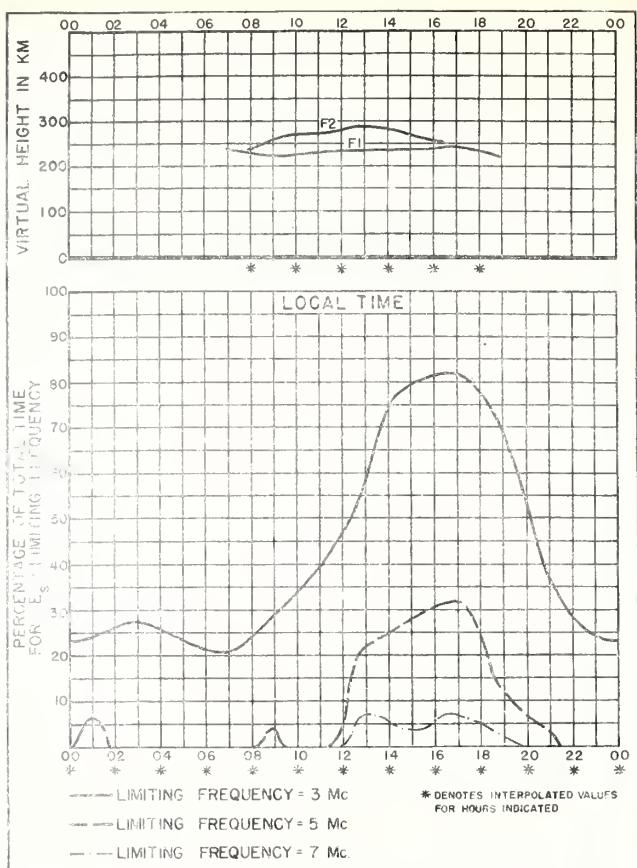


Fig. 90. RAROTONGA I.

APRIL, 1945

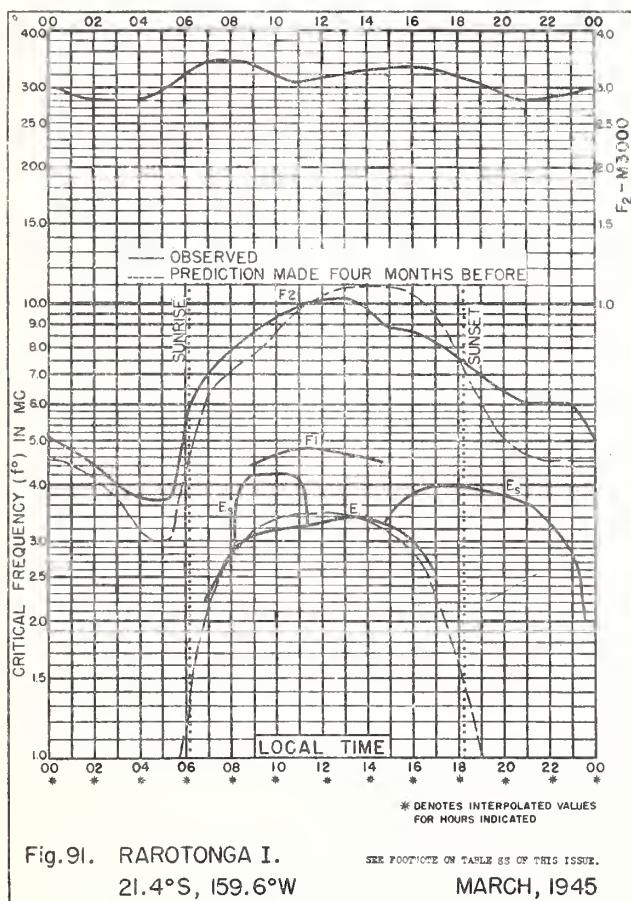


Fig. 91. RAROTONGA I.

21.4°S, 159.6°W

SEE FOOTNOTE ON TABLE 88 OF THIS ISSUE.

MARCH, 1945

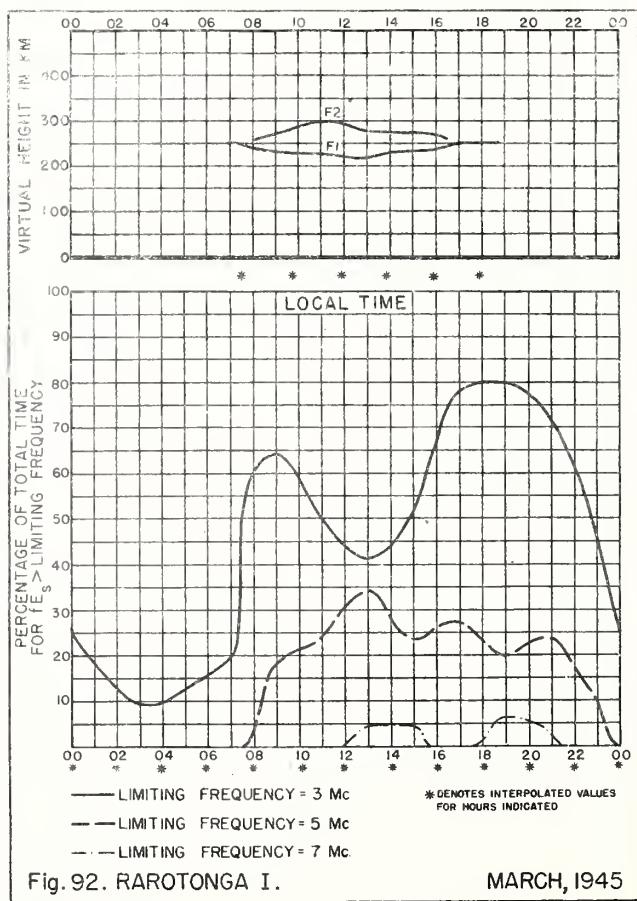


Fig. 92. RAROTONGA I.

MARCH, 1945

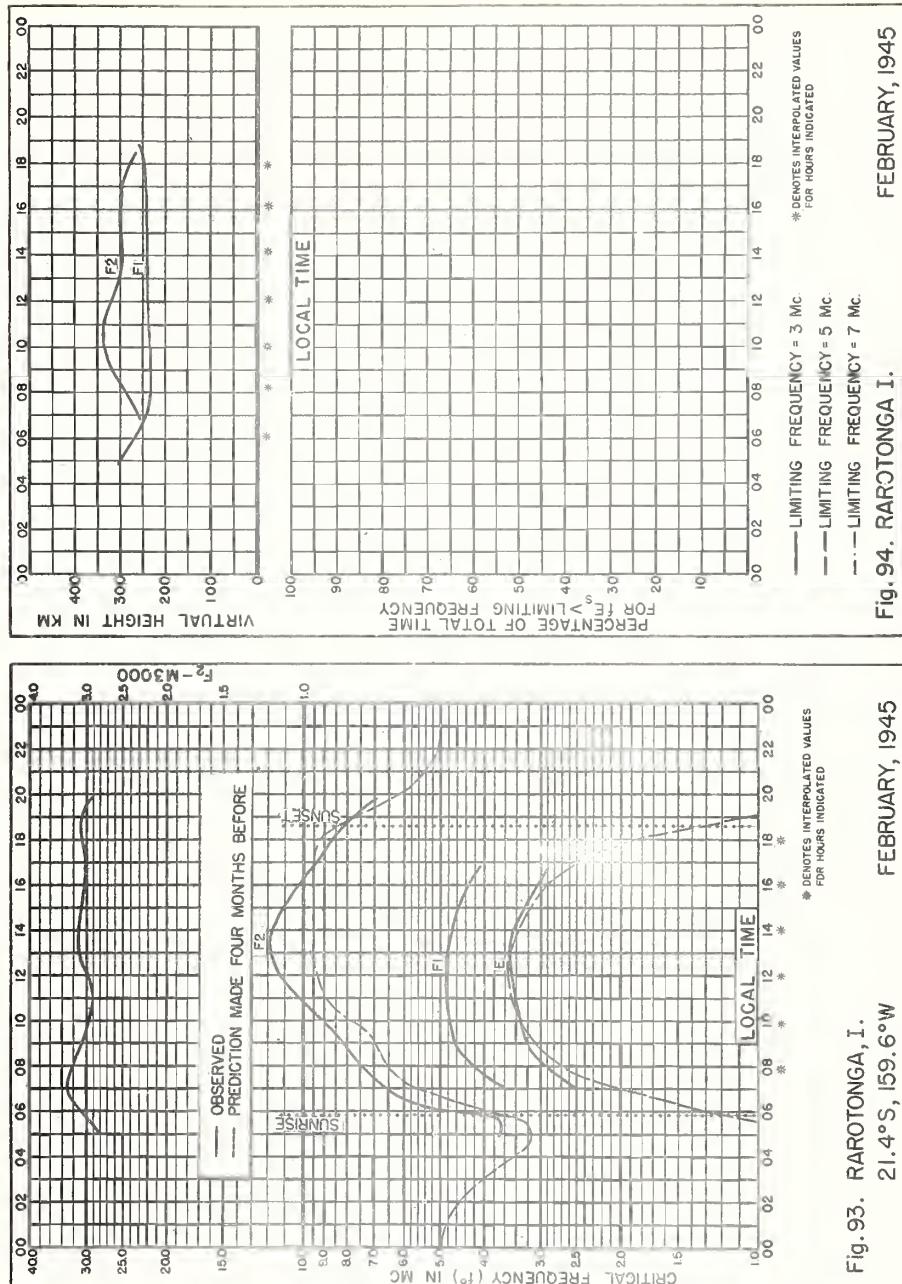


Fig. 94. RAROTONGA I.  
FEBRUARY, 1945

Fig. 93. RAROTONGA, I.  
21.4°S, 159.6°W

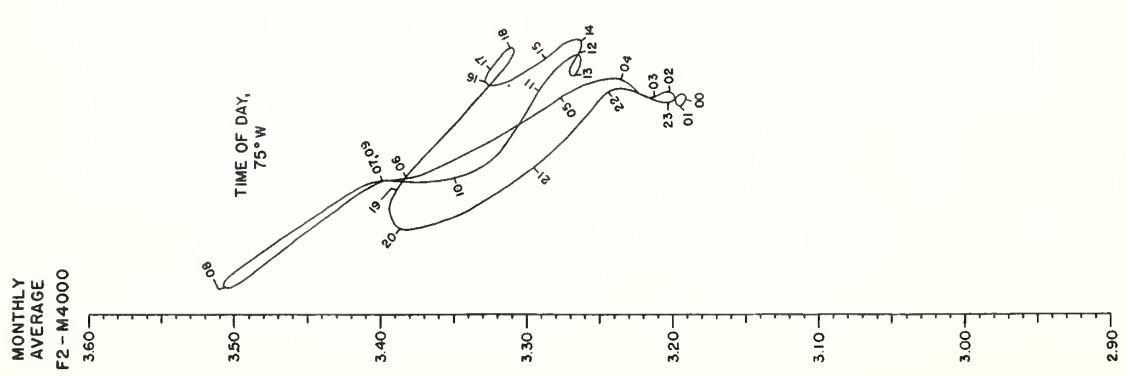


Fig. 95.  
NOMOGRAM FOR OBTAINING YEARLY AVERAGE F2-M4000, AT WASHINGTON, D.C.

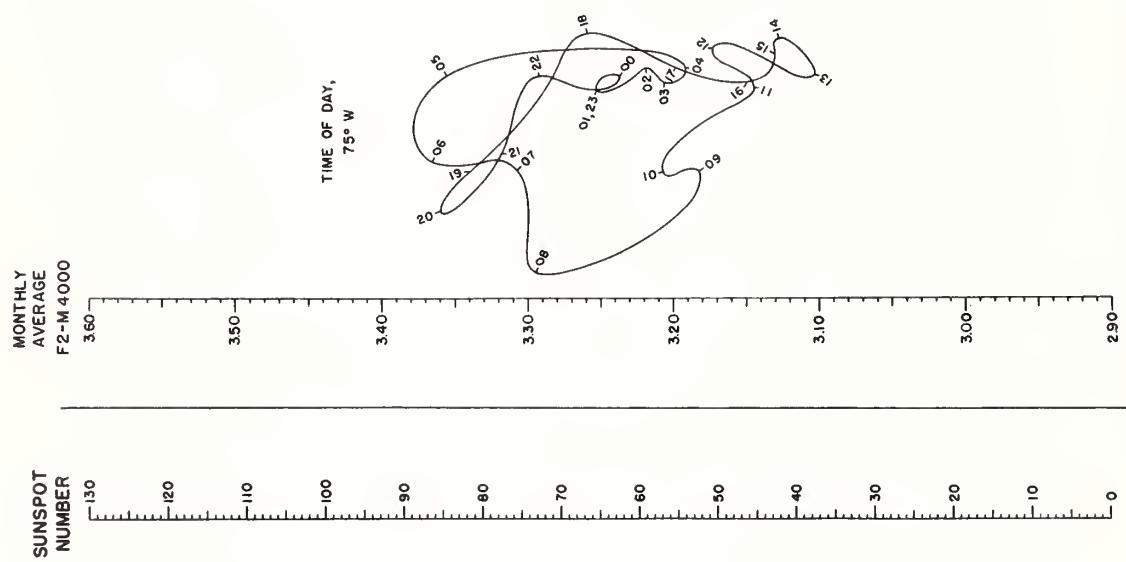


Fig. 96.  
NOMOGRAM FOR OBTAINING MONTHLY AVERAGE F2-M4000, JUNE, AT WASHINGTON, D.C.

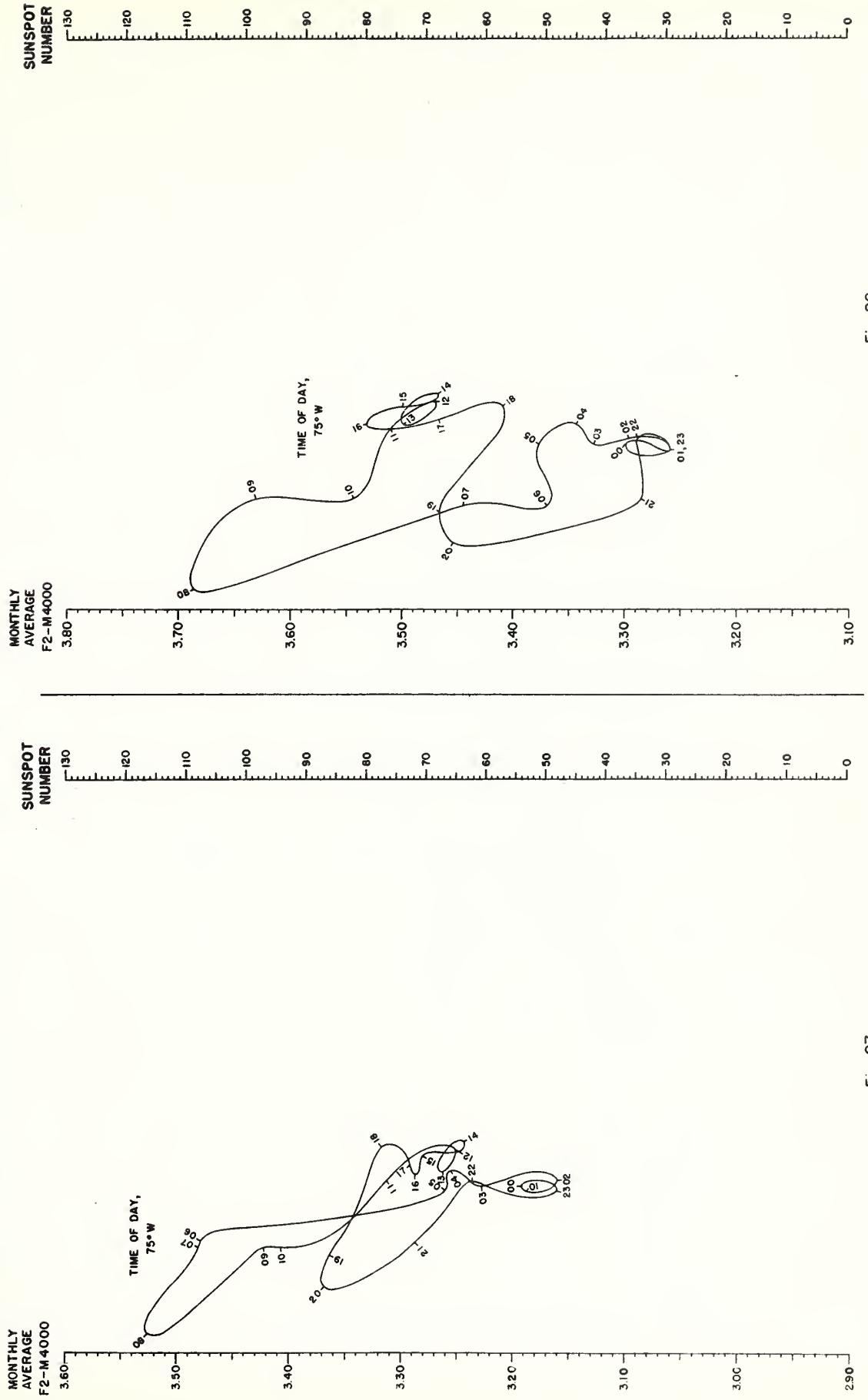


Fig. 97.  
NOMOGRAM FOR OBTAINING MONTHLY AVERAGE F2-M4000, SEPTEMBER, AT WASHINGTON, D.C.

Fig. 98. AVERAGE F2-  
MONTHLY OBTAINING FOR NOMOCRAM

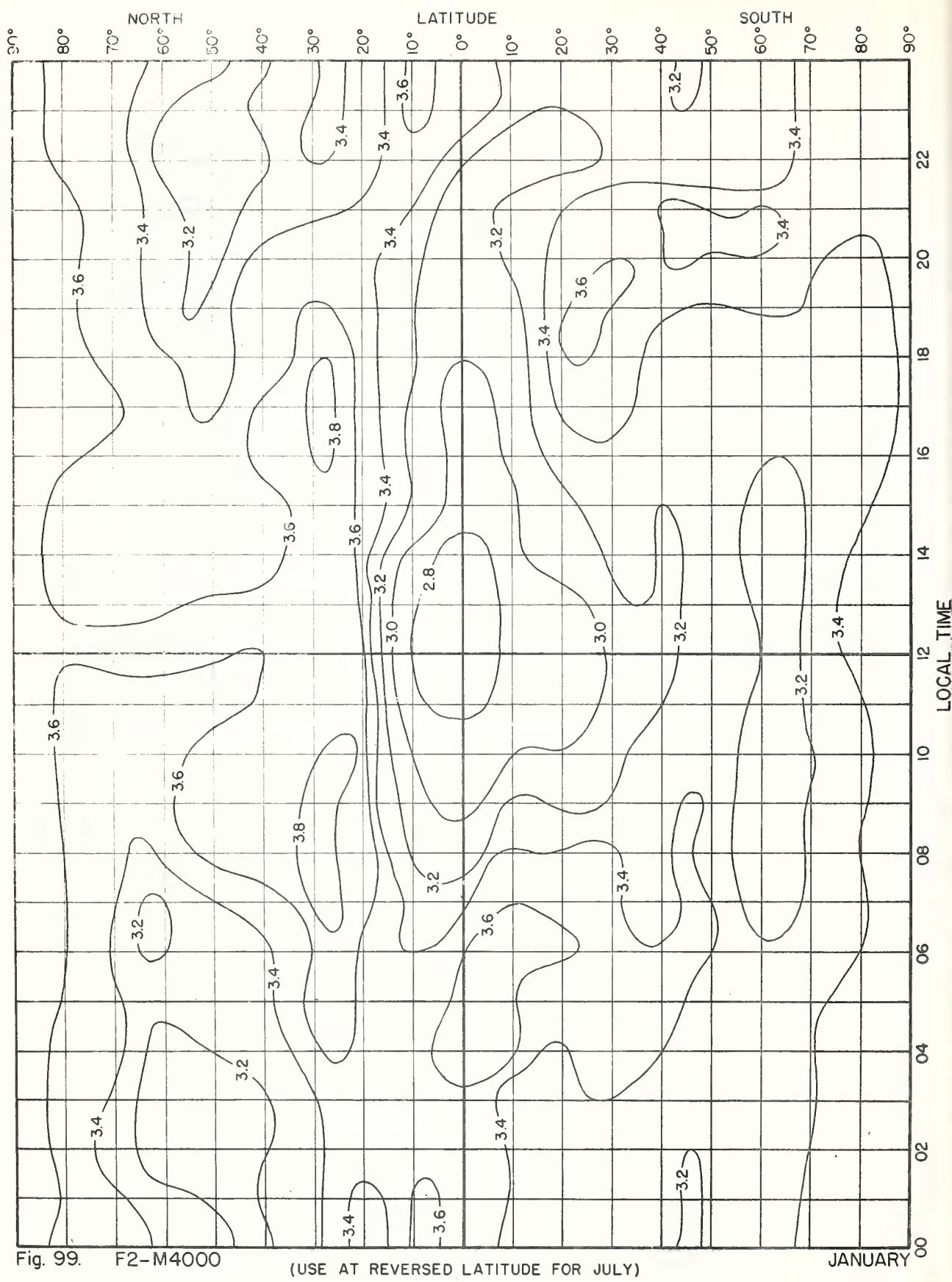


Fig. 99. F2-M4000

(USE AT REVERSED LATITUDE FOR JULY)

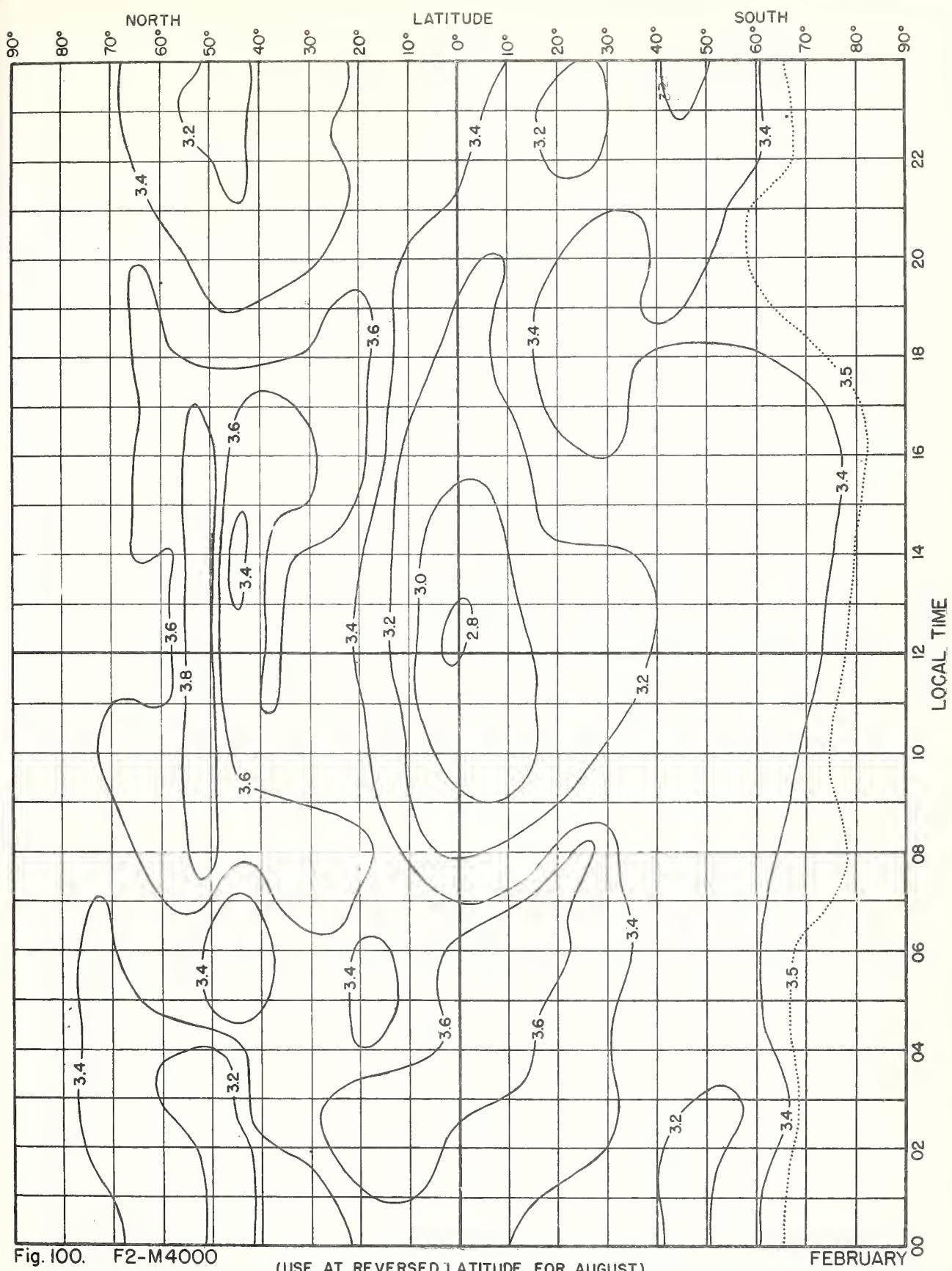


Fig. 100. F2-M 4000

(USE AT REVERSED LATITUDE FOR AUGUST)

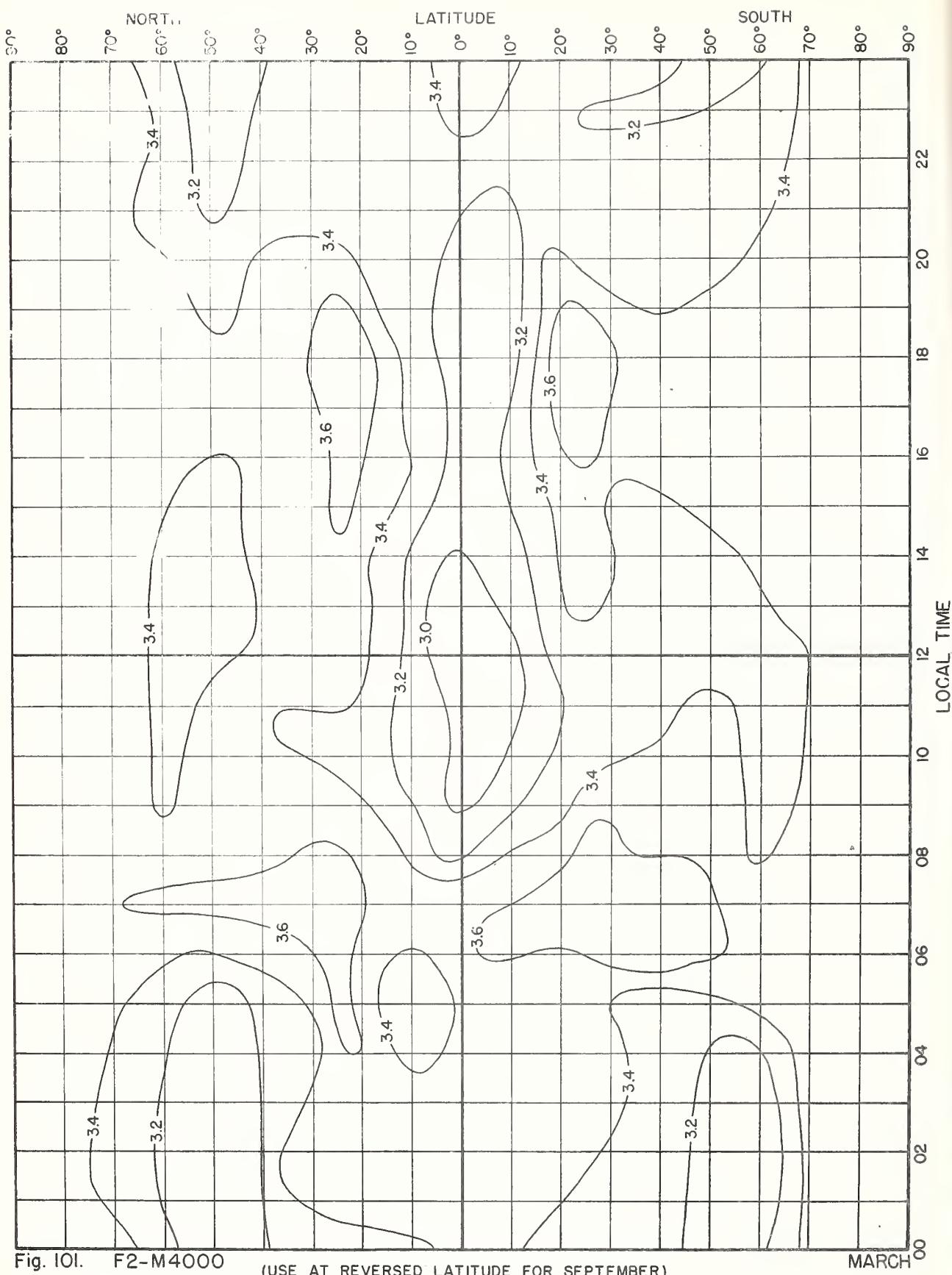


Fig. 101. F2-M4000

(USE AT REVERSED LATITUDE FOR SEPTEMBER)

MARCH

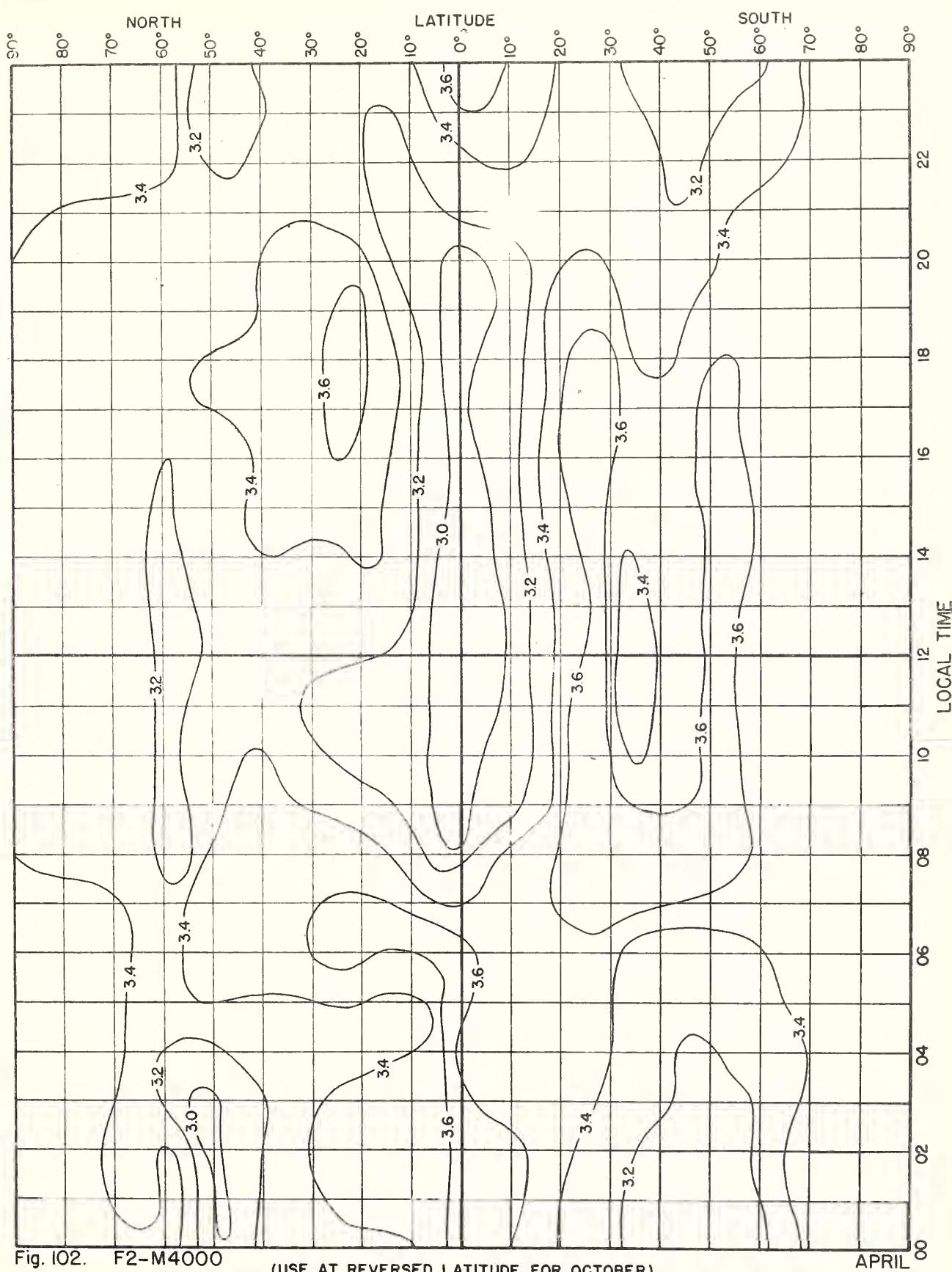


Fig. 102. F2-M4000

(USE AT REVERSED LATITUDE FOR OCTOBER)

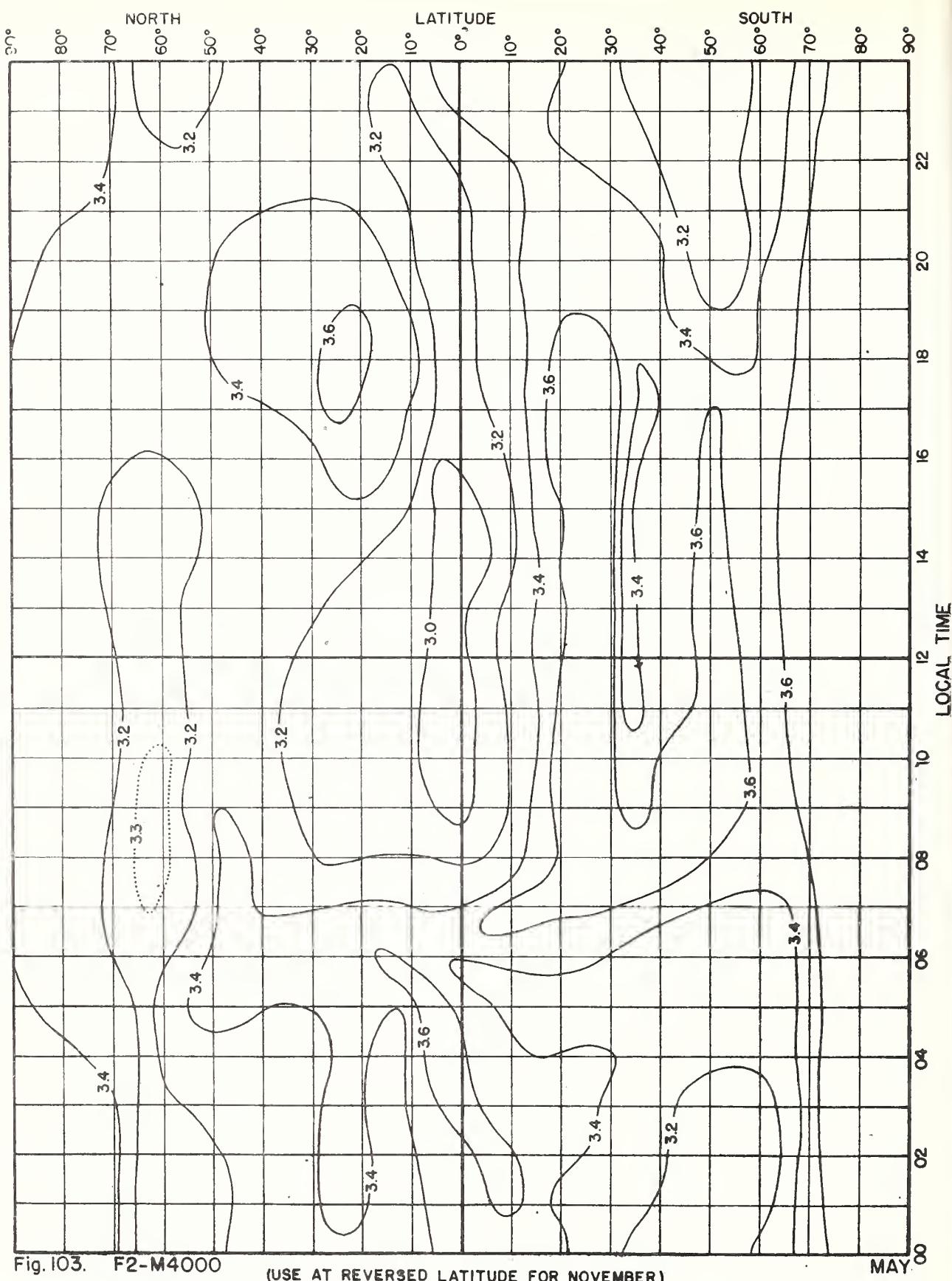
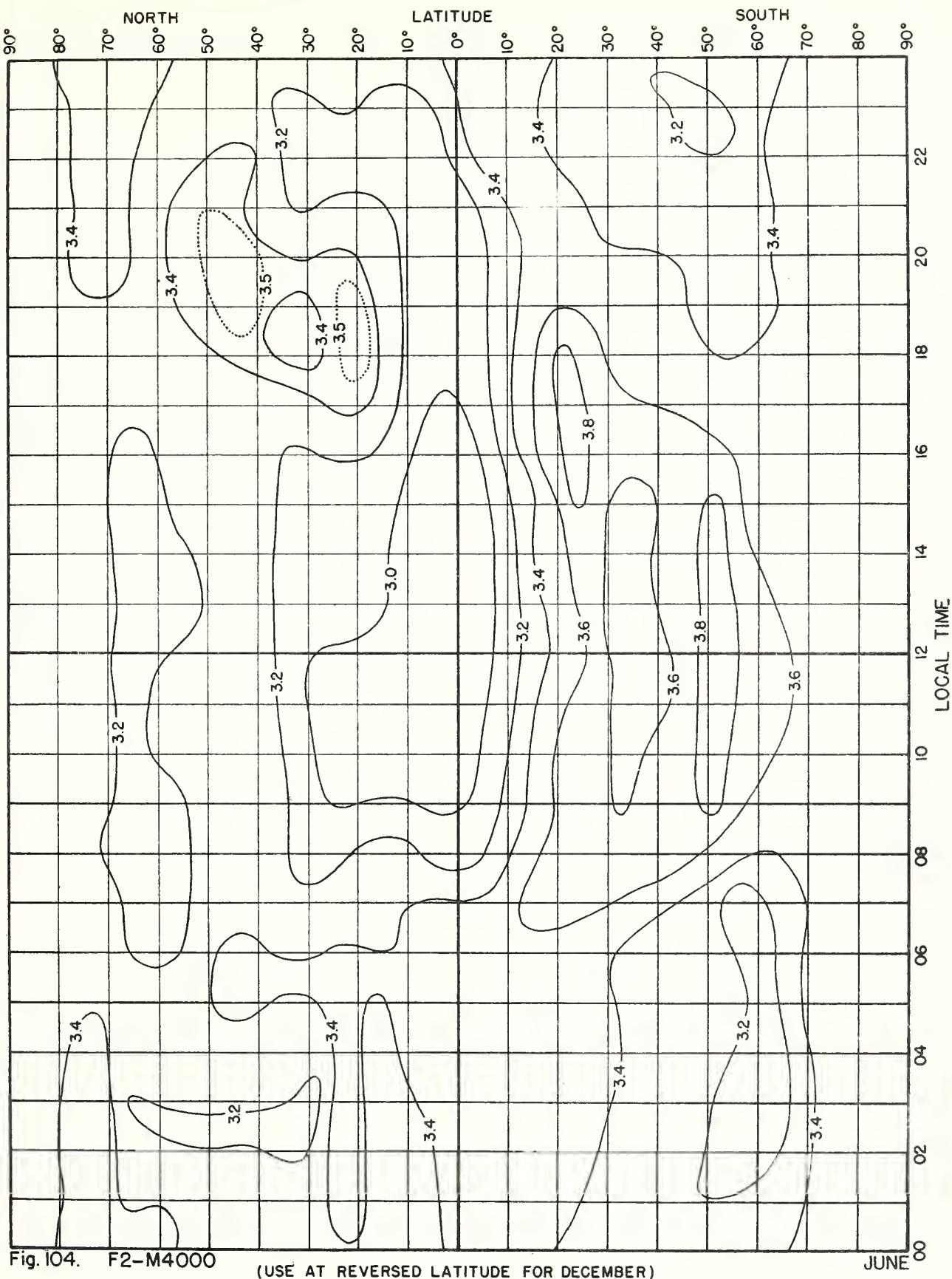


Fig. 103. F2-M4000

(USE AT REVERSED LATITUDE FOR NOVEMBER)





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Special Reports, etc.:

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R20. Nomographic Predictions of F2-layer Frequencies Throughout the Solar Cycle, for September.

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R29. Revised Classification of Radio Subjects Used in National Bureau of Standards (N.B.S. Letter Circular LC-814 superseding circular C385).

R30. Disturbance Rating in Values of IRPL Quality - Figure Scales 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.

R32. Nomographic Predictions of F2-Layer Frequencies Throughout the Solar Cycle, for February.

R33. Ionospheric Data on File at IRPL.

IRPL-T. Reports on Tropospheric Propagation.

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