IRPL-F12

IONOSPHERIC DATA

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PREPARED BY INTERSERVICE RADIO PROPAGATION LABORATORY
National Bureau of Standards
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IRPL-F 12 INTERSERVICE RADIO PROPAGATION LABORATORY
NATIONAL BUREAU OF STANDARDS
WASHINGTON, D.C.
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TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the 1944 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.

Before January 1945, 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 1944 International Radio Propagation Conference, since 1 Jan. 1945 median values are given for all stations reporting such values to the IRPL and for all other stations for which daily tabulations make possible the counting of medians by the IRPL staff. Average values are given only for those stations for which medians are unobtainable.

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

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 $f^{o}F2$, as equal to or less than $f^{o}F1$.
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 for any reason are omitted from the median count.

d. For sporadic E (Es):
Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the lower limit of the recorder.
Values of fEs missing for any other reason, and values of hEs missing for any reason at all, are omitted from the median count.

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, Q., Australia
- Mt. Stromlo, Canberra, NSW, Australia
- Cape York, Q., Australia

British National Physical Laboratory, and Inter-Services Ionosphere Bureau
- Radio Research Station, Slough, England
- Great Baddow, England
- Burghead, Scotland
- Delhi, India
- Madras, India
- Simonstown, Union of S. Africa

Canadian Department of National Defence, Naval Service
- Churchill, Canada
- Ottawa, Canada
- St. John's, Canada
- Victoria Beach, Canada

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

Interdepartment Ionosphere Bureau, U.S.S.R. Scientific Experimental Institute of Terrestrial Magnetism, Moscow, U.S.S.R.
- Tykhi Bay, U.S.S.R.
- Tomsk, U.S.S.R.
- Sverdlovsk, U.S.S.R.
- Moscow, U.S.S.R.

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

United States Army Signal Corps
Leyte

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, Mass.

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 $f^{o}F2$ is less than or equal to $f^{o}F1$, 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 F-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. Beginning

with the July 1945 issue of this report the table of values of F2-M3500 is omitted, since these values can be readily derived from the values of F2-M3000.

IONOSPHERE DISTURBANCES

Table 69 presents ionospheric character figures for Washington, D.C., during July 1945, 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 70 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, June 1945, compared with the IRPL daily radio disturbance warnings, 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 were prepared from radio traffic data, reported to 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.

NEW STATIONS

The new stations for which data appear in this report for the first time are Leyte (11.0°N, 125.0°E), operated by the United States Army, Signal Corps, (see Tables 13 and 17), and Victoria Beach, 50.8°N, 96.5°W, operated by the Canadian Department of National Defence (see Table 6).

SPORADIC-E VARIATION WITH INTENSITY AND LATITUDE OF SOLAR ACTIVITY

The variation of sporadic-E ionization, both with season and with solar cycle, is notably different from that of the regular E, F1, and F2 regions of the ionosphere.

In general, there occur world-wide maxima near both solstice seasons, the higher appearing during local summer, and intervening minima during equinoctial seasons. In auroral regions this seasonal variation is reversed, possibly because of the manifestation of excessive amounts of such ionization as increased absorption, (IRPL "Radio Propagation Conditions", issued August 1944, pp.3, 4, and "Summary Report on College (Alaska)

Observatory, July 1942, through June 1943, issued by the Department of Terrestrial Magnetism, Carnegie Institution of Washington, p.5).

Records of fEs throughout the post solar cycle have only been available for the location of Washington, D.C., where the daily average time percentage of fEs in excess of 3 Mc generally decreases with increasing sunspot number, so that the logarithm of the ratio of its values at any two times is inversely proportional to the difference between the yearly average numbers at these times (IRPL "Radio Propagation Conditions", issued 14 Oct. 1943, pp.3, 4). Although part of this variation may be ascribed to the masking effect of the regular E layer, (IRPL "Radio Propagation Conditions", issued 14 Feb. 1944), values corrected for this masking still show generally pronounced decrease of sporadic-E ionization with increasing sunspot number, as do values for each individual night hour, where there is no possibility of regular E-layer masking.

Fig. 55 shows monthly values of the percentage of time occurrence of fEs in excess of 3 Mc, at midnight, observed at Washington, D.C., during the past solar cycle. The seasonal and solar-cycle variations previously mentioned are readily apparent, although somewhat less regularly than for the average of all hours of the day, notable exceptions being the unusually high maxima during July 1938 and October and December 1944, which are also present for other hours.

Both solar-cycle and seasonal variation suggest solar corpuscular radiation as the chief source of sporadic-E ionization. It has been estimated by Chapman (Monthly Notices of the Royal Astronomical Society, 92, 1931-32, p.415) that neutral corpuscles arriving from the sun may be almost totally ascribed to a central region of the solar disc subtending an angle of about 15° at the sun's center. Night-time occurrence of sporadic-E is scarcely compatible with neutrality of the ionizing particles, but it seems possible that charged particles may also be largely those emanating from a central region. On this assumption, both solar-cycle and seasonal variations are explicable, the former because of the decrease of heliographic latitude of active solar regions with the approach of sunspot-minimum periods, and the latter because of the seasonal change of heliographic latitude of the center of the solar disc.

It would therefore seem probable that increase of sporadic-E ionization would vary directly with intensity of solar activity and inversely with the distance of active solar regions from center of disc (this latter diminishing generally with decreasing solar activity), and thus that a direct correlation might be expected between the intensity of coronal radiation, taken over a limited region corresponding to meridian passage near the center of the solar disc, and sporadic-E ionization. Unfortunately, available coronal data are too fragmentary to give a continuous good correlation of this sort, but seem to agree well during periods when sufficient coronal data are available. Additional evidence for the dependence of sporadic-E upon solar corpuscular radiation is given by the previously noted abnormally high maxima in the Washington fEs data, each of which corresponds to a period of abnormally high solar activity.

Similar seasonal and solar-cycle variations to those for Washington, D.C., have been reported for observations of sporadic-E second-multiple reflections made at Watheroo, W. Australia, between 1938 and 1941, except for the fact, previously noted, that the yearly maximum occurs during December, the month of local summer solstice. ("Sporadic E Ionization at Watheroo Magnetic Observatory," paper presented by H. W. Wells on 31 May, 26th Annual Meeting, American Geophysical Union). Data obtained at Watheroo during the period 1941-44 indicate that a maximum for fEs occurred at about 1941-42. ("Sporadic E Ionization at Watheroo Magnetic Observatory, 1941 to 1944," H. W. Wells, Restricted report, to be issued by the Department of Terrestrial Magnetism, Carnegie Institution of Washington). Figs. 56, 57, and 58 present similar data from Brisbane, Q., Australia, Mt. Stromlo, N.S.W., Australia, and Christchurch, N.Z. In the latter two cases, there also seems to be some evidence for a general decrease of sporadic-E after a maximum attained during 1941-1942. It is of interest in this respect that the latitude variation of the region of high solar activity is advanced by nearly two years for the sun's southern hemisphere over that for the sun's northern hemisphere (Cf. figure presented in "Sunspot Activity During 1944," Elizabeth S. Milders, Pub. Astronomical Soc. of the Pacific, 57, No. 334, Feb. 1945, p.42).

ERRATA

1. In the May issue (Table 13) and the June issue (Table 43) of these reports the longitude for Brisbane, W.Australia, was reported as 130°E. It should have read 153.0°E.

2. The percentages of occurrence of sporadic E for Washington, D.C., as graphed in Fig. 2 in the July number of this report, were those for May. Those for June appear below:

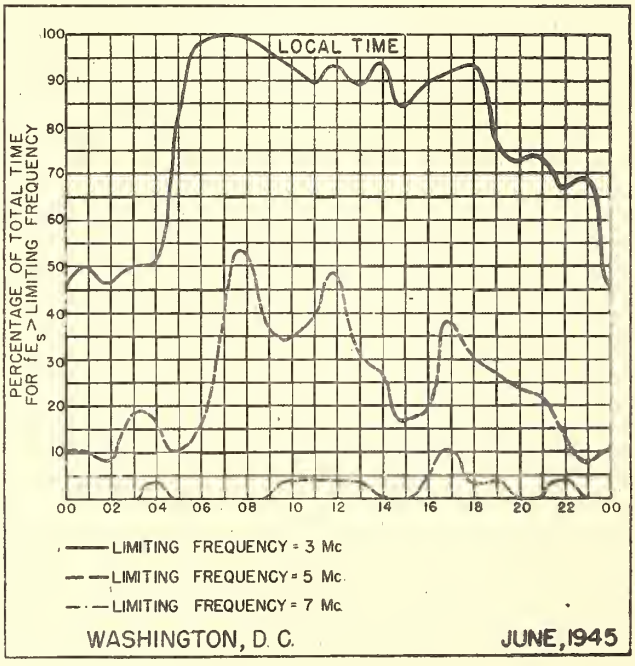

Table 1 (Provisional data)

Baffin Island, Canada (70.5°N, 68.6°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	4.6						3.0
01	280	4.3						3.0
02	280	4.4						3.0
03	290	4.3	250	3.0				3.0
04	300	4.3	250	3.2	118	2.4		3.0
05	410	4.1	250	3.6	117	2.4		2.8
06	440	4.4	250	3.7	116	2.8		2.7
07	470	4.4	250	3.9	115	2.8		2.7
08	470	4.6	250	4.0	114	2.9		2.8
09	420	4.9	250	4.1	113	2.9		2.8
10	410	5.0	240	4.1	112	2.9		2.8
11	430	5.0	240	4.1	112	2.9		2.8
12	400	5.2	240	4.2	112	2.9		2.8
13	430	5.1	240	4.2	113	2.9		2.6
14	440	4.9	240	4.1	113	2.9		2.7
15	460	4.8	240	4.0	114	2.8		2.6
16	400	4.8	250	4.0	114	2.7		2.8
17	380	4.8	250	3.8	115	2.5		2.8
18	350	4.9	250	3.7	116	2.4		2.8
19	320	5.0	250	3.4	118	2.4		2.9
20	290	4.7	270	3.3				3.0
21	270	4.7						3.1
22	270	4.5						3.0
23	280	4.4						3.1

Time: 75°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 2 (Provisional data)

Fairbanks, Alaska (64.9°N, 147.8°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	3.7				1.1		2.9
01	300	3.8				1.3		2.9
02	300	4.0				1.3		2.9
03	335	4.2	258	3.0		1.7		2.9
04	370	4.3	252	3.2		2.0		2.8
05	394	4.4	240	3.5		2.3		2.7
06	400	4.7	220	3.6		2.5		2.8
07	410	4.8	220	3.8		2.7		2.7
08	425	4.9	210	3.9		2.8		2.6
09	430	4.7	210	3.9		2.9		2.7
10	390	5.0	208	4.1		3.0		2.6
11	418	4.8	210	4.2		3.0		2.8
12	420	4.9	215	4.2		3.0		2.8
13	405	5.0	215	4.2		3.0		2.8
14	425	4.9	212	4.2		3.0		2.7
15	410	4.9	225	4.1		2.9		2.8
16	390	5.0	220	4.0		2.8		2.8
17	350	5.0	228	3.9		2.6		3.0
18	305	4.8	235	3.6		2.4		3.0
19	270	4.8	230	3.3		2.1		3.0
20	270	4.7	245	3.0		1.8		3.0
21	270	4.6				1.5		3.1
22	265	4.2				1.2		3.1
23	270	3.8				1.1		3.0

Time: 150°W.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 3 (Provisional data)

Reykjavik, Iceland (64.1°N, 21.7°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	370	3.30						
01	380	3.60						
02	290	4.20						
03	280	4.10						
04	240	4.00			100	2.70		
05	220	4.30	240	3.40	102	2.60		
06	220	4.30	200	3.80	100	2.60		
07	320	4.70	200	4.00	100	2.70		
08	330	4.90	200	4.20	100	2.80		
09	320	5.20	190	4.40	100	3.00		
10	370	5.20	190	4.40	100	3.00		
11	340	5.40	190	4.40	80	3.20		
12	350	5.40	190	4.50	80	3.20		
13	340	5.40	190	4.50	100	3.20		
14	360	5.40	190	4.50	100	3.30		
15	340	5.41	190	4.40	100	3.20		
16	340	5.40	200	4.40	80	3.00		
17	330	5.30	200	4.10	80	2.90		
18	300	5.30	210	4.10	100	2.70		
19	270	5.20	210	3.90	101	2.60		
20	280	4.80	240	3.50				
21	240	4.30						
22	260	4.80						
23	260	3.30						

Time: 15°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 4 (Provisional data)

Churchill, Canada (58.8°N, 94.2°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.8						2.9
01		4.7						2.9
02		4.5						2.9
03		4.2						3.0
04		4.2						3.0
05		4.5						2.9
06		4.8						2.8
07		4.9						2.7
08		5.0						2.8
09		5.1						2.7
10		5.2						2.8
11		5.3						2.8
12		5.4						2.8
13		5.3						2.8
14		5.4						2.8
15		5.5						2.8
16		5.6						2.8
17		5.5						2.9
18		5.5						2.9
19		5.2						3.0
20		4.9						3.0
21		4.6						2.9
22		4.3						2.9
23		4.4						2.8

Time: 90°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 5 (Provisional data)

Prince Rupert (54.3°N, 130.3°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.1						3.1
01		4.0						3.1
02		3.3						3.1
03		3.3						3.0
04		3.1						3.1
05		3.6						3.3
06		4.1						2.9
07		4.4						2.9
08		4.8						2.9
09		4.9						2.8
10		5.2						2.9
11		5.3						3.0
12		5.2						3.1
13		5.4						3.0
14		5.4						3.0
15		5.3						3.0
16		5.1						3.0
17		4.9						3.1
18		5.0						3.2
19		5.2						3.3
20		5.1						3.4
21		5.1						3.4
22		5.0						3.3
23		4.5						3.2

Time: 120°W.
Length of time sweep: Manual operation.
Median values.

Table 6 (Provisional data)

Victoria Beach, Canada (50.8°N, 96.5°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.6						
01		2.9						
02		2.8						
03		2.5						
04		2.6						
05		3.4						
06		3.7						
07		4.3						
08		4.6						
09		4.9						
10		5.0						
11		5.2						
12		5.3						
13		5.3						
14		5.5						
15		5.6						
15		5.5						
17		5.5						
18		5.5						
19		5.5						
20		5.5						
21		5.4						
22		5.0						
23		4.1						

Time: 90°W.
Median values.

Table 7 (Provisional data)

St. John's, Newfoundland (47.7°N, 52.7°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.4						3.2
01		4.1						3.2
02		3.7						3.1
03		3.2						3.2
04		3.5						3.2
05		3.8						3.3
06		4.7						3.5
07		4.9						3.4
08		5.5						3.2
09		5.3						3.2
10		5.5						3.4
11		5.5						3.2
12		5.5						3.2
13		5.4						3.0
14		5.5						3.2
15		5.6						3.2
15		5.7						3.2
17		5.8						3.2
18		5.0						3.2
19		6.5						3.2
20		6.4						3.3
21		6.2						3.3
22		5.6						3.3
23		4.7						3.2

Time: 52.5°W.
Length of time sweep: Manual operation.
Median values.

Table 8 (Provisional data)

Ottawa, Canada (45.5°N, 75.5°W)

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.6						2.8
01		3.4						2.8
02		3.0						2.7
03		3.0						2.9
04		3.1						2.9
05		3.6						3.0
06		4.4						3.0
07		4.8						2.9
08		5.3						2.9
09		5.4						2.9
10		5.5						3.0
11		5.6						2.9
12		5.6						2.9
13		5.7						2.8
14		5.7						2.9
15		5.8						2.9
16		5.8						2.8
17		5.8						2.9
18		6.0						2.9
19		6.1						3.0
20		6.1						2.9
21		5.8						2.9
22		4.8						2.9
23		4.3						2.8

Time: 75°W.
Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.
Median values.

Table 9 (Provisional data)

Boston, Massachusetts (42.4°N, 71.2°W) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.3						2.9
01		3.6						2.9
02		3.1						2.9
03		2.8						2.9
04		2.5						3.0
05		3.6						3.0
06		4.5						3.0
07		4.8						3.0
08		5.3						3.0
09		5.6						3.0
10		5.7						3.0
11		6.6						3.0
12		5.6						2.9
13		5.7						3.0
14		5.7						2.9
15		5.7						2.9
16		6.9						3.0
17		6.0						3.0
18		6.3						3.0
19		6.4						3.1
20		6.3						2.9
21		6.7						3.0
22		4.7						2.9
23		4.6						2.9

Time: 75°W.
Median values.

Table 10 (Provisional data)

San Francisco, Calif. (37.4°N, 122.2°W) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.2						2.9
01		4.0						2.8
02		3.9						2.9
03		3.9						2.9
04		3.7						3.0
05		3.6						3.0
06		4.5						3.0
07		5.0						2.9
08		6.5						2.8
09		6.2						2.9
10		6.4						2.9
11		6.0						2.9
12		6.1						2.8
13		6.2						2.8
14		6.2						2.9
15		6.0						2.9
16		6.1						2.9
17		5.8						2.9
18		6.0						3.0
19		6.8						3.1
20		6.0						3.2
21		5.6						3.1
22		4.8						2.9
23		4.3						2.9

Time: 120°W.
Length of time swesp: 0.8 Mc to 12 Mc in six minutes. Record centered on the hour.
Median values.

Table 11 (Provisional data)

Baton Rouge, Louisiana (30.5°N, 91.2°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.2						2.9
01		4.2						3.0
02		3.8						3.0
03		3.5						3.8
04		3.3						2.9
05		3.3						3.1
06		4.4						3.2
07		6.0						3.0
08		5.6						3.0
09		6.6						2.8
10		6.0						2.9
11		6.0						2.9
12		6.0						2.7
13		6.2						2.8
14		6.6						2.8
15		6.6						2.9
16		6.5						2.9
17		6.6						3.0
18		6.5						3.1
19		6.5						3.1
20		6.3						3.1
21		5.0						3.1
22		4.6						2.9
23		4.5						3.0

Time: 90°W.
Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.
Median values.

Table 12 (Provisional data)

Maui, Hawaii (20.8°N, 156.6°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	6.2						2.9
01	260	6.1						3.0
02	250	5.8						3.1
03	250	5.1						3.0
04	270	4.8						3.0
05	270	4.3						3.0
06	250	4.6						3.1
07	250	6.9	230	3.8	120	2.4		3.2
08	260	6.2	200	4.2	110	2.8		3.2
09	320	6.2	200	4.6	110	3.1		3.0
10	420	6.2	200	4.6	110	3.3		2.7
11	430	7.0	200	4.7	110	3.5		2.6
12	440	7.9	210	4.7	110	3.5		2.5
13	405	8.5	200	4.6	110	3.6		2.6
14	390	9.1	200	4.6	110	3.6		2.6
15	370	9.6	226	4.6	110	3.7		2.7
16	335	10.1	220	4.4	110	3.1		2.8
17	300	10.6	220	4.2	110	2.8		3.0
18	260	10.5	220	3.7	110	2.4		3.2
19	240	9.7						3.2
20	240	8.5						3.1
21	250	7.1						3.0
22	260	6.7						2.9
23	275	6.6						3.0

Time: 150°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 13 (Provisional data)

Leyte (11.0°N, 125.0°E) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.6					2.6	2.3
01		5.0					4.3	2.8
02		4.6					2.0	2.9
03		4.2					2.3	3.0
04		3.9					2.1	3.0
05		3.3					2.2	3.3
06		3.1					2.5	3.2
07		6.1		2.7		2.0	3.8	3.3
08		6.9		3.7		2.8	4.2	3.2
09		7.3		4.4		3.1	5.0	2.9
10		7.7		4.8		3.5	5.3	2.6
11		7.9		4.9		3.7	5.4	2.5
12		7.9		4.9		3.7	6.2	2.5
13		8.0		4.9		3.9	6.4	2.4
14		7.9		4.2		3.7	6.5	2.4
15		8.1		4.8		3.6	6.0	2.4
16		8.4		4.6		3.4	5.9	2.5
17		8.8		4.1		3.0	5.9	2.6
18		9.1		3.4		2.5	5.0	2.7
19		8.8		2.3		1.8	3.9	2.9
20		8.2					3.7	2.9
21		7.4					3.2	2.8
22		6.6					2.8	2.8
23		6.0					2.9	2.8

Time: 135°E.
Length of time sweep: Manual operation.
Median values.

Table 14 (Provisional data)

Christmas I. (1.9°N, 157.3°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240	7.1						3.2
01	240	6.0						2.8
02	240	5.7						3.0
03	245	5.2						3.3
04	220	5.0						3.2
05	220	4.6						3.3
06	230	3.5						3.3
07	240	5.3			100	2.1		3.5
08	210	6.5			100	2.8		2.8
09	320	7.1	200	4.6	100	3.1		2.7
10	355	7.4	200	4.6	100	3.4		2.6
11	385	7.3	200	4.7	100	3.4		2.5
12	400	7.5	200	4.7	100	3.5		2.4
13	400	7.5	200	4.8	100	3.6		2.3
14	400	7.3	200	4.6	100	3.4		2.5
15	380	7.8	200	4.5	100	3.4		2.3
16	350	8.1	200	4.5	100	3.2		2.6
17	205	8.6	200	4.0	100	2.8		2.4
18	230	8.2						2.6
19	250	8.1						2.7
20	280	7.4						2.6
21	300	6.6						3.0
22	280	7.0						2.6
23	260	7.2						3.2

Time: 150°W.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 15 (Provisional data)

Burghead, Scotland (57.7°N, 3.5°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.8						
01		5.5						
02		5.1						
03		4.9						
04		4.9						
05		4.9						
06		5.1						
07		5.4						
08		5.6						
09		5.7						
10		5.7						
11		5.7						
12		5.7						
13		5.6						
14		5.6						
15		5.7						
16		5.8						
17		5.9						
18		6.0						
19		6.1						
20		6.0						
21		6.0						
22		6.1						
23		5.9						

Time: 0°.
Average values.

Table 16 (Provisional data)

Great Baddow, England (51.7°N, 0.5°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.3						2.8
01		5.0						2.7
02		4.7						2.8
03		4.4						2.8
04		4.5						2.8
05		5.1						2.9
06		5.4						2.9
07		5.7						2.9
08		5.9						2.9
09		6.1						3.0
10		6.0						3.0
11		5.9						2.8
12		5.7						2.8
13		5.9						2.8
14		5.8						2.8
15		5.9						2.8
16		6.1						2.9
17		6.2						2.9
18		6.4						2.9
19		6.8						3.0
20		6.7						3.0
21		6.6						2.9
22		6.2						2.8
23		5.7						2.8

Time: 0°
Length of time sweep: Manual operation.
Average values.

Table 17 (Provisional data)

Leyte (11.0°N, 125.0°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.4					3.4	2.8
01		5.4					3.1	2.9
02		5.0					2.6	3.1
03		4.4						3.1
04		4.2						3.2
05		3.7						3.3
06		3.9						3.0
07		6.5		3.0			4.0	3.1
08		7.2		3.6		2.7	4.9	3.0
09		7.4		4.3		3.1	5.4	2.7
10		7.3		4.8		3.4	5.8	2.5
11		7.0		4.9		3.6	5.5	2.5
12		7.2		5.0		3.7	5.6	2.5
13		7.4		5.0		3.7	5.6	2.4
14		7.5		5.1		3.6	5.4	2.4
15		7.9		4.8		3.5	5.8	2.5
16		8.2		4.6		3.3	5.4	2.5
17		8.7		3.9		2.9	5.3	2.7
18		9.2		3.1			5.2	2.8
19		9.0					5.0	2.9
20		8.0					4.2	2.9
21		7.0					3.4	2.8
22		6.5					3.5	2.7
23		5.9					3.6	2.7

Time: 135°E.
Length of time sweep: Manual operation.
Median values.

Table 18 (Provisional data)

Colombo, Ceylon (6.6°N, 80°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.3						3.5
01		4.5						3.5
02		4.1						3.4
03		3.8						3.3
04								
05								
06		4.2						3.5
07		7.0						3.4
08		8.3						3.1
09		8.7						2.9
10		8.3						2.8
11		7.9						2.7
12		7.9						2.7
13		8.0						2.7
14		8.3						2.8
15		8.7						2.8
16		9.3						2.9
17		9.6						3.1
18		9.4						3.2
19		9.2						3.3
20		8.4						3.4
21		7.3						3.5
22		6.4						3.6
23		5.9						3.5

Time: Local.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Average values.

Table 19 (Provisional data)

Cape York, Q., Australia (11.0°S, 142.4°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.2						3.3
01		2.9						3.3
02		2.6						3.4
03		2.4						3.2
04		2.3						3.0
05		2.4						3.1
06		3.8						3.3
07		6.1						3.4
08		7.2						3.5
09		7.7						3.4
10		7.9						3.4
11		7.8						3.4
12		7.8						3.4
13		7.7						3.3
14		7.7						3.2
15		7.4						3.2
16		7.3						3.2
17		7.2						3.2
18		6.6						3.3
19		5.5						3.3
20		4.2						3.2
21		3.6						3.1
22		3.6						3.1
23		3.4						3.2

Time: Local
Average values.

Table 20 (Provisional data)

Rarotonga I. (21.4°S, 159.6°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01		3.2						
02								
03		3.4						
04								
05		2.9						
06								
07		4.9						
08								
09		7.2		4.2		2.8		
10								
11		7.4		4.5		3.1		
12		7.0		4.6		3.1		
13		6.9		4.6		3.2		
14								
15		7.6		4.2		3.1		
16								
17		7.4						
18								
19		5.8						
20								
21		3.8						
22								
23		3.3						

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

Table 21 (Provisional data)

Pitcairn I. (25.0°S, 130.0°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
0000								
0100								
0230	270	3.4						
0300								
0400								
0530	280	2.6						
0600								
0730	230	6.0	200	2.3				
0800								
0930	250	8.2	210	4.2				
1000								
1130	250	7.1	200	4.5				
1200								
1330	255	7.1	200	4.4				
1400								
1530	240	7.4	200	3.5				
1600								
1700								
1800								
1930	230	4.1						
2000								
2100								
2230	270	3.3						
2300								

Time: 127.5°W.
Length of time sweep: 1.0 Mc to 13.0 Mc. Manual operation.
Median values.

Table 22 (Provisional data)

Brisbane, Q., Australia (27.5°S, 153.0°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	273	3.6						3.0
01	268	4.0						3.1
02	263	3.9						3.1
03	264	3.9						3.1
04	242	4.0						3.3
05	233	3.6						3.2
06	241	3.4						3.3
07	219	5.1						3.5
08	220	6.1						3.6
09	226	6.5			110	2.8		3.5
10	241	6.8	212	4.4	110	3.0		3.6
11	248	6.6	206	4.5	108	3.1		3.5
12	253	6.6	200	4.5	107	3.2		3.5
13	261	6.8	197	4.5	111	3.1		3.5
14	249	6.6	196	4.3		3.0		3.4
15	230	6.6				2.7		3.4
16	226	6.4						3.4
17	216	5.9						3.5
18	220	4.6						3.5
19	241	3.6						3.1
20	255	3.6						3.1
21	254	3.6						3.2
22	251	3.4						3.1
23	274	3.4						3.1

Time: Local.
Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.
Average values.

Table 23 (Provisional data)

Kermadec Island (29.2°S, 177.9°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	3.8						2.9
01	290	3.8						2.9
02	275	3.8						2.9
03	270	4.0						3.0
04	250	3.9						3.2
05	250	3.6						3.1
06	250	3.3						3.1
07	235	5.0				1.4		3.4
08	245	6.2			125	2.2		3.5
09	255	6.3	230	3.9	115	2.6		3.4
10	270	6.8	240	4.2	115	2.9		3.4
11	265	6.6	230	4.3	115	3.0		3.4
12	275	6.5	225	4.4	115	3.2		4.0
13	270	6.5	215	4.3	115	3.1		3.4
14	270	6.4	225	4.1	115	3.0		3.4
15	255	6.5	235	3.8	115	2.8		3.4
16	245	6.0			120	2.2		3.5
17	235	5.6			120	1.8		3.3
18	225	4.5						3.3
19	240	3.9						3.2
20	250	3.6						3.0
21	270	3.6						3.1
22	275	3.6						3.0
23	275	3.8						3.0

Time: 180°E.
Length of time sweep: 1.8 Mc to 12.0 Mc. Manual operation.
Median values.

Table 24 (Provisional data)

Watheroo, W. Australia (30.3°S, 115.9°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.3						3.0
01		3.5						3.0
02		3.6						3.0
03		3.7						3.0
04		3.6						3.2
05		3.2						3.2
06		3.0						3.3
07		4.4						3.4
08		5.7						3.6
09		6.2						3.5
10		6.6						3.4
11		6.7						3.4
12		6.6						3.3
13		6.8						3.3
14		6.9						3.3
15		7.0						3.4
16		6.5						3.5
17		5.2						3.5
18		3.6						3.3
19		2.9						3.2
20		2.8						3.2
21		3.0						3.0
22		3.2						3.0
23		3.3						3.0

Time: Local.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Average values.

Table 25 (Provisional data)

Mt. Stromlo, N.S.W., Australia (35.3°S, 149.0°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	265	3.4						2.9
01	272	3.5						2.9
02	273	3.6						3.0
03	272	3.7						3.0
04	256	4.0						3.0
05	245	4.0						3.1
06	248	3.2						3.1
07	242	3.8						3.2
08	235	5.6				2.2		3.3
09	245	6.0			111	2.6		3.3
10	252	6.4	217	3.9	107	2.9		3.3
11	254	6.6	210	4.1	106	3.0		3.2
12	257	6.7	208	4.2	105	3.0		3.3
13	261	6.9	210	4.1	106	3.0		3.2
14	263	7.0	212	4.0	106	2.9		3.2
15	252	7.2		3.7	108	2.7		3.2
16	237	6.4			116	2.2		3.3
17	226	5.8						3.2
18	236	4.5						3.1
19	242	3.7						3.2
20	248	3.5						3.1
21	258	3.4						3.0
22	269	3.5						2.9
23	273	3.5						2.9

Time: Local.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Average values.

Table 26 (Provisional data)

Christchurch, N.Z. (43.5°S, 172.6°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	2.9						
01	270	3.3						
02	280	3.4						
03	270	3.3						
04	250	3.6						
06	250	2.6						
06	240	2.4						
07	230	2.6						
08	220	4.8			100	1.7		
09	230	5.4	230	3.1	100	2.3		
10	240	5.8	220	3.5	100	2.6		
11	250	5.9	230	4.0	100	2.7		
12	250	6.2	230	4.0	100	2.7		
13	260	6.5	240	3.9	100	2.7		
14	250	6.5	230	3.8	100	2.5		
15	240	6.3	220	3.2	100	2.3		
16	230	6.0				1.8		
17	240	4.6						
18	240	4.0						
19	250	3.5						
20	250	3.3						
21	260	3.0						
22	270	3.1						
23	270	3.0						

Time: 172.6°E.
Length of time sweep: 1.0 Mc to 13 Mc. Automatic.
Median values.

Table 27 (Provisional data)

Campbell I. (52.5°S, 169.0°E) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05	360	2.4						2.6
06								
07	350	2.8						2.7
08	230	4.2						3.3
09	220	5.3	190	2.6		2.3		3.5
10	230	5.9	205	3.0	128	2.3		3.4
11	230	6.4	213	3.4	125	2.5		3.5
12	240	6.4	220	3.5	125	2.5		3.4
13	230	5.9	220	3.1	125	2.5		3.4
14	235	6.4	205	2.8	130	2.2		3.3
15	225	6.2						3.4
16	225	5.4						3.3
17	240	4.6						3.1
18	255	3.9						2.9
19	280	3.4						2.8
20								
21	330	3.0						2.6
22								
23	350	2.5						2.6

Time: 165°E.
Length of time sweep: 1.0 Mc to 15.0 Mc. Manual operation.
Median values.

Table 28 (Provisional data)

Delhi, India (28.6°N, 77.2°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.5						
01		4.9						
02		5.1						
03		5.0						
04		4.4						
05		4.8						
06		5.9						
07		6.4						
08		6.7						
09		7.1						
10		8.0						
11		9.0						
12		10.0						
13		10.6						
14		11.0						
15		10.5						
16		10.0						
17		9.6						
18		8.7						
19		7.9						
20		6.8						
21		6.0						
22		5.5						
23		5.3						

Time: 75°E.
Length of time sweep: Manual operation.
Average values.

Table 29

Washington, D.C. (39°N, 77.5°W) July 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	4.1					3.4	3.0
01	260	3.9					3.4	3.0
02	260	3.5					3.4	3.1
03	260	3.3					3.4	3.0
04	250	2.8					3.3	3.0
05	260	3.4			110	1.5	3.9	3.2
06	240	4.0			110	2.4	4.5	3.2
07	380	4.6	220	3.9	110	2.9	4.3	2.9
08	340	5.3	220	4.1	110	3.4	5.1	3.0
09	350	5.5	220	4.4	110	3.5	5.3	3.0
10	360	5.4	210	4.5	110	3.6	5.2	2.8
11	380	5.5	200	4.5	110	3.6	4.9	2.9
12	400	5.5	200	4.6	110	3.6	5.2	2.8
13	420	5.6	200	4.5	110	3.5	4.4	2.8
14	380	5.5	210	4.5	110	3.5	4.4	2.9
15	380	5.7	220	4.5	110	3.5	4.4	2.9
16	360	5.7	220	4.3	110	3.4	4.4	2.9
17	330	6.0	240	4.1	110	3.3	4.4	3.0
18	300	5.9	220	3.6	120	2.7	4.6	3.1
19	250	6.1			120	1.9	3.6	3.1
20	240	6.0					3.4	3.1
21	250	5.5					3.4	3.0
22	260	4.8					3.4	2.9
23	270	4.5					3.8	3.0

Time: 75°W.
Length of time sweep: 0.8 Mc to 14 Mc in two minutes.
Median values.

Table 30

(Corrections and additions to previously published provisional data)

Fairbanks, Alaska (64.9°N, 147.8°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00							3.0	
01							3.2	
02							3.6	
03			255				3.8	
04							3.6	
05							3.4	2.8
06	385						3.2	
07							3.2	
08							3.3	
09	395						3.4	
10							3.3	
11	406						3.4	
12							3.5	
13							3.3	
14							3.3	
15	395						3.2	
16							3.2	
17	362		224				3.2	
18							3.3	
19	285						3.2	
20							3.2	
21	255						3.2	
22	255						3.2	
23							3.2	

Time: 150°W.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 31

(Corrections and additions to previously published provisional data)

Churchill, Canada (58.8°N, 94.2°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290						5.0	3.0
01	275						4.2	
02	260						3.8	2.8
03	290						3.6	
04	290		260	3.2			3.7	
05	335	4.4	250	3.4	120	3.0	3.8	
06	370		240	3.9	120	3.3	3.7	
07	440		250	4.2	120	2.8	3.5	
08	420		230	4.2	120	3.0	4.0	
09	410		220	4.4	110	3.1	3.6	
10	390		220	4.4	110	3.3		
11	395	5.6	220	4.5	110	3.4		
12	390	5.4	210	4.5	110	3.4		
13	400		210	4.5	120	3.3		
14	390		210	4.5	120	3.3		
15	380		220	4.4	120	3.2		
16	360		230	4.3	120	3.1		
17	350	6.0	230	4.2	120	3.0		
18	340	5.6	240	4.0	125	2.8		
19	310		250	3.7	140	2.8	3.4	3.0
20	290	5.0	240	3.2	150	2.7	4.4	
21	295						5.8	
22	280						6.2	
23	290						7.5	

Time: 90°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 32

(Corrections and additions to previously published provisional data)

Prince Rupert, Canada (54.3°N, 130.3°W) *June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240		220	2.5			3.0	3.2
01	270						2.8	
02	280						2.4	
03	300	3.6					2.8	
04	290	3.7			100	2.3	3.0	
05	340		240	3.4	105	2.5	3.8	
06	355		210	3.6	110	2.5	3.8	
07	345		200	4.0	110	2.5	3.8	3.0
08	340		190	4.1	110	2.7	4.6	3.0
09	370		185	4.3	105	3.0	4.8	
10	360		180	4.4	100	3.2	4.5	
11	360		190	4.5	100	3.2	4.8	3.0
12	355	5.6	180	4.5	100	3.2	5.0	
13	360	5.4	180	4.5	100	3.2	4.5	
14	360		190	4.5	100	3.2	4.8	
15	360		190	4.5	100	3.0	4.2	
16	340		190	4.4	110	3.0	4.1	
17	340		190	4.2	102	3.0	4.4	
18	300		200	4.2	110	3.0	3.8	
19	265		200	3.8	110	2.6	3.8	
20	240		220	3.8	125	2.4	3.8	
21	230		220	3.8		2.4	3.7	
22	230	5.5	220	3.5			3.4	
23	240						3.2	

Time: 120°W.
Length of time sweep: Manual operation.
Median values.
*From 1200 June 9 through 2300 June 30.

Table 33

(Additions and corrections previously published provisional data)

Ottawa, Canada (45.5°N, 75.8°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270							
01	280							
02	300							
03	290	3.0						
04	270							
05	240	4.0					3.1	
06	240	4.6	210	3.9	120	2.5	4.4	
07	330		210	4.2	120	2.8	4.7	
08	340		210	4.4	110	3.0	5.0	
09	350		200	4.6	110	3.1	5.2	
10	350	5.8	200	4.7	110	3.3	5.5	
11	370		200	4.7	110	3.3	5.4	
12	360	5.8	190	4.8	110	3.4	5.4	
13	360	5.8	190	4.7	110	3.4	5.1	
14	360		200	4.7	110	3.3	5.2	
15	350	5.8	200	4.6	110	3.2	5.2	
16	330		210	4.4	110	3.2	4.6	
17	320		215	4.3	110	2.9	4.2	
18	290		220	3.8	120	2.5	4.4	
19	250	6.6	230	3.0	120	2.4	3.4	
20	245						2.3	
21	250							
22	250							
23	270							2.8

Time: 75°W.
Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.
Median values.

Table 34

(Additions and corrections to previously published provisional data)

Boston, Massachusetts (42.4°N, 71.2°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260						1.0	2.8
01	260						1.1	
02	260	3.4					1.1	
03	262						2.4	
04	278				130	1.3	1.6	
05	260	4.0	250	3.2	125	1.9	2.2	
06	332		230	3.8	120	2.4	2.8	
07	365		230	4.1	120	2.8	3.2	
08	372		230	4.3	120	3.0	3.8	
09	380		220	4.4	120	3.0	3.5	
10	390		228	4.5	120	3.0		
11	370		230	4.5	120	3.2		
12	390	5.9	225	4.6	120	3.0		
13	380		230	4.6	120	3.0		2.9
14	370		230	4.5	120	3.0		
15	370		240	4.4	120	3.0		
16	350		242	4.2	120	2.8	3.2	
17	310		235	3.9	120	2.7	3.0	
18	300		240	3.5	125	2.1	4.0	
19	250				140	1.8	3.0	
20	248	6.3					3.0	
21	250						2.7	
22	260	5.2					2.4	
23	265						2.0	

Time: 75°W.
Median values.

Table 35

(Additions and corrections to previously published provisional data)

San Francisco, Calif. (37.4°N, 122.2°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270						3.8	
01	280						3.4	
02	270						3.3	
03	260						3.3	
04	270						3.0	
05	250			2.8			3.6	
06	330		220	3.6	110	2.3	3.5	
07	360		220	4.1	110	2.7	4.2	
08	340		220	4.3	110	3.1	4.4	
09	340		200	4.4	110	3.2	4.4	
10	360		200	4.5	110	3.4	4.4	
11	360		200	4.6	110	3.5	4.3	
12	360		200	4.5	110	3.5	4.3	
13	360		200	4.6	110	3.5	4.3	
14	340		200	4.6	110	3.5	5.0	
15	350		210	4.4	110	3.4	4.3	
16	340		215	4.4	110	3.2	4.3	
17	305		220	4.1	110	2.8	4.0	
18	290		230	3.7	110	2.4	4.2	
19	250		240	2.8	115		3.8	
20	230						3.6	
21	230						3.8	
22	240						4.0	
23	260						4.2	

Time: 120°W.
Length of time sweep: 0.8 Mc to 12 Mc in six minutes. Record centered on the hour.
Median values.

Table 36

(Corrections and additions to previously published provisional data)

Maui, Hawaii (20.8°N, 156.5°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00							3.2	
01								
02		6.6						
03								
04								
05								
06	245	4.9						
07							3.1	
08							3.6	2.9
09	390	7.4					3.9	
10	410							
11							4.4	
12					105		4.8	
13	370						4.8	
14					110			
15							4.9	
16	320				105		4.5	
17							4.1	
18						2.4	3.8	
19	240						4.2	
20	240						3.4	
21	245						2.8	
22							3.2	
23		7.3						

Time: 150°W.
Length of time sweep: 2 Mc to 16 Mc in one minute.
Median values.

Table 37

San Juan, Puerto Rico (18.4°N, 66.1°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		5.9						2.9
01		6.0						3.0
02		5.4						3.0
03		4.9						3.0
04		4.5						3.0
05		4.0						3.0
06		4.6						3.1
07	280	5.8	220	3.2			4.0	3.1
08	310	6.3	200	3.8		2.8	4.6	3.0
09	335	6.6	200	4.4		3.1	4.7	2.8
10	360	7.0	200	4.6		3.3		2.7
11	370	8.1	200	4.7		3.4	4.3	2.7
12	355	9.0	210	4.7		3.5		2.7
13	340	9.6	220	4.7		3.5		2.7
14	340	9.7	200	4.7		3.5		2.7
15	330	9.9	215	4.5		3.3		2.8
16	305	10.2	200	4.2		3.1	4.6	2.9
17	290	10.3	200	4.0			4.4	3.0
18	260	9.4	220	3.2			4.2	3.1
19	230	7.5						3.1
20		6.6						3.0
21		6.4						2.9
22		6.1						2.9
23		5.7						2.8

Time: 60°W.
Length of time sweep: Record centered on the hour.
Median values.

Table 38

Christmas I. (1.9°N, 157.3°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	7.0					2.1	3.0
01	250	6.0					2.1	3.0
02	250	5.7					2.1	3.1
03	250	5.5					2.0	3.1
04	240	5.4					2.1	3.2
05	220	3.7					2.1	3.3
06	240	3.0					1.8	3.3
07	240	5.4					2.6	3.1
08	220	6.7			100	2.8	3.2	2.9
09	300	7.1	210	4.6	105	3.2	4.2	2.6
10	360	7.5	200	4.7	100	3.4		2.6
11	390	7.4	200	4.7	100	3.6	5.5	2.6
12	400	7.6	200	4.7			5.7	2.5
13	400	7.5	200	4.7			7.0	2.4
14	380	7.4	200	4.6			6.6	2.5
15	380	7.5	190	4.6			7.2	2.5
16	355	8.0	200	4.5			7.4	2.5
17	310	8.1	200	4.1			5.6	2.6
18	240	8.4					3.7	2.6
19	260	7.9					3.2	2.6
20	300	7.2					3.0	2.6
21	300	6.8					2.1	2.6
22	300	6.5					2.2	2.8
23	300	7.0					3.3	2.8

Time: 150°W.
Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.
Median values.

Table 39

(Corrections and additions to previously published provisional data)

Huancayo, Peru (12.0°S, 75.3°W) June 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	230							
01	230							
02	240							
03	250							
04	250							
05	260							
06	280					1.2		
07	240					2.3	3.2	
08	290		230	4.3		2.8	4.8	
09	330		220	4.4		3.3	5.5	
10	350		210	4.6		3.3	5.5	
11	370		210	4.6		3.5	5.5	
12	390		210	4.6		3.6	5.5	
13	380		200	4.6		3.5	5.5	
14	360		210	4.5		3.4	5.5	
15	300		210	4.3		3.1	5.5	
16	230		230	4.2		2.5	5.3	
17	250					2.0	2 7	
18	270					1.0		
19	275							
20	260							
21	230							
22	230							
23	230							

Time: 75°W.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 40

(Corrections and additions to previously published provisional data)

Great Baddow, England (51.7°N, 0.5°E) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.5					0.9	2.8
01		4.2					0.9	
02		3.8					0.9	
03		3.7					0.8	
04		3.6				1.2	1.3	
05				3.1		1.9	1.9	
06				3.6		2.2	2.9	
07		5.0		3.9		2.6	3.3	
08		5.2		4.1		2.8	3.7	
09		5.8		4.2		3.0	4.0	
10		5.7		4.4		3.1	4.1	
11		5.8		4.5		3.1	4.1	3.0
12				4.5		3.1	4.4	3.0
13				4.5		3.2	4.3	
14		5.8		4.4		3.1	3.3	
15				4.3		3.0	3.7	2.6
16				4.1		2.8	3.4	
17				3.9		2.5	3.5	
18		6.1		3.5		2.0	3.4	3.0
19		6.6				1.7	3.0	
20							2.5	
21							1.6	3.0
22		5.3						
23		4.7					2.1	

Time: 0°.
Length of time sweep: Manual operation.
Median values.

Table 41

Slough, England (51.5°N, 0.6°W) May 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		4.5						
01		4.1						
02		3.8						
03		3.7						
04		3.7						
05		4.1						
06		4.6						
07		5.2						
08		5.2						
09		5.5						
10		6.6						
11		5.6						
12		5.6						
13		5.7						
14		6.0						
15		5.8						
16		6.1						
17		6.2						
18		6.0						
19		6.4						
20		6.5						
21		6.1						
22		5.2						
23		4.8						

Time: 0°.
Length of time sweep: 0.5 Mc to 16 Mc in four minutes.
Median values.

Table 42

(Corrections and additions to previously published provisional data)

Watheroo, W. Australia (30.3°S, 115.9°E) May 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	3.6					2.6	
01	250	3.8					3.0	
02	235	3.8					2.4	
03	250	4.0					2.5	3.0
04	235	4.1					2.4	
05	220	3.7					2.4	
06	220	3.3					2.4	3.1
07	230	4.7				1.4	2.8	3.4
08	230	6.0				2.2	3.1	
09	240	6.5	218	3.8		2.6	3.2	3.5
10	260	7.1	220	4.2		2.9	3.2	
11	260		220	4.3		3.0	3.2	
12	260		220	4.3		3.0	3.3	
13	272	7.2	220	4.2		3.0	3.2	3.4
14	265	7.4	220	4.2		2.9	3.2	3.4
15	250	7.6	220	3.8		2.7	3.2	
16	230	6.8				2.3	3.2	
17	220	6.0				1.5	3.0	
18	212	4.7					3.0	
19	220						2.8	
20	220						2.4	
21	240						2.4	
22	250	3.3					2.4	
23	250	3.5					2.5	2.9

Time: Local
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 43

Tykhi Bay, U.S.S.R. (80.3°N, 52.8°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	4.0						
01	260	4.1						
02								
03								
04								
05								
06								
07								
08								
09								
10	280	4.5						
11								
12	250	4.8						
13								
14	260	4.9						
15								
16								
17								
18								
19	230	4.9						
20								
21								
22	230	4.7						
23								

Time: 60°E.
Average values.

Table 44

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	230	3.5						
01	250	3.2						
02	260	3.0						
03	260	2.8						
04	260	2.8						
05	230	3.6			140	1.8		
06	200	4.2			110	2.0		
07	220	4.8	200	3.7	100	2.4		
08	250	5.4	190	4.0	100	2.7		
09	270	6.1	190	4.1	100	2.9		
10	260	6.6	180	4.2	100	3.0		
11	250	6.6	180	4.2	100	3.0		
12	250	6.8	180	4.2	100	3.0		
13	250	6.6	180	4.2	100	3.0		
14	230	6.5	190	4.1	100	3.0		
15	220	6.4	190	4.0	100	2.8		
16	210	6.2	200	3.7	100	2.6		
17	200	6.0			100	2.3		
18	200	6.0			110	1.9		
19	210	5.9			120	1.8		
20	210	5.6				1.7		
21	210	5.2						
22	220	4.8						
23	230	4.0						

Time: 60°E.
Average values.

Table 45

Tomsk, U.S.S.R. (56.4°N, 85.0°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	4.0						
01	280	3.6						
02	290	3.4						
03	290	3.2						
04	290	3.2						
05	270	3.4						
06	250	4.0				1.7		
07	240	4.6			110	2.0		
08	310	5.4	230	3.7	100	2.4		
09	360	5.7	220	3.8	100	2.7		
10	420	6.2	220	4.0	100	2.9		
11	370	6.4	220	4.2	100	3.2		
12	360	6.8	220	4.4	100	3.4		
13	330	6.3	220	4.2	100	3.3		
14	290	6.8	230	4.0	100	3.1		
15	290	6.6	230	3.9	100	2.9		
16	290	6.4	230	3.7	100	2.7		
17	280	6.3	230	3.6	100	2.5		
18	260	6.0	230		100	2.2		
19	250	6.0			110	1.8		
20	240	5.9			110	1.6		
21	250	5.6						
22	250	5.0						
23	260	4.4						

Time: 90°E.
Average values.

Table 46

Moscow, U.S.S.R. (55.8°N, 37.6°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.9						
01		3.7						
02		3.5						
03		3.4						
04		3.5						
05		3.8						
06		4.5						
07		5.1						
08		5.5						
09		5.9						
10		6.1						
11		6.1						
12		6.1						
13		6.0						
14		6.0						
15		6.0						
16		5.9						
17		5.9						
18		5.9						
19		6.3						
20		6.0						
21		5.7						
22		5.0						
23		4.5						

Time: 30°E.
Average values.

Table 47

(Corrections and additions to previously published provisional data)

Great Baddow, England (51.7°N, 0.5°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.5						2.7
01								2.7
02		3.2						2.8
03		3.0						2.7
04		2.9						2.8
05		3.0				1.4		3.0
06		4.0		3.2		1.9		3.2
07		4.7		3.5		2.3		3.2
08		5.1		3.9		2.6		3.1
09		5.4		4.1		2.9		3.1
10		5.8		4.3		3.0		3.1
11		5.8		4.3		3.1		3.1
12		5.6		4.4		3.1		2.9
13		5.9		4.4		3.2		3.0
14		5.9		4.3		3.0		3.0
15		5.9		4.2		2.8		3.0
16		6.1		4.0		2.6		3.0
17		6.1		3.6		2.2		3.1
18		6.1				1.8		3.1
19		6.5				1.4		3.1
20		5.9						3.0
21		4.9						
22								
23		3.7						2.7

Time: 0°
Length of time sweep: Manual operation.
Median values.

Table 48

Madras, India (13.0°N, 80.2°E) Oct. 1944 through Apr. 1945

Time	Oct. '44 f°F2	Nov. '44 f°F2	Dec. '44 f°F2	Jan. '45 f°F2	Feb. '45 f°F2	Mar. '45 f°F2	Apr. '45 f°F2
00							
01							
02							
03							
04							
05					2.8		
06	3.9	3.8	3.3	2.5	3.2	4.6	4.1
07	6.6	5.1	5.3	5.3	5.1	6.1	6.7
08	7.5	7.2	7.1	7.3	6.6	8.4	8.3
09	8.2	7.9	7.4	7.6	7.7	9.1	8.8
10	8.2	8.1	7.9	7.6	8.3	9.4	8.6
11	8.2	8.0	8.1	7.9	8.7	9.3	8.5
12	8.2	8.3	8.3	8.2	9.1	9.4	8.7
13	8.4	8.4	8.7	8.3	9.2	9.5	8.9
14	8.6	8.7	8.8	8.5	9.3	9.8	9.1
15	8.8	8.9	8.8	8.8	9.3	10.0	9.7
16	9.0	8.7	8.7	8.9	9.4	10.3	10.2
17	9.1	9.1	8.5	8.9	9.5	10.1	10.2
18	9.0	8.9	8.2	8.6	9.6	10.0	10.2
19	8.8	8.3	7.9	8.0	9.2	9.9	9.5
20	8.2	7.7	7.3	7.5	8.4	9.6	9.3
21	7.5	6.1	7.4	6.5	8.3	9.8	8.5
22						9.6	8.7
23							

Time: 82.5°E.
Average values.

Table 49

(Corrections and additions to previously published provisional data)

Watheroo, W. Australia (30.3°S, 115.9°E) April 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260						2.9	
01	260	3.7					3.0	
02	250	3.8					2.8	
03	240	3.8					2.6	
04	225	3.4					2.3	3.2
05	240	3.1					2.3	3.1
06	230	3.0					2.5	3.1
07	230	5.1				1.9	2.1	3.5
08	240					2.5	3.0	3.5
09	255	7.0	225	4.2		2.8	3.2	
10	265	7.5	220	4.4		3.0	3.3	3.4
11	270	7.8	220	4.5		3.2	3.6	
12	275	8.0	210	4.5		3.1	3.8	
13	285	8.1	210	4.5		3.1	3.5	
14	270		225	4.3		3.0	3.4	3.2
15	260	8.0	220	4.2		2.9	3.2	
16	240	7.4	230	3.6		2.5	3.1	
17	230	6.6				1.9	2.8	
18	220	5.5					3.0	
19	225	4.1					2.4	
20	242	3.7					2.3	
21	242	3.7					2.6	
22	250						2.4	
23	255						2.6	3.0

Time: 120°E.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 50

Tykhi Bay, U.S.S.R. (80.3°N, 52.8°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	4.4						
01	260	3.9						
02								
03								
04								
05								
06								
07								
08								
09								
10	260	4.3						
11								
12	240	4.6						
13								
14	240	4.6						
15								
16								
17								
18								
19	240	4.8						
20								
21								
22	260	4.2						
23								

Time: 60°E.
Average values.

Table 51

(Corrections and additions to previously published provisional data)

Great Baddow, England (51.7°N, 0.5°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01		2.8						
02		2.8						
03		2.6						
04		2.5						
05		2.0						
06		2.7				1.5		3.1
07		3.9		3.0		1.9		3.3
08		4.6		3.5		2.2		
09		5.0		3.7		2.5		3.3
10		5.7		4.0		2.7	3.3	3.2
11		5.7		4.0		2.8		3.2
12		5.9		4.1		2.9		
13		6.0		4.1		2.9		
14		5.9		4.0		2.8		
15		6.0		3.8		2.6		
16				3.5		2.4		
17		5.7				2.0		
18		5.8				1.6		
19		5.5						3.1
20								
21		3.6						3.1
22		3.2						
23		3.1						
								2.8

Time: 0°.
Length of time sweep: Manual operation.
Median values.

Table 52

(Corrections and additions to previously published provisional data)

Watheroo, W. Australia (30.3°S, 115.9°E) March 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	265	3.7					3.0	
01	260	3.6					3.0	
02	250						3.6	2.9
03	250	3.5					3.0	
04	250						3.0	
05	242	3.0					3.0	
06	245	3.5					2.9	
07	230					2.0	3.1	3.5
08	250		220	3.8		2.5	3.5	
09	282	5.8	215	4.2		2.8	4.0	3.3
10	295	6.3	200	4.4		3.0	4.1	3.2
11	300	6.7	200	4.4		3.2	3.8	3.2
12	305	7.2	210	4.5		3.2	3.7	3.1
13	300	7.6	225	4.5		3.2	3.7	
14	292	7.4	225	4.4		3.2	3.6	3.2
15	290		230	4.3		3.0	3.6	
16	272	7.1	230	4.0		2.7	3.1	
17	238	7.0	225	3.6		2.3	3.4	
18	235	6.4				1.6	2.8	
19	220	5.6					2.4	
20	230						2.2	3.1
21	250	4.0					2.5	
22	255	3.9					2.7	
23	265	3.8					2.8	

Time: 120°E.
Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.
Median values.

Table 53

Leningrad, USSR (59.7°N, 30.5°E) February 1945

Time	h'F2	f°F2*	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	420	2.4						
01	410	2.3						
02	410	2.4						
03	400	2.4						
04	380	2.5						
05	380	2.6						
06	360	2.8						
07	310	3.4						
08	290	4.3						
09	280	5.3						
10	280	5.9						
11	270	6.1						
12	260	6.3						
13	270	6.4						
14	280	6.4						
15	280	6.3						
16	280	5.5						
17	280	5.1						
18	290	4.4						
19	300	3.6						
20	340	3.4						
21	360	3.1						
22	400	2.8						
23	420	2.5						

Time: 30°E.
Average values.
*Though these data were given as f^XF2, their low values would indicate that they are more probably f°F2.

Table 54

Leningrad, USSR (59.7°N, 30.5°E) January 1945

Time	h'F2	f°F2*	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	360	2.3						
01	390	2.2						
02	390	2.2						
03	380	2.4						
04	380	2.4						
05	380	2.4						
06	360	2.5						
07	340	2.4						
08	310	3.2						
09	270	4.6						
10	260	5.7						
11	250	6.0						
12	270	6.2						
13	260	6.4						
14	260	6.1						
15	260	5.5						
16	260	5.0						
17	260	4.4						
18	260	3.6						
19	300	2.7						
20	390	2.2						
21	420	2.1						
22	390	2.1						
23	320	2.2						

Time: 30°E.
Average values.
*Though these data were given as f^XF2, their low values would indicate that they are more probably f°F2.

Table 55

Alma Ata, USSR (43.5°N, 76.5°E) January 1945

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	3.8						
01	270	3.8						
02	260	3.7						
03	270	3.7						
04	260	3.7						
05	240	3.7						
06	250	3.6						
07	250	3.6			100	2.3		
08	220	4.8			110	2.2		
09	230	5.5	220	4.2	120	2.5		
10	230	6.2	220	4.3	120	2.9		
11	230	5.9	220	4.1	120	3.1		
12	240	5.6	200	4.0	120	3.0		
13	220	5.5	200	4.2	120	3.0		
14	220	5.9	210	4.2	120	2.8		
15	220	5.4			120	2.5		
16	210	4.9			120	2.5		
17	220	4.6			120	2.5		
18	240	4.2						
19	230	3.7						
20	270	3.6						
21	270	3.6						
22	270	3.7						
23	280	3.6						

Time: 75°E.
Average values.

Table 56

Tomsk, USSR (56.4°N, 85.0°E) Sept. through Dec. 1944

Time	Sept. '44 f°F2	Oct. '44 f°F2	Nov. '44 f°F2	Dec. '44 f°F2
00	3.1	3.1	3.0	2.9
01	3.1	3.1	3.0	3.0
02	3.0	3.1	3.0	2.9
03	3.2	3.1	3.0	2.8
04	3.8	3.1	3.0	
05	4.5	4.2	2.8	2.8
06	4.9	5.1	2.9	2.4
07	5.2	6.2	4.4	3.0
08	5.7	6.5	5.8	4.7
09	6.3	6.8	6.6	5.8
10	6.3	7.1	6.8	6.2
11	6.2	7.0	6.8	6.2
12	6.2	6.7	6.6	6.5
13	5.9	6.6	6.6	6.2
14	5.6	6.1	6.0	5.7
15	5.4	5.5	5.1	4.8
16	5.2	4.9	4.4	4.0
17	5.1	4.4	3.6	3.1
18	4.9	3.9	2.8	2.4
19	4.6	3.6	2.7	2.3
20	4.1	3.3	2.6	2.4
21	3.9	3.2	2.6	2.4
22	3.5	3.2	2.9	2.6
23	3.3	3.1	3.0	2.7

Time: 75°E.
Average values.

TABLE 57

IONOSPHERE DATA - I

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $h'F_2$ in (km) for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K
2	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	G K	540K	G K	G K	G K	B K	400	[350]A	300	280	(260)	(250)	(300)	310
3	270	290	260	(290)	[290]A	[290]A	240	400	[320]A	320	[350]A	330	A	A	350	340	330	290	(280)	(240)	220	220	260	280
4	(280)	250	(260)	240	250	240	210	420	450	320	330	380	480	460	380	460	360	300	290	240	240	260	240	260
5	260	260	280	(260)	A	A	310	320	340	440	660	360	430	(380)	340	330	320	[380]C	280	240	260	250	250	260
6	280K	260K	270K	300K	280K	(240)K	(220)K	660K	G K	G K	G K	G K	G K	430K	340K	(500)K	440K	380K	[340]AK	(270)	(270)	(260)	[290]A	[280]A
7	(300)	280	260	240	300	[270]A	(220)	410	330	340	360	420	(410)	580	420	380	380	350	310	240	240	240	240	260
8	270	250	260	220	240	240	200	(530)	340	360	410	390	[420]A	(500)	360	410	370	340	300	(270)	(230)	[260]A	(280)	[290]A
9	[280]A	280	(260)	(280)	(290)	[250]A	A	A	A	A	A	360	380	420	[360]A	340	(370)	(320	310	240	240	240	290	240
10	240	[230]A	260	(270)	240	260	320	(370)	350	330	370	390	360	(420)	430	430	350	(290)	(260)	(240)	240	[270]A	(270)	(280)
11	[290]A	[300]A	270	280	300	290	(230)	340	(350)	360	430	470	460	440	380	[400]A	330	320	290	240	220	220	260	280
12	[300]A	(300)	A	A	300	300	(260)	[270]A	330	[350]A	[360]A	350	[360]A	(380)	360	340	390	340	280	260	(250)	(300)	[270]A	(300)
13	300	(260)	[280]A	A	A	(300)	(280)	320	240	A	A	[350]A	[360]A	380	[400]A	400	320	310	(310)	(220)	230	(280)	280	280
14	260	250	240	240	210	260	(270)	380	340	270	300	350	350	340	380	360	350	310	300	A	(260)	(260)	(280)	(260)
15	(300)	(280)	260	260	220	240	250	(400)	(280)	290	320	440	410	420	[350]A	340	340	300	280	280	240	250	260	270
16	270	240	260	240	240	(250)	340	(340)	(300)	340	370	330	380	[330]C	[330]C	340	380	320	[290]A	260	(250)	240	(240)	260
17	240	280	250	260	280	260	(410)	460	340	380	410	G	440	410	410	400	380	360	(280)	260	260	250	260	270
18	300	240	210	270	300	300K	(240)K	G K	G K	A K	G K	G K	G K	460K	460K	440K	390	480	340	240	240	220	260	280
19	280	(280)	280	260	(260)	250	240	410	[410]C	360	460	[440]C	(420	440	G	400	360	340	310	280	(280	(240)	280	240
20	(250)	240	260	260	260	260	280	300	300	330	380	360	440	(350	360	320	310	310	(280	240	230	270	280	290
21	280	240	260	240	240	280	(250)	300	320	300	320	340	380	360	330	350	320	330	300	260	240	230	240	(300)
22	260	260	250	240	240	260	280	340	320	350	390	380	[400]A	(340	400	410	320	[330]C	270	(250)	(240)	[270]K	260	280
23	260	240	260	240	240	240	220	(250)	340	340	360	400	400	(460	400	390	360	330	300	250	240	220	270	(290)
24	270	280	280	280	280	280	(240)	420	(450	(520	(440	(330)	(520	G	420	450	380	380	(290)	260	240	240	260	270
25	290	260	230	220	240	260	230	250	280	330	350	460	400	380	400	360	350	300	320	(250)	240	230	240	250
26	260	260	260	240	220	240	230	440	[350]C	(370)	560	410	420	420	380	(440	420	340	320	260	270	(260)	280	250
27	240	(240)	260	260	240	280	230	340	340	320	300	320	320	330	390	320	340	300	270	(220)	220	230	240	250
28	280	280	260	250	(220)	240	220	G	540	380	350	480	370	430	(480	440	330	340	300	260	240	260	250	250
29	220	250	260	[260]A	240	260	340	290	450	360	360	340	[350]A	320	360	320	(330)	330	300	240	240	260	260	260
30	280	280	260	260	260	280K	(250)K	490K	G K	560K	G K	G K	G K	G K	G K	460K	380K	320K	(280)K	(280)K	280K	(260)K	[280]AK	(280)K
31	260K	(280)K	260K	(310)K	300K	280K	220K	390K	G K	530)K	440K	C K	C K	[450]CK	410K	[370]BK	360K	350K	280	220	220	(270)	280	(260)
Sum																								
Median	270	260	260	260	250	260	240	380	340	350	360	380	400	420	380	380	360	330	300	250	240	250	260	270

TABLE 58

IONOSPHERE DATA-2

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of f^oF_2 in {No} for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K
2	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	<(4.3)G K	4.6 K	<4.3G K	<(4.4)G K	<4.2G K	[4.5]B K	5.0	(5.3)	5.3	5.0	5.2	5.1	4.0	(3.7)
3	3.4	3.3	3.3	3.1	(2.2)	[3.0]A	3.8	4.5	[5.3]A	(5.5)	[5.8]A	(5.7)	A	A	5.4	5.8	5.6	5.8	5.8	6.4	6.8	5.2	4.0	(3.5)F
4	3.6 F	3.7 F	3.4 F	3.3 F	2.3 F	(4.0)	4.0 F	(4.2)	4.6	5.2	5.7	5.5	5.0	5.0	5.3	5.1	5.6	6.3	6.4	6.5	5.9	5.2	4.5	4.0
5	3.5	(3.4)	3.4	(3.3)	[2.7]A	[3.5]A	3.8	4.7	(5.0)	4.9	(4.8)	5.5	5.2	(5.8)	5.5	5.9	5.7	[5.5]C	5.5	5.6	6.0	5.8	4.5	4.4
6	3.7 K	(3.2) F K	(1.9) F K	(1.5) F K	(1.9) F K	(3.0) F K	(3.4) K	(4.0) K	<3.9G K	<4.0G K	<4.1G K	<4.3G K	<4.2G K	5.1 K	5.5 K	4.7 K	4.8 K	5.0 K	(4.9) K	5.3	5.2	4.7	[4.0]A	[3.7]A
7	3.5 F	(3.3) F	2.3 F	2.5 F	2.0 F	[3.3]A	3.8	4.5	5.0	5.5	5.7	5.3	(5.3)	5.0	5.2	5.5	5.6	5.8	6.0	6.7	6.7	6.4	5.5	4.8
8	4.4 F	3.6 F	3.6 F	3.4 F	2.3 F	(3.2)	(3.5)	(4.2)	4.9	5.2	(5.2)	(5.6)	[5.2]A	(5.1)	5.7	5.5	5.8	6.0	6.4	6.5	(6.8)	5.5	4.5	4.8
9	(3.9) F	3.9 F	3.7 F	2.3 F	(2.1) F	(2.7)	A	A	A	A	[5.1]A	5.5	5.5	5.5	[5.7]A	(5.8)	(5.6)	(5.4)	5.4	6.0	5.9	5.5	4.8	5.2
10	5.0	(4.1)	3.5	3.0 F	2.4 F	3.4	4.0	4.6	5.4	5.5	5.5	5.5	5.7	(5.6)	5.4	(5.5)	5.9	6.2	5.5	5.2	(5.5)	[5.3]A	4.8	4.2
11	3.9 F	3.8 F	3.7 F	3.4	2.7 F	3.9	4.2	4.7	(5.3)J	5.6	(5.1)	5.6	5.4	5.6	5.8	[5.8]A	6.0	6.2	5.9	6.2	5.5	5.0	4.6	4.3
12	4.1	4.1	(3.8)	[3.5]A	3.3 F	3.9	(4.4)	4.4	5.4	(5.6)	[5.4]A	5.8	[5.8]A	5.8	5.8	5.7	5.7	6.0	6.6	6.6	(6.3)	5.6	5.1	(4.5)
13	4.2	4.1 F	3.7	(2.3)J	A	(3.4)J	4.7	5.3	(5.9)	[5.4]A	[6.0]A	[5.9]A	5.7	(5.8)	[5.9]A	5.7	(6.1)	6.0	5.7	5.8	(6.4)	5.5	5.2	5.2
14	(5.1) F	4.7	(4.6)	4.3	3.9	(3.5)	4.6	4.9	5.7	(5.8)	(6.1)	5.9	6.0	6.4	6.1	6.3	(6.1)	(6.6)	6.3	[6.9]A	(7.2)	(6.1)	5.4	4.6
15	4.7	4.2	3.8	3.7 F	3.5	3.9	5.0	5.5	6.4	(7.8)	6.0	(5.8)	5.8	6.4	[6.4]A	6.7	6.3	6.8	6.8	6.6	(6.8)	6.0	5.7	5.2
16	4.3	4.8	4.5	4.4	3.4	3.5 J	4.7	(5.7)	(5.8)	(6.6)	6.4	6.7	6.5	[6.9]C	[6.5]C	(6.4)	(6.4)	(7.0)	[7.3]A	7.0	7.2	(6.4)	(5.4)	5.1
17	5.2	4.2	4.0	3.5	(3.3)	3.4	(4.2)	(4.9)	5.5	5.4	5.3	<(4.7)C	5.6	5.9	6.2	6.4	(6.1)	6.5	5.9	(6.6)	(6.4)	5.8	(5.2)	4.8
18	4.7	4.5	3.5	(3.2) F	2.9	3.3 K	(3.6) K	<4.0G K	<4.0G K	A K	<4.4G K	<4.4G K	<4.6G K	(5.9) K	5.2 K	5.2 K	5.5	5.2	5.3	5.5	5.8	4.8	4.3	3.9
19	3.9 J	3.7	3.8	(3.5)	(3.4)	3.5	3.6	(4.9)	[5.3]C	5.6	5.3	[5.4]C	(5.6)	5.2	<4.7G	5.7	5.6	6.0	5.8	6.0	6.2	5.9	5.1	4.9
20	4.5	3.9	3.5	3.4	3.4	3.6	5.0	5.7	6.4	5.8	5.8	6.4	6.2	6.8	(6.5)	7.0	6.6	6.3	(6.2)	5.8	(6.0)	6.0	(5.6)	5.7
21	5.3	4.7	4.4	3.9	3.5	2.5	4.5	(5.5)	5.9	6.2	(6.2)	6.2	6.2	(6.6)	6.6	6.4	6.4	6.2	6.4	(7.0)	(7.2)	6.8	6.0	5.3
22	5.1	4.8	4.4	4.2	3.9	3.9	5.2	[5.3]C	5.7	5.6	5.6	(5.6)	[5.8]A	(5.8)	(5.5)	6.0	5.6	[6.5]C	6.2	(6.2)	(6.2)	[5.7]C	5.1	4.7
23	4.3 F	4.3 F	4.7	(3.4)	3.3	3.5	4.2	4.8	(5.4)	5.7	(5.6)	5.4	5.8	(5.5)	5.7	5.8	(6.2)	(6.6)	(7.6)	(8.0)	(7.6)	6.0	5.7	4.8
24	4.3	3.5	[3.4]C	3.1	2.5 F	(2.9)	3.5	4.2	(4.7)	(4.5)	(4.9)	(5.3)	4.9	<4.5G	5.2	5.2	5.4	(5.0)	(5.2)	5.2	5.7	4.9	4.3	4.5
25	4.2	4.1 F	3.4	3.5	2.9	3.4	4.3	5.2	5.9	5.7	5.2	5.3	(5.4)	5.5	5.5	5.7	5.8	5.7	5.9	(6.0)	5.8	5.5	4.3	4.1
26	4.0	4.0	3.5	3.3	[3.4]C	(3.5)	(3.4)	4.2	[4.8]C	(5.2)	4.8	5.2	5.5	5.5	5.5	(5.2)	5.2	5.3	[5.5]C	[5.9]B	6.0	(6.0)	(4.7)	4.3
27	3.8	3.3	(3.2)	(3.4)	(3.4)	(3.0)	4.2	4.7	5.2	(5.9)	(6.1)	5.8	6.0	5.7	5.8	6.0	5.9	6.2	6.0	6.4	5.9	5.2	4.8	4.2
28	3.8	3.7	(3.2)	[3.3]C	2.7	(3.2)	3.7	<3.8G	4.3	5.1	5.4	(5.1)	(5.2)	5.0	(4.7)	5.2	5.4	5.5	5.5	5.5	5.8	5.7	5.1	4.5
29	3.9	3.4	[3.1]C	(2.8)	2.7	3.2	4.0	4.5	4.5	5.2	5.7	5.9	[5.8]A	(6.0)	(6.1)	6.4	5.9	5.7	[6.2]C	(7.0)	5.6	(5.0)	4.6	4.4
30	3.8 J	(3.3) F	(3.4)	2.7	2.7	2.9 K	3.5 K	3.9 K	<4.0G K	4.3 K	<4.0G K	<4.3G K	<4.3G K	<4.1G K	<4.1G K	(4.6) K	(4.9) K	5.0 K	(5.1) K	5.1 K	4.7 K	4.1 F K	[3.6]A K	3.5 K
31	(3.3) K	2.2 F K	1.9 K	1.4 K	1.6 K	2.5 F K	(3.4) K	3.9 F K	<4.1G K	(4.4) K	(4.7) K	[4.6]C K	[5.0]C K	[4.9]C K	(4.7) K	[4.8]B K	5.1 K	4.8 K	5.2	5.2	5.2	(4.5)	(3.8)	(3.6)
Sum																								
Median	4.1	3.9	3.5	3.3	2.8	3.4	4.0	4.6	5.3	5.5	5.4	5.5	5.5	5.6	5.5	5.7	5.7	6.0	5.9	6.1	6.0	5.5	4.8	4.5

TABLE 59

IONOSPHERE DATA - 3

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Half hourly values of $f^{o}F_2$ in [Mo] for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75°W MERIDIAN

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	C	C	C	C	C	C	C	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}
2	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	4.9^{K}	$[4.4]^{A}_{K}$	$[4.3]^{A}_{K}$	$[4.3]^{A}$	$[4.3]^{B}_{K}$	4.8^{K}	5.2	$[5.3]^{A}$	5.2	4.7	(5.2)	4.6	$[3.8]^{A}$	$(3.5)^{F}$
3	3.2^{J}	3.3	3.2	$(2.3)^{F}$	2.5	(4.0)	4.2	$[4.8]^{A}$	5.9	6.0	(5.7)	A	A	(5.4)	5.6	5.9	5.5	6.0	[6.2]^{C}	(7.0)	(6.4)	4.2	4.0^{F}	$(4.1)^{F}$
4	3.6^{F}	3.7^{F}	3.5^{F}	$(2.8)^{F}$	2.8^{F}	3.5^{F}	(4.1)	$>4.2^{G}$	5.2	5.4	5.7	4.7	$[5.1]^{C}$	5.2	5.5	5.3	5.7	6.1	6.4	6.0	5.7	4.9	(4.0)	3.7
5	3.3^{J}	3.4	(3.4)	$[3.0]^{A}$	(2.9)	$[3.8]^{A}$	4.3	(4.8)	4.8	5.1	5.0	4.9	5.3	5.2	5.6	$[5.7]^{C}$	5.3	5.8	5.9	5.6	$[6.0]^{C}$	5.2	4.5	3.8
6	3.6^{K}	$(2.4)^{F}_{K}$	1.6^{F}_{K}	1.5^{F}_{K}	2.3^{F}_{K}	$(3.4)^{F}_{K}$	3.7^{K}	$>3.8^{G}_{K}$	$>4.0^{G}_{K}$	$>4.1^{G}_{K}$	C^{K}	$>4.3^{G}_{K}$	4.6^{K}	5.2^{K}	5.0^{K}	4.8^{K}	$(4.7)^{K}$	5.0^{K}	5.2^{K}	5.3	5.1	(4.4)	(3.8)	$(3.5)^{F}$
7	3.4^{F}	2.6^{F}	$(2.7)^{F}$	2.3^{F}	$(2.4)^{F}$	(4.3)	3.9	4.8	5.3	5.7	(5.7)	5.7	4.9	(5.2)	5.2	5.3	6.0	6.1	6.6	6.6	6.7	(5.7)	5.1	4.6^{F}
8	$(4.0)^{F}$	3.7^{F}	3.8^{F}	$(3.0)^{F}$	$(2.5)^{F}$	(3.5)	$[3.7]^{C}$	4.8	$[5.1]^{A}$	5.1	5.0	5.4	(5.3)	5.7	5.6	5.5	6.2	6.2	(6.4)	(6.5)	5.8	(5.0)	4.7	4.7
9	4.1	$(3.7)^{F}$	2.5^{F}	2.5^{F}	2.4^{F}	$[3.6]^{A}$	A	A	A	$[4.8]^{A}$	5.4	$[5.7]^{A}$	(5.4)	5.6	$[5.7]^{A}$	$[5.7]^{B}$	(5.7)	(5.6)	5.9	5.9	5.9	5.5	5.1	5.0
10	4.5	(3.5)	3.1^{F}	2.7^{F}	2.7	3.6	4.4	5.0	5.5	$[5.3]^{A}$	5.6	5.7	5.5	5.5	5.4	5.8	5.8	5.5	5.4	$[5.4]^{C}$	5.6	5.0	4.5	4.1
11	4.0^{F}	3.9^{F}	(3.6)	3.2^{F}	(3.2)	4.3	(4.4)	(4.8)	5.4	(5.7)	5.3	5.3	(5.3)	5.7	5.6	6.0	5.9	6.0	6.0	5.8	5.5	4.8	4.5	4.1
12	4.0	$[3.9]^{A}$	3.7	$(3.1)^{J}$	$(3.1)^{F}$	3.7	4.2	5.0	5.4	$[5.4]^{A}$	$[5.3]^{A}$	5.9	$[5.8]^{A}$	$[5.8]^{A}$	5.8	5.6	5.8	6.1	6.7	6.6	5.8	[5.5]^{A}	4.4	4.3
13	4.2	4.0	$[3.3]^{A}$	A	A	4.3	5.1	(5.8)	(5.3)	(6.0)	6.0	$[5.8]^{A}$	5.9	6.0	$[5.8]^{A}$	5.7	(5.9)	5.7	5.7	6.0	6.0	5.8	(5.2)	(5.3)
14	5.3	4.7^{F}	4.1^{F}	3.9^{F}	3.5	4.0	(4.5)	5.2	5.7	6.0	(5.7)	(5.9)	6.1	6.3	(6.6)	(6.1)	6.0	6.3	[6.5]^{C}	(7.6)	6.5	5.7	5.2	4.5
15	$(4.3)^{F}$	4.0	(3.7)	3.7	(3.3)	(4.3)	$(5.0)^{J}$	(6.7)	6.3	(6.9)	5.6	5.9	$[6.1]^{A}$	6.6	(6.2)	6.4	6.5	6.6	(6.5)	(6.5)	6.2	(5.7)	5.6	5.2
16	5.1	4.7	4.5	4.1	3.2	4.0	$[5.0]^{C}$	(6.0)	5.8	6.8	6.4	(6.2)	[6.5]	$[6.8]^{C}$	6.5	(6.4)	6.5	(7.2)	7.3	(7.0)	(7.0)	(6.3)	5.1	5.1
17	4.3	4.2	$[3.7]^{C}$	3.4	3.4	3.7	4.8	5.4	(5.7)	5.3	<4.7G	(5.0)	5.3	5.7	6.1	6.2	6.3	6.4	6.3	(6.8)	(6.2)	5.6	(4.8)	(4.6)
18	4.6	4.2	3.4	2.7	2.8	$(3.6)^{K}$	$(3.7)^{K}$	$<4.2^{G}_{K}$	$<4.3^{G}_{K}$	$<4.1^{G}_{K}$	$<4.5^{G}_{K}$	$<4.6^{G}_{K}$	$<4.5^{G}_{K}$	$<4.4^{G}_{K}$	5.2^{K}	5.3^{K}	5.5	(5.2)	5.4	5.6	5.5	4.4	3.9	4.0
19	3.7	3.5	3.5	(3.4)	3.3	3.8	4.5	5.2	(5.4)	5.5	$[5.3]^{C}$	$[5.5]^{C}$	5.5	5.6	5.5	5.8	5.8	5.8	5.8	6.0	6.0	6.0	5.1	4.6
20	4.0	3.5	3.5	(3.3)	(3.4)	4.2	5.5	6.2	5.9	5.9	(6.0)	(6.2)	6.6	6.5	6.8	6.4	6.2	6.2	(6.0)	(6.3)	6.1	5.8	5.5	5.5
21	5.0	4.5	4.3	3.9	3.4	4.2	4.7	(5.9)	6.2	(6.0)	6.4	$[6.2]^{C}$	6.6	(6.6)	6.5	6.4	6.5	6.4	6.6	(7.2)	7.0	6.6	5.5	5.0
22	4.9	4.5	4.2	4.2	3.9	4.5	.5.2	5.5	5.9	5.7	5.8	(5.8)	$[5.8]^{A}$	$[5.7]^{B}$	$[5.7]^{B}$	(5.8)	(6.6)	(6.4)	(6.0)	(6.4)	6.0	[5.4]^{C}	4.8	4.5
23	4.3	4.3	3.7	(3.0)	3.3	3.8	(4.7)	5.1	5.6	5.7	5.7	5.4	(5.7)	5.5	5.7	6.2	6.8	(7.4)	(7.8)	(6.8)	(7.8)	5.6	5.6	4.4
24	3.8	3.6	(3.1)	2.9	2.5^{F}	3.4	4.1	4.6	4.7	5.0	4.7	(4.9)	5.1	5.3	5.2^{J}	$<(4.3)^{G}$	$(5.1)^{J}$	5.1	5.0	5.3	5.6	4.6	4.3	4.4
25	3.9^{F}	3.9	4.1	(3.2)	3.0	$(3.8)^{J}$	4.8	5.2	(5.7)	(5.0)	$[5.3]^{C}$	5.2	5.3	5.5	(5.5)	5.5	5.7	5.7	(6.0)	5.8	5.5	4.9	4.2	4.1
26	4.0	$[3.8]^{C}$	3.7	3.5	(3.1)	(3.5)	(3.5)	4.7	(4.9)	(4.8)	$[5.0]^{C}$	5.2	5.4	5.2	(5.2)	4.8	(5.2)	5.2	5.7	(6.0)	5.9	4.8	$(4.7)^{J}$	4.2
27	3.7	3.1	(3.2)	3.4	3.3	3.7	4.3	5.0	5.9	5.9	(6.0)	5.7	6.0	5.5	6.2	5.7	5.9	(6.1)	6.0	(6.2)	5.6	(4.9)	4.3	3.7
28	3.8	3.4	(3.4)	3.2	(2.4)	(3.5)	3.6	4.3	4.7	5.3	5.4	5.0	5.3	(4.7)	$[5.0]^{K}$	5.5	5.5	5.5	5.6	5.8	5.8	5.3	4.5	4.1
29	3.5	(3.3)	2.7	(3.0)	2.6	(3.5)	4.5	$<4.1^{G}_{K}$	4.9	5.3	5.9	5.7	6.0	6.4	$[6.2]^{A}$	6.3	6.0	5.8	(6.8)	(6.2)	5.2	5.0	4.7	4.3
30	(4.1)	3.3	3.1	(2.8)	(2.6)	$(3.4)^{K}$	3.6^{K}	3.8^{K}	$(4.0)^{K}$	$(4.5)^{K}$	4.7^{K}	$<4.2^{G}_{K}$	$<4.2^{G}_{K}$	$<4.2^{G}_{K}$	$(4.4)^{K}$	4.8^{K}	$(4.7)^{K}$	$[5.1]^{A}_{K}$	4.8^{K}	4.7^{K}	4.7^{K}	3.9^{K}	3.5^{K}	3.4^{K}
31	2.7^{K}	1.9^{F}_{K}	$[1.6]^{A}_{K}$	1.6^{K}	$[1.8]^{A}_{K}$	3.4^{K}	4.0^{K}	4.3^{K}	4.5^{K}	$(4.5)^{K}$	$<4.2^{G}_{K}$	$[4.8]^{C}_{K}$	$(5.1)^{K}$	$(4.7)^{K}$	$(4.6)^{K}$	5.1^{K}	$(4.8)^{K}$	4.9^{K}	5.2	5.2	5.0	(4.2)	(3.4)	(3.5)
Sum																								
Median	4.0	3.7	3.5	3.0	3.0	3.7	4.4	4.9	5.4	5.4	5.4	5.4	5.4	5.5	5.6	5.7	5.8	6.0	6.0	6.0	5.8	5.1	4.6	4.3

TABLE 60

IONOSPHERE DATA - 4

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $h'F_1$ in [mm / km] for July (Month) 1945

Records measured by: J. M. C. R. L. S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	K				
2							K	C K	C K	C K	200 K	220 K	230 K	(220) K	200 K	B K	A	A	A					
3								A	A	A	A	A	A	A	200	200	220	A	A					
4								220	220	220	220	200	220	220	220	240	220	A	A					
5								[220] A	[220] A	(200)	220	220	190	(240)	200	210	[220] A	[220] C						
6							K	(180) K	(220) K	(240) K	180 K	180 K	200 K	220 K	220 K	200 K	220 K	[250] A K	A K					
7								250	240	(240)	210	(200)	200	200	[200] C	200	250	(240)	A					
8								(230)	240 H	220	210	200 H	[210] A	(200)	[200] A	220	240	(260)	(220)					
9								A	A	A	[210] A	210	(220)	210	A	A	B	(240)	[240] A					
10							220	[230] A	(230)	(230)	(240)	[240] A	[240] A	180 H	200	200	220	240	(220)					
11								240	[220] A	220	180 H	190	200	210	(240)	[230] A	210	(220)	(200)					
12								[270] A	A	A	A	A	A	A	A	220	220	240	A					
13							(280)	220	A	A	A	A	A	A	A	A	A	A	A					
14								A	(230)	210	[220] A	(220)	200	200	230	220	220	A	A					
15							220	(240)	220	210	220	180 H	200	A	A	A	A	A	[220] A	(240)				
16							(220)	(250)	220 H	200 H	210	190	200	[210] C	[210] C	220	220	230	A					
17							(240)	230	220	220	220	200	220	220	230	240	220	240	[250] C	260				
18							K	(200) K	210 K	[210] A K	220 K	210 K	220 K	210 K	220 K	240 K	260	240	240	240				
19								220	[220] A	240	220	[220] C	(220)	210	220	200	240	A	A					
20							(240)	240	230	220	220	200	A	A	A	(210)	210	220	[210] A					
21								220	200	200	180	180 H	210	200	200 H	160 H	210	230	(240)					
22							240	240	[230] A	220	(190)	(200)	A	A	(200)	(240)	(200)	A	A					
23								[220] A	220	(210)	200	200	200	200	200	210	240	240	(240)					
24								(200)	(220)	(180)	180	200	(180)	220	210	210 H	220	(220)	(230)					
25								[220] A	220	200	200	(190)	(200)	200 H	220	220	220	(230)	(220)					
26								(220)	A	A	200	210	200	200	(200)	(220)	200	(220)	(220)					
27								240	220	220	220	220	200	200 H	(220)	220	240	[220] A	220					
28								220	240	[240] A	220	[220] C	220	200	(200)	220	[220] A	(240)	240					
29							230	[230] A	(220)	(240)	A	A	A	[200] A	220	(230)	[220] A	240	(220)					
30							K	200 K	(220) K	(220) K	180 K	(220) K	190 K	200 K	240 K	220 K	(280) K	A K	K	K				
31							K	220 K	220 K	200 K	200 K	[200] C K	[210] C K	[220] C K	200 K	[220] B K	230 K	(270) K	(230)					
Sum																								
Median							240	220	220	220	210	200	200	200	210	220	220	240	220	(240)*				

* Median Obtained From Four Values Or Less

TABLE 61

IONOSPHERE DATA- 5

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $f^{o}F_1$ in {Mc} for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	C^{K}	K				
2							C^{K}	C^{K}	C^{K}	C^{K}	(4.3)^{K}	4.3^{K}	4.3^{K}	(4.4)^{K}	4.2^{K}	[4.1]$^{B}_{K}$	4.0	A	A					
3								(3.8)	[4.0]^{A}	4.3	A	A	A	A	4.3	4.4	4.1	3.9	(3.7)					
4								3.8	(4.0)	4.0	4.2	4.4	4.4	4.3	4.3	4.3	4.0	3.8	3.6					
5								(3.8)	(4.0)	4.2	4.3	4.5	(4.5)	(4.5)	4.4	(4.2)	(4.1)	[4.1]^{C}						
6								3.5	3.9	4.0	4.1	4.3	4.2	4.2	4.2	4.3	4.1	4.0	A					
7								3.8	4.1	4.4	4.5	(4.5)	(4.6)	4.5	[4.5]^{C}	4.4	4.3	3.9	A					
8								3.8	4.1	4.4	4.5	4.6^{H}	4.6	(4.4)	(4.5)	4.6	4.1	4.2	(3.6)					
9								A	A	A	[4.4]^{A}	4.6	(4.7)	(4.6)	[4.6]^{A}	(4.7)	[4.3]^{B}	(4.1)	A					
10							3.5^{K}	(4.0)^{K}	4.3^{A}	4.5^{K}	4.6^{K}	[4.6]$^{A}_{K}$	4.7^{K}	4.6$^{H}_{K}$	4.5^{K}	4.6^{K}	4.4^{K}	4.2^{K}	[3.6]^{K}					
11								(4.1)	[4.4]^{A}	4.5	4.7^{H}	4.7	4.7	4.6	4.6	[4.5]^{A}	4.3	4.1	(3.8)					
12									(4.2)	[4.4]^{A}	A	A	A	(4.5)	4.7	4.6	4.3	(4.3)	3.9					
13								4.1	(4.2)	A	A	A	A	(4.8)	[4.8]^{A}	4.8	(4.2)	4.2	A					
14								(4.2)	4.5	4.5	4.8	4.7	4.8	4.8	4.8	4.7	(4.4)	4.3	(3.9)					
15							(3.5)	(4.4)	4.6	4.7	(4.8)	4.9	5.0	A	A	(4.7)	[4.4]^{A}	4.2	[3.9]^{A}					
16							(3.6)	(4.1)	4.4^{H}	4.6^{H}	4.8	4.8	(4.8)	[4.9]^{C}	[4.7]^{C}	4.6	4.6	4.3	A					
17							(3.6)	4.1	4.3	4.5	(4.6)	(4.7)	4.7	4.6	4.7	4.7	4.4	4.2	[3.8]^{C}					
18							K	4.0^{K}	4.0^{K}	[4.2]$^{A}_{K}$	4.4^{K}	4.4^{K}	4.6^{K}	4.7^{K}	4.6^{K}	4.4^{K}	4.4	4.3	(3.7)					
19								4.1	[4.3]^{C}	4.5	4.7	[4.7]^{C}	4.7	4.6	4.7	4.5	4.5	[4.3]^{A}	[4.0]^{A}					
20							(3.5)	4.1	4.5	4.7	4.7	4.9	5.0	(4.7)	4.7	4.7	4.4	4.2	[3.8]^{A}					
21								3.6	4.1	4.4	4.7	4.7^{H}	4.9	4.7	4.7^{H}	4.7^{H}	4.4	4.2						
22							(3.5)	4.2	4.3	4.5	4.6	(4.6)	A	A	(4.7)	4.7	4.4	A	A					
23								[3.9]^{A}	4.2	4.5	4.7	4.5	4.7	4.7	4.5	4.5	4.3	4.1	(3.6)					
24								3.7	(3.9)	4.1	(4.2)	4.5	4.4	4.5	4.3	4.5^{H}	4.1	(4.1)	(3.6)					
25								[3.9]^{A}	4.1	4.2	4.4	4.7	4.7	4.5^{H}	4.1	4.2	4.3	(4.0)	(3.4)					
26								3.8	[4.0]^{C}	4.2	4.3	4.4	4.5	4.5	4.4	(4.3)	4.2	3.9	(3.4)					
27								4.0	4.1	4.3	4.5	4.5	4.5	4.6^{H}	4.5	4.2	4.2	(3.9)	(3.7)					
28								3.8	4.0	(4.2)	4.3	(4.4)	(4.4)	4.5	4.2	(4.2)	4.1	3.8	(3.5)					
29							3.5	[3.7]^{A}	4.0	4.2	4.4	4.5	[4.5]^{A}	[4.5]^{A}	4.4	4.3	[4.3]^{C}	4.0	(3.3)					
30							K	(3.6)^{K}	4.0^{K}	4.0^{K}	4.0^{K}	4.3^{K}	4.3^{K}	4.1^{K}	4.1^{K}	4.0^{K}	4.0^{K}	3.6^{K}	K	K				
31							K	3.5^{K}	4.1^{K}	4.2^{K}	4.3^{K}	[4.3]$^{C}_{K}$	[4.4]$^{C}_{K}$	[4.3]$^{C}_{K}$	4.3^{K}	[4.2]$^{C}_{K}$	4.0^{K}	3.9^{K}	(3.4)					
Sum																								
Median							3.5	3.9	4.1	4.4	4.5	4.5	4.6	4.5	4.5	4.5	4.3	4.1	3.6					

TABLE 62

IONOSPHERE DATA- 6

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of h'_E in (mm / km) for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

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

TABLE 63

IONOSPHERE DATA - 7

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of $f^{\circ}E$ in {Mc / Kc} for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75°W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						C	C	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K				
2						C K	C K	C K	C K	C K	A K	A K	A K	A K	A K	(3.5) K	(3.2)	A	A	A				
3						A	(2.6) F	(3.0)	(3.3)	A	A	A	A	A	A	A	A	A	(2.8)	A				
4						A	[2.3] A	[2.9] A	A	A	A	A	A	(3.5)	A	A	A	3.2	A	A				
5						A	A	[2.8] A	A	A	A	A	3.5	[3.6] A	(3.5)	A	A	C	A	(1.8)				
6						A K	(2.5) F K	A K	A K	A K	A K	A K	A K	A K	3.5 K	(3.4) K	3.4 K	[3.2] A K	(2.6) K	A				
7						A	(2.6) F	A	A	A	A	A	[3.6] B	3.6	[3.5] C	(3.4)	3.6	3.3	(2.5)					
8						(15) F	(2.4) F	(3.1)	3.5	[3.5] A	[3.6] A	(3.6)	[3.7] A	[3.6] B	(3.5)	(3.5)	[3.5] A	(3.4)	[2.7] A	A				
9						A	(2.4)	(2.6)	[3.5] A	A	A	A	A	A	A	A	B	B	A	(2.0)				
10						A	(2.7) H	A	A	A	A	A	A	A	(3.6)	[3.5] B	(3.3)	[3.4] B	(2.9)	1.9				
11						A	A	A	A	A	(3.6)	[3.6] A	[3.6] A	(3.5)	3.6	3.4	A	A	A	[2.0] A				
12						A	A	A	A	A	A	A	A	A	A	A	A	3.4	(2.8)	A				
13						A	A F	A	A	A	A	A	A	A	A	A	A	A	A	(1.8)				
14						A	A	(3.4)	(3.5)	(3.6)	(3.6)	(3.6)	[3.6] A	(3.7)	3.6	(3.5)	A	A	(2.8)	A				
15						A	A	A	A	A	A	C	A	A	A	A	A	A	A	C				
16						A	(2.6) F	A	A	A	A	A	A	C	C	A	(3.6)	(3.4)	2.7	A				
17						(1.4)	A	A	A	A	A	A	A	A	B	A	A	B	C	A				
18						(1.4) K	(2.5) F K	[3.3] A K	(3.5) K	[3.6] A K	[3.6] A K	(3.6) K	(3.7) K	(3.7) K	3.5 K	3.5 K	[3.5] A	3.4	2.8	(2.0)				
19						A	2.3	A	A	A	A	C	A	A	A	(3.6)	[3.4] A	[3.4] A	[3.0] A	1.9				
20						(1.5)	2.5 A F	(3.1)	(3.4)	A	A	A	A	A	A	A	A	A	A	A				
21						A	A	A	A	A	(3.5)	(3.5)	(3.6)	(3.6)	(3.5)	3.5	3.4	[3.2] A	2.6	1.9				
22						A	(2.4) F	(3.0)	A	A	A	A	C	A	B	B	B	A	A	A				
23						A	A	A	A	A	A	A	(3.5)	[3.5] A	A	A	(3.5)	(3.3)	(2.9)	A				
24						(1.5)	A	C	A	A	[3.5] A	(3.5)	[3.5] A	3.5	[3.5] B	3.5	[3.5] A	(3.3)	[3.0] A	(1.9) F				
25							A	A	A	A	A	A	A	A	B	A	3.4	(3.3)	(2.7)	A				
26							(2.3)	A	A	A	A	3.6	3.6	[3.5] A	(3.5)	B	A	A.	B	A				
27							(2.4) F	2.9	3.3	(3.4)	A	A	A	A	A	A	(3.4)	[3.0] A	2.5	A				
28							A	2.9	(3.3)	A	A	C	[3.5] A	3.4	3.5	3.5	3.4	(3.1)	2.5	A				
29							2.3 F	[2.9] A	A	A	A	(3.4)	A	A	A	A	A	A	(2.6)	(1.8)				
30						K	(2.3) F K	[2.8] F K	A K	A K	A K	A K	3.5 K	[3.4] A K	3.5 K	[3.4] B K	3.4 K	3.1 K	A K	A K				
31						K	[2.4] A K	[2.9] A K	3.2 K	(3.4) K	A K	C K	C K	C K	B K	[3.3] B K	(3.3) K	(3.2) K	A					
Sum																								
Median						1.5	2.4	2.9	3.4	3.5	3.6	3.6	3.6	3.5	3.5	3.5	3.4	3.3	2.7	1.9				

TABLE 64

IONOSPHERE DATA - 8

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of E_s in {Mc / km} for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2	C	C	C	C	C	C	C	C	C	C	4.8/100	4.8/110	4.6/100	5.5/110	3.5/100	(4.4)/110	5.3/120	6.0/110	8.0/120	5.9/120	5.9/120	4.4/120	6.0/120	6.0/120
3	4.3/110	3.4/100	3.7/110	4.7/100	4.7/110	6.5/110	5.3/120	7.6/110	7.8/110	6.5/110	6.7/110	6.4/110	6.8/110	6.8/110	4.6/110	4.8/100	5.7/110	6.6/120	5.5/130	4.6/120	5.6/120	3.4/120	5.4/120	4.4/120
4	4.6/110	5.5/110	3.4/120	3.4/110	3.3/110	3.5/110	5.9/110	5.7/120	5.2/110	4.9/110	4.2/100	5.9/110	4.8/110	4.1/120	5.1/100	5.4/110	5.5/110	5.0/120	5.9/120	4.3/120	3.4/120			
5		3.3/120	3.4/120	6.0/110	6.6/110	6.0/110	6.1/110	5.8/110	4.7/110	5.0/110	5.2/110	4.6/110	4.7/110	4.3/110	4.3/100	4.3/110	4.0/110	3.9/120	4.8/120		2.8/120		2.8/130	2.9/120
6	2.7/120	3.4/130		2.7/140	2.7/140	2.6/110	4.0/110	3.9/110	4.2/110	4.9/110	4.3/100	4.3/110	4.3/110	4.6/110	4.2/120	5.7/120	4.8/120	4.2/120	5.7/120	4.2/120	5.9/120	6.7/120	7.0/120	6.0/110
7	6.0/100	4.0/110	3.4/110	3.3/120	5.7/120	6.2/110	5.8/110	4.1/110	4.3/110	5.7/110	6.6/110	6.6/110		4.7/120	5.2/100	4.2/110	3.7/160	4.3/140	5.7/120	4.1/120	3.4/110	3.3/110		
8	2.6/120	2.6/110	(2.6)/100		1.2/120	(2.7)/120	(2.8)/120	3.8/110	6.4/110	6.0/110	4.3/110	(4.1)/110	6.6/110	4.0/140	4.4/120		3.9/120	5.4/110	5.1/110	5.5/120	6.0/110	6.4/120	5.4/120	6.0/110
9	5.8/110	4.6	4.3/110	4.1/100	4.3/100	6.2/100	6.4/100	6.5/110	7.8/100	(10.0)/110	(7.6)/110	(9.0)/110	6.6/110	6.6/110	6.6/110	6.6/120	4.2/120	5.2/120	(5.7)/120	2.4/110	2.0/110	3.0/110	3.5/120	4.1/120
10	2.8/110	5.8/110	5.4/110	3.4/120	3.3/120	5.0/110	4.7/110	5.0/110	5.3/110	6.5/110	5.2/110	5.4/110	6.4/110	4.4/100					2.7/110	3.5/120	5.8/120	6.0/120	4.0/120	5.0/120
11	5.8/110	4.1/110	4.4/100	4.8/110	4.6/100	4.3/110	5.5/110	4.5/110	5.7/110	5.3/100	5.0/110	4.2/100	4.3/110	4.2/110	5.1/120	11.9/110	6.4/110	6.8/110	4.6/110	3.4/110	3.4/110	3.1/110	0.9/120	3.5/120
12	5.0/100	/110	6.7/100	5.8/110	4.4/110	6.6/110	6.3/110	5.8/110	6.8/110	6.7/110	6.9/110	6.9/110	6.7/110	6.9/110	6.4/110	6.1/110	4.8/110	4.2/120	4.7/110	4.2/110	5.9/110	6.8/110	6.6/110	6.5/110
13	5.8/100	4.7/110	6.0/110	6.6/110	6.4/110	6.0/110	4.2/110	(5.5)/100	5.8/100	6.7/110	6.6/110	6.7/110	6.6/110	6.3/110	6.8/100	6.0/100	5.2/110	5.3/100	4.8/110	3.6/110	3.5/110	5.6/120	4.7/100	5.0/110
14	6.0/100	3.5/100	3.8/100	3.5/100	3.6/100	3.9/100	5.2/110	5.5/120	(4.0)/120	4.1/120	4.8/120	6.4/110	5.5/110	4.4/120	4.4/120	5.6/110	5.5/110	5.5/120	11.0/110	7.6/110	5.7/110	5.1/110	4.8/120	5.2/120
15	6.5/110	5.4/120	4.7/110	4.1/110	2.7/110	2.8/110	(3.9)/110	4.2/110	5.7/110	5.5/110	5.2/110	4.3/100	6.4/110	6.9/110	6.5/110	6.7/110	7.4/120	6.4/110	4.5/110	3.5/120				6.5/120
16	6.0/120	1.0/120		3.9/110	3.5/120	(5.0)/110	4.9/110	6.0/110	5.5/110	4.8/110	4.8/110	5.2/110	5.2/100	4.1/110	5.5/110	3.9/110	4.3/130	4.5/110	7.0/110	5.6/110	4.7/110	3.4/110	3.2/100	2.7/100
17	3.4/110	3.0/110	1.2/110	2.8/110	2.8/110	5.8/110	3.6/110	4.1/110	5.9/110	6.0/110	5.9/110	(5.4)/110	5.2/110	3.7/110	4.2/110	5.0/110	3.8/110		3.7/120	3.5/120	2.9/120		3.2/120	3.1/120
18	3.4/110			3.1/110	3.3/110	2.7/110	5.1/110	3.6/110		5.4/110	5.4/110		5.3/120	4.1/130	4.2/120	4.8/120	4.6/100	4.2/120	4.1/120	1.9/120	2.8/110			
19	1.1/120	3.7/110	3.4/100	3.3/110	3.0/110	3.5/110	4.5/100	4.5/110	4.5/110	5.2/110	5.1/110	C	5.0/110	4.6/110	4.5/110	4.5/120	4.8/110	5.7/110	4.7/120	4.7/120	5.9/110	4.1/110	5.9/110	2.6/120
20	3.5/100	3.4/110	2.9/110	2.8/110	3.4/110	4.2/100	5.8/110	4.5/110	4.7/110	5.5/110	6.2/100	5.9/100	5.9/100	6.5/100	6.4/110	5.2/110	4.4/110	4.6/110	4.0/110	3.4/110	2.7/100	3.4/110	3.2/110	4.1/110
21	4.1/110	2.7/100	3.4/100	3.8/100	3.4/110	5.3/110	5.9/110	4.3/110	4.7/110	4.1/110		4.2/110	6.3/110	5.3/110	4.1/120			4.1/110	3.5/120	2.8/120	3.4/110	3.3/110	6.0/100	6.0/110
22	3.0/110		0.9/120	1.0/130	2.7/110	(3.4)/110	3.6/110	5.1/110	5.1/100	4.7/110	4.6/100	6.4/110	7.0/110	(6.0)/110	3.9/120		5.2/120	7.0/120	6.0/120	5.8/110	2.8/120	7.4.3/120	4.2/120	5.8/100
23	4.3/110	0.9/110	3.3/110	2.6/110	2.8/120	3.3/120	(3.8)/120	4.3/110	6.6/110	6.4/110	5.7/110	4.7/110	4.4/120	4.2/110	4.2/110	4.3/110				3.5/120	(3.4)/120		3.2/120	4.0/110
24	3.4/110	1.4/120		2.7/110	2.4/110	2.9/110	3.4/110	4.4/110	(3.7)/110	4.2/110	4.2/110	4.2/110	3.7/110	4.1/120	4.2/120	4.2/110	4.2/110	4.2/110	3.4/120	2.3/140		2.7/120	3.4/120	3.4/120
25	5.0/120	(4.4)/110	3.9/110	3.5/110	3.0/110	3.8/110	4.7/110	3.8/110	4.3/110	4.7/100	4.7/110	5.0/110	4.8/110	4.7/110		3.9/110	4.7/110	3.1/110	2.7/110	3.0/110				2.9/110
26	2.6/110	2.7/100	2.8/100	2.7/100	2.6/100		2.9/110	3.7/110	6.4/100	6.3/110	4.8/110	4.0/120	4.3/140	4.1/110			3.9/110	3.4/110	2.5/110	3.9/120	4.5/110	>4.3/110	3.4/100	3.4/100
27	2.7/100	2.7/100	2.6/100	2.6/110	2.7/110	2.0/120	3.8/110	3.8/120	4.0/120	4.3/110	5.0/110	3.6/110	4.5/110	3.9/110	4.5/110	(4.0)/110	(3.9)/120	3.5/120		2.6/110	(2.7)/110			
28	3.4/120	3.4/120	2.7/110	(2.7)/110	3.4/110	(4.3)/110	2.8/120	3.5/120	3.6/120	5.2/110	6.3/110		5.2/110	3.9/140	5.8/110	4.3/130	4.2/130			5.0/120	3.4/120	2.5/110		2.7/110
29	2.5/110	2.7/110	5.7/110	5.8/110	3.8/110	4.0/110	4.1/110	4.2/120	6.0/110	5.7/110	5.7/110	6.3/110	6.6/110	6.0/110	6.4/110	5.7/110	4.0/110	4.6/110	(2.3)/120					
30	2.7/110		1.0/130		1.0/120	3.9/110	3.5/110	3.6/110	4.3/110	5.1/110	5.5/110	4.7/100	3.8/110	3.9/100			5.7/110	7.5/110	5.9/110	(3.9)/110	(4.6)/110	4.1/110	5.7/110	(5.1)/110
31	3.3/110	4.9/110	4.9/110	3.8/110	3.7/110	3.3/110	2.9/110	3.9/110	(3.9)/120	4.2/110	3.8/100	C	C	C	(3.6)/110		3.4/110		2.8/120		3.5/110	4.0/120	3.4/110	2.8/110
Sum																								
Median	3.4	3.4	3.4	3.4	3.3	3.9	4.5	4.3	5.1	5.3	5.2	4.9	5.2	4.4	4.4	4.4	4.4	4.4	4.6	3.6	3.4	3.4	3.4	3.8

TABLE 65

IONOSPHERE DATA - 9

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of F2-MI500 for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75°W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C	C	C	C	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K
2	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	C^K	G^K	1.6^K	G^K	G^K	G^K	B^K	1.9	A	2.1	2.0	2.1	2.0	2.0	(2.1)
3	2.3	2.0	2.2	2.2	A	A	(2.5)	1.9	A	(2.2)	A	(2.2)	A	A	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.1	$(2.3)^F$
4	$(2.2)^F$	$(2.2)^F$	$(2.2)^F$	$(2.2)^F$	$(2.3)^F$	(2.2)	$(2.4)^F$	(1.8)	1.7	2.1	2.1	1.9	1.7	1.7	1.9	1.7	1.9	2.0	2.0	2.1	2.1	1.9	1.9	2.0
5	(2.1)	(2.1)	2.1	(2.1)	A	A	2.1	2.2	(2.0)	1.8	(1.4)	1.9	1.8	(1.9)	2.1	2.1	2.1	C	2.0	2.0	1.9	2.0	2.0	2.0
6	$(1.9)^K$	$(2.3)^F_K$	$(1.8)^F_K$	$(2.0)^F_K$	$(1.9)^F_K$	F^K	$(2.7)^K$	$(1.4)^K$	G^K	G^K	G^K	G^K	G^K	1.8^K	2.0^K	$(1.7)^K$	1.8^K	1.8^K	A^K	2.0	1.9	2.1	A	A
7	$(2.1)^F$	$(1.9)^F$	$(2.2)^F$	$(1.8)^F$	$(2.0)^F$	A	(2.4)	1.8	2.2	2.1	2.0	1.8	(1.9)	1.6	1.8	2.0	1.9	1.9	1.9	2.0	2.0	2.1	2.0	2.0
8	1.9^F	$(2.2)^F$	2.0^F	$(2.5)^F$	$(2.2)^F$	(2.4)	(2.6)	(1.6)	2.1	2.0	(1.8)	(1.9)	A	(1.7)	2.1	1.9	1.9	2.0	2.1	2.1	(2.1)	(2.0)	1.9	(2.0)
9	$(2.2)^F$	$(2.0)^F$	$(2.3)^F$	$(2.0)^F$	$(1.8)^F$	A	A	A	A	A	A	2.0	1.9	1.9	A	(2.0)	(2.0)	(2.2)	(2.1)	2.2	2.1	2.0	2.0	1.9
10	2.1	A	2.2	$(2.0)^F$	2.1^F	2.3	(2.1)	2.0	2.0	2.1	2.0	1.9	2.1	1.9	1.8	(1.8)	2.0	2.1	2.1	2.1	(2.2)	A	1.9	2.0
11	1.9^F	1.8^F	2.2^F	2.0	$(2.0)^F$	2.1	2.2	2.1	J	2.0	(1.6)	1.9	1.8	1.8	1.8	A	2.0	2.0	2.1	2.2	2.0	2.0	1.9	1.9
12	(2.0)	2.0	A	A	$(1.9)^F$	2.0	(2.0)	2.1	2.0	A	A	2.0	A	1.9	1.9	2.1	1.9	2.0	2.0	2.1	(2.1)	1.9	A	(1.8)
13	2.0	2.0^F	A	A^J	A	J	2.1	2.0	(2.8)	A	A	A	A	(2.0)	A	1.9	(2.1)	2.1	2.0	2.1	(2.1)	2.2	(2.0)	1.9
14	$(2.0)^F$	2.1	(2.0)	2.1	2.1	(2.6)	2.2	1.9	2.0	(2.4)	(2.2)	2.0	2.0	2.0	1.9	1.9	(2.0)	(2.0)	2.1	A	(2.1)	(2.1)	2.1	2.0
15	1.9	1.9	2.0	2.0^F	(2.3)	2.3	2.2	1.8	2.2	(2.1)	2.1	(1.9)	1.8	1.7	A	2.1	2.0	2.0	2.0	(1.9)	(2.1)	2.0	1.9	1.9
16	1.9	1.9	1.9	2.0	2.1	J	2.0	(2.0)	(2.2)	(2.0)	1.8	2.1	1.9	C	C	(2.0)	(1.9)	(2.0)	A	2.0	(2.1)	(2.2)	(1.8)	1.8
17	2.1	1.9	2.0	2.0	(2.0)	2.1	(1.9)	(1.8)	2.0	1.9	1.9	G	1.8	1.8	1.8	1.7	(1.8)	1.8	2.0	(1.9)	(2.0)	1.9	(2.0)	1.8
18	1.8	2.0	2.2	$(2.1)^F$	1.8	1.7^K	$(2.6)^K$	G^K	G^K	A^K	G^K	G^K	G^K	$(16)^K$	1.7^K	1.8^K	1.8	1.9	1.9	2.0	2.1	2.0	1.9	19
19	CJ	1.9	2.0	(2.2)	(2.0)	2.2	2.3	(1.9)	C	2.0	1.8	C	(1.9)	1.4	G	1.9	2.0	1.9	2.1	2.0	1.9	2.1	2.1	2.0
20	2.0	2.0	(2.0)	2.0	1.9	2.3	1.9	2.1	2.2	2.0	1.9	1.9	1.8	1.9	(1.9)	2.0	2.0	2.0	(2.1)	2.1	(2.1)	2.0	(1.9)	1.9
21	1.9	1.9	1.9	(2.0)	2.2	(2.1)	2.0	(2.1)	2.1	2.1	(2.1)	2.1	1.9	(1.9)	2.0	1.9	2.0	1.9	2.0	(2.1)	(2.2)	2.0	2.0	2.0
22	1.9	1.9	2.0	2.0	2.1	2.0	2.1	C	2.1	2.0	1.9	(2.0)	A	(2.0)	(1.9)	1.9	2.1	C	2.0	2.2	(2.1)	C	2.0	1.9
23	$(1.9)^F$	$(2.0)^F$	(2.0)	(2.3)	2.0	2.3	2.2	(2.5)	2.1	2.1	(2.0)	1.9	1.8	(1.7)	1.9	1.8	(1.9)	(2.0)	(2.1)	(2.1)	(2.1)	2.3	2.0	(2.1)
24	2.0	2.0	C	1.8	2.0^F	(2.1)	(2.4)	1.8	(1.8)	(1.7)	(1.8)	(1.6)	1.7	G	1.8	1.7	1.9	(1.9)	(2.1)	2.0	2.2	2.0	1.9	1.9
25	1.9	2.0^F	2.4	2.2	2.0	2.3	2.2	2.4	2.3	2.0	(2.1)	1.8	(1.9)	2.0	2.0	2.0	1.9	2.1	(2.2)	(2.2)	2.2	2.0	2.1	2.0
26	2.0	2.0	(2.2)	2.2	C	(2.2)	(2.5)	(1.9)	C	(2.0)	1.6	1.9	1.8	1.8	1.9	(1.9)	1.8	2.1	C	B	2.1	C	(1.8)	2.3
27	2.1	(2.1)	(2.1)	(2.2)	(2.1)	(2.1)	2.2	2.0	2.0	(2.1)	(2.1)	(1.9)	2.1	2.2	1.9	2.1	2.0	2.1	2.2	2.0	2.1	2.0	2.0	2.0
28	2.1	2.1	(2.2)	C	2.3	(2.2)	2.6	G	1.6	1.8	2.0	(1.7)	(2.0)	1.8	(1.8)	1.8	2.1	2.0	2.2	2.0	2.0	2.0	2.1	2.0
29	2.1	2.3	C	A	2.1	2.1	2.1	2.2	1.8	2.0	1.9	2.0	A	(2.1)	(1.9)	2.1	2.0	1.9	C	(2.4)	2.0	(2.1)	1.9	1.9
30	C^J	$(2.0)^F$	(2.2)	2.0	1.9	2.0^K	$(2.6)^K$	$(1.7)^K$	G^K	$(16)^K$	G^K	G^K	G^K	G^K	G^K	1.8^K	1.9^K	2.0^K	$(2.1)^K$	2.1^K	2.0^K	$(2.0)^K$	A^K	$(2.2)^K$
31	$(2.3)^K$	$(2.1)^F_K$	1.9^K	2.1^K	$(1.9)^K$	2.2^F_K	$(2.7)^K$	$(2.0)^F_K$	G^K	$(16)^K$	$(1.8)^K$	C^K	C^K	C^K	$(1.9)^K$	B^K	2.0^K	2.1^K	2.2	2.2	2.2	(2.2)	(2.2)	(2.2)
Sum																								
Median	2.0	2.0	2.1	2.0	2.0	2.2	2.2	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0

TABLE 66

IONOSPHERE DATA-10

RESTRICTED

Washington, D. C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of F2-M3000 for July (Month) 1945

Records measured by: J. M. C. R. L. S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	C	C	C	C				K	K	K	K	C K	K	K	K	K	K	K	K	K	K	K	K	C K
2	C K	K	K	K	K	K	K	K	K	C K	G K	2.4 K	G K	G K	G K	B K	2.8	A	3.1	3.0	3.1	2.9	3.1	(3.0)
3	3.3	3.1	3.2	3.1	A	A	(3.6)	2.8	A	(3.2)	A	(3.2)	A	A	3.1	3.0	3.1	3.1	3.1	3.1	3.1	3.2	3.0	(3.3) F
4	(3.3) F	(3.3) F	(3.3) F	(3.2) F	(3.3) F	(3.3)	(3.4) F	(2.7)	(2.6)	3.1	3.1	2.9	2.6	2.6	2.9	2.5	2.9	2.9	3.0	3.1	3.1	2.8	2.9	3.0
5	(3.1)	(3.1)	3.1	(3.1)	A	A	3.1	3.3	(3.0)	2.6	(2.2)	2.9	2.8	(2.9)	3.0	3.1	3.0	C	2.9	3.0	2.8	3.0	3.0	3.0
6	(2.8) K	(3.3) F K	(2.8) F K	(3.0) F K	(2.9) F K	F K	(3.6) K	(2.1) K	G K	G K	G K	G K	G K	2.8 K	3.0 K	(2.6) K	2.6 K	2.8 K	A K	2.9	2.9	3.0	A	A
7	(3.0) F	(2.8) F	(3.5) F	(2.7) F	(2.9) F	A	(3.3)	2.7	3.2	3.1	3.0	2.7	(2.9)	2.4	2.8	3.0	2.9	2.8	2.9	3.0	2.9	3.1	2.9	3.0
8	2.9 F	(3.3) F	3.0 F	(3.5) F	(3.2) F	(3.4)	(3.7)	(2.4)	3.1	3.0	(2.7)	(2.9)	A	(2.6)	3.1	2.8	2.9	2.9	3.1	3.1	(3.1)	(3.0)	2.9	(3.0)
9	(3.2) F	(3.0) F	(3.3) F	(3.0) F	(2.8) F	A	A	A	A	A	A	2.9	2.9	2.8	A	(3.0)	(3.0)	(3.2)	(3.1)	3.1	3.0	2.9	2.9	2.9
10	3.1	A	3.2	(2.9) F	3.2 F	3.4	(3.1)	3.0	3.0	3.1	2.9	2.9	3.1	(2.8)	(2.7)	(2.7)	3.0	3.1	3.1	3.1	(3.2)	A	2.9	3.0
11	2.9 F	(2.8) F	3.2 F	3.0	(3.0) F	3.0	3.1	3.1	J	3.0	(2.5)	2.8	2.7	2.7	2.8	A	3.0	3.0	3.1	3.1	3.0	2.9	2.8	2.8
12	(2.9)	2.9	A	A	(2.9) F	2.9	(3.1)	3.1	2.9	A	A	3.0	A	2.9	2.9	3.1	2.9	3.0	3.0	3.1	(3.2)	2.9	A	(2.8)
13	3.0	3.0 F	A	A J	A	J	3.2	3.0	(3.8)	A	A	A	A	(2.9)	A	2.9	(3.1)	3.1	3.0	3.1	(3.1)	3.3	(3.0)	2.9
14	(3.0) F	3.1	(3.0)	3.1	3.1	(3.6)	3.2	2.9	3.0	(3.4)	(3.3)	2.9	2.9	3.0	2.9	2.8	(2.9)	(3.0)	3.0	A	(3.0)	(3.1)	3.0	3.0
15	2.8	2.8	3.0	3.0 F	(3.4)	3.3	3.2	2.7	3.1	(3.1)	3.1	(2.8)	2.9	2.6	A	3.1	2.9	3.0	3.0	(2.9)	(3.0)	2.9	2.8	2.8
16	2.8	2.9	2.9	2.9	3.1	J	2.9	(2.9)	(3.2)	(2.9)	2.8	3.1	2.8	C	C	(2.9)	(2.8)	(3.0)	A	2.9	(3.1)	(3.2)	(2.8)	2.8
17	3.1	2.8	3.0	3.0	(2.9)	3.1	(2.8)	(2.7)	3.0	2.9	2.8	G	2.7	2.7	2.7	2.7	(2.8)	2.7	2.9	(2.9)	(2.9)	2.8	(2.9)	2.7
18	2.8	3.0	3.2	(3.0) F	2.6	2.6 K	(3.6) K	G K	G K	A K	G K	G K	G K	(2.5) K	2.7 K	2.8 K	2.8	2.8	2.8	3.0	3.1	3.0	2.8	2.8
19	CJ	2.9	3.0	(3.2)	(3.0)	3.3	(3.2)	(2.8)	C.	3.0	2.7	C	(2.8)	2.4	G	2.8	2.9	2.9	3.0	3.0	2.9	3.1	3.1	2.9
20	3.0	3.0	(3.0)	3.0	2.9	3.3	2.9	3.2	3.2	3.0	2.9	2.9	2.7	(2.9)	2.9	3.0	3.0	(3.0)	3.1	(3.1)	3.1	2.9	(2.9)	2.9
21	2.8	2.9	2.8	(3.0)	3.3	(3.1)	3.3	(3.2)	3.0	3.2	(3.1)	3.1	2.9	(2.8)	2.9	2.9	3.0	2.9	3.0	(3.1)	(3.2)	3.0	3.0	2.9
22	2.9	2.8	2.9	3.0	3.1	3.0	3.0	C	3.1	3.0	2.8	(3.0)	A	(3.0)	(2.9)	2.9	3.1	C	2.9	3.1	(3.1)	C	3.0	2.9
23	(2.9) F	(3.0) F	(3.0)	(3.3)	3.0	3.3	3.1	(3.5)	3.1	3.0	(2.9)	2.8	2.8	(2.6)	2.8	2.7	(2.9)	(3.0)	(3.1)	(3.1)	(3.1)	3.3	2.9	(3.1)
24	2.9	3.0	C	2.8	2.9 F	(3.1)	(3.4)	2.8	(2.7)	(2.6)	(2.7)	(2.4)	2.5	G	2.7	2.5	2.9	(2.8)	(3.2)	3.0	3.2	2.9	2.8	2.8
25	2.9	3.0 F	3.4	3.2	3.0	3.3	3.2	3.4	3.3	3.0	(3.1)	(2.7)	2.8	2.9	3.0	3.0	2.9	3.2	(3.2)	(3.2)	3.2	3.0	3.1	3.0
26	3.0	2.9	(3.2)	(3.3)	C	(3.2)	(3.6)	(2.8)	C	(3.0)	2.4	2.9	2.7	2.7	2.9	(2.9)	2.8	3.1	C	B	3.1	C	(2.7)	3.2
27	3.1	(3.1)	(3.1)	(3.2)	(3.1)	(3.0)	3.2	3.0	3.0	(3.1)	(3.1)	(2.9)	3.1	3.2	2.8	3.1	3.0	3.0	3.1	3.0	3.1	3.0	3.0	3.0
28	3.0	3.1	(3.2)	C	3.3	(3.2)	3.6	G	2.4	2.8	3.0	(2.5)	(3.0)	2.7	(2.8)	2.8	3.1	2.9	3.2	3.0	3.0	3.0	3.1	3.0
29	3.1	3.3	C	A	3.2	3.1	3.1	3.2	2.7	3.0	2.8	2.9	A	(3.1)	(2.9)	3.1	3.0	2.9	C	(3.4)	2.9	(3.1)	2.9	2.9
30	CJ	(3.0) F	(3.2)	3.1	2.8	3.0 K	(3.6) K	(2.6) K	G K	(2.5) K	G K	G K	G K	G K	G K	2.7 K	2.9 K	3.0 K	(3.1) K	3.0 K	3.0 K	(3.0) K	A K	(3.2) K
31	(3.3) K	(3.1) F K	2.8 K	3.1 K	(2.9) K	3.2 F K	(3.7) K	(3.0) F K	G K	(2.5) K	(2.7) K	C K	C K	C K	(2.9) K	B K	3.0 K	3.1 K	3.2	3.2	3.1	(3.2)	(3.2)	(3.3)
Sum																								
Median	3.0	3.0	3.1	3.0	3.0	3.2	3.2	2.9	3.0	3.0	2.8	2.9	2.8	2.8	2.9	2.9	2.9	3.0	3.1	3.1	3.1	3.0	2.9	3.0

TABLE 67

IONOSPHERE DATA-II

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of F1-M3000 for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							C	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K					
2							K	K	K	C K	(3.9) K	3.9 K	3.7 K	(3.7) K	4.1 K	B K	A	A	A					
3								A	A	A	A	A	A	A	4.0	3.5	3.5	A	A					
4								(3.8)	3.7	3.7	3.8	(4.0)	4.0	3.9	3.7	3.6	3.9	A	A					
5								A	A	(4.0)	3.8	3.7	(4.0)	(3.7)	3.9	(3.6)	A	C						
6							K	4.1 K	3.8 K	(3.8) K	(4.4) K	(4.1) K	(4.2) K	(3.9) K	3.7 K	(3.7) K	3.6 K	A K	A K					
7								3.6	3.5	3.6	3.8	(3.9)	(3.8)	3.5	C	3.7	3.4	3.4	A					
8								(3.9)	3.3	3.7	3.7	(3.8) H	A	(3.8)	A	3.5	3.7	(3.3)	(3.8)					
9								A	A	A	A	3.8	(3.7)	(3.9)	A	A	B	(3.4)	A					
10							3.9	A	3.5	3.6	(3.7)	A	A	(3.9) H	4.0	3.6	3.6	3.5						
11								(3.6)	A	3.7	(3.9) H	4.0	3.9	3.8	(3.8)	A	3.7	3.5	(3.5)					
12									A	A	A	A	A	A	A	(3.7)	3.9	3.4	A					
13								3.5	A	A	A	A	A	A	A	A	A	A	A					
14								A	3.3	3.8	A	(3.8)	3.8	3.8	3.6	3.5	3.6	A	A					
15							(4.0)	(3.5)	3.7	4.0	(3.6)	(3.9) H	3.8	A	A	A	A	A	A					
16							(3.9)	(3.4)	(3.8) H	(3.9) H	3.9	3.9	(3.9)	C	C	(3.7)	3.5	3.4	A					
17							(3.7)	3.5	3.7	3.7	(3.8)	(3.9)	3.7	3.6	3.6	3.4	3.4	3.4	C					
18							K	3.4 K	4.0 K	A K	3.6 K	3.9 K	3.7 K	3.9 K	3.8 K	3.7 K	(3.6)	3.4	(3.5)					
19								(3.6)	C	(3.7)	3.9	C	3.7	3.8	3.5	3.6	3.6	A	A					
20							(3.8)	3.6	3.6	3.6	3.9	3.8	A	A	A	(3.5)	3.8	3.5	A					
21								(3.9)	4.0	4.0	4.0	(3.9) H	3.8	3.9	3.7 H	(3.7) H	3.6	3.6						
22							(3.8)	3.4	A	3.9	3.8	(4.0)	A	A	(3.7)	(3.4)	(3.6)	A	A					
23								A	3.5	3.7	3.8	3.7	3.9	3.7	3.7	3.5	3.5	(3.4)	(3.6)					
24								(3.9)	(3.8)	(4.3)	(4.1)	3.8	(4.0)	3.9	3.9	(3.8)	(3.9)	3.6	(3.8)					
25								A	3.6	3.8	3.8	(3.8)	3.9	(3.9)	4.0	3.8	3.5	(3.9)	(3.8)					
26								(3.8)	C	A	(4.0)	4.1	3.6	3.9	3.8	(3.9)	3.9	3.6	(3.9)					
27								3.5	3.5	3.7	3.7	3.8	4.0	3.6 H	3.6	3.8	3.8	A	3.8					
28								(3.7)	3.5	A	3.7	C	(3.7)	3.8	3.8	(3.8)	A	3.5	(3.8)					
29							3.7	A	3.6	3.5	A	A	A	A	(3.6)	3.6	C	3.5	(3.8)					
30							K	(4.1) K	3.5 K	(3.9) K	4.4 K	3.4 K	(3.9) K	3.9 K	3.7 K	3.8 K	3.6 K	A K	K					
31							K	3.8 K	3.5 K	3.8 K	(3.9) K	C K	C K	C K	3.9 K	B K	3.6 K	3.5 K	(4.0)					
Sum																								
Median							3.8	3.6	3.6	3.7	3.8	3.9	3.8	3.8	3.8	3.6	3.6	3.5	3.8					

TABLE 68

IONOSPHERE DATA-12

RESTRICTED

Washington, D.C. (Location) Ionosphere Station

National Bureau Of Standards (Institution)

Hourly values of E-MI500 for July (Month) 1945

Records measured by: J.M.C. R.L.S.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						C	C	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K	C K				
2						C K	C K	C K	C K	C K	A K	A K	A K	A K	A K	(4.1) K	A	A	A	A				
3						A	A F	A	(4.1)	A	A	A	A	A	A	A	A	A	(3.7)	A				
4						A	A	A	A	A	A	A	A	A	A	A	A	(3.7)	A	A				
5						A	A	A	A	A	A	A	4.3	A	(4.4)	A	A	C	A	(4.1)				
6						A K	F K	A K	A K	A K	A K	A K	A K	A K	4.3 K	(4.1) K	4.1 K	A K	A K	A				
7						A	A F	A	A	A	A	A	B	A	C	(4.3)	4.0	3.9	(4.0)					
8						(3.8) F	(3.7) F	(4.0)	(3.8)	A	A	(4.2)	A	B	(4.1)	(4.1)	A	A	A	A				
9						A	A	A	A	A	A	A	A	A	A	A	B	B	A	(4.2)				
10						A	(4.2) M	A	A	A	A	A	A	A	(4.2)	B	(4.4)	B	(4.2)	4.0				
11						A	A	A	A	A	A	A	A	(4.2)	4.1	(4.4)	A	A	A	A				
12						A	A	A	A	A	A	A	A	A	A	A	A	4.2	A	A				
13						A	AF	A	A	A	A	A	A	A	A	A	A	A	A	A				
14						A	A	(3.9)	(4.1)	(4.3)	(4.2)	(4.3)	A	(4.0)	4.3	(4.2)	A	A	(4.1)	A				
15						A	A	A	A	A	A	C	A	A	A	A	A	A	A	C				
16						A	F	A	A	A	A	A	A	C	C	A	(4.1)	(4.1)	4.0	A				
17						(3.7)	A	A	A	A	A	A	A	A	B	A	A	B	C	A				
18						(4.3) K	AF K	A K	(4.2) K	A K	A K	(4.3) K	(4.3) K	(4.0) K	4.3 K	4.3 K	A	4.1	(4.1)	(3.8)				
19						A	A	A	A	A	A	C	A	A	A	(4.3)	A	A	A	4.2				
20						(3.7)	AF	(4.1)	(4.1)	A	A	A	A	A	A	A	A	A	A	A				
21						A	A	A	A	A	(4.4)	(4.3)	A	A	(4.3)	(4.4)	4.2	A	4.0	A				
22						A	AF	(4.1)	A	A	A	A	C	A	B	B	B	A	A	A				
23						A	A	A	A	A	A	A	A	A	A	A	(4.2)	(4.0)	(3.7)	A				
24						A	A	C	A	A	A	(4.3)	A	4.3	B	(4.3)	A	A	A	AF				
25							A	A	A	A	A	A	A	A	B	A	4.4	(4.2)	(3.9)	A				
26							(4.0)	A	A	A	A	4.5	4.2	A	(4.4)	B	A	A	B	A				
27							AF	(4.2)	4.3	(4.4)	A	A	A	A	A	A	(4.2)	A	3.9	A				
28							A	(3.9)	(4.2)	A	A	C	A	4.3	4.1	4.2	4.0	(4.1)	3.9	A				
29							AF	A	A	A	A	A	A	A	A	A	A	A	(4.1)	(3.5)				
30						K	AF K	AF K	A K	A K	A K	A K	4.4 K	A K	4.5 K	B K	4.1 K	(4.2) K	A K	A K				
31						K	A K	A K	4.0 K	(4.2) K	A K	C K	C K	C K	B K	B K	(4.3) K	(4.2) K	A					
Sum																								
Median						(3.8) *	(4.0) *	4.0	4.1	(4.3) *	(4.3) *	4.3	(4.3) *	4.2	4.3	4.3	4.2	4.1	4.0	4.0				

* Median Obtained From Four Values Or Less

Table 69

Ionospheric Storminess, July 1945

Day	Ionospheric Character* 00-12 GCT	12-24 GCT	Principal Storms Beginning GCT	End GCT	Magnetic Character** 00-12 GCT	12-24 GCT
July						
1	***	***	//	/	4	3
2	***	5		2100	2	2
3	3	2	—		2	1
4	3	3			2	3
5	2	2			3	2
6	4	4	0500	2400	4	2
7	3	3			2	2
8	2	2			3	2
9	2	2			2	2
10	2	3			1	1
11	3	1			1	1
12	3	2			1	1
13	3	2			1	0
14	1	1			1	1
15	2	1			1	1
16	1	3			1	2
17	1	3			2	3
18	1	4	1000	2100	2	1
19	2	3			2	1
20	1	3			1	1
21	1	3			1	1
22	1	1			1	1
23	1	1			1	3
24	3	3			2	1
25	2	2			1	1
26	2	2			1	1
27	2	2			0	1
28	2	3			3	3
29	2	1			2	3
30	2	5	1000	/	4	3
31	4	4	—	2300	2	1

*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.

***No readable record.

/Dashes indicate continuance of disturbance.

//Time of beginning unknown because of loss of record. Storm probably began about 1200, or earlier.

Table 70

Provisional Radio Propagation Quality Figures
June 1945
Compared with IRPL and ISIB Warnings and IRPL A-Zone Forecasts.

Day	North Atlantic Quality Figure 01-12 GCT	North Atlantic Quality Figure 13-24 GCT	North Atlantic IRPL Warning 01-12 GCT	North Atlantic IRPL Warning 13-24 GCT	North Atlantic ISIB Warning 01-12 GCT	North Atlantic ISIB Warning 13-24 GCT	North Atlantic A-Zone Forecast	North Atlantic Geomagnetic K_A 01-12 GCT	North Atlantic Geomagnetic K_A 13-24 GCT	North Pacific Quality Figure 01-12 GCT	North Pacific Quality Figure 13-24 GCT	North Pacific IRPL Warning 01-12 GCT	North Pacific IRPL Warning 13-24 GCT	North Pacific A-Zone Forecast	North Pacific Geomagnetic K_A 01-12 GCT	North Pacific Geomagnetic K_A 13-24 GCT
1	6	7					6	1	1	7	8			6	1	1
2	7	7					6	0	1	8	8			6	0	1
3	7	7					5	1	1	8	8			5	1	1
4	6	7					5	0	1	8	8			5	0	1
5	6	7					6	1	2	8	8			6	1	2
6	6	6					5	3	3	6	7			5	3	3
7	5	6	X	X			(4)	2	3	7	8	X	X	(4)	2	3
8	5	6		X			(4)	3	3	6	7		X	(4)	3	3
9	5	6					5	3	2	7	8			5	3	2
10	5	6					6	3	2	7	7			6	3	2
11	6	6					6	2	2	8	7			6	2	2
12	6	7					6	1	1	7	8			6	1	1
13	6	7					6	1	1	8	8			6	1	1
14	7	7					6	1	1	8	7			6	1	1
15	7	7					5	1	1	8	7			5	1	1
16	7	7					(4)	1	1	8	8			(4)	1	1
17	7	7					(4)	2	2	8	8			(4)	2	2
18	7	7					(4)	1	1	8	8			(4)	1	1
19	7	7					(4)	1	1	8	8			(4)	1	1
20	7	7					5	2	1	7	8			5	2	1
21	7	7					5	1	1	8	8			5	1	1
22	6	7					6	0	1	8	7			6	0	1
23	7	7					7	2	1	7	8			7	2	1
24	6	7					7	1	1	7	8			7	1	1
25	6	7					6	2	1	7	7			6	2	1
26	6	7					6	1	1	7	7			6	1	1
27	5	6					6	3	2	7	7			6	3	2
28	6	7					7	2	1	7	6			7	2	1
29	6	7					7	1	0	7	7			7	1	0
30	6	7					7	2	3	7	7			7	2	3
Score:																
H			0		0		0					0		0		
M			0		0		0					0		0		
G			28		30		24					28		24		
(S)			2		0		2					0		0		
S			0		0		4					2		6		

Quality Figure and Forecast Scale:
1 = Useless.
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

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

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

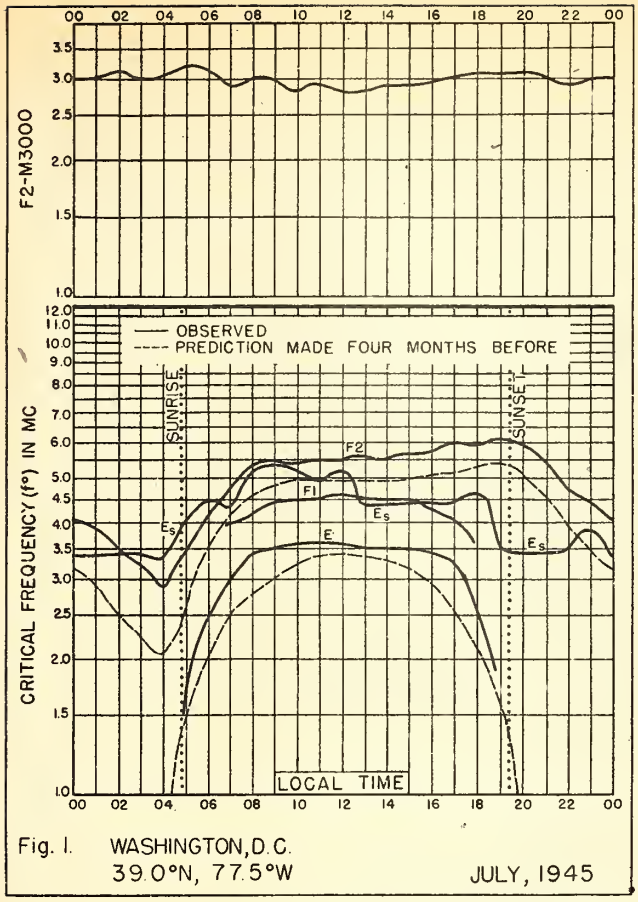

Fig. 1. WASHINGTON, D.C.
39.0°N, 77.5°W
JULY, 1945

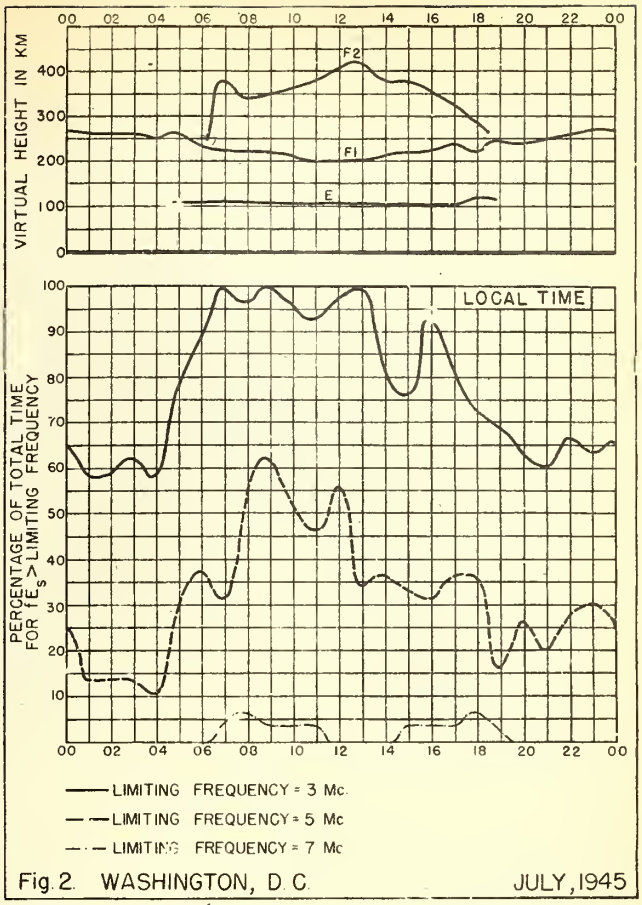

Fig. 2. WASHINGTON, D.C.
JULY, 1945

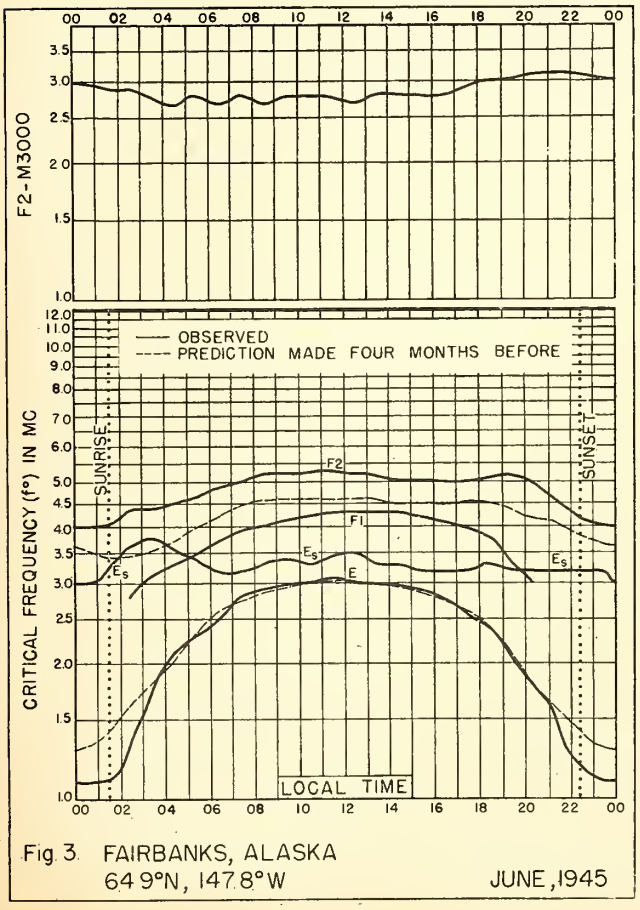

Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W
JUNE, 1945

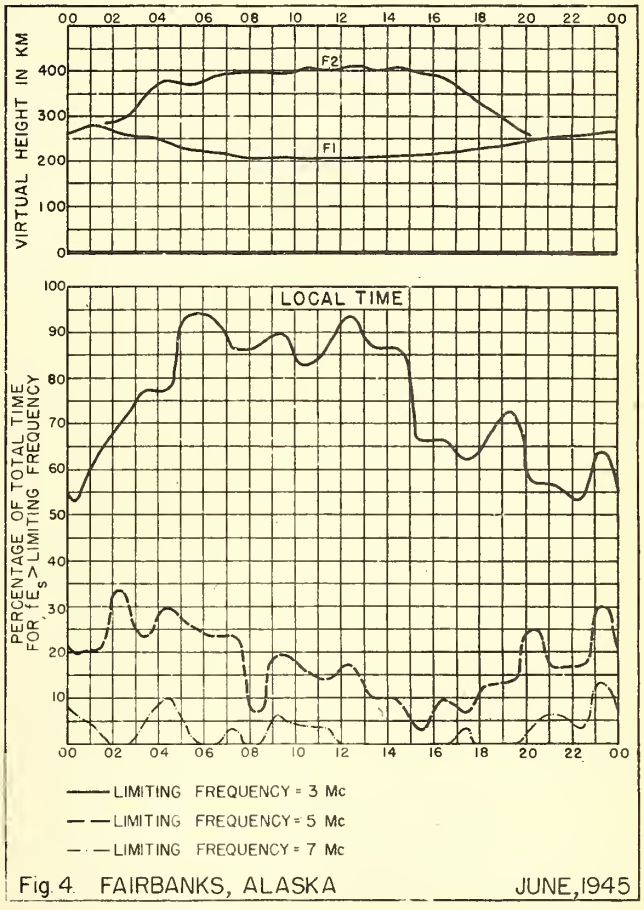

Fig. 4. FAIRBANKS, ALASKA
JUNE, 1945

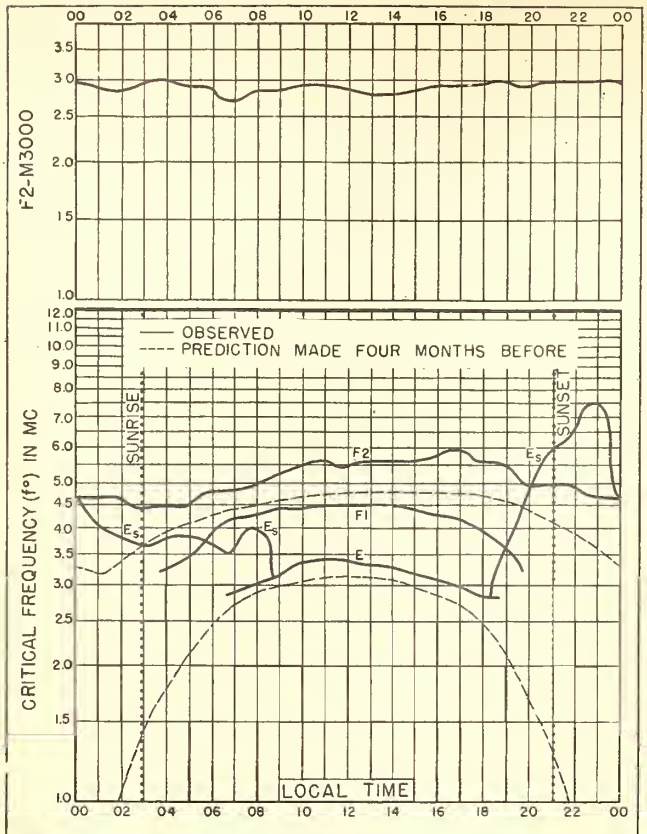

Fig. 5. CHURCHILL, CANADA
58.8°N, 94.2°W
JUNE, 1945

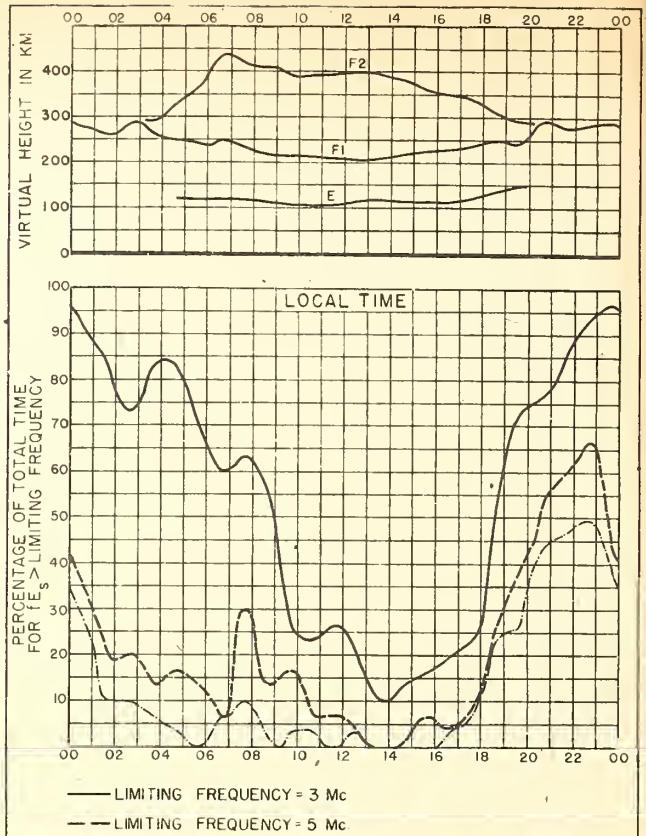

Fig. 6. CHURCHILL, CANADA
JUNE, 1945

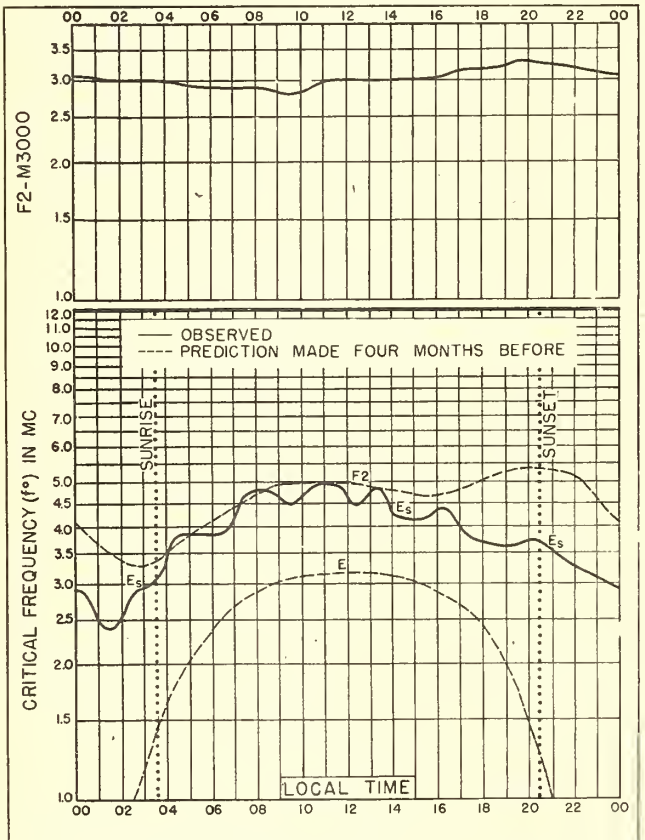

Fig. 7. PRINCE RUPERT, CANADA
54.3°N, 130.3°W
JUNE, 1945

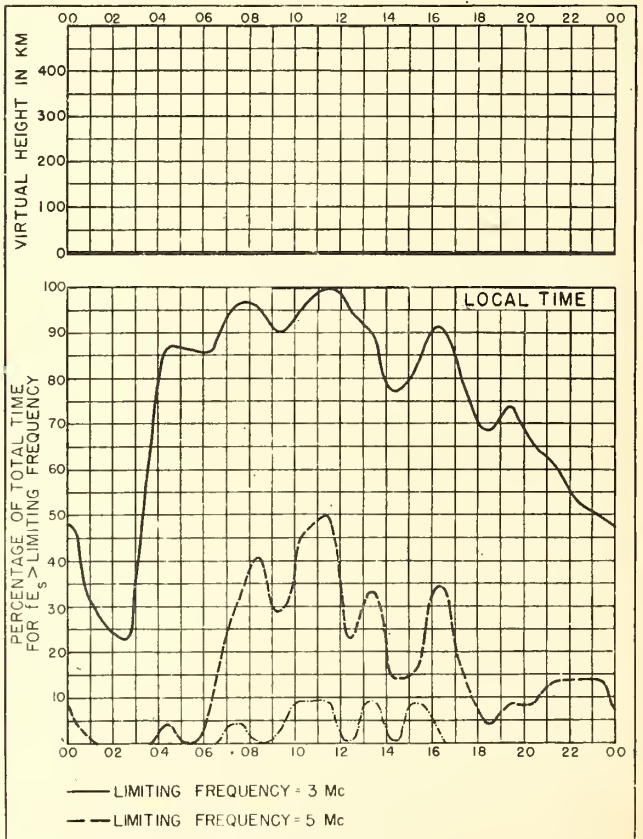

Fig 8. PRINCE RUPERT, CANADA
JUNE, 1945

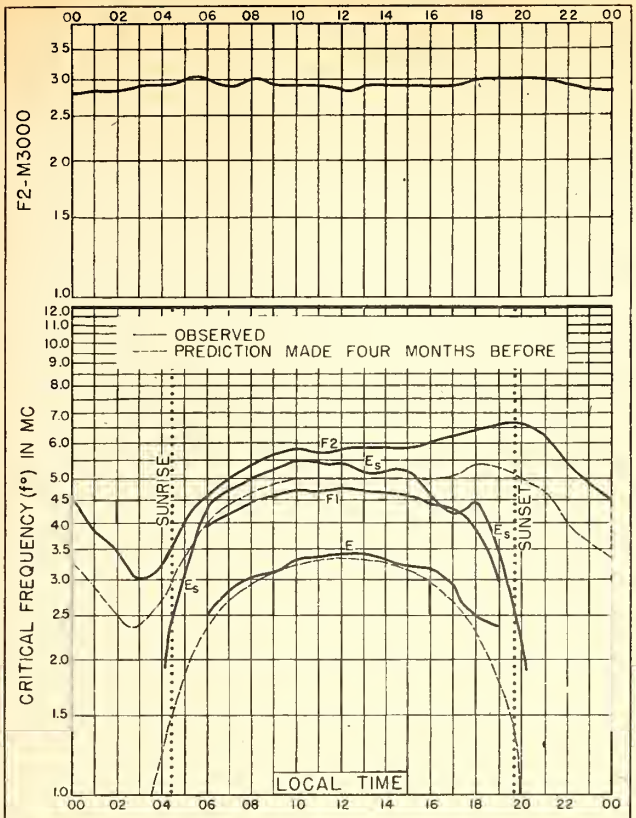

Fig 9. OTTAWA, CANADA
45.5°N, 75.8°W
JUNE, 1945

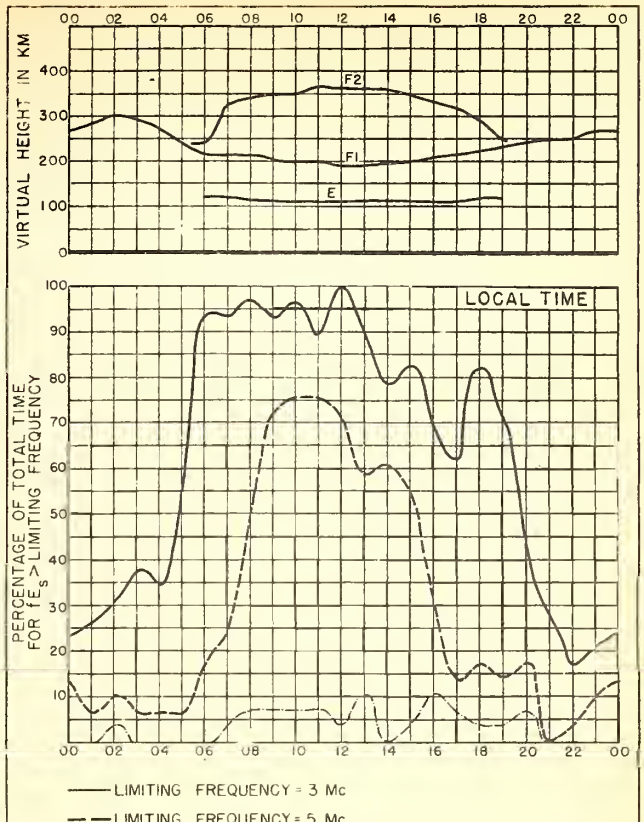

Fig.10. OTTAWA, CANADA
JUNE, 1945

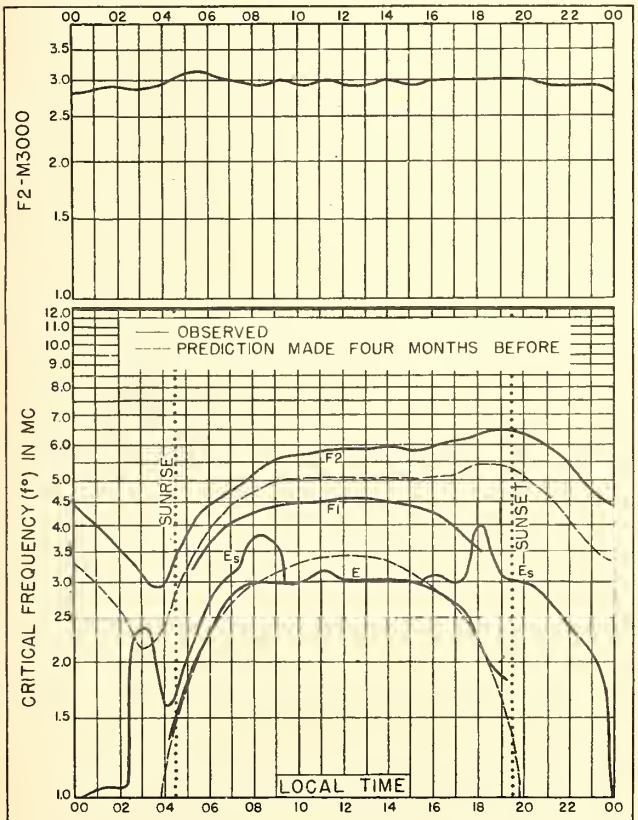

Fig 11. BOSTON, MASSACHUSETTS
42.4°N, 71.2°W
JUNE, 1945

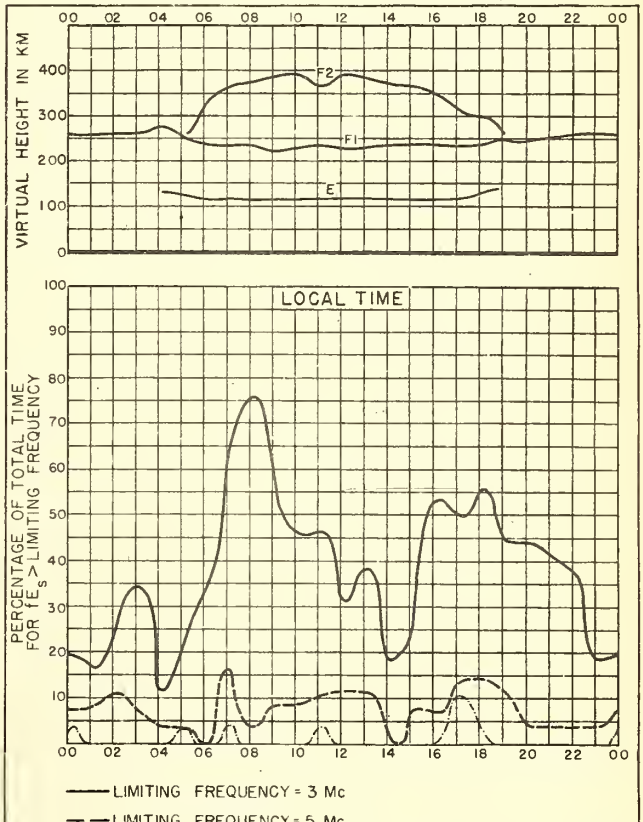

Fig.12. BOSTON, MASSACHUSETTS
JUNE, 1945

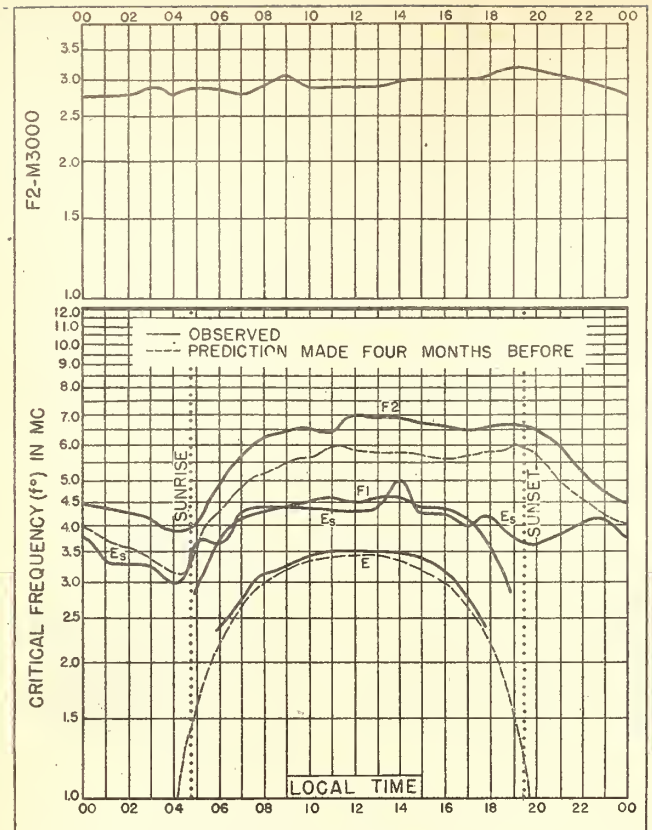

Fig. 13. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W JUNE, 1945

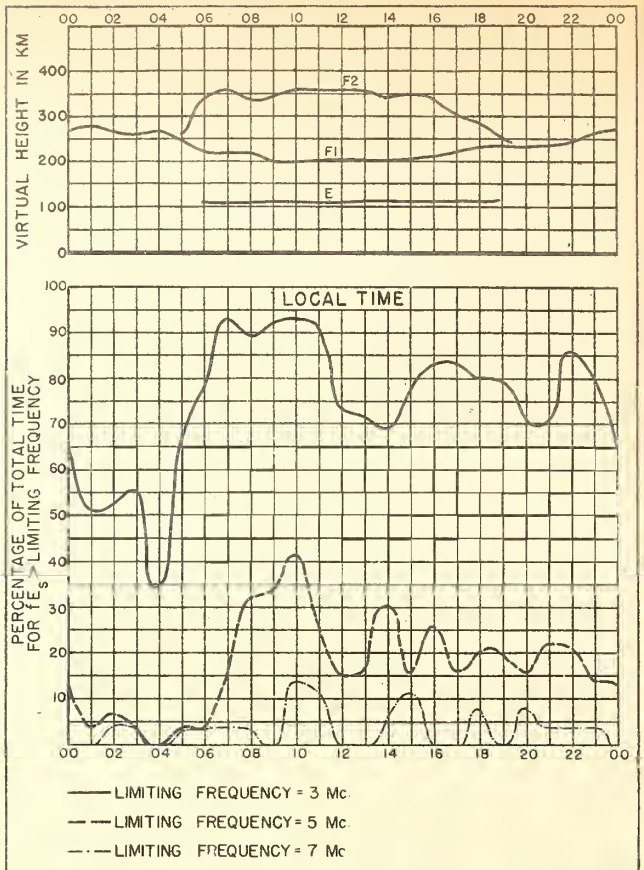

Fig. 14. SAN FRANCISCO, CALIFORNIA JUNE, 1945

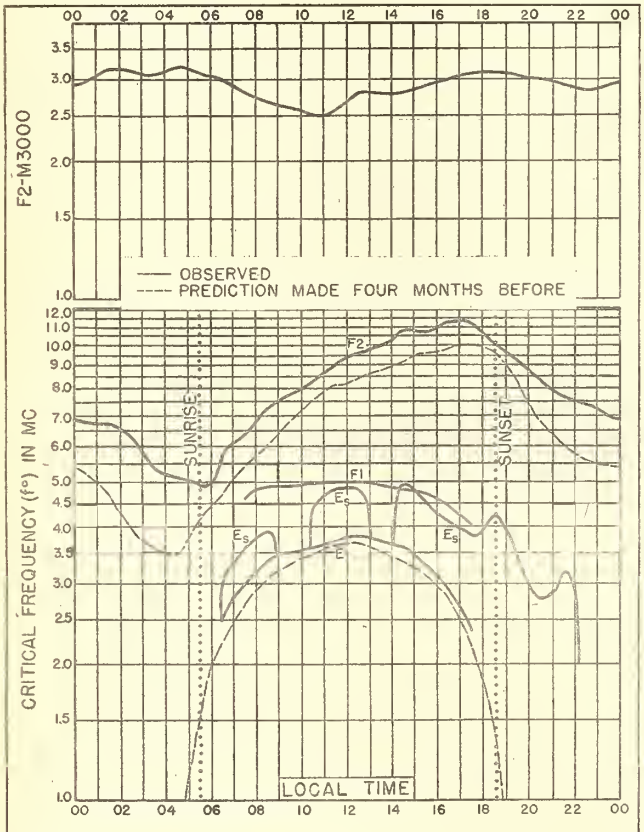

Fig. 15. MAUI, HAWAII
20.8°N, 156.5°W JUNE, 1945

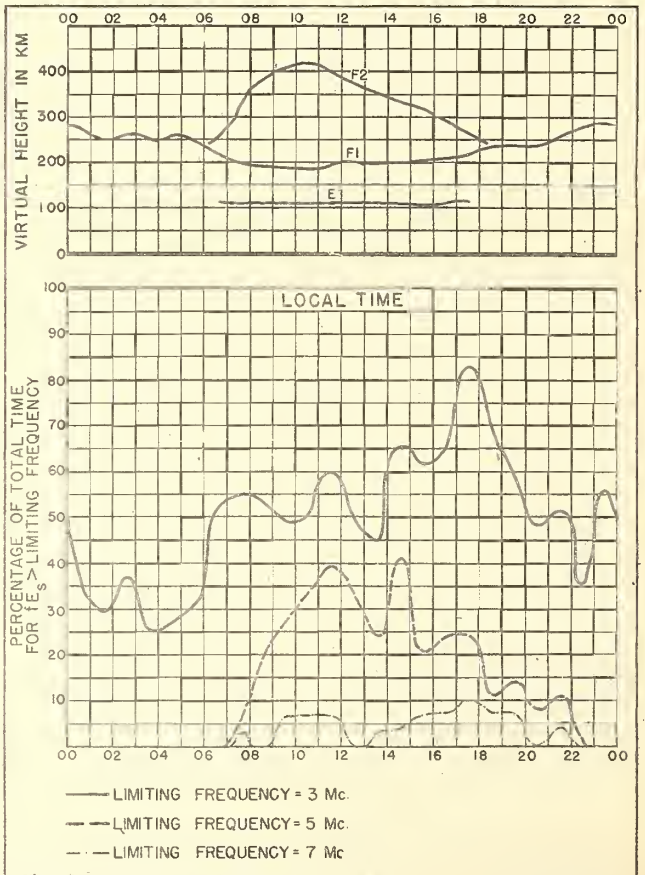

Fig. 16. MAUI, HAWAII JUNE, 1945

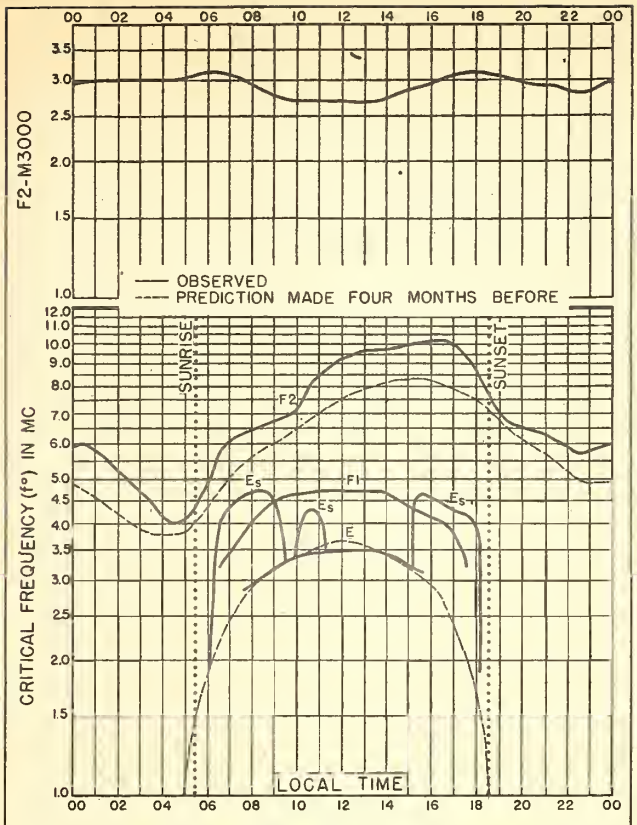

Fig. 17. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W JUNE, 1945

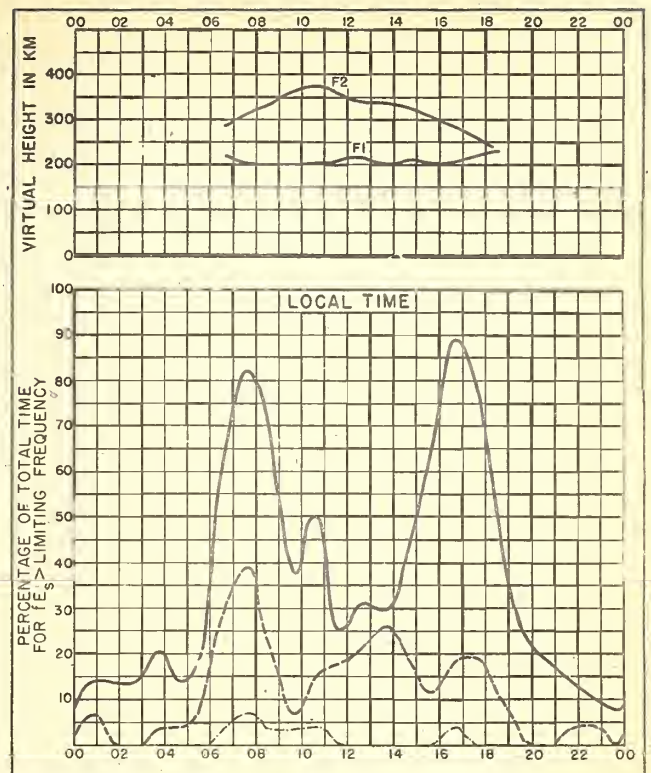

Fig. 18. SAN JUAN, PUERTO RICO JUNE, 1945

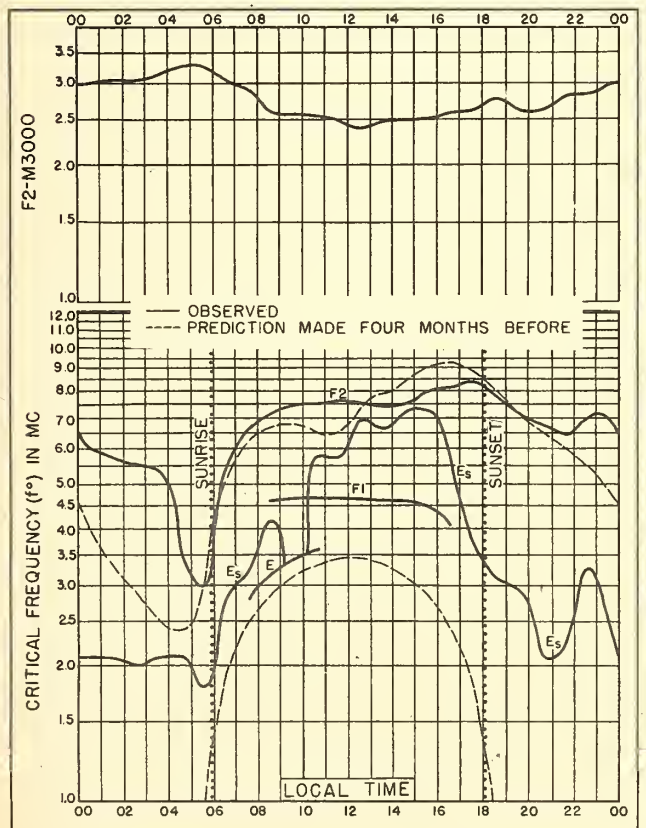

Fig. 19. CHRISTMAS I
1.9°N, 157.3°W JUNE, 1945

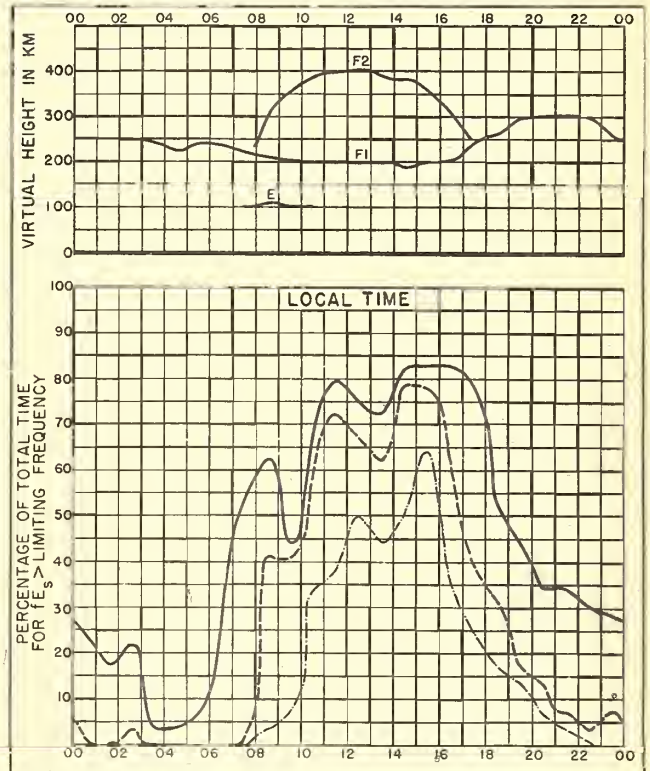

Fig. 20. CHRISTMAS I JUNE, 1945

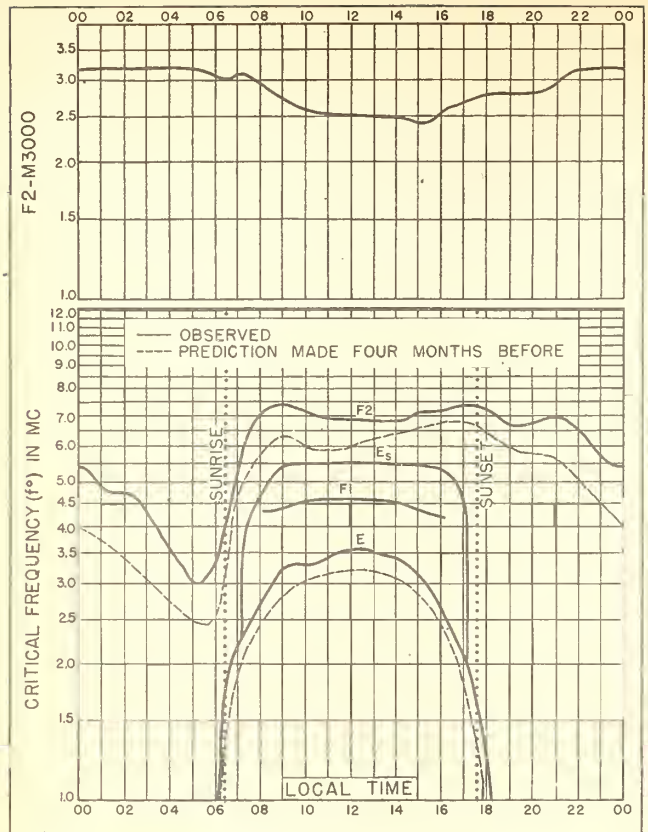

Fig.21. HUANCAYO, PERU
12.0°S, 75.3°W
JUNE, 1945

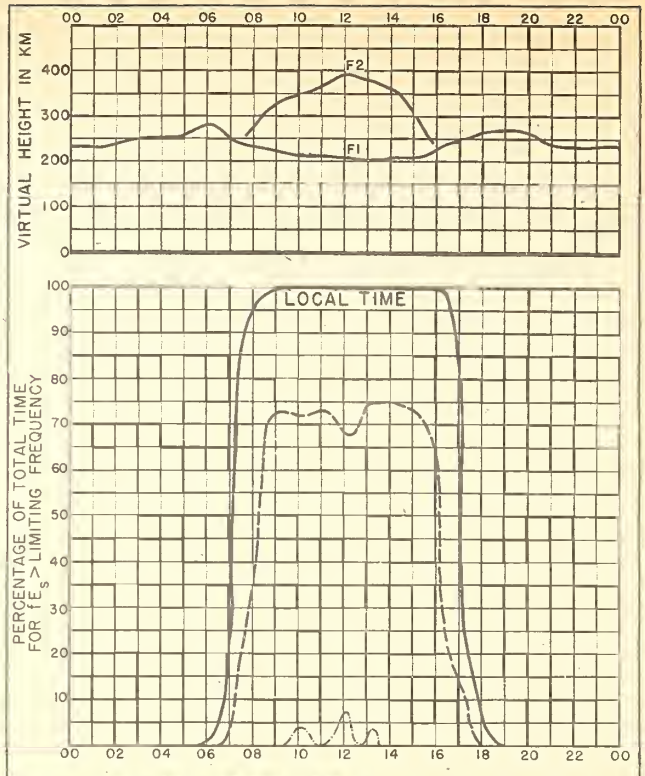

Fig.22. HUANCAYO, PERU
JUNE, 1945

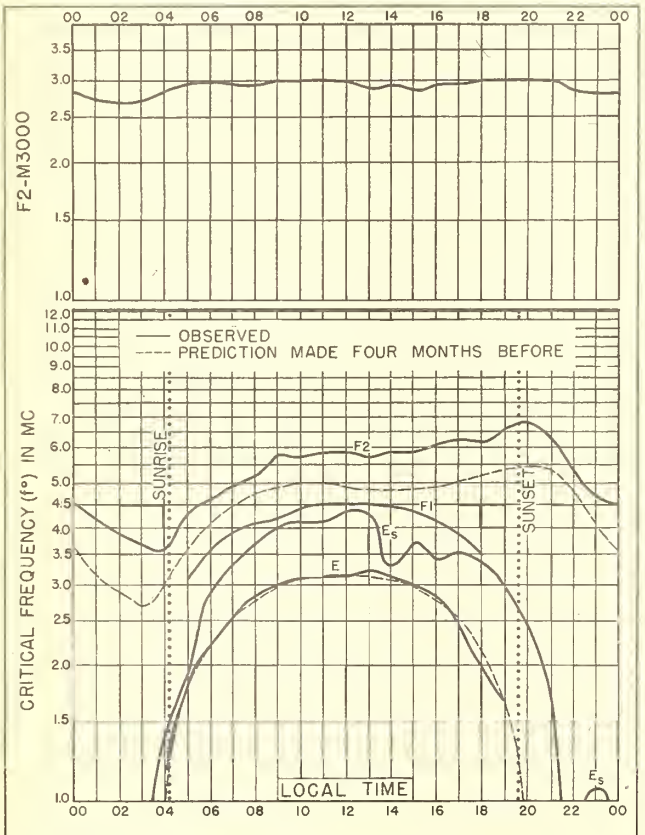

Fig.23. GREAT BADDOW, ENGLAND
51.7°N, 0.5°E
MAY, 1945

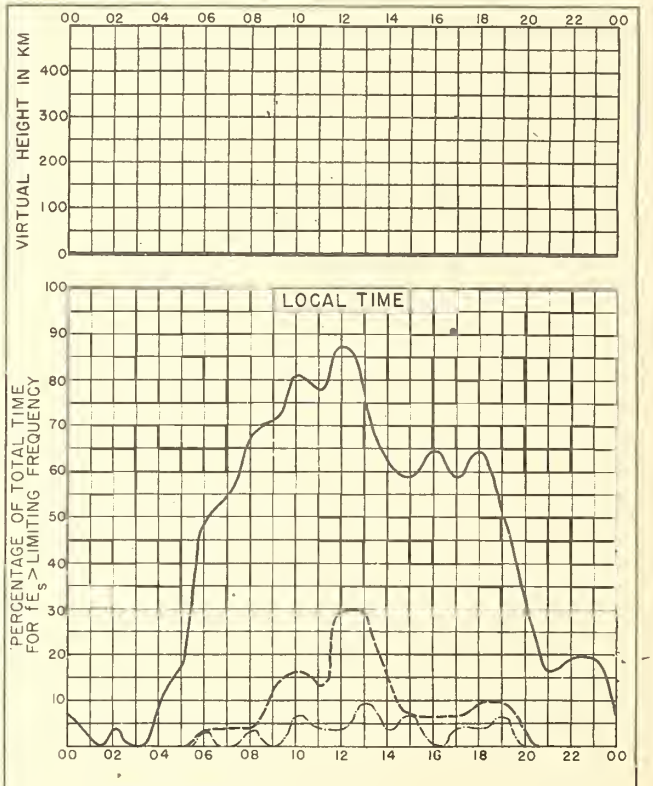

Fig.24. GREAT BADDOW, ENGLAND
MAY, 1945

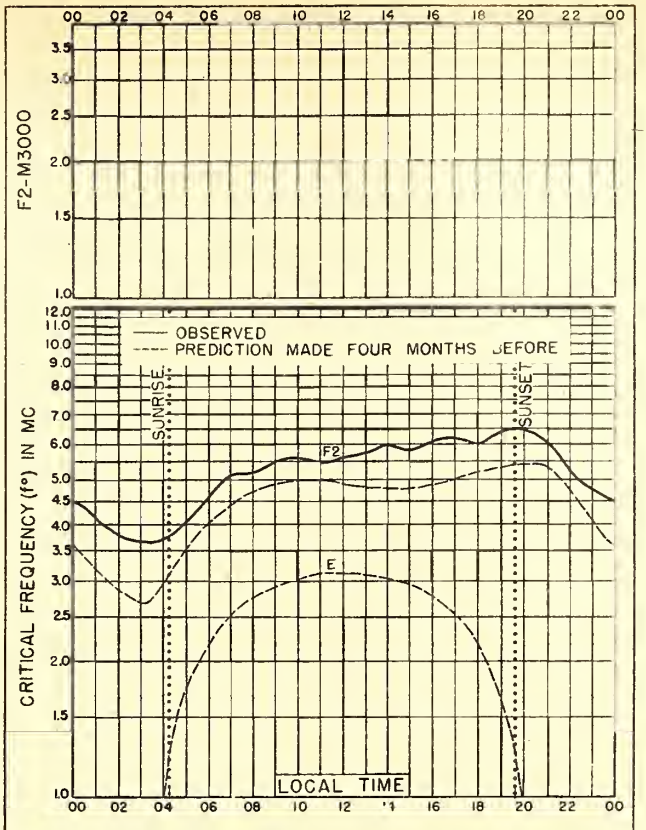

Fig. 25. SLOUGH, ENGLAND
51.5°N, 0.6°W
MAY, 1945

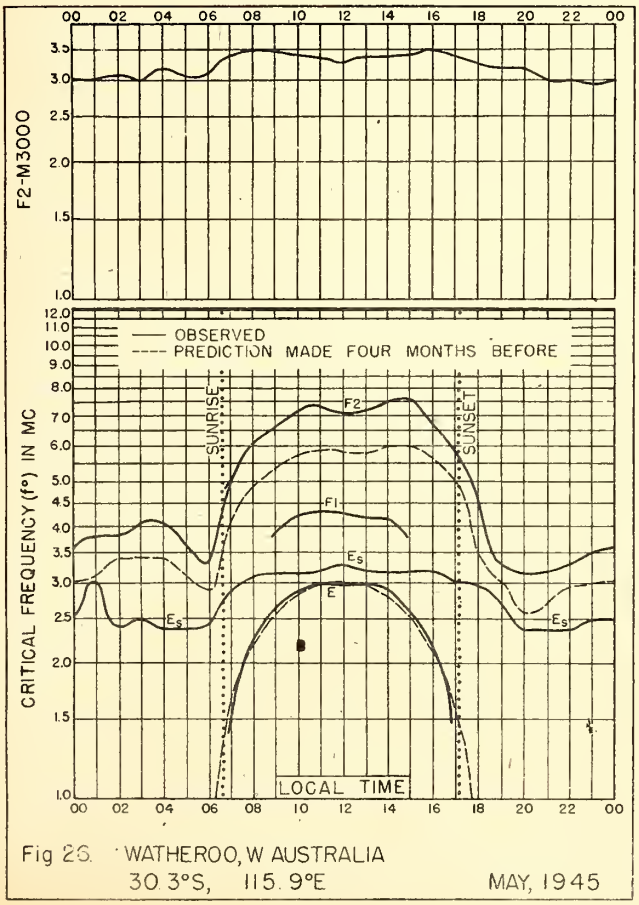

Fig. 26. WATHEROO, W AUSTRALIA
30.3°S, 115.9°E
MAY, 1945

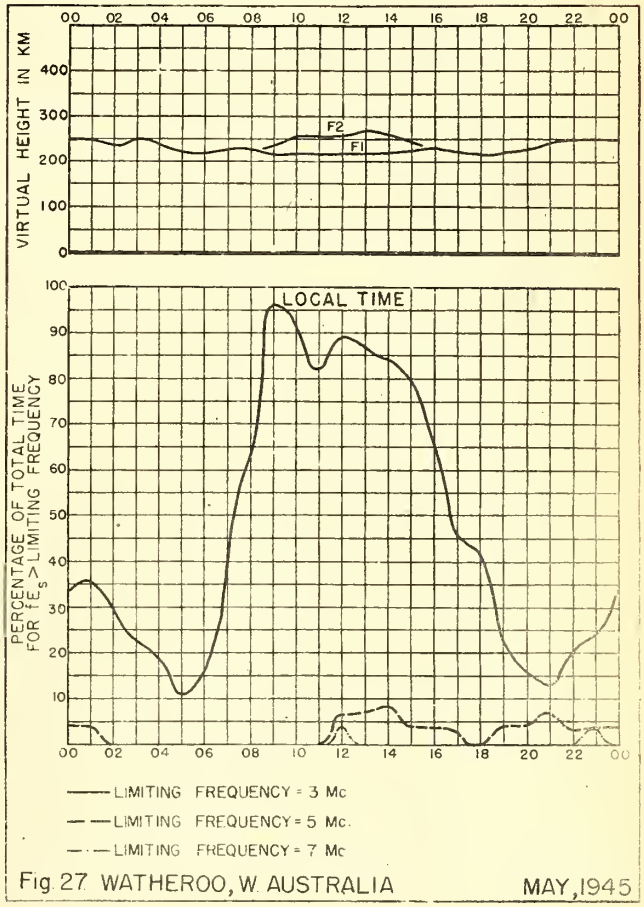

Fig. 27. WATHEROO, W. AUSTRALIA
MAY, 1945

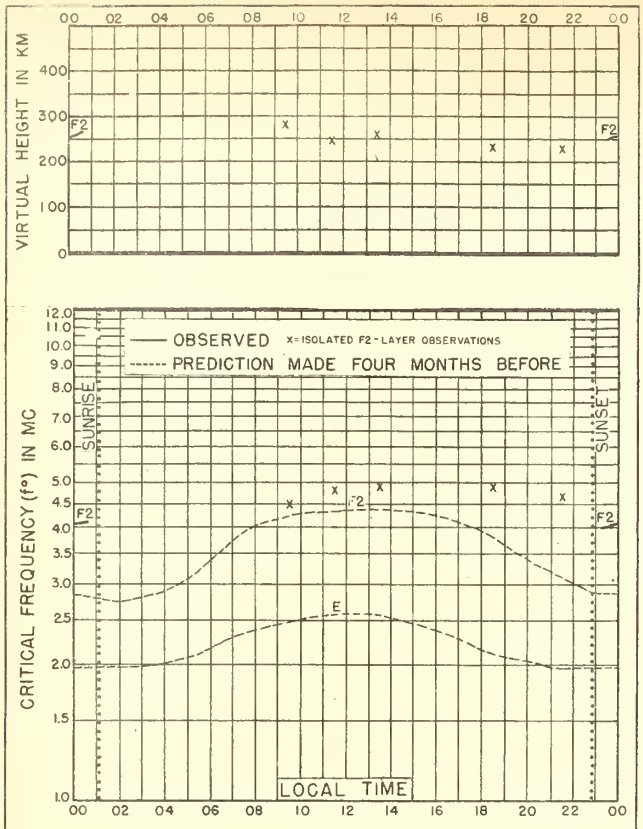

Fig. 28. TYKHI BAY, U.S.S.R.
80.3°N, 52.8°E
APRIL, 1945

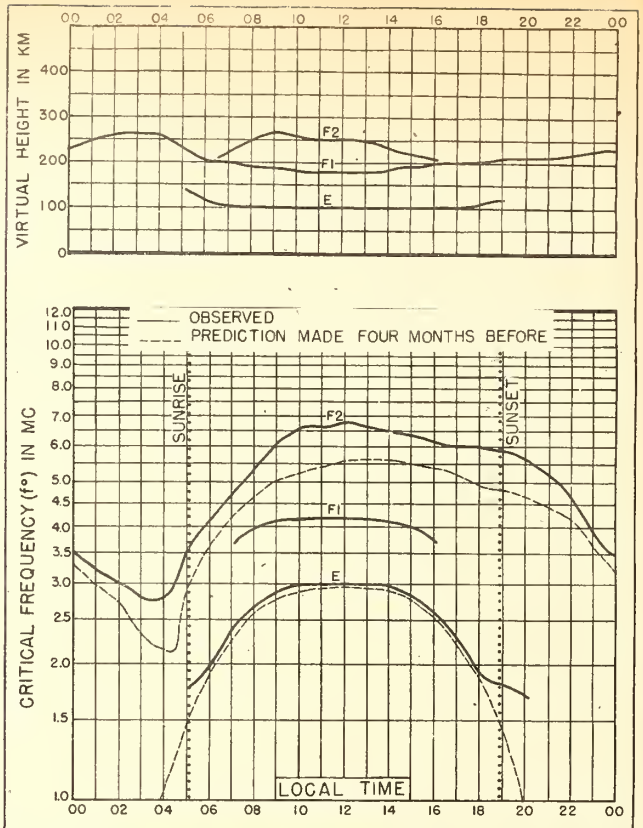

Fig. 29. SVERDLOVSK, U.S.S.R.
56.7°N, 61.1°E
APRIL, 1945

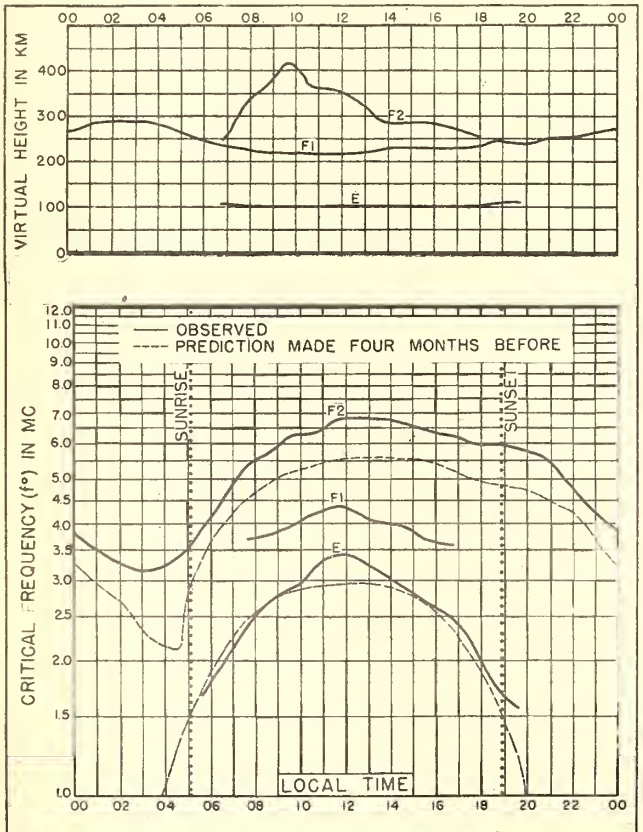

Fig. 30. TOMSK, U.S.S.R.
56.4°N, 85.0°E
APRIL, 1945

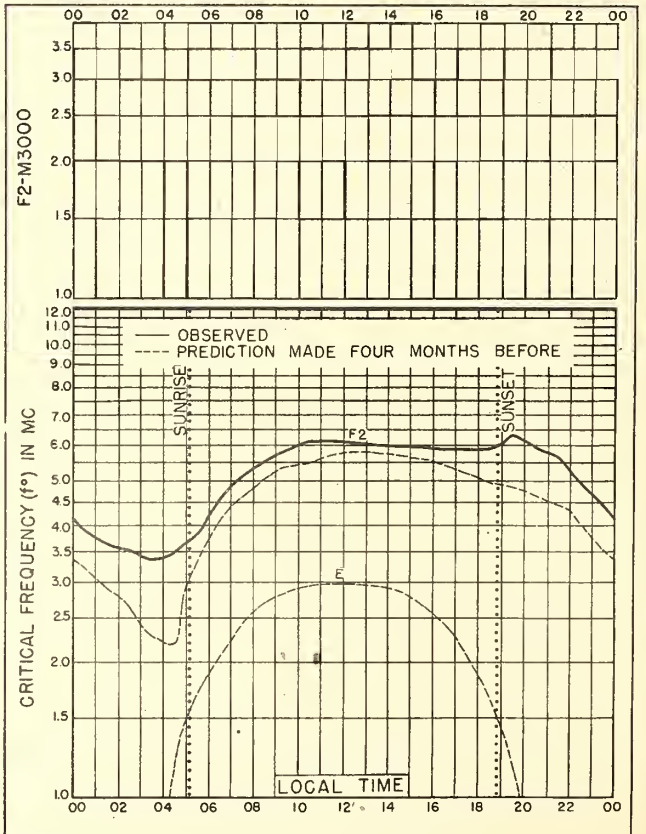

Fig. 31. MOSCOW, U.S.S.R.
55.8°N, 37.6°E
APRIL, 1945

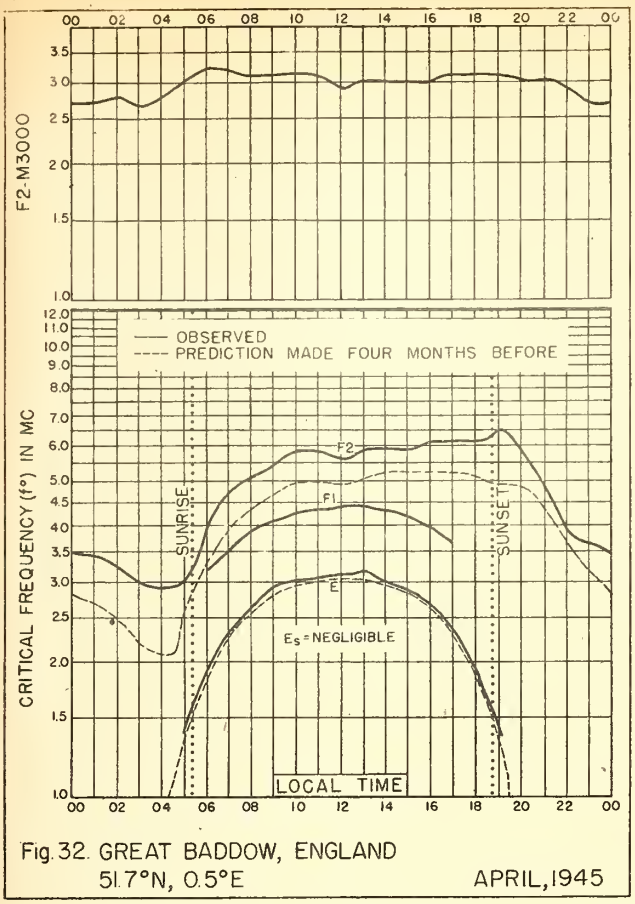

Fig. 32. GREAT BADDOW, ENGLAND
51.7°N, 0.5°E APRIL, 1945

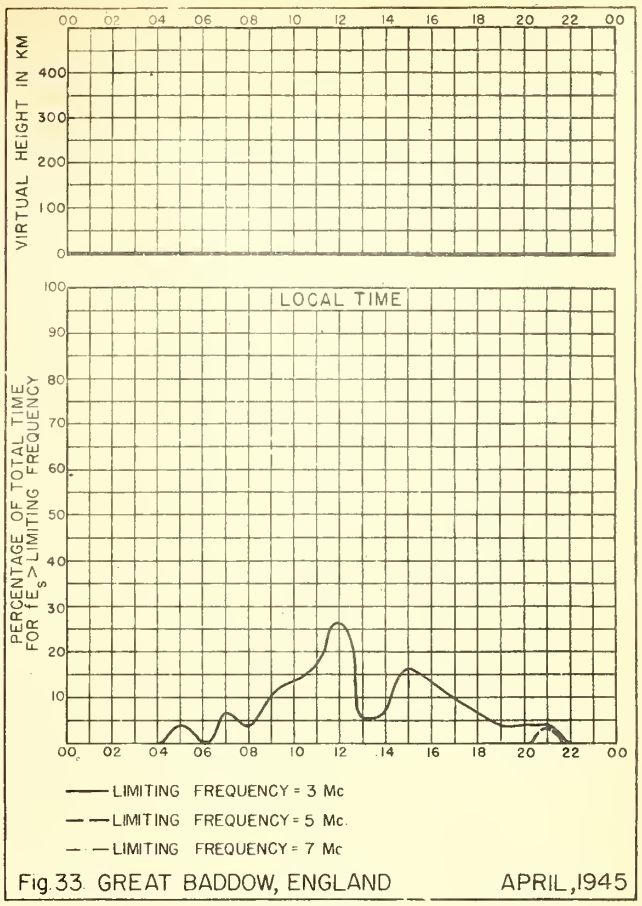

Fig. 33. GREAT BADDOW, ENGLAND APRIL, 1945

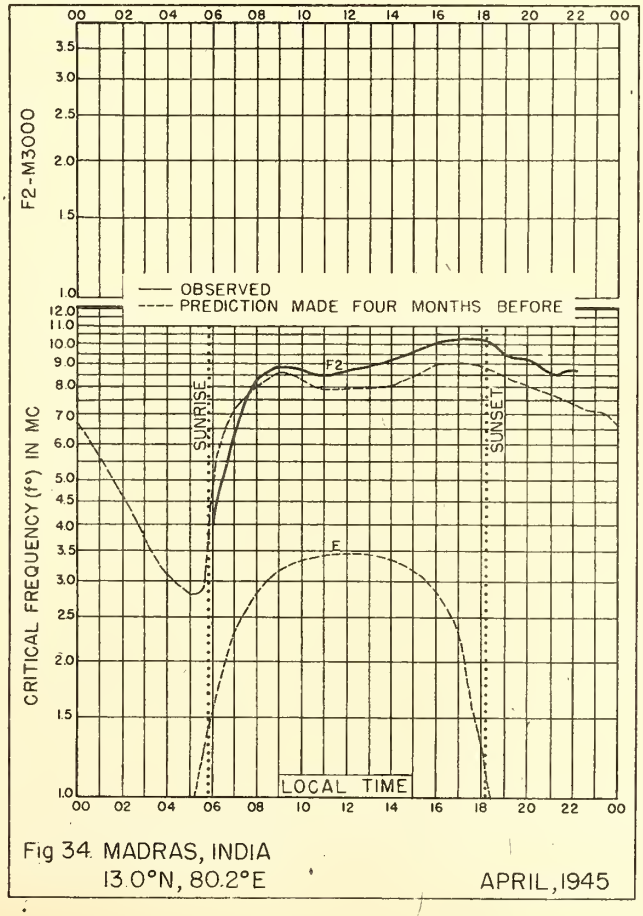

Fig 34. MADRAS, INDIA
13.0°N, 80.2°E APRIL, 1945

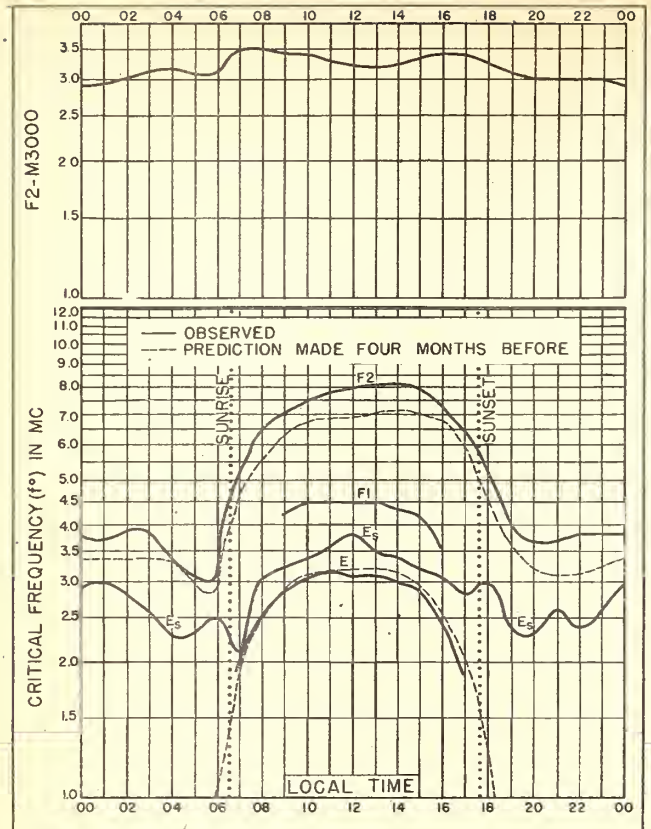

Fig. 35. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E
APRIL, 1945

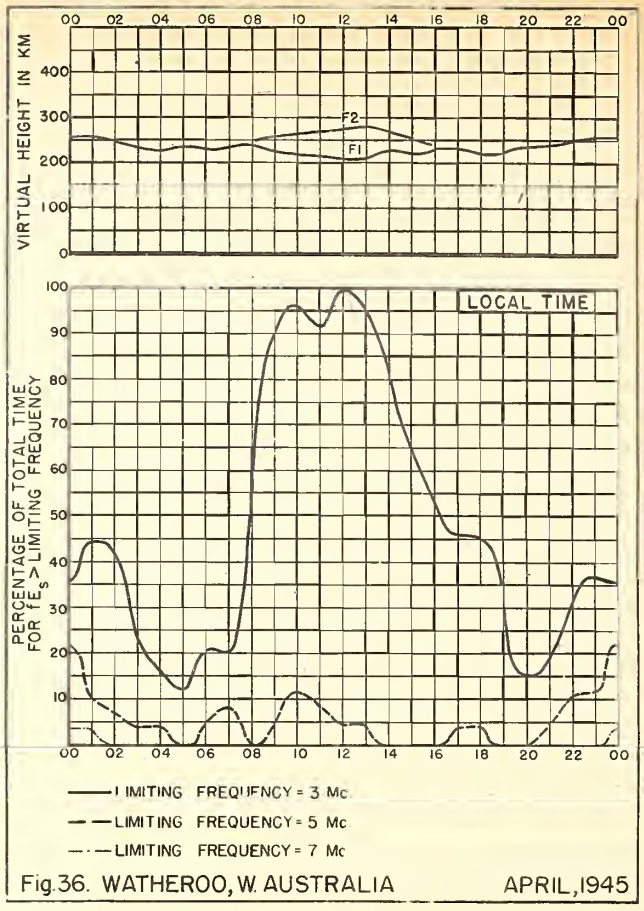

Fig. 36. WATHEROO, W. AUSTRALIA
APRIL, 1945

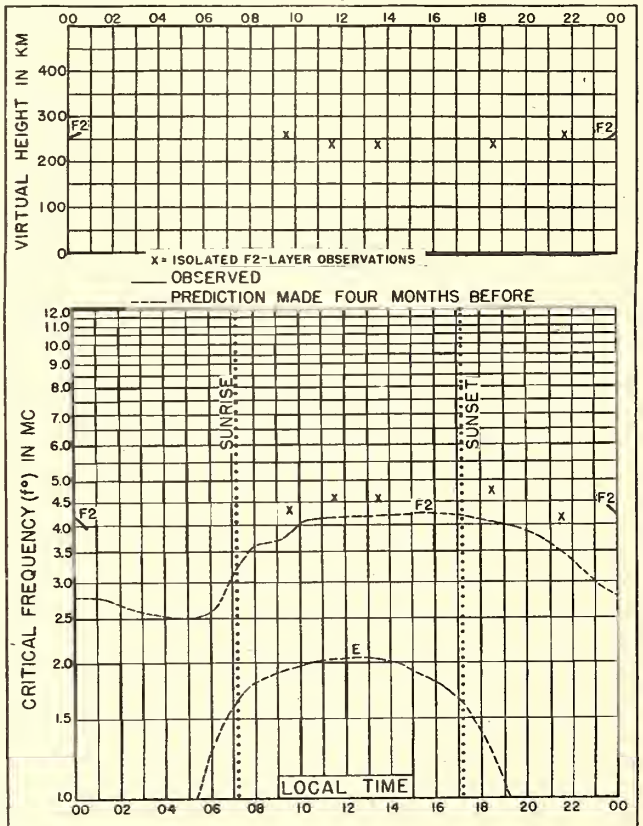

Fig. 37. TYKHI BAY, U.S.S.R
80.3°N, 52.8°E
MARCH, 1945

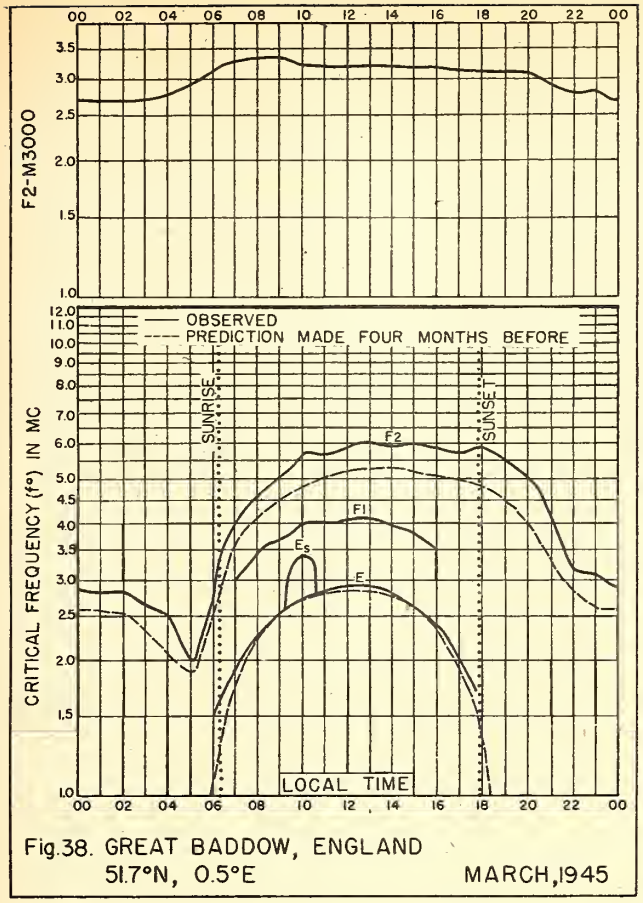

Fig.38. GREAT BADDOW, ENGLAND
51.7°N, 0.5°E MARCH, 1945

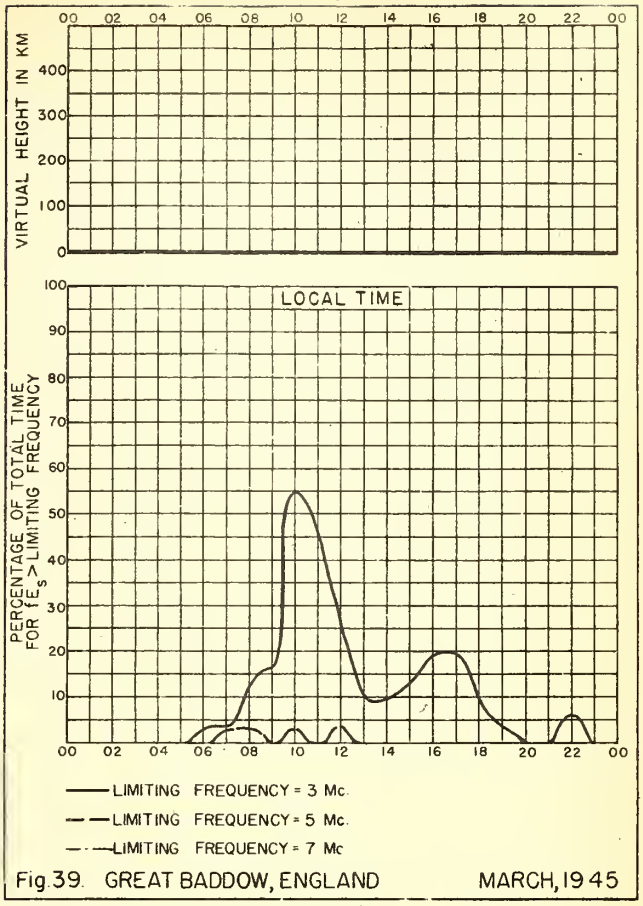

Fig.39. GREAT BADDOW, ENGLAND MARCH, 1945

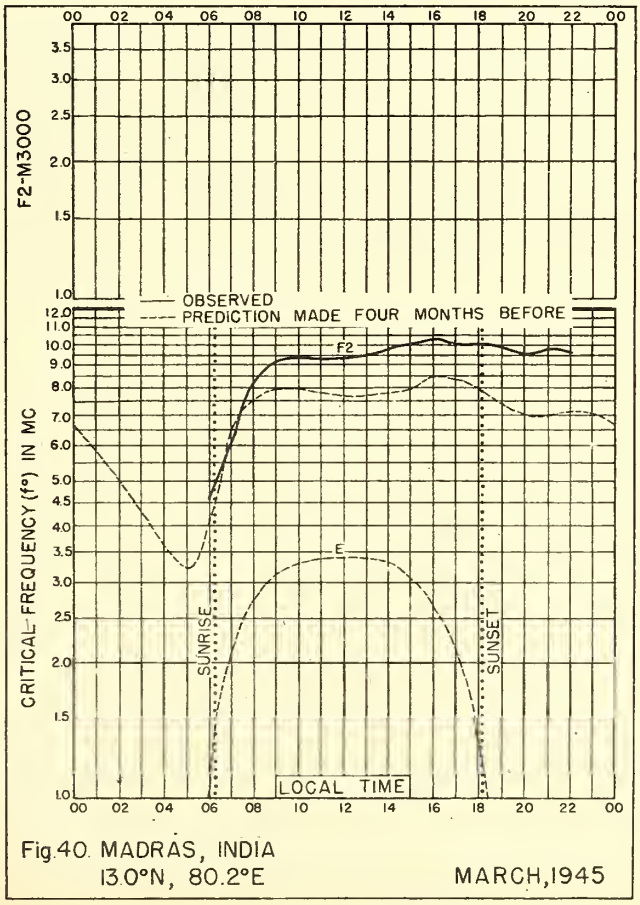

Fig.40. MADRAS, INDIA
13.0°N, 80.2°E MARCH, 1945

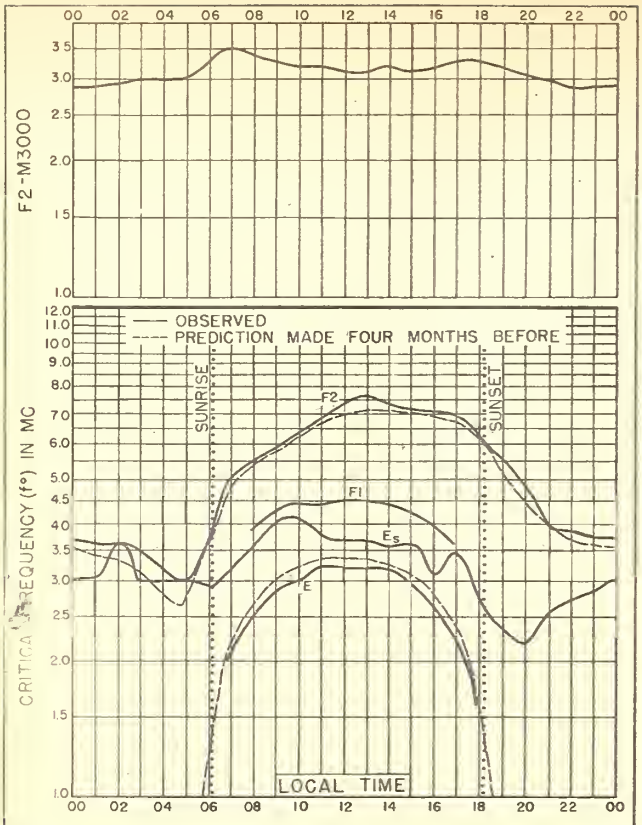

Fig. 41. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E MARCH, 1945

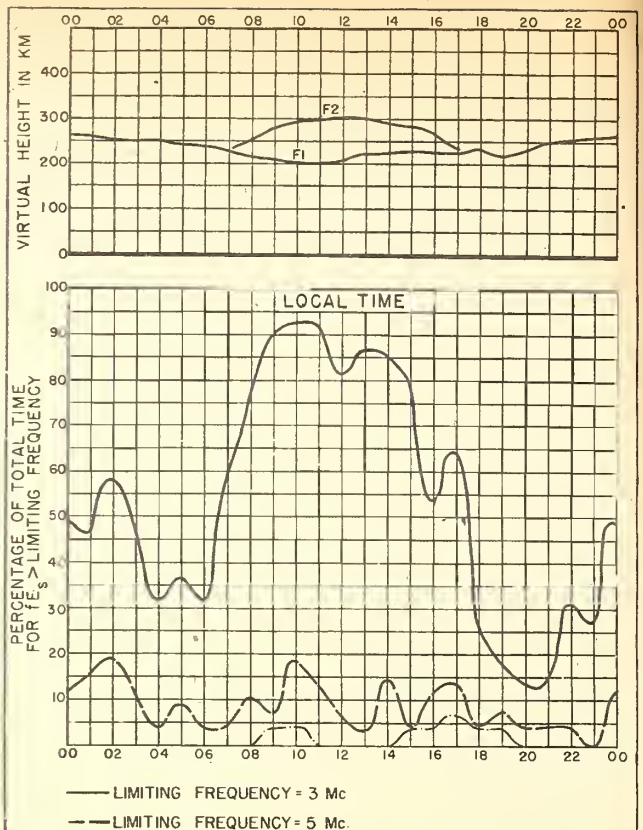

Fig. 42. WATHEROO, W. AUSTRLIA MARCH, 1945

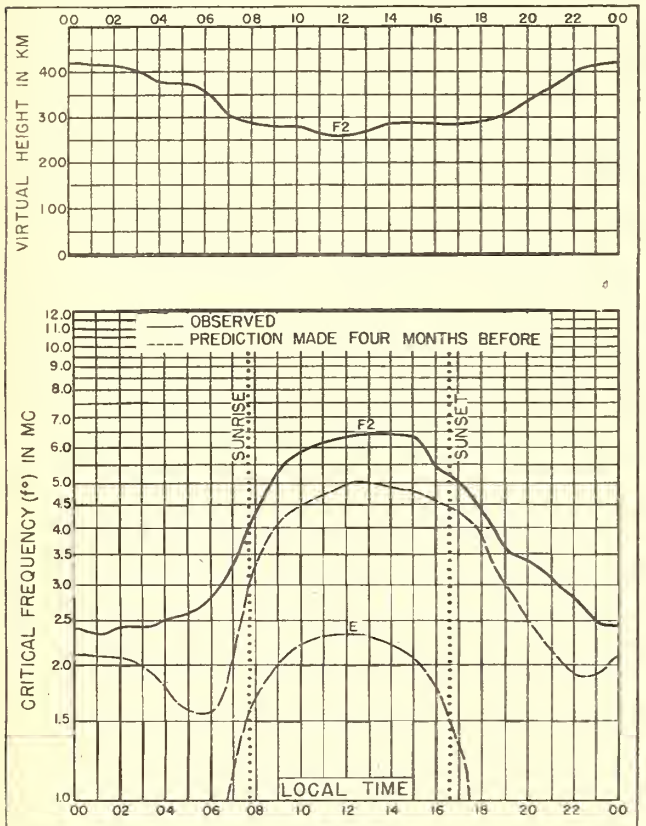

Fig. 43. LENINGRAD, U.S.S.R.
59.7°N, 30.5°E FEBRUARY, 1945

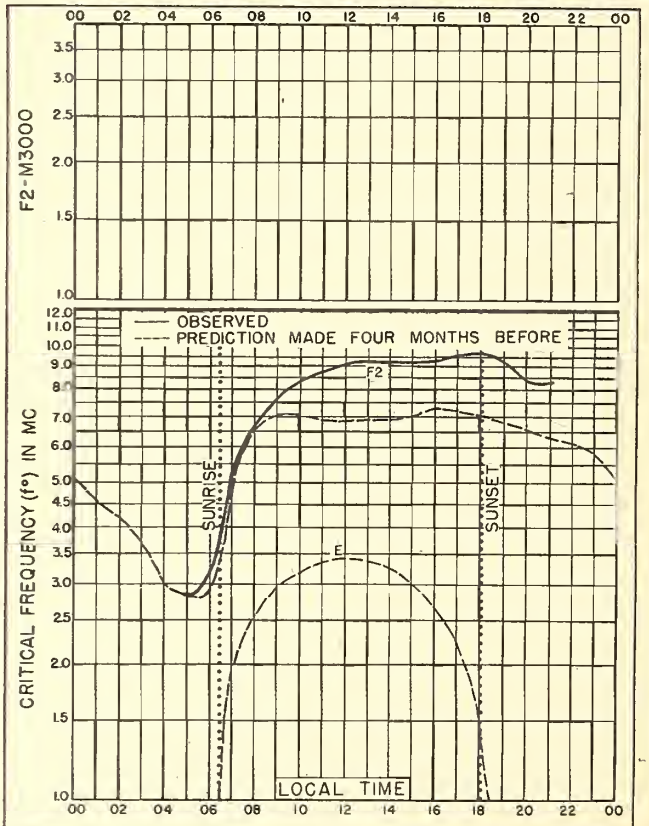

Fig. 44. MADRAS, INDIA
13.0°N, 80.2°E FEBRUARY, 1945

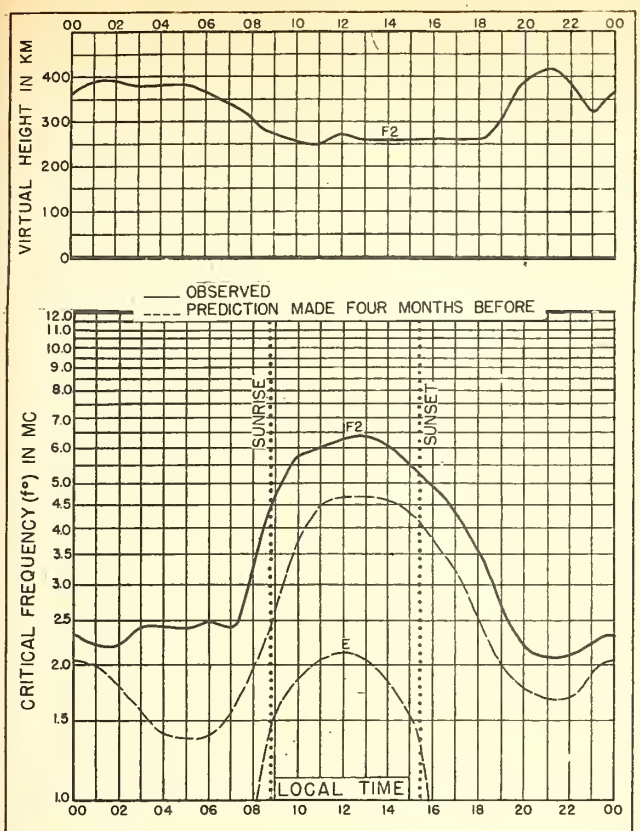

Fig. 45. LENINGRAD, U.S.S.R
59.7°N, 30.5°E JANUARY, 1945

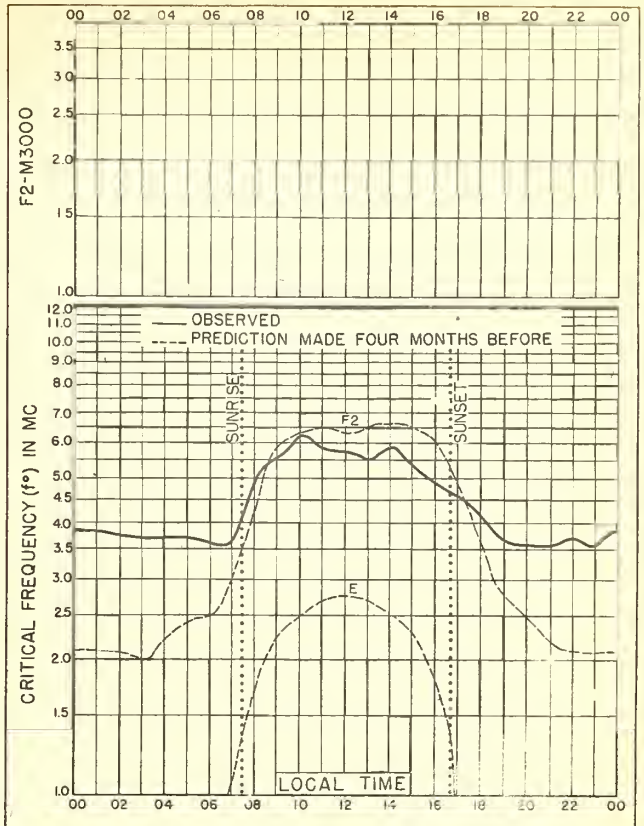

Fig. 46. ALMA ATA, U.S.S.R
43.5°N, 76.5°E JANUARY, 1945

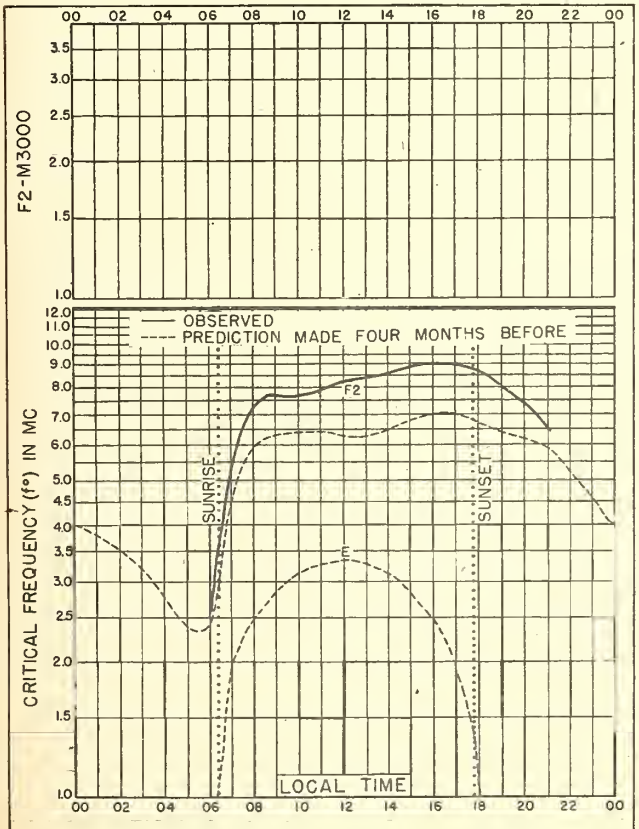

Fig. 47. MADRAS, INDIA
13.0°N, 80.2°E JANUARY, 1945

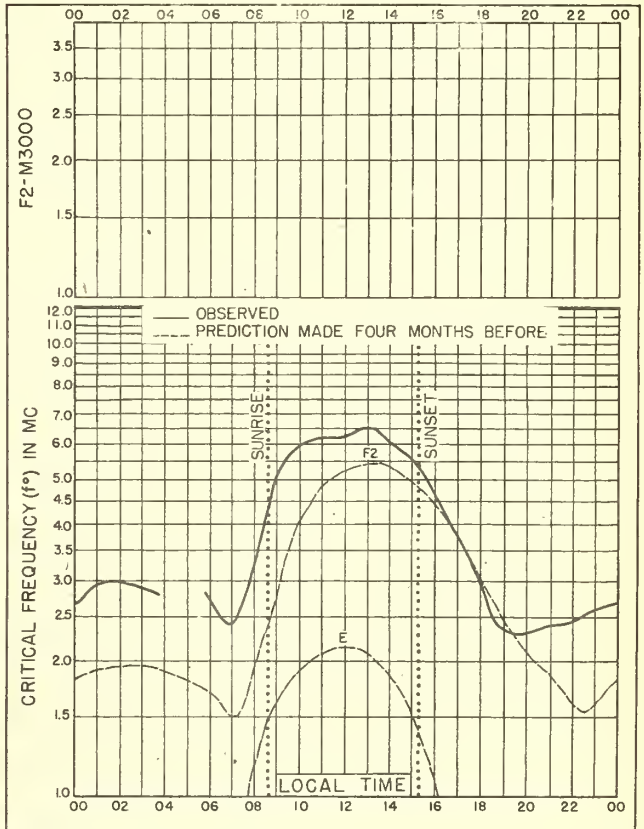

Fig. 48. TOMSK, U.S.S.R.
56.4°N, 85.0°E DECEMBER, 1944

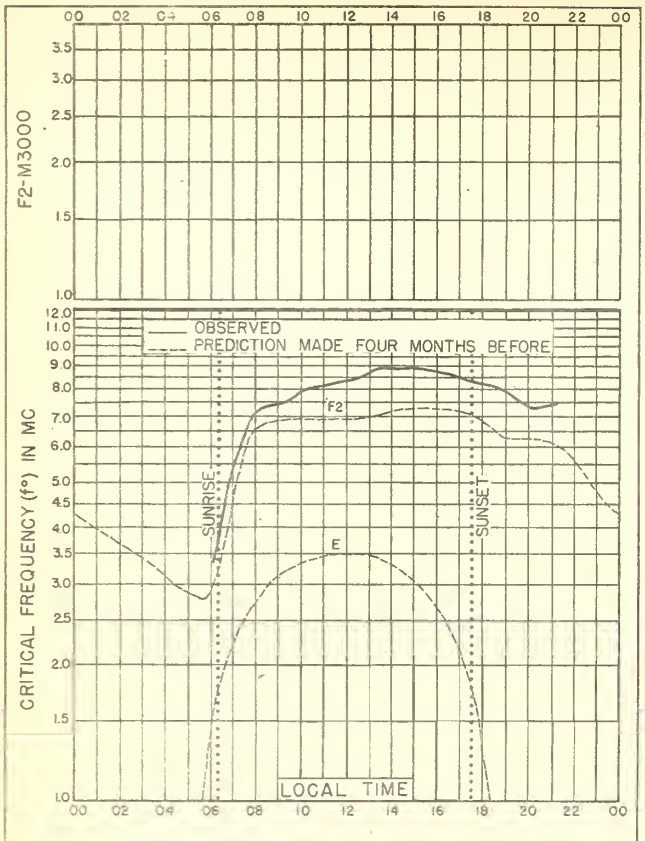

Fig. 49. MADRAS, INDIA
13.0°N, 80.2°E DECEMBER, 1944

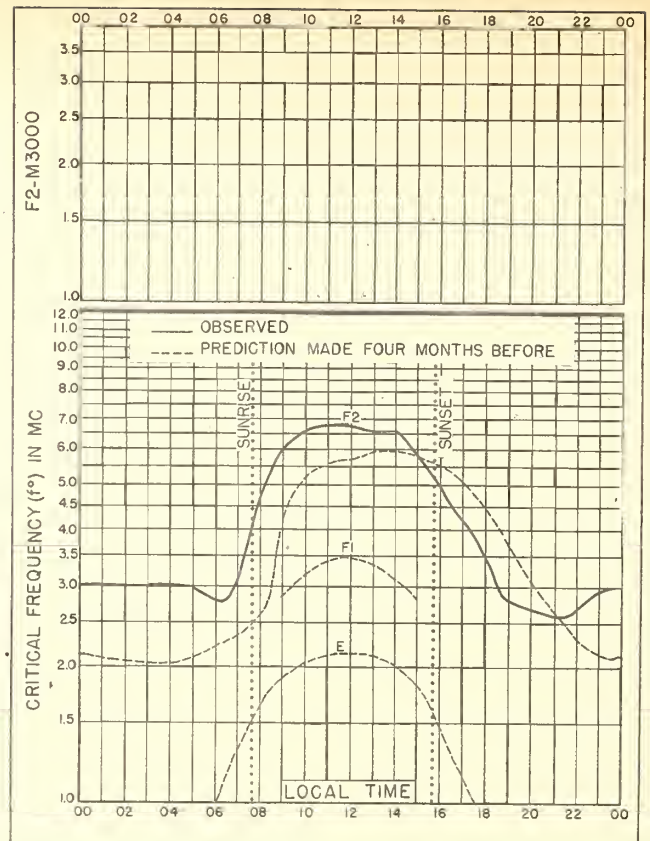

Fig. 50. TOMSK, U.S.S.R.
56.4°N, 85.0°E NOVEMBER, 1944

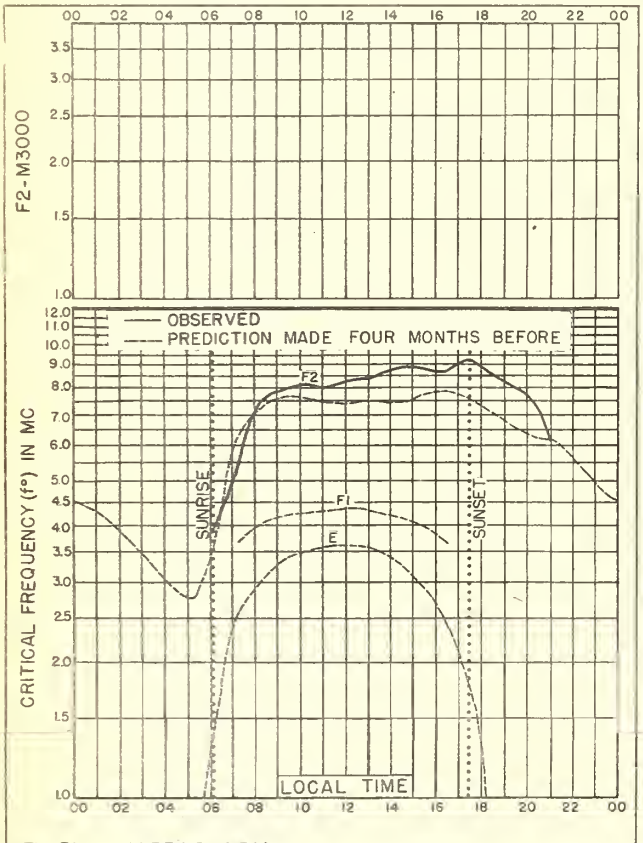

Fig. 51. MADRAS, INDIA
13.0°N, 80.2°E NOVEMBER, 1944

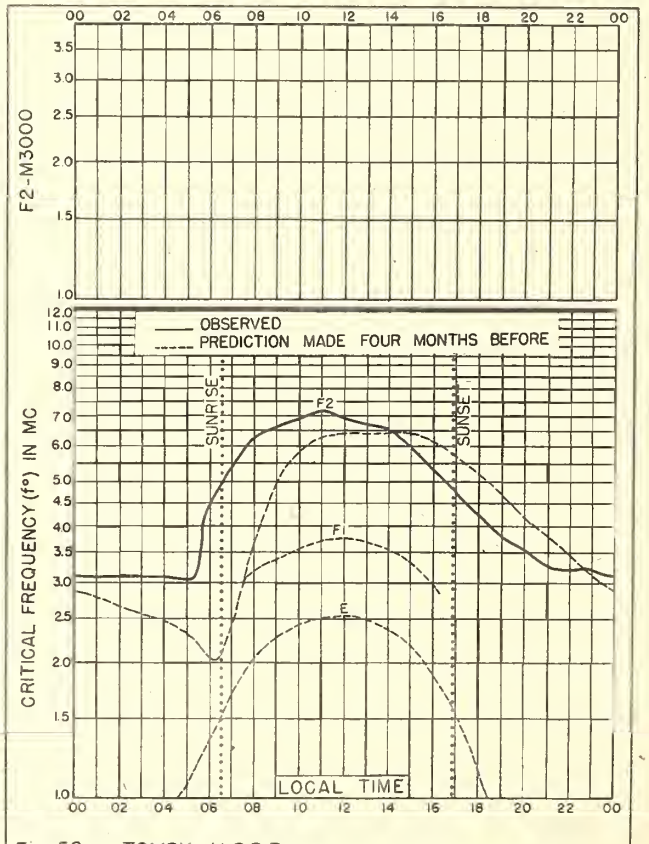

Fig. 52. TOMSK, U.S.S.R.
56.4°N, 85.0°E OCTOBER, 1944

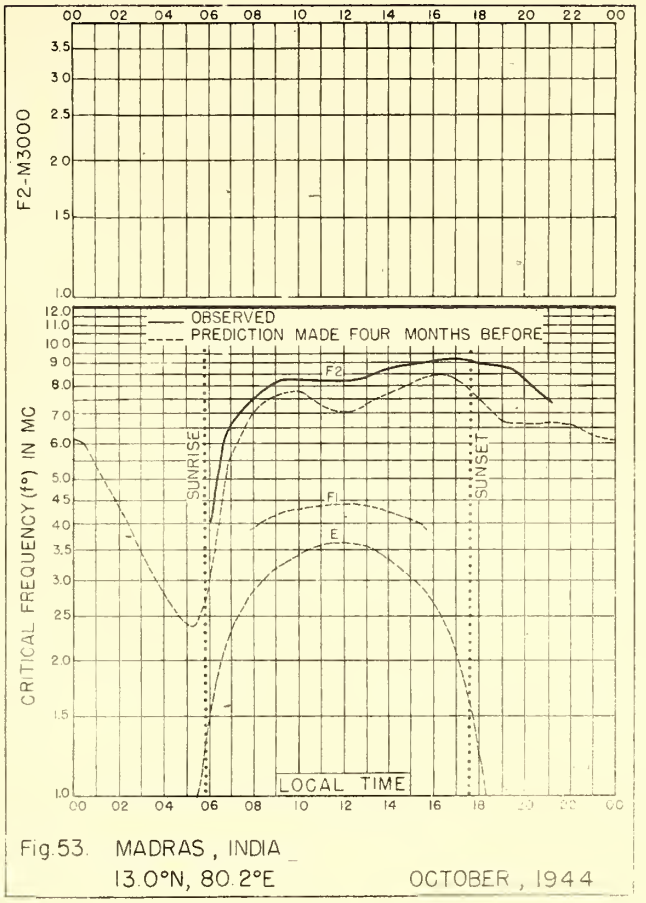

Fig.53. MADRAS, INDIA
13.0°N, 80.2°E OCTOBER, 1944

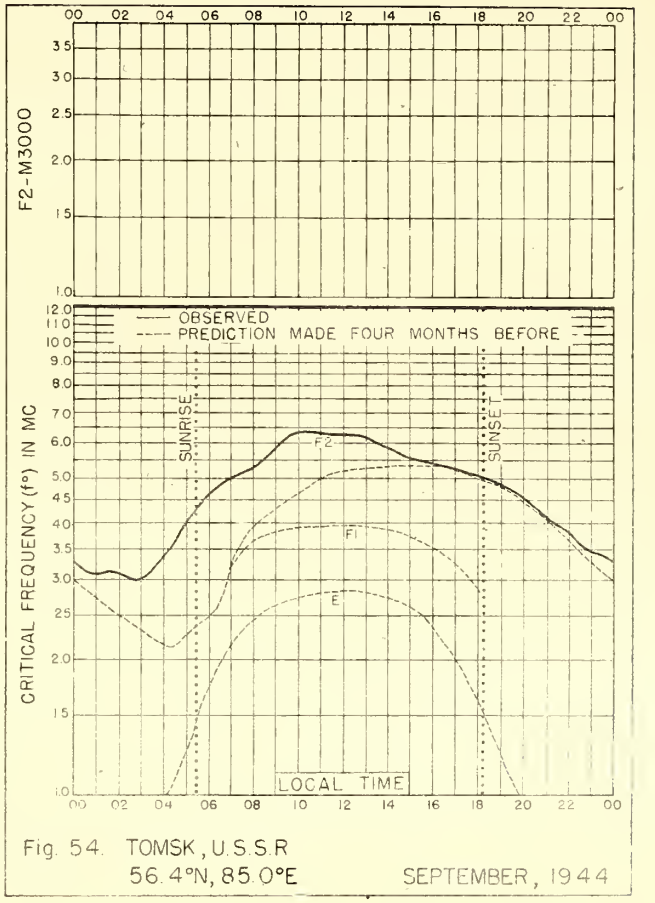

Fig. 54. TOMSK, U.S.S.R
56.4°N, 85.0°E SEPTEMBER, 1944

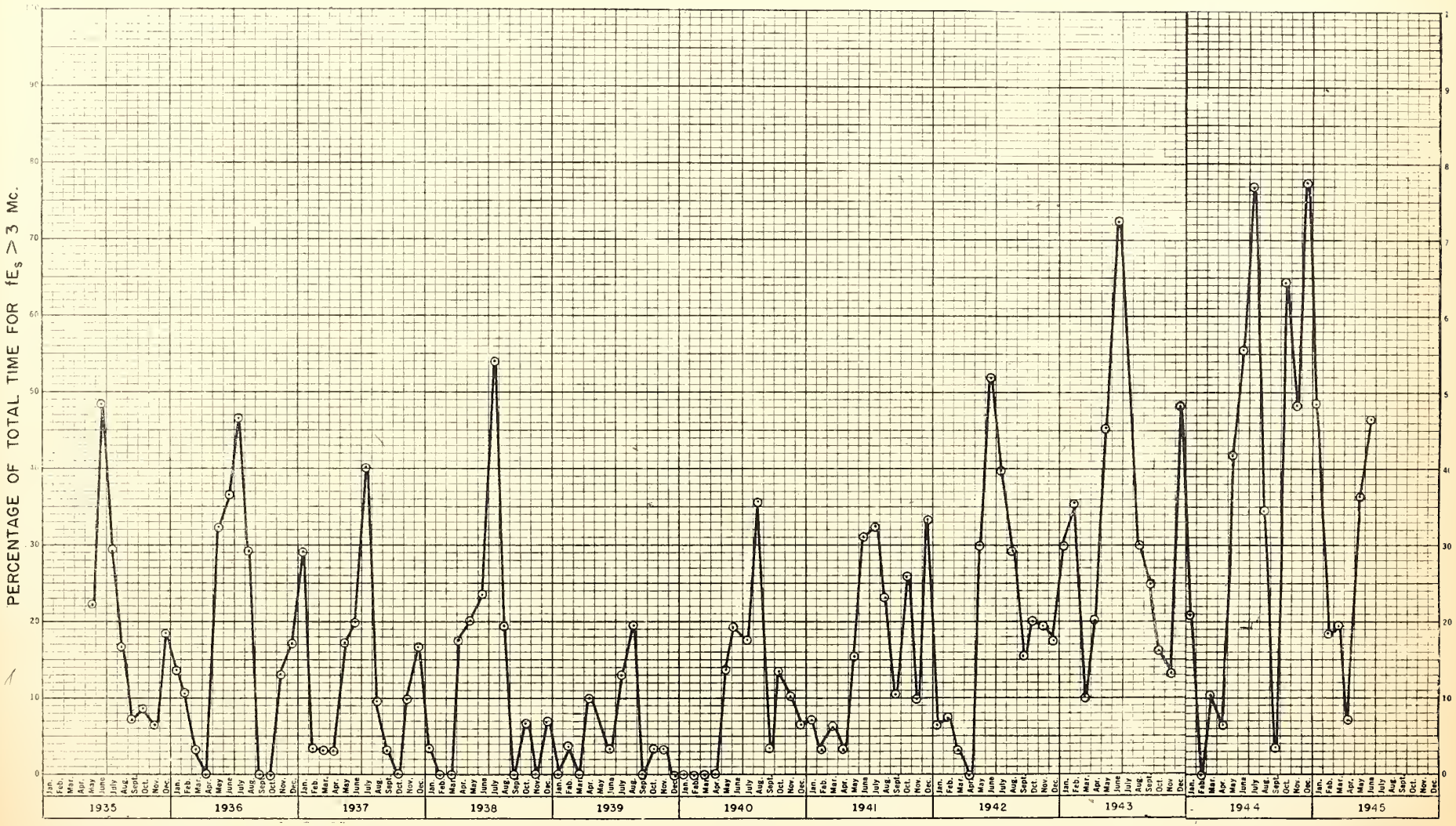

Fig. (55). fE_s at WASHINGTON, D. C.
0000, 75° W TIME.

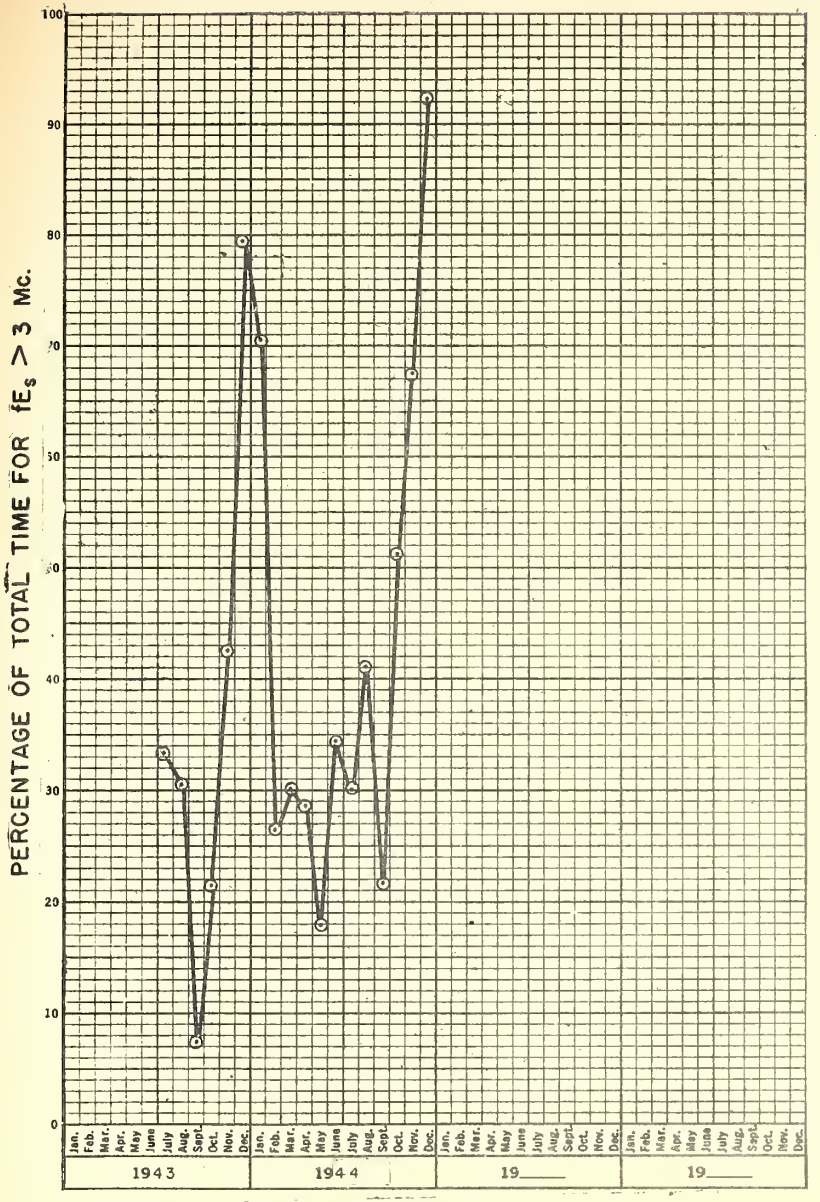

Fig. 56. fE_s at BRISBANE, Q., AUSTRALIA
0000, 150° E TIME.

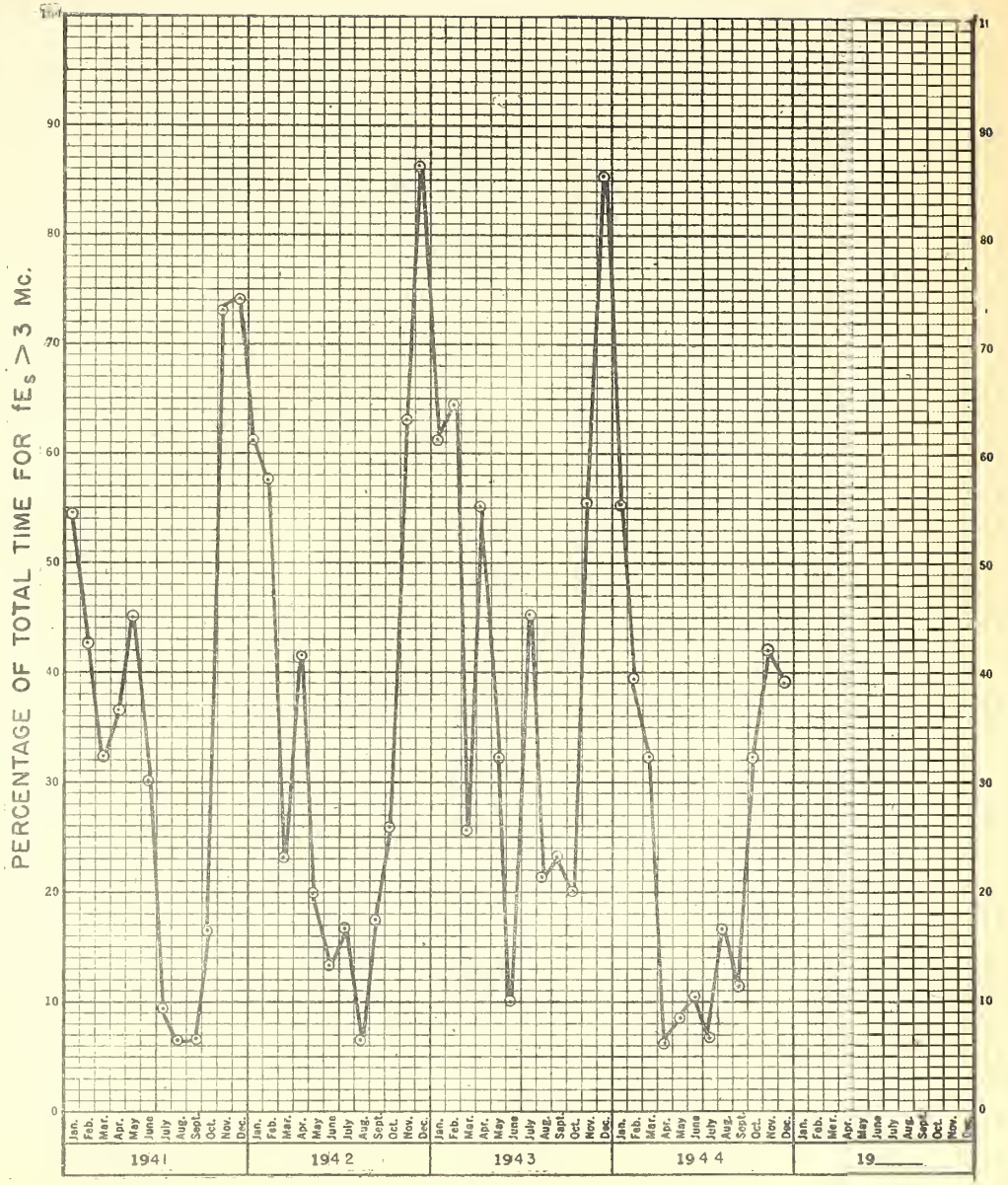

Fig. 57 fE_s at MT. STROMLO, N.S.W.
0000, 150° E TIME.

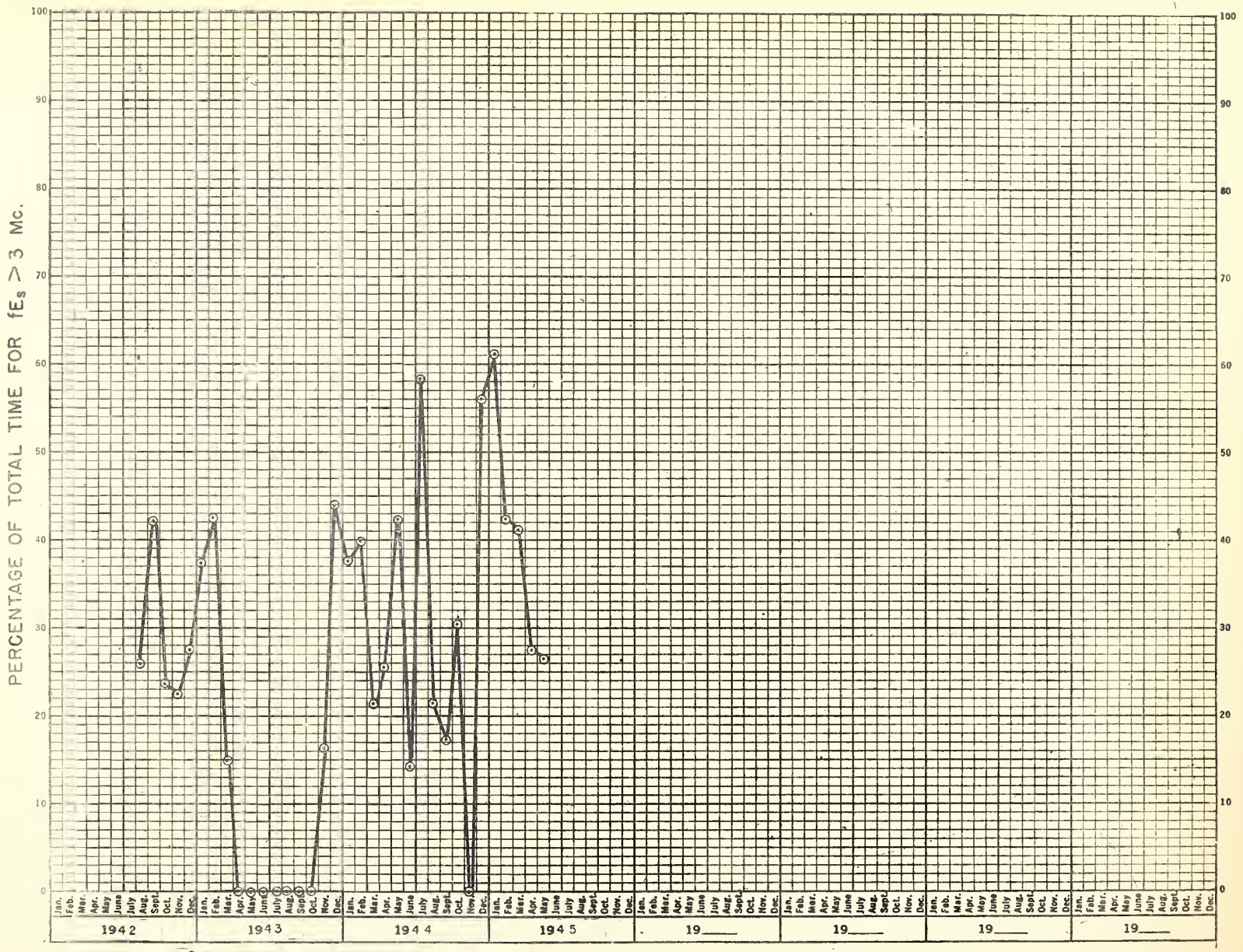

Fig. 58 fE_s at CHRISTCHURCH, N. Z.
. 0000, 172.5° E TIME.

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