PART A

IONOSPHERIC DATA

ISSUED
NOVEMBER 1958

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 171
PART A

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
24 Nov. 1958

IONOSPHERIC DATA

CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

M   Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

Z   (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
    (2) (descriptive letter) Third magnetoionic component present.

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

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

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

Values missing because of G are counted:

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

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

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

c. For MUF factor (M-factors):

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

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

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numberical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

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

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

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

2. For the F2 layer, h'F or foEs, if the count is from five to nine, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as the count is at least five, the median is not considered doubtful. A count of at least 5 is considered sufficient for an h'Es median.

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

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

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

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

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

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

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

d. The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

PREDICTED AND OBSERVED SUNSPOT NUMBERS

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

Month	Predicted Sunspot Number										
	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949
December		150*	150*	150	42	11	15	33	53	86	108
November		150*	150*	147	35	10	16	38	52	87	112
October		150*	150*	135	31	10	17	43	52	90	114
September		150*	150*	119	30	8	18	46	54	91	115
August		150*	150*	105	27	8	18	49	57	96	111
July		150*	150*	95	22	8	20	51	60	101	108
June		150*	150*	89	18	9	21	52	63	103	108
May		150*	150*	77	16	10	22	52	68	102	108
April	150*	150*	150*	68	13	10	24	52	74	101	109
March	150*	150*	150*	60	14	11	27	52	78	103	111
February	150*	150*	150*	53	14	12	29	51	82	103	113
January	150*	150*	150*	48	12	14	30	53	85	105	112

*This number is believed representative of solar activity at a maximum portion of the current sunspot cycle.

The latest available information follows concerning the corresponding observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1957.

Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	196	198	200	199
1958	198	200	200	196								

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

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

Commonwealth of Australia, Department of the Interior:
Macquarie I.

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

Electronics Directorate of the Brazilian Navy:
Natal, Brazil

Escola Politecnica, University of Sao Paulo:
Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:
Falkland Is.
Inverness, Scotland
Slough, England

Defence Research Board, Canada:
Baker Lake, Canada
Ottawa, Canada

Universidad de Concepcion:
Concepcion, Chile

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

Danish National Committee of URSI:
Godhavn, Greenland
Narsarssuak, Greenland

General Direction of Posts and Telegraphs, Helsinki, Finland:
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:
Sodankyla, Finland

French National Center for Telecommunications Studies:
Dakar, French West Africa
Djibouti, French Somaliland
Tananarive, Madagascar

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
Lindau/Harz, Germany
Tsumeb, South West Africa

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

Icelandic Post and Telegraph Administration:
Reykjavik, Iceland

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi, India:
Kodaikanal (India Meteorological Department)
Madras (All India Radio)
Trivandrum (All India Radio)

National Institute of Geophysics, City University, Rome, Italy:
Rome, Italy

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
Cape Hallett (Adare), Antarctica
Christchurch, New Zealand
Scott Base, Antarctica

Manila Observatory:
Baguio, P. I.

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:
Moscow

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

United States Army Signal Corps:
Adak, Alaska
Ft. Monmouth, New Jersey
Grand Bahama I.
Okinawa I.

National Bureau of Standards (Central Radio Propagation Laboratory):
- Anchorage, Alaska
- Ellsworth, Antarctica
- Fairbanks (College), Alaska (Geophysical Institute of the University of Alaska)
- Maui, Hawaii
- Panama Canal Zone
- Point Barrow, Alaska
- Pole Station, Antarctica
- Puerto Rico, W. I.
- San Francisco, California (Stanford University)
- Talara, Peru (Instituto Geofisico de Huancayo)
- Washington, D. C.

TABLES OF IONOSPHERIC DATA

August 1958 - January 1956

Table 1

Anchorage, Alaska (61.2°N, 149.9°W) · August 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.6						2.50
81		4.6					2.4	2.40
02		4.45					2.3	2.35
03		4.35			---	----		2.45
04		(4.9)		---	114	(1.70)		(2.42)
85		5.4		3.6	(121)	2.20		2.42
06		5.9		4.0	111	2.60		2.35
07		6.1		4.4	109	2.95		2.38
08		6.4		4.8	107	3.20		2.35
89		6.5		4.9	107	3.40		2.45
18		6.5		5.1	105	3.50		2.40
11		6.55		5.2	105	3.65		2.35
12		6.5		5.2	105	3.70		2.35
13		6.45		5.3	106	3.68		2.42
14		6.55		5.3	106	3.60		2.40
15		6.6		5.2	107	3.45		2.50
16		6.6		5.0	107	3.25		2.55
17		6.6		4.8	111	3.00		2.65
18		6.5		---	115	2.62	2.8	2.60
19		6.5			<124	2.30		2.75
20		6.4			(125)	----		2.75
21		6.1						2.70
22		5.75						2.60
23		5.0						2.55

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Washington, D.C. (38.7°N, 77.1°W) August 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.7	290					2.55
81		6.4	300					2.60
02		6.0	295					2.50
03		5.8	300					2.50
04		5.4	300					2.55
05		5.2	290					2.70
06	---	6.2	260	---	115	(2.20)	>2.2	2.90
07	(300)	7.3	240	---	109	2.90	3.2	2.80
00	390	7.6	230	5.0	107	3.35	3.7	2.80
09	400	8.2	220	5.4	107	3.70	3.9	2.65
18	430	8.4	205	5.6	107	3.95	4.1	2.60
11	470	8.55	210	5.6	107	4.05		2.48
12	450	8.6	215	5.9	105	(4.10)		2.50
13	465	8.45	220	5.8	105	4.10		2.50
14	435	8.25	225	5.9	105	4.00		2.50
15	440	8.1	225	5.6	107	3.90		2.50
16	435	7.95	230	5.2	107	3.55		2.55
17	(390)	8.0	240	---	109	3.15	3.6	2.60
18	---	8.1	260	---	113	2.52	3.1	2.65
19		7.9	275		---	----	2.4	2.70
20		7.7	270				1.6	2.60
21		7.5	290				1.8	2.60
22		7.1	290				3.0	2.55
23		7.0	290					2.55

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Maui, Hawaii (20.8°N, 156.5°W) August 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.75	290				2.9	2.75
01		9.4	285				3.0	2.80
02		8.8	270					2.80
03		>8.0	265					2.72
84		7.2	270					2.85
05		6.6	265					2.70
06	---	6.5	280	---	119	----	>1.4	2.70
07	---	7.8	240	---	113	2.60	2.8	3.00
08	---	8.9	230	---	109	3.35	3.8	2.80
09	---	9.5	225	---	109	3.70	4.2	2.50
10	(490)	10.4	225	6.6	109	4.00	4.6	2.32
11	430	11.3	<220	6.4	109	4.20	4.8	2.40
12	420	12.3	<225	6.7	109	4.30	4.9	2.45
13	415	13.0	225	6.6	109	4.35	4.8	2.50
14	400	13.0	<235	6.5	109	4.30	4.9	2.55
15	390	13.2	<235	6.4	109	4.10	4.9	2.55
16	360	13.05	230	6.2	107	3.80	5.1	2.60
17	345	12.7	240	---	109	3.35	4.6	2.70
18	<315	12.2	(260)	---	115	2.52	4.1	2.70
19		12.0	(275)		---	----	4.5	2.75
20		11.8	(290)				4.6	2.65
21		12.2	285				4.0	2.60
22		11.5	280				3.6	2.65
23		10.3	300				3.2	2.65

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Puerto Rico, W. I. (18.5°N, 67.2°W) August 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.0	295					2.65
01		8.9	275					2.70
02		8.5	270					2.75
03		7.9	260					2.70
04		7.6	265					2.75
05		7.4	260					2.85
06		7.3	260					2.90
07	---	8.5	240		116	2.55	2.6	3.10
08	---	9.3	230		109	3.25	3.4	2.95
09	---	9.9	220		109	3.70	3.9	2.80
10	---	10.7	210	---	109	4.00	4.3	2.60
11	385	11.4	220	6.4	109	4.25	4.6	2.60
12	370	12.2	220	6.5	109	4.35	4.8	2.60
13	385	12.2	220	6.1	109	4.35	4.9	2.60
14	390	11.9	225	6.2	109	4.25	4.7	2.55
15	380	11.8	230	6.0	109	4.05	4.5	2.60
16	370	11.3	230	---	111	3.00	4.4	2.60
17	(350)	10.7	240		111	3.30	3.9	2.60
18		10.3	250		117	2.65	2.9	2.65
19		9.9	265				2.0	2.65
20		9.4	275				2.8	2.65
21		9.4	285					2.60
22		9.1	295					2.60
23		9.3	300					2.60

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Baguio, P.I. (16.4°N, 120.6°E) August 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>12.0	290					2.70
01		12.0	260					2.85
02		10.0	240					2.80
03		9.2	250					2.75
04		8.3	250				2.0	2.75
05		7.5	250				2.1	2.80
06		8.0	290		(134)	(2.15)	3.5	2.75
07		9.4	260		121	(3.00)	4.2	2.75
00		10.4	250		117	(3.55)	6.5	2.52
09		11.4	250		117	(3.95)	6.0	2.20
18		12.0	(235)		118	(4.15)	5.9	2.10
11	---	12.6	230	---	(119)	4.25	4.8	2.10
12	---	12.8	(230)	---	(119)	4.30		2.05
13	(540)	13.0	230	(6.5)	119	4.25		2.00
14	520	13.2	235	(6.3)	(119)	4.18		2.05
15	(500)	13.2	(250)	---	119	4.00		2.10
16	---	13.2	(260)		119	3.60	4.2	2.12
17		13.1	(275)		119	(3.00)	4.7	2.15
18		13.0	300		<133	(2.10)	3.9	2.15
19		12.5	380				1.9	2.05
20		(11.8)	400				1.9	2.08
21		(11.5)	350				2.7	(2.20)
22		11.7	325					2.35
23		11.8	315					2.60

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Panama Canal Zone (9.4°N, 79.9°W) August 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.6	270					2.75
01		8.7	260					2.78
02		0.0	255					2.70
03		7.75	270					2.70
04		7.15	250					2.85
05		6.35	245					2.82
06		6.0	270		115	----	2.5	2.70
07	---	7.8	240		109	2.60		3.00
00	---	8.9	225		105	3.35	3.8	2.78
09	---	9.0	220		107	3.00	4.2	2.55
10	(395)	11.0	220	(6.4)	106	4.10		2.35
11	400	12.0	205	6.5	105	4.25		2.40
12	415	12.5	220	6.6	105	4.35	4.7	2.45
13	425	13.0	220	6.4	107	4.35	4.6	2.45
14	405	13.0	220	6.3	107	4.25	4.0	2.45
15	405	12.9	(235)	6.4	105	4.00	4.9	2.50
16	385	12.3	<240	---	107	3.70	4.8	2.50
17	360	12.0	<250	---	108	3.18	4.3	2.50
18	---	11.3	270		<117	2.30	3.1	2.55
19		10.5	280				3.0	2.60
20		9.95	280					2.50
21		9.9	290					2.55
22		9.7	280					2.60
23		9.7	280					2.65

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

Point Barrow, Alaska (71.3°N, 156.8°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.65)	330		(119)	2.50	4.2	(2.65)
01	---	(5.2)	315	---	115	(2.15)	3.7	2.55
02	---	(5.1)	300	---	(115)	2.20	3.5	2.60
03	(400)	(5.05)	290	---	101	(2.00)	3.4	2.58
04	440	(5.0)	280	3.9	103	2.40	3.8	(2.45)
05	480	(5.3)	260	(4.0)	(103)	(2.80)	3.8	2.40
06	490	5.1	250	4.0	103	2.90		2.50
07	530	5.2	<250	4.3	105	3.08		2.30
08	670	4.9	260	4.5	101	3.55		2.12
09	610	5.1	<265	4.6	101	3.60		2.20
10	620	5.2	240	4.8	101	3.60		2.15
11	600	5.2	<245	4.7	103	3.60		2.20
12	600	5.55	230	4.8	101	3.68		2.15
13	560	5.6	230	4.9	101	3.60		2.30
14	565	5.8	225	5.0	101	3.50		2.25
15	530	5.9	230	4.9	101	3.45		2.35
16	510	5.9	235	4.8	101	3.32		2.35
17	480	5.9	230	4.6	101	3.20		2.40
18	465	5.8	245	4.6	101	3.12		2.42
19	460	5.75	250	4.4	101	3.00		2.50
20	(430)	5.55	280	4.0	103	2.90		2.60
21	---	5.6	300	---	103	(3.00)	3.2	2.70
22		5.6	295		106	2.75	3.3	2.78
23		5.65	330		114	(2.50)	3.9	2.62

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

Fairbanks, Alaska (64.9°N, 147.8°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0			---	----	4.2	2.60
01		(5.25)			---	----	5.4	(2.62)
02		(5.25)			---	----	4.7	(2.55)
03		5.25			---	----	4.8	(2.48)
04		5.3		---	---	----	3.8	2.50
05		5.4		4.0	107	2.60	4.3	2.45
06		5.6		4.2	103	3.08	4.0	2.40
07		5.5		4.4	101	3.30		2.35
08		5.5		4.5	101	3.40		2.35
09		5.4		4.6	101	3.50		2.30
10		5.55		4.8	101	3.60		2.30
11		5.6		5.0	99	3.62		2.28
12		5.6		5.0	101	(3.65)		2.22
13		5.75		5.0	101	(3.60)		2.30
14		5.7		5.0	101	3.50		2.30
15		5.9		5.0	101	3.40		2.40
16		5.9		4.9	101	3.30		2.40
17		5.9		4.6	101	3.15		2.50
18		5.8		4.2	105	2.88		2.60
19		5.9		---	(108)	2.60		2.65
20		5.85			(123)	2.40		2.75
21		5.5			<121	2.20	2.4	2.72
22		5.5			---	----	2.9	2.78
23		5.4			---	----	4.0	2.72

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

Reykjavik, Iceland (64.1°N, 21.8°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.6	(390)		---	----	4.0	2.50
01		(4.65)	(400)		---	----	4.3	(2.40)
02	---	(4.6)	<410		---	----	3.4	(2.45)
03	(525)	4.5	(385)		---	----		2.42
04	(470)	4.9	(340)	---	---	----		2.50
05	(520)	5.0	<305	3.8	---	----		2.40
06	510	5.05	270	4.1	111	(2.90)		2.52
07	530	5.5	(260)	4.5	109	(2.98)		2.55
08	525	5.5	240	4.8	107	3.20		2.45
09	490	5.9	240	5.0	109	3.45		2.55
10	510	6.1	230	5.1	109	3.60		2.55
11	480	6.25	225	5.2	<108	3.70		2.50
12	500	6.5	225	5.4	107	3.70		2.45
13	490	6.4	230	5.2	109	(3.65)		2.45
14	485	6.6	230	5.4	109	(3.70)		2.50
15	480	6.6	<230	5.2	109	3.55		2.45
16	470	6.2	230	5.0	108	(3.35)		2.55
17	460	6.4	(260)	4.9	109	(3.20)		2.50
18	<440	5.9	<270	4.8	113	3.10		2.65
19	(410)	5.85	290	---	119	2.95		2.62
20	(400)	5.75	<320		119	(3.00)	3.6	2.65
21	---	5.4	350		<131	(2.55)	2.7	2.65
22	---	5.1	<385		---	----		2.55
23	---	5.1	360		---	----	3.3	2.50

Time: 15.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 10

Anchorage, Alaska (61.2°N, 149.9°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7						2.50
01		4.0						2.50
02		5.0					2.4	2.50
03		5.3		---	123	----		2.50
04		5.3		(3.4)	119	2.10		2.45
05		5.6		3.9	111	2.45		2.45
06		5.8		4.1	111	2.85	3.0	2.40
07		5.9		4.4	107	3.15		2.38
08		5.0		4.6	105	3.40		2.40
09		5.75		4.7	105	3.50		2.32
10		5.75		4.0	105	3.60		2.32
11		5.7		5.0	105	3.70		2.22
12		5.7		5.1	105	3.72		2.30
13		5.9		5.0	105	3.68		2.30
14		5.05		5.0	105	3.60		2.35
15		5.9		5.0	107	3.50		2.35
16		5.9		4.8	106	3.35		2.45
17		5.9		4.8	107	3.20		2.55
18		6.0		4.6	111	2.90	2.9	2.60
19		6.2		---	<119	2.55	2.9	2.75
20		6.0			131	2.10	2.6	2.85
21		5.9			---	----	2.2	2.75
22		5.45					1.8	2.65
23		5.0						2.62

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 11

Narsarssuak, Greenland (61.2°N, 45.4°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.4)	360				4.2	(2.45)
01		(4.2)	375				3.6	(2.50)
02		(4.35)	425				3.6	(2.50)
03	---	(4.1)	(395)	---			3.4	(2.50)
04	<515	<4.35	320	3.6	114	----	3.7	2.42
05	(580)	4.35	275	3.7	113	2.80	4.0	2.40
06	<675	4.9	275	4.3	107	3.30	4.4	2.35
07	630	5.2	255	4.6	107	3.30	4.6	2.35
08	560	5.5	230	4.8	105	3.52	3.9	2.48
09	470	5.85	220	5.0	101	3.60	4.7	2.55
10	505	6.05	225	5.2	102	3.70	4.1	2.50
11	540	6.15	220	5.2	101	3.75	5.0	2.52
12	520	6.5	220	5.3	101	3.80	4.2	2.48
13	475	6.7	220	5.2	101	3.80		2.55
14	475	6.7	220	5.2	101	(3.70)		2.50
15	480	6.35	230	5.1	101	(3.60)	5.6	2.50
16	460	6.1	240	5.0	103	3.50		2.52
17	480	5.9	250	4.8	105	3.30		2.45
18	450	6.0	275	4.5	105	3.15	3.6	2.55
19	(430)	5.6	280	4.2	111	(2.75)		2.65
20	(485)	5.4	310	---	(116)	(2.40)		2.50
21	---	5.3	320	---	(115)	(2.20)	3.4	2.65
22		(4.7)	330				3.3	(2.65)
23		(4.7)	345				3.7	(2.60)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Adak, Alaska (51.9°N, 176.6°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.2	320					2.50
01		5.8	(320)					2.45
02		5.2	<340					2.40
03	---	4.9	350		---	----		2.40
04	440	5.0	(310)	---	(124)	----	2.1	2.40
05	460	5.9	(280)	3.8	115	2.40	2.8	2.35
06	465	6.6	250	4.3	111	2.80	3.8	2.35
07	470	6.7	(240)	4.6	101	3.15	4.2	2.35
08	450	6.8	230	4.8	101	3.48	4.2	2.45
09	450	6.8	215	5.2	101	3.60	4.7	2.40
10	515	6.55	(210)	5.3	101	3.70	4.4	2.40
11	510	6.6	210	5.3	103	3.80	4.3	2.35
12	505	6.7	210	5.4	105	3.80	4.2	2.45
13	505	6.6	210	5.4	106	3.80	4.3	2.40
14	505	6.5	<220	5.4	107	3.80	3.9	2.45
15	485	6.4	220	5.2	109	3.60	3.6	2.50
16	460	6.7	230	5.1	107	3.50	3.6	2.55
17	425	6.7	245	4.8	108	3.15	3.8	2.65
18	(360)	6.55	(255)		111	2.70	3.9	2.70
19	---	6.8	<280		121	----	3.3	2.75
20		6.85	280		---	----	2.5	2.75
21		6.9	280					2.65
22		6.9	(295)				1.8	2.60
23		6.45	<300					2.55

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 13

Grand Bahama I. (26.6°N, 78.2°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.5	<300					2.60
01		7.3	(280)				2.5	2.70
02		6.65	<280				2.2	2.65
03		6.4	(285)					2.60
04		6.1	<305					2.60
05		6.0	(295)					2.70
06	---	6.6	<270	---	(121)	----	2.5	2.95
07	---	7.5	<240	---	109	(3.05)	3.9	2.85
08	425	7.9	<225	5.3	107	----	4.4	2.70
09	435	8.1	(220)	5.6	107	----	4.8	2.60
10	440	8.1	(210)	5.6	105	4.00	4.4	2.55
11	410	8.8	(210)	5.7	109	----	5.0	2.55
12	420	9.2	(210)	5.9	109	----	4.7	2.55
13	410	9.4	<220	5.8	109	4.20	4.5	2.55
14	415	9.2	<220	5.7	109	(4.30)	4.6	2.55
15	400	9.0	(220)	5.6	109	4.02	4.1	2.55
16	390	8.4	(225)	5.4	109	3.65	4.0	2.55
17	370	8.4	(230)	4.9	109	3.30	3.7	2.60
18	(380)	8.1	245	---	111	----	3.5	2.65
19		8.1	280		---	----	2.2	2.70
20		8.0	<270				2.9	2.65
21		7.6	<280				2.8	2.55
22		7.5	<300				3.0	2.60
23		7.4	<385				3.1	2.60

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Okinawa I. (26.3°N, 127.8°E) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.15	310				>2.1	2.60
01		10.4	300				2.4	2.65
02		9.4	280				2.3	2.70
03		8.4	260					2.65
04		7.7	275					2.60
05		6.85	280				2.1	2.60
06	---	7.3	270	---				2.70
07	---	8.4	240	---	113	(2.98)		2.95
08	---	8.9	230	---	111	(3.50)	4.3	2.88
09	(300)	9.1	225	---	109	(3.80)	4.9	2.65
10	375	9.6	220	(6.2)	109	(4.10)	4.9	2.50
11	420	10.8	220	(6.5)	109	(4.20)	4.9	2.40
12	410	11.5	215	6.4	109	(4.25)	5.0	2.50
13	390	12.0	220	6.3	109	4.25	5.1	2.52
14	395	12.25	220	6.2	109	(4.20)	5.0	2.50
15	375	13.15	225	6.0	109	4.02	5.2	2.55
16	365	13.4	230	5.8	109	(3.80)	4.6	2.60
17	350	12.9	235	(5.6)	109	(3.40)	4.3	2.65
18	320	12.25	250	---	111	2.90	3.5	2.68
19	---	12.1	270				3.4	2.65
20		10.8	290					2.58
21		11.1	(325)					2.45
22		11.2	(330)					(2.45)
23		10.75	325					2.50

Time: 135.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
Note: Height scale was expanded evening of 4th and morning of 5th.

Table 15

Baguio, P.I. (16.4°N, 120.6°E) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.2	320					2.55
01		10.3	270					2.80
02		9.35	270					2.65
03		8.6	260					2.65
04		8.2	260				1.2	2.70
05		7.2	260				1.5	2.80
06		8.0	280		(131)	(2.25)	2.8	2.80
07		9.2	260		117	(3.00)	6.4	2.70
08		9.9	245		115	3.55	6.8	2.40
09		10.3	240		115	(3.90)	6.4	2.20
10	---	11.0	235	---	<119	(4.10)	4.9	2.15
11	---	11.5	(230)	---	119	4.20	5.7	2.15
12	(500)	12.0	(230)	6.4	119	(4.25)	5.5	2.10
13	(540)	12.2	225	(6.4)	119	4.20	4.8	2.10
14	(530)	12.6	230	6.3	<118	(4.10)	4.6	2.10
15	510	12.8	235	(6.1)	117	3.90	4.8	2.10
16	(470)	12.7	250	---	117	3.60	4.6	2.15
17	---	12.5	265	---	117	3.05	4.0	2.15
18	---	12.5	290	---	(129)	2.35	3.8	2.15
19		12.0	350				3.6	2.10
20		11.0	420				2.1	2.10
21		10.8	405				2.4	2.15
22		11.0	380				2.2	2.25
23		11.35	350				2.3	2.40

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

Talara, Peru (4.6°S, 81.3°W) July 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.9	230					2.75
01		9.5	230					2.85
02		9.0	235					3.00
03		8.0	230					3.10
04		7.15	235					3.10
05		5.8	245					2.98
06		4.7	250					2.85
07		6.9	265		<125	2.25		2.82
08		8.8	240		109	3.05		2.75
09		9.7	225		105	3.50		2.50
10		10.1	215		103	3.85		2.30
11	---	10.7	205	---	105	4.05		2.20
12	---	11.0	210	---	105	4.10		2.10
13	---	11.0	205	---	103	4.10		2.10
14	---	11.0	200	---	105	4.00		2.08
15	---	11.0	200	---	104	3.82	4.2	2.02
16	---	10.8	220	---	105	3.50	4.6	2.05
17		10.5	240		<111	3.05	3.3	2.05
18		10.15	275		(122)	2.30	3.2	2.05
19		9.8	340				2.6	2.10
20		9.7	355					2.15
21		10.2	320					2.35
22		10.4	265					2.60
23		9.6	220					2.70

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

Godhavn, Greenland (69.3°N, 53.5°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.25			<138	1.90		2.60
01		(5.2)		---	(135)	2.00		(2.60)
02		(5.2)		---	129	2.05		(2.52)
03		5.0		---	<122	2.20		2.60
04		(5.0)		3.8	115	(2.35)		2.60
05		4.85		4.0	114	2.60		2.65
06		(4.75)		4.2	111	2.90		2.10
07		4.8		4.3	109	3.10		2.10
08		(5.3)		(4.6)	108	3.20		(2.15)
09		5.6		4.8	107	3.35		2.30
10		(5.55)		5.0	107	3.48		2.30
11		(6.2)		5.0	105	3.50		2.40
12		(6.1)		5.0	105	(3.55)		2.35
13		6.0		5.0	105	3.52		2.30
14		(5.9)		5.0	105	>3.42		(2.30)
15		(5.6)		5.0	105	3.32		(2.35)
16		5.8		5.0	107	3.35	4.4	2.30
17		(5.75)		4.8	107	(3.20)	3.4	(2.35)
18		5.8		4.6	109	3.05		2.40
19		(6.1)		4.4	111	(2.90)		(2.45)
20		(5.9)		4.2	(115)	2.60		2.45
21		5.9		3.7	117	2.40		2.58
22		5.55		3.5	<128	2.20		2.50
23		5.2		---	<133	2.05		2.60

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 18

Fairbanks, Alaska (64.9°N, 147.8°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)					4.1	(2.65)
01		(5.5)					4.9	(2.60)
02		5.4			---	----	4.2	2.60
03		5.9		---	113	----	4.4	(2.50)
04		(5.6)		---	105	2.50	4.5	(2.40)
05		(6.0)		4.2	(103)	2.90	4.4	(2.50)
06		5.8		4.4	101	3.10	3.6	2.40
07		5.8		4.5	101	3.30	3.5	2.35
08		6.0		4.7	100	3.50		2.35
09		6.2		5.0	99	3.60	3.6	2.35
10		5.95		5.0	99	3.70		2.30
11		5.95		5.0	99	(3.70)		2.30
12		6.1		5.0	101	(3.70)		2.30
13		6.0		5.1	101	3.70		2.30
14		6.1		5.1	101	3.60		2.35
15		6.05		5.0	101	3.50		2.38
16		6.0		4.9	101	3.40		2.40
17		6.05		4.7	101	3.20		2.40
18		6.0		4.3	105	3.00		2.52
19		5.7		(4.0)	108	2.70	3.5	2.55
20		5.8			117	2.50	4.0	2.60
21		6.15			<125	(2.18)	3.6	2.70
22		5.5			125	----	3.9	2.70
23		(5.3)			---	----	3.5	(2.55)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 19

Ft. Monmouth, New Jersey (40.4°N, 74.1°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	<310					2.55
01		6.4	<310					2.55
02		6.2	(300)					2.58
03		5.8	<310					2.55
04		5.4	<310					2.60
05	---	5.6	275	---	119	----		2.80
06	(585)	6.05	250	4.2	111	2.90	3.0	2.75
07	510	6.2	<240	4.6	109	3.35	3.4	2.70
08	540	6.4	<230	5.0	109	3.62	3.8	2.50
09	520	6.4	215	5.3	106	(3.90)	4.0	2.45
10	500	6.7	210	5.4	105	4.00	4.2	2.40
11	515	6.6	215	5.5	103	(4.10)	4.3	2.45
12	530	6.8	210	5.6	101	4.05	4.2	2.45
13	475	7.0	220	5.6	105	(4.00)	>4.0	2.50
14	490	7.1	220	5.6	109	(4.00)		2.50
15	475	7.1	220	5.5	107	3.90		2.50
16	420	7.4	230	5.4	108	3.70		2.60
17	405	7.6	230	5.0	109	3.30		2.60
18	(395)	7.8	250	---	114	(2.80)		2.65
19		8.0	280		<120	----	>2.3	2.70
20		8.2	<285				3.0	2.65
21		8.1	(290)					2.60
22		7.85	(290)					2.60
23		7.5	(300)					2.60

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 20

Grand Bahama I. (26.6°N, 78.2°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.6	<300					2.55
01		8.3	<280					2.60
02		7.8	<300					2.60
03		7.6	<285					2.62
04		7.25	<285					2.55
05		6.85	<285					2.65
06	---	7.35	255	---	(115)	2.40	2.6	2.78
07	---	8.0	235	---	107	(3.05)	3.6	2.75
08	(480)	8.4	<220	5.1	105	3.50	4.2	2.58
09	435	8.75	(210)	5.5	103	3.80	4.1	2.55
10	410	9.25	(210)	5.7	105	(4.05)	4.7	2.55
11	415	9.5	(210)	6.0	105	(4.25)	4.5	2.50
12	410	9.5	215	5.9	105	(4.28)	4.6	2.50
13	410	9.6	215	5.9	105	(4.25)	4.8	2.50
14	400	9.5	(215)	5.8	105	4.20	4.8	2.50
15	415	9.3	220	5.8	109	4.02	4.5	2.50
16	390	9.35	(225)	5.6	<111	3.75	4.0	2.55
17	380	9.0	(230)	5.2	111	3.30	3.9	2.55
18	---	9.15	250	---	111	2.70	3.1	2.60
19		8.9	280		---	----	3.0	2.60
20		8.8	<275				2.2	2.55
21		8.6	<300				2.9	2.55
22		8.4	<305				2.4	2.55
23		8.3	<305					2.60

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Okinawa I. (26.3°N, 127.8°E) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.75	315				2.8	2.60
01		10.45	290				2.8	2.75
02		9.5	265				3.1	2.72
03		8.95	275				2.8	2.70
04		8.4	285					2.65
05		7.85	270					2.65
06		8.3	250		---	2.30	2.3	3.00
07	---	8.65	235		113	(3.00)	3.5	3.08
08	(275)	8.7	230	---	109	(3.48)	4.5	2.88
09	(330)	9.1	225	---	109	(3.80)	5.2	2.65
10	400	9.7	225	6.3	109	(4.00)	5.7	2.45
11	420	10.4	<230	6.4	109	(4.20)	5.8	2.45
12	415	11.1	<240	6.4	109	(4.35)	6.3	2.45
13	415	11.5	<240	6.1	109	(4.40)	5.8	2.50
14	410	12.1	230	6.2	109	(4.30)	5.4	2.50
15	390	12.6	230	6.2	109	(4.05)	5.5	2.50
16	390	12.75	235	(5.9)	109	3.82	5.6	2.50
17	350	12.65	240	---	109	3.45	5.1	2.60
18	320	12.1	260		113	(2.88)	5.3	2.65
19		11.5	280				5.1	2.60
20		10.8	310				4.4	2.55
21		>10.0	330				3.2	2.45
22		10.2	340					2.45
23		10.0	340				2.8	2.48

Time: 135.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 22

Godhavn, Greenland (69.3°N, 53.5°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.7)			(133)	1.55		(2.55)
01		(5.2)			140	1.50		2.50
02		(5.15)			137	----		2.50
03		(5.15)		---	<119	1.95		(2.50)
04		(4.9)		---	117	2.20		(2.50)
05		(5.05)		(3.8)	113	2.40		(2.45)
06		(5.2)		(4.0)	109	2.70		(2.42)
07		(5.2)		4.3	109	3.00		(2.30)
08		(5.25)		4.5	107	3.20		(2.25)
09		(5.9)		4.8	107	>3.30		(2.25)
10		(6.5)		5.0	107	3.40		2.40
11		7.0		5.0	107	3.50		2.45
12		6.85		4.9	107	>3.52		2.48
13		(6.75)		4.9	107	3.50		(2.40)
14		6.3		4.9	107	3.45		2.28
15		6.3		4.8	107	3.35		2.32
16		6.3		4.7	107	3.20		2.35
17		6.4		4.6	109	3.05		2.45
18		6.6		4.5	111	2.90		2.45
19		6.75		4.2	113	2.68		2.50
20		6.8		---	115	2.40		2.55
21		(6.7)		---	(123)	2.20		2.60
22		6.4		---	<137	1.90		2.58
23		(6.0)		---	<135	1.85		2.52

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 23

Baker Lake, Canada (64.3°N, 96.0°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.0	290		---	1.4	4.2	
01		5.9	290		---	1.3	4.0	---
02		6.0	300		140	1.4	3.5	
03	---	5.5	290	---	130	1.7	4.0	
04	---	5.6	290	---	130	2.0	4.0	---
05	400	5.4	260	3.9	115	2.3	4.2	---
06	440	5.7	240	4.3	110	2.7	4.2	---
07	480	5.8	230	4.5	110	3.1	5.1	G
08	520	5.8	230	4.7	105	3.4	5.0	G
09	550	6.0	220	4.8	105	3.5	4.8	G
10	570	6.0	220	5.0	105	3.8	5.2	G
11	530	6.7	220	5.2	105	3.8	5.2	2.3
12	520	6.9	220	5.3	105	3.8	4.6	2.3
13	490	7.2	220	5.3	105	3.8	5.0	(2.4)
14	480	7.2	220	5.0	105	3.7		2.3
15	450	7.0	220	5.0	105	3.6		---
16	460	7.0	220	4.9	105	3.5	4.5	---
17	460	6.8	230	4.7	110	3.2	4.2	---
18	420	6.2	230	4.7	110	3.0	3.8	---
19	460	6.4	260	4.2	110	2.8	4.6	---
20	(460)	6.5	280	3.7	120	2.4	4.2	---
21	---	6.3	300	---	125	2.0	6.5	
22		6.3	290		135	1.8	5.8	
23		6.2	290		---	1.5	5.0	

Time: 90.0°W.
Sweep: 1.0 Mc to 16.0 Mc in 16 seconds.

Table 24

Inverness, Scotland (57.4°N, 4.2°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	335				<1.0	2.30
01		6.6	350				1.2	2.30
02		6.3	345				1.0	2.30
03		6.0	345		140	1.30		2.30
04		6.0	315		115	1.60		2.40
05	530	6.1	275	---	105	2.25		2.50
06	570	6.2	250	4.3	105	2.70	3.1	2.55
07	450	6.8	250	5.0	105	3.05	3.4	2.55
08	480	7.0	245	5.3	105	3.30	3.6	2.50
09	450	7.2	240	5.5	105	3.60		2.45
10	470	7.6	240	5.6	105	3.70		2.45
11	470	7.6	235	5.7	100	3.80		2.45
12	470	7.6	235	5.9	105	3.90		2.40
13	450	7.8	235	5.8	105	3.90		2.45
14	450	7.9	240	5.8	105	3.85		2.45
15	410	8.0	245	5.9	105	3.80		2.50
16	400	8.0	250	5.5	105	3.50		2.50
17	410	8.0	250	5.3	105	3.20		2.55
18	530	7.7	250	---	110	2.90		2.60
19		7.9	260		110	2.45		2.65
20		7.9	280		<150	1.95		2.60
21		7.8	290			1.70		2.55
22		7.6	300				<1.6	2.40
23		7.4	315				<1.6	2.35

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 25

De Bilt, Holland (52.1°N, 5.2°E) May 1958

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	330	7.0						2.55
01	330	6.9						2.50
02	325	6.3						2.50
03	310	6.0	---	---				2.55
04	295	6.2	---	---				2.65
05	260	6.8	250	---	125	2.6		2.75
06	425	7.0	240	5.0	120	3.0		2.75
07	425	7.4	225	5.1	115	3.4	3.5	2.70
08	430	7.8	225	5.3	110	3.6	3.8	2.60
09	440	7.8	220	5.9	110	3.9		2.65
10	450	8.0	225	6.0	110	4.0	4.2	2.60
11	400	8.6	225	6.0	---	---		2.60
12	425	8.5	225	6.3	---	---		2.60
13	420	8.5	225	6.0	110	4.0		2.60
14	410	8.4	225	6.0	110	4.0		2.60
15	400	8.3	230	5.6	110	3.8		2.65
16	360	8.2	240	5.4	110	3.5		2.70
17	(355)	8.2	250	5.0	110	3.1		2.80
18	(250)	8.2	250	---	120	2.6		2.85
19	260	8.2	---	---				2.85
20	270	8.1						2.75
21	290	7.5						2.70
22	310	7.6						2.60
23	320	7.3						2.55

Time: 0.0°.
Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 26

Ottawa, Canada (45.4°N, 75.9°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.0	340					(2.4)
01		5.2	340					(2.4)
02		5.2	330					(2.4)
03		5.0	320					(2.5)
04		4.7	320		---	---		(2.55)
05		5.3	290		125	2.0		(2.7)
06	---	6.0	260	---	115	2.7		(2.7)
07	440	6.3	240	4.9	110	3.2		2.65
08	500	6.6	230	5.2	105	3.5		(2.6)
09	510	6.9	220	5.5	105	3.8		(2.5)
10	510	7.0	220	5.7	105	4.0		(2.4)
11	540	7.2	240	5.7	105	4.0		(2.5)
12	500	7.1	220	5.9	105	4.0		2.5
13	500	7.2	220	5.8	105	4.0		2.5
14	480	7.8	220	5.7	110	4.0		2.5
15	470	7.8	230	5.7	105	3.9		2.5
16	450	7.8	240	5.4	110	3.6		2.5
17	420	7.9	250	5.0	110	3.2		2.5
18	370	7.8	270	4.4	120	2.8		2.5
19	---	8.0	290		130	2.0		2.55
20		8.0	280		---	1.8		(2.5)
21		7.8	300					---
22		6.9	300					---
23		6.4	310					---

Time: 75.0°W.
Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 27

San Francisco, California (37.4°N, 122.2°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.5	320				3.1	2.40
01		6.3	310				2.3	2.50
02		6.0	(315)				2.6	2.45
03		5.9	<320				2.8	2.42
04		5.7	<320				2.6	2.40
05		6.0	<310		---	----	2.4	2.50
06	---	6.9	255	---	109	2.50	3.0	2.65
07	(500)	7.5	240	---	101	3.02	3.6	2.55
08	(500)	8.4	230	5.2	101	3.45	4.1	2.48
09	440	9.3	220	5.6	101	3.65	4.5	2.50
10	410	10.4	215	5.8	101	3.90	4.5	2.45
11	420	10.6	215	5.8	101	3.95	4.5	2.42
12	410	10.6	220	5.8	101	3.90	4.4	2.45
13	410	10.6	220	5.9	101	4.00	>4.1	2.45
14	400	10.65	220	6.0	101	4.00		2.45
15	400	10.0	230	5.8	101	3.80	3.9	2.45
16	385	9.8	230	5.3	101	3.55	3.9	2.50
17	---	9.25	240	---	105	3.15	3.6	2.60
18		8.6	255		111	2.55	3.3	2.68
19		8.35	(265)				3.7	2.72
20		7.9	(270)				4.0	2.60
21		7.2	(285)				3.7	2.50
22		6.8	<300				3.1	2.50
23		6.7	<320				2.8	2.45

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 28

Formosa, China (25.0°N, 121.5°E) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		16.4	290				2.9	2.80
01		14.4	270				2.5	2.90
02		12.3	250				2.1	2.95
03		10.5	250					2.75
04		9.1	270					2.65
05		8.4	280				2.1	2.65
06		9.6	250			---	2.9	2.80
07		10.4	240			(3.1)	4.6	2.85
08		11.3	240			3.6	5.9	2.65
09	---	12.0	240			3.9	5.4	2.50
10	---	13.5	(240)			---	6.2	2.50
11	---	14.5	(240)			---	5.4	2.55
12	---	15.2	<250	---		---	5.6	2.50
13	400	>15.8	<260	6.4		---	5.5	2.50
14	420	>16.1	<250	(6.4)		---	4.9	2.55
15	400	16.1	(250)	---		---	4.4	2.55
16	380	16.0	240	---		(3.8)	4.6	2.60
17		16.3	250			3.2	3.9	2.60
18		16.0	280			2.1	3.8	2.60
19		>15.0	<320				3.7	2.55
20		>15.4	330				3.2	2.50
21		>16.0	330				3.5	2.50
22		>16.5	320				2.8	2.60
23		16.6	300				3.0	2.75

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

Table 29

Christchurch, New Zealand (43.6°S, 172.8°E) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4	290				<1.7	2.55
01		6.3	300				<1.6	2.50
02		6.0	300				<1.5	2.55
03		5.7	300				<1.5	2.60
04		5.6	290				<1.5	2.60
05		5.5	260				1.4	2.70
06		5.4	250				<1.5	2.65
07		5.5	260		---	---	<1.5	2.70
08		8.2	250		145	2.0		3.05
09		11.3	250		125	2.7		3.10
10		12.4	240		115	3.0		3.05
11		13.2	240		105	3.3		2.95
12	---	13.5	240		105	3.4		2.85
13		13.5	240		100	3.4		2.85
14		13.5	250		100	3.3		2.85
15		13.5	250		105	3.1		2.80
16		12.8	250		120	2.7		2.85
17		12.2	250		---	(2.2)		2.90
18		11.1	240				<1.8	2.80
19		9.2	250				<1.7	2.75
20		8.3	250				<1.7	2.70
21		7.4	250				<1.6	2.70
22		6.8	260				<1.7	2.65
23		6.4	280				<1.7	2.60

Time: 180.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 30

Godhavn, Greenland (69.3°N, 53.5°W) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.5)			---	----		2.32
01		(5.2)			---	----		2.42
02		(5.2)			---	----		(2.50)
03		(4.9)			139	1.50		2.40
04		4.7			<133	----		2.50
05		(4.6)		---	121	(2.00)		2.60
06		(5.0)		---	117	2.20		(2.65)
07		(5.4)		4.0	115	2.45		(2.60)
08		(5.6)		4.4	113	2.90		(2.40)
09		(6.0)		(4.4)	111	3.15		(2.35)
10		(6.8)		(4.6)	109	3.30		(2.50)
11		(6.55)		(4.6)	109	3.40		(2.50)
12		(6.9)		4.7	111	3.40		(2.40)
13		(7.0)		4.9	109	3.32		(2.35)
14		(6.7)		4.8	109	3.25		(2.32)
15		(6.5)		4.9	111	3.15		(2.30)
16		(6.6)		4.7	112	3.05		2.38
17		(6.6)		4.5	113	2.85		(2.40)
18		6.7		4.2	<116	2.60		2.45
19		6.4		---	117	2.30		2.50
20		6.5			<125	1.95		2.50
21		(6.55)			125	1.60		(2.48)
22		(6.3)			125	----		(2.48)
23		(5.7)			---	----		(2.45)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 31

Sodankyla, Finland (67.4°N, 26.6°E) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.3)	465				4.0	(2.45)
01		(7.0)	495				4.3	----
02		---	435				3.6	----
03		(6.6)	410				3.2	(2.50)
04		(6.6)	355				2.6	(2.50)
05		(6.9)	310		---	E	2.4	(2.60)
06		7.2	290		---	E		2.55
07		7.0	260		135	2.60		2.60
00		7.4	250		120	3.00		2.60
09		7.9	240		110	3.20		2.60
10		8.0	240	5.6	115	3.40		2.50
11		8.5	230	5.5	115	3.45		2.40
12		8.9	230	5.6	115	3.50		2.45
13		9.1	230	5.4	110	3.45		2.50
14		9.2	230	---	115	3.40		2.65
15		9.0	240	---	115	3.30		2.65
16		9.1	240	---	110	3.10		2.70
17		8.4	250		115	2.85		2.70
18		7.8	265		115	2.45	3.2	2.70
19		7.5	300		---	E	3.6	2.70
20		7.3	335		---	E	3.3	2.70
21		8.0	370		---	----	3.8	2.60
22		7.4	405				4.0	2.40
23		(7.4)	450				4.4	(2.40)

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 32

Formosa, China (25.0°N, 121.5°E) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		16.3	270					2.85
01		14.8	260					3.05
02		12.5	240					2.95
03		9.8	230					2.70
04		8.9	260					2.70
05		8.4	280					2.65
06		9.8	250			---	2.4	2.90
07		12.0	230			(2.9)	3.4	2.95
00		13.5	230			3.6	4.2	2.90
09		>14.0	230			---	4.5	2.70
10		14.8	<240			---	>4.8	2.60
11		(15.3)	<240			---	4.9	(2.60)
12	---	>15.8	<240	---				2.60
13		16.1	<240					2.50
14		16.4	240					2.55
15		(16.6)	240			---	4.6	(2.55)
16		16.4	240			(3.7)	3.9	2.60
17		16.2	260			(3.1)	3.7	2.60
18		16.2	280			---	3.5	(2.65)
19		16.4	<320				3.1	2.60
20		16.9	320				2.7	(2.70)
21		>17.2	300				2.1	(2.65)
22		17.0	280					(2.70)
23		>17.0	270					2.80

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

Table 33

Natal, Brazil (5.3°S, 35.1°W) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>8.0	270					----
01		>7.5	(260)					----
02		>9.0	(270)					----
03		(7.7)	(260)					----
04		(8.2)	(270)					(2.85)
05		(8.9)	(245)					(2.90)
06		(8.9)	(230)					(3.10)
07		(11.0)	(260)					(2.95)
00		13.4	250		117	(3.30)		2.90
09		14.7	240		109	----		2.68
10		15.15	230		108	----	(5.8)	2.42
11		>15.0	230		---	----		2.15
12		14.5	<235		---	----		2.12
13		14.3	<230		---	----		2.20
14		14.1	<235		---	----		2.20
15		14.35	230		---	----	(4.9)	2.18
16		14.25	240		---	----		2.12
17		13.9	260		119	(3.20)		2.15
18		13.35	300					(2.05)
19		>9.75	380					----
20		9.5	(465)					(1.95)
21		>8.25	(435)					----
22		(9.0)	(370)					----
23		>8.7	(315)					----

Time: 30.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 32.4 seconds.

Table 34

Godhavn, Greenland (69.3°N, 53.5°W) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.0)						(2.50)
01		(5.05)						(2.50)
02		(5.0)						(2.55)
03		(4.55)						(2.50)
04		(4.2)						(2.48)
05		(3.6)						(2.40)
06		(4.0)						(2.70)
07		(4.9)			---	----		(2.70)
00		(4.8)		---	---	(1.98)		(2.72)
09		>5.3		---	124	----		(2.55)
10		(6.6)		---	123	----		(2.60)
11		(6.6)		---	125	(2.90)		(2.52)
12		7.2		(4.1)	123	2.80		2.45
13		(6.95)		(4.2)	121	2.80		(2.50)
14		(6.95)		4.0	(122)	(2.70)		(2.60)
15		(6.5),		(3.8)	(125)	2.55		(2.52)
16		(6.4)		---	128	----		2.60
17		(6.3)		---	127	----		(2.65)
18		(6.65)			(129)	1.70		(2.60)
19		(6.3)						(2.55)
20		6.45						2.60
21		(6.6)						(2.50)
22		6.5						2.50
23		(5.7)						(2.52)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 35

Sodankyla, Finland (67.4°N, 26.6°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		---	410				4.0	----
01		---	410				3.9	----
02		---	420				3.5	----
03		---	400				4.0	----
04		---	400				3.2	----
05		---	370				2.7	----
06		(5.4)	305		---	----		(2.70)
07		(6.5)	300		---	----		2.75
00		6.8	270		140	2.30		2.75
09		7.2	260		135	2.45		2.80
10		7.8	250	---	120	3.00		2.70
11		8.7	245	---	120	3.05		2.70
12		9.3	250	---	120	3.10		2.65
13		9.9	240	---	120	3.10		2.75
14		10.0	250		125	2.95		2.75
15		9.6	245		120	2.90		2.80
16		9.2	260		120	2.90		2.85
17		8.0	255		130	2.30		2.85
18		8.9	290		---	----	2.7	2.85
19		(9.3)	340		---	----	3.5	(2.90)
20		(7.2)	390		---	----	3.4	(2.70)
21		---	425				3.9	----
22		---	380				4.0	
23		---	420				4.1	----

Time: 30.0°E.
Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 36

Lycksele, Sweden (64.6°N, 18.8°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.8	390				2.9	2.2
01		5.9	380				2.7	2.3
02		5.3	360				3.2	2.3
03		4.8	390				2.4	2.25
04		5.0	340		---	----	1.8	2.4
05		5.0	300		---	E		2.4
06		5.3	285		---	1.75		2.6
07	---	6.1	260	----	115	2.10		2.7
08	---	7.0	250	----	110	2.50		2.7
09	---	8.4	250	----	110	2.75		2.7
10	---	8.8	240	----	105	3.10		2.7
11	(350)	9.5	240	5.00	105	3.05		2.6
12	---	9.4	240	5.70	110	3.10		2.6
13	---	10.1	240	----	105	3.10		2.6
14	---	10.0	240	----	105	2.90		2.7
15	---	9.8	240	----	105	2.75		2.7
16		9.3	245		---	2.40		2.7
17		8.2	255		115	2.00		2.7
18		6.0	270		---	E		2.6
19		5.4	290		---	E	2.6	2.55
20		5.6	290				2.6	2.5
21		5.4	320				2.4	2.4
22		5.1	335				3.1	2.3
23		6.0	370				3.6	2.3

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

Table 37

Nurmijarvi, Finland (60.5°N, 24.6°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0					<1.8	2.50
01		(4.5)					<1.7	(2.40)
02		(4.5)					<1.9	(2.40)
03		(3.9)					<1.5	(2.40)
04		---					<1.5	----
05		(3.8)					<1.6	(2.45)
06		(5.2)						(2.60)
07		5.7				---		2.70
08		6.5				---		2.80
09		8.0				---		2.75
10		8.7		---		---		2.80
11		9.7		---		---		2.75
12		10.3						2.70
13		10.6						2.70
14		10.9						2.70
15		11.1						2.70
16		10.8						2.75
17		10.2						2.80
18		9.9						2.85
19		9.2						2.80
20		8.6					<2.2	2.70
21		6.0					<2.1	2.55
22		5.6					<1.9	2.50
23		(5.2)					<1.8	(2.50)

Time: 30.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 1 minute.

Table 38

Moscow, U.S.S.R. (55.5°N, 37.3°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0	310					2.40
01		4.8	330					2.40
02		4.5	320			E		2.40
03		4.1	310			E		2.35
04		3.7	305			E		2.40
05		3.9	300			1.20		2.55
06		5.8	275			2.00		2.80
07		7.2	255			2.50		2.85
08	290	8.8	245	4.8		2.90		2.80
09	380	10.1	245	5.2		3.20		2.80
10	330	11.3	235	5.6		3.40		2.70
11	330	11.9	235	5.6		3.45		2.70
12	340	12.3	240	5.8		3.40		2.65
13	300	12.3	240	5.5		3.40		2.70
14	340	12.2	240	5.5		3.30		2.70
15	300	12.0	245	5.8		3.00		2.75
16		11.3	250			2.60		2.80
17		11.0	245			2.10		2.80
18		10.2	240			1.30		2.80
19		8.6	240			E		2.75
20		7.2	250					2.70
21		6.4	280					2.50
22		5.7	290					2.50
23		5.2	305					2.40

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 39

Rome, Italy (41.8°N, 12.5°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.4	320					2.40
01		7.6	320					2.40
02		6.9	320					2.45
03		6.7	<320					2.35
04		6.4	340					2.35
05		6.2	340					2.35
06		6.0	300		---	1.80		2.50
07		8.1	250		120	2.20		2.90
08		(9.8)	240		110	2.90		(3.00)
09		11.2	240		110	3.30		2.85
10		13.2	230		110	3.50		2.75
11		14.2	230		110	3.70		2.70
12		14.1	240		110	3.90		2.70
13		14.2	230		110	3.90		2.65
14	---	13.7	240	---	110	3.80		2.60
15		13.2	240		110	3.60		2.65
16		12.8	250		110	3.30		2.70
17		12.6	250		110	2.70		2.75
18		(12.0)	250		<140	2.10		2.80
19		(10.8)	240					(2.80)
20		(9.3)	250					2.70
21		9.0	260					2.70
22		(8.7)	280					(2.65)
23		(7.9)	290					2.45

Time: 15.0°E.
Sweep: 1.4 Mc to 15.0 Mc in 5 minutes, automatic operation.

Table 40

Falkland Is. (51.7°S, 57.8°W) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.4	345				1.5	2.20
01		7.4	340				1.4	2.30
02		7.1	340				1.3	2.20
03		6.6	330				1.4	2.20
04		6.4	355				1.8	2.15
05		6.2	360		---	1.30		2.20
06		7.6	270		150	2.00	2.6	2.50
07		9.8	250		125	2.60	3.0	2.90
08		11.2	245		115	3.00	3.5	2.90
09		12.6	240		110	3.40	4.1	2.80
10		13.4	245		105	3.50	4.9	2.70
11		14.0	245		105	3.60	5.0	2.70
12		14.1	250		110	3.60	5.0	2.70
13		14.0	240			3.70	4.3	2.65
14		13.4	245			3.60	3.6	2.70
15		12.8	245			3.50	3.8	2.70
16		12.1	250			3.00	3.2	2.80
17		11.5	250			2.60	3.5	2.90
18		10.4	250			2.00	3.2	2.90
19		9.2	250				3.6	2.90
20		8.0	260				3.1	2.60
21		7.7	270				3.0	2.40
22		7.4	300				1.9	2.35
23		7.4	350				<1.9	2.30

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 41

Godhavn, Greenland (69.3°N, 53.5°W) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.6)						(2.50)
01		(4.4)						(2.60)
02		(4.7)						(2.50)
03		(4.45)						(2.60)
04		(3.8)						(2.65)
05		(3.8)						(2.55)
06		(3.6)						----
07		(3.8)						----
08		(3.8)			---	----		----
09		(5.9)			121	----		(2.92)
10		(6.85)			---	----		(2.60)
11		(7.75)		---	(128)	----		2.65
12		(7.5)		---	(137)	(2.40)		(2.65)
13		(7.4)		---	<133	(2.35)		2.80
14		(7.0)		---	131	(2.35)		2.72
15		6.9			(131)	2.12		2.80
16		7.0			<133	2.00		2.80
17		(7.9)			---	----	1.8	2.75
18		(7.0)						2.70
19		(6.6)						2.65
20		(6.45)						(2.55)
21		(6.3)						(2.50)
22		(5.6)						(2.60)
23		(5.0)						(2.60)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 42

Lindau/Harz, Germany (51.6°N, 10.1°E) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.63	308					2.43
01		4.54	311					2.42
02		4.38	310					2.42
03		4.30	318					2.46
04		4.03	308					2.46
05		3.76	283					2.50
06		3.60	280					2.58
07		4.52	270		---	----		2.64
08		7.59	240		---	----	2.8	3.01
09		10.50	230		111	2.52	3.3	3.03
10		12.39	223		110	2.92	3.3	3.00
11		13.30	224		108	3.15		2.94
12		13.45	222		109	3.27		2.91
13		13.55	225		110	3.30		2.88
14		13.44	228		111	3.17		2.86
15		13.40	230		111	2.96		2.88
16		12.98	226		112	2.65	3.5	2.94
17		12.08	221		---	2.08	2.9	2.94
18		11.10	219		---	----	2.4	2.97
19		8.46	217					2.92
20		7.02	225					2.83
21		6.06	244					2.72
22		5.34	280					2.57
23		5.00	281					2.46

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 43

Slough, England (51.5°N, 0.6°W) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.6	300				<1.0	2.40
01		4.5	310				<1.0	2.40
02		4.3	310				<0.9	2.40
03		4.0	320				<1.0	2.45
04		3.7	300				<1.1	2.50
05		3.7	260				<1.1	2.50
06		3.4	265				<1.1	2.50
07		5.3	260		---	1.70		2.75
08		8.4	240		115	2.20		3.05
09		11.2	230		110	2.70		3.10
10		12.6	225		110	3.00		3.00
11		13.0	225		110	3.25		3.00
12		13.5	225		105	3.35		2.95
13		13.5	225		110	3.30		2.90
14		13.6	225		110	3.20		2.90
15		13.3	230		115	2.95		2.95
16		(12.6)	225		120	2.55		(3.00)
17		>11.3	230		---	1.90		(3.00)
18		9.8	215				<1.6	2.95
19		7.8	215				<1.6	2.95
20		6.7	235				<1.6	2.65
21		6.0	235				<1.6	2.50
22		>5.1	250				<1.6	2.55
23		4.9	260				<1.6	2.45

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 44

Bunia, Belgian Congo (1.5°N, 30.2°E) February 1958

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	255	11.0					1.4	2.56
01	245	10.8						2.73
02	230	10.0					1.4	2.83
03	220	7.6					1.8	2.94
04	240	5.7	---	---	---	---	2.0	2.74
05	(250)	9.0	250	---	120	2.6	3.3	2.82
06	(255)	10.8	240	---	110	3.4	4.0	2.58
07	---	12.0	230	---	110	3.7	4.2	2.31
08	---	13.0	225	---	110	4.0		2.20
09	---	13.4	220	---	105	4.1		2.14
10	(405)	14.0	225	---	110	4.2		2.12
11	425	14.0	220	---	105	4.1		2.09
12	440	14.2	220	---	110	4.0		2.12
13	425	14.3	230	---	110	3.9		2.14
14	435	14.4	240	---	110	3.5		2.15
15	480	14.0	260	---	110	3.0	3.7	2.13
16	480	14.0	290	---	140	2.0	3.2	2.12
17	390	13.8					3.0	1.96
18	355	(14.3)					2.2	(2.20)
19	285	(14.4)					2.0	(2.24)
20	250	(13.2)					2.2	(2.51)
21	235	12.0					1.8	2.52
22	230	11.6						2.52
23	250	11.6					1.5	2.48

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 45

Sao Paulo, Brazil (23.5°S, 46.5°W) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		>14.0	270				<2.1	2.95
01		>13.8	260				<2.1	3.10
02		11.0	250				<2.2	3.00
03		8.6	250				<2.2	2.75
04		7.0	300				<2.3	2.45
05		7.6	295				<2.2	2.30
06		7.6	300			----	<2.4	2.70
07		9.8	260			2.80		2.80
08		10.8	250			3.40	3.8	2.70
09		11.2	240	---		3.70	4.4	2.50
10		11.8	240	---		4.00	4.5	2.40
11		12.2	(240)	---		----	4.6	2.45
12	---	13.0	---	6.8		----	4.8	2.40
13	---	13.6	---	---		----		2.40
14	(420)	14.1	(250)	6.7		----	4.3	2.50
15	410	14.0	250	6.5		----		2.50
16	425	14.0	250	---		3.50		2.50
17	---	14.0	260	---		3.30	3.4	2.50
18		>14.1	280			<2.55	<2.8	2.50
19		14.0	320				<2.2	2.40
20		>14.0	350				<2.2	(2.55)
21		14.0	320				<2.2	2.60
22		>14.0	285				<2.1	(2.70)
23		>14.0	280				<2.1	2.95

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 46

Cape Hallett (72.3°S, 170.3°E) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.8)	335		141	1.6		(2.40)
01		(4.2)	355		116	1.7	2.0	(2.40)
02	---	(4.0)	335	---	113	1.0	3.2	(2.40)
03	---	4.8	315	---	111	2.0	2.2	2.60
04	---	(5.4)	300	---	111	2.2	2.7	(2.45)
05	(500)	(5.3)	270	3.4	111	2.5		(2.40)
06	(470)	(6.0)	240	---	109	2.8		(2.50)
07	(530)	(6.4)	250	4.5	105	3.0		(2.50)
08	520	7.1	250	4.4	103	3.2		2.50
09	450	(7.5)	230	4.6	101	3.3		(2.40)
10	465	7.2	230	4.8	101	3.3		2.50
11	460	7.2	220	4.8	101	3.4		2.45
12	470	6.3	225	5.0	101	3.2		2.35
13	440	6.6	220	4.7	101	3.3	4.3	2.55
14	490	6.5	225	4.9	101	3.2	3.8	(2.40)
15	465	6.7	235	4.8	103	3.1	3.6	2.50
16	440	7.2	240	4.7	107	3.0	3.6	2.50
17	420	6.9	250	4.4	107	2.9		2.50
18	430	7.3	260	4.0	109	2.7		2.45
19	(435)	(7.2)	270	3.9	111	2.4		(2.50)
20	---	(7.0)	280	3.4	111	2.1		(2.50)
21	---	5.7	295	---	117	1.8		2.45
22	---	5.6	305		135	1.6		2.50
23		(5.4)	290		163	1.5		(2.50)

Time: 165.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 47

Scott Base (77.8°S, 166.8°E) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(500)	5.0	300	3.0	140	2.0		2.35
01	(530)	4.7	320	3.2	135	2.0		2.40
02	(460)	4.7	310	3.3	140	2.2		2.35
03	(410)	5.0	290	3.8	130	2.2		2.50
04	460	5.2	300	3.6	130	2.3		2.40
05	460	5.3	280	3.9	120	2.4		2.40
06	400	5.9	270	4.0	115	2.0		2.45
07	400	6.2	260	4.2	110	2.8		2.50
08	420	6.0	250	4.3	110	2.9		2.40
09	400	6.4	250	4.5	105	3.0		2.45
10	440	6.1	240	4.6	105	3.2		2.40
11	500	6.4	240	4.8	105	3.1		2.35
12	450	6.6	240	4.0	105	3.1		2.30
13	490	6.0	240	4.7	105	3.2		2.40
14	480	6.4	240	4.8	105	3.2		2.30
15	450	6.6	250	4.7	105	3.1		2.30
16	440	6.6	250	4.4	105	3.0		2.30
17	440	7.0	260	4.3	105	2.9		2.40
18	430	7.1	260	4.1	110	2.7		2.40
19	400	6.7	270	4.0	130	2.5		2.40
20	370	6.6	280	3.7	140	2.3		2.40
21	380	5.9	290	3.6	140	2.2		2.35
22	(400)	5.4	300	3.4	140	2.1		2.40
23	---	5.4	300	---	145	2.0		2.50

Time: 165.0°E.

Table 48

Godhavn, Greenland (69.3°N, 53.5°W) January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.0)						(2.55)
01		(5.7)						2.58
02		(5.2)						(2.60)
03		(4.85)						(2.60)
04		(4.45)						(2.68)
05		(4.7)						(2.62)
06		(4.6)						(2.65)
07		(4.7)						----
08		(4.95)						----
09		(5.35)						(2.62)
10		7.2			---	---		2.68
11		(6.95)			---	---		(2.80)
12		(7.8)			110	---		2.75
13		(7.1)			---	---		(2.90)
14		(7.5)			---	---		(2.75)
15		(7.0)			---	---	2.0	2.70
16		(6.2)					2.2	(2.55)
17		(6.3)						(2.50)
18		(5.85)						(2.45)
19		5.65						2.60
20		(5.9)						2.60
21		(6.0)						(2.60)
22		(6.6)						(2.60)
23		(5.75)						(2.60)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 49

Sao Paulo, Brazil (23.5°S, 46.5°W) January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		11.4	320				<2.2	2.75
01		12.0	305				<2.3	2.70
02		10.6	295				<2.2	2.75
03		10.0	280				<2.2	2.70
04		8.4	270				<2.2	2.60
05		6.7	295				<2.2	2.30
06		7.7	280			<2.35	<2.4	2.60
07		8.9	260			2.90		2.55
08		10.0	250			3.45	4.0	2.30
09		10.4	240	---		----	4.2	2.15
10		10.8	240	6.8		----	4.4	2.15
11	---	11.4	(230)	6.9		----		2.10
12	(600)	11.8	(230)	6.9		----		2.20
13	560	13.0	(230)	6.6		----		2.25
14	540	13.0	(240)	6.6		----		2.30
15	510	>13.0	235	6.5		3.90	4.4	2.30
16	500	12.6	250	6.1		3.60	4.0	2.35
17	---	12.6	260	---		3.20		2.30
18		12.4	290			2.55	<3.1	2.30
19		12.2	350				<2.8	2.20
20		>11.4	460				<2.3	(2.15)
21		12.8	420				<2.7	(2.25)
22		(13.8)	400				<2.3	(2.50)
23		(12.6)	340				<2.3	(2.55)

Time: 45.0°W.
Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 50

Hobart, Tasmania (42.9°S, 147.2°E) January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	330				3.0	2.20
01		5.8	340				3.0	2.15
02		>5.2	350				3.5	2.10
03		>5.2	340				2.5	2.20
04		4.3	340		---	----		2.20
05		>5.0	320		120	2.00		2.40
06	---	5.8	260	---	120	2.65		2.45
07	G	6.1	240	4.8	110	3.30	4.0	2.35
08	600	6.3	250	5.1	110	3.70	4.2	2.25
09	560	6.7	(230)	5.4	100	3.95	5.6	2.25
10	550	7.2	230	5.6	---	----	5.3	2.15
11	600	7.2	240	5.8	100	----	5.2	2.15
12	570	7.4	(240)	5.9	100	----	5.4	2.20
13	550	7.6	(240)	6.0	100	----	5.2	2.15
14	550	7.4	(230)	5.9	100	4.10	5.3	2.20
15	530	7.6	230	5.8	---	----	5.0	2.15
16	550	7.6	230	5.5	100	3.90	4.0	2.20
17	500	7.3	230	5.2	110	3.60		2.20
18	---	7.5	250		120	3.10	3.5	2.30
19		7.4	280		120	2.50	4.0	2.30
20		7.4	320				3.3	2.30
21		7.5	330				3.5	2.25
22		7.6	330				3.4	2.25
23		>7.0	330				3.2	2.20

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

Table 51

Moscow, U.S.S.R. (55.5°N, 37.3°E) December 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.1	320					2.35
01		4.0	340					2.40
02		3.8	330					2.35
03		3.6	320					2.45
04		3.7	295				1.0	2.50
05		3.5	280				1.8	2.55
06		3.3	270					2.60
07		4.8	250			1.30		2.60
08		9.1	245			2.10	2.6	2.90
09		12.2	240			2.50	2.9	2.95
10		13.9	230			2.80	3.0	2.90
11		14.5	230			2.90	3.1	2.90
12		14.9	230			2.90	3.2	2.85
13		15.3	240			2.75	3.0	2.80
14		14.6	225			2.40	2.7	2.80
15		13.7	230			1.90	2.2	2.80
16		12.2	230				2.4	2.85
17		10.5	220				1.9	2.85
18		8.5	225				2.0	2.80
19		6.7	230					2.80
20		5.3	255					2.65
21		4.7	270					2.55
22		4.6	300					2.40
23		4.3	320					2.40

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 52

Ellsworth (77.7°S, 41.1°W) December 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	515	(6.45)	310	(4.2)	111	2.85	3.1	(2.20)
01	540	6.1	300	4.2	109	2.80	3.4	2.20
02	525	6.6	295	4.3	108	2.80	3.0	2.20
03	540	6.8	280	4.3	104	3.00	3.1	2.15
04	565	6.8	280	4.3	105	3.00	3.2	2.15
05	570	6.0	265	4.4	105	3.20	3.5	2.15
06	600	6.0	255	4.6	105	3.35		2.15
07	610	5.8	250	4.7	103	3.40		2.12
08	740	5.6	240	4.8	103	3.48		2.10
09	685	5.9	250	5.0	103	3.58		2.08
10	705	5.8	250	5.0	101	(3.50)		2.10
11	710	5.85	250	5.1	101	3.70		2.08
12	705	5.9	240	5.1	101	3.70		2.10
13	640	6.0	245	5.2	101	3.72		2.18
14	605	6.1	250	5.2	101	3.58		2.20
15	580	6.3	250	5.0	101	3.58		2.20
16	560	6.4	250	5.0	102	3.45		2.25
17	520	6.6	250	4.7	105	>3.35		2.30
18	520	6.8	260	4.8	105	3.20		2.30
19	500	6.8	280	4.6	107	3.05		2.30
20	485	6.9	280	4.6	110	3.00		2.30
21	495	6.95	280	(4.5)	111	2.98		2.35
22	500	6.95	280	(4.3)	111	2.80		2.25
23	525	6.3	300	4.4	111	2.75	3.2	2.25

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 53

Concepcion, Chile (36.6°S, 73.0°W) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.0	340				3.6	2.40
01		10.2	330				3.6	2.45
02		9.6	315				3.4	2.40
03		9.0	330				3.7	2.35
04		8.9	340				2.8	2.25
05		>9.35	270		(133)	2.22	3.6	2.35
06		10.5	245		111	3.00	3.8	2.50
07		11.2	240		109	3.50	3.9	2.42
08	---	11.6	230	---	109	(3.05)	4.6	2.42
09	(450)	12.1	(235)	7.0	109	4.12	5.6	2.40
10	440	12.7	(230)	7.0	111	4.22	5.4	2.40
11	445	12.95	(235)	6.7	111	(4.30)	5.2	2.35
12	440	12.05	<240	6.8	111	----	5.0	2.35
13	440	12.8	230	6.6	111	(4.30)	4.8	2.35
14	440	12.6	245	6.4	111	4.15	5.1	2.40
15	440	12.1	240	---	111	4.00	5.2	2.38
16	(425)	11.6	(250)	---	111	3.55	5.6	2.40
17	---	11.3	<265	---	111	3.05	5.4	2.40
18		11.2	(290)		119	----	4.8	2.40
19		10.95	(350)				4.5	2.30
20		10.8	(410)				4.4	2.25
21		11.0	<410				3.8	2.25
22		11.05	<390				4.1	2.30
23		11.1	360				3.9	2.40

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 54

Ellsworth (77.7°S, 41.1°W) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(505)	(7.5)	320	---	126	2.60		(2.25)
01	470	7.45	320	---	119	2.40	2.8	2.25
02	510	7.0	310	4.1	120	2.60	3.0	2.25
03	500	6.8	300	4.0	113	2.70		2.20
04	515	7.1	280	4.2	117	2.80		2.12
05	515	6.9	270	4.5	111	2.98		2.20
06	530	6.4	260	4.6	110	3.05		2.18
07	545	7.4	255	4.7	110	3.18		2.25
08	545	6.9	250	4.9	107	3.22		2.20
09	570	6.6	250	5.0	109	3.40		2.20
10	585	6.5	250	5.2	105	3.40		2.25
11	525	6.9	245	5.4	107	3.48		2.30
12	575	6.8	250	5.3	105	3.45		2.30
13	560	6.8	250	5.2	107	3.45		2.30
14	535	6.8	250	5.2	108	3.40		2.30
15	500	7.0	250	5.0	109	3.30		2.35
16	525	7.0	260	4.9	107	3.20		2.35
17	490	7.2	265	(4.7)	109	3.00		2.45
18	455	7.45	270	4.6	113	2.95		2.40
19	(450)	7.7	280	4.3	113	2.75		2.45
20	---	7.5	290	---	115	2.70		2.40
21	(460)	7.6	300	---	119	2.70		2.35
22	(500)	7.3	310	---	119	2.42	2.6	2.30
23	(510)	(7.3)	300	---	135	2.50	2.5	(2.30)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 55

Pole Station (90.0°S) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	540	(6.4)	(280)	(4.4)	114	>3.10		(2.35)
01	600	(6.35)	<285	(4.3)	117	(3.10)		(2.30)
02	595	(6.3)	(280)	4.5	115	(3.05)		(2.20)
03	560	(6.55)	<280	(4.4)	113	(3.15)		(2.20)
04	560	(6.2)	(280)	(4.4)	113	(3.05)		(2.20)
05	540	(6.4)	(280)	4.2	115	(3.00)		(2.20)
06	580	(6.3)	<285	4.4	113	(3.10)		(2.20)
07	570	(6.5)	<285	4.2	116	(2.90)		(2.12)
08	615	(5.85)	(270)	4.2	115	(3.10)		(2.10)
09	645	(5.5)	(265)	4.3	117	(3.10)		2.08
10	(765)	5.1	<280	4.4	113	(3.20)		G
11	<740	5.0	<300	4.2	115	(3.40)		2.08
12	725	5.1	<290	(4.4)	117	3.40		2.10
13	(670)	(5.85)	<290	4.4	113	(3.10)		(2.20)
14	585	6.15	(280)	4.3	(117)	(3.12)		2.25
15	540	6.6	<300	(4.5)	115	(3.12)		2.30
16	500	(6.5)	(280)	(4.5)	111	(3.15)		2.30
17	550	(6.15)	<290	(4.3)	115	(3.10)		(2.30)
18	530	(5.7)	<290	(4.3)	115	(3.18)		2.30
19	575	(5.9)	<280	(4.4)	115	(3.20)		2.30
20	550	(6.15)	(270)	(4.5)	115	(3.15)		2.40
21	(630)	(6.15)	(270)	(4.6)	117	(3.15)		2.45
22	585	(5.95)	270	4.5	111	>3.05		(2.25)
23	630	(6.15)	270	4.4	113	----	3.9	(2.35)

Time: 0.0°.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 56

Ellsworth (77.7°S, 41.1°W) October 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	7.15	370	---	<149	1.90		2.25
01	---	(7.5)	360	---	<140	2.00		(2.22)
02	---	(7.5)	360	---	132	2.20		(2.25)
03	445	(7.7)	350	---	131	2.15		(2.25)
04	440	7.8	320	(3.8)	123	2.45		2.20
05	445	7.5	290	4.1	116	2.50		2.30
06	470	7.0	280	4.1	115	2.70		2.30
07	500	7.05	265	4.5	115	2.90		2.32
08	480	7.3	260	4.8	111	3.00		2.35
09	500	7.35	255	5.3	111	>3.00		2.40
10	(500)	7.65	250	5.4	111	3.20		2.52
11	500	8.0	250	5.2	111	3.15		2.55
12	(510)	8.3	250	(5.4)	111	3.15		2.50
13	---	8.55	250	5.4	109	3.12		2.60
14	---	9.0	250	---	111	3.00		2.70
15	---	9.3	250	---	111	3.00		2.65
16	---	9.5	260	---	115	2.88		2.70
17	---	8.95	270	---	119	2.75		2.70
18	---	8.5	280	---	122	2.50		2.65
19	---	8.4	290	---	129	2.30		2.60
20	---	8.9	<300	---	<139	2.25		2.60
21	---	8.9	310	---	<142	>1.95		2.50
22		(8.45)	325		<145	2.00		(2.40)
23		(8.25)	350		(141)	2.00		(2.35)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 57

Moscow, U.S.S.R. (55.5°N, 37.3°E) August 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.9	300				2.1	2.55
01		5.6	310				(2.5)	2.50
02		5.3	300			E	(2.6)	2.50
03		5.0	300			E	(2.3)	2.55
04	320	5.4	290	2.6		1.4	2.3	2.70
05	300	5.9	260	3.5		2.1	2.8	2.80
06	325	6.8	250	4.4		2.6	3.2	2.70
07	350	7.2	240	4.9		3.0	3.9	2.70
08	360	7.7	230	5.0		3.4	4.4	2.70
09	370	7.9	235	5.3		3.5	4.2	2.65
10	380	8.2	230	5.5		3.6	4.3	2.60
11	375	8.1	225	5.5		3.7	4.3	2.70
12	365	8.1	225	5.5		3.7	4.2	2.60
13	390	7.9	220	5.6		3.6	4.2	2.65
14	350	7.8	225	5.5		3.6	3.6	2.70
15	320	7.8	225	5.2		3.4	3.5	2.70
16	330	7.6	240	5.0		3.1	3.7	2.80
17	290	7.6	250	4.3		2.7	3.6	2.80
18	280	7.6	260	3.9		2.2	3.3	2.80
19	280	7.5	260	3.5		1.5	(3.0)	2.80
20		7.8	260			1.2	(3.5)	2.75
21		7.3	270			E	(3.1)	2.70
22		6.6	275				(3.0)	2.70
23		6.2	290				(2.4)	2.60

Time: 30.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 58

Ellsworth (77.7°S, 41.1°W) August 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.0)	375				1.4	(2.38)
01		(3.7)	400				2.2	(2.35)
02		(4.5)	350				2.4	(2.40)
03		(3.9)	340				2.6	(2.40)
04		(4.0)	350					(2.35)
05		(3.85)	315					(2.45)
06		(3.95)	280					(2.52)
07		(4.0)	255					(2.65)
08		4.4	240		---	----	1.2	2.80
09		5.0	235		---	----		2.98
10		6.05	230		---	----		3.08
11		7.0	230		---	----		3.20
12		7.05	220		149	2.00		3.15
13		7.6	220		---	----		3.20
14		7.2	225		(161)	1.85		3.28
15		6.7	220		159	----		3.20
16		6.1	230		---	----		3.15
17		5.35	235					3.00
18		4.0	245					3.00
19		2.95	270					2.70
20		2.6	300					2.55
21		(2.55)	345				1.4	(2.50)
22		2.6	400				1.7	2.45
23		(3.2)	390				3.7	(2.45)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 59

Tsumeb, South W. Africa (19.2°S, 17.7°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		3.29	265				3.0	2.82
01		2.92	(270)				2.8	2.80
02		2.92	(255)				2.0	2.90
03		2.58	(235)				2.6	2.90
04		2.45	(260)				2.8	>2.90
05		2.50	(250)				3.0	2.99
06		(4.16)	270		---	----	3.3	<2.59
07		8.27	235		120	2.27	3.3	3.31
08		9.75	225		108	3.10		3.25
09		11.34	220		105	3.50		3.10
10		11.60	220		105	3.75		2.95
11		11.40	215		102	3.88		2.95
12	---	11.20	210	---	105	3.88	4.4	2.82
13	---	11.20	215	---	105	3.80	4.7	2.72
14		11.10	225		105	3.70	4.6	2.70
15		11.00	225		105	3.40	4.6	2.70
16		11.30	240		---	3.00	4.4	2.75
17		11.30	240		---	----	3.8	2.94
18		10.10	225				3.7	3.10
19		7.80	205				3.6	3.11
20		6.38	220				3.2	3.05
21		5.40	225				3.1	3.00
22		>5.05	230				2.9	3.05
23		>3.81	240				2.9	2.86

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 60

Macquarie I. (54.5°S, 159.0°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.2)	280				3.6	(2.8)
01		(4.3)	280				2.1	(2.7)
02		(4.3)	290				3.0	(2.7)
03		(4.3)	250				1.8	(2.0)
04		4.1	250				2.2	(2.8)
05		3.7	260					(2.8)
06		3.5	250					2.8
07		4.5	250		---	1.4	1.7	2.8
08		6.6	240		120	2.1		3.0
09		>8.7	220		120	2.5		3.0
10		>10.0	230		120	2.7		3.0
11		11.6	230		120	2.9		2.9
12		12.0	220		120	3.0		2.9
13		>12.0	230		120	2.7		3.0
14		(11.8)	230		120	2.5		---
15		>10.7	230		120	2.2		---
16		(10.0)	230		---	1.6		(2.95)
17		(8.2)	230					2.9
18		7.5	250				2.1	2.9
19		6.2	250				1.8	2.9
20		5.5	250				2.2	2.8
21		(5.3)	250				3.0	(2.8)
22		(4.7)	250				3.0	(2.8)
23		(4.4)	270				4.0	(2.7)

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

Table 61

Madras, India (13.0°N, 80.2°E) June 1957

Time	*	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(440)	<9.7						(2.50)
01	(440)	<9.5						(2.50)
02	(410)	(8.6)						(2.45)
03	(420)	(7.9)						(2.55)
04	(400)	<7.5						(2.60)
05	380	7.2						2.70
06	360	9.2						2.80
07	360	10.8						2.80
00	440	>11.4						^.50
09	510	11.6						2.20
18	520	11.6						2.20
11	560	>11.3						2.05
12	560	11.3						2.10
13	---	----						----
14	560	11.0						2.10
15	540	11.2						2.15
16	520	11.3						2.20
17	520	>11.3						2.20
18	(520)	>11.0						(2.20)
19	560	>10.7						2.10
20	---	(9.8)						----
21	(560)	(9.7)						(2.10)
22	(520)	>10.0						(2.20)
23	(480)	>9.8						(2.30)

Time: 75.0°E.
Sweep: 0.75 Mc to 21.5 Mc in 5 minutes, manual operation.
*Height at 0.83 foF2.

Table 62

Kodaikanal, India (10.2°N, 77.5°E) June 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.6	360					2.65
01		9.8	360					>2.60
02		8.6	350					2.60
03		(0.1)	340					(2.70)
04		>7.3	290					3.00
05		>6.8	250					3.10
06		8.7	275		115	---		2.95
07	---	10.8	250		110	3.0		2.00
08	---	12.0	240		115	---	6.2	2.60
09	---	12.3	220		110	---	8.0	2.35
10	---	12.4	215	---	---	---	10.9	2.15
11	---	11.4	215	---	---	---	11.0	2.10
12	---	11.1	220	---	---	---	11.0	<2.10
13	---	10.9	220	---	---	---	11.9	2.05
14	---	11.2	220	---	110	---	11.4	2.05
15	---	11.4	230	---	110	3.8	11.0	2.10
16	---	11.6	240		110	3.6	9.4	2.10
17	---	11.6	265		115	3.0	8.5	2.20
18		11.9	300				5.6	2.30
19		11.4	380					2.20
20		10.2	420					2.15
21		>9.5	435					<2.20
22		10.0	410					<2.30
23		10.4	385					2.50

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

Table 63

Trivandrum, India (8.4°N, 77.0°E) June 1957

Time	*	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(380)	>10.2						(2.70)
01	---	>10.1						----
02	---	>9.5						----
03	---	(8.8)						----
04	---	(8.0)						----
05	(280)	7.4						(3.25)
06	320	>8.9						3.00
07	320	11.4						3.00
00	370	13.0						2.75
09	440	>13.1						2.50
10	480	>12.7						2.30
11	520	11.8						2.20
12	520	11.4						2.20
13	560	11.4						2.10
14	540	11.4						2.15
15	540	11.5						2.15
16	520	11.6						2.20
17	500	>11.6						2.25
18	480	>10.9						2.40
19	520	(10.6)						2.20
20	(560)	>10.0						(2.15)
21	520	>10.0						2.20
22	(460)	>10.5						(2.40)
23	(420)	(10.5)						(2.55)

Time: 75.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.
*Height at 0.83 foF2.

Table 64

Ellsworth (77.7°S, 41.1°W) June 1957*

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.2)	400				1.7	(2.35)
01		(2.2)	400				3.0	(2.40)
02		(2.1)	380				2.3	(2.30)
03		(2.1)	400					(2.30)
04		(3.6)	350				2.4	(2.35)
05		(4.0)	345					(2.45)
06		(2.2)	310					(2.50)
07		3.6	290					(2.60)
00		(2.9)	250					(2.60)
09		(2.8)	255					(2.70)
18		(3.6)	(290)					(2.60)
11		(4.0)	230					(2.95)
12		(4.5)	230					(3.00)
13		4.3	240					3.00
14		(3.9)	230					(3.20)
15		(3.4)	250					(3.30)
16		(3.0)	250					(3.10)
17		(2.3)	260					(3.00)
18		(2.0)	(300)					(2.80)
19		(1.8)	<305					(2.80)
20		(1.7)	<380					(2.60)
21		(1.9)	370				2.5	(2.60)
22		(1.9)	(450)				2.8	(2.30)
23		(2.1)	400				2.2	(2.30)

Time: 45.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
*Oata from June 1 through June 19.

Table 65

Hobart, Tasmania (42.9°S, 147.2°E) April 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.0)	290					2.45
01		(5.7)	300					2.50
02		5.8	300					2.50
03		(5.3)	300					2.50
04		(5.0)	290					2.60
85		(4.3)	290					2.55
06		>4.3	280			<1.50		2.65
07		6.8	260			2.00		3.00
00		9.5	250			2.75		3.00
09		10.3	240			(3.15)		2.95
18		11.5	240			3.30		2.80
11		12.0	230			<3.50		2.88
12		>12.5	230			3.50		2.70
13		12.2	230			<3.60		2.70
14		12.0	240			3.50		2.70
15		>12.0	240			3.30		2.80
16		>12.0	250			2.80		2.75
17		>11.5	250			<2.30		(2.90)
18		11.0	250			(1.80)		2.80
19		(9.5)	240					2.70
20		>8.0	250					2.65
21		7.5	260					2.60
22		6.9	280					2.50
23		6.4	280					2.50

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

Table 66

Hobart, Tasmania (42.9°S, 147.2°E) March 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	300					2.40
81		6.2	300					2.40
02		6.0	300					2.40
03		5.3	300					2.40
04		>4.5	300					2.40
05		>4.2	<300					2.45
06		4.9	290			<1.70		2.60
07	---	6.7	250	---		(2.40)		2.80
08	---	7.8	240	---		<3.00		2.90
09	(620)	8.7	230	>4.6		3.25		2.80
10	(440)	>9.0	220	5.3		3.60		2.70
11	400	10.0	220	5.4		3.65		2.65
12	(510)	10.5	220	5.4		3.75		2.60
13	500	10.4	230	5.4		3.70		2.55
14	(500)	10.2	230	5.3		3.60		2.60
15	(490)	10.4	230	5.1		3.50		2.60
16	(460)	10.0	240	4.8		3.30		2.60
17	---	>10.2	250	---		2.75		2.60
18		>9.9	260			(2.10)		2.65
19		>9.5	260			<1.50		2.60
20		9.0	260					2.55
21		>8.0	280					2.50
22		7.5	280					2.45
23		>7.1	300					2.45

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

Table 67

Macquarie I. (54.5°S, 159.0°E) January 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.9)	(350)				2.2	---
01		(5.5)	360				2.2	(2.3)
02		(5.5)	350				2.2	(2.3)
03		>5.5	300				2.0	---
04		5.2	(290)			2.1		(2.5)
05		(5.8)	(250)			>2.2		(2.55)
06	---	>6.0	---	---		>2.2		---
07	420	6.6	---	5.5		>2.2		(2.6)
08	450	7.1	---	5.4		>2.2		(2.6)
09	470	7.2	---	5.6		>2.2		2.4
10	480	7.4	---	5.6		>2.2		2.3
11	500	7.5	---	5.8		>2.2		2.3
12	500	7.5	---	5.6		---		2.4
13	500	>7.5	(250)	5.8		---		2.3
14	470	7.6	---	5.6		>2.2		2.3
15	460	7.6	---	5.4		>2.2		2.3
16	440	>7.5	---	5.2		>2.2		2.4
17	420	(7.6)	---	4.9		>2.2		2.4
18	---	>7.5	(250)	---		>2.3		(2.5)
19	---	>7.5	(300)	---		>2.2		2.3
20		>7.0	320			---	2.2	(2.2)
21		>6.7	(350)				2.5	---
22		---	(330)				3.5	---
23		---	(350)				2.6	---

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

Table 68

Macquarie I. (54.5°S, 159.0°E) December 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(6.0)	(380)				2.2	(2.25)
01		(5.7)	(350)			---	2.2	(2.3)
02		(5.5)	(340)			---	2.2	(2.4)
03		5.0	(340)			1.8	2.2	(2.4)
04		(5.2)	(300)			2.2		2.5
05		5.6	250			>2.2		2.45
06	(450)	6.0	(260)	4.9		>2.2		2.5
07	540	6.1	---	5.2		>2.2		2.35
08	510	6.6	---	5.4		>2.2		2.35
09	540	6.6	---	5.6		>2.2		2.3
10	550	6.8	---	5.7		>2.2		2.25
11	550	7.0	---	5.6		---		2.3
12	540	7.4	---	5.7		---		2.3
13	520	7.5	---	5.7		---		2.3
14	500	7.6	---	5.6		>2.2		2.3
15	500	7.5	---	5.5		>2.2		2.3
16	460	>7.5	---	5.4		>2.2		2.3
17	430	7.7	---	5.2		>2.2		2.4
18	(500)	(7.7)	(320)	---		>2.2		(2.4)
19	---	(7.5)	320			>2.1	2.2	(2.45)
20		7.0	(350)			1.9	2.2	(2.3)
21		(7.3)	(350)			1.7	2.2	(2.3)
22		---	---				5.3	---
23		(5.9)	(380)				4.6	(2.2)

Time: 157.5°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 69

Dakar, French W. Africa (14.1°N, 17.4°W) February 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(13.6)						3.36
01		12.0						3.34
02		10.9						3.42
03		7.6						3.26
04		5.7						3.22
05		5.2						3.19
06		4.4			---	E	2.6	3.04
07		8.6			119	2.15	2.5	3.38
08	255	10.8		4.35	111	2.90	3.6	3.40
09	270	12.2		4.70	109	3.40		3.32
10	285	13.6		5.00	109	3.55		3.23
11	300	13.6		5.15	107	3.65		3.08
12	325	13.7		5.20	107	3.80		2.91
13	340	13.3		5.20	107	3.80		2.79
14	350	13.4		5.10	109	3.65		2.76
15	360	13.2		4.90	109	3.50		2.74
16	340	13.1		4.55	111	3.30	4.3	2.80
17	315	13.0		----	113	2.70	4.3	2.75
18	---	12.9			122	1.90	3.5	2.71
19		13.1						2.55
20		13.1						2.74
21		13.4					3.0	2.87
22		13.8					2.7	3.11
23		14.2						3.27

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

Table 70

Djibouti, French Somaliland (11.5°N, 43.1°E) February 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		>9.0					2.4	3.26
01		8.6					2.4	3.27
02		8.3					2.3	3.31
03		6.3					2.3	3.40
04		5.1					2.2	3.44
05		5.1					2.2	3.29
06		4.0					2.3	3.23
07		7.5			125	2.30	4.3	3.20
08	(265)	10.4			117	2.90	4.7	3.04
09	280	11.4		----	115	3.50	5.5	2.82
10	300	11.6		5.20	111	3.75	5.4	2.76
11	(305)	11.7		5.20	115	3.85	7.0	2.56
12	---	11.9		5.20	111	3.80	7.8	2.46
13	(330)	11.8		5.30	111	3.80	7.6	2.48
14	325	12.0		5.20	113	3.80	7.3	2.50
15	(310)	11.6		4.90	111	3.60	5.0	2.52
16	---	11.6		----	111	3.20	5.3	2.50
17	---	11.4			119	2.70	5.1	2.48
18		10.7			129	1.85	4.6	(2.55)
19		>9.6					2.3	2.31
20		>9.2					2.2	(2.37)
21		---					2.2	----
22		(9.6)					2.2	----
23		(9.5)					2.3	(3.06)

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

Table 71

Tananarive, Madagascar (18.9°S, 47.6°E) February 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		7.8						2.85
01		7.0					2.0	3.05
02		6.3					1.6	3.00
03		5.8						2.90
04		5.4						3.00
05		4.2						2.95
06		5.0			---	1.75		3.00
07	---	7.0			109	2.60		3.25
08	280	8.1		(4.90)	107	3.10		3.05
09	300	9.3		5.25	107	3.50		2.85
10	320	10.1		5.45	105	3.70		2.70
11	340	11.0		5.55	103	3.85		2.70
12	335	>11.0		5.60	103	3.90		2.75
13	330	11.4		5.60	103	3.90		2.75
14	325	>11.5		5.55	103	(3.80)		(2.80)
15	315	11.4		5.50	104	3.80		<2.90
16	305	>11.0		5.25	105	3.50		2.85
17	285	10.6		----	109	2.95		2.90
18	(260)	10.8			111	2.20		3.00
19		10.5					2.7	3.00
20		9.8					1.8	2.90
21		8.8					1.5	2.85
22		8.0					2.0	2.85
23		7.9					1.6	2.85

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

Table 72

Djibouti, French Somaliland (11.5°N, 43.1°E) January 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		7.5					2.5	3.18
01		7.2					2.4	3.28
02		6.0					2.5	3.30
03		4.9					2.5	3.36
04		3.6					2.4	3.34
05		3.1					2.4	3.42
06		3.1					2.4	3.19
07	---	7.2			121	2.15	2.5	3.27
08	270	9.5			112	2.85	3.5	3.24
09	290	10.3		----	112	3.20	4.6	3.17
10	305	10.8		5.20	115	3.50	6.5	2.79
11	310	10.7		5.30	112	3.60	6.5	2.61
12	(320)	10.6		5.25	118	3.70	6.6	2.55
13	---	10.5		5.25	---	3.70	6.4	2.59
14	310	10.8		5.30	---	3.55	6.4	2.56
15	---	10.7		4.90	111	3.40	6.4	2.54
16	---	10.9		----	112	3.10	6.3	2.63
17	---	11.0		----	119	(2.60)	6.3	2.66
18	---	9.9			169	1.60	3.0	2.65
19		9.0					2.4	2.40
20		9.1					2.4	2.38
21		8.7					2.5	2.53
22		8.0					2.4	2.97
23		7.5					2.5	3.07

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

USCOMM-NBS-BL

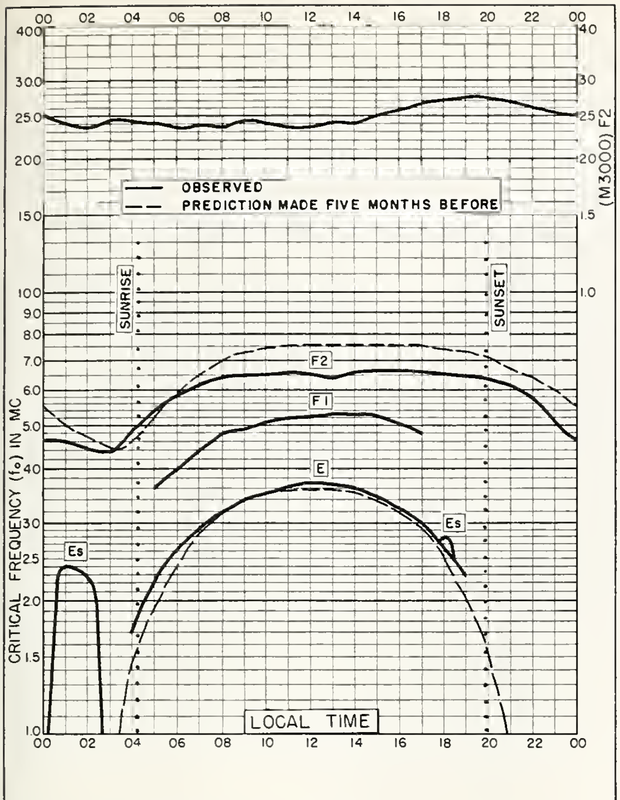


Fig. 1. ANCHORAGE, ALASKA
61.2°N, 149.9°W AUGUST 1958

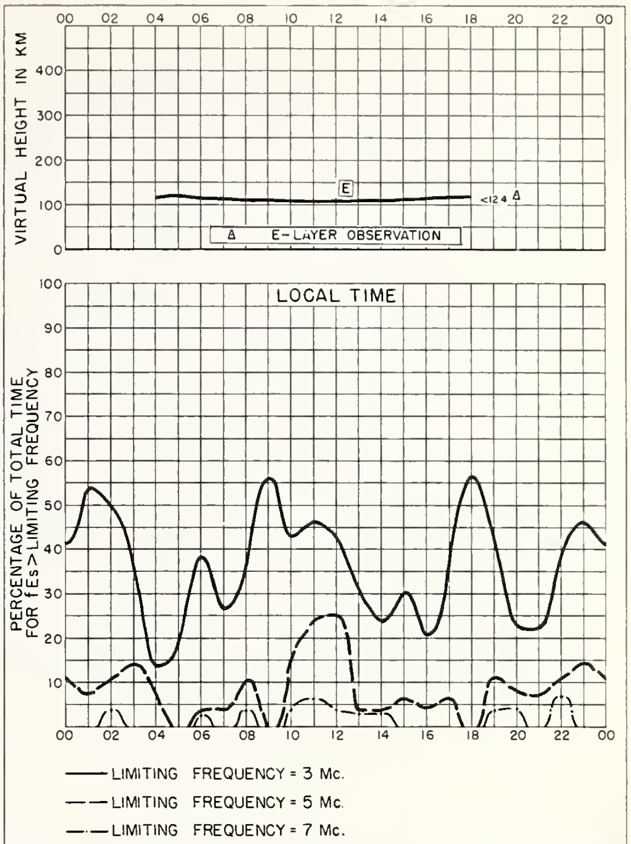


Fig. 2. ANCHORAGE, ALASKA AUGUST 1958

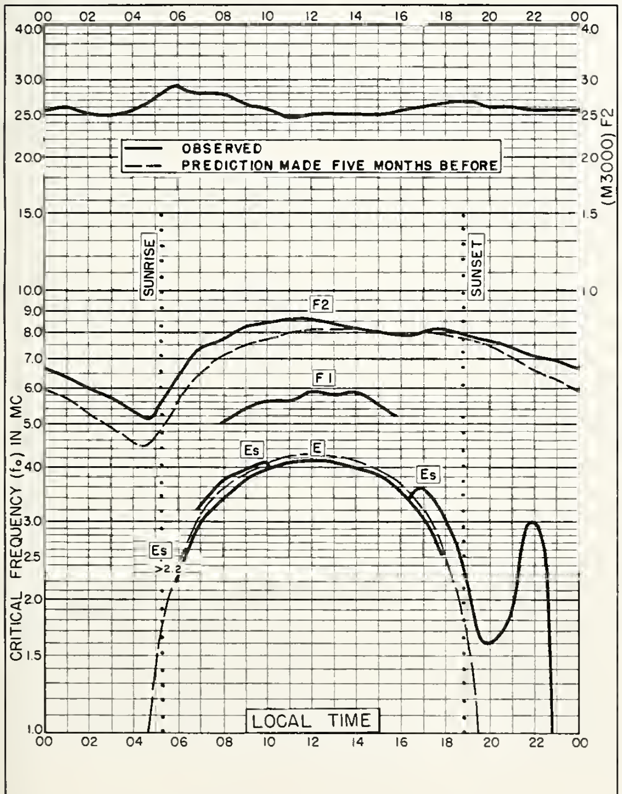


Fig. 3. WASHINGTON, D.C.
38.7°N, 77.1°W AUGUST 1958

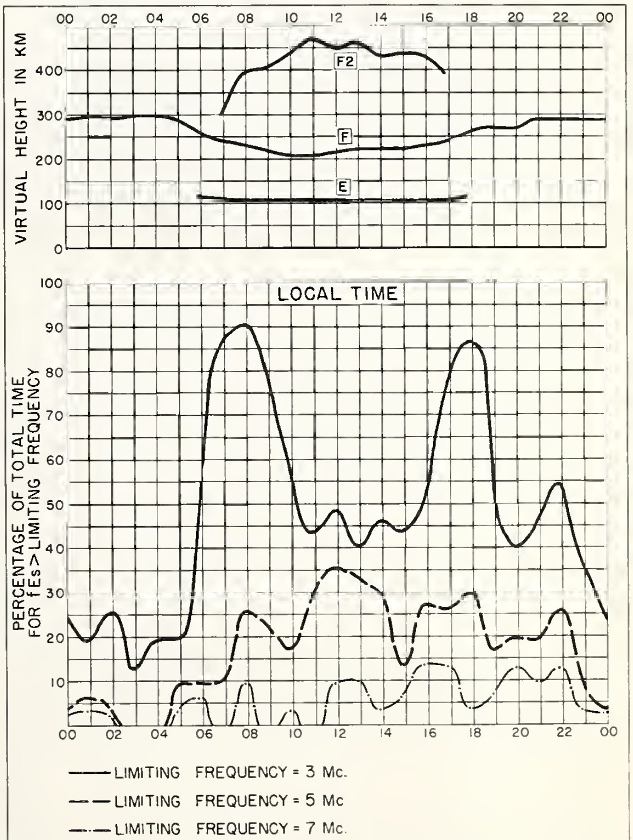


Fig. 4. WASHINGTON, D.C. AUGUST 1958

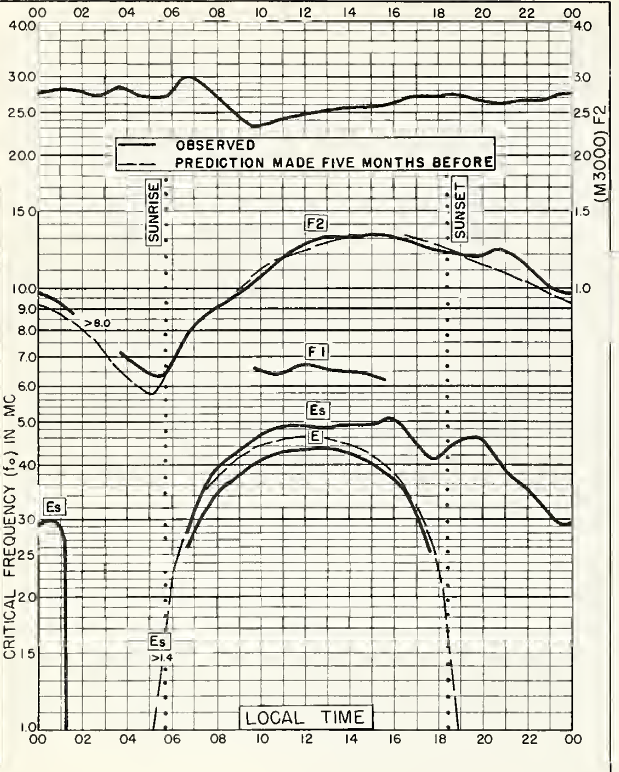


Fig. 5. MAUI, HAWAII
20.8°N, 156.5°W AUGUST 1958

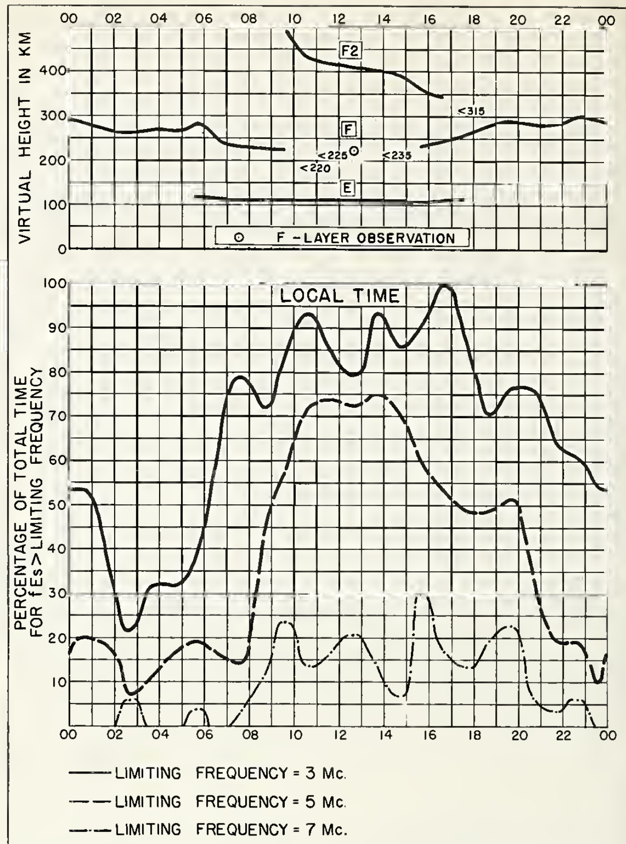


Fig. 6. MAUI, HAWAII AUGUST 1958

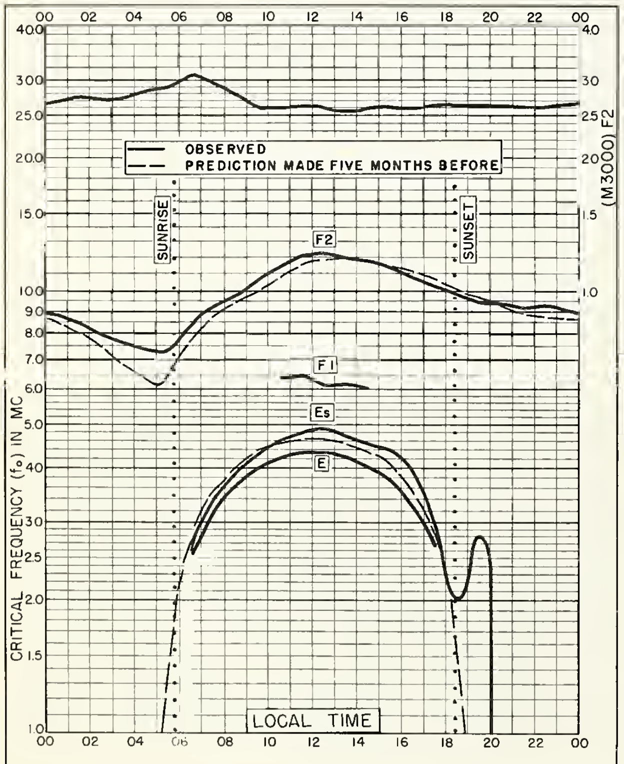


Fig. 7. PUERTO RICO, W.I.
18.5°N, 67.2°W AUGUST 1958

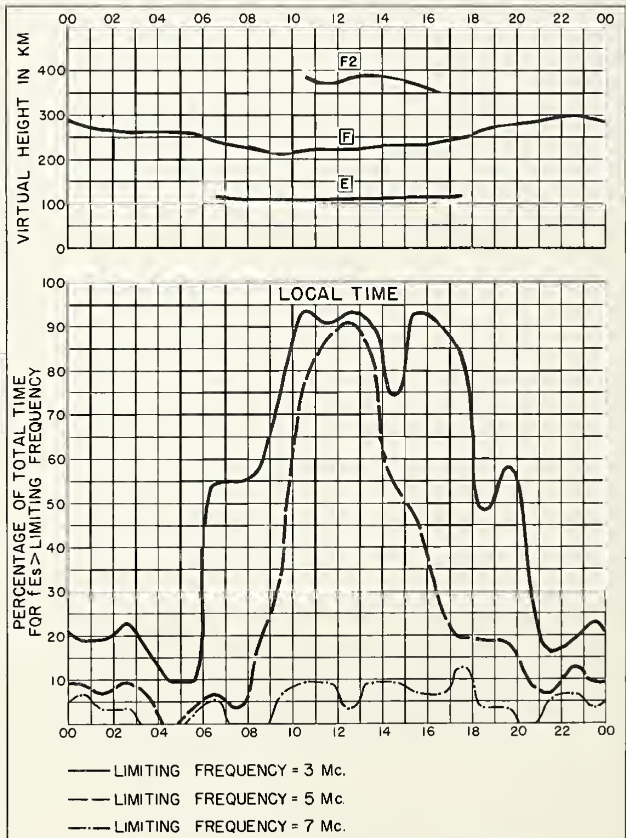


Fig. 8. PUERTO RICO, W.I. AUGUST 1958

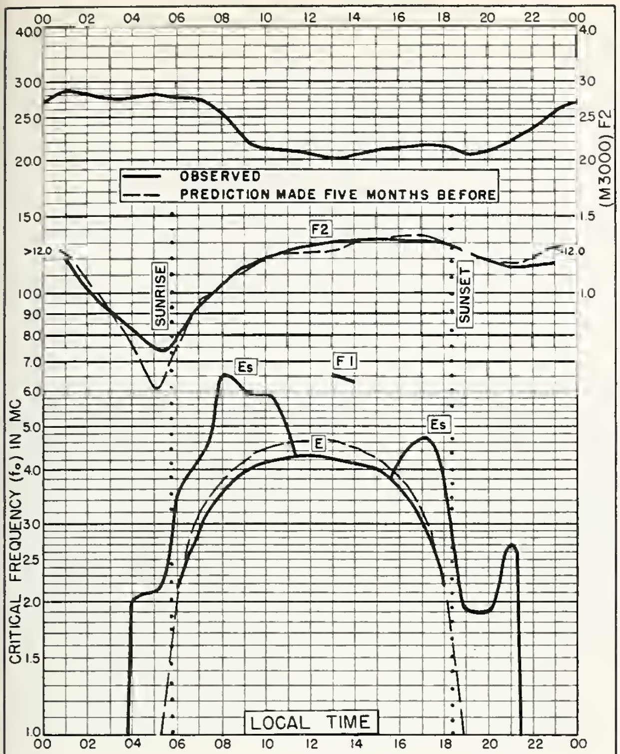


Fig. 9. BAGUIO, P.I. 16.4°N, 120.6°E AUGUST 1958

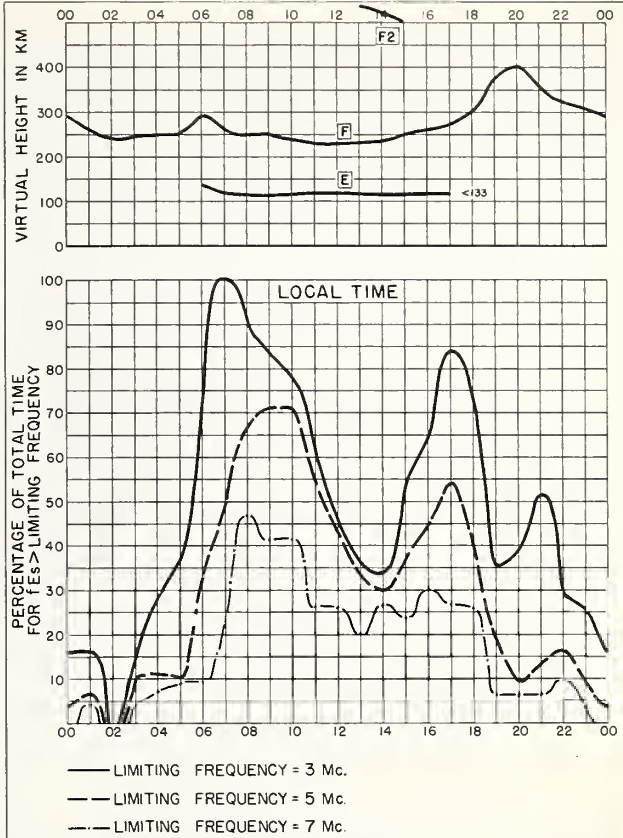


Fig. 10. BAGUIO, P.I. AUGUST 1958

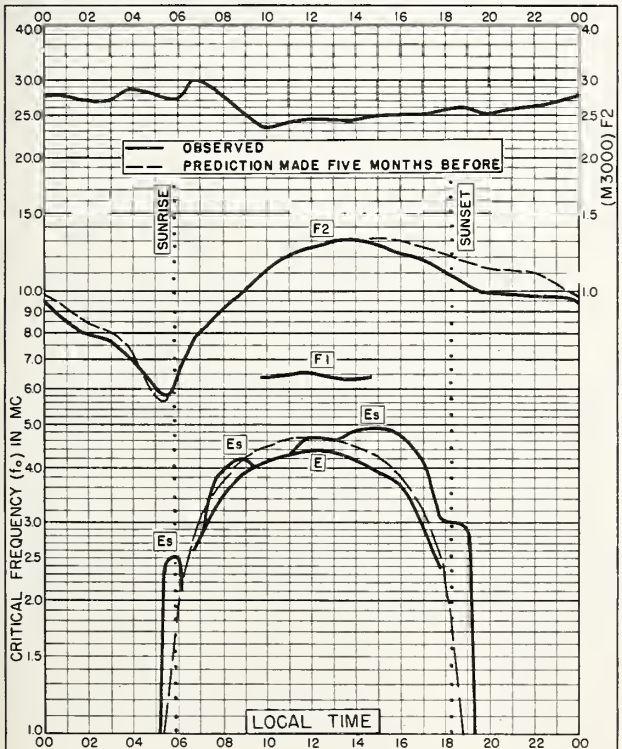


Fig. 11. PANAMA CANAL ZONE 9.4°N, 79.9°W AUGUST 1958

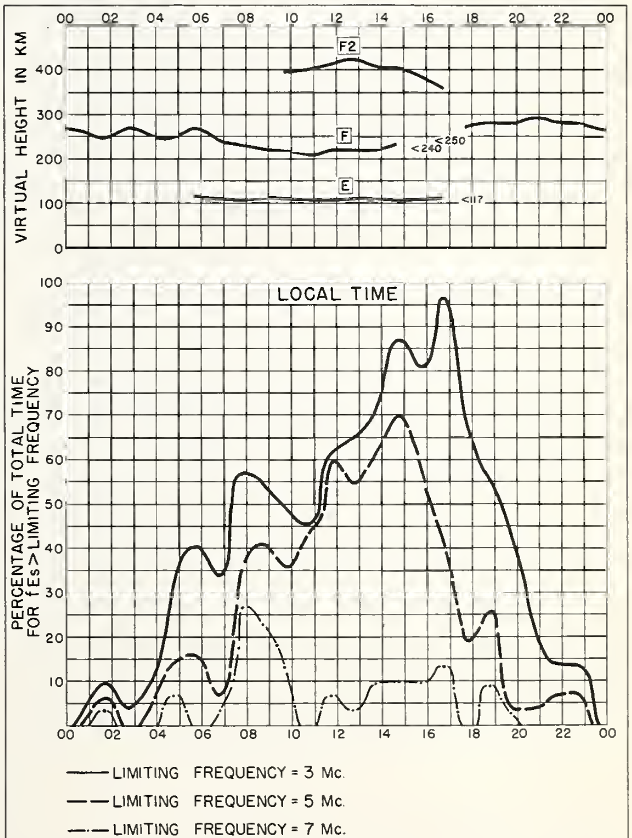


Fig. 12. PANAMA CANAL ZONE AUGUST 1958

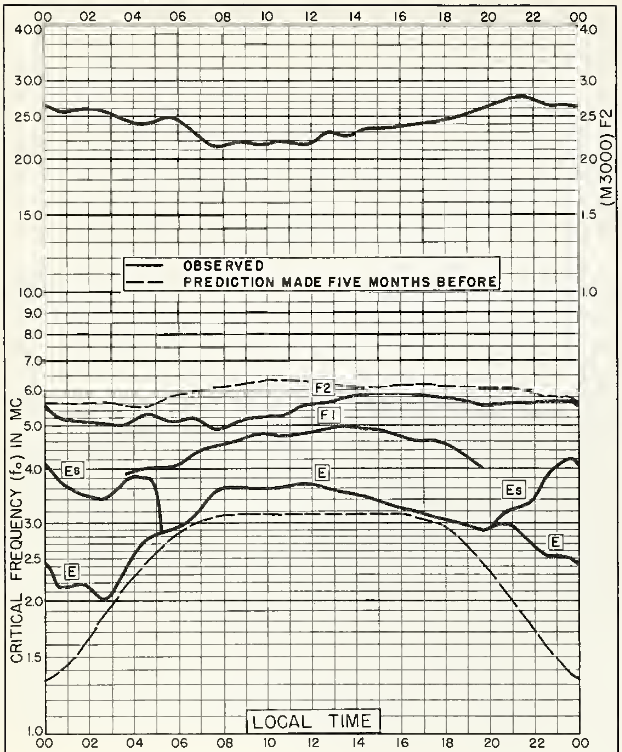


Fig. 13. POINT BARROW, ALASKA
71.3°N, 156.8°W JULY 1958

Commerce-Standards-Boulder, Colo. NBS 503

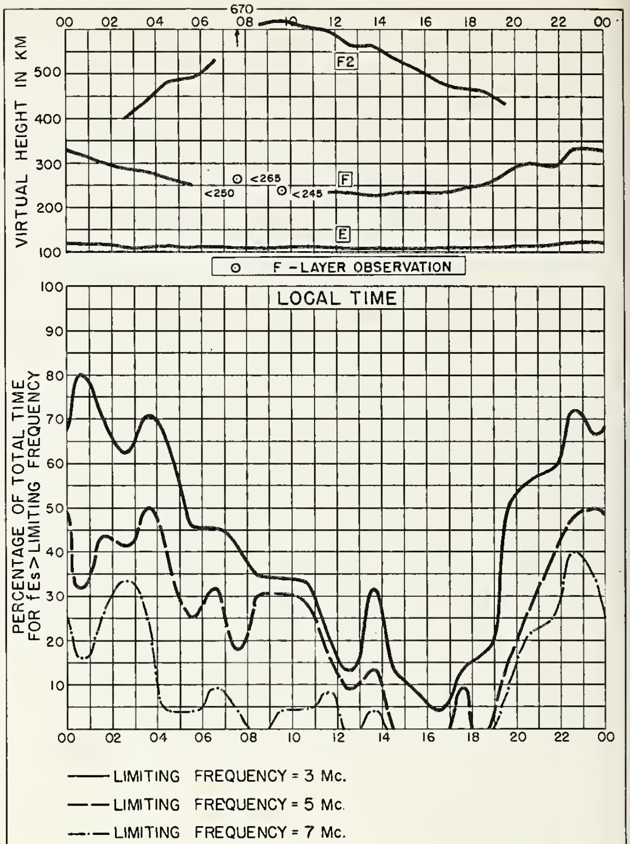


Fig. 14. POINT BARROW, ALASKA JULY 1958

Commerce-Standards-Boulder, Colo. NBS 490

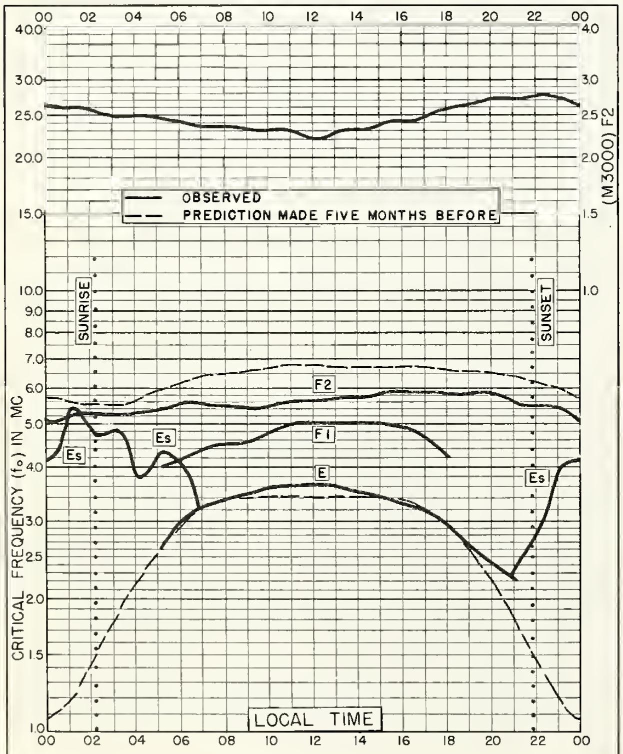


Fig. 15. FAIRBANKS, ALASKA
64.9°N, 147.8°W JULY 1958

Commerce-Standards-Boulder, Colo. NBS 503

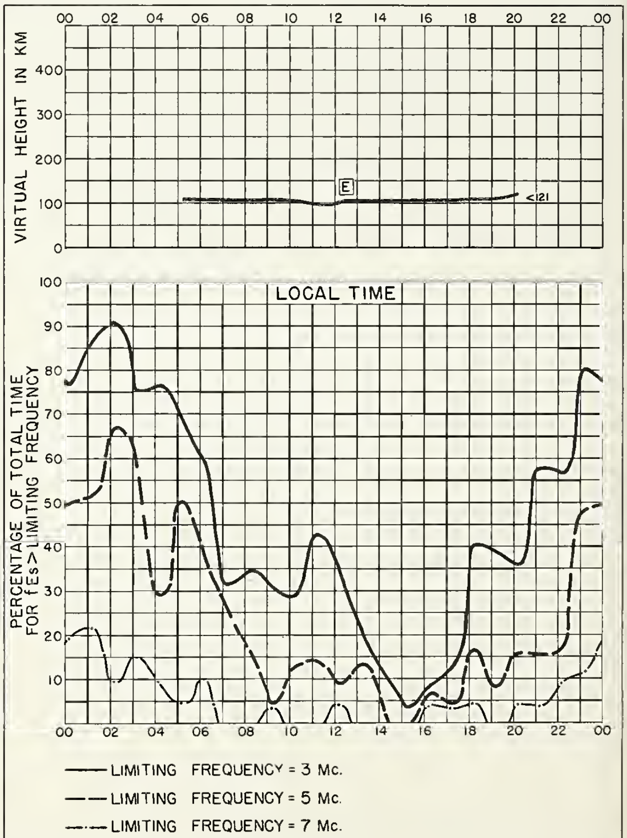


Fig. 16. FAIRBANKS, ALASKA JULY 1958

Commerce-Standards-Boulder, Colo. NBS 490

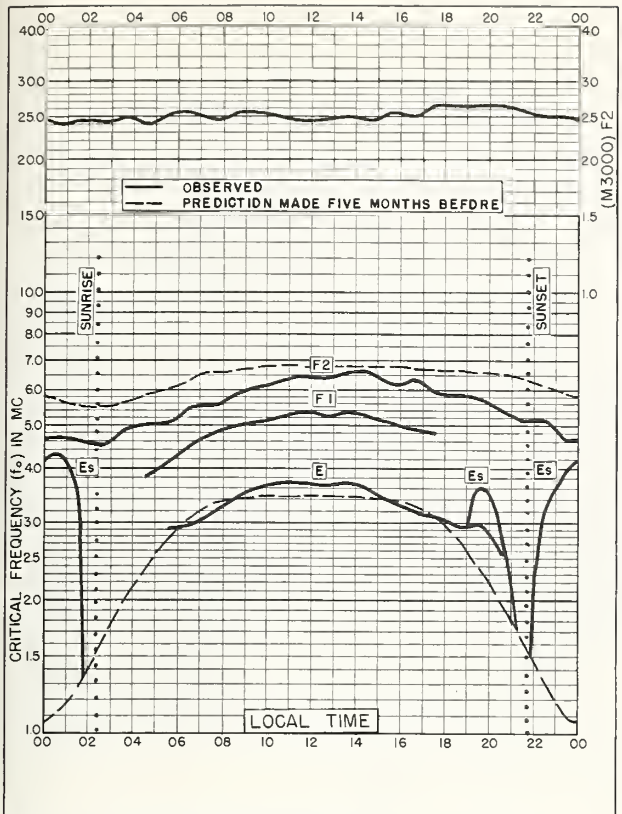


Fig. 17. REYKJAVIK, ICELAND
64.1°N, 21.8°W JULY 1958

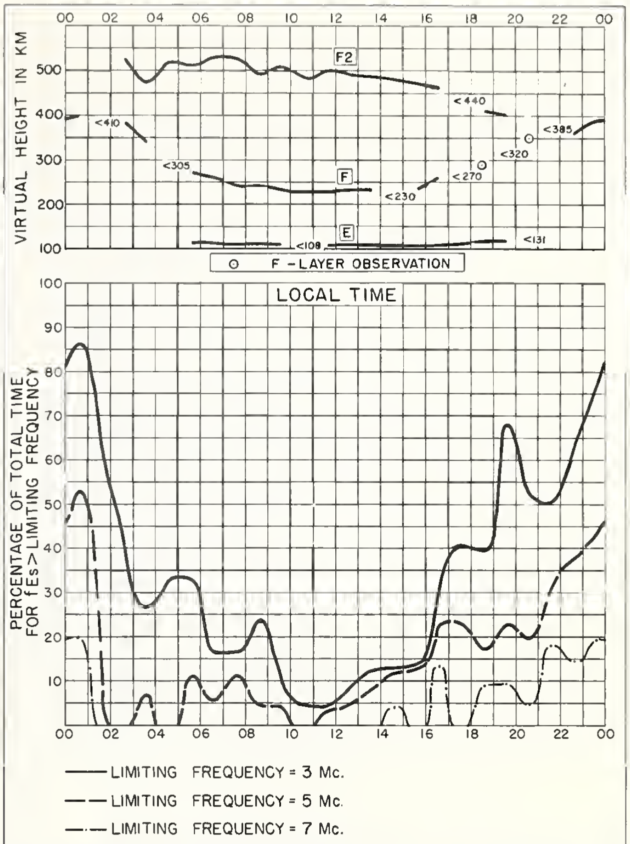


Fig. 18. REYKJAVIK, ICELAND JULY 1958

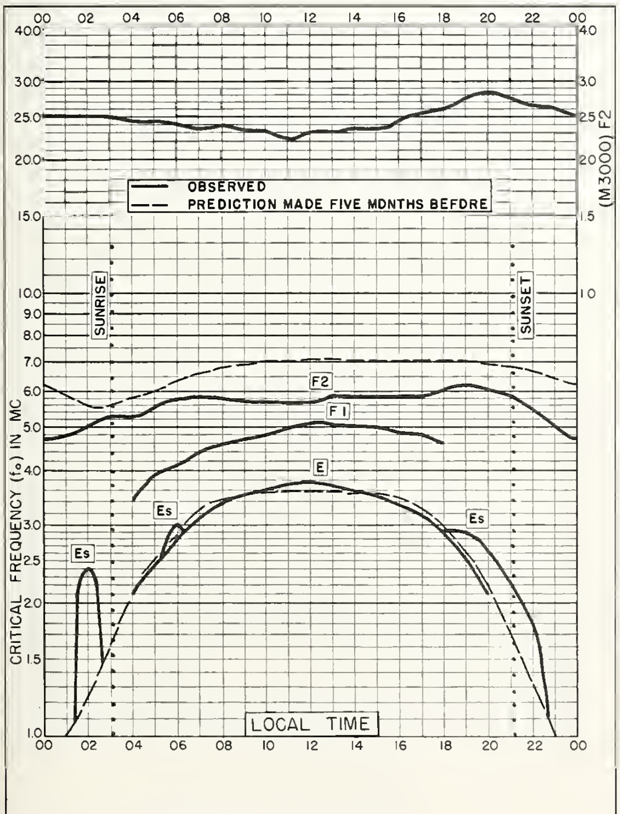


Fig. 19. ANCHORAGE, ALASKA
61.2°N, 149.9°W JULY 1958

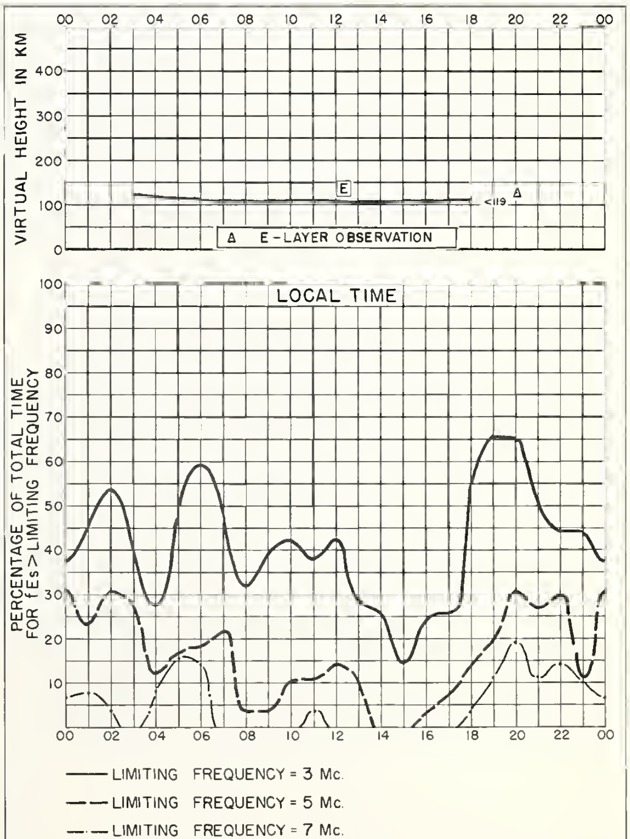


Fig. 20. ANCHORAGE, ALASKA JULY 1958

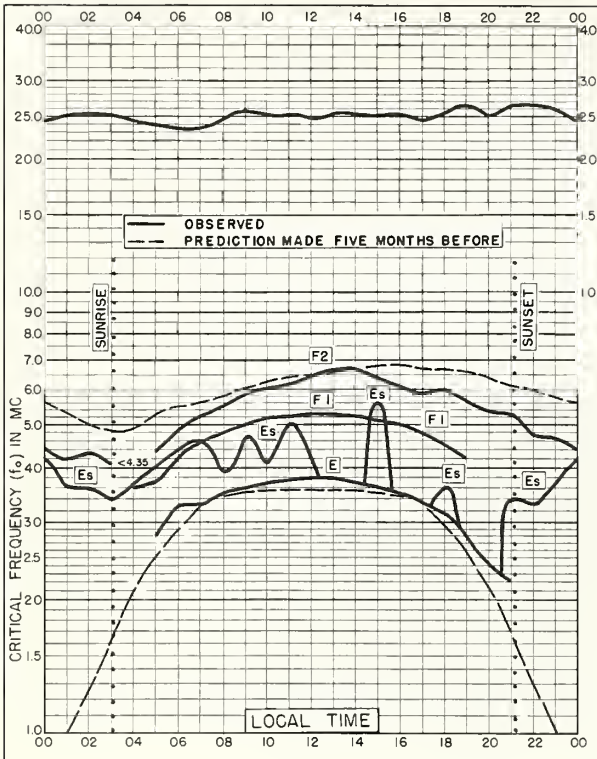


Fig. 21. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W JULY 1958

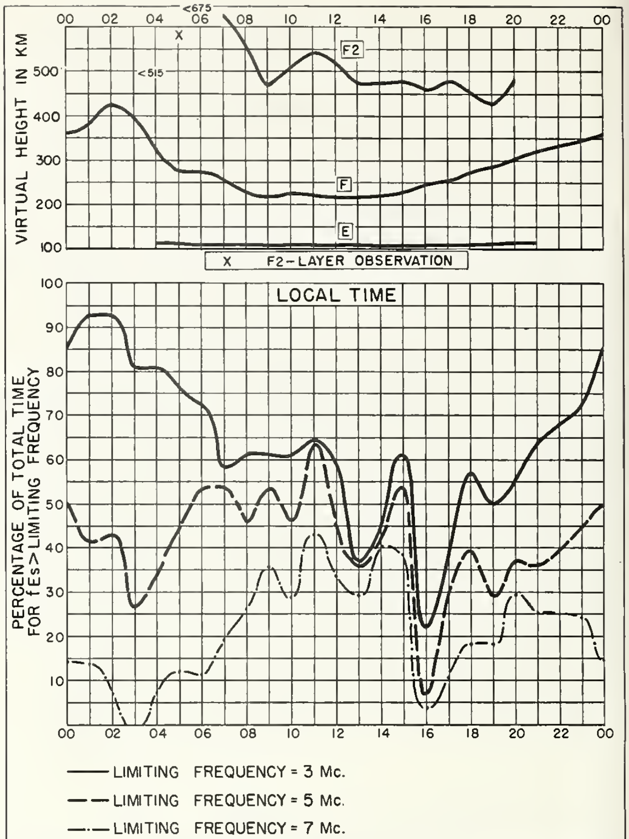


Fig. 22. NARSARSSUAK, GREENLAND JULY 1958

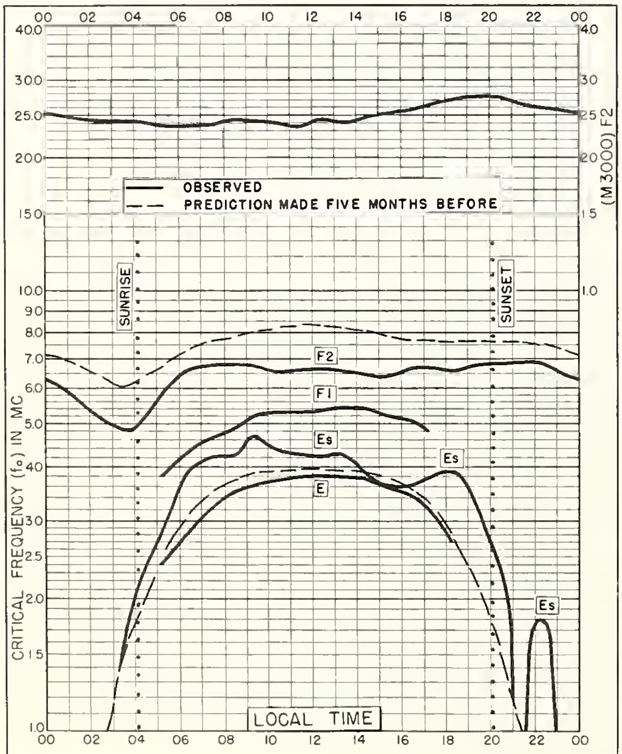


Fig. 23. ADAK, ALASKA
51.9°N, 176.6°W JULY 1958

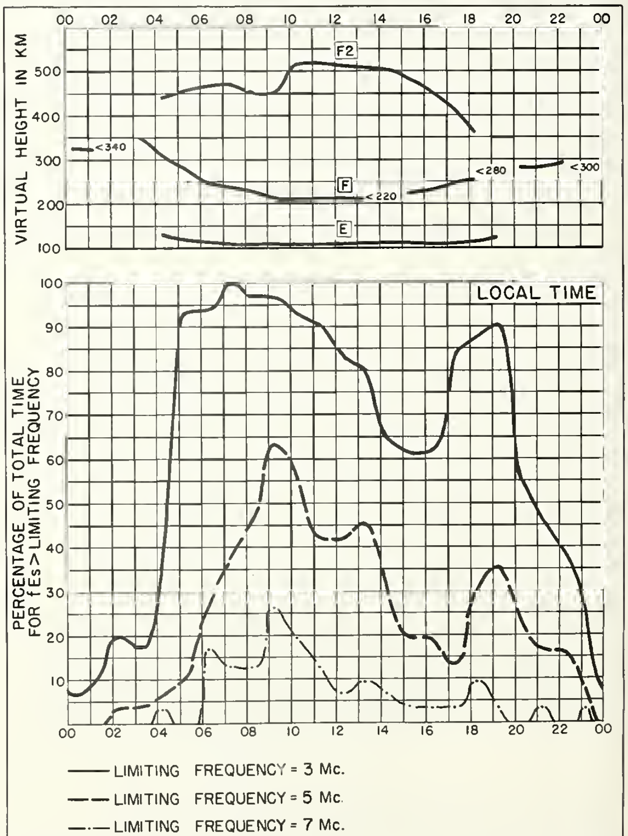


Fig. 24. ADAK, ALASKA JULY 1958

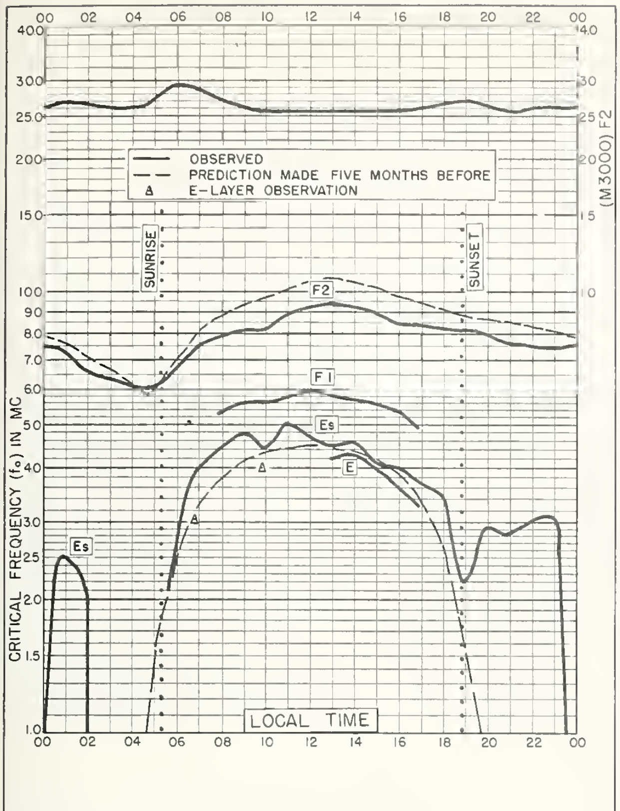


Fig. 25. GRAND BAHAMA I.
26.6°N, 78.2°W JULY 1958

Commerce-Standards-Boulder, Colo. NBS 503

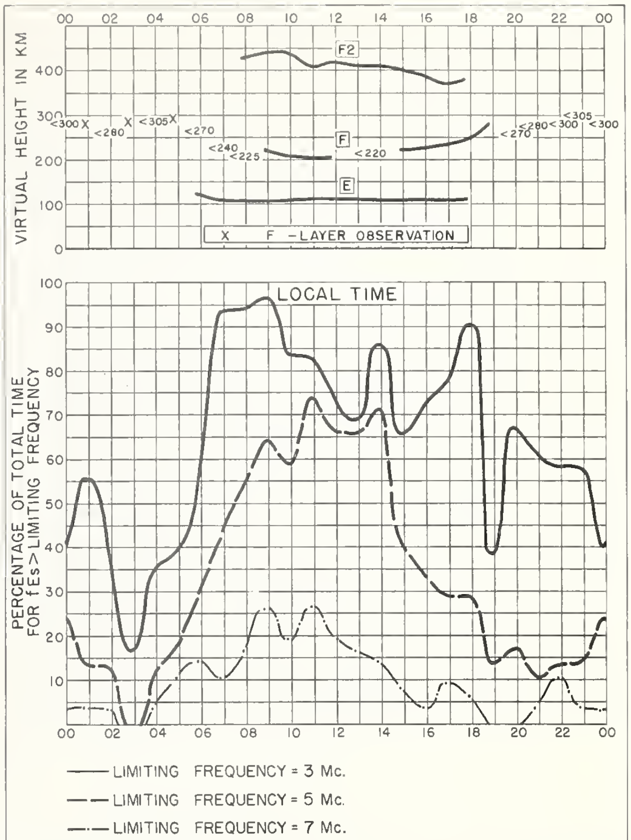


Fig. 26. GRAND BAHAMA I. JULY 1958

Commerce-Standards-Boulder, Colo. NBS 490

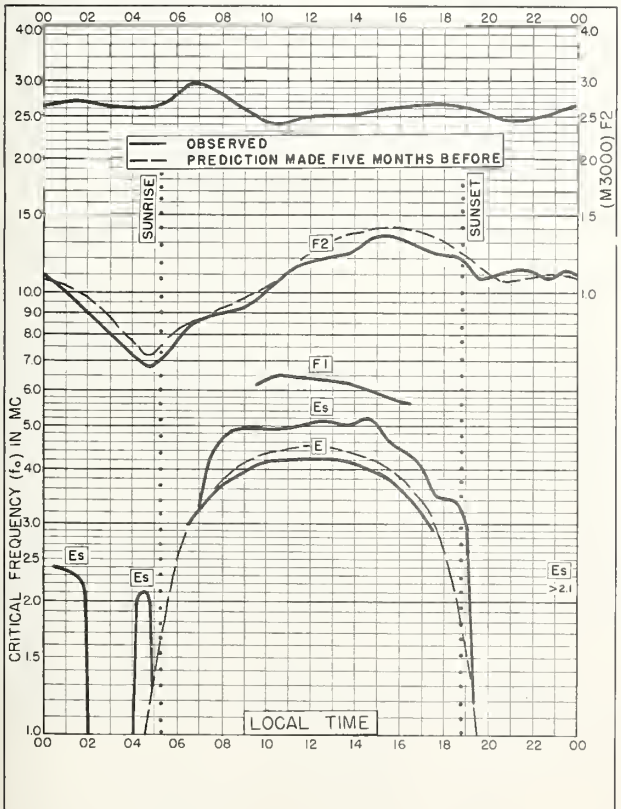


Fig. 27. OKINAWA I.
26.3°N, 127.8°E JULY 1958

Commerce-Standards-Boulder, Colo. NBS 503

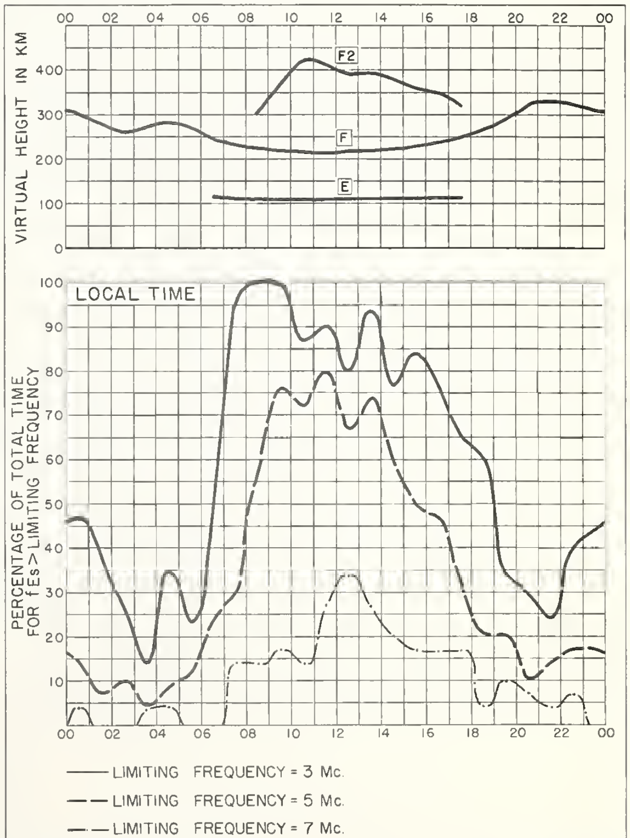


Fig. 28. OKINAWA I. JULY 1958

Commerce-Standards-Boulder, Colo. NBS 490

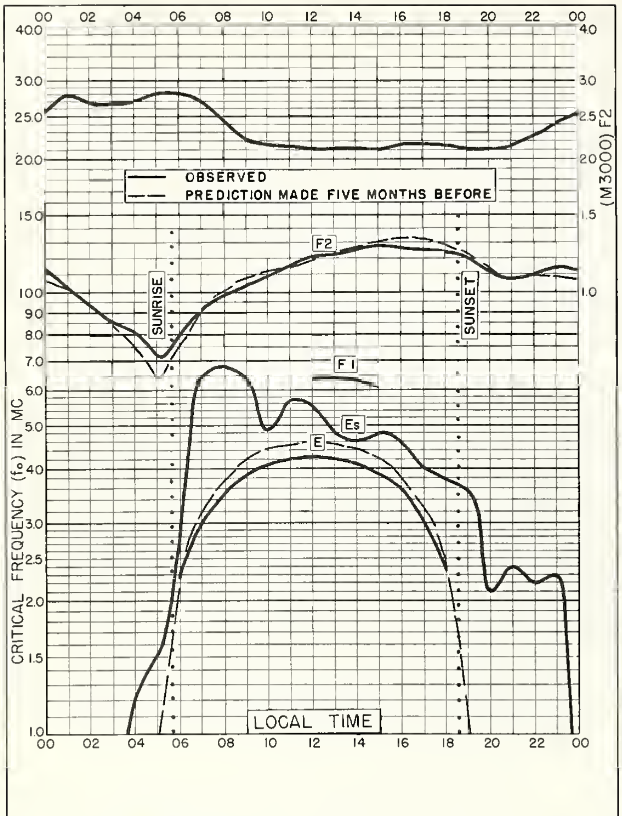


Fig. 29. BAGUIO, P. I.
16.4°N, 120.6°E JULY 1958

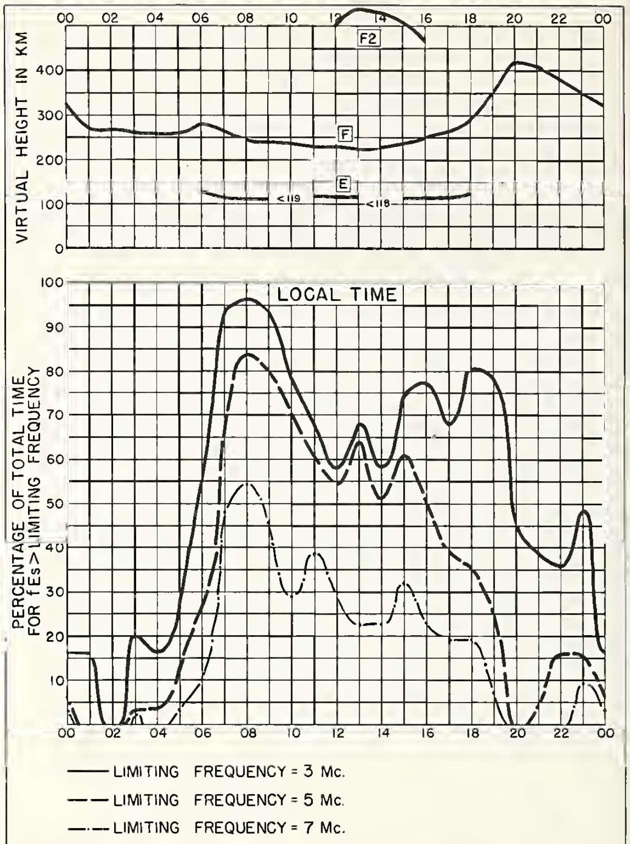


Fig. 30. BAGUIO, P. I. JULY 1958

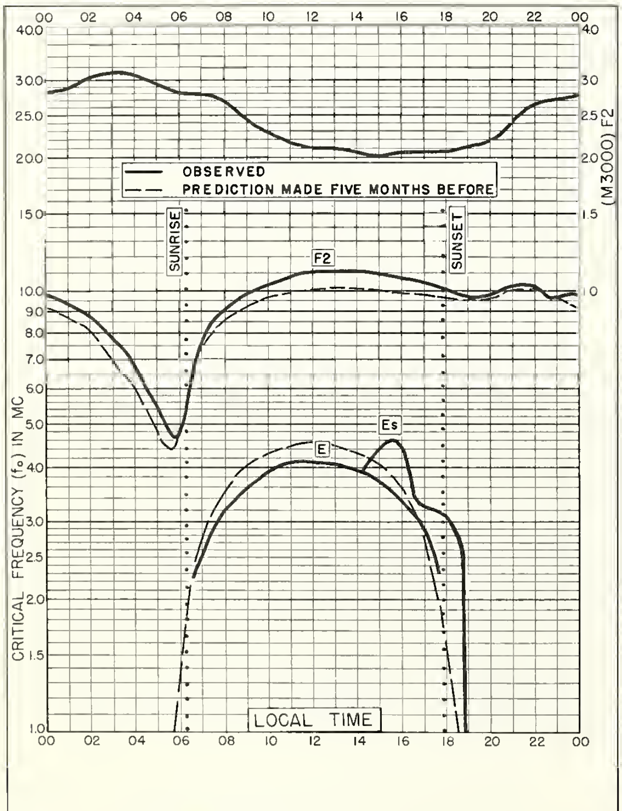


Fig. 31. TALARA, PERU
4.6°S, 81.3°W JULY 1958

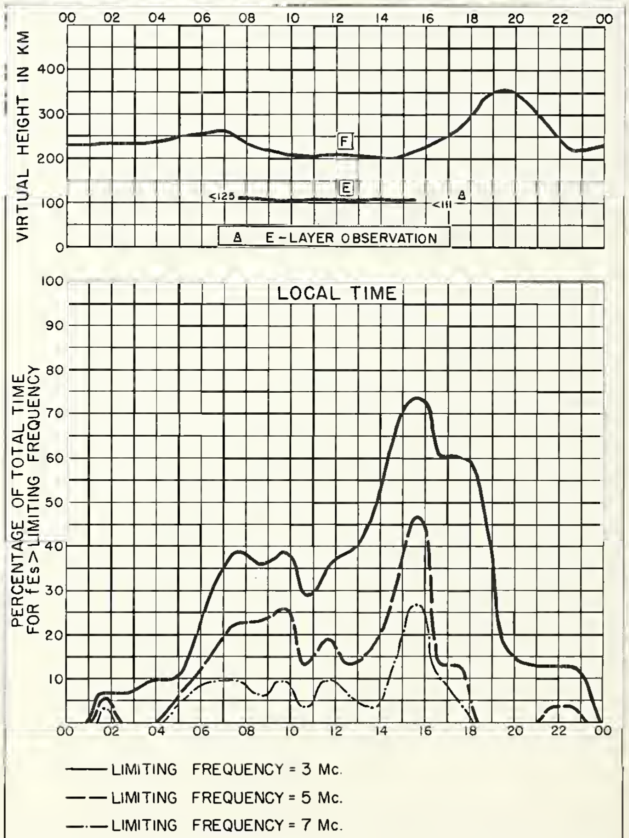


Fig. 32. TALARA, PERU JULY 1958

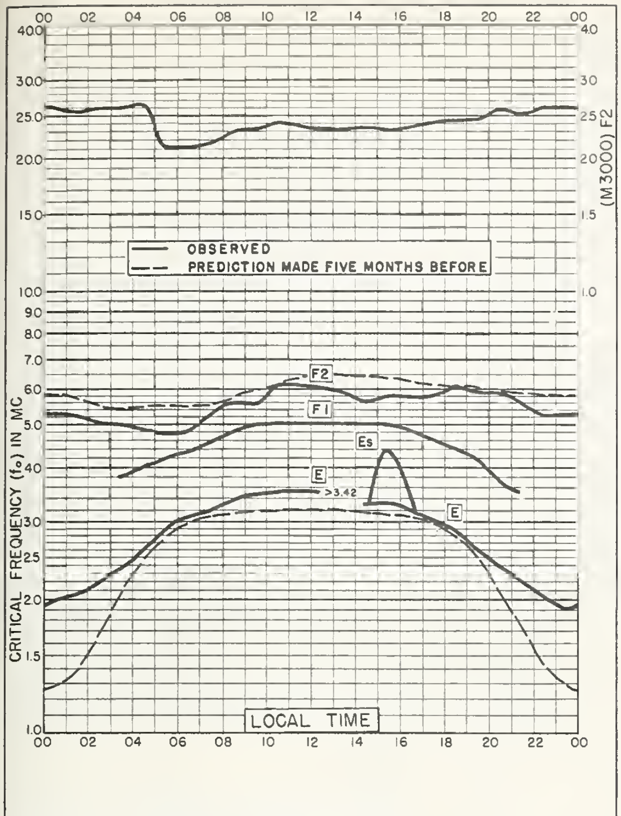


Fig. 33. GODHAVN, GREENLAND
69.3°N, 53.5°W JUNE 1958

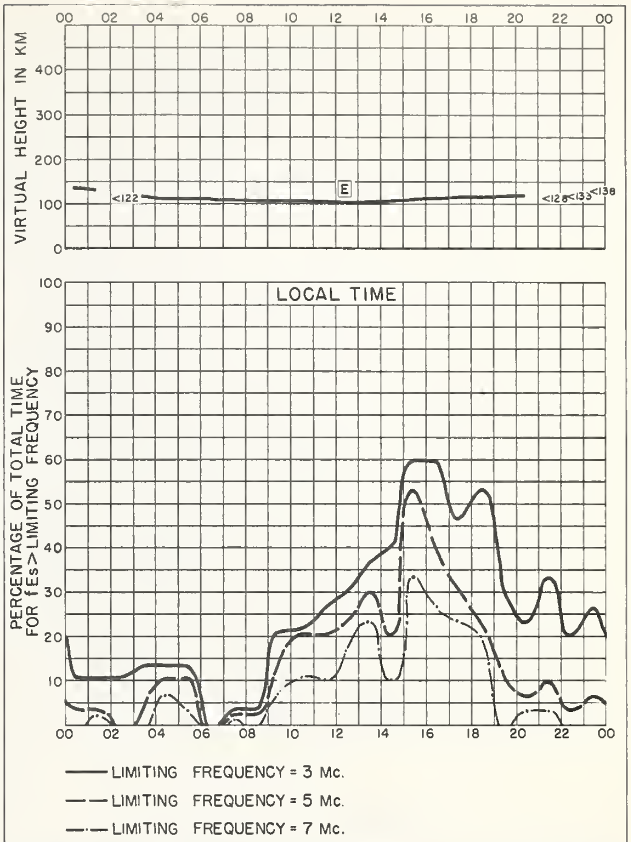


Fig. 34. GODHAVN, GREENLAND JUNE 1958

Commerce-Standards-Boulder, Colo. NBS 503

Commerce-Standards-Boulder, Colo. NBS 490

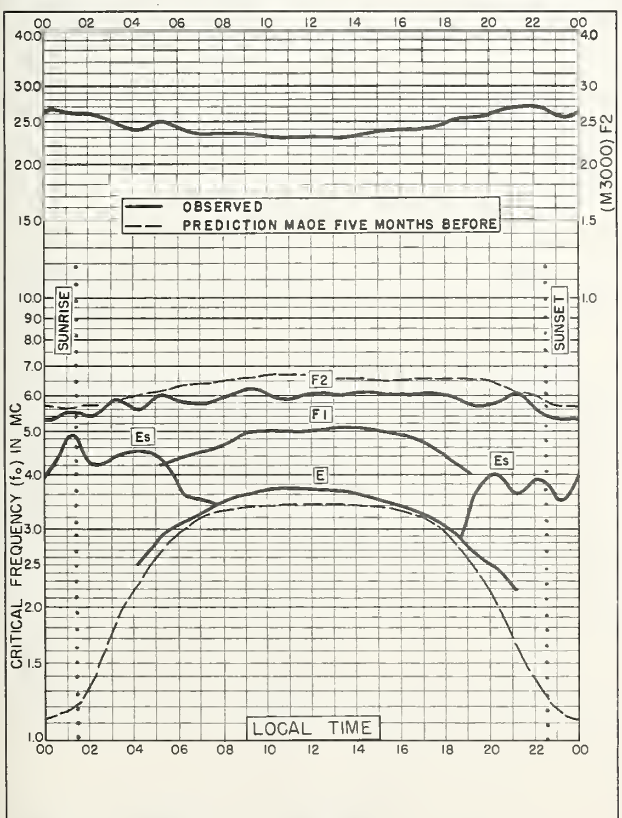


Fig. 35. FAIRBANKS, ALASKA
64.9°N, 147.8°W JUNE 1958

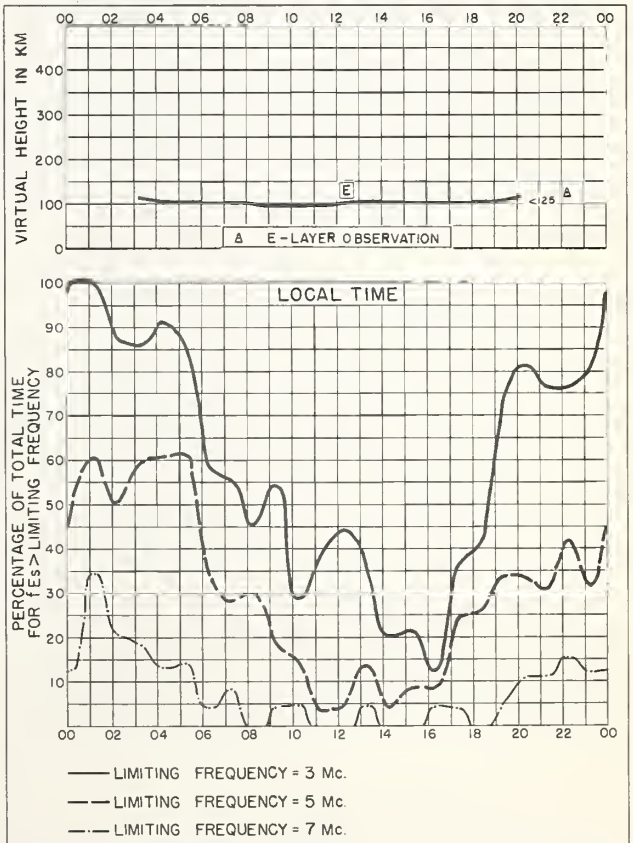


Fig. 36. FAIRBANKS, ALASKA JUNE 1958

Commerce-Standards-Boulder, Colo. NBS 503

Commerce-Standards-Boulder, Colo. NBS 490

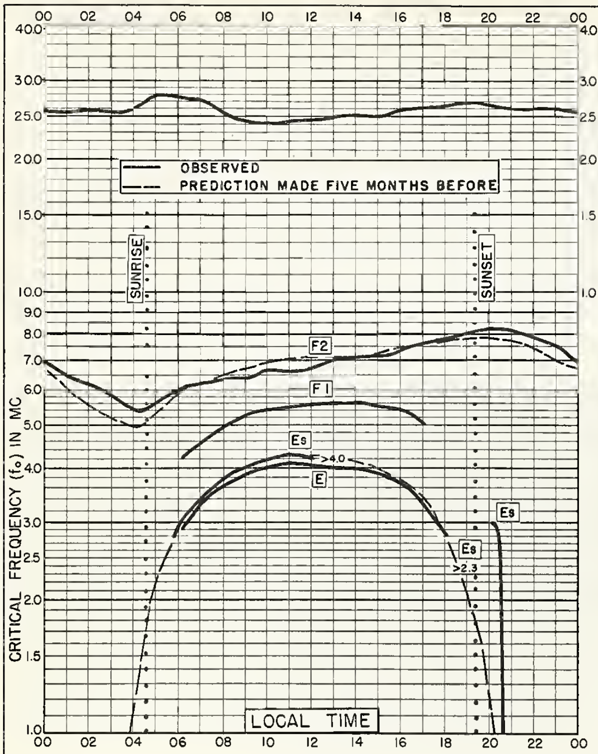


Fig. 37. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W JUNE 1958

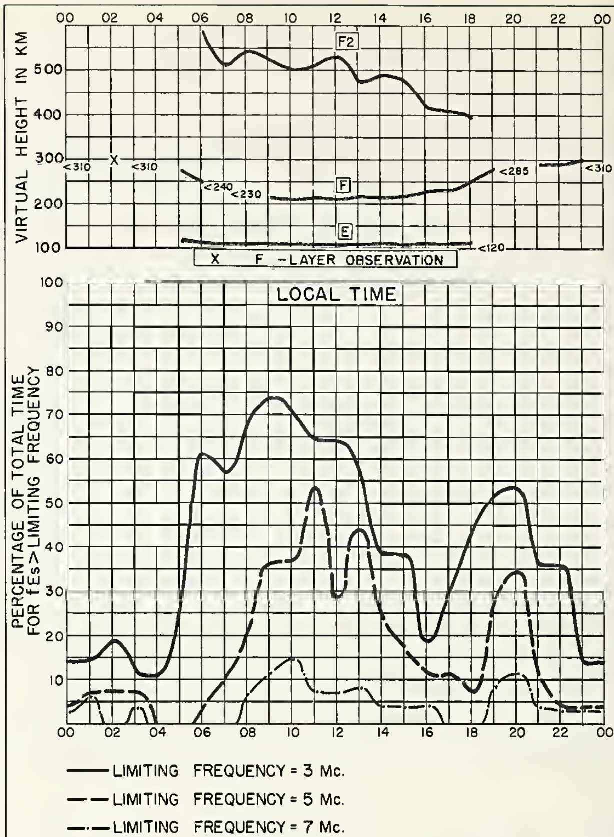


Fig. 38. FT. MONMOUTH, NEW JERSEY JUNE 1958

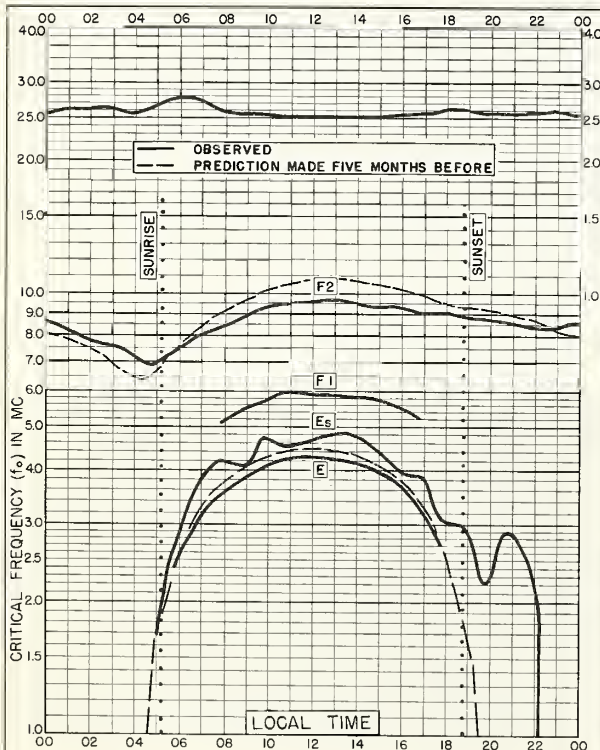


Fig. 39. GRAND BAHAMA I.
26.6°N, 78.2°W JUNE 1958

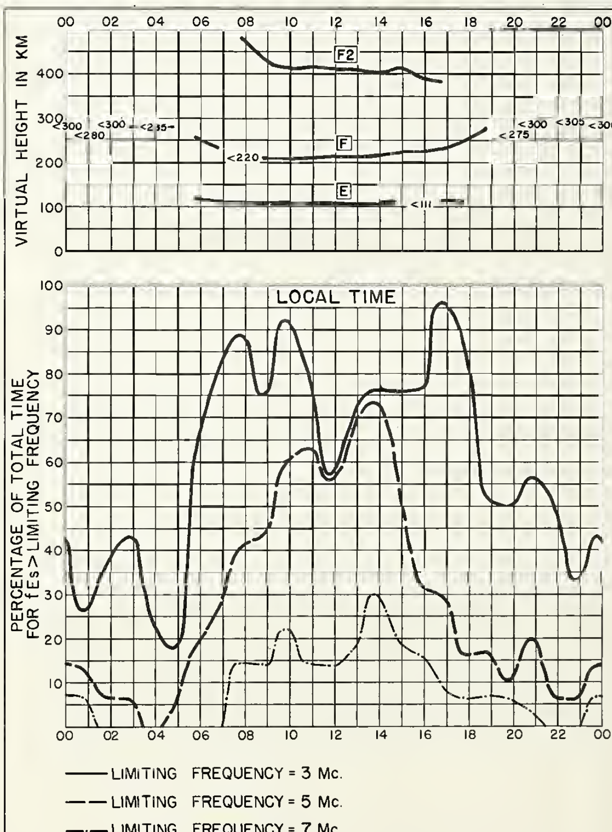


Fig. 40. GRAND BAHAMA I. JUNE 1958

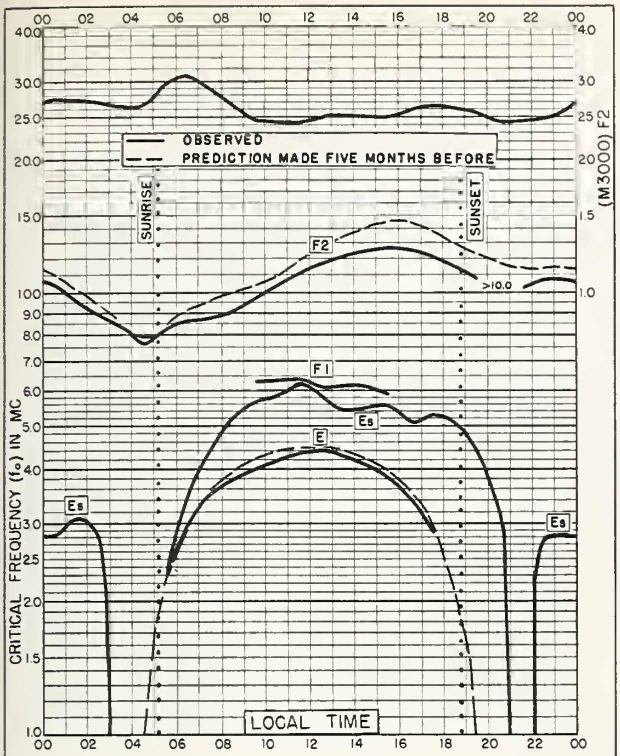


Fig. 41. OKINAWA I.
26.3°N, 127.8°E JUNE 1958

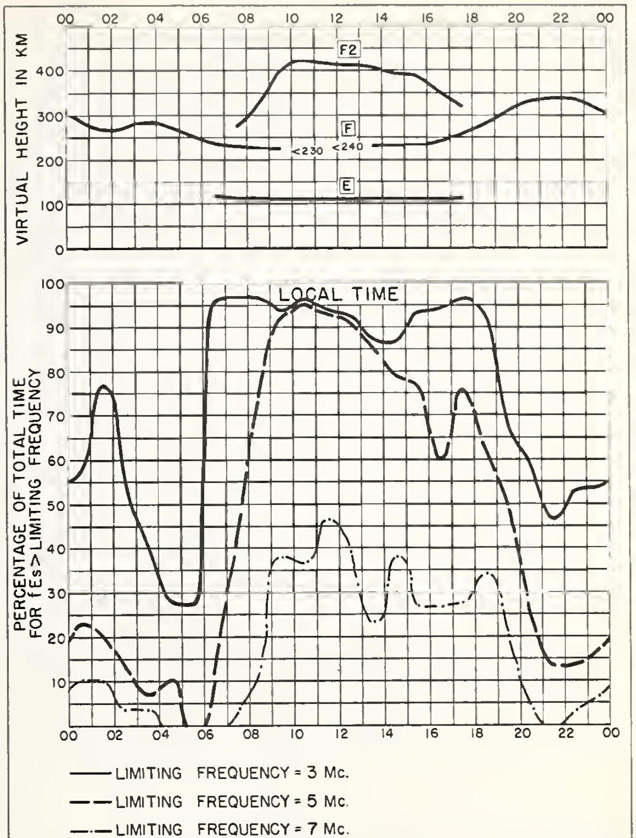


Fig. 42. OKINAWA I. JUNE 1958

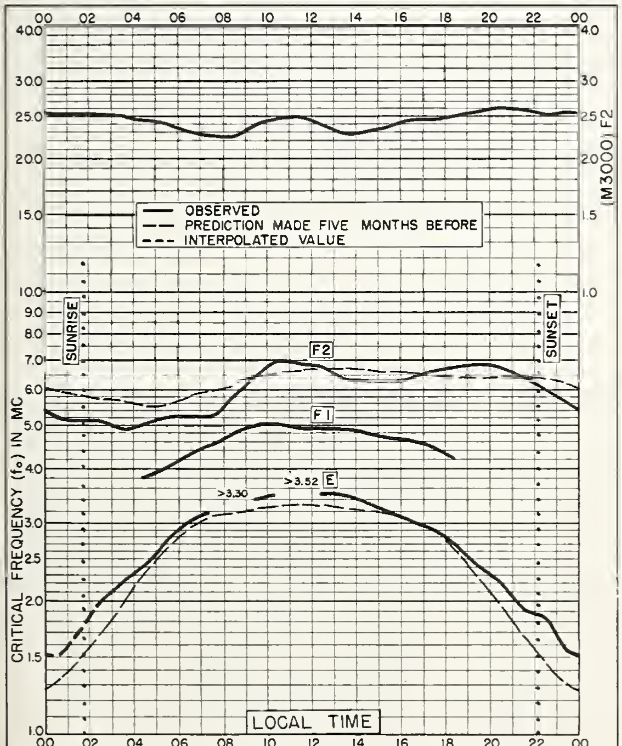


Fig 43. GODHAVN, GREENLAND
69.3°N, 53.5°W MAY 1958

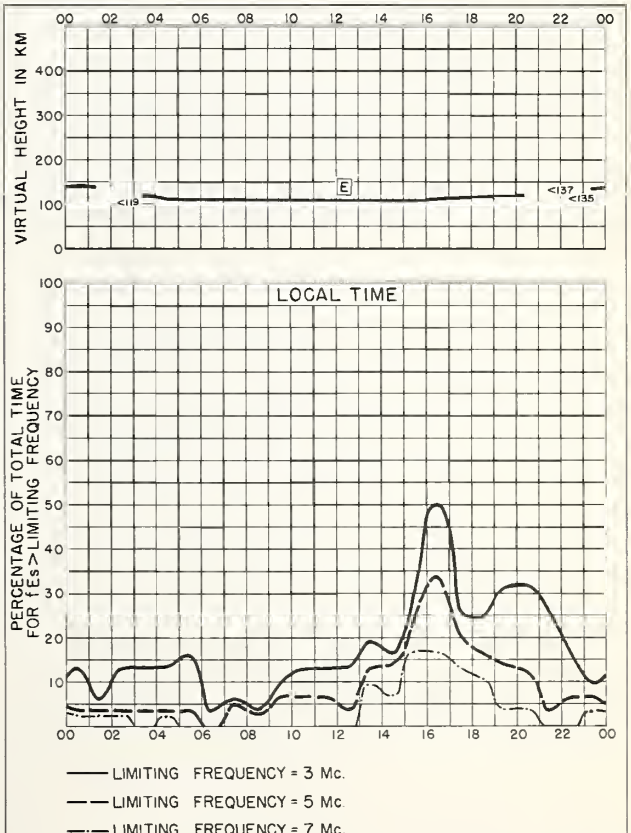


Fig. 44. GODHAVN, GREENLAND MAY 1958

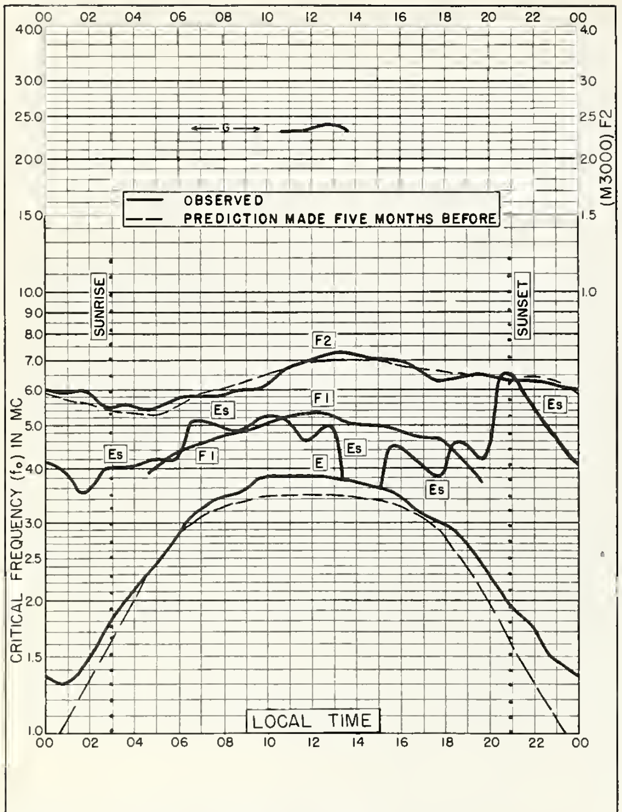


Fig. 45. BAKER LAKE, CANADA
64.3°N, 96.0°W MAY 1958

Commerce-Standards-Boulder, Colo. NBS 503

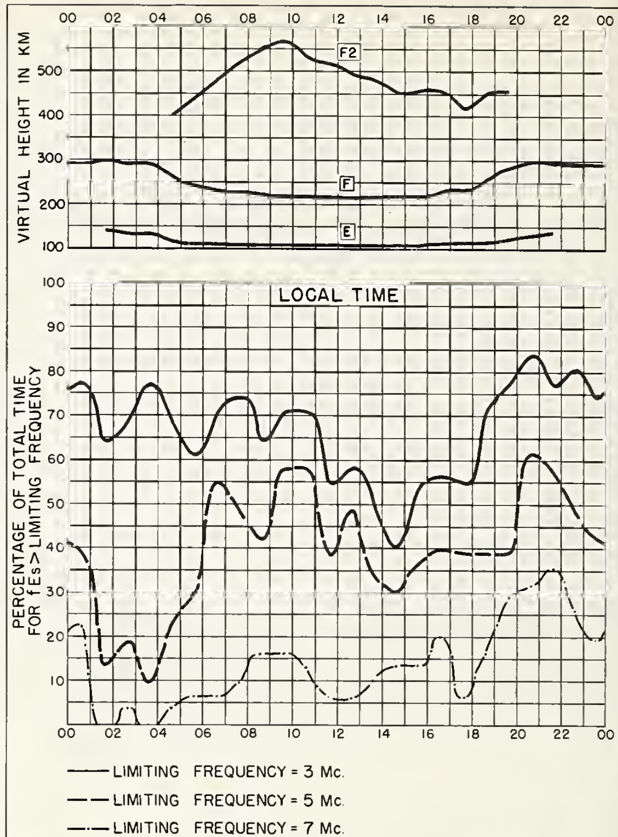


Fig. 46. BAKER LAKE, CANADA MAY 1958

Commerce-Standards-Boulder, Colo. NBS 490

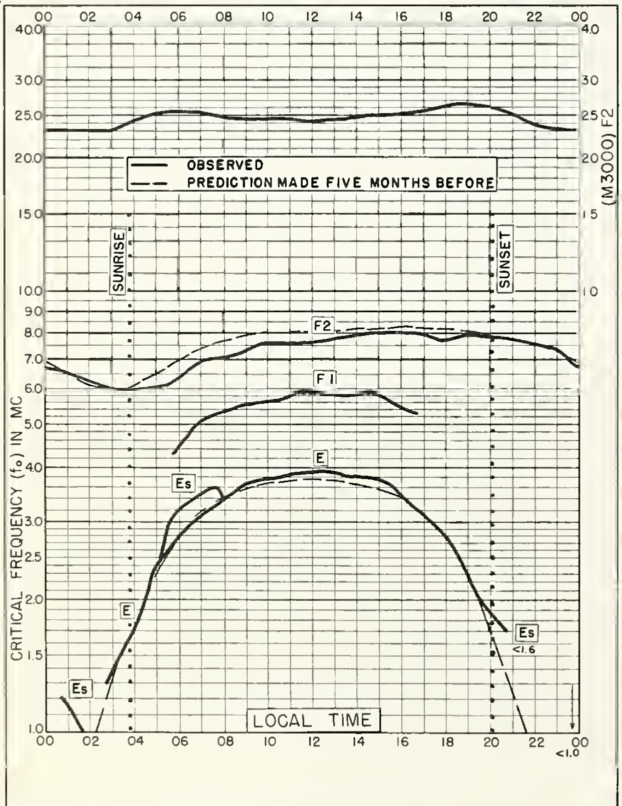


Fig. 47. INVERNESS, SCOTLAND
57.4°N, 4.2°W MAY 1958

Commerce-Standards-Boulder, Colo. NBS 503

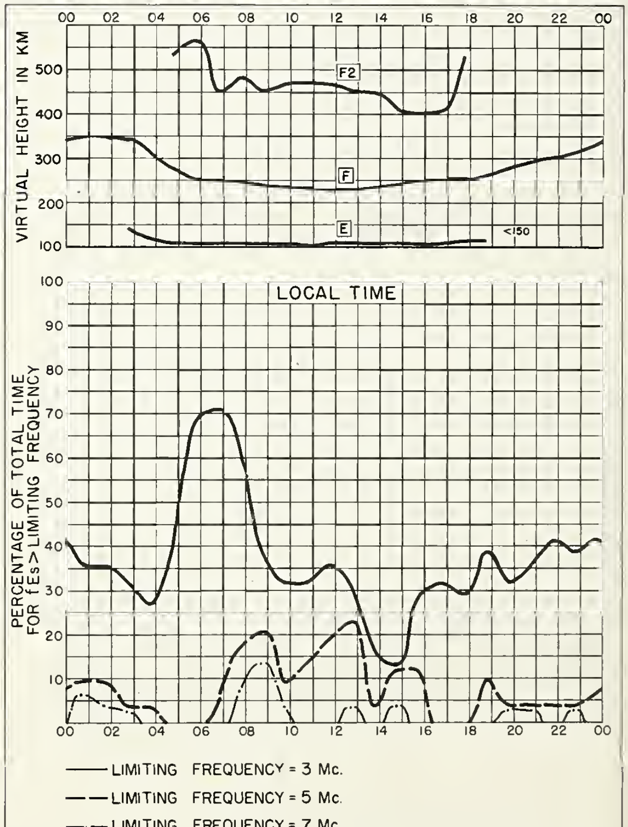


Fig. 48. INVERNESS, SCOTLAND MAY 1958

Commerce-Standards-Boulder, Colo. NBS 490

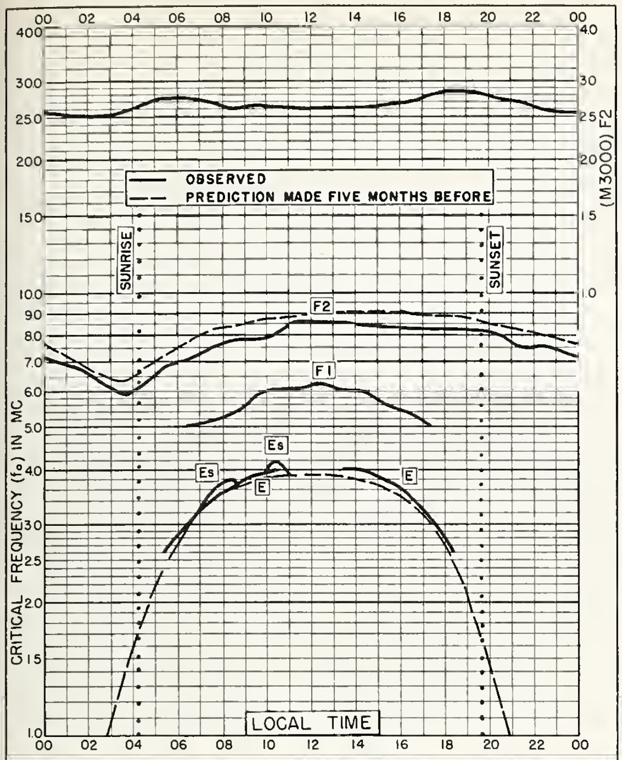


Fig. 49. De BILT, HOLLAND
52.1°N, 5.2°E MAY 1958

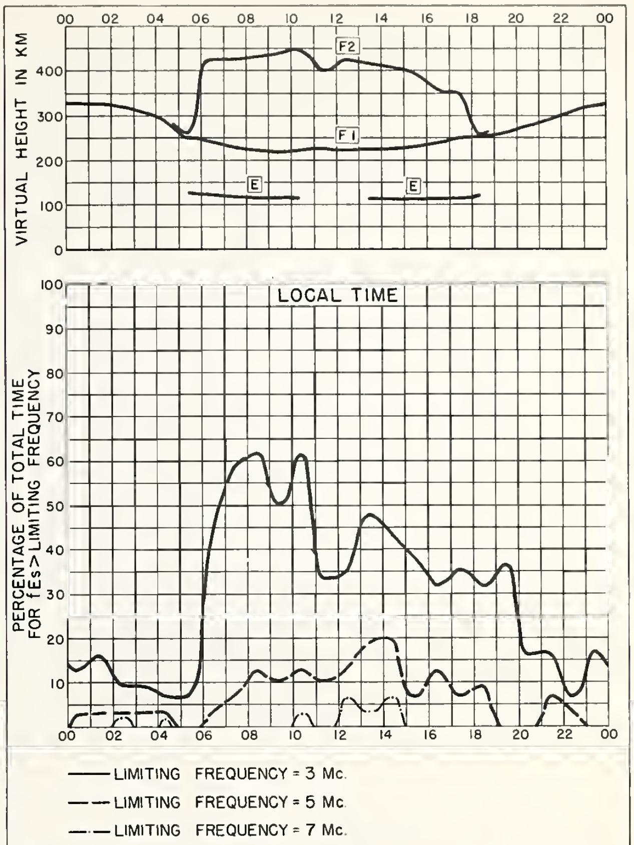


Fig. 50. De BILT, HOLLAND MAY 1958

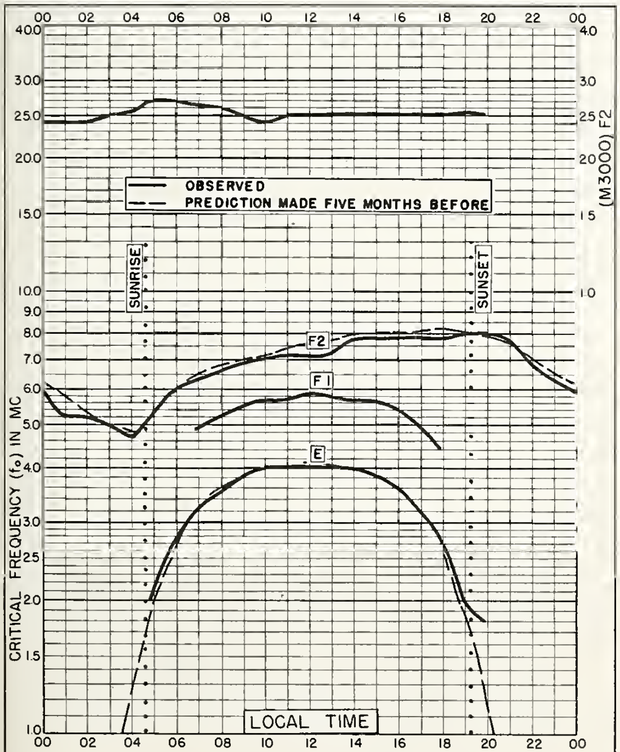


Fig. 51. OTTAWA, CANADA
45.4°N, 75.9°W MAY 1958

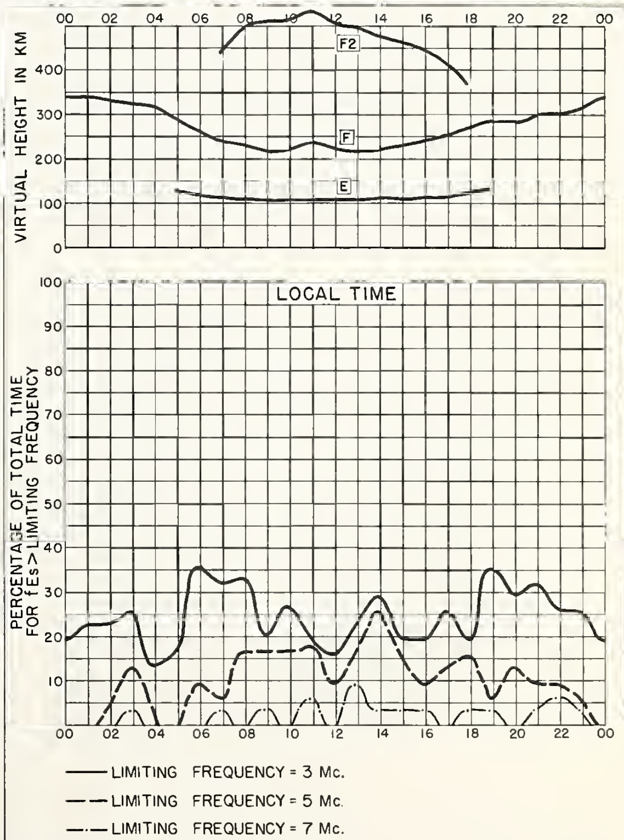


Fig. 52. OTTAWA, CANADA MAY 1958

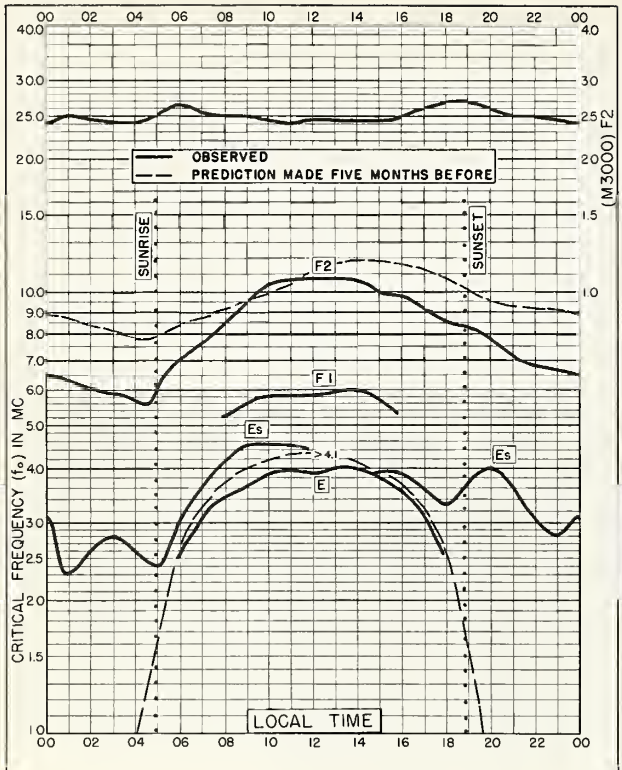


Fig. 53. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY 1958

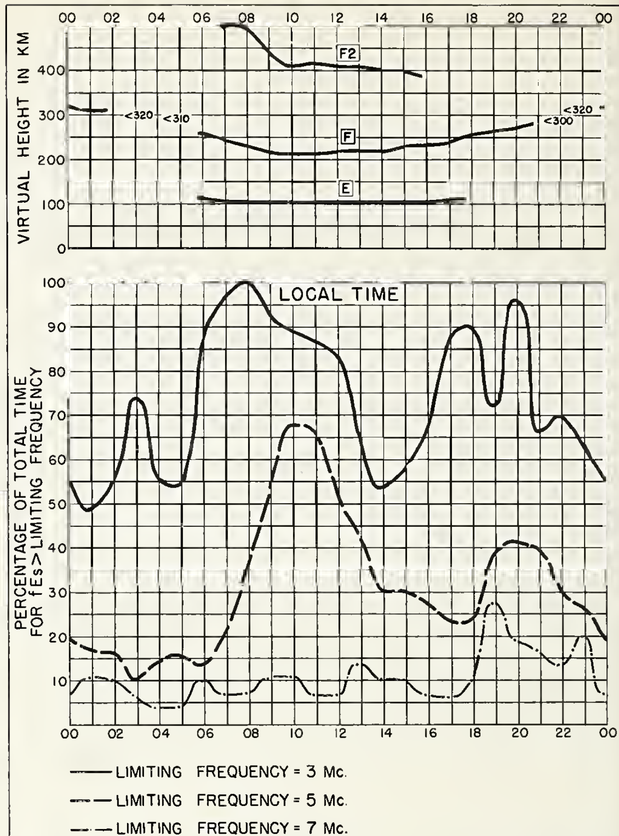


Fig. 54. SAN FRANCISCO, CALIFORNIA MAY 1958

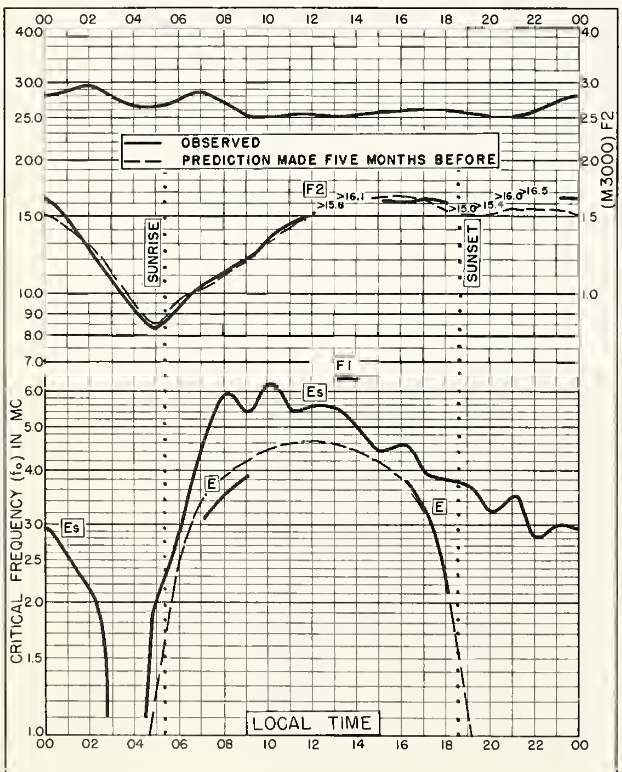


Fig. 55. FORMOSA, CHINA
25.0°N, 121.5°E MAY 1958

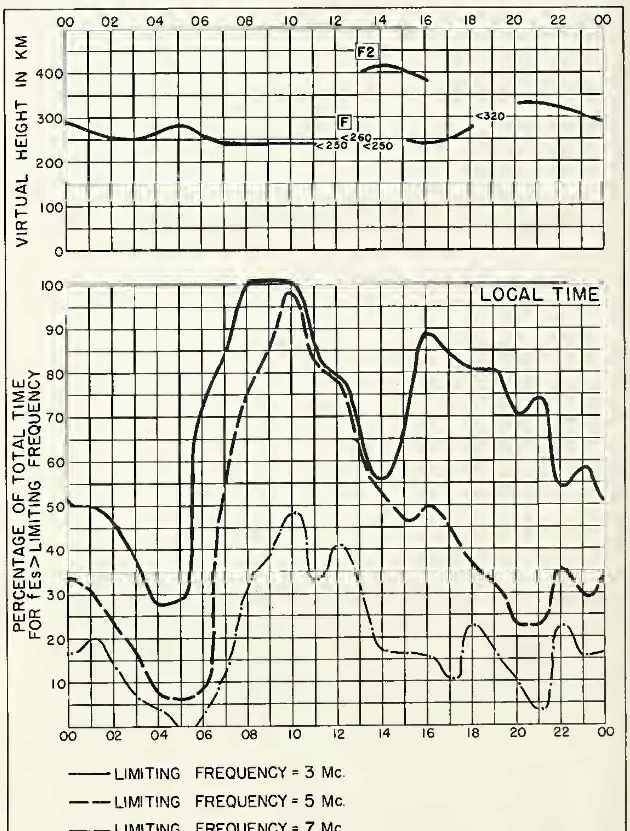


Fig. 56. FORMOSA, CHINA MAY 1958

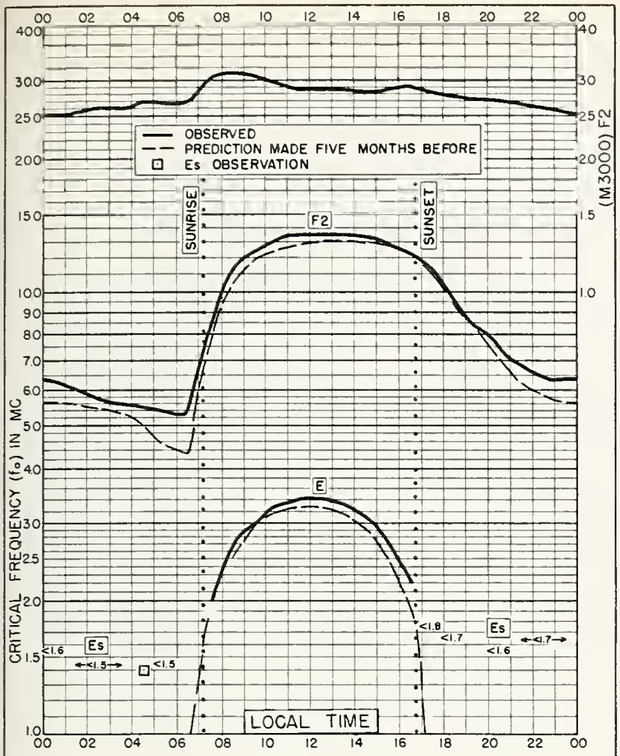


Fig. 57. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E MAY 1958

Commerce-Standards-Boulder, Colo. NBS 503

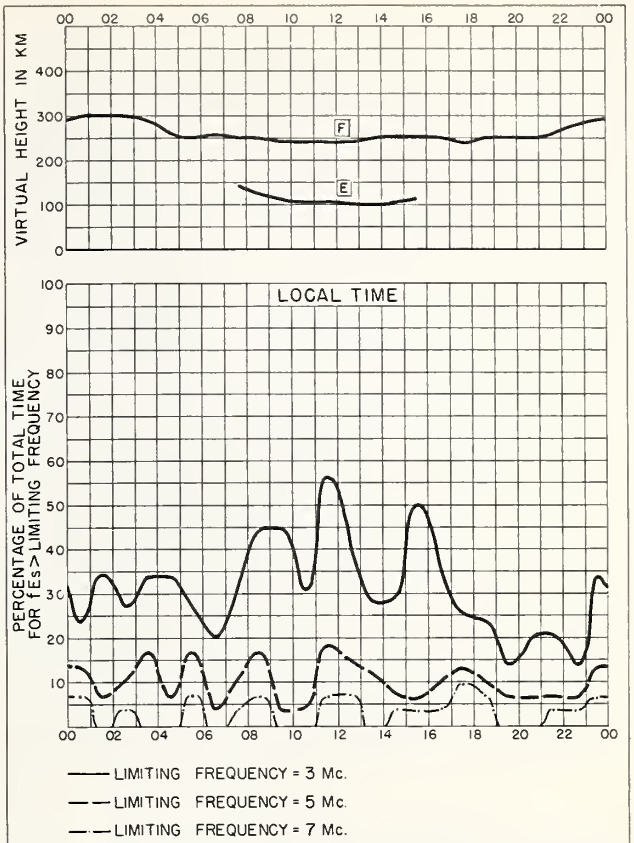


Fig. 58. CHRISTCHURCH, NEW ZEALAND MAY 1958

Commerce-Standards-Boulder, Colo. NBS 490

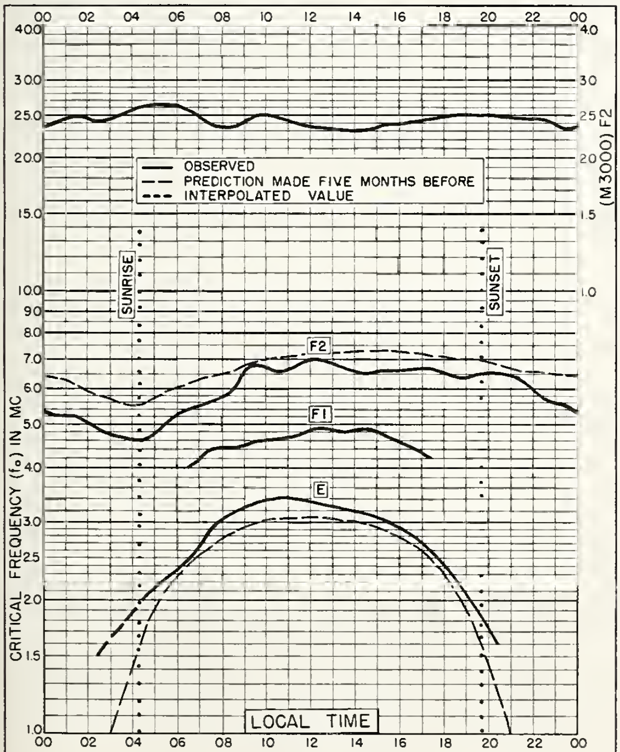


Fig. 59. GODHAVN, GREENLAND
69.3°N, 53.5°W APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 503

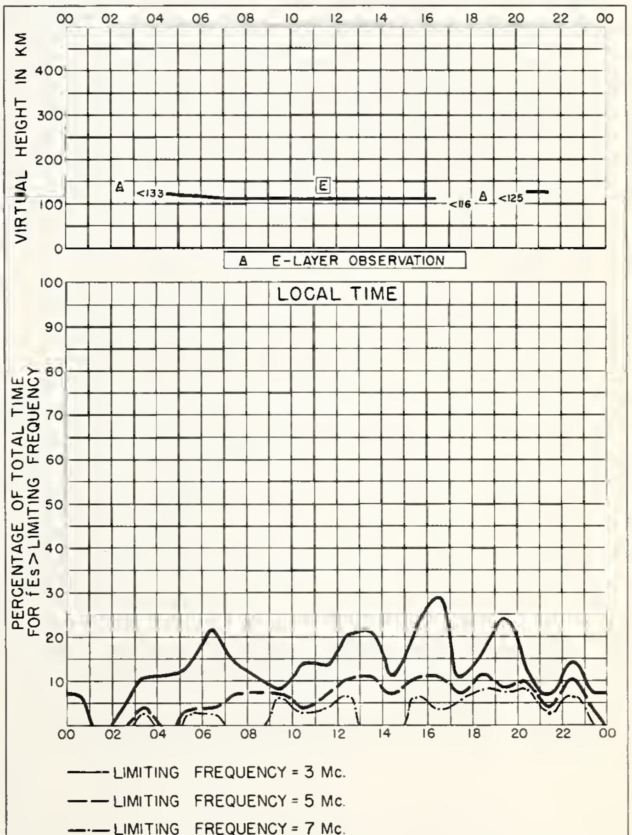


Fig. 60. GODHAVN, GREENLAND APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 490

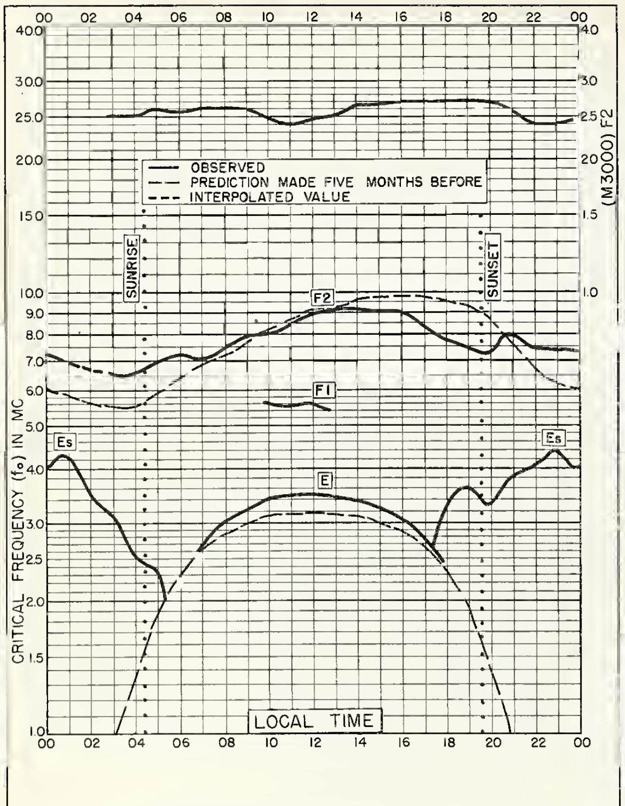


Fig. 61. SODANKYLA, FINLAND
67.4°N, 26.6°E APRIL 1958

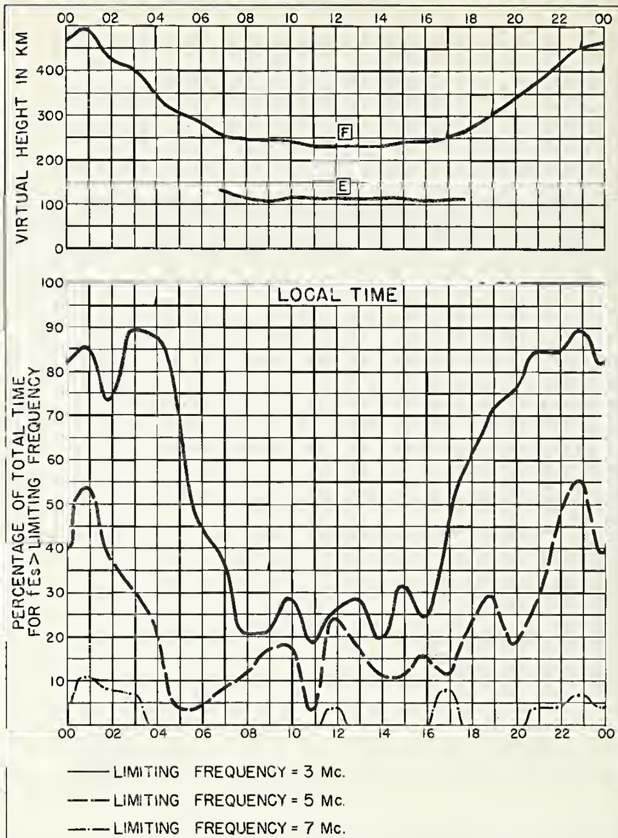


Fig. 62. SODANKYLA, FINLAND APRIL 1958

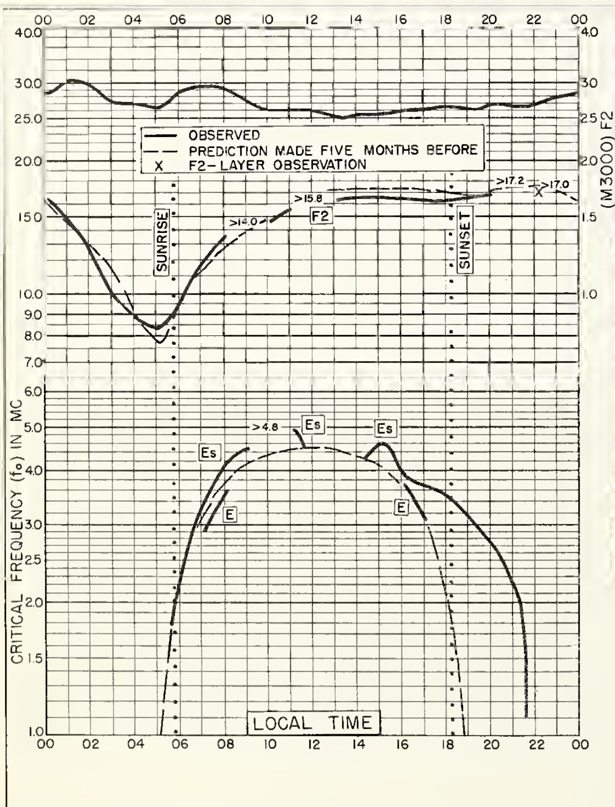


Fig. 63. FORMOSA, CHINA
25.0°N, 121.5°E APRIL 1958

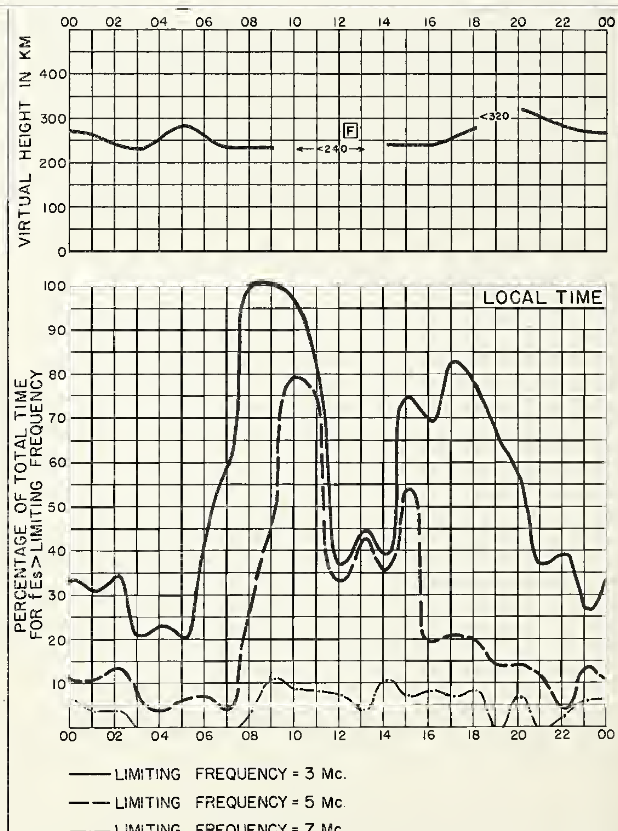


Fig. 64. FORMOSA, CHINA APRIL 1958

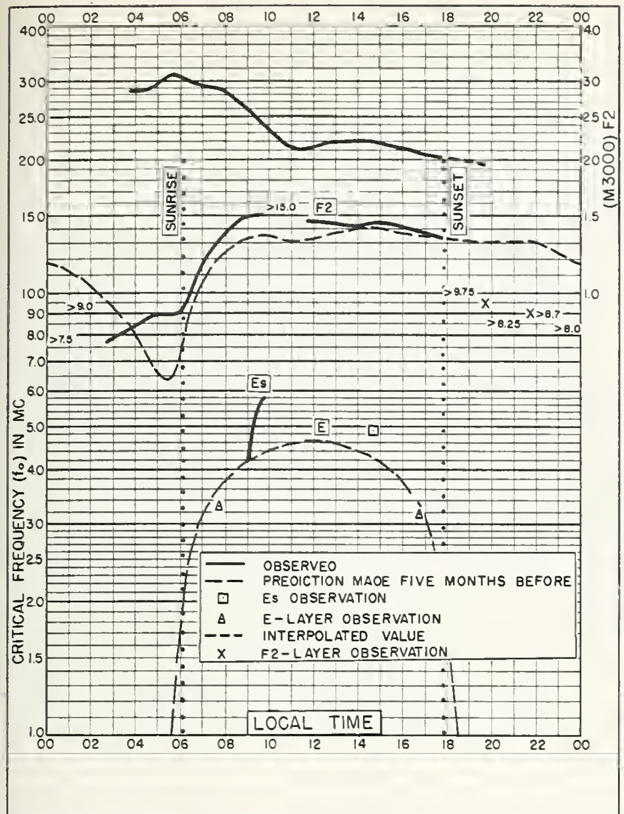


Fig. 65. NATAL, BRAZIL
5.3°S, 35.1°W APRIL 1958

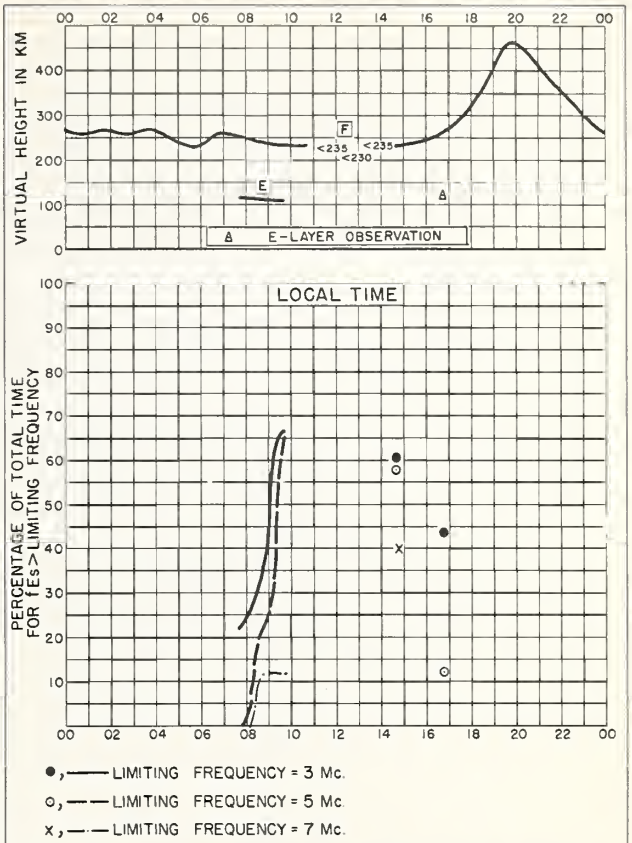


Fig. 66. NATAL, BRAZIL APRIL 1958

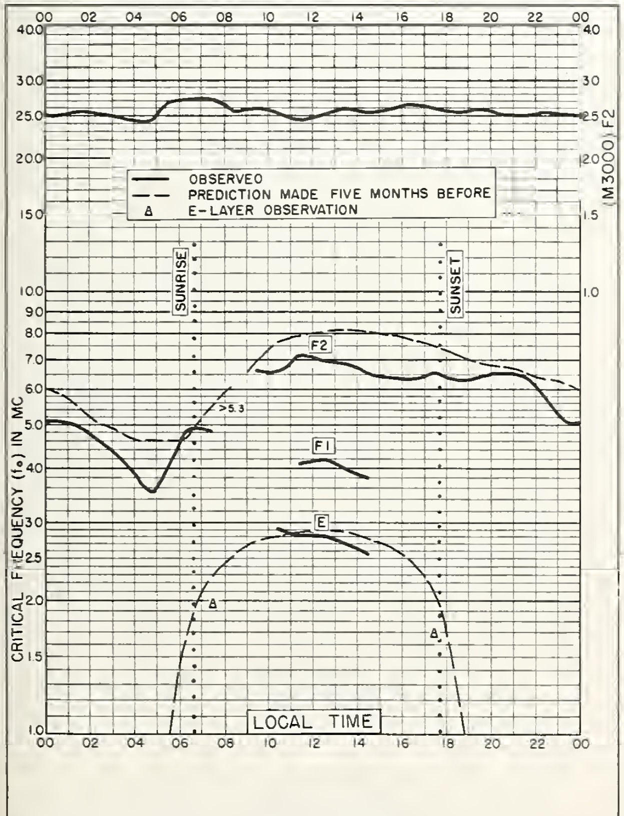


Fig. 67. GODHAVN, GREENLAND
69.3°N, 53.5°W MARCH 1958

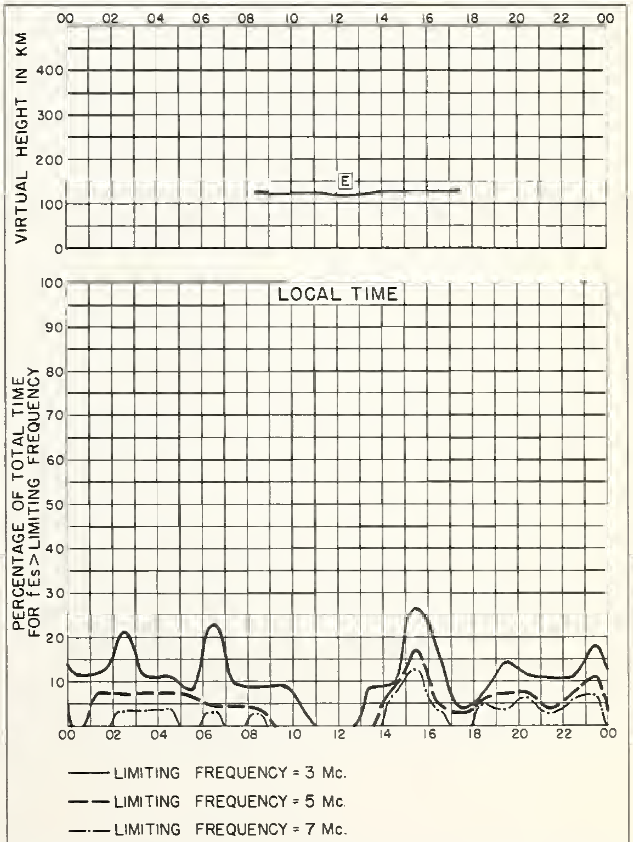


Fig. 68. GODHAVN, GREENLAND MARCH 1958

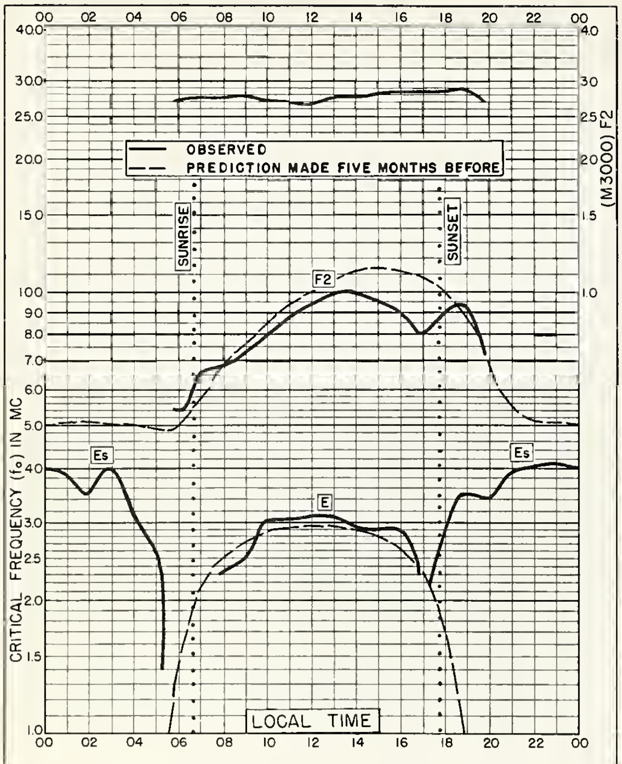


Fig. 69. SODANKYLA, FINLAND
67.4°N, 26.6°E MARCH 1958

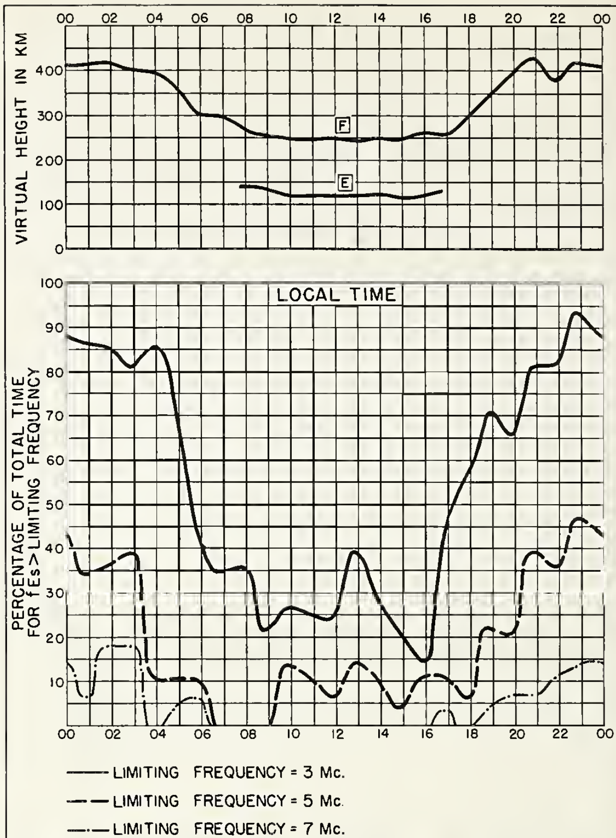


Fig. 70. SODANKYLA, FINLAND MARCH 1958

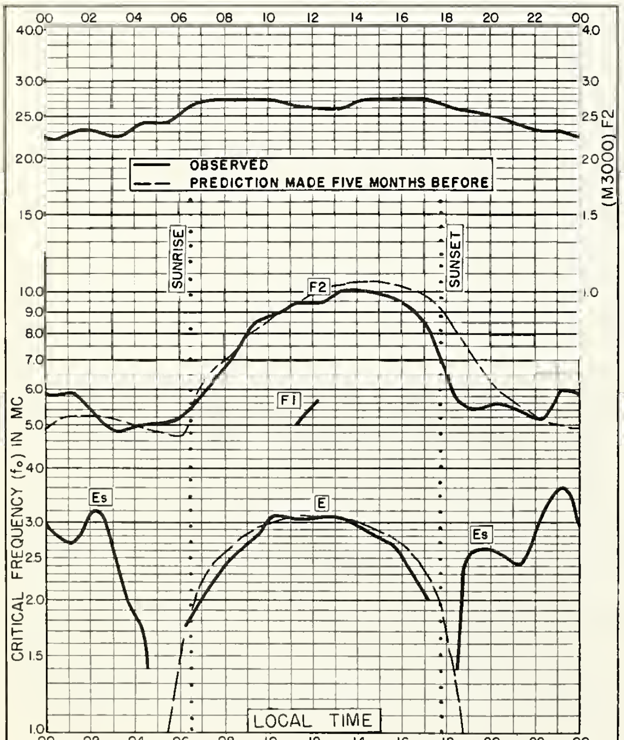


Fig. 71. LYCKSELE, SWEDEN
64.6°N, 18.8°E MARCH 1958

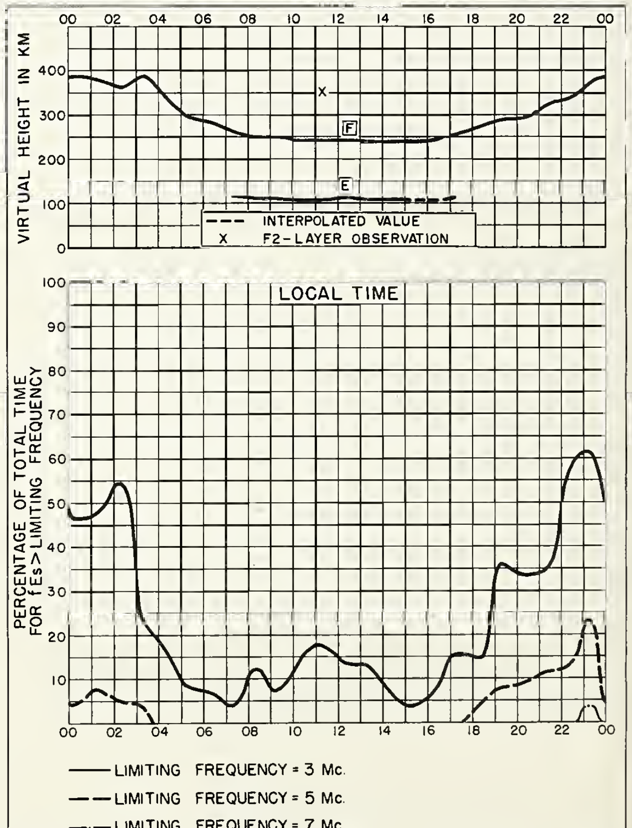


Fig. 72. LYCKSELE, SWEDEN MARCH 1958

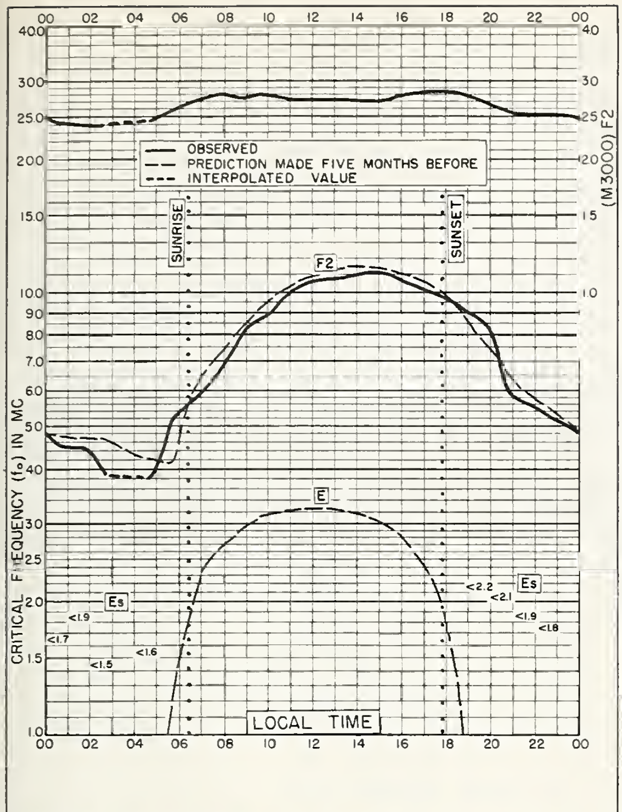


Fig. 73. NURMIJARVI, FINLAND
60.5°N, 24.6°E MARCH 1958

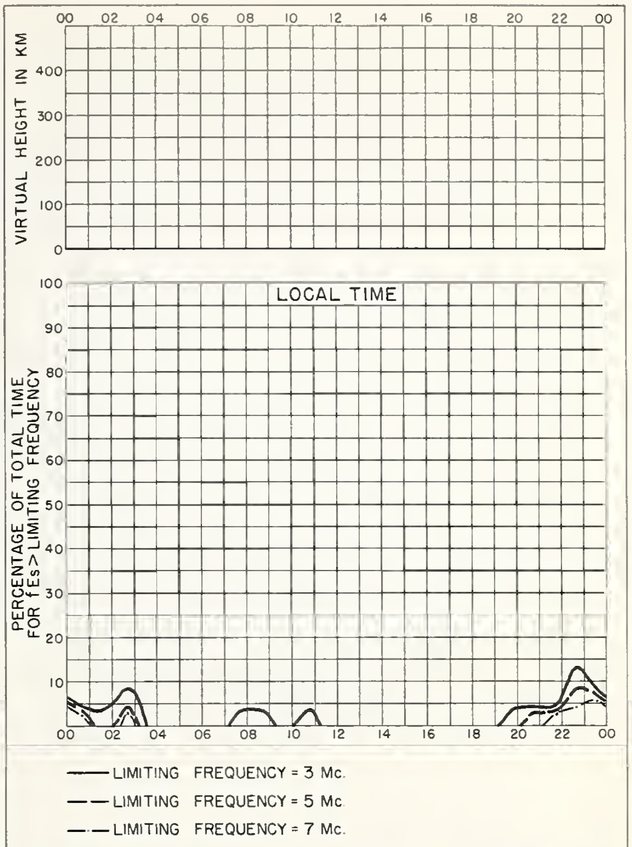


Fig. 74. NURMIJARVI, FINLAND MARCH 1958

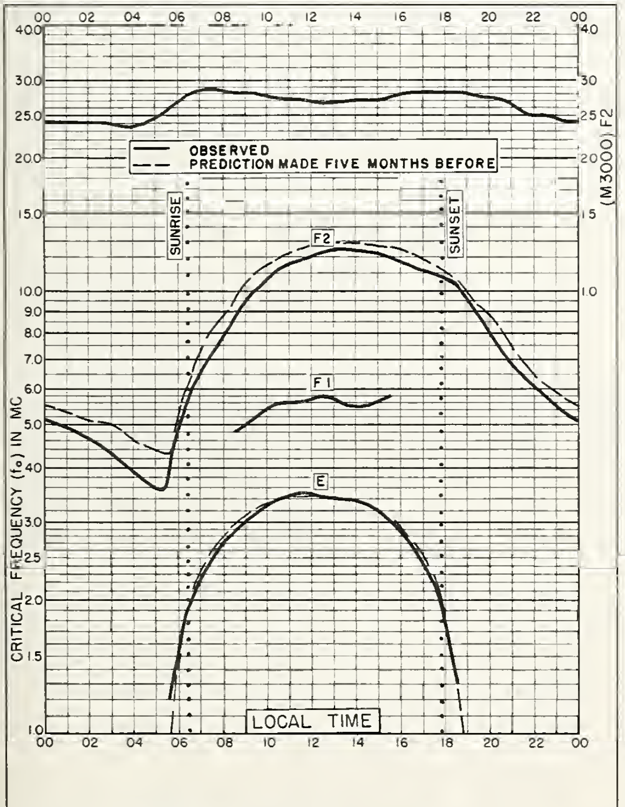


Fig. 75. MOSCOW, U.S.S.R.
55.5°N, 37.3°E MARCH 1958

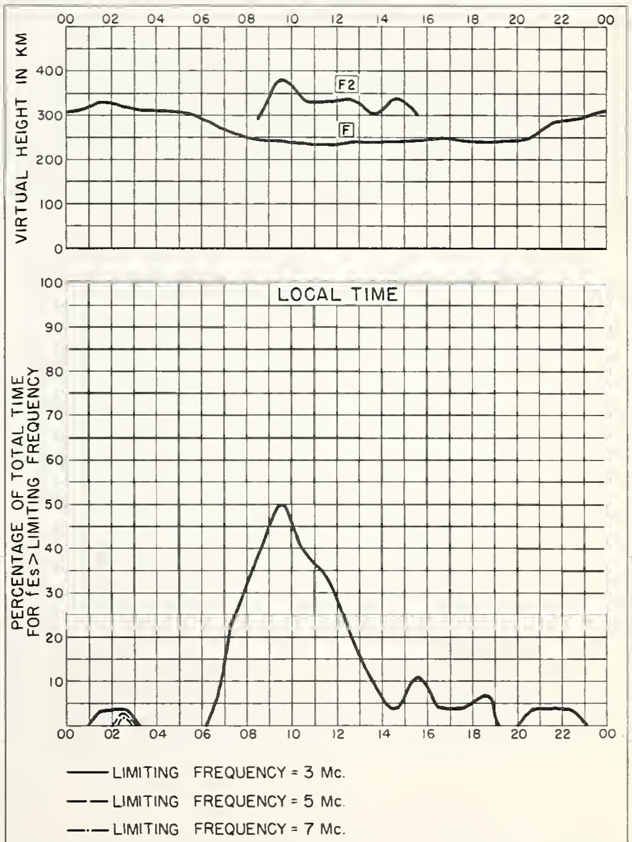


Fig. 76. MOSCOW, U.S.S.R. MARCH 1958

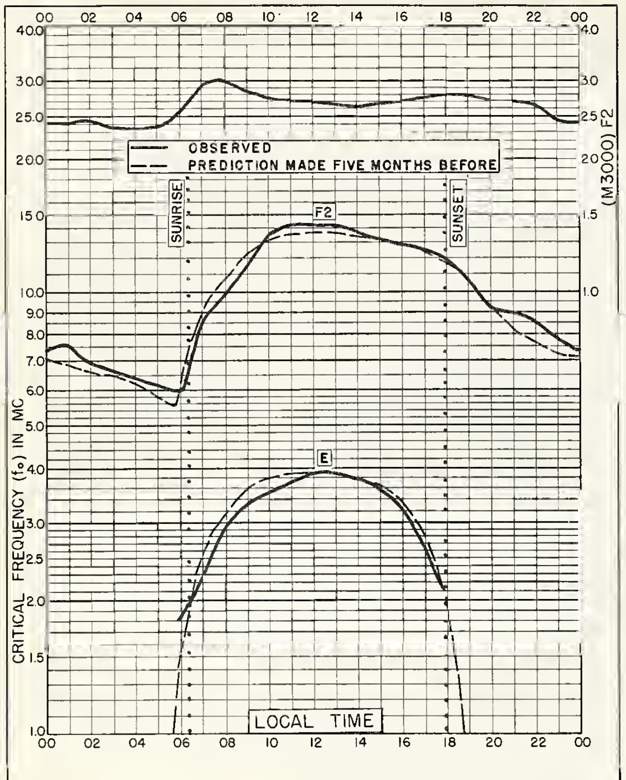


Fig. 77. ROME, ITALY
41.8°N, 12.5°E MARCH 1958

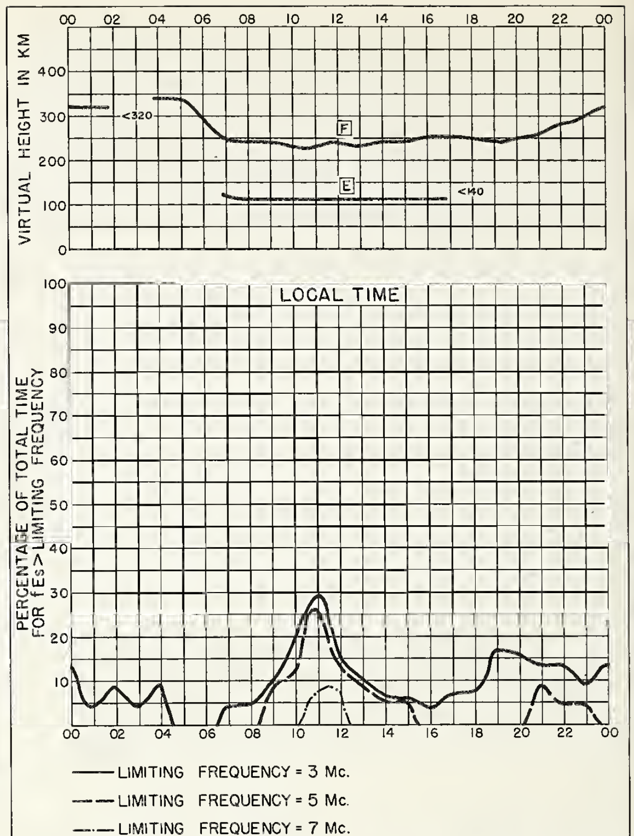


Fig. 78. ROME, ITALY MARCH 1958

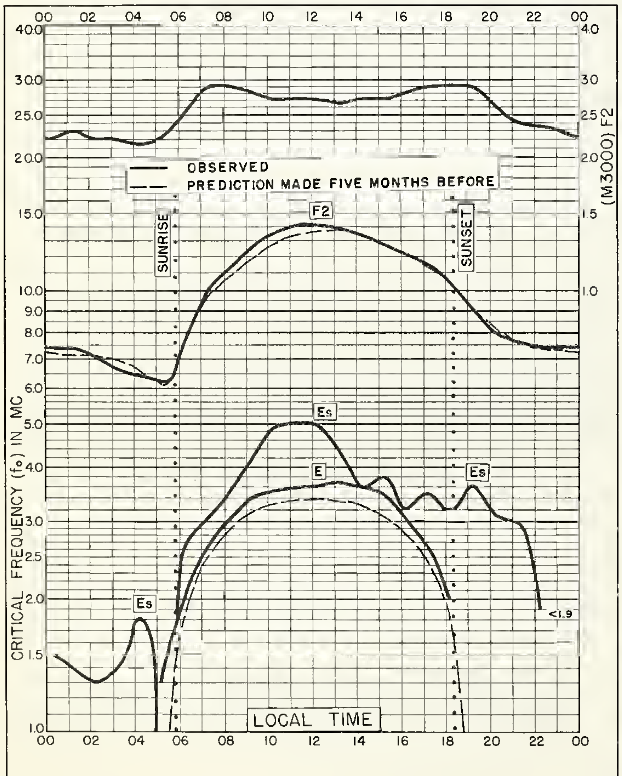


Fig. 79. FALKLAND IS.
51.7°S, 57.8°W MARCH 1958

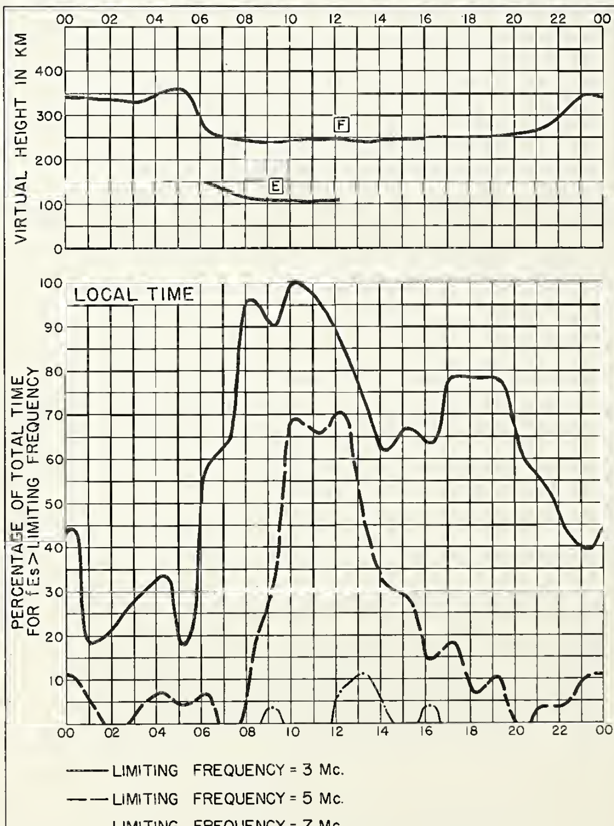


Fig. 80. FALKLAND IS. MARCH 1958

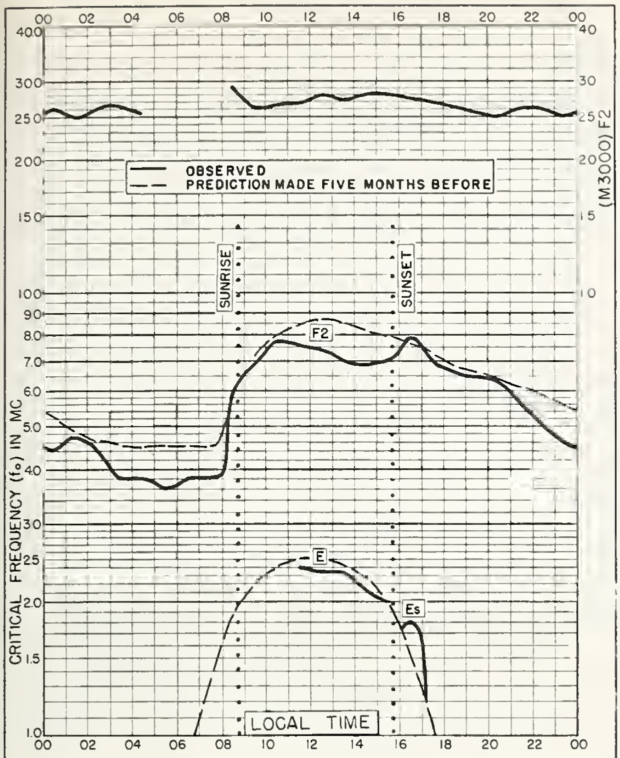


Fig. 81. GODHAVN, GREENLAND
69.3°N, 53.5°W FEBRUARY 1958

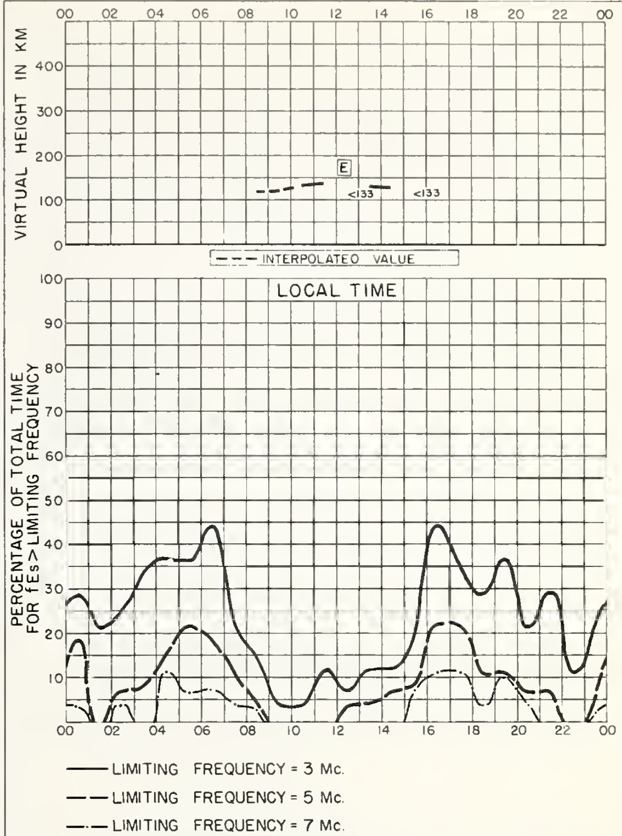


Fig. 82. GODHAVN, GREENLAND FEBRUARY 1958

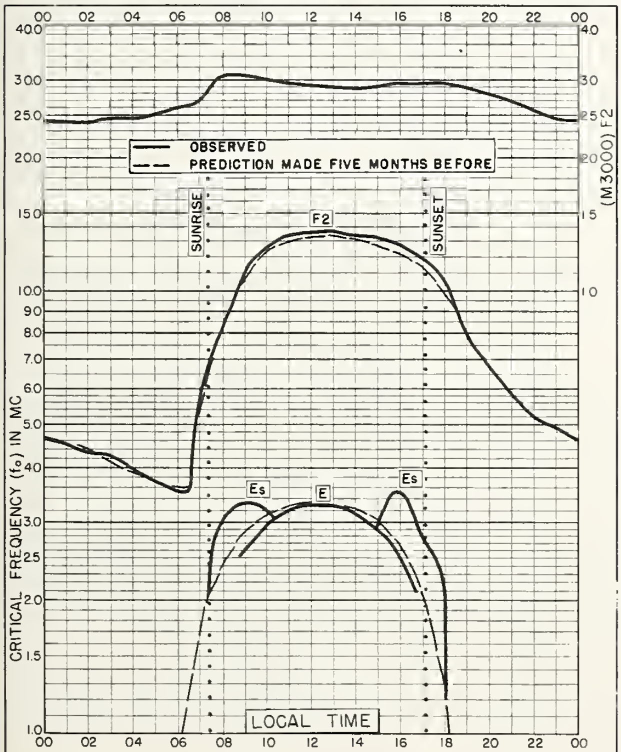
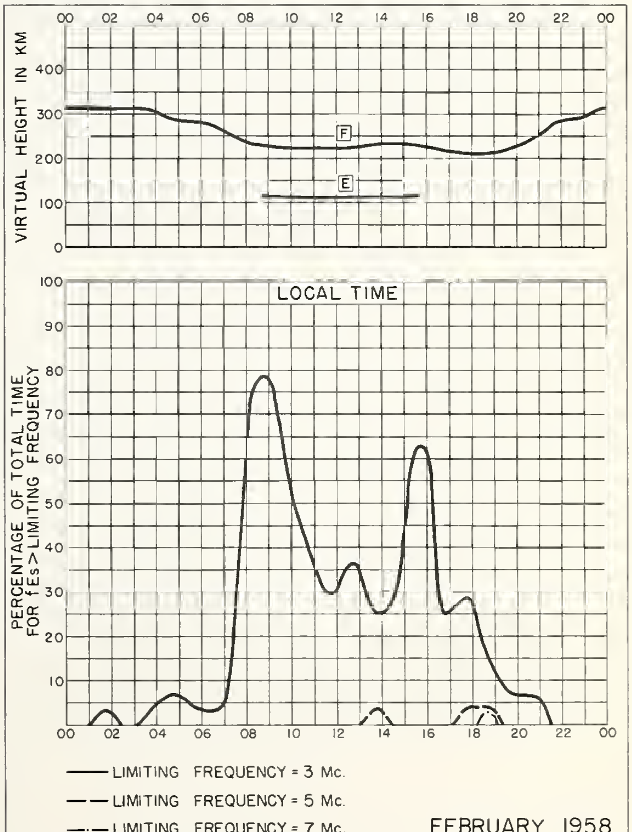


Fig. 83. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E FEBRUARY 1958



FEBRUARY 1958
Fig. 84. LINDAU/HARZ, GERMANY

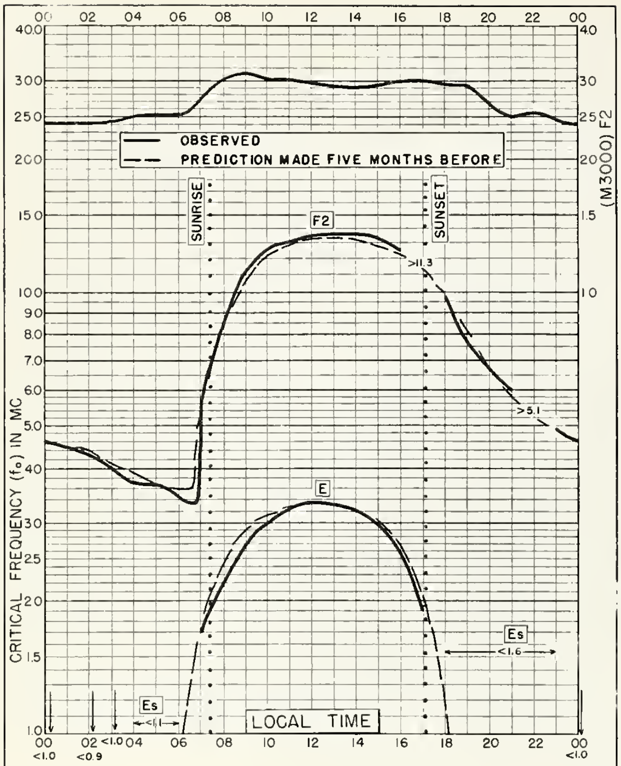


Fig. 85. SLOUGH, ENGLAND
51.5°N, 0.6°W FEBRUARY 1958

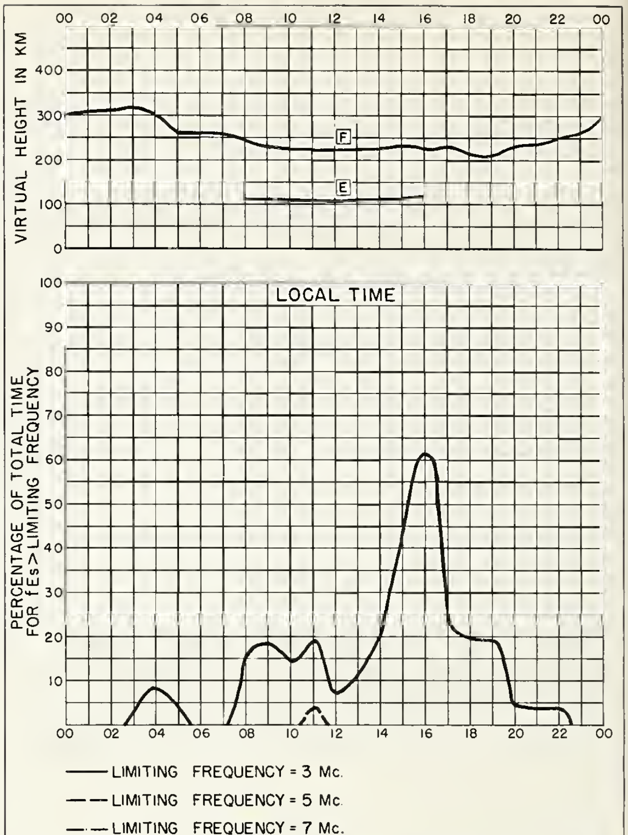


Fig. 86. SLOUGH, ENGLAND FEBRUARY 1958

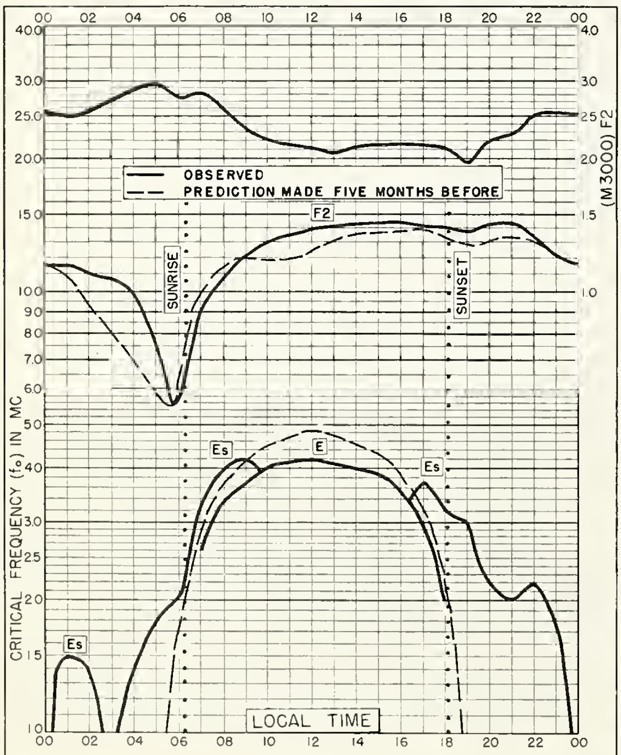


Fig. 87. BUNIA, BELGIAN CONGO
1.5°N, 30.2°E FEBRUARY 1958

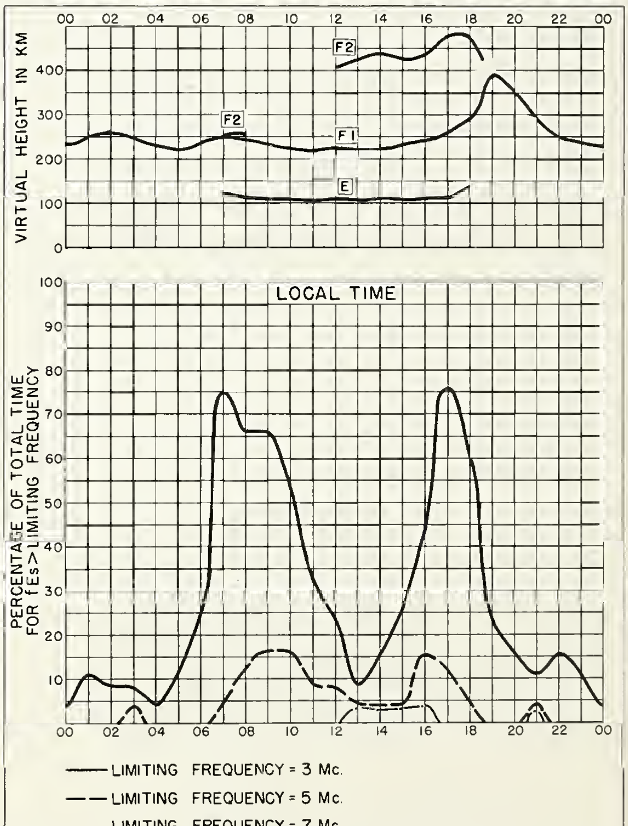


Fig. 88. BUNIA, BELGIAN CONGO FEBRUARY 1958

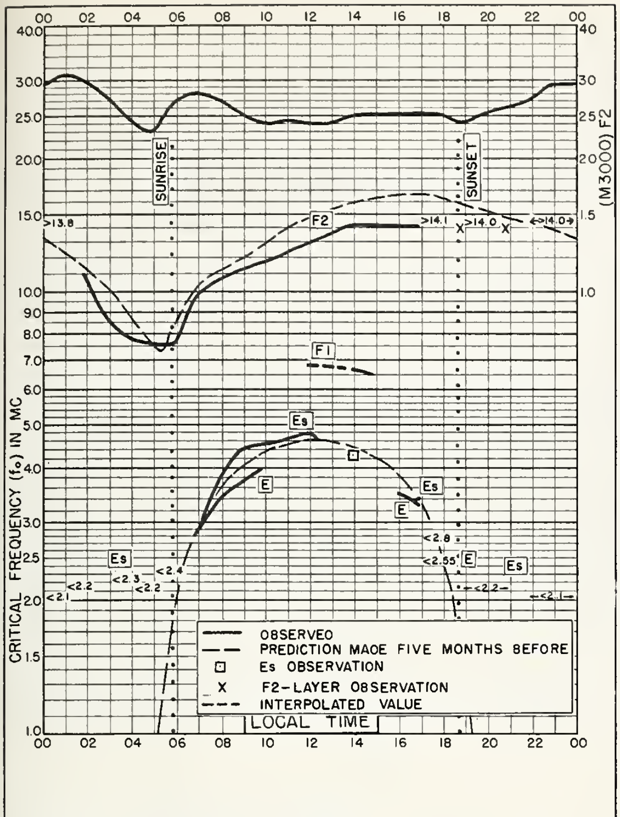


Fig. 89. SAO PAULO, BRAZIL
23.5°S, 46.5°W FEBRUARY 1958

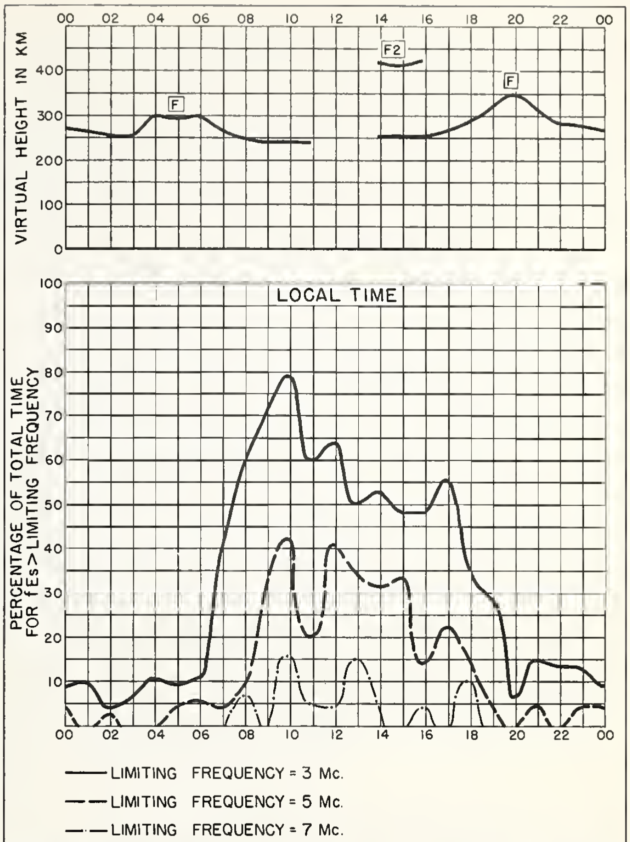


Fig. 90. SAO PAULO, BRAZIL FEBRUARY 1958

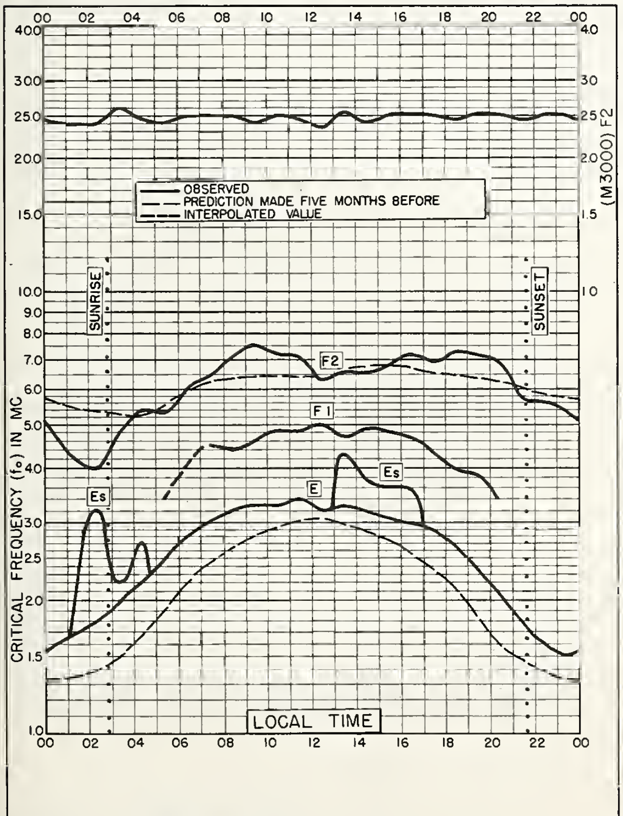


Fig. 91. CAPE HALLETT
72.3°S, 170.3°E FEBRUARY 1958

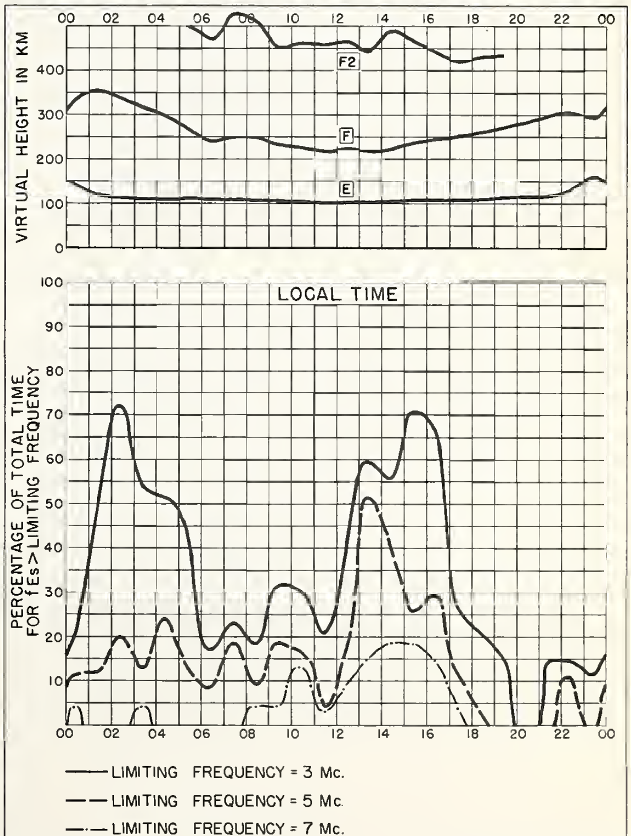


Fig. 92. CAPE HALLETT FEBRUARY 1958

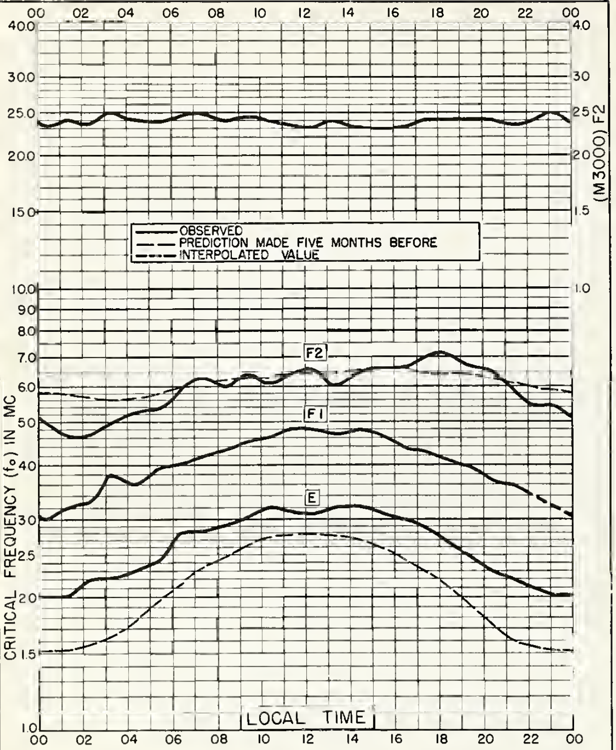


Fig. 93. SCOTT BASE
77.8°S, 166.8°E FEBRUARY 1958

NBS 503

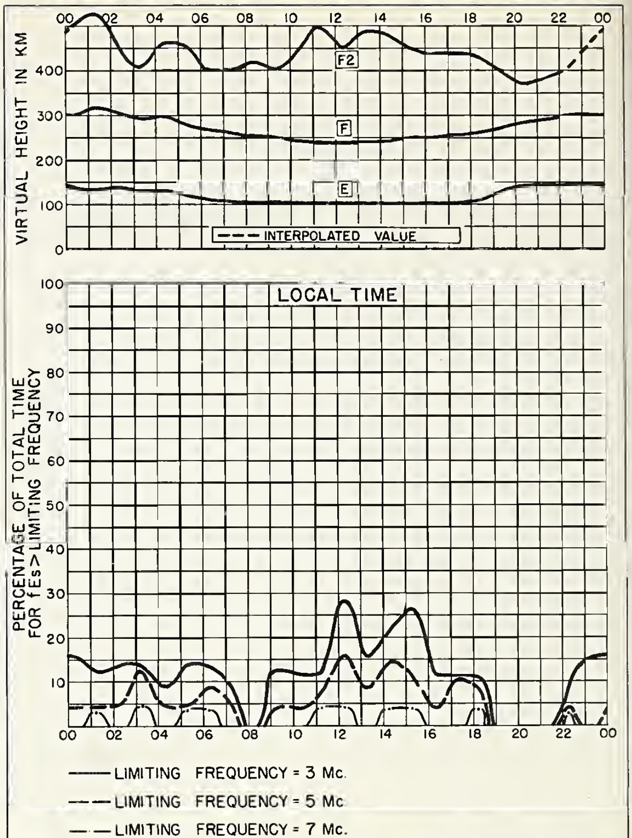


Fig. 94. SCOTT BASE FEBRUARY 1958

NBS 490

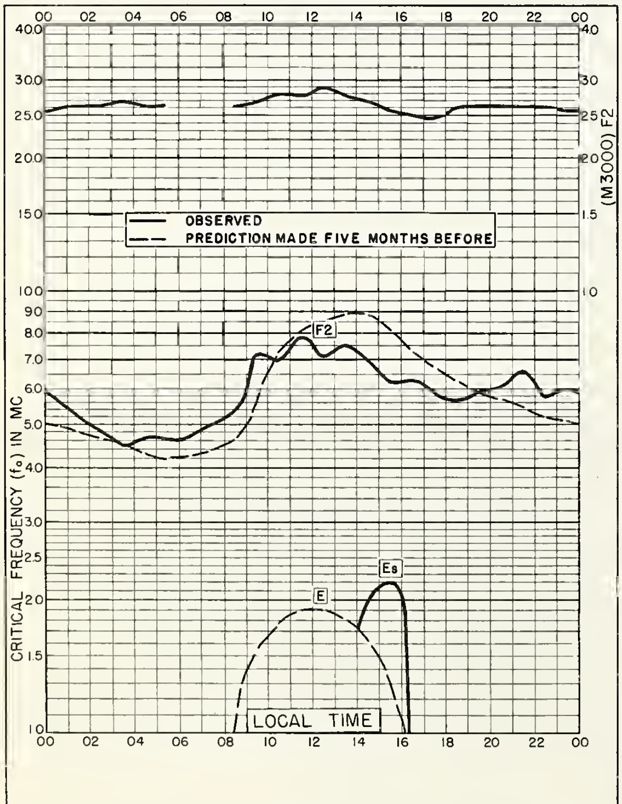


Fig. 95. GODHAVN, GREENLAND
69.3°N, 53.5°W JANUARY 1958

NBS 503

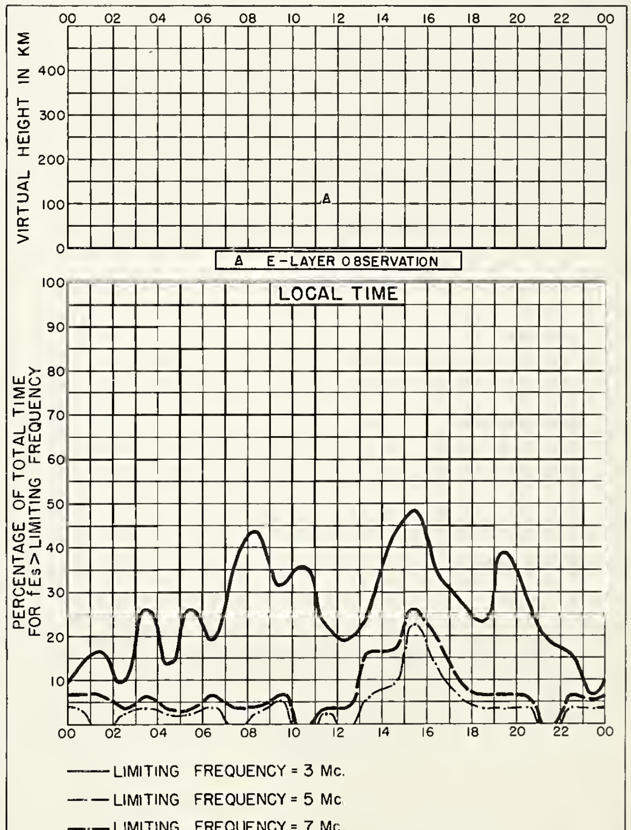


Fig. 96. GODHAVN, GREENLAND JANUARY 1958

NBS 490

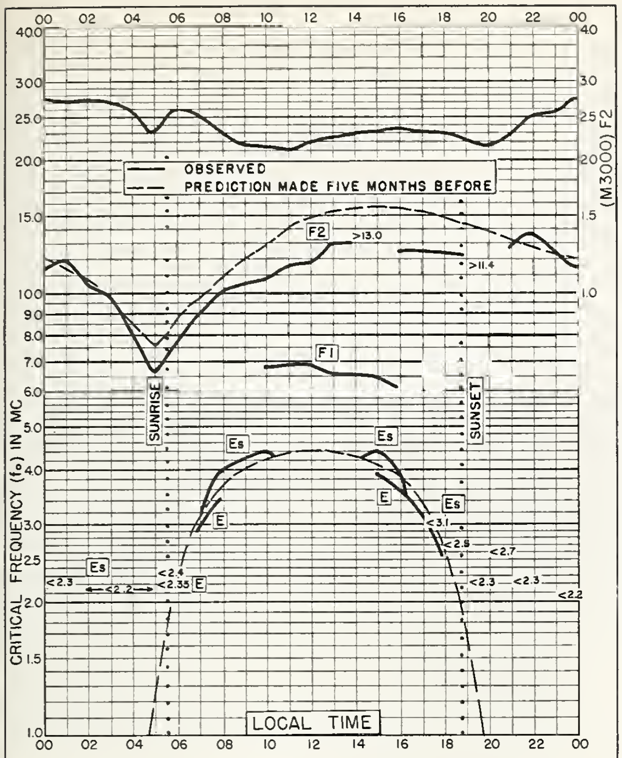


Fig. 97. SAO PAULO, BRAZIL
23.5°S, 46.5°W JANUARY 1958

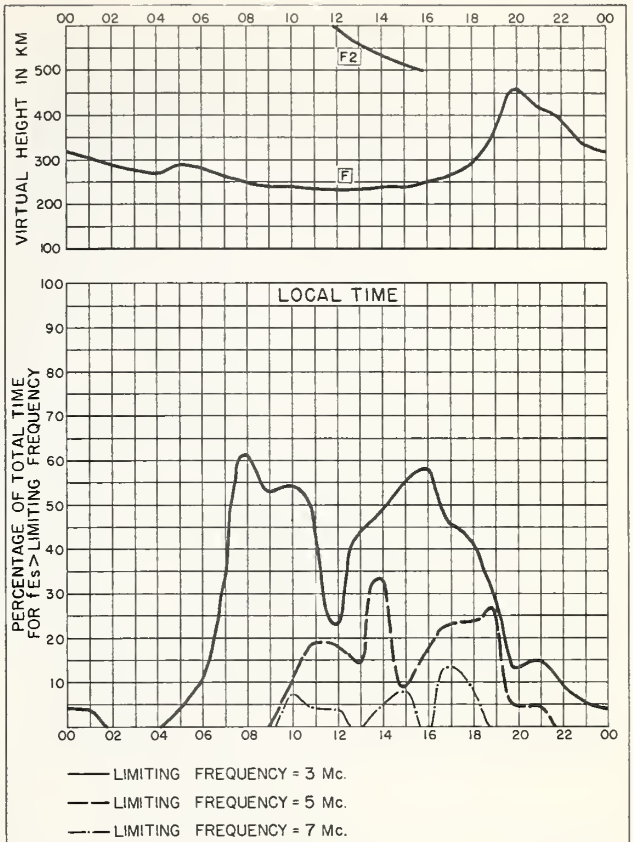


Fig. 98. SAO PAULO, BRAZIL JANUARY 1958

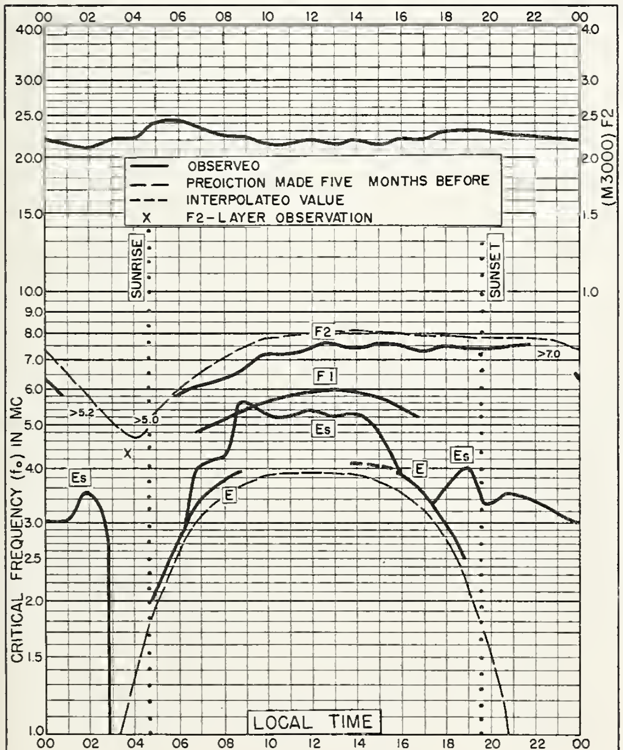


Fig. 99. HOBART, TASMANIA
42.9°S, 147.2°E JANUARY 1958

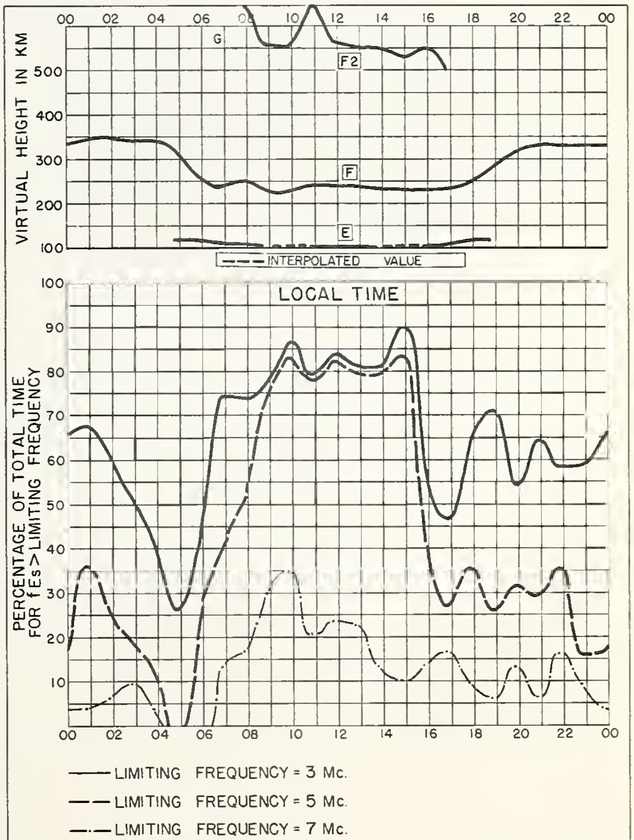


Fig. 100. HOBART, TASMANIA JANUARY 1958

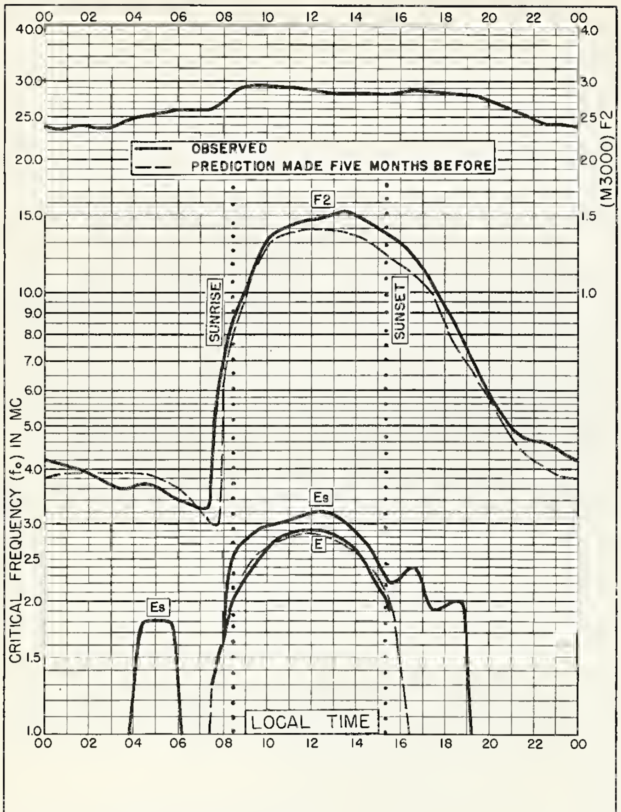


Fig. 101. MOSCOW, U.S.S.R.
55.5°N, 37.3°E DECEMBER 1957

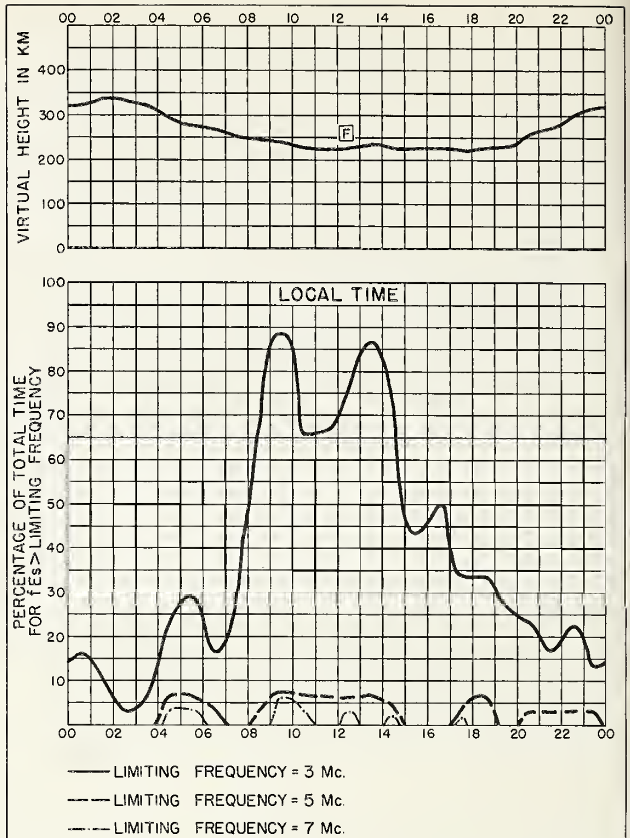


Fig. 102. MOSCOW, U.S.S.R. DECEMBER 1957

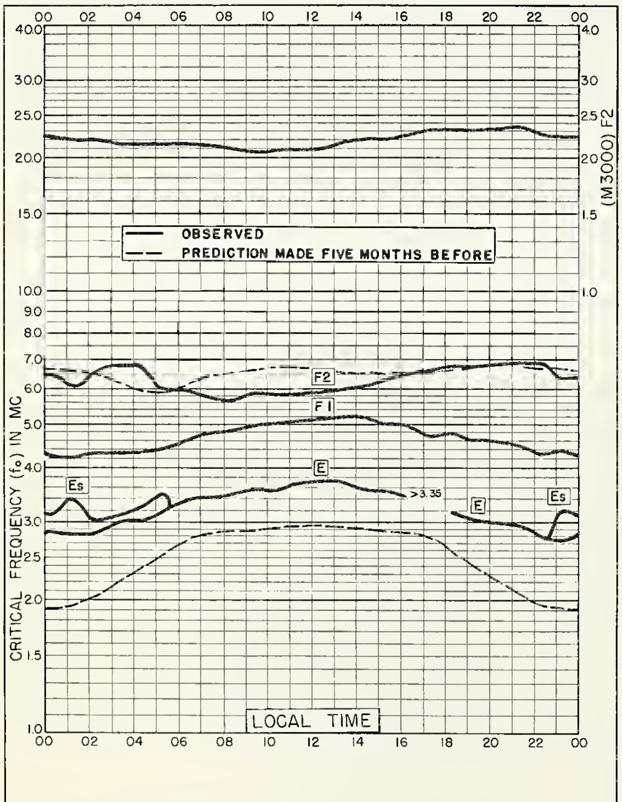


Fig. 103. ELLSWORTH
77.7°S, 41.1°W DECEMBER 1957

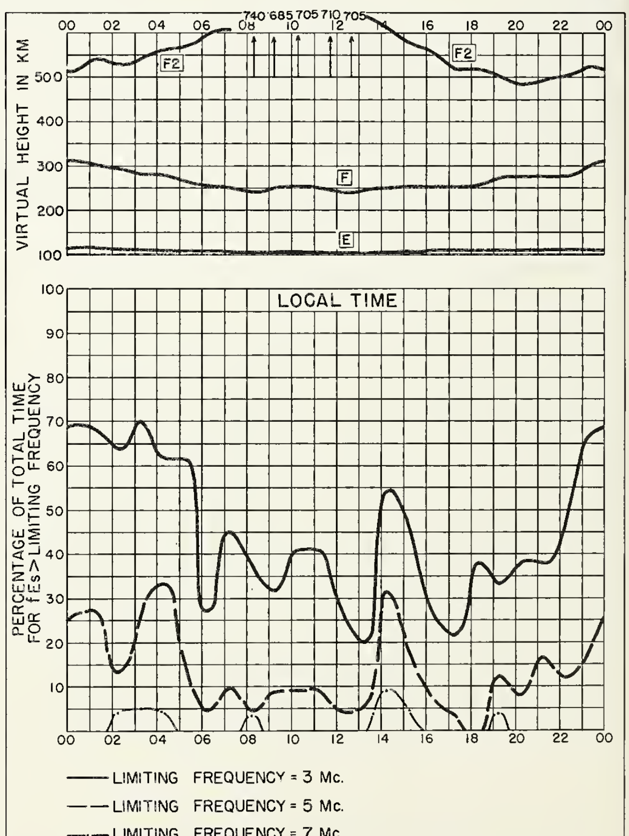


Fig. 104. ELLSWORTH DECEMBER 1957

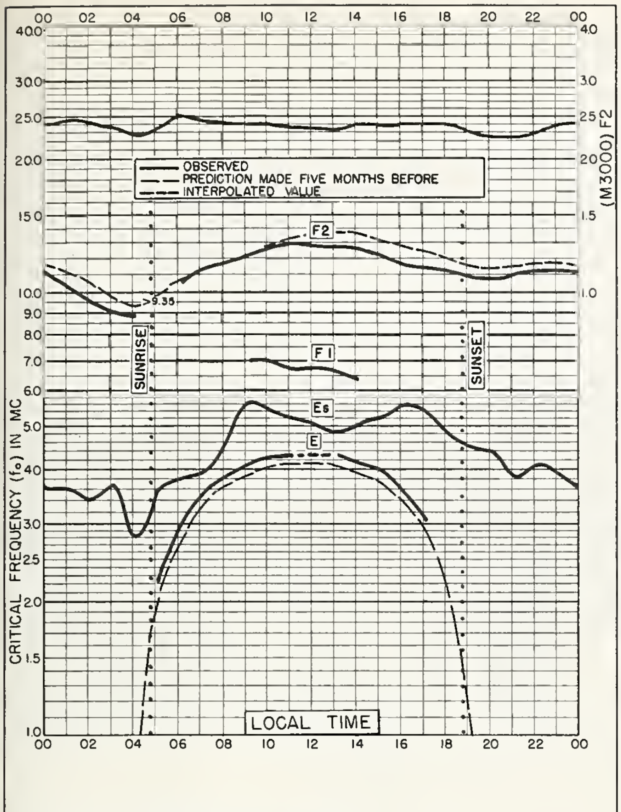


Fig. 105. CONCEPCION, CHILE
36.6°S, 73.0°W NOVEMBER 1957

Commerce-Standards-Boulder, Colo. NBS 503

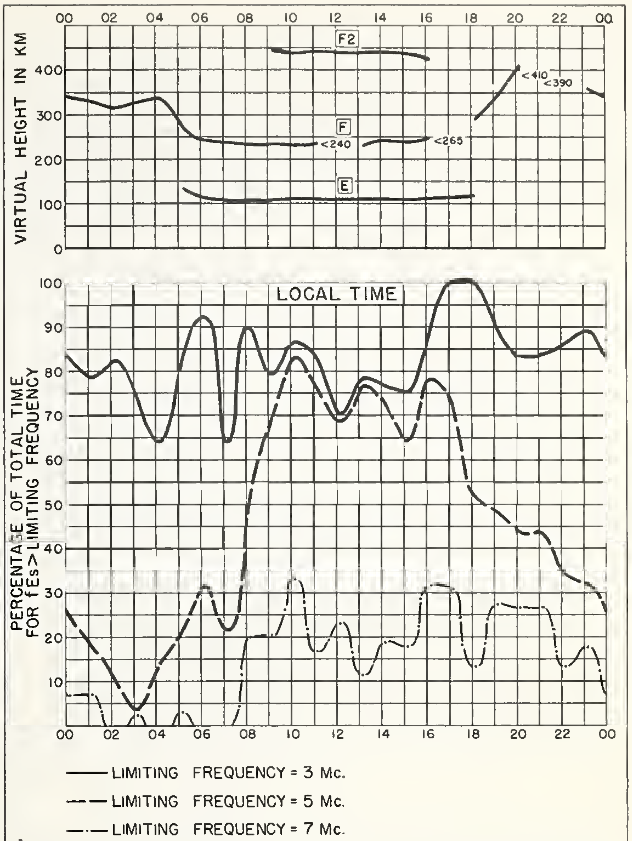


Fig. 106. CONCEPCION, CHILE NOVEMBER 1957

Commerce-Standards-Boulder, Colo. NBS 490

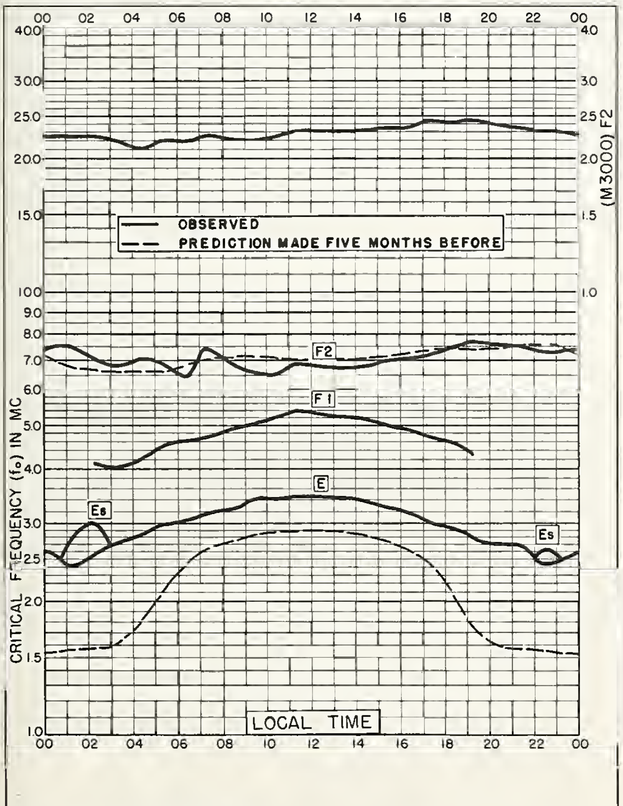


Fig. 107. ELLSWORTH
77.7°S, 41.1°W NOVEMBER 1957

Commerce-Standards-Boulder, Colo. NBS 503

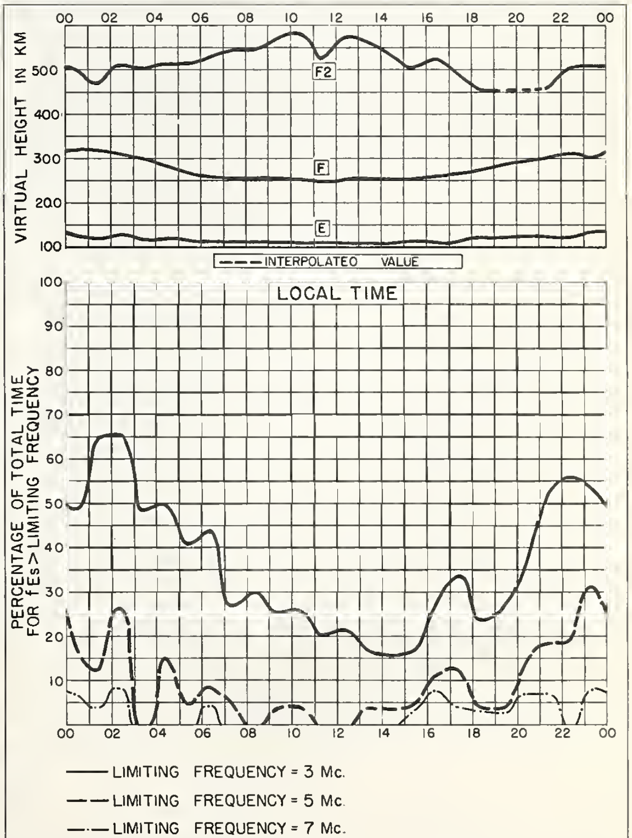


Fig. 108. ELLSWORTH NOVEMBER 1957

Commerce-Standards-Boulder, Colo. NBS 490

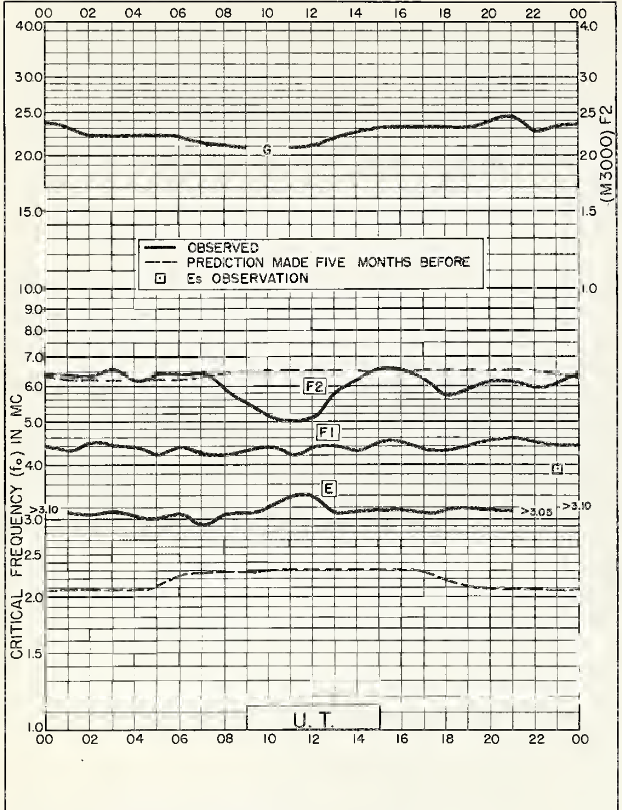


Fig. 109. POLE STATION
90.0°S NOVEMBER 1957

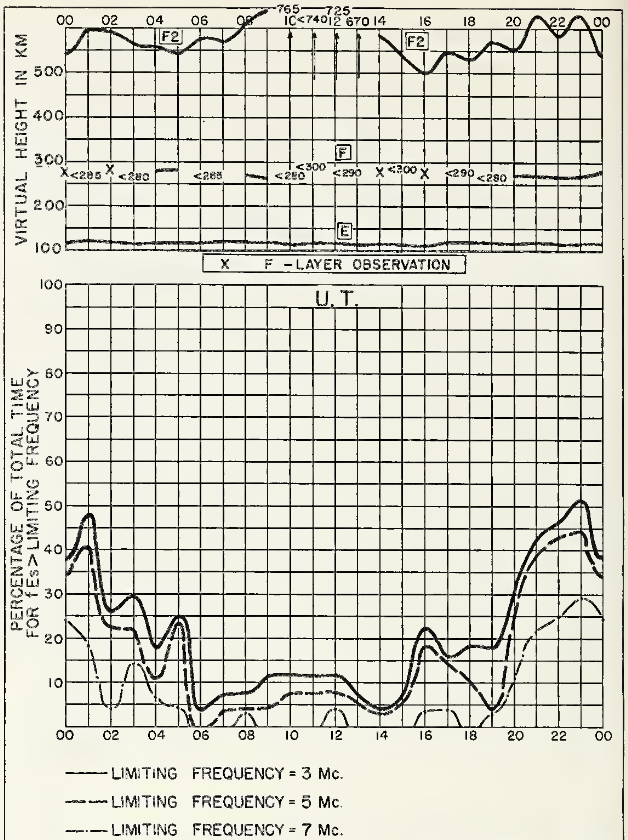


Fig. 110. POLE STATION NOVEMBER 1957

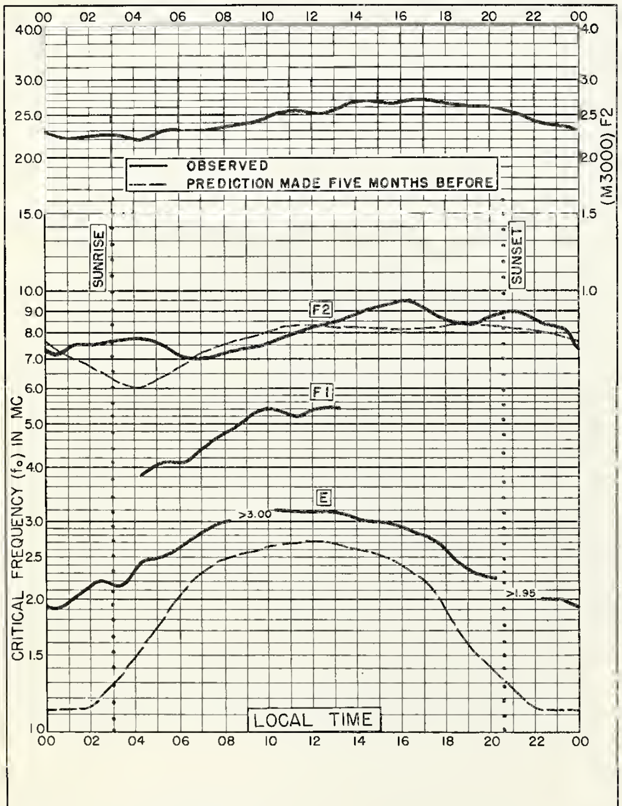


Fig. 111. ELLSWORTH
77.7°S, 41.1°W OCTOBER 1957

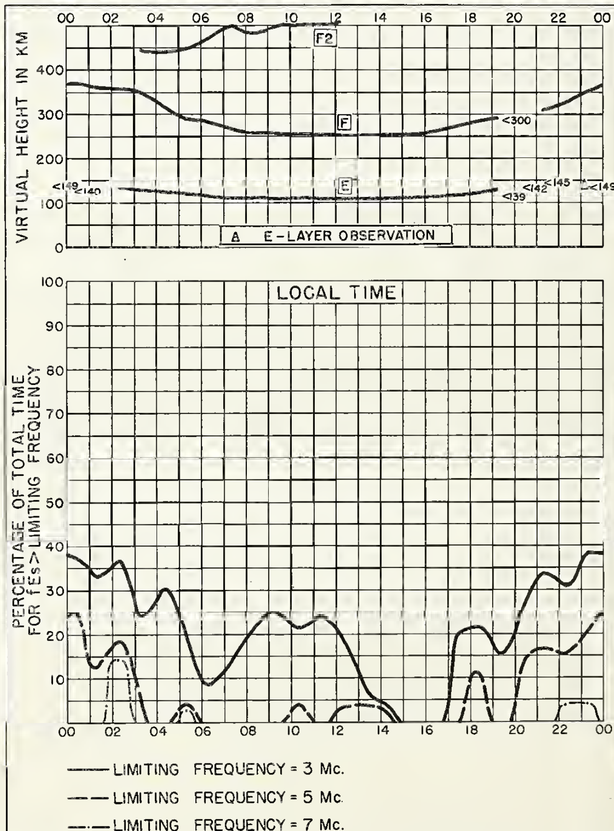


Fig. 112. ELLSWORTH OCTOBER 1957

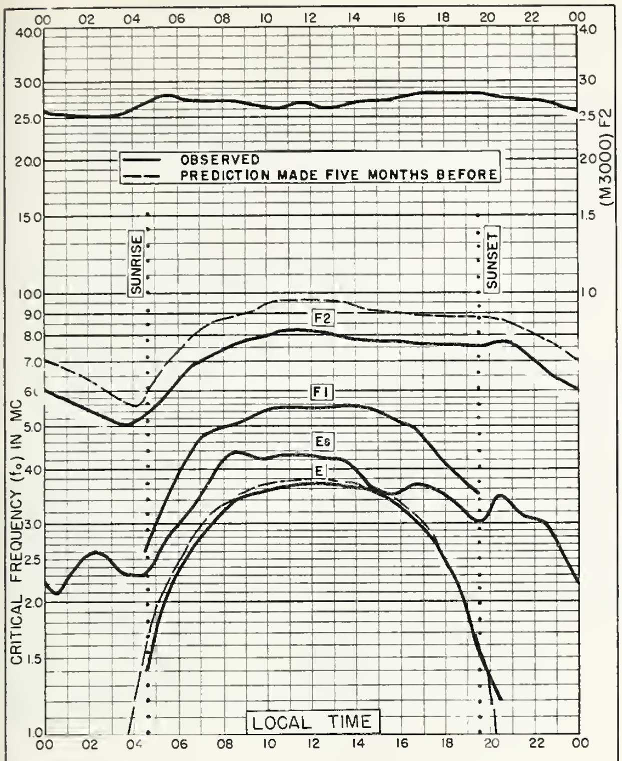


Fig. 113. MOSCOW, U.S.S.R. 55.5°N, 37.3°E AUGUST 1957

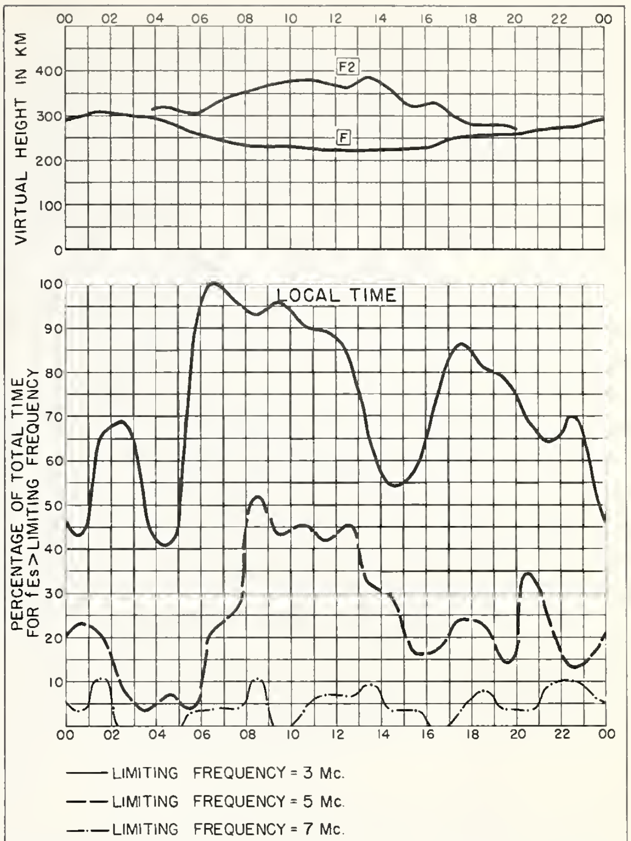


Fig. 114. MOSCOW, U.S.S.R. AUGUST 1957

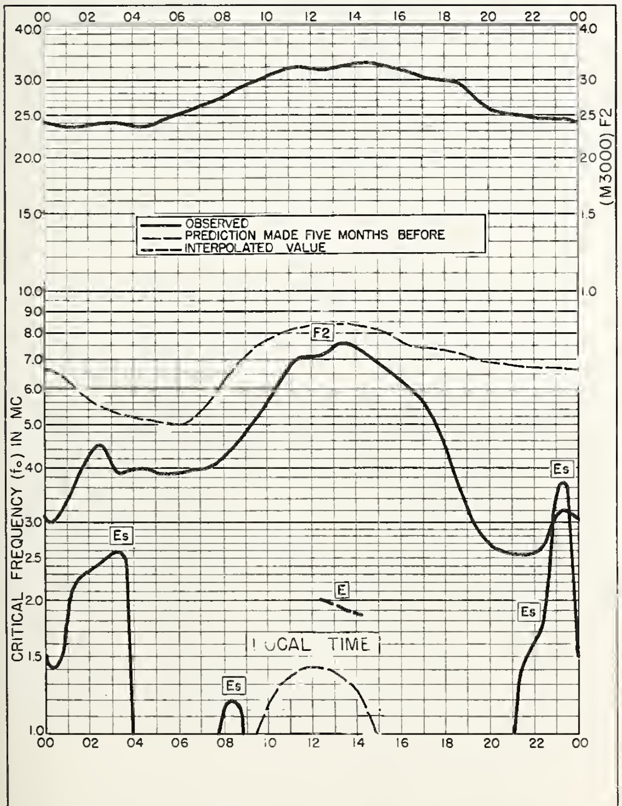


Fig. 115. ELLSWORTH 77.7°S, 41.1°W AUGUST 1957

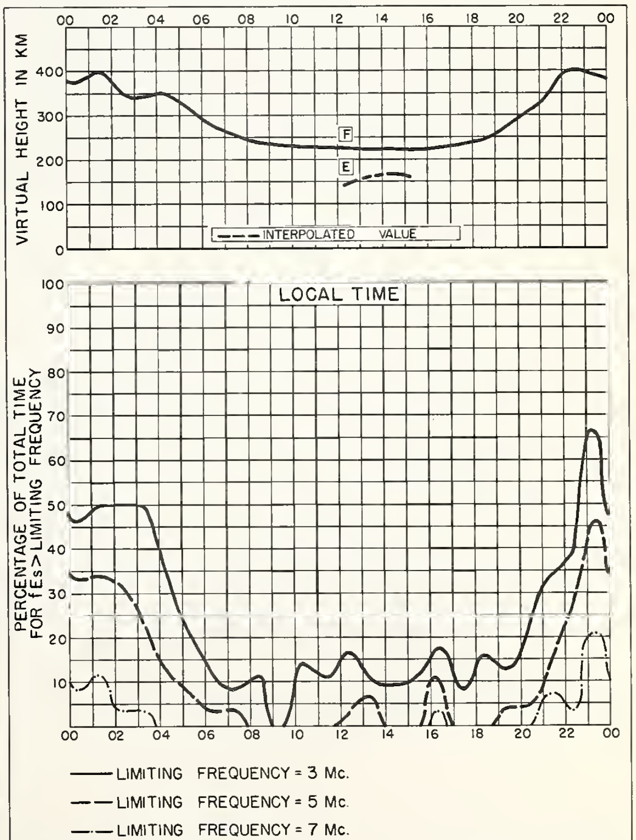


Fig. 116. ELLSWORTH AUGUST 1957

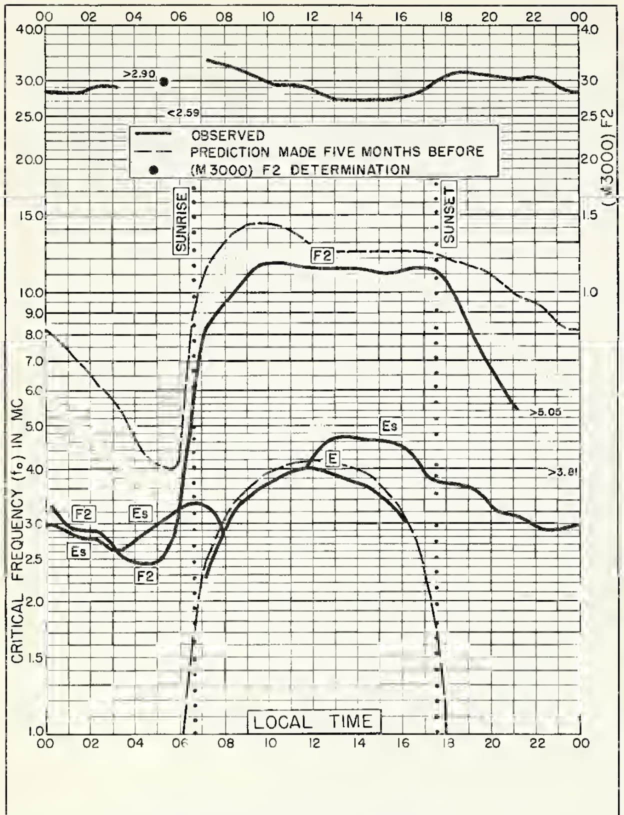


Fig. 117. TSUMEB, SOUTH W. AFRICA
19.2°S, 17.7°E JULY 1957

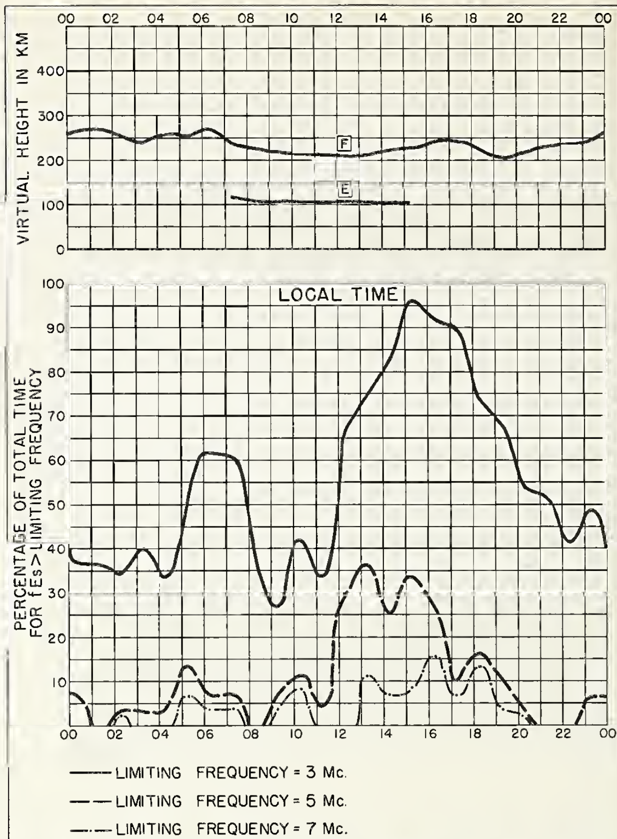


Fig. 118. TSUMEB, SOUTH W. AFRICA JULY 1957

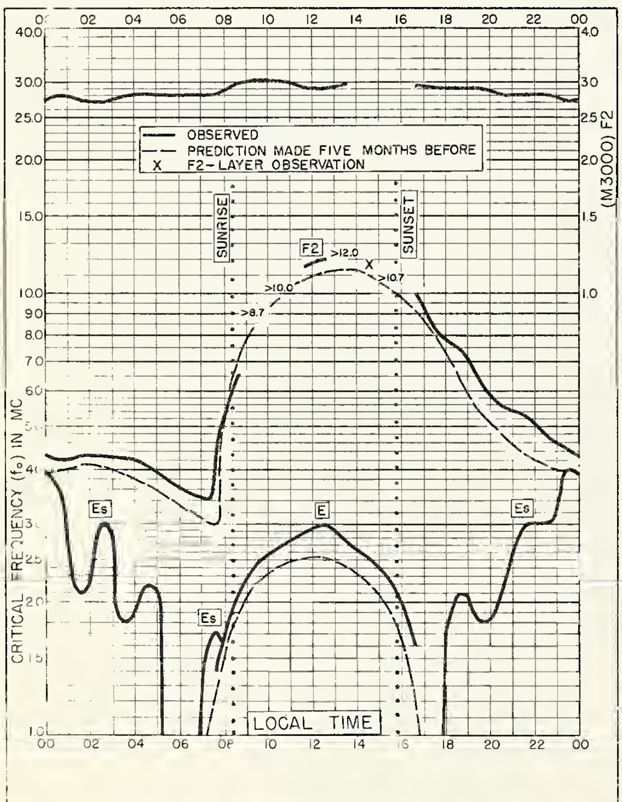


Fig. 119. MACQUARIE I.
54.5°S, 159.0°E JULY 1957

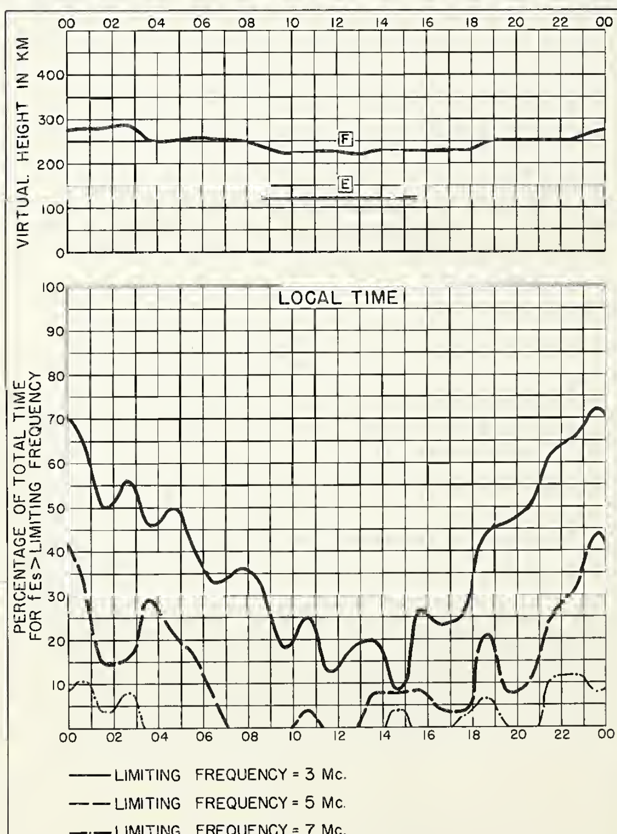


Fig. 120. MACQUARIE I. JULY 1957

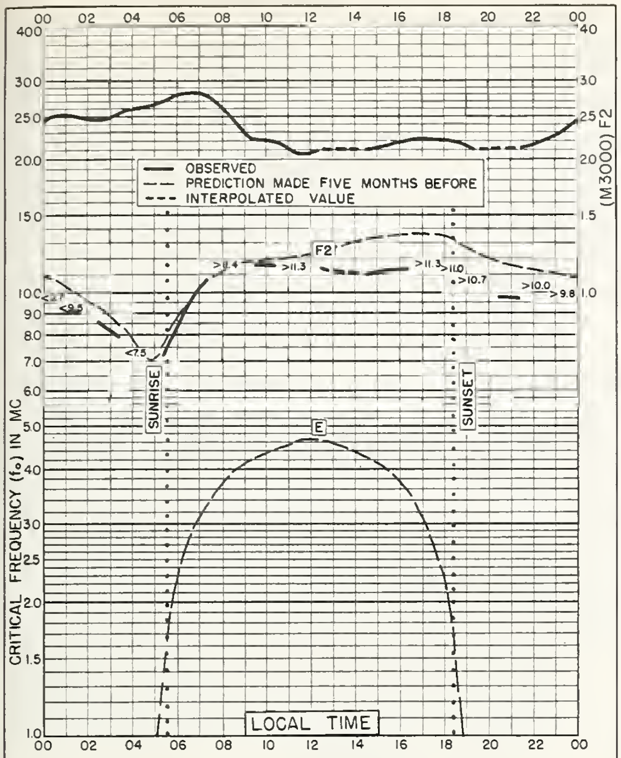


Fig. 121. MADRAS, INDIA
13.0°N, 80.2°E JUNE 1957

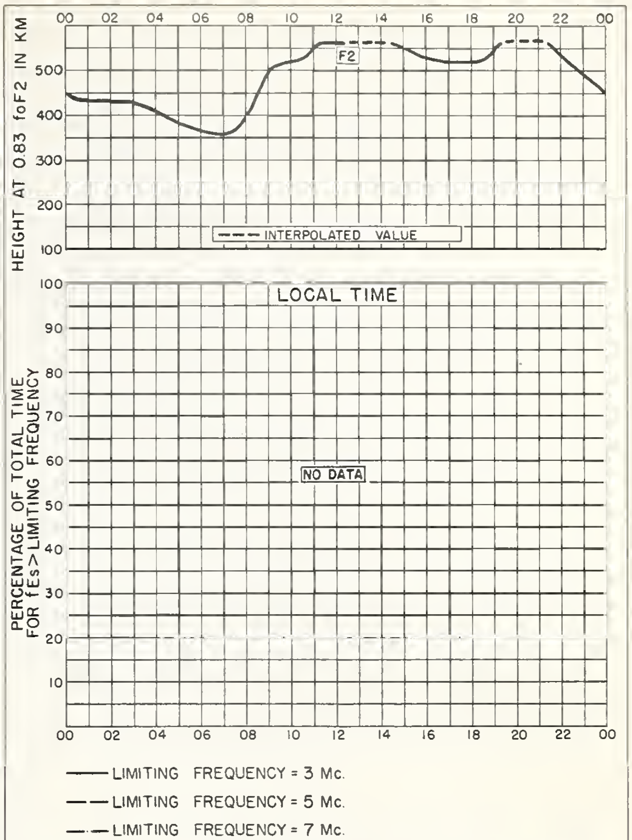


Fig. 122. MADRAS, INDIA JUNE 1957

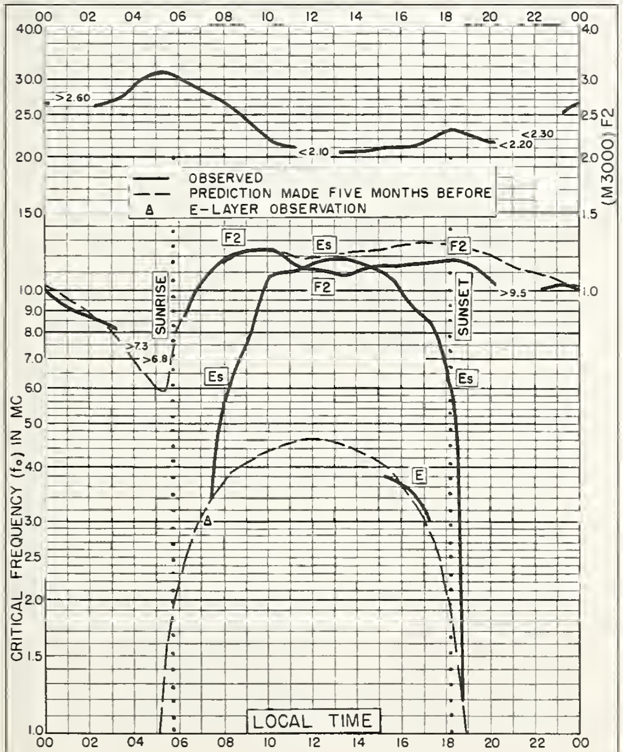


Fig. 123. KODAIKANAL, INDIA
10.2°N, 77.5°E JUNE 1957

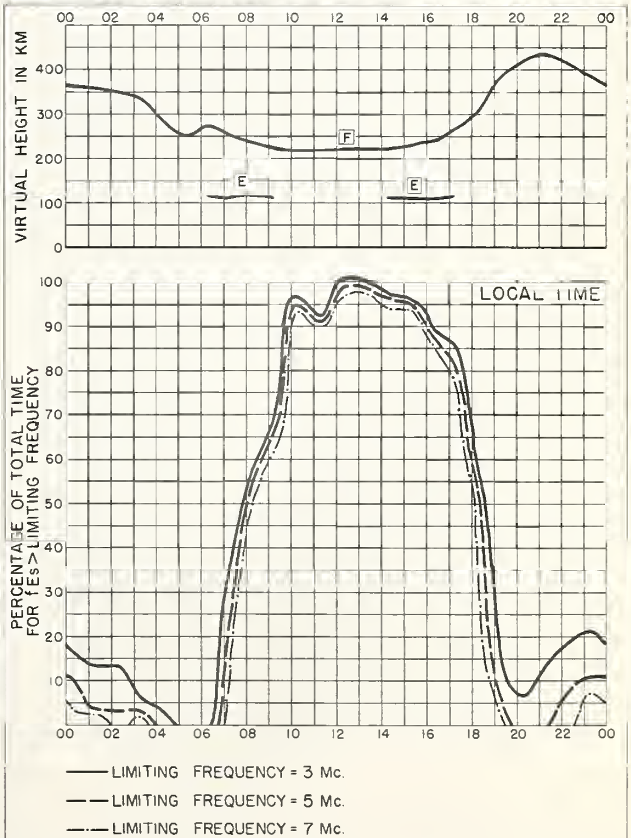


Fig. 124. KODAIKANAL, INDIA JUNE 1957

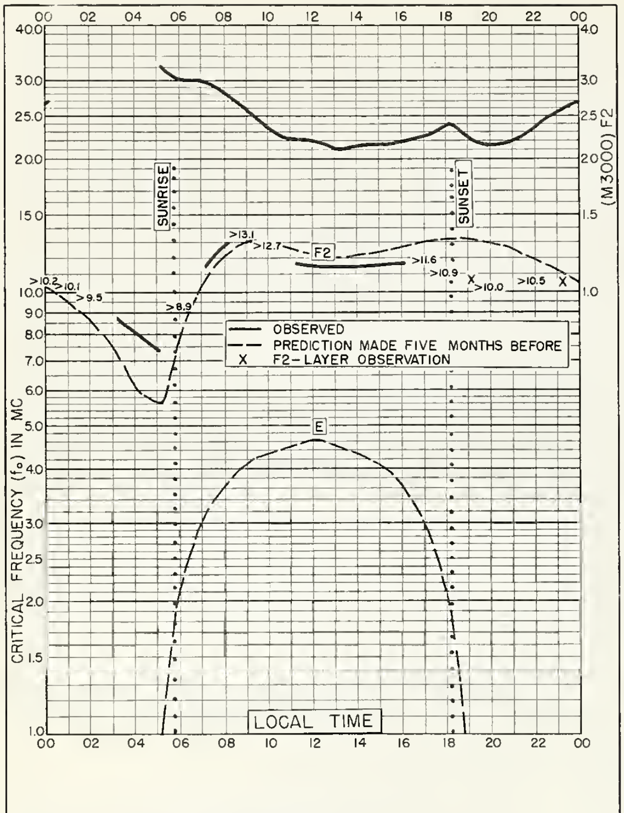


Fig. 125. TRIVANDRUM, INDIA
8.4°N, 77.0°E JUNE 1957

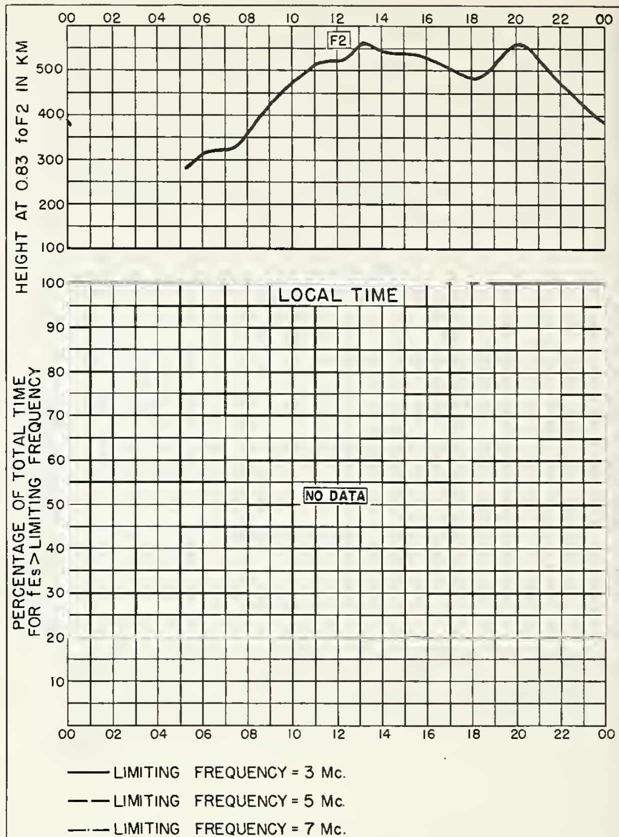


Fig. 126. TRIVANDRUM, INDIA JUNE 1957

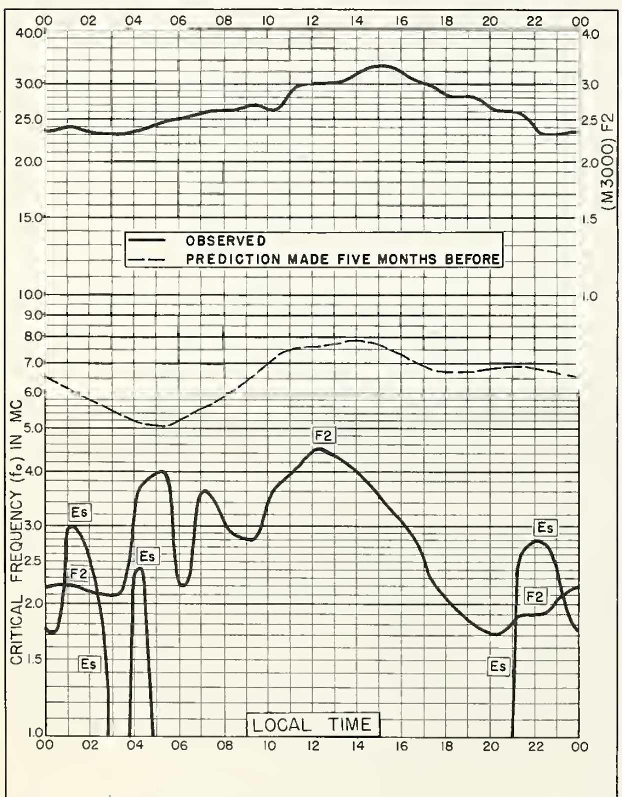


Fig. 127. ELLSWORTH
77.7°S, 41.1°W JUNE 1957

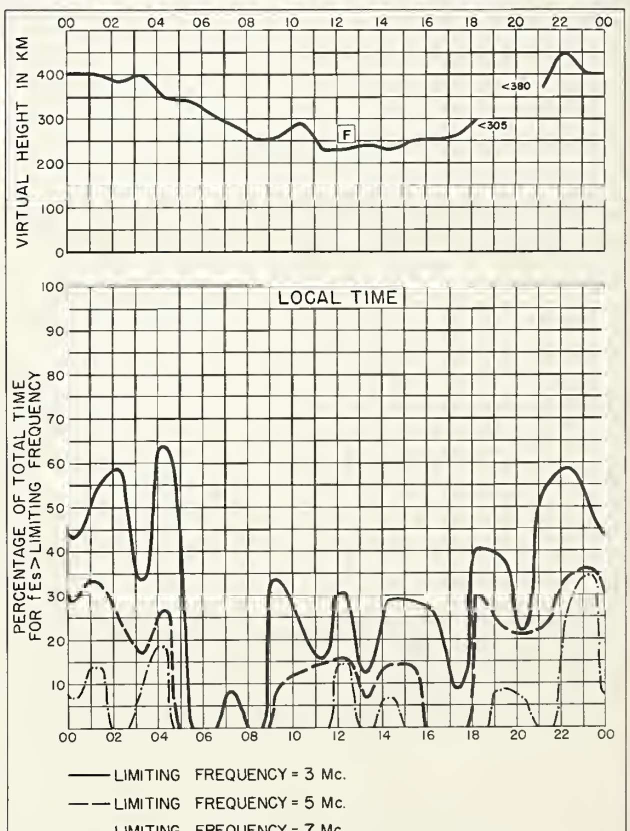


Fig. 128. ELLSWORTH JUNE 1957

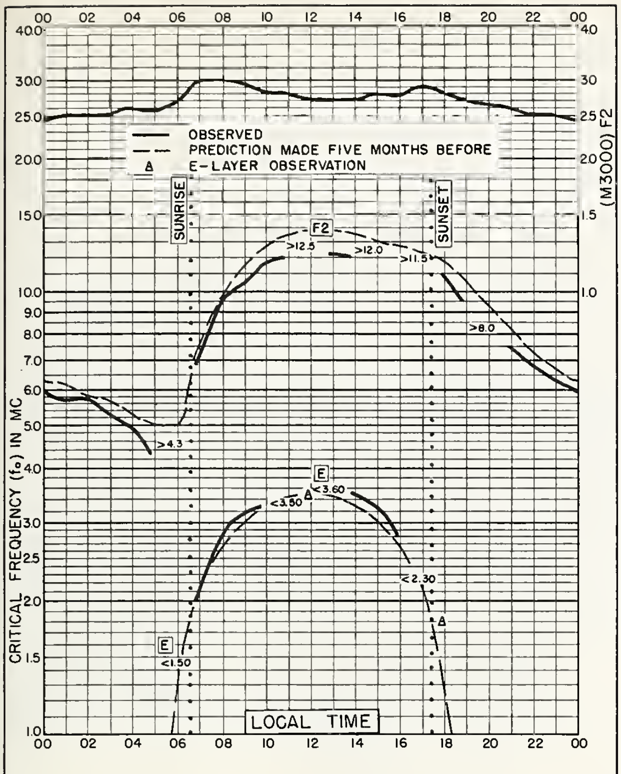


Fig. 129. HOBART, TASMANIA
42.9°S, 147.2°E APRIL 1957

NBS 503

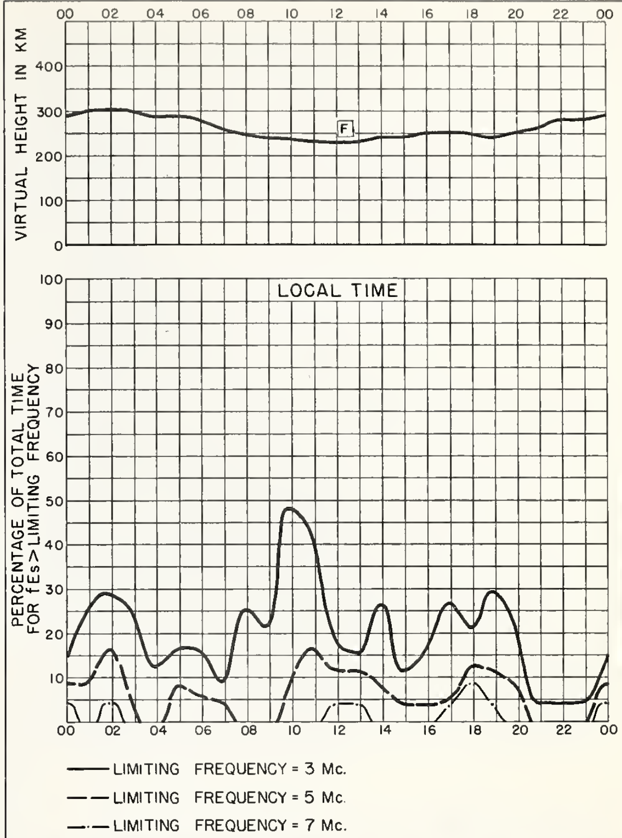


Fig. 130. HOBART, TASMANIA APRIL 1957

Commerce-Standards-Boulder, Colo. NBS 490

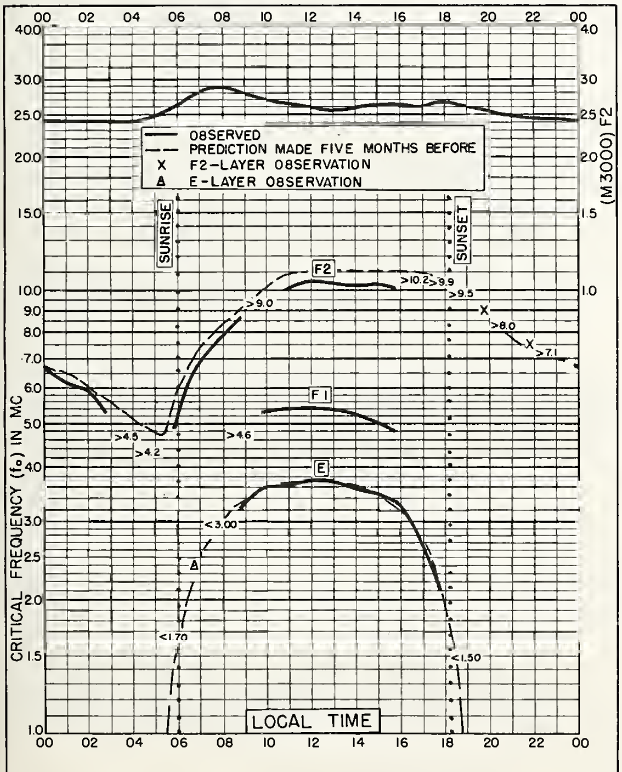


Fig. 131. HOBART, TASMANIA
42.9°S, 147.2°E MARCH 1957

NBS 503

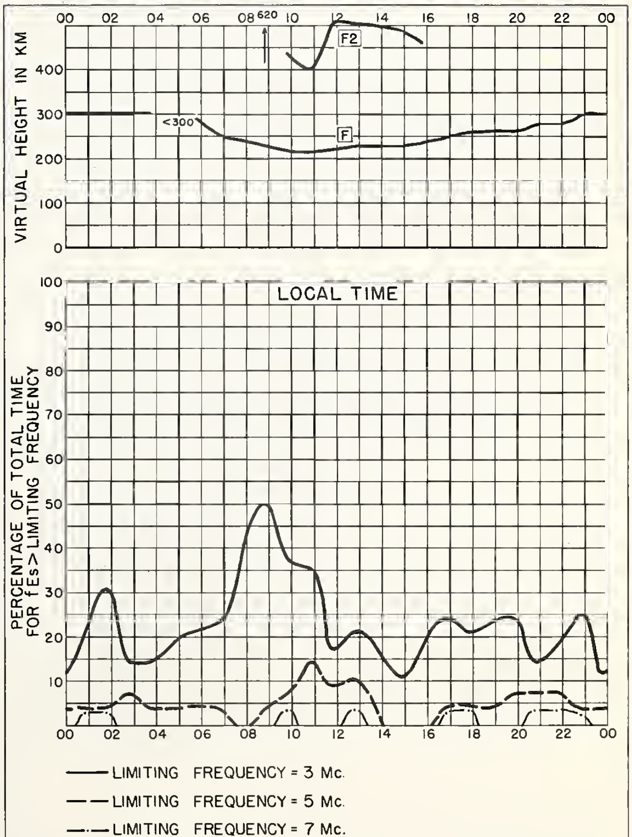


Fig. 132. HOBART, TASMANIA MARCH 1957

Commerce-Standards-Boulder, Colo. NBS 490

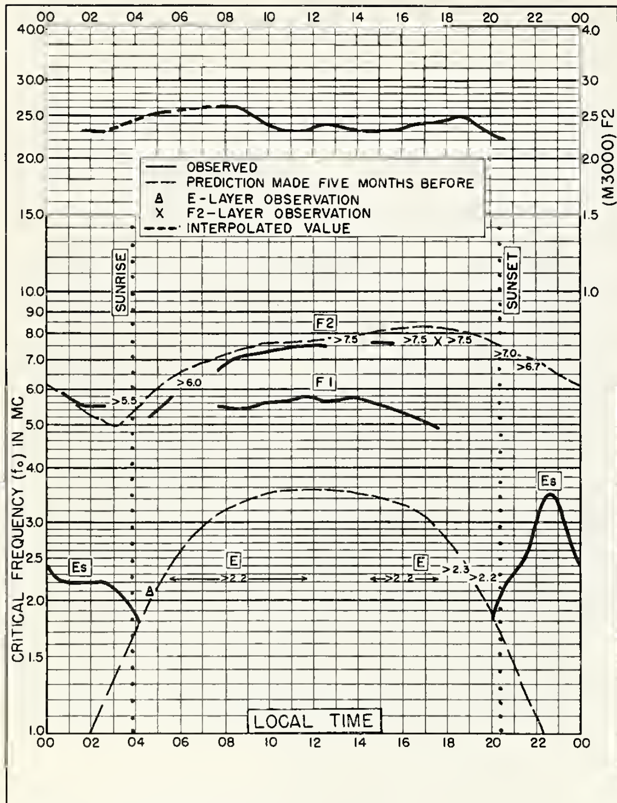


Fig. 133. MACQUARIE I.
54.5°S, 159.0°E JANUARY 1957

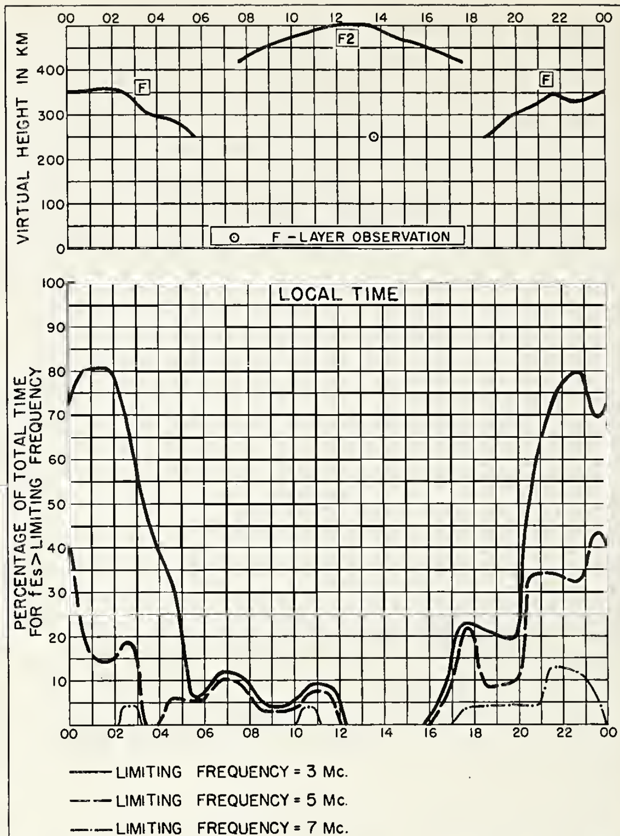


Fig. 134. MACQUARIE I. JANUARY 1957

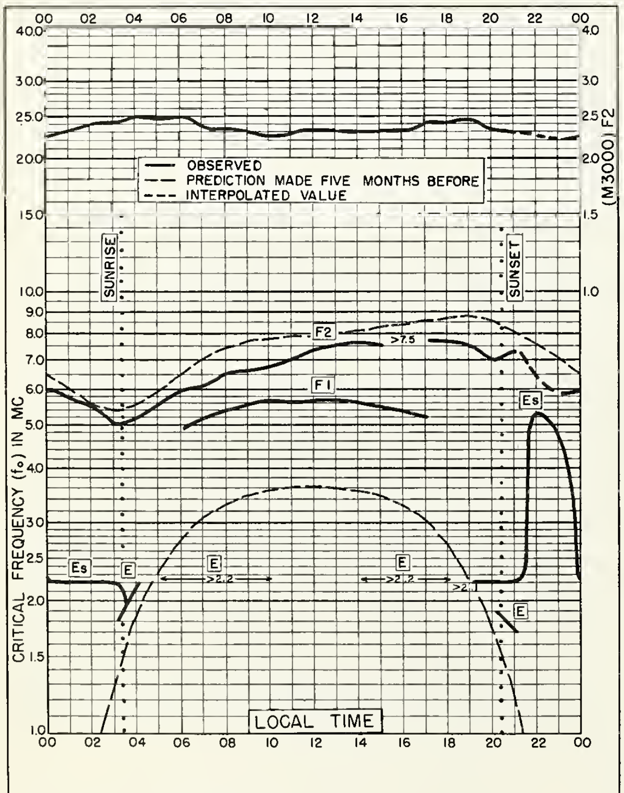


Fig. 135. MACQUARIE I.
54.5°S, 159.0°E DECEMBER 1956

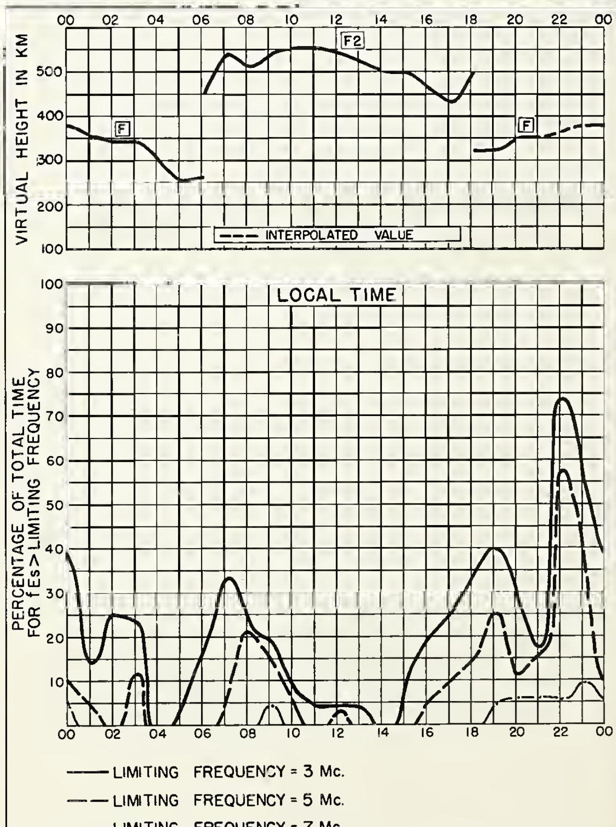


Fig. 136. MACQUARIE I. DECEMBER 1956

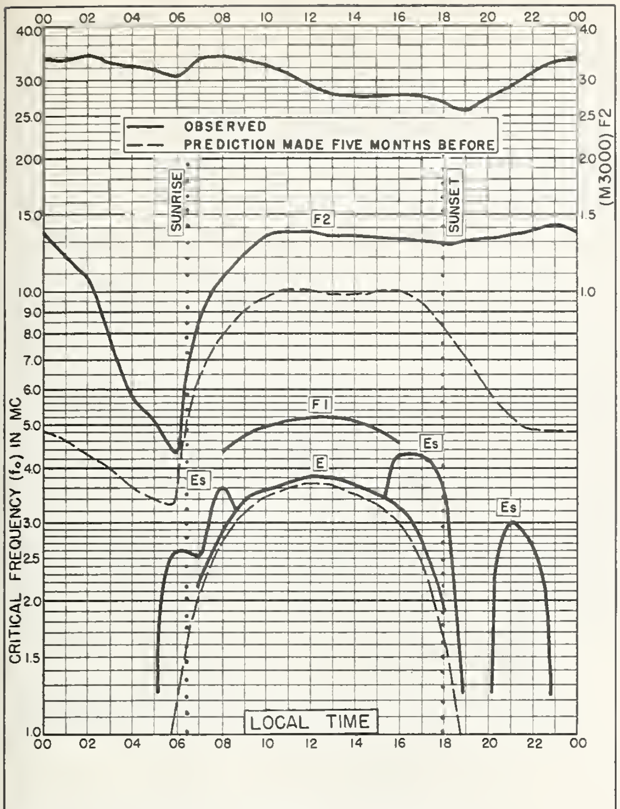
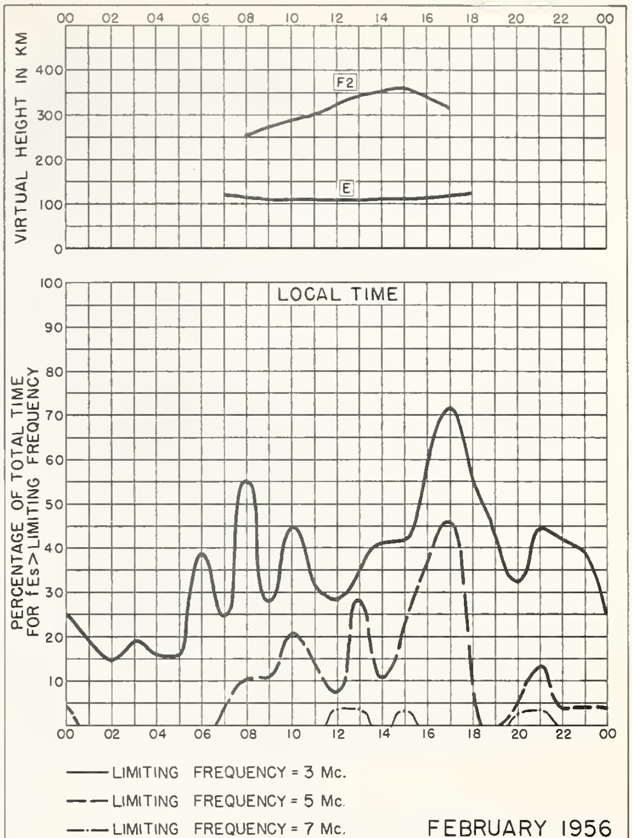


Fig. 137. DAKAR, FRENCH W. AFRICA
14.1°N, 17.4°W FEBRUARY 1956



FEBRUARY 1956
Fig. 138. DAKAR, FRENCH W. AFRICA

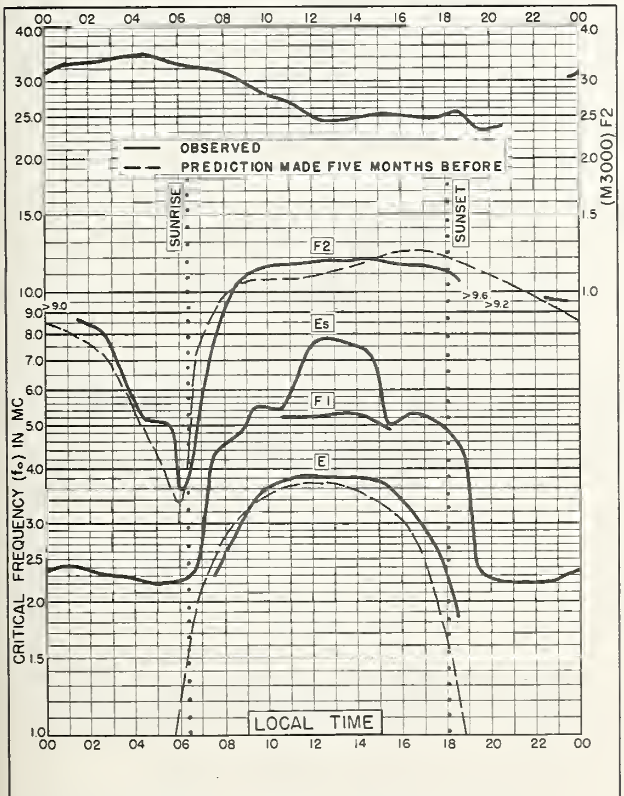
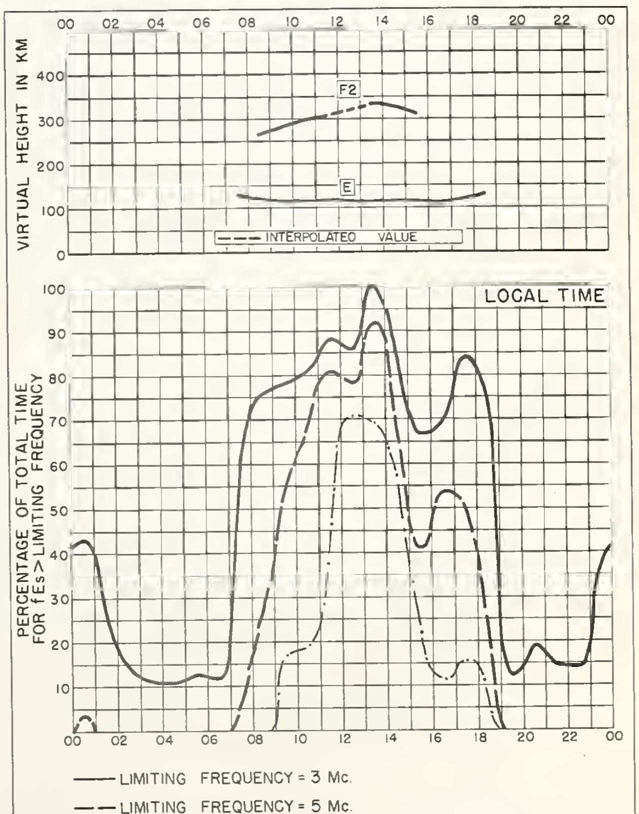


Fig. 139. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E FEBRUARY 1956



FEBRUARY 1956
Fig. 140. DJIBOUTI, FRENCH SOMALILAND

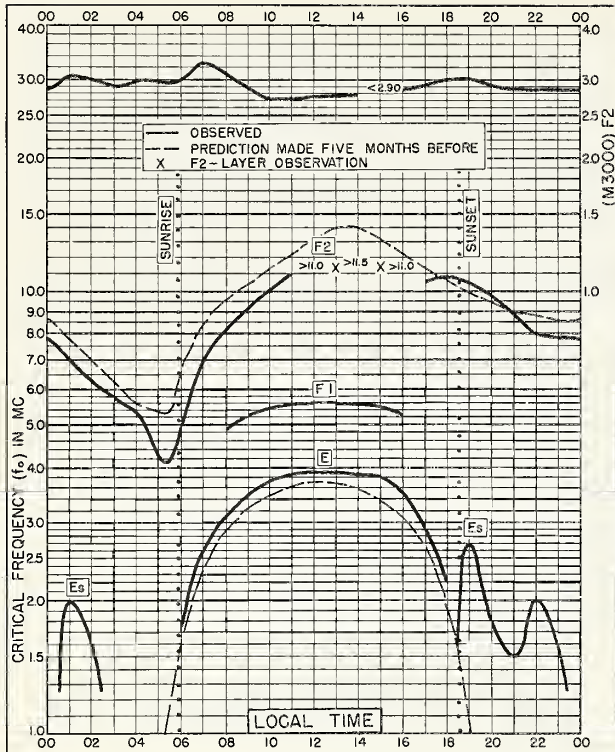
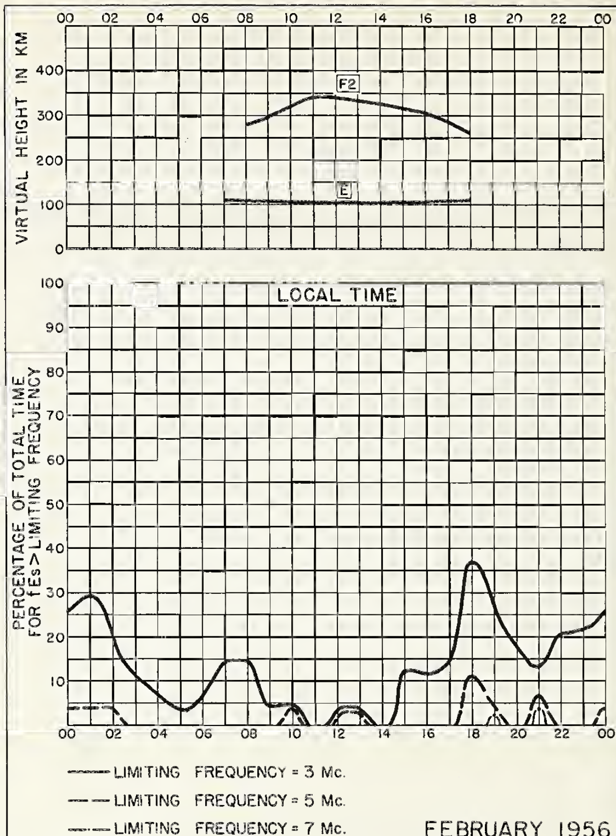


Fig. 141. TANANARIVE, MADAGASCAR
18.9°S, 47.6°E FEBRUARY 1956



FEBRUARY 1956
Fig. 142. TANANARIVE, MADAGASCAR

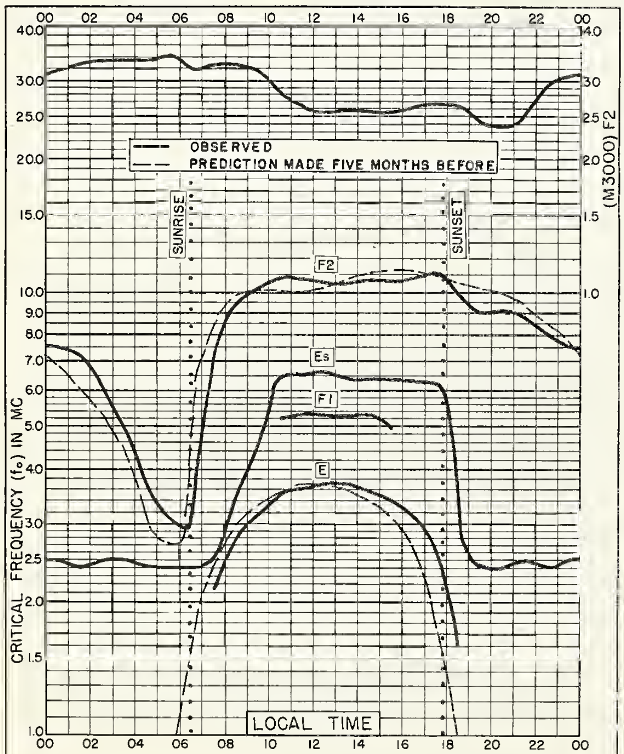
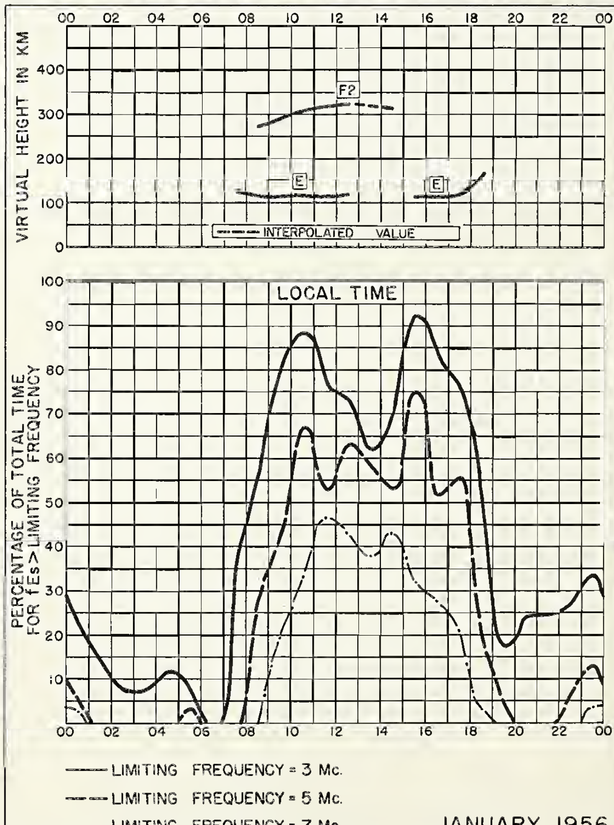


Fig. 143. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E JANUARY 1956



JANUARY 1956
Fig. 144. DJIBOUTI, FRENCH SOMALILAND

Index of Tables and Graphs of Ionospheric Data

in CRPL-F171 (Part A)

Index (CRPL-F171 (Part A), continued)

Index (CRPL-171 (Part A), concluded)

CRPL Reports

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

Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Semiweekly:

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

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

Semimonthly:

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

Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11–499–, monthly supplements to TM 11–499; Dept. of the Air Force, TO 31–3–28 series). On sale by Superintendent of Documents.* Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.
(Part B). Solar-Geophysical Data.
Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic or other radio propagation data.

Catalog of Data:

A catalog of records and data on file at the U.S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. $1.25.
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.
NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 Megacycles. 30 cents.
NBS Circular 582. Worldwide Occurrence of Sporadic E. **$3.25.**

These Circulars are on sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address the respective military office having cognizance of radio wave propagation.

---

* For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C. Price 10 cents (single copy). Subscription Price: $1.00 a year; 25 cents additional for foreign mailing.