PART A

IONOSPHERIC DATA

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NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

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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*	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									

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:

Republica Argentina, Ministerio de Marina:
Decepcion I.
Tucuman, Argentina

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

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

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

British Department of Scientific and Industrial Research, Radio Research Board:
Ibadan, Nigeria (University College of Ibadan)
Inverness, Scotland
Slough, England

Defence Research Board, Canada:
Resolute Bay, Canada

Danish National Committee of URSI:
Narsarssuak, Greenland

Central Institute of Meteorology, Budapest, Hungary:
Budapest, Hungary

Icelandic Post and Telegraph Administration:
Reykjavik, Iceland

Indian Council of Scientific and Industrial Research, Radio Research Committee, New Delhi, India:
Ahmedabad (Physical Research Laboratory)
Calcutta (Institute of Radio Physics and Electronics)

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

Christchurch Geophysical Observatory, New Zealand Department of Scientific and Industrial Research:
- Cape Hallett (Adare)
- Christchurch, New Zealand
- Rarotonga, Cook Is.

Manila Observatory:
- Baguio, P. I.

Institute of Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, U.S.S.R.:
- Alma-Ata
- Ashkabad
- Moscow
- Murmansk
- Rostov-on-Don
- Salehard
- Sverdlovsk
- Tomsk

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

United States Army Signal Corps:
- Adak, Alaska
- Fletchers Ice I.
- Grand Bahama I.
- St. John's, Newfoundland
- Thule, Greenland
- White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
- Anchorage, Alaska
- Chiclayo, Peru
- Chimbote, Peru
- Huancayo, Peru (Instituto Geofisico de Huancayo)
- Maui, Hawaii
- Panama Canal Zone
- Point Barrow, Alaska
- Puerto Rico, W. I.
- San Francisco, California (Stanford University)
- Talara, Peru (Instituto Geofisico de Huancayo)
- Washington, D. C.

ERRATA

1. CRPL-F161 and 168(A): (M3000)F2 data from Rarotonga I. for the months of June, October and December 1957 as listed in the tables and plotted in the figs. are in error.

2. CRPL-F156, 158, 161, 167, and 169(A): (M3000)F2 data from Scott Base for the months of March - June 1957, and October - December 1957 as listed in the tables and plotted in the figs. are in error.

   Note: Also see Erratum 4, CRPL-F163(A), p. viii.

TABLES OF IONOSPHERIC DATA

July 1956 - June 1957

Table 1

Washington, D.C. (38.7°N, 77.1°W) July 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.5	300					2.55
01		6.1	300					2.60
02		5.5	<310					2.55
03		5.1	305					2.60
04		4.8	<315					2.60
05	---	4.0	300		119	1.80	1.8	2.75
06	(470)	5.6	260	4.1	111	2.50	2.8	2.00
07	450	5.0	230	4.6	109	3.10	3.8	2.70
08	515	5.9	220	4.9	109	3.35	3.9	2.50
09	510	6.0	(220)	5.2	106	(3.70)	4.1	2.50
10	540	6.3	210	5.3	105	(3.05)	4.1	2.40
11	550	6.4	210	5.4	107	4.00	4.2	2.40
12	540	6.5	215	5.5	107	4.00	4.1	2.35
13	510	6.6	(210)	5.4	107	4.00	>4.2	2.35
14	500	6.9	220	5.5	109	4.00	4.1	2.40
15	405	6.9	225	5.4	109	3.90	4.1	2.45
16	460	7.0	220	5.2	109	3.60	3.9	2.55
17	420	7.2	230	5.0	109	3.30	3.6	2.55
18	365	7.2	250	---	111	2.00	3.2	2.65
19	---	7.1	<280		(119)	----	3.0	2.70
20		7.2	280				2.8	2.65
21		7.3	<280					2.60
22		7.0	290				2.7	2.60
23		6.9	300					2.60

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

Table 2

Maui, Hawaii (20.8°N, 156.5°W) July 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.2	310				1.9	2.65
01		8.9	290				2.0	2.70
02		0.35	<290				2.0	2.70
03		7.0	280				1.6	2.70
04		7.35	290					2.70
05		6.8	<300					2.60
06		6.5	285		115	(1.90)	1.9	2.65
07	---	7.6	245	---	(110)	2.70	3.1	2.90
08	(385)	0.4	220	5.8	105	3.30	3.9	2.65
09	420	9.0	<220	6.1	105	3.65	4.0	2.30
10	430	9.0	215	6.2	105	3.90	4.3	2.30
11	425	10.5	210	6.3	106	4.00	4.7	2.40
12	430	11.2	<220	6.2	107	(4.10)	4.7	2.45
13	410	11.4	<215	6.2	107	(4.10)	5.0	2.50
14	400	11.5	220	6.2	107	4.10	4.3	2.55
15	385	11.7	230	6.0	109	4.00	4.2	2.60
16	360	11.0	230	5.8	107	3.75	4.3	2.65
17	330	11.4	<240	(5.6)	109	3.32	4.2	2.75
18	310	10.9	(250)	---	113	2.65	4.9	2.75
19	---	10.3	275		---	----	4.2	2.70
20		10.0	<295				3.5	2.65
21		9.8	305				3.3	2.60
22		9.8	300				3.1	2.60
23		9.5	305				3.0	2.65

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

Table 3

Puerto Rico, W.I. (10.5°N, 67.2°W) July 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.4	285					2.75
01		9.1	270					2.75
02		8.5	265					2.75
03		7.9	260					2.75
04		7.3	265					2.75
05		7.1	(270)					2.70
06	---	7.1	280	---	---	----		2.75
07	---	7.8	245	---	116	2.62	2.8	2.95
08	340	0.4	230	---	109	3.20	3.5	2.00
09	350	9.4	220	---	109	3.60	3.9	2.70
10	415	9.9	215	5.6	109	4.00	4.2	2.60
11	375	10.7	215	5.8	109	4.12	4.4	2.60
12	385	10.9	215	5.7	109	4.25	4.7	2.60
13	380	11.4	220	5.8	109	4.20	4.5	2.55
14	380	11.2	215	5.6	109	4.15	4.6	2.60
15	385	10.8	220	5.5	109	4.00	4.7	2.55
16	375	10.5	220	5.4	111	3.70	4.4	2.60
17	360	10.2	235	---	113	3.30	4.4	2.60
18	(335)	9.9	250	---	115	2.70	3.6	2.62
19		9.7	275		---	----	2.9	2.65
20		9.6	280				1.8	2.60
21		9.7	290					2.60
22		9.5	300					2.60
23		9.4	295					2.65

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

Table 4

Panama Canal Zone (9.4°N, 79.0°W) July 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.2	280					2.65
01		8.6	275					2.70
02		8.2	270					2.70
03		7.4	265					2.70
04		6.9	280					2.70
05		6.2	300					2.52
06		6.05	310		121	1.62	2.2	2.65
07	---	7.45	260	---	115	2.62		2.85
00	---	8.5	245	---	111	3.30		2.75
09	(400)	9.1	230	6.0	108	3.70	3.9	2.40
10	380	10.0	225	6.1	109	4.00	4.4	2.30
11	460	10.9	230	6.4	107	4.15		2.25
12	440	11.5	225	6.1	109	4.20	4.4	2.35
13	445	12.0	230	6.1	111	4.20	4.6	2.35
14	435	12.0	(230)	6.0	108	4.10	4.7	2.40
15	430	11.85	<240	5.8	108	3.95	4.7	2.40
16	405	11.7	<245	5.6	109	3.65	4.6	2.45
17	380	11.3	(255)	---	(115)	3.15	4.7	2.45
18	(330)	10.8	270	---	119	2.50	3.8	2.45
19		9.8	305				3.1	2.45
20		9.4	330				2.9	2.35
21		9.45	310					2.50
22		9.6	300					2.55
23		9.4	295					2.60

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

Table 5

Chimbote, Peru (9.1°S, 70.6°W) July 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.8	235					2.90
01		7.7	230					2.95
02		7.6	230					3.00
03		6.8	235					3.10
04		5.75	240				2.0	3.05
05		5.1	250					3.00
06		4.7	250				3.2	2.90
07		7.4	270		129	2.30	4.4	2.90
08		9.4	245		117	3.05	5.1	2.80
09		10.1	230		111	3.50	7.1	2.52
10		10.4	220		111	3.80	7.5	2.40
11		10.5	215		111	4.00	8.6	2.30
12	---	10.6	210	---	109	4.00	9.0	2.20
13	---	10.3	210	---	109	4.00	9.0	2.15
14	---	10.0	210	---	111	3.95	7.4	2.15
15	(490)	9.9	210	---	111	3.70	7.0	2.10
16	---	9.7	225	---	113	3.40	5.6	2.10
17		9.4	255		117	2.85	3.4	2.20
18		9.1	295		---	1.98		2.20
19		8.7	365					2.15
20		8.5	345					2.25
21		8.6	295					2.45
22		8.3	250					2.68
23		7.95	240					2.70

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

Table 6

Huancayo, Peru (12.0°S, 75.3°W) July 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.3	220					3.00
01		7.1	220					3.00
02		6.85	225					3.10
03		6.0	230					3.10
04		5.2	225					3.10
05		4.6	240					3.10
06		4.65	250		---	E		2.80
07		8.1	255		118	2.38	4.5	3.00
00		10.35	235		109	3.10	6.5	2.85
09		10.95	220		109	(3.50)	7.2	2.60
10		10.95	210		---	(3.80)	7.9	2.48
11	---	10.85	205	---	---	(4.00)	8.8	2.35
12	---	10.55	205	---	---	(4.08)	9.0	2.25
13	---	10.3	200	---	---	(4.00)	8.9	2.25
14	(495)	10.0	200	6.2	---	(3.80)	8.0	2.20
15	---	9.8	210	---	---	(3.60)	7.8	2.15
16	---	9.6	225	---	---	(3.20)	7.6	2.18
17		9.4	255		---	(2.60)	6.0	2.25
18		8.75	300		(153)	1.45	4.4	2.35
19		0.3	360					2.30
20		8.2	300					2.48
21		8.5	260					2.65
22		8.2	225					2.80
23		7.8	220					2.90

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

Table 7

Point Barrow, Aleska (71.3°N, 156.8°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	5.4	330	---	<135	2.50	3.5	2.60
01	---	5.5	290	---	119	(2.15)	2.8	2.65
02	(390)	5.2	<320	---	115	2.10	4.0	2.60
03	460	5.2	<290	3.7	113	2.40	2.5	2.50
04	465	5.4	265	4.0	112	2.60		2.45
05	480	5.4	250	4.0	111	2.80		2.40
06	530	5.5	250	4.4	110	3.00		2.35
07	580	5.4	250	4.5	107	3.35		2.20
08	G	<4.7	<230	4.6	107	(3.50)		G
09	G	5.1	240	4.8	105	3.70		G
10	800	5.9	240	4.8	107	3.60		2.00
11	620	5.8	235	4.9	108	3.60		G
12	G	<5.2	230	(4.9)	107	3.60		G
13	650	5.7	225	4.9	107	3.50		2.00
14	570	6.0	240	4.9	106	3.50		2.25
15	565	5.8	230	5.0	111	(3.40)		2.25
16	550	6.0	230	4.8	107	3.40		2.30
17	525	6.0	(245)	4.7	111	3.20		2.35
18	495	5.9	245	4.5	109	3.20		2.40
19	470	6.0	255	4.3	111	2.95		2.50
20	470	6.0	270	4.1	113	2.80		2.50
21	(430)	5.6	295	---	115	2.80		2.65
22	(440)	5.6	320	3.7	123	(2.90)	3.2	2.70
23	---	5.5	315	---	125	2.70	3.8	2.60

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

Table 8

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>5.0	380		---	----	2.2	(2.60)
01		(5.4)	410		---	----	3.0	(2.40)
02		(5.2)	(420)		---	----	3.4	(2.40)
03	(470)	(5.3)	(370)	---	<121	----	2.3	(2.50)
04	<460	5.3	(280)	---	(126)	(2.30)		2.40
05	(430)	5.6	<300	(4.0)	(119)	>2.50		2.50
06	<500	5.6	255	4.3	109	>2.75		2.50
07	560	5.6	250	4.7	109	>2.85		2.45
08	520	5.8	230	4.8	105	>2.90		2.40
09	520	6.0	230	5.0	103	(3.30)		2.40
10	540	6.2	225	5.2	101	(3.55)		2.35
11	520	6.3	220	5.2	101	(3.65)		2.40
12	530	6.4	220	5.3	101	(3.70)		2.40
13	510	6.5	225	5.3	101	(3.70)		2.40
14	485	6.7	230	5.3	101	(3.70)		2.50
15	470	6.5	230	5.2	104	(3.60)		2.50
16	470	6.4	240	5.2	105	>3.25		2.50
17	480	6.3	240	4.9	107	>3.00		2.50
18	430	6.3	270	(4.8)	109	>3.00		2.60
19	480	5.9	270	4.4	111	(3.05)		2.55
20	455	>5.8	(320)	---	120	2.70	2.8	2.55
21	(420)	(5.8)	320	---	127	(2.25)	3.8	(2.60)
22	---	(5.5)	375	---	---	----	3.0	(2.50)
23	---	(5.3)	380	---	---	----	2.7	(2.50)

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

Table 9

Anchorege, Aleske (61.2°N, 149.9°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3					2.9	2.50
01		5.25					2.8	2.48
02		5.35			115	----	2.2	2.50
03		5.5		---	124	2.00		2.50
04		5.8		3.7	116	2.30	2.4	2.50
05		6.1		4.0	112	2.70		2.40
06		6.4		4.3	107	3.00		2.40
07		6.35		4.5	105	3.25		2.35
00		6.4		4.7	105	3.48	3.5	2.30
09		6.2		4.9	105	3.55	3.7	2.35
10		6.0		5.0	105	3.70	3.7	2.30
11		6.0		5.1	105	3.70	4.0	2.30
12		6.05		5.2	105	3.75	3.9	2.30
13		6.2		5.2	105	3.70		2.30
14		6.2		5.2	105	3.68		2.30
15		6.1		5.0	105	3.55		2.30
16		6.05		5.0	105	3.45		2.40
17		6.05		4.0	107	3.25		2.40
18		6.2		4.5	109	3.00		2.55
19		6.0		4.0	115	2.60	2.8	2.60
20		6.1			(121)	(2.30)	3.0	2.70
21		6.0			<136	(1.98)	2.6	2.72
22		5.9			---	----	2.2	2.70
23		5.4					1.8	2.62

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

Table 10

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.8)	360				5.5	(2.50)
01		(5.0)	350				3.9	(2.50)
02		(4.7)	(400)		---	----	3.6	(2.50)
03	(485)	(4.65)	(370)	---	114	(2.60)	3.8	(2.50)
04	(540)	4.9	(340)	(3.8)	115	(2.55)	3.6	2.42
05	G	4.7	(305)	4.0	109	2.80	4.1	2.38
06	665	5.2	270	4.5	105	3.20	3.9	2.35
07	560	5.7	245	4.8	105	3.35	3.6	2.45
08	590	5.85	235	5.0	101	3.50	6.4	2.42
09	545	6.2	225	5.2	101	3.60	4.4	2.45
10	535	6.3	215	5.3	101	3.72	4.2	2.45
11	515	6.4	220	5.3	101	3.80	4.7	2.48
12	500	6.55	220	5.4	101	3.80	4.2	2.45
13	510	6.8	220	5.4	101	3.80	4.2	2.40
14	475	6.7	220	5.2	101	3.70	4.4	2.48
15	470	6.5	230	5.2	101	3.60	4.4	2.45
16	490	6.4	240	5.0	101	3.50	3.6	2.45
17	495	6.3	235	4.9	103	3.40	3.8	2.50
18	460	6.3	260	4.6	105	3.05	3.4	2.55
19	415	6.1	265	(4.3)	109	(2.80)	>3.7	2.60
20	(420)	5.9	295	---	112	(2.50)	>3.3	2.55
21	---	(5.6)	330	---	(125)	(2.25)	4.4	2.60
22		(5.5)	350		---	----	3.8	2.55
23		5.2	340				3.4	2.55

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

Teble 11

Adak, Aleske (51.9°N, 176.6°W) June 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	<330					2.45
01		6.2	<325					2.40
02		6.0	<340					2.40
03	---	5.9	340	---	125	----		2.40
04	475	5.9	300	3.3	<121	2.00		2.30
05	465	6.6	265	4.0	111	2.50	2.7	2.30
06	465	7.1	250	4.6	109	2.95	3.3	2.35
07	470	7.4	240	4.8	103	3.30	4.0	2.35
08	480	7.1	(240)	5.0	101	3.60	4.6	2.35
09	525	6.8	<230	5.2	102	3.70	4.0	2.30
10	530	6.9	<220	5.3	102	3.85	4.0	2.30
11	530	6.9	(215)	5.4	101	3.90	4.6	2.30
12	510	6.8	(210)	5.5	103	3.95	>4.4	2.30
13	545	6.6	215	5.4	103	3.90	4.2	2.30
14	545	6.5	220	5.4	109	3.80	4.0	2.30
15	505	6.5	230	5.2	109	3.70		2.40
16	520	6.3	235	5.1	109	3.50		2.40
17	470	6.5	(245)	4.9	107	3.15	3.6	2.50
18	410	6.7	<265	---	109	2.70	3.7	2.60
19	---	6.8	(260)	---	<121	2.25	3.5	2.70
20		6.9	295		121	----	2.3	2.70
21		6.8	300				2.8	2.55
22		7.0	<300				2.4	2.55
23		6.8	(300)					2.50

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

Table 12

St. John's, Newfoundlend (47.6°N, 52.7°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.9	315					2.50
01		6.2	315					2.50
02		5.9	305					2.50
03		5.2	300					2.60
04		5.2	275		---	----		2.70
05	---	5.6	250	---	115	2.65		2.80
06	<500	6.0	230	4.6	112	3.10		2.70
07	530	6.5	230	4.8	103	3.50		2.75
00	530	6.8	<230	5.2	102	(3.70)		2.60
09	470	6.9	225	5.6	101	(3.90)		2.60
10	480	7.0	220	5.8	101	(4.00)		2.50
11	490	7.2	210	5.0	102	----		2.55
12	495	7.0	<220	5.8	101	----		2.50
13	475	7.2	230	5.0	101	----		2.50
14	460	7.4	230	5.7	101	4.05		2.50
15	435	7.6	230	5.4	105	3.90		2.55
16	430	7.6	<235	5.1	105	3.55		2.55
17	400	7.6	240	4.7	111	3.15		2.60
18	(400)	0.0	260	---	<119	2.70		2.65
19	---	0.0	280		---	----		2.65
20		0.0	290					2.60
21		0.2	290					2.55
22		7.8	300					2.50
23		7.1	300					2.55

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

Table 13

White Sands, New Mexico (32.3°N, 106.5°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.7	315				2.6	2.50
01		6.6	310				2.6	2.50
02		6.6	310				2.6	2.50
03		6.1	300				2.2	2.55
04		6.0	315				2.4	2.50
05		5.75	300		111	----	2.2	2.60
06	(435)	6.5	250	---	111	(2.55)	3.0	2.65
07	490	7.1	<235	4.8	103	3.10	3.5	2.52
08	460	7.7	220	5.1	103	3.50	4.2	2.55
09	455	8.0	215	5.5	101	(3.82)	4.4	2.50
10	460	8.5	200	5.6	103	4.05	4.5	2.45
11	430	8.8	205	5.6	101	(4.15)	4.6	2.45
12	460	8.5	210	5.7	101	4.20	4.5	2.45
13	450	>8.85	215	5.7	101	(4.15)		2.40
14	420	>8.8	215	5.6	101	(4.10)		2.45
15	425	8.65	220	5.5	103	3.95	4.2	2.48
16	430	8.0	230	5.2	101	3.65	4.0	2.50
17	420	7.95	240	4.9	103	3.30	3.8	2.60
18	---	7.8	250	---	109	2.72	3.3	2.65
19		7.7	270				2.2	2.70
20		7.7	250				2.8	2.65
21		7.3	280				2.8	2.60
22		7.0	300				2.5	2.55
23		6.7	320				3.4	2.50

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.4	280					2.70
01		9.9	270					2.75
02		9.3	270					2.70
03		9.0	280					2.65
04		8.6	275					2.70
05		8.0	260					2.80
06	---	7.8	265		---	----		2.80
07	---	8.7	<250	---	114	2.70	3.0	2.85
08	(530)	9.2	230	---	109	3.30	4.2	2.75
09	(490)	10.0	230	5.2	109	3.70	4.2	2.55
10	370	10.6	220	5.6	109	4.00	4.6	2.55
11	390	11.2	215	5.8	109	4.15	4.5	2.55
12	380	11.8	215	6.0	109	4.25	4.6	2.50
13	380	11.9	220	5.7	109	4.25	4.8	2.50
14	390	11.8	220	5.8	111	4.20	4.9	2.50
15	380	11.4	220	5.6	111	4.00	4.8	2.55
16	370	11.2	230	---	113	3.70	5.3	2.50
17	365	10.8	240	---	111	3.30	4.4	2.55
18	---	10.6	(250)		117	2.60	3.6	2.60
19		10.6	285				2.9	2.60
20		10.4	290				2.4	2.55
21		10.6	300					2.55
22		10.6	300					2.60
23		10.6	300				2.2	2.60

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

Table 15

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.1	300				2.8	2.60
01		10.5	280				1.9	2.68
02		9.6	265					2.70
03		9.05	265					2.75
04		8.0	245					2.80
05		6.85	240				1.6	2.80
06		8.1	270		(127)	(2.30)	3.1	2.85
07		9.0	255		117	3.05	7.0	2.70
08	---	9.9	240	---	113	3.55	7.4	2.40
09	---	10.6	235	---	115	3.90	7.3	2.22
10	---	11.5	230	---	115	4.05	6.9	2.15
11	---	12.0	(230)	---	118	4.15	6.4	2.15
12	(510)	12.5	220	(6.7)	117	4.20	5.1	2.15
13	(530)	13.0	220	(6.4)	117	4.20	4.8	2.05
14	(570)	13.2	230	---	117	4.08	5.5	2.05
15	---	13.05	235	---	117	3.85	4.9	2.05
16	---	12.95	250	---	117	3.50	5.2	2.10
17	---	12.5	270		117	3.00	4.0	2.10
18		12.35	<300		131	2.30	4.7	2.12
19		11.95	365				4.0	2.08
20		11.0	420				2.8	2.05
21		11.0	420				3.2	2.10
22		11.0	390				3.2	2.20
23		(11.25)	350				2.9	2.42

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

Table 16

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.6	295					2.60
01		9.0	290					2.55
02		8.8	280					2.60
03		8.1	280					2.65
04		7.55	265					2.65
05		6.9	270					2.60
06	---	6.7	<300	---	117	1.78	3.8	2.55
07	---	7.65	260	---	112	2.70	4.2	2.70
00	(510)	8.7	245	---	111	3.35	4.7	2.60
09	---	9.7	235	---	111	3.75	4.9	2.38
10	(455)	10.2	230	5.7	109	4.00	5.3	2.25
11	475	11.3	230	6.2	109	4.20	5.1	2.25
12	465	11.0	230	6.0	109	4.25	5.8	2.30
13	470	12.0	230	6.1	109	4.22	4.9	2.30
14	460	12.3	(230)	6.0	107	4.20	5.2	2.35
15	430	12.2	(230)	6.0	109	3.90	5.0	2.40
16	410	11.8	(245)	5.5	111	3.55	4.7	2.40
17	390	11.4	250	---	111	3.00	4.6	2.40
18	(350)	11.0	280		119	2.30	4.2	2.40
19		10.3	305				3.4	2.40
20		9.7	335				2.6	2.35
21		10.0	330					2.45
22		9.9	305					2.55
23		9.9	300					2.55

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

Table 17

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.4	230					2.72
01		9.6	250					2.80
02		9.6	250					2.90
03		8.95	235					3.10
04		7.4	230					3.02
05		6.15	235					2.95
06		5.2	250					2.90
07		7.5	265		121	2.30	3.5	2.85
08		8.75	240		110	3.05	3.6	2.75
09		9.65	230		109	3.60	3.6	2.45
10		10.1	215		105	3.90		2.30
11		10.4	210		105	4.05	5.0	2.20
12	---	10.6	205	---	105	4.15	4.4	2.10
13	---	10.8	<210	---	103	4.10	4.4	2.10
14	---	10.9	<210	---	105	4.02	4.5	2.05
15	---	10.7	205	---	105	3.00	4.5	2.10
16	---	10.7	220	---	105	3.48	4.8	2.05
17		10.6	245		109	3.00	3.2	2.05
18		10.4	280		133	2.20	2.8	2.05
19		10.05	<360				2.9	2.05
20		9.9	370					2.20
21		10.0	340					2.30
22		10.15	280					2.45
23		9.95	240					2.65

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

Table 18

Chimbote, Peru (9.1°S, 78.6°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.2	240					2.80
01		8.4	240				3.2	2.80
02		8.2	240				2.5	3.00
03		7.25	240				3.0	3.00
04		6.3	240				3.5	3.00
05		5.9	240				3.7	3.00
06		5.5	255				4.0	2.95
07		7.8	270		<129	2.30	5.0	2.85
00		9.25	240		117	3.05	7.2	2.70
09		10.5	230		112	3.50	7.4	2.48
10		10.5	220		111	3.05	9.1	2.35
11	---	10.4	215	---	110	4.00	9.0	2.20
12	---	10.2	210	---	109	4.10	9.4	2.15
13	---	10.25	210	---	109	4.05	9.0	2.12
14	---	10.3	210	---	110	4.00	8.9	2.12
15	---	10.0	220	---	111	3.70	8.6	2.10
16	---	9.9	230	---	113	3.30	7.7	2.10
17		9.85	260		117	2.75	7.0	2.15
18		9.2	300		---	1.85	4.6	2.15
19		8.65	365					2.15
20		8.5	360					2.20
21		8.5	320					2.35
22		8.4	270				2.6	2.50
23		8.2	250					2.60

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

Table 19

Huancayo, Peru (12.0°S, 75.3°W) June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.7	220					2.92
01		7.8	230					3.00
02		7.1	230					3.02
03		6.5	230					3.02
04		5.7	240					3.05
05		5.3	235					3.00
06		5.5	260		---	E		2.90
07		8.35	255		119	2.40	5.6	2.95
08		10.45	235		109	(3.12)	7.0	2.75
09		11.0	220		107	(3.58)	7.5	2.55
10		11.0	210		---	(3.90)	8.0	2.42
11	---	10.7	205	---	---	(4.00)	8.0	2.30
12	---	10.5	205	---	---	----	8.1	2.25
13	---	10.35	205	---	---	----	8.2	2.25
14	---	10.0	210	---	---	----	7.8	2.22
15	---	9.7	215	---	---	(3.60)	7.6	2.20
16		9.6	235		---	(3.15)	7.0	2.25
17		9.5	260		---	(2.50)	6.0	2.25
18		9.0	300		---	1.40	1.7	2.30
19		8.4	335		---	----		2.25
20		8.25	320					2.40
21		8.1	270					2.55
22		8.0	240					2.70
23		7.7	230					2.90

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

Table 20

Fletchers Ice I. (80.0°N, 115.0°W)* May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	490	6.0	265	3.9	109	2.50		2.40
01	---	6.2	270	3.8	109	2.35		2.50
02	430	6.4	270	4.0	109	2.35		2.45
03	(480)	6.6	270	4.0	109	2.35		2.55
04	430	6.6	260	3.9	109	2.35		2.50
05	430	6.1	260	4.0	109	2.45		2.50
06	430	6.0	250	4.2	109	2.60		2.50
07	470	6.0	250	4.1	103	2.70		2.42
00	465	6.2	245	4.5	101	2.75		2.40
09	450	6.1	240	4.6	101	2.90		2.38
10	470	5.9	240	4.6	101	3.00		2.38
11	505	5.95	230	4.7	101	(3.10)		2.35
12	480	6.0	230	4.7	101	3.20		2.30
13	490	6.25	225	4.6	101	(3.20)		2.28
14	500	5.7	220	4.6	101	(3.30)		2.30
15	550	5.9	<230	4.6	101	(3.30)		2.30
16	525	6.0	235	4.5	101	(3.30)		2.30
17	550	5.65	<240	4.5	101	(3.25)		2.30
18	550	5.9	<240	4.5	101	(3.15)		2.18
19	500	5.65	(245)	4.5	101	3.00		2.30
20	470	6.0	245	4.5	103	2.95		2.35
21	480	6.2	250	4.3	103	2.78		2.30
22	450	6.3	260	4.4	105	2.60		2.35
23	470	6.2	250	4.1	109	2.55		2.40

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
*Preliminary estimated average position.

Table 21

Thule, Greenland (76.6°N, 68.7°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	6.0	270	---	111	2.10		2.60
01	(480)	6.2	260	---	111	(2.20)		2.60
02	(530)	6.0	255	3.7	109	2.30		2.55
03	(520)	5.8	250	3.8	109	2.40		2.55
04	550	6.2	245	4.1	107	2.60		2.60
05	495	5.5	240	4.2	105	2.80		2.50
06	560	5.8	240	4.4	105	2.95		2.40
07	530	6.3	235	4.5	103	3.10		2.55
00	560	6.0	225	4.8	101	3.20		2.45
09	545	5.8	230	4.8	101	3.35		2.35
10	500	6.1	225	4.8	101	3.40		2.40
11	540	6.2	220	4.8	101	3.50		2.40
12	545	6.0	225	4.8	101	3.45		2.30
13	480	6.4	230	4.8	101	3.40		2.40
14	480	6.2	230	4.8	101	3.30		2.40
15	485	6.5	230	4.7	103	3.20		2.40
16	465	6.5	235	4.6	105	3.05		2.40
17	475	6.2	235	4.2	106	3.00		2.50
18	555	6.8	240	4.2	107	2.85		2.55
19	(465)	6.4	240	4.2	109	2.60		2.55
20	(440)	6.5	245	---	109	2.45		2.55
21	---	6.2	260	---	111	2.35		2.60
22	---	6.2	260	---	111	2.25		2.60
23	---	6.0	270	---	113	2.20		2.70

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

Table 22

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>5.2	420				2.7	----
01		---	400				3.3	
02		---	400		---	----	3.2	----
03	---	>5.4	390		---	----	3.6	(2.45)
04	(470)	5.4	315		---	----	2.1	2.40
05	(430)	5.7	305		119	2.50		2.50
06	(510)	5.9	280	---	111	2.70		2.50
07	(510)	6.0	250	4.5	109	(3.00)		2.50
08	490	6.3	250	4.8	109	(3.15)		2.45
09	510	6.4	245	5.0	108	(3.40)		2.40
10	520	6.8	235	5.3	109	(3.50)		2.40
11	480	6.9	230	5.4	109	3.60		2.40
12	485	7.0	230	5.5	106	3.65		2.40
13	490	7.1	230	5.4	107	(3.70)		2.40
14	470	7.1	230	5.4	107	(3.60)		2.40
15	460	7.1	230	5.2	105	(3.50)		2.45
16	450	7.1	240	5.2	108	(3.35)		2.45
17	440	7.0	250	4.8	109	>3.00		2.50
18	420	6.8	280	(4.6)	111	>2.05		2.50
19	(520)	(6.5)	(300)	---	115	(2.70)		(2.55)
20	(425)	(6.0)	<350	---	121	(2.50)	2.8	(2.50)
21	---	>5.7	380		<131	(2.20)	3.2	(2.50)
22		>5.6	395				3.6	(2.40)
23		---	400				2.8	----

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

Table 23

White Sands, New Mexico (32.3°N, 106.5°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.3	310				2.3	2.50
01		7.0	310				2.8	2.55
02		6.8	300				2.6	2.50
03		6.6	310				2.8	2.50
04		6.35	310				2.7	2.50
05		6.4	310				2.1	2.55
06	---	7.7	250	---	114	----	3.0	2.80
07	---	8.6	235	---	109	(3.10)	3.5	2.65
08	(500)	9.4	225	5.2	105	(3.58)	4.2	2.55
09	440	10.0	220	5.6	105	(3.90)	4.4	2.45
10	430	10.8	<220	5.8	101	4.05	4.5	2.45
11	400	11.2	215	6.0	101	4.25	4.4	2.45
12	400	11.15	215	6.2	101	4.25	4.2	2.45
13	420	11.15	225	6.0	101	4.20	4.3	2.45
14	410	11.3	230	5.9	101	4.10	4.3	2.50
15	400	10.85	230	5.8	101	3.92	4.1	2.50
16	395	10.75	230	5.2	103	3.60	4.0	2.55
17		10.4	<250		109	3.20	4.2	2.60
18		9.9	260		<115	----	3.4	2.70
19		9.0	260				3.3	2.70
20		8.35	250				3.0	2.60
21		7.8	(280)				3.1	2.55
22		7.4	315				3.7	2.50
23		7.2	320				2.2	2.45

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	300					2.55
01		8.3	300					2.60
02		8.0	290					2.55
03		7.8	280					2.55
04		7.55	290				2.2	2.65
05		7.3	280					2.62
06		8.0	260		<119	2.22	2.4	2.85
07	---	8.85	235	---	109	(3.00)	3.2	2.82
08	(425)	10.0	220	---	107	(3.40)	4.1	2.70
09	(440)	10.5	<220	5.5	107	(3.80)	4.2	2.60
10	425	10.9	210	5.7	108	4.00	4.1	2.55
11	420	11.4	210	6.1	107	4.15	>4.1	2.45
12	410	11.8	215	6.0	107	(4.25)		2.45
13	395	11.6	220	6.3	107	(4.30)	4.3	2.50
14	390	11.5	220	6.0	109	4.15	4.2	2.50
15	390	11.2	225	(5.8)	109	4.00	4.2	2.50
16	410	10.9	235	---	111	3.62	4.1	2.55
17	(395)	10.6	(235)	---	110	3.20	3.8	2.55
18		10.2	260		114	----	2.8	2.60
19		9.7	265		---	----	2.8	2.60
20		9.1	<280					2.50
21		8.6	300					2.50
22		8.5	(310)					2.55
23		8.6	320				2.4	2.50

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

Table 25

Talara, Peru (4.6°S, 81.3°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.0	235					2.70
01		11.0	235					2.85
02		10.9	235					2.95
03		9.3	225					3.00
04		7.6	230					2.90
05		6.7	245					2.85
06		6.6	250					2.80
07		8.8	265		<125	2.40	3.0	2.80
08		10.7	240		113	3.20	3.3	2.70
09		11.8	230		109	3.70	4.2	2.45
10		12.2	220		109	4.00		2.30
11		12.4	215		107	4.10	4.4	2.15
12	---	(12.3)	210	---	107	4.20		(2.10)
13	---	12.5	210	---	105	4.10	4.5	2.05
14	---	(12.5)	<210	---	105	4.00	4.4	(2.05)
15	---	12.6	210	---	105	3.75	4.2	2.05
16		12.2	230		109	3.40	4.5	2.05
17		11.8	255		<112	2.95	4.9	2.10
18		(11.3)	290		<140	2.15	4.5	(2.00)
19		11.0	370				3.0	2.00
20		11.0	385				2.3	2.10
21		11.4	340					(2.25)
22		>10.8	270				1.8	2.50
23		>10.5	230					2.60

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

Table 26

Chiclayo, Peru (6.8°S, 79.8°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.6	235					2.70
01		10.1	230					2.80
02		9.7	230					2.90
03		8.1	230					2.90
04		6.8	240					2.90
05		6.4	245					2.88
06		6.6	255					2.80
07		9.05	265		121	2.50		2.80
08		11.15	240		111	3.20		2.70
09		11.9	230		111	3.60	5.0	2.45
10		12.5	225		111	4.00		2.30
11		12.2	220		109	(4.10)		2.20
12		12.0	210		109	(4.15)	4.4	2.08
13	---	12.35	<215	---	109	4.10	4.4	2.05
14	---	12.2	(210)	---	109	(4.00)	4.4	2.02
15	---	12.0	215	---	111	3.80		2.00
16		11.8	(235)		109	3.40	4.7	2.05
17		11.2	265		111	2.90	5.1	2.05
18		11.0	300		---	2.02	4.0	2.00
19		10.1	395					2.05
20		9.8	390					2.10
21		9.6	330				2.3	2.25
22		9.4	260				2.0	2.50
23		9.1	235					2.60

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

Table 27

Chimbote, Peru (9.1°S, 78.6°W) May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.0	240					2.80
01		9.2	230					2.85
02		8.55	235				2.2	2.90
03		7.2	240				1.8	3.00
04		6.3	240					2.90
05		6.0	245					2.90
06		6.1	260				1.8	2.80
07		9.0	265		127	2.45	4.0	2.85
08		11.5	245		119	3.20	5.0	2.75
09		12.2	235		117	3.60	7.1	2.50
10		12.4	225		115	3.90	8.4	2.30
11		12.3	220		114	4.05	9.0	2.20
12		11.9	215		111	4.10	9.0	2.10
13		11.8	210		111	4.02	9.0	2.10
14		11.6	215		(111)	(3.95)	9.0	2.05
15		11.5	(220)		111	(3.70)	9.0	2.10
16		11.2	(245)		115	3.30	9.0	2.10
17		10.8	265		119	2.78	6.6	2.08
18		10.5	315				5.0	2.10
19		9.4	400					2.05
20		9.1	370					2.12
21		9.0	330				2.5	2.30
22		8.4	265				3.0	2.60
23		8.6	240				2.2	2.65

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

Table 28

Resolute Bay, Canada (74.7°N, 94.9°W) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.4	290		120	1.5	1.5	2.5
01		6.4	280		120	1.6	1.6	2.4
02		6.2	300		110	1.7	1.7	2.5
03		6.2	280		110	1.8		2.5
04		6.4	290		105	1.9		2.5
05	---	6.9	280	---	105	2.1		2.6
06	(450)	6.4	260	---	105	2.3		2.5
07	420	6.0	250	4.0	100	2.6		2.5
08	480	6.1	250	4.2	100	2.9		2.4
09	460	6.2	240	4.4	100	3.0		2.4
10	480	6.4	240	4.8	100	3.0		2.4
11	480	6.2	230	4.9	100	3.1		2.4
12	500	6.0	230	4.8	100	3.2		2.3
13	520	6.0	240	4.6	100	3.2		2.3
14	520	5.9	240	4.8	100	3.1		2.4
15	460	6.4	250	4.7	100	3.0		2.4
16	440	6.5	240	4.4	100	3.0		2.4
17	510	6.0	260	4.5	100	2.8		2.4
18	420	6.7	270	4.2	100	2.6		2.4
19	(430)	6.2	280	4.0	110	2.4		2.5
20	---	6.4	290		110	2.0		2.5
21		7.0	290		110	1.9		2.5
22		6.8	290		110	1.7	1.7	2.5
23		6.8	280		110	1.7		2.5

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 29

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>4.5	430				2.9	----
01		>5.0	415				3.2	----
02		>4.5	455				3.6	(2.22)
03		(5.1)	420				3.0	(2.35)
04		5.15	395		---	----	3.5	(2.35)
05	---	5.4	335	---	---	----	3.4	2.45
06	---	5.8	295	---	114	(2.28)		2.60
07	---	6.05	270	---	111	2.55		2.60
08	(470)	6.65	250	(4.6)	109	(2.90)		2.55
09	485	7.05	250	5.0	111	3.20		2.55
10	480	7.45	250	(5.3)	(109)	3.50		2.45
11	455	8.15	240	5.5	109	3.60		2.40
12	450	8.6	230	5.6	109	3.58		2.45
13	420	8.6	230	5.6	111	3.50		2.45
14	410	8.5	240	5.2	109	3.50		2.45
15	430	8.0	250	4.8	109	3.40		2.50
16	430	7.45	(260)	(4.7)	109	>3.20		2.50
17	(410)	7.4	270	---	109	>2.95		2.55
18	---	7.0	(300)	---	109	3.10		2.55
19	(500)	>6.6	320	---	110	2.75	3.5	2.45
20	---	>5.8	370	---	<137	----	3.5	(2.45)
21		>5.65	<400		---	----	3.4	----
22		>5.65	415				>3.9	----
23		----	400				2.9	----

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

Table 30

Upsala, Sweden (59.8°N, 17.6°E) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.3	360				2.1	2.3
01		5.0	350				2.7	2.3
02		4.9	345				2.4	2.3
03		4.8	340		---	E	2.6	2.3
04		5.0	320		---	E	3.0	2.4
05	G	5.5	280		125	1.80	3.1	2.6
06	G	6.3	255	----	115	2.40	3.6	2.7
07	G	7.0	245	5.00	110	2.85	5.0	2.7
08	370	8.0	240	5.40	105	3.20	5.0	2.6
09	390	8.4	240	5.70	105	3.40	4.7	2.6
10	395	9.1	225	5.80	105	3.55	5.1	2.5
11	425	9.5	230	6.10	105	3.65	5.6	2.5
12	420	9.8	230	6.05	105	3.70	4.6	2.5
13	400	9.6	240	6.00	105	3.70	4.5	2.5
14	400	9.6	230	5.95	105	3.55	4.4	2.5
15	390	9.6	240	5.65	105	3.35		2.55
16	370	9.8	240	5.40	105	3.10		2.6
17	G	9.7	245	5.30	110	2.70	3.3	2.7
18	G	9.6	255		120	2.25	3.0	2.7
19		9.2	260		---	1.55	2.3	2.7
20		8.5	260		---	E		2.6
21		7.1	280					2.5
22		6.6	330					2.3
23		5.8	350					2.3

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

Table 31

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.0	335				<1.3	2.20
01		>7.0	325				1.0	2.25
02		6.4	315				1.0	2.25
03		6.1	330				<1.0	2.20
04		5.8	325		---	(1.35)		2.30
05		5.7	300		140	1.70		2.50
06		6.5	260		115	2.30		2.75
07		7.4	245		105	2.85		2.65
00	---	8.2	230	---	105	3.35		2.60
09	450	9.4	225	---	100	3.60	3.7	2.55
10	450	10.4	225	5.7	100	3.80		2.55
11	450	10.9	220	5.7	100	3.90		2.50
12	445	11.2	225	5.8	100	4.00		2.50
13	430	11.2	230	---	100	3.90		2.50
14	440	11.0	230	---	100	3.05		2.50
15	---	10.8	235	---	100	3.70		2.55
16		10.6	240	---	105	3.35		2.55
17		10.6	250		105	2.90		2.60
18		10.4	255		115	2.40		2.65
19		10.2	260		150	1.75		2.65
20		9.3	255			----	<1.6	2.60
21		8.4	260				<1.6	2.45
22		7.9	300				<1.6	2.25
23		>7.0	335				<1.6	2.20

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

Table 32

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	(300)					2.50
01		6.8	300					2.50
02		6.5	305					2.40
03		6.5	310					2.35
04		6.05	(320)					2.35
05		6.05	310					2.42
06		7.2	260		(123)	2.05	2.2	2.70
07		9.2	240		109	2.80	3.0	2.90
00	---	10.5	230	---	103	3.30	3.6	2.75
09	---	11.6	225	---	101	3.60	4.0	2.70
10	---	12.4	215	---	101	3.75	3.9	2.55
11	---	12.7	215	---	103	3.95		2.55
12	(390)	13.0	220	---	103	4.00		2.55
13	(400)	13.0	220	---	101	4.00		2.55
14	---	13.0	225	---	101	3.85		2.50
15		12.45	230		102	3.70		2.50
16		11.7	235		103	3.42		2.55
17		11.45	240		105	3.00	3.2	2.60
18		11.0	245		119	2.30	2.6	2.70
19		10.3	240				2.3	2.70
20		9.0	240				2.5	2.65
21		7.9	250				2.2	2.55
22		7.2	(280)					2.50
23		7.1	(300)					2.50

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

Table 33

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.6	<310					2.55
01		8.55	(300)					2.60
02		8.25	290					2.60
03		7.9	280					2.60
04		7.6	270					2.60
05		7.15	<200					2.60
06		8.0	265		---	----		2.75
07	---	10.05	240	---	109	(2.80)	>2.4	2.90
00	---	11.35	230	---	109	3.25	>3.2	2.80
09	---	12.15	220	---	109	(3.60)		2.75
10	---	12.75	215	---	109	4.00		2.60
11	(365)	13.05	220	---	109	(4.05)		2.60
12	390	13.2	230	6.4	109	(4.18)		2.55
13	400	13.0	230	6.6	109	(4.20)		2.50
14	410	12.95	230	6.5	111	4.05		2.50
15	(430)	12.7	230	---	110	(3.92)		2.50
16	---	12.05	240	---	111	3.60	3.9	2.50
17	---	11.65	240	---	111	(3.08)	3.4	2.55
18		11.2	260		<117	----	2.5	2.65
19		10.3	250					2.60
20		9.35	(270)					2.55
21		9.35	(290)					2.55
22		9.15	(300)					2.60
23		9.05	<310					2.55

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

Table 34

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.6	225				3.0	2.65
01		12.1	240					2.75
02		11.2	250					2.05
03		10.2	240					2.90
04		9.1	240					2.85
05		8.0	250					2.90
06		7.5	255					2.90
07		10.0	270		129	2.40	3.2	2.85
00		12.5	250		122	3.25		2.80
09		13.5	240		119	3.75		2.60
10		14.2	230		117	4.05		2.40
11		14.5	225		115	4.25		2.30
12		14.4	220		113	4.30		2.15
13	---	14.5	220	---	112	4.30		2.10
14	---	14.1	215	---	111	4.20		2.05
15	---	14.1	220	---	111	3.85		2.05
16		14.0	235		109	3.50	3.9	2.05
17		13.5	260		117	3.05	3.4	2.05
18		13.0	295		<129	2.35	4.7	2.05
19		12.0	380					1.95
20		>11.7	410					2.00
21		>12.0	330				1.9	2.25
22		11.6	255					2.50
23		12.0	230				2.4	2.55

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

Table 35

Chiclayo, Peru (6.0°S, 79.8°W) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.8	230				2.6	2.60
01		10.6	240					2.70
02		10.3	245					2.00
03		9.2	245					2.85
04		8.6	250					2.05
05		8.05	245					2.90
06		7.4	255		---	----		2.85
07		10.2	265		127	2.50		2.90
08		12.7	250		119	3.30		2.75
09		14.0	240		117	3.70	>3.4	2.50
10		14.6	230		115	4.10		2.35
11		14.65	225		113	(4.20)		2.15
12		14.55	220		113	4.28		2.05
13		14.25	220		113	4.30		2.02
14		13.8	<225		111	(4.10)		2.05
15		13.8	225		111	3.90		2.05
16		13.7	245		111	3.45	3.8	2.00
17		13.2	260		113	(3.00)	3.6	2.00
18		12.35	300		---	2.20	2.7	2.00
19		11.45	390					1.95
20		>11.0	410					2.02
21		>11.5	320				1.8	2.30
22		11.0	260				2.4	(2.40)
23		>11.0	230				2.5	2.55

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

Table 36

Chimbote, Peru (9.1°S, 78.6°W) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.0	240				4.2	2.60
01		9.95	240				2.6	2.70
02		9.5	250					2.75
03		8.7	250				3.0	2.80
04		8.2	250				1.8	2.88
05		7.6	250				2.5	2.90
06		7.4	250					2.85
07		10.7	265		131	2.60	3.3	2.90
00		12.9	250		123	3.30	3.4	2.78
09		14.2	240		120	3.75	4.5	2.52
10		14.7	230		119	4.05	4.7	2.35
11		14.6	230		119	4.25	7.0	2.15
12		14.1	220		118	4.30	6.6	2.10
13		13.65	(220)		117	4.30	7.1	2.05
14		13.2	220		116	4.10	7.7	2.05
15		13.3	220		115	3.80	7.0	2.05
16		13.05	245		115	3.50	7.1	2.05
17		12.45	270		119	2.95	7.0	2.00
18		11.35	310		---	2.10	4.0	(2.05)
19		9.5	415					2.00
20		(9.1)	410					2.10
21		>10.0	325					2.25
22		9.8	260				3.2	2.55
23		9.6	240				4.5	2.60

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

Table 37

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	350				<1.3	2.25
01		4.9	360				1.6	2.25
02		4.9	368				<1.7	2.28
03		4.8	350				<1.3	2.35
04		4.5	335				<1.3	2.30
05		4.6	310			----	<1.3	2.45
06		5.2	290		125	1.80		2.60
07		6.1	265		120	2.15		2.80
08		7.3	250		120	2.60		2.75
09	375	8.2	250	---	115	2.95		2.70
10	330	8.8	245	4.8	110	3.15		2.70
11	400	9.6	245	5.3	110	3.30		2.70
12	395	10.6	240	5.3	115	3.35		2.65
13	380	10.3	245	---	110	3.35		2.70
14	405	10.9	245	---	110	3.30		2.70
15	310	11.2	250	---	115	3.15		2.70
16	325	10.8	250	---	115	3.00		2.75
17		10.7	250		120	2.50		2.80
18		10.2	250		135	1.95		2.85
19		8.8	250		140	1.60		2.75
20		7.0	250				<1.6	2.65
21		6.0	280				<1.6	2.45
22		5.8	315				<1.6	2.35
23		5.6	350				<1.6	2.30

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

Table 38

Wakkanai, Japan (45.4°N, 141.7°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.8	295					2.45
01		6.9	310					2.40
02		6.5	310					2.45
03		6.4	300					2.40
04		6.3	318					2.40
05		6.4	305					2.50
06		8.0	250			2.20		2.85
07		10.2	240			2.55		2.95
08		12.2	240			3.05		2.95
09		13.3	235			3.40		2.95
10		13.8	230			3.55		2.90
11		13.8	235			3.60		2.90
12		13.8	235			3.65		2.80
13		13.5	240			3.60		2.80
14		13.0	240			3.50		2.75
15		12.5	240			3.35		2.75
16		12.3	245			2.90		2.80
17		12.0	245			2.30		2.80
18		11.0	240					2.80
19		9.5	250					2.75
20		8.8	255					2.70
21		8.0	265					2.65
22		7.5	285					2.60
23		7.3	295					2.55

Time: 135.0°E.
Sweep: 1.0 Mc to 20.7 Mc in 1 minute.

Table 39

Akita, Japan (39.7°N, 140.1°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0	300					2.60
01		7.8	300					2.55
02		7.2	305					2.50
03		7.2	300					2.50
04		7.0	325					2.45
05		7.0	305					2.50
06		8.8	250			----		2.85
07		11.7	230			2.65		3.00
08		13.5	230			3.20		3.00
09	---	14.2	240			3.50	3.6	2.90
10	245	14.8	230	---		3.70		2.85
11	---	14.8	235	---		3.90		2.80
12	245	14.8	240	---		3.90		2.70
13	---	14.4	240	---		3.95		2.70
14	---	14.0	240	---		3.80		2.70
15		13.4	245			3.55		2.70
16		13.0	245			3.05		2.75
17		12.5	250			2.40		2.80
18		11.7	250					2.80
19		10.2	245					2.75
20		9.5	260					2.75
21		9.1	275					2.70
22		8.6	285					2.65
23		8.4	295					2.65

Time: 135.0°E.
Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 40

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	(290)					2.50
01		5.6	305					2.50
02		5.7	300					2.50
03		5.6	<300					2.50
04		5.4	<300				2.1	2.50
05		5.2	(300)					2.55
06		5.7	280		---	----		2.60
07		8.0	240		115	2.20		3.00
08		10.9	230		105	3.00		3.10
09		11.7	225		101	3.35		2.95
10	---	12.6	215	---	101	3.60		2.85
11		13.0	220		105	3.75		2.75
12		13.2	220		105	3.90		2.70
13		>13.2	220		101	3.90		2.70
14		13.1	225		103	3.80		2.65
15		13.0	230		103	3.60		2.70
16		>12.8	235		107	3.30		2.75
17		12.6	235		111	2.70	>2.6	2.80
18		12.0	235		(125)	1.90	2.2	2.90
19		10.6	220				2.4	2.85
20		8.8	230				2.5	2.85
21		7.6	240				2.3	2.75
22		6.4	(250)				2.1	2.70
23		5.9	(270)					2.55

Time: 120.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
Note: Around equinox, height scale was expanded.

Table 41

Tokyo, Japan (35.7°N, 139.5°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	290					2.70
01		8.0	280					2.70
02		7.4	300					2.60
03		7.3	280					2.50
04		7.1	320					2.45
05		7.1	315					2.50
06		9.1	255			----		2.85
07		11.8	235			2.70		3.05
08		13.3	235			3.20		3.00
09	---	14.1	230			3.55		2.90
10	---	14.7	230			3.70	4.1	2.80
11	---	15.1	235			3.80		2.75
12	---	14.9	235			3.90	3.9	2.70
13	---	14.6	235			3.95		2.65
14	---	14.3	240			3.85		2.65
15		13.8	245			3.65		2.65
16		13.2	250			3.20		2.70
17		12.9	250			2.50	2.8	2.75
18		12.1	250				2.7	2.80
19		10.6	250					(2.75)
20		9.5	270				2.3	2.70
21		9.3	270					2.65
22		8.9	280					2.70
23		8.8	290					2.65

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 42

Yamagawa, Japan (31.2°N, 130.6°E) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.5	260					2.85
01		9.0	250					2.90
02		8.5	250					2.75
03		8.0	250					2.70
04		7.4	245					2.60
05		7.0	275					2.60
06		7.4	285					2.70
07		10.3	240			2.10		3.10
08		12.9	230			3.00		3.15
09		13.9	225			3.45	3.8	3.05
10		14.5	220			3.70	4.2	2.95
11	---	15.0	220			3.90	4.4	2.85
12	---	15.5	220			3.95	4.7	2.80
13	---	15.5	220	---		4.00	4.4	2.75
14	---	15.5	220	---		4.00	4.2	2.75
15	---	15.1	230	---		3.85	4.4	2.70
16	---	14.5	235	---		3.50		2.75
17		14.0	245			3.00	3.3	2.75
18		13.5	250			2.10	2.6	2.85
19		12.7	245				2.9	2.85
20		11.5	250				2.4	2.80
21		11.4	250				2.3	2.70
22		11.0	250					2.80
23		10.4	250					2.80

Time: 135.0°E.
Sweep: 1.0 Mc to 20.0 Mc in 1 minute.

Table 43

Leopoldville, Belgian Congo (4.4°S, 15.2°E) March 1958

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	13.6						2.55
01	240	11.6						2.55
02	230	10.4					1.5	2.61
03	225	9.0					1.6	2.71
04	225	6.1					1.6	2.70
05	250	6.0	---	---	---	---	2.3	2.57
06	250	9.6	245	---	115	2.8	3.5	2.78
07	260	11.4	240	---	110	3.5	4.0	2.53
08	(280)	12.4	230	---	110	3.9	4.6	2.34
09	(345)	13.8	225	---	110	4.0		2.28
10	(400)	14.5	240	---	110	4.3		2.24
11	415	15.4	240	---	110	4.3		2.20
12	420	16.4	240	---	110	4.3		2.13
13	420	16.2	230	---	110	4.1		2.11
14	430	16.0	240	---	110	4.0		2.06
15	430	16.0	240	---	110	3.6		2.06
16	410	16.0	255	---	115	3.0	3.1	2.13
17	360	16.2	285	---	---	---	2.4	2.17
18	340	17.0					2.4	2.16
19	310	17.1						2.29
20	240	17.6						2.47
21	220	17.2						2.56
22	230	16.8						2.50
23	230	15.0						2.57

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

Table 44

Chimbote, Peru (9.1°S, 78.6°W) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.8	235				4.7	2.75
01		9.6	240				4.7	2.80
02		9.0	250				4.4	2.90
03		8.3	240				4.0	2.95
04		7.8	240				3.0	3.00
05		6.8	240				3.8	3.00
06		6.6	250				3.2	2.90
07		10.2	260		129	2.60	4.6	3.00
08		13.1	250		<121	3.30	4.1	2.90
09		14.6	240		119	3.80	5.4	2.60
10		15.0	230		117	4.10	7.4	2.40
11		15.2	<225		117	4.25	7.0	2.20
12		13.8	225		<114	4.35	8.3	2.10
13		12.7	220		(113)	4.35	9.0	2.10
14		12.5	(220)		113	4.30	9.0	2.10
15		12.6	(225)		113	4.00	9.0	2.05
16		12.2	230		111	3.60	8.9	2.05
17		11.7	260		115	3.10	0.0	2.10
18		11.6	290		---	2.40	5.2	2.10
19		10.9	365				4.0	2.10
20		10.0	425					2.00
21		(9.0)	330					(2.20)
22		(10.3)	280				4.6	2.45
23		9.9	240				4.6	2.70

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
Note: Around equinox, height scale was expanded.

Table 45

Elisabethville, Belgian Congo (11.6°S, 27.5°E) March 1958

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	225	6.8						2.51
01	250	6.5						2.46
02	255	6.0					2.0	2.58
03	260	4.8					2.0	2.50
04	270	5.6			---	---	2.0	2.50
05	245	9.8	---	---	110	2.5	3.2	2.84
06	250	11.4	235	---	105	3.3	3.6	2.73
07	260	12.1	230	---	105	3.8	4.0	2.54
08	300	13.0	230	---	105	4.0		2.40
09	325	13.7	230	---	105	4.0		2.35
10	360	14.2	240	---	105	4.1		2.30
11	375	14.6	245	---	105	4.0		2.28
12	375	14.9	240	---	105	4.0		2.25
13	370	14.5	250	---	110	4.0	4.6	2.26
14	365	14.0	250	---	110	3.6	4.7	2.23
15	350	13.8	250	---	110	3.0	4.2	2.28
16	295	14.0	270	---	---	2.3	3.0	2.36
17	200	13.8					2.5	2.45
18	260	13.0					2.2	2.43
19	245	13.5					2.5	2.50
20	240	13.0					1.9	2.54
21	245	12.0						2.58
22	240	11.2						2.59
23	230	9.5						2.62

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

Table 46

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	(270)				2.1	2.65
01		4.5	(280)					2.65
02		4.4	280					2.60
03		4.5	280					2.60
04		4.4	300					2.55
05		4.3	310				2.4	2.50
06		4.3	310				2.6	2.55
07		6.45	255		(116)	1.95	2.6	2.90
08		10.1	230		111	2.58		3.20
09	---	12.4	225	---	105	3.10		3.10
10	---	13.0	220	---	103	3.40		3.05
11	---	13.7	220	---	107	3.65		3.00
12	---	13.6	220	---	107	3.70		2.90
13	---	13.6	220	---	109	3.70		2.85
14	---	13.4	225	---	109	3.60		2.80
15		13.4	230	---	109	3.35		2.80
16		13.0	230		111	2.90		2.80
17		12.6	225		115	2.30		2.90
18		11.8	220				2.2	2.95
19		10.1	215				2.2	3.00
20		8.5	220				2.2	3.00
21		6.7	230				2.4	2.98
22		5.85	(250)				2.3	2.90
23		4.95	<260					2.80

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

Table 47

Chimbote, Peru (9.1°S, 78.6°W) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.1	240				4.4	2.00
01		9.85	245				4.4	2.90
02		9.15	255				4.4	2.80
03		8.6	250				4.1	2.95
04		8.1	240				4.2	3.00
05		7.0	235				4.0	3.10
06		6.9	240				4.4	2.95
07		10.35	260		<125	2.50	4.9	2.98
08		12.65	240		117	3.30	6.0	2.78
09		14.1	230		115	3.80	6.7	2.55
10		14.7	220		113	4.05	7.8	2.35
11		>14.0	215		113	4.20	8.4	2.20
12		13.7	210		113	4.30	8.2	2.15
13	---	12.7	210	---	113	4.30	8.6	2.15
14	---	12.7	200		112	4.20	8.4	2.10
15	---	12.3	215		113	4.00	7.7	2.15
16		12.55	230		113	3.68	8.0	2.10
17		12.35	250		115	3.20	6.6	2.18
18		12.2	270		(121)	2.48	4.8	2.20
19		11.75	320				2.8	2.25
20		11.4	370					2.12
21		11.6	325					2.35
22		11.75	<280				3.7	2.45
23		11.75	250				4.0	2.70

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

Table 48

Budapest, Hungary (47.4°N, 19.2°E) January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(5.0)	(340)					
01		4.9	320					
02		>4.6	305					
03		4.3	310					
04		4.0	300					
05		>3.9	310					
06		5.8	270					
07	(250)	>10.1	245	2.5	145	2.4		
08	---	13.3	240	---	135	2.7		
09	---	13.9	235	---	130	3.0		
10	---	14.2	240	---	125	3.2		
11	---	14.0	240	---	125	3.2		
12		(13.5)	(245)		---	---		
13		13.5	245		130	2.9		
14		12.8	<245		135	2.6		
15		(11.8)	250		---	---		
16		10.6	240					
17		9.2	245					
18		8.0	250					
19		6.2	275					
20		>5.8	300					
21		5.4	310					
22		5.2	320					
23		5.0	320					

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 35 seconds.

Table 49

Ibadan, Nigeria (7.4°N, 3.9°E) January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(8.6)	270					2.50
01		(8.8)	260					(2.60)
02		(8.7)	250					2.80
03		8.8	245					2.95
04		8.0	225					3.10
05		6.6	215					3.10
06		6.9	255	---	135	1.70		2.80
07		>10.0	250	---	110	2.80	4.8	2.70
08		11.5	240	---	105	3.45	6.6	2.50
09		(12.3)	230	---	105	3.95	7.1	(2.30)
10		12.8	220	---	105	4.20	7.3	2.15
11		12.2	210	5.1	105	4.30	8.8	2.10
12		11.7	205	---	105	(4.30)	8.7	2.00
13		11.7	210	(5.2)	105	(4.30)	8.6	1.95
14		11.9	220	---	105	4.10	>7.0	<2.00
15		>11.7	235	---	105	3.85	7.0	2.05
16		>11.5	250	---	110	3.40	3.4	(2.00)
17		(11.4)	275	---	110	2.65	3.2	<2.05
18		(9.7)	350	---	150	1.55		<2.00
19		(8.6)	450					(1.90)
20		8.4	490					----
21		<8.5	395					----
22		<8.5	320					----
23		(8.5)	295					(2.45)

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

Table 50

Chimbote, Peru (9.1°S, 78.6°W) January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.5	320				3.9	2.30
01		10.6	285				4.2	2.50
02		10.05	280				4.5	2.70
03		8.95	240				4.3	2.80
04		8.0	230				4.2	3.05
05		6.2	230				4.1	3.00
06		7.4	280		111	----	4.2	2.70
07		10.3	260		120	2.80	5.0	2.65
08	---	12.4	240	---	111	3.50	5.0	2.50
09	---	13.65	230	---	111	4.00	7.6	2.30
10	---	13.65	220	---	111	4.20	8.0	2.08
11	---	12.75	210	---	111	4.35	8.0	2.02
12	---	11.7	210	---	111	4.45	7.8	2.05
13	(580)	11.8	210	6.7	111	(4.48)	4.8	2.05
14	(570)	12.35	<210	6.5	111	4.35		2.10
15	---	13.0	210	---	111	4.10	4.7	2.10
16	---	13.3	240	---	111	3.75	5.4	2.10
17	---	>13.0	255	---	115	3.30	6.0	2.12
18		13.0	280		121	2.55	5.6	2.10
19		12.3	330				3.2	2.10
20		11.55	405					2.00
21		>11.3	395					2.00
22		10.95	360					2.15
23		10.7	345				3.3	2.20

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

Table 51

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	5.3	295	3.2	110	2.2		2.40
01	(555)	(5.1)	290	(3.2)	111	2.2		2.35
02	(615)	4.7	285	3.6	109	2.3		2.30
03	(585)	5.2	280	3.8	109	2.6		2.20
04	(700)	4.8	270	3.9	106	2.8		2.15
05	640	(5.3)	260	4.1	103	3.0		2.10
06	595	(5.8)	250	(4.4)	101	3.4		(2.20)
07	545	(6.3)	240	4.7	101	3.4		2.30
08	530	6.6	240	4.9	101	3.5		2.30
09	505	6.8	220	5.0	101	3.6		2.35
10	525	6.7	225	5.1	101	3.6		2.25
11	540	6.4	220	5.0	99	3.8		2.30
12	540	6.2	220	5.1	101	3.8		2.20
13	580	6.4	225	5.2	101	3.7		2.20
14	570	6.6	230	5.1	101	3.6		2.25
15	530	6.6	220	5.0	101	3.5	4.0	2.20
16	540	6.4	240	4.8	101	3.3	4.2	2.25
17	510	6.4	240	4.7	101	3.2		2.30
18	480	6.8	250	4.5	103	3.0		2.30
19	460	6.8	255	4.2	107	2.9		2.30
20	460	6.5	270	4.0	109	2.7		2.35
21	480	6.1	280	3.8	111	2.5		2.30
22	---	5.9	285	3.6	111	2.3		2.40
23	(525)	5.7	295	3.4	109	2.2		2.35

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

Table 52

San Francisco, California (37.4°N, 122.2°W) December 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.2	<300				2.2	2.55
01		4.0	290					2.50
02		4.2	295					2.60
03		3.9	290					2.55
04		3.8	280					2.55
05		3.6	310					2.45
06		3.5	<290					2.62
07		5.4	270				2.4	2.70
08		9.5	230		119	2.38		3.15
09		11.7	230		111	3.10		3.00
10		13.0	220		111	3.45		2.95
11		13.0	<230		111	3.60		2.80
12		13.0	230		111	3.65		2.70
13		12.8	230		111	3.65		2.60
14		12.7	230		111	3.50		2.60
15	---	12.35	230	---	111	3.10	3.3	2.60
16		12.0	240		118	2.40	3.1	2.70
17		11.7	235				3.0	2.72
18		10.5	240				2.0	2.75
19		8.8	230				2.4	2.85
20		7.2	230				2.2	2.85
21		5.4	(240)				2.5	2.80
22		4.6	265				2.2	2.68
23		4.2	290				2.7	2.60

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

Table 53

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	315					2.40
01		5.2	315					2.45
02		4.9	300					2.40
03		4.8	300					2.40
04		4.6	280					2.50
05		4.3	270					2.55
06		4.6	250			E		2.60
07		7.6	250			1.80		2.80
08		11.2	240			2.50		2.95
09		14.0	230			2.80		2.90
10		15.3	230			3.00		2.90
11		15.4	230			3.10		2.90
12		15.4	230			3.05		2.90
13		15.4	230			3.00		2.85
14		15.2	235			2.60	2.6	2.80
15		14.6	230			2.10		2.80
16		13.6	230			1.40		2.90
17		11.5	225			E		2.80
18		9.8	230					2.75
19		8.1	235					2.75
20		6.7	240					2.70
21		6.2	270					2.55
22		5.7	300					2.50
23		5.7	300					2.40

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

Table 54

San Francisco, California (37.4°N, 122.2°W) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	(270)					2.60
01		5.0	<280					2.60
02		4.9	(285)					2.60
03		4.7	<310					2.50
04		4.6	<290					2.45
05		4.5	<300					2.50
06		4.7	<290					2.55
07		7.7	250		(149)	2.00	2.0	2.90
08		11.8	230		129	2.80	3.0	3.10
09		13.2	220		121	3.25	3.8	3.00
10		14.0	220		117	3.60		2.85
11		14.5	220		114	3.75		2.75
12		14.5	220		111	3.80		2.65
13		14.0	225		113	3.80		2.60
14		13.8	225		109	3.60		2.60
15		13.7	230		109	3.10	3.2	2.60
16		13.6	230		115	2.50	2.7	2.65
17		12.6	230		---	1.85	2.1	2.70
18		11.4	230				2.4	2.70
19		9.7	<230					2.75
20		8.5	230					2.75
21		7.2	235					2.80
22		6.2	<250					2.80
23		5.7	<255					2.65

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

Table 55

Ibadan, Nigeria (7.4°N, 3.9°E) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(10.5)	300					(2.40)
01		(10.4)	270					(2.50)
02		(11.1)	250					(2.70)
03		(10.3)	240					2.90
04		9.0	240					3.00
05		(7.5)	220					3.05
06		9.1	270		<140	2.25		2.80
07		(11.6)	245		110	3.20	6.7	(2.60)
00		13.0	240		105	3.70	8.6	2.35
09		13.2	225		105	4.10	11.0	2.10
10		13.2	220		105	4.25	10.8	2.00
11		13.2	210		105	4.35	11.1	2.00
12		13.2	210		(105)	4.35	11.0	2.00
13		13.1	215		105	4.25	10.8	1.95
14		13.0	220	---	105	4.05	10.8	1.90
15		12.4	240		110	3.70	8.8	1.90
16		(11.8)	255		110	3.15	7.0	<1.95
17		(11.0)	295		115	2.30	>5.2	<2.00
18		(10.2)	405		---	(1.25)		(1.90)
19		(9.0)	460		---	----		1.90
20		(8.8)	420					2.00
21		(8.7)	360					(2.05)
22		(9.2)	340					<2.15
23		(9.3)	310					(2.30)

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

Table 56

Rarotonga I. (21.2°S, 159.8°W) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(13.4)	300				3.2	----
01		(9.3)	280				3.2	----
02		(9.4)	(300)				2.9	(2.30)
03		(9.6)	340				1.8	(2.20)
04		(9.3)	<340				2.3	(2.25)
05		(9.2)	310				1.9	(2.30)
06		(9.8)	300				2.8	(2.40)
07		(11.2)	250		---	---	4.0	(2.75)
00		(12.2)	<250		100	3.4	4.7	2.55
09		12.5	240		100	3.9	5.1	2.45
10		13.3	240		110	4.1	5.2	2.35
11	(460)	14.2	<240	7.6	100	(4.3)	4.9	2.35
12	460	14.0	220	7.8	110	(4.4)		2.35
13	450	15.1	<220	7.4	110	(4.4)		(2.30)
14	450	14.7	240	7.1	110	(4.4)		2.35
15	450	14.2	240	7.0	110	4.2	4.3	2.30
16	<450	(13.6)	250	---	110	3.9	4.2	(2.30)
17	440	(13.3)	250		100	3.4	4.3	(2.35)
18		(13.5)	280		---	2.7	4.9	(2.35)
19		(13.2)	(320)				4.1	----
20		(11.6)	360				4.7	----
21		(12.0)	350				3.9	----
22		----	<350				3.2	
23		>13.6	(320)				3.0	----

Time: 150.0°W.
Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

Table 57

Sao Paulo, Brazil (23.5°S, 46.5°W) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		(14.6)	300				<2.2	(2.70)
01		13.5	290				<2.1	2.70
02		12.5	260				<2.1	2.70
03		11.1	270				<2.1	2.70
04		9.5	270				<2.1	2.65
05		8.1	280				<2.2	2.45
06		9.4	260			----		2.65
07		10.4	250			3.35		2.60
08		11.3	240			3.50		2.40
09		11.6	240			----		2.30
10		12.3	240			----		2.25
11		(13.0)	(250)			----		(2.25)
12		13.2	---			----		(2.25)
13		(13.2)	---			----		(2.30)
14		(13.4)	(240)			----		(2.30)
15		(13.4)	250			----		(2.30)
16		(13.6)	260			(3.55)		(2.30)
17		(13.6)	260			----	4.2	(2.30)
18		(13.6)	300				3.8	(2.30)
19		(13.6)	380				<2.5	(2.25)
20		(13.4)	435				<2.4	(2.25)
21		(13.6)	420				<2.4	(2.20)
22		(13.2)	380				<2.3	(2.40)
23		>13.6	330				<2.2	(2.70)

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

Table 58

Christchurch, New Zealand (43.6°S, 172.8°E) November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0	340				2.4	2.30
01		7.4	350				<1.7	2.25
02		6.7	350				<1.8	2.20
03		6.5	360				1.6	2.20
04		6.3	340		---	1.2	<2.0	2.25
05		6.4	320		105	1.9	2.0	2.40
06	---	6.7	280	---	110	2.6	2.7	2.50
07	(520,	7.4	250	4.8	105	3.2	3.7	2.45
08	550	8.3	250	5.5	100	3.6	4.4	2.50
09	500	9.0	250	6.0	100	3.9	4.5	2.40
10	490	9.4	240	6.4	100	4.0	4.5	2.40
11	460	9.8	230	6.7	100	4.1	4.6	2.35
12	500	9.6	230	6.8	100	4.2	4.4	2.35
13	500	9.4	240	6.7	100	4.1	4.2	2.35
14	490	9.2	240	6.6	100	4.1	4.3	2.35
15	490	9.1	250	6.4	100	4.0		2.35
16	480	9.0	250	6.1	100	3.9		2.35
17	430	9.0	250	5.4	100	3.4		2.40
18	---	9.0	260	---	105	3.0	3.2	2.40
19		9.0	300		115	2.4	3.0	2.40
20		9.2	300		---	---	<2.2	2.40
21		9.1	310				2.9	2.35
22		8.6	330				2.6	2.30
23		8.4	340				2.8	2.30

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

Table 59

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.4)	---				4.5	(2.1)
01		5.0	(420)		---	---	3.6	(2.15)
02		(5.3)	(340)				3.5	(2.2)
03		5.0	(300)		110	1.7		2.3
04		5.4	300		100	2.4		2.4
05	---	5.6	250	---	100	2.9		2.4
06	(700)	6.3	250	5.0	100	3.3		2.3
07	550	6.9	240	5.2	100	3.6		2.25
00	580	7.2	240	5.9	100	3.0		2.1
09	570	7.1	220	5.9	100	4.0		2.2
10	550	7.6	(230)	6.0	100	(4.1)		2.2
11	540	7.5	---	5.0	100	>4.0		2.1
12	520	7.8	(230)	5.9	100	(4.1)		2.2
13	510	8.0	220	5.6	100	4.0		2.2
14	500	7.9	230	5.6	100	3.9		2.1
15	490	8.0	240	5.2	100	3.7		2.2
16	470	>7.6	250	5.2	100	3.4		2.2
17	---	6.7	260	4.9	100	3.0	3.5	(2.3)
18	---	(5.6)	290	---	100	2.5	3.5	---
19	---	5.9	340		120	2.1	4.0	(2.15)
20	---	(5.8)	350		---	---	4.2	(2.2)
21		(6.2)	(330)				5.0	---
22		(6.0)	(320)				4.8	(2.15)
23		(5.7)	(360)				4.7	(2.1)

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

Table 60

Ibadan, Nigeria (7.4°N, 3.9°E) September 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>0.8	295					(2.60)
01		(0.0)	270					(2.75)
02		(9.1)	250					<2.95
03		(8.9)	240					3.05
04		8.0	220					3.15
05		5.3	225		---	----		3.15
06		0.2	255		110	2.35		3.05
07		11.6	250		110	3.20	3.4	3.00
00		13.2	240		110	3.75	5.9	<2.80
09		14.0	225		105	4.15	11.0	2.50
10		14.0	220		105	4.35	11.3	<2.25
11		13.7	215	(5.4)	105	4.50	11.2	2.10
12		12.7	210		105	4.50	11.3	2.10
13		12.2	210	(5.4)	105	4.35	11.2	2.10
14		12.1	210	(5.3)	105	4.20	10.9	2.05
15		11.6	225		110	3.90	>9.2	2.05
16		11.6	250		115	3.35	>6.7	2.10
17		>11.4	265		115	2.75	3.2	2.10
18		10.4	320		150	1.50		2.10
19		(9.2)	435		---	----		(2.00)
20		(8.3)	450					<2.20
21		(8.2)	380					<2.15
22		>9.7	330					(2.20)
23		>0.4	300					<2.50

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

Table 61

Murmansk, U.S.S.R. (69.0°N, 33.0°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.1	310				2.7	2.6
01		6.4	320	---		---	3.0	2.6
02	350	6.2	280	---		2.0	3.5	2.6
03	450	6.4	270	3.6		2.2	3.0	2.6
04	430	6.1	250	4.0		2.6	2.7	2.7
05	400	6.1	230	4.1		2.0		2.6
06	420	6.5	230	4.4		3.0	3.0	2.6
07	380	6.9	230	4.8		3.2	3.2	2.6
08	420	7.0	220	5.0		3.2	3.2	2.5
09	420	7.1	220	5.1		3.4	3.7	2.6
10	430	7.0	220	5.1		3.2	3.8	2.5
11	420	7.2	220	5.2		3.3	3.9	2.6
12	420	7.2	220	5.3		3.5	3.8	2.6
13	430	6.8	220	5.2		3.4	3.5	2.6
14	430	6.8	210	5.2		3.3		2.6
15	410	6.8	220	5.1		3.3		2.6
16	420	6.6	220	5.0		3.2		2.7
17	380	6.6	220	4.8		3.1		2.7
18	(330)	6.4	230	---		3.0		2.8
19	(400)	6.5	250	---		2.6	3.0	2.8
20	(310)	6.6	260	---		2.3	3.0	2.0
21	350	6.4	260	---		2.2	2.5	2.0
22	(350)	6.5	200	---		---	2.8	2.7
23		6.2	320				3.0	2.6

Time: 30.0°E.
Sweep: 0.5 Mc to 20.0 Mc in 30 seconds.

Table 62

Salehard, U.S.S.R. (66.5°N, 66.5°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(7.2)	280			E	2.0	2.70
01		(6.8)	290			E	2.2	2.50
02	(380)	(6.6)	310	---		E	2.8	2.50
03	390	6.1	290	3.5		2.1	2.8	2.50
04	400	6.1	260	4.0		2.5	2.8	2.50
05	400	6.1	250	4.3		2.8	2.9	2.50
06	430	6.7	240	4.6		3.1		2.40
07	430	6.7	230	5.0		3.3		2.50
00	430	6.8	230	4.9		3.4		2.45
09	400	7.3	230	5.2		3.5	3.7	2.55
10	440	7.2	230	5.4		3.6	3.7	2.50
11	450	7.4	230	5.3		3.6		2.55
12	430	7.2	230	5.3		3.7		2.60
13	445	7.4	230	5.4		3.8		2.50
14	430	7.3	230	5.3		3.6		2.60
15	420	7.2	230	5.3		3.5		2.65
16	380	7.1	240	5.0		3.3		2.65
17	355	7.0	240	4.8		3.2		2.70
18	330	6.9	250	4.7		2.9		2.70
19	(340)	6.9	250	---		2.6		2.65
20		6.7	260			2.2	2.6	2.60
21		6.8	270			E	2.1	2.70
22		6.8	280			E	2.0	2.75
23		6.6	280			E		2.70

Time: 60.0°E.
Sweep: 1.9 Mc to 16.0 Mc in 1 minute.

Table 63

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	300					2.55
01		6.4	320				2.2	2.50
02		6.2	320					2.45
03		6.1	330			---		2.50
04	(440)	6.2	310	(3.2)		1.9		2.50
05	420	6.6	280	---		2.4		2.50
06	420	7.0	260	(4.4)		2.0		2.55
07	420	7.5	250	(4.8)		3.2	3.6	2.50
00	420	7.7	240	5.2		3.4	3.0	2.50
09	430	7.9	240	5.3		3.6	4.2	2.50
10	430	8.0	230	5.5		3.7	4.4	2.45
11	440	8.3	230	5.6		3.8	4.4	2.50
12	430	8.3	230	5.7		3.8	4.3	2.50
13	420	8.4	240	5.6		3.8	4.3	2.55
14	400	8.1	230	5.6		3.8	4.0	2.55
15	410	7.9	240	(5.5)		3.6	3.9	2.55
16	380	7.6	240	(5.2)		3.4	3.8	2.55
17	370	7.5	250	(4.9)		3.2		2.65
18	340	7.5	260	---		2.9	3.5	2.65
19	(350)	7.5	270	---		2.5	3.1	2.70
20		7.5	280			1.9	3.0	2.70
21		7.4	300			---	3.0	2.65
22		7.3	300				3.0	2.60
23		7.1	300				2.8	2.60

Time: 60.0°E.
Sweep: 1.5 Mc to 18.0 Mc in 10 minutes, manual operation.

Table 64

Tomsk, U.S.S.R. (56.5°N, 85.0°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.2	260				2.2	2.60
01		6.8	270				2.2	2.60
02		6.3	280				1.2	2.60
03		5.9	300			E	1.2	2.60
04		6.1	300			1.5		2.60
05	340	6.6	260	3.8		2.0		2.70
06	340	6.9	250	(4.0)		2.6		2.70
07	360	7.2	240	4.7		3.0		2.60
00	380	7.0	240	5.0		3.2		2.60
09	370	7.4	220	5.1		3.3		2.60
10	400	7.7	220	5.3		3.5		2.60
11	380	7.8	210	5.4		3.6		2.60
12	400	8.0	210	5.5		3.7		2.50
13	400	8.0	210	5.6		3.7		2.60
14	400	8.0	220	5.6		3.7		2.60
15	400	7.8	220	5.5		3.6		2.60
16	370	7.8	230	5.3		3.3		2.60
17	350	7.6	230	5.0		3.2		2.70
18	350	7.5	240	(4.6)		2.9		2.70
19	300	7.4	250	---		2.5		2.70
20		7.4	260			1.9		2.80
21		7.2	260			E	2.1	2.80
22		7.4	260				2.0	2.60
23		7.3	260				2.2	2.60

Time: 90.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 9 seconds.

Table 65

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.7	300			----	(2.4)	2.50
01	---	6.3	300	---		E	(2.3)	2.50
02	---	6.0	300	---		E	(2.1)	2.50
03	380	5.7	310	2.7		1.40	(2.7)	2.50
04	320	6.4	275	3.6		2.10	(3.0)	2.60
05	330	6.7	250	4.2		2.45	3.1	2.60
06	360	6.8	240	4.8		3.00	3.4	2.50
07	390	7.1	240	5.1		3.30	4.0	2.55
08	410	7.3	240	5.3		3.50	4.3	2.50
09	400	7.6	230	5.5		3.60	4.5	2.50
10	400	8.1	220	5.6		3.70	4.3	2.55
11	430	8.2	225	5.7		3.80	4.3	2.50
12	420	8.0	220	5.7		3.80	4.2	2.55
13	420	7.7	220	5.6		3.80	4.2	2.50
14	420	7.5	225	5.6		3.70	4.2	2.60
15	390	7.5	230	5.5		3.50	4.0	2.60
16	380	7.4	230	5.2		3.35	3.8	2.60
17	340	7.3	240	4.8		3.10	3.4	2.70
18	320	7.4	250	4.5		2.60	3.4	2.70
19	300	7.4	270	3.3		2.10	2.9	2.75
20	---	7.4	270			1.40	(2.8)	2.70
21		7.5	280			E	(2.6)	2.70
22		7.4	280			E	(2.4)	2.60
23		7.0	290			----	(2.3)	2.55

Time: 30.0°E.
Sweep: 0.5 Mc to 20.0 Mc in 30 seconds.

Table 66

Rostov-on-Don, U.S.S.R. (47.2°N, 39.7°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.4	320				3.0	2.45
01		7.1	320				3.4	2.50
02		7.4	330				2.6	2.50
03		7.0	320				3.0	2.50
04		6.8	320				2.0	2.55
05	(340)	7.0	300	---		1.7	2.3	2.60
06	340	7.4	260	4.3		2.6	2.9	2.65
07	320	7.8	250	4.9		3.1	3.6	2.80
08	370	8.4	240	5.4		3.5	4.2	2.60
09	350	8.8	240	5.5		3.8	5.1	2.60
10	390	8.9	240	6.0		3.9	5.3	2.55
11	380	9.2	230	6.0		4.0	5.4	2.50
12	390	9.4	230	6.0		4.2	4.8	2.60
13	400	9.1	230	6.0		4.1	4.8	2.60
14	400	9.0	230	6.0		4.1	5.0	2.60
15	400	8.6	220	6.0		3.8	4.6	2.60
16	400	8.4	230	5.9		3.9	4.5	2.65
17	350	8.5	240	5.3		3.5	4.2	2.65
18	320	8.4	250	5.0		3.2	3.9	2.70
19	300	8.5	250	(4.0)		2.5	4.3	2.75
20		8.6	280				3.8	2.70
21		7.9	270				3.5	2.70
22		7.7	290				3.8	2.50
23		7.6	320				3.6	2.50

Time: 45.0°E.
Sweep: 1.6 Mc to 10.0 Mc in 10 minutes, manual operation.

Table 67

Alma-Ata, U.S.S.R. (43.2°N, 76.9°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.5	300				3.8	2.55
01		7.3	310				3.6	2.60
02		6.9	320				3.4	2.60
03		6.5	310				3.5	2.60
04		6.3	310			1.6	3.2	2.60
05	290	7.0	280	3.2		2.0	2.7	2.70
06	300	8.1	250	4.1		2.7	3.2	2.70
07	300	8.9	240	4.8		3.3	3.8	2.70
08	310	9.4	240	5.3		3.7	4.5	2.70
09	340	10.0	240	5.7		4.2	5.3	2.65
10	350	10.4	240	5.9		4.5	5.4	2.55
11	360	10.3	230	6.0		4.6	5.5	2.55
12	360	10.5	240	6.0		4.6	5.5	2.55
13	380	10.2	240	6.0		4.5	5.2	2.60
14	350	9.9	230	5.8		4.4	5.3	2.60
15	360	9.4	240	5.7		4.3	4.9	2.60
16	340	9.2	240	5.4		3.7	5.1	2.65
17	320	8.9	240	5.0		3.4	4.2	2.70
18	290	0.6	250	4.5		2.9	4.1	2.75
19	280	8.7	270	3.5		2.2	3.8	2.75
20		8.8	280			1.7	4.0	2.70
21		8.3	280				3.2	2.70
22		8.1	300				3.6	2.65
23		7.8	300				3.9	2.60

Time: 75.0°E.
Sweep: 1.5 Mc to 16.0 Mc in 15 minutes, manual operation.

Table 68

Ashkabad, U.S.S.R. (37.9°N, 58.3°E) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.9	320				4.2	2.6
01		7.7	320			---	4.2	2.6
02		7.6	310			---	3.6	2.6
03		7.1	300				3.6	2.6
04		6.8	310			---	3.4	2.6
05		7.0	300			1.8	2.4	2.6
06	(420)	7.9	260	---		2.4	3.5	2.7
07	330	9.0	250	5.0		3.0	4.3	2.8
00	320	9.4	240	5.4		3.4	4.7	2.0
09	320	9.7	240	5.7		3.7	5.6	2.7
10	350	10.2	230	5.8		3.9	5.9	2.6
11	370	10.0	240	6.0		4.0	6.9	2.6
12	390	10.2	230	6.1		4.0	6.6	2.6
13	380	10.4	230	6.1		4.1	6.0	2.6
14	370	10.1	230	5.8		4.0	5.9	2.6
15	380	9.9	230	5.8		3.8	5.3	2.7
16	360	9.5	240	5.6		3.6	5.1	2.7
17	340	9.3	250	5.2		3.3	4.8	2.7
18	300	9.2	260	4.4		2.9	4.5	2.8
19	(320)	9.1	280	---		2.4	4.3	2.8
20		8.7	270			1.7	3.8	2.8
21		8.3	270			---	3.2	2.6
22		8.1	300			---	3.9	2.6
23		8.0	300				3.7	2.6

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

Table 69

Tucuman, Argentina (26.9°S, 65.4°W) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.6	210				2.6	3.10
01		9.7	230					3.00
02		8.9	230				2.6	3.10
03		7.8	230				2.6	3.20
04		6.6	220					3.30
05		4.5	230					3.05
06		4.3	250					3.00
07		5.8	280		---	(1.70)		3.00
08		9.8	240		111	(2.60)		3.40
09	(250)	11.5	230	---	109	(3.20)		3.30
10	265	(12.8)	220	---	105	(3.40)		(3.20)
11	(260)	(13.2)	215	---	105	----		(3.05)
12	---	13.2	210	---	105	----		(2.95)
13	---	>13.6	210	(6.5)	104	----		2.90
14	(325)	(13.9)	210	6.2	104	----		(2.80)
15	(335)	>14.0	220	6.0	105	(3.45)		(2.70)
16	---	(14.0)	240	---	111	(3.10)		(2.90)
17		(14.0)	250		115	(2.50)		(2.95)
18		(13.8)	240		---	----	2.1	(3.00)
19		(13.0)	240					(3.00)
20		(12.5)	230					(2.85)
21		(12.6)	230					(3.00)
22		(12.3)	220					(3.10)
23		11.7	220					3.20

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

Table 70

Decepcion I. (63.0°S, 60.7°W) July 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.6	300					
01		2.6	305					
02		2.6	300					
03		2.7	300					
04		2.6	300					
05		2.5	270					
06		2.4	260					
07		2.8	245					
00		4.0	190					
09		7.1	170					
10		8.7	170					
11		9.8	160					
12		9.1	165					
13		9.5	170					
14		8.8	160					
15		8.2	170					
16		6.1	160					
17		5.8	170					
18		4.0	180					
19		3.1	210					
20		2.6	240					
21		2.5	290					
22		2.4	300					
23		2.4	310					

Time: 60.0°W.
Sweep: 1.5 Mc to 18.0 Mc in 30 seconds.

Table 71

Ahmedabad, India (23.0°N, 72.6°E) June 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.6	330				2.5	2.45
01		8.0	310				2.8	2.55
02		7.4	300				2.1	2.50
03		7.4	300					2.50
04		7.2	300				1.2	2.50
05		7.1	300				1.2	2.55
06		8.5	260		115	2.0	2.0	2.95
07	250	9.0	250	4.7	110	3.0	3.2	2.90
08	270	9.4	240	5.2	115	3.5	3.7	2.75
09	270	9.9	230	6.0	105	3.8	4.2	2.55
10	320	10.6	(225)	6.0	---	---		2.40
11	400	11.4	(235)	6.3	---	---		2.35
12	430	12.3	(250)	6.4	---	---		2.30
13	430	>13.0	(250)	6.4	---	---		2.35
14	420	14.2	<250	6.4	---	---		2.40
15	400	14.3	<250	6.2	---	4.0		2.45
16	375	14.3	240	6.0	107	3.8		2.45
17	350	14.2	250	5.6	110	3.3		2.50
18	315	13.6	260	5.0	117	2.6	3.2	2.55
19		12.6	295				2.9	2.55
20		11.0	305				2.9	2.45
21		9.7	330				2.5	2.35
22		9.1	355				2.5	2.35
23		8.7	350				2.2	2.40

Time: 75.0°E.
Sweep: 0.6 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 72

Calcutta, India (22.9°N, 80.5°E) June 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	320				(2.5)	2.9
01		8.3	320				(2.6)	2.9
02		7.6	300					3.0
03		7.0	300				(1.8)	2.9
04		7.0	300					2.95
05		6.9	285		---	---		3.1
06		8.9	250		110	2.5	(2.9)	3.3
07	(290)	9.8	250	5.5	110	3.2	(3.5)	3.1
08	320	10.4	250	6.0	100	3.5	(3.8)	3.0
09	380	11.0	250	6.3	100	3.7	(4.8)	2.7
10	400	11.8	250	6.5	100	3.8	(4.7)	2.7
11	450	12.6	240	6.5	100	4.0		2.6
12	450	0	230	7.0	100	4.1		(2.6)
13	450	0	240	6.5	100	4.0		---
14	430	0	250	6.5	100	3.8		
15	410	0	250	6.4	100	3.6		
16	400	0	270	6.0	100	3.3	(4.5)	---
17	350	0	290	5.8	100	3.0	(3.5)	(2.95)
18	345	0	320	5.4	110	2.3	(3.5)	(3.15)
19		0	330				(3.4)	3.0
20		12.0	330				(2.6)	2.9
21		10.8	350				(2.5)	2.8
22		10.8	350				(2.5)	2.8
23		10.2	350				(2.0)	2.8

Time: 90.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

US COMM-NBS-BL

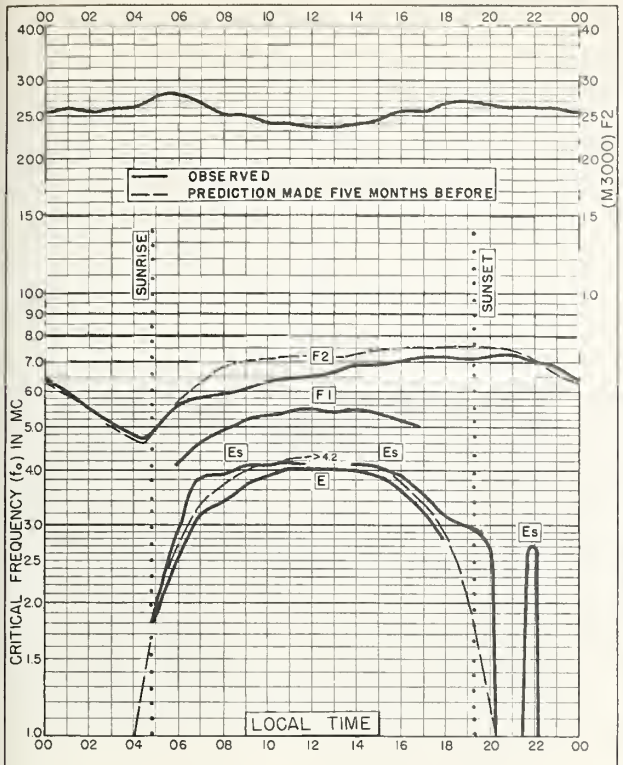


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W JULY 1958

Commerce-Standards-Trucks, Colo. NBS 503

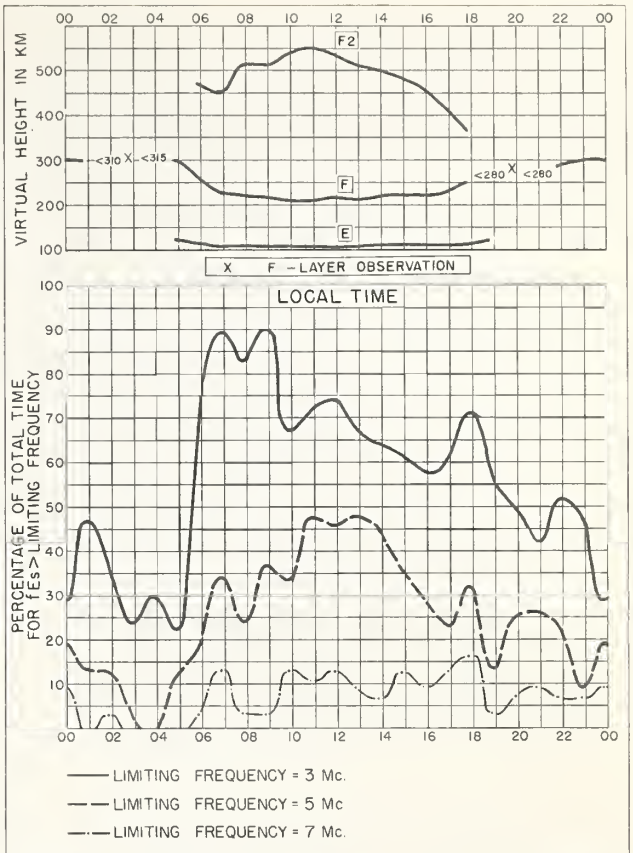


Fig. 2. WASHINGTON, D. C. JULY 1958

Commerce-Standards-Boulder, Colo. NBS 490

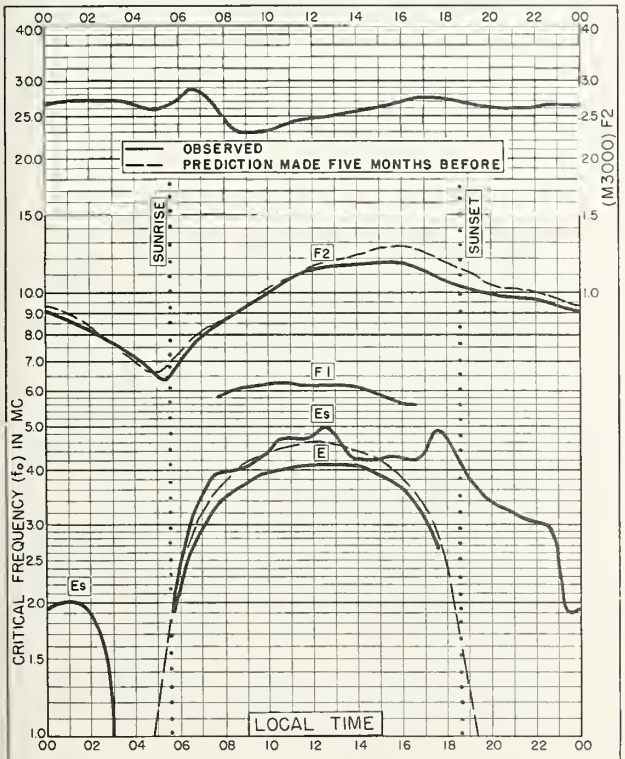


Fig. 3. MAUI, HAWAII
20.8°N, 156.5°W JULY 1958

Commerce-Standards-Boulder, Colo. NBS 503

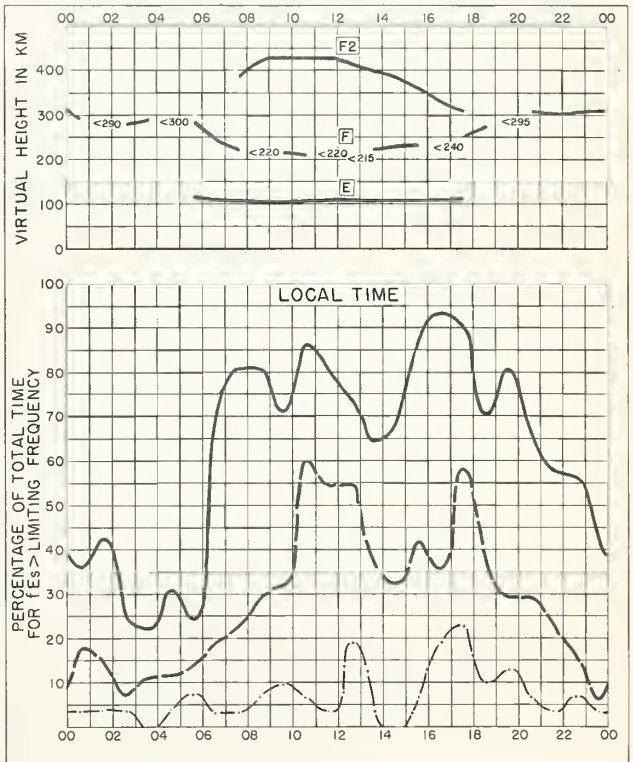


Fig. 4. MAUI, HAWAII JULY 1958

Commerce-Standards-Boulder, Colo. NBS 490

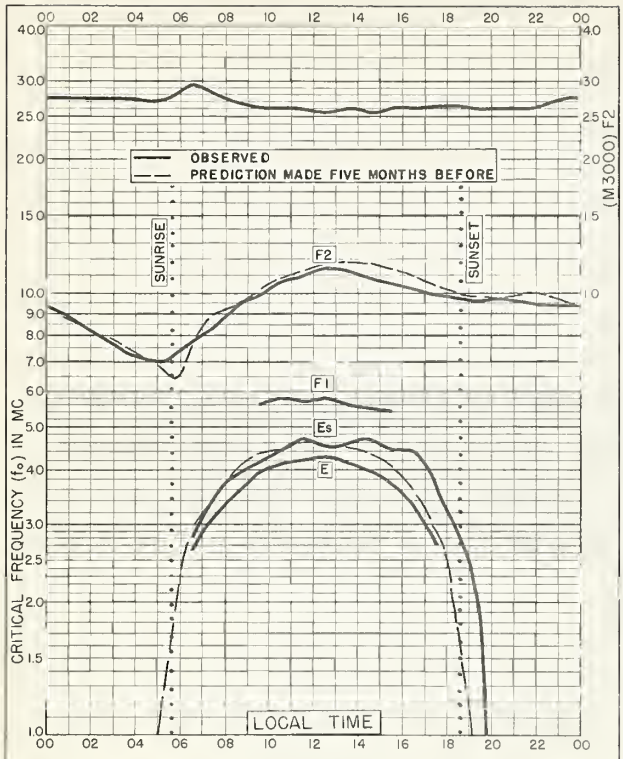


Fig. 5. PUERTO RICO, W.I.
18.5°N, 67.2°W JULY 1958

NBS 503

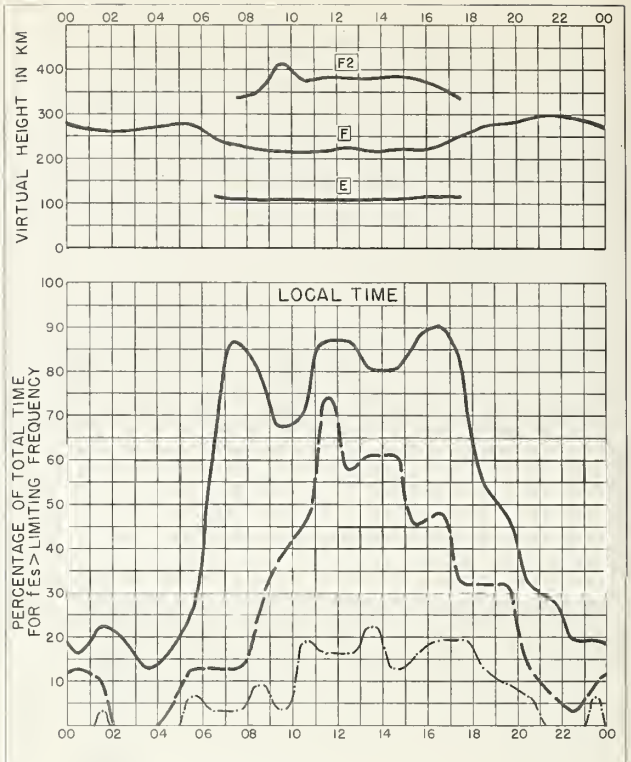


Fig. 6. PUERTO RICO, W.I. JULY 1958

NBS 490

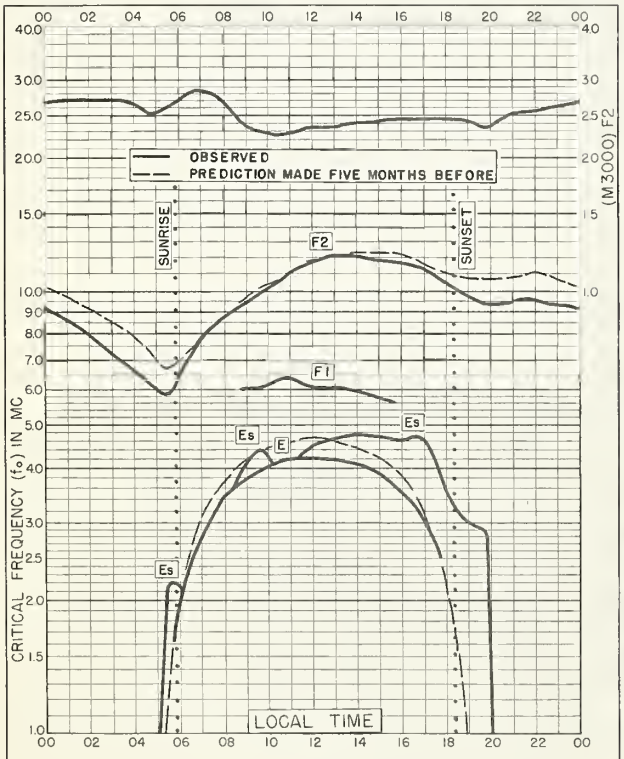


Fig. 7. PANAMA CANAL ZONE
9.4°N, 79.9°W JULY 1958

NBS 503

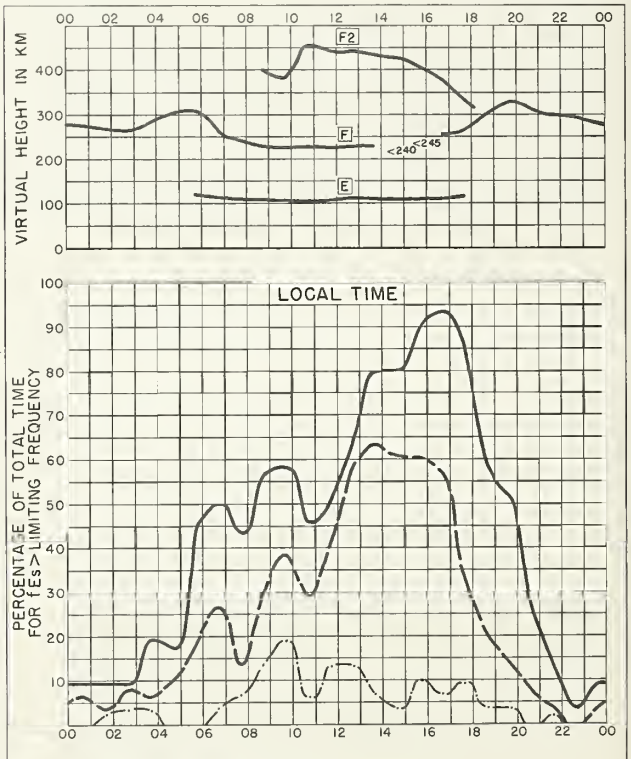


Fig. 8. PANAMA CANAL ZONE JULY 1958

NBS 490

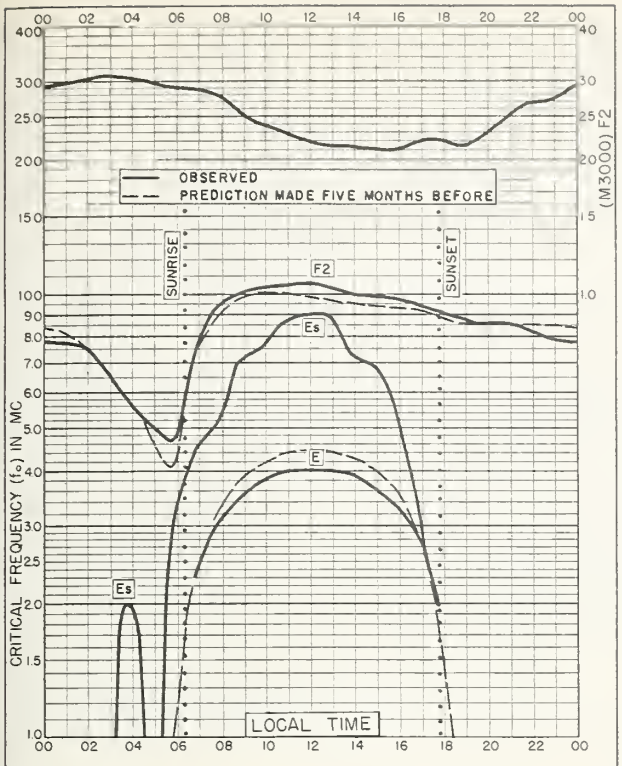


Fig. 9. CHIMBOTE, PERU
9.1°S, 78.6°W JULY 1958

NBS 503

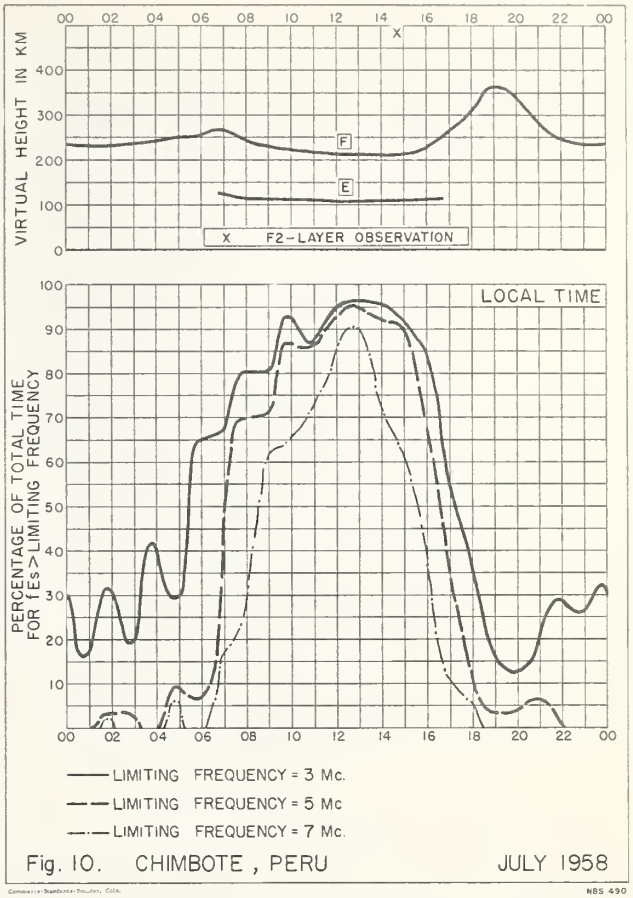


Fig. 10. CHIMBOTE, PERU JULY 1958

NBS 490

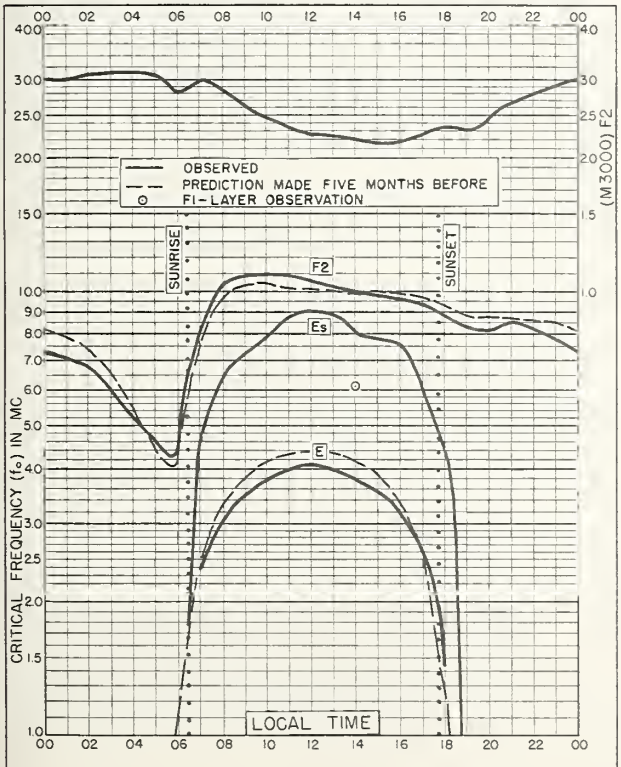


Fig. 11. HUANCAYO, PERU
12.0°S, 75.3°W JULY 1958

NBS 503

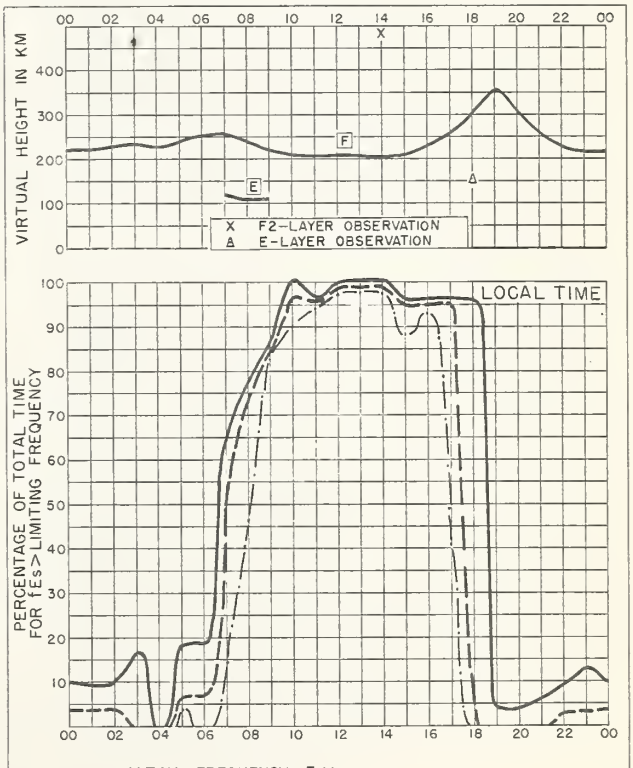


Fig. 12. HUANCAYO, PERU JULY 1958

NBS 490

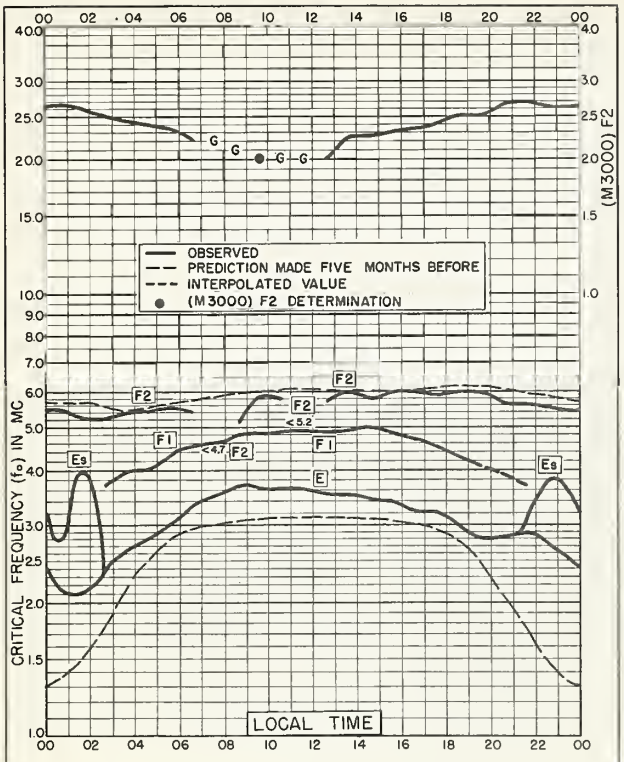


Fig. 13. POINT BARROW, ALASKA
71.3°N, 156.8°W JUNE 1958

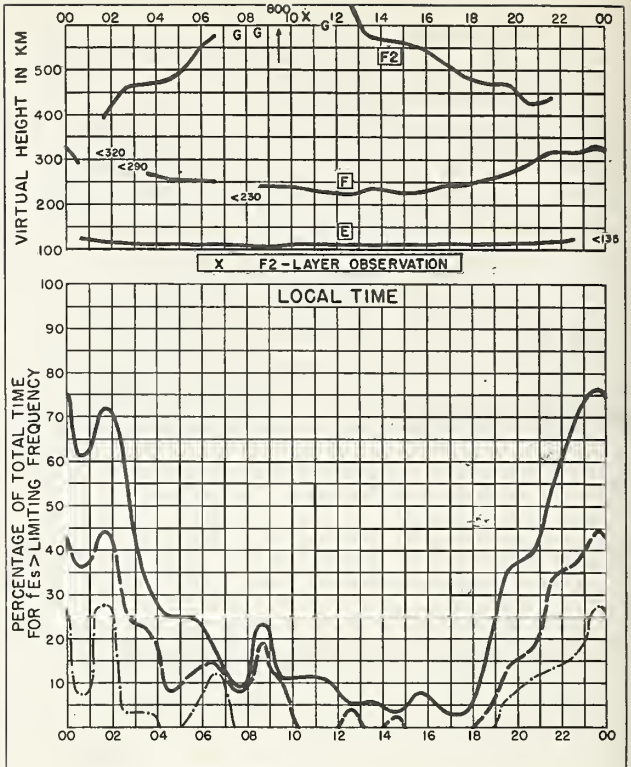


Fig. 14. POINT BARROW, ALASKA JUNE 1958

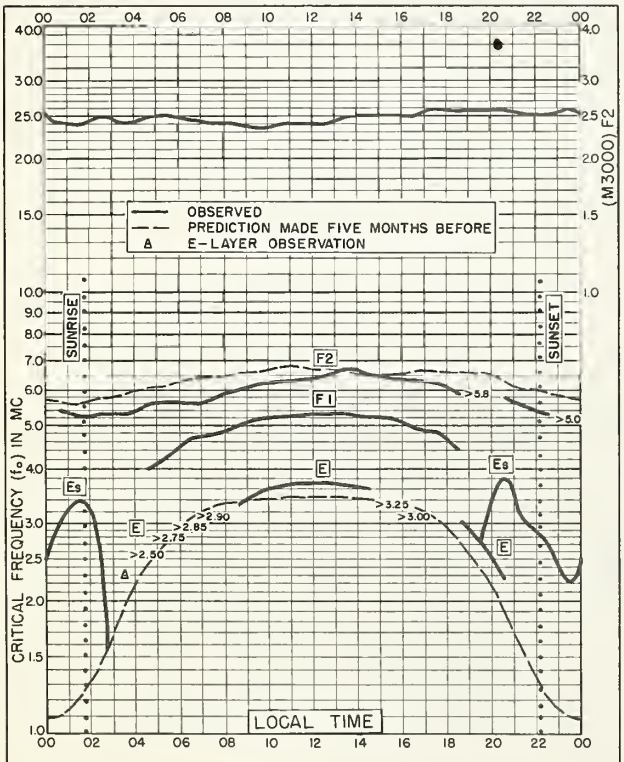


Fig. 15. REYKJAVIK, ICELAND
64.1°N, 21.8°W JUNE 1958

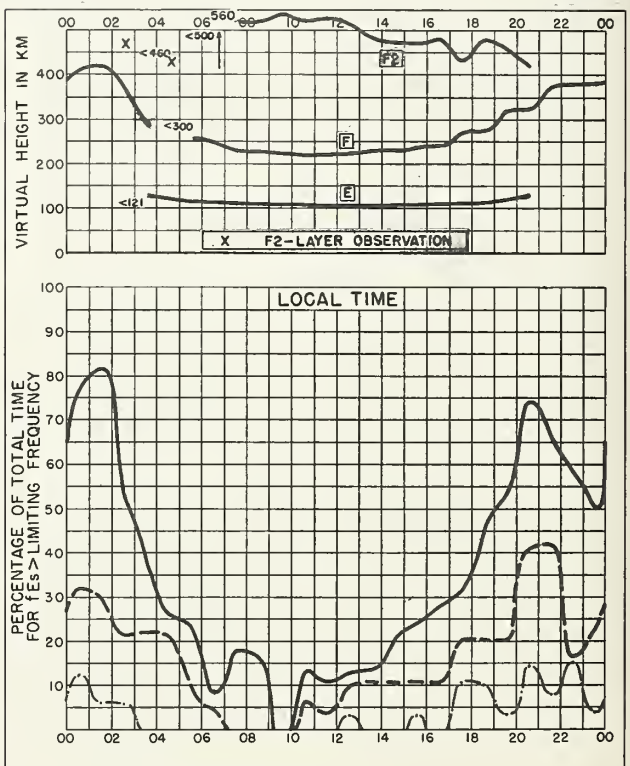


Fig. 16. REYKJAVIK, ICELAND JUNE 1958

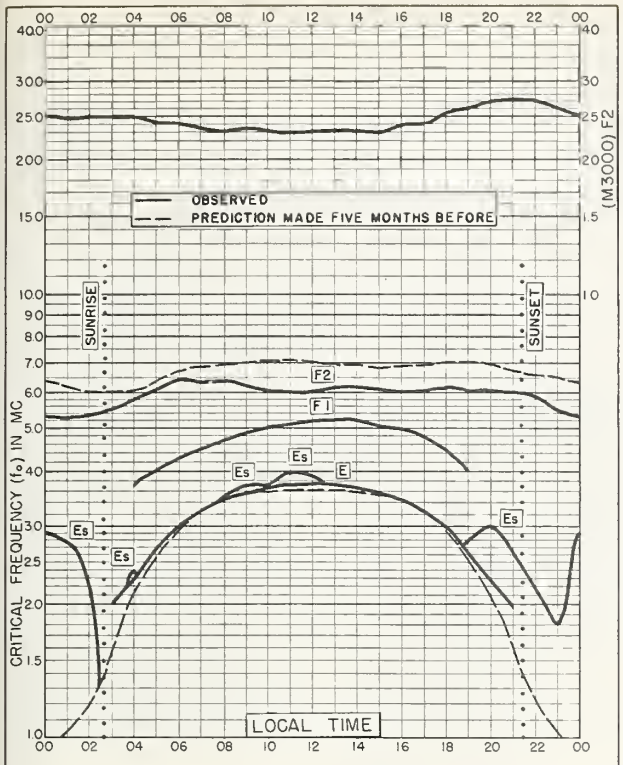


Fig. 17. ANCHORAGE, ALASKA
61.2°N, 149.9°W JUNE 1958

NBS 503

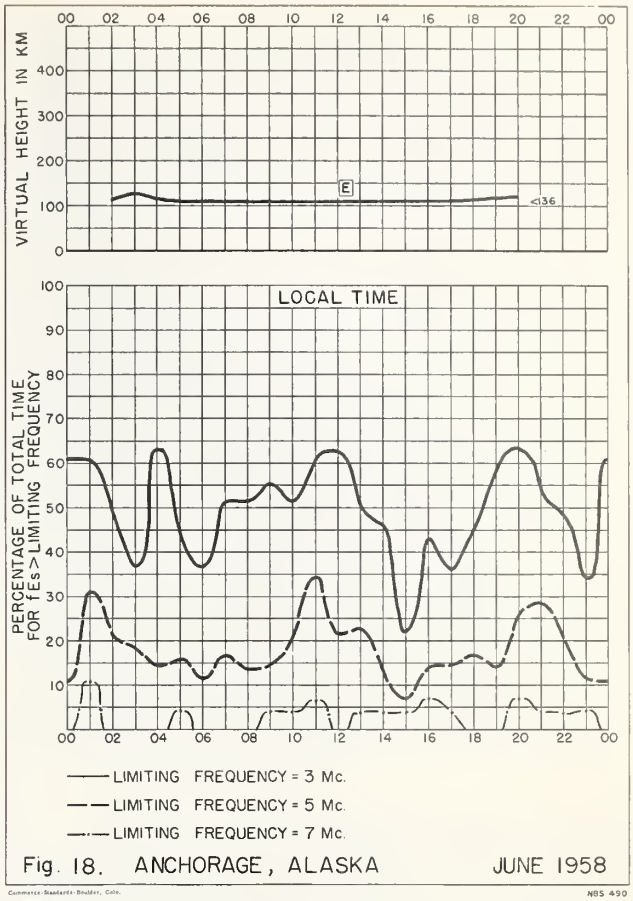


Fig. 18. ANCHORAGE, ALASKA JUNE 1958

NBS 490

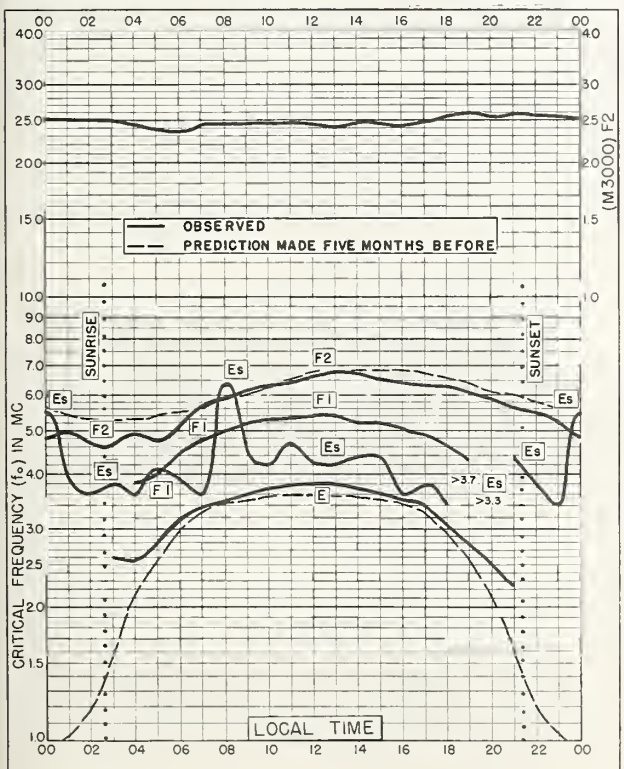


Fig. 19. NARSARSSUAK, GREENLAND
61.2°N, 45.4° W JUNE 1958

NBS 503

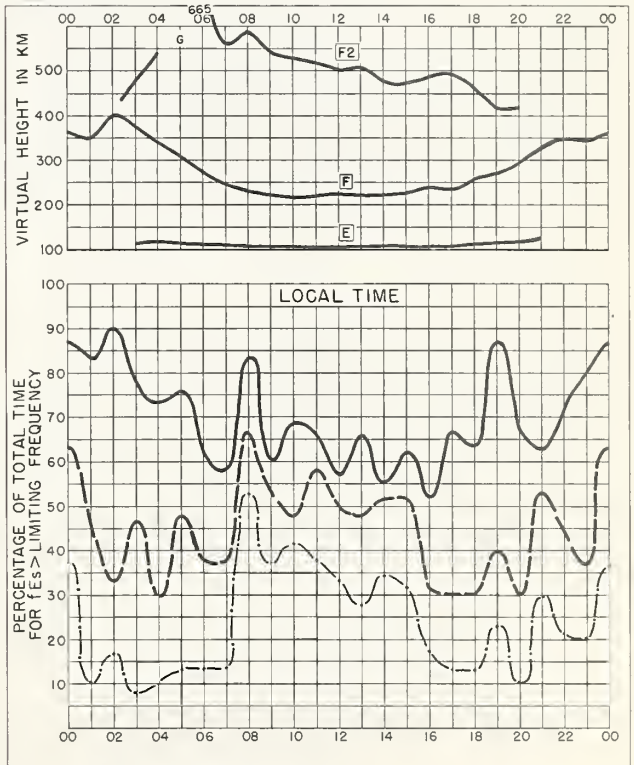


Fig. 20. NARSARSSUAK, GREENLAND JUNE 1958

NBS 490

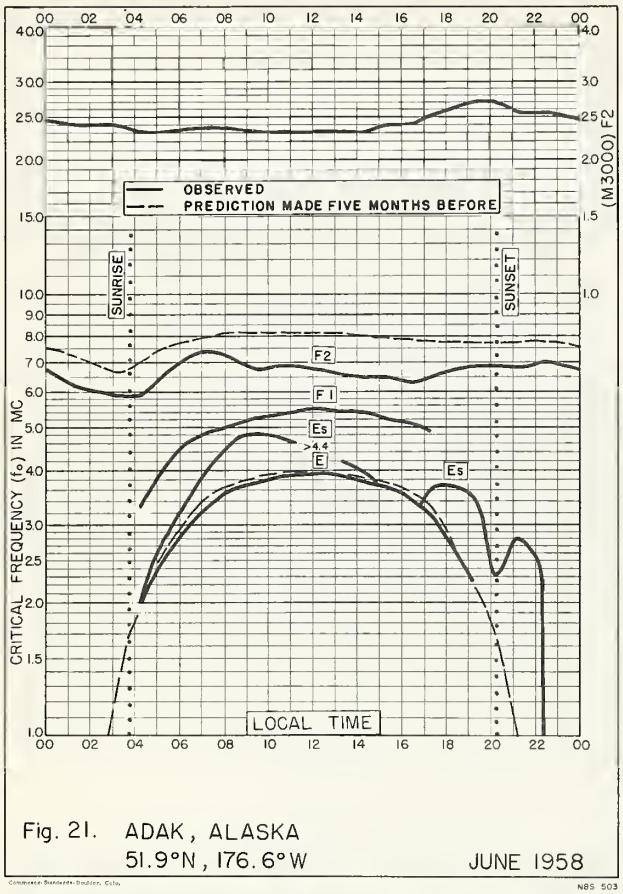


Fig. 21. ADAK, ALASKA
51.9°N, 176.6°W JUNE 1958

NBS 503

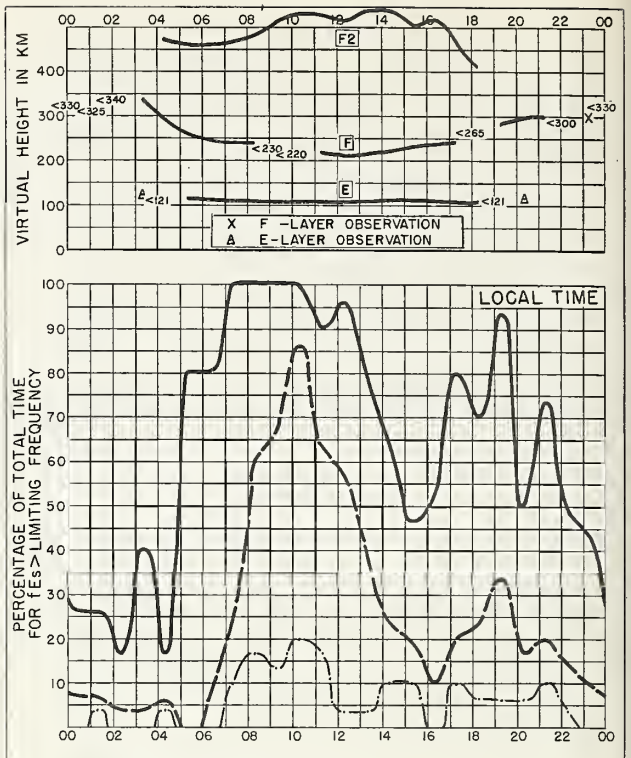


Fig. 22. ADAK, ALASKA JUNE 1958

NBS 490

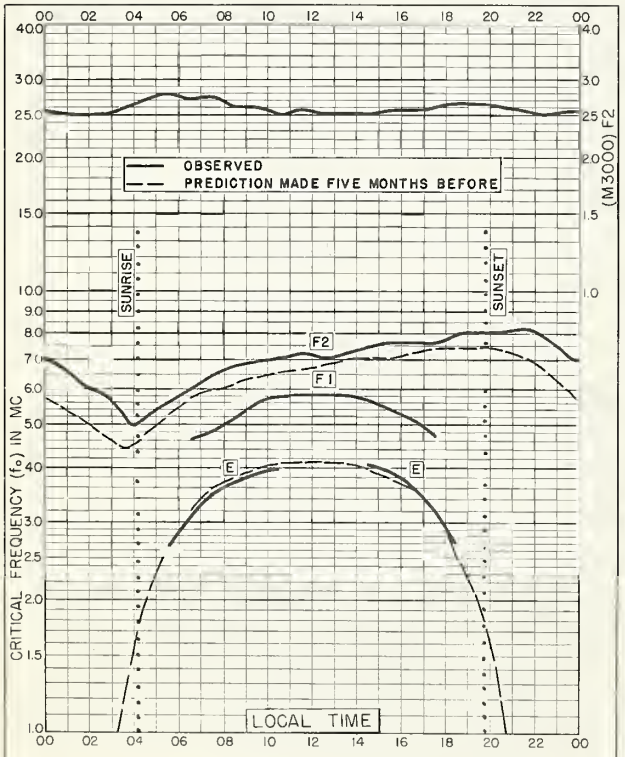


Fig. 23. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W JUNE 1958

NBS 503

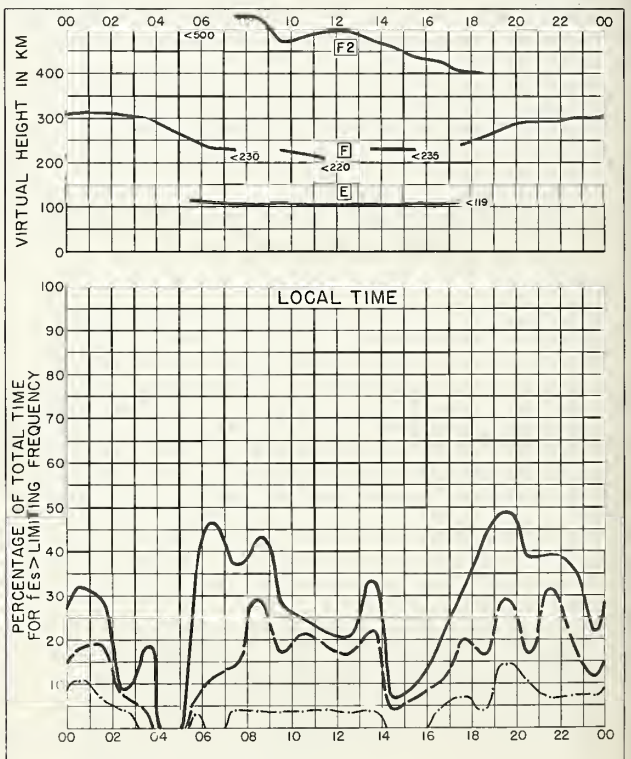


Fig. 24. ST. JOHN'S, NEWFOUNDLAND JUNE 1958

NBS 490

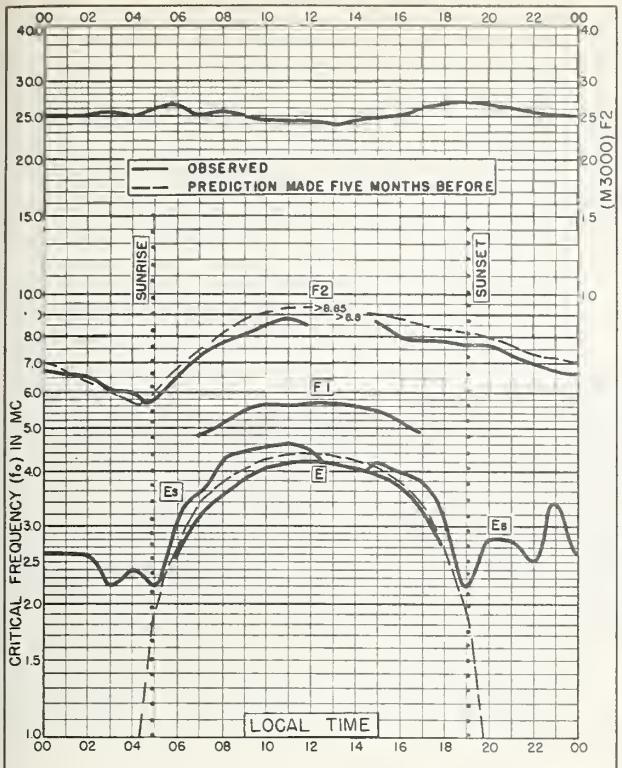


Fig. 25. WHITE SANDS, NEW MEXICO
32.3°N, 106.5° W JUNE 1958

NBS 503

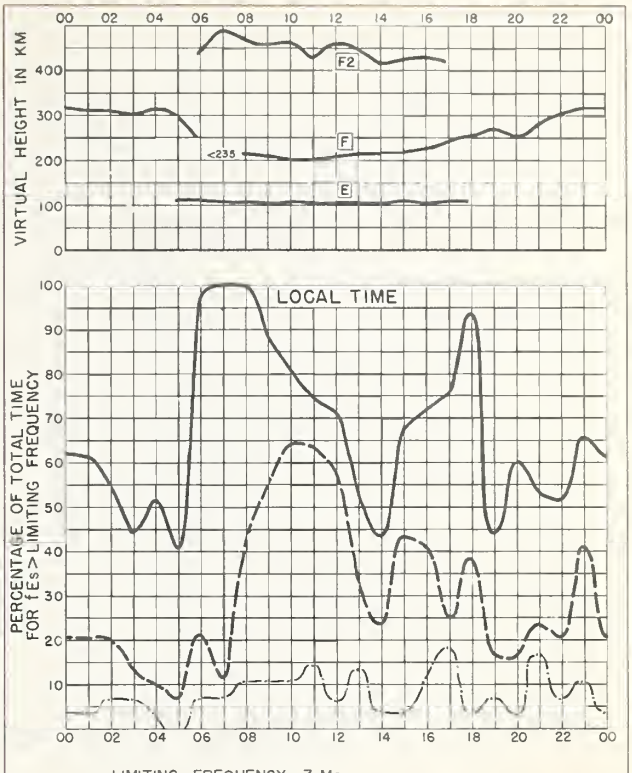


Fig. 26. WHITE SANDS, NEW MEXICO JUNE 1958

NBS 490

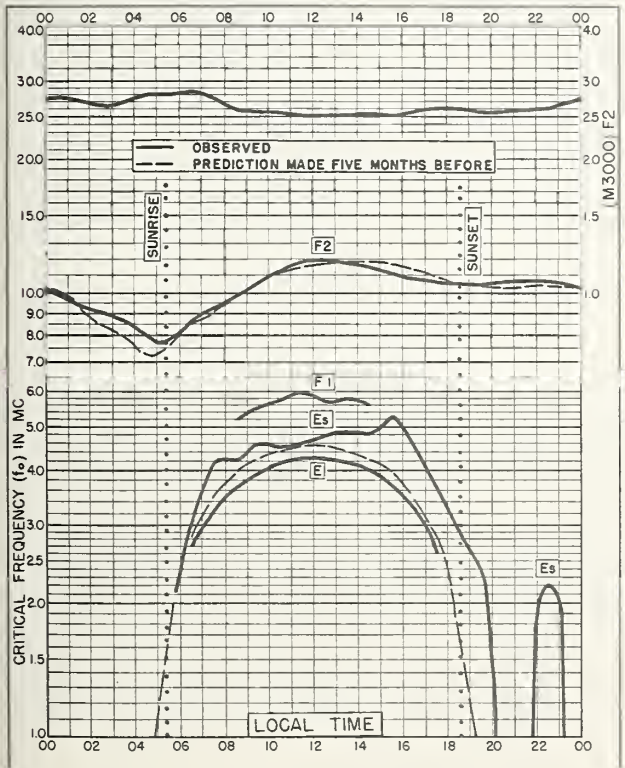


Fig. 27. PUERTO RICO, W.I.
18.5°N, 67.2° W JUNE 1958

NBS 503

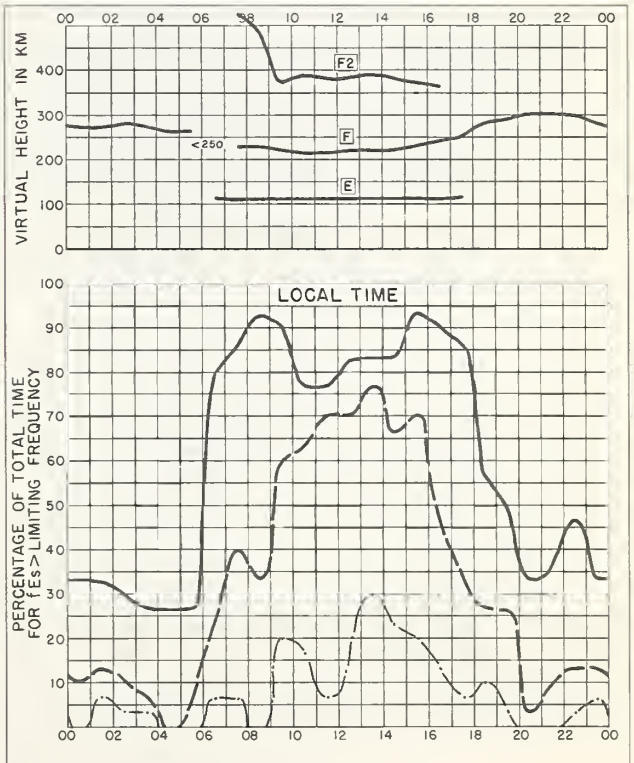


Fig. 28. PUERTO RICO, W.I. JUNE 1958

NBS 490

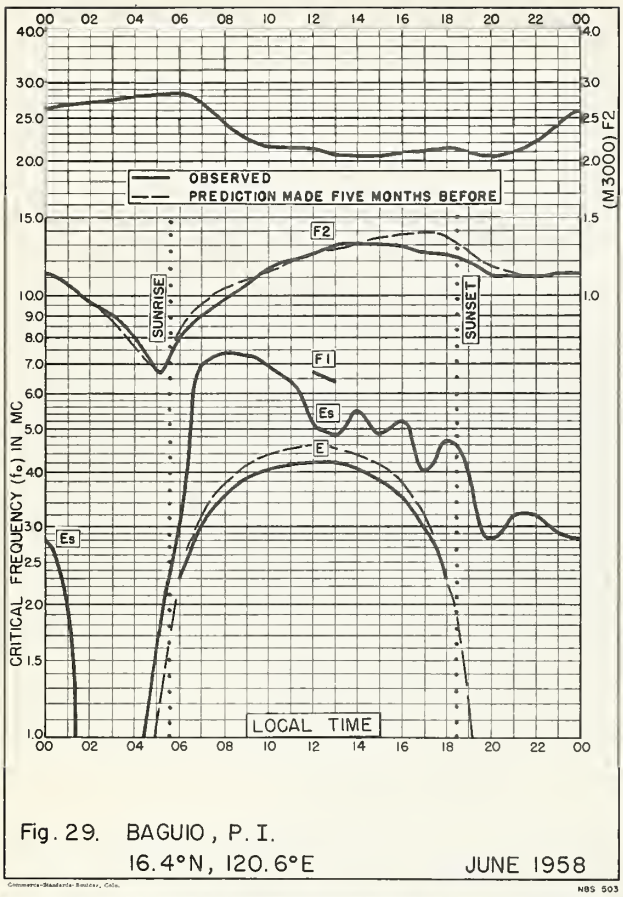


Fig. 29. BAGUIO, P. I.
16.4°N, 120.6°E JUNE 1958

NBS 503

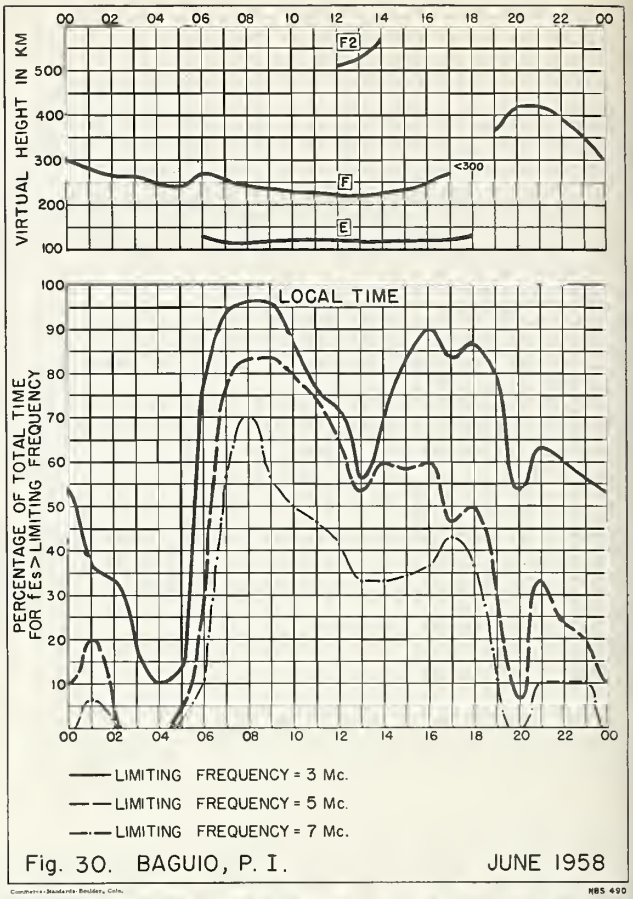


Fig. 30. BAGUIO, P. I. JUNE 1958

NBS 490

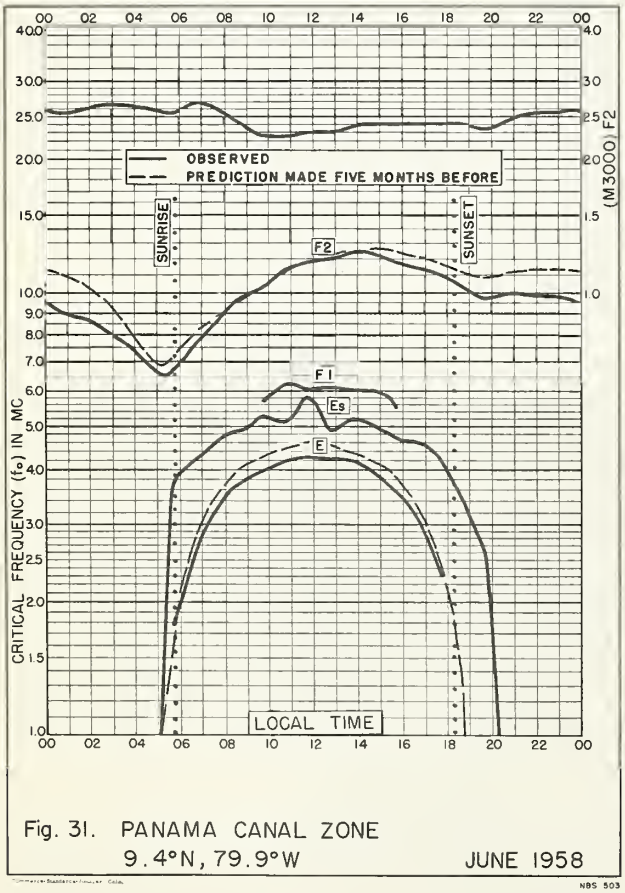


Fig. 31. PANAMA CANAL ZONE
9.4°N, 79.9°W JUNE 1958

NBS 503

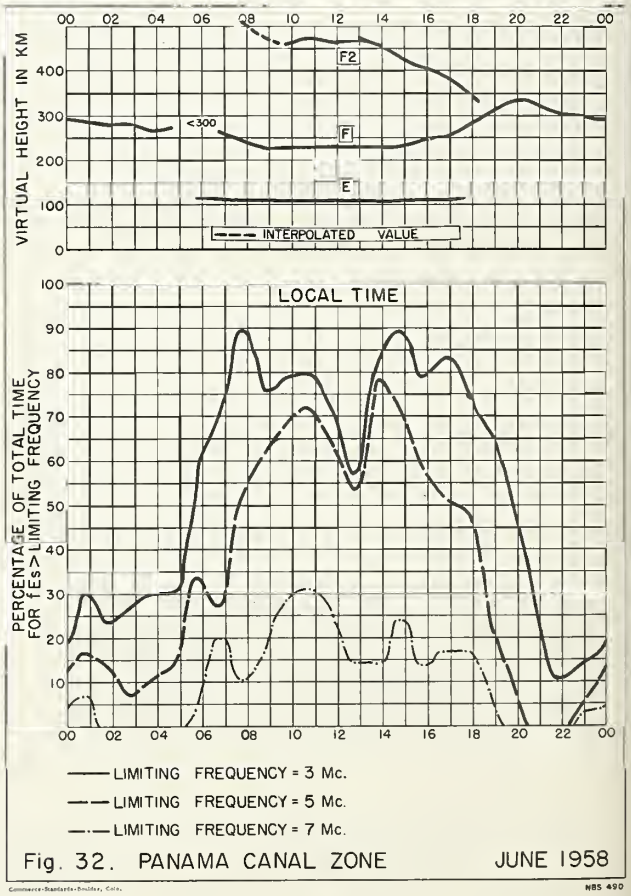


Fig. 32. PANAMA CANAL ZONE JUNE 1958

NBS 490

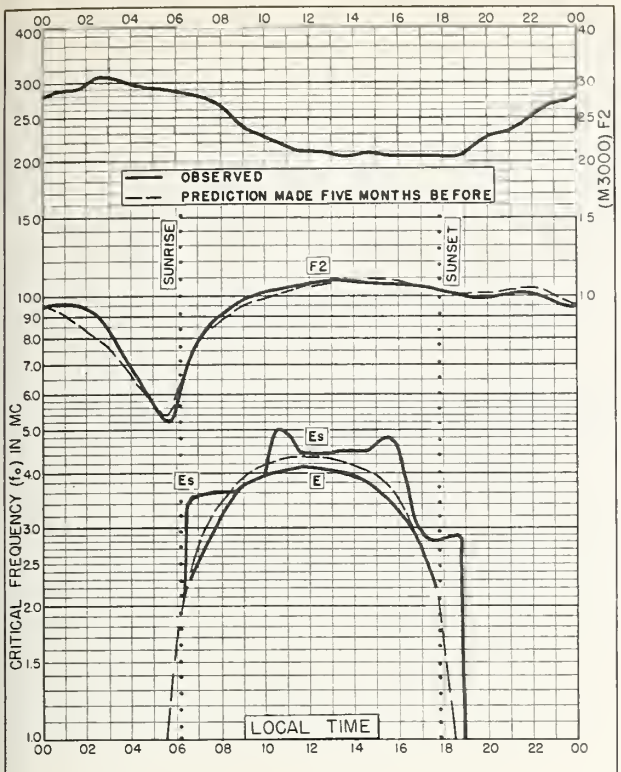


Fig. 33. TALARA, PERU
4.6°S, 81.3°W JUNE 1958

NBS 503

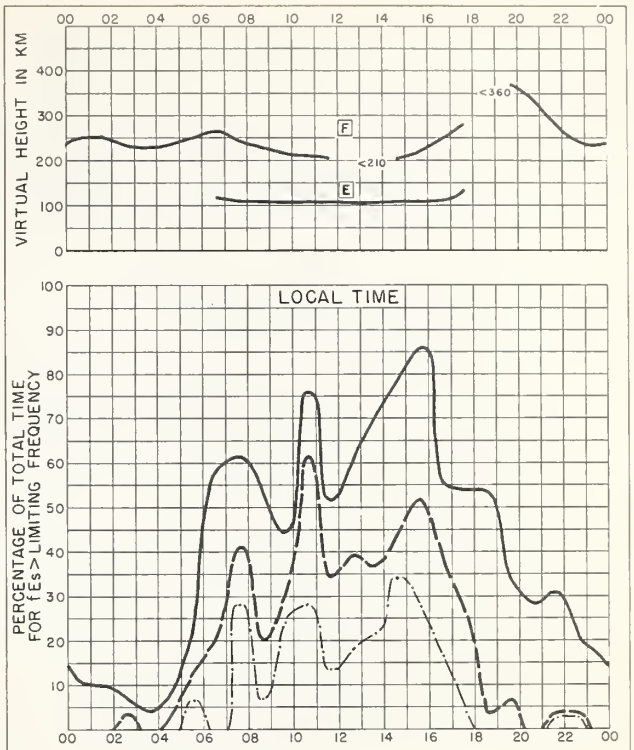


Fig. 34. TALARA, PERU JUNE 1958

NBS 490

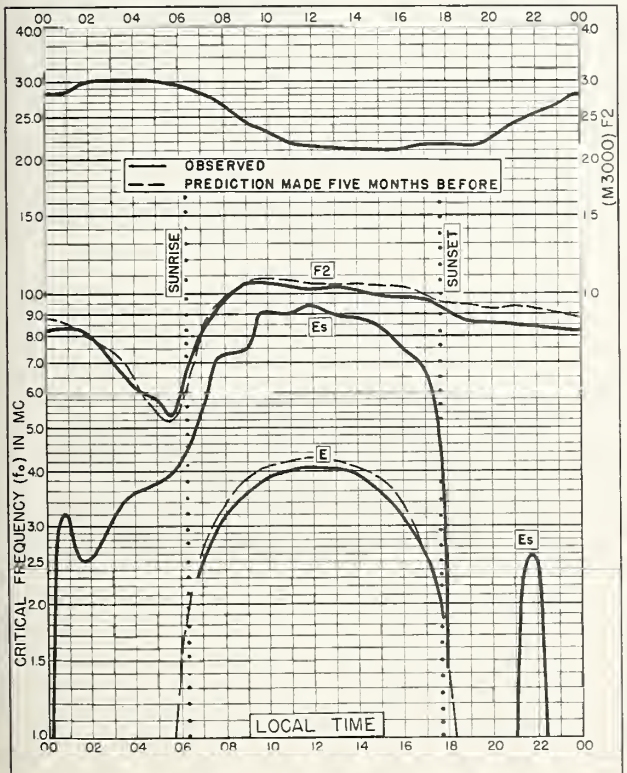


Fig. 35. CHIMBOTE, PERU
9.1°S, 78.6°W JUNE 1958

NBS 503

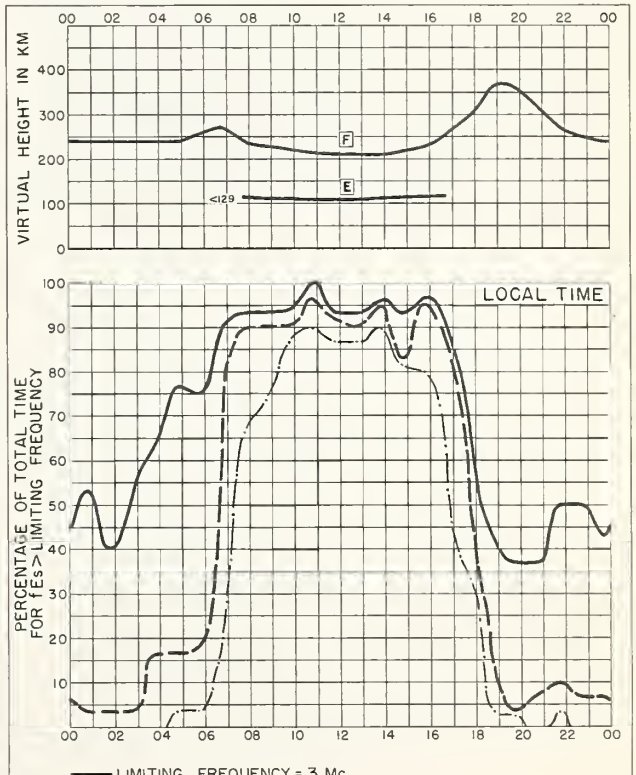


Fig. 36. CHIMBOTE, PERU JUNE 1958

NBS 490

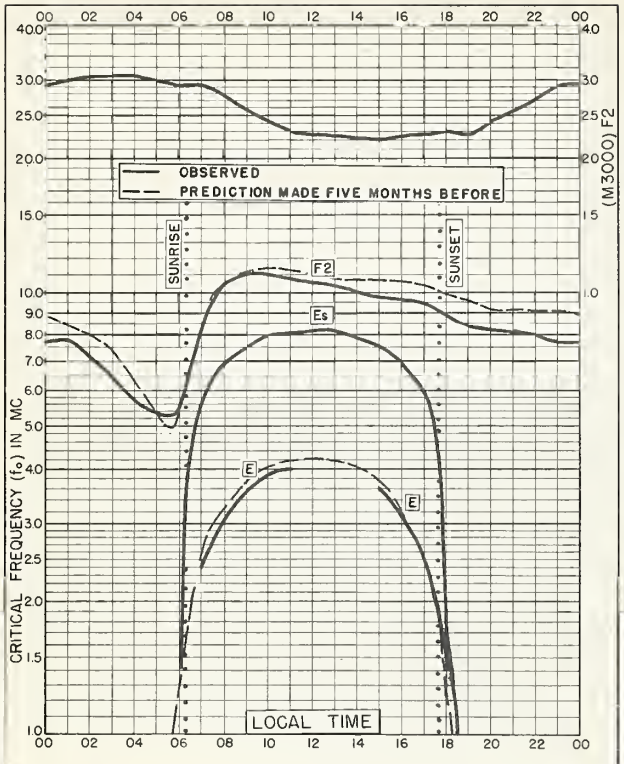


Fig. 37. HUANCAYO, PERU
12.0°S, 75.3° W JUNE 1958

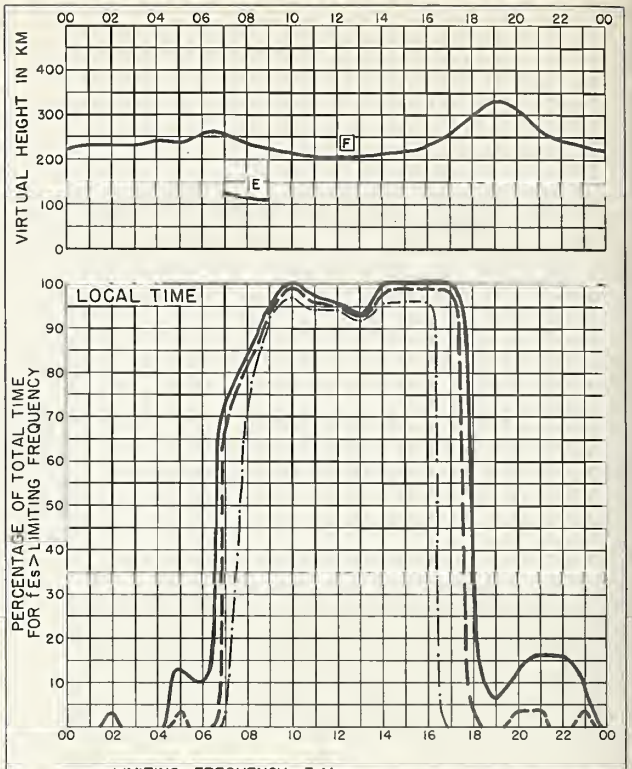


Fig. 38. HUANCAYO, PERU JUNE 1958

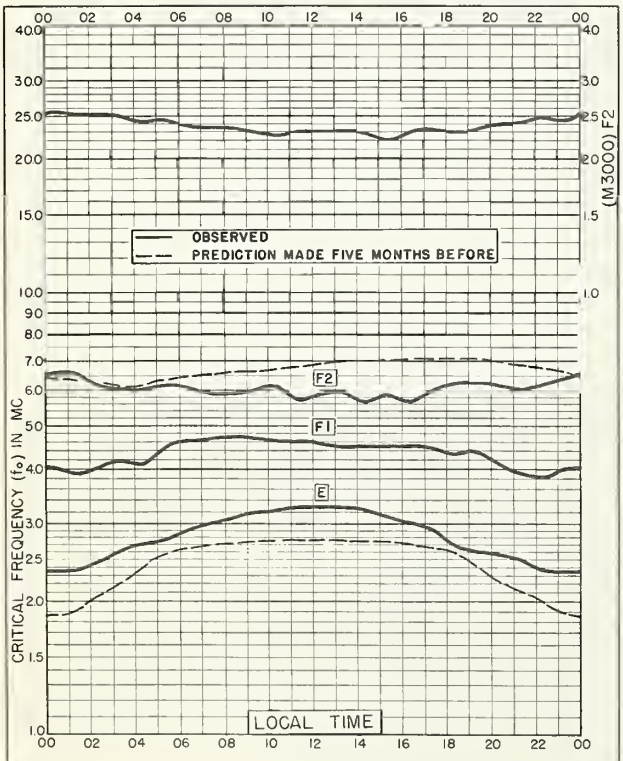


Fig. 39. FLETCHERS ICE I.
80.0°N, 115.0° W MAY 1958

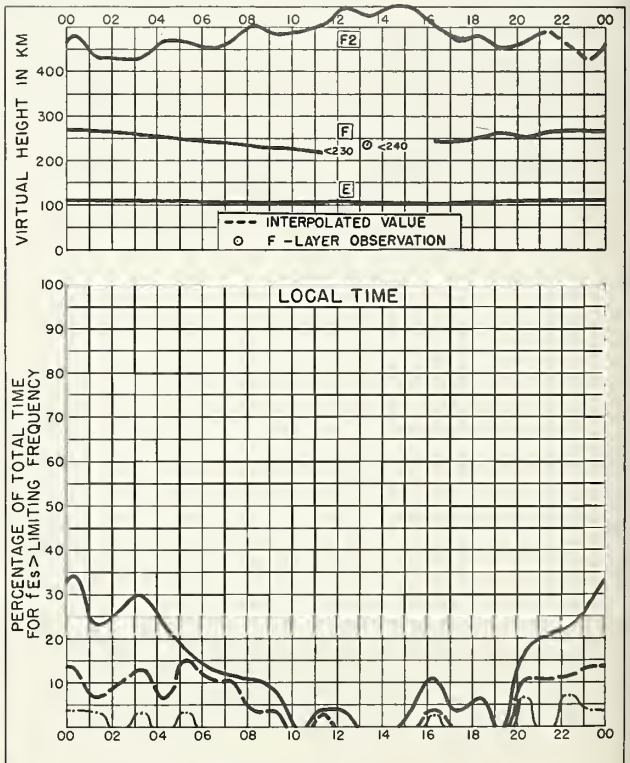


Fig. 40. FLETCHERS ICE I. MAY 1958

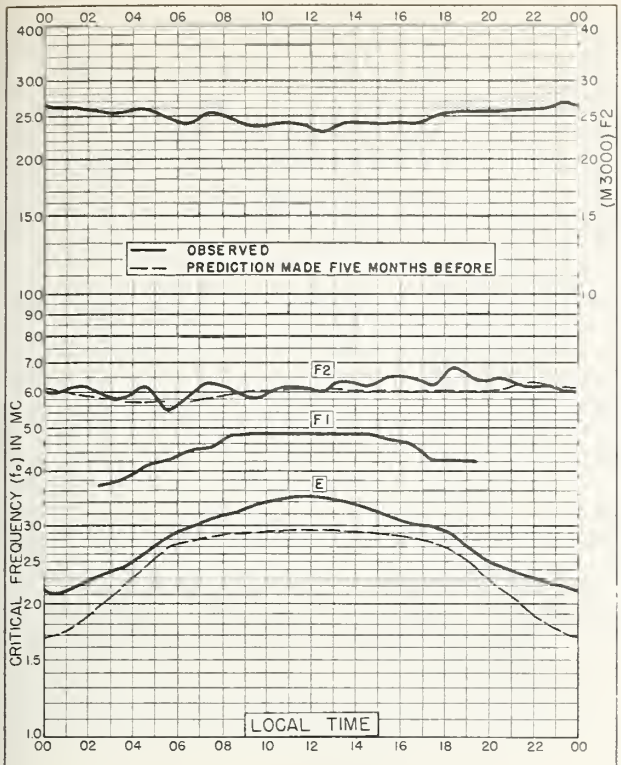


Fig. 41. THULE, GREENLAND
76.6°N, 68.7°W MAY 1958

NBS 503

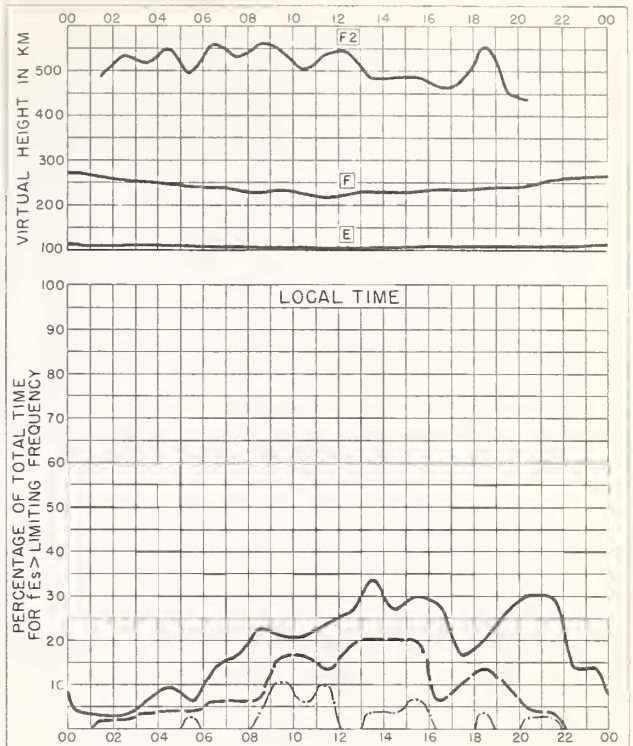


Fig. 42. THULE, GREENLAND MAY 1958

NBS 490

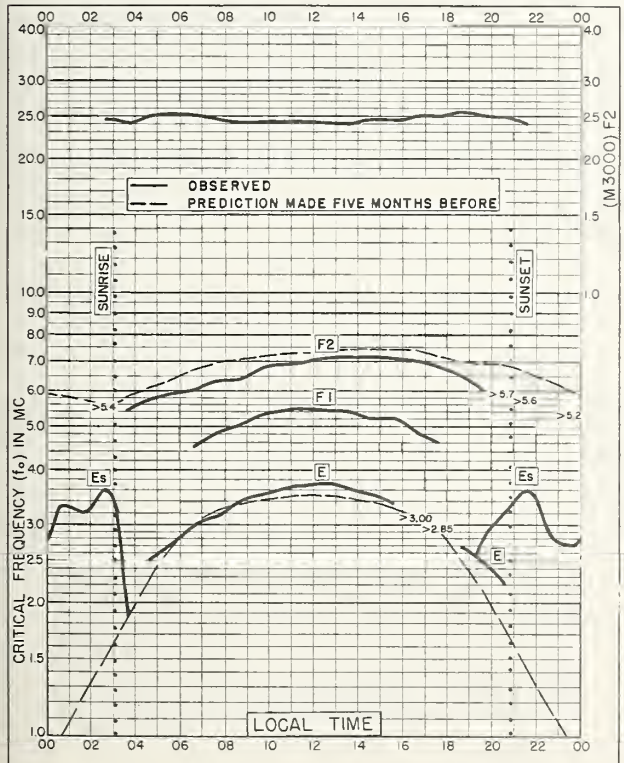


Fig. 43. REYKJAVIK, ICELAND
64.1°N, 21.8°W MAY 1958

NBS 503

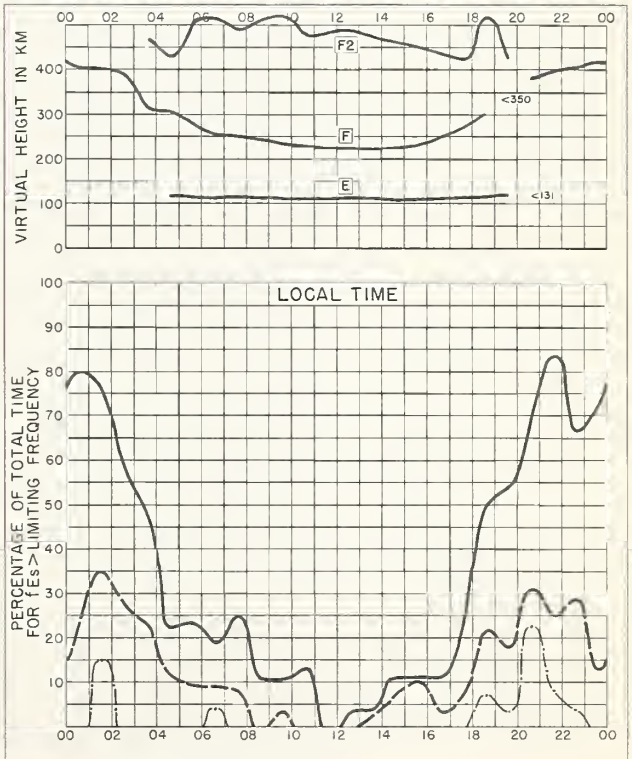


Fig. 44. REYKJAVIK, ICELAND MAY 1958

NBS 490

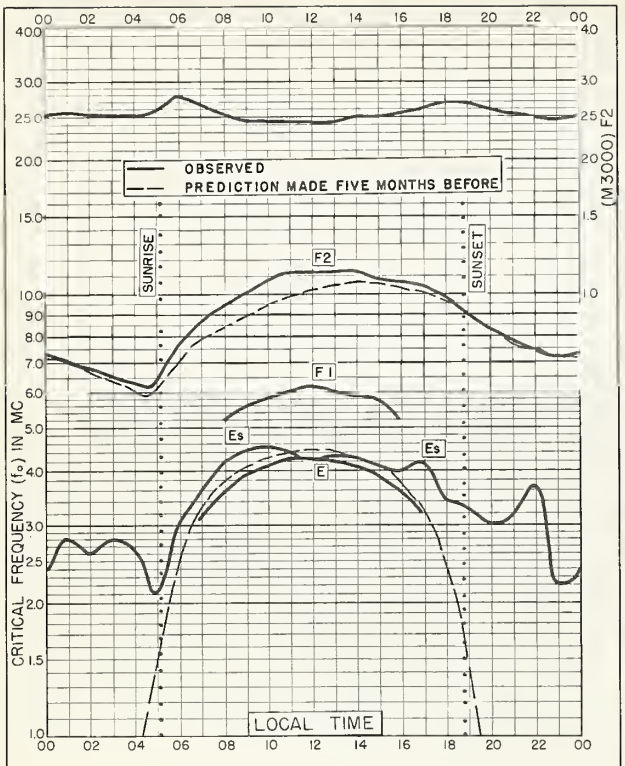
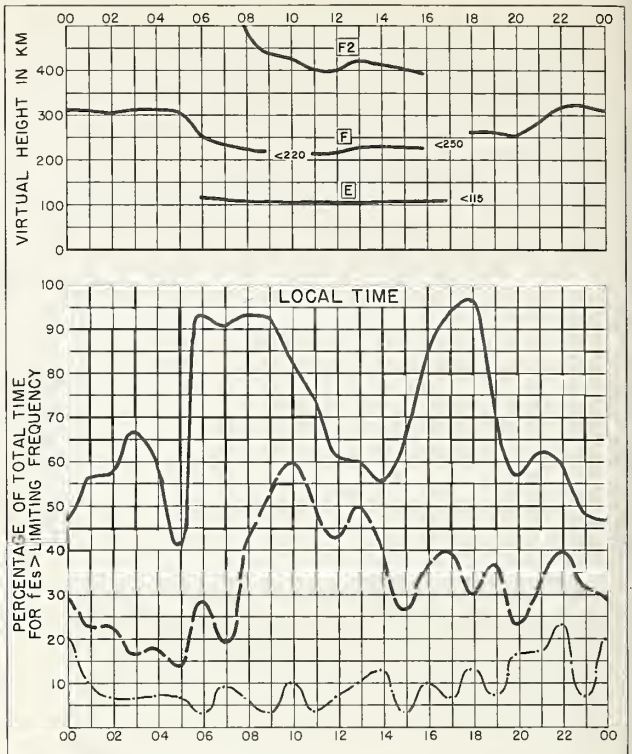


Fig. 45. WHITE SANDS, NEW MEXICO
32.3°N, 106.5° W MAY 1958

NBS 503



LIMITING FREQUENCY = 3 Mc.
LIMITING FREQUENCY = 5 Mc.
LIMITING FREQUENCY = 7 Mc.

Fig. 46. WHITE SANDS, NEW MEXICO MAY 1958

NBS 490

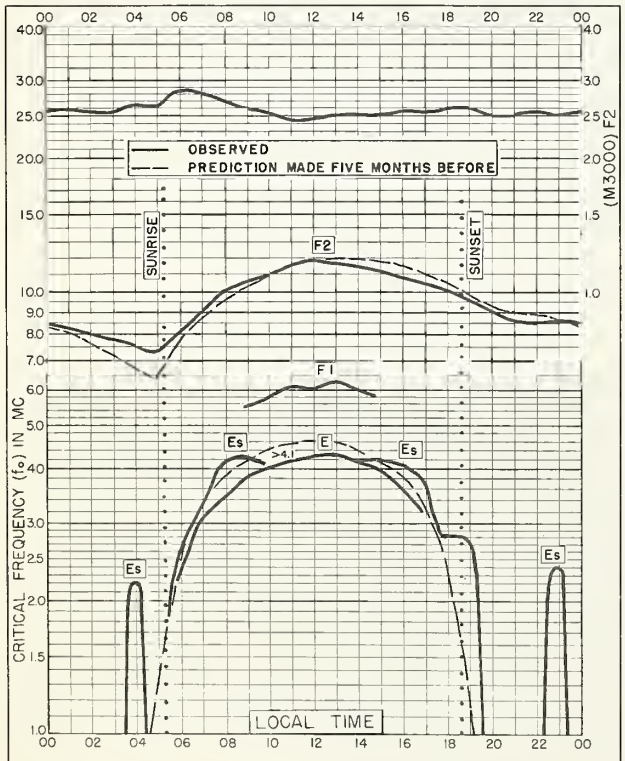
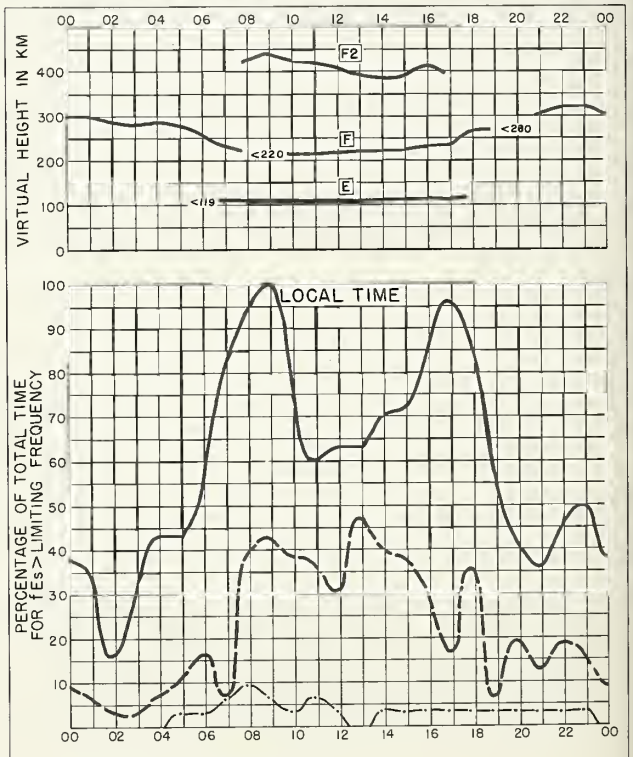


Fig. 47. GRAND BAHAMA I.
26.6°N, 78.2° W MAY 1958

NBS 503



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LIMITING FREQUENCY = 5 Mc
LIMITING FREQUENCY = 7 Mc.

Fig. 48. GRAND BAHAMA I. MAY 1958

NBS 490

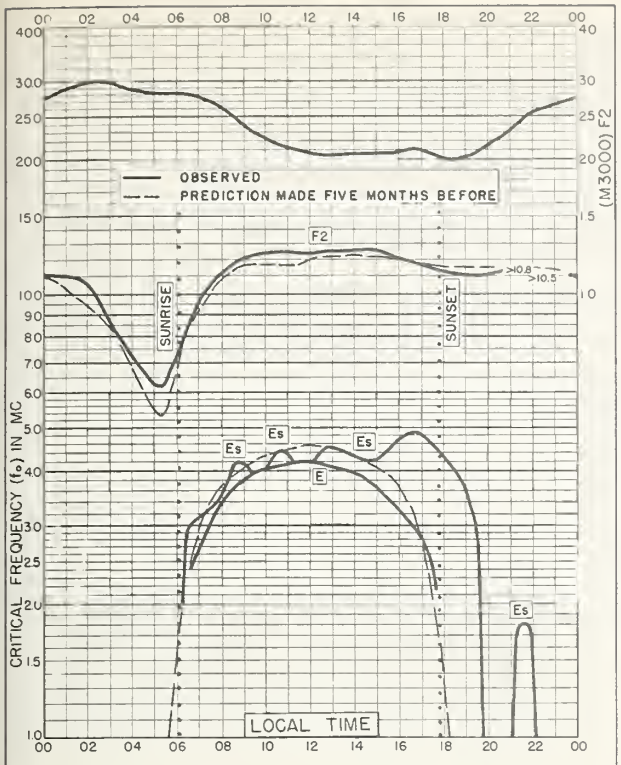


Fig. 49. TALARA, PERU
4.6°S, 81.3°W
MAY 1958

NBS 503

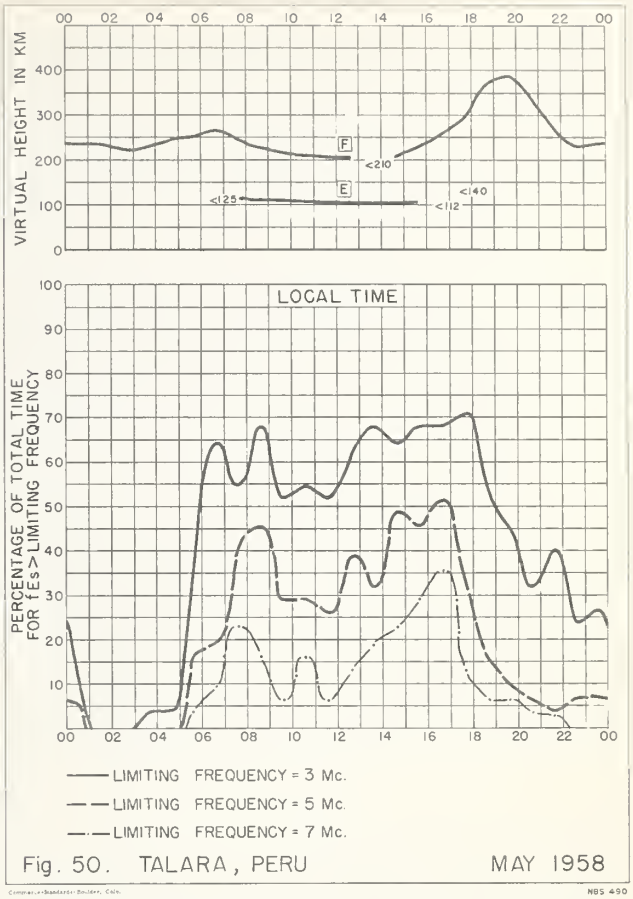


Fig. 50. TALARA, PERU
MAY 1958

NBS 490

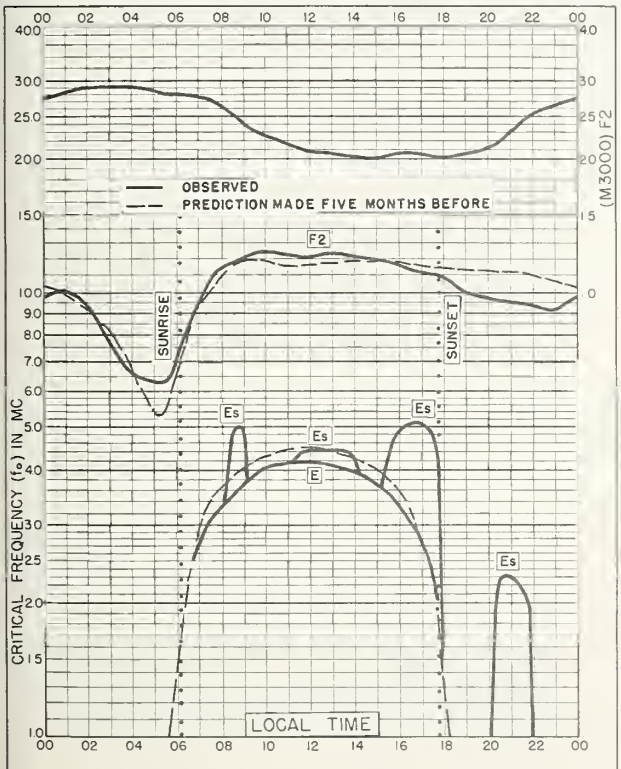


Fig. 51. CHICLAYO, PERU
6.8°S, 79.8°W
MAY 1958

NBS 503

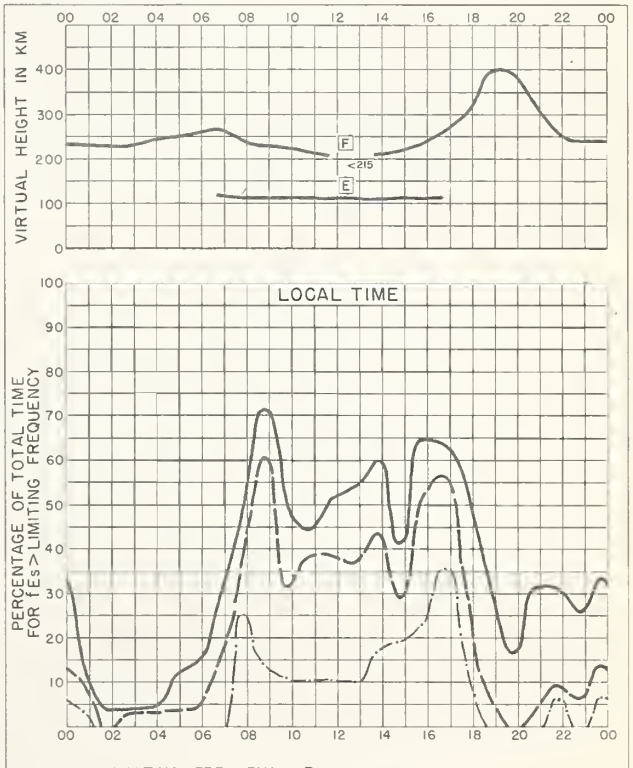


Fig. 52. CHICLAYO, PERU
MAY 1958

NBS 490

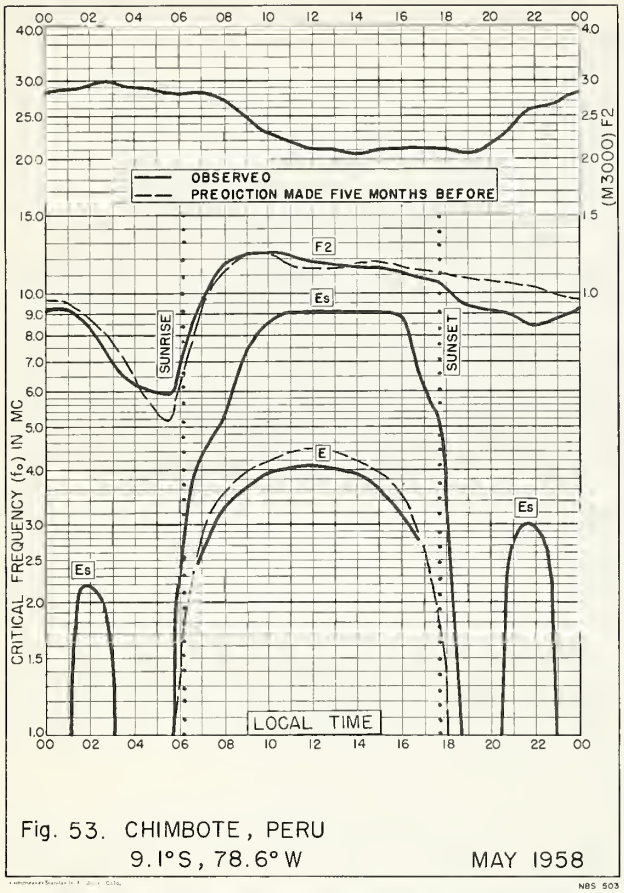


Fig. 53. CHIMBOTE, PERU
9.1°S, 78.6°W MAY 1958

NBS 503

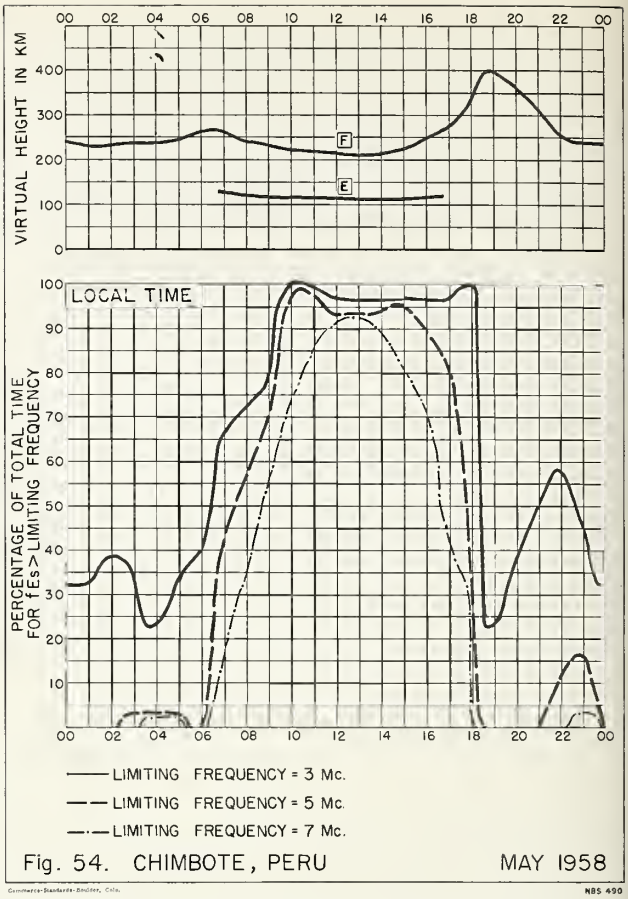


Fig. 54. CHIMBOTE, PERU MAY 1958

NBS 490

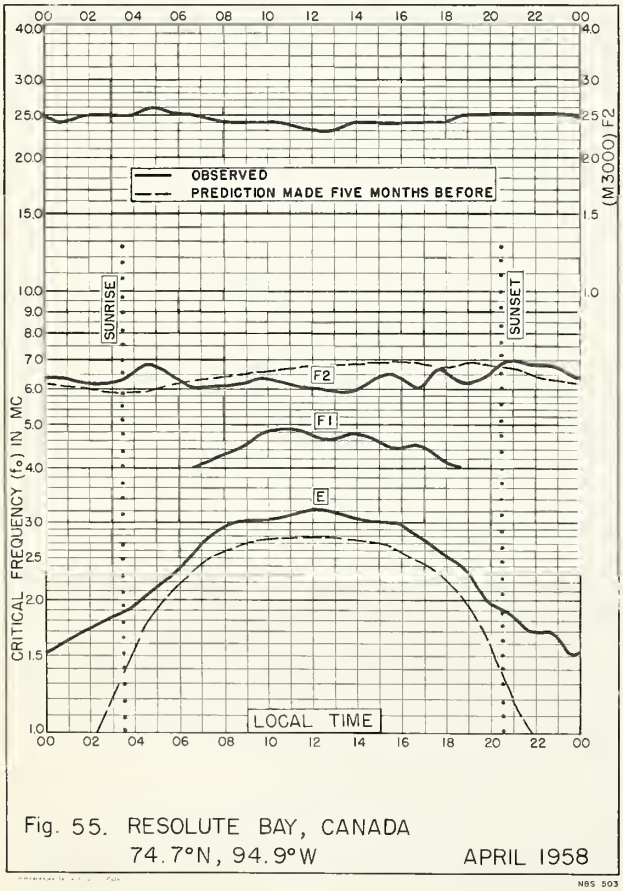


Fig. 55. RESOLUTE BAY, CANADA
74.7°N, 94.9°W APRIL 1958

NBS 503

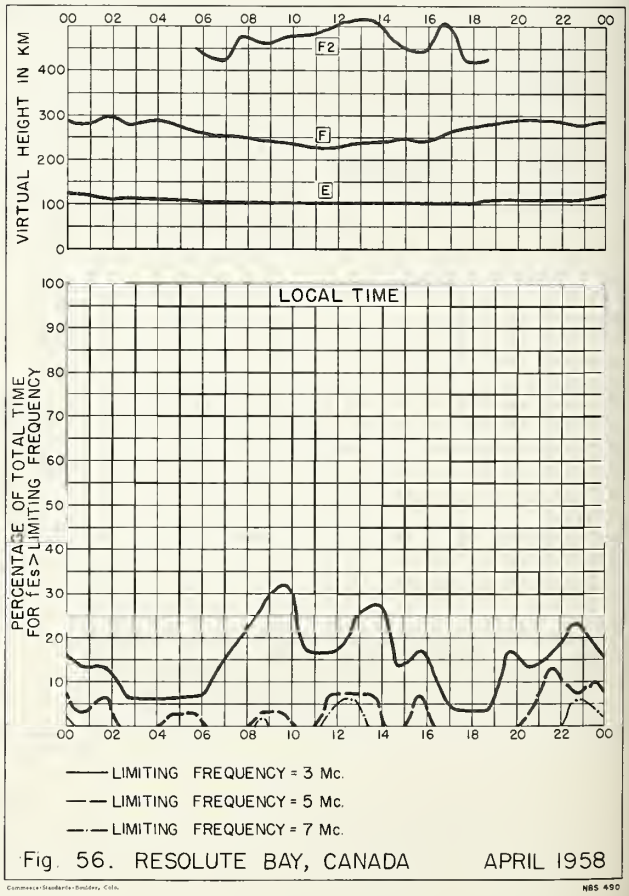


Fig. 56. RESOLUTE BAY, CANADA APRIL 1958

NBS 490

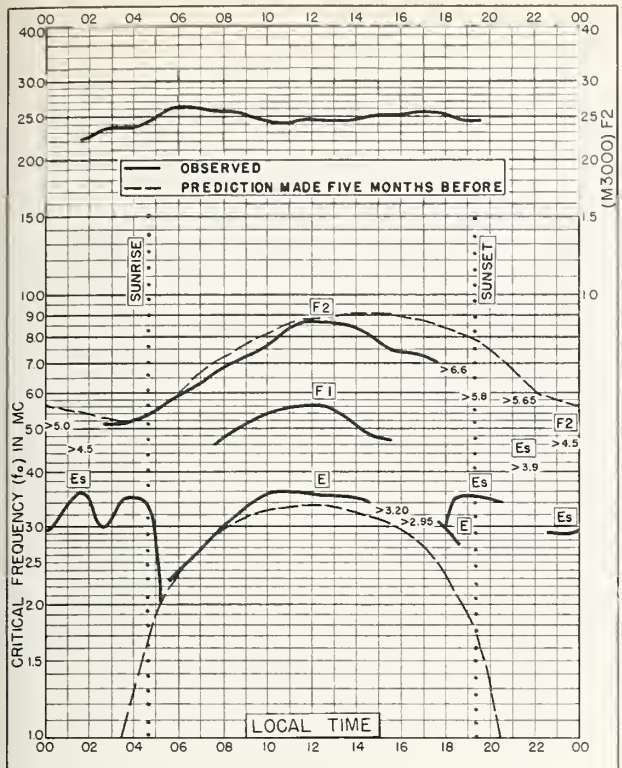


Fig. 57. REYKJAVIK, ICELAND
64.1°N, 21.8°W APRIL 1958

Commerce-Boulder, Colo. NBS 503

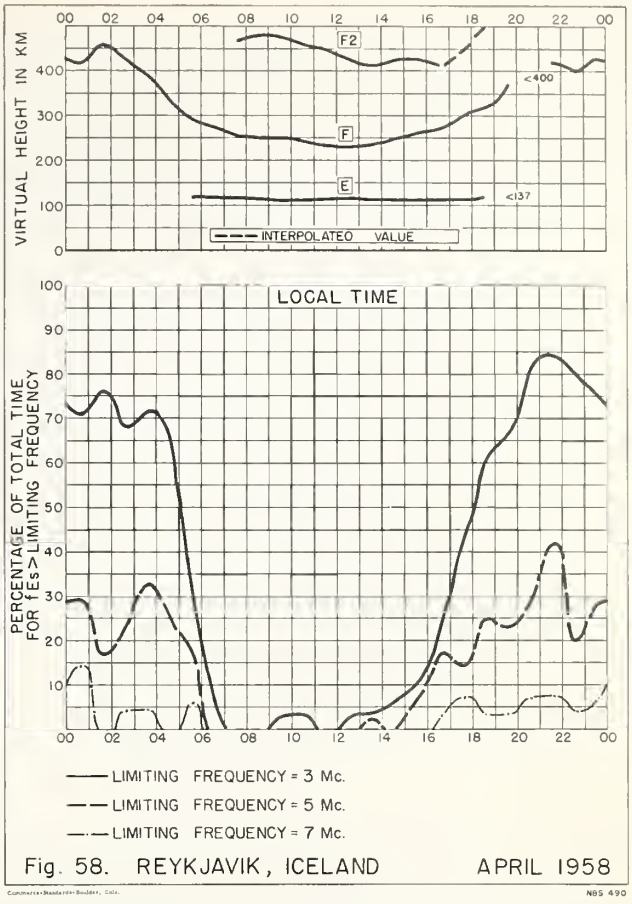


Fig. 58. REYKJAVIK, ICELAND APRIL 1958

Commerce-Boulder, Colo. NBS 490

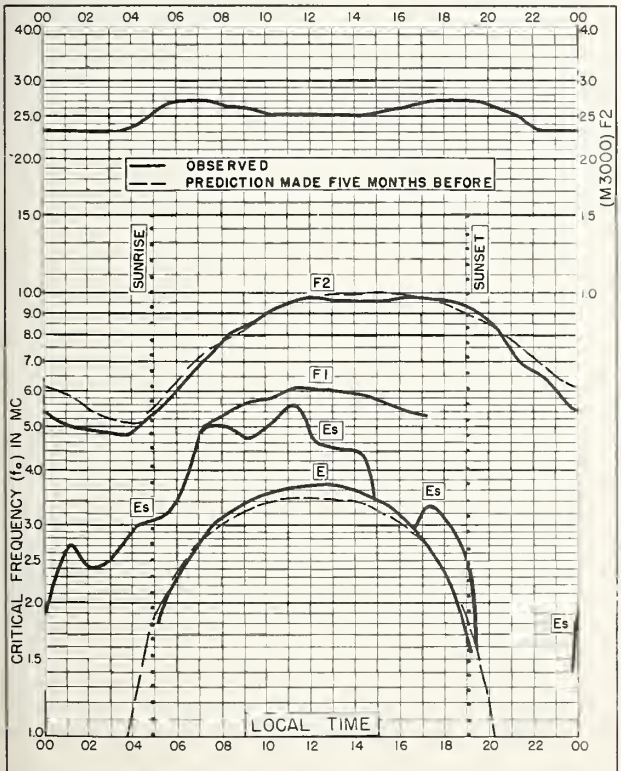


Fig. 59. UPSALA, SWEDEN
59.8°N, 17.6°E APRIL 1958

Commerce-Boulder, Colo. NBS 503

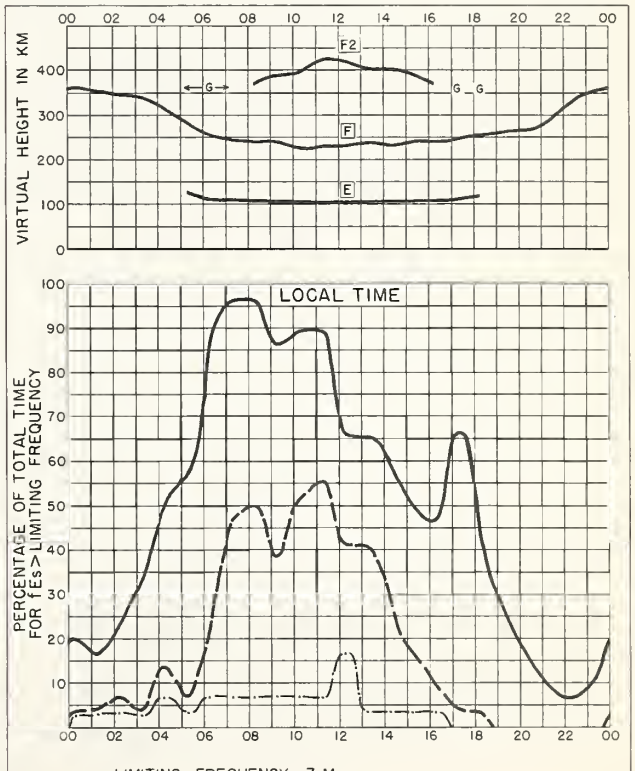


Fig. 60. UPSALA, SWEDEN APRIL 1958

Commerce-Boulder, Colo. NBS 490

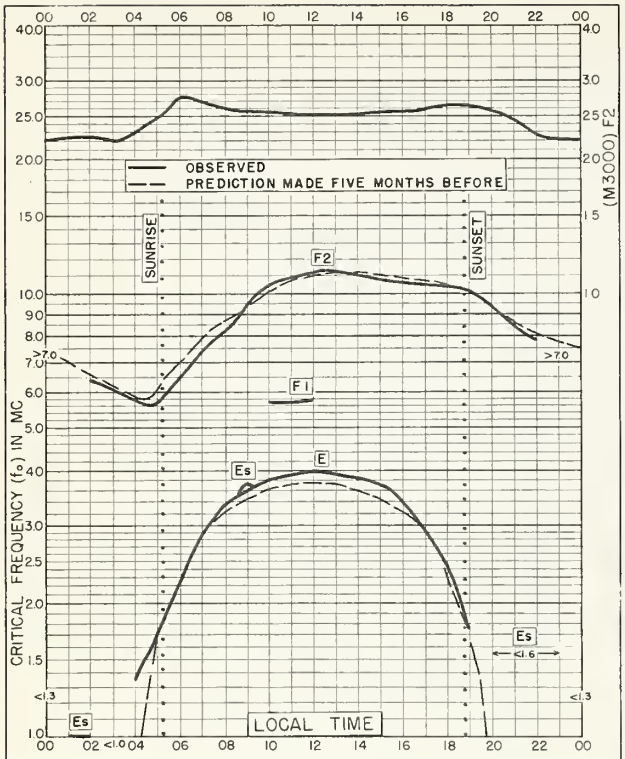


Fig. 61. SLOUGH, ENGLAND
51.5°N, 0.6°W APRIL 1958

NBS 503

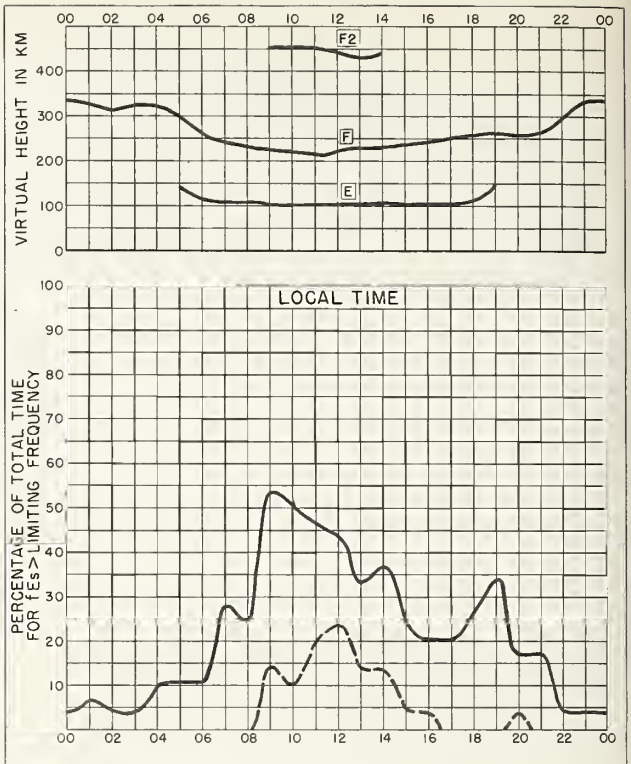


Fig. 62. SLOUGH, ENGLAND APRIL 1958

NBS 490

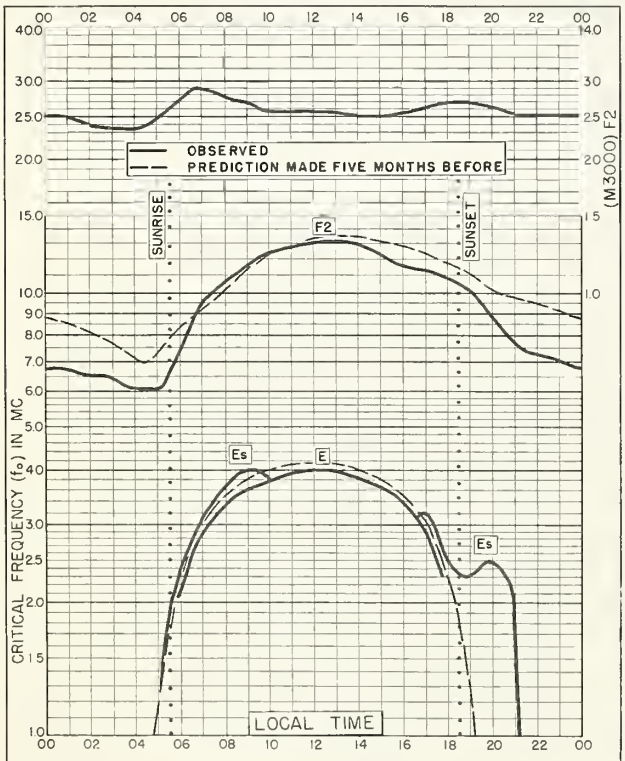


Fig. 63. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W APRIL 1958

NBS 503

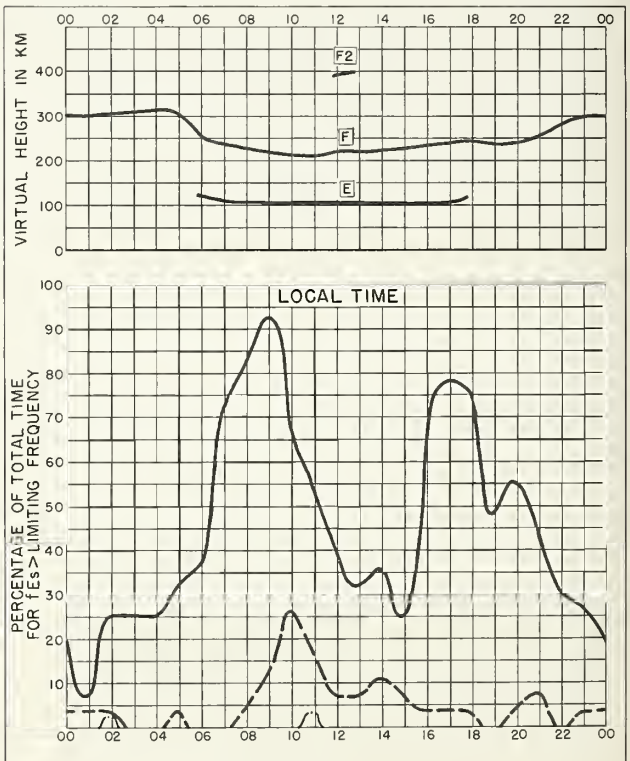


Fig. 64. SAN FRANCISCO, CALIFORNIA APRIL 1958

NBS 490

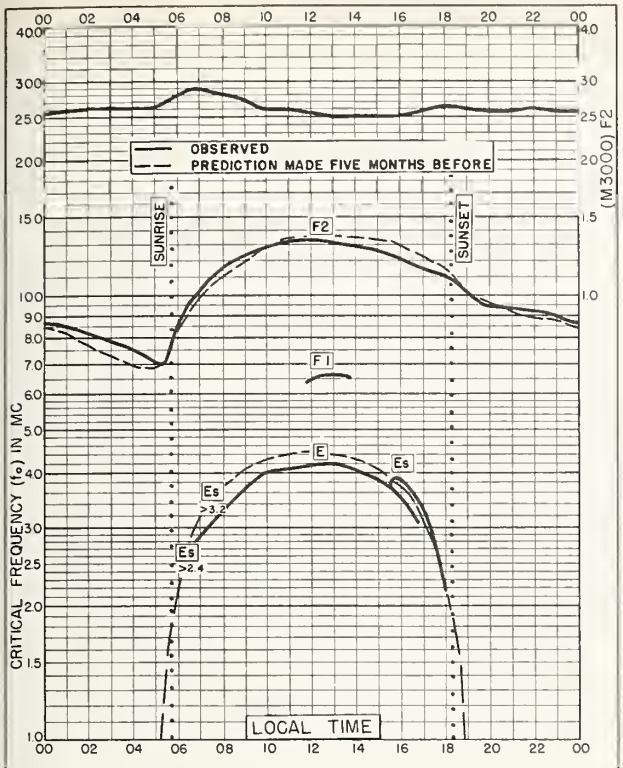


Fig. 65. GRAND BAHAMA I.
26.6°N, 78.2°W APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 503

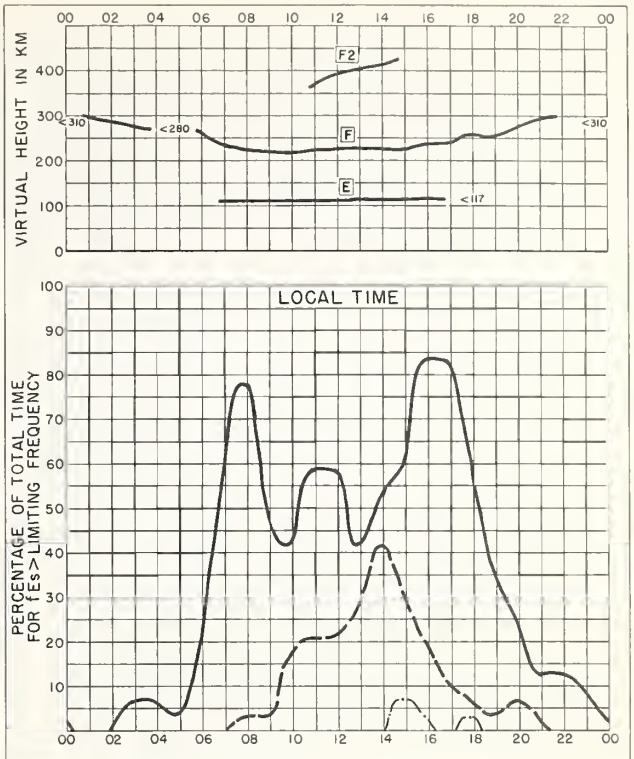


Fig. 66. GRAND BAHAMA I. APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 490

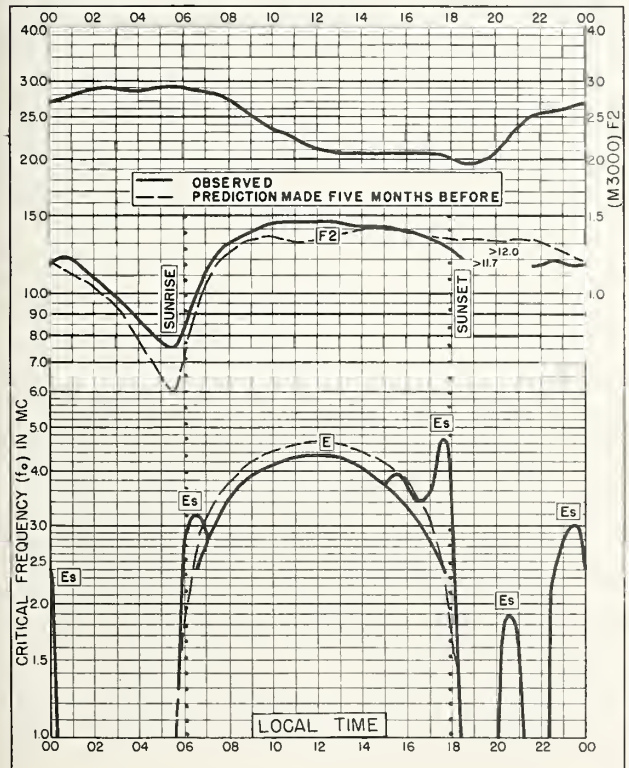


Fig. 67. TALARA, PERU
4.6°S, 81.3°W APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 503

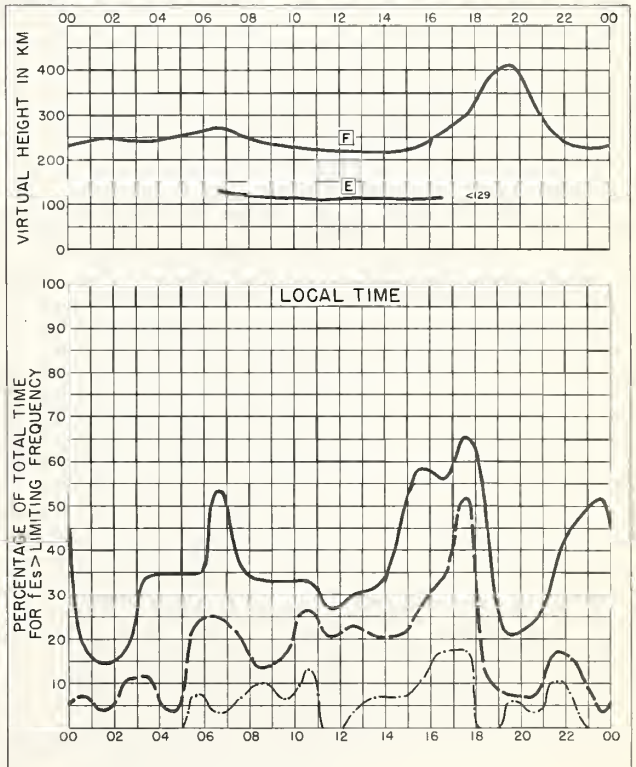


Fig. 68. TALARA, PERU APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 490

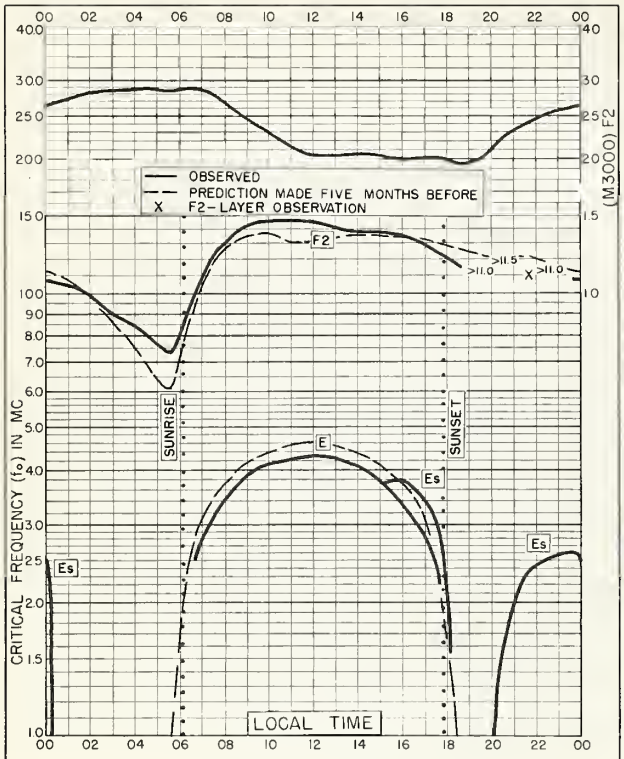


Fig. 69. CHICLAYO, PERU
6.8°S, 79.8°W APRIL 1958

NBS 503

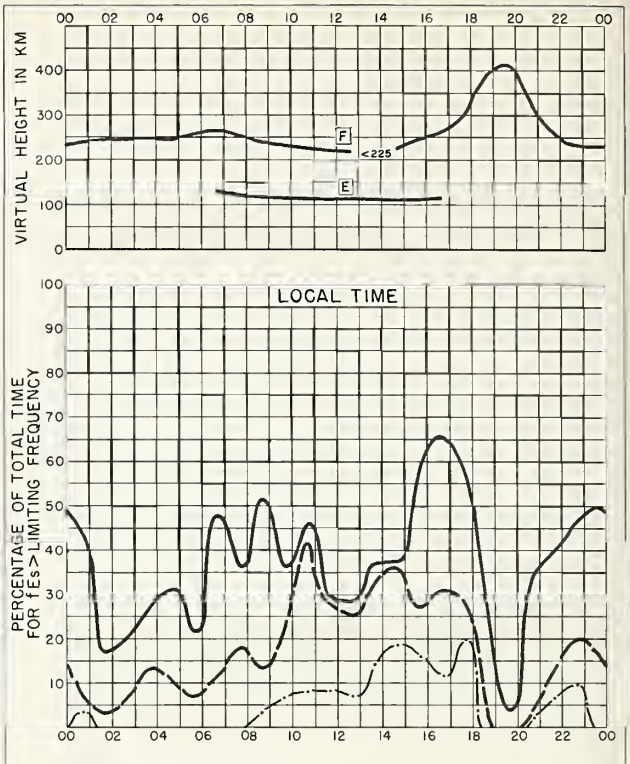


Fig. 70. CHICLAYO, PERU APRIL 1958

NBS 490

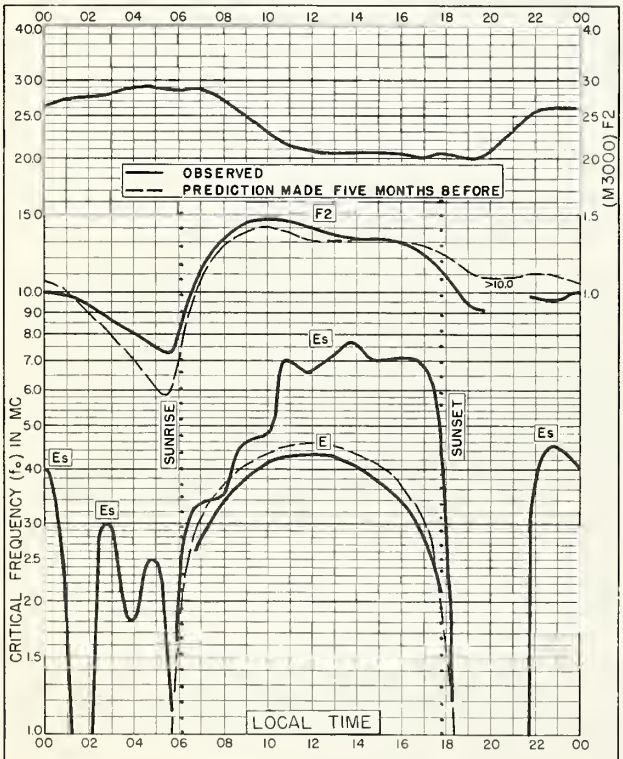


Fig. 71. CHIMBOTE, PERU
9.1°S, 78.6°W APRIL 1958

NBS 503

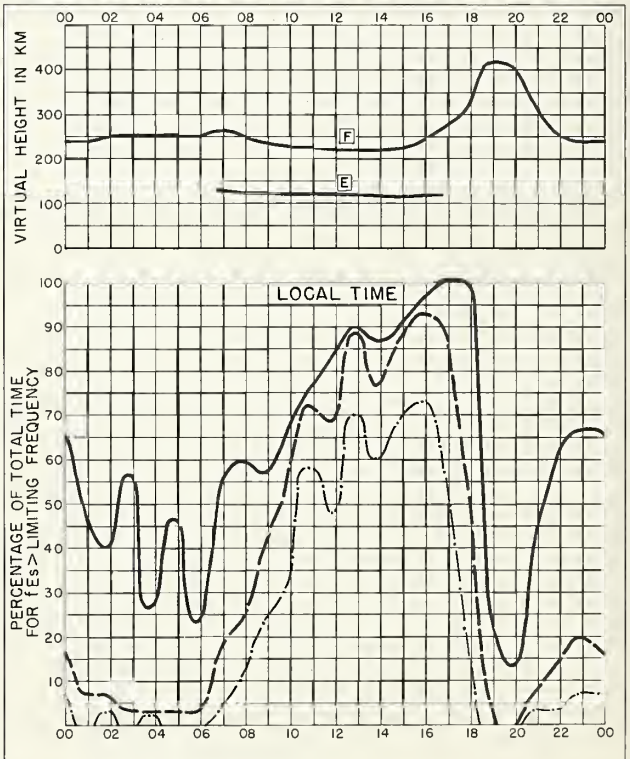


Fig. 72. CHIMBOTE, PERU APRIL 1958

NBS 490

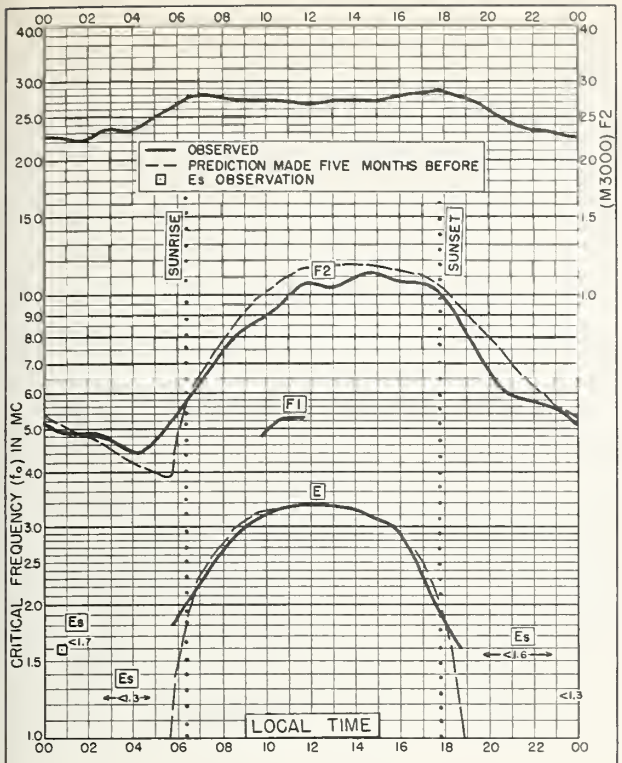


Fig. 73. INVERNESS, SCOTLAND
57.4°N, 4.2°W MARCH 1958

NBS 503

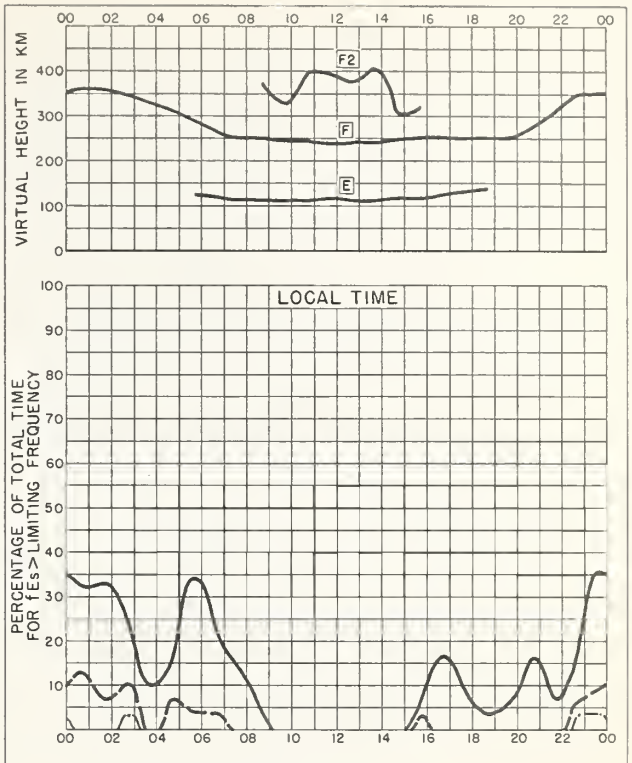


Fig. 74. INVERNESS, SCOTLAND MARCH 1958

NBS 490

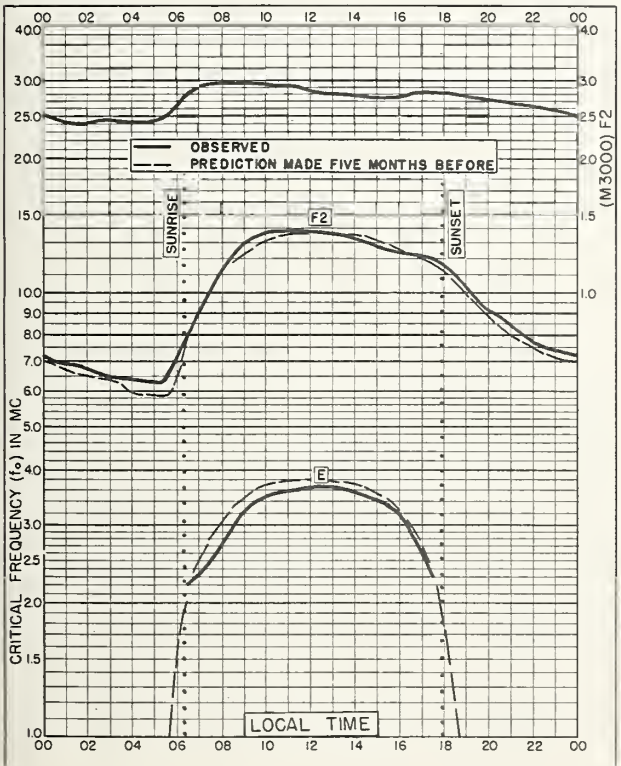


Fig. 75. WAKKANAI, JAPAN
45.4°N, 141.7°E MARCH 1958

NBS 503

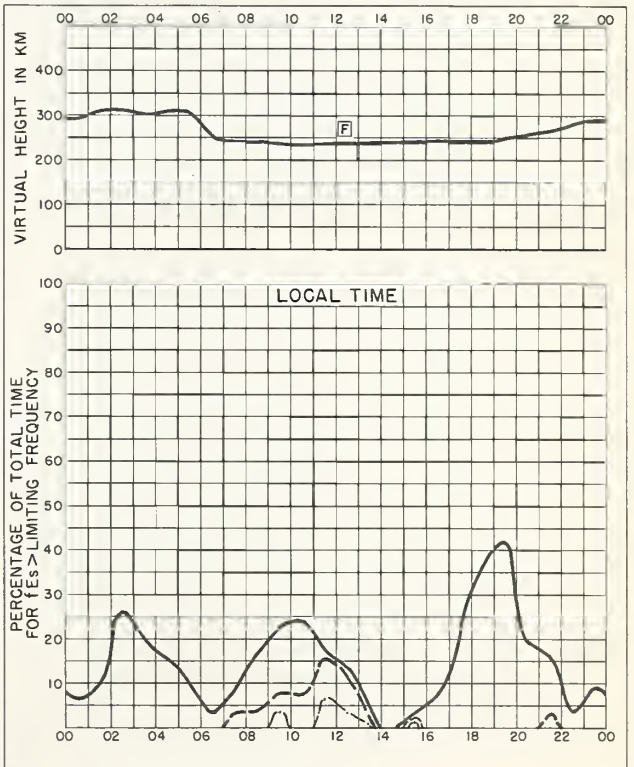


Fig. 76. WAKKANAI, JAPAN MARCH 1958

NBS 490

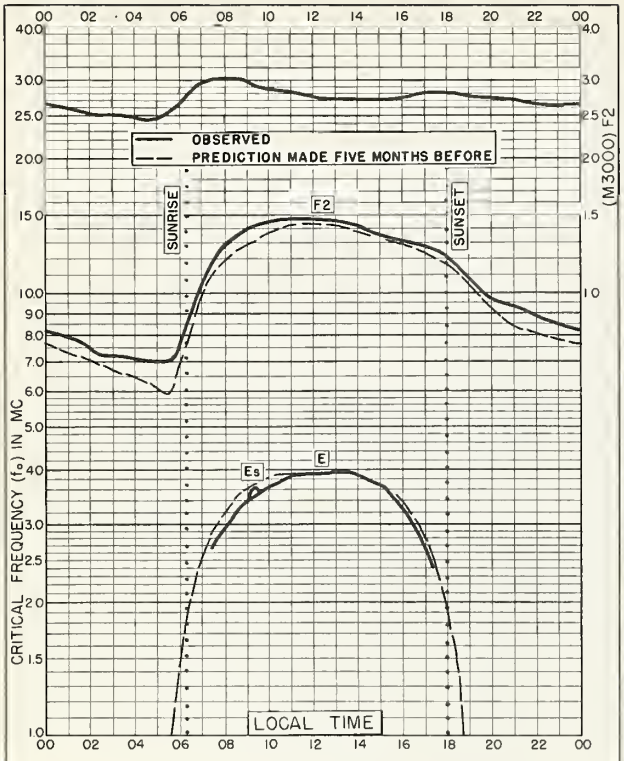


Fig. 77. AKITA, JAPAN
39.7°N, 140.1°E MARCH 1958

NBS 503

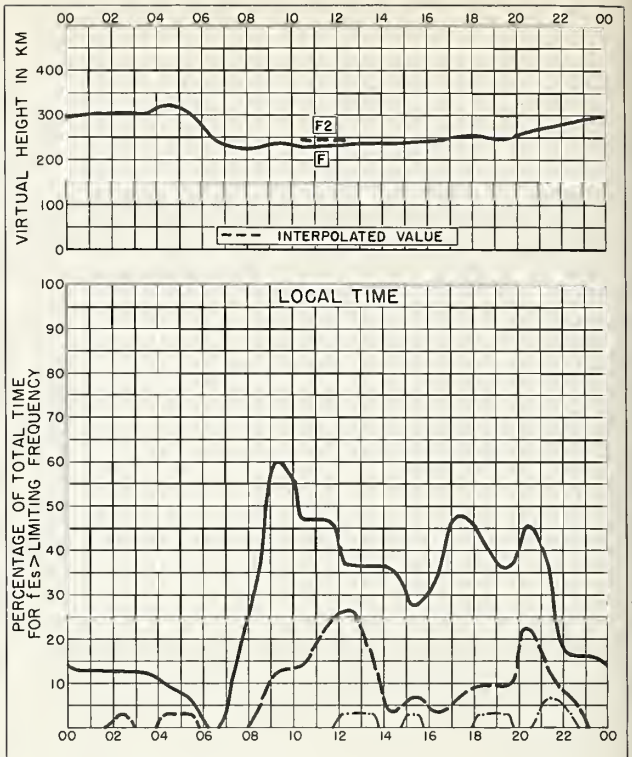


Fig. 78. AKITA, JAPAN MARCH 1958

NBS 490

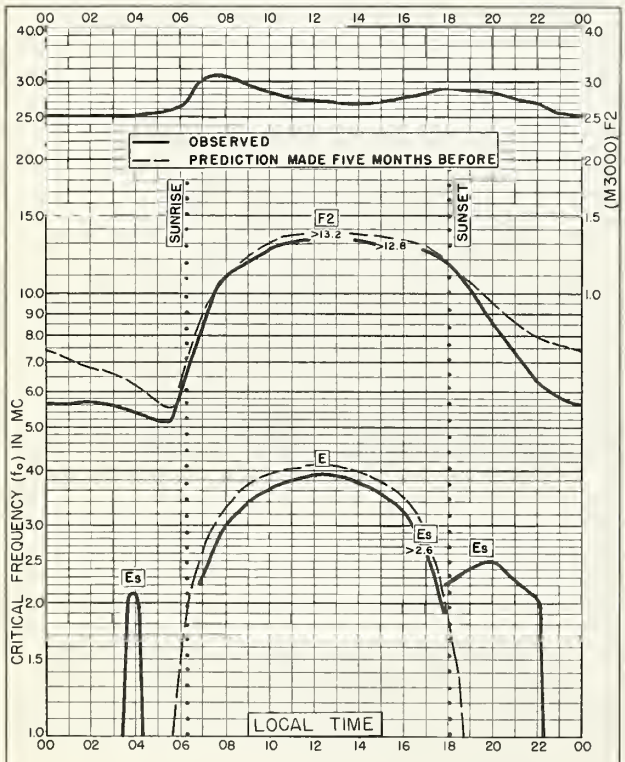


Fig. 79. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MARCH 1958

NBS 503

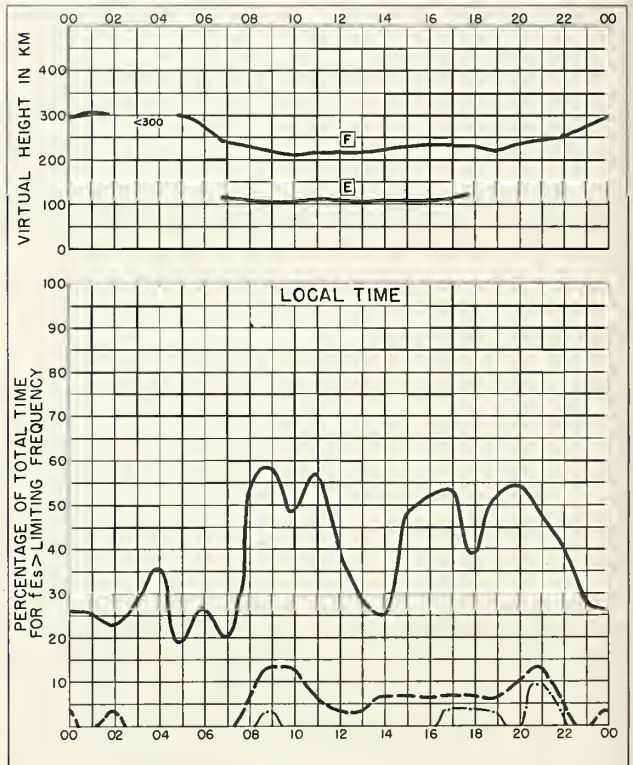


Fig. 80. SAN FRANCISCO, CALIFORNIA MARCH 1958

NBS 490

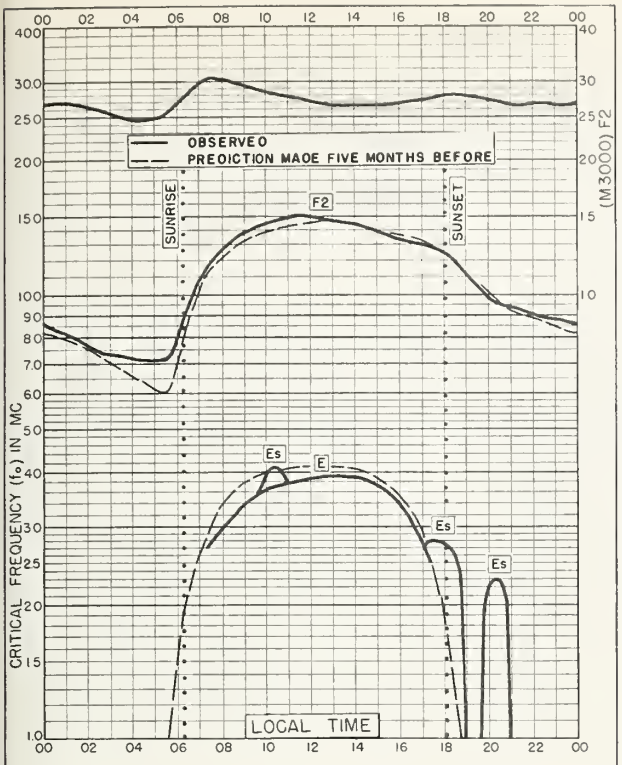


Fig. 81. TOKYO, JAPAN
35.7°N, 139.5°E MARCH 1958

NBS 503

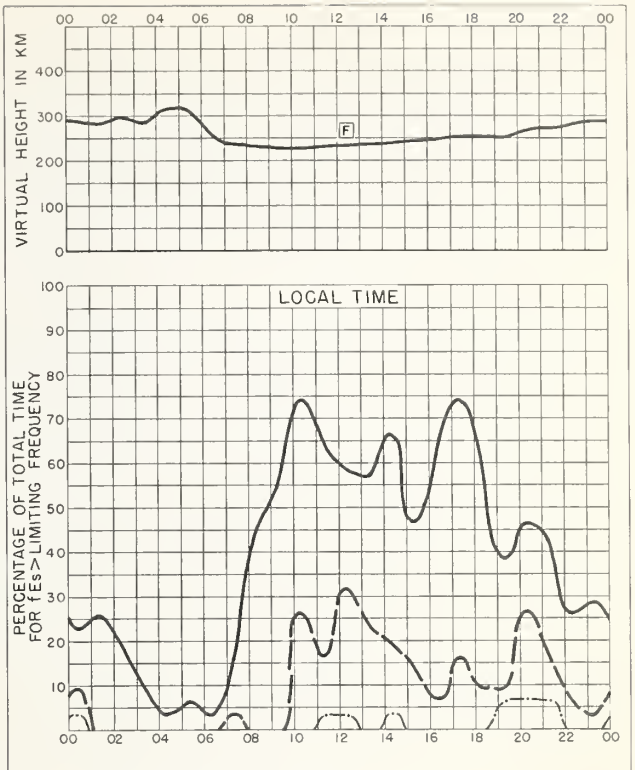


Fig. 82. TOKYO, JAPAN MARCH 1958

NBS 490

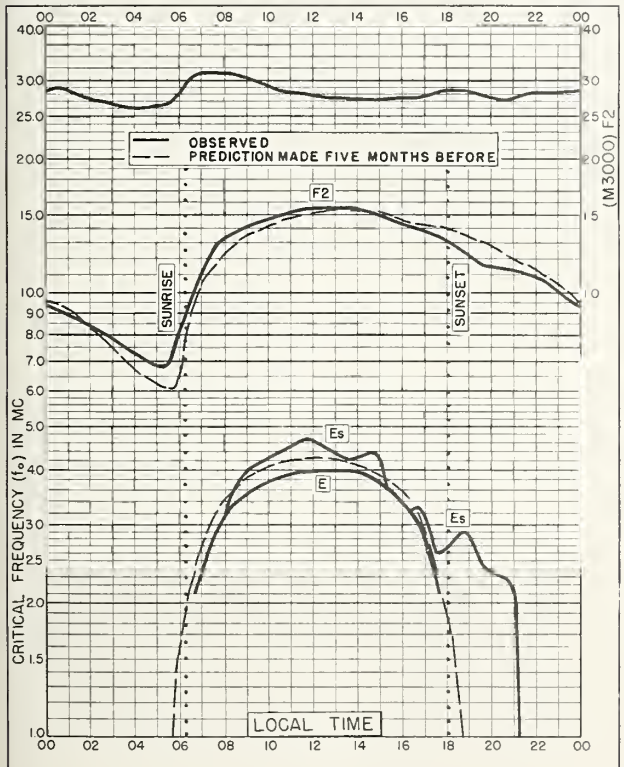


Fig. 83. YAMAGAWA, JAPAN
31.2°N, 130.6°E MARCH 1958

NBS 503

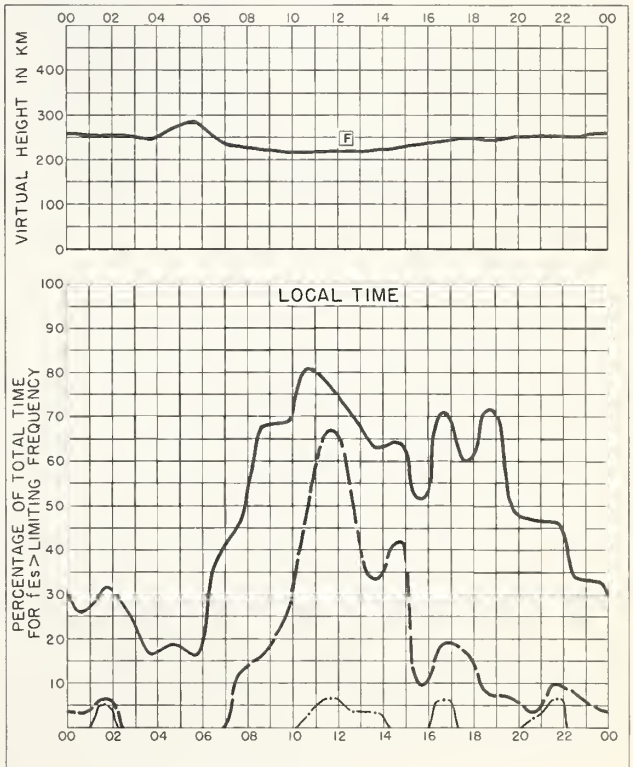


Fig. 84. YAMAGAWA, JAPAN MARCH 1958

NBS 490

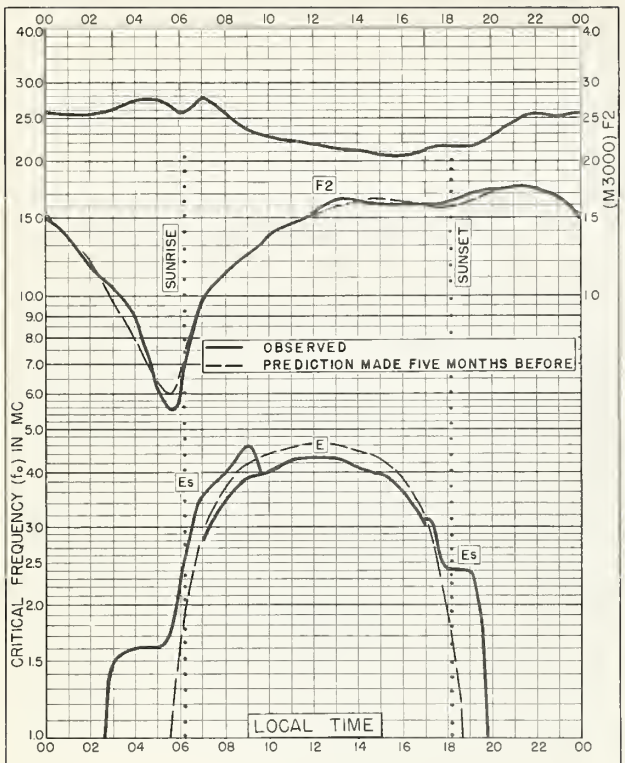


Fig. 85. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E MARCH 1958

NBS 503

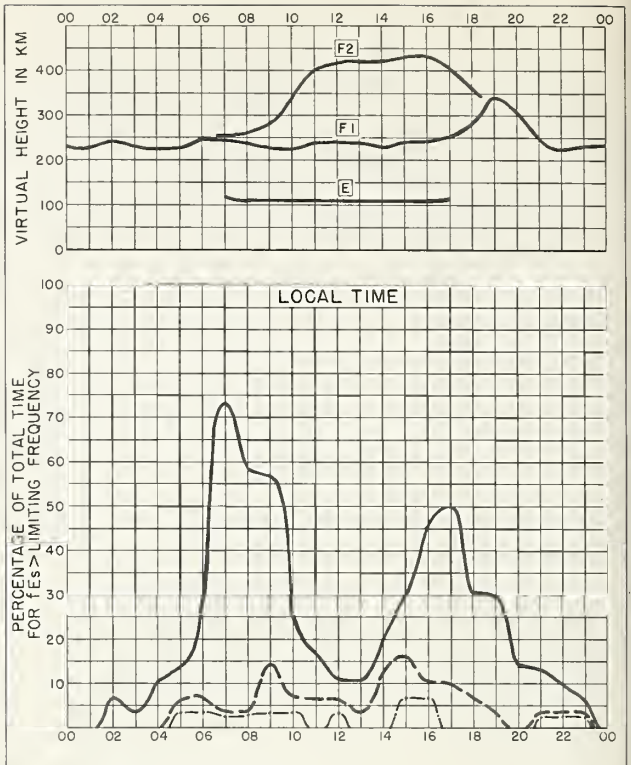


Fig. 86. LEOPOLDVILLE, BELGIAN CONGO MARCH 1958

NBS 490

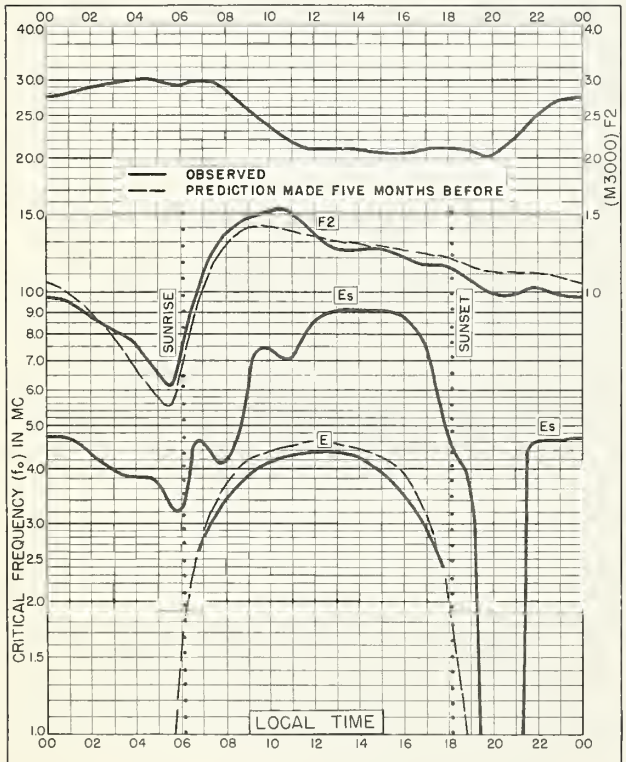


Fig. 87. CHIMBOTE, PERU
9.1°S, 78.6°W MARCH 1958

NBS 503

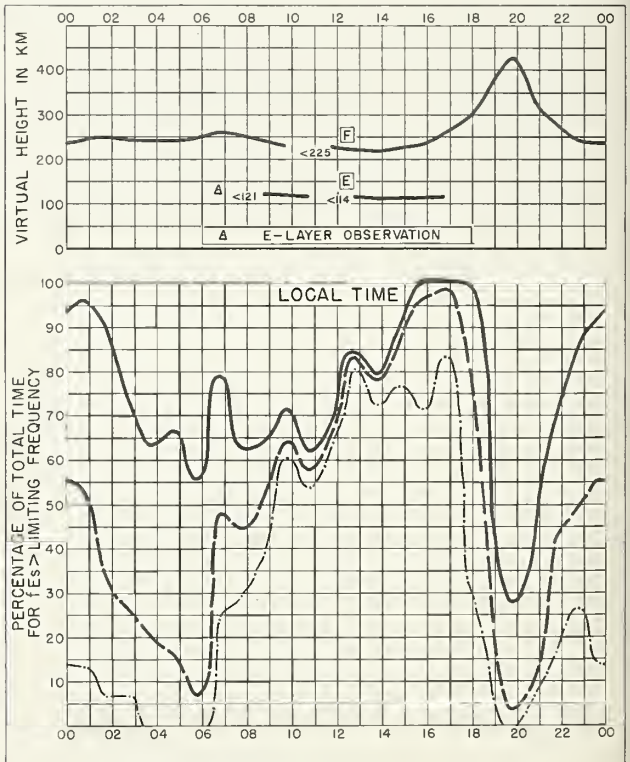


Fig. 88. CHIMBOTE, PERU MARCH 1958

NBS 490

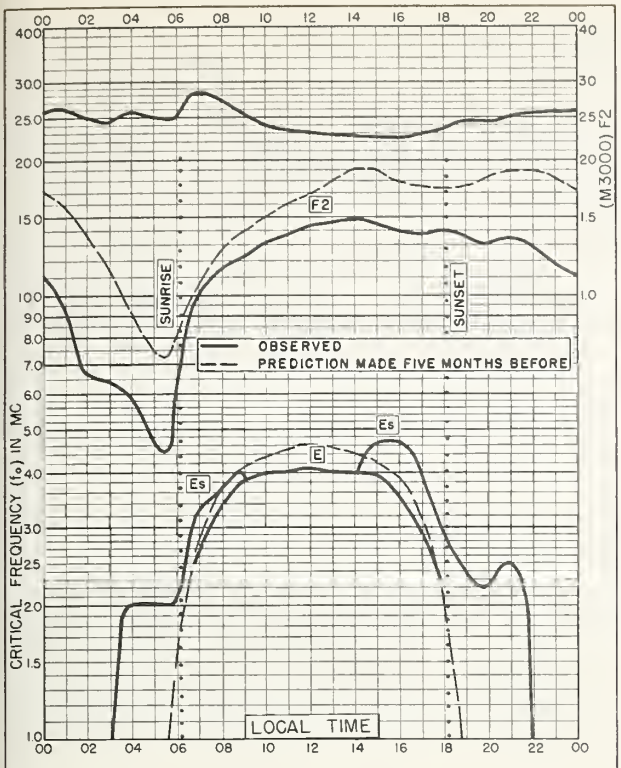
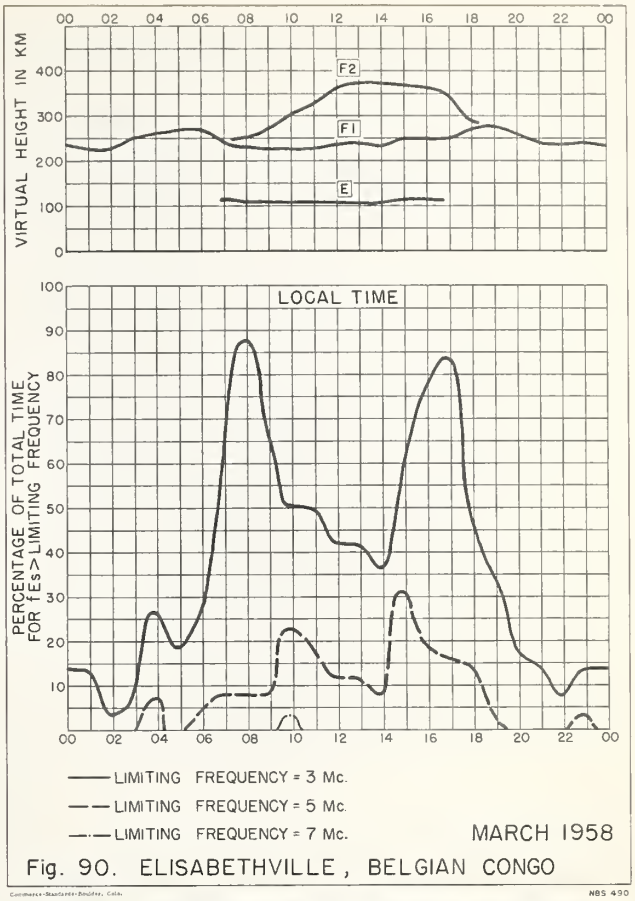


Fig. 89. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E MARCH 1958



MARCH 1958

Fig. 90. ELISABETHVILLE, BELGIAN CONGO

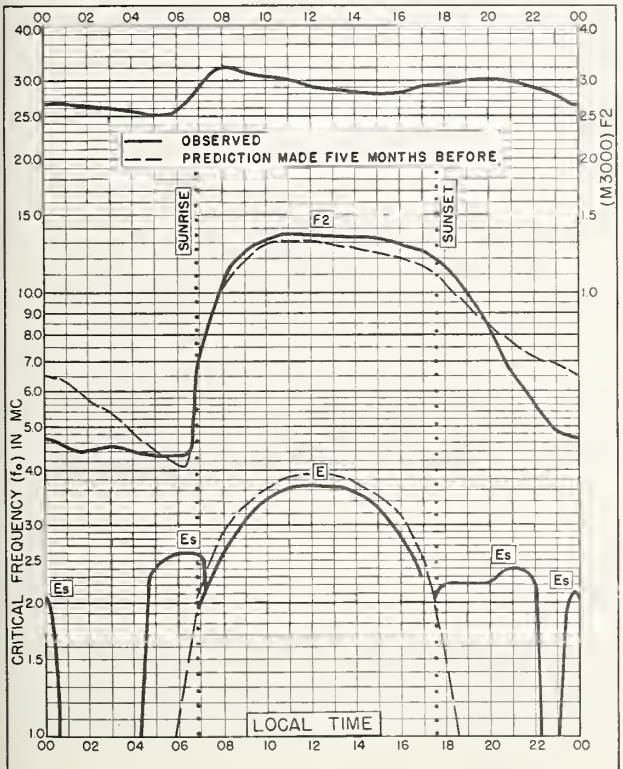
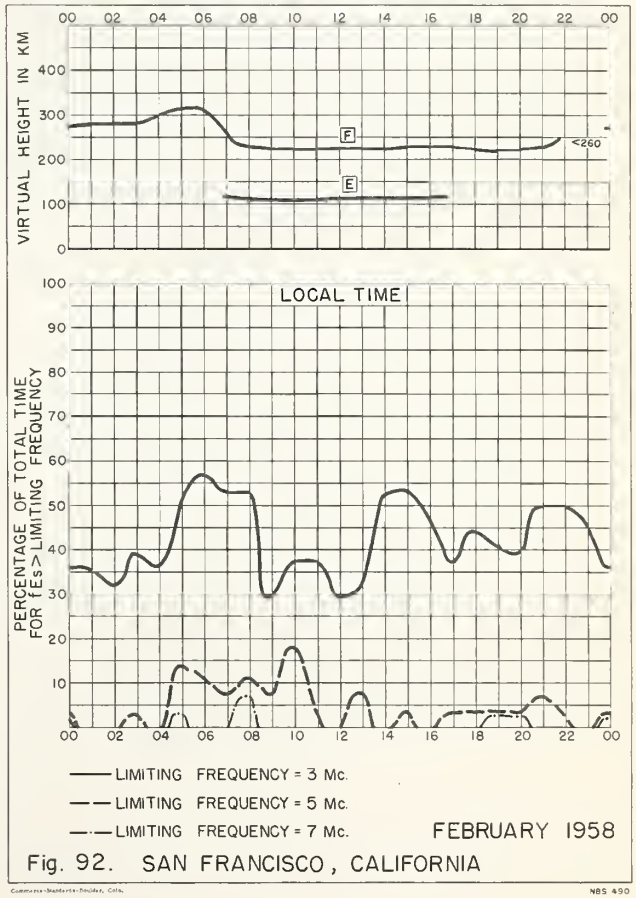


Fig. 91. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W FEBRUARY 1958



FEBRUARY 1958

Fig. 92. SAN FRANCISCO, CALIFORNIA

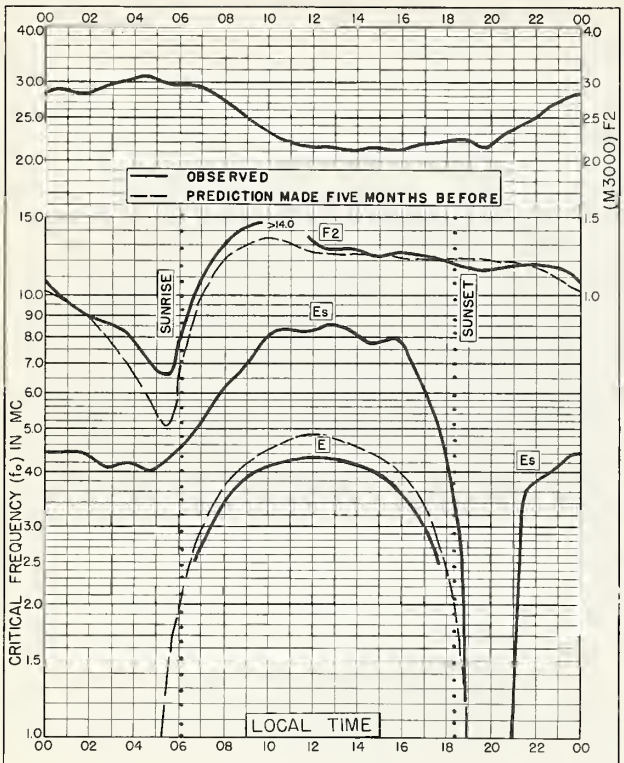


Fig. 93. CHIMBOTE, PERU
9.1°S, 78.6°W FEBRUARY 1958

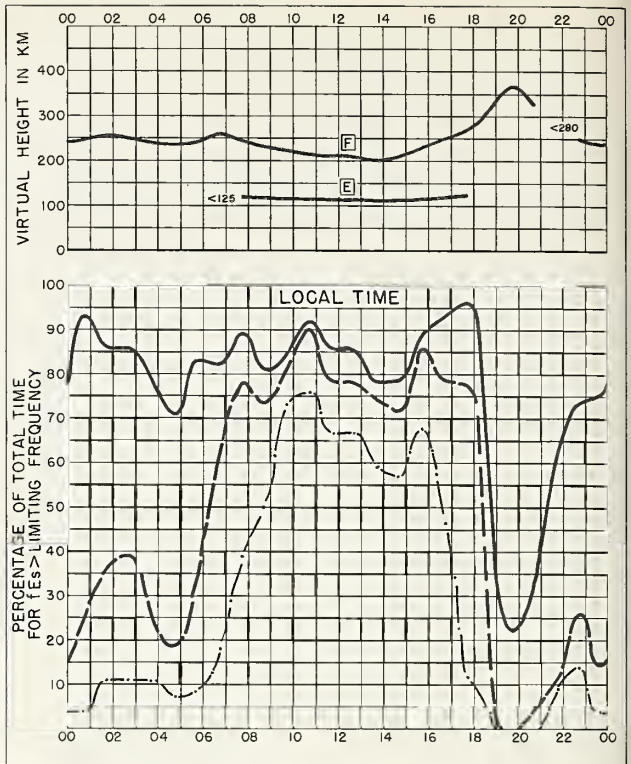


Fig. 94. CHIMBOTE, PERU FEBRUARY 1958

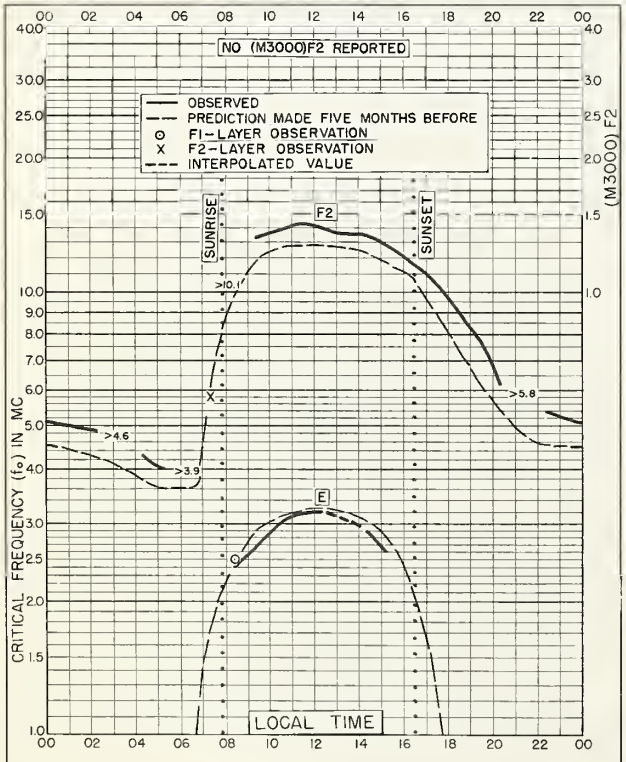


Fig. 95. BUDAPEST, HUNGARY
47.4°N, 19.2°E JANUARY 1958

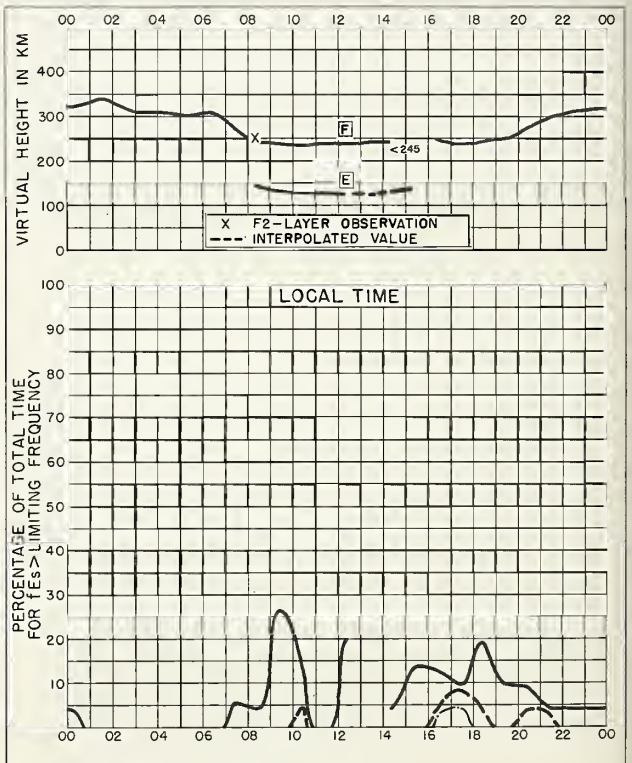


Fig. 96. BUDAPEST, HUNGARY JANUARY 1958

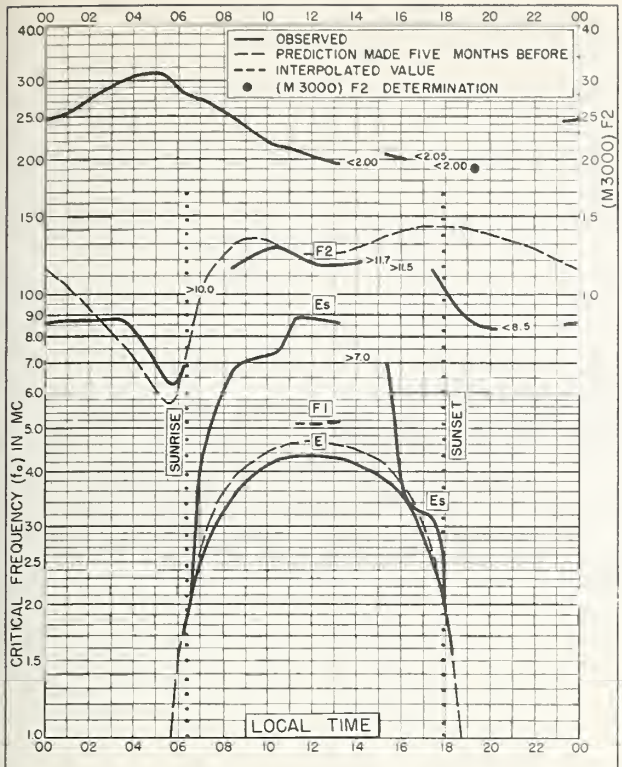


Fig. 97. IBADAN, NIGERIA
7.4°N, 3.9°E JANUARY 1958

NBS 503

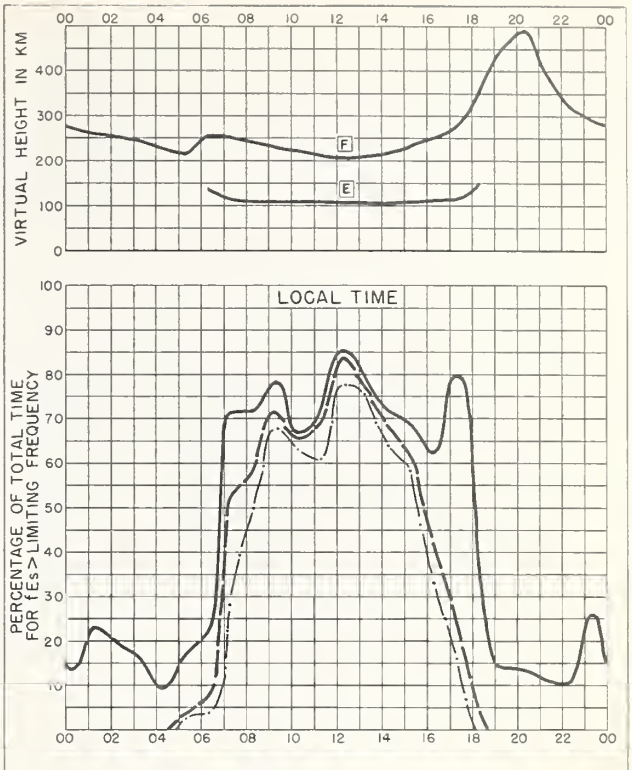


Fig. 98. IBADAN, NIGERIA JANUARY 1958

NBS 490

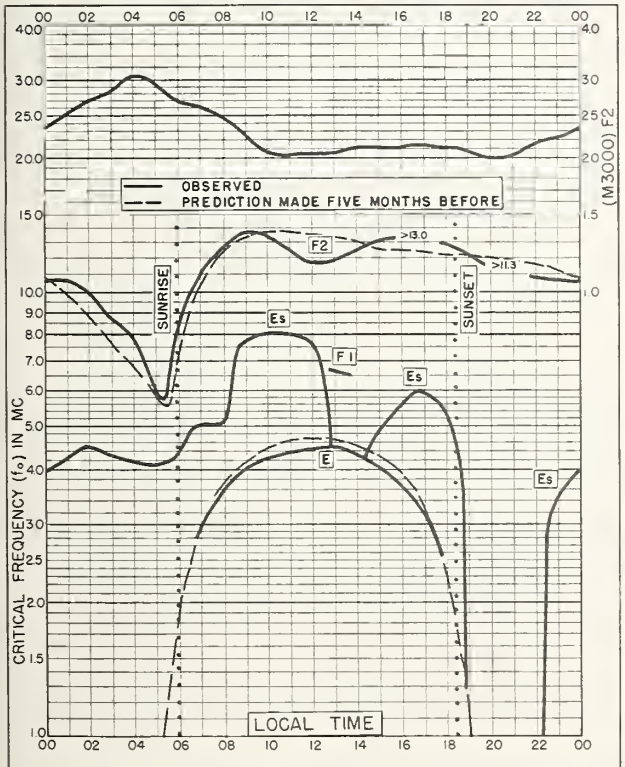


Fig. 99. CHIMBOTE, PERU
9.1°S, 78.6°W JANUARY 1958

NBS 503

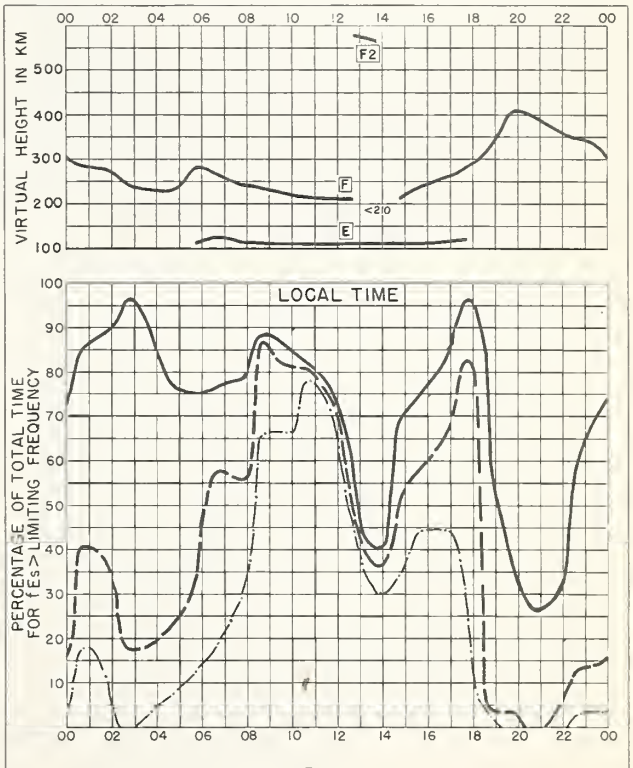


Fig. 100. CHIMBOTE, PERU JANUARY 1958

NBS 490

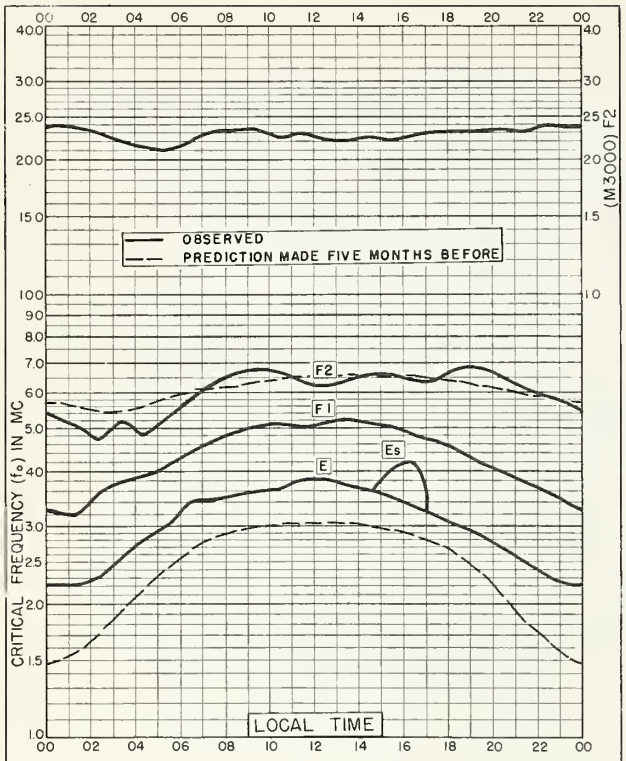


Fig. 101. CAPE HALLETT
72.3°S, 170.3°E JANUARY 1958

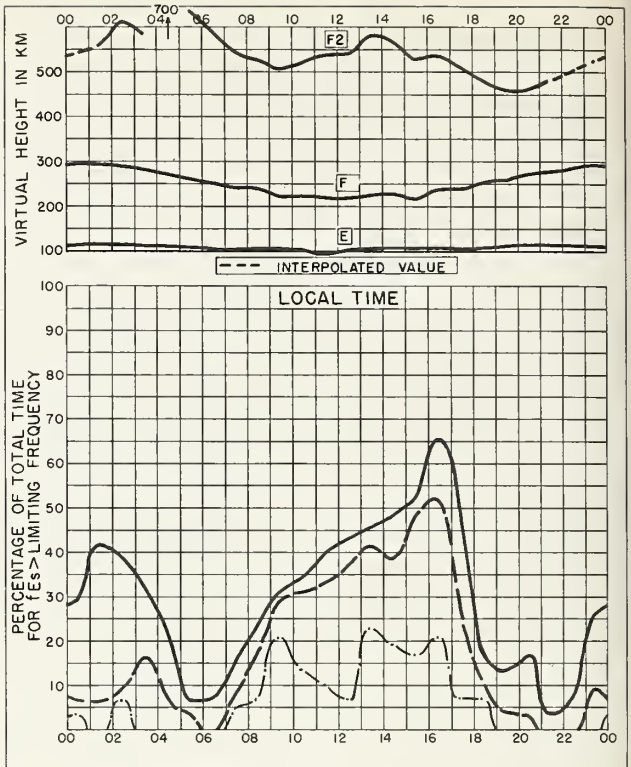


Fig. 102. CAPE HALLETT JANUARY 1958

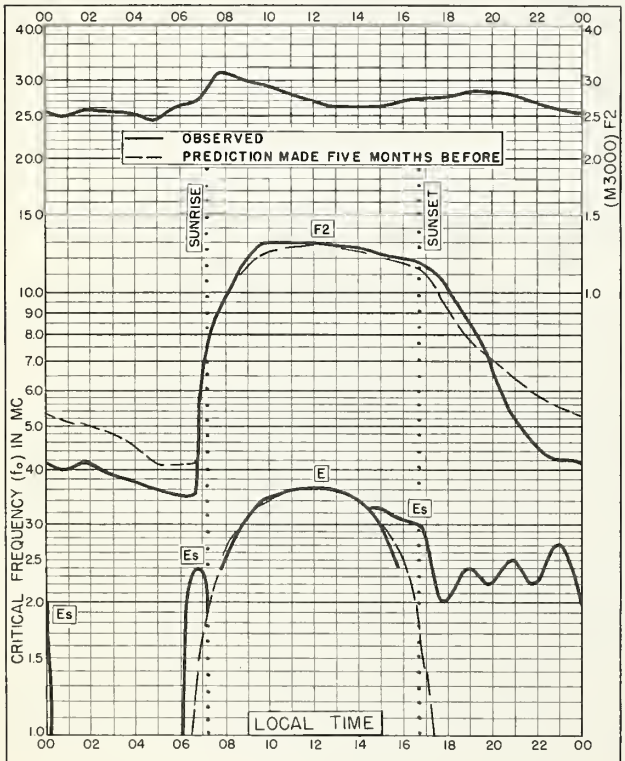


Fig. 103. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W DECEMBER 1957

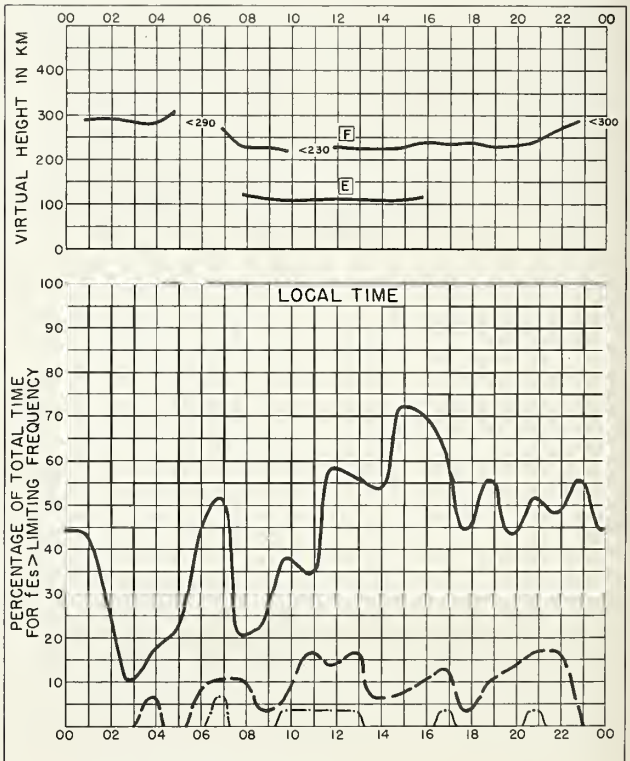


Fig. 104. SAN FRANCISCO, CALIFORNIA DECEMBER 1957

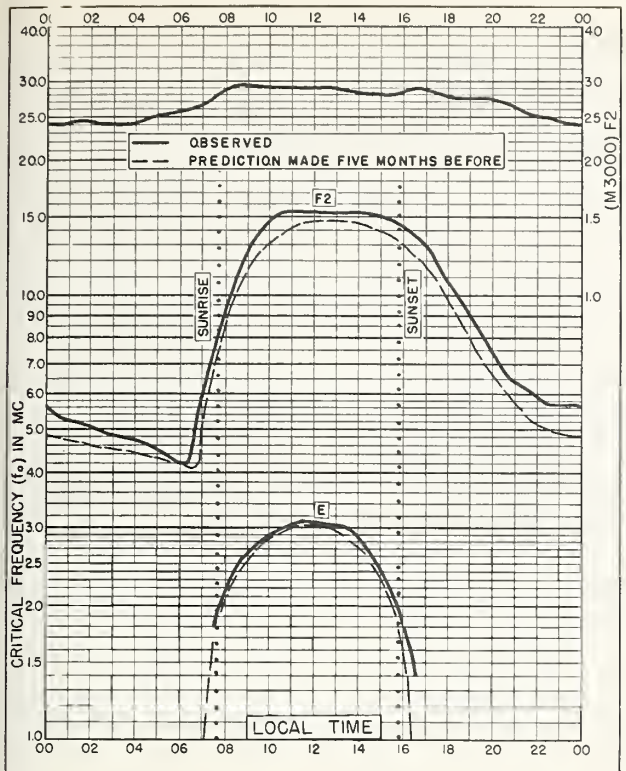


Fig. 105. MOSCOW, U.S.S.R.
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NBS 503

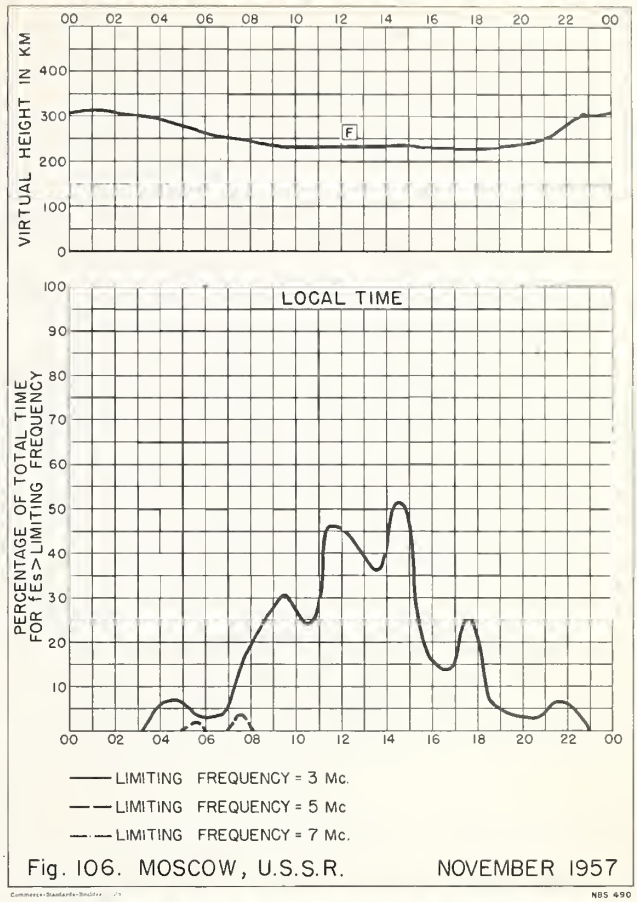

Fig. 106. MOSCOW, U.S.S.R. NOVEMBER 1957

NBS 490

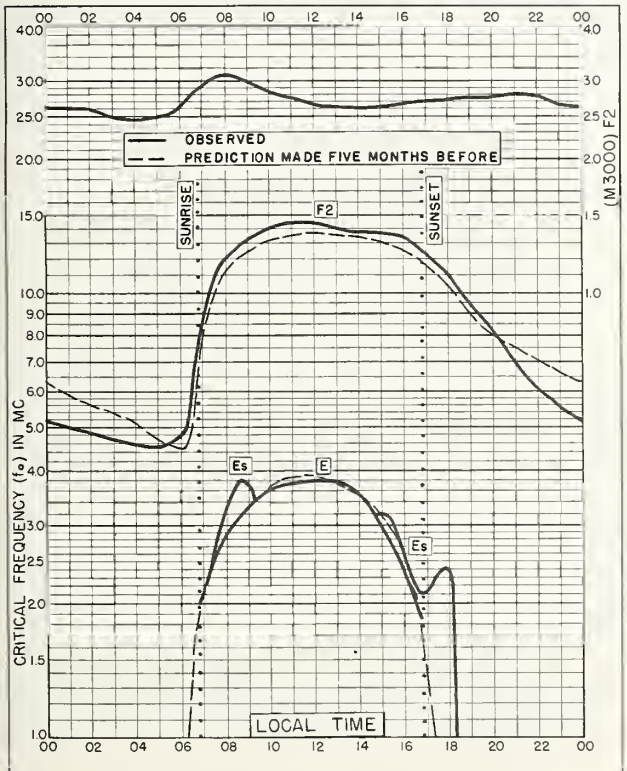

Fig. 107. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W NOVEMBER 1957

NBS 503

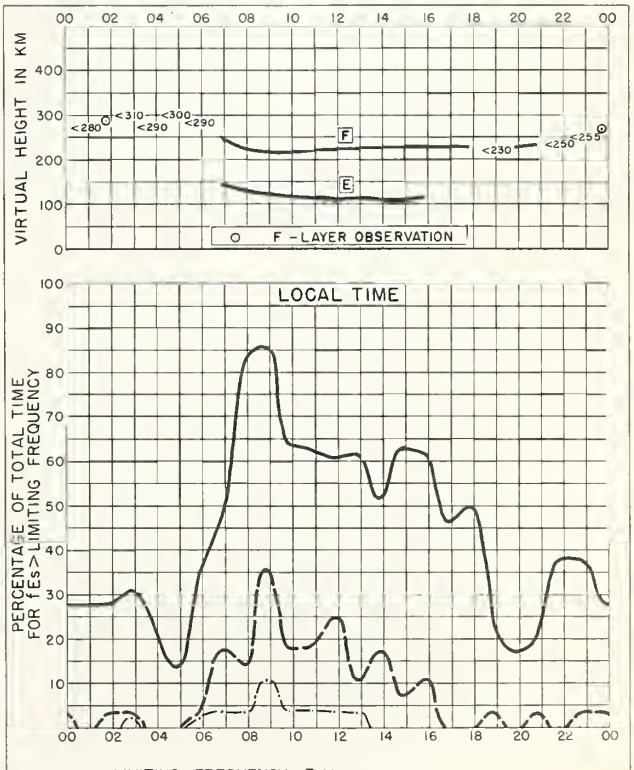

Fig. 108. SAN FRANCISCO, CALIFORNIA NOVEMBER 1957

NBS 490

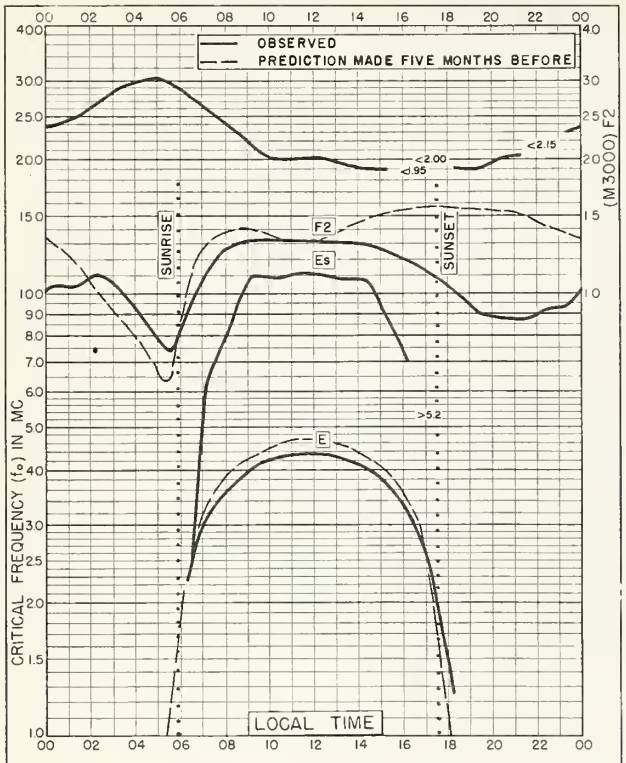

Fig. 109. IBADAN, NIGERIA
7.4°N, 3.9°E NOVEMBER 1957

NBS 503

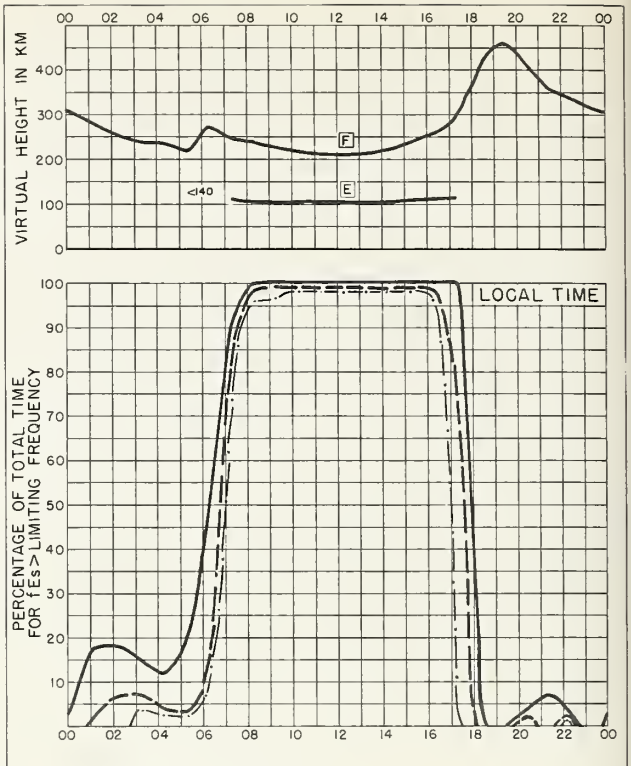

Fig. 110. IBADAN, NIGERIA NOVEMBER 1957

NBS 490

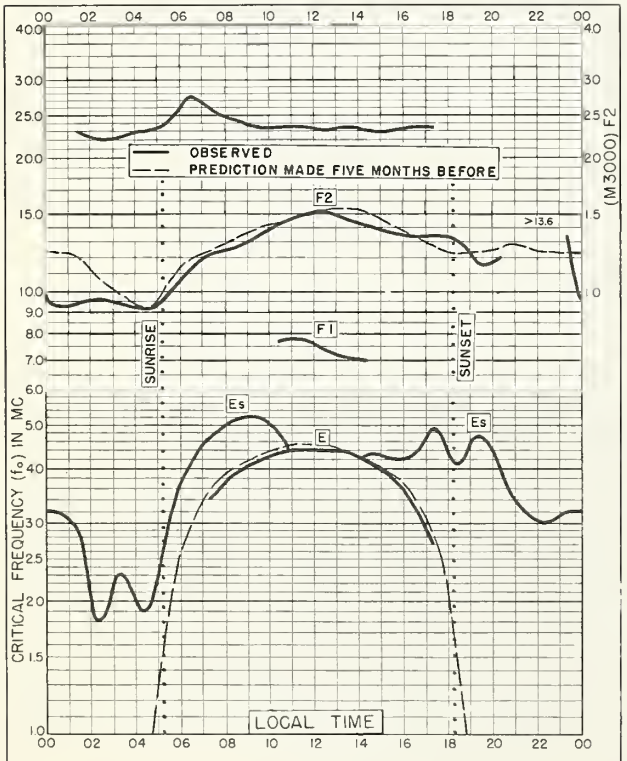

Fig. 111. RAROTONGA I.
21.2°S, 159.8°W NOVEMBER 1957

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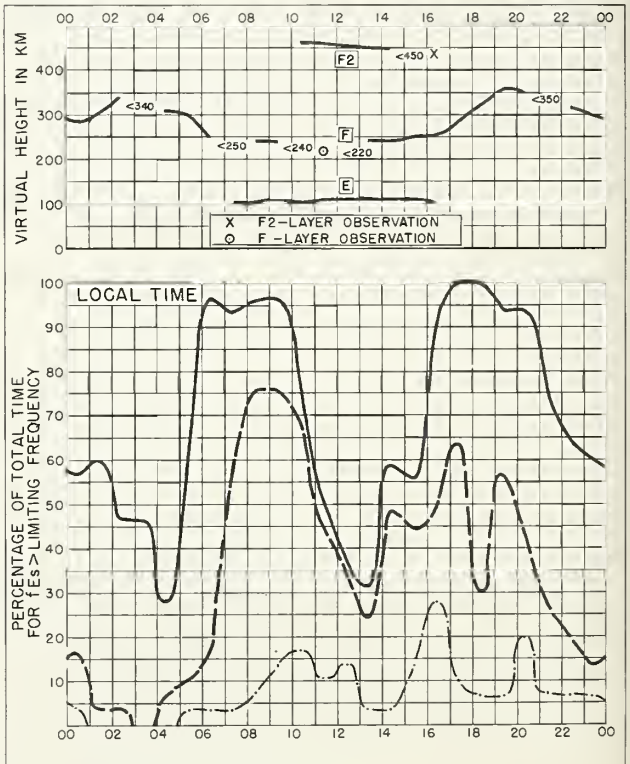

Fig. 112. RAROTONGA I. NOVEMBER 1957

NBS 490

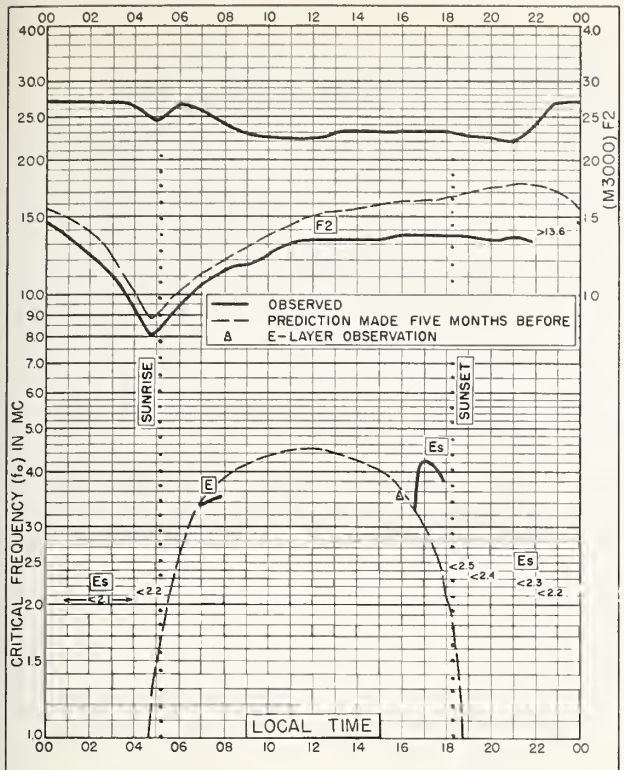

Fig. 113. SAO PAULO, BRAZIL
23.5°S, 46.5°W NOVEMBER 1957

NBS 503

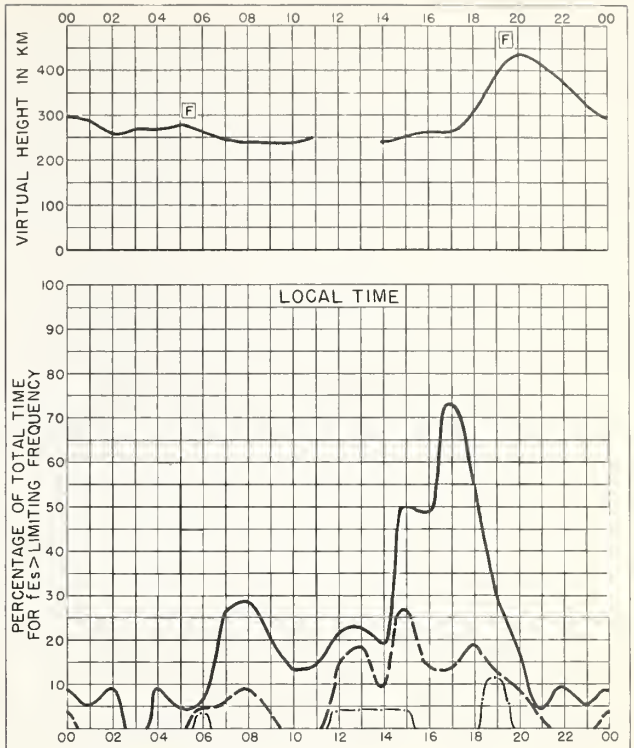

Fig. 114. SAO PAULO, BRAZIL NOVEMBER 1957

NBS 490

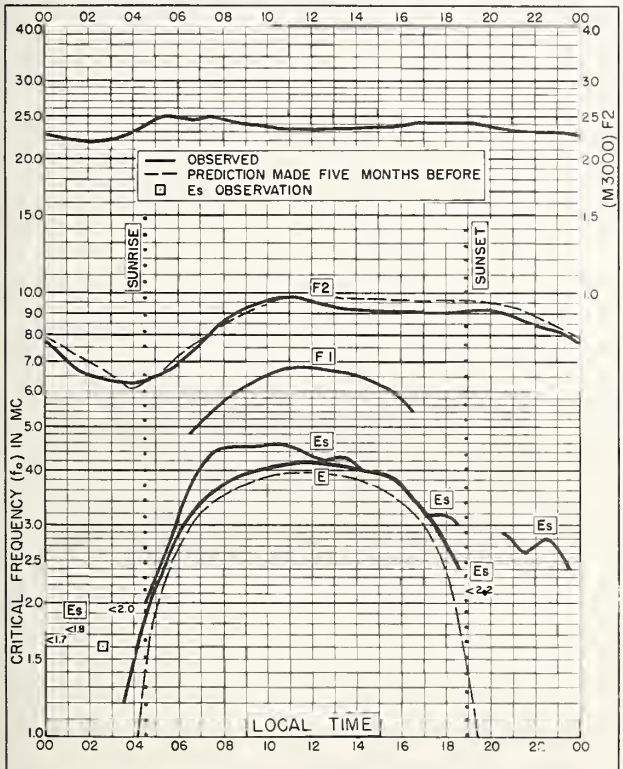

Fig. 115. CHRISTCHURCH, NEW ZEALAND
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NBS 503

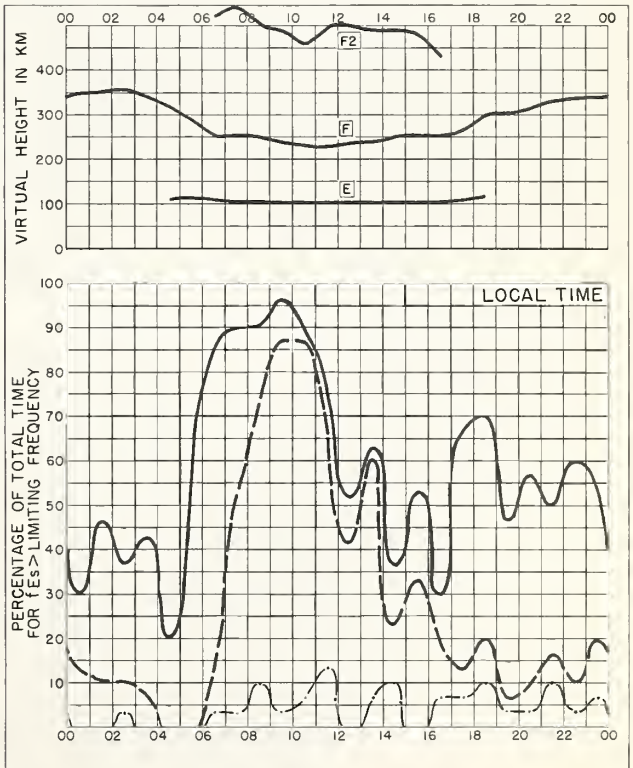

Fig. 116. CHRISTCHURCH, NEW ZEALAND NOVEMBER 1957

NBS 490

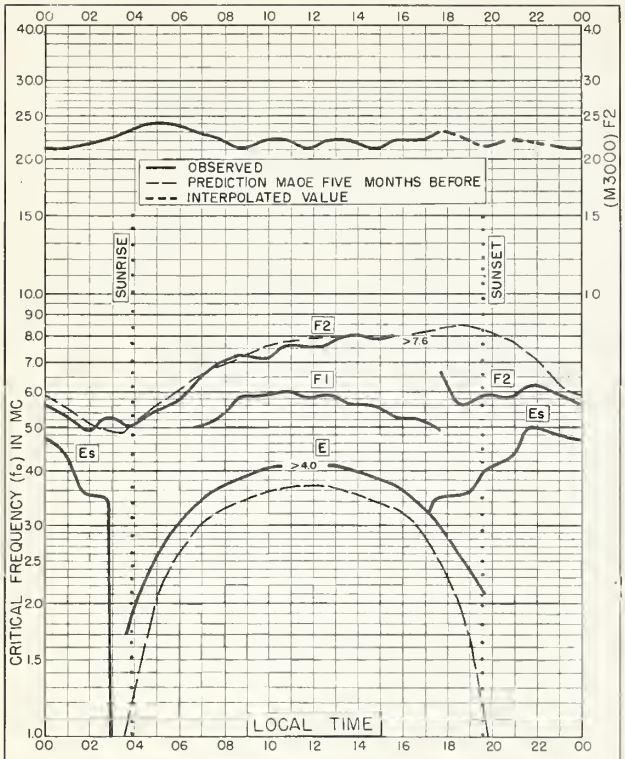

Fig. 117. MACQUARIE I.
54.5°S, 159.0°E NOVEMBER 1957

NBS 503

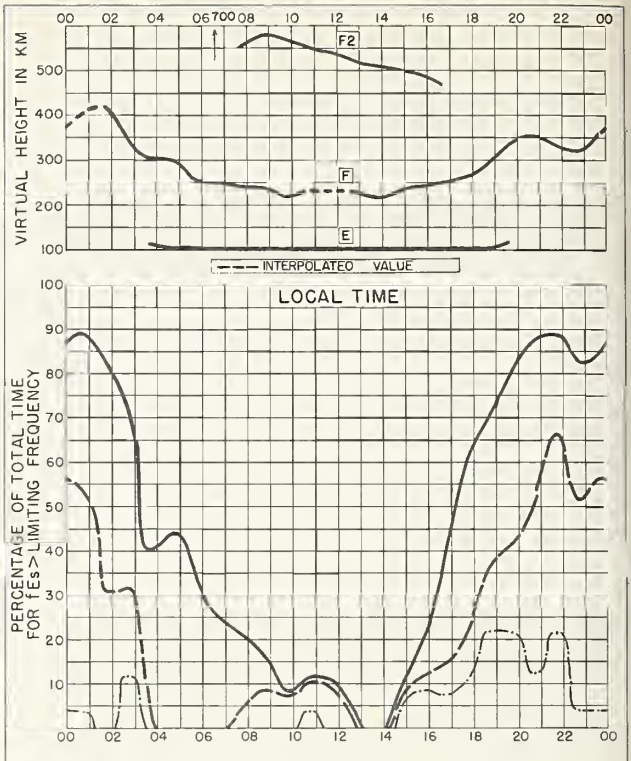

Fig. 118. MACQUARIE I. NOVEMBER 1957

NBS 490

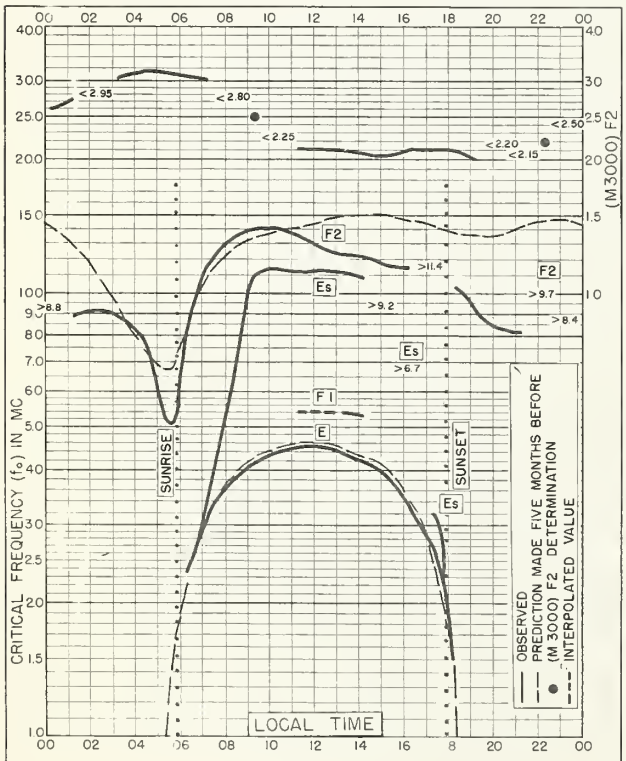

Fig. 119. IBADAN, NIGERIA
7.4°N, 3.9°E SEPTEMBER 1957

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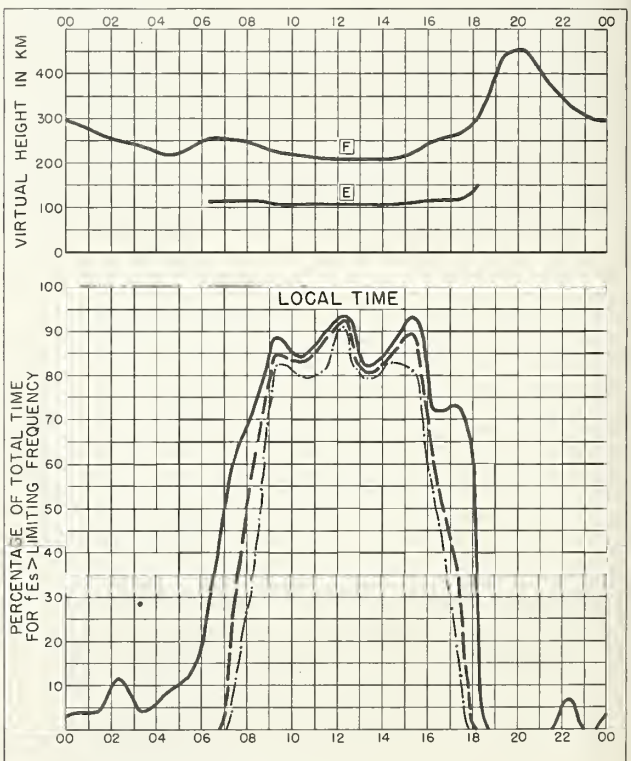

Fig. 120. IBADAN, NIGERIA SEPTEMBER 1957

NBS 490

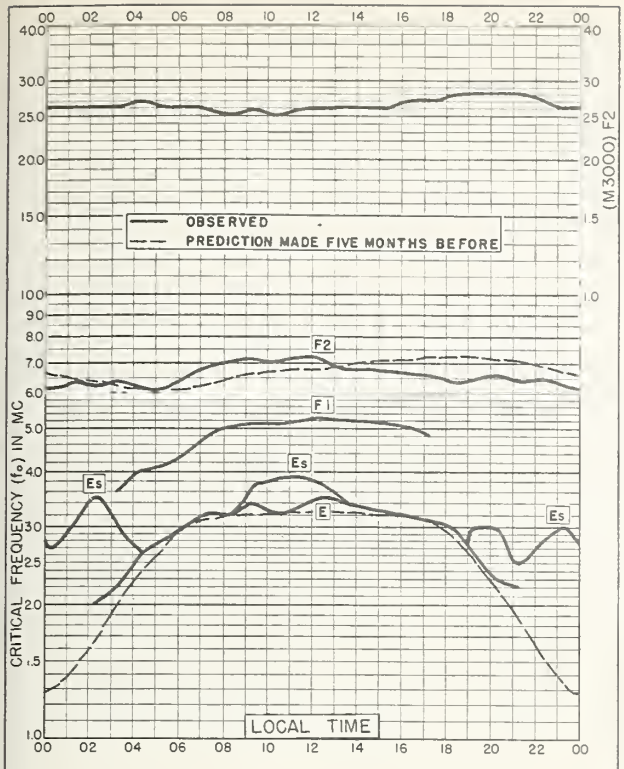

Fig. 121. MURMANSK, U.S.S.R.
69.0°N, 33.0°E JULY 1957

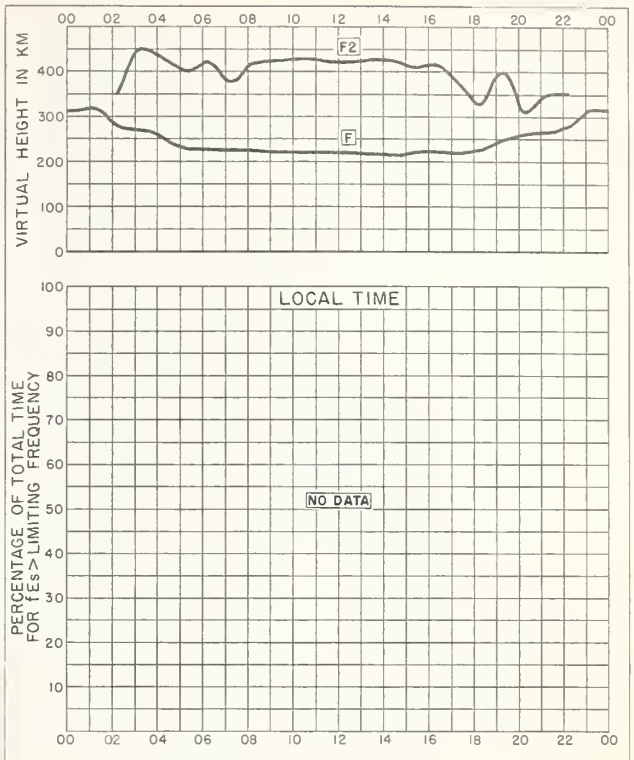

Fig. 122. MURMANSK, U.S.S.R. JULY 1957

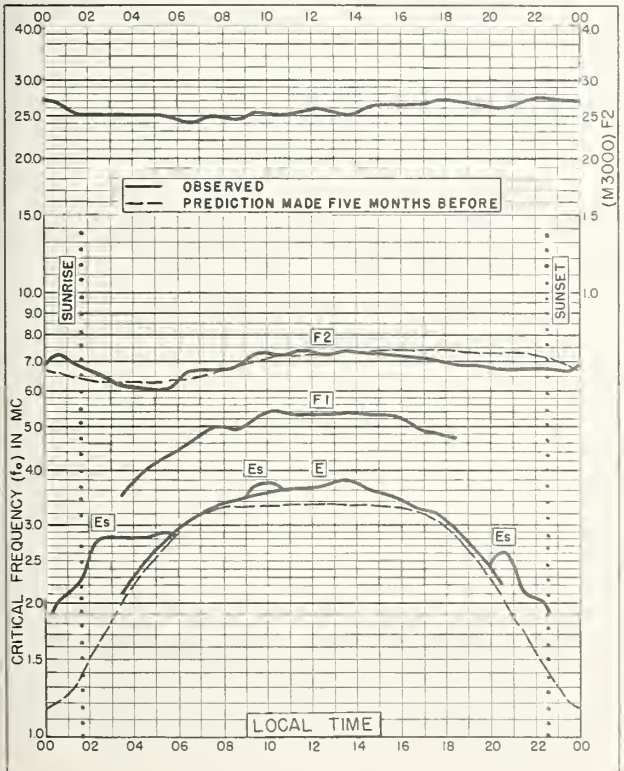

Fig. 123. SALEHARD, U.S.S.R.
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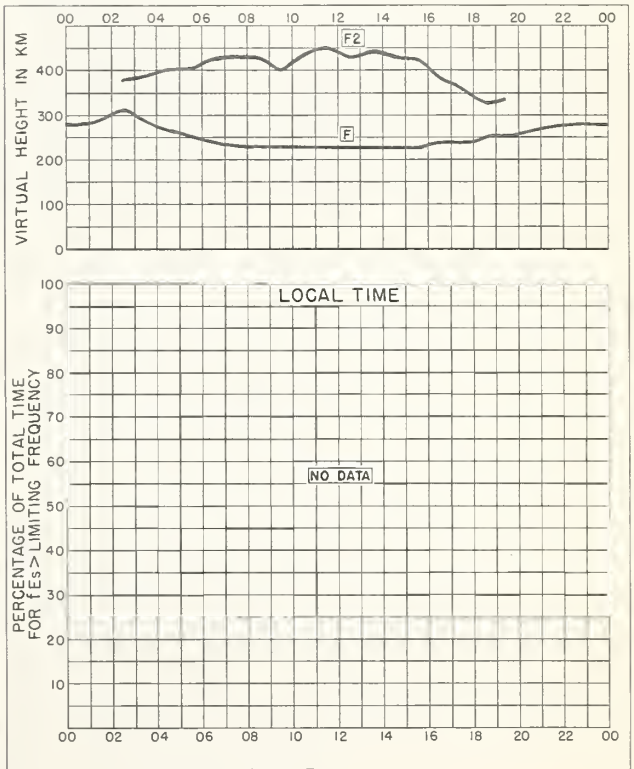

Fig. 124. SALEHARD, U.S.S.R. JULY 1957

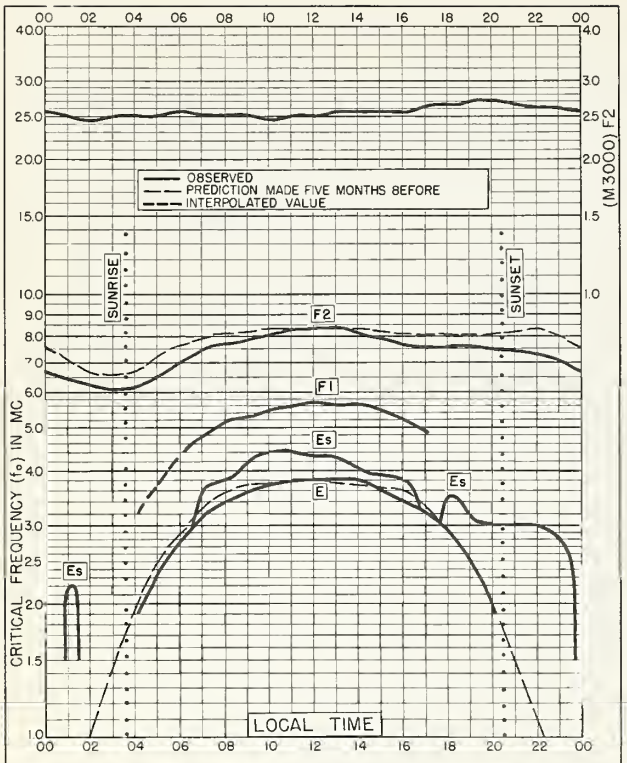

Fig. 125. SVERDLOVSK, U.S.S.R.
56.7°N, 61.1°E JULY 1957

NBS 503

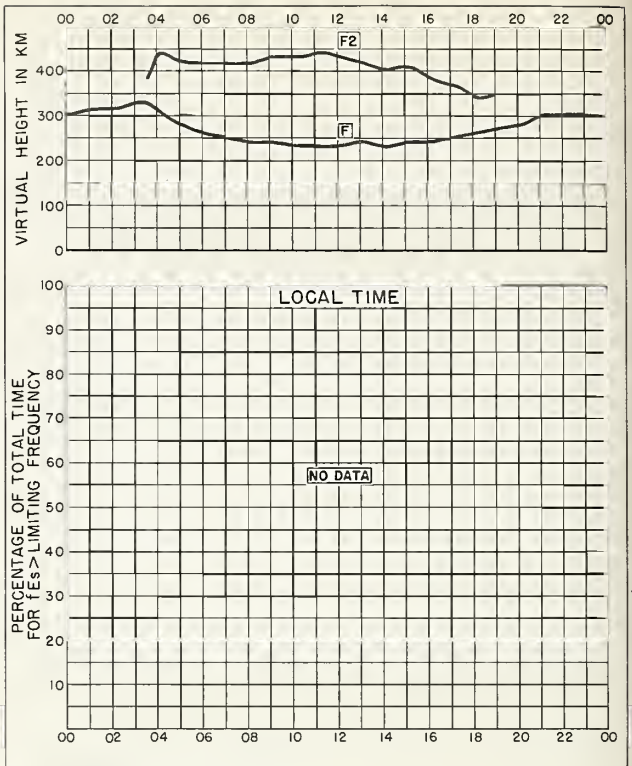

Fig. 126. SVERDLOVSK, U.S.S.R. JULY 1957

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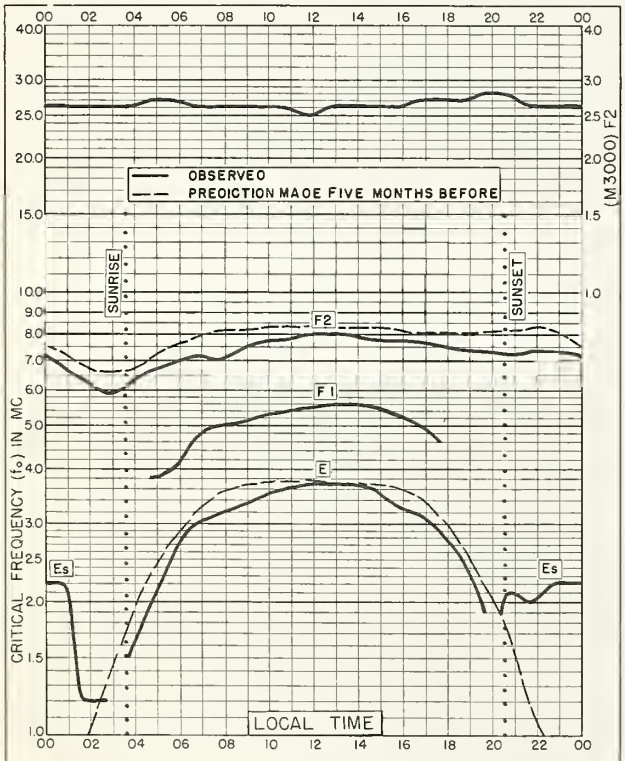

Fig. 127. TOMSK, U.S.S.R.
56.5°N, 85.0°E JULY 1957

NBS 503

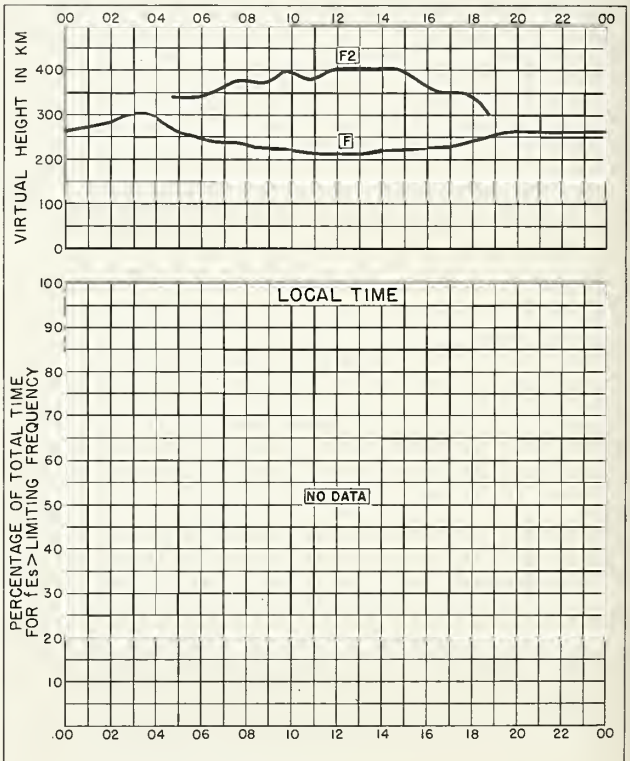

Fig. 128. TOMSK, U.S.S.R. JULY 1957

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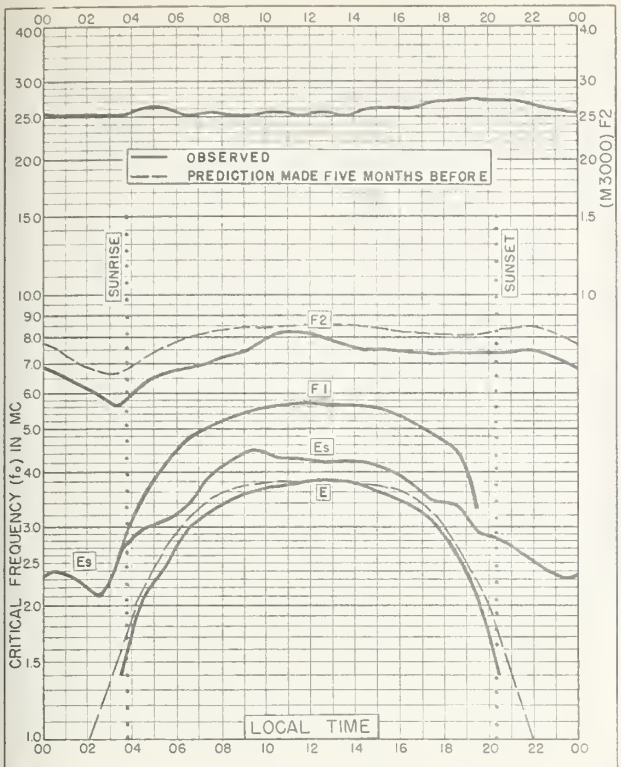

Fig. 129. MOSCOW, U.S.S.R.
55.5°N, 37.3°E JULY 1957

NBS 503

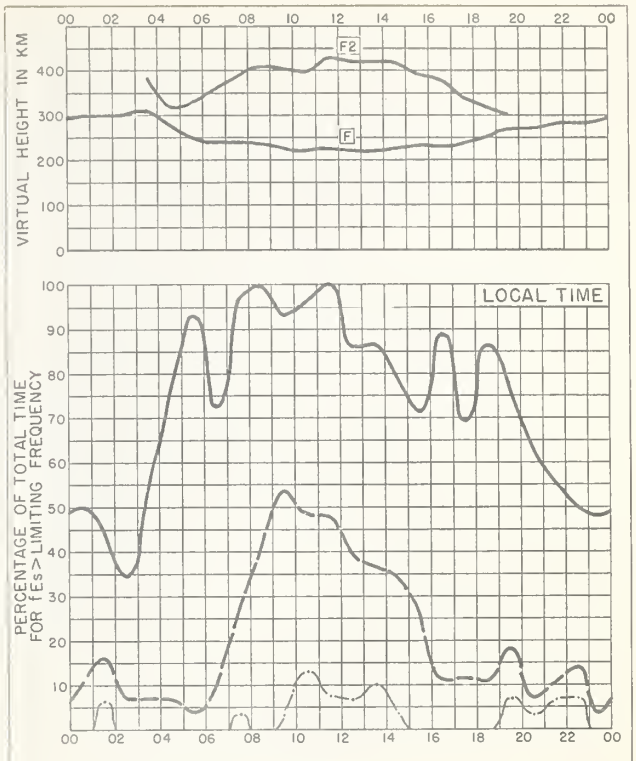

Fig. 130. MOSCOW, U.S.S.R. JULY 1957

NBS 490

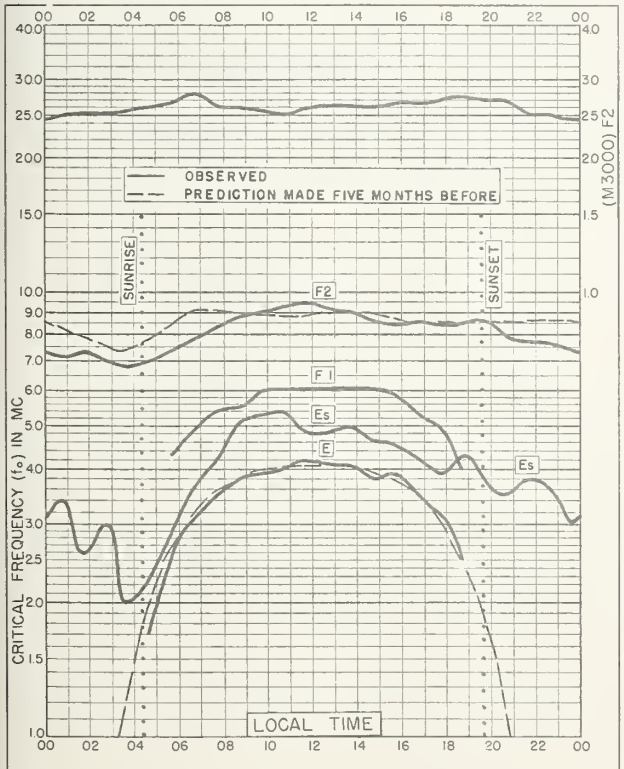

Fig. 131. ROSTOV-ON-DON, U.S.S.R.
47.2°N, 39.7°E JULY 1957

NBS 503

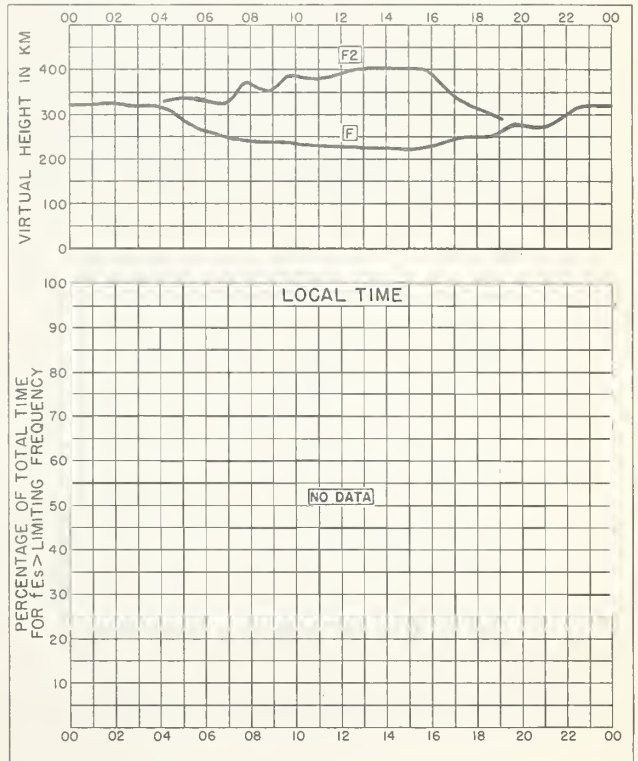

Fig. 132. ROSTOV-ON-DON, U.S.S.R. JULY 1957

NBS 490

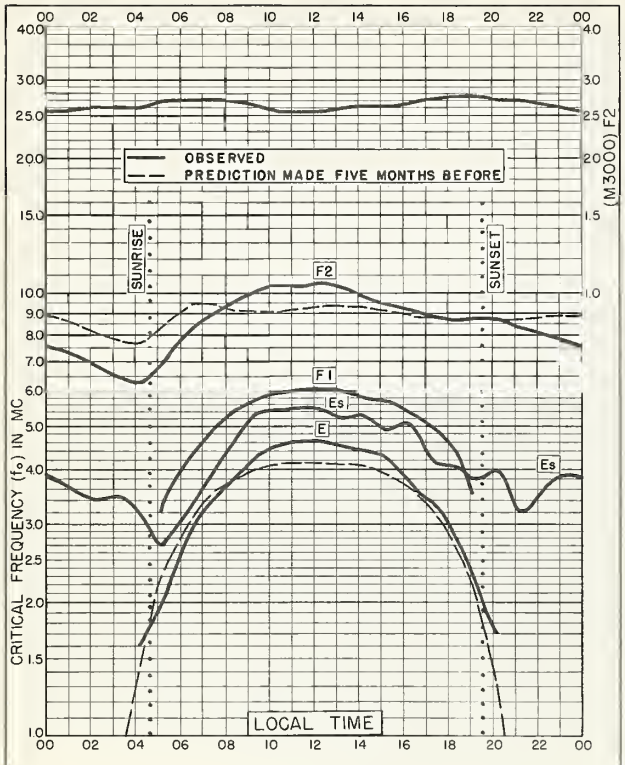

Fig. 133. ALMA-ATA, U.S.S.R.
43.2°N, 76.9°E JULY 1957

NBS 503

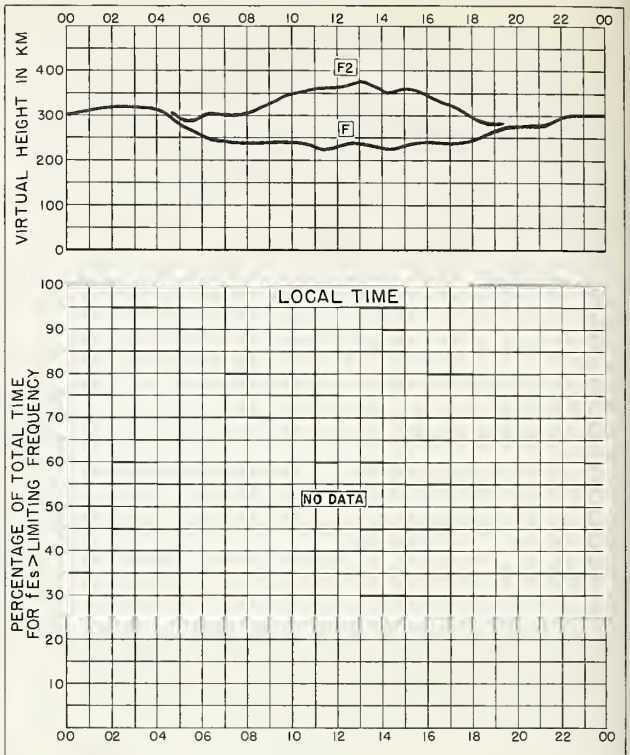

Fig. 134. ALMA-ATA, U.S.S.R. JULY 1957

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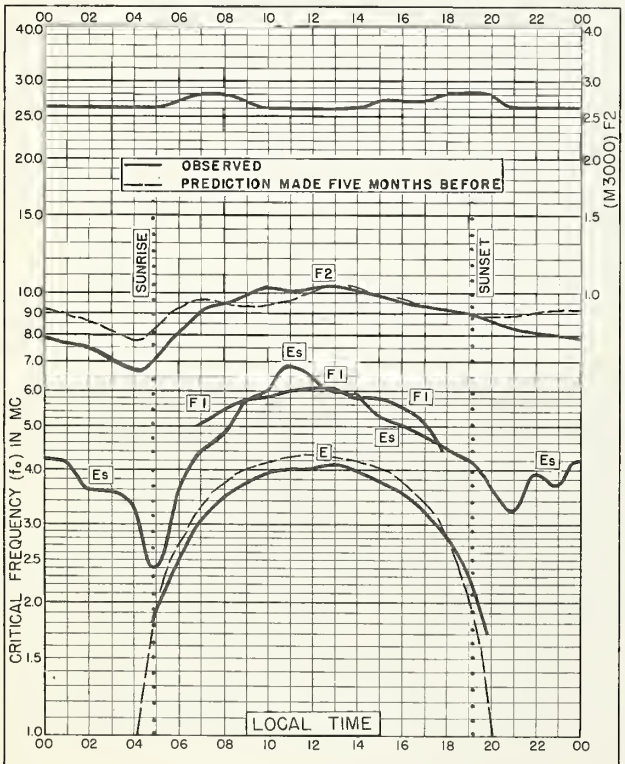

Fig. 135. ASHKABAD, U.S.S.R.
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NBS 503

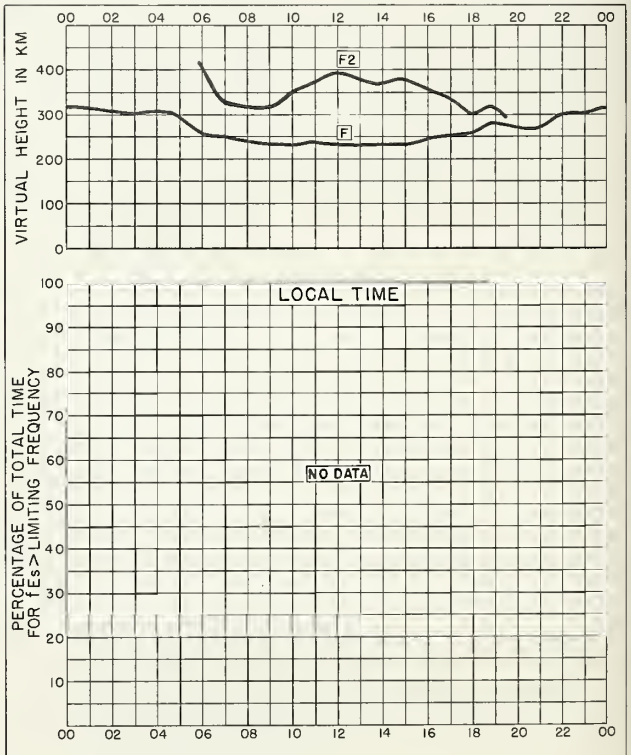

Fig. 136. ASHKABAD, U.S.S.R. JULY 1957

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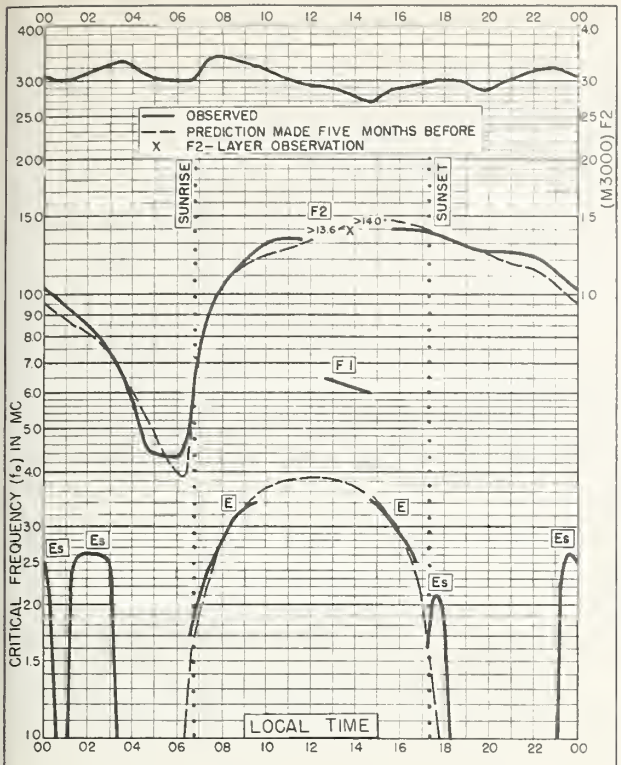

Fig. 137. TUCUMAN, ARGENTINA
26.9°S, 65.4°W JULY 1957

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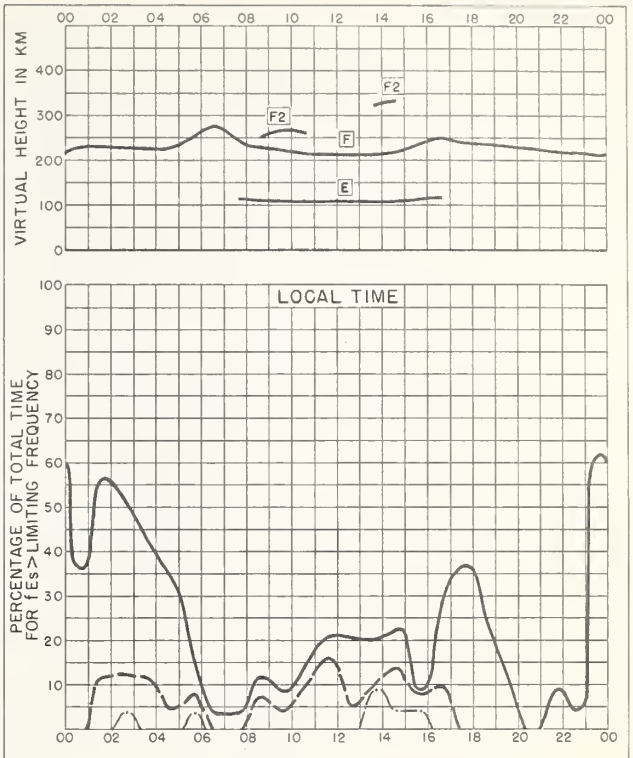

Fig. 138. TUCUMAN, ARGENTINA JULY 1957

NBS 490

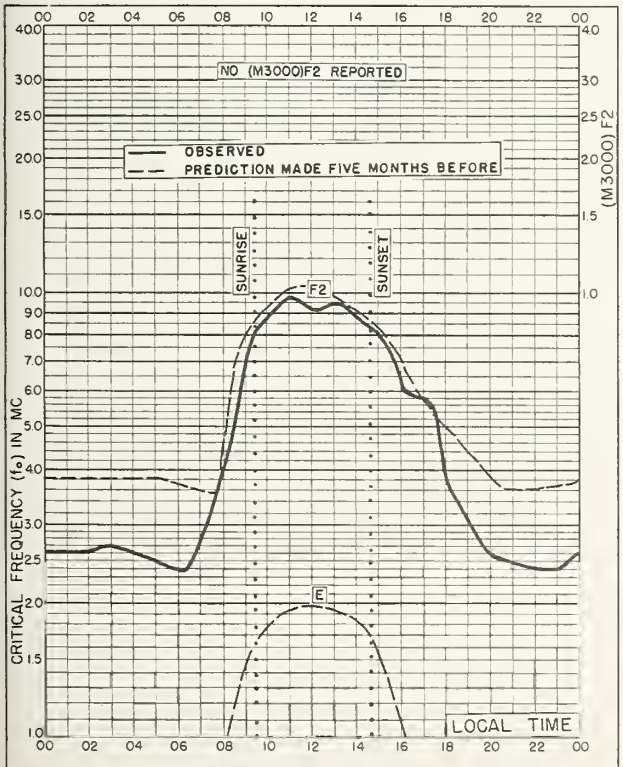

Fig. 139. DECEPCION I.
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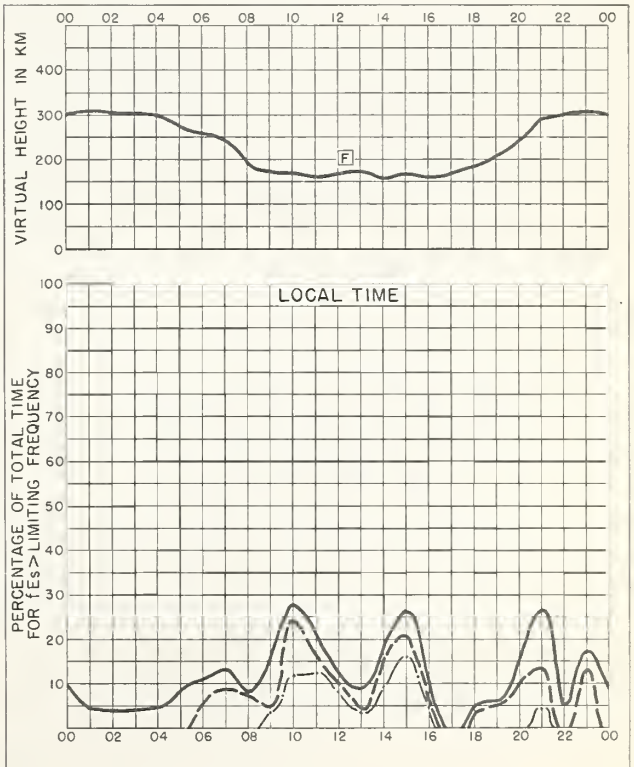
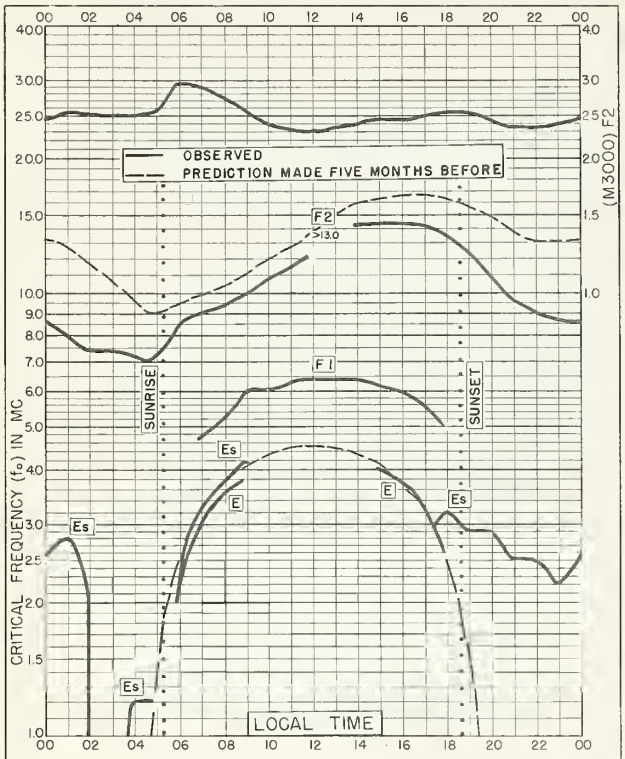


Fig. 140. DECEPCION I. JULY 1957

NBS 490



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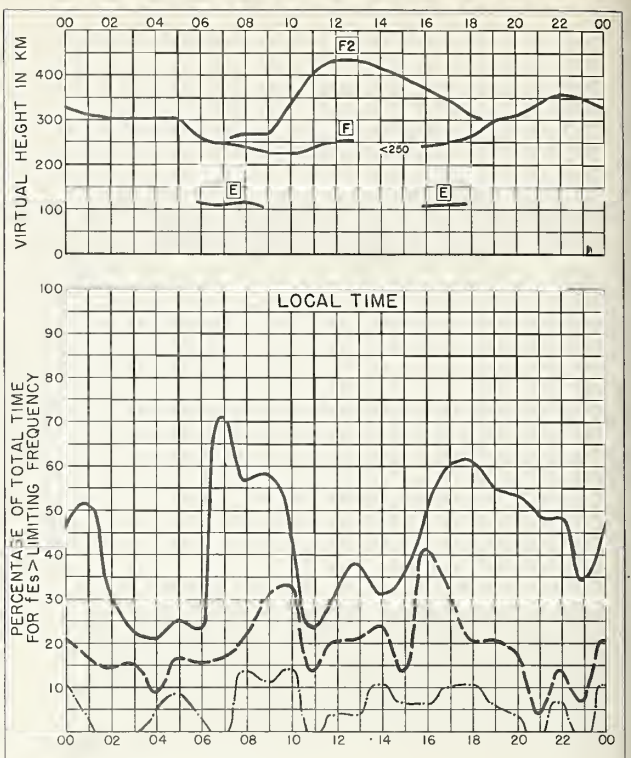

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LIMITING FREQUENCY = 5 Mc.
LIMITING FREQUENCY = 7 Mc.

Fig. 142. AHMEDABAD, INDIA JUNE 1957

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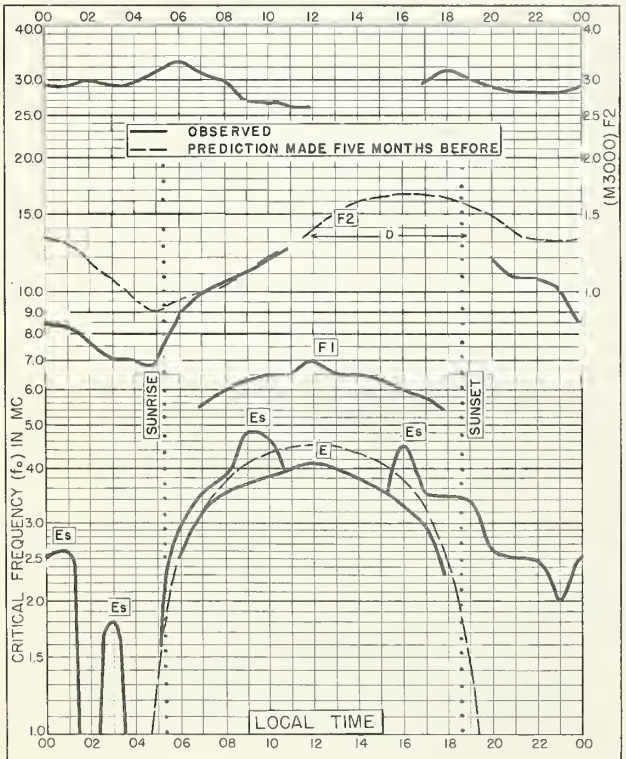

Fig. 143. CALCUTTA, INDIA
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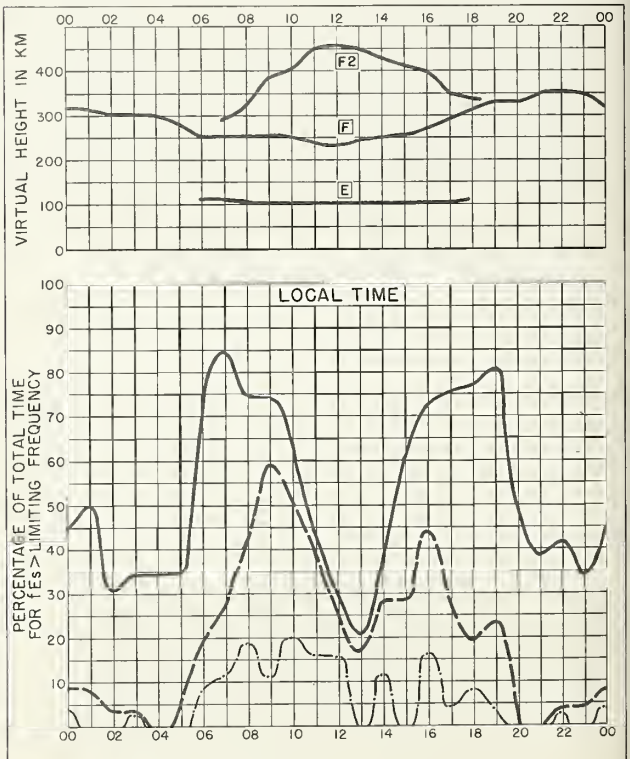

LIMITING FREQUENCY = 3 Mc.
LIMITING FREQUENCY = 5 Mc.
LIMITING FREQUENCY = 7 Mc.

Fig. 144. CALCUTTA, INDIA JUNE 1957

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Index (CRPL-F170 (Part A), concluded)

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

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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.

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

Semimonthly:

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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.

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