PART A

IONOSPHERIC DATA

ISSUED
OCTOBER 1956

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

CRPL-F 146
PART A

NATIONAL BUREAU OF STANDARDS
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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

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

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

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in Document No. 626-E referred to above, plus an additional symbol, R: "Scaling of characteristic is influenced or prevented by absorption in the neighborhood of the critical frequency," (May 1955). Also, beginning with January 1956, additional meanings are assigned to T: A smoothed value which better fits the observations, replacing a doubtful or clearly inconsistent observed value; and to U: foF2 minus foF1 is 0.5 Mc or less (used with (M3000)F2).

a. For all ionospheric characteristics:

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

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted 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 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 (and B when applied to the daytime E region only) are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

At night B for fEs is counted on the low side when there is a numerical value of foF2; otherwise it is omitted from the median count.

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 or sporadic E, 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.

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

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

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice

in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when foF2 is less than or equal to foF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

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

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

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

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

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

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										
	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947
December		150	42	11	15	33	53	86	108	114	126
November		147	35	10	16	38	52	87	112	115	124
October		135	31	10	17	43	52	90	114	116	119
September		119	30	8	18	46	54	91	115	117	121
August		105	27	8	18	49	57	96	111	123	122
July		95	22	8	20	51	60	101	108	125	116
June		89	18	9	21	52	63	103	108	129	112
May		77	16	10	22	52	68	102	108	130	109
April		68	13	10	24	52	74	101	109	133	107
March	150*	60	14	11	27	52	78	103	111	133	105
February	150*	53	14	12	29	51	82	103	113	133	90
January	150*	48	12	14	30	53	85	105	112	130	88

*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 (some of which may be subject to minor change) beginning with the minimum of April 1954.

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	72	80
1956	88	97	108									

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 60 and figures 1 to 120 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:
Buenos Aires, Argentina

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:
Watheroo, Western Australia

University of Graz:
Graz, Austria

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

Defence Research Board, Canada:
Baker Lake, Canada
Churchill, Canada
Ottawa, Canada
Resolute Bay, Canada

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

Danish National Committee of URSI:
Godhavn, Greenland

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

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

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

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

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

Manila Observatory:
Baguio, P. I.

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

Post, Telephone and Telegraph Administration, Berne, Switzerland:
Schwarzenburg, Switzerland

United States Army Signal Corps:
Ft. Monmouth, New Jersey
Okinawa I.
Thule, Greenland
White Sands, New Mexico

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

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 61 through 71 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at Ft. Belvoir, Virginia.

The interpretation of a cell is as follows: U F
32

The U is a weight meaning doubtful. Other weights are I, interpolated, D, greater than, and E, less than. Absence of a letter in the upper left position means full weight is given to the observation.

Symbols such as F above are given in the upper right position.

There should be no difficulty in the placing of the decimal point. For the time being, a final zero will be found in each value of foF1 and foE. Thus at a later date it will be possible to register more closely scaled values of these characteristics, whenever such are reported.

ERRATUM

F145 (Part A), p. 21, table 53: At 02, change weight of median from I to U.

The following ionograms were obtained at the NBS Anchorage, Alaska vertical sounding station. They are typical of day and night conditions for June at this geomagnetic latitude. Ionospheric data are scaled directly from these records onto the daily f-plot, a graph of frequency characteristics vs. time. The f-plot for the day represented by these soundings is found on the following page.

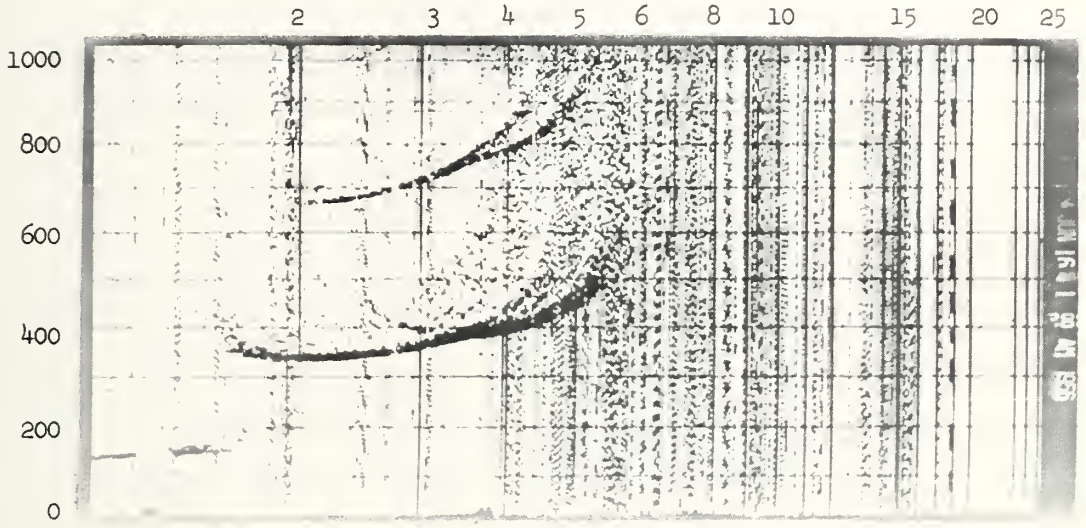


Fig. A. Anchorage, Alaska, June 16, 1956, 0100 hours, 150°W time. foF2 = $(4.7)^F$, f-min = $< 1.0^E$, fEs = 1.7 Mc, h'F2 = 330 km, h'Es = 140 km.

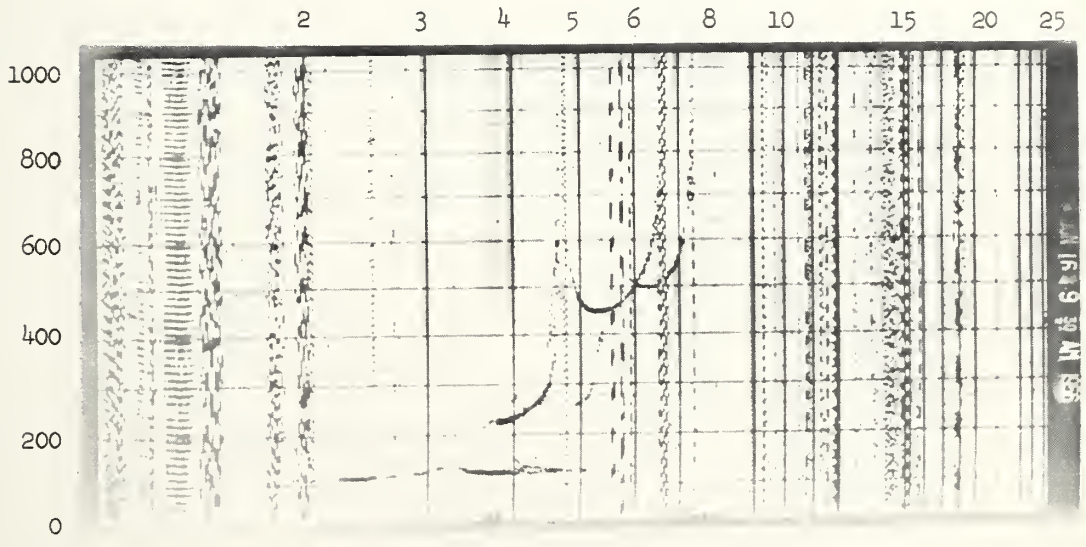
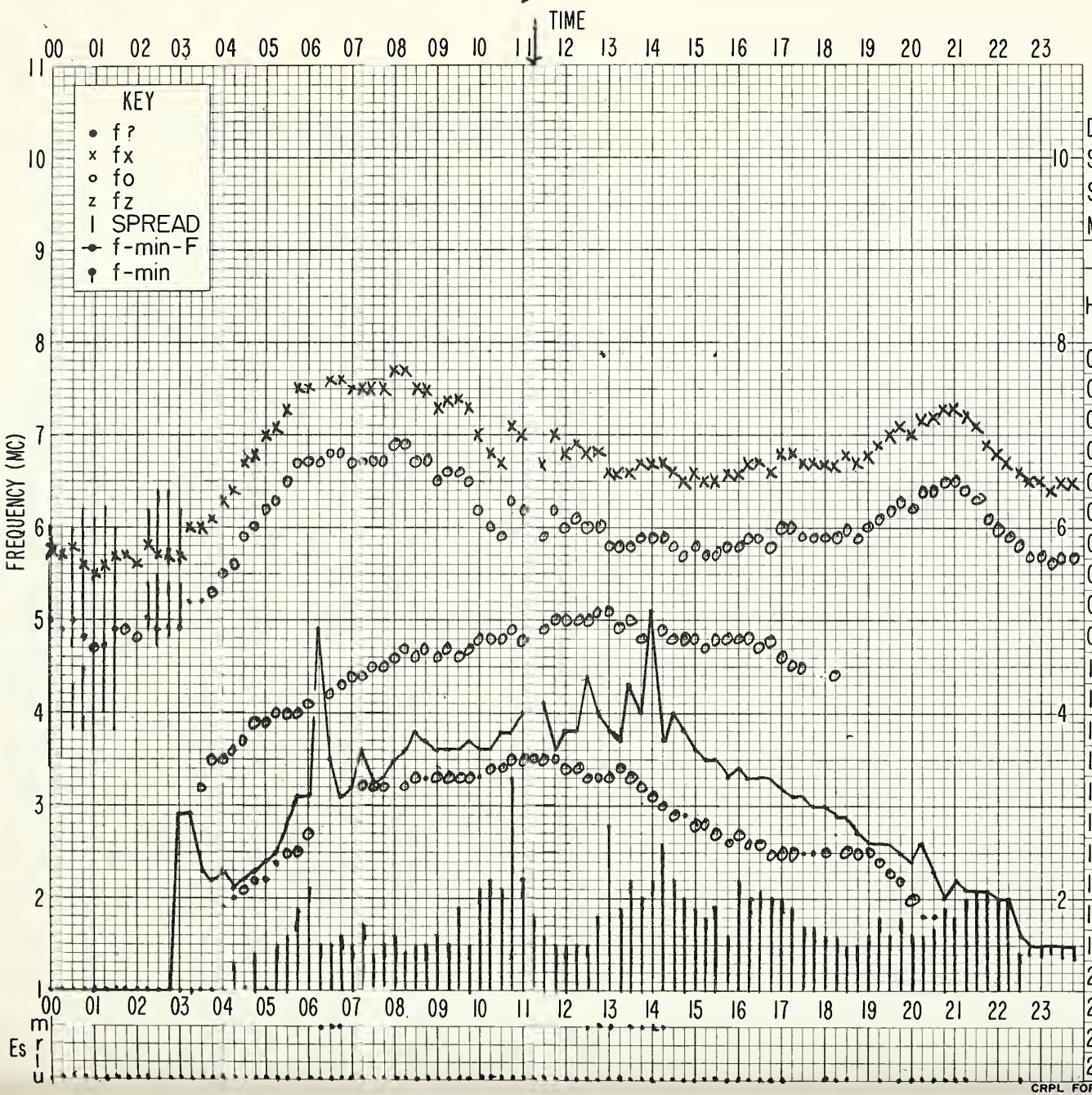


Fig. B. Anchorage, Alaska, June 16, 1956, 0930 hours, 150°W time. foF2 = 6.6 Mc, foF1 = 4.6 Mc, foE = 3.3 Mc, fEs = 5.3 Mc, f-min = 1.9 Mc, h'F2 = 440 km, h'F1 = 220 km, h'E = 107 km, h'Es = 121 km.

S



f-PLOT OF IONOSPHERIC DATA

DATE JUN 16 1956

STATION Anchorage, Alaska

SCALED BY RCM

MERIDIAN TIME 150° W.

UNPLOTTED HOURLY VALUES

HR	F2 M3000	WT	SYM	F1 M3000	WT	SYM	h'E	WT	SYM	fEs	SYM
00	255	2	F							041	
01	250	1	F							016	
02	250	1								017	
03	200	2	F			A			A	058	
04	245	1		310	1		101	1		026	
05	240	1		315	1		101	1		056	
06	245	1		345	1		125	1		094	
07	245	1		345	1		103	1		043	
08	250	1		355	1		103	1		037	
09	255	1		365	1		103	1		058	
10	250	1		360	1		109	1		044	
11	250	1		365	1		109	1		042	
12	245	1		355	1		103	1		056	
13	245	1		360	1		115	1		063	
14	245	1				A	109	1		068	
15	250	1		350	1		109	1		051	
16	255	1		340	1		109	1		042	
17	270	1		335	1		105	1		028	
18	260	1				L	111	1		039	
19	270	1				L	119	1			G
20	280	1				L	131	1		029	
21	290	1				Q			B	023	
22	285	1									B
23	285	1									B

CRPL FORM 7-L 10-23-55

Table 1

Washington, D. C. (38.7°N, 77.1°W) 5eptember 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.4					(2.2)	2.70
01	280	6.4					(2.3)	2.70
02	270	6.0						2.70
03	270	5.4						2.70
04	270	5.0						2.75
05	260	4.7					(2.2)	2.80
06	260	5.7	---	---	---	---		3.05
07	240	7.7	240	---	111	2.5		3.20
08	250	9.2	230	---	109	3.0	3.0	3.10
09	250	9.8	220	---	109	3.4		3.00
10	270	10.2	210	5.5	105	3.6		2.90
11	300	10.8	210	5.8	105	3.7		2.85
12	310	10.9	210	6.0	109	3.8		2.80
13	330	11.0	215	5.5	105	3.8		2.75
14	310	11.0	220	5.5	107	3.7		2.80
15	290	10.8	230	---	109	3.5		2.80
16	260	10.5	235	---	109	3.2		2.80
17	260	10.2	240	---	115	2.7		2.85
18	240	10.0			121	2.0		2.90
19	240	9.0					1.8	2.90
20	250	8.2					(1.8)	2.80
21	260	7.5						2.75
22	270	7.0						2.70
23	290	6.8						2.70

Time: 75.0°W.
5weep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Oslo, Norway (60.0°N, 11.1°E) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	(6.60)					2.3	2.60
01	295	(6.00)					2.4	(2.55)
02	295	5.70					2.4	2.45
03	300	5.00			---	----	2.7	2.50
04	290	4.90	290	----	120	----	2.6	2.65
05	(275)	5.20	260	----	105	1.90	3.1	2.80
06	(395)	5.80	250	----	105	2.35	3.3	2.85
07	(375)	6.30	235	4.45	100	2.80	3.8	2.85
08	380	6.80	240	4.60	100	3.00	4.4	2.80
09	330	6.95	235	4.90	100	3.30	4.4	2.85
10	355	7.40	230	5.20	100	3.40	4.6	2.85
11	350	7.30	225	5.20	100	3.50	4.6	2.85
12	380	7.20	220	5.30	100	3.60	4.2	2.75
13	385	7.40	225	5.25	100	3.60	4.4	2.75
14	440	7.20	220	5.30	100	3.50	3.9	2.75
15	370	7.20	230	5.15	100	3.40	3.8	2.75
16	---	7.25	240	----	100	3.30		2.80
17	---	7.40	240	----	100	3.00	3.8	2.85
18	---	7.55	250	----	100	2.60	3.8	2.85
19	260	7.50	250	----	110	2.20	3.5	2.90
20	265	7.30	260	----	115	----	2.6	2.90
21	260	7.00			---	----	2.4	2.85
22	260	6.95					<1.6	2.80
23	270	6.60					<1.6	2.55

Time: 15.0°E.
5weep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 3

Graz, Austria (47.1°N, 15.5°E) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	6.6						
01	330	6.2						
02	330	5.8						
03	320	5.5						
04	330	5.5						
05	280	5.9						
06	240	6.7	(235)	(3.8)		(3.5)		
07	250	7.6	230	5.1		(3.7)	4.3	
08	300	8.0	220	5.1		3.7	4.8	
09	300	7.9	220	5.2		3.7	4.4	
10	300	8.4	205	5.3		3.9	4.3	
11	320	8.3	210	5.3		3.9	4.4	
12	310	8.5	210	5.4		3.9	4.4	
13	330	8.4	230	5.4		3.9	4.2	
14	330	8.2	220	5.3		3.9	3.9	
15	320	8.2	220	5.4		3.8	3.7	
16	300	8.0	230	5.3			3.8	
17	275	8.3	230	4.9			3.5	
18	250	8.1					4.0	
19	250	8.6					4.4	
20	250	8.3					3.8	
21	260	7.2					3.5	
22	280	6.8					4.1	
23	300	6.8					3.4	

Time: 15.0°E.
5weep: 2.5 Mc to 12.0 Mc in 2 minutes.

Table 4

Ft. Monmouth, New Jersey (40.3°N, 74.1°W) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.2					(3.1)	2.65
01	280	5.8					(2.6)	2.65
02	280	5.6					(3.6)	2.65
03	280	5.1					3.3	2.70
04	280	4.5					(3.6)	2.70
05	280	4.6			---	---		2.90
06	260	5.7	240	---	115	2.4	2.5	3.00
07	280	6.4	235	4.5	109	2.9	3.6	3.00
08	310	7.0	220	4.9	109	3.4	4.2	2.95
09	380	7.3	210	5.2	109	3.6	4.6	2.85
10	360	7.4	205	5.3	109	3.8	3.9	2.85
11	370	7.7	210	5.4	109	4.0		2.80
12	370	7.9	205	5.4	106	4.0		2.75
13	370	8.0	215	5.5	109	4.0		2.70
14	370	8.0	220	5.5	109	3.8	3.8	2.75
15	370	7.8	220	5.2	109	3.7	3.8	2.70
16	350	8.0	220	4.9	109	3.4	3.4	2.75
17	300	7.9	235	(4.5)	111	3.0	3.4	2.80
18	270	8.0	250	---	117	2.3	2.8	2.85
19	250	8.0					4.0	2.85
20	250	7.7					4.9	2.80
21	260	7.2					4.0	2.75
22	270	6.9					2.9	2.70
23	280	6.5					(3.4)	2.70

Time: 75.0°W.
5weep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

White 5ands, New Mexico (32.3°N, 106.5°W) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<300	5.8					3.2	2.65
01	300	5.5					2.6	2.65
02	(290)	5.4					2.7	2.70
03	280	5.2					2.8	2.70
04	<280	5.0					3.4	2.70
05	280	4.7					3.2	2.70
06	270	5.6	260	---	119	(2.0)	3.0	2.90
07	320	6.9	235	4.4	109	(2.9)	4.5	2.85
08	300	8.6	220	4.8	109	(3.3)	4.5	2.80
09	330	8.6	210	5.2	107	(3.7)	4.7	2.70
10	350	9.0	205	5.4	107	(3.9)	4.6	2.65
11	360	9.4	210	5.6	107	(4.0)	4.3	2.65
12	370	9.7	215	5.7	109	(4.0)		2.65
13	360	10.0	215	5.5	109	(4.0)	4.0	2.65
14	350	9.7	<220	5.4	109	(4.0)	4.1	2.70
15	340	9.3	220	(5.3)	109	(3.8)	3.9	2.75
16	330	9.0	220	(5.0)	109	(3.4)	3.6	2.80
17	290	8.7	230	---	109	(3.0)	3.8	2.85
18	250	8.3	250	---	113	(2.5)	3.1	2.95
19	240	7.9					3.5	2.95
20	<240	7.0					3.0	2.80
21	<250	6.4					3.8	2.75
22	<270	6.1					3.8	2.70
23	(280)	5.9					4.0	2.65

Time: 105.0°W.
5weep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Okinawa I. (26.3°N, 127.8°E) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	11.2					3.2	2.75
01	270	10.8					3.0	2.80
02	270	9.5					2.7	2.85
03	250	8.6					3.6	2.90
04	260	7.9					3.1	2.85
05	240	7.0					3.1	2.80
06	260	7.1			---	---	3.1	2.90
07	240	8.8	235	---	115	(2.6)	4.2	3.20
08	240	9.1	220	---	(111)	(3.2)	5.6	3.15
09	(270)	9.2	220	---	(111)	(3.5)	5.3	2.95
10	(360)	9.3	210	---	109	(3.8)	5.7	2.70
11	(390)	10.8	210	---	109	(3.9)	6.4	2.60
12	380	11.8	210	---	111	(4.0)	5.8	2.60
13	370	12.7	215	---	111	(4.1)	6.8	2.65
14	370	13.3	220	(5.6)	111	(4.0)	6.2	2.65
15	350	14.0	220	---	111	(3.9)	5.7	2.70
16	330	14.4	230	---	111	3.6	5.2	2.75
17	310	14.6	235	---	111	(3.2)	5.3	2.80
18	290	14.5	250	---	111	2.6	5.2	2.80
19	260	14.2					4.7	2.85
20	260	13.5					4.7	2.70
21	270	13.6					4.2	(2.65)
22	280	(13.2)					3.5	(2.60)
23	280	11.7					3.5	2.70

Time: 135.0°E.
5weep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

Formosa, China (25.0°N, 121.5°E) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	11.9					2.8	2.8
01	260	9.8					2.8	2.9
02	260	9.1					2.8	2.9
03	260	8.8					2.6	2.8
04	260	8.8					2.8	2.9
05	260	7.9					2.8	3.0
06	240	8.9			---	---	3.1	3.2
07	240	9.1	---	---	---	---	4.0	3.2
08	(260)	9.2	230	---	120	3.4	4.7	2.9
09	(280)	9.8	220	---	110	3.6	5.3	2.7
10	360	10.8	220	6.0	---	---	4.2	2.5
11	370	11.9	---	5.9	---	---	5.0	2.5
12	390	13.6	---	6.0	---	---	5.6	2.5
13	380	14.7	---	(5.8)	---	---	5.4	2.55
14	380	15.3	---	5.6	---	---	5.5	2.6
15	360	>16.4	240	5.6	120	3.8	4.3	2.7
16	320	>16.4	240	---	---	---	4.9	(2.8)
17	280	>16.4	250	---			4.2	(2.85)
18	280	>16.0					3.6	(2.9)
19	280	>14.5					3.8	(2.9)
20	280	>14.8					3.2	2.7
21	280	>14.4					3.0	2.7
22	280	>14.5					2.7	(2.8)
23	280	>13.1					2.7	(2.7)

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

Table 8

Puerto Rico, W. I. (18.5°N, 67.2°W) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	8.5					3.6	2.75
01	270	8.5					3.8	2.80
02	260	7.9					3.4	2.90
03	260	7.4					3.0	2.85
04	260	7.0					2.9	2.85
05	250	6.8					2.6	2.90
06	260	6.5					2.4	3.00
07	240	7.8	240	---	(119)	2.4	3.0	3.20
08	(250)	8.4	225	---	115	3.0	3.7	3.05
09	300	9.2	220	5.2	109	3.5	4.0	2.85
10	350	9.9	215	5.4	113	3.8		2.70
11	350	11.0	220	5.6	115	4.0		2.70
12	360	11.5	220	5.8	115	(4.1)		2.70
13	350	12.0	220	5.8	110	4.1		2.70
14	350	11.9	230	5.7	109	4.0		2.70
15	340	11.9	225	5.5	109	3.9	5.0	2.75
16	320	11.5	230	5.3	109	3.6	4.8	2.75
17	300	11.1	240	---	111	3.2	4.4	2.80
18	270	10.4	250	---	(117)	(2.5)	3.5	2.80
19	250	10.0					3.2	2.85
20	250	9.4					2.8	2.75
21	270	9.2					3.0	2.70
22	290	9.0					(3.1)	2.70
23	290	8.8					(3.1)	2.70

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

Table 9

Panama Canal Zone (9.4°N, 79.9°W) August 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	9.0					(3.0)	2.85
01	250	8.5						2.95
02	240	7.6					3.5	2.90
03	240	6.8					2.5	3.00
04	250	6.2					2.3	2.90
05	250	5.4					2.3	3.00
06	260	5.3					2.3	3.00
07	240	7.2	230	---	115	2.5	2.8	3.10
08	240	7.9	220	---	110	3.2		3.00
09	---	8.8	215	---	107	3.7		2.65
10	350	10.3	215	---	108	3.9		2.45
11	380	11.3	210	5.6	109	4.1		2.50
12	390	12.0	215	6.0	109	4.2		2.55
13	380	12.5	220	5.8	109	4.2		2.65
14	370	13.3	220	5.6	109	4.1	4.8	2.70
15	350	12.7	230	(5.4)	109	3.9	3.9	2.70
16	340	12.0	225	---	109	3.6	4.1	2.70
17	320	11.6	230	---	109	3.0	3.9	2.75
18	270	11.5	250	---	121	2.4	3.2	2.80
19	250	10.5					3.2	2.80
20	260	9.2					2.6	2.70
21	260	9.4					2.6	2.70
22	280	9.1					(2.8)	2.75
23	280	9.0					(2.1)	2.80

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

Table 10

Schwarzenburg, Switzerland (46.8°N, 7.3°E) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.90						3.0
01	300	7.10						3.0
02	300	6.85						3.0
03	290	6.50						3.1
04	300	5.80						3.1
05	270	5.80			100	2.05		3.1
06	235	5.90	---	----	100	2.30		3.3
07	280	7.00	200	5.00	100	2.90		3.3
08	300	7.50	200	5.15	100	3.20		3.2
09	300	7.60	200	5.40	100	3.40	5.0	3.3
10	350	7.60	200	5.60	100	3.60		3.1
11	330	7.50	200	5.50	100	3.70		3.1
12	350	8.00	200	5.50	100	3.80		3.1
13	300	7.80	200	5.60	100	3.80		3.1
14	345	7.75	200	5.60	100	3.70		3.05
15	340	7.75	200	5.40	100	3.60		3.15
16	300	7.50	200	5.30	100	3.60		3.15
17	300	7.50	200	5.10	100	3.20		3.2
18	275	7.55	200	4.60	100	3.00		3.3
19	240	7.80			100	2.45		3.4
20	245	8.20			---	----		3.4
21	250	7.95						3.4
22	265	7.60						3.2
23	290	7.40						3.1

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

Table 11

Formosa, China (25.0°N, 121.5°E) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	(9.5)					3.9	(2.7)
01	280	9.0					3.4	2.8
02	260	(8.4)					3.0	(2.9)
03	260	(7.7)					2.8	(2.85)
04	270	7.2					3.0	2.9
05	260	6.8					2.9	2.9
06	240	(7.3)					3.2	(3.1)
07	240	7.5	240	---	---	---	4.3	3.1
08	300	7.9	220	---	110	3.4	6.0	2.9
09	370	8.5	220	5.6	110	3.6	6.4	2.7
10	400	9.2	220	5.8	100	3.9	6.0	2.5
11	400	10.4	---	5.6	---	---	5.4	2.5
12	400	11.4	---	5.7	---	---		2.5
13	380	12.2	---	5.7	---	---	6.4	2.6
14	370	12.9	---	5.7	---	---	6.2	2.7
15	350	13.5	240	5.4	120	---	5.8	2.8
16	330	14.2	240	5.0	---	---	5.1	2.8
17	(320)	14.1	240	4.7			3.9	(2.9)
18	(280)	(12.5)	240	---			(5.0)	(2.9)
19	280	12.1					3.6	2.9
20	280	11.7					3.2	2.7
21	300	11.0					2.8	2.7
22	320	10.3					4.0	2.6
23	320	(9.6)					2.8	(2.7)

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

Table 12

Baguio, P. I. (16.4°N, 120.6°E) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	9.4						2.90
01	250	9.0						3.00
02	230	8.0						3.00
03	220	7.5						3.05
04	210	7.0						3.30
05	210	6.0					2.0	3.20
06	240	6.7					4.2	3.20
07	220	7.8			107	(2.8)	6.8	3.10
08	210	8.4	210	---	106	(3.3)	7.6	2.80
09	---	9.1	200	---	107	(3.6)	7.0	2.50
10	---	9.9	200	---	105	3.9	7.3	2.45
11	360	10.5	200	---	103	4.0	5.9	2.35
12	(380)	10.6	200	---	102	4.0	5.4	2.25
13	(390)	11.2	200	---	101	(4.0)	5.6	2.30
14	390	11.2	200	---	101	(4.0)	5.8	2.35
15	(390)	11.2	200	---	103	(3.7)	5.2	2.35
16	(340)	11.4	210	---	103	3.3	5.4	2.50
17	240	11.2	225	---	105	(2.9)	4.4	2.55
18	250	11.0			115	2.0	4.0	2.55
19	300	10.7					3.3	2.50
20	320	10.2					2.4	2.55
21	320	9.8					2.2	2.50
22	330	9.5					2.3	2.60
23	300	9.6					2.1	2.70

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

Table 13

Talara, Peru (4.6°S, 81.3°W) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	8.3					(2.2)	2.95
01	240	8.0					(2.8)	3.00
02	240	7.5						3.20
03	230	6.6						3.30
04	230	5.2						3.20
05	250	4.1					2.1	3.10
06	270	3.5					3.1	2.90
07	260	5.6			131	2.1	3.3	3.00
08	240	7.4	240	---	115	2.9	4.3	2.80
09	(230)	8.2	220	---	111	3.3	4.2	2.50
10	---	8.6	215	---	110	3.6	3.9	2.35
11	(400)	8.9	205	5.7	109	3.8	5.0	2.20
12	(420)	9.2	200	5.4	109	3.9	4.8	2.25
13	(440)	9.4	200	5.4	109	3.9		2.15
14	(420)	9.4	200	5.4	109	3.8	4.8	2.15
15	(440)	9.5	200	5.2	109	3.6	4.5	2.15
16	---	9.5	210	---	109	3.3	4.6	2.15
17	230	9.7	235	---	115	2.9	3.6	2.25
18	270	9.5			131	(2.1)	3.0	2.30
19	320	9.1					3.2	2.25
20	340	9.0					2.0	2.35
21	310	9.0					4.4	2.45
22	270	9.4					3.4	2.80
23	230	8.9					2.2	3.05

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

Table 14

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	7.0						3.15
01	220	6.5						3.15
02	220	6.2						3.25
03	230	5.3						3.30
04	240	4.2						3.20
05	250	3.5						3.20
06	280	3.6						2.90
07	250	6.8			119	2.2	6.9	3.05
08	---	8.8	225	---	109	---	9.3	2.85
09	---	9.3	210	---	---	---	10.3	2.60
10	300	9.1	200	4.9	---	---	10.8	2.50
11	(300)	9.0	200	5.0	---	---	11.0	2.40
12	(320)	8.7	200	5.1	---	---	10.9	2.40
13	---	8.9	200	---	---	---	10.9	2.35
14	---	8.7	200	---	---	---	10.9	2.35
15	---	8.7	200	---	---	---	10.5	2.30
16	---	8.8	220	---	---	---	9.0	2.35
17	250	8.8			---	---	7.2	2.40
18	290	8.5						2.40
19	340	7.9						2.40
20	300	7.8						2.50
21	260	7.6						2.65
22	230	7.5						2.95
23	220	7.1						3.00

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

Table 15

Fairbanks, Alaska (64.9°N, 147.8°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(4.7)					4.3	(2.75)
01		(5.0)			---	---	4.8	(2.80)
02		(5.5)			---	---	5.5	(2.70)
03		(5.5)		---	---	---	4.9	(2.70)
04		(5.6)		(3.7)	101	---	4.8	(2.65)
05		(5.5)		(4.0)	109	---	4.5	(2.60)
06		(5.5)		(4.2)	102	(2.9)	4.5	2.60
07		(5.3)		4.3	101	(3.1)	4.2	(2.60)
08		(5.4)		(4.4)	101	(3.2)	3.5	2.55
09		(5.5)		(4.5)	101	(3.4)		(2.50)
10		5.6		(4.6)	103	(3.3)		2.50
11		(5.6)		(4.7)	101	(3.4)		2.55
12		5.8		4.7	103	(3.4)		2.60
13		(5.7)		(4.8)	101	---		2.55
14		5.9		(4.8)	107	(3.4)		2.60
15		5.8		(4.7)	105	(3.2)		2.60
16		5.8		(4.6)	109	(3.1)		2.70
17		(5.9)		(4.5)	111	(3.0)	3.3	(2.80)
18		5.8		(4.1)	111	(2.7)	3.0	2.85
19		5.8		(3.8)	111	(2.4)	4.2	2.90
20		5.4			121	---	4.0	2.95
21		(5.2)			131	(2.0)	4.3	(3.00)
22		(5.2)			131	---	3.4	(3.00)
23		(5.0)					4.4	(2.90)

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

Table 16

San Francisco, California (37.4°N, 122.2°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<300	5.4					3.8	(2.55)
01	<320	5.3					3.2	(2.55)
02	(280)	(5.1)					3.7	(2.60)
03	<300	(4.9)					3.3	(2.60)
04	(310)	4.7					3.6	(2.60)
05	300	4.9	280	(2.9)	---	---	3.8	(2.65)
06	340	5.5	245	(3.6)	(109)	(2.4)	3.8	(2.75)
07	420	6.0	230	(4.3)	(105)	(2.9)	4.4	(2.55)
08	440	6.6	<220	(4.6)	(105)	(3.2)	4.5	2.50
09	420	6.7	210	(4.8)	(105)	(3.4)	5.0	(2.50)
10	420	7.0	210	(5.0)	(105)	(3.6)	4.8	2.55
11	410	7.3	<210	(5.0)	(105)	(3.6)	4.5	2.50
12	410	7.0	205	(5.0)	(105)	(3.6)	4.7	2.55
13	420	7.2	210	(5.0)	(105)	(3.6)	4.2	2.55
14	400	7.0	215	(5.0)	(105)	(3.6)	4.6	2.55
15	410	7.1	220	(5.0)	(105)	(3.5)	4.0	2.60
16	380	7.0	225	(4.8)	(105)	(3.3)	4.0	2.70
17	360	7.0	<240	(4.5)	(109)	(3.0)	3.9	2.80
18	<320	6.9	240	(4.1)	(111)	(2.6)	4.2	2.85
19	270	7.0	260	---	---	---	3.6	2.95
20	240	6.8					4.3	(2.90)
21	<250	6.4					4.0	(2.80)
22	260	(5.7)					4.8	(2.70)
23	<290	(5.5)					3.8	(2.60)

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

Table 17

Baguio, P. I. (16.4°N, 120.6°E) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	9.4						2.90
01	250	9.5					1.7	3.05
02	240	8.4						3.10
03	240	7.2						3.00
04	240	6.2						2.90
05	230	5.4					1.7	3.00
06	240	7.0			---	---	4.4	3.10
07	230	8.4			---	---	7.4	3.00
08	220	9.0	215	---	---	---	8.6	2.75
09	---	9.4	210	---	---	---	8.3	2.45
10	---	10.0	200	---	111	---	8.0	2.30
11	(360)	10.6	200	---	---	(4.0)	7.4	2.30
12	(390)	11.2	200	---	109	4.0	5.8	2.35
13	390	11.5	200	(5.5)	109	(4.0)	6.5	2.30
14	380	11.6	200	---	109	(3.8)	5.6	2.35
15	(390)	11.5	205	---	---	(3.5)	5.0	2.35
16	(340)	11.5	210	---	---	(3.2)	8.0	2.45
17	240	11.7	---	---	111	2.7	6.1	2.60
18	260	11.6			---	---	4.8	2.55
19	290	10.9					4.5	2.55
20	340	10.3					3.4	2.45
21	350	9.8					2.0	2.50
22	340	9.7					2.1	2.60
23	310	9.9					2.0	2.75

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

Table 18

Talara, Peru (4.6°S, 81.3°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	8.2					(3.0)	3.00
01	240	7.8						3.00
02	240	7.6					(2.5)	3.10
03	240	7.2						3.25
04	230	6.2						3.20
05	250	4.9					2.4	3.10
06	260	4.6					2.0	2.90
07	260	6.2			129	2.1	3.2	3.00
08	240	7.6	235	---	115	2.9	3.1	2.85
09	---	8.5	225	---	113	3.3	3.9	2.55
10	---	9.0	215	---	111	3.5		2.35
11	---	9.3	210	---	111	3.7	5.1	2.30
12	---	9.8	210	---	111	3.8	5.0	2.25
13	---	9.9	210	---	111	3.8	5.2	2.25
14	(410)	10.0	210	---	111	3.7	5.2	2.20
15	---	10.1	210	---	111	3.5	5.0	2.20
16	---	10.5	220	---	113	3.2	4.0	2.25
17	240	10.0			119	2.7	4.8	2.20
18	280	9.7					3.4	2.25
19	330	9.2					4.2	2.20
20	350	9.2					3.0	2.30
21	330	9.4					3.1	2.45
22	280	9.6					3.3	2.80
23	230	9.0					3.1	3.00

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

Table 19

Watheroo, W. Australia (30.3°S, 115.9°E) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.8						3.0
01	260	3.9						2.9
02	250	3.9						3.0
03	250	3.8						3.0
04	250	4.0						3.1
05	220	3.7						3.2
06	220	3.5						3.1S
07	240	4.4				1.5		3.3
08	220	7.0	---	---		2.2		3.6
09	240	8.6	240	4.0		2.8	2.9	3.5
10	250	9.2	230	4.2		3.2	3.6	3.5
11	250	10.0	230	4.7		3.3	3.7	3.4
12	250	9.5	220	4.8		3.5	3.7	3.3
13	250	9.2	220	4.7		3.4	3.8	3.35
14	260	10.0	220	5.0		3.3	3.8	3.2
15	250	9.6	230	4.6		3.1	4.1	3.3
16	250	9.4	230	---		2.6	3.1	3.3
17	230	8.2				2.0	2.6	3.5
18	220	7.0					3.0	3.4
19	220	6.0					1.7	3.3
20	220	4.4					1.8	3.3
21	240	3.8						3.15
22	250	3.8						3.0
23	260	3.7						2.9

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 20

Thule, Greenland (77.0°N, 69.0°W) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.6		(3.2)	119	2.0		2.80
01		5.6		(3.2)	119	(2.0)		2.80
02		5.7		(3.3)	119	2.1		(2.75)
03		5.2		3.6	117	2.2		(2.65)
04		5.4		3.7	115	2.3		2.70
05		5.4		4.0	111	2.6		(2.75)
06		5.4		4.1	109	2.7		2.90
07		5.8		4.2	109	2.9		(2.65)
08		5.4		4.3	109	3.0		(2.50)
09		5.5		4.4	107	3.0	4.0	(2.60)
10		5.7		4.4	107	3.1		2.60
11		5.7		4.4	107	3.2		2.45
12		(5.6)		4.5	107	3.1		(2.55)
13		5.4		4.4	107	3.1		2.55
14		5.4		4.4	107	3.0		(2.55)
15		5.5		4.3	109	2.9		2.50
16		5.8		4.2	107	2.8		2.65
17		5.8		4.2	109	2.6		(2.70)
18		5.8		(4.0)	109	2.6		2.70
19		5.6		(3.7)	109	2.4		(2.75)
20		6.0		(3.4)	111	2.2		2.70
21		5.8		---	(119)	2.1		2.75
22		5.6		---	119	2.0		2.80
23		5.6		---	121	(2.0)		(2.80)

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

Table 21

Point Barrow, Alaska (71.3°N, 156.8°W) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(5.2)		---	---	---	4.3	(2.70)
01		(5.0)		---	---	---	4.3	(2.70)
02		(5.0)		---	---	---	4.4	2.65
03		(5.0)		---	---	---	3.2	(2.75)
04		(5.0)		---	---	---	3.3	(2.45)
05		(4.8)		(3.6)	106	2.4	2.8	G
06		(4.8)		(3.9)	101	2.6		(2.40)
07		(5.2)		(4.0)	101	2.8		(2.35)
08		5.1		(4.2)	101	3.0	3.0	G
09		(5.4)		(4.5)	101	3.2		2.45
10		6.0		(4.5)	101	(3.2)		2.45
11		5.4		(4.5)	101	(3.3)		2.40
12		5.5		(4.6)	101	(3.4)		2.50
13		(5.8)		(4.7)	101	(3.3)		2.50
14		5.8		(4.7)	101	---		2.50
15		6.0		(4.6)	101	(3.2)		2.60
16		5.9		(4.5)	101	3.0		2.50
17		5.8		(4.3)	101	(2.8)		2.60
18		5.9		(3.9)	101	(2.7)		2.60
19		5.6		(3.7)	101	2.4		2.70
20		5.6		---	103	2.2	3.2	2.75
21		(5.6)		---	111	2.1	4.2	(2.80)
22		(5.2)		---	---	---	4.2	(2.90)
23		(5.3)		---	---	---	6.2	2.80

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

Table 22

De Bilt, Holland (52.1°N, 5.2°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.4						2.3
01	300	5.8						2.3
02	300	5.6						2.3
03	300	5.1						2.5
04	280	5.4	280	---	---	E		2.6
05	240	5.8	250	---	115	2.2	2.2	2.7
06	380	6.0	235	4.2	105	2.7	3.0	2.6
07	395	6.8	225	4.6	100	3.0	3.3	2.6
08	350	7.0	225	4.8	100	3.3	3.6	2.7
09	345	7.2	215	5.0	100	3.4	3.7	2.7
10	350	7.6	210	5.1	100	3.6		2.6
11	375	7.6	210	5.2	100	3.6	3.7	2.6
12	360	7.9	200	5.2	100	3.6	3.7	2.6
13	375	7.8	225	5.2	100	3.6		2.6
14	340	7.8	225	5.2	100	3.6		2.6
15	340	7.8	225	5.1	100	3.4		2.65
16	350	7.6	225	4.7	100	3.2		2.7
17	(310)	7.8	245	4.2	105	2.8	3.2	2.9
18	265	8.0	250	---	115	2.4	3.1	2.85
19	260	7.8	---	---	---	1.8	2.2	2.9
20	250	7.5						2.9
21	250	7.3						2.65
22	275	7.0						2.5
23	290	6.6						2.4

Time: 0.0°.
Sweep: 0.8 Mc to 20.0 Mc in 20 seconds.

Table 23

Wakkanai, Japan (45.4°N, 141.7°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	7.1					2.2	
01	290	6.9					2.6	
02	280	6.6					>2.8	
03	290	6.4					2.3	
04	290	6.5					2.4	
05	320	7.0					2.6	
06	300	8.2					3.6	
07	300	8.2					4.7	
08	330	7.9					5.1	
09	340	7.7					5.5	
10	350	8.0					5.5	
11	360	7.8					5.0	
12	360	8.0						
13	350	8.0						
14	350	8.2						
15	320	8.2						
16	300	8.0						
17	290	8.0					4.1	
18	280	8.0					4.2	
19	260	8.2					4.2	
20	270	8.3					3.5	
21	270	8.1					3.6	
22	290	7.5					3.4	
23	280	7.3					2.3	

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 24

Akita, Japan (39.7°N, 140.1°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	340	7.7					3.5	
01	310	7.6					3.0	
02	300	7.4					2.5	
03	300	6.8					2.9	
04	330	6.8					2.5	
05	290	7.5					3.1	
06	290	8.7					4.2	
07	300	9.2					5.0	
08	300	8.9					6.0	
09	340	8.8					5.9	
10	390	9.0					5.9	
11	380	9.2					5.3	
12	380	9.5					4.8	
13	360	10.0					5.6	
14	360	9.8					4.8	
15	340	9.6					4.2	
16	340	9.2					4.9	
17	310	9.0					5.6	
18	300	9.0					5.7	
19	290	9.0					4.6	
20	300	8.6					4.5	
21	320	8.0					4.3	
22	330	7.8					4.2	
23	340	7.8					4.5	

Time: 135.0°E.
Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 25

San Francisco, California (37.4°N, 122.2°W) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<310	5.4					3.2	2.55
01	<300	5.3					2.7	2.60
02	<300	5.1					2.6	2.60
03	<300	4.8					2.9	2.60
04	310	4.4					3.0	2.55
05	325	4.6	315	(2.7)	---	---	3.2	2.70
06	355	5.4	250	(3.7)	(111)	(2.2)	3.5	2.80
07	410	5.9	230	4.2	(105)	(2.8)	3.5	2.60
08	440	6.4	215	(4.6)	(105)	(3.1)	4.2	2.50
09	495	6.6	210	(4.8)	(105)	(3.5)	4.0	2.45
10	425	7.2	200	(5.0)	(104)	(3.6)	4.5	2.55
11	400	7.9	200	(5.0)	(105)	---	4.1	2.55
12	375	8.4	210	(5.3)	(105)	---	4.1	2.60
13	380	8.3	210	(5.2)	(105)	(3.8)	3.8	2.60
14	355	8.4	215	(5.1)	(105)	(3.8)	3.9	2.60
15	340	8.4	220	(5.0)	(105)	(3.6)	3.3	2.70
16	345	8.0	230	(4.7)	(105)	(3.3)	3.6	2.75
17	310	8.5	235	(4.5)	(107)	(3.0)	3.7	2.80
18	275	8.3	245	---	(111)	(2.3)	4.1	2.95
19	250	7.4	---	---			3.6	3.00
20	240	7.0					3.5	2.90
21	240	6.3					3.1	2.75
22	265	5.8					3.5	2.65
23	290	5.5					3.3	2.50

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

Table 26

Tokyo, Japan (35.7°N, 139.5°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	8.4					4.1	2.7
01	300	8.1					3.8	2.7
02	280	7.9					3.7	2.7
03	300	7.2					3.8	2.7
04	300	6.8					3.3	2.6
05	280	7.5	---	---	140	1.8	3.3	2.7
06	270	8.7	250	4.4	120	2.6	3.9	2.8
07	280	9.0	240	4.7	110	3.1	5.7	2.9
08	280	8.8	240	---	110	3.5	6.0	2.8
09	320	8.9	230	5.5	110	3.6	6.4	2.7
10	330	9.6	230	5.8	110	3.7	6.4	2.7
11	360	9.8	240	5.6	110	3.8	6.4	2.7
12	350	10.5	240	5.7	110	3.8	5.8	2.7
13	340	10.8	230	5.6	110	3.8	5.7	2.8
14	330	10.6	240	5.6	110	3.7	5.5	2.8
15	320	10.6	250	5.2	110	3.5	5.6	2.8
16	300	10.0	250	5.0	110	3.3	5.6	2.8
17	290	10.1	270	---	110	2.8	6.0	2.8
18	280	9.8	---	---	120	---	6.1	2.9
19	270	9.6					5.7	2.9
20	280	8.5					4.5	2.7
21	300	8.2					4.2	2.6
22	320	8.6					4.6	2.6
23	310	8.3					4.4	2.6

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

Table 27

Yamagawa, Japan (31.2°N, 130.6°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	9.4					4.2	
01	290	9.4					4.4	
02	290	8.7					4.3	
03	280	8.2					3.5	
04	290	7.2					3.4	
05	280	7.2					2.4	
06	250	8.1					3.2	
07	240	9.3					3.6	
08	250	9.0					5.8	
09	250	9.5					6.5	
10	270	10.0					6.5	
11	300	11.0					6.7	
12	290	11.8					6.5	
13	290	12.2					7.2	
14	290	12.8					5.9	
15	270	12.3					5.9	
16	260	12.2					5.0	
17	260	12.4					5.7	
18	270	12.0					4.9	
19	260	10.3					4.0	
20	250	9.5					3.8	
21	300	9.5					5.4	
22	310	9.6					5.0	
23	310	9.3					3.5	

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 28

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	8.1						3.10
01	220	7.8						3.10
02	220	7.2						3.15
03	230	6.0						3.15
04	240	5.0					3.6	3.20
05	250	4.5						3.15
06	270	4.9						2.95
07	250	8.6			115	2.4	7.0	3.05
08	230	10.6	230	---	109	3.0	10.6	2.90
09	---	11.7	220	---	105	3.4	12.2	2.65
10	---	11.7	210	---	103	---	12.5	2.45
11	(300)	11.5	205	---	105	---	12.7	2.40
12	(280)	11.0	200	5.1	105	---	12.6	2.40
13	---	11.0	200	4.9	106	---	12.7	2.30
14	---	10.9	200	---	104	---	12.6	2.30
15	220	10.9	210	---	107	---	12.3	2.30
16	240	10.7	235	---	107	---	11.3	2.30
17	260	10.4			113	---	9.2	2.35
18	300	9.8						2.35
19	360	9.2						2.30
20	310	9.2						2.40
21	280	8.8						2.60
22	250	8.2						2.75
23	240	8.3						2.95

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

Table 29

Johannesburg, Union of S. Africa (26.2°S, 28.1°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<260	3.1						2.85
01	<270	3.3						2.8
02	<260	3.1						2.9
03	<260	3.1						2.9
04	240	3.0						2.9
05	<250	3.0						2.9
06	<250	3.1						3.0
07	230	7.0			140	2.1		3.3
08	230	9.7	230	---	110	2.7		3.3
09	240	10.9	220	4.3	110	3.2		3.2
10	250	12.0	220	4.8	110	3.4		3.1
11	250	12.2	210	4.8	110	3.6		3.1
12	250	12.0	210	4.9	110	3.7		3.0
13	250	12.1	210	4.9	110	3.7		3.0
14	250	12.1	220	4.6	110	3.5		2.9
15	250	12.1	220	4.2	110	3.2	3.6	2.9
16	240	11.9	230	---	110	2.9	3.4	2.9
17	230	11.6	---	---	140	2.2	2.9	3.0
18	210	10.1					2.6	3.1
19	220	7.2					2.0	3.1
20	240	5.7					2.2	3.1
21	230	4.7						3.2
22	<240	3.7						3.1
23	250	3.1						2.9

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

Table 30

Watheroo, W. Australia (30.3°S, 115.9°E) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.2					1.0	2.9
01	260	4.2					1.4	2.9
02	250	4.0					1.7	2.9
03	250	4.1					1.1	2.9
04	250	4.0						3.1
05	250	3.7						2.9
06	250	3.4						3.0
07	240	5.8				1.8		3.2
08	230	8.2	---	---		2.6		3.4
09	240	10.0	220	4.3		3.0	3.8	3.3
10	250	10.8	220	4.9		3.4	3.8	3.2
11	250	11.2	220	5.0		3.5	3.8	3.2
12	250	11.0	220	4.8		3.6	3.9	3.1
13	260	11.5	220	4.8		3.6	4.1	3.05
14	260	11.5	230	4.6		3.5	3.8	3.1
15	250	11.0	230	4.4		3.2	3.7	3.1
16	230	10.9	240	---		2.8	3.7	3.1
17	220	10.2	---	---		2.2	2.6	3.2
18	220	(8.2)				---	2.0	(3.1)
19	220	7.2					1.7	3.1
20	230	6.0						3.1
21	230	5.0						3.1
22	240	4.3						2.9
23	260	4.2					1.5	2.9

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 31

Capetown, Union of S. Africa (34.2°S, 18.3°E) — May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	2.8						2.8
01	---	2.9					2.9	2.8
02	<280	3.0					2.9	2.8
03	<280	2.9					3.0	2.8
04	<270	3.0					2.9	2.8
05	<260	3.1					2.9	2.9
06	<260	2.9						2.9
07	240	3.3					2.0	2.9
08	230	6.9	---	---	140	2.2	2.6	3.3
09	230	9.1	230	3.4	120	2.7		3.3
10	240	10.6	230	---	120	3.1		3.2
11	250	11.8	230	4.4	120	3.4		3.1
12	250	12.2	230	---	110	3.5		3.0
13	250	12.3	220	---	110	3.5		2.9
14	250	13.0	230	---	110	3.5		2.9
15	250	12.8	230	---	120	3.3		2.9
16	250	12.7	240	---	120	3.0		2.9
17	230	12.4	---	---	130	2.4		2.95
18	220	11.0			---	---	2.6	3.1
19	210	7.9					2.8	3.1
20	230	6.1					1.9	3.2
21	<230	4.3						3.2
22	<240	3.1					2.7	3.1
23	250	2.7					2.7	2.9

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

Table 32

Buenos Aires, Argentina (34.5°S, 58.5°W) — May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.9						2.9
01	300	5.4						2.8
02	300	5.2						2.85
03	300	5.3						2.95
04	230	5.1						3.2
05	250	3.8						3.0
06	300	4.0						2.9
07	230	7.4						3.2
08	220	10.0			---	---		3.3
09	230	11.1	220	---	---	---		3.1
10	250	12.1	220	---	---	---		3.1
11	250	11.6	220	---	---	---		3.1
12	240	11.6	210	---	---	---	3.5	3.0
13	280	12.5	220	---	---	---		3.0
14	260	13.1	220	---	---	---		3.1
15	240	12.9	230	---				3.0
16	220	12.6	---	---				3.1
17	210	(12.0)						(3.2)
18	210	>9.4						(3.2)
19	230	9.0						3.05
20	220	9.5						(3.1)
21	220	7.5						3.1
22	250	6.7						3.0
23	280	6.3						2.8

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 33

Resolute Bay, Canada (74.7°N, 94.9°W) — April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.9			115	1.5		2.75
01		5.6			120	1.5		(2.9)
02		5.6			110	1.6		(2.9)
03		5.5		---	115	1.7		(2.9)
04		5.1		---	110	1.8		2.9
05		5.3		---	110	2.1		2.85
06		5.3		3.6	105	2.3		2.9
07		5.2		3.9	105	2.6		2.95
08		5.4		4.0	105	2.8		2.65
09		5.3		4.0	100	2.9		2.8
10		5.4		4.2	100	3.0		2.7
11		5.5		4.3	100	3.0		(2.7)
12		5.9		4.3	100	3.0		(2.65)
13		5.6		4.2	100	3.1		2.5
14		6.1		4.3	100	3.0		2.7
15		6.2		4.2	100	3.0		2.65
16		6.2		4.2	105	2.8		(2.7)
17		6.2		4.0	105	2.7		2.6
18		6.0		3.9	105	2.5		2.7
19		6.0		3.4	110	2.2		2.8
20		6.2		---	110	2.0		2.8
21		5.8		---	115	1.8		2.7
22		6.0		---	110	1.6		2.8
23		5.4			115	1.6		2.85

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

Table 34

Baker Lake, Canada (64.3°N, 96.0°W) — April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.6			---	E		2.7
01		5.4			---	E		2.6
02		4.6			---	E		2.5
03		4.2			---	1.1	1.1	(2.7)
04		4.2			---	1.3	1.4	2.65
05		4.2		---	110	1.9	2.0	2.8
06		4.5		3.2	110	2.2	2.2	2.65
07		5.0		3.9	110	2.5	2.5	2.7
08		5.0		4.1	110	2.9	3.0	2.4
09		5.2		4.4	110	3.2	3.2	2.55
10		5.7		4.7	105	3.5	3.6	(2.4)
11		6.2		4.9	105	3.7		2.5
12		6.5		4.8	105	3.5	3.5	2.6
13		7.2		4.8	105	3.5		2.6
14		7.2		4.8	105	3.3	3.3	2.6
15		7.2		4.6	105	3.3	3.3	2.55
16		6.8		4.5	105	3.1	3.1	2.6
17		7.0		4.2	110	2.9	2.9	2.7
18		6.8		3.8	110	2.5	2.6	2.7
19		6.5		3.3	110	2.3	2.4	2.7
20		6.1			110	1.9	2.3	2.75
21		5.8			---	1.3	3.0	2.7
22		5.6			---	E	3.0	2.6
23		5.4			---	E	<1.2	2.7

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

Table 35

Churchill, Canada (58.8°N, 94.2°W) — April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.4			---	---	5.0	---
01		5.3			---	---	5.0	(2.8)
02		4.6			---	---	4.5	---
03		4.4			---	1.5	4.9	---
04		4.3			130	1.9	4.0	---
05		4.0			110	2.0	4.3	---
06		4.8		---	115	2.8	3.7	(2.8)
07		5.5		4.3	110	3.2	3.9	2.7
08		5.9		4.6	105	3.4	4.3	2.7
09		6.1		4.8	105	3.5		2.7
10		6.5		4.8	105	3.5		2.7
11		7.0		4.9	110	3.5		2.7
12		7.1		5.0	105	3.5		2.7
13		7.8		5.0	105	3.5		2.7
14		7.8		4.9	105	3.4		2.8
15		7.7		4.8	110	3.3		2.8
16		8.0		4.5	105	3.2		2.75
17		7.8		4.3	110	3.0		2.95
18		7.0		3.8	120	2.7	<3.0	2.8
19		6.8		---	120	2.5	4.4	2.9
20		6.7			120	2.9	4.9	(2.9)
21		6.0			---	---	6.5	(2.75)
22		5.9			---	---	7.0	---
23		5.1			---	---	6.7	(2.9)

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

Table 36

Lindau/Harz, Germany (51.6°N, 10.1°E) — April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.30						2.7
01	300	6.00					1.9	2.7
02	300	5.70					2.0	2.7
03	300	5.10					2.0	2.7
04	300	4.60			---	E	1.9	2.75
05	300	4.60	---	----	---	E	2.4	2.8
06	270	5.50	265	----	115	1.90	2.9	3.1
07	260	6.60	245	----	105	2.60	3.6	3.15
08	340	7.00	230	4.55	100	3.00	3.5	3.0
09	330	7.70	220	4.80	100	3.20	3.6	3.0
10	315	8.10	220	5.00	100	3.40	3.9	3.0
11	320	9.00	215	5.30	100	3.60	4.0	3.0
12	335	9.45	220	5.50	100	3.60	4.0	3.0
13	330	9.40	220	5.30	100	3.60	>4.0	3.0
14	315	9.50	220	5.00	100	3.50	4.0	3.0
15	300	9.30	230	4.90	100	3.40	3.9	3.1
16	280	9.30	230	----	100	3.20	3.7	3.1
17	270	9.30	230	----	105	2.90	3.4	3.1
18	250	9.30	250	----	110	2.40	3.2	3.15
19	245	9.10			---	1.60	2.9	3.1
20	245	8.40			---	E	2.4	3.1
21	240	7.65					2.0	3.0
22	260	6.90						2.8
23	280	6.60						2.7

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

Table 37

Schwarzenburg, Switzerland (46.8°N, 7.3°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.10						3.00
01	300	6.10						3.00
02	300	6.00						3.00
03	300	5.80						3.00
04	300	5.15						2.95
05	300	5.10						3.00
06	265	5.30			---	----		3.20
07	210	6.50	---	----	100	2.30		3.40
08	205	7.05	200	4.60	100	2.70		3.50
09	220	7.80	200	5.20	100	3.20		3.40
10	200	8.75	200	5.80	100	3.30		3.10
11	245	9.70	200	5.60	100	3.40		3.30
12	200	10.00	200	5.40	100	3.40		3.20
13	210	10.00	200	6.00	100	3.50		3.20
14	200	10.25	200	5.30	100	3.40		3.30
15	200	10.00	200	5.30	100	3.30		3.30
16	200	10.20	---	----	100	3.20		3.30
17	205	9.55			100	2.90		3.40
18	210	9.60			100	2.40		3.40
19	220	9.00			100	2.15		3.40
20	220	8.30						3.30
21	240	7.60						3.30
22	260	7.00						3.20
23	300	6.40						3.00

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

Table 38

Ottawa, Canada (45.4°N, 75.9°W) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.7					<1.6	2.7
01		5.0					<1.6	2.7
02		4.9					<1.6	2.7
03		4.4					<1.6	2.7
04		4.2					<1.6	2.65
05		4.2			---	1.7		2.8
06		5.3		---	120	2.2		3.0
07		6.2		4.1	110	2.8		3.1
08		7.0		4.8	110	3.2		2.9
09		7.5		5.0	105	3.5		2.9
10		8.1		5.1	105	3.7		2.8
11		8.4		5.2	105	3.8		2.8
12		8.9		5.3	105	4.0		2.7
13		9.0		5.4	105	3.9		2.75
14		9.0		5.3	105	3.8		2.7
15		9.0		5.2	105	3.6		2.8
16		9.1		4.9	110	3.3		2.8
17		9.2		4.5	110	2.9		2.8
18		9.0		---	115	2.3		2.9
19		8.8			120	1.8		2.9
20		7.9					<1.6	2.8
21		7.3					<1.6	2.8
22		6.3					<1.6	2.75
23		5.8					<1.6	2.7

Time: 75.0°W.
Sweep: 1.0 Mc to 15.0 Mc in 15 seconds.

Table 39

Wakkanai, Japan (45.4°N, 141.7°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	7.3						
01	290	7.4						
02	270	7.1						
03	260	6.6						
04	280	6.3						
05	260	7.0						
06	240	8.4						
07	250	10.0						
08	250	10.6						
09	250	11.4						
10	250	11.5						
11	250	11.5						
12	250	12.0						
13	250	11.9						
14	250	11.5						
15	260	11.0						
16	250	10.8						
17	240	10.4						
18	250	9.9					3.4	
19	240	9.3						
20	250	8.3						
21	260	7.8						
22	290	7.3						
23	290	7.6						

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 40

Akita, Japan (39.7°N, 140.1°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	8.0					2.2	
01	320	7.9					2.4	
02	300	7.5					2.5	
03	300	7.0					2.4	
04	310	6.6					2.4	
05	320	7.2					2.5	
06	260	8.5						
07	260	10.3						
08	260	11.4						
09	280	11.8						
10	280	11.8						
11	290	12.2						
12	290	12.2						
13	290	12.5						
14	290	12.0						
15	290	11.7						
16	280	11.5						
17	280	11.1					2.5	
18	280	10.7					3.5	
19	260	9.5					3.0	
20	280	8.3					2.5	
21	310	8.0					2.5	
22	330	8.1					2.4	
23	330	8.2					2.2	

Time: 135.0°E.
Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 41

Tokyo, Japan (35.7°N, 139.5°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	8.2						2.7
01	280	8.1						2.7
02	260	7.6					1.4	2.8
03	260	6.9					2.0	2.65
04	280	6.7					1.9	2.6
05	300	7.1			160	1.5		2.6
06	250	8.6	---	---	130	2.4		3.0
07	240	10.1	240	---	110	3.0	3.3	3.0
08	250	11.3	240	---	110	3.4	4.4	2.9
09	260	12.0	230	4.7	110	3.6	4.6	2.9
10	260	12.4	230	4.9	110	3.8	5.1	2.8
11	260	13.0	230	5.0	110	3.8	4.8	2.8
12	270	13.4	230	5.1	110	3.8	4.5	2.8
13	270	13.3	230	5.4	110	3.8	4.5	2.8
14	270	13.2	230	5.1	110	3.8	4.4	2.8
15	270	12.5	250	---	110	3.5	3.6	2.8
16	270	12.2	250	---	110	3.2	4.4	2.8
17	260	11.9	260	---	120	2.6	4.5	2.9
18	260	11.0			---	1.5	4.3	3.0
19	250	9.2					3.4	2.9
20	270	8.3					2.8	2.6
21	300	8.3					2.5	2.6
22	310	8.5						2.6
23	300	8.4						2.7

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

Table 42

Yamagawa, Japan (31.2°N, 130.6°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	9.1					2.1	
01	270	9.0					2.2	
02	250	8.7					2.3	
03	240	8.0						
04	250	7.0						
05	280	6.8					2.1	
06	260	7.9					2.3	
07	240	9.6						
08	240	10.8						
09	240	11.6					4.8	
10	250	12.6						
11	250	13.5						
12	250	14.2					4.8	
13	250	14.4					5.0	
14	250	14.4						
15	250	14.2						
16	250	13.7						
17	250	13.2						
18	250	12.8					3.8	
19	240	11.1					3.1	
20	250	9.5					2.9	
21	290	9.1					2.4	
22	300	9.2					2.7	
23	290	9.2					2.4	

Time: 135.0°E.
Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 43

Nairobi, Kenya (1.3°S, 36.8°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	---						
01	220	>13.6						(3.15)
02	220	>10.4						(2.85)
03	230	10.2						2.95
04	230	9.5					1.8	3.1
05	220	8.7					2.2	3.2
06	220	5.6					2.3	3.3
07	250	8.7			---	2.2	3.0	3.2
08	250	11.7	240	---	110	3.0		3.2
09	250	12.8	230	---	100	3.4	3.7	3.1
10	260	13.0	220	5.0	100	---	4.0	2.8
11	260	>13.7	220	5.1	100	---		2.6
12	(270)	14.0	---	---	100	---	(4.6)	2.5
13	---	(15.6)	---	---	(100)	---		(2.5)
14	---	>15.8	---	---	(100)	---		(2.45)
15	---	15.6	---	---	100	---	(4.8)	2.45
16	---	14.8	250	---	110	3.5	4.0	2.5
17	---	15.6	250	---	110	3.1	3.8	2.6
18	---	>15.9	260	---	---	---	3.2	(2.7)
19	300	>14.0					3.1	---
20	330	---					2.7	---
21	260	---						
22	220	---						
23	220	---						

Time: 45.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 44

Leopoldville, Belgian Congo (4.4°S, 15.2°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	210	12.0						2.9
01	220	9.1						2.7
02	225	8.0						2.8
03	230	5.5					1.5	2.9
04	240	3.7					1.6	2.9
05	250	5.6	---	---	---	---	2.3	2.8
06	250	9.3	240	---	120	2.6	3.2	2.9
07	260	11.5	230	---	115	3.3	4.0	2.7
08	265	12.6	220	---	110	3.6	4.3	2.6
09	280	12.8	230	---	110	4.0	4.6	2.4
10	355	13.6	230	---	110	4.0		2.4
11	370	>14.0	220	---	110	4.1		2.4
12	375	15.3	240	---	110	---	4.0	<2.4
13	375	15.6	240	---	110	3.7	4.5	<2.4
14	380	>15.7	240	---	110	3.5	4.2	<2.4
15	350	16.0	245	---	110	3.2	4.1	<2.4
16	330	16.0	255	---	115	2.6	3.4	2.4
17	270	---	---	---			3.0	<2.6
18	290	---					3.0	<2.6
19	270	---					2.4	<3.0
20	220	---						<3.1
21	210	---						<3.1
22	220	---						<3.1
23	220	14.0						<3.0

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

Table 45

Elisabethville, Belgian Congo (11.6°S, 27.5°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	6.2						2.65
01	235	5.0						2.7
02	240	4.0						2.7
03	250	3.6						2.8
04	255	4.3	---	---	---	1.4		2.7
05	240	8.8	245	---	120	2.2	2.7	3.0
06	245	10.6	230	---	110	3.0	3.4	2.8
07	260	11.8	225	---	110	3.5	3.6	2.8
08	270	12.0	235	---	110	3.7	4.1	2.7
09	295	12.8	240	---	110	3.8	3.8	2.55
10	330	13.2	240	---	110	3.9	3.2	2.5
11	340	13.5	260	---	110	3.9	3.7	2.5
12	335	13.6	250	---	110	3.8	3.9	2.5
13	335	13.6	250	---	110	3.6	3.9	2.5
14	305	13.6	250	---	110	3.2	3.7	2.5
15	270	13.5	250	---	115	2.6	3.6	2.6
16	255	13.2	---	---	---	---	3.0	2.6
17	250	13.0					2.7	2.7
18	240	>11.6					2.6	2.8
19	225	12.2					2.3	<2.8
20	235	11.5						2.7
21	230	10.5						2.8
22	225	9.2						2.7
23	240	7.6						2.7

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

Table 46

Johannesburg, Union of S. Africa (26.2°S, 28.1°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<260	4.4					2.0	2.8
01	<260	4.1						2.8
02	250	4.1					1.8	2.8
03	240	3.9						2.9
04	250	3.6						2.8
05	<260	3.2						2.8
06	260	4.1						2.8
07	230	8.3	---	---	120	2.3		3.3
08	240	10.4	230	---	110	2.9		3.2
09	250	11.6	220	---	110	3.3		3.1
10	250	12.7	220	4.9	110	3.6	3.9	3.0
11	250	13.0	220	5.0	110	3.8	4.1	2.9
12	260	12.8	210	5.0	110	3.8		2.8
13	260	13.0	220	5.0	110	3.9		2.8
14	260	13.2	220	4.7	110	3.7	4.0	2.8
15	250	13.0	230	4.4	110	3.5	4.0	2.8
16	250	12.6	230	---	110	3.1	3.8	2.8
17	240	12.4	240	---	110	2.4	3.2	2.9
18	230	11.9			---	---	2.4	3.0
19	220	10.2					2.2	3.0
20	230	9.0					2.0	3.0
21	240	7.8					2.0	3.1
22	230	6.4					2.1	3.1
23	250	4.8					2.1	2.9

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

Table 47

Watheroo, W. Australia (30.3°S, 115.9°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	6.2					2.0	2.8
01	250	6.0					1.8	2.9
02	250	5.8					1.7	2.8
03	250	5.0					2.0	2.95
04	250	4.8						2.9
05	250	4.3						2.9
06	250	4.5				---		2.9
07	250	7.2	---	---		1.9		3.4
08	240	9.0	230	---		2.7	3.2	3.3
09	250	10.2	230	---		3.2	3.8	3.3
10	250	10.5	220	---		3.5	3.9	3.2
11	250	11.0	220	5.2		3.6	4.0	3.2
12	270	12.0	220	5.6		3.7	3.9	2.9
13	260	12.2	240	5.7		3.7	3.9	3.0
14	260	12.2	230	5.1		3.7		2.9
15	260	11.3	240	4.3		3.4	3.6	3.0
16	250	10.8	240	---		3.0	3.4	3.0
17	240	9.6	---	---		2.5	3.3	3.2
18	240	8.2				1.8	2.6	3.2
19	230	7.3					2.6	3.2
20	240	7.3					1.8	3.2
21	250	7.0						3.0
22	250	6.8					2.5	3.0
23	250	6.3					1.6	2.9

Time: 120.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 48

Capetown, Union of S. Africa (34.2°S, 18.3°E) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	3.7					2.3	2.8
01	280	3.6					2.0	2.7
02	<300	3.6					2.3	2.6
03	<280	3.6						2.8
04	260	3.4						2.8
05	250	3.1						2.8
06	260	3.0						2.7
07	260	4.9			---	1.6		2.9
08	230	8.6	---	---	120	2.4		3.25
09	240	10.4	230	---	110	3.0		3.1
10	250	11.8	230	---	110	3.4		3.0
11	250	12.6	220	4.7	110	3.6		2.9
12	260	13.3	220	4.8	110	3.7		2.9
13	260	13.7	230	---	110	3.7		2.8
14	260	13.8	230	---	110	3.7		2.8
15	250	13.6	240	4.6	110	3.6		2.8
16	250	13.3	240	---	120	3.3	3.5	2.8
17	240	12.9	240	---	120	2.8	3.2	2.9
18	230	12.4			120	2.2	2.6	2.9
19	220	11.0					1.7	3.0
20	230	9.0					1.9	3.0
21	230	7.6					2.0	3.1
22	230	5.9					2.0	3.1
23	240	4.5					2.3	2.9

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

Table 49

Godhavn, Greenland (69.2°N, 53.5°W) December 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	(3.0)					<1.6	(2.95)
01	260	(3.0)					<1.6	(2.9)
02	200	(2.8)					<1.6	(2.0)
03	280	(2.7)					<1.5	---
04	270	---					<1.7	---
05	(250)	---					<2.0	---
06	(250)	---					3.2	---
07	(250)	---					<3.5	
00	(250)	---					3.5	
09	(250)	(3.9)					3.0	
10	270	(4.7)					<2.0	---
11	260	(5.3)					<2.4	(3.2)
12	250	(5.1)					<3.2	---
13	240	---					<2.0	---
14	240	(4.6)					<3.2	
15	240	---					4.0	
16	250	(3.8)					4.0	---
17	240	(5.0)					3.9	---
18	260	(3.8)					4.0	---
19	260	(4.3)					>4.1	---
20	250	(4.4)					3.8	---
21	250	(5.2)					<2.0	---
22	250	(3.2)					<1.0	(3.0)
23	260	(3.3)					<1.5	(3.0)

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

Table 50

Godhavn, Greenland (69.2°N, 53.5°W) November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	(3.0)					<1.3	---
01	270	(3.0)					<1.6	---
02	300	(2.7)					<1.5	---
03	300	(2.5)					<1.5	(2.8)
04	290	(2.7)					<1.6	---
05	300	(2.7)					<1.6	---
06	(250)	---					<2.4	---
07	(260)	---					<3.6	
08	260	---					<2.2	---
09	290	---					<2.3	---
10	260	(5.2)	---	---			<2.1	---
11	260	(5.9)	---	---	---	---	<2.1	---
12	240	(5.0)	260	---	---	---	<2.3	---
13	250	(5.6)	240	---			<2.4	---
14	240	(5.4)	250	---			<2.4	---
15	250	(4.7)					2.8	(3.0)
16	240	(5.0)					3.5	---
17	250	(4.5)					3.3	---
18	240	(4.3)					4.2	(3.0)
19	250	(3.7)					2.4	(2.9)
20	240	(4.0)					3.4	---
21	250	(3.5)					<1.8	---
22	250	(3.7)					1.4	---
23	250	(3.0)					<1.4	---

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

Table 51

Poitiers, France (46.6°N, 0.3°E) July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	5.0					3.3	3.00
01	260	4.7					2.4	3.00
02	<270	4.2					2.6	2.95
03	265	4.0					2.7	3.00
04	270	3.6	---	---	---	E	2.5	3.05
05	275	4.2	240	3.0	---	1.6	2.6	3.20
06	320	4.8	230	3.7	110	2.3	3.3	3.30
07	310	5.1	215	4.0	105	2.6	4.2	(3.35)
08	330	5.4	210	4.3	100	2.9	4.3	3.30
09	315	5.5	200	4.4	100	3.1	5.3	(3.30)
10	340	5.5	210	4.5	100	3.2	5.0	3.25
11	330	5.8	205	4.6	100	3.3	4.5	3.30
12	350	5.8	200	4.5	100	3.3	4.3	3.05
13	350	5.7	200	4.6	100	3.3	5.0	3.20
14	360	5.4	200	4.5	100	3.2	4.4	(3.20)
15	350	5.7	210	4.4	100	3.2	4.2	3.10
16	345	5.5	215	4.3	100	3.0	4.8	3.05
17	320	5.6	225	4.1	105	2.7	4.2	3.05
18	300	5.9	230	3.7	110	2.3	5.2	3.10
19	270	6.4	245	3.0	---	1.7	4.6	----
20	235	(6.6)			---	E	4.4	----
21	240	6.4					4.2	3.10
22	250	5.6					3.1	3.15
23	255	5.0					3.1	3.00

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

Table 52

Casablanca, Morocco (33.6°N, 7.6°W) July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	5.20					3.6	(3.00)
01	---	5.20					3.2	(2.95)
02	---	5.10					3.8	3.00
03	---	(5.00)					3.7	(2.90)
04	---	4.55					3.4	3.05
05	---	(4.30)					3.7	3.10
06	250	4.50	250	2.90	---	E	3.4	3.30
07	250	5.20	235	3.75	110	2.30	3.7	3.40
08	290	5.75	225	4.10	110	2.70	4.3	3.30
09	300	5.90	205	4.25	105	3.00	6.2	3.40
10	310	6.00	200	4.50	105	3.20	4.4	3.30
11	340	6.10	190	4.60	110	3.30	4.6	3.00
12	340	6.60	210	----	105	3.20	4.8	2.90
13	340	6.50	(215)	----	110	3.30	4.0	3.00
14	365	6.50	210	(4.50)	110	3.30	3.5	2.95
15	350	7.10	215	----	110	3.20	4.2	2.95
16	320	7.50	(230)	4.40	110	3.20	5.0	3.00
17	315	7.60	225	4.20	110	2.80	5.0	3.00
18	280	7.80	240	3.80	110	2.40	4.8	3.15
19	270	8.00	240	3.10	---	E	4.4	3.10
20	240	7.85					3.5	3.20
21	---	6.45					4.0	3.15
22	---	6.10					3.6	(3.10)
23	---	5.70					4.4	(3.00)

Time: 0.0°.
Sweep: 1.6 Mc to 16.0 Mc in 1 minute 15 seconds.

Table 53

Poitiers, France (46.6°N, 0.3°E) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	4.8					2.7	3.00
01	265	4.4					2.6	2.90
02	260	4.4					2.4	3.00
03	270	3.9					2.6	2.90
04	275	3.9	---	---	---	E	3.0	3.10
05	300	4.4	240	3.2	---	1.8	2.6	3.10
06	320	4.8	225	3.7	110	2.4	3.3	3.10
07	310	5.2	215	4.0	100	2.7	4.0	3.20
08	320	5.4	210	4.2	100	3.0	4.8	3.15
09	330	5.4	215	4.4	100	3.2	4.9	3.20
10	335	5.8	210	4.5	100	3.3	5.1	3.20
11	355	5.7	205	4.5	100	3.2	5.5	3.20
12	365	5.6	200	4.6	100	3.3	5.7	3.20
13	380	5.7	210	4.6	100	3.3	5.0	3.00
14	350	5.6	205	4.5	100	3.3	4.6	3.10
15	350	5.5	210	4.4	100	3.1	4.7	3.05
16	345	5.6	215	4.2	100	3.0	4.6	3.10
17	315	5.0	230	4.0	105	2.7	3.7	3.10
18	300	6.0	245	3.7	110	2.3	4.0	3.10
19	270	6.0	240	3.0	---	1.6	4.7	(3.10)
20	250	6.4	---	---	---	E	3.6	----
21	240	6.2					3.0	(3.10)
22	250	5.9					4.0	3.00
23	255	5.3					3.5	2.95

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

Table 54

Casablanca, Morocco (33.6°N, 7.6°W) June 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	5.20					3.3	3.00
01	---	4.85					3.5	(3.00)
02	---	(4.80)					3.4	3.00
03	---	4.70					3.1	3.05
04	---	4.45					3.1	3.00
05	<260	4.40					3.5	3.15
06	250	4.75	235	3.10	---	E	3.5	3.30
07	270	5.70	230	3.90	110	2.40	4.0	3.40
08	285	5.80	210	4.10	105	2.70	4.5	3.40
09	300	6.10	220	4.40	105	3.00	4.7	3.30
10	305	6.20	---	----	105	3.10	5.0	3.30
11	330	6.10	(210)	----	105	3.20	4.5	3.10
12	(355)	6.20	---	----	105	(3.30)	4.2	3.00
13	350	6.55	---	----	105	3.30	3.4	2.95
14	350	6.80	200	----	110	(3.20)	4.1	2.90
15	330	7.10	220	(4.40)	105	3.20	3.6	3.05
16	320	7.40	235	4.30	105	3.10	4.7	3.00
17	305	7.00	215	4.10	105	2.80	4.5	3.00
18	285	8.10	225	3.80	110	2.30	4.2	3.10
19	260	8.30	240	3.10	---	E	4.3	3.15
20	240	7.60					4.0	(3.30)
21	225	6.70					3.5	(3.20)
22	---	5.90					3.4	3.10
23	---	5.50					3.6	(3.00)

Time: 0.0°.
Sweep: 1.6 Mc to 16.0 Mc in 1 minute 15 seconds.

Table 55

Talara, Peru (4.6°S, 81.3°W) — May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	5.8					<1.5	3.2
01	<240	4.9					<1.4	3.2
02	240	4.7					<1.3	3.2
03	240	4.5					<1.2	3.2
04	250	3.6					<1.3	3.1
05	240	3.1					<1.3	3.2
06	280	3.0			---	<1.2	<1.4	3.0
07	240	4.8			120	1.9	3.5	3.1
08	---	6.2	230	---	110	2.6	4.4	2.9
09	(350)	7.0	220	4.2	110	3.0	4.4	2.6
10	380	7.2	210	4.4	110	3.2	4.0	2.5
11	410	7.5	210	4.5	110	3.3		2.3
12	440	7.5	200	4.5	110	3.4	4.8	2.2
13	420	7.5	200	4.4	110	3.3	3.8	2.2
14	400	7.6	200	4.4	110	3.2	4.0	2.2
15	(360)	7.8	200	4.2	110	3.0	3.8	2.4
16	---	8.0	200	---	110	2.7	3.7	2.5
17	---	8.1	210	---	110	2.3	<2.9	2.5
18	250	8.0					<2.1	2.7
19	270	7.9					<2.0	2.7
20	<300	7.2					<2.0	2.8
21	280	7.3					<1.6	2.8
22	260	7.5					<1.5	3.1
23	230	7.4					<1.5	3.4

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

Table 56

Poitiers, France (46.6°N, 0.3°E) — April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<300	3.3						2.85
01	290	3.2						2.90
02	<285	3.1						2.95
03	<280	3.0						2.90
04	270	2.9						3.00
05	255	3.0	---	---	---	E		3.20
06	245	3.9	230	2.5	---	1.8	2.0	3.40
07	290	4.3	230	3.6	110	2.4	2.4	3.45
08	305	5.0	220	3.9	110	2.6	2.6	(3.30)
09	305	5.2	220	4.1	105	2.9	3.0	3.30
10	305	5.4	210	4.2	105	3.0	3.0	3.30
11	305	5.7	200	4.3	100	3.0	3.5	3.30
12	310	5.4	200	4.4	100	3.1	3.5	3.20
13	340	5.6	205	4.3	100	3.1	3.4	3.10
14	310	5.8	220	4.2	105	3.0	3.2	3.20
15	305	5.6	225	4.2	110	2.9	2.9	3.20
16	300	5.8	230	4.0	110	2.7	3.0	3.20
17	280	5.8	230	3.6	115	2.3	2.6	3.30
18	250	5.8	245	2.6	---	1.6	2.4	3.30
19	240	5.3	---	---	---	E	2.1	----
20	235	4.8					2.0	----
21	245	4.4					2.0	(3.25)
22	250	3.7						3.05
23	300	3.5						(2.90)

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

Table 57

Casablanca, Morocco (33.6°N, 7.6°W) — April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	3.15						2.85
01	---	3.30						2.90
02	---	3.20						2.95
03	---	3.10						3.05
04	---	3.10						3.20
05	---	2.75						3.25
06	245	3.25						3.30
07	240	4.60	235	3.05	120	2.00		3.65
08	250	5.10	225	3.80	110	2.50	2.7	3.55
09	265	5.30	210	4.20	105	2.70	3.3	3.50
10	295	5.50	210	4.30	105	3.00	3.2	3.30
11	330	6.00	200	4.45	105	3.20	3.2	3.20
12	310	6.40	220	4.50	105	3.20		3.20
13	320	6.75	230	4.40	105	3.20		3.20
14	320	7.10	245	4.40	105	3.15		3.10
15	300	7.00	230	4.30	105	3.10		3.20
16	290	7.50	230	4.20	105	2.90		3.20
17	275	7.30	235	3.90	110	2.55		3.30
18	260	7.50	240	3.40	120	2.00	3.0	3.30
19	240	7.20	---	----			1.9	3.40
20	210	6.10						3.55
21	---	4.20						3.20
22	---	3.40						2.90
23	---	3.20						2.80

Time: 0.0°.
5weep: 1.6 Mc to 16.0 Mc in 1 minute 15 seconds.

Table 58

Talara, Peru (4.6°S, 81.3°W) — April 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	7.6					1.6	3.4
01	220	5.8						3.25
02	240	5.9						3.2
03	240	4.9						3.4
04	230	3.7						3.4
05	240	2.7						3.3
06	260	2.3			120	---	2.0	3.1
07	250	5.0			130	1.9	3.0	3.2
08	(290)	6.7	240	---	120	2.6	3.4	3.0
09	320	7.7	220	---	110	3.0	3.7	2.7
10	370	8.2	220	4.3	110	3.2	4.5	2.5
11	390	8.2	210	4.4	110	3.4	4.4	2.3
12	390	8.3	210	4.4	120	3.4	4.4	2.4
13	390	8.4	200	4.4	120	3.4	3.9	2.4
14	360	8.0	200	4.3	120	3.3	5.0	2.7
15	330	9.5	210	4.2	110	3.1	4.6	2.95
16	310	9.6	220	---	110	2.8	4.2	3.2
17	---	9.4	230	---	120	2.4	5.6	3.0
18	250	9.2			100	---	5.1	3.1
19	280	9.0					3.2	2.95
20	300	8.6						2.95
21	270	8.8						3.2
22	250	8.9						3.45
23	220	9.0						3.75

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

Table 59

Poitiers, France (46.6°N, 0.3°E) — January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.3					2.1	(3.10)
01	260	3.4					2.0	(3.15)
02	260	3.4						(3.10)
03	260	3.2						(3.05)
04	250	2.0						(3.30)
05	245	2.4						----
06	<240	2.3					1.9	----
07	<240	2.7			---	---		----
08	205	4.6	---	2.0	---	E	2.3	3.70
09	220	5.7	175	2.6	120	2.1	2.4	3.70
10	225	6.0	215	3.6	115	2.5	2.5	3.80
11	225	6.0	215	3.7	110	2.7	2.8	3.75
12	225	6.0	205	3.7	105	2.7		3.75
13	230	5.7	210	3.6	110	2.7		3.65
14	230	5.8	220	3.4	110	2.5	2.5	3.70
15	225	5.4	205	2.6	110	2.2	2.4	3.70
16	220	5.2	195	2.2	---	E	2.6	3.65
17	210	4.2			---	E	2.4	3.50
18	220	3.6					2.3	3.40
19	220	3.2					2.4	(3.55)
20	245	3.2					2.3	(3.20)
21	255	3.2					2.3	(3.10)
22	250	3.3					1.9	(3.05)
23	250	3.3					1.9	(3.15)

Time: 0.0°.
5weep: 1.6 Mc to 16.8 Mc in 1 minute.

Table 60

Casablanca, Morocco (33.6°N, 7.6°W) — January 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	3.10					2.2	3.10
01	---	3.10						3.10
02	---	3.00						3.10
03	---	3.00						3.20
04	---	3.00						3.20
05	---	2.65						3.40
06	<250	2.30						3.20
07	---	2.55						3.30
08	225	4.80	---	----	---	E		3.70
09	235	5.70	225	(3.30)	115	2.30	3.5	3.60
10	250	6.35	225	4.00	110	2.70	3.5	3.60
11	245	6.55	215	4.20	110	2.90	3.6	3.60
12	255	6.20	205	4.20	110	3.00		3.60
13	260	5.05	210	4.20	110	3.00	3.6	3.55
14	260	5.70	220	4.10	110	2.95	3.5	3.50
15	255	5.80	220	3.90	110	2.80		3.50
16	240	5.70	235	(3.60)	115	2.45	3.3	3.60
17	230	5.20	---	----	---	1.80	3.0	3.60
18	215	4.65					2.6	3.60
19	---	3.70					2.6	3.40
20	---	3.00					2.5	3.30
21	---	2.90					2.3	3.20
22	---	3.00					2.8	3.15
23	---	2.90					2.5	3.10

Time: 0.0°.
5weep: 1.6 Mc to 16.0 Mc in 1 minute 15 seconds.

TABLE 61
IONOSPHERIC DATA

foF2, 0.1 Mc, Sept. 1956 — 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	F 52	U F 48	U F 48	U F 50	F 50	F 52	66	76	92	98	98	100	100	98	103	101	102	100	100	96	82	76	F 62	58
02	F 48	U F 32	U F 32	U F 33	F 39	F 28	E G 36	U F 44	E G 41	E G 45	E G 48	55	F 58	60	F 63	U S 64	68	68	70	F 64	56	U F 50	F 44	F 39
03	F 40	U F 25	U F 37	U F 35	U F 31	U F 30	F 47	U F 64	67	70	80	83	82	83	82	82	83	84	83	82	74	66	62	57
04	57	51	48	U F 30	U F 24	U F 24	F 48	56	58	58	62	64	70	72	73	72	74	74	73	69	64	57	59	57
05	55	54	50	45	F 40	F 35	60	80	90	100	105	110	109	109	106	104	100	100	98	90	76	72	73	69
06	64	64	60	53	54	50	72	88	92	95	100	104	105	105	102	98	92	90	I C 91	95	90	74	U S 68	71
07	64	64	U F 56	53	48	46	57	76	92	92	102	100	108	104	107	100	97	97	93	92	84	78	73	69
08	F 64	62	60	U F 51	U F 47	F 48	59	72	87	H 80	88	84	78	F 80	80	70	69	69	67	60	54	F 49	47	F 45
09	F 43	F 42	F 38	F 38	F 38	F 38	56	76	81	92	98	H 106	109	110	115	110	113	110	102	90	76	67	67	F 62
10	F 60	F 53	U F 49	F 38	F 32	F 31	48	65	74	82	90	90	96	98	98	100	92	90	90	76	73	67	64	63
11	F 60	J 59	J 55	56	56	48	56	72	80	85	100	96	100	100	97	98	92	90	90	90	82	72	F 63	U F 62
12	F 62	U F 60	U F 65	U F 56	U F 51	U F 48	U F 62	F 80	98	98	102	103	103	106	103	102	100	100	100	97	82	80	70	66
13	U S 62	64	66	62	50	45	53	65	69	69	68	69	69	68	68	U S 71	72	72	71	70	64	65	58	59
14	J 56	U J 56	J 55	50	F 47	46	61	83	91	99	94	97	98	97	97	96	94	96	93	90	73	75	73	F 69
15	F 67	F 66	F 63	F 60	56	F 51	62	72	92	100	102	105	103	105	103	105	103	100	96	88	82	82	80	72
16	F 70	F 68	F 62	F 59	F 57	F 55	F 69	92	102	107	116	118	116	116	120	120	113	108	104	106	90	85	U J 79	F 74
17	71	68	68	64	64	62	69	83	108	120	120	115	116	118	115	115	113	113	110	100	89	83	76	72
18	74	72	66	62	59	58	74	102	113	115	115	118	116	115	115	111	107	107	106	94	84	82	75	72
19	68	68	64	58	56	53	67	94	110	115	116	120	120	120	119	115	115	112	108	96	90	85	76	71
20	68	68	64	67	66	63	69	86	103	117	118	120	115	125	129	118	114	109	98	89	83	77	72	68
21	61	58	55	51	56	50	65	89	111	115	127	127	124	122	119	116	115	109	110	100	87	75	69	68
22	63	57	F 38	U F 42	U F 40	F 39	F 45	63	F 72	90	103	110	113	119	114	H 113	108	105	102	90	78	73	68	70
23	70	F 63	F 58	F 44	F 38	F 38	53	78	100	112	120	123	126	128	128	U C 120	118	115	108	92	84	83	80	U J 83
24	F 76	F 70	U F 63	U F 62	F 53	U F 49	F 57	84	100	115	118	122	123	120	116	115	113	108	100	92	85	76	J 77	U F 76
25	77	74	69	56	48	F 45	F 56	90	105	110	114	116	120	119	120	114	112	107	107	96	86	80	76	70
26	66	66	62	60	56	55	58	70	74	75	84	87	93	94	96	98	98	91	87	76	72	70	66	62
27	61	60	55	50	42	F 38	F 48	71	F 85	96	109	115	119	118	115	111	114	111	108	96	85	72	F 68	F 67
28	F 64	F 65	F 68	F 67	F 50	F 40	F 54	H 78	90	110	113	115	116	118	117	115	113	112	102	88	82	79	74	71
29	F 68	69	F 64	F 60	U F 55	F 50	56	F 75	92	105	108	111	115	116	115	116	115	113	105	94	77	70	73	71
30	F 70	F 69	F 62	U C 57	I C 50	I C 44	F 52	82	105	114	113	119	I C 116	117	118	117	117	115	105	89	I C 78	77	70	68
MED	64	64	60	54	50	47	57	77	92	98	102	108	109	110	110	108	105	102	100	90	82	75	70	68
NO	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 62
IONOSPHERIC DATA

foF2, 0.1 Mc, Sept. 1956 — 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2300
01	U F 51	U F 48	U F 49	U F 51	F 52	F 52	75	83	92	96	98	98	100	98	102	102	96	98	96	88	82	70	F 56	57
02	U F 31	U F 36	U F 32	U F 33	F 32	U F 33	E G 33	43	48	E G 46	E G 48	55	58	63	U S 62	F 66	65	68	66	U F 60	U F 50	U F 46	U F 40	U F 40
03	U F 35	U F 27	U F 34	F 32	U F 26	U F 35	54	64	70	78	78	82	83	82	82	82	82	82	86	F 78	70	64	58	57
04	57	50	F 37	U F 27	U F 19	U F 33	F 50	58	59	60	63	67	70	72	57	73	74	75	I A 71	66	63	58	58	U C 56
05	F 56	F 53	48	43	F 34	F 42	71	87	98	103	107	106	110	108	105	100	100	100	98	84	77	72	74	64
06	61	64	56	54	52	56	H 80	94	90	98	102	106	106	102	101	94	93	B	93	90	83	74	72	67
07	64	64	J 55	50	48	49	68	84	96	99	100	106	108	108	105	100	97	98	92	85	80	77	70	66
08	63	63	58	F 48	F 46	F 50	F 63	72	V 84	H 80	86	F 78	F 80	F 75	75	66	69	67	67	58	53	48	F 45	F 45
09	F 43	F 39	F 38	39	F 38	44	70	78	90	94	103	108	110	112	110	110	112	106	96	84	72	F 67	64	60
10	F 58	F 53	F 44	F 33	F 31	F 37	58	69	75	85	90	94	96	98	100	98	90	88	84	71	70	64	63	J 62
11	58	58	56	J 56	54	50	64	70	85	92	97	98	100	98	99	95	93	92	92	85	75	F 69	F 62	F 62
12	U J 60	U J 59	U F 62	U F 55	U F 48	U F 52	F 71	88	92	102	103	107	106	107	103	101	100	98	99	97	90	78	69	64
13	60	65	64	54	49	47	60	68	69	69	68	68	69	68	70	U S 71	73	71	70	67	66	62	58	U S 57
14	U J 54	55	J 54	J 50	C	48	72	87	93	92	96	98	98	98	97	96	96	94	92	86	76	75	71	68
15	69	F 64	F 62	58	F 54	53	71	87	94	102	104	104	105	105	104	104	104	100	92	84	82	82	79	F 70
16	F 69	F 63	F 62	F 55	F 56	58	80	98	105	110	119	118	116	120	120	117	107	108	105	98	85	85	79	72
17	69	68	65	64	63	63	80	103	110	120	120	117	116	115	115	112	113	110	105	94	86	78	77	74
18	72	69	64	61	59	63	88	107	115	116	117	119	114	115	112	108	112	108	103	86	83	83	77	72
19	68	66	60	56	55	56	78	101	116	114	120	120	120	120	115	119	113	110	103	92	88	82	72	68
20	68	68	65	67	63	64	75	94	108	115	120	120	120	128	125	102	111	105	93	88	78	74	67	64
21	58	U J 56	54	56	55	53	75	100	120	120	128	127	122	128	117	116	113	110	108	92	82	U S 70	68	66
22	U J 59	U J 57	F 37	U F 41	F 40	U F 39	49	69	78	100	108	111	117	117	113	110	108	103	96	89	78	70	68	70
23	69	F 59	F 47	F 42	F 38	F 40	71	88	107	119	121	125	126	129	125	U C 125	118	111	100	86	84	82	U J 78	F 79
24	U J 74	F 68	F 62	F 60	U J 50	U J 50	70	92	107	120	120	125	125	120	I C 116	115	110	108	96	87	82	U J 77	U J 76	79
25	78	74	59	F 53	F 46	F 47	F 74	98	106	113	115	118	120	120	116	114	108	104	101	90	82	79	75	68
26	65	63	62	58	56	54	62	72	72	78	86	89	94	94	95	98	95	92	82	74	70	68	62	62
27	58	58	55	47	42	F 38	63	81	89	106	110	118	I C 118	115	110	113	113	110	100	90	78	71	F 68	67
28	F 65	F 66	F 66	F 59	F 45	F 40	F 67	86	100	115	126	115	118	118	116	114	113	110	96	85	80	76	70	68
29	70	I C 66	F 59	U J 59	F 53	F 50	F 67	85	96	105	111	113	115	115	115	116	113	110	100	82	70	72	72	72
30	70	F 64	F 58	55	F 45	F 47	I C 68	92	110	113	116	116	115	116	119	116	116	110	96	J 80	76	76	68	67
MED	62	63	57	54	48	50	70	86	94	102	106	108	110	110	108	103	106	103	96	86	78	73	68	66
NO	30	30	30	30	29	30	30	30	30	30	30	30	30	30	30	30	30	29	30	30	30	30	30	30

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 63
IONOSPHERIC DATA

foFI, 0.1 Mc, Sept. 1956 — 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							Q	L	L	L	L	L	H 620	L	L	L	L	L	Q					
02							F 360	F 360	410	H 450	H 480	H 500	520	510	F 520	U S 510	L	L						
03							Q	L	L	L	580	590	600	L	L	L	L	L	Q					
04							Q	Q	450	500	520	H 550	H 560	H 520	550	570	L	L	A					
05								Q	A	L	L	590	H 630	L	L	L	L	L	Q					
06							Q	L	L	L	L	L	L	L	L	L	L	L	C					
07								Q	L	L	H 550	U L 630	U L 600	540	L	L	L	Q	Q					
08								L	L	L	H 580	570	560	L	590	L	L	L	A					
09								L	L	L	L	L	L	L	L	L	L	L	Q					
10								Q	L	L	500	L	L	L	L	L	L	L	Q					
11							Q	L	L	L	H 570	H 580	H 600	U L 620	L	L	L	Q	Q					
12								Q	L	L	L	L	550	L	500	L	L	L	Q					
13							L	L	L	L	L	H 560	H 570	560	550	540	L	L	Q					
14							Q	Q	Q	L	U L 650	U L 660	L	640	640	580	L	L	Q					
15								L	L	L	L	L	H 630	L	H 640	L	L	Q	Q					
16								L	L	L	L	L	680	H 640	L	L	L	L	Q					
17								Q	L	L	L	L	L	L	L	L	L	L	Q					
18								Q	L	L	L	L	L	L	L	L	L	L	Q					
19								Q	L	H 420	L	L	L	L	L	L	L	L	Q					
20								L	L	L	L	L	L	L	L	L	L	L	Q					
21								L	L	L	L	L	L	L	L	L	L	L	Q					
22								Q	L	L	L	L	L	L	L	L	L	L	Q					
23								Q	L	L	L	L	L	L	L	L	L	L	Q					
24								Q	Q	L	L	L	L	L	L	L	L	L	Q					
25								Q	L	L	L	L	L	L	L	L	L	Q	Q					
26								L	L	L	H 540	560	L	H 540	L	L	L	Q						
27									L	L	L	L	L	L	L	L	L	Q						
28								Q	Q	L	L	L	L	L	L	L	L	Q						
29								Q	L	L	L	L	L	L	L	L	L	Q						
30								Q	L	L	L	L	C	L	L	L	L	Q						
MED											550	580	600	550	550									
NO							1	1	2	3	9	10	12	8	7	4								

TABLE 64

IONOSPHERIC DATA

foE, 0.1 Mc, Sept. 1956 — 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							A	U A 240	U A 300	U A 340	I A 360	380	390	390	390	370	330	280	A					
02							A	F 250	U A 310	350	370	390	I A 380	380	370	360	I B 320	280						
03							200	U A 260	U A 320	U R 340	370	380	380	U R 390	390	H 360	320	280	210					
04							H 200	260	A	A	F 370	370	H 390	380	380	360	330	280	190					
05								A	A	A	370	H 370	I B 380	380	370	H 360	H 340	280	U B 190					
06							S	H 270	H 310	360	I R 380	R	B	H 420	U R 400	H 370	H 340	U R 300	I C 220					
07								270	I A 320	370	H 370	380	H 400	370	360	H 360	320	H 290	200					
08								250	290	H 350	360	H 370	380	380	380	360	330	300	B					
09								H 250	290	I B 320	H 350	I A 360	H 380	H 370	I R 360	350	330	A	B					
10								H 260	320	U R 340	360	I A 380	H 390	390	370	H 360	320	B	B					
11							B	B	B	A	A	A	A	360	H 370	H 360	A	A	B					
12								A	H 310	A	A	H 360	H 390	H 390	380	370	330	H 280	220					
13							S	280	330	360	H 390	390	380	370	H 360	350	H 330	280	R					
14							S	230	310	370	390	U A 390	400	390	370	350	330	280	B					
15								U B 250	320	H 340	H 390	H 400	U A 360	390	H 380	360	340	280	A					
16								H 270	320	360	370	360	380	380	370	360	320	270	A					
17								A	A	A	H 370	I A 370	370	360	H 370	I B 350	H 330	H 270	S					
18								260	H 290	H 320	H 360	U R 360	U R 390	H 400	400	380	H 330	U R 280	S					
19								280	300	U R 340	U R 350	360	380	380	360	340	320	260	S					
20								U S 250	H 300	H 340	H 360	H 370	370	380	370	340	H 310	260	A					
21								A	H 300	340	360	370	380	380	380	330	H 290	H 250	S					
22								250	300	340	370	380	380	360	360	H 330	300	250	S					
23								250	300	340	360	380	370	370	360	U C 340	U A 310	240	170					
24								U A 250	F 310	340	360	U A 360	370	360	H 340	H 340	300	230	S					
25								H 250	I A 290	330	350	H 360	H 370	380	360	330	300	240	A					
26								230	H 280	320	340	360	360	350	330	H 320	H 290	230						
27								H 240	H 310	330	340	360	U P 350	A	U A 340	H 330	H 280	U A 210						
28								240	300	330	340	U P 340	340	360	H 340	310	H 290	230						
29								B	A	A	A	A	A	340	330	H 310	H 290	H 230						
30								B	H 290	290	A	340	C	330	U A 340	320	300	240						
MED								250	300	340	360	370	380	380	370	350	320	270	200					
NO							2	23	25	24	26	27	26	29	30	30	29	27	7					

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE **65**

IONOSPHERIC DATA

fEs, 0.1 Mc, Sept. 1956 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Lang. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	S 22		S	S	S	S	38	38	40	42	45	G	G	G	G	48	46	31	30	S	29	S	S	S
02	S	S	S	S	27	24	25	45	40	72	72	G	45	G	G ·	40	G	G	23	S	S	S	S	S
03	S	E	S	S	S	S	G	29	82	G	Y 50	G	G	G	G	G	39	46	G	B	S	S	S	S
04	S	S	S	Y 29	S	S	G	G	38	37	G	G	G	G	100	43	53	50	48	41	28	28	31	S
05	33	25	S	S	S	S	22	30	60	110	70	G	B	G	G	G	36	30	23	28	S	S	S	S
06	S	S	S	S	B	B	19	G	Y 44	G	G	G	B	G	G	G	G	G	C	B	B	S	S	B
07	E	S	B	S	S	Y 26	42	Y 27	43	G	68	39	G	G	G	G	G	G	G	S	S	S	S	S
08	S	S	S	S	S	S	B	G	G	G	G	88	G	G	G	46	34	G	54	B	B	B	B	B
09	S	S	S	S	S	16	16	27	33	39	G	37	G	45	29	39	40	33	B	B	S	B	B	S
10	S	S	S	S	S	S	B	27	33	35	38	39	G	G	G	G	G	29	B	B	B	B	B	S
11	S	S	S	S	33	S	B	26	32	37	39	50	42	G	36	G	36	48	24	48	58	18	26	45
12	35	28	S	E	E	S	18	31	G	42	45	G	G	G	22	68	21	G	G	S	S	S	S	S
13	S	S	S	S	S	S	S	G	G	G	G	G	G	G	G	G	G	G	G	S	S	S	S	S
14	S	S	S	S	S	S	S	36	G	G	G	41	G	40	38	G	G	35	26	S	S	18	S	S
15	S	S	S	S	19	20	B	G	G	G	64	G	38	G	G	G	44	38	35	52	18	S	S	S
16	S	S	S	S	S	S	17	G	G	G	G	G	54	45	G	G	G	39	31	18	S	S	S	S
17	S	S	E	S	S	S	39	52	44	34	G	H 38	G	G	G	B	G	G	18	S	S	S	S	S
18	S	S	S	S	S	S	18	G	G	G	G	G	G	G	G	G	G	G	S	S	B	S	S	S
19	S	S	E	E	E	S	B	G	G	42	G	G	G	G	G	G	G	36	G	S	S	S	S	S
20	S	S	S	S	S	S	B	21	28	G	G	G	40	49	40	36	42	28	64	S	29	S	S	S
21	S	S	S	S	S	32	B	31	G	55	G	G	G	G	G	G	G	G	G	S	S	S	S	S
22	S	S	15	S	S	S	B	G	G	G	G	G	G	G	G	G	G	G	19	49	S	S	S	S
23	S	S	S	E	E	S	B	G	G	G	G	G	G	G	G	G	39	S	G	S	S	S	S	S
24	39	S	S	S	E	S	B	32	39	G	G	38	G	G	36	G	G	G	G	S	S	S	S	S
25	E	S	S	S	S	S	S	24	38	37	G	G	G	G	G	G	G	38	37	18	S	S	S	E
26	S	S	S	S	S	S	B	20	30	G	45	G	G	G	G	32	G	G	17	S	S	S	S	S
27	22	23	S	S	S	S	S	G	38	G	G	G	38	37	36	43	40	33	B	S	S	S	S	S
28	S	S	S	S	S	S	S	G	G	G	G	G	G	39	36	S	S	25	17	S	S	S	S	S
29	S	S	S	S	S	S	S	B	29	34	35	36	33	G	G	G	G	G	B	B	S	B	B	B
30	B	S	44	30	C	C	S	22	G	33	42	29	C	42	39	33	17	G	G	32	C	B	S	S
MED	U 22	U 23				U 22			30											18	U 18			
NO	7	5	5	5	8	6	23	30	30	30	30	30	29	30	30	29	29	29	28	14	9	8	6	5

TABLE 66
IONOSPHERIC DATA

fmin, 0.1 Mc, Sept. 1956 — 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	E S 16	E S 15	E S 14	E S 13	E S 16	E S 16	E S 16	E S 16	E S 16	18	E S 16	22	20	17	E S 16	E S 16	23	E S 16	17	E S 16	E S 16	E S 16	E S 16	E S 16
02	E S 16	E S 16	E S 13	E S 13	18	18	E S 16	E S 17	E S 17	E S 16	E S 16	25	27	25	25	23	34	18	E S 16	E S 16	E S 15	E S 16	E S 16	E S 16
03	E S 15	E	E S 13	E S 15	E S 11	E S 16	E S 16	E S 16	E S 16	21	21	25	27	23	22	21	E S 16	E S 16	E S 16	17	E S 16	E S 16	E S 16	E S 16
04	E S 16	E S 13	E S 13	E S 13	E S 13	E S 13	17	19	E S 16	18	20	20	24	25	18	17	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
05	E S 16	E S 15	E S 13	E S 14	E S 13	E S 16	E S 16	20	20	22	22	22	41	22	20	E S 16	E S 16	18	17	17	E S 16	E S 16	E S 16	E S 12
06	E S 16	E S 16	E S 16	E S 14	22	20	17	21	20	21	28	27	43	26	33	28	23	20	C	17	17	E S 15	E S 16	20
07	E	E S 14	17	E S 13	E S 13	E S 15	E S 15	17	24	20	22	21	21	19	24	21	17	20	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
08	E S 16	E S 12	E S 12	E S 12	E S 12	E S 15	19	18	17	19	21	20	21	25	20	20	E S 16	23	21	22	23	21	22	19
09	E S 17	E S 15	E S 12	E S 11	E S 12	E S 12	E S 15	E S 16	21	36	25	24	E S 16	E S 16	25	E S 16	21	23	26	25	E S 16	23	18	E S 16
10	E S 12	E S 11	E S 11	E S 11	E S 12	E S 16	21	19	22	28	23	25	24	22	23	24	21	26	34	22	19	24	20	E S 13
11	E S 14	E S 15	E S 13	E S 14	E S 14	E S 14	27	25	27	21	26	24	25	24	22	22	23	23	22	E S 16	E S 13	E S 13	E S 12	E S 16
12	E S 11	E S 12	E S 13	E	E	E S 16	E S 16	E S 17	21	22	23	24	25	24	18	24	E S 16	19	17	E S 16	E S 15	E S 13	E S 16	E S 16
13	E S 13	E S 13	E S 15	E S 16	E S 16	E S 16	17	19	18	22	23	24	26	25	22	18	24	20	E S 16	E S 15	E S 15	E S 14	E S 15	E S 14
14	E S 14	E S 15	E S 15	E S 14	E S 16	E S 15	20	19	22	22	22	22	21	22	E S 16	22	19	17	20	E S 16	E S 17	E S 16	E S 15	E S 14
15	E S 14	E S 12	E S 12	E S 14	E S 13	E S 14	18	23	17	19	22	21	18	19	22	20	17	E S 16	E S 16	E S 11	E S 16	E S 16	E S 16	E S 13
16	E S 16	E S 13	E S 13	E S 11	E S 12	E S 15	E S 13	17	18	22	25	21	20	20	22	20	19	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
17	E S 15	E S 14	E	E S 11	E S 13	E S 16	E S 16	20	21	23	23	21	23	19	22	45	E S 16	20	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
18	E S 13	E S 14	E S 13	E S 13	E S 13	E S 16	E S 16	E S 16	E S 16	18	20	21	20	18	E S 16	E S 16	E S 16	E S 17	19	E S 16	18	E S 16	E S 16	E S 16
19	E S 16	E S 17	E	E	E	E S 16	21	19	E S 17	E S 17	20	21	21	20	17	E S 16	17	16	19	E S 16	E S 16	E S 16	E S 16	E S 16
20	E S 16	E S 16	E S 12	E S 13	E S 13	E S 16	20	17	16	20	22	20	19	17	20	19	E S 16	17	E S 16	E S 16	E S 16	E S 16	E S 16	E S 12
21	E S 13	E S 16	E S 13	E S 12	E S 15	E S 16	19	E S 16	E S 16	19	19	24	23	27	19	20	E S 16	E S 16	19	E S 15	E S 16	E S 16	E S 16	E S 16
22	E S 16	E S 11	E S 11	E S 15	E S 11	E S 14	19	E S 16	E S 16	E S 16	19	22	23	21	E S 17	18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 11
23	E S 13	E S 11	E S 11	E	E	E S 13	20	E S 16	17	21	19	20	21	22	23	20	19	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
24	E S 16	E S 11	E S 11	E S 11	E	E S 13	20	E S 16	E S 16	E S 16	20	19	21	22	17	19	18	E S 15	18	E S 16	E S 15	E S 16	E S 13	E S 15
25	E	E S 16	E S 12	E S 13	E S 12	E S 15	E S 17	E S 16	E S 16	17	20	21	24	21	21	18	17	E S 16	E S 16	E S 16	E S 12	E S 15	E S 13	E
26	E S 16	E S 15	E S 12	E S 14	E S 15	E S 16	18	18	E S 16	20	18	21	24	E S 16	18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
27	E S 16	E S 14	E S 13	E S 13	E S 13	E S 12	E S 16	E S 16	E S 16	17	18	22	22	23	18	18	E S 16	17	18	E S 16	E S 16	E S 16	E S 16	E S 16
28	E S 13	E S 12	E S 13	E S 13	E S 16	E S 16	E S 17	E S 16	21	20	17	21	23	21	18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
29	E S 16	E S 12	E S 11	E S 13	E S 13	E S 16	E S 16	21	21	21	E S 16	E S 16	21	18	20	E S 16	E S 16	17	20	17	E S 16	19	17	19
30	18	E S 16	E S 11	U C 24	C	C	E S 16	21	18	24	22	21	C	20	18	E S 16	E S 16	18	19	E S 16	C	21	E S 16	E S 16
MED																								
NO																								

TABLE 67

IONOSPHERIC DATA

h'F2, Km, Sept. 1956 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Lang. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Monual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	270	290	300	300	310	270	240	240	L	L	270	300	340	290	U L 310	U L 310	270	U L 280	250	240	240	240	250	320
02	310	420	410	F 350	F 380	F 420	G	750	G	G	G	540	F 540	520	450	430	360	L	270	260	250	270	310	360
03	400	360	F 340	280	270	340	260	L	L	L	340	370	350	330	330	L	U L 320	U L 290	270	250	250	250	280	290
04	270	270	290	300	U S 400	350	270	240	300	L	440	L	400	340	400	370	L	290	270	260	250	270	310	300
05	280	270	240	270	250	260	260	240	240	L	U L 280	310	330	L	U L 280	280	250	270	240	230	230	250	290	250
06	300	290	260	280	300	280	250	250	250	U L 300	260	U L 300	300	330	L	270	L	300	I C 260	250	250	260	270	270
07	260	270	250	240	280	280	260	240	260	250	300	315	320	290	290	270	250	250	250	240	250	240	260	260
08	270	270	270	270	290	300	270	L	270	H 250	400	460	400	L	350	290	L	L	330	280	300	290	300	310
09	310	310	310	320	270	270	270	230	240	L	280	H 260	300	270	310	L	280	250	240	250	220	270	280	F 270
10	270	F 250	250	F 270	280	330	260	240	300	320	280	270	340	330	320	300	L	L	250	230	250	270	300	290
11	300	330	320	310	290	250	250	260	L	270	320	280	320	330	310	310	L	250	250	250	260	240	260	290
12	310	300	270	250	250	260	250	230	260	270	250	L	280	L	280	290	L	L	250	250	240	240	230	290
13	350	330	290	270	290	300	310	300	350	L	L	460	490	500	480	450	L	310	280	250	260	280	280	300
14	300	310	280	280	280	280	260	250	230	250	350	U L 330	L	350	350	320	L	L	250	240	240	270	270	280
15	290	280	270	270	270	260	260	U L 250	240	250	L	L	310	U L 350	340	L	L	250	250	260	240	260	250	260
16	260	260	270	270	260	250	240	L	U L 250	260	L	L	350	360	320	L	L	280	240	250	230	250	260	260
17	270	290	280	270	260	240	230	240	U L 250	250	250	300	L	310	L	L	270	290	240	230	230	250	260	260
18	270	260	250	250	260	260	250	240	240	240	L	250	240	L	U L 300	250	260	270	240	230	240	250	250	250
19	260	260	260	250	250	240	240	230	240	240	230	260	300	310	310	U L 320	L	U 260	240	230	240	240	250	290
20	320	320	340	310	270	260	250	260	250	L	300	320	L	340	U L 300	L	L	L	250	250	250	280	280	U S 290
21	310	320	310	300	260	250	250	250	U L 260	240	L	270	290	300	U L 300	L	L	270	240	230	230	250	270	300
22	320	350	F 350	F 350	F 330	260	F 280	250	250	260	L	290	310	L	L	L	260	260	240	250	250	270	280	300
23	280	250	F 270	F 290	F 290	F 270	260	230	250	240	250	280	290	280	260	250	260	260	230	230	250	260	260	260
24	F 260	240	250	250	250	270	260	240	230	L	L	L	270	L	270	L	L	260	230	240	260	270	290	300
25	270	240	250	230	250	250	250	240	240	250	U L 260	270	290	L	L	L	U L 270	240	240	230	250	270	270	280
26	300	310	300	300	300	280	270	270	260	L	330	330	340	320	U L 300	L	L	240	240	240	260	260	280	290
27	280	280	260	240	250	250	250	240	260	L	260	300	280	270	L	L	260	250	230	230	230	240	270	290
28	300	320	280	250	230	240	270	H 230	230	L	U L 250	260	310	L	280	280	250	250	220	230	240	250	250	270
29	270	260	250	270	260	250	250	240	250	250	260	280	270	L	L	U L 280	L	240	230	230	250	270	270	290
30	280	250	260	U C 270	I C 270	I C 260	260	230	L	240	260	250	I C 280	250	U L 290	L	240	240	230	240	I C 240	260	260	290
MED	280	280	270	270	270	260	260	240	250	250	270	300	310	330	310	290	260	260	240	240	250	260	270	290
NO	30	30	30	30	30	30	30	27	26	19	23	25	27	21	24	17	14	24	30	30	30	30	30	30

TABLE 68

IONOSPHERIC DATA

h'Fl, Km, Sept. 1956 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							Q	230	220	230	210	210	H 220	220	220	225	230	240	Q					
02							F 250	F 250	245	H 220	H 200	H 230	235	230	220	250	230	240						
03							Q	240	230	210	215	230	230	220	230	220	230	240	Q					
04							Q	Q 210	215	220	H 200	H 220	H 215	I A 230	240	250	U A 260	A						
05								Q	A 220	H 210	210	H 210	H 220	220	230	230	240	Q						
06							Q	250	230	220	240	230	230	220	230	220	240	250	C					
07								Q 230	230	H 215	H 210	H 200	220	H 215	215	215	Q	Q						
08								240	240	210	H 220	230	240	230	230	240	240	265	A					
09								235	240	220	210	215	H 210	220	220	230	240	240	Q					
10								Q 230	220	215	230	H 210	215	220	230	225	250	Q						
11							Q	255	230	230	H 210	H 205	H 200	220	H 220	235	220	Q	Q					
12								Q 230	230	H 210	210	200	220	210	210	H 225	230	250	Q					
13							240	240	280	220	220	220	220	230	230	240	240	250	Q					
14							Q	Q	Q 220	220	220	H 190	215	220	215	220	230	240	Q					
15								240	230	210	H 210	H 200	H 205	215	H 220	240	235	Q	Q					
16								235	230	220	H 215	220	240	220	230	230	240	240	Q					
17								Q 215	215	215	215	H 210	205	H 210	225	U S 240	230	250	Q					
18								Q 230	220	220	200	200	210	230	220	240	240	Q						
19								Q 220	210	210	H 175	H 200	H 205	H 210	230	240	240	Q						
20								245	225	220	H 200	H 200	210	230	230	230	235	245	Q					
21								235	H 225	220	205	205	205	210	215	230	240	240	Q					
22								Q 230	215	210	H 210	215	210	220	220	225	240	Q						
23								Q 235	230	210	215	210	220	225	U C 220	220	240	Q						
24								Q	Q 225	200	205	200	205	210	H 215	240	240	Q						
25								Q 235	220	205	200	210	215	220	220	235	Q	Q						
26								250	235	230	220	215	H 205	H 200	220	H 210	230	Q						
27								220	215	215	215	225	210	215	220	240	Q							
28								Q	Q	H 225	230	H 220	220	H 210	230	225	230	Q						
29								Q 230	210	220	225	210	H 200	H 215	235	240	Q							
30								Q 230	225	200	200	I C 210	210	215	220	240	Q							
MED								240	230	220	210	210	210	215	220	230	235	240						
NO							2	13	26	30	30	30	30	30	30	30	30	21						

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 69

IONOSPHERIC DATA

h'E, Km, Sept. 1956 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							119	111	111	109	109	109	101	105	101	101	111	113	119					
02							A	111	109	101	101	109	109	111	111	103	I B 109	115						
03							115	111	H 107	H 107	103	105	115	111	111	H 109	109	111	121					
04							H 133	119	109	109	109	109	H 109	111	101	U A 109	115	117	U A 119					
05								119	109	109	109	H 109	I B 107	105	101	H 101	H 101	U A 111	U B 125					
06							S	H 119	H 115	109	113	111	B	113	113	109	111	115	I C 121					
07								111	I A 110	109	H 109	105	H 105	105	105	H 101	101	H 115	121					
08								117	109	H 103	101	H 101	101	101	99	105	109	119	B					
09								109	105	I B 105	H 105	103	H 101	H 101	U A 109	U A 119	119	A	B					
10								H 109	109	113	109	109	H 109	109	101	H 109	105	B	B					
11							B	B	B	A	A	A	U A 107	109	U A 109	H 109	109	A	B					
12								111	109	109	109	H 115	H 109	H 101	111	111	111	H 117	129					
13							S	H 111	109	109	H 109	109	109	103	H 101	107	H 111	117	119					
14							S	111	103	109	101	101	101	99	99	105	109	111	B					
15								U B 121	103	H 101	H 101	H 101	U A 109	109	H 109	109	109	111	A					
16								H 109	103	103	103	101	101	101	109	109	109	119	A					
17								A	A	U A 109	H 105	U A 101	101	101	H 101	I B 101	H 101	H 113	S					
18								115	H 105	H 103	H 101	101	101	H 99	99	99	99	111	S					
19								113	109	103	101	105	101	101	101	101	109	111	S					
20								A	A	H 103	H 103	H 105	101	101	109	109	H 109	111	A					
21								115	H 109	109	109	105	101	109	105	105	H 109	H 119	S					
22								111	107	105	109	103	109	109	109	H 109	109	119	S					
23								117	109	109	101	109	109	105	109	U C 109	109	111	139					
24								H 115	109	105	103	101	109	103	H 101	H 109	111	119	S					
25								H 111	U A 109	109	109	H 109	H 109	109	109	109	111	120	A					
26								127	H 109	109	109	109	109	101	101	H 101	H 109	115						
27								H 105	H 109	109	109	111	111	U A 111	109	H 109	H 109	119						
28								121	125	109	103	109	109	109	H 109	109	H 109	119						
29								B	121	109	101	U A 101	109	109	109	H 109	H 115	H 119						
30								B	H 107	109	U A 101	U A 103	C	101	101	99	111	119						
MED								111	109	109	105	105	109	105	107	109	109	115	121					
NO							3	25	27	29	29	29	28	30	30	30	30	27	9					

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 70

IONOSPHERIC DATA

(M3000) F2, Sept. 1956 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	F 270	U F 270	U F 260	U F 270	F 270	F 280	320	320	310	300	290	285	290	275	280	285	290	290	300	305	290	300	F 280	260
02	F 255	U F 240	U F 250	U F 270	F 275	F 260	G	U F 210	G	G	G	245	F 240	250	F 260	U S 265	285	285	300	F 300	285	U F 275	260	F 240
03	F 235	U F 260	U F 270	U F 290	U F 290	U F 255	F 320	U F 320	310	285	300	280	290	280	285	280	280	290	290	290	280	280	270	270
04	275	270	270	U F 260	U F 260	U F 260	F 330	300	310	300	270	255	280	270	275	285	290	290	295	290	280	255	260	270
05	270	280	290	290	F 290	F 290	320	330	315	300	295	290	280	275	280	280	290	290	290	300	290	275	270	275
06	260	250	260	265	260	270	300	320	335	295	285	290	275	280	280	285	280	275	C	270	280	285	U S 265	270
07	270	270	U F 285	275	270	295	300	305	315	305	300	290	285	280	280	285	285	290	295	295	280	285	285	275
08	F 290	280	275	U F 290	U F 275	270	305	310	310	300	250	235	270	F 270	280	290	265	270	265	280	270	285	290	F 280
09	F 285	F 270	F 280	F 270	F 290	F 265	310	320	310	310	280	280	280	270	280	275	280	285	290	300	290	270	270	F 280
10	F 280	F 300	U F 300	F 310	F 305	F 280	310	300	300	290	300	290	285	280	280	280	280	290	295	300	280	270	270	270
11	F 275	260	260	260	280	285	310	335	300	320	300	285	285	280	275	280	280	290	295	290	275	285	F 280	U F 285
12	F 280	U F 270	U F 265	U F 270	U F 280	U F 280	U F 310	320	325	300	300	285	280	275	275	275	270	275	280	285	275	270	280	250
13	U S 285	240	265	260	260	260	280	290	295	270	280	255	250	245	250	U S 255	270	280	285	275	280	270	270	U S 265
14	U S 255	U F 255	250	265	275	270	260	270	295	310	290	285	275	275	275	270	275	285	285	280	290	260	270	275
15	F 265	F 270	F 275	F 280	275	F 280	295	320	310	300	290	285	280	270	265	270	275	280	285	270	265	270	275	290
16	F 290	F 280	F 275	F 280	F 280	F 280	F 315	315	310	295	275	270	260	260	260	265	280	270	275	275	270	275	S	F 290
17	270	260	260	260	270	285	300	320	310	290	285	280	265	270	265	260	270	280	290	280	280	275	270	280
18	280	275	285	270	275	280	305	315	305	300	285	285	275	265	265	270	280	285	300	310	320	280	295	280
19	285	280	280	285	280	285	295	320	295	320	290	275	275	280	275	270	270	275	290	290	280	280	270	260
20	245	245	240	245	255	270	290	305	300	295	245	270	250	255	270	270	275	280	290	270	265	260	260	290
21	235	230	225	245	255	260	300	305	300	290	290	280	270	275	280	270	275	285	280	290	280	275	265	250
22	235	225	F 250	U F 250	U F 260	F 285	F 290	305	F 290	285	280	290	265	270	265	H 270	280	280	285	290	290	275	260	260
23	270	290	F 270	F 275	F 270	F 270	300	320	315	295	300	290	280	280	280	U C 285	285	290	295	290	280	285	285	S
24	F 295	F 295	U F 280	U F 285	F 290	U F 290	F 300	320	320	310	300	255	285	295	285	280	285	290	290	285	285	275	J 270	U F 270
25	290	290	290	280	290	F 280	F 310	315	320	310	295	295	250	285	280	280	285	290	285	280	285	270	275	265
26	245	245	245	250	255	270	290	300	305	290	285	285	285	280	290	285	285	295	290	285	280	275	270	265
27	265	265	280	290	300	F 300	F 320	325	F 305	300	300	285	290	290	285	280	290	275	290	290	290	285	F 285	F 265
28	F 260	F 260	280	F 300	F 310	F 290	F 310	H 320	310	310	295	295	290	290	285	295	290	295	295	300	280	290	285	290
29	F 290	290	F 285	F 275	U F 285	310	310	F 320	325	320	305	300	290	280	280	280	290	300	300	290	290	280	290	270
30	F 285	F 285	F 290	C	C	C	F 320	320	330	310	310	300	C	290	290	295	295	305	300	290	C	285	290	270
MED	270	270	270	270	275	280	305	320	310	300	290	285	280	275	280	280	280	285	290	290	280	275	270	270
NO	30	30	30	29	29	29	30	30	30	30	30	30	29	30	30	30	30	30	29	30	29	30	29	29

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 71

IONOSPHERIC DATA

(M3000) F1, Sept. 1956 — 75° W Mean Time

Station: Washington, D.C. Lat. 38.7°N Long. 77.1° W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01							Q	L	L	L	L	L	H 340	L	L	L	L	L	Q					
02							F 320	F 340	350	H 360	H 350	H 345	345	350	F 350	U S 350	L	L						
03							Q	L	L	L	330	320	325	L	L	L	L	L	Q					
04							Q	Q	355	350	370	H 350	H 340	H 360	A	325	L	L	A					
05								Q	A	L	L	340	350	L	L	L	L	L	Q					
06							Q	L	L	L	L	L	L	L	L	L	L	L	C					
07								Q	L	L	H 360	U L 350	H 340	370	L	L	L	Q	Q					
08								L	L	L	H 320	340	330	L	330	L	L	L	A					
09								L	L	L	L	L	L	L	L	L	L	L	Q					
10								Q	L	L	370	L	L	L	L	L	L	L	Q					
11							Q	L	L	L	H 350	H 340	H 360	U L 335	L	L		Q	Q					
12								Q	L	L	L	L	370	L	390	L	L	L	Q					
13							L	L	L	L	L	345	325	340	335	280	L	L	Q					
14							Q	Q	Q	L	U L 360	U L 335	L	335	340	340	L	L	Q					
15								L	L	L	L	L	H 345	L	H 350	L	L	Q	Q					
16								L	L	L	L	L	340	330	L	L	L	L	Q					
17								Q	L	L	L	L	L	L	L	L	L	L	Q					
18								Q	L	L	L	L	L	L	L	L	L	L	Q					
19								Q	L	H 410	L	L	L	L	L	L	L	L	Q					
20								L	L	L	L	L	L	L	L	L	L	L	Q					
21								L	L	L	L	L	L	L	L	L	L	L	Q					
22								Q	L	L	L	L	L	L	L	L	L	L	Q					
23								Q	L	L	L	L	L	L	L	L	L	L	Q					
24								Q	Q	L	L	L	L	L	L	L	L	L	Q					
25								Q	L	L	L	L	L	L	L	L	L	Q	Q					
26								L	L	L	H 345	345	L	H 355	L	L	L	Q						
27									L	L	L	L	L	L	L	L	L	Q						
28								Q	Q	L	L	L	L	L	L	L	L	Q						
29								Q	L	L	L	L	L	L	L	L	L	Q						
30								Q	L	L	L	L	C	L	L	L	L	Q						
MED											350	340	340	345	345									
NO							1	1	2	3	9	10	12	8	6	4								

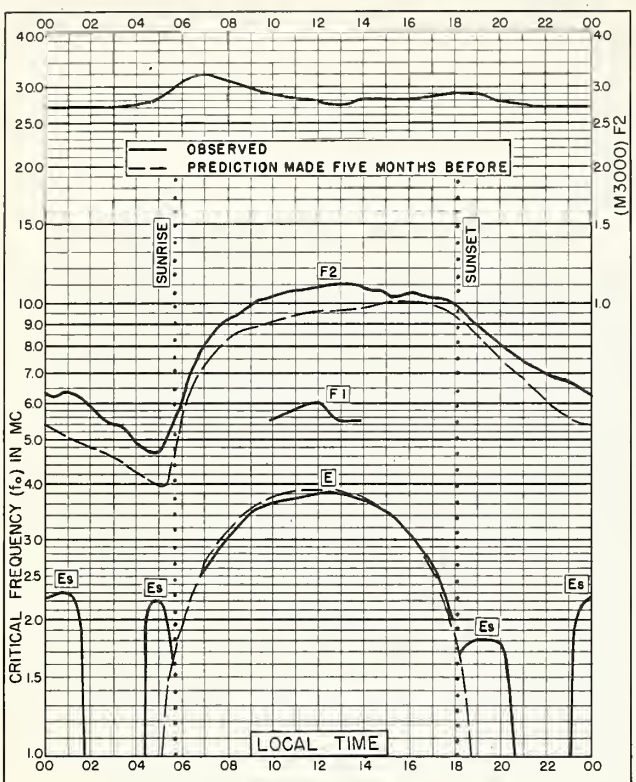


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W SEPTEMBER 1956

NBS 503

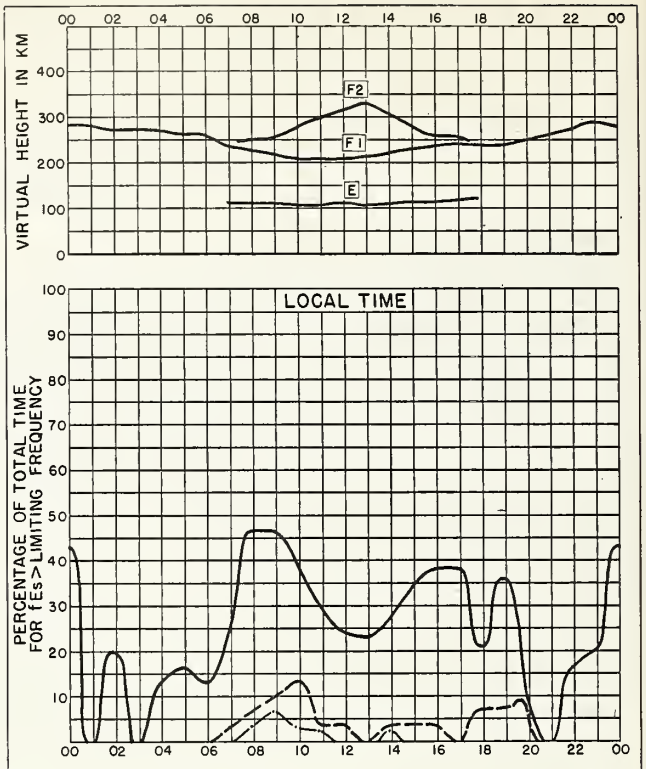


Fig. 2. WASHINGTON, D. C. SEPTEMBER 1956

NBS 490

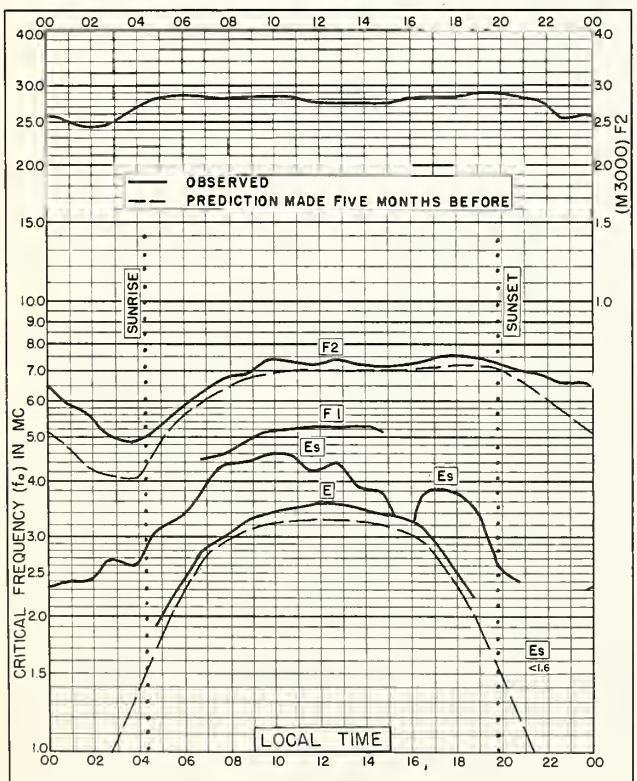


Fig. 3. OSLO, NORWAY
60.0°N, 11.1°E AUGUST 1956

NBS 503

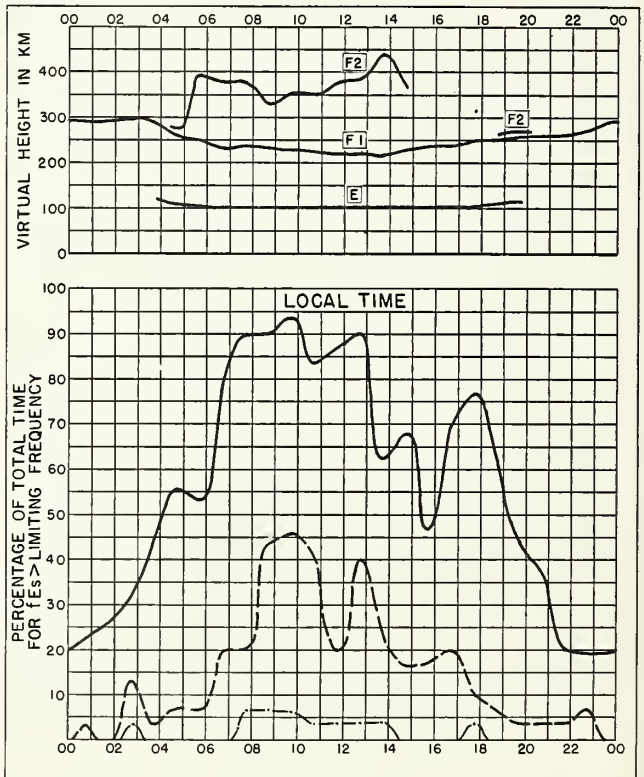


Fig. 4. OSLO, NORWAY AUGUST 1956

NBS 490

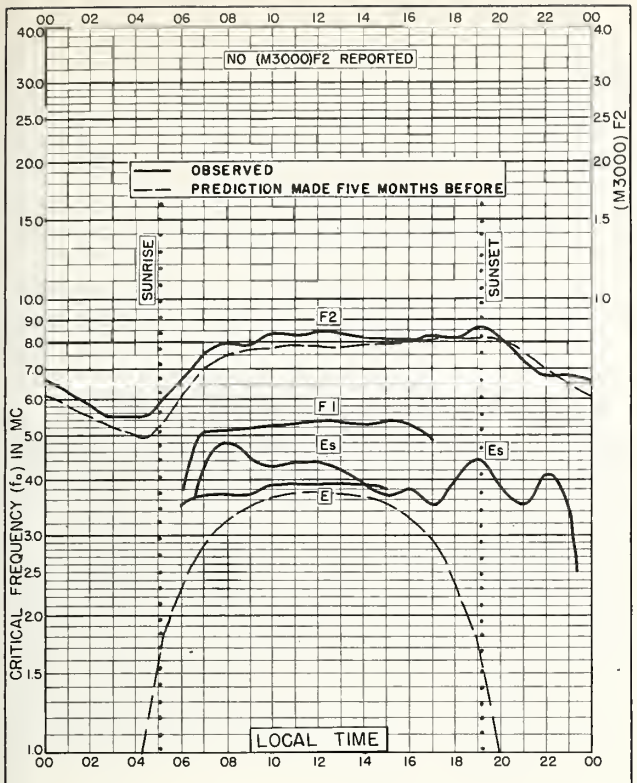


Fig. 5. GRAZ, AUSTRIA
47.1°N, 15.5°E AUGUST 1956

NBS 503

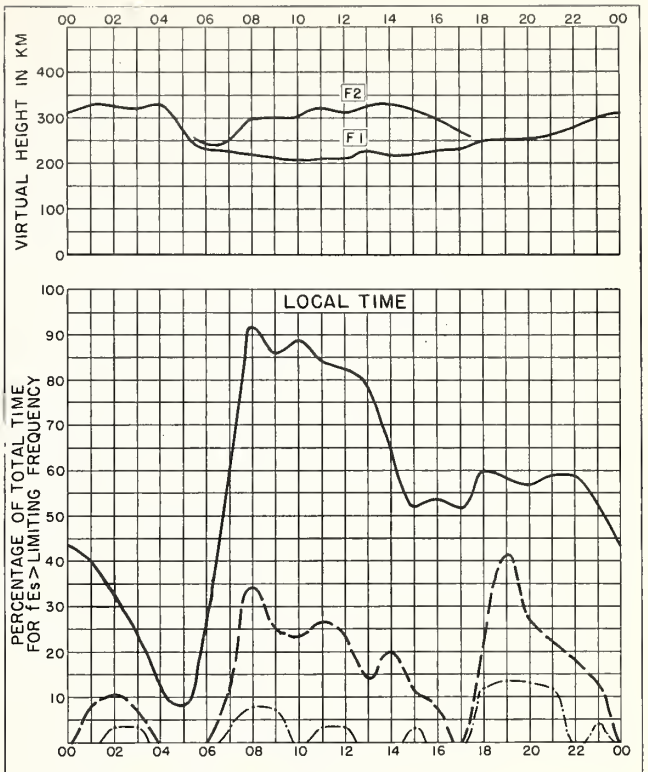


Fig. 6. GRAZ, AUSTRIA AUGUST 1956

NBS 490

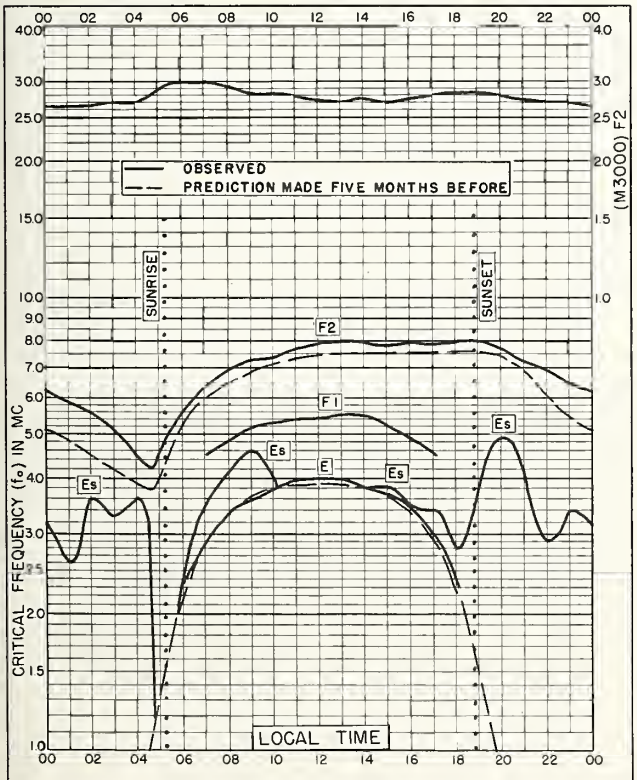


Fig. 7. FT. MONMOUTH, NEW JERSEY
40.3°N, 74.1°W AUGUST 1956

NBS 503

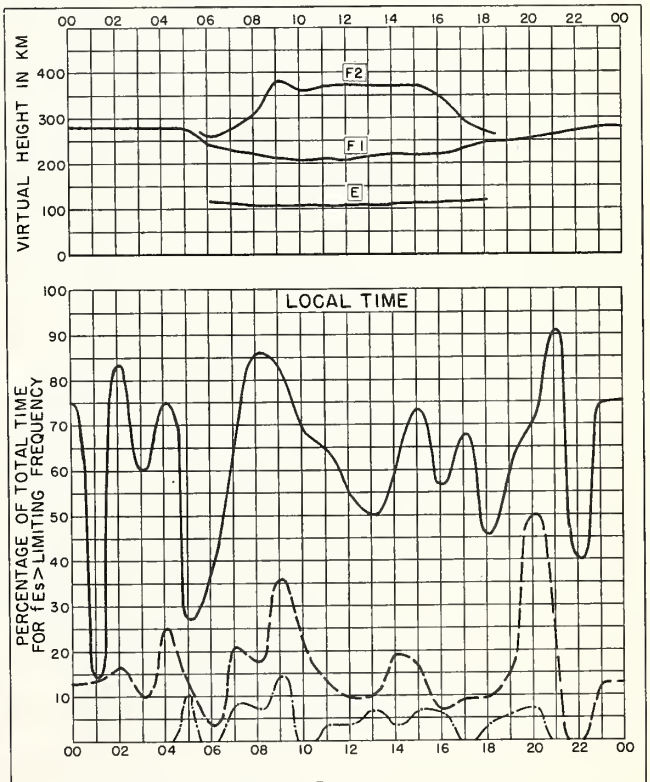


Fig. 8. FT. MONMOUTH, NEW JERSEY AUGUST 1956

NBS 490

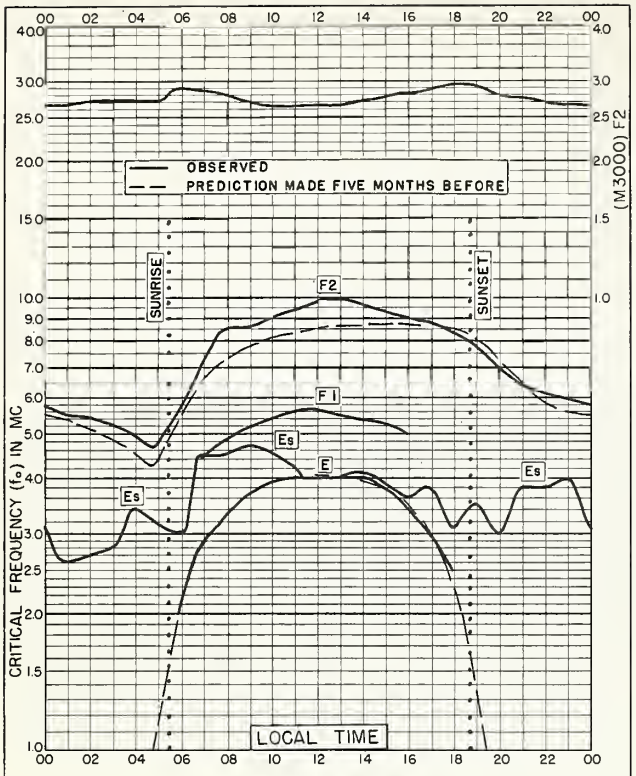


Fig. 9. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W AUGUST 1956

NBS 503

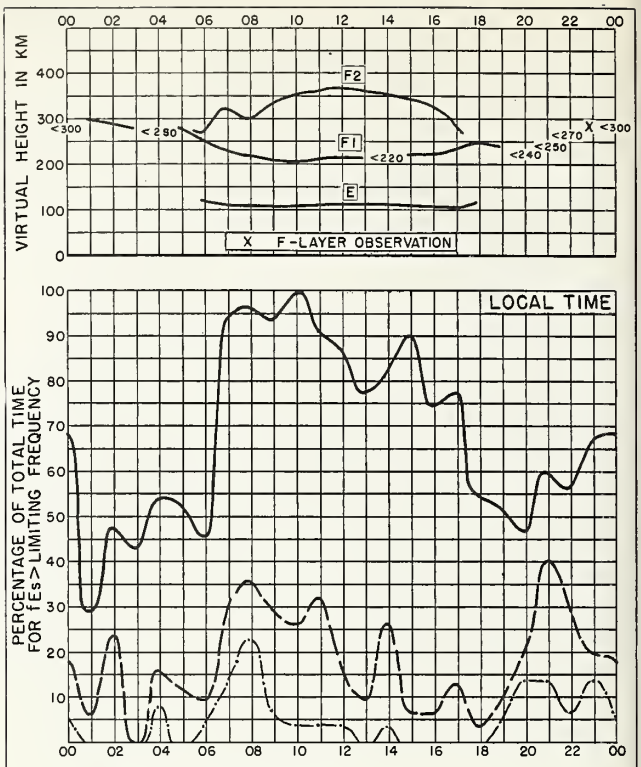


Fig. 10. WHITE SANDS, NEW MEXICO AUGUST 1956

NBS 490

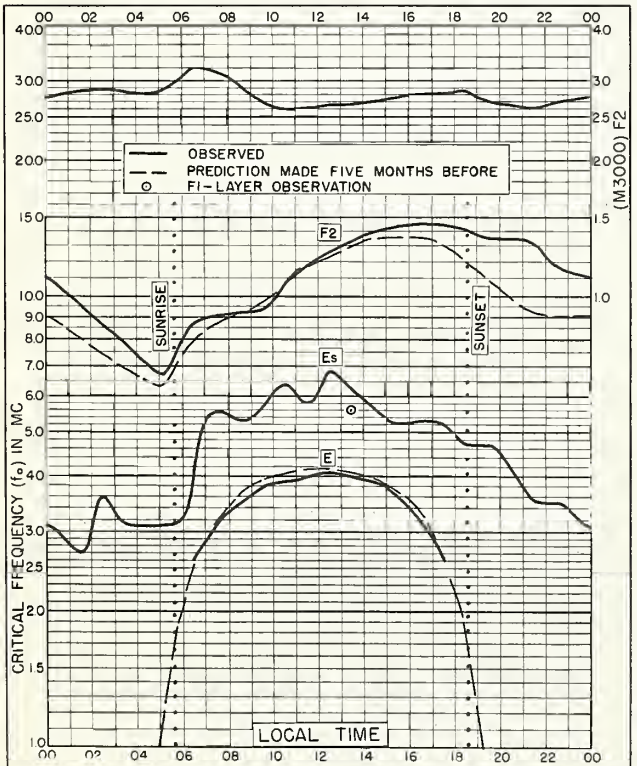


Fig. 11. OKINAWA I.
26.3°N, 127.8°E AUGUST 1956

NBS 503

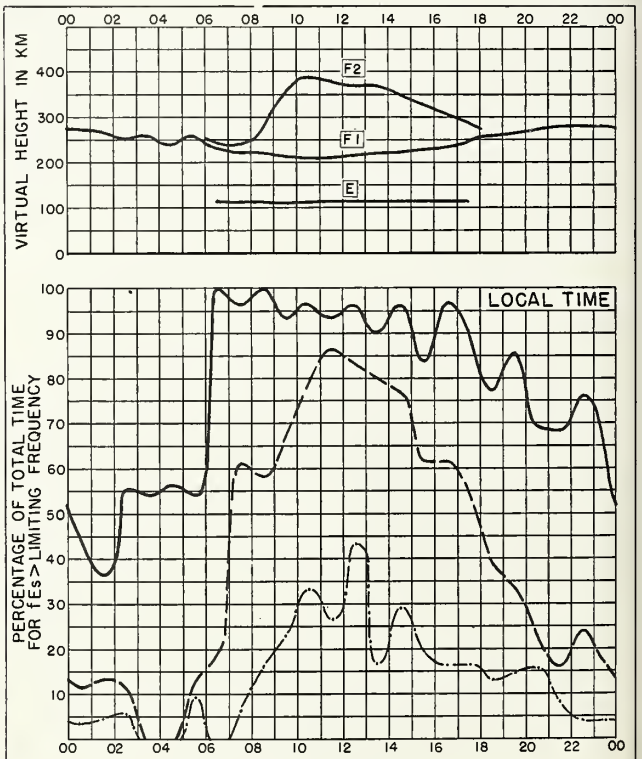


Fig. 12. OKINAWA I. AUGUST 1956

NBS 490

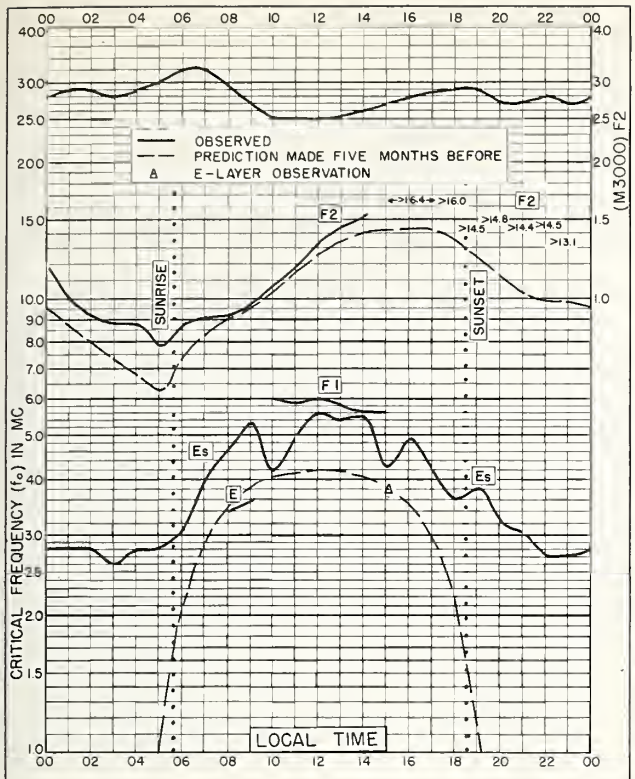


Fig. 13. FORMOSA, CHINA
25.0°N, 121.5°E AUGUST 1956

NBS 503

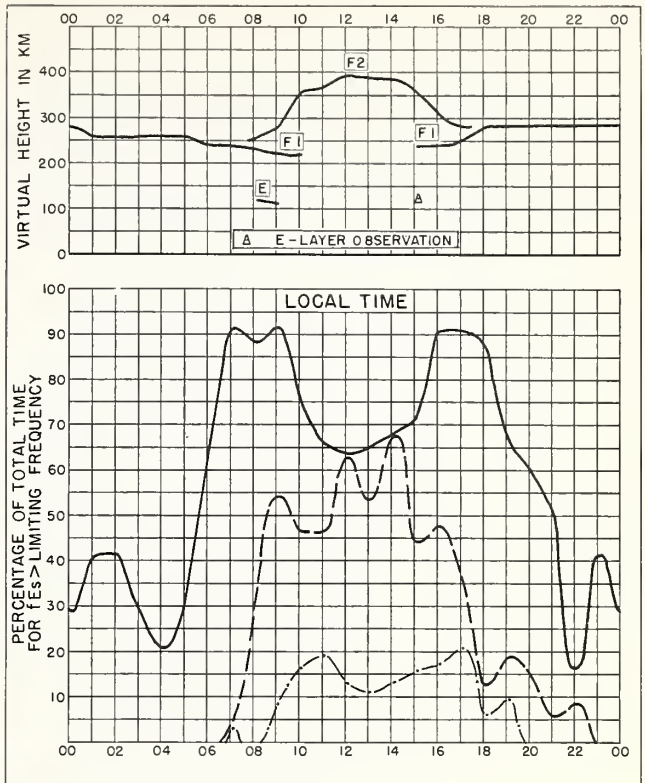


Fig. 14. FORMOSA, CHINA AUGUST 1956

NBS 490

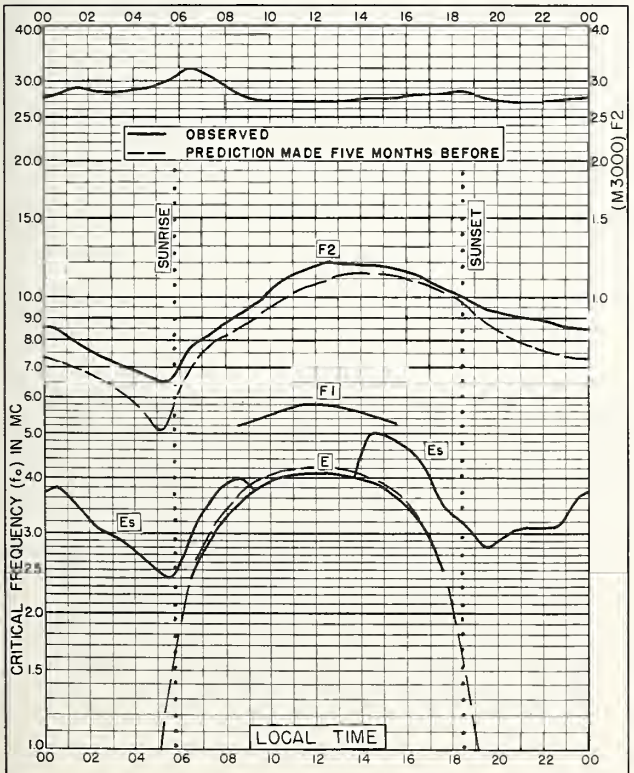


Fig. 15. PUERTO RICO, W. I.
18.5°N, 67.2°W AUGUST 1956

NBS 503

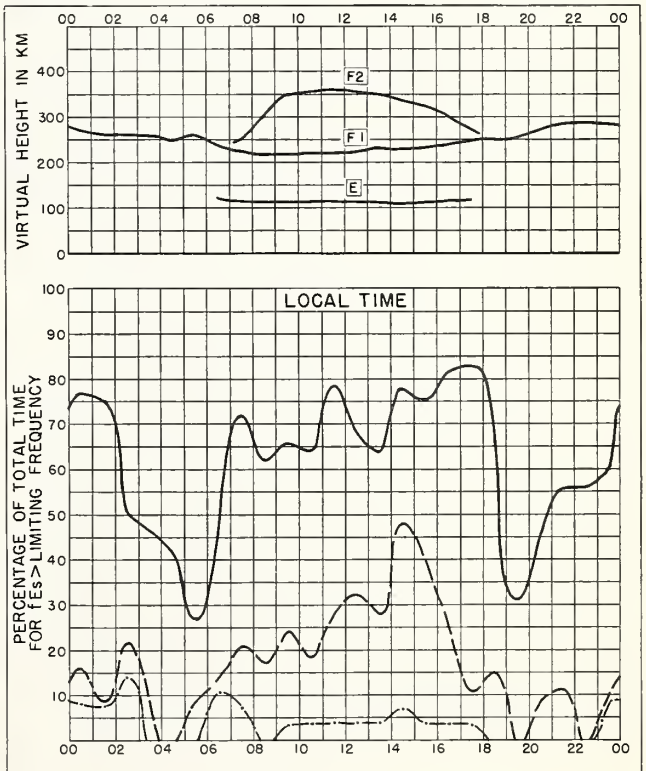


Fig. 16. PUERTO RICO, W. I. AUGUST 1956

NBS 490

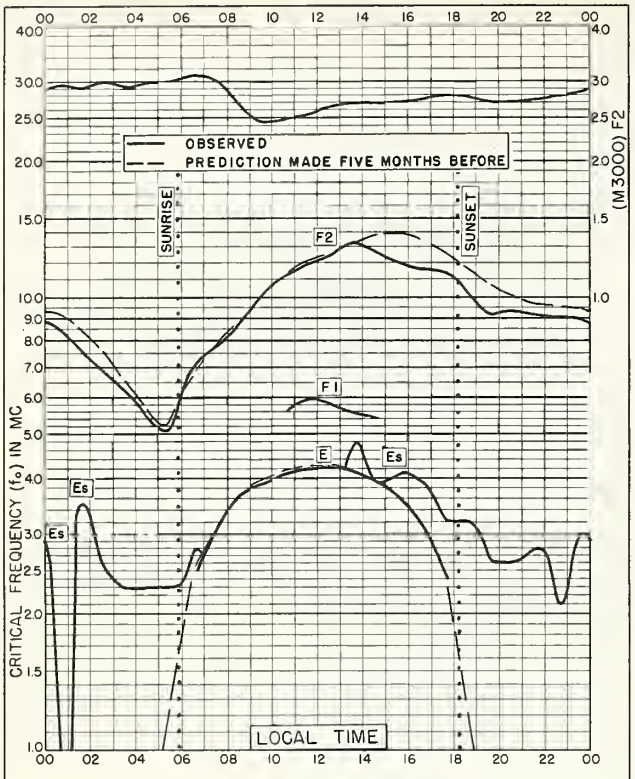


Fig. 17. PANAMA CANAL ZONE
9.4°N, 79.9°W AUGUST 1956

NBS 503

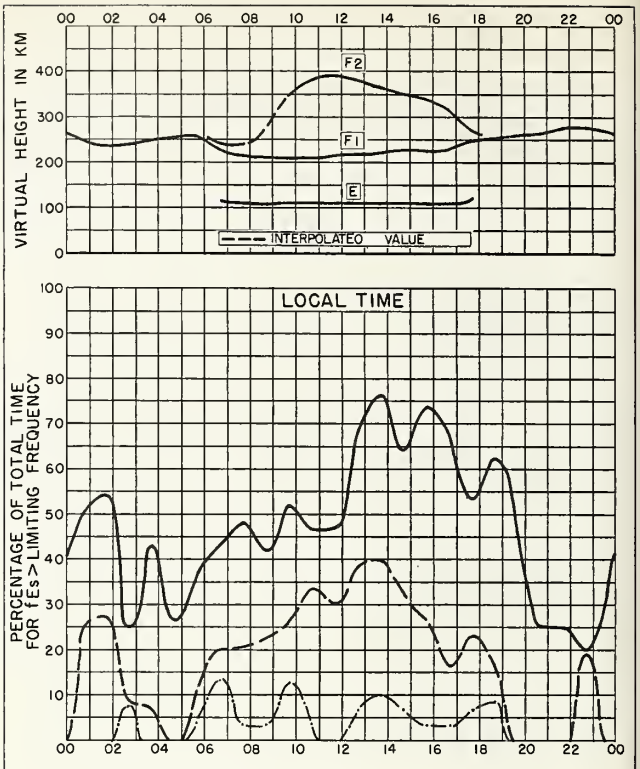


Fig. 18. PANAMA CANAL ZONE AUGUST 1956

NBS 490

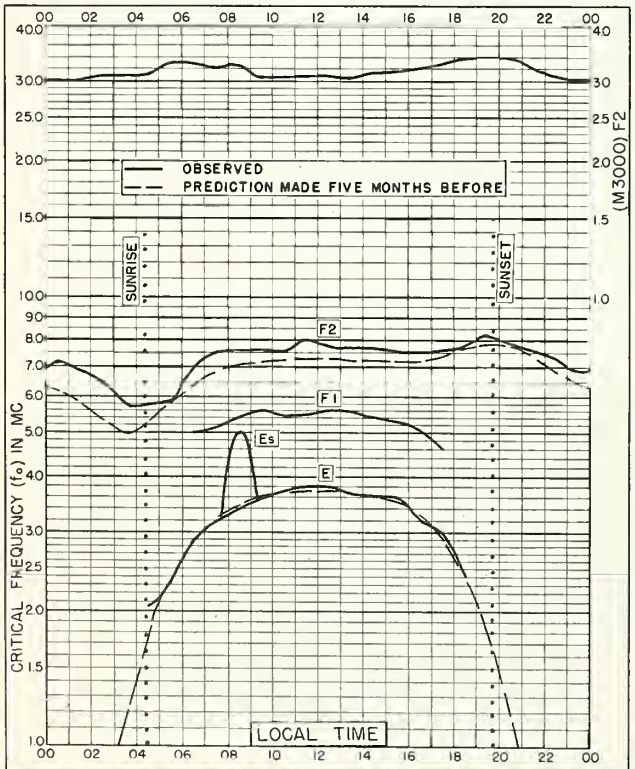


Fig. 19. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E JULY 1956

NBS 503

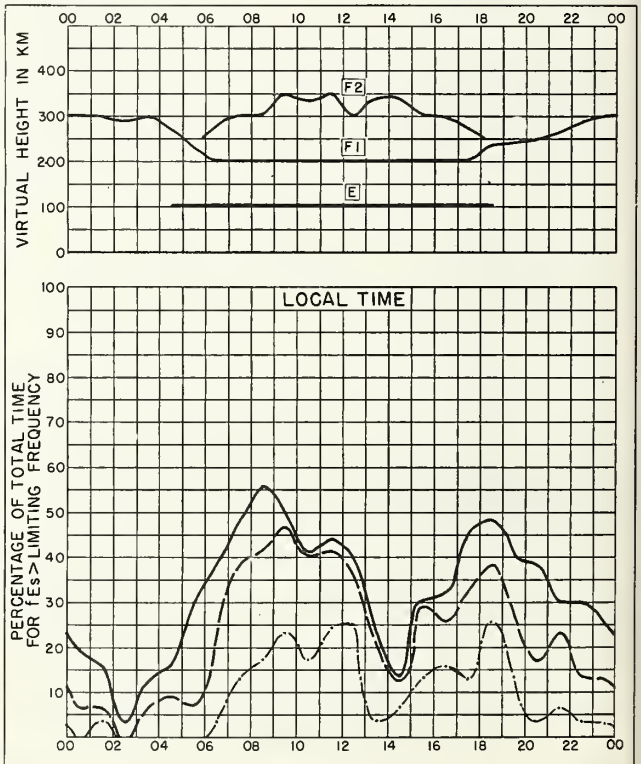


Fig. 20. SCHWARZENBURG, SWITZERLAND JULY 1956

NBS 490

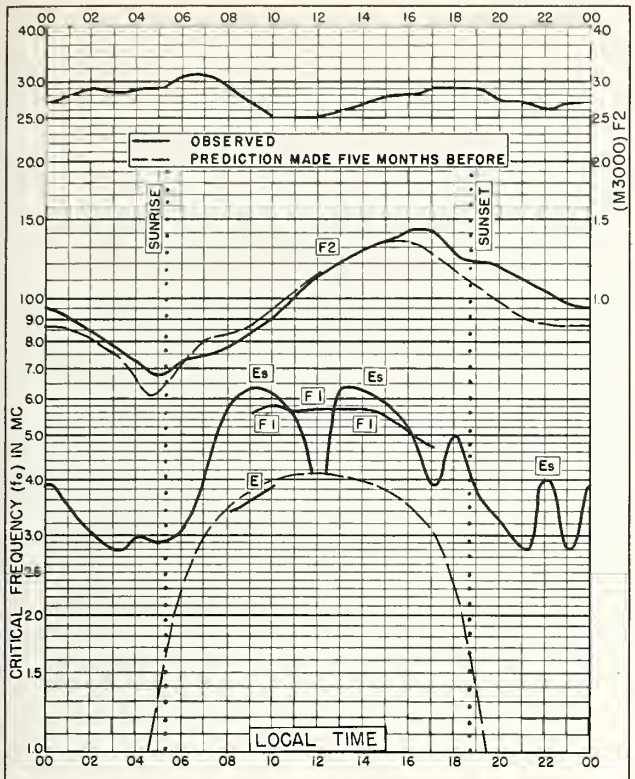


Fig. 21. FORMOSA, CHINA
25.0°N, 121.5°E JULY 1956

NBS 503

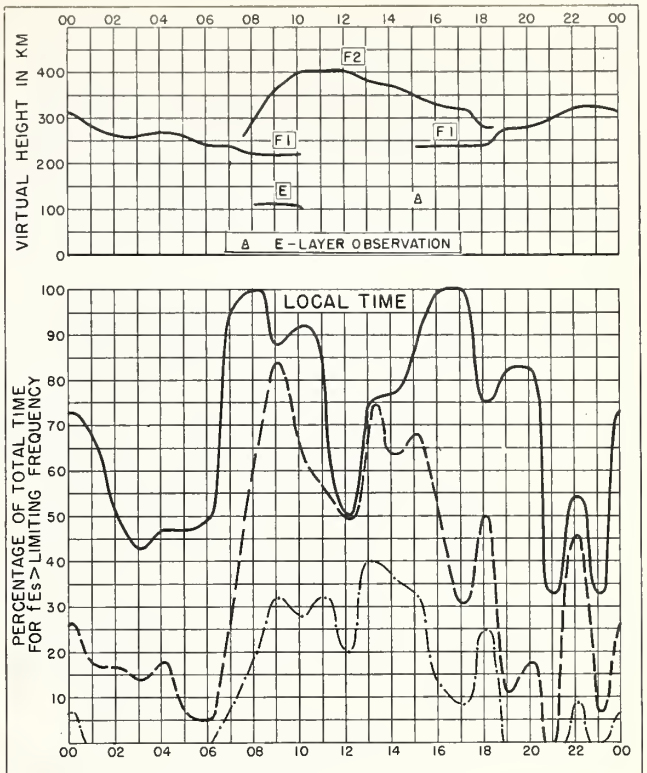


Fig. 22. FORMOSA, CHINA JULY 1956

NBS 490

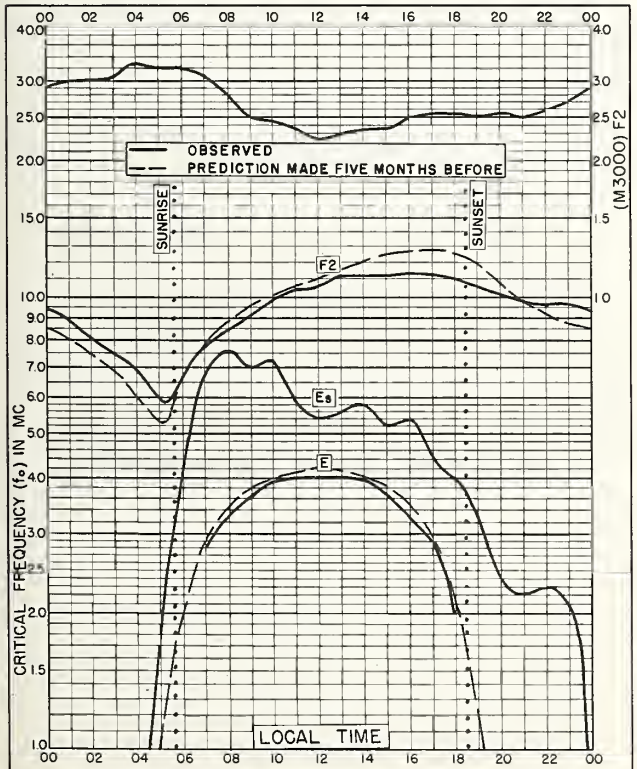


Fig. 23. BAGUIO, P. I.
16.4°N, 120.6°E JULY 1956

NBS 503

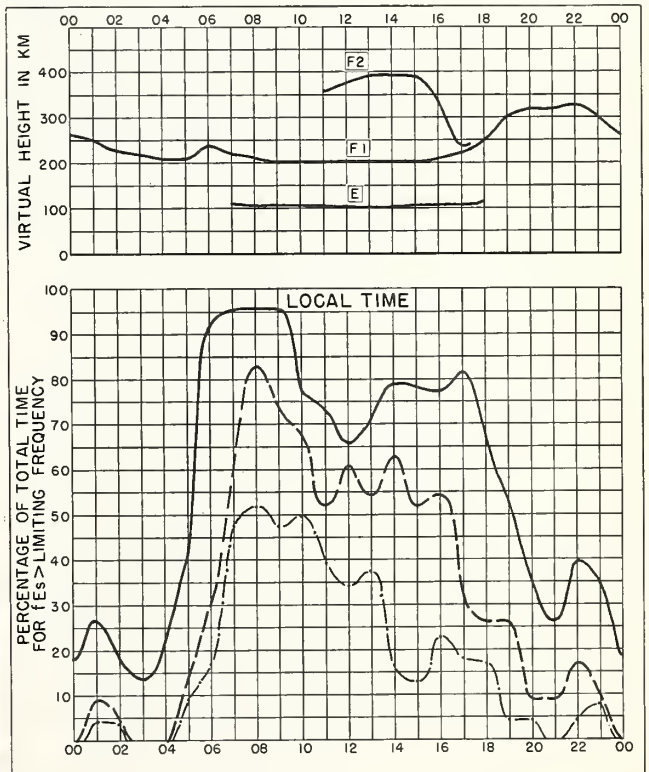


Fig. 24. BAGUIO, P. I. JULY 1956

NBS 490

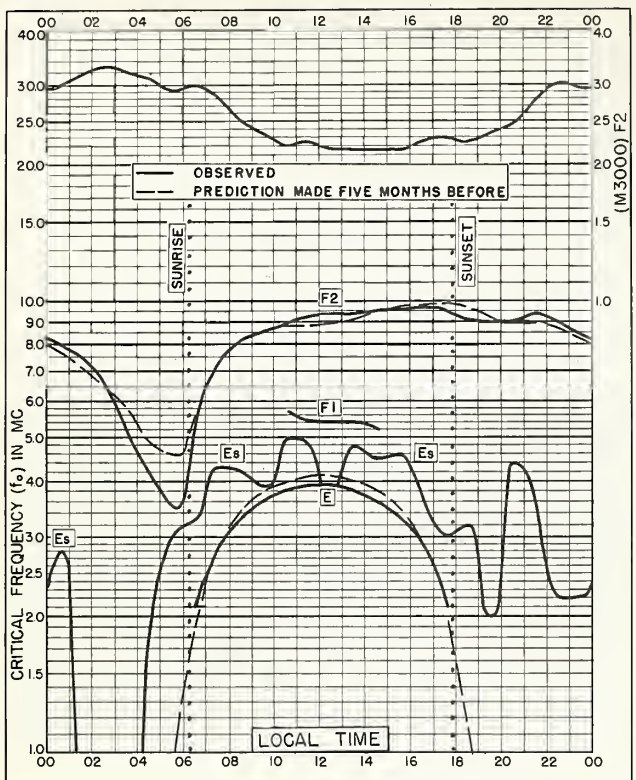


Fig. 25. TALARA, PERU
4.6°S, 81.3°W
JULY 1956

NBS 503

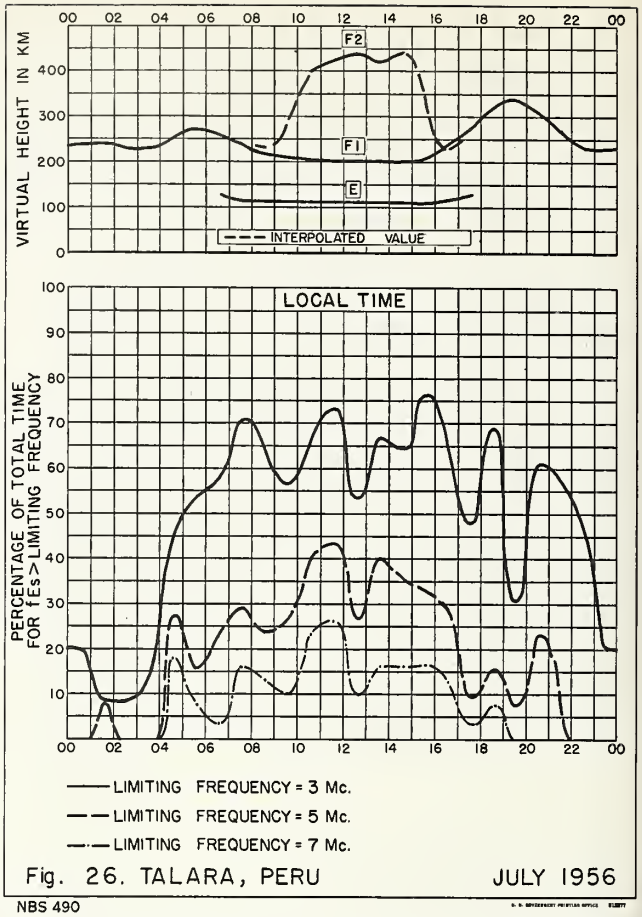


Fig. 26. TALARA, PERU
JULY 1956

NBS 490

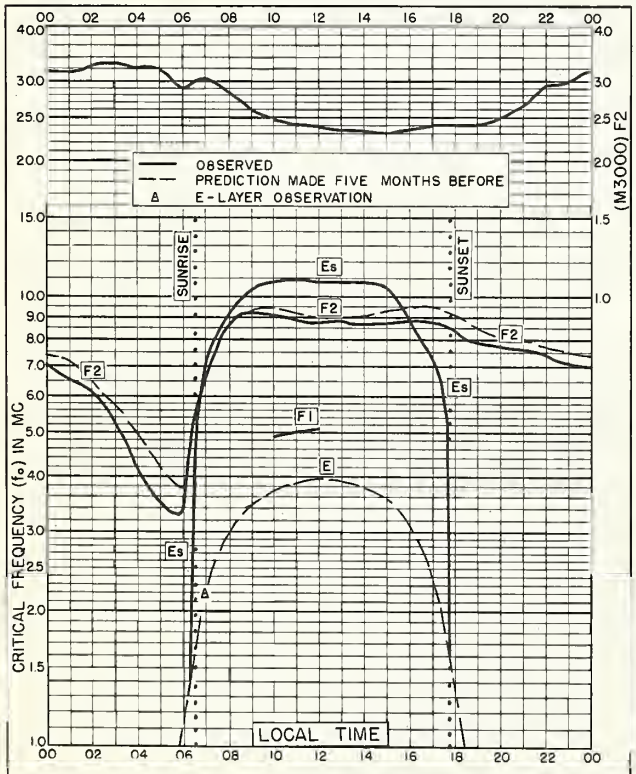


Fig. 27. HUANCAYO, PERU
12.0°S, 75.3°W
JULY 1956

NBS 503

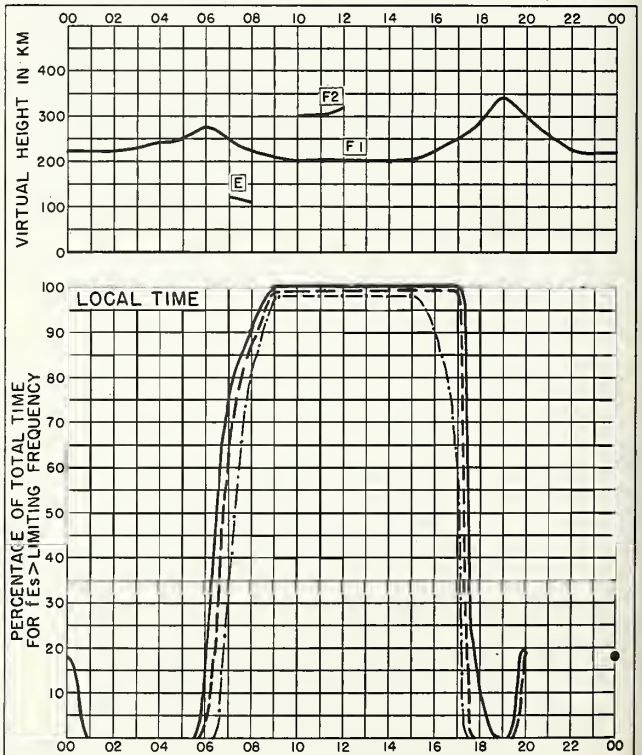


Fig. 28. HUANCAYO, PERU
JULY 1956

NBS 490

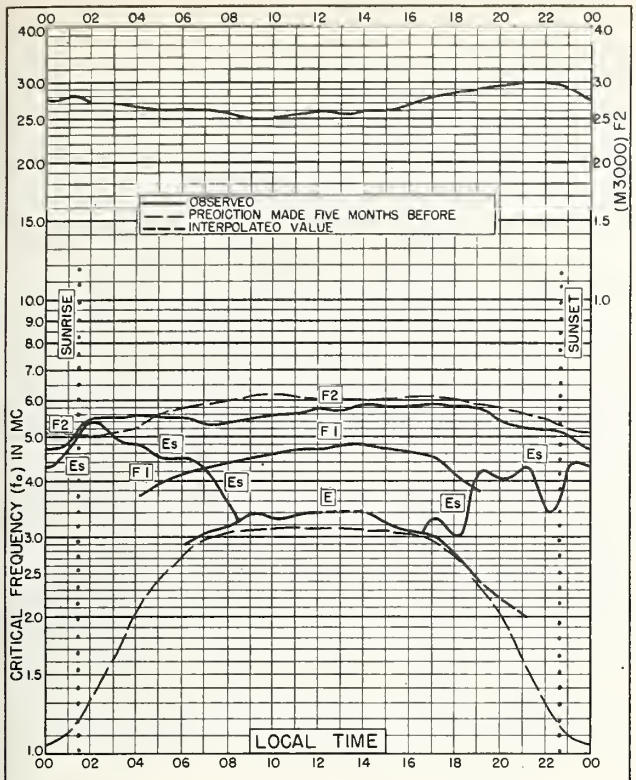


Fig. 29. FAIRBANKS, ALASKA
64.9°N, 147.8°W JUNE 1956

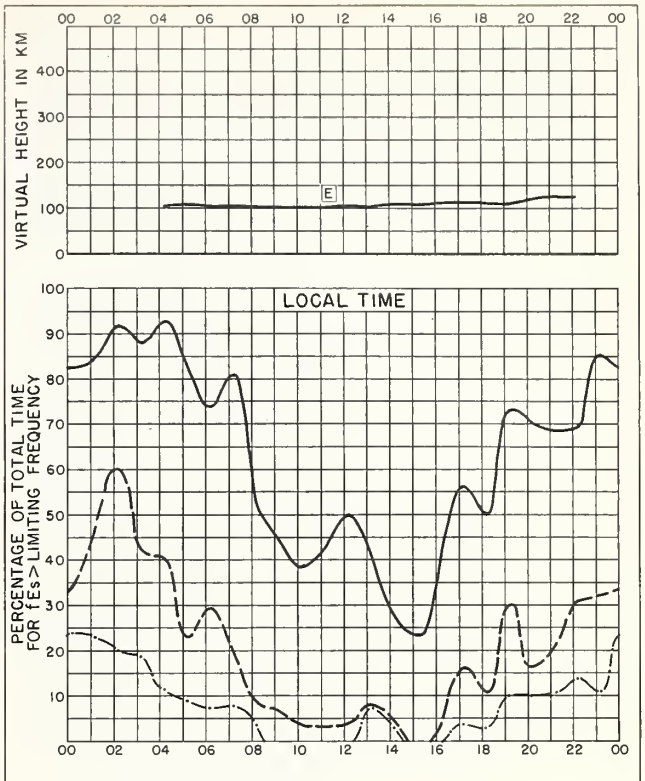


Fig. 30. FAIRBANKS, ALASKA JUNE 1956

NBS 490

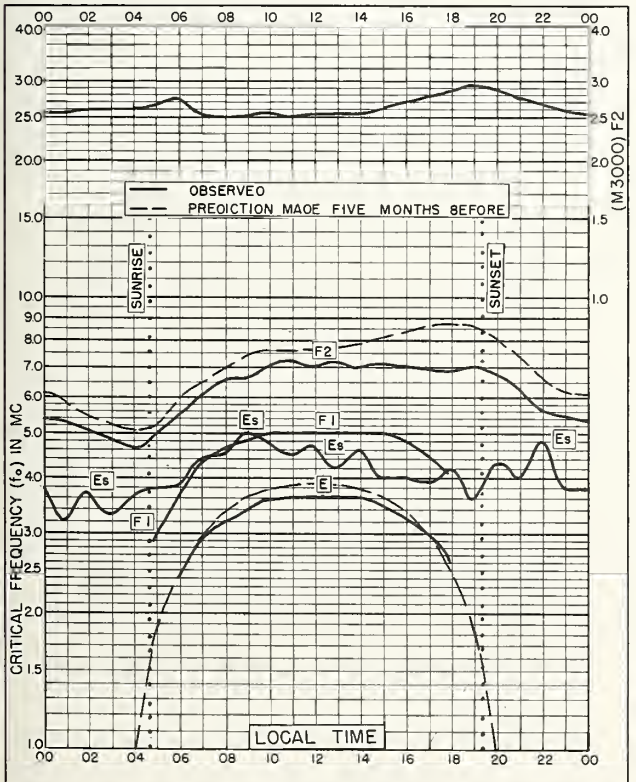


Fig. 31. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W JUNE 1956

NBS 503

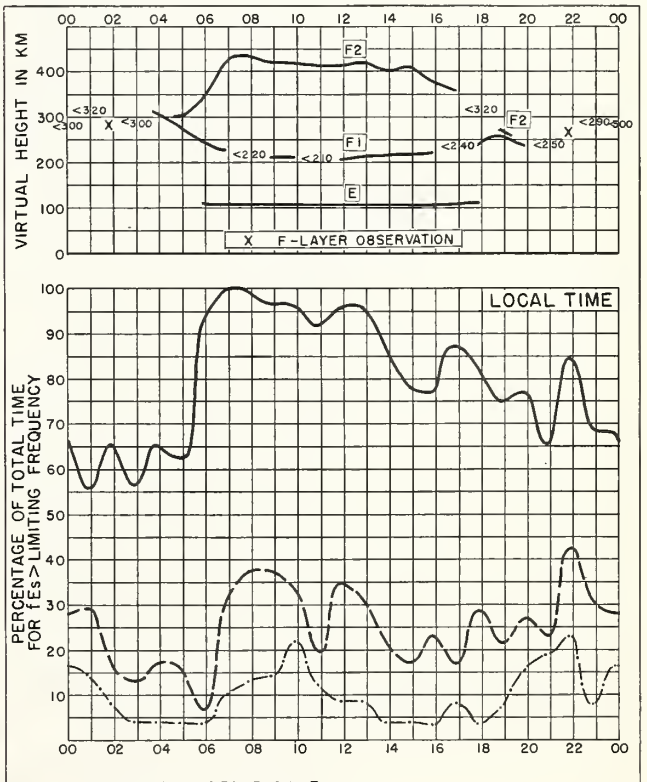


Fig. 32. SAN FRANCISCO, CALIFORNIA JUNE 1956

NBS 490

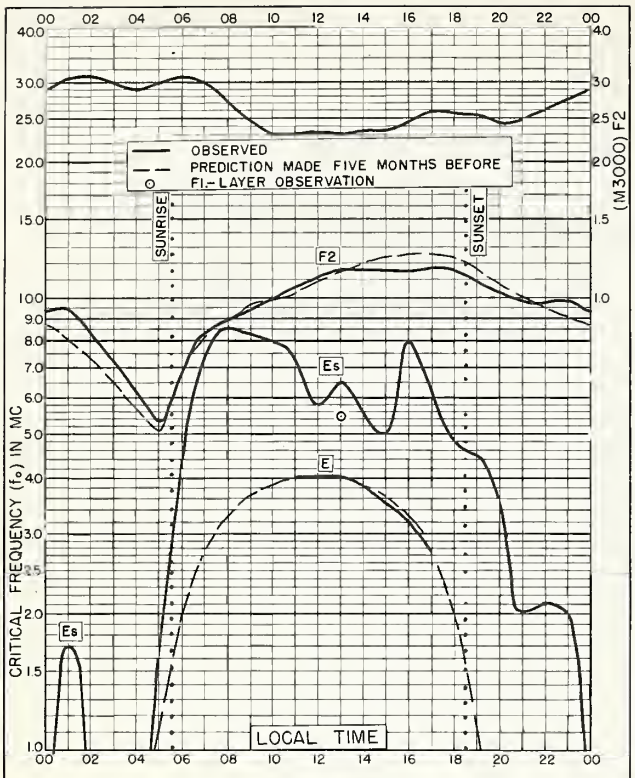


Fig. 33. BAGUIO, P.I.
16.4°N, 120.6°E JUNE 1956

NBS 503

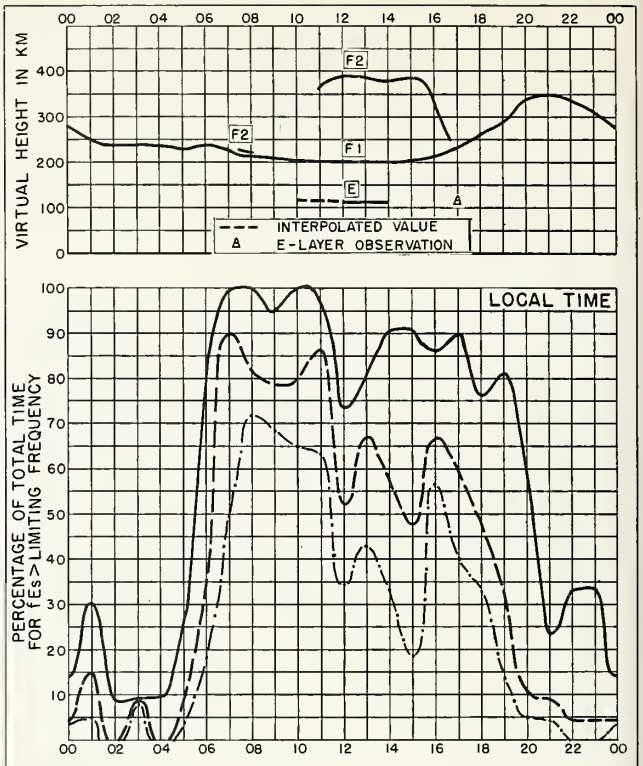


Fig. 34. BAGUIO, P.I. JUNE 1956

NBS 490

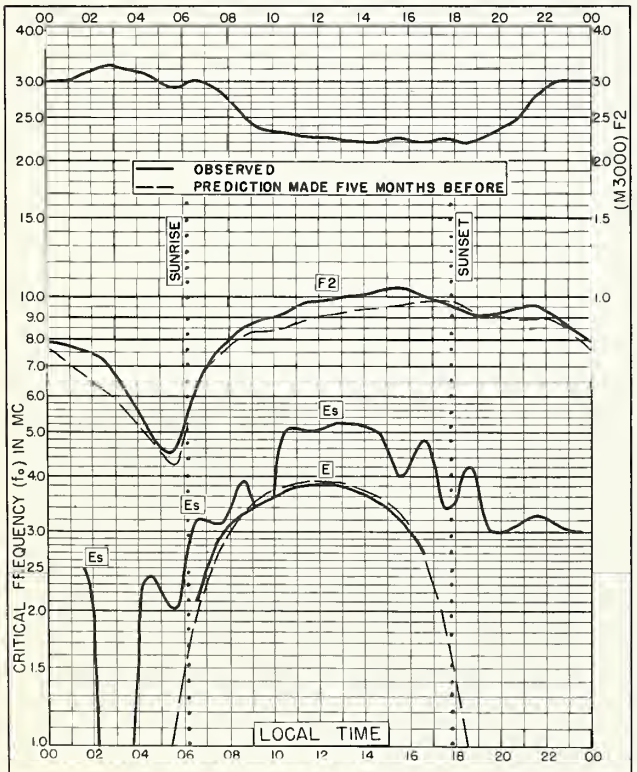


Fig. 35. TALARA, PERU
4.6°S, 81.3°W JUNE 1956

NBS 503

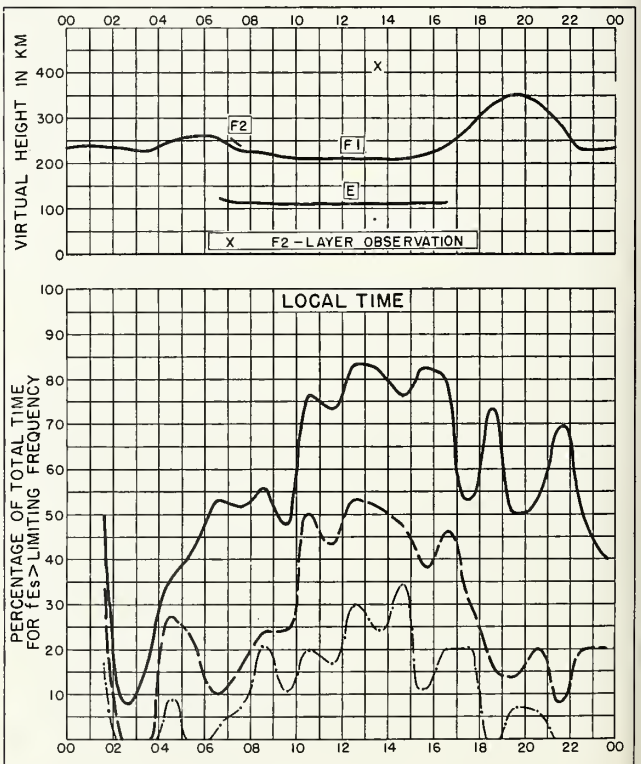


Fig. 36. TALARA, PERU JUNE 1956

NBS 490

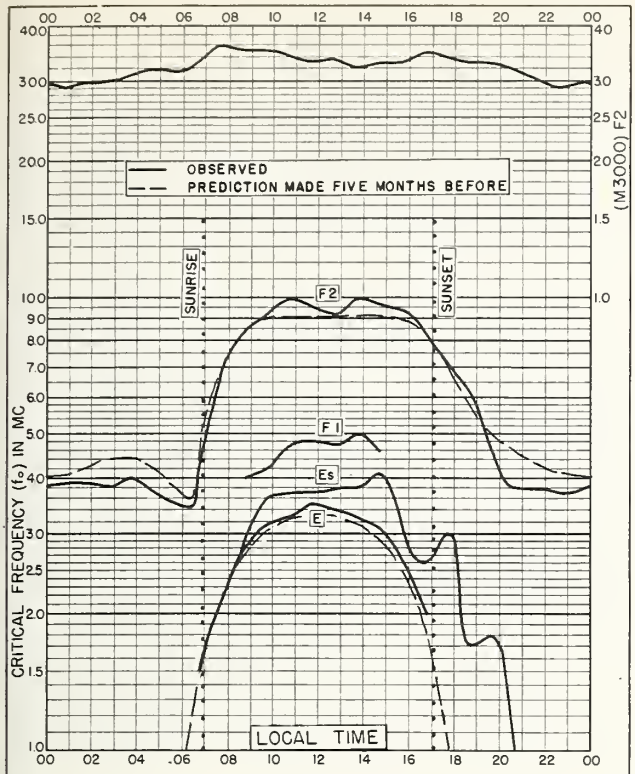


Fig. 37. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E JUNE 1956

NBS 503

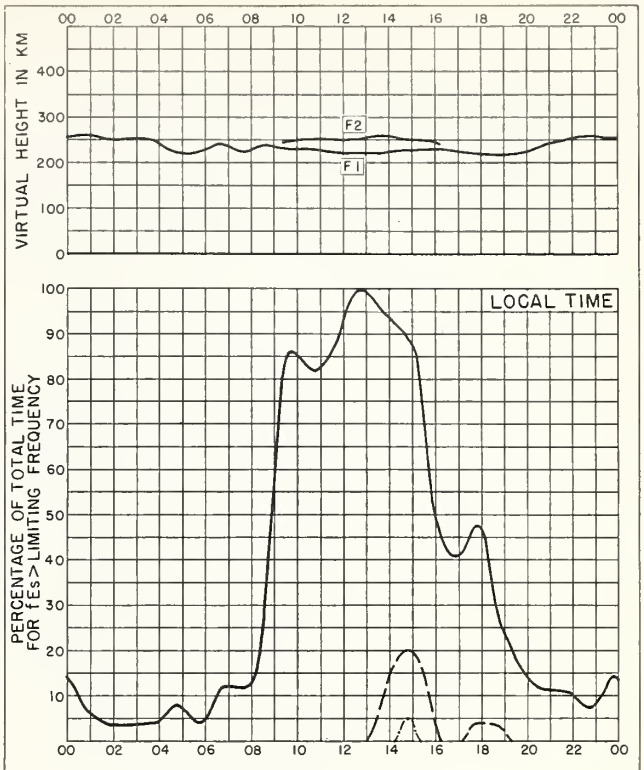


Fig. 38. WATHEROO, W. AUSTRALIA JUNE 1956

NBS 490

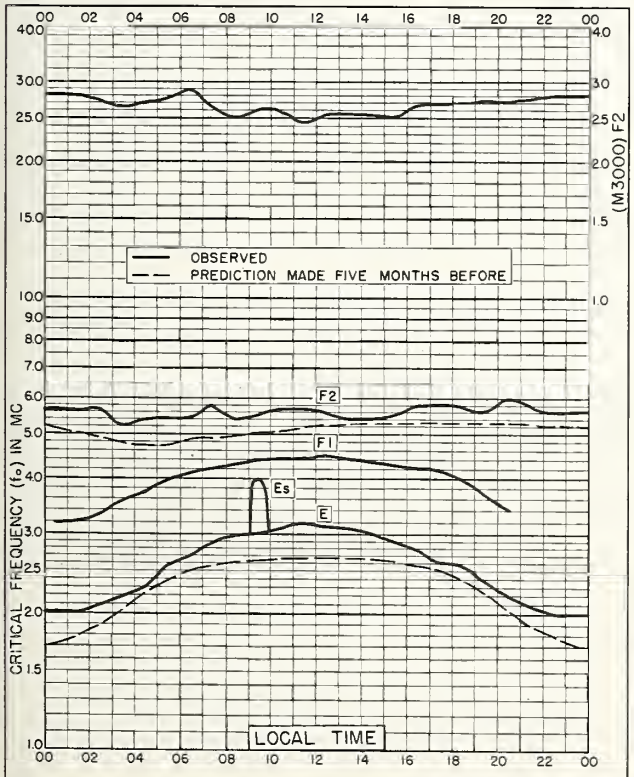


Fig. 39. THULE, GREENLAND
77.0°N, 69.0°W MAY 1956

NBS 503

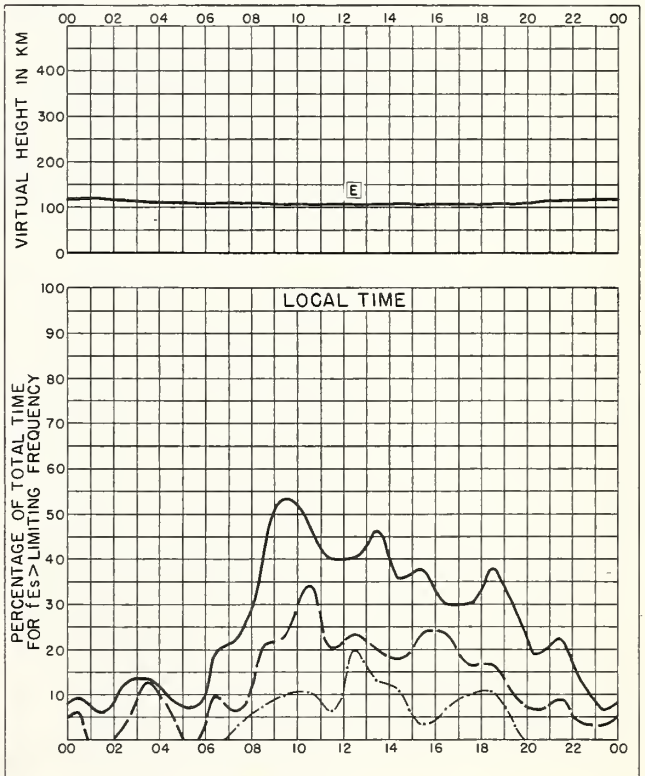


Fig. 40. THULE, GREENLAND MAY 1956

NBS 490

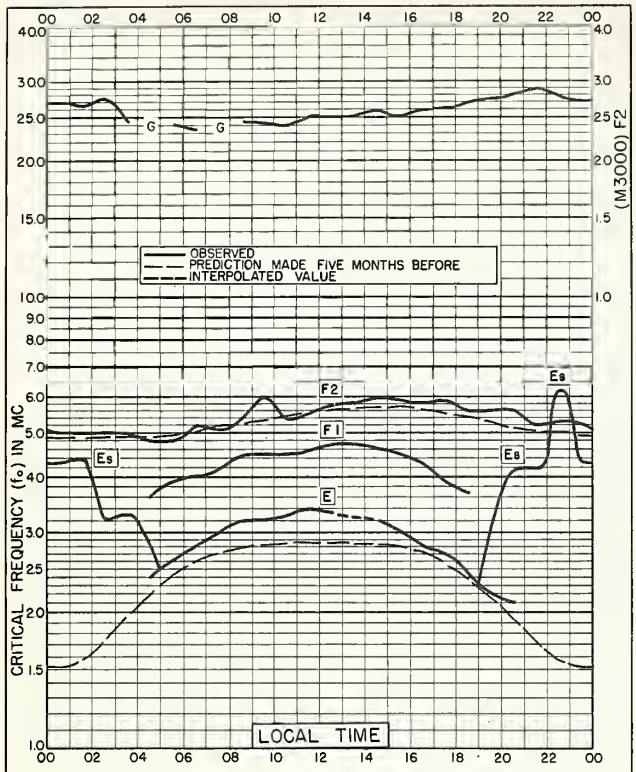


Fig. 41. POINT BARROW, ALASKA
71.3°N, 156.8°W MAY 1956

NBS 503

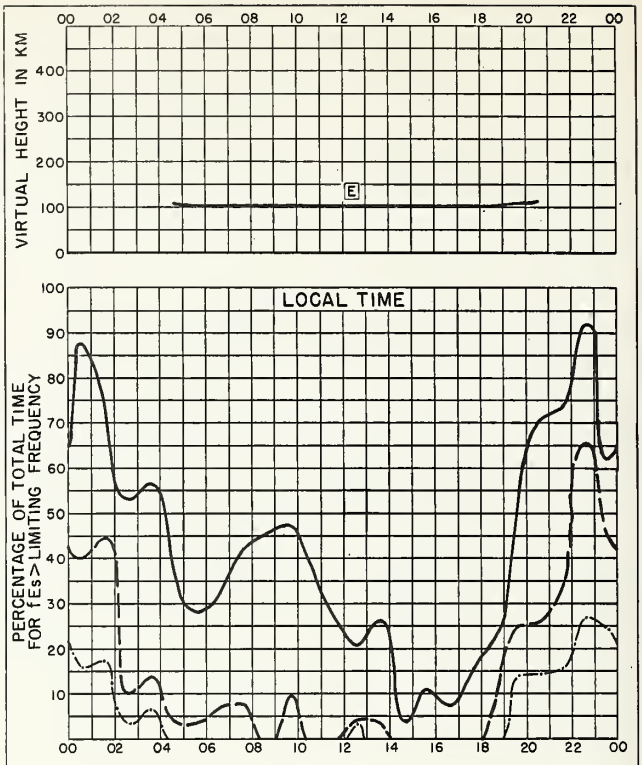


Fig. 42. POINT BARROW, ALASKA MAY 1956

NBS 490

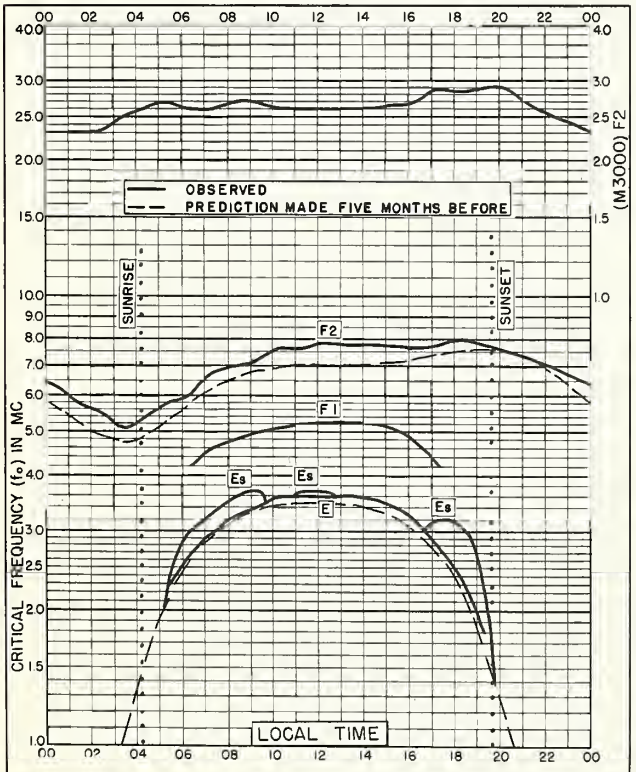


Fig. 43. De BILT, HOLLAND
52.1°N, 5.2°E MAY 1956

NBS 503

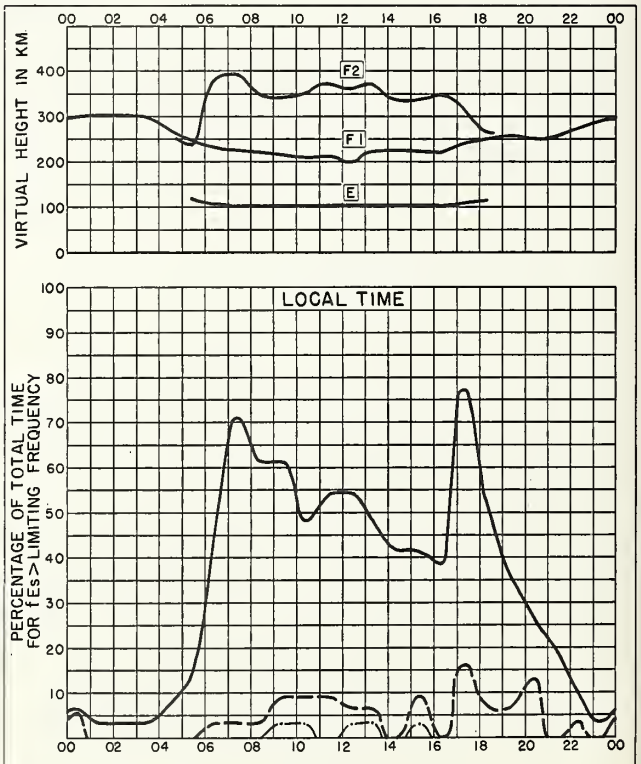


Fig. 44. De BILT, HOLLAND MAY 1956

NBS 490

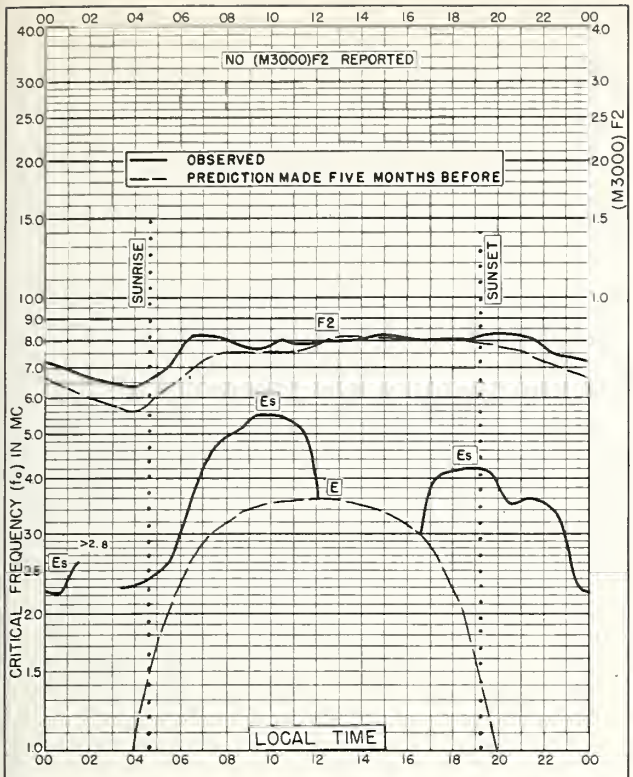


Fig. 45. WAKKANAI, JAPAN
45.4°N, 141.7°E MAY 1956

NBS 503

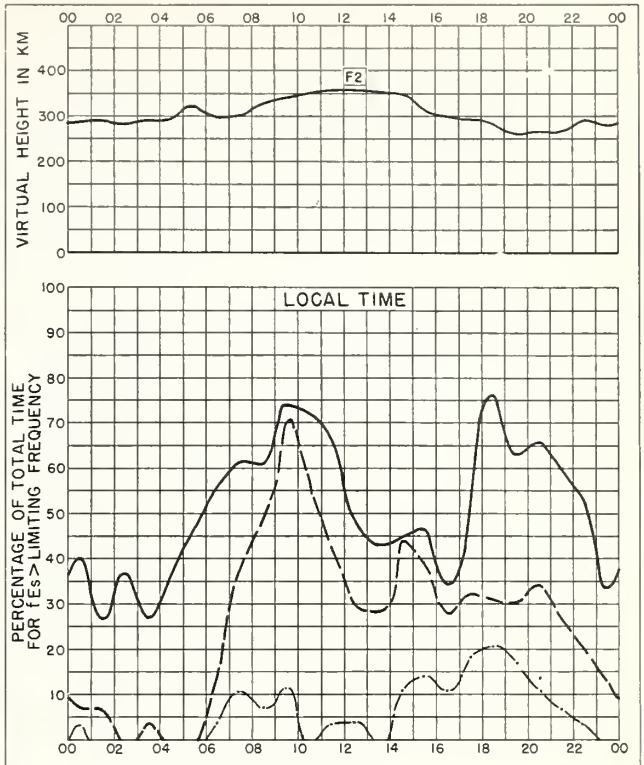


Fig. 46. WAKKANAI, JAPAN MAY 1956

NBS 490

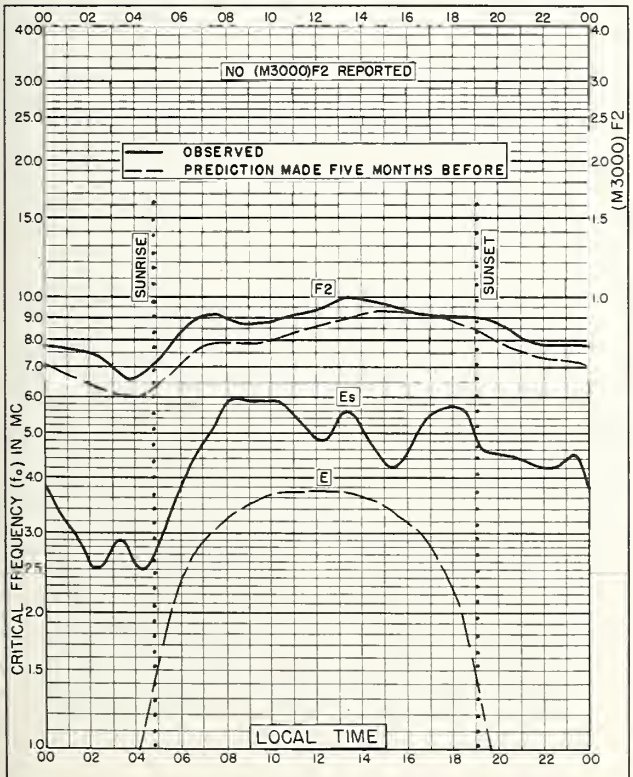


Fig. 47. AKITA, JAPAN
39.7°N, 140.1°E MAY 1956

NBS 503

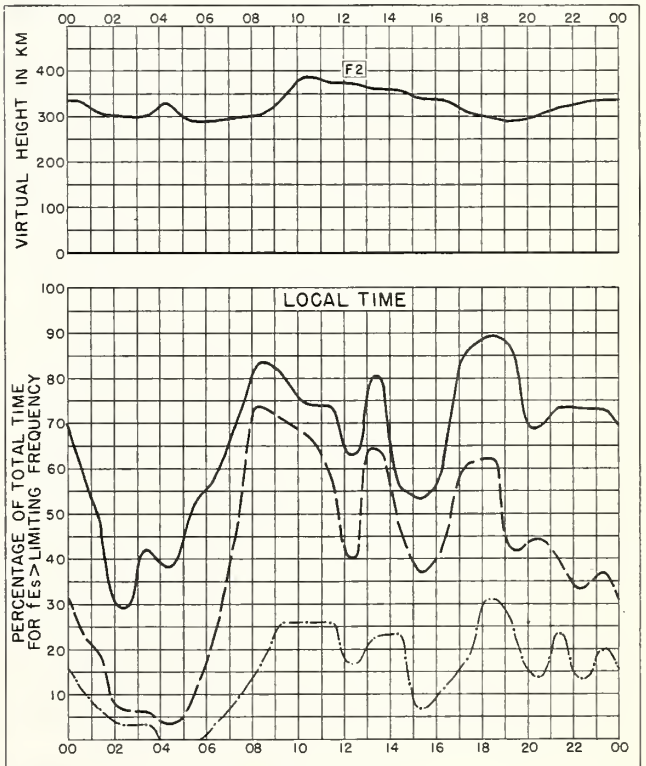


Fig. 48. AKITA, JAPAN MAY 1956

NBS 490

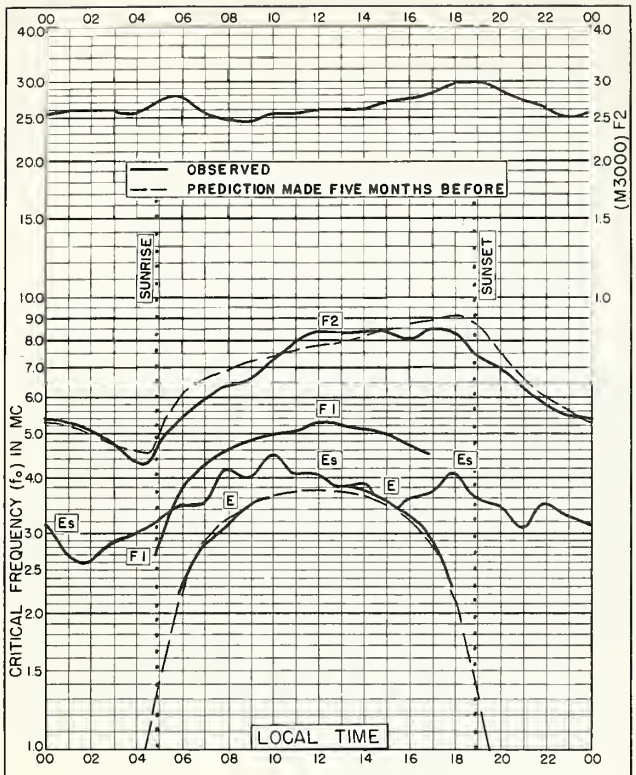


Fig. 49. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY 1956

NBS 503

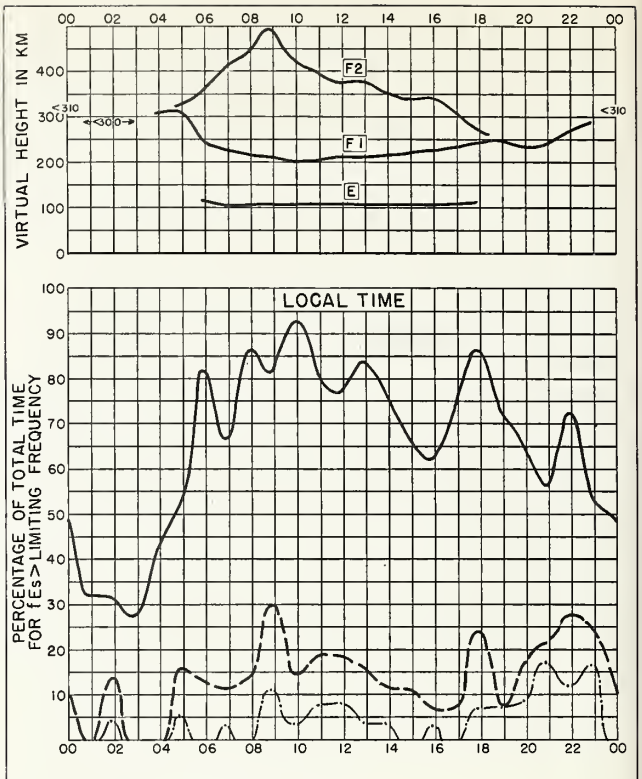


Fig. 50. SAN FRANCISCO, CALIFORNIA MAY 1956

NBS 490

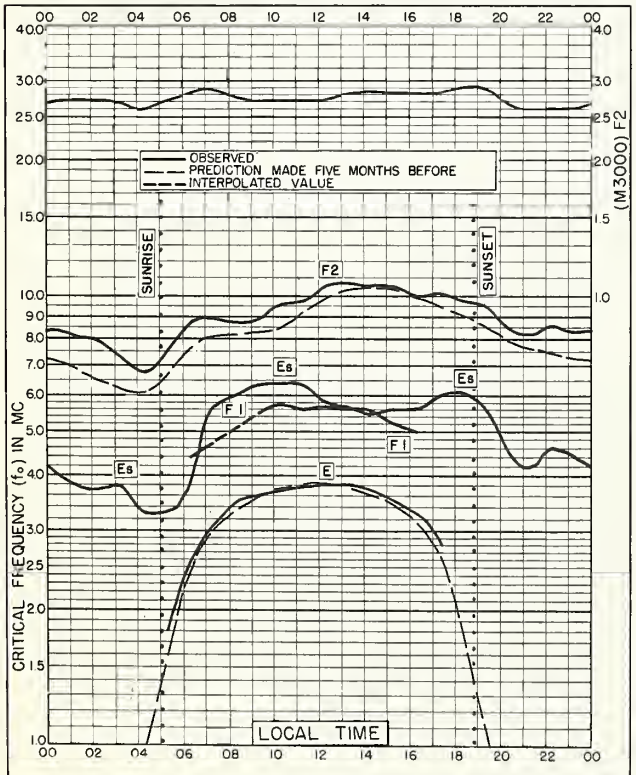


Fig. 51. TOKYO, JAPAN
35.7°N, 139.5°E MAY 1956

NBS 503

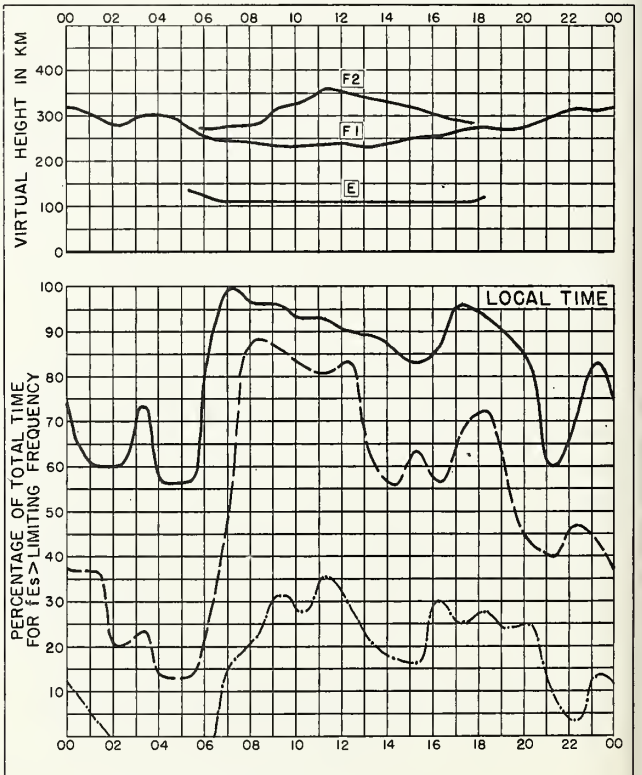


Fig. 52. TOKYO, JAPAN MAY 1956

NBS 490

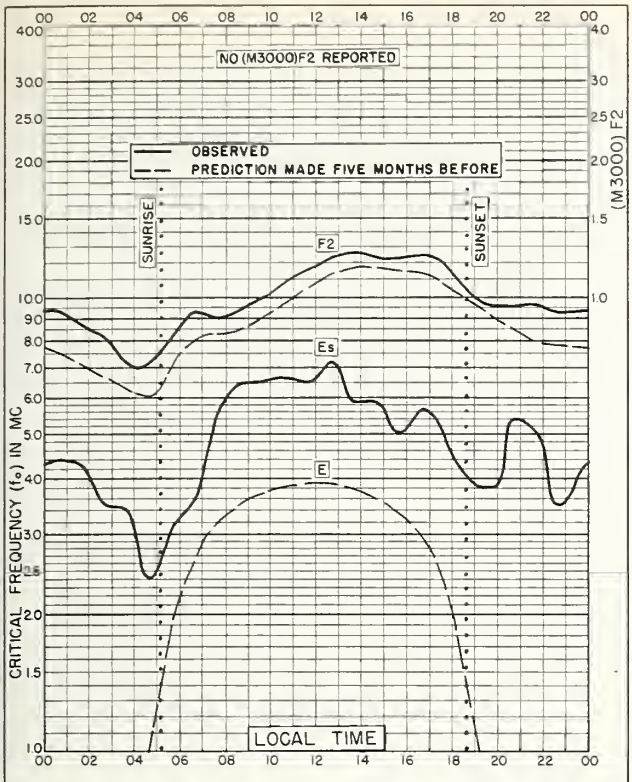


Fig. 53. YAMAGAWA, JAPAN
31.2°N, 130.6°E MAY 1956

NBS 503

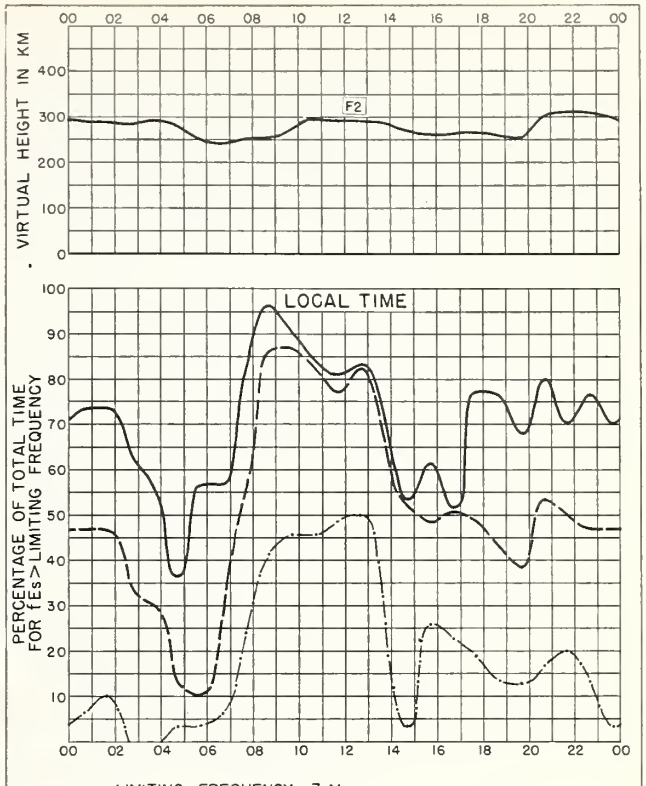


Fig. 54. YAMAGAWA, JAPAN MAY 1956

NBS 490

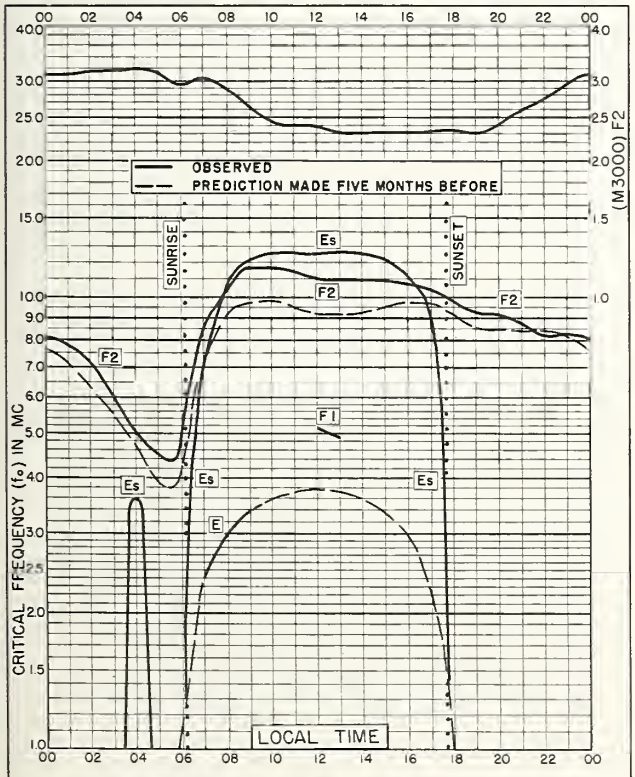


Fig. 55. HUANCAYO, PERU
12.0°S, 75.3° W MAY 1956

NBS 503

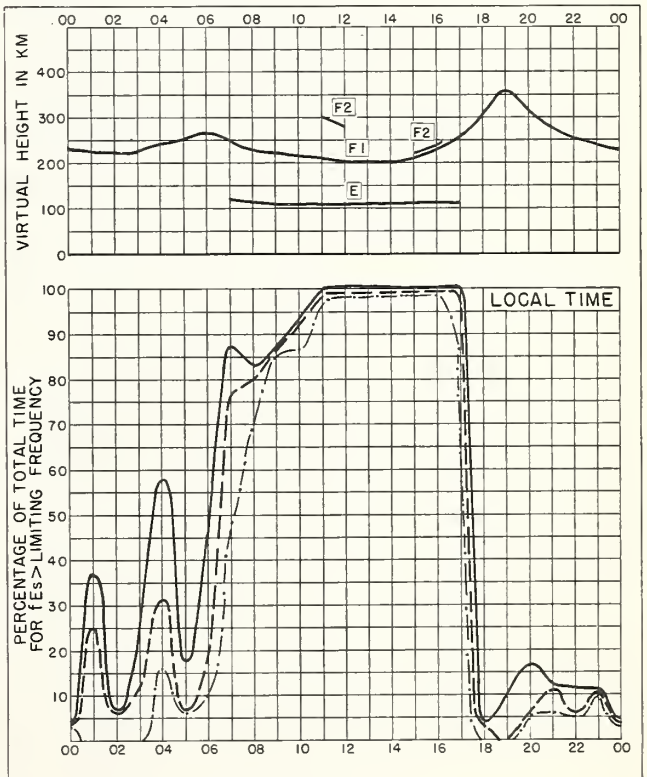


Fig. 56. HUANCAYO, PERU MAY 1956

NBS 490

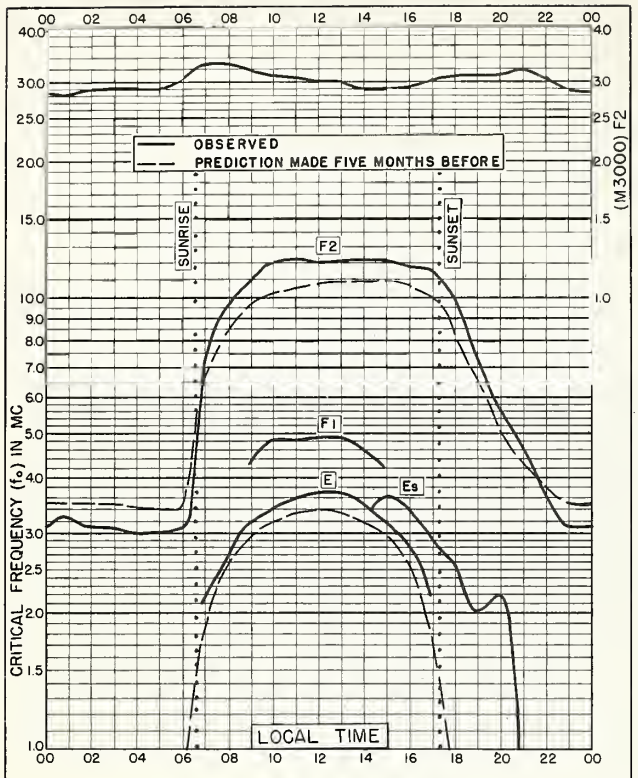


Fig. 57. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E MAY 1956

NBS 503

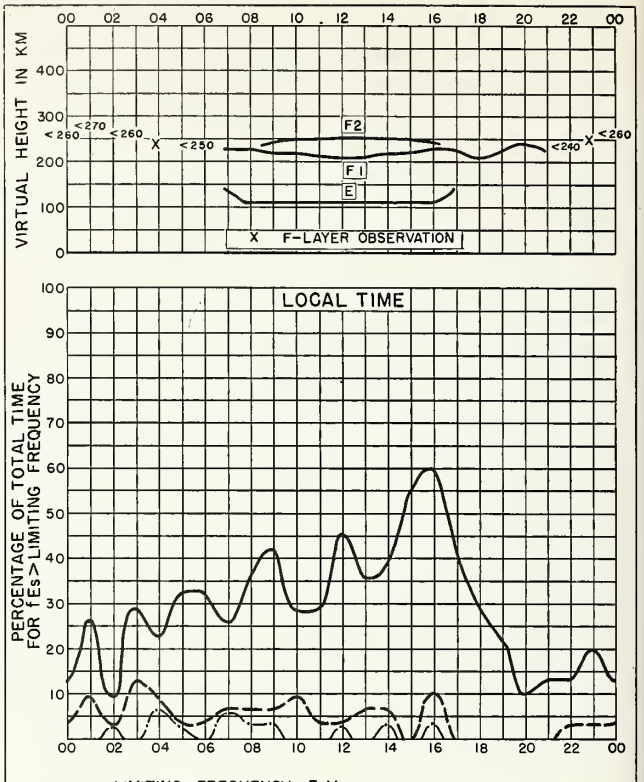


Fig. 58. JOHANNESBURG, UNION OF S. AFRICA MAY 1956

NBS 490

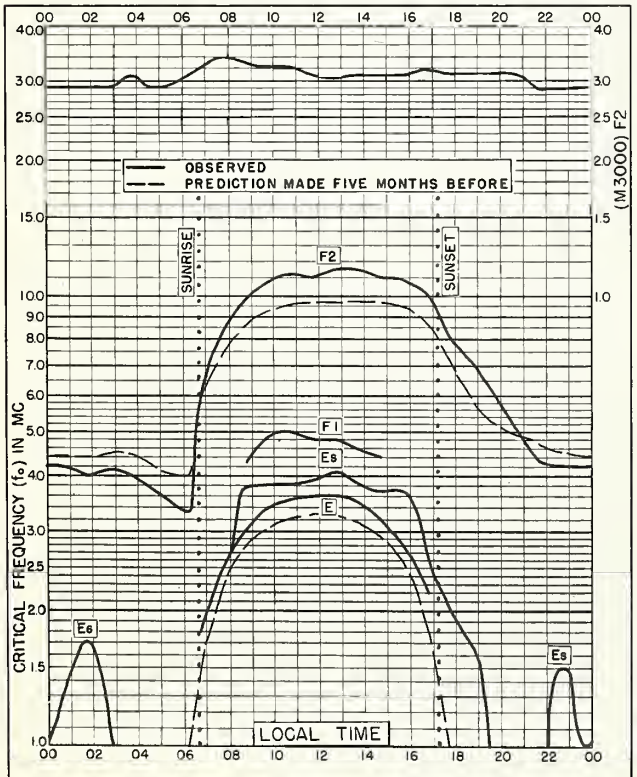


Fig. 59. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E MAY 1956

NBS 503

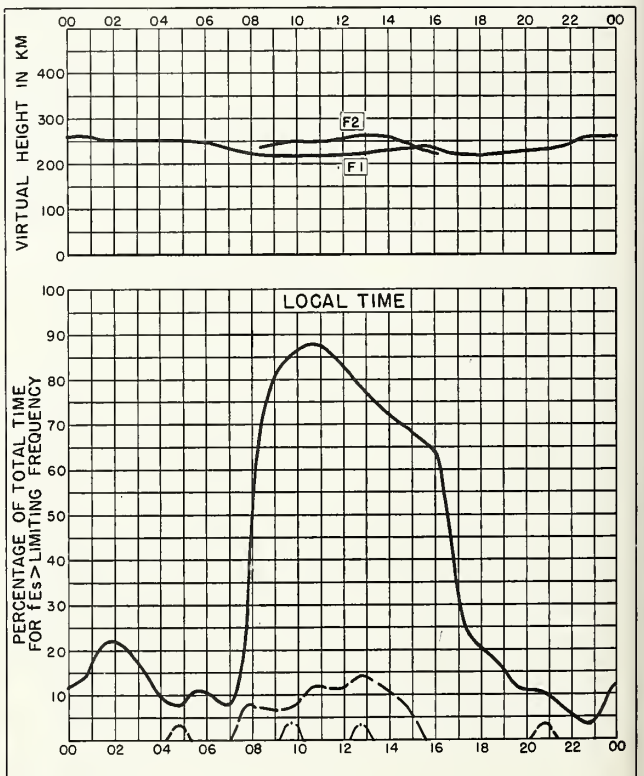


Fig. 60. WATHEROO, W. AUSTRALIA MAY 1956

NBS 490

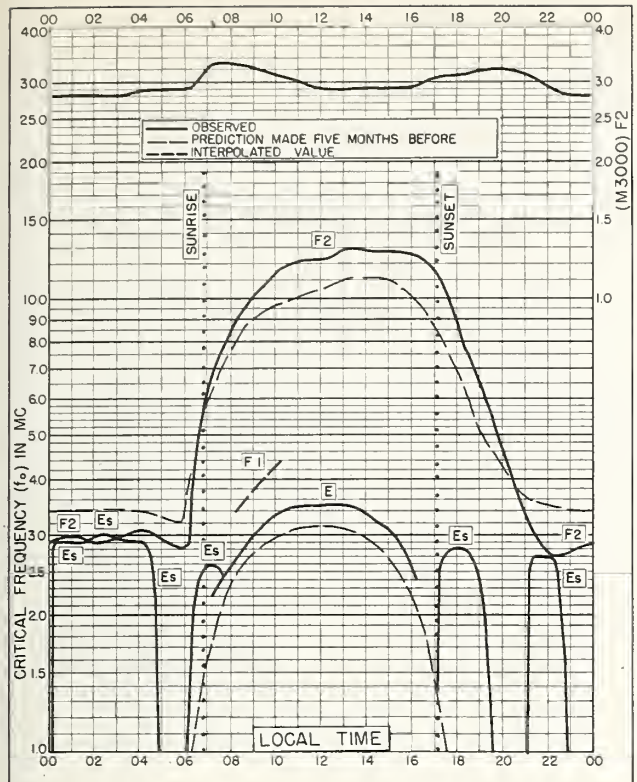


Fig. 61. CAPETOWN, UNION OF S. AFRICA
34.2°S, 18.3°E MAY 1956

NBS 503

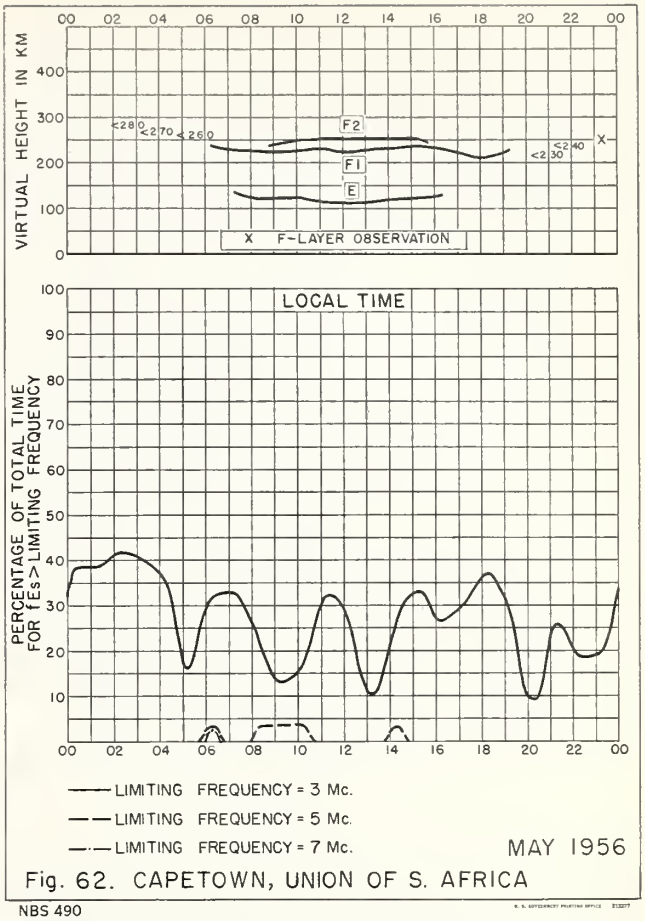


Fig. 62. CAPETOWN, UNION OF S. AFRICA MAY 1956

NBS 490

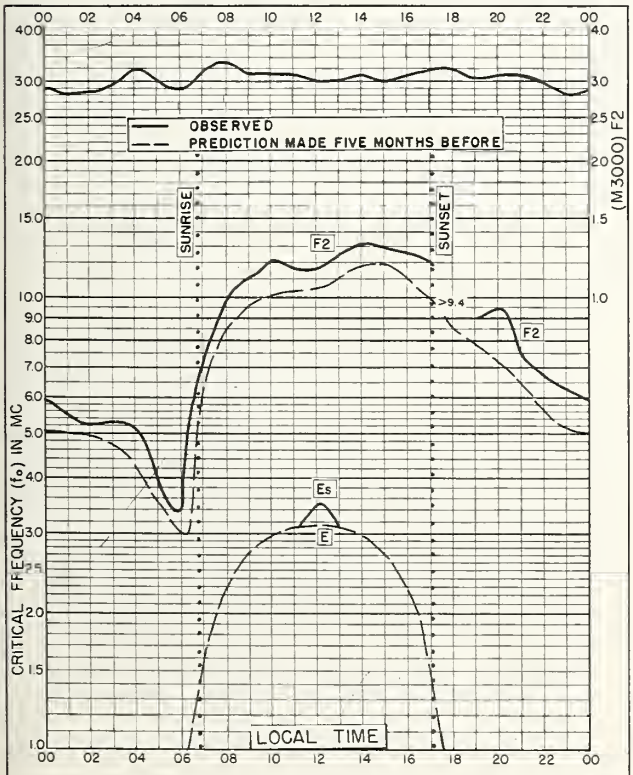


Fig. 63. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W MAY 1956

NBS 503

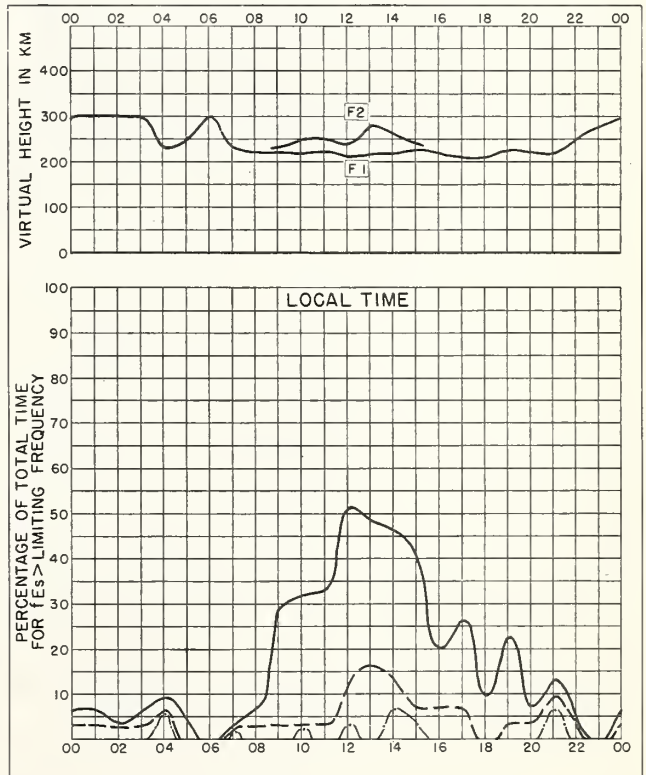


Fig. 64. BUENOS AIRES, ARGENTINA MAY 1956

NBS 490

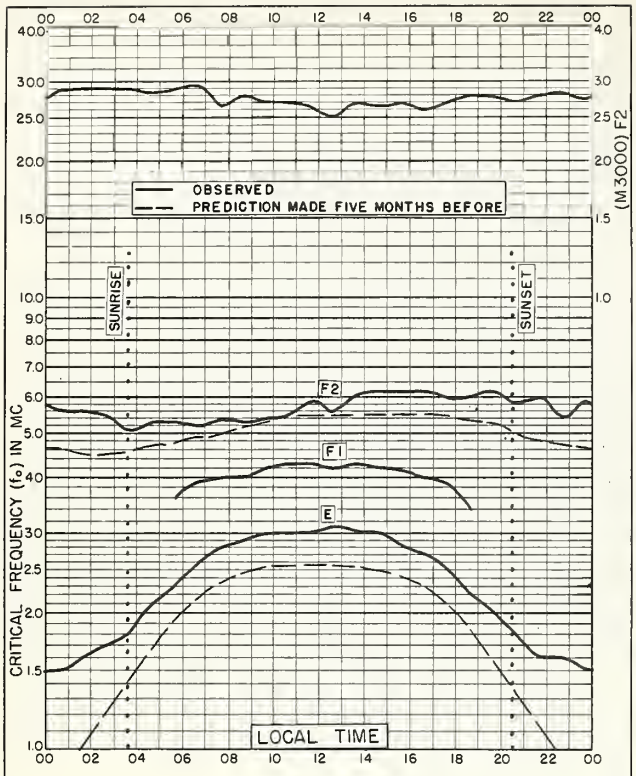


Fig. 65. RESOLUTE BAY, CANADA
74.7°N, 94.9°W APRIL 1956

NBS 503

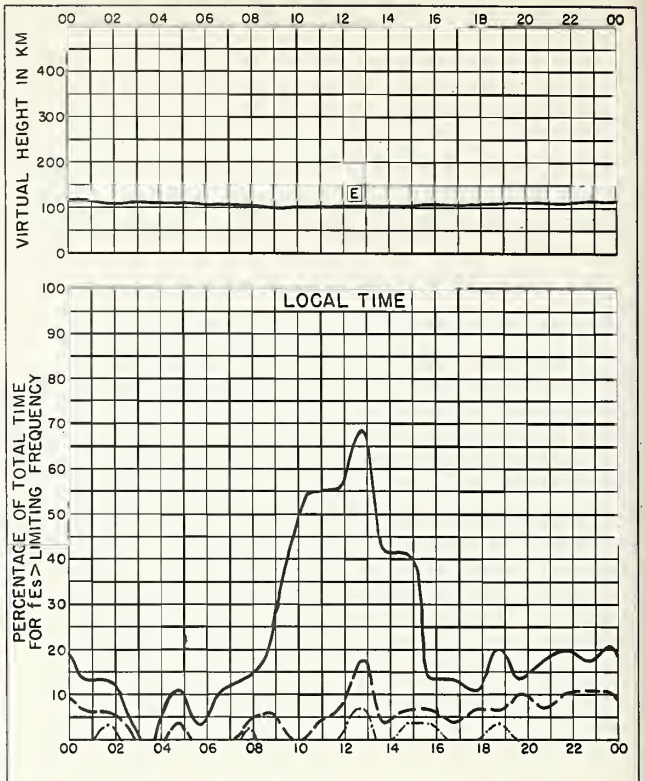


Fig. 66. RESOLUTE BAY, CANADA APRIL 1956

NBS 490

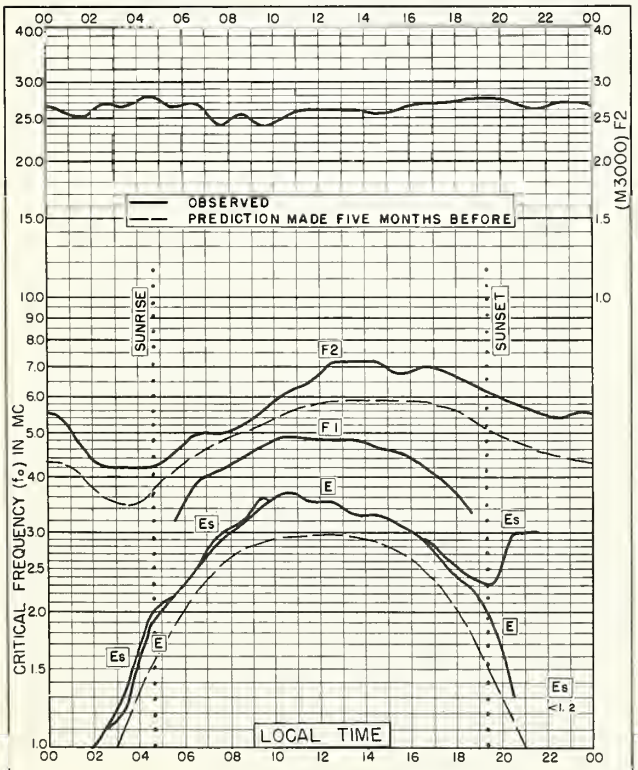


Fig. 67. BAKER LAKE, CANADA
64.3°N, 96.0°W APRIL 1956

NBS 503

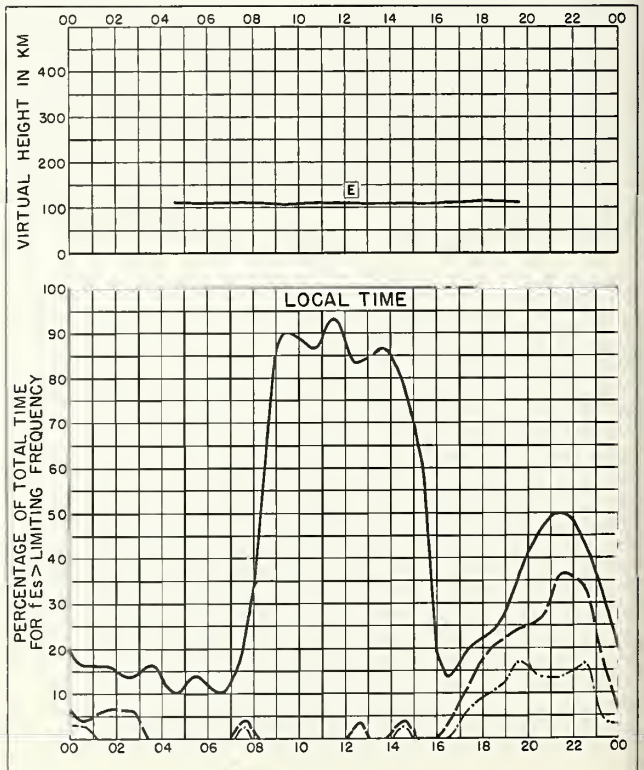


Fig. 68. BAKER LAKE, CANADA APRIL 1956

NBS 490

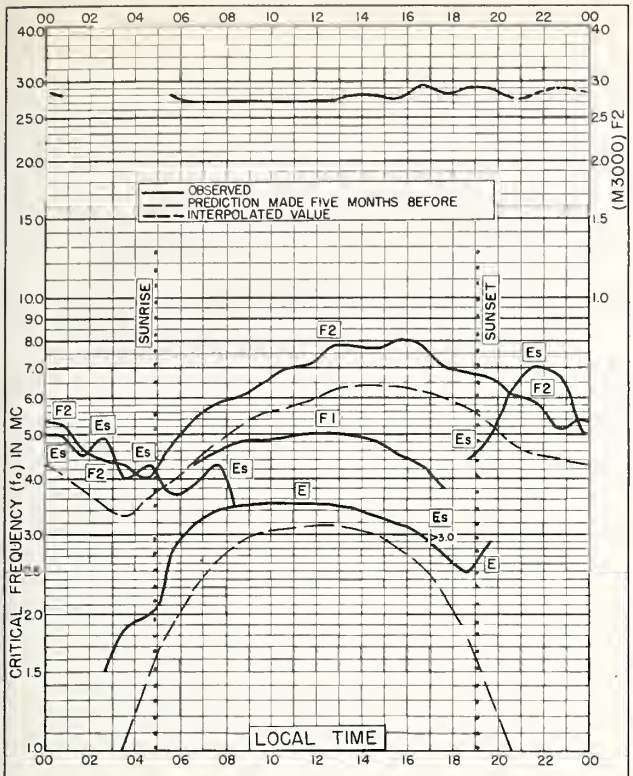


Fig. 69. CHURCHILL, CANADA
58.8°N, 94.2°W APRIL 1956

NBS 503

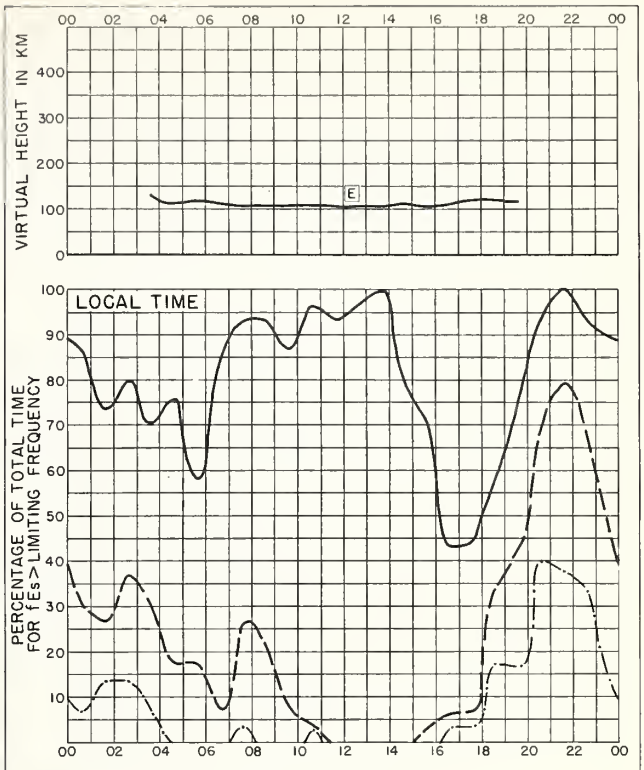


Fig. 70. CHURCHILL, CANADA APRIL 1956

NBS 490

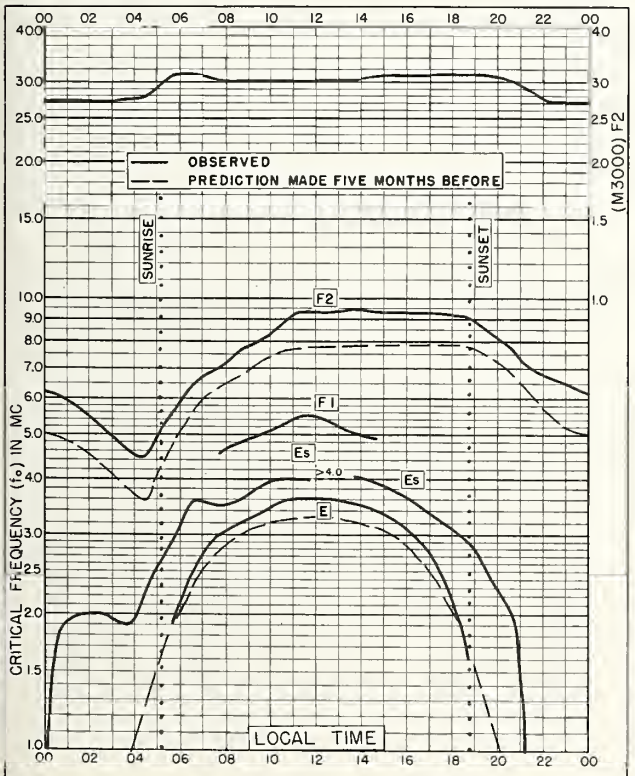


Fig. 71. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E APRIL 1956

NBS 503

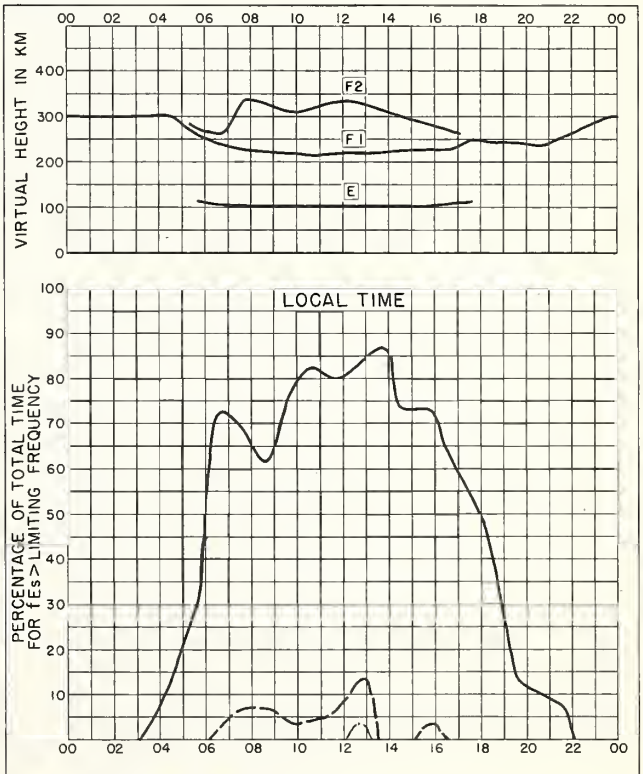


Fig. 72. LINDAU/HARZ, GERMANY APRIL 1956

NBS 490

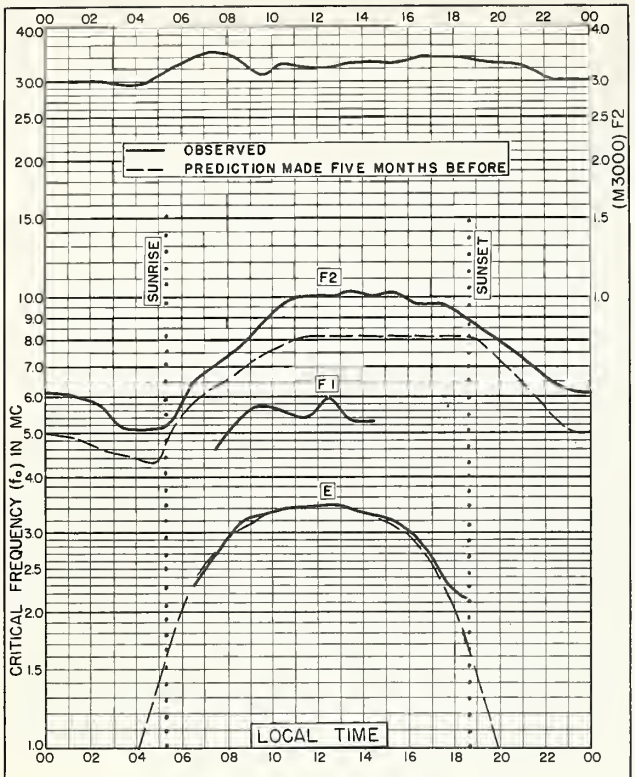
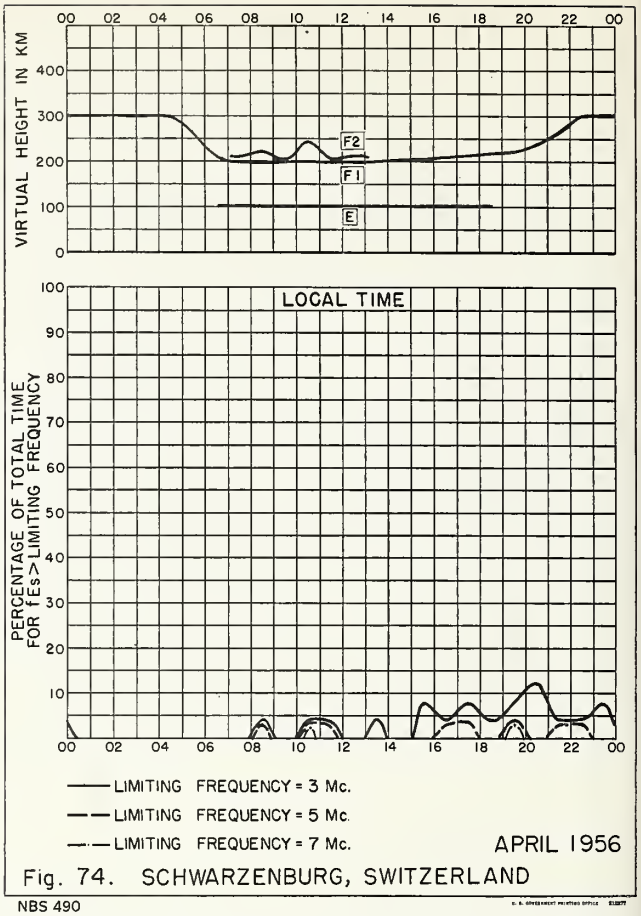


Fig. 73. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E APRIL 1956

NBS 503



APRIL 1956

Fig. 74. SCHWARZENBURG, SWITZERLAND

NBS 490

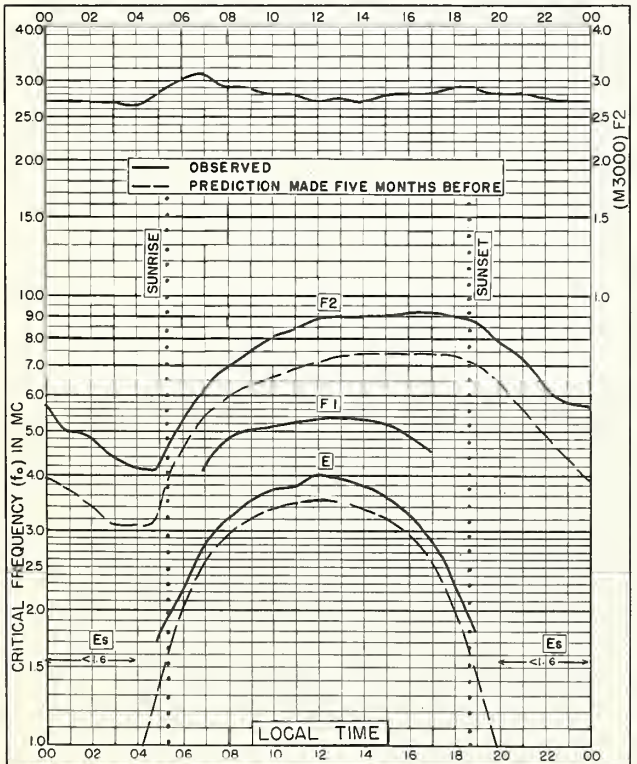


Fig. 75. OTTAWA, CANADA
45.4°N, 75.9°W APRIL 1956

NBS 503

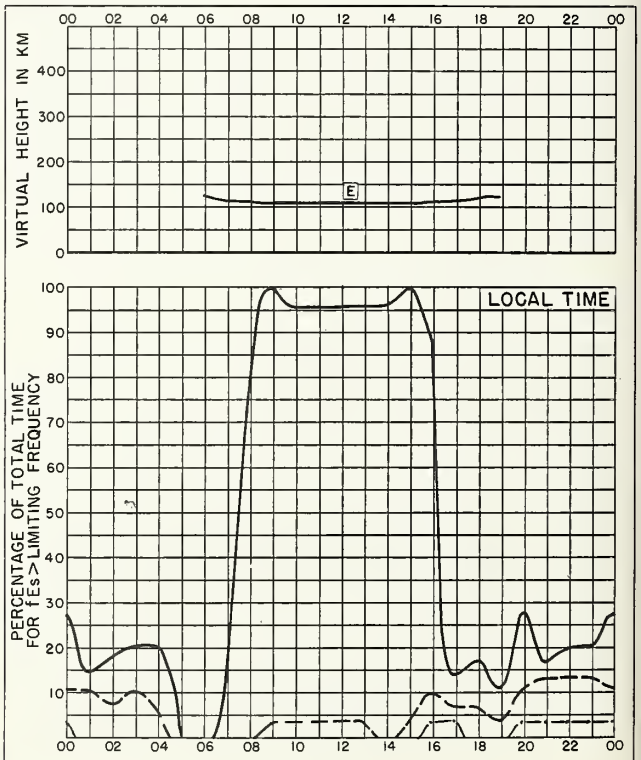


Fig. 76. OTTAWA, CANADA APRIL 1956

NBS 490

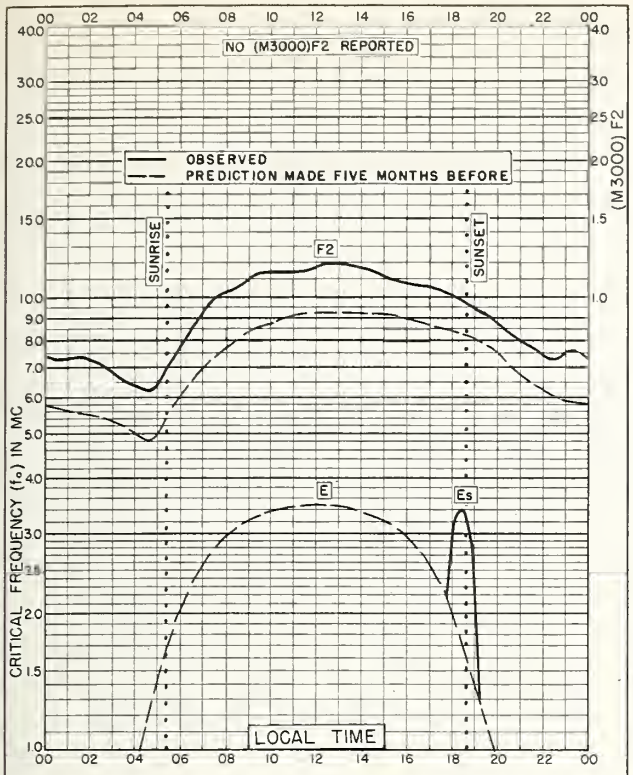


Fig. 77. WAKKANAI, JAPAN
45.4°N, 141.7°E APRIL 1956

NBS 503

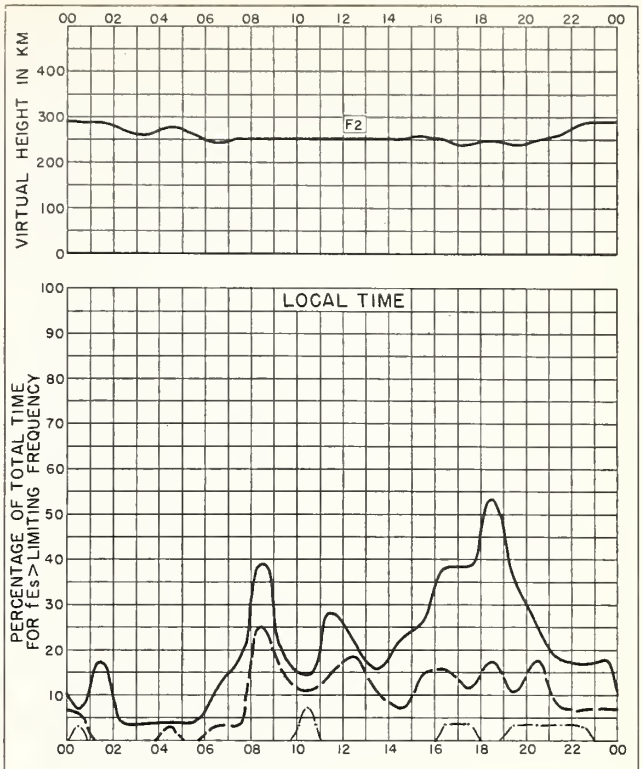


Fig. 78. WAKKANAI, JAPAN APRIL 1956

NBS 490

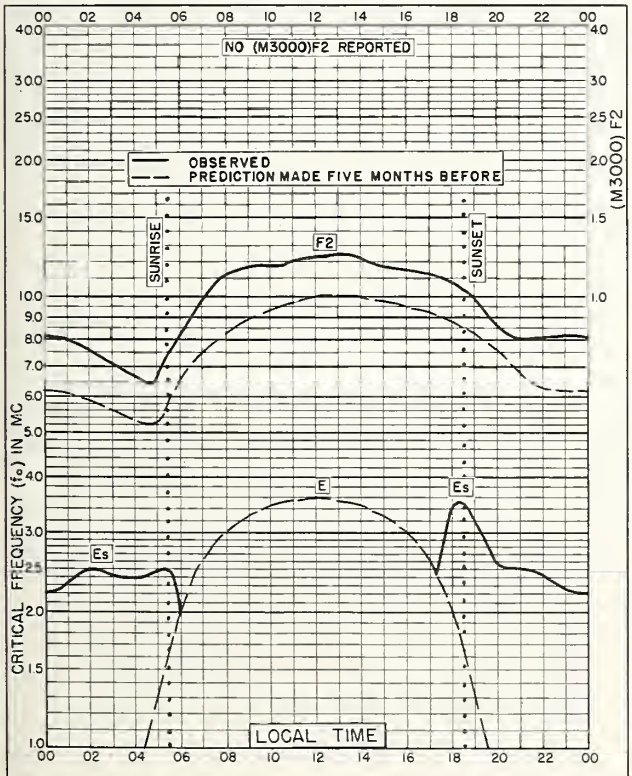


Fig. 79. AKITA, JAPAN
39.7°N, 140.1°E APRIL 1956

NBS 503

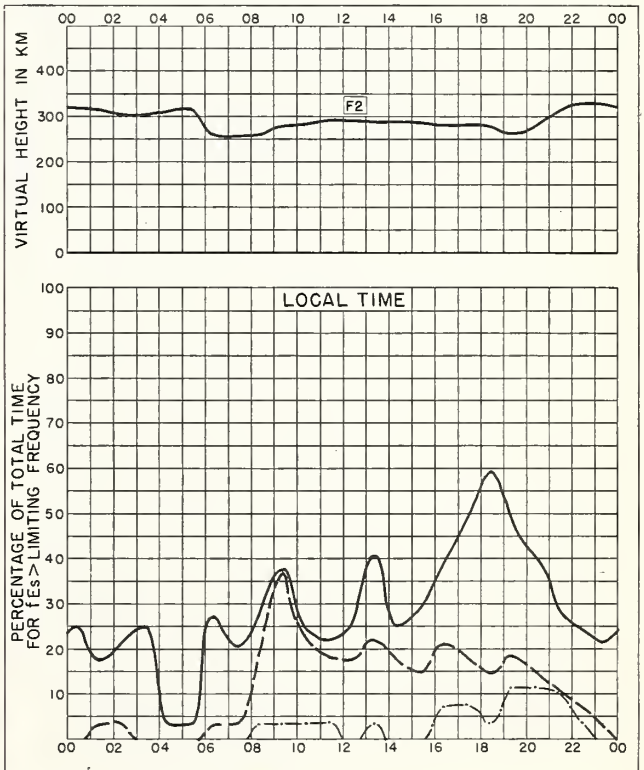


Fig. 80. AKITA, JAPAN APRIL 1956

NBS 490

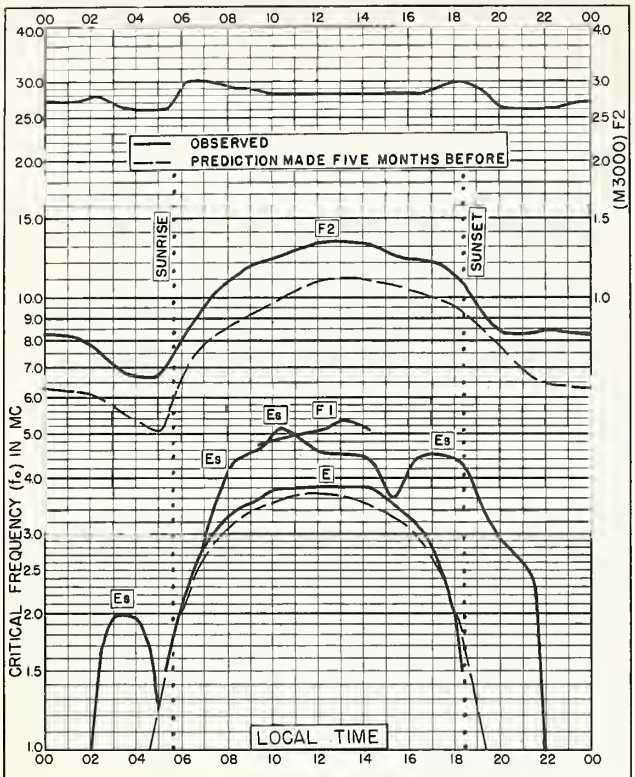


Fig. 81. TOKYO, JAPAN
35.7°N, 139.5°E APRIL 1956

NBS 503

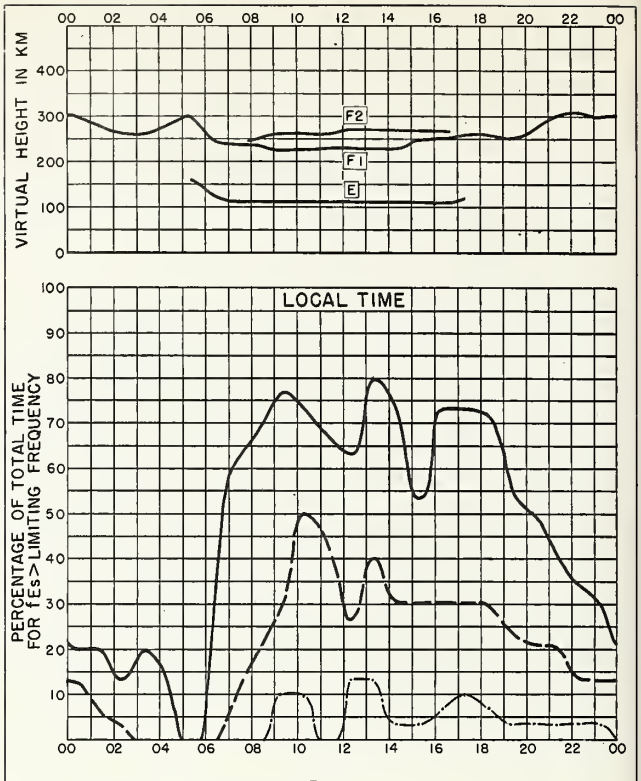


Fig. 82. TOKYO, JAPAN APRIL 1956

NBS 490

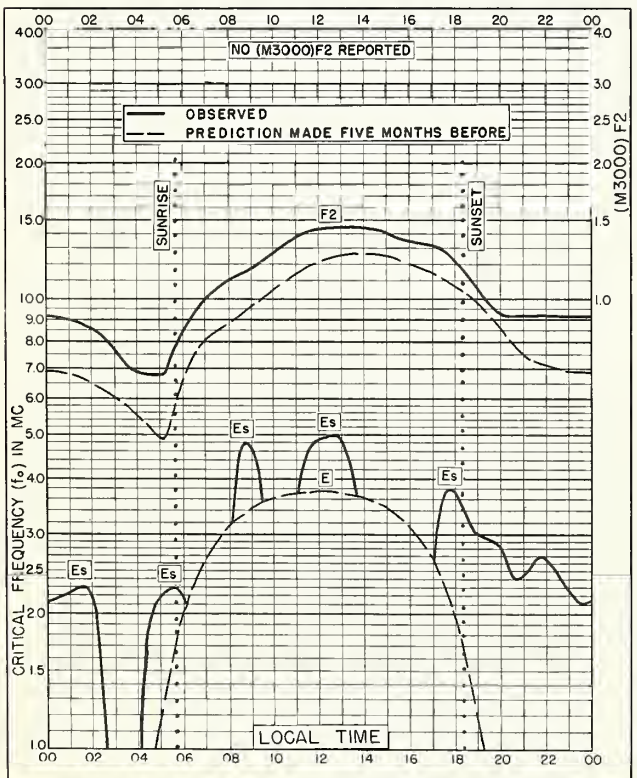


Fig. 83. YAMAGAWA, JAPAN
31.2°N, 130.6°E APRIL 1956

NBS 503

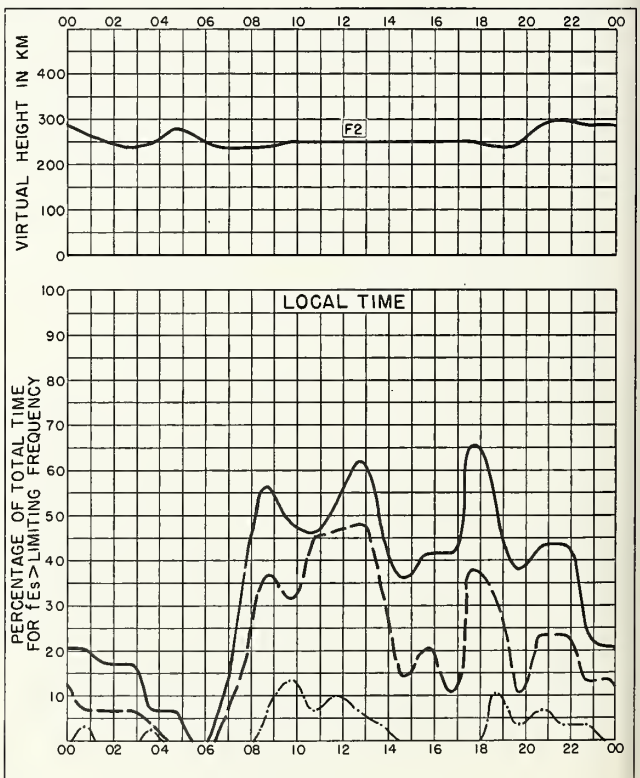


Fig. 84. YAMAGAWA, JAPAN APRIL 1956

NBS 490

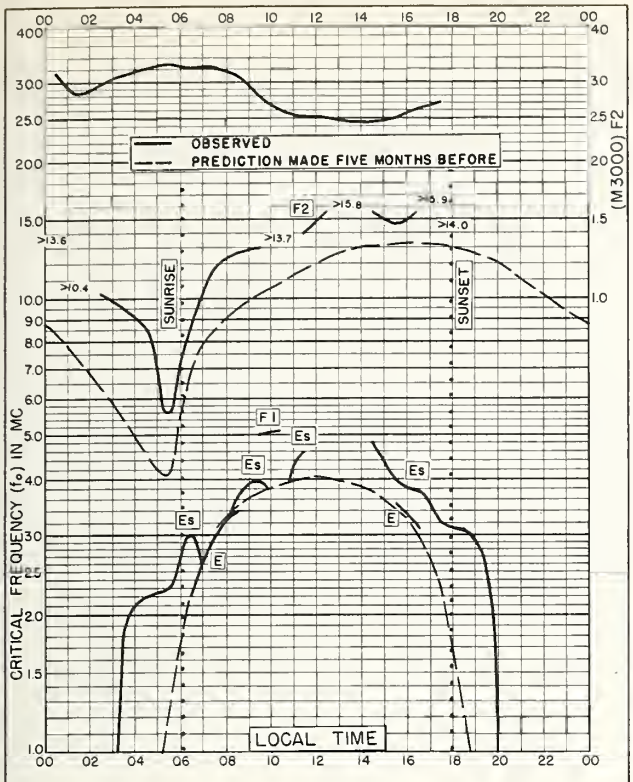


Fig. 85. NAIROBI, KENYA
1.3°S, 36.8°E APRIL 1956

NBS 503

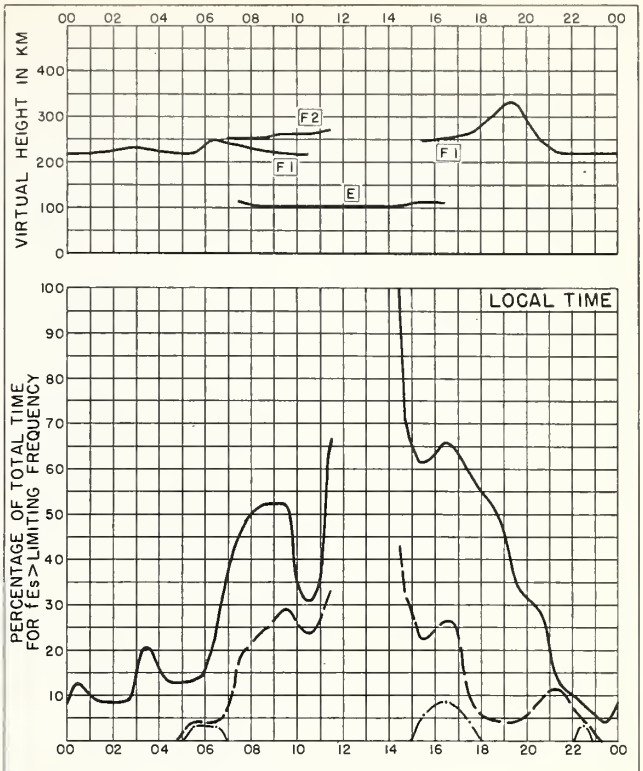


Fig. 86. NAIROBI, KENYA APRIL 1956

NBS 490

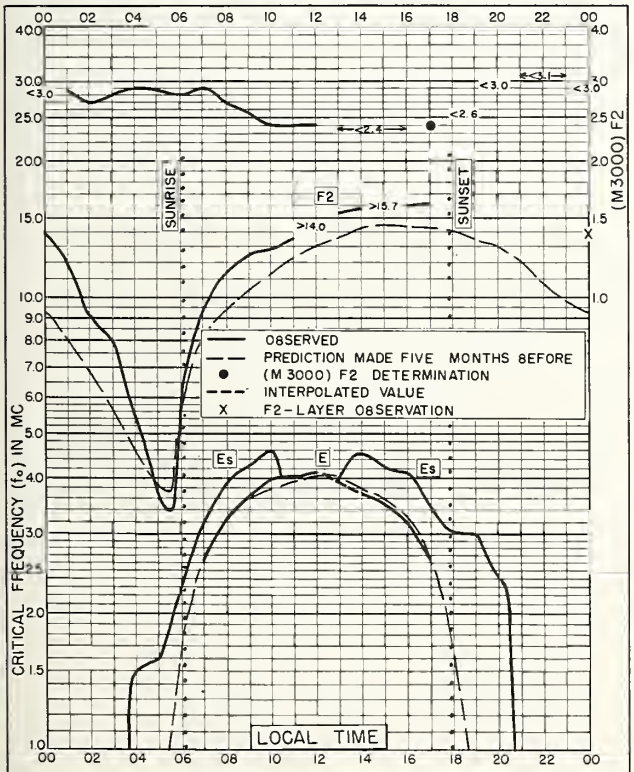


Fig. 87. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E APRIL 1956

NBS 503

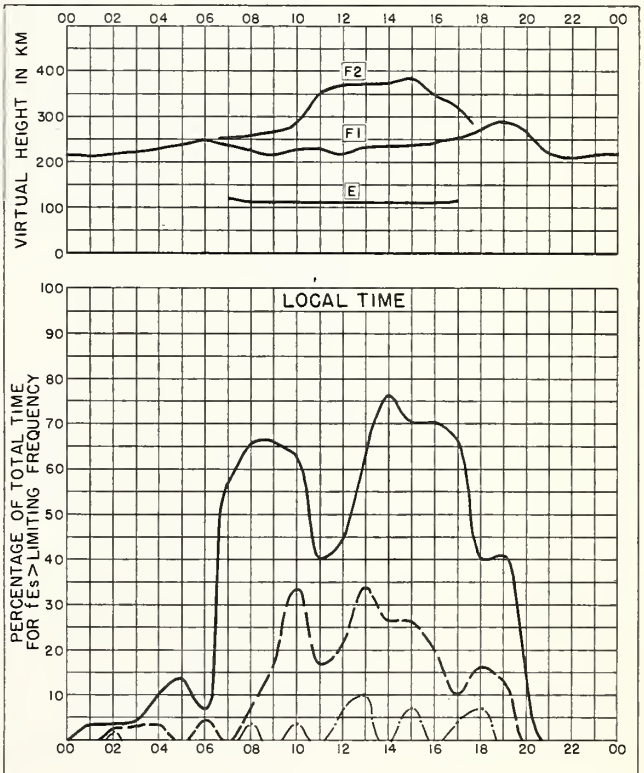


Fig. 88. LEOPOLDVILLE, BELGIAN CONGO APRIL 1956

NBS 490

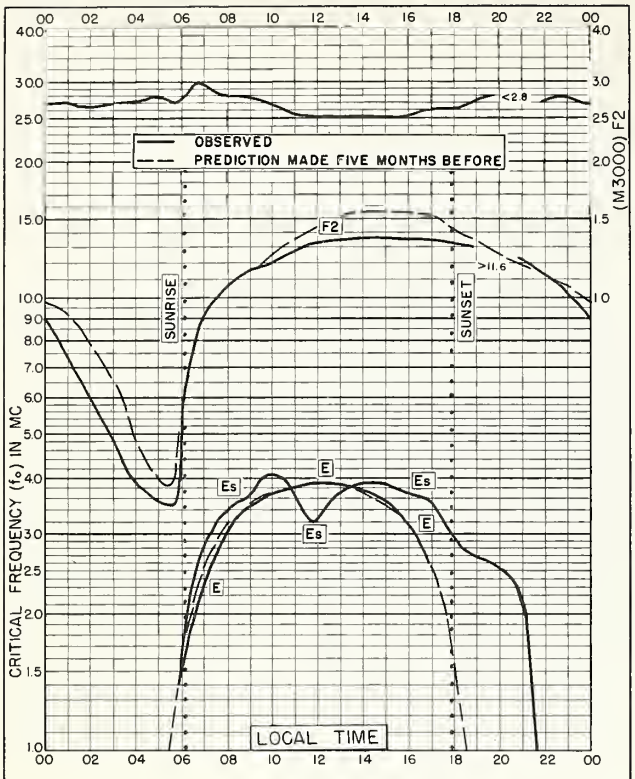


Fig. 89. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E APRIL 1956

NBS 503

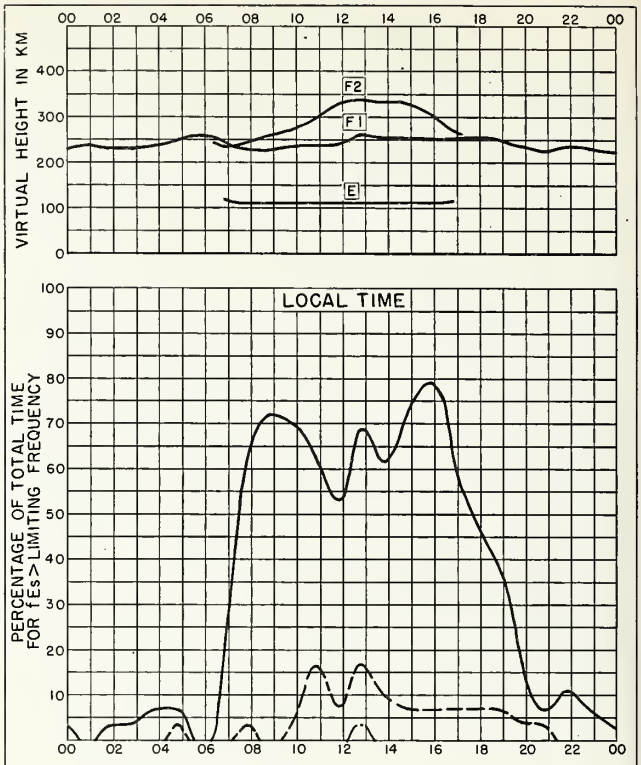


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Fig. 90. ELISABETHVILLE, BELGIAN CONGO

NBS 490

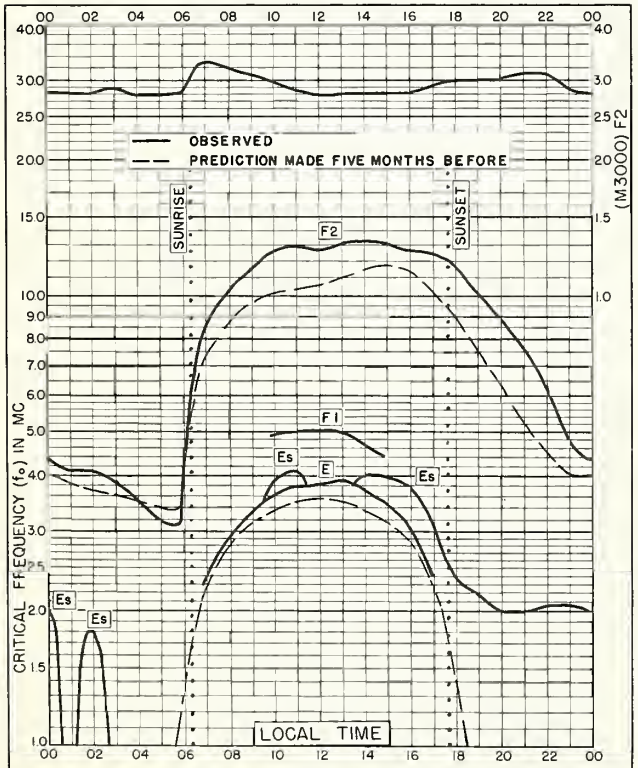

Fig. 91. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.1°E APRIL 1956

NBS 503

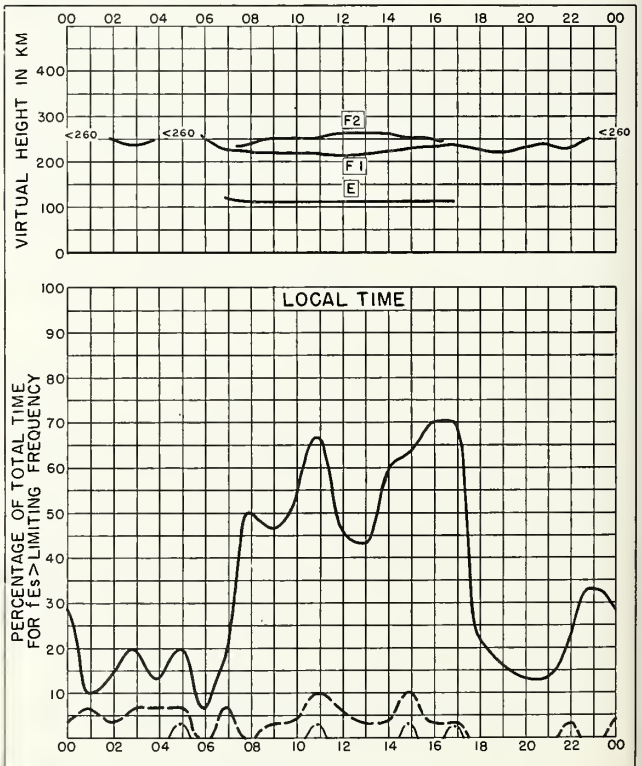

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Fig. 92. JOHANNESBURG, UNION OF S. AFRICA

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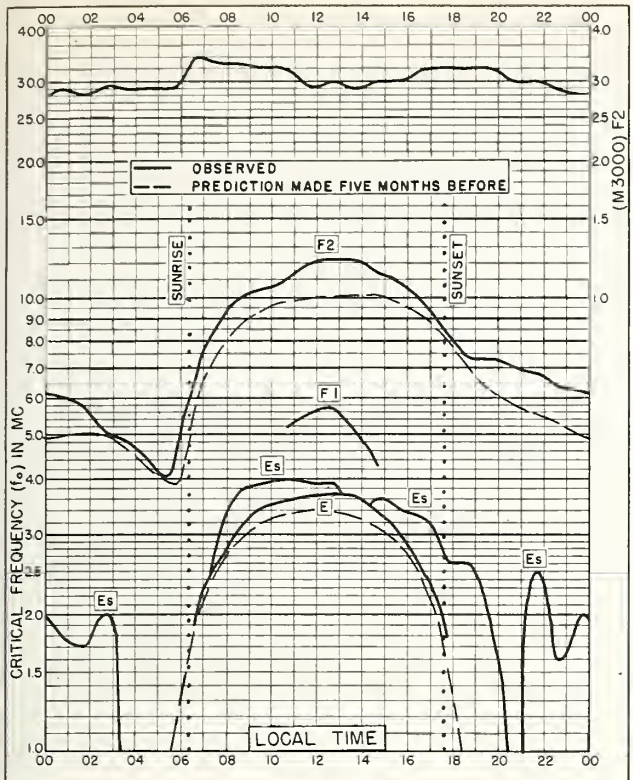

Fig. 93. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E APRIL 1956

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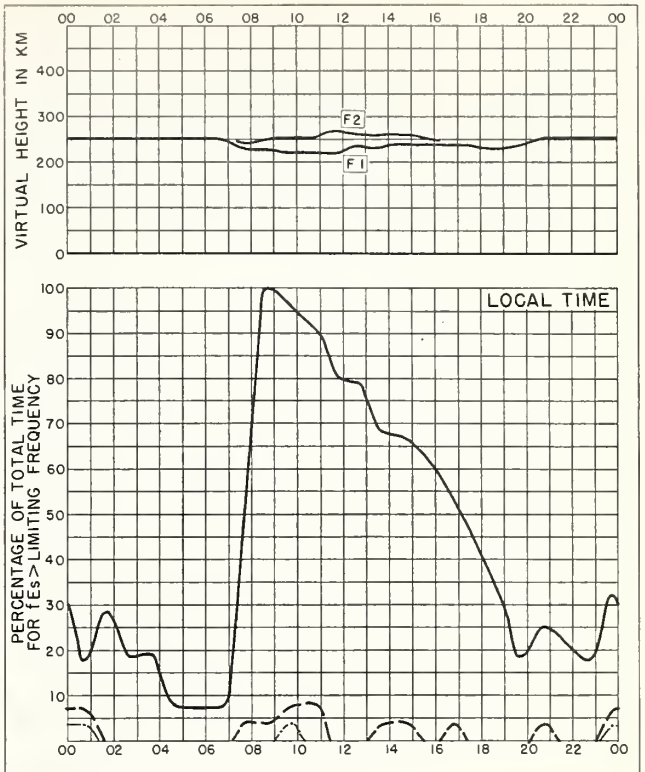

Fig. 94. WATHEROO, W. AUSTRALIA APRIL 1956

NBS 490

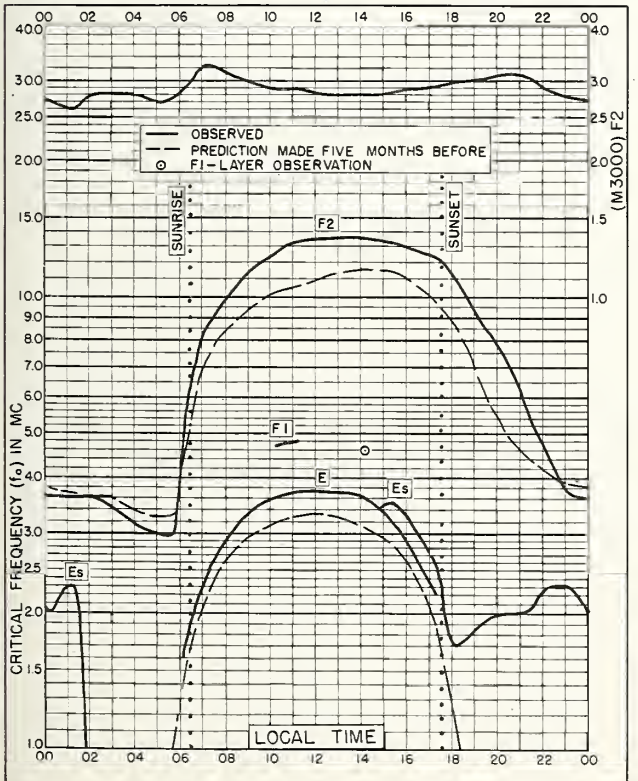

Fig. 95. CAPETOWN, UNION OF S. AFRICA
34.2°S, 18.3°E APRIL 1956

NBS 503

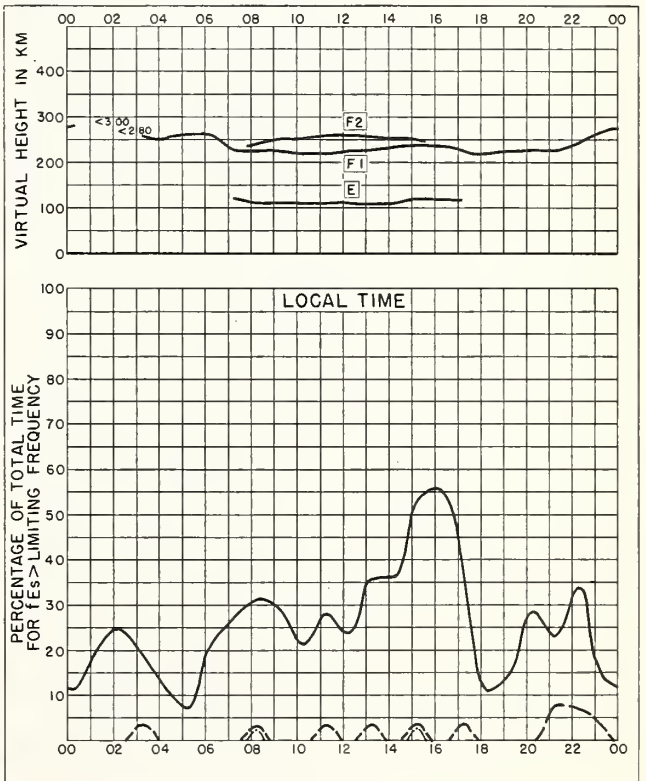

Fig. 96. CAPETOWN, UNION OF S. AFRICA APRIL 1956

NBS 490

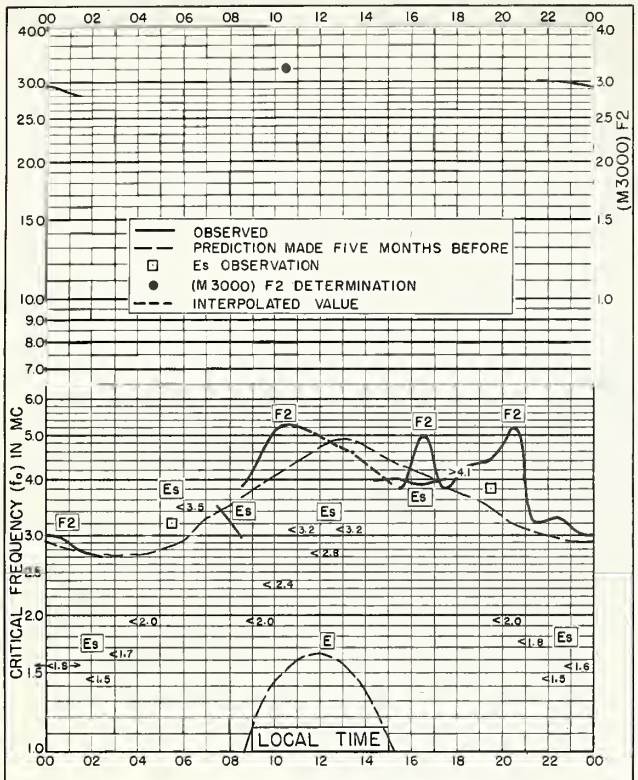

Fig. 97. GODHAVN, GREENLAND
69.2°N, 53.5°W DECEMBER 1955

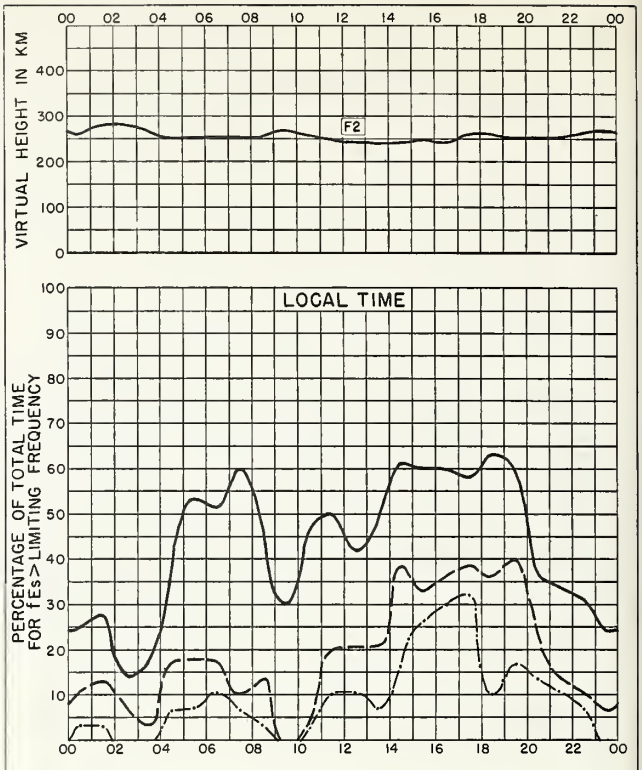

Fig. 98. GODHAVN, GREENLAND DECEMBER 1955

NBS 490

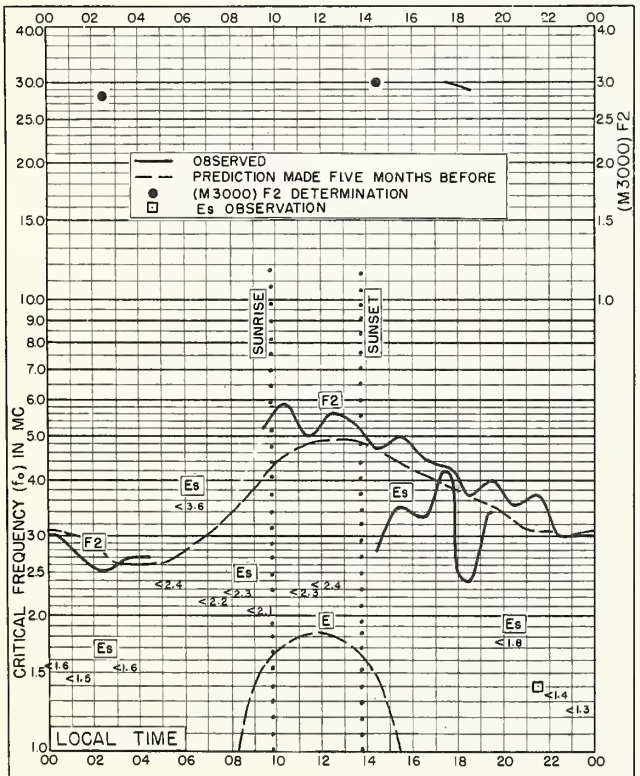

Fig. 99. GODHAVN, GREENLAND
69.2°N, 53.5°W NOVEMBER 1955

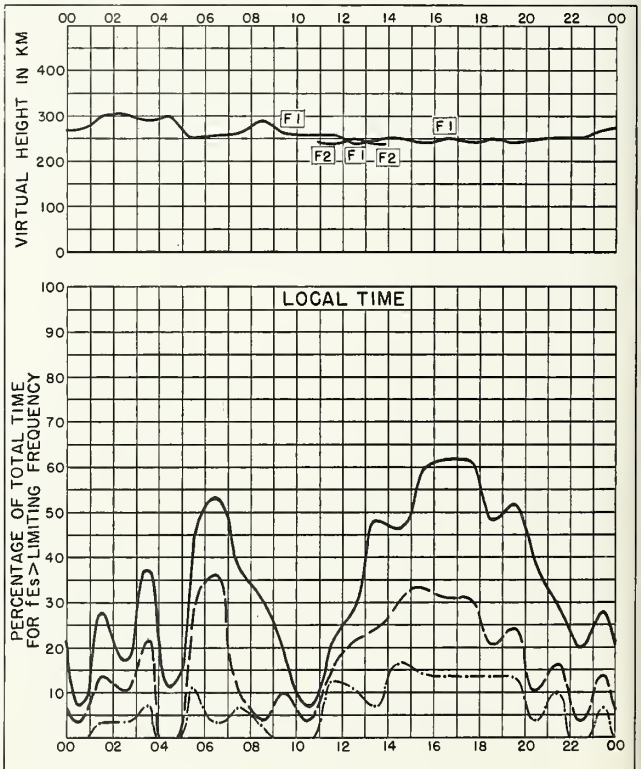

Fig. 100. GODHAVN, GREENLAND NOVEMBER 1955

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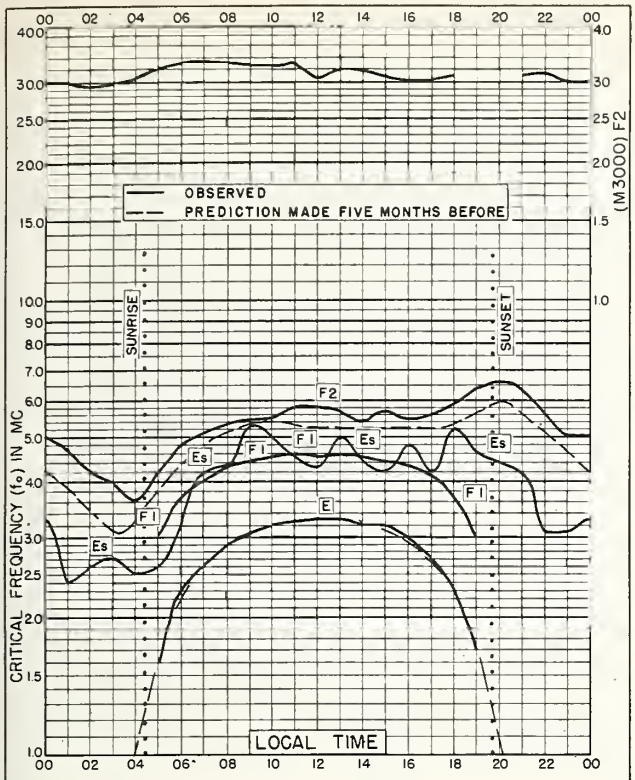

Fig. 101. POITIERS, FRANCE
46.6°N, 0.3°E JULY 1955

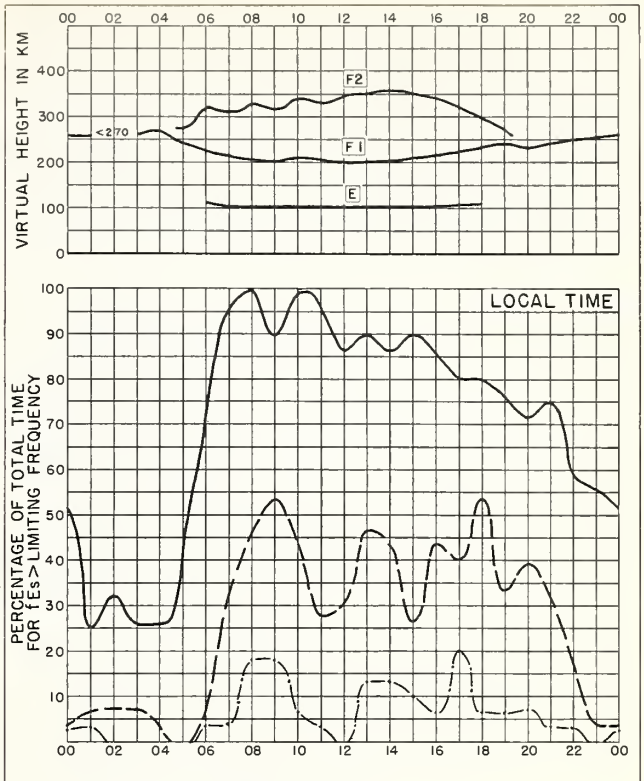

Fig. 102. POITIERS, FRANCE JULY 1955

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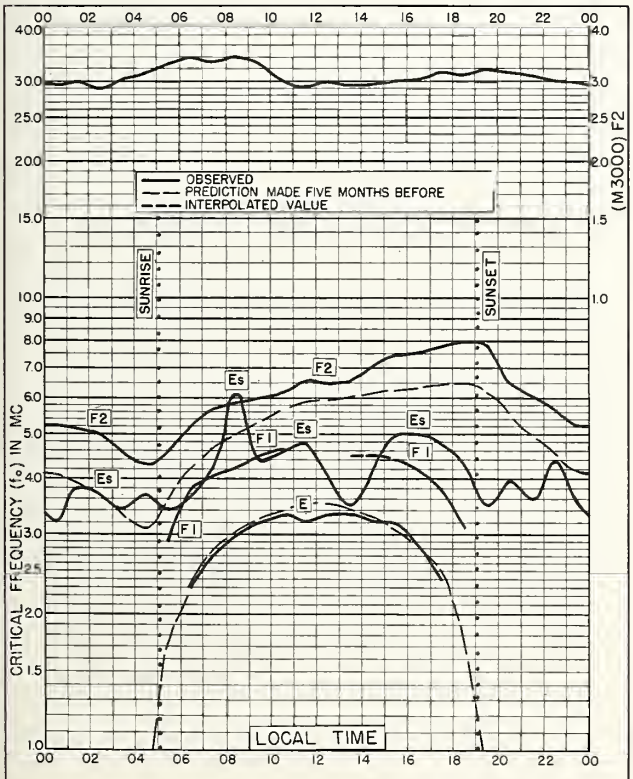

Fig. 103. CASABLANCA, MOROCCO
33.6°N, 7.6°W JULY 1955

NBS 503

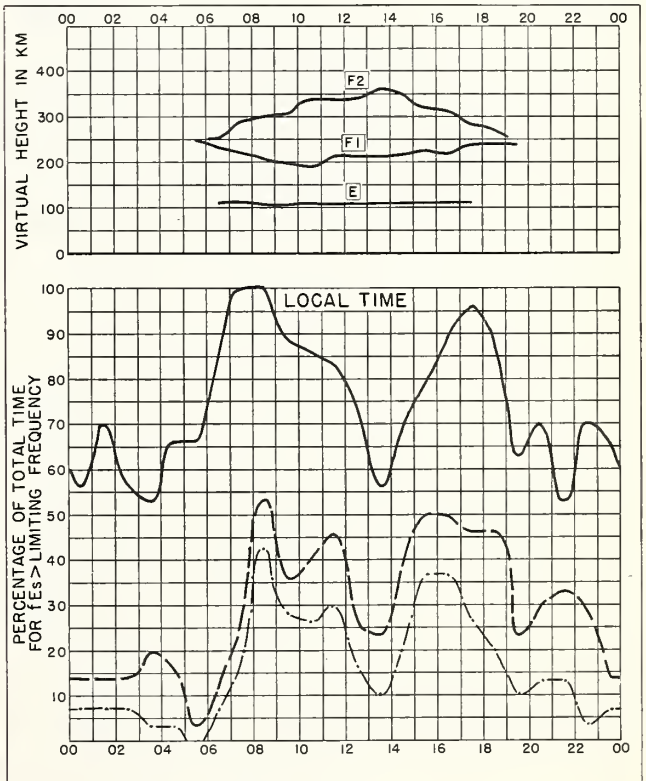

Fig. 104. CASABLANCA, MOROCCO JULY 1955

NBS 490

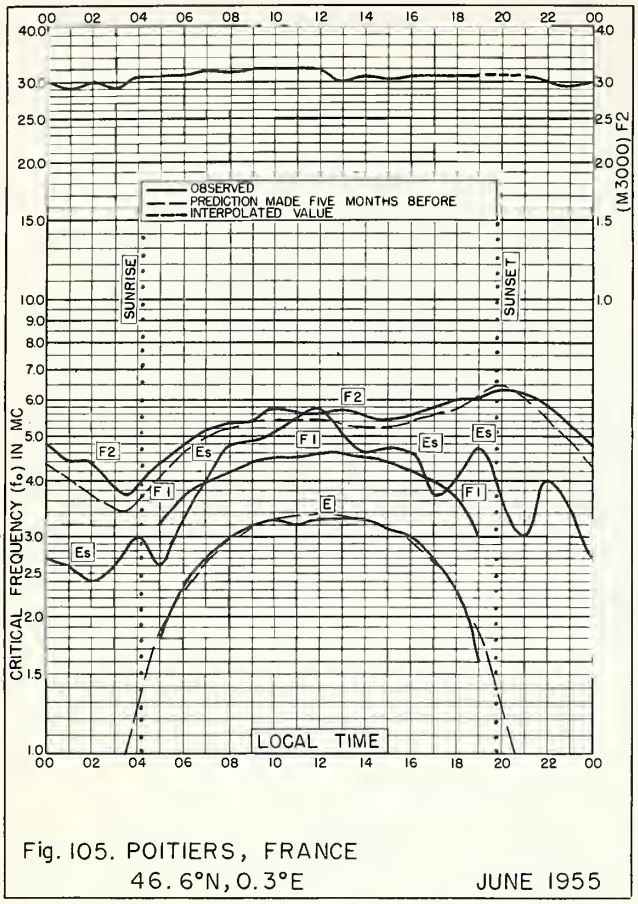

Fig. 105. POITIERS, FRANCE
46.6°N, 0.3°E JUNE 1955

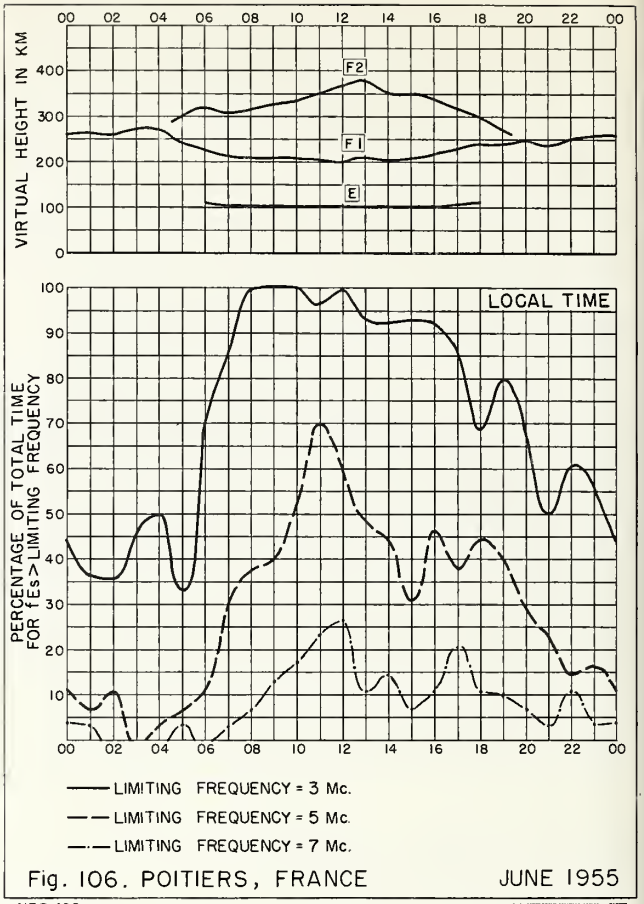

Fig. 106. POITIERS, FRANCE JUNE 1955

NBS 490

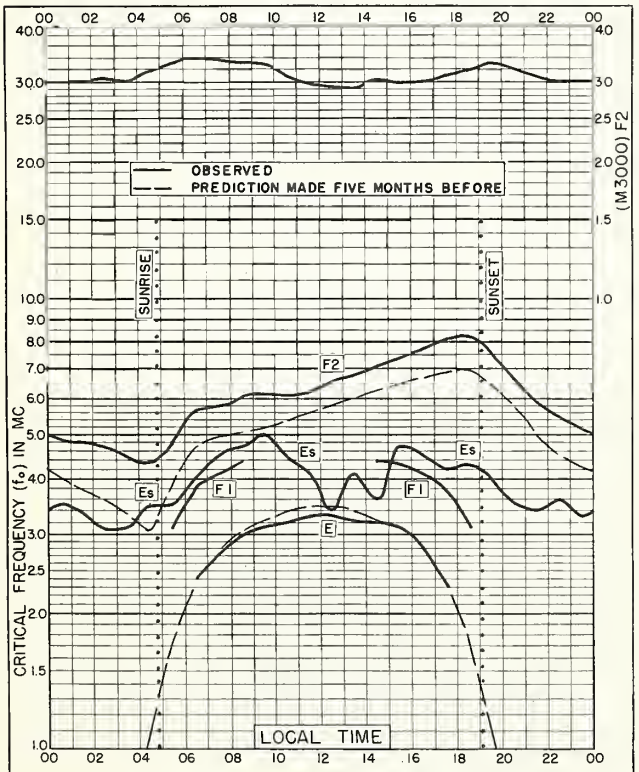

Fig. 107. CASABLANCA, MOROCCO
33.6°N, 7.6°W JUNE 1955

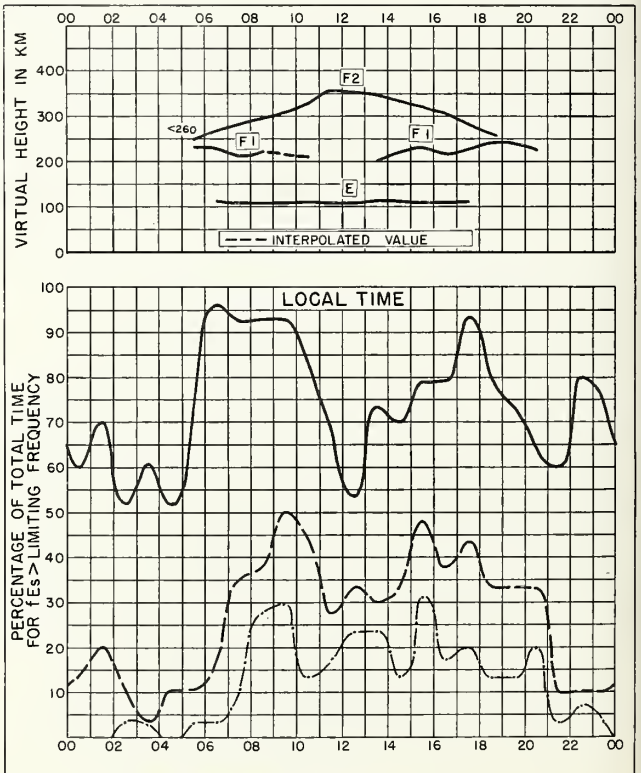

Fig. 108. CASABLANCA, MOROCCO JUNE 1955

NBS 490

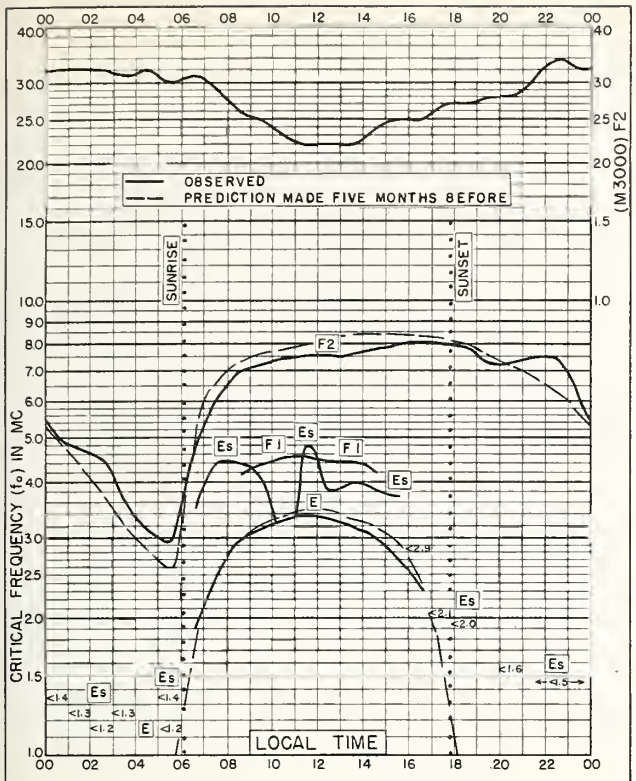

Fig. 109. TALARA, PERU
4.6°S, 81.3°W MAY 1955

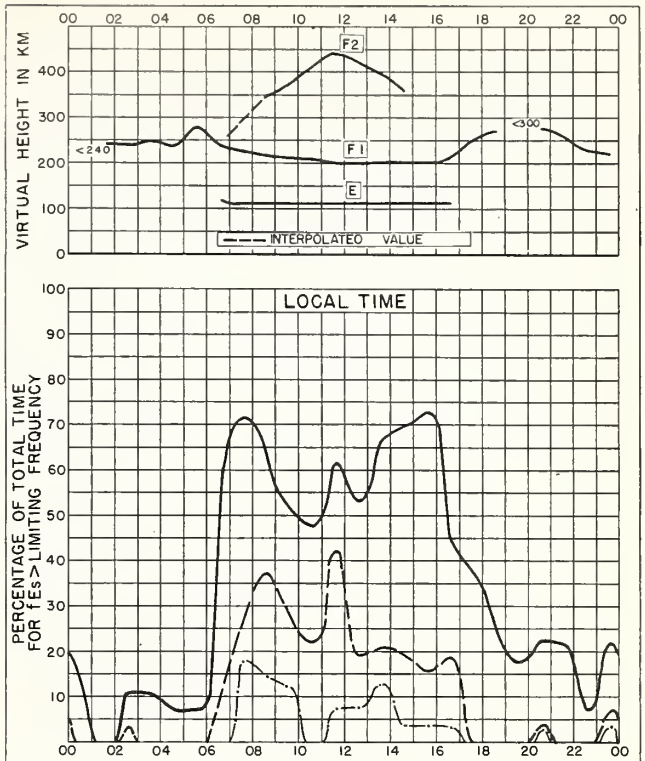

Fig. 110. TALARA, PERU MAY 1955

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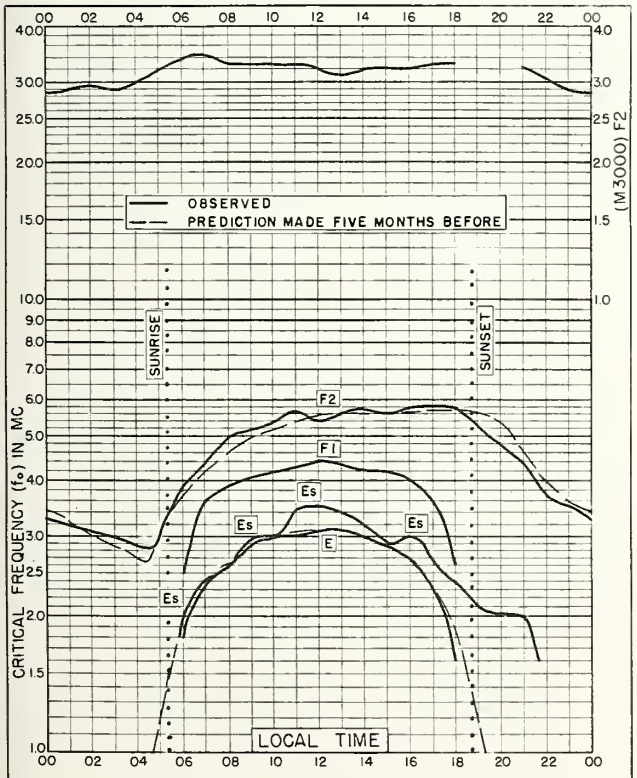

Fig. 111. POITIERS, FRANCE
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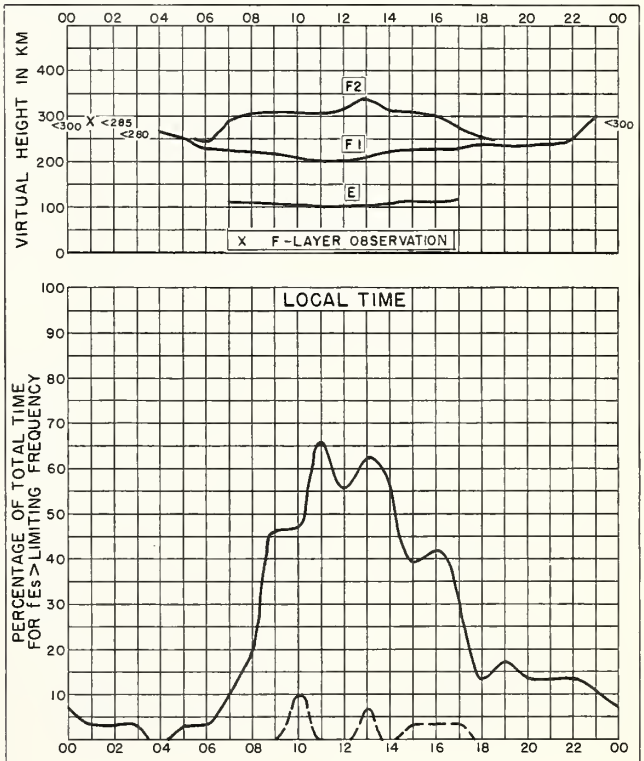

Fig. 112. POITIERS, FRANCE APRIL 1955

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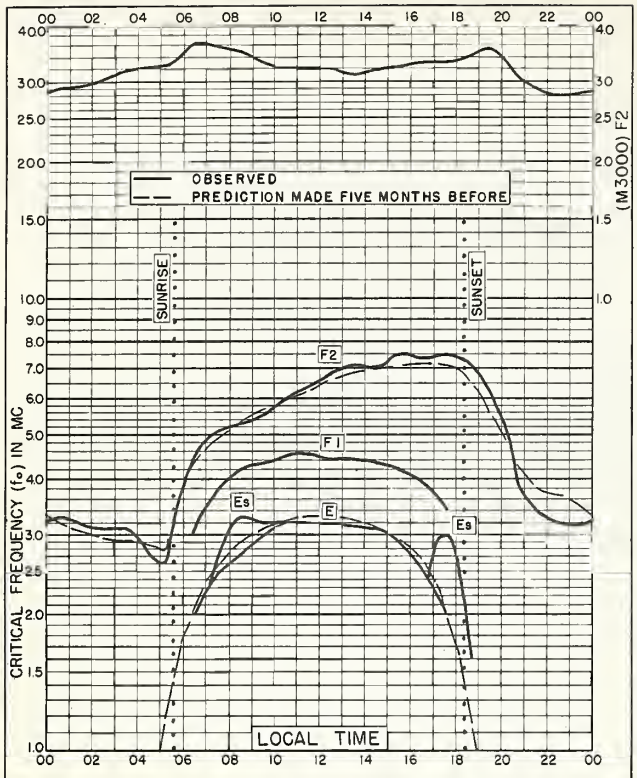

Fig. 113. CASABLANCA, MOROCCO
33.6°N, 7.6°W APRIL 1955

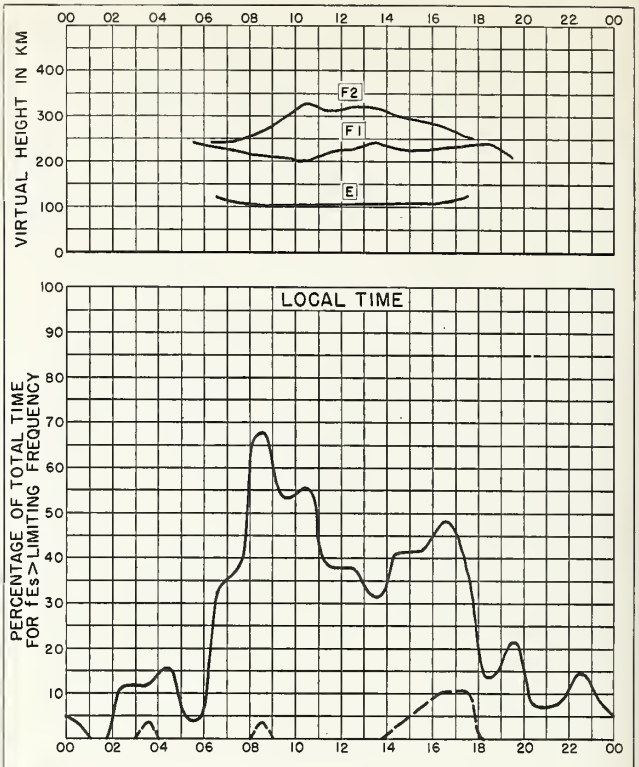

Fig. 114. CASABLANCA, MOROCCO APRIL 1955

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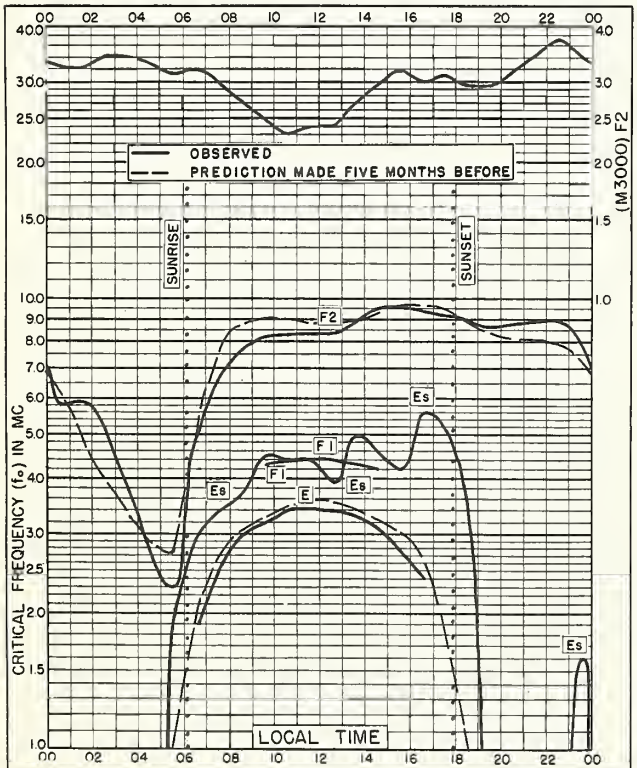

Fig. 115. TALARA, PERU
4.6°S, 81.3°W APRIL 1955

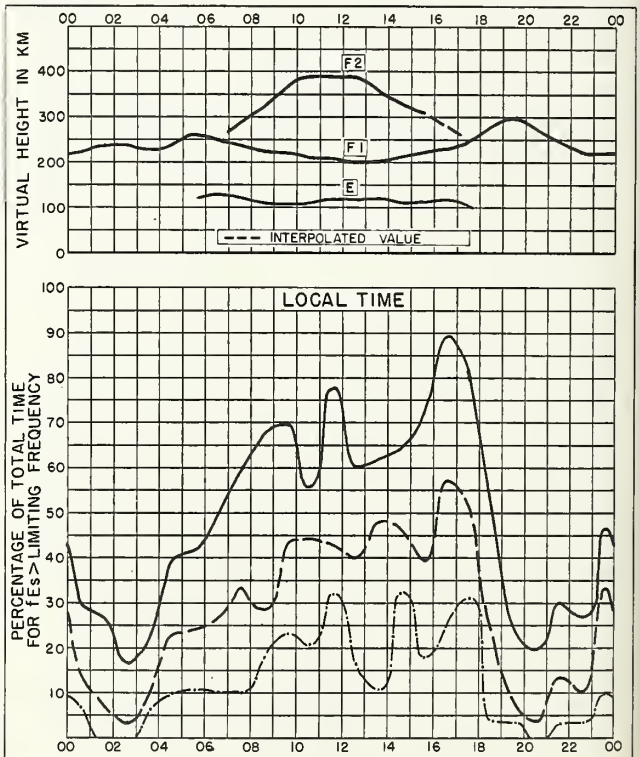

Fig. 116. TALARA, PERU APRIL 1955

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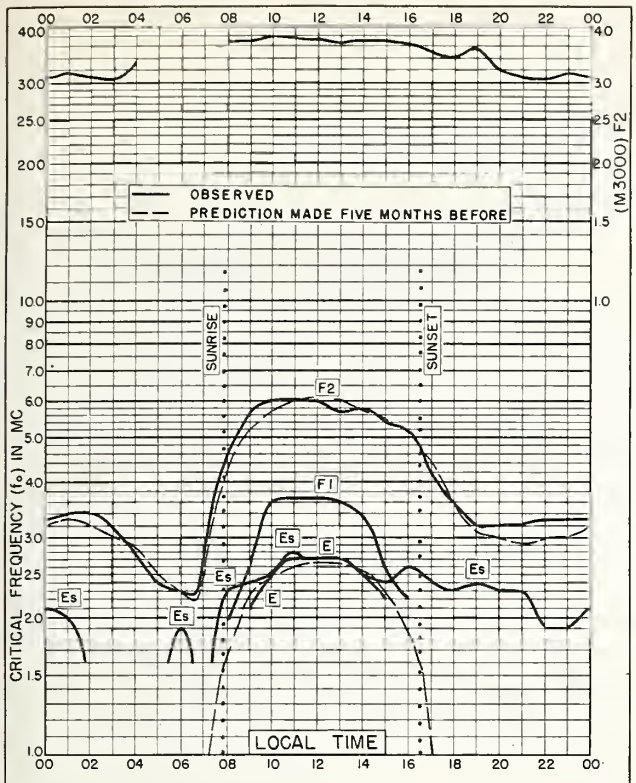

Fig. 117. POITIERS, FRANCE
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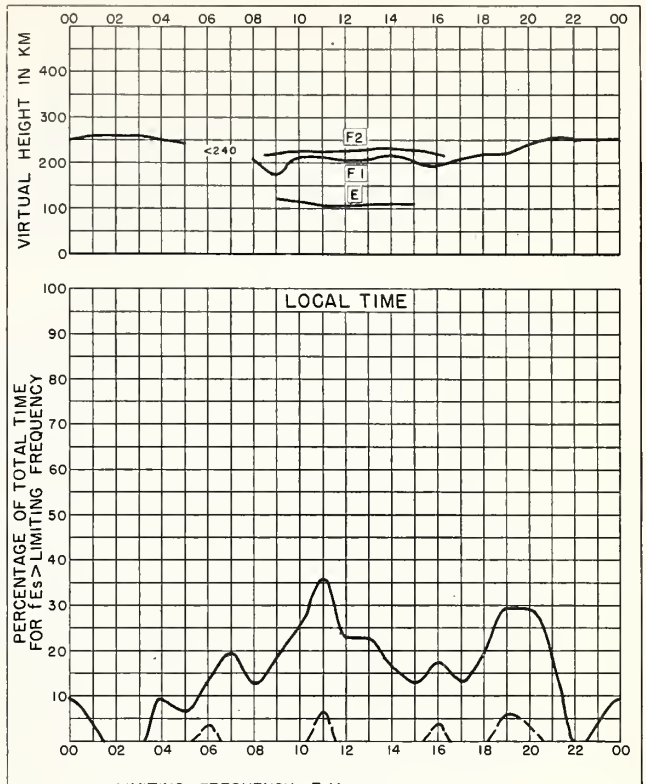

Fig. 118. POITIERS, FRANCE JANUARY 1955

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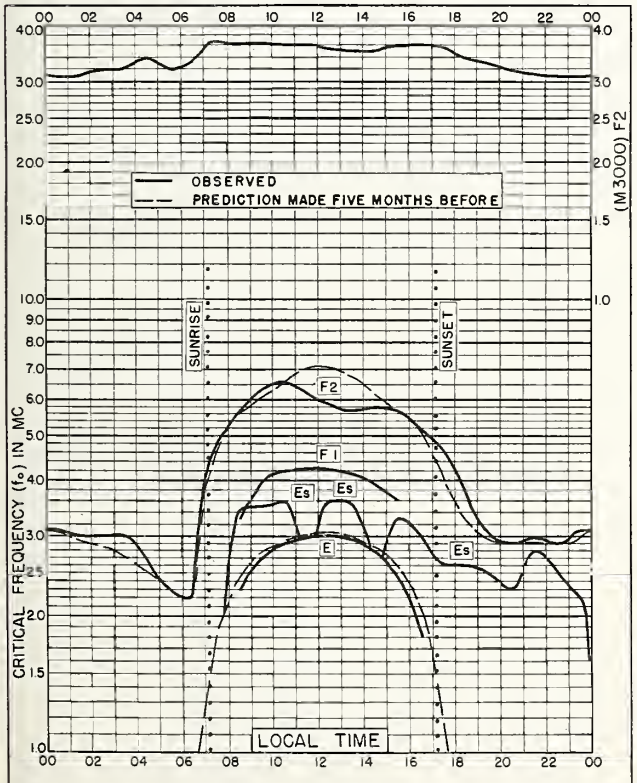
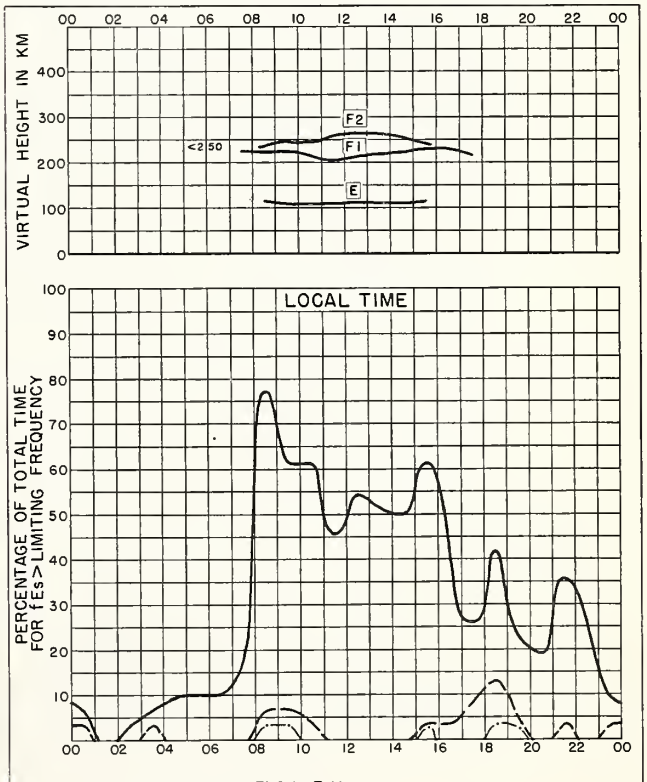


Fig. 119. CASABLANCA, MOROCCO
33.6°N, 7.6° W JANUARY 1955



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Semiweekly:

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

Semimonthly:

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

Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11–499–, monthly supplements to TM 11–499; Dept. of the Air Force, TO 31-3-28 series). On sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.
(Part B). Solar-Geophysical Data.

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NBS Circular 462. Ionospheric Radio Propagation.

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