PART A

IONOSPHERIC DATA

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

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PART A

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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 only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

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

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		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										

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 48 and figures 1 to 96 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
Decepcion I.

University of Graz:
Graz, Austria

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

Defence Research Board, Canada:
Ottawa, Canada
Winnipeg, Canada

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

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

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

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

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

Icelandic Post and Telegraph Administration:
Reykjavik, Iceland

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

Manila Observatory:
Baguio, P. I.

South African Council for Scientific and Industrial Research:
Nairobi, Kenya (East African Meteorological Department)

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

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
- Lulea, Sweden

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

National Bureau of Standards (Central Radio Propagation Laboratory):
- Anchorage, Alaska
- Fairbanks, Alaska (Geophysical Institute of the University of Alaska)
- Huancayo, Peru (Instituto Geofisico de Huancayo)
- Maui, Hawaii
- Narsarssuak, Greenland
- Panama Canal Zone
- Puerto Rico, W. I.
- Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 49 through 59 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: $\begin{matrix} U\ F \\ 32 \end{matrix}$

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.

Table 1

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.2					3.1	2.70
01	280	5.9					2.8	2.75
02	280	5.7					(3.7)	2.70
03	280	5.3					2.9	2.70
04	280	4.8					3.4	2.70
05	280	4.7					3.6	2.90
06	260	5.4	250	---	119	2.0	2.4	3.10
07	280	6.4	230	4.2	111	2.7	3.9	3.10
08	310	7.0	220	4.8	105	3.1	4.5	3.00
09	320	7.2	210	5.0	103	3.5	4.7	2.90
10	340	7.5	205	5.2	103	3.8	5.2	2.85
11	360	7.8	200	5.4	103	3.9	4.4	2.80
12	360	8.2	210	5.4	101	4.0	4.4	2.80
13	380	8.3	210	5.5	101	3.9	4.0	2.75
14	360	8.0	215	5.4	101	3.9	4.1	2.75
15	350	8.1	220	5.2	103	3.7	4.0	2.80
16	340	8.0	220	4.9	104	3.4	3.9	2.80
17	330	8.0	230	4.6	109	3.0	3.8	2.80
18	270	8.0	240	---	115	2.3	3.5	2.90
19	250	8.0					3.7	2.90
20	250	7.6					3.5	2.90
21	260	7.0					3.4	2.80
22	270	6.7					3.2	2.80
23	270	6.4					3.9	2.75

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

Table 2

Narsarssuak, Greenland (61.2°N, 45.4°W) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		---					4.4	----
01		---					3.7	----
02		---					4.5	----
03		(4.2)					3.8	(2.90)
04		(4.6)			---	---	4.5	(2.90)
05		5.2			119	2.5	4.5	(2.90)
06		5.2		---	113	2.8	4.4	3.00
07		5.8		(4.4)	111	3.2		2.90
08		5.8		4.7	109	3.3		2.85
09		5.7		4.8	109	3.5		2.70
10		6.0		(5.0)	105	(3.5)		2.75
11		6.0		5.0	109	(3.6)		2.70
12		6.2		5.2	107	(3.5)		2.65
13		6.2		5.0	109	(3.5)		2.60
14		6.2		5.0	109	3.5		2.65
15		6.3		5.0	109	3.5		2.70
16		6.2		4.6	110	3.3		2.70
17		5.8		4.5	111	3.1		2.70
18		6.0		(4.3)	111	3.0		2.90
19		5.7		(4.0)	117	2.8		2.90
20		(5.4)		---	121	2.7	3.8	(2.80)
21		---			---	---	3.8	----
22		---					4.5	
23		---					4.2	----

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

Table 3

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	6.20					<1.6	2.60
01	300	6.20					2.5	2.60
02	300	5.90			---	----	2.7	2.60
03	305	5.55	305	----	110	1.25	1.7	2.70
04	(380)	5.45	270	3.15	105	1.80	2.4	2.70
05	375	5.85	250	3.60	105	2.30	2.6	2.70
06	405	5.75	240	4.00	105	2.65	3.4	2.70
07	400	6.15	230	4.40	100	2.95	4.2	2.70
08	400	6.20	225	4.70	100	3.20	4.2	2.70
09	400	6.45	210	4.90	100	3.40	4.9	2.70
10	390	6.60	210	5.00	100	3.45	4.8	2.70
11	400	6.70	220	5.10	100	3.50	4.8	2.70
12	365	6.75	210	5.20	100	3.60	4.2	2.70
13	400	6.70	210	5.25	100	3.60	4.0	2.70
14	410	6.55	210	5.20	100	3.55	3.8	2.70
15	395	6.60	210	5.10	100	3.50	3.8	2.70
16	375	6.60	225	4.90	105	3.35	3.8	2.75
17	350	6.65	225	4.70	105	3.15	3.6	2.75
18	(300)	6.90	245	4.30	105	2.90	4.1	2.85
19	300	6.85	245	----	110	2.55	4.0	2.90
20	290	6.70	255	----	115	2.15	2.9	2.90
21	265	6.60	280	----	---	----	<2.0	2.90
22	270	6.30					<1.7	2.70
23	290	6.40					<1.5	2.60

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

Table 4

Upsala, Sweden (59.8°N, 17.6°E) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.9					2.4	2.7
01	300	5.7					3.0	2.7
02	295	5.6			---	E	2.8	2.7
03	300	5.6	300	2.70	---	1.50	2.8	2.8
04	340	5.6	250	3.30	120	1.90	4.1	2.7
05	340	5.7	240	3.90	110	2.35	4.6	2.8
06	365	6.0	230	4.30	110	2.75	5.6	2.7
07	370	6.4	230	4.50	105	3.00	5.5	2.8
08	385	6.4	220	4.90	105	3.20	5.7	2.8
09	395	6.6	220	5.00	100	3.40	5.7	2.7
10	380	6.8	210	5.10	100	3.50	5.7	2.7
11	380	6.9	210	5.20	100	3.50	4.8	2.7
12	390	6.9	210	5.20	100	3.60	5.2	2.7
13	390	6.8	210	5.30	100	3.50	4.6	2.7
14	365	6.7	215	5.15	100	3.50	5.5	2.8
15	380	6.7	220	5.10	105	3.40	4.2	2.7
16	350	6.7	220	5.00	105	3.25	4.3	2.8
17	330	6.8	235	4.60	110	3.00	4.3	2.9
18	310	6.8	240	4.30	110	2.70	4.3	2.9
19	290	7.0	250	(3.70)	115	2.30	4.6	2.9
20	260	6.8	260	(3.00)	130	1.80	3.4	2.9
21	260	6.8			---	E	2.8	2.9
22	270	6.7			---	E	2.3	2.8
23	280	6.6					2.2	2.7

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

Table 5

Adak, Alaska (51.9°N, 176.6°W) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	6.0					2.3	2.70
01	300	5.6					1.3	2.65
02	300	5.2					1.3	2.65
03	310	4.8			---	E	1.1	2.60
04	365	5.0	290	(2.9)	110	---	1.4	2.60
05	390	5.8	265	3.7	118	---	2.5	2.60
06	400	6.2	240	4.2	110	(2.7)	3.8	2.60
07	425	6.6	230	4.6	103	(3.2)	4.7	2.55
08	420	6.9	220	4.8	105	(3.5)	4.4	2.60
09	425	6.7	210	4.9	---	---	4.8	2.60
10	445	6.6	210	5.1	---	---	4.7	2.60
11	465	6.6	205	5.1	---	---	4.2	2.50
12	460	6.4	215	5.1	---	---	4.1	2.60
13	440	6.3	210	5.1	---	---	3.9	2.60
14	420	6.2	210	5.0	---	---	3.9	2.65
15	430	6.2	210	5.0	104	---	3.6	2.65
16	385	6.3	225	4.8	103	(3.4)		2.70
17	350	6.3	235	(4.6)	106	(3.0)	3.6	2.80
18	310	6.2	250	(4.2)	111	(2.7)	4.0	2.90
19	280	6.5	270	---	120	(2.1)	3.5	2.95
20	270	6.5			---	---	3.6	2.90
21	270	6.7					3.4	2.80
22	270	6.8					2.3	2.75
23	280	6.2					2.4	2.70

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 6

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.9						
01	300	6.7						
02	300	6.3						
03	300	5.8						
04	300	5.4						
05	270	6.0						
06	250	6.7	225	4.0				
07	320	7.0	220	4.8			4.6	
08	320	7.0	215	4.9		3.7	4.7	
09	350	7.4	210	5.1		3.8	5.2	
10	345	7.8	200	5.2		3.9	5.0	
11	350	7.9	200	5.3		---	4.6	
12	350	7.9	200	5.3		4.0	4.1	
13	340	7.9	210	5.3		3.9	4.5	
14	350	7.7	200	5.3		3.9	4.4	
15	340	7.6	215	5.1		3.8	4.5	
16	320	7.5	210	5.0		3.5	4.1	
17	300	7.4	230	5.0			4.2	
18	285	7.7	240	4.1			4.0	
19	260	8.1					4.0	
20	270	8.0					4.5	
21	275	7.6					5.0	
22	290	7.2					4.5	
23	300	7.1						

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

Table 7

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.0					4.0	2.75
01	280	5.8					(3.6)	2.80
02	280	5.2					(3.9)	2.75
03	280	4.6					4.2	2.75
04	290	4.2					4.8	2.80
05	285	4.4	270	---	119	2.0		3.00
06	325	5.4	230	3.8	111	2.6	3.3	2.95
07	350	6.0	220	4.4	109	3.0	3.7	2.95
08	350	6.3	210	4.7	109	3.3	4.4	2.90
09	400	6.5	210	5.0	109	3.6	4.0	2.80
10	400	6.8	205	5.1	107	3.8	4.5	2.70
11	410	6.6	200	5.2	107	3.9	4.0	2.75
12	430	6.8	210	5.2	109	(3.9)	4.0	2.65
13	405	6.8	210	5.3	109	(3.9)		2.70
14	400	6.8	210	5.2	107	3.8	3.9	2.70
15	380	7.0	220	5.0	108	3.7	4.0	2.70
16	375	7.2	220	4.9	109	3.5	4.0	2.75
17	330	7.0	220	4.5	109	3.2	3.6	2.80
18	300	7.0	235	---	113	2.6	2.9	2.90
19	260	7.2	---	---	---	---	3.4	2.90
20	250	7.2					3.4	2.80
21	270	7.0					3.4	2.80
22	280	6.7					3.7	2.70
23	280	6.4					3.6	2.75

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

Table 8

White Sands, New Mexico (32.3°N, 106.5°W) July 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<300	5.7					3.2	2.65
01	<290	5.8					4.5	2.70
02	<280	5.4					3.4	2.70
03	270	5.1					2.8	2.75
04	(260)	4.8					3.0	2.70
05	290	4.7	---	---	---	---	2.9	2.80
06	280	5.8	245	---	(116)	(2.3)	3.6	2.95
07	320	6.4	225	4.5	109	(3.0)	4.5	2.85
08	350	7.2	210	4.9	(105)	(3.3)	5.1	2.70
09	360	7.7	200	5.1	(105)	(3.5)	5.3	2.60
10	390	7.8	200	5.1	(105)	(3.7)	5.0	2.55
11	390	8.3	200	5.2	(105)	(3.8)	4.8	2.65
12	380	8.5	200	5.2	107	(4.0)	5.0	2.60
13	370	8.2	200	5.2	(109)	(3.8)	5.2	2.65
14	370	8.3	215	5.2	(107)	(3.8)	4.4	2.70
15	370	8.1	215	5.0	(106)	(3.6)	4.2	2.75
16	350	7.7	220	4.9	107	(3.5)	4.3	2.80
17	330	7.5	225	(4.6)	107	(3.0)	4.0	2.85
18	290	7.3	240	---	109	---	3.8	2.95
19	260	7.1	---	---			3.1	2.90
20	<250	6.8					3.9	2.85
21	250	6.4					3.8	2.85
22	<270	5.8					3.4	2.70
23	<280	5.6					4.0	2.70

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

Table 9

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	8.8					3.2	2.60
01	290	8.8					3.8	2.75
02	270	8.2					3.2	2.80
03	260	7.4					3.2	2.80
04	250	7.1					3.0	2.80
05	260	6.5					3.2	2.90
06	260	6.9	265	---	(135)	(1.7)	3.5	3.08
07	240	7.5	235	---	111	(2.7)	4.4	3.20
08	260	7.6	220	---	109	(3.2)	5.7	3.05
09	330	7.7	215	---	109	(3.5)	6.6	2.80
10	370	8.0	215	---	109	(3.8)	6.2	2.70
11	390	8.9	210	(5.6)	109	(3.9)	6.4	2.60
12	390	9.8	210	(5.6)	109	(4.0)	5.6	2.60
13	370	10.8	220	(5.4)	111	(4.0)	5.7	2.65
14	360	11.0	225	(5.4)	111	(4.0)	6.0	2.70
15	360	11.3	215	(5.4)	111	(3.8)	6.0	2.65
16	340	11.5	225	---	111	(3.6)	5.6	2.75
17	320	11.4	230	---	111	(3.3)	5.7	2.80
18	300	11.5	240	---	111	(2.7)	5.7	2.85
19	260	10.3	260	---	---	---	5.2	2.85
20	270	9.5					4.9	2.70
21	290	9.4					3.1	2.55
22	310	9.0					3.8	2.55
23	310	8.7					3.0	2.60

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

Table 10

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	8.8					2.4	2.70
01	290	8.5					1.7	2.75
02	260	7.9					1.9	2.90
03	260	7.1					1.5	2.85
04	280	6.6					1.7	2.80
05	280	5.8					2.1	2.80
06	280	5.8	285	---	---	---	3.3	2.80
07	290	6.8	240	---	112	2.5	4.4	3.00
08	360	7.4	230	5.3	109	3.1	5.4	2.65
09	390	8.4	215	5.4	109	3.6	7.3	2.50
10	410	9.0	205	5.5	109	3.8	5.6	2.30
11	430	9.8	210	5.6	109	3.9	6.4	2.40
12	440	10.3	220	5.7	109	4.0	5.6	2.45
13	400	10.8	215	5.6	107	4.0	5.6	2.50
14	390	11.2	210	5.5	109	3.9	5.0	2.60
15	380	11.3	220	5.4	109	3.8	5.1	2.60
16	350	11.5	225	5.2	107	3.6	5.5	2.70
17	310	11.5	230	4.8	111	3.2	5.1	2.85
18	300	10.8	245	---	117	2.5	4.8	2.90
19	270	9.8					4.3	2.85
20	280	9.4					4.1	2.75
21	290	9.3					3.2	2.70
22	290	9.2					3.2	2.70
23	300	8.8					2.2	2.70

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

Table 11

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	9.0					3.1	2.80
01	260	8.9					4.0	2.95
02	250	8.1					2.9	2.95
03	250	7.3					2.4	2.85
04	250	7.1					3.0	2.90
05	260	6.8					2.6	2.90
06	280	6.3	---	---			2.8	2.90
07	250	7.0	240	---	111	2.5		3.00
08	290	8.0	220	4.8	109	3.1	3.7	2.95
09	330	8.6	220	5.1	107	3.4	4.2	2.80
10	360	9.2	220	5.5	109	3.8	4.1	2.65
11	370	10.1	210	5.5	107	4.0	4.0	2.65
12	370	10.8	210	5.5	109	4.0	4.6	2.65
13	360	11.0	220	5.5	109	4.0	5.0	2.70
14	350	11.2	220	5.4	109	4.0	4.3	2.70
15	350	11.0	215	5.3	109	3.8	4.6	2.75
16	330	10.8	220	5.0	109	3.5	4.5	2.80
17	300	10.6	230	4.7	109	3.2	4.6	2.85
18	290	9.9	240	---	115	2.5	3.9	2.85
19	260	9.6					3.2	2.75
20	270	9.4					3.4	2.75
21	280	9.4					3.0	2.75
22	290	9.3					2.7	2.75
23	280	9.3					3.9	2.80

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

Table 12

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	8.7					(3.0)	2.85
01	250	8.2					(2.2)	2.90
02	240	7.6					3.0	2.90
03	250	6.8						2.95
04	260	6.2					2.2	2.95
05	260	5.5					2.4	2.80
06	280	5.4	---	---	121	(1.4)	2.8	2.90
07	240	6.5	230	---	112	2.4	3.7	3.05
08	240	7.0	220	---	107	3.1	3.3	2.85
09	420	7.8	215	5.5	105	3.5	4.0	2.50
10	390	9.4	205	5.2	105	3.8	4.7	2.45
11	410	10.4	210	5.4	107	4.0	4.9	2.45
12	430	11.1	205	5.5	107	4.0	4.7	2.50
13	410	11.7	205	5.4	105	4.0	4.5	2.60
14	380	11.9	210	5.4	105	3.9	4.6	2.65
15	360	11.9	215	5.2	105	3.8	4.7	2.65
16	350	11.5	220	5.0	107	3.4	4.7	2.70
17	320	10.9	230	4.9	111	3.0	4.1	2.70
18	280	10.2	245	---	120	2.4	3.3	2.70
19	270	9.6					3.3	2.75
20	280	9.2					3.1	2.65
21	290	9.1					3.3	2.65
22	280	9.0					3.0	2.75
23	270	9.0					(3.5)	2.80

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

Table 13

Reykjavik, Iceland (64.1°N, 21.8°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(4.2)					3.8	(2.55)
01		(4.3)					3.9	(2.65)
02		(4.4)					3.9	(2.65)
03		4.8		---			4.1	2.65
04		4.8		---	115	---	4.3	2.65
05		4.6		3.8	109	2.5	3.7	2.65
06		5.3		4.0	105	2.7		2.60
07		5.6		4.5	108	3.0		2.80
08		5.9		4.5	101	3.1		2.75
09		5.9		4.8	101	3.3		2.70
10		6.2		4.9	104	3.4		2.70
11		6.1		4.9	103	(3.5)		2.65
12		6.1		4.9	101	(3.5)		2.55
13		6.2		5.0	103	(3.5)		2.65
14		6.3		5.0	104	(3.5)		2.65
15		6.4		4.9	107	(3.5)		2.65
16		6.2		4.8	109	3.3		2.65
17		6.2		4.6	109	3.1		2.70
18		5.9		4.4	111	3.0	3.6	2.80
19		5.6		4.2	109	2.7	4.0	2.70
20		5.4			---	---	4.0	2.75
21		(5.1)			---	---	4.4	(2.80)
22		4.7					4.9	(2.70)
23		(4.6)					4.1	(2.65)

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

Table 14

Narsarssuak, Greenland (61.2°N, 45.4°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		---					4.3	----
01		---					3.6	----
02		---					3.8	----
03		---			---	---	3.4	----
04		(4.1)			---	---	4.5	(2.85)
05		(4.8)		---	---	---	4.5	(2.85)
06		5.4		---	111	3.3	4.2	(2.85)
07		5.8		(4.4)	104	3.1		2.90
08		5.7		4.5	104	3.3		2.85
09		5.8		(4.7)	105	(3.3)		2.75
10		6.0		4.8	108	3.4		2.70
11		6.0		5.0	109	(3.5)		2.70
12		6.1		(5.0)	109	(3.5)		2.65
13		6.2		(5.0)	106	(3.5)		2.60
14		6.4		(4.9)	106	3.4		2.60
15		6.4		(4.8)	109	3.5		2.70
16		6.2		(4.8)	109	(3.3)		2.75
17		5.9		(4.5)	107	3.2		2.80
18		(5.8)		(4.3)	111	3.0	4.5	(2.80)
19		(5.4)		(3.9)	117	2.8	4.5	(2.90)
20		(4.6)		---	119	2.6	5.2	----
21		---			---	---	5.8	----
22		(4.4)					4.4	----
23							4.5	

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

Table 15

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	295	6.5						2.5
01	295	6.2						2.5
02	280	5.0						2.6
03	295	5.5	---	---	---	E	2.0	2.6
04	320	5.8	270	3.1	120	2.0	2.1	2.7
05	360	6.0	230	3.8	110	2.4	3.2	2.7
06	370	6.3	225	4.5	100	2.8	3.7	2.7
07	355	6.8	225	4.8	100	3.2	4.3	2.0
08	340	7.1	225	4.9	100	3.5	4.2	2.8
09	330	7.4	210	5.1	100	3.7	4.1	2.9
10	360	7.2	215	5.2	100	3.9	4.1	2.0
11	360	7.4	210	5.3	100	3.9	4.3	2.7
12	360	7.4	220	5.3	100	3.9	4.0	2.8
13	360	7.1	215	5.3	100	3.8	3.9	2.8
14	370	7.2	220	5.2	100	3.7	4.0	2.8
15	375	7.1	210	5.1	100	3.6	4.2	2.0
16	350	7.0	220	5.0	100	3.4	3.8	2.8
17	320	7.2	235	4.6	100	3.0	3.8	2.9
18	205	7.3	250	4.0	105	2.6	4.2	2.8
19	270	7.8	250	3.2	125	2.2	3.4	2.9
20	265	7.5					3.3	2.9
21	260	7.4					2.1	2.8
22	275	7.0						2.7
23	290	6.8						2.6

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

Table 16

Adak, Alaska (51.9°N, 176.6°W) June 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.4					1.2	2.70
01	300	5.9						2.60
02	310	5.4					1.4	2.55
03	340	5.0			---	---	1.3	2.55
04	395	5.2	290	(3.1)	114	(2.0)		2.50
05	430	5.9	260	3.7	120	(2.5)	3.2	2.45
06	420	6.4	250	4.1	115	(2.9)	4.0	2.50
07	410	6.7	235	4.3	111	(3.2)	4.4	2.50
08	420	6.5	235	4.6	109	(3.4)	4.8	2.55
09	450	6.2	220	4.8	109	---	4.8	2.60
10	460	6.0	220	4.9	(108)	---	4.8	2.50
11	465	6.2	210	5.0	---	---	4.8	2.55
12	470	6.4	220	5.0	---	---	4.2	2.55
13	460	6.4	220	5.0	109	---	3.9	2.60
14	450	6.2	220	5.0	109	---	3.8	2.60
15	430	6.2	220	4.9	(109)	---	3.3	2.65
16	395	6.2	230	4.8	111	(3.4)	3.6	2.70
17	380	6.2	240	(4.4)	111	(3.0)	4.4	2.75
18	340	6.3	260	---	117	(2.7)	4.3	2.80
19	300	6.6	280	---	123	---	4.4	2.85
20	280	6.8			---	---	3.5	2.85
21	270	7.1					2.8	2.80
22	270	7.2					2.6	2.70
23	280	6.8					1.9	2.70

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 17

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	10.6					2.9	2.8
01	300	8.8					2.8	2.8
02	280	8.6					2.5	2.8
03	(280)	(8.0)					(2.2)	---
04	(280)	(7.5)					(2.4)	(3.0)
05	(300)	>6.4					(2.2)	---
06	(260)	(7.9)	---	---	---	---	(3.3)	(2.8)
07	(250)	(7.8)	---	---	---	---	---	---
08	(200)	8.3	230	(4.9)	110	3.4	5.0	2.8
09	(330)	8.6	220	5.2	110	3.6	5.7	2.7
10	380	9.2	220	5.7	110	3.9	6.0	2.5
11	400	10.2	---	5.7	---	---	7.1	2.5
12	380	11.3	---	5.6	---	---	6.0	2.6
13	380	12.1	---	5.7	---	---	5.0	2.6
14	360	12.7	220	5.6	---	---	5.8	2.7
15	350	>13.8	230	5.4	---	---	4.7	2.8
16	320	14.2	230	5.1	---	---	5.0	2.8
17	310	13.5	---	---	---	---	5.4	2.9
18	280	12.6					4.1	3.0
19	280	11.7					4.1	2.95
20	300	11.3					3.3	2.7
21	320	9.6					2.8	2.6
22	320	8.8					2.7	2.6
23	320	10.2					3.4	2.65

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

Table 18

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	8.6					2.4	2.75
01	280	8.4					3.4	2.80
02	280	7.8					3.5	2.70
03	280	7.4					3.4	2.75
04	280	7.0					2.8	2.75
05	300	6.3					2.4	2.70
06	280	6.0	280	---	130	1.8	2.8	2.65
07	290	7.0	235	---	116	2.6	5.0	2.75
08	360	7.8	230	4.8	109	3.2	5.6	2.40
09	430	8.8	215	5.3	109	3.5	7.2	2.30
10	400	9.7	210	5.6	109	3.7	6.6	2.35
11	430	10.3	210	5.7	109	3.9	6.9	2.40
12	410	11.0	215	5.6	109	4.0	6.2	2.50
13	380	11.6	215	5.5	109	4.0	6.6	2.60
14	390	11.8	220	5.5	109	3.9	5.4	2.60
15	360	12.3	220	5.4	109	3.8	5.5	2.70
16	340	12.2	230	5.2	111	3.5	5.0	2.75
17	310	11.9	240	(5.0)	111	3.1	4.6	2.85
18	290	11.6	250	---	119	2.5	4.4	2.90
19	270	10.7	---				4.4	2.90
20	280	9.6					4.6	2.75
21	290	9.2					4.9	2.60
22	300	9.2					3.8	2.70
23	300	8.8					3.6	2.70

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

Table 19

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	9.2					3.2	2.85
01	260	9.1					2.8	2.95
02	260	8.4					2.6	2.90
03	270	7.4					2.8	2.85
04	270	7.4					(2.4)	2.90
05	260	7.0					(3.0)	2.90
06	260	7.0	---	---	---	---		2.95
07	270	7.8	240	4.0	111	2.5	3.2	3.00
08	300	8.2	230	4.6	109	3.0	3.7	2.80
09	310	8.5	215	5.0	109	3.4	4.6	2.65
10	370	9.4	210	5.5	109	3.6	4.4	2.65
11	370	10.1	220	5.5	109	3.8	4.2	2.60
12	370	11.0	210	5.5	109	4.0	4.4	2.60
13	350	11.5	220	5.4	109	4.0	4.0	2.70
14	350	11.3	220	5.5	111	3.9	4.1	2.75
15	345	11.0	220	5.2	109	3.7	4.2	2.75
16	330	11.0	230	5.0	111	3.5	4.6	2.80
17	320	10.4	235	4.8	115	<3.1	4.8	2.80
18	295	10.1	250	---	119	2.4	3.8	2.80
19	275	9.7					3.9	2.80
20	280	9.6					3.8	2.80
21	290	9.4					3.4	2.75
22	285	9.4					2.8	2.75
23	290	9.1					3.2	2.75

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

Table 20

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	9.2					1.8	2.85
01	265	8.7					1.9	2.80
02	265	8.2					2.4	2.85
03	265	7.6					1.8	2.90
04	255	6.8					3.1	2.90
05	245	6.6					3.2	3.00
06	270	6.0			---	---	4.1	2.85
07	240	6.7	230	---	115	2.5	4.2	3.05
08	300	7.5	220	---	109	3.1	3.9	2.75
09	340	8.6	210	(5.4)	109	3.5	4.2	2.45
10	385	9.6	<215	5.5	109	3.7	5.0	2.35
11	430	10.1	210	5.6	109	3.9	5.0	2.40
12	410	11.0	210	5.6	109	4.0	5.2	2.45
13	390	11.6	210	5.5	109	4.0	5.1	2.55
14	390	12.0	215	5.4	109	3.9	4.8	2.60
15	365	12.0	215	5.3	109	3.7	5.2	2.65
16	360	11.8	215	5.0	109	3.3	4.8	2.60
17	335	11.6	230	---	111	(2.8)	4.2	2.70
18	280	10.8	250	---	122	(2.2)	3.7	2.70
19	275	(10.2)					3.6	(2.60)
20	300	9.6					2.8	2.60
21	290	9.8					2.4	2.65
22	280	9.6					2.0	2.75
23	270	9.8					2.4	2.80

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

Table 21

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	7.0						3.10
01	240	6.9						3.15
02	230	6.2						3.15
03	240	5.9						3.15
04	250	4.9						3.15
05	260	4.3						3.10
06	280	4.2						2.90
07	250	7.0			119	2.2	6.0	3.00
08	---	9.0	230	---	111	2.8	9.6	2.80
09	---	9.6	220	---	109	---	10.6	2.60
10	---	9.6	210	---	107	---	11.7	2.55
11	---	9.5	200	---	107	---	11.4	2.45
12	---	9.6	200	---	109	---	11.8	2.40
13	---	9.6	210	---	109	---	12.0	2.35
14	---	9.6	200	---	109	---	11.6	2.30
15	---	9.6	215	---	109	---	10.8	2.35
16	240	9.6	230	---	109	---	9.0	2.35
17	260	9.0			115	---	7.4	2.40
18	290	8.7						2.40
19	340	7.6						2.35
20	310	7.8						2.45
21	280	7.8					2.9	2.70
22	250	7.6						2.90
23	230	7.3						3.05

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

Table 22

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(4.8)					4.8	(2.80)
01		(4.6)					4.4	(2.80)
02		(5.3)					4.0	(2.80)
03		(5.3)			116	---	4.3	(2.75)
04		(5.4)		---	117	(2.0)	4.3	(2.70)
05		(5.9)		(3.8)	111	2.3	4.3	(2.70)
06		(6.2)		(4.0)	109	(2.6)	4.4	(2.70)
07		(6.1)		(4.2)	105	(2.8)	5.0	(2.60)
08		(6.2)		(4.4)	103	(3.1)	3.2	(2.60)
09		(6.0)		(4.5)	103	3.2		(2.60)
10		5.6		(4.6)	105	(3.3)		2.55
11		5.9		(4.6)	103	(3.3)		2.60
12		5.8		(4.8)	105	(3.4)		2.60
13		5.8		(4.8)	105	(3.3)		(2.60)
14		(5.9)		(4.7)	108	(3.2)		(2.65)
15		(5.9)		(4.7)	109	(3.2)		(2.65)
16		(6.0)		(4.5)	109	(2.9)		(2.70)
17		(5.9)		(4.2)	111	(2.8)	2.9	(2.80)
18		(5.7)		---	111	(2.5)	3.2	(2.90)
19		(5.8)		---	113	2.1	3.0	(2.95)
20		(6.0)			125	---	3.2	(3.00)
21		(5.6)			---	---	3.4	(3.00)
22		(4.8)					3.4	(3.00)
23		(4.4)					4.4	(2.90)

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

Table 23

Reykjavik, Iceland (64.1°N, 21.8°W) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(3.7)					4.2	(2.50)
01		---					4.0	----
02		(4.3)					4.5	----
03		(4.4)					4.6	(2.60)
04		(4.8)					4.1	(2.60)
05		5.2		---	---	---	3.5	2.80
06		5.5		---	111	2.5		2.85
07		5.6		---	111	2.8		2.80
08		5.9		4.5	111	(3.0)		2.90
09		5.9		4.6	111	(3.1)		2.75
10		6.2		4.7	109	3.3		2.80
11		6.0		4.9	109	(3.5)		2.65
12		6.6		4.9	109	(3.5)		2.60
13		6.5		4.8	111	(3.5)		2.65
14		6.4		4.8	109	(3.4)		2.65
15		6.8		4.8	109	3.4		2.75
16		6.0		4.6	111	3.2		2.80
17		6.6		---	110	3.0		2.90
18		6.4		---	114	(2.8)	3.7	2.90
19		5.8		---	123	2.6	3.2	2.90
20		5.4			131	---	3.4	2.80
21		(5.5)			---	---	3.6	(2.75)
22		---			---	---	4.5	----
23		---					4.9	----

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

Table 24

Anchorage, Alaska (61.2°N, 149.9°W) May 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		4.6					2.5	2.55
01		4.5					1.9	2.60
02		(4.4)					1.4	(2.50)
03		4.8			---	---	1.2	2.60
04		5.1		3.4	127	---		2.55
05		5.6		3.6	125	2.2		2.55
06		5.6		3.9	119	(2.6)		2.50
07		5.6		4.2	113	(2.9)		2.45
08		6.0		4.3	111	(3.0)		2.45
09		6.0		4.5	111	(3.1)		2.50
10		6.0		4.6	109	(3.2)		2.55
11		5.0		4.7	110	3.4		2.50
12		5.8		4.8	108	3.4		2.50
13		5.8		4.8	109	3.4		2.50
14		5.6		4.8	109	3.4		2.50
15		5.8		4.8	109	(3.2)		2.55
16		6.0		4.7	111	(3.0)		2.60
17		6.0		4.4	113	(2.8)		2.70
18		6.0		(4.0)	113	(2.5)		2.75
19		6.0		---	121	(2.2)	2.5	2.85
20		5.8		---	133	(1.8)	2.3	2.05
21		5.0					1.9	2.05
22		5.9					2.5	2.70
23		4.9					1.2	2.65

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

Table 25

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.4					<1.6	2.7
01		4.9					<1.6	2.7
02		4.4					<1.7	2.7
03		4.2					<1.7	2.7
04		4.0			---	---	<1.6	2.8
05		4.5		---	130	2.0		2.9
06		5.3		4.0	120	2.7		3.0
07		6.2		4.4	110	3.0		3.0
08		6.6		4.9	110	3.4		2.9
09		6.9		5.0	110	3.6		2.9
10		6.8		5.0	110	3.9		2.8
11		6.8		5.1	110	4.0		2.6
12		6.9		5.2	105	4.0		2.6
13		7.0		5.1	110	3.9		2.7
14		6.9		5.2	110	3.8		2.7
15		7.0		5.1	105	3.8		2.8
16		7.2		4.9	105	3.5		2.8
17		7.8		4.7	110	3.0		2.8
18		7.6		4.0	110	2.7		2.9
19		7.8		---	125	2.0		2.9
20		7.9			---	---	<1.7	2.9
21		7.1					<1.6	2.8
22		6.7					<1.7	2.8
23		6.0					<1.6	2.8

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

Table 26

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	12.2						3.00
01	240	11.5						3.20
02	220	9.6						3.15
03	230	8.3						3.00
04	230	7.3						2.90
05	230	6.0					2.2	2.95
06	250	7.5			123	2.0	4.2	3.00
07	230	9.0			111	2.9	7.2	2.90
08	230	10.1	220	---	111	3.2	8.0	2.75
09	220	10.5	210	---	111	---	8.0	2.45
10	---	11.4	210	---	111	3.9	7.2	2.40
11	---	11.5	205	---	111	(4.0)	6.8	2.40
12	---	12.5	205	---	111	(4.0)	6.8	2.35
13	---	12.6	205	---	111	(4.0)	4.8	2.40
14	---	12.7	210	---	111	(3.8)	5.3	2.40
15	---	12.8	215	---	111	(3.6)	6.2	2.40
16	230	12.8	225	---	109	3.2	5.4	2.40
17	240	12.7	---	---	111	2.7	4.0	2.50
18	270	12.6					4.4	2.50
19	320	11.8					4.0	2.40
20	350	10.9					2.7	2.40
21	340	11.0					2.6	2.50
22	310	11.3					2.5	2.60
23	300	12.0						2.75

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

Table 27

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.5		---	---	---		(2.70)
01		5.2		---	---	---		2.65
02		5.5		---	---	---		(2.70)
03		5.0		---	---	(1.9)		(2.70)
04		4.9		---	(121)	(2.1)		(2.80)
05		5.4		3.5	118	(2.2)		(2.80)
06		5.4		3.7	117	2.4		(2.70)
07		5.9		3.8	115	2.6		(2.70)
08		5.8		4.0	113	2.7		2.60
09		5.9		4.2	111	2.8		(2.70)
10		5.8		4.1	111	2.9		(2.70)
11		6.0		4.4	109	2.8		2.75
12		5.8		4.4	110	3.0		2.70
13		5.8		4.2	111	2.8		2.70
14		6.1		4.2	111	2.9		(2.60)
15		6.3		4.1	113	2.0		(2.65)
16		6.2		4.0	115	2.6		2.70
17		6.0		3.8	117	2.4		2.65
18		6.1		---	(119)	2.3		(2.70)
19		6.0		---	119	2.2		(2.70)
20		6.2		---	---	(2.0)		2.75
21		5.7		---	---	(1.0)		(2.70)
22		5.8		---	---	---		(2.65)
23		5.5		---				2.65

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

Table 28

Reykjavik, Iceland (64.1°N, 21.8°W) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		---					4.0	----
01		---					4.2	----
02		---					4.2	----
03		---					3.8	----
04		(4.2)					3.6	(2.60)
05		4.6			---	---	3.5	2.75
06		5.0		---	---	---		2.90
07		5.5		---	115	(2.7)		2.85
08		6.1		---	111	2.9		2.90
09		6.4		4.5	109	(3.1)		2.85
10		6.6		4.6	110	3.2		2.70
11		6.8		5.0	111	3.3		2.70
12		7.0		5.0	107	3.5		2.65
13		7.2		5.0	107	3.3		2.70
14		7.0		4.8	109	3.3		2.75
15		7.0		(4.5)	109	3.3		2.70
16		7.0		(4.4)	111	3.1		2.80
17		6.4		---	113	2.8		2.80
18		(6.4)			111	2.6	3.6	(2.90)
19		(6.0)			---	---	3.6	(2.90)
20		(5.7)					4.0	(2.80)
21		(4.9)					3.7	(2.65)
22		---					3.7	----
23		---					3.5	----

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

Table 29

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.8						2.0
01	300	5.4						2.0
02	310	5.2						2.0
03	300	4.6						2.0
04	300	4.4			---	---		2.0
05	200	4.9	---	---	140	1.8		2.4
06	250	6.0	250	---	110	2.4		2.7
07	260	6.6	230	4.2	105	2.8		2.6
08	290	6.8	230	4.7	100	3.1		2.6
09	320	7.2	220	4.8	100	3.4		2.5
10	300	7.6	220	5.1	100	3.5		2.5
11	295	8.2	220	5.0	100	3.6		2.5
12	300	0.5	215	5.2	100	3.6		2.5
13	300	8.8	220	5.4	100	3.6		2.5
14	305	8.8	220	4.0	100	3.5		2.5
15	270	8.6	230	4.2	105	3.2		2.6
16	270	8.0	230	4.4	105	3.0		2.6
17	250	8.0	240	---	110	2.6		2.6
18	260	8.4	---	---	120	2.1		2.7
19	250	8.0			---	---		2.0
20	250	7.2						2.6
21	260	6.9						2.4
22	280	6.2						2.3
23	300	5.0						2.1

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

Table 30

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	9.2						2.7
01	300	0.0						2.65
02	280	7.0						2.05
03	280	6.5						2.0
04	260	5.2						2.6
05	320	4.0						2.6
06	310	5.4						2.8
07	240	8.4						3.1
08	230	10.0	---	---				3.1
09	260	12.1	230	---				3.0
10	260	13.0	230	---				2.9
11	280	14.0	230	---				2.05
12	200	14.4	230	---				2.0
13	300	14.9	220	---				2.8
14	300	>15.1	230	---				2.8
15	280	>15.5	240	---				2.9
16	250	15.5	250	---				3.0
17	230	14.9					3.0	3.0
18	220	14.0						3.0
19	240	13.4						2.9
20	240	14.0						2.9
21	240	12.3						2.9
22	270	10.1						2.8
23	280	9.6						2.8

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

Table 31

Decepcion I. (63.0°S, 60.7°W) April 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	360	4.1					3.3	2.8
01	350	4.0					3.3	2.8
02	<380	3.8					3.3	2.8
03	<390	3.4					3.3	2.8
04	360	3.4					3.3	2.8
05	350	3.2					3.3	2.8
06	340	3.1					3.3	2.8
07	290	4.0					3.2	3.0
08	260	5.2					3.3	3.4
09	230	7.2					3.3	3.6
10	230	9.6					3.4	3.6
11	220	10.0					3.4	3.6
12	230	11.1					3.4	3.6
13	230	11.6					3.4	3.6
14	230	11.0					3.4	3.6
15	230	10.0					3.3	3.7
16	220	9.8					3.3	3.7
17	230	9.6					3.4	3.6
18	230	9.4					3.3	3.6
19	220	7.9					3.3	3.7
20	230	6.3					3.3	3.5
21	240	5.8					3.3	3.4
22	300	4.6					3.3	3.2
23	340	4.1					3.3	2.9

Time: 60.0°W.
Sweep: 1.5 Mc to 16.0 Mc in 15 minutes, manual operation.

Table 32

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		(5.5)						(2.65)
01		(5.4)						(2.75)
02		(5.6)						(2.60)
03		(4.7)						(2.70)
04		(5.8)						2.65
05		5.3		---	---	---		(2.90)
06		5.2		---	---	1.8		(2.85)
07		5.7		---	124	2.1		(2.90)
08		5.6		---	121	2.3		(2.90)
09		(6.2)		3.3	121	2.3		(2.90)
10		6.0		(4.0)	120	2.5		(2.80)
11		6.3		4.0	119	2.5		2.80
12		6.0		4.0	117	2.5		(2.90)
13		6.2		4.0	119	2.5		(2.80)
14		6.2		(3.8)	117	(2.5)		(2.85)
15		(6.4)		(3.7)	120	2.3		(2.85)
16		5.8		---	121	(2.2)		(2.90)
17		7.0			121	2.0		(2.80)
18		(7.2)			---	1.8		(2.70)
19		(6.8)						(2.80)
20		(7.0)						(2.70)
21		(5.9)						(2.70)
22		(5.5)						(2.75)
23		(5.2)						(2.70)

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

Table 33

Reykjavik, Iceland (64.1°N, 21.8°W) March 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		---					4.1	----
01		---					3.6	----
02		---					3.6	----
03		---					4.1	----
04		(4.2)					4.1	----
05		(4.2)					3.8	(2.60)
06		(4.1)						(2.85)
07		4.9			---	---		3.00
08		5.8			---	---		3.10
09		6.2		---	118	2.7		3.10
10		7.0		---	111	(2.8)		3.00
11		7.6		---	111	(3.0)		3.00
12		8.1		---	111	(3.1)		3.00
13		8.3		---	111	(3.1)		3.00
14		8.5		4.5	110	(3.0)		3.00
15		8.4		---	111	(3.0)		3.00
16		(7.2)		---	114	(2.7)		(3.00)
17		(6.9)		---	---	---		(3.00)
18		(5.9)			---	---		(3.10)
19		(5.6)			---	---		(3.00)
20		(4.7)					3.4	(2.90)
21		(4.9)					3.9	(2.65)
22		(4.8)					3.8	----
23		(4.7)					3.7	(2.65)

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

Table 34

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	4.7						2.25
01	305	4.6						2.35
02	300	4.5						2.4
03	300	4.1						2.3
04	295	(3.7)						2.4
05	280	(3.5)						2.5
06	270	4.7	---	---	---	E		2.9
07	240	6.6	250	3.1	110	2.3		3.1
08	230	7.4	230	3.9	110	2.8	2.5	3.0
09	250	9.2	225	4.3	105	3.1	2.9	2.9
10	250	9.2	225	4.6	105	3.3	2.9	2.9
11	270	10.0	220	5.0	105	3.4		2.9
12	255	10.5	225	4.9	105	3.5		2.8
13	255	10.4	225	4.6	105	3.4		2.85
14	250	10.5	225	4.3	105	3.3		2.85
15	245	10.0	230	4.0	105	2.9		2.8
16	240	9.7	235	3.6	110	2.7		2.9
17	230	9.4			120	2.1		2.9
18	230	8.6						3.0
19	230	7.8						2.9
20	230	7.0						2.8
21	260	6.0						2.6
22	280	5.6						2.5
23	310	5.0						2.2

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

Table 35

Winnipeg, Canada (49.9°N, 97.4°W) March 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		4.4					<1.8	(2.7)
01		4.2					<2.5	(2.6)
02		4.1					<1.6	(2.5)
03		3.9					2.7	(2.6)
04		3.9					<1.6	(2.55)
05		3.8					<1.6	---
06		3.9			---	---	<1.6	(2.75)
07		5.0			---	2.0		2.95
08		6.2			120	2.5		2.9
09		7.0		---	115	3.0		2.9
10		7.8		---	115	3.2		2.9
11		8.7		4.7	110	3.4		2.85
12		9.0		4.8	110	3.4		2.75
13		9.3		5.0	110	3.5		2.65
14		9.8		---	110	3.4		2.7
15		10.0		---	115	3.2		2.7
16		10.0			120	3.0		2.7
17		10.0			120	2.7		2.8
18		9.1			130	2.1		2.9
19		8.0			---	---	<1.6	2.9
20		7.0			---	---	<1.6	2.9
21		5.9			---	---	<1.7	2.85
22		5.0					<1.7	2.0
23		4.8					<2.0	2.8

Time: 90.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 15 seconds.

Table 36

Budapest, Hungary (47.6°N, 19.0°E) March 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		4.8						
01		4.6						
02		4.4						
03		4.4						
04		3.9						
05		5.1				2.3		
06		7.0				2.5		
07		8.6				2.9		
08		9.8				3.2	3.2	
09		10.4				3.3		
10		11.0				3.4		
11		11.0				3.5		
12		10.8				3.4		
13		10.6				3.4		
14		10.6				3.2		
15		10.2				2.9		
16		9.8				2.4	2.5	
17		9.0				---		
18		8.2						
19		6.1						
20		5.8						
21		5.4						
22		5.1						
23		5.1						

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 1 minute.

Table 37

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	210	>14.6						(3.2)
01	210	11.5						3.1
02	230	9.5						2.9
03	240	>9.0						2.9
04	230	0.6						3.1
05	220	7.7					2.1	3.2
06	220	5.5					2.0	3.2
07	250	7.1	---	---	---	2.1	3.0	3.2
08	250	10.4	240	---	100	3.0		3.1
09	260	11.8	230	---	100	3.5		2.9
10	270	12.4	210	5.4	100	3.8		2.7
11	280	13.4	200	5.5	100	4.0		2.55
12	300	13.9	200	5.4	100	---		2.5
13	(310)	(14.0)	---	(5.5)	(100)	---		(2.5)
14	(320)	(14.3)	---	5.6	(100)	---		(2.6)
15	(300)	>14.2	220	5.2	100	---		2.6
16	(260)	>14.2	220	---	100	3.6		2.6
17	---	14.0	240	---	100	3.1		2.6
18	---	>14.4	260	---	120	2.6	2.9	(2.7)
19	300	>14.0					2.7	---
20	360	---						---
21	270	---						---
22	230	---						---
23	210	---						---

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

Table 38

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	10.9						2.8
01	300	10.4						2.7
02	290	9.3						2.7
03	260	9.3						3.0
04	230	7.6						3.0
05	260	5.0						2.9
06	260	6.8	---	---				3.0
07	230	9.2	---	---	---	---		3.1
08	230	10.7	210	---	---	---	3.7	3.0
09	250	11.1	210	---	---	---	4.0	2.95
10	280	11.8	210	---	110	3.7	4.3	2.9
11	300	13.0	210	---	110	3.8	4.3	2.8
12	300	14.0	(220)	---	---	---	5.0	2.8
13	300	15.0	220	---	---	---	5.0	2.85
14	310	15.8	220	---	---	---	4.3	2.8
15	300	16.5	230	---	---	---	3.6	2.9
16	280	16.5	240	---	---	---	4.0	2.95
17	260	16.4	250	---			3.1	3.0
18	230	16.0						3.0
19	240	(16.0)						(3.0)
20	260	15.2						2.9
21	270	(12.0)						(2.9)
22	280	11.5						2.8
23	200	11.8						2.8

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

Table 39

Budapest, Hungary (47.6°N, 19.0°E) February 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		3.4						
01		3.6						
02		3.5						
03		3.4						
04		3.2						
05		3.4						
06		5.0				2.0		
07		8.0				2.4		
08		8.6				2.9		
09		9.5				3.0		
10		9.6				3.2		
11		9.5				3.3		
12		9.6				3.2		
13		9.2				3.1		
14		9.1				2.8	2.9	
15		9.0				2.4	3.0	
16		7.6				2.3		
17		5.9						
18		5.2						
19		3.8						
20		3.4						
21		3.4						
22		3.3						
23		3.4						

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 1 minute.

Table 40

Budapest, Hungary (47.6°N, 19.0°E) January 1956

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		3.2						
01		3.2						
02		3.1						
03		3.0						
04		2.8						
05		2.6						
06		3.7				2.0		
07		6.6				2.0		
08		8.1				2.5		
09		8.6				2.7		
10		8.6				2.8		
11		8.6				2.9		
12		8.5				2.0		
13		8.5				2.8		
14		7.6				2.4		
15		6.8				2.3		
16		6.2				---		
17		4.6				---		
18		3.5						
19		3.0						
20		3.2						
21		3.1						
22		3.2						
23		3.3						

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 1 minute.

Table 41

Sao Paulo, Brazil (23.5°S, 46.5°W) September 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	7.8						3.3
01	220	8.3						3.35
02	210	7.6						3.65
03	220	5.2						3.4
04	240	3.6						3.2
05	260	3.5						3.1
06	240	4.8						3.4
07	220	6.8	220	---	120	2.3		3.5
08	250	7.3	210	---	100	2.7		3.4
09	270	8.2	200	---	100	3.1		3.3
10	300	9.2	200	4.7	100	3.2		3.1
11	300	10.0	190	4.7	100	3.4		2.95
12	300	11.1	190	4.7	100	3.4		(3.1)
13	300	11.8	190	4.6	100	3.2		3.1
14	290	12.1	190	---	100	3.2		3.1
15	270	12.0	200	---	110	3.0	3.8	3.2
16	260	12.0	220	---	120	2.8	3.6	3.3
17	230	11.2	230	---	110	2.2	3.7	3.3
18	220	10.4					2.8	3.4
19	220	8.3					2.4	3.3
20	220	8.4						3.35
21	220	8.2						3.2
22	230	7.7						3.3
23								

Time: Local.
Sweep: 1.75 Mc to 20.0 Mc in 7 minutes 18 seconds.

Table 42

Sao Paulo, Brazil (23.5°S, 46.5°W) August 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	4.7						3.4
01	220	4.6						3.5
02	200	4.6						3.55
03	200	3.7						3.65
04	240	2.6						3.4
05	---	2.1						3.2
06	320	2.5						3.1
07	210	5.1			---	---		3.6
08	240	5.9	200	---	110	2.5		3.6
09	260	6.4	200	---	100	2.9		3.5
10	270	7.0	200	4.3	100	3.1		3.3
11	260	8.3	180	4.5	100	3.2		3.3
12	270	(8.9)	180	4.5	100	---		(3.4)
13	280	9.6	180	4.6	100	3.1		(3.4)
14	270	9.6	180	4.4	100	---		(3.45)
15	260	8.8	200	---	110	2.9		(3.4)
16	240	9.3	200	---	110	2.7	2.8	(3.35)
17	220	9.0	---	---				3.6
18	200	7.8						3.6
19	200	6.5						3.5
20	200	5.0						3.4
21	220	5.2						3.4
22	220	5.4						3.4
23	220	4.6						3.4

Time: Local.
Sweep: 1.75 Mc to 20.0 Mc in 7 minutes 18 seconds.

Table 43

Lulea, Sweden (65.6°N, 22.1°E) — July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	---					2.5	
01								
02	250	(4.4)			---	1.8	2.5	
03								
04	350	4.6	225	3.6	110	2.2	2.6	
05								
06	340	5.0	200	3.8	100	2.5		
07								
08	360	5.2	200	4.2	100	2.7		
09								
10	350	5.2	200	4.3	100	2.7		
11								
12	350	5.3	200	4.3	100	2.7		
13								
14	350	5.0	200	4.2	100	2.7		
15								
16	330	5.0	200	4.0	110	2.7		
17								
18	265	4.9	225	3.7	110	2.3		
19								
20	240	4.9			125	1.9	2.4	
21								
22	250	(5.0)			---	---	2.1	
23								

Time: 15.0°E.
Sweep: 1.5 Mc to 10.0 Mc in 6 minutes, automatic operation.

Table 44

Sao Paulo, Brazil (23.5°S, 46.5°W) — July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	3.7						3.35
01	220	3.0						3.3
02	260	3.6						3.3
03	220	3.9						3.6
04	220	2.8						3.35
05	---	2.4						(3.2)
06	---	2.1						(3.0)
07	220	4.7						3.6
08	230	5.7	210	---	120	2.3		3.5
09	260	6.4	210	---	110	2.7		3.5
10	260	7.5	200	4.3	100	3.0		3.4
11	270	8.5	180	4.4	100	3.2		3.4
12	260	9.0	180	4.4	100	3.2		3.4
13	270	9.1	190	4.4	100	3.1		3.3
14	270	9.0	200	4.2	110	3.0		3.4
15	260	9.2	190	---	110	2.9		3.3
16	240	9.2	220	---	120	2.5		3.4
17	210	8.5	---	---	---	---	2.6	3.6
18	200	7.4						3.5
19	200	5.7						3.5
20	220	5.2						3.3
21	220	4.6						3.4
22	230	4.5						3.4
23	220	4.2						3.5

Time: Local.
Sweep: 1.75 Mc to 20.0 Mc in 7 minutes 18 seconds.

Table 45

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<205	3.2						2.95
01	<280	3.2						3.00
02	<205	3.0					1.8	2.95
03	275	3.0						2.95
04	275	2.9						3.00
05	260	2.6						3.20
06	240	2.8	---	---	---	E		3.30
07	240	4.2	220	2.3	---	1.8		3.55
08	250	4.6	220	3.5	110	2.4	2.4	3.50
09	260	5.0	210	3.8	110	2.6	2.7	(3.40)
10	290	5.3	205	4.0	105	2.0	3.0	3.45
11	280	5.5	200	4.1	100	2.9	3.0	3.40
12	290	5.6	205	4.2	100	3.0		3.35
13	290	5.8	210	4.2	105	3.0		3.40
14	275	5.7	215	4.1	105	2.9		3.45
15	265	5.4	220	3.9	110	2.7		3.40
16	255	5.5	230	3.6	110	2.5	2.6	3.40
17	250	5.4	240	3.0	120	1.9	2.3	3.40
18	240	5.2	---	1.9	---	E	1.9	(3.30)
19	230	5.1						(3.25)
20	<235	4.5						(3.10)
21	245	3.7						3.20
22	250	3.4						3.00
23	260	3.3						3.00

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

Table 46

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	3.00						3.00
01	---	3.00						2.95
02	---	3.00						3.00
03	---	3.00						3.00
04	---	3.00						3.20
05	---	2.90						3.30
06	---	2.60						3.40
07	225	4.20	---	----	---	----		3.70
08	240	5.20	220	3.35	110	2.20		3.70
09	250	5.60	210	4.00	105	2.60	3.20	3.60
10	265	5.70	200	4.20	105	2.90		3.50
11	275	6.10	200	4.30	105	3.10	3.20	3.50
12	280	6.40	200	4.40	105	3.10		3.35
13	285	6.50	190	4.35	105	3.20		3.35
14	270	6.70	200	4.30	105	3.15		3.35
15	280	6.40	225	4.20	105	3.00		3.35
16	200	6.50	230	4.10	105	2.80		3.30
17	265	6.70	235	3.80	110	2.40	3.00	3.35
18	250	7.00	240	3.10	125	(1.80)	2.70	3.40
19	<230	7.00					2.00	3.50
20	<205	5.20						3.50
21	---	3.70					2.60	3.20
22	---	3.30					2.20	3.10
23	---	3.00					1.80	2.95

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

Table 47

Tananarive, Madagascar (18.8°S, 47.8°E) — July 1954

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	2.5					1.6	3.46
01	230	2.3					1.8	3.38
02	240	2.0					1.8	3.33
03	230	1.9					1.7	3.70
04	240	1.7					2.1	3.24
05	<270	1.6					2.0	3.28
06	240	1.8			---	----	1.8	3.09
07	230	4.0			138	1.90	2.3	3.67
08	250	4.7	230	----	113	2.25	2.4	3.69
09	270	4.8	225	3.90	109	2.60	3.0	3.51
10	285	5.2	220	4.00	109	2.90		3.48
11	200	5.4	220	4.10	109	3.05	3.4	3.45
12	205	5.0	210	4.20	109	3.10		3.46
13	300	5.1	200	4.10	109	3.10		3.49
14	290	5.2	220	4.00	109	3.00		3.43
15	270	5.0	210	3.80	109	2.00	3.1	3.53
16	260	5.0	230	----	109	2.50	3.5	3.52
17	230	4.5			---	1.00	3.5	3.63
18	225	3.8					3.1	3.49
19	220	3.3					3.0	3.50
20	240	2.8					3.1	3.28
21	245	2.8					3.0	3.21
22	245	3.0					1.7	3.30
23	240	2.8					1.6	3.36

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

Table 40

Djibouti, French Somaliland (11.5°N, 43.1°E) — July 1953

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(330)	.---					<2.3	----
01	360	---						----
02	(380)	---						
03	(380)	---					2.1	----
04	(290)	---						----
05	285	2.8						(3.04)
06	280	5.6	250		131	(1.90)	3.2	3.28
07	310	6.4	240	(4.00)	124	2.50	3.6	3.21
08	350	6.9	245	4.30	121	2.90	3.9	2.97
09	390	6.8	240	4.40	121	3.20	4.0	2.68
10	425	>7.0	230	4.40	121	3.35	4.3	2.52
11	450	7.0	220	4.45	121	<3.50	4.4	2.41
12	450	7.0	230	4.45	---	3.50	5.8	2.45
13	430	>7.0	230	4.40	---	----	6.1	2.50
14	395	7.4	230	4.30	---	3.30	4.4	2.55
15	370	7.9	235	4.15	---	3.15	4.3	2.70
16	345	8.2	240	3.90	---	----	4.3	2.86
17	310	8.3	250	----	---	----	3.5	(2.86)
18	275	(8.4)					3.0	(2.98)
19	270	(7.1)					2.7	(3.10)
20	290	>5.0					3.1	(3.06)
21	300	(4.6)					2.7	(2.85)
22	320	4.0					2.4	2.83
23	345	(3.4)						(2.51)

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

TABLE 49
IONOSPHERIC DATA

foF2, 0.1 Mc, August 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	61	57	52	45	43	44	54	64	70	69	72	78	82	85	76	80	84	82	80	84	84	78	72	69
02	63	64	60	53	45	39	54	67	70	69	71	70	68	66	68	70	68	70	72	72	75	70	61	57
03	58	56	52	46	44	47	52	58	68	72	72	76	76	80	80	78	80	84	84	84	83	76	72	68
04	66	62	62	58	49	49	62	72	H 78	U F 85	94	H 85	84	83	85	85	85	84	89	88	86	78	74	67
05	66	62	60	58	54	49	53	62	70	76	79	80	84	83	80	82	78	77	80	84	78	76	71	65
06	61	58	54	49	F 47	46	64	82	86	85	90	87	88	88	86	82	80	85	86	86	83	76	70	64
07	59	59	61	62	56	54	62	64	71	72	75	U S 72	72	73	73	72	F 72	F 72	F 73	76	U A 76	U S 75	74	68
08	68	64	59	50	48	47	58	68	80	84	90	92	96	97	94	94	86	90	88	82	82	82	77	77
09	70	67	F 59	54	48	F 43	48	51	60	65	59	63	F 62	F 60	62	F 64	66	68	70	68	70	67	57	58
10	55	54	50	49	43	37	46	49	53	I A 50	52	54	56	56	59	59	60	59	60	58	58	62	58	60
11	56	52	50	46	46	48	66	U J 62	71	70	74	77	86	84	79	82	84	78	84	80	U S 68	U S 66	U S 61	U S 59
12	F 62	U A 54	U F 46	U F 38	37	37	46	49	51	60	58	62	64	61	61	F 62	63	61	62	63	U F 60	U F 60	F 54	U F 54
13	F 52	U F 51	U F 48	U F 41	U F 35	U F 36	F 49	F 62	F 63	F 63	F 64	F 63	F 63	F 67	F 66	F 66	66	68	70	70	U F 72	F 65	U F 60	F 59
14	U F 58	F 56	F 54	U F 46	F 48	F 45	50	58	62	62	63	68	67	69	72	70	70	72	70	69	68	67	65	60
15	56	52	51	F 47	45	F 43	54	63	69	80	81	81	79	82	80	I C 81	83	84	79	78	74	70	66	61
16	60	59	57	53	48	48	64	75	84	86	85	90	88	88	86	86	82	80	76	79	76	76	70	70
17	66	56	54	55	56	50	49	54	56	63	75	72	74	72	72	75	75	76	76	72	70	68	67	64
18	62	60	57	54	50	48	56	64	68	H 71	74	76	78	79	80	78	79	76	72	74	76	70	66	61
19	61	70	60	58	53	49	63	78	87	90	90	88	90	92	90	90	90	89	91	92	86	76	70	66
20	64	58	63	59	57	54	60	72	74	80	83	86	90	88	89	88	86	88	86	86	80	72	71	60
21	F 62	60	58	57	55	55	66	81	F 84	88	90	101	101	98	96	96	88	90	86	93	88	85	70	62
22	59	52	53	50	48	44	56	60	64	67	73	83	88	92	94	92	92	98	85	85	76	70	68	66
23	63	61	61	54	47	42	49	54	H 63	59	58	U P 58	64	58	58	58	F 60	F 58	62	72	76	58	54	U F 46
24	U F 40	U F 24	U F 22	U F 20	U F 20	U F 28	40	E G 41	50	50	E G 47	E G 48	E G 49	52	53	E G 49	52	55	56	52	F 57	F 48	45	F 43
25	40	36	F 31	U F 28	U F 22	U F 26	38	43	52	F 52	E G 49	58	58	59	59	62	64	62	60	F 65	U F 60	U F 58	U F 62	F 64
26	F 66	U F 62	U F 50	U F 40	U F 34	U F 31	F 44	U F 48	53	56	53	55	56	59	59	58	58	57	61	I C 56	52	F 53	F 50	F 45
27	F 44	F 43	F 40	F 40	F 41	F 39	54	67	70	78	88	88	86	86	90	88	87	85	86	83	76	72	64	66
28	62	61	58	54	50	48	F 56	73	82	82	88	92	96	90	92	86	88	87	86	87	84	76	70	66
29	62	62	62	57	58	55	66	76	86	86	93	90	92	94	96	90	90	92	88	90	84	76	70	F 68
30	68	67	66	62	56	56	64	80	98	101	98	105	103	102	102	98	98	96	96	92	86	74	68	64
31	66	63	63	58	F 56	54	F 62	F 70	84	85	90	99	90	99	100	98	94	92	88	84	U F 73	F 68	F 64	F 58
MED	62	59	57	53	48	47	54	64	70	72	75	78	82	83	80	81	80	80	80	80	76	70	67	64
NO	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31

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

TABLE 50
IONOSPHERIC DATA

foF2, 0.1 Mc, August 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	57	53	50	44	43	49	H 62	64	65	71	77	80	86	78	80	83	84	80	83	82	80	73	72	68
02	64	62	57	48	38	45	62	64	72	71	70	68	66	68	68	68	70	70	74	78	68	64	58	58
03	58	56	47	44	45	50	56	64	70	74	74	77	77	U S 80	80	80	80	84	85	84	78	74	69	66
04	62	66	60	56	48	56	65	U S 72	85	88	90	85	83	84	84	83	84	85	88	88	84	76	69	66
05	63	60	56	53	52	50	57	67	70	77	80	82	85	84	80	78	78	80	82	J 78	78	74	68	J 62
06	60	56	52	F 49	F 44	52	70	80	84	92	86	86	87	86	84	80	84	86	88	90	78	72	68	J 62
07	60	60	61	59	54	58	64	68	70	J 74	J 73	71	72	72	73	70	U F 70	72	74	76	I A 74	72	72	68
08	66	63	52	50	47	51	63	72	83	88	90	94	97	98	96	90	87	88	84	J 80	85	J 77	75	70
09	67	62	55	J 48	46	47	55	54	61	58	62	64	61	60	F 63	62	64	68	70	68	70	64	58	55
10	56	52	49	44	42	42	46	52	49	52	E G 50	56	56	58	58	58	59	U S 60	59	J 60	60	60	58	57
11	53	48	48	45	44	58	U H 67	68	70	70	76	82	86	82	80	85	82	82	82	J 78	68	62	U S 66	58
12	58	I A 50	42	38	U F 37	41	46	52	56	58	58	62	63	58	F 61	58	62	62	63	U F 62	U F 60	U F 60	F 56	F 53
13	J 50	F 49	F 45	U F 36	U F 33	F 42	56	F 63	F 63	I A 64	F 63	F 63	F 66	F 66	F 64	F 67	66	68	70	70	U F 69	U F 62	F 58	57
14	F 53	56	F 49	F 47	F 46	F 45	54	H 57	62	63	66	67	68	70	70	72	70	70	68	69	67	66	61	57
15	55	52	49	47	42	47	58	66	75	82	81	82	79	82	79	80	84	82	77	76	73	67	66	61
16	59	58	55	50	47	55	69	78	84	85	88	90	88	88	87	84	81	76	79	78	74	72	70	73
17	58	48	55	53	52	48	51	58	61	74	76	74	72	72	74	76	76	77	75	72	68	69	65	63
18	61	60	56	60	49	50	64	68	68	75	72	76	79	80	79	78	76	74	73	78	71	70	64	62
19	61	61	58	55	49	55	72	87	90	90	90	88	90	90	92	88	90	90	91	90	78	74	68	63
20	61	62	63	58	54	55	67	74	77	80	86	88	88	90	87	87	88	86	88	85	79	72	F 64	F 63
21	62	59	58	56	54	57	75	86	88	V 90	94	105	100	98	97	90	88	88	90	93	87	74	71	60
22	53	54	55	50	45	47	59	62	64	70	80	87	92	94	92	92	90	98	84	83	77	69	66	63
23	64	64	60	50	45	44	54	58	H 57	62	60	64	64	58	I C 58	62	59	58	66	82	60	56	50	F 45
24	U F 29	U F 24	U F 22	U F 20	U F 20	36	E G 42	E G 40	49	E G 47	53	52	52	E G 49	54	E G 47	52	55	52	54	50	F 48	43	F 38
25	37	F 32	F 30	U F 28	U F 20	34	40	46	51	E G 48	52	58	58	58	59	62	63	64	63	F 65	U F 58	U F 58	U F 60	F 66
26	U F 62	U F 50	U F 45	U F 35	U F 30	F 37	50	52	54	E G 50	55	54	57	59	58	58	58	60	C	C	54	52	U F 47	F 45
27	F 43	F 42	F 42	F 41	F 41	45	58	70	74	78	86	92	86	88	88	86	84	84	84	78	74	67	66	64
28	60	59	56	51	48	50	66	78	82	86	91	92	92	92	91	90	88	86	88	86	76	74	66	62
29	62	61	59	56	55	55	68	78	85	90	90	90	93	94	92	92	92	90	88	86	78	70	66	68
30	68	66	64	57	54	60	72	88	100	100	98	106	103	102	101	98	95	96	94	90	78	72	68	65
31	64	65	62	58	54	F 56	67	78	84	96	95	94	94	98	96	96	90	90	86	F 76	U F 70	F 68	F 60	F 56
MED	60	58	55	50	46	50	62	67	70	74	77	82	83	82	80	80	81	80	82	78	74	69	66	62
NO	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31

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

TABLE 51
IONOSPHERIC DATA

fo F1, 0.1 Mc, August 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							L	U L 420	460	500	H 580	540	590	540	540	H 520	500	L	L					
02							L	H 430	540	520	520	520	530	540	520	H 500	H 500	U L 460	L					
03							L	L	490	U L 510	U L 520	560	570	560	530	500	520	A	A					
04							L	L	L	U H 520	530	U L 550	H 530	H 560	560	H 550	540	L	L					
05							L	L	480	500	H 540	H 580	H 560	550	550	540	L	L	L					
06							L	L	L	L	520	H 570	H 520	H 560	560	U L 560	L	480	L					
07							L	L	490	540	550	560	560	550	540	540	F 520	A	L					
08							Q	L	L	L	530	580	580	560	560	530	550	L	L					
09							Q	Q	A	510	510	520	F 540	530	530	520	520	480	L					
10							L	420	460	I A 480	490	500	H 520	H 520	U F 510	500	490	H 480	L					
11							Q	490	H 510	U L 570	H 550	540	H 560	U A 560	550	U H 550	U L 510	U L 430	A					
12							A	440	470	A	A	500	H 530	H 530	500	500	480	470	Q					
13							Q	L	U L 480	520	I A 520	530	F 520	F 530	530	520	490	470	L					
14							Q	L	450	H 520	H 500	520	530	H 540	530	H 530	490	H 450	L					
15							L	H 420	L	480	H 520	H 540	540	560	540	I C 520	490	L	L					
16							Q	L	500	L	L	L	560	560	L	540	L	L	L					
17							Q	L	H 490	490	520	H 530	550	560	H 590	H 520	520	450	L					
18							L	L	L	U L 510	H 560	500	H 540	H 590	H 570	520	H 520	L	L					
19							L	L	L	H 490	H 540	H 570	580	590	570	540	L	L	L					
20							L	L	L	H 540	H 560	540	550	570	H 560	560	490	L	L					
21							Q	L	L	L	H 540	L	H 540	560	550	560	L	L	Q					
22							L	L	480	490	530	560	L	L	560	560	L	L	L					
23							Q	L	L	500	500	H 500	530	500	500	480	F 470	F 430	360					
24								410	450	460	470	480	490	490	480	490	450	420	L					
25							Q	Q	440	480	490	H 500	500	520	510	490	480	L	Q					
26							L	400	430	H 480	490	500	500	500	490	490	H 490	U L 450	L					
27							Q	L	L	460	580	H 620	600	550	L	L	L	L	Q					
28							Q	L	L	L	610	L	L	U H 550	L	L	L	L	Q					
29							Q	Q	470	L	L	L	L	L	L	L	L	L	Q					
30							Q	L	L	L	L	L	L	L	L	L	L	L	Q					
31							Q	Q	B	U L 560	L	590	600	620	U L 580	550	U L 440	L	L					
MED								420	480	500	520	540	540	550	540	520	490	460						
NO								8	17	23	26	26	27	28	26	27	21	12	1					

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

TABLE 52
IONOSPHERIC DATA

foE, 0.1 Mc, August 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	270	U A 310	U A 340	U A 370	I A 380	390	I A 390	390	I A 360	340	300	A					
02							200	270	300	A	A	380	400	390	380	370	360	310	250					
03							U A 190	U A 260	300	U A 310	A	A	400	A	A	A	U A 350	300	A					
04							A	U A 290	U A 320	360	I A 380	390	410	410	U A 380	U A 380	350	U A 320	270					
05							A	A	U A 320	U A 330	A	A	A	U R 400	A	R	A	A	250					
06							A	A	A	A	A	U R 400	I A 400	400	I A 390	F 380	360	330	260					
07							A	A	320	A	A	A	A	H 400	410	380	A	A	A					
08							A	310	A	A	A	400	400	A	A	A	A	320	260					
09							U A 230	270	A	A	A	A	U A 420	A	A	U A 370	360	320	260					
10							A	A	A	U A 320	U A 380	400	400	410	400	U A 380	350	U A 310	A					
11							U A 220	U A 270	U A 310	A	A	A	390	A	A	360	350	U A 310	A					
12							A	A	A	A	A	A	A	380	A	A	340	300	240					
13							220	I A 280	U A 330	A	A	A	A	U A 400	A	A	U A 340	310	250					
14							A	U A 280	310	340	I A 360	U A 390	A	A	370	A	A	310	230					
15							180	270	A	A	370	390	390	390	380	I C 350	H 330	290	230					
16							190	250	A	A	A	U A 390	U A 400	400	U A 380	U A 360	U A 340	F 310	240					
17							200	A	310	350	350	A	A	A	A	360	330	300	230					
18							180	260	I A 310	360	380	I A 380	H 390	390	370	360	360	310	220					
19							180	H 270	310	320	370	U A 380	400	380	390	370	340	U A 310	220					
20							A	250	290	I A 340	H 380	I A 380	390	390	I A 380	H 360	350	310	220					
21							H 200	260	310	H 350	H 370	H 390	390	390	390	390	360	310	230					
22							190	270	310	I A 340	370	350	I A 380	400	400	380	350	300	220					
23							A	270	300	350	380	390	390	H 390	H 390	370	330	290	220					
24								A	A	A	370	370	380	390	380	360	330	290	U P 210					
25							210	270	310	U A 350	U A 370	380	R	R	380	360	330	300	230					
26							U P 200	280	340	350	390	H 390	H 400	H 390	390	360	340	300	A					
27							A	U P 290	A	A	390	H 410	420	U A 400	400	370	340	280	U A 230					
28							A	250	A	A	A	400	410	390	400	380	350	A	A					
29							A	270	320	350	390	400	400	400	390	370	340	U A 280	R					
30							U P 190	270	330	A	A	380	I A 380	390	390	370	U A 330	290	220					
31							190	U A 270	I B 310	350	H 390	390	390	390	A	A	A	H 280	A					
MED							200	270	310	350	380	390	400	390	390	370	340	300	230					
NO							16	24	21	17	18	23	24	24	22	24	26	28	22					

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

TABLE 53
IONOSPHERIC DATA

fEs, 0.1 Mc, August 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	S	S	24	35	36	60	39	H 43	54	42	47	45	46	100	44	G	44	48	42	84	34	H 39	27
02	24	24	S	28	40	31	25	40	41	78	62	G	44	G	G	44	70	43	74	43	27	Y 31	S	30
03	Y 31	29	S	31	38	48	38	40	49	56	43	45	48	84	48	45	60	80	190	80	46	37	24	S
04	S	S	S	29	45	72	37	39	43	43	52	45	G	G	42	Y 52	50	40	48	56	58	74	44	S
05	S	S	S	S	S	25	24	40	48	72	54	46	42	G	41	G	48	41	29	35	28	S	S	S
06	S	S	E	E	S	S	60	44	70	70	55	G	48	46	47	47	52	45	48	37	52	62	30	26
07	28	S	S	S	S	40	32	41	49	68	74	80	58	G	G	42	150	160	82	48	150	84	44	39
08	39	36	39	S	S	S	25	38	48	44	70	44	45	66	62	74	66	44	40	40	70	40	42	41
09	31	28	S	S	S	S	64	58	62	49	48	58	52	48	44	45	G	G	G	18	S	30	S	S
10	S	S	80	52	S	30	48	66	48	80	160	66	G	G	G	41	40	38	33	S	35	52	50	42
11	31	31	31	50	28	Y 36	32	H 38	H 68	160	80	170	49	80	80	54	G	44	47	37	S	S	S	32
12	45	68	53	64	70	42	40	72	46	67	105	50	46	100	50	150	G	48	37	33	S	S	S	52
13	S	S	S	S	S	S	45	45	50	H 80	H 110	58	56	47	H 50	H 70	H 62	39	35	36	52	31	31	54
14	35	26	S	Y 30	32	30	30	44	49	H 74	H 60	39	48	43	G	37	46	40	39	19	17	34	29	S
15	S	S	S	S	S	S	S	35	70	44	44	G	50	G	G	C	G	41	38	S	S	S	S	S
16	S	S	S	E	S	S	20	36	45	H 150	39	41	44	44	45	40	46	37	41	37	25	S	S	S
17	S	S	S	S	S	50	G	36	41	45	45	F 48	F 48	F 45	45	G	G	41	35	44	30	27	33	48
18	31	S	40	S	S	S	30	58	45	G	74	46	45	49	42	70	50	35	35	17	S	S	S	42
19	S	S	S	S	E	S	19	38	84	44	70	50	70	70	80	G	G	34	35	S	S	23	30	39
20	25	S	E	E	E	S	20	40	47	H 76	60	64	G	72	47	G	42	G	34	18	S	28	S	S
21	31	29	S	S	S	S	20	G	G	41	43	G	G	G	G	G	G	G	G	S	S	S	S	S
22	S	S	S	39	S	S	21	30	50	66	G	47	49	G	40	G	G	31	23	S	S	S	S	S
23	S	S	S	S	S	S	20	39	38	G	36	32	G	G	G	G	G	G	29	S	S	S	S	26
24	22	S	E	S	S	S	B	26	30	45	H 70	G	G	G	G	42	39	G	G	B	S	B	S	S
25	S	S	S	S	S	S	G	29	34	36	41	G	G	G	G	39	35	G	G	S	S	S	S	S
26	S	S	S	S	S	S	G	G	G	G	G	G	G	G	G	38	G	G	24	C	S	34	35	S
27	S	S	S	S	S	S	23	G	34	33	33	G	29	40	G	39	36	46	40	S	S	S	S	B
28	S	S	S	S	S	S	23	32	34	47	44	G	G	G	Y 37	G	G	32	29	S	S	S	S	S
29	F 30	F 28	S	S	S	S	20	28	40	41	29	G	G	G	G	G	G	28	G	B	B	S	B	B
30	B	B	37	B	S	S	21	29	G	45	38	G	38	G	G	G	42	G	G	37	S	28	S	S
31	S	S	S	S	25	S	20	41	B	G	G	G	42	66	50	45	42	32	34	33	17	40	28	S
MED	31	28	I 37	29	34	36	24	39	45	47	52	44	44	40	41	40	39	38	35	37	35	34	32	39
NO	14	10	9	13	10	11	30	31	31	31	31	31	31	31	31	30	31	31	31	21	15	18	14	15

TABLE 54

IONOSPHERIC DATA

fmin, 0.1 Mc, August 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 16	E S 14	E	E	E S 14	E S 16	E S 16	E S 16	E S 16	19	E S 18	20	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	E S 15
02	E S 16	E S 16	E S 13	E S 13	E S 12	E	E S 16	E S 16	E S 16	E S 16	E S 16	20	E S 18	20	E S 17	E S 17	17	18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
03	E S 16	E S 16	E S 13	E S 13	E	E S 16	E S 16	E S 16	17	18	18	20	23	22	20	20	E S 16	E S 16	E S 16	E S 15	E S 16	E S 16	E S 16	E S 16
04	E S 16	E S 16	E S 16	E S 14	E S 16	E S 14	E S 16	E S 16	E S 16	E S 16	E S 18	E S 18	21	22	E S 16	E S 16	E S 16	E S 16	E S 16	E S 15	E S 16	E S 16	E S 16	E S 16
05	E S 16	E S 13	E S 13	E S 13	E S 13	E	E S 16	E S 16	E S 16	E S 16	22	21	22	22	E S 16	E S 16	E S 16	19	17	19	E S 16	E S 16	E S 16	E S 16
06	E S 14	E S 11	E	E	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 17	20	20	20	20	E S 16	18	E S 16	E S 16	E S 16	E S 13	E S 16	E S 16	E S 16
07	E S 16	E S 16	E S 16	E S 16	E S 12	E S 15	E S 16	E S 16	E S 16	E S 16	21	21	E S 16	22	20	20	E S 16	18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16
08	E S 16	E S 16	E S 13	E S 13	E S 14	E S 16	E S 16	21	18	19	E S 16	22	21	21	24	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
09	E S 16	E S 16	E S 16	E S 16	E S 12	E S 18	E S 16	E S 16	E S 16	22	23	22	20	22	22	23	21	18	E S 16	17	E S 16	E S 16	E S 16	E S 16
10	E S 16	E S 16	E S 13	E S 13	E S 16	E S 16	E S 16	E S 16	E S 16	17	E S 16	22	20	22	20	18	19	E S 16	17	E S 18	E S 16	E S 16	E S 16	E S 16
11	E S 16	E S 16	E S 14	E S 14	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	18	E S 16	20	E S 16	20	17	23	E S 16	18	17	E S 16	E S 13	E S 14	E S 16
12	E S 14	E S 13	E S 13	E S 13	E S 13	E S 14	E S 16	E S 16	E S 16	E S 16	19	20	22	22	E S 16	E S 16	21	E S 16	18	E S 16	E S 15	E S 16	E S 16	E S 14
13	E S 13	E S 13	E S 12	E S 12	E S 14	E S 16	E S 16	E S 16	E S 16	19	19	22	23	23	20	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
14	E S 16	E S 13	E S 13	E S 15	E S 13	E S 16	E S 16	E S 16	E S 16	18	E S 16	25	23	20	19	20	19	E S 16	E S 16	E S 16	E S 15	E S 16	E S 14	E S 16
15	E S 13	E S 13	E S 12	E S 18	E S 12	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	17	17	E S 16	E S 16	C	E S 16	E S 16	E S 16	E S 17	E S 16	E S 16	E S 16	E S 16
16	E S 13	E S 16	E S 15	E	E S 16	E S 16	E S 16	E S 16	E S 16	E S 17	18	E S 16	20	21	20	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
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	E S 16	E S 16	E S 16	E S 16	E S 17	E S 16	18	E S 16	E S 16	E S 16	E S 16	E S 15	E S 16	E S 16	E S 16	E S 16
18	E S 14	E S 13	E S 16	E S 16	E S 13	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	18	19	17	E S 16	E S 16	17	E S 16	E S 15	E S 16	E S 16	E S 16	E S 16
19	E S 14	E S 12	E S 13	E S 12	E	E S 12	E S 13	E S 16	E S 16	E S 16	17	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	E S 16	E S 16	E S 16	E S 15
20	E S 16	E S 11	E	E	E	E S 16	E S 16	E S 16	E S 16	E S 16	17	E S 16	19	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 16	E S 16
21	E S 13	E S 16	E S 13	E S 13	E S 13	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	18	22	20	E S 16	25	17	E S 16	E S 16	E S 16	E S 16	E S 16	E S 13	E S 16
22	E S 16	E S 13	E S 16	E	E S 13	E S 16	E S 16	E S 16	E S 16	E S 16	19	21	19	20	20	20	22	17	E S 16	E S 16	E S 16	E S 16	E S 13	E S 14
23	E S 14	E S 16	E S 12	E S 14	E S 12	E S 16	E S 16	19	E S 16	E S 16	19	24	20	21	21	23	E S 16	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 13	E	E S 13	E S 13	E S 16	23	E S 16	20	18	21	26	23	26	22	21	E S 16	E S 16	E S 16	19	E S 16	17	E S 16	E S 16
25	E S 16	E S 16	E S 13	E S 12	E S 12	E S 16	17	E S 16	21	20	20	22	25	26	25	23	18	22	19	E S 16	E S 16	E S 16	E S 16	E S 16
26	E S 11	E S 13	E S 14	E S 13	E S 12	E S 16	E S 16	17	22	20	25	23	25	23	23	18	18	18	19	C	E S 16	E S 16	17	E S 16
27	E S 16	E S 16	E S 12	E S 13	E S 13	E S 16	E S 16	20	21	23	23	30	24	21	22	21	19	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	17
28	E S 16	E S 16	E S 16	E S 13	E S 13	E S 16	18	20	22	E S 16	21	22	20	22	18	E S 17	22	21	24	E S 16	E S 16	E S 16	E S 16	E S 16
29	E S 16	E S 16	E S 13	E S 13	E S 16	E S 16	E S 16	E S 16	E S 16	18	19	32	18	21	30	18	21	23	23	24	19	E S 15	20	23
30	17	18	E S 16	18	E S 16	E S 16	E S 16	E S 16	E S 16	E S 16	22	24	22	21	21	E S 16	E S 16	E S 16	E S 16	18	E S 16	E S 16	E S 16	E S 16
31	E S 16	E S 16	E S 13	E S 13	E S 13	E S 16	E S 16	E S 16	48	22	21	20	17	E S 16	21	17	17	17	18	E S 16	E S 16	E S 16	E S 16	E S 16
MED																								
NO																								

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

TABLE 55
IONOSPHERIC DATA

h' F2, Km, August 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	280	270	270	250	300	290	310	330	310	320	380	360	380	320	350	330	330	280	280	250	260	250	260	260
02	260	260	250	250	250	260	290	310	400	370	350	350	370	430	400	370	380	340	310	270	240	240	250	270
03	280	280	270	320	350	UA 300	L	UL 280	330	310	330	370	400	370	340	320	330	310	270	240	240	240	260	270
04	270	280	270	270	260	UA 280	L	L	UL 260	270	320	UH 320	340	380	340	340	350	L	300	UA 270	UA 250	270	250	270
05	280	280	290	300	280	280	L	UL 310	320	300	340	370	350	360	350	340	330	L	L	260	240	240	250	250
06	260	260	240	240	250	230	L	260	L	290	310	360	330	340	360	360	370	320	UL 280	250	250	UA 270	250	260
07	300	300	280	290	270	270	UL 270	L	330	380	380	410	430	410	410	410	400	A	L	UA 260	IA 300	UA 340	290	280
08	270	290	290	310	280	300	250	UL 280	L	UL 280	320	370	360	350	370	310	340	UL 330	270	250	UA 310	270	280	280
09	260	290	280	300	300	300	260	260	UA 420	520	540	470	F 400	F 610	520	F 480	440	400	UL 320	270	250	240	240	270
10	280	270	260	300	290	290	L	440	500	A	700	660	640	650	510	540	470	400	350	280	270	310	320	310
11	300	310	290	320	300	310	240	H 290	260	330	380	450	400	380	390	400	320	320	270	240	240	270	300	310
12	320	IA 360	UA 400	UA 460	UA 340	UA 300	UA 300	L	L	UA 450	500	520	450	470	500	430	460	UL 400	250	280	250	250	280	290
13	290	280	270	280	280	280	250	UL 310	UL 330	400	430	470	F 460	F 460	F 470	440	370	380	310	270	270	250	260	280
14	300	270	280	290	280	270	240	UL 310	330	410	450	420	470	440	390	400	UL 330	330	L	260	250	270	270	270
15	280	280	270	280	280	260	290	300	300	290	300	L	350	360	350	IC 350	330	310	270	250	240	250	270	260
16	270	270	250	240	250	250	240	260	280	UL 280	L	330	350	350	L	330	320	L	L	250	250	270	270	280
17	250	320	350	300	280	250	250	L	L	440	340	340	340	390	450	370	340	310	270	250	240	270	260	280
18	280	280	280	270	270	260	270	250	L	L	340	300	L	380	360	350	320	L	250	260	240	250	250	270
19	280	260	260	250	240	230	250	250	260	260	300	320	340	360	350	320	310	L	270	240	220	260	260	290
20	280	270	270	250	270	270	270	280	290	330	330	330	330	360	350	340	300	L	270	240	230	240	250	250
21	280	270	290	270	290	270	250	260	260	250	300	L	300	340	320	320	L	280	260	250	240	220	220	240
22	270	290	300	320	310	300	UL 300	330	420	400	390	360	330	L	320	350	L	L	250	250	250	240	270	270
23	290	300	270	260	290	280	260	350	L	560	510	450	390	460	550	520	F 440	F 410	380	310	250	290	310	US 300
24	US 340	US 430	US 400	US 450	US 400	330	290	G	560	700	G	G	G	640	600	G	580	440	L	310	260	300	280	310
25	290	290	320	350	350	350	280	240	440	500	G	540	500	570	550	460	380	L	240	270	260	320	320	300
26	270	250	300	320	350	380	UL 400	360	450	450	690	640	670	530	560	510	450	UL 340	L	C	260	290	290	300
27	320	310	310	300	300	280	260	UL 260	250	260	340	340	340	310	350	L	L	L	250	240	250	270	290	300
28	310	290	280	270	270	270	250	L	UL 240	270	350	280	340	340	L	L	UL 300	290	260	260	250	240	240	270
29	290	290	280	270	270	250	240	240	270	270	330	340	UL 340	340	330	350	L	L	250	250	250	250	270	300
30	290	290	290	280	290	300	260	UL 260	260	250	310	330	300	330	UL 300	330	UL 310	L	250	250	240	240	250	260
31	280	280	280	260	280	250	240	240	260	UL 300	260	330	350	370	340	310	280	UL 270	250	250	250	270	270	270
MED	280	280	280	280	280	280	260	280	310	320	340	360	360	380	360	350	340	330	270	250	250	260	270	270
NO	31	31	31	31	31	31	26	26	25	29	30	29	30	30	29	29	27	19	25	30	31	31	31	31

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

TABLE 56
IONOSPHERIC DATA

h'F1, Km, August 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							270	230	220	210	H 205	200	215	210	205	H 210	220	U A 240	220					
02							250	H 215	210	230	210	190	200	210	210	H 210	H 200	220	U A 240					
03							230	220	U A 240	U A 230	210	230	200	215	215	220	A	A	A					
04							240	230	210	H 200	220	H 220	H 200	240	200	H 210	210	225	A					
05							240	220	220	I A 215	H 210	H 200	H 200	200	215	210	220	230	240					
06							220	230	220	H 200	210	H 200	H 200	H 205	210	220	230	240	A					
07							240	230	220	U A 220	U A 220	U A 210	U A 220	200	230	240	U A 240	I A 240	240					
08							Q	240	225	200	190	210	230	220	220	220	220	H 230	240					
09							Q	Q	A	200	200	200	F 200	220	220	220	215	240	240					
10							260	230	U A 230	I A 225	220	190	H 200	H 220	U H 220	230	230	H 220	260					
11							Q	220	H 210	H 210	H 190	190	H 210	I A 210	210	U A 240	230	210	A					
12							A	270	250	A	A	U A 220	H 200	H 230	220	220	230	240	Q					
13							Q	230	230	U A 240	A	A	A	220	U A 210	220	230	225	230					
14							Q	230	I A 215	H 200	H 205	200	220	H 210	220	H 240	220	H 220	250					
15							250	H 220	U A 230	200	H 190	H 190	200	205	210	I C 215	220	240	230					
16							Q	240	210	210	H 200	H 200	200	210	210	210	210	230	A					
17							Q	230	H 210	200	220	H 200	200	190	H 220	H 220	230	230	240					
18							250	230	215	215	H 200	180	H 180	H 200	H 190	210	H 220	220	240					
19							240	H 230	220	H 210	H 200	H 200	210	210	210	210	220	230	240					
20							250	230	220	H 190	H 190	U A 230	210	H 200	H 210	210	220	230	250					
21							Q	230	210	220	H 190	H 220	H 200	215	210	225	H 220	250	Q					
22							270	250	I A 240	U A 235	210	215	210	H 215	220	215	240	230	250					
23							Q	265	H 230	220	220	H 200	240	200	230	230	240	250	280					
24								240	240	240	220	215	230	220	230	235	220	245	260					
25							Q	Q	215	200	190	H 190	230	230	210	230	220	230	Q					
26							280	230	220	H 200	220	200	230	215	220	220	H 210	235	250					
27							Q	240	230	220	220	H 200	210	210	210	220	225	220	Q					
28							Q	230	215	210	200	190	230	H 200	220	H 200	210	230	Q					
29							Q	Q	205	210	H 200	H 190	220	210	220	H 220	240	260	Q					
30							Q	240	230	210	205	210	220	H 190	205	225	230	240	Q					
31							Q	Q	B	H 210	210	215	210	240	230	225	230	240	240					
MED							250	230	220	210	205	200	210	210	215	220	220	230	240					
NO							14	27	29	30	29	30	30	31	31	31	30	30	19					

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

TABLE 57
IONOSPHERIC DATA

h'E, Km, August 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	105	105	109	105	109	103	105	109	109	109	113					
02							120	111	105	103	101	101	101	101	101	101	101	109	111					
03							U A 123	115	105	105	103	103	A	A	A	A	105	109	A					
04							119	111	105	103	101	101	101	101	101	101	109	103	115					
05							121	111	109	109	109	109	109	109	105	101	103	111	115					
06							115	U A 117	103	105	101	105	111	109	105	103	103	103	119					
07							119	111	109	105	105	105	101	H 101	101	107	105	111	115					
08							119	115	109	105	109	109	109	101	101	101	101	101	U A 115					
09							115	115	101	107	107	107	101	101	103	105	105	107	115					
10							120	101	101	103	101	103	103	101	109	105	U A 120	A	A					
11							120	105	109	101	103	101	101	101	101	101	111	105	119					
12							A	111	105	103	103	101	105	U A 111	103	103	109	109	119					
13							U A 121	111	109	109	109	109	101	U A 119	A	A	A	101	121					
14							U A 121	109	109	109	A	A	A	A	109	109	I A 114	U A 119	119					
15							115	109	107	109	109	105	101	101	109	I C 104	H 101	109	121					
16							119	109	105	101	103	101	U A 103	U A 109	U A 101	U A 103	U A 109	105	115					
17							119	111	105	101	101	U A 101	U A 101	U A 101	U A 101	101	103	107	111					
18							113	107	U A 103	101	101	101	H 101	103	101	101	101	103	111					
19							109	H 111	101	101	101	101	101	101	101	105	101	109	109					
20							U S 119	107	101	101	U A 101	U A 101	101	101	U A 101	H 101	101	109	109					
21							119	109	101	U A 101	U A 101	H 101	101	101	101	109	101	109	111					
22							123	109	101	101	101	103	103	105	103	103	105	109	111					
23							119	109	105	101	101	U A 119	101	H 101	H 105	103	103	109	119					
24								111	109	103	101	109	109	105	109	109	105	111	119					
25							129	103	109	105	101	101	107	103	101	103	101	115	117					
26							115	101	107	103	103	H 101	H 101	H 101	101	101	101	103	U A 109					
27							121	109	103	101	121	H 101	109	101	101	101	101	101	101					
28							135	115	105	101	101	101	101	101	U A 105	101	101	105	119					
29							119	103	101	101	113	113	101	101	107	101	111	121	R					
30							129	111	115	111	109	105	103	101	101	105	U A 109	115	125					
31							121	111	I B 110	109	109	107	109	109	A	A	U A 109	U A 109	129					
MED							119	111	105	103	103	103	101	101	101	103	104	109	115					
NO							29	31	31	31	30	30	29	29	28	28	30	30	28					

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

TABLE 58
IONOSPHERIC DATA

(M 3000) F2, August 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	270	280	280	280	270	290	285	300	320	300	280	290	280	300	290	300	290	290	300	290	290	280	280	280
02	270	290	290	290	290	295	300	310	290	290	300	290	295	270	280	290	285	290	295	300	310	295	290	290
03	280	280	280	270	270	310	310	305	310	315	300	290	280	290	295	290	295	300	300	290	290	290	280	280
04	285	280	285	300	300	300	320	310	290	U S 310	300	280	280	280	290	290	280	280	290	300	310	290	280	275
05	275	270	270	270	270	300	315	290	310	315	295	290	290	285	290	295	290	295	290	310	300	290	300	290
06	280	285	300	290	290	295	305	320	300	315	305	285	280	290	280	280	280	290	290	290	300	290	290	290
07	275	270	275	290	285	300	320	320	295	285	290	U S 275	265	270	275	270	270	F 270	290	290	A	U S 290	280	275
08	280	275	280	260	275	280	305	310	300	290	280	275	270	275	270	275	280	280	295	285	280	280	280	275
09	270	270	270	270	270	280	290	295	270	255	240	260	F 290	F 230	250	F 260	260	270	290	285	270	280	270	280
10	270	280	280	275	280	290	320	275	260	A	220	230	230	225	255	250	260	280	280	290	280	270	265	270
11	270	265	275	260	270	275	340	U H 325	350	310	275	255	275	280	270	260	290	280	285	295	U S 290	U S 270	U S 270	U S 270
12	F 265	A	U A 255	U A 260	265	290	310	270	275	275	255	250	270	265	260	F 270	260	270	275	290	U F 280	U F 270	F 280	U F 270
13	F 270	U F 280	U F 280	U F 270	U F 280	U F 290	F 320	F 310	F 305	F 280	F 280	F 265	F 260	F 260	F 255	F 260	275	275	290	290	U F 290	F 290	U F 285	F 270
14	U F 265	F 275	F 270	U F 270	F 290	F 300	300	310	290	280	265	275	260	260	270	270	280	280	285	285	275	280	275	275
15	270	280	280	F 280	270	F 290	300	310	300	290	295	285	280	280	290	C	285	285	290	290	280	280	275	280
16	280	275	290	290	290	290	320	310	320	300	295	290	280	280	280	290	290	290	295	295	290	280	275	270
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23	260	255	270	270	270	270	285	290	H 270	245	250	U P 270	295	270	245	250	F 270	F 270	260	260	290	270	250	U F 245
24	U F 250	U F 240	U F 230	U F 240	U F 250	U F 260	295	G	240	240	G	G	G	230	235	G	240	260	280	270	F 280	F 280	280	F 260
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26	F 270	U F 280	U F 270	U F 265	U F 250	U F 250	F 260	U F 280	270	270	220	225	220	250	240	250	265	280	290	C	290	F 270	F 270	F 260
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MED	270	275	270	270	270	290	310	310	300	290	285	280	280	275	275	280	280	280	290	290	290	280	280	275
NO	31	30	31	31	31	31	31	31	31	30	31	31	31	31	31	30	31	31	31	30	30	31	31	31

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

TABLE 59

IONOSPHERIC DATA

(M 3000) F1, August 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							L	U L 340	360	360	H 330	360	340	360	360	H 360	360	L	L					
02							L	H 350	340	360	370	380	370	370	390	380	370	U L 350	L					
03							L	L	350	U L 350	U L 370	350	340	340	370	380	U A 360	A	A					
04							L	L	L	U H 360	380	U L 370	U H 380	350	340	H 340	340	L	L					
05							L	L	370	370	H 380	H 350	H 370	340	350	360	L	L	L					
06							L	L	L	L	390	370	390	360	360	U L 330	L	350	L					
07							L	L	360	340	360	360	365	360	360	340	F 340	A	L					
08							Q	L	L	L	370	340	360	360	345	360	350	L	L					
09							Q	Q	A	365	390	390	F 360	365	365	360	340	330	L					
10							L	340	370	A	390	390	H 380	H 370	U F 370	380	350	H 350	L					
11							Q	370	H 380	U L 340	H 350	360	H 350	A	350	U H 330	U L 340	U L 380	A					
12							A	320	340	A	A	380	H 380	375	380	365	360	330	Q					
13							Q	L	U L 360	350	A	365	F 380	F 370	360	360	340	340	L					
14							Q	L	U A 360	H 350	H 380	380	360	H 350	350	345	360	350	L					
15							L	H 360	L	380	H 380	H 370	370	350	360	C	350	L	L					
16							Q	L	350	L	L	L	350	350	L	340	L	L	L					
17							Q	L	H 340	360	350	370	360	350	H 330	H 360	340	350	L					
18							L	L	L	U L 370	H 350	410	H 370	H 330	H 345	360	H 350	L	L					
19							L	L	L	H 390	H 365	H 350	345	340	340	350	L	L	L					
20							L	L	L	H 350	H 350	360	370	360	H 360	350	365	L	L					
21							Q	L	L	L	H 360	L	H 370	340	350	350	L	L	Q					
22							L	L	340	360	345	350	L	L	350	335	L	L	L					
23							Q	L	H	345	385	H 370	355	375	360	350	F 350	F 340	320					
24								340	340	350	380	370	350	370	370	360	360	330	L					
25							Q	Q	370	370	390	H 380	370	360	370	360	350	L	Q					
26							L	360	370	360	390	375	370	360	370	360	H 340	U L 340	L					
27							Q	L	L	390	350	H 330	350	370	L	L	L	L	Q					
28							Q	L	L	L	340	L	L	U H 365	L	L	L	L	Q					
29							Q	Q	370	L	L	L	L	L	L	L	L	L	Q					
30							Q	L	L	L	L	L	L	L	L	L	L	L	Q					
31							Q	Q	B	H 350	L	350	330	320	330	350	U L 380	L	L					
MED								345	360	360	370	370	365	360	360	360	350	345						
NO								8	17	22	25	26	27	27	26	26	21	12	1					

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

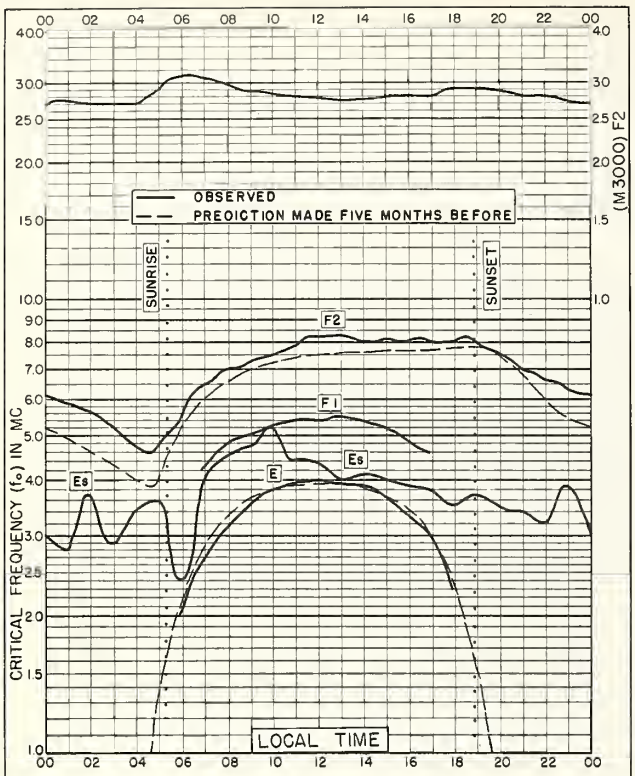

Fig. 1. WASHINGTON, D.C. AUGUST 1956
38.7°N, 77.1° W

NBS 503

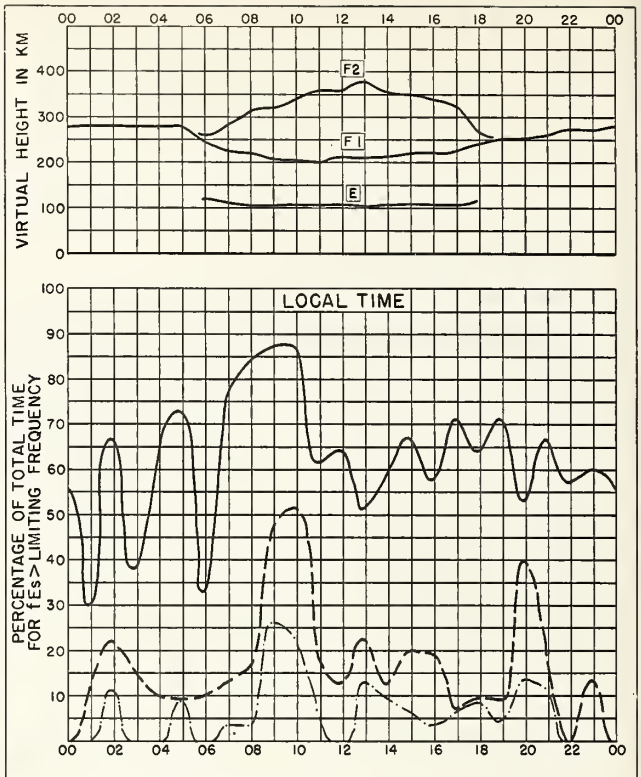

Fig. 2. WASHINGTON, D.C. AUGUST 1956

NBS 490

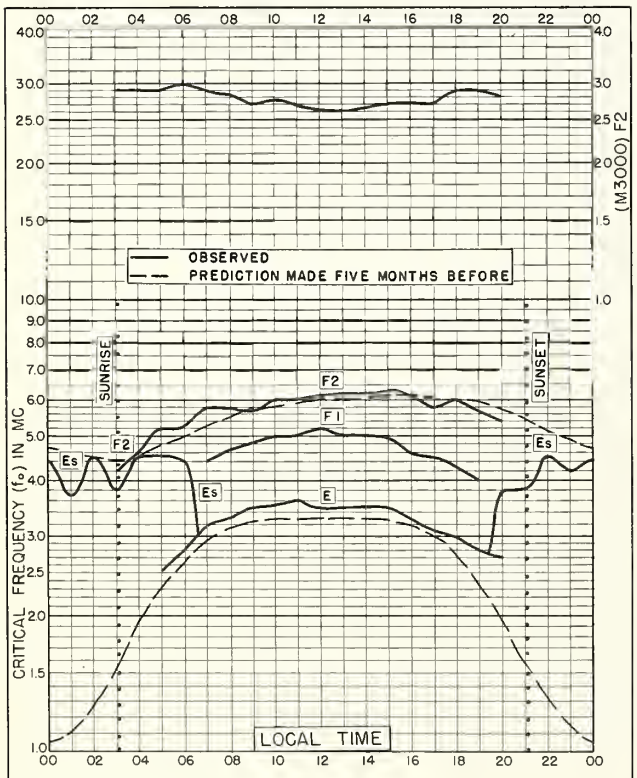

Fig. 3. NARSARSSUAK, GREENLAND
61.2°N, 45.4° W JULY 1956

NBS 503

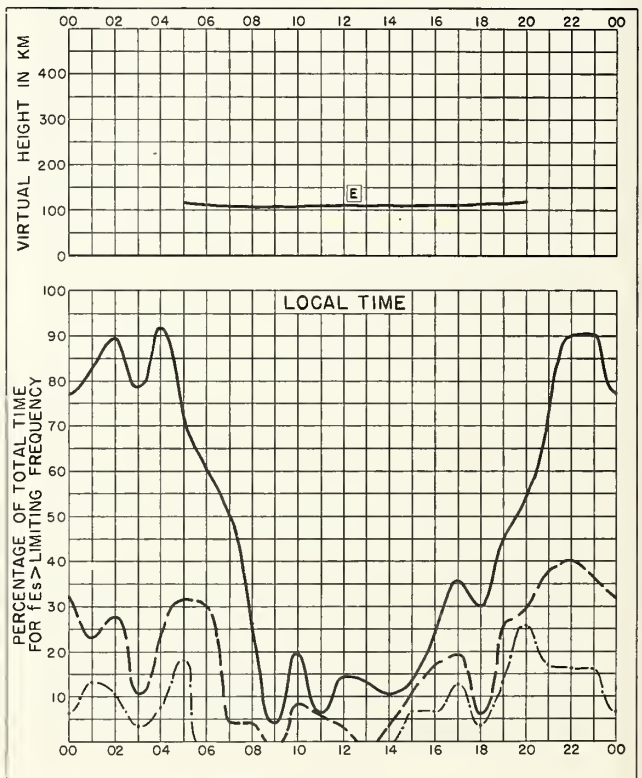

Fig. 4. NARSARSSUAK, GREENLAND JULY 1956

NBS 490

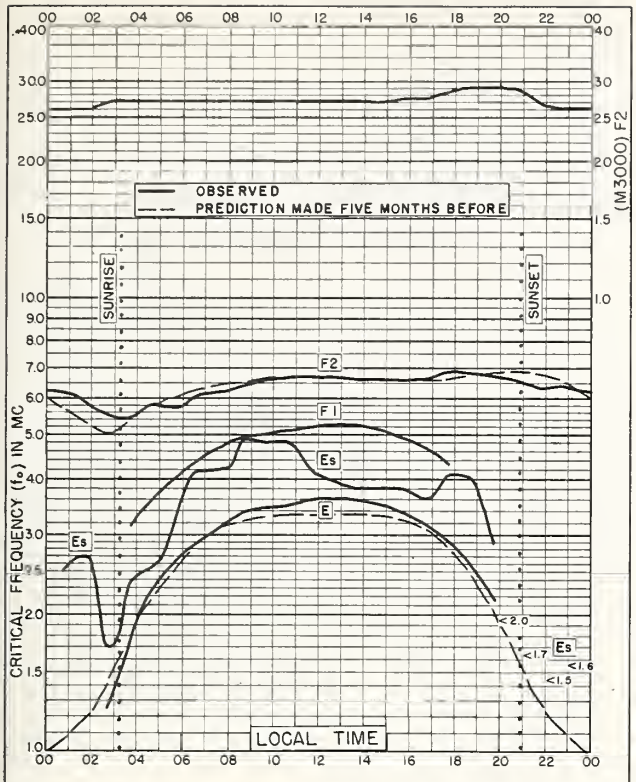

Fig. 5. OSLO, NORWAY
60.0°N, 11.1°E JULY 1956

NBS 503

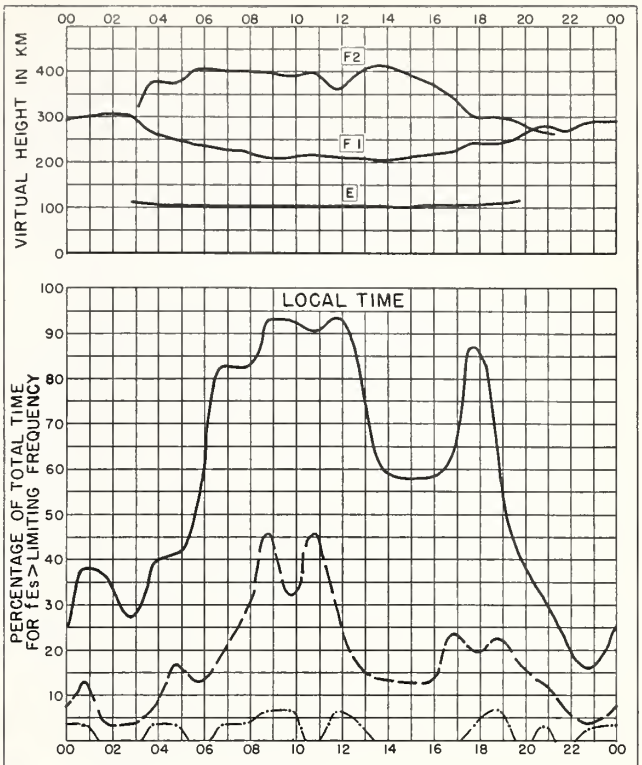

Fig. 6. OSLO, NORWAY JULY 1956

NBS 490

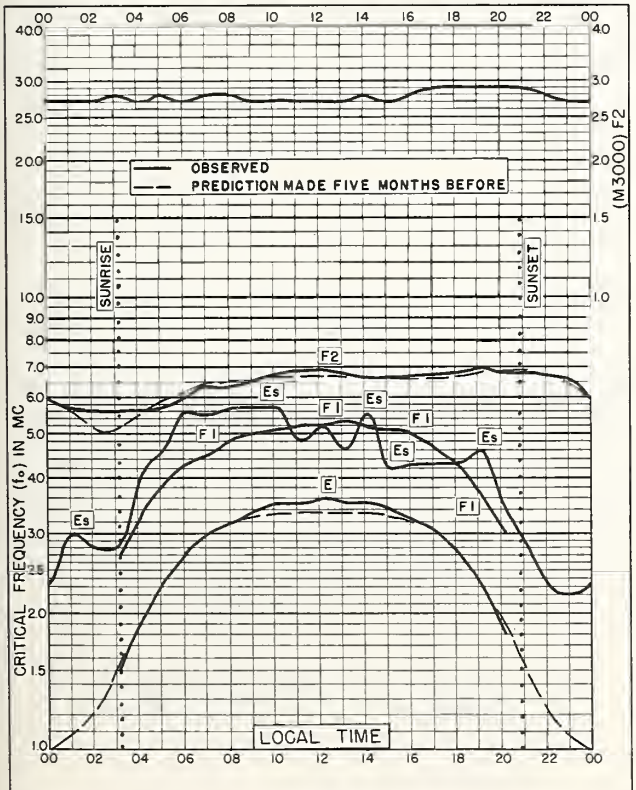

Fig. 7. UPSALA, SWEDEN
59.8°N, 17.6°E JULY 1956

NBS 503

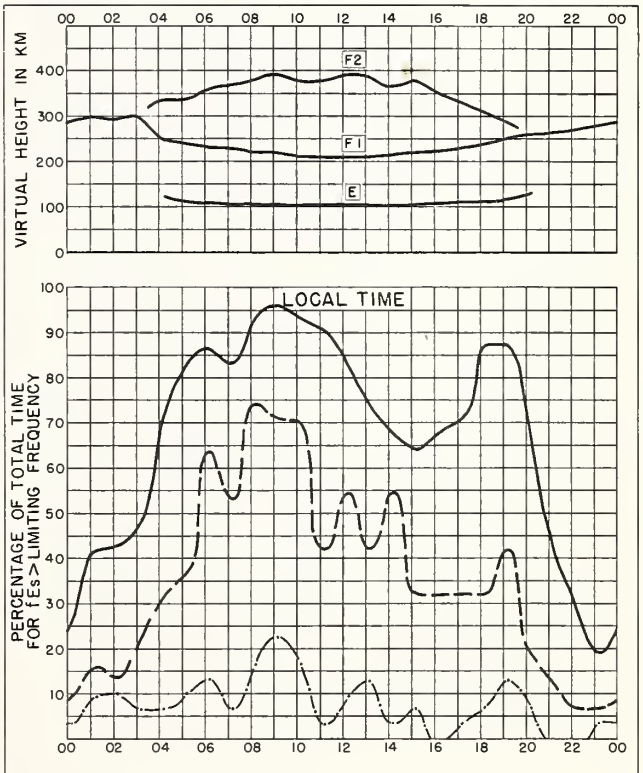

Fig. 8. UPSALA, SWEDEN JULY 1956

NBS 490

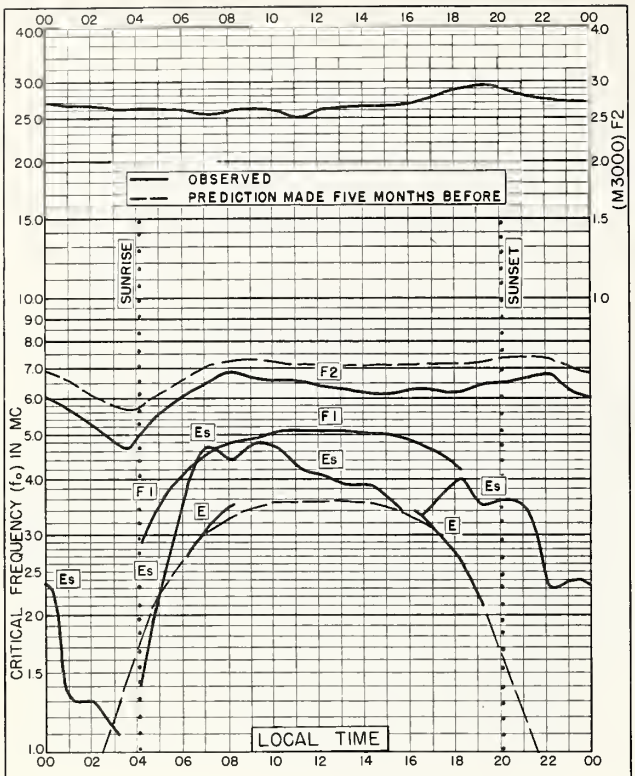

Fig. 9. ADAK, ALASKA
51.9°N, 176.6° W
JULY 1956

NBS 503

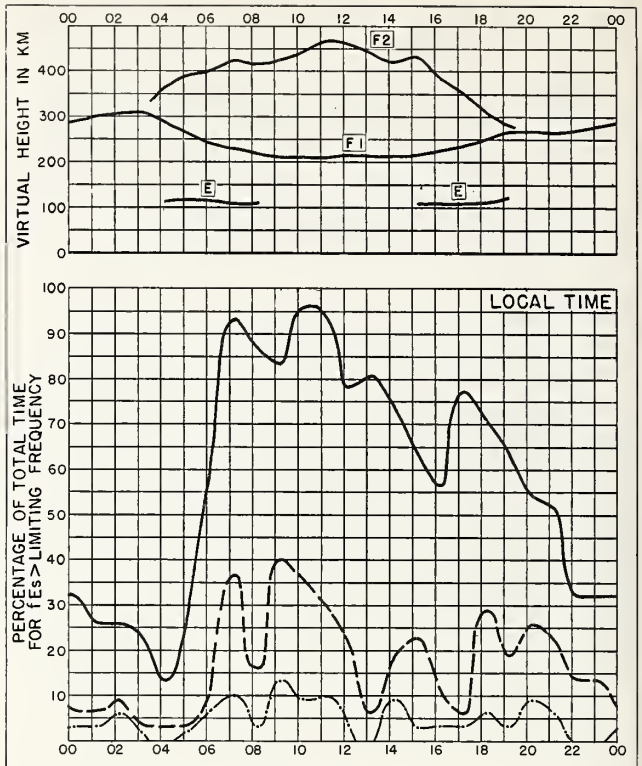

Fig. 10. ADAK, ALASKA
JULY 1956

NBS 490

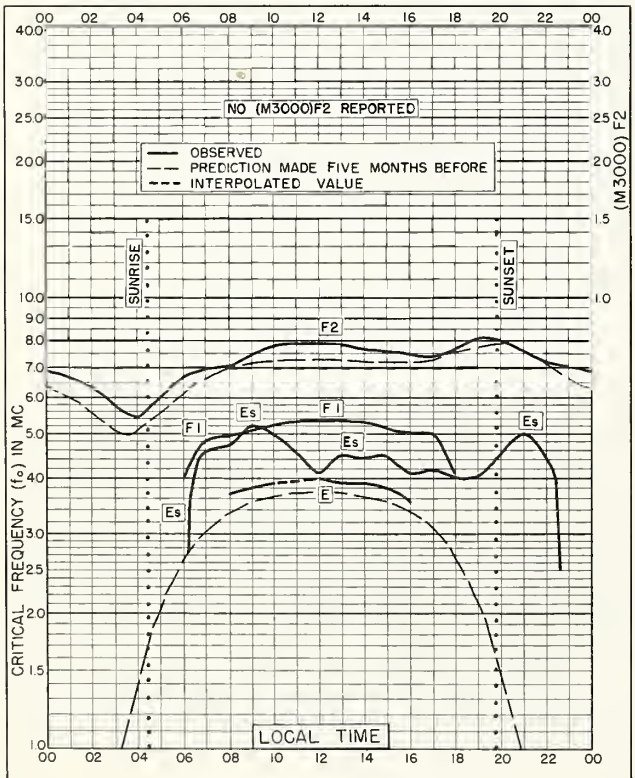

Fig. 11. GRAZ, AUSTRIA
47.1°N, 15.5°E
JULY 1956

NBS 503

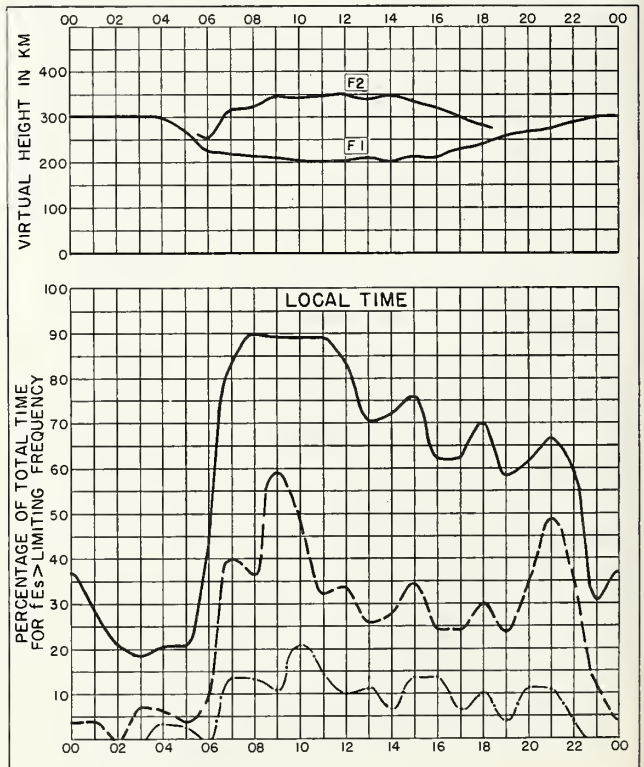

Fig. 12. GRAZ, AUSTRIA
JULY 1956

NBS 490

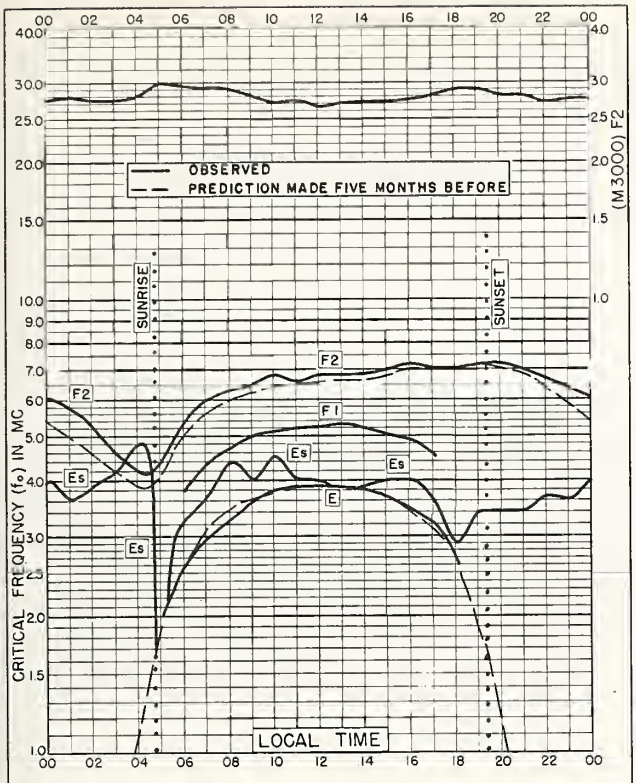

Fig. 13. FT. MONMOUTH, NEW JERSEY
40.3°N, 74.1° W JULY 1956

NBS 503

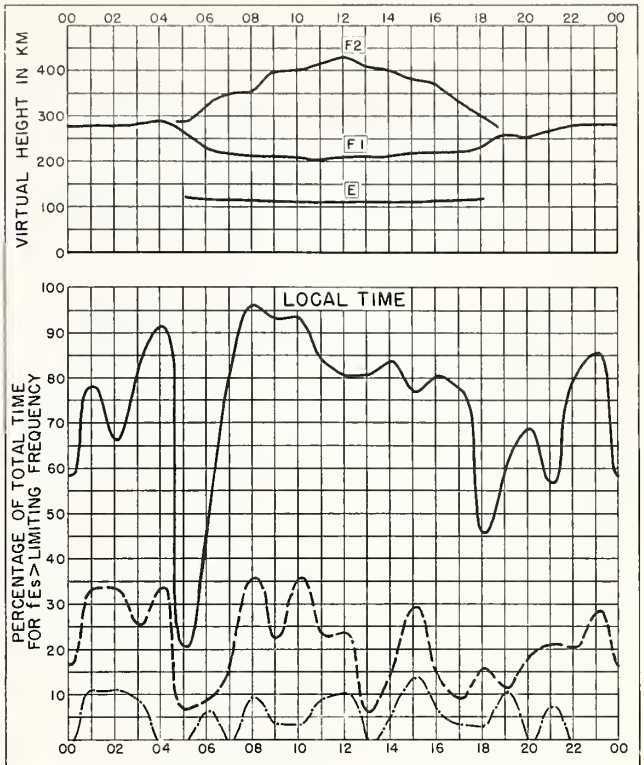

Fig. 14. FT. MONMOUTH, NEW JERSEY JULY 1956

NBS 490

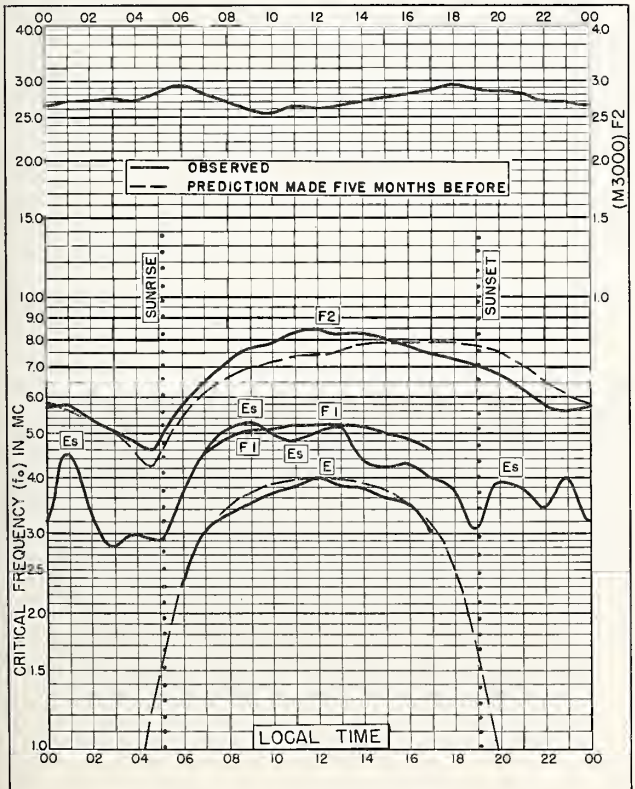

Fig. 15. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W JULY 1956

NBS 503

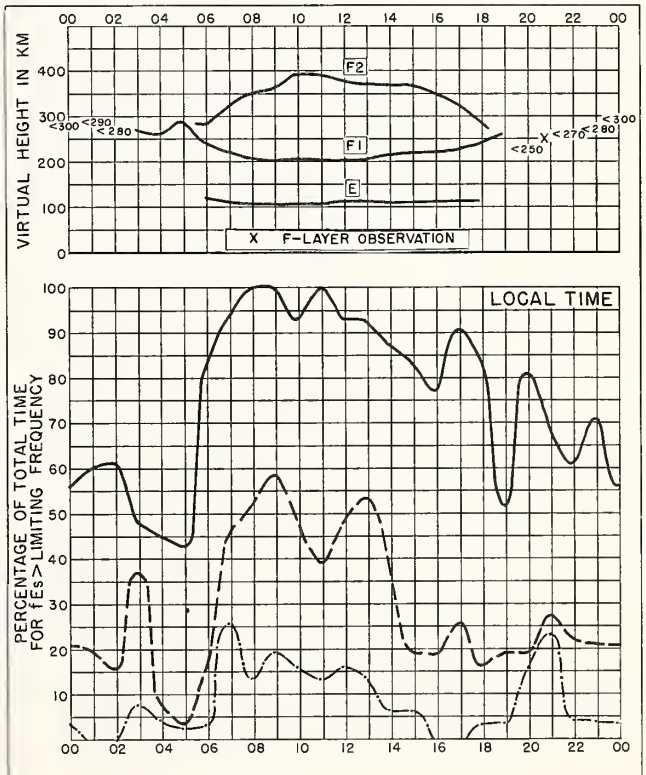

Fig. 16. WHITE SANDS, NEW MEXICO JULY 1956

NBS 490

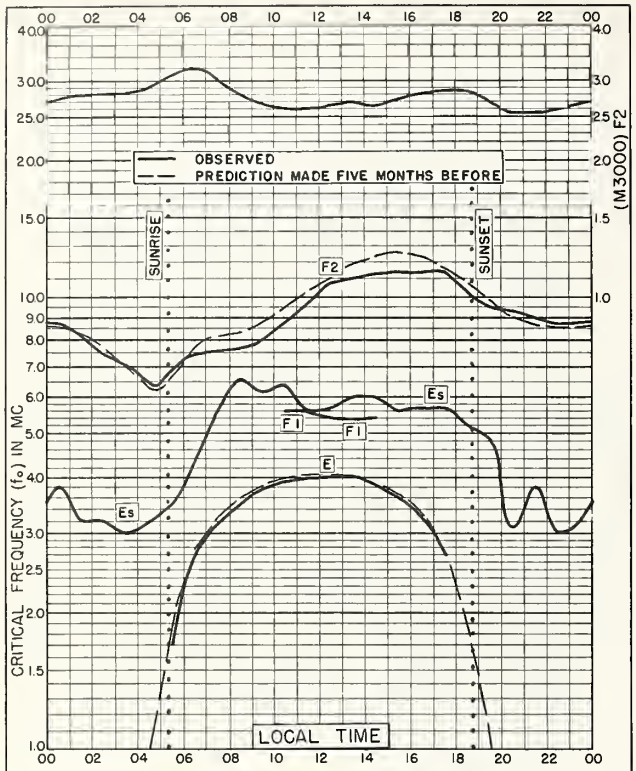

Fig. 17. OKINAWA I.
26.3°N, 127.8°E JULY 1956

NBS 503

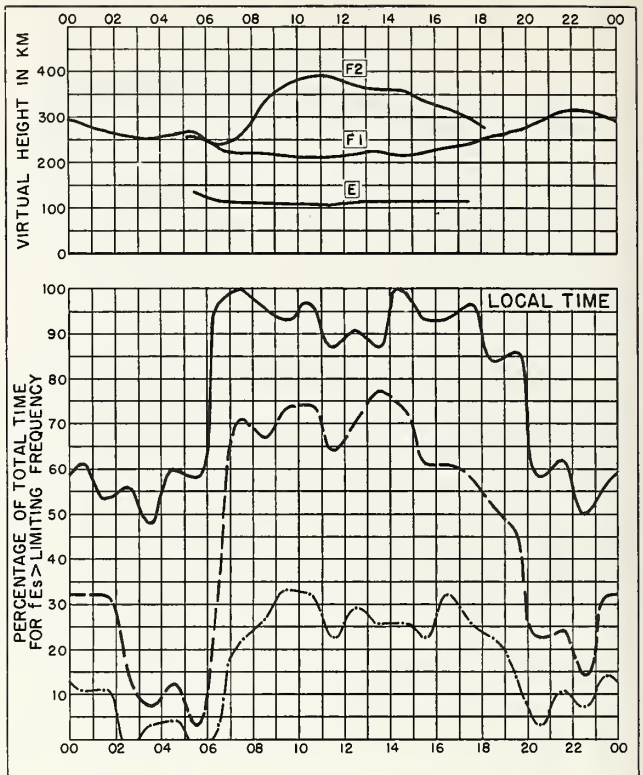

Fig. 18. OKINAWA I. JULY 1956

NBS 490

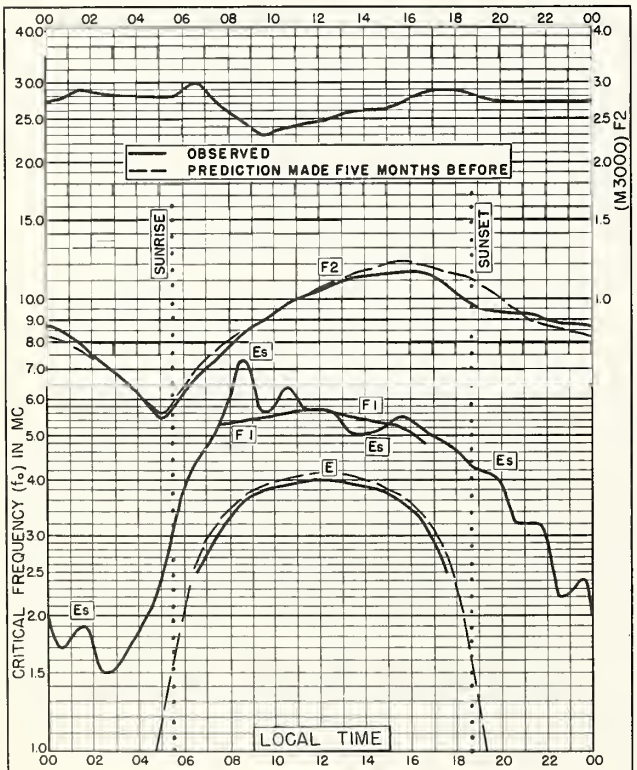

Fig. 19. MAUI, HAWAII
20.8°N, 156.5°W JULY 1956

NBS 503

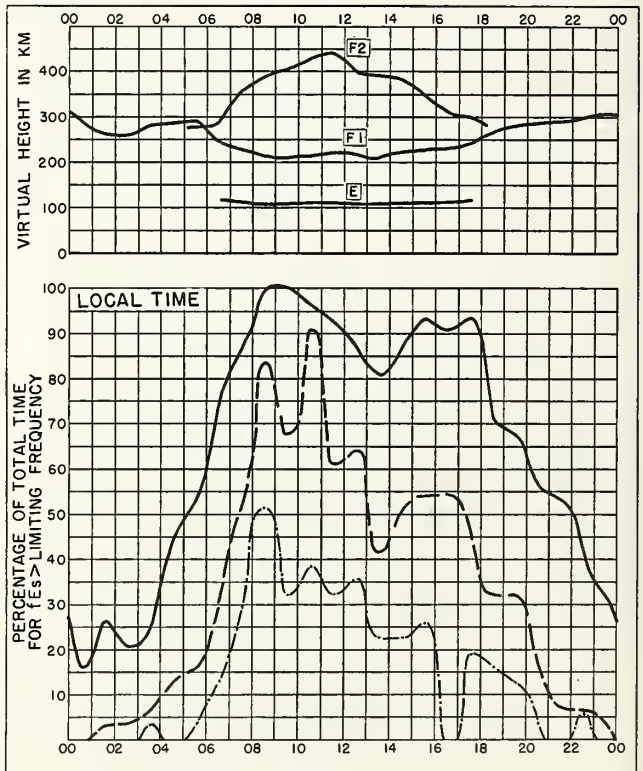

Fig. 20. MAUI, HAWAII JULY 1956

NBS 490

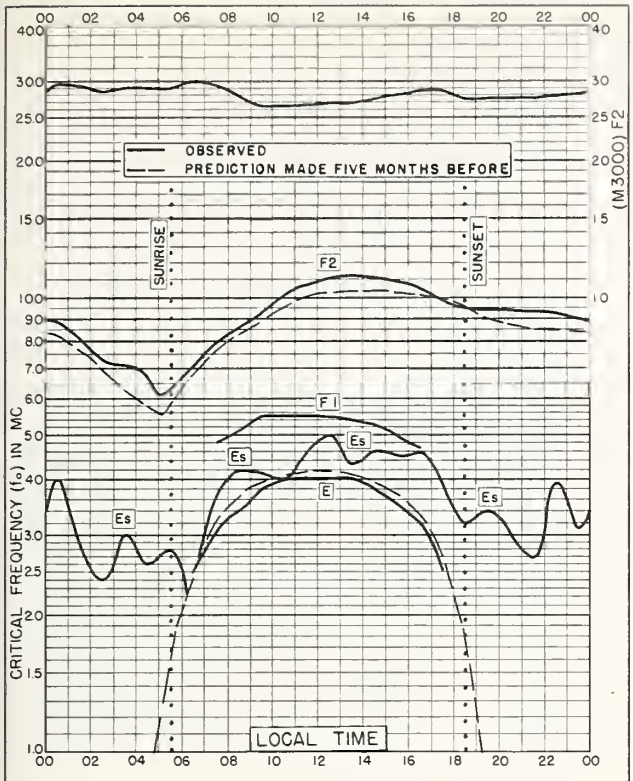

Fig. 21. PUERTO RICO, W. I.
18.5°N, 67.2°W JULY 1956

NBS 503

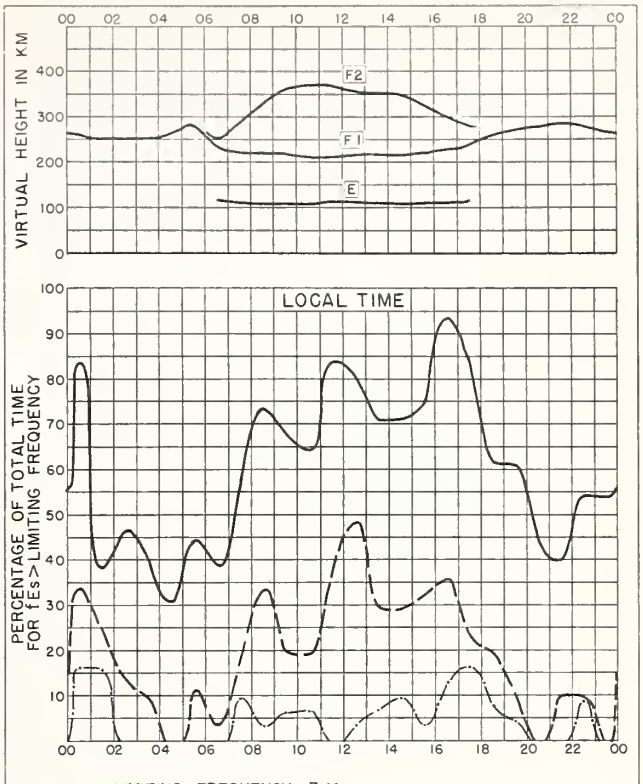

Fig. 22. PUERTO RICO, W. I. JULY 1956

NBS 490

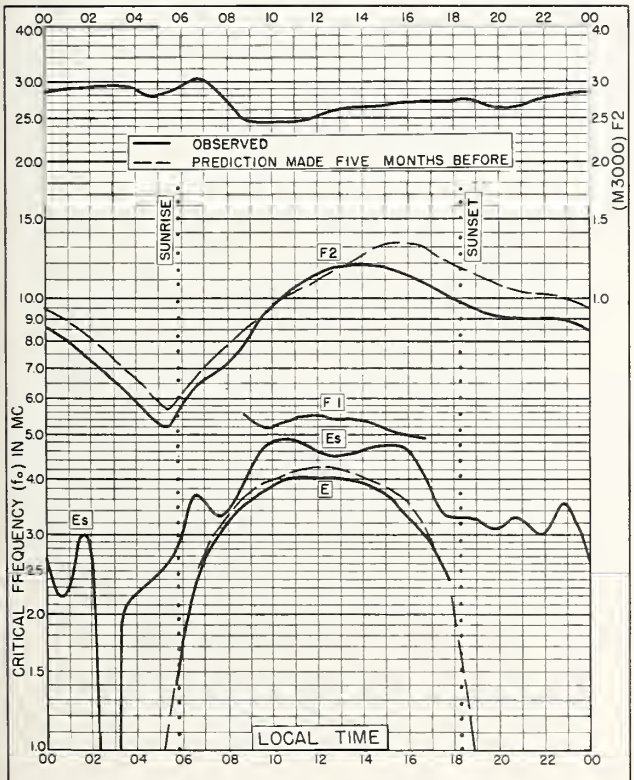

Fig. 23. PANAMA CANAL ZONE
9.4°N, 79.9°W JULY 1956

NBS 503

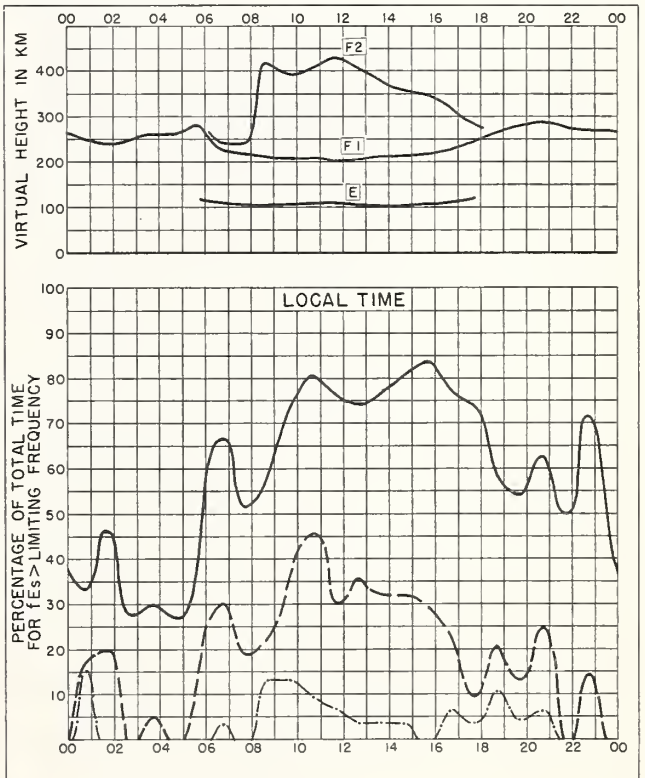

Fig. 24. PANAMA CANAL ZONE JULY 1956

NBS 490

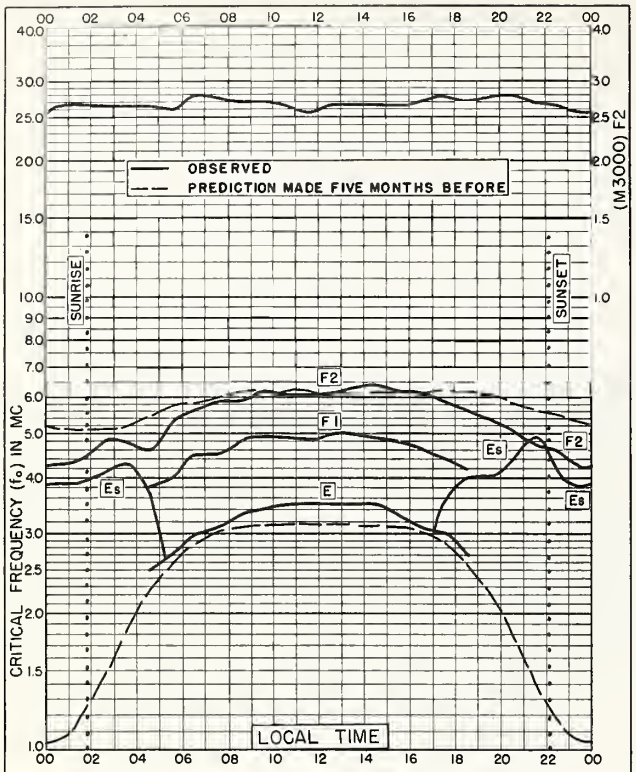

Fig. 25. REYKJAVIK, ICELAND
64.1°N, 21.8°W JUNE 1956

NBS 503

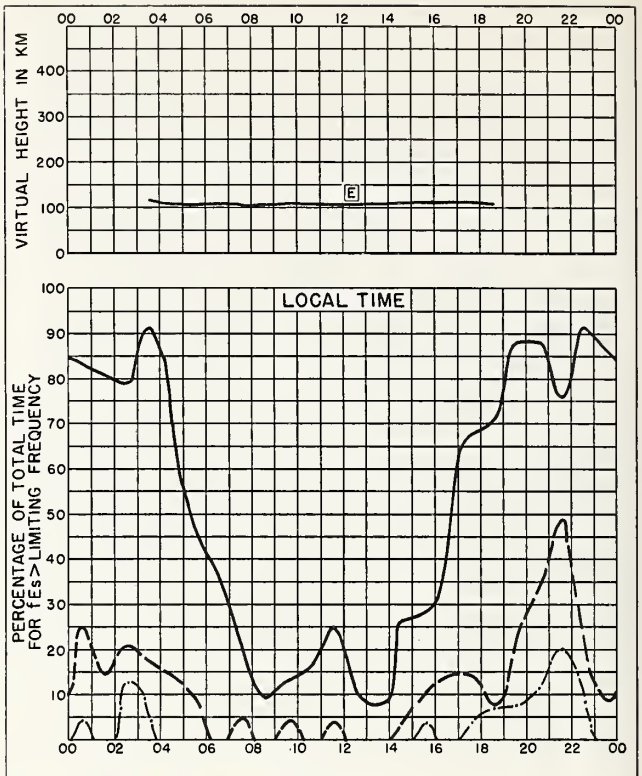

Fig. 26. REYKJAVIK, ICELAND JUNE 1956

NBS 490

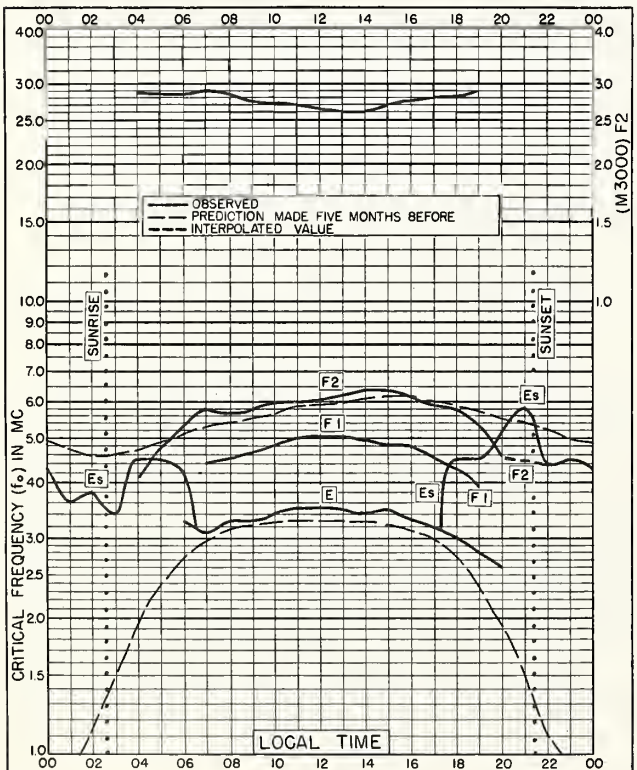

Fig. 27. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W JUNE 1956

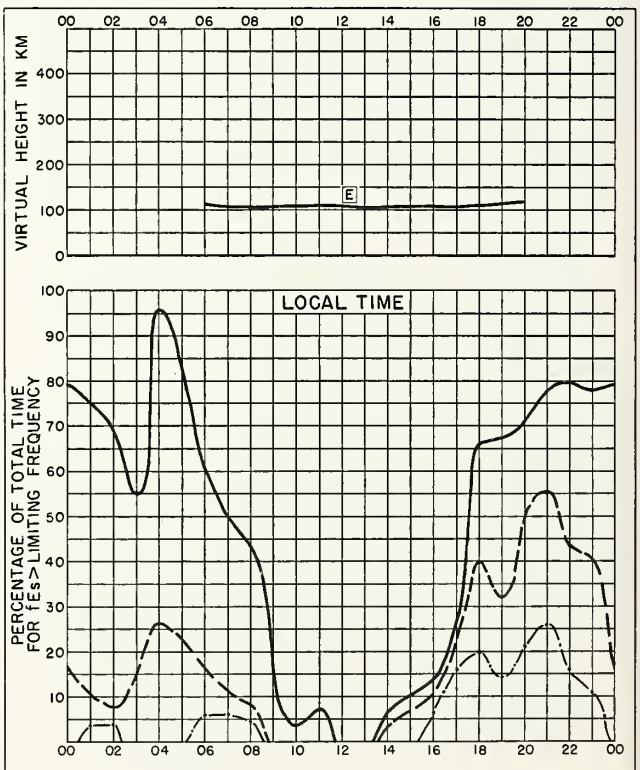

Fig. 28. NARSARSSUAK, GREENLAND JUNE 1956

NBS 490

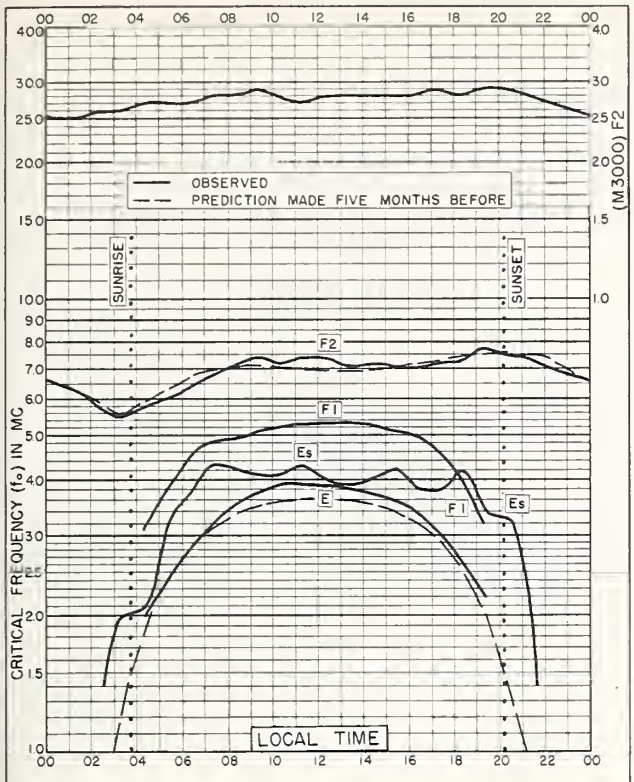

Fig. 29. De BILT, HOLLAND
52.1°N, 5.2°E JUNE 1956

NBS 503

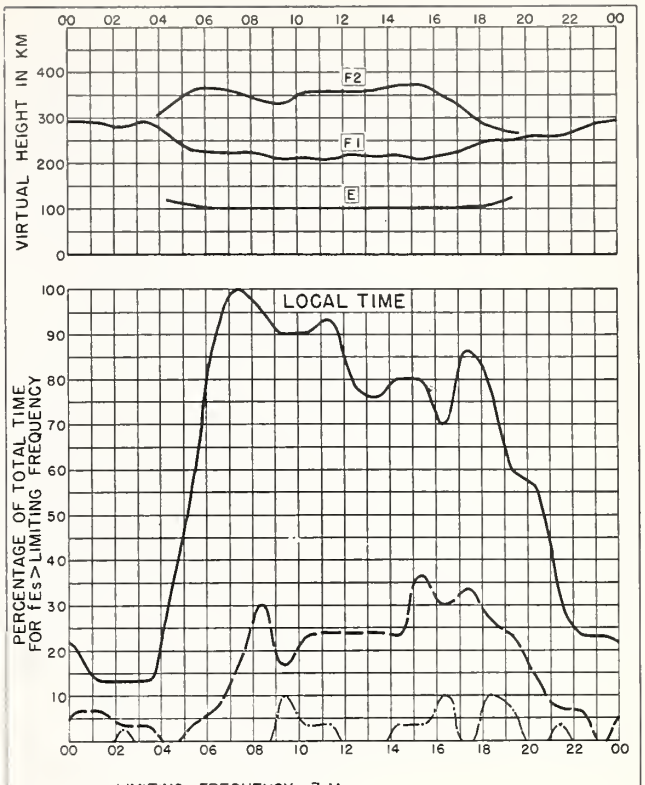

Fig. 30. De BILT, HOLLAND JUNE 1956

NBS 490

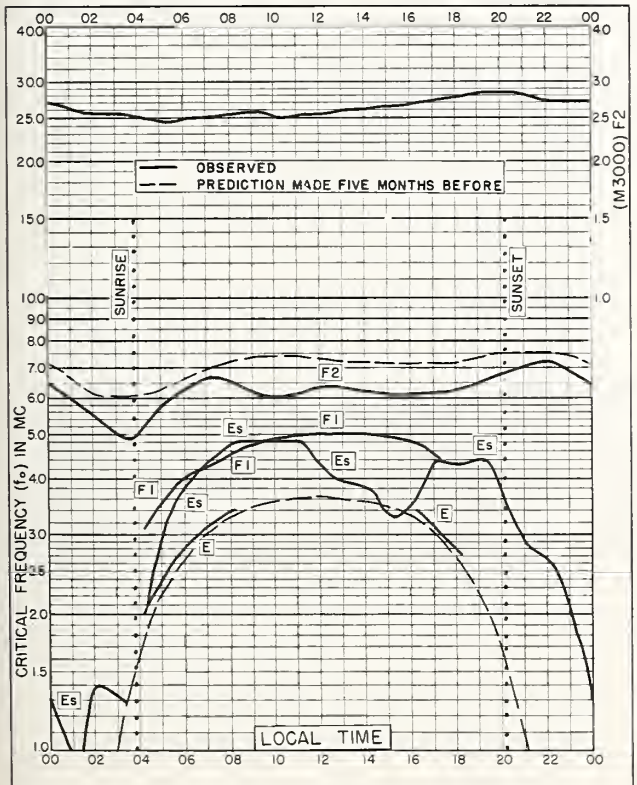

Fig. 31. ADAK, ALASKA
51.9°N, 176.6°W JUNE 1956

NBS 503

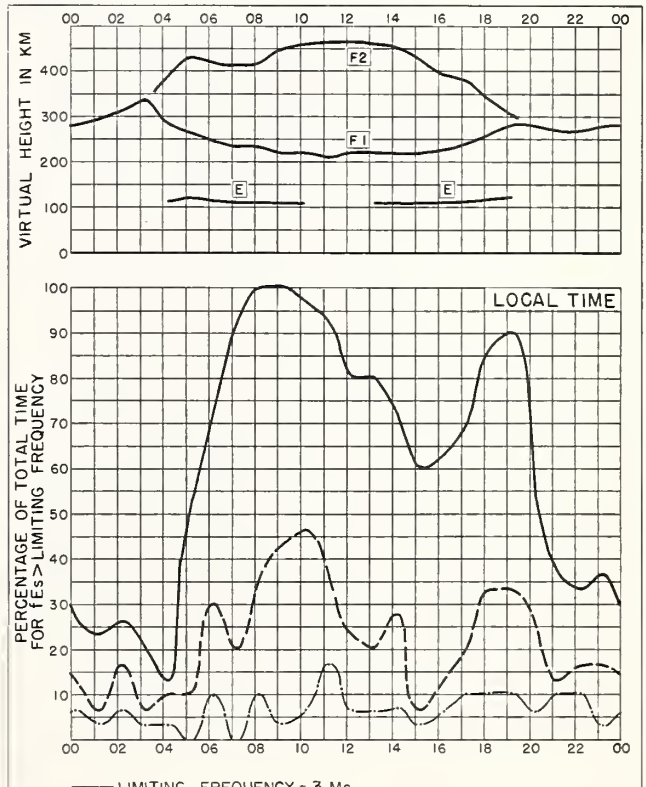

Fig. 32. ADAK, ALASKA JUNE 1956

NBS 490

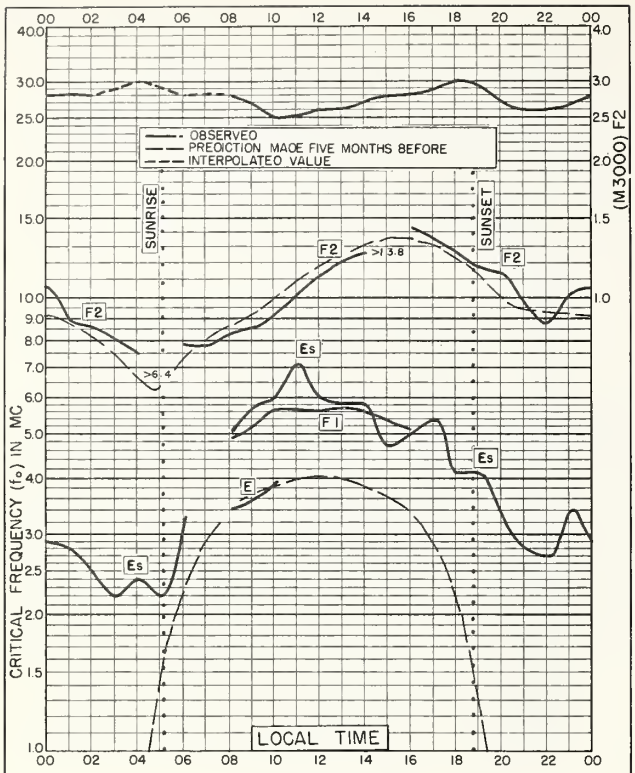

Fig. 33. FORMOSA, CHINA
25.0°N, 121.5°E JUNE 1956

NBS 503

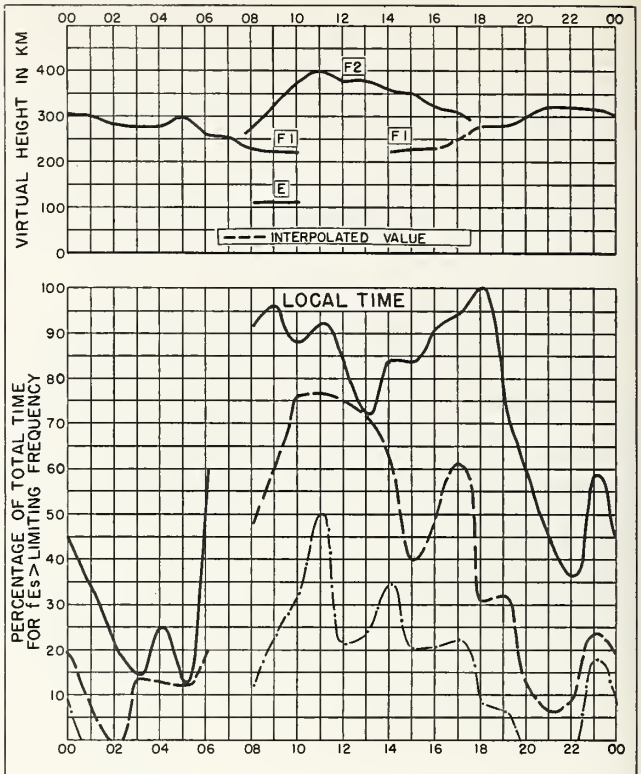

Fig. 34. FORMOSA, CHINA JUNE 1956

NBS 490

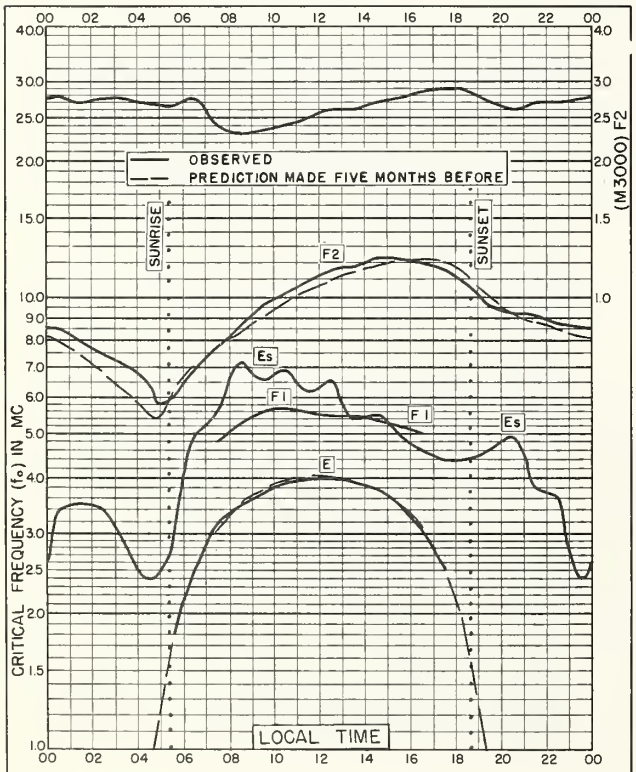

Fig. 35. MAUI, HAWAII
20.8°N, 156.5°W JUNE 1956

NBS 503

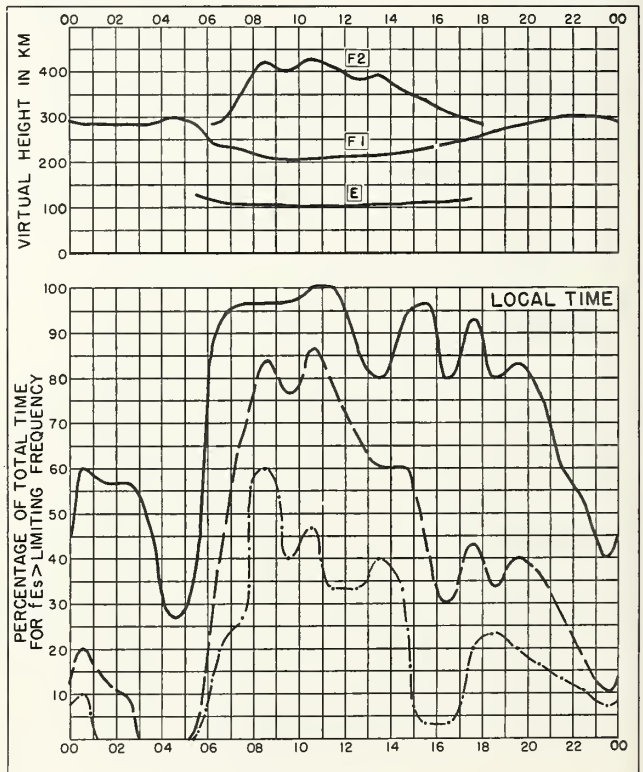

Fig. 36. MAUI, HAWAII JUNE 1956

NBS 490

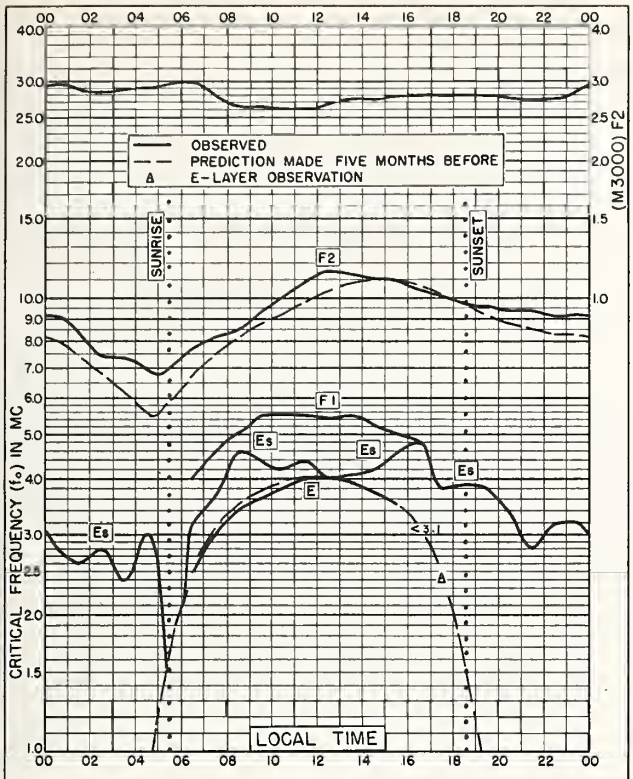

Fig. 37. PUERTO RICO, W. I.
18.5°N, 67.2°W JUNE 1956

NBS 503

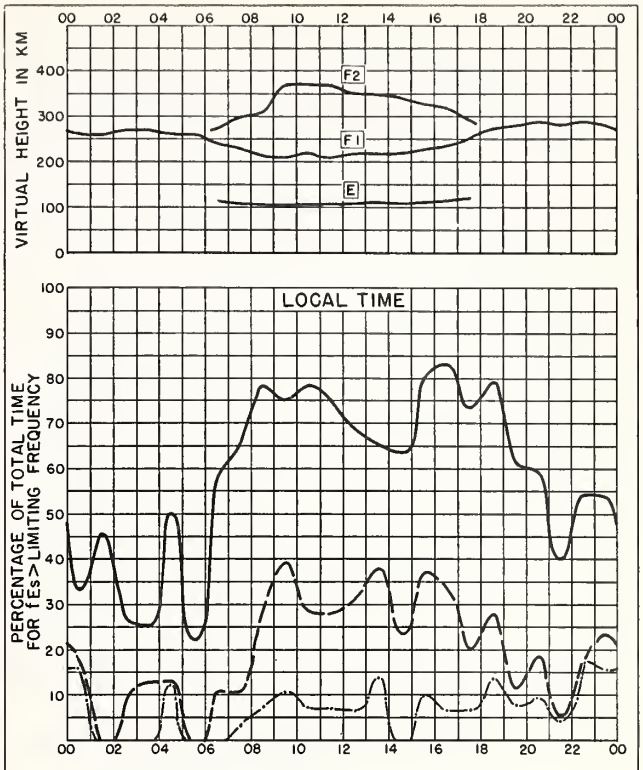

Fig. 38. PUERTO RICO, W. I. JUNE 1956

NBS 490

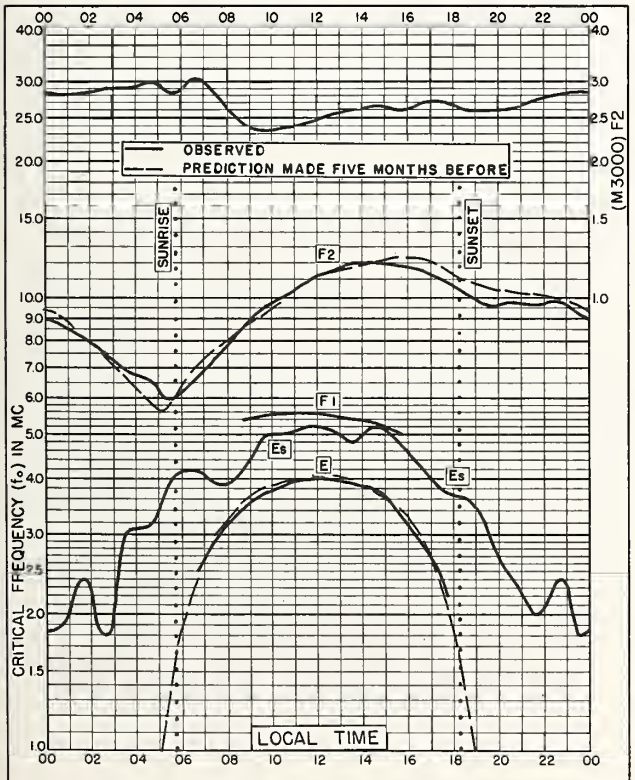

Fig. 39. PANAMA CANAL ZONE
9.4°N, 79.9°W JUNE 1956

NBS 503

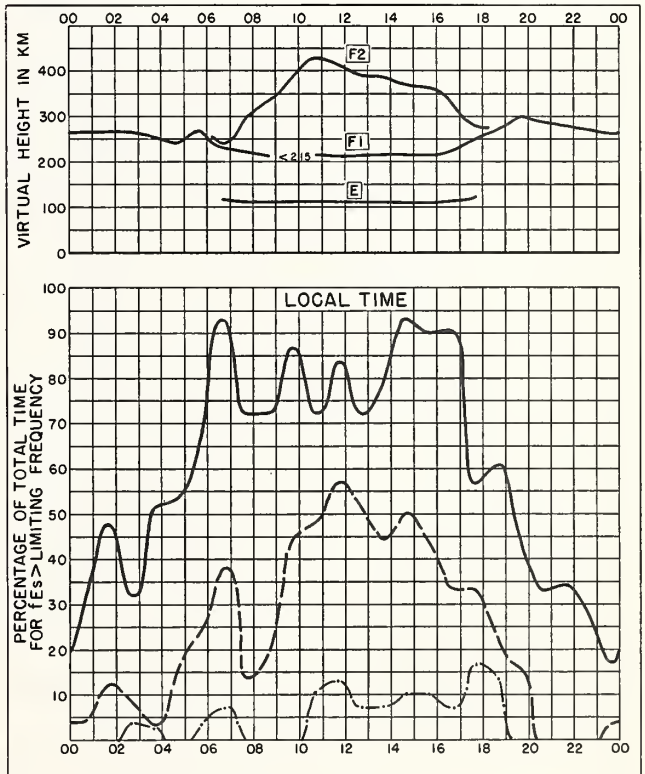

Fig. 40. PANAMA CANAL ZONE JUNE 1956

NBS 490

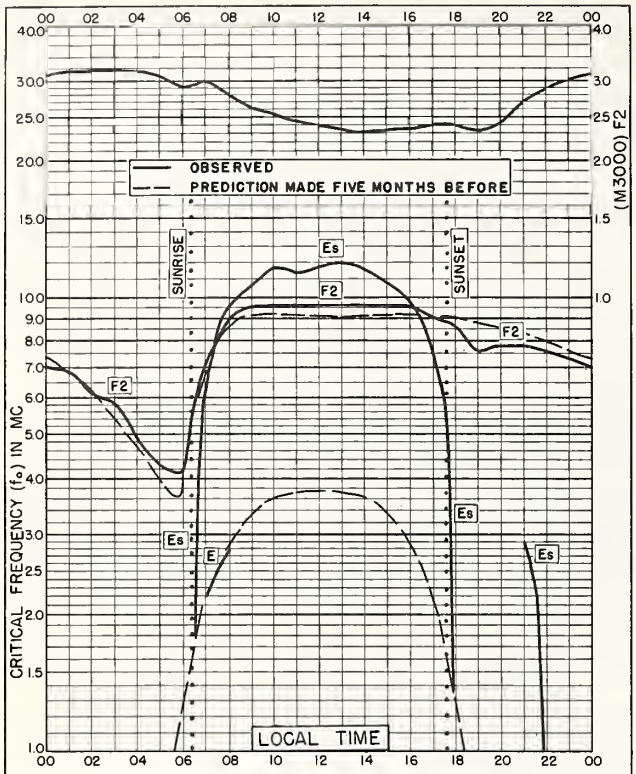

Fig. 41. HUANCAYO, PERU
12.0°S, 75.3°W JUNE 1956

NBS 803

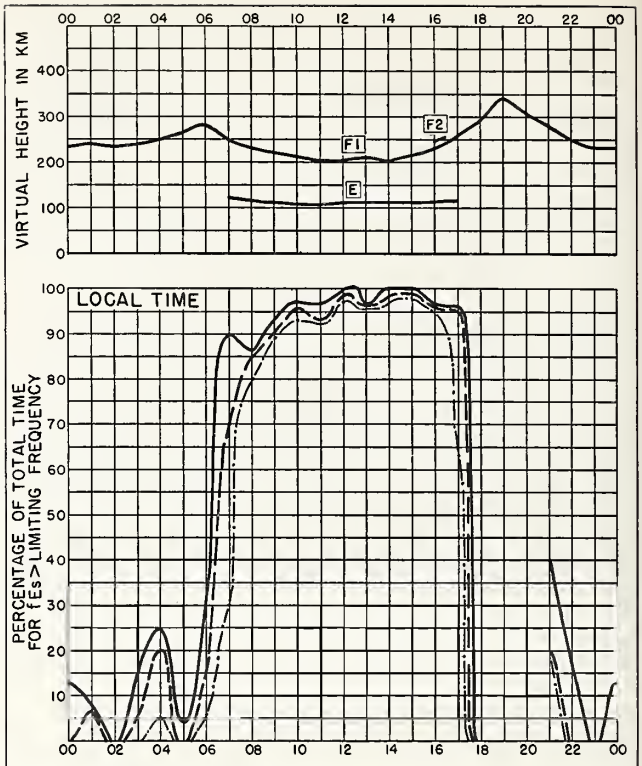

Fig. 42. HUANCAYO, PERU JUNE 1956

NBS 490

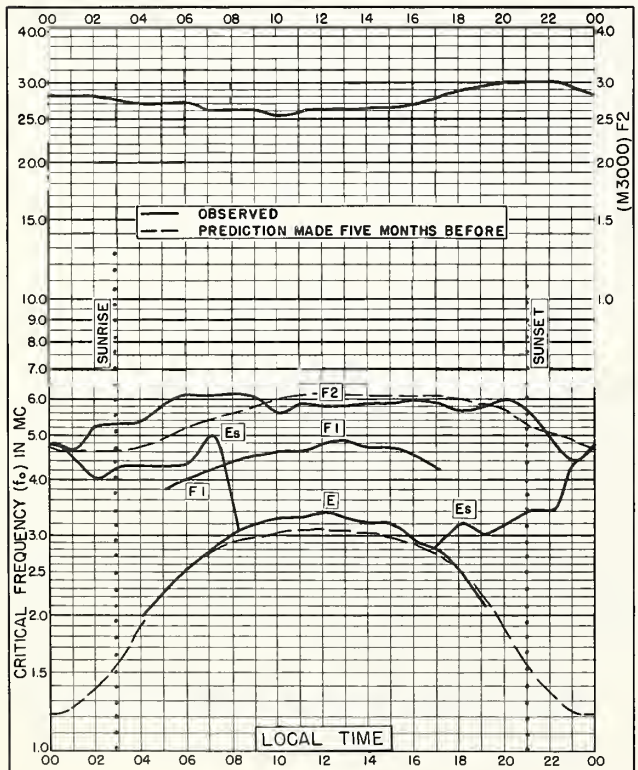

Fig. 43. FAIRBANKS, ALASKA
64.9°N, 147.8°W MAY 1956

NBS 503

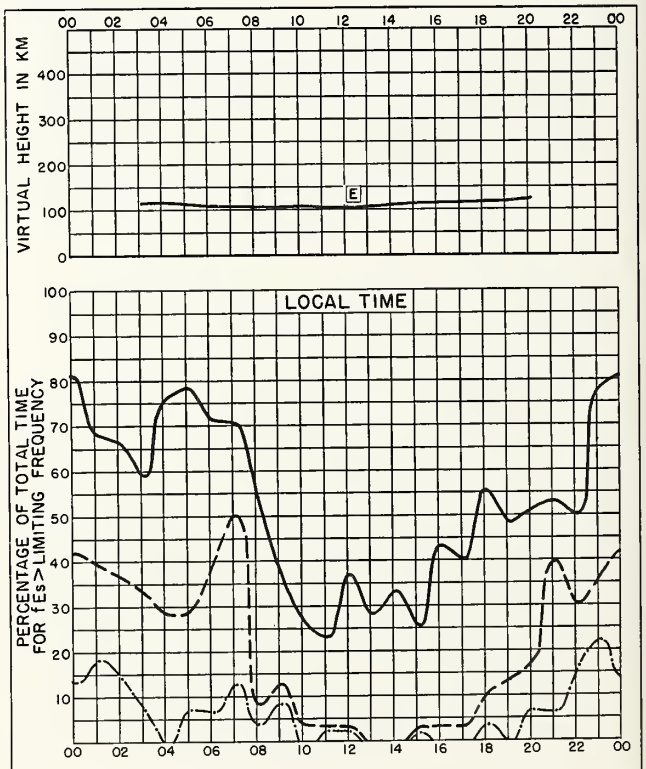

Fig. 44. FAIRBANKS, ALASKA MAY 1956

NBS 490

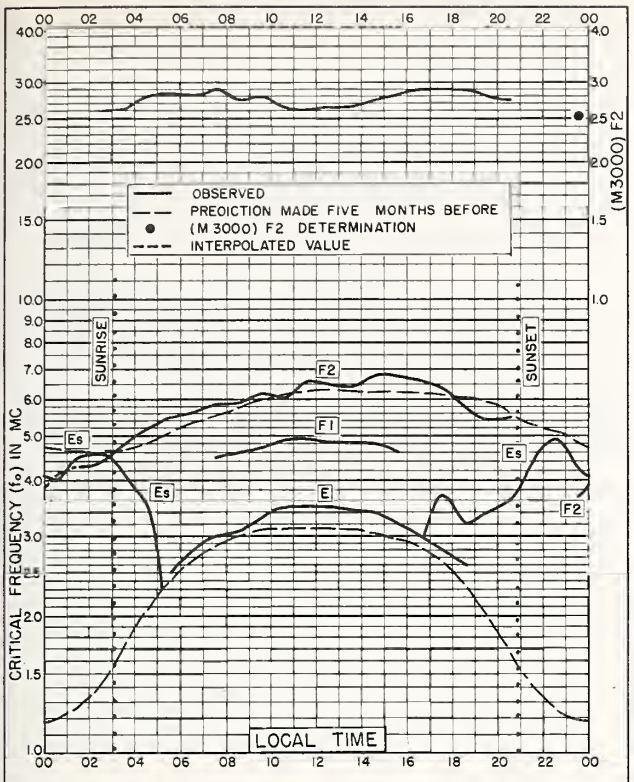

Fig. 45. REYKJAVIK, ICELAND
64.1°N, 21.8°W MAY 1956

NBS 503

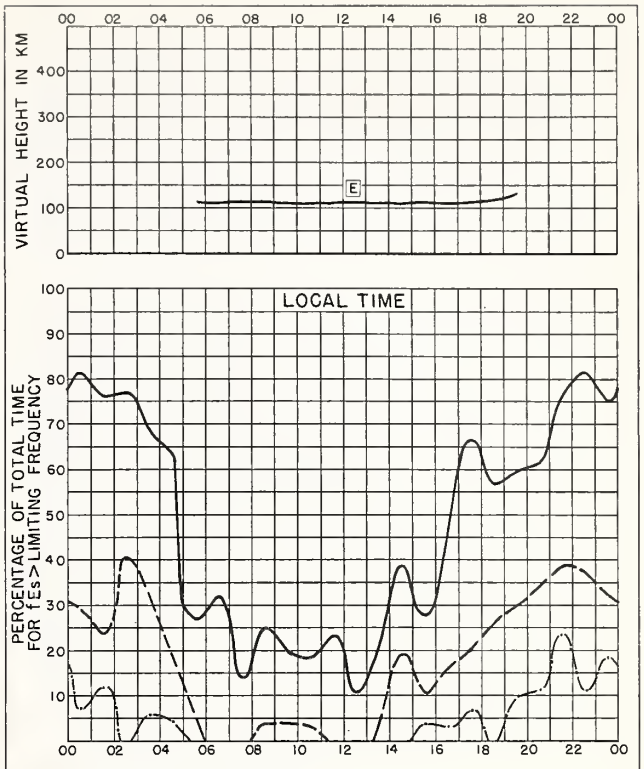

Fig. 46. REYKJAVIK, ICELAND MAY 1956

NBS 490

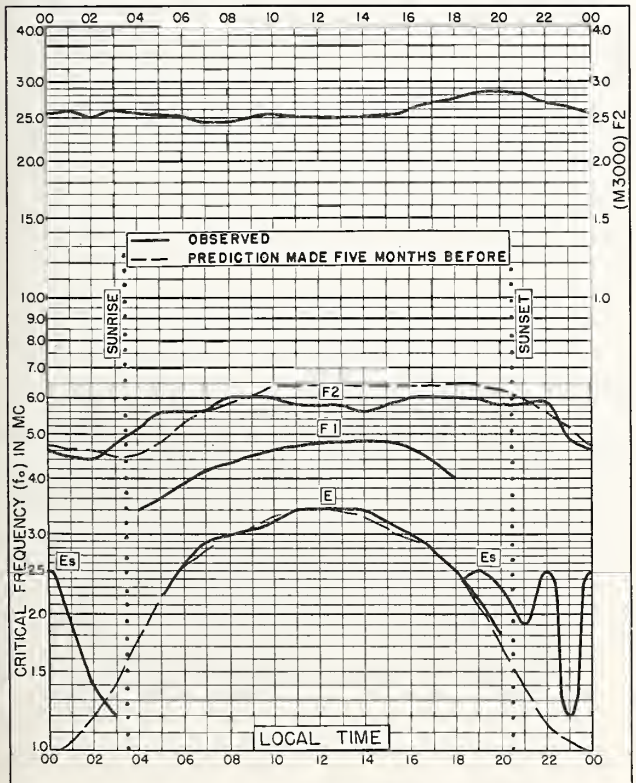

Fig. 47. ANCHORAGE, ALASKA
61.2°N, 149.9°W MAY 1956

NBS 503

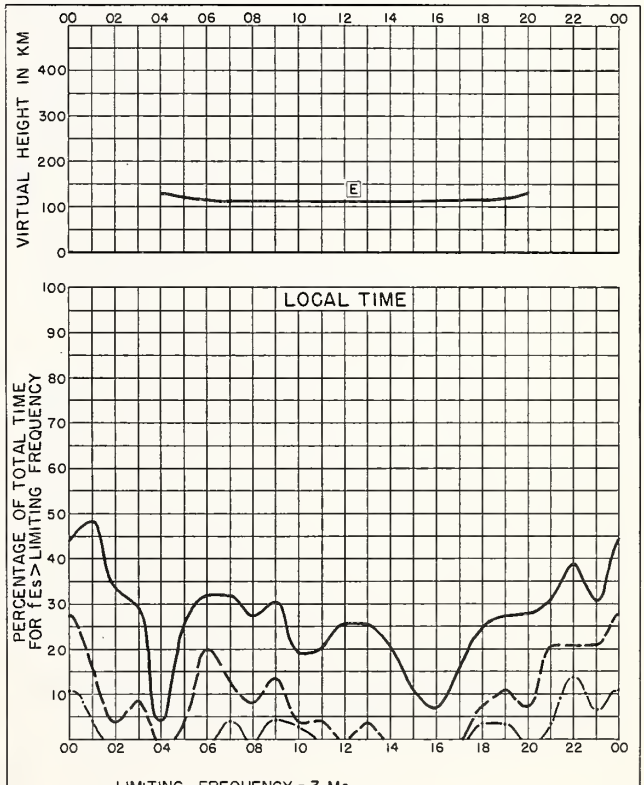

Fig. 48. ANCHORAGE, ALASKA MAY 1956

NBS 490

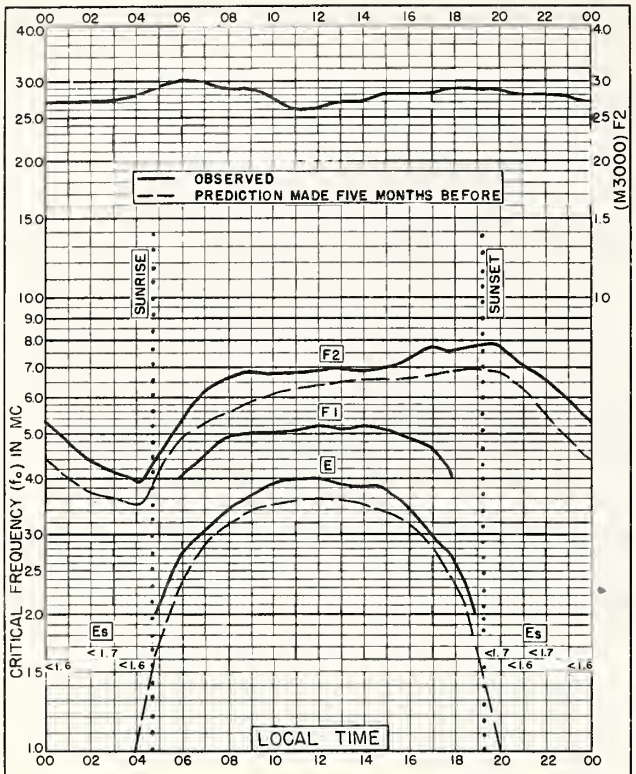

Fig. 49. OTTAWA, CANADA
45.4°N, 75.9°W MAY 1956

NBS 503

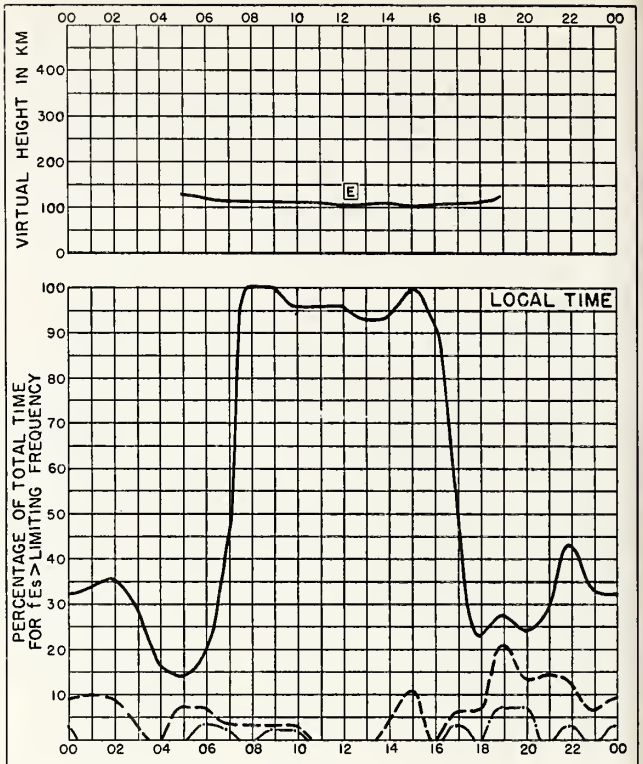

Fig. 50. OTTAWA, CANADA MAY 1956

NBS 490

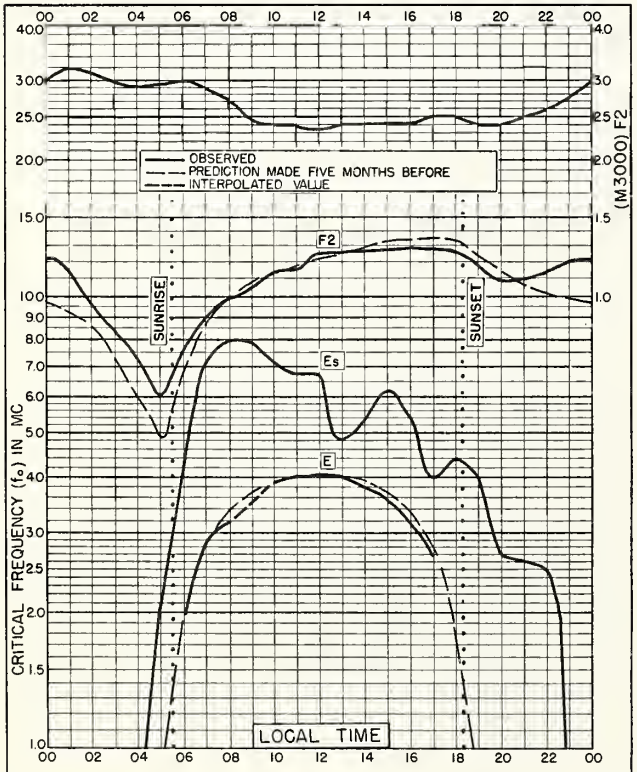

Fig. 51. BAGUIO, P.I.
16.4°N, 120.6°E MAY 1956

NBS 503

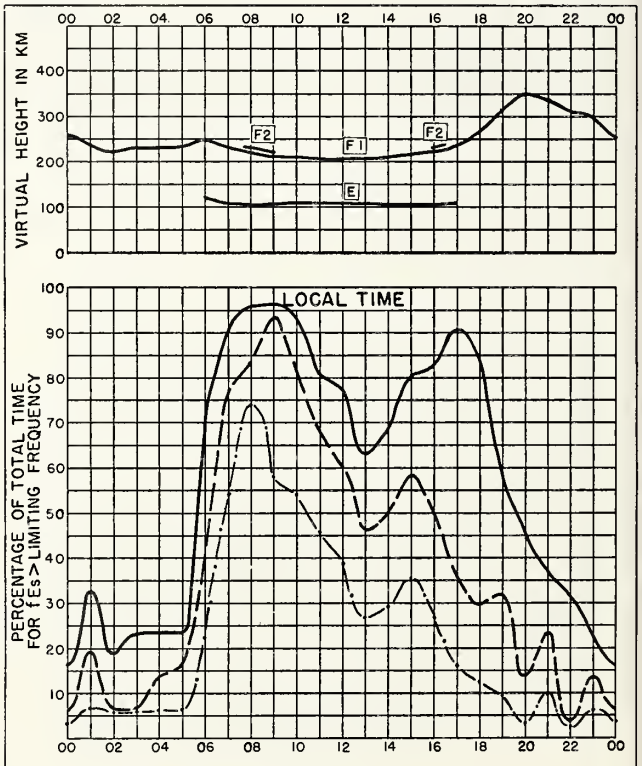

Fig. 52. BAGUIO, P.I. MAY 1956

NBS 490

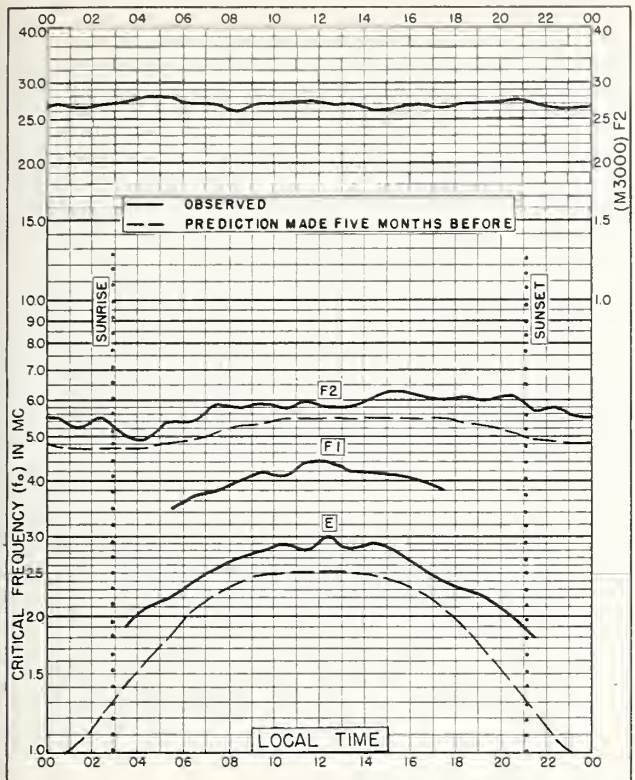

Fig. 53. THULE, GREENLAND
77.0°N, 69.0°W APRIL 1956

NBS 503

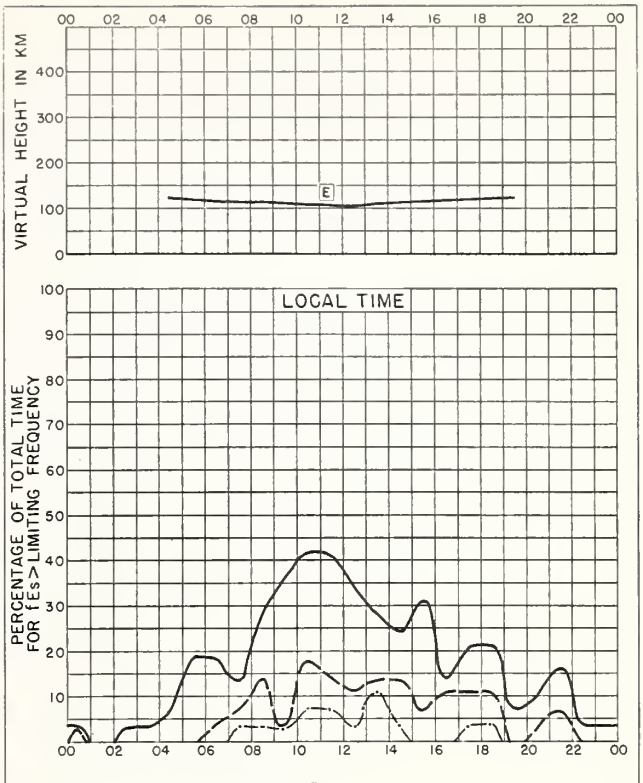

Fig. 54. THULE, GREENLAND APRIL 1956

NBS 490

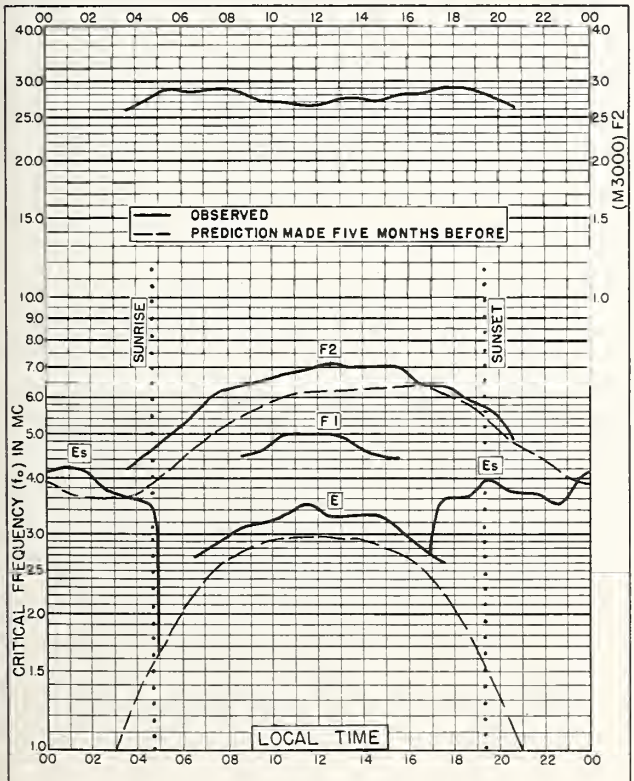

Fig. 55. REYKJAVIK, ICELAND
64.1°N, 21.8°W APRIL 1956

NBS 503

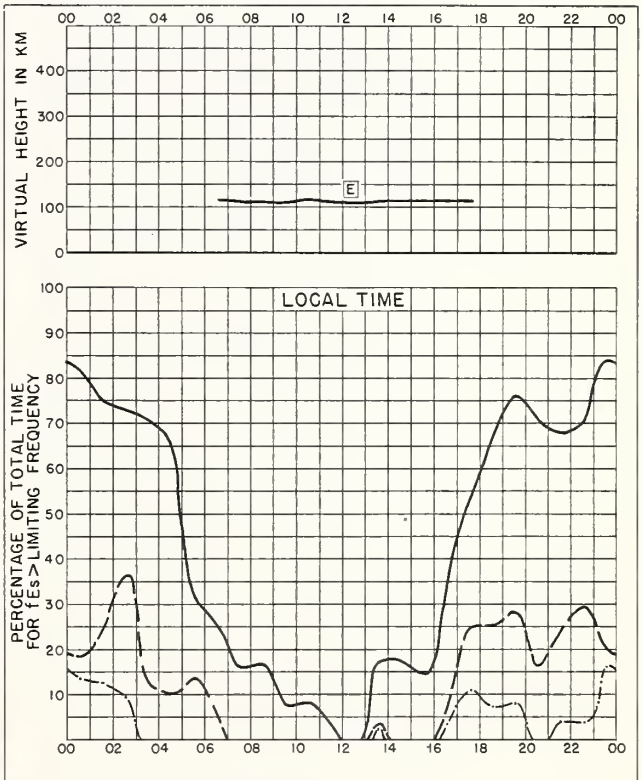

Fig. 56. REYKJAVIK, ICELAND APRIL 1956

NBS 490

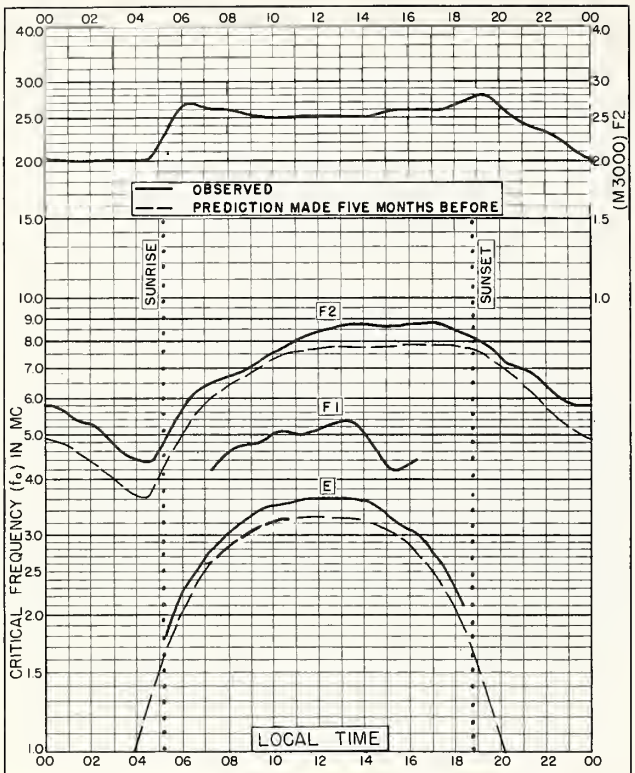

Fig. 57. De BILT, HOLLAND
52.1°N, 5.2°E APRIL 1956

NBS 503

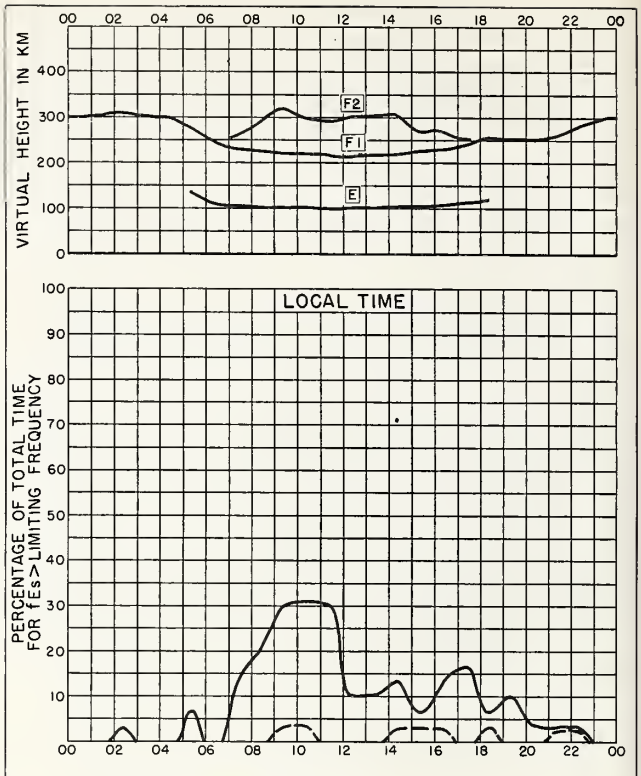

Fig. 58. De BILT, HOLLAND APRIL 1956

NBS 490

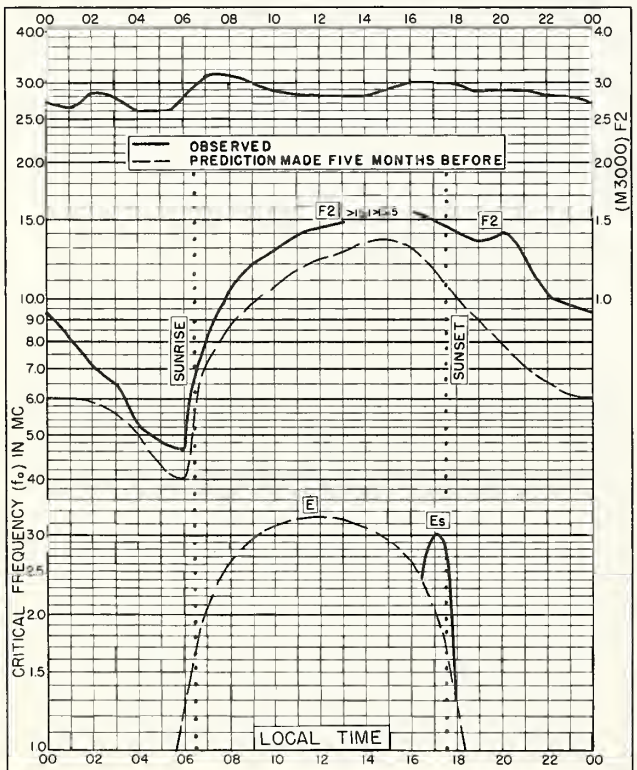

Fig. 59. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W APRIL 1956

NBS 503

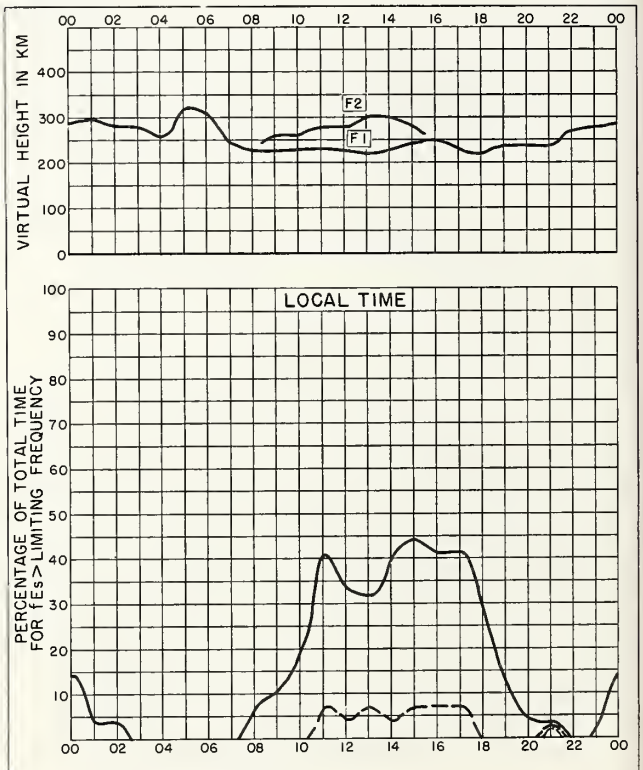

Fig. 60. BUENOS AIRES, ARGENTINA APRIL 1956

NBS 490

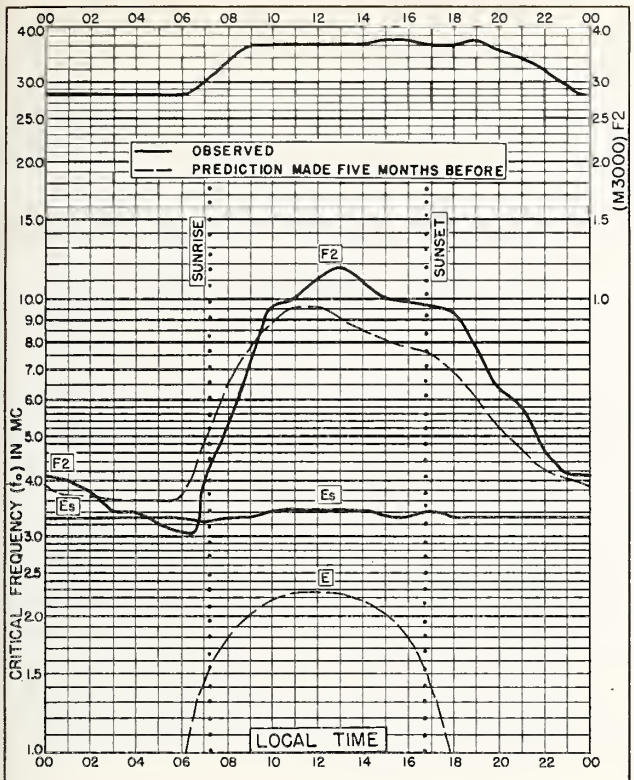

Fig. 61. DECEPCION I.
63.0°S, 60.7°W APRIL 1956

NBS 503

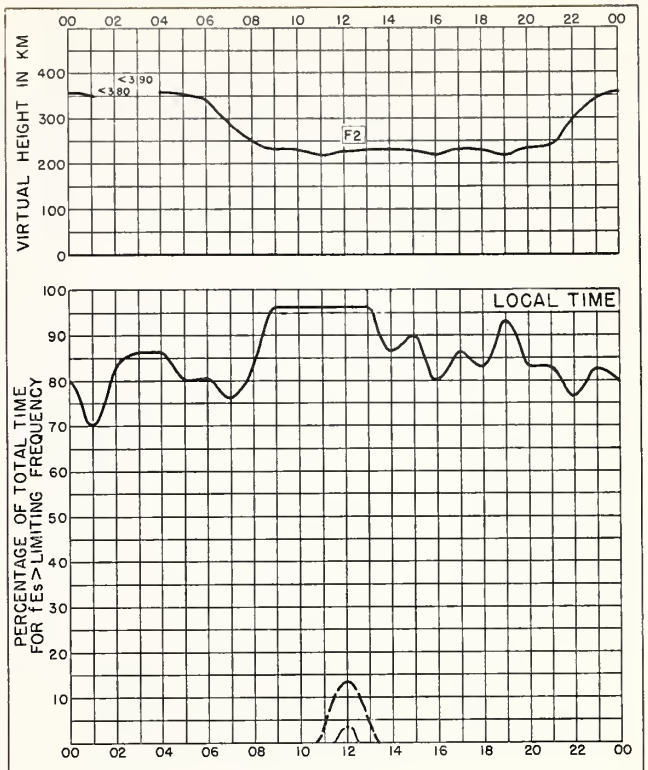

Fig. 62. DECEPCION I. APRIL 1956

NBS 490

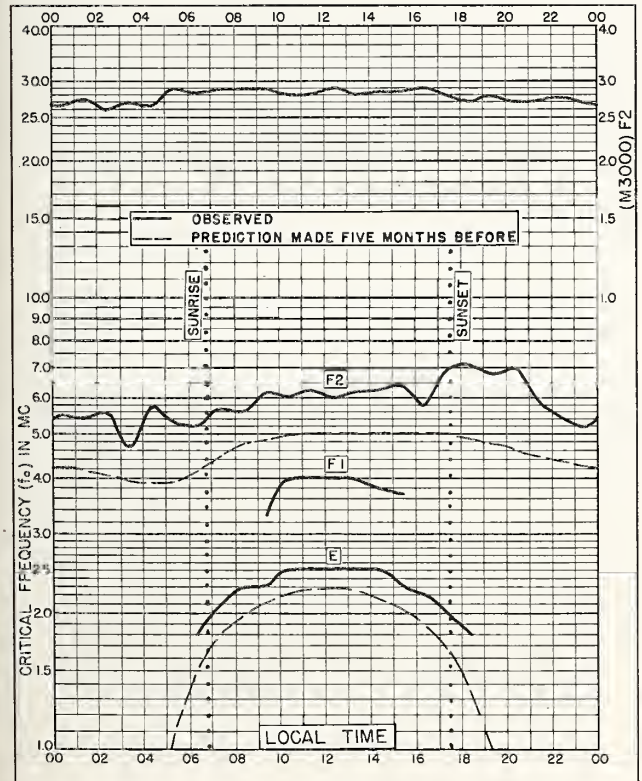

Fig. 63. THULE, GREENLAND
77.0°N, 69.0°W MARCH 1956

NBS 503

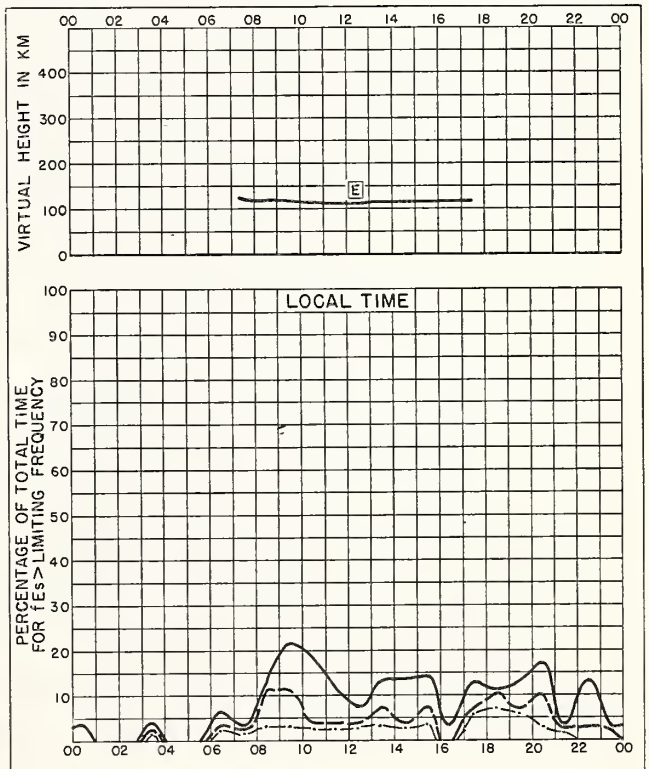

Fig. 64. THULE, GREENLAND MARCH 1956

NBS 490

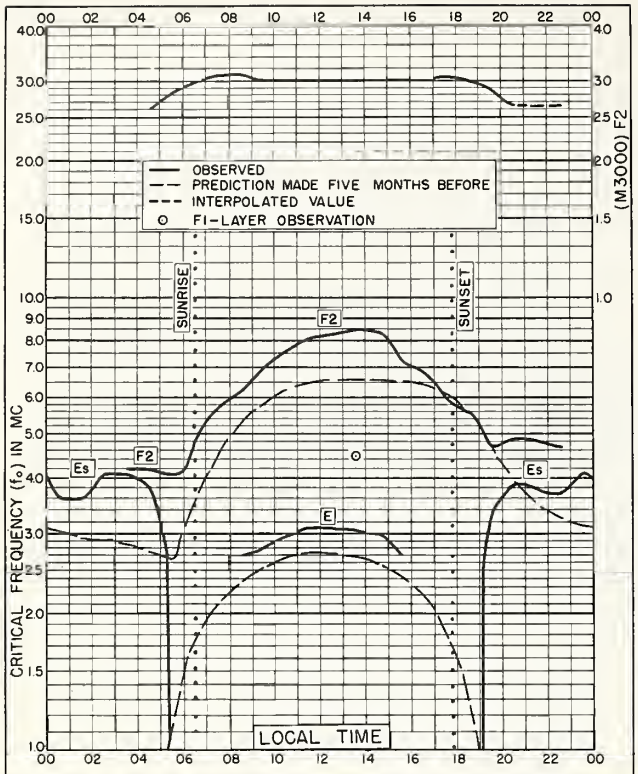

Fig. 65. REYKJAVIK, ICELAND
64.1°N, 21.8°W MARCH 1956

NBS 503

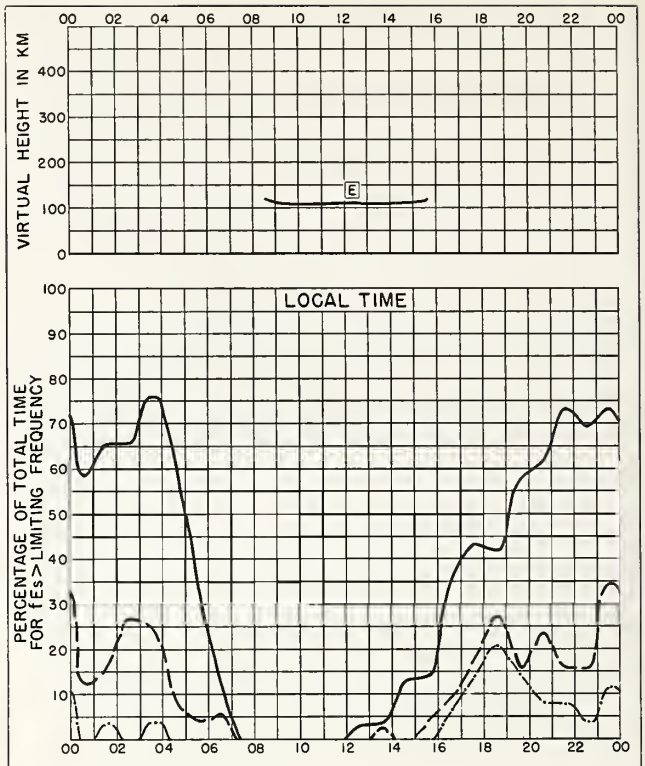

Fig. 66. REYKJAVIK, ICELAND MARCH 1956

NBS 490

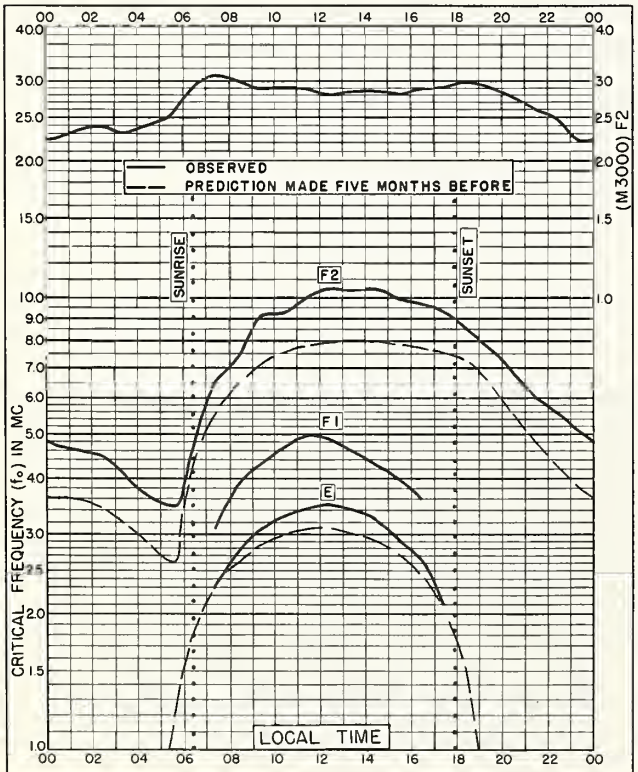

Fig. 67. De BILT, HOLLAND
52.1°N, 5.2°E MARCH 1956

NBS 503

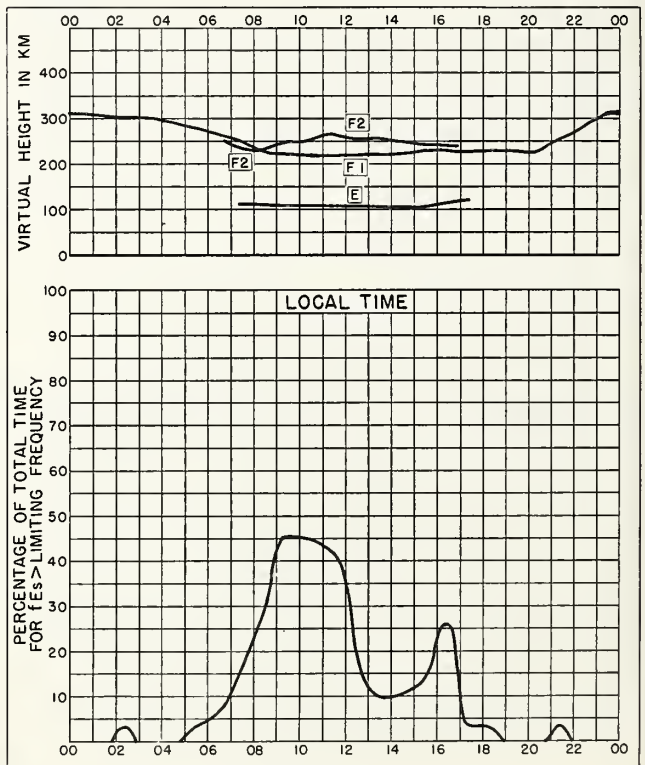

Fig. 68. De BILT, HOLLAND MARCH 1956

NBS 490

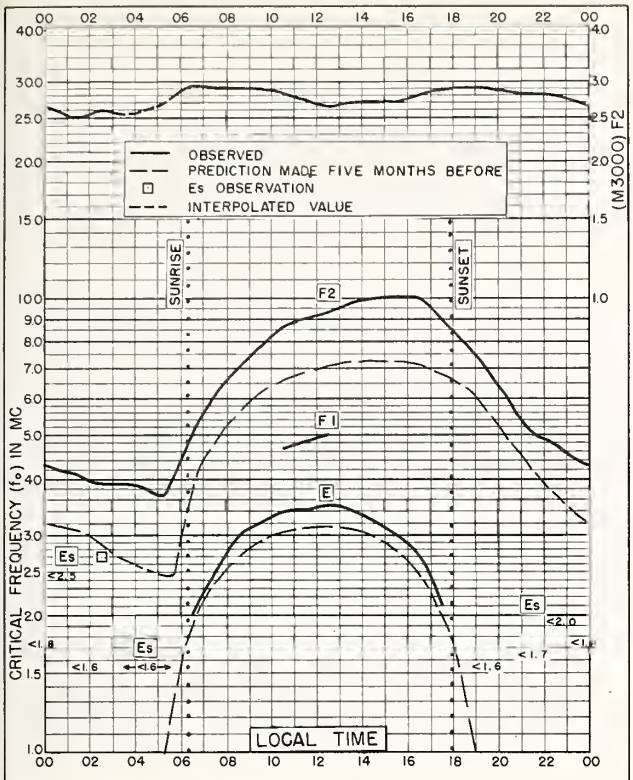

Fig. 69. WINNIPEG, CANADA
49.9°N, 97.4°W MARCH 1956

NBS 503

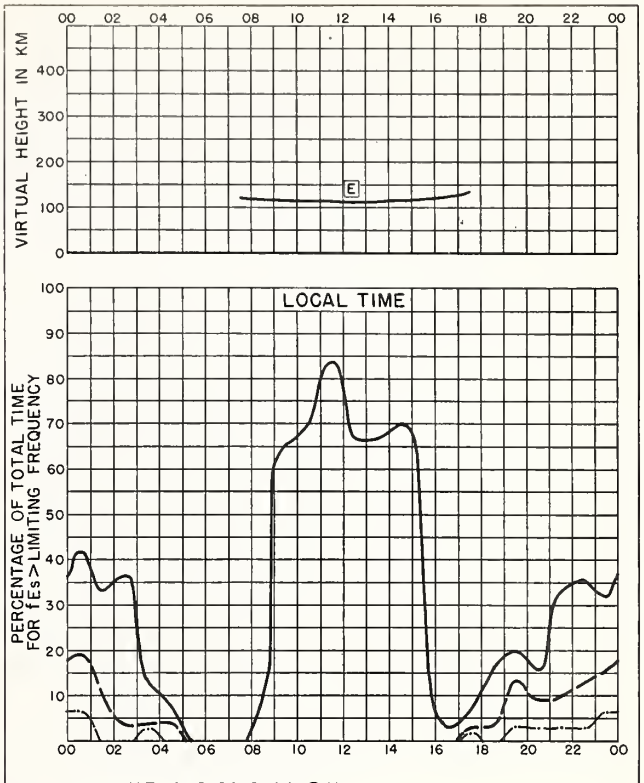

Fig. 70. WINNIPEG, CANADA MARCH 1956

NBS 490

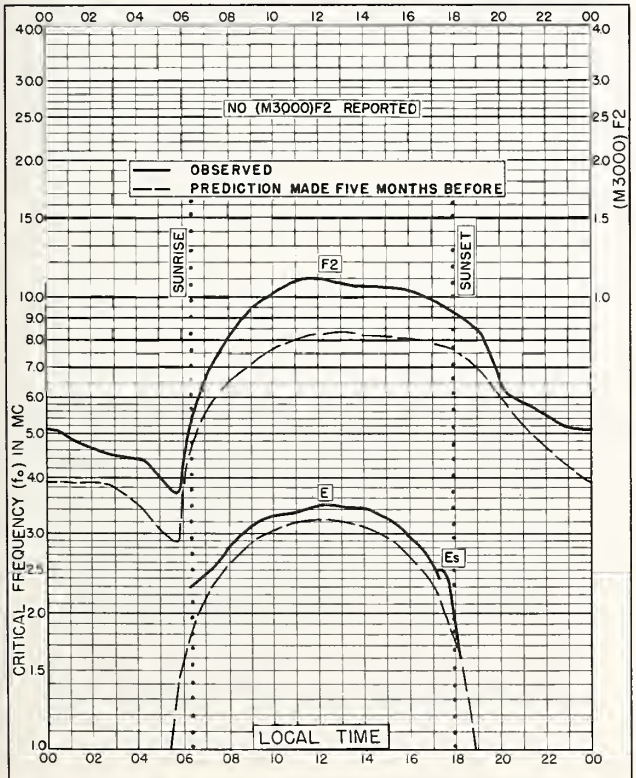

Fig. 71. BUDAPEST, HUNGARY
47.6°N, 19.0°E MARCH 1956

NBS 503

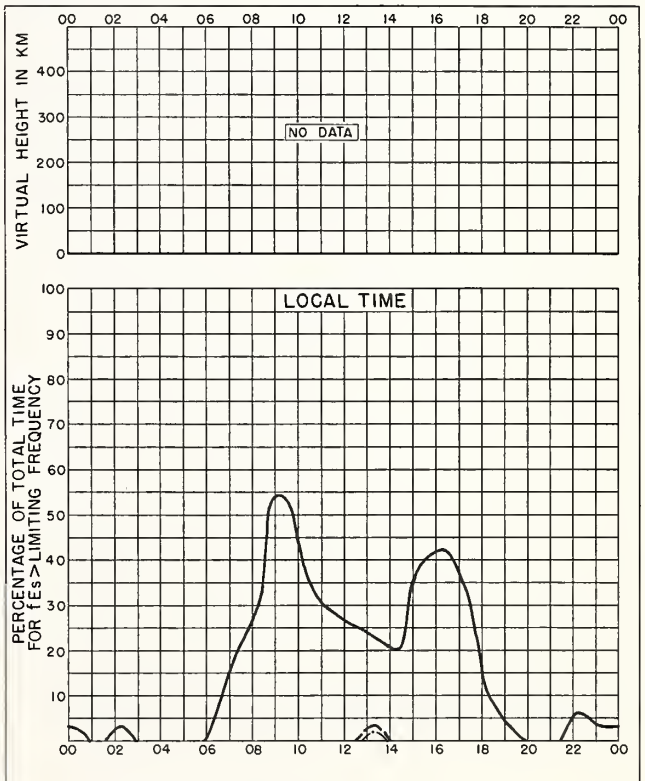

Fig. 72. BUDAPEST, HUNGARY MARCH 1956

NBS 490

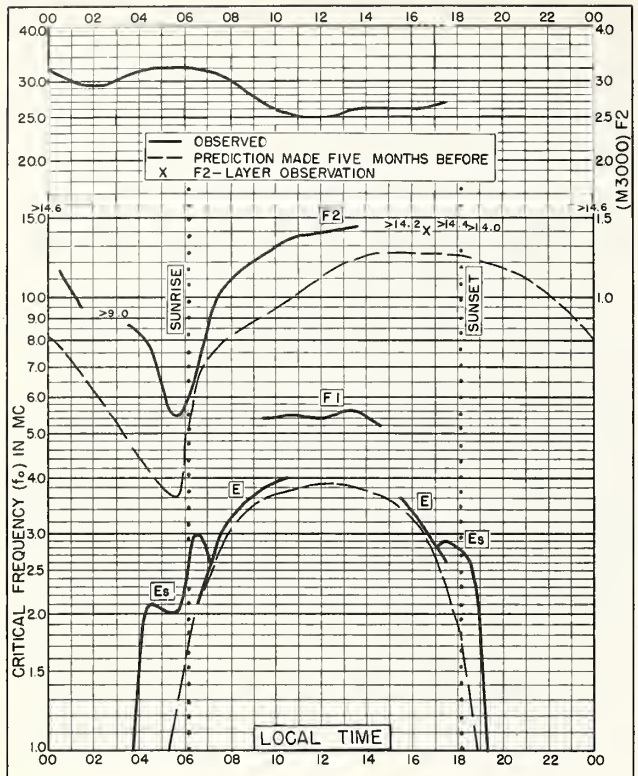

Fig. 73. NAIROBI, KENYA
1.3°S, 36.8°E MARCH 1956

NBS 503

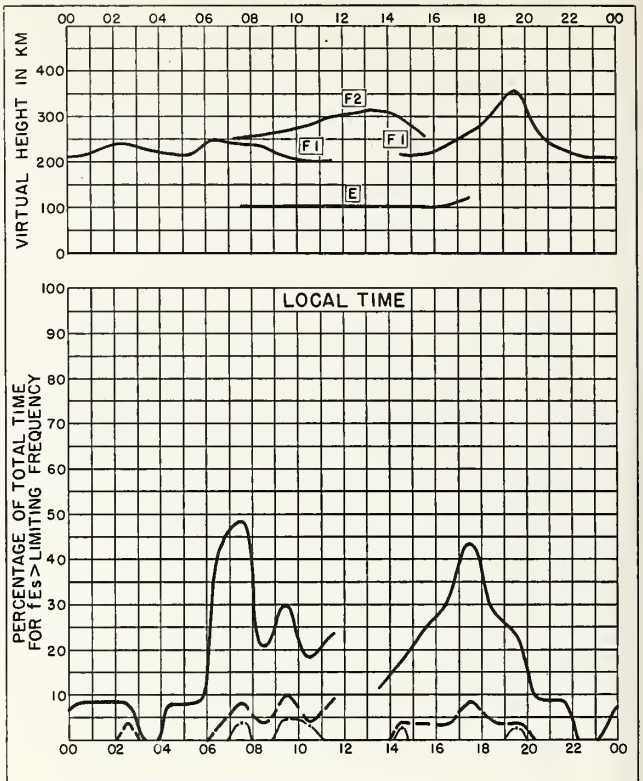

Fig. 74. NAIROBI, KENYA MARCH 1956

NBS 490

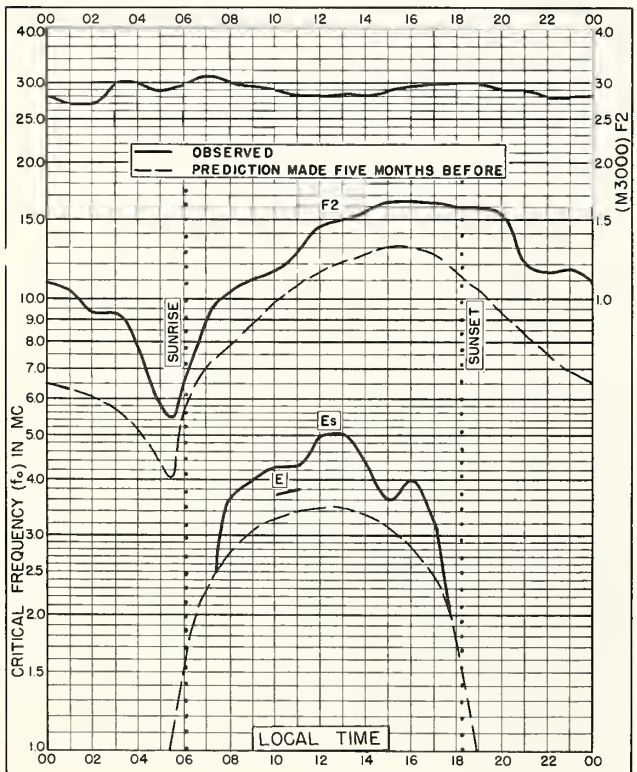

Fig. 75. BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W MARCH 1956

NBS 503

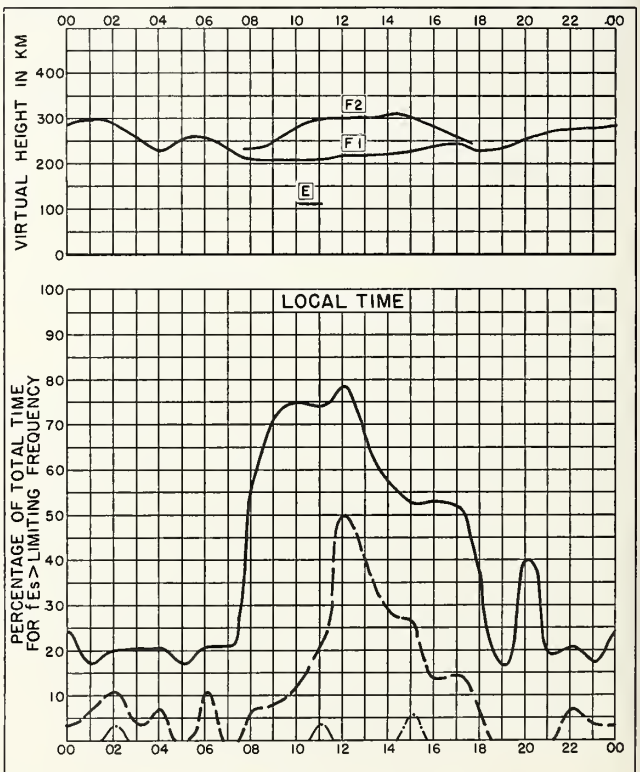

Fig. 76. BUENOS AIRES, ARGENTINA MARCH 1956

NBS 490

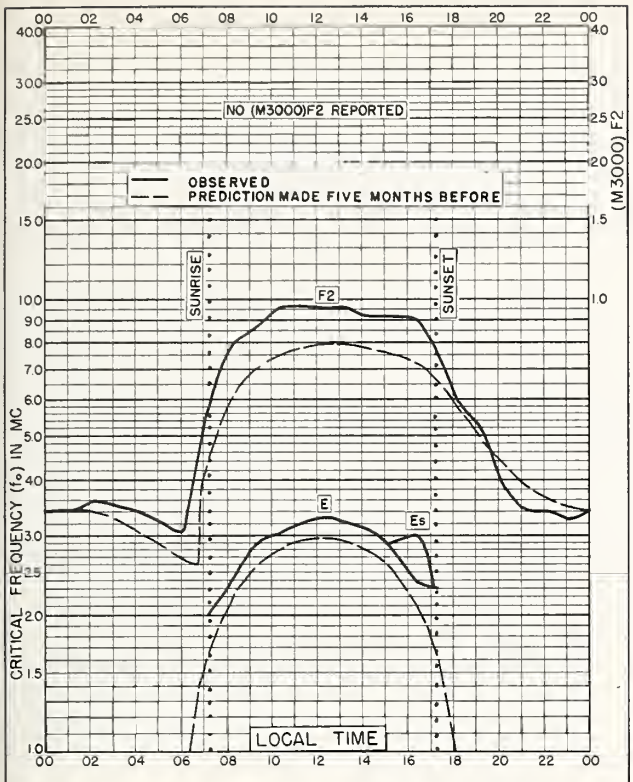

Fig. 77. BUDAPEST, HUNGARY
47.6°N, 19.0°E FEBRUARY 1956

NBS 503

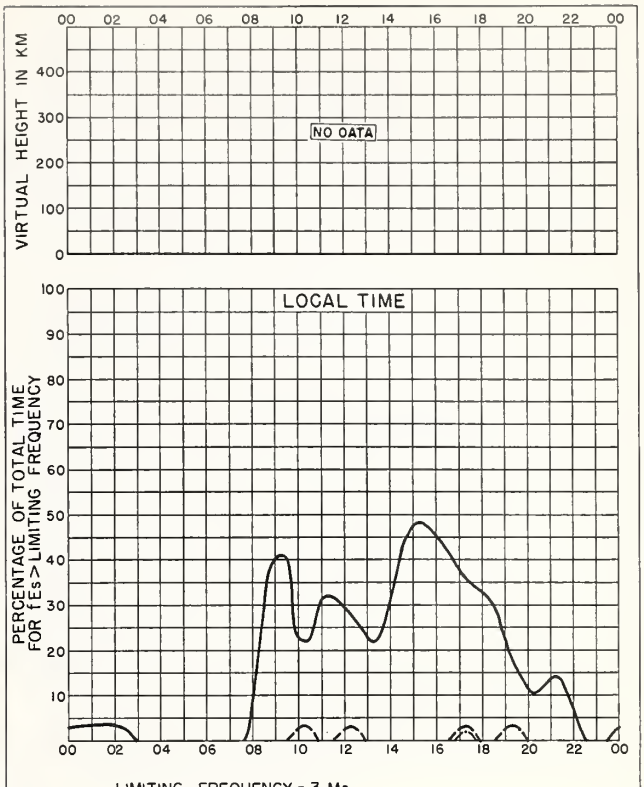

Fig. 78. BUDAPEST, HUNGARY FEBRUARY 1956

NBS 490

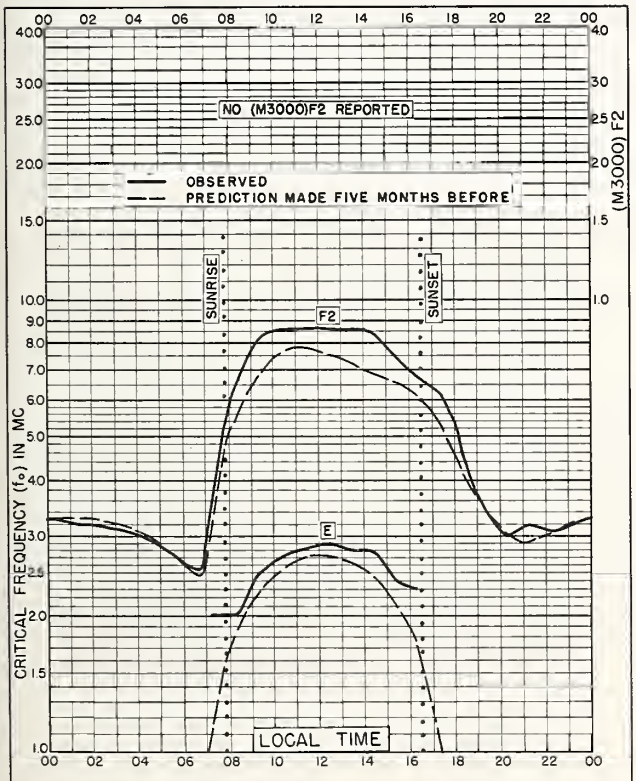

Fig. 79. BUDAPEST, HUNGARY
47.6°N, 19.0°E JANUARY 1956

NBS 503

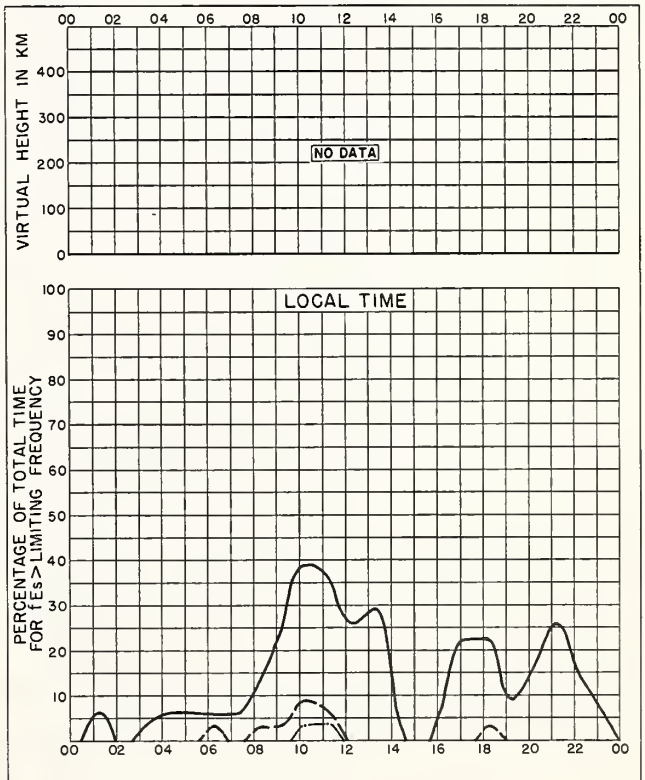

Fig. 80. BUDAPEST, HUNGARY JANUARY 1956

NBS 490

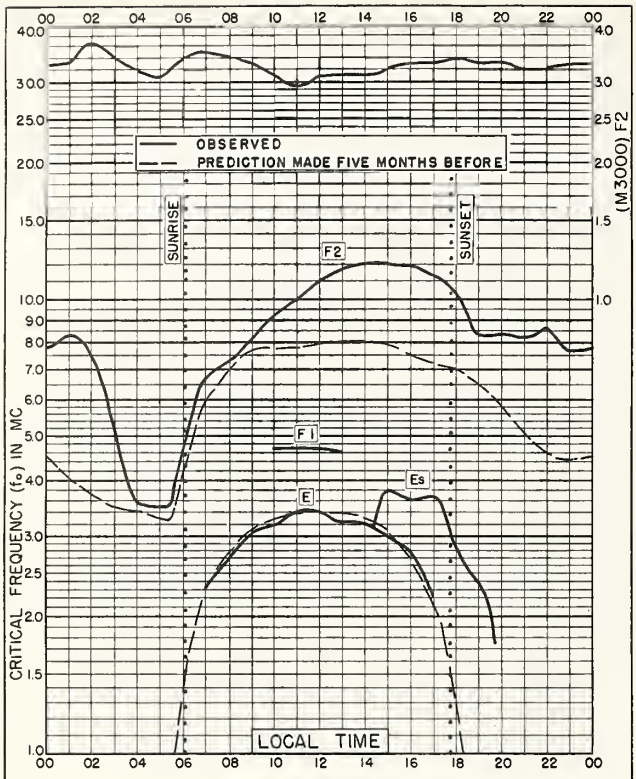

Fig. 81. SAO PAULO, BRAZIL
23.5°S, 46.5°W SEPTEMBER 1955

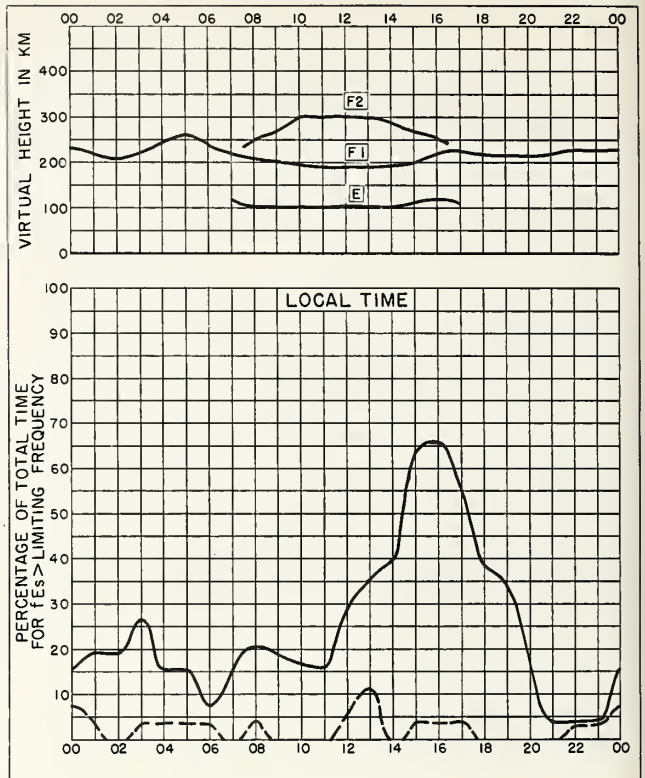

Fig. 82. SAO PAULO, BRAZIL SEPTEMBER 1955

NBS 490

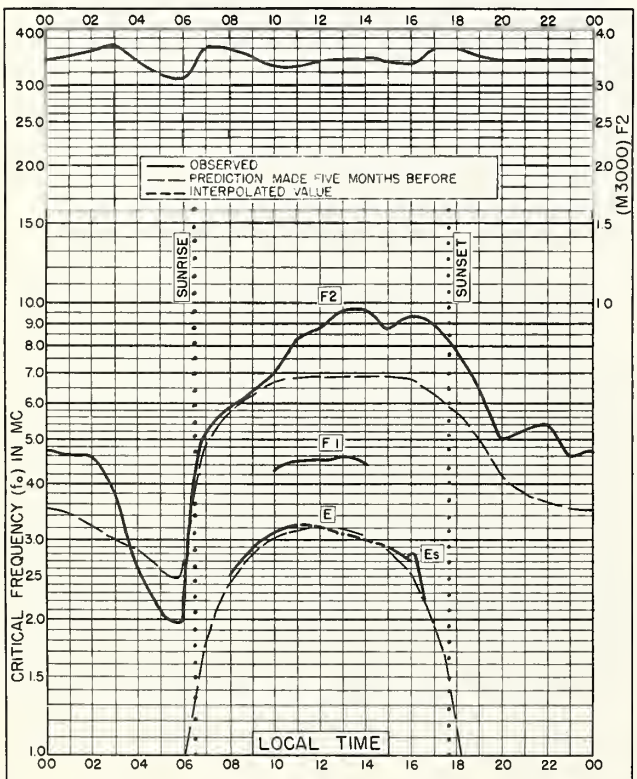

Fig. 83. SAO PAULO, BRAZIL
23.5°S, 46.5°W AUGUST 1955

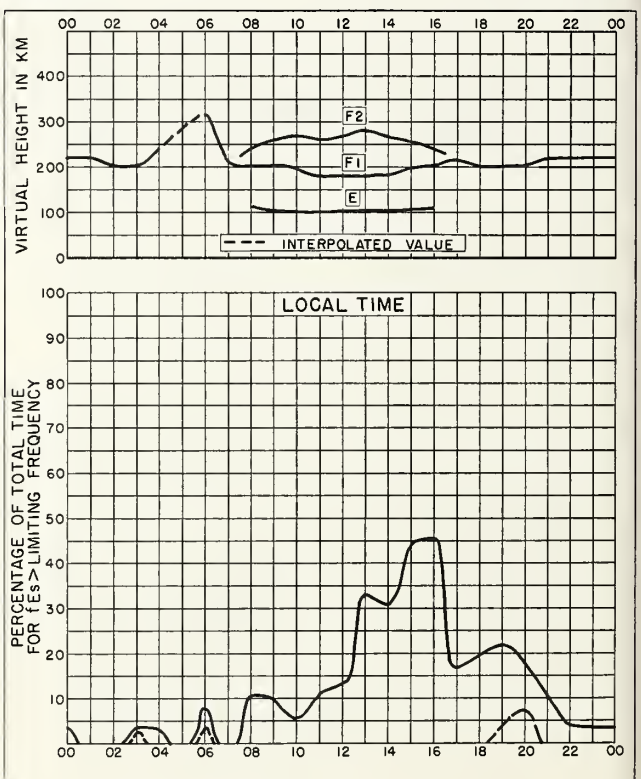

Fig. 84. SAO PAULO, BRAZIL AUGUST 1955

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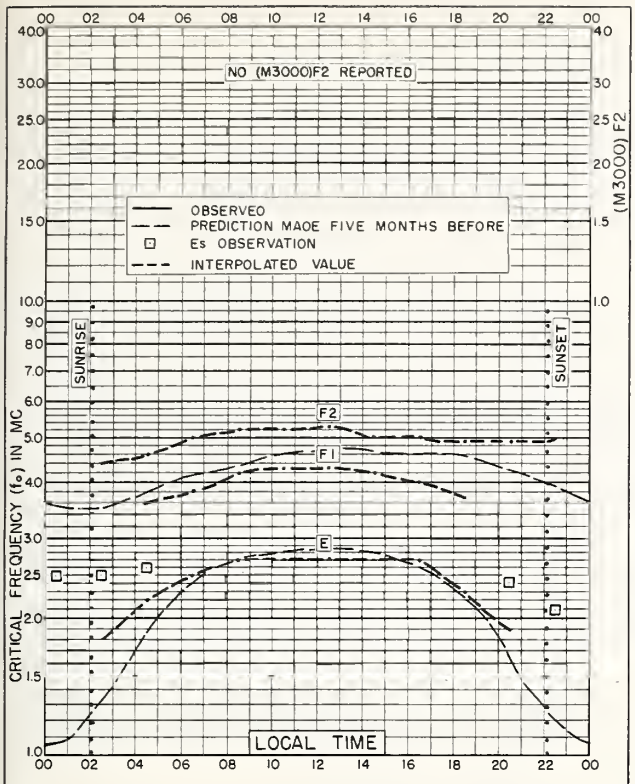

Fig. 85. LULEA, SWEDEN
65.6°N, 22.1°E JULY 1955

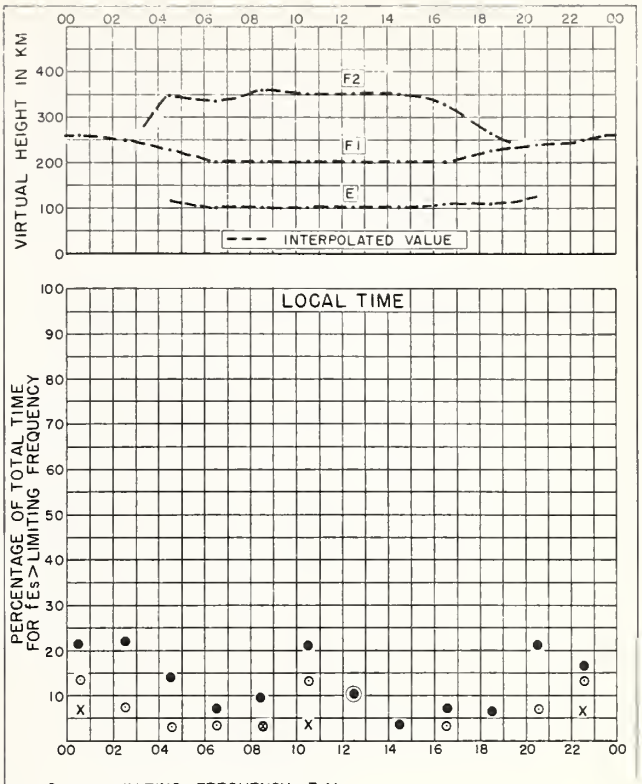

Fig. 86. LULEA, SWEDEN JULY 1955

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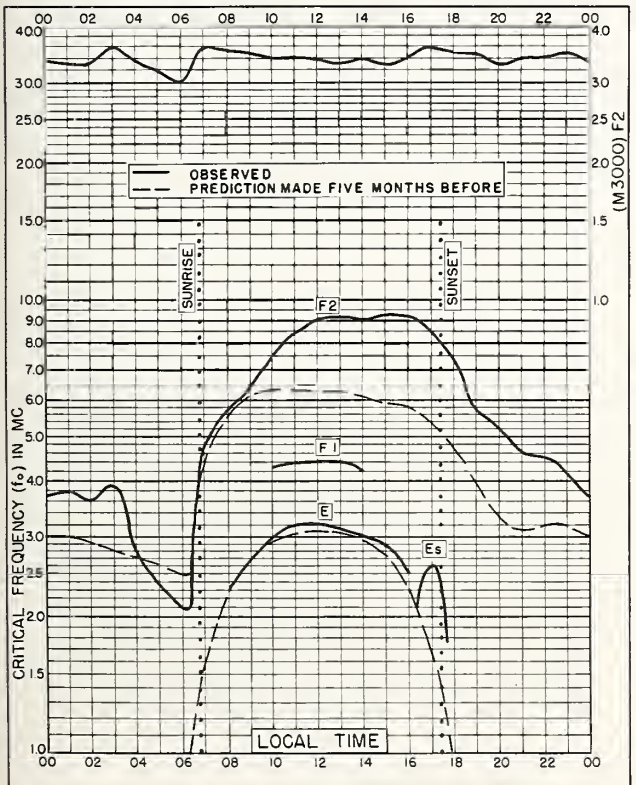

Fig. 87. SAO PAULO, BRAZIL
23.5°S, 46.5°W JULY 1955

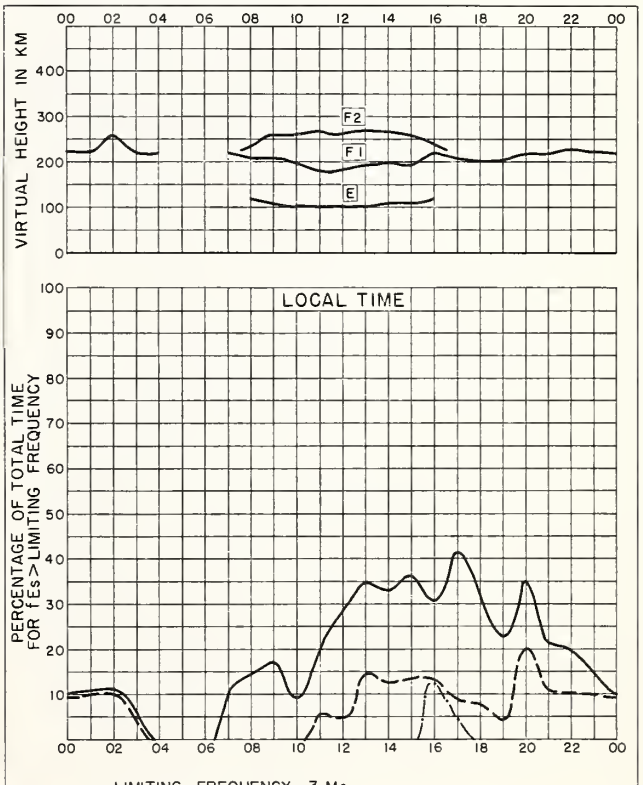

Fig. 88. SAO PAULO, BRAZIL JULY 1955

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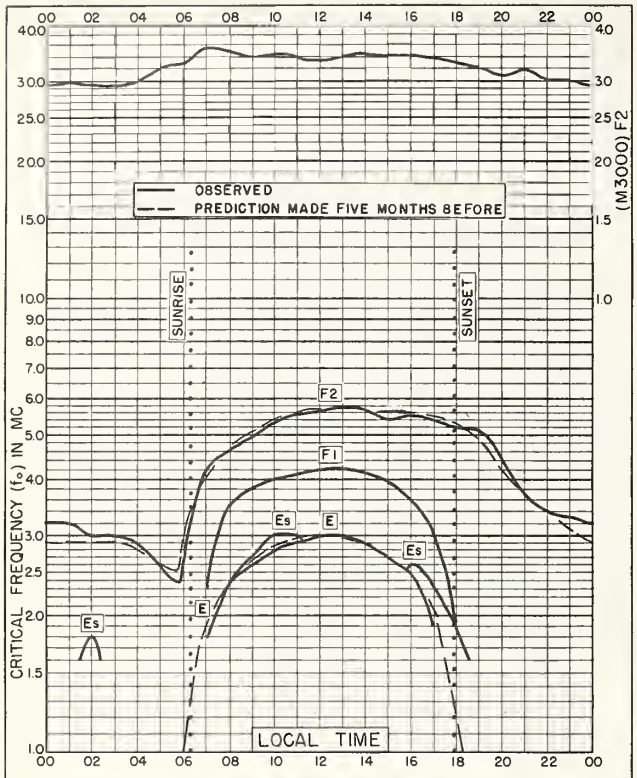

Fig. 89. POITIERS, FRANCE
46.6°N, 0.3°E MARCH 1955

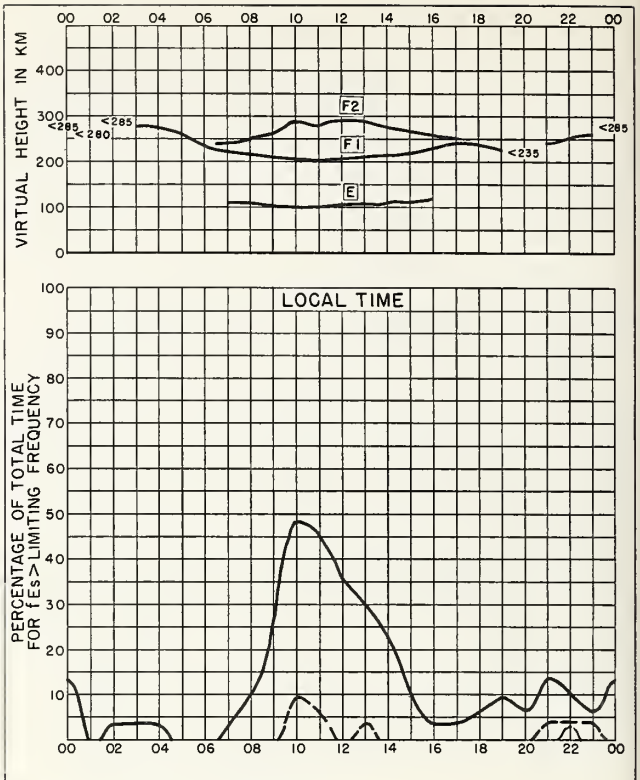

Fig. 90. POITIERS, FRANCE MARCH 1955

NBS 490

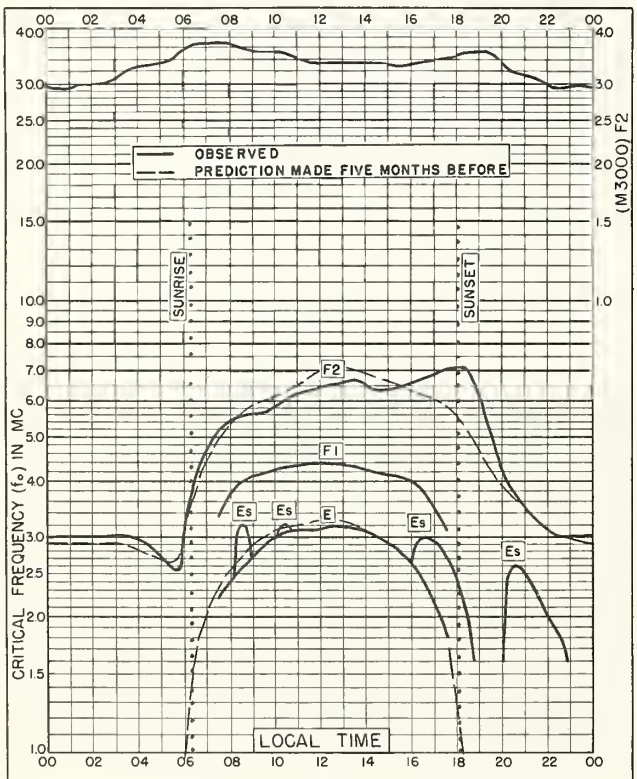

Fig. 91. CASABLANCA, MOROCCO
33.6°N, 7.6°W MARCH 1955

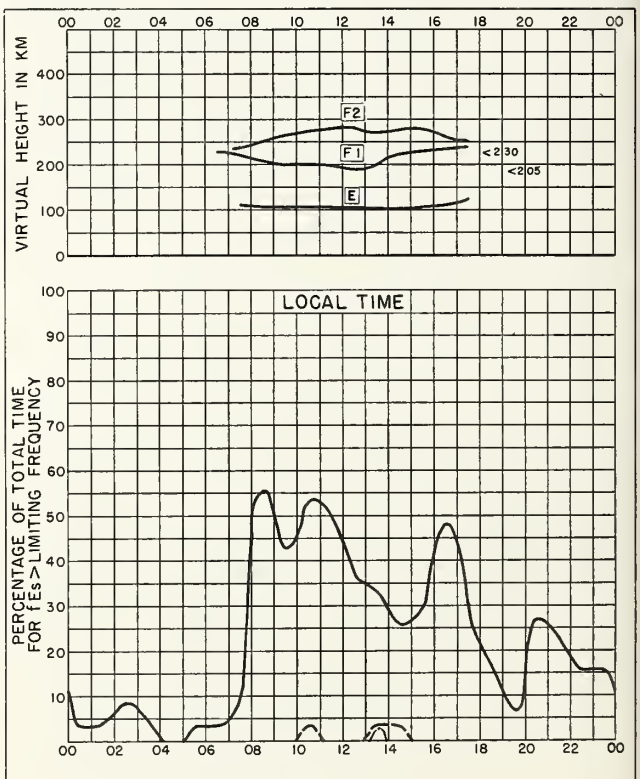

Fig. 92. CASABLANCA, MOROCCO MARCH 1955

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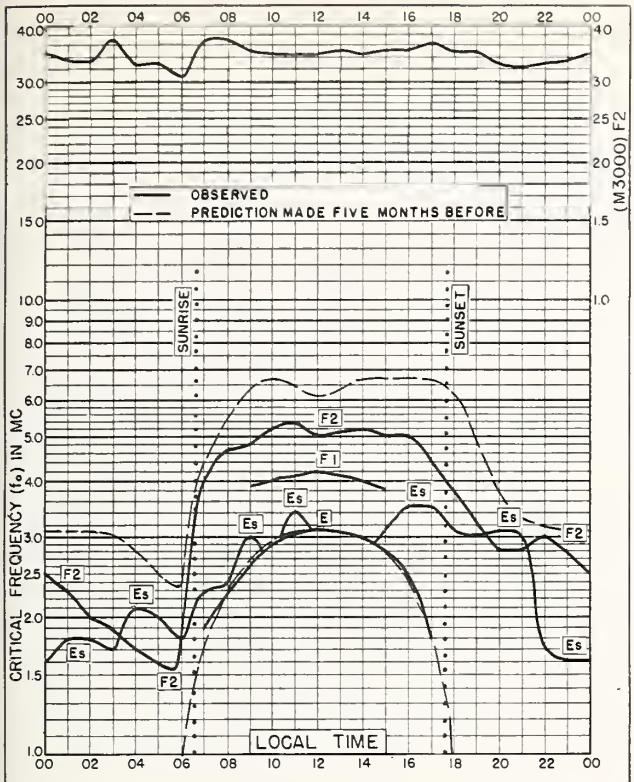

Fig. 93. TANANARIVE, MADAGASCAR
18.8°S, 47.8°E JULY 1954

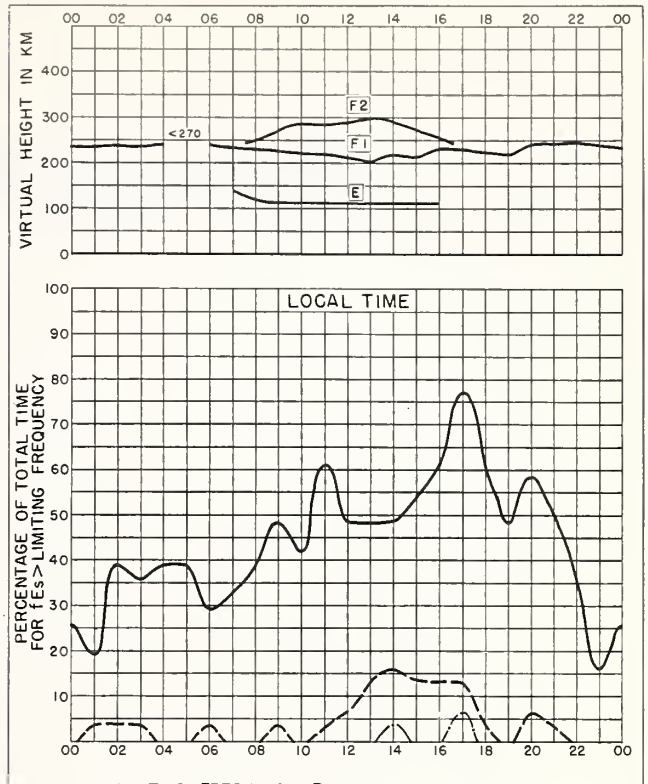

Fig. 94. TANANARIVE, MADAGASCAR JULY 1954

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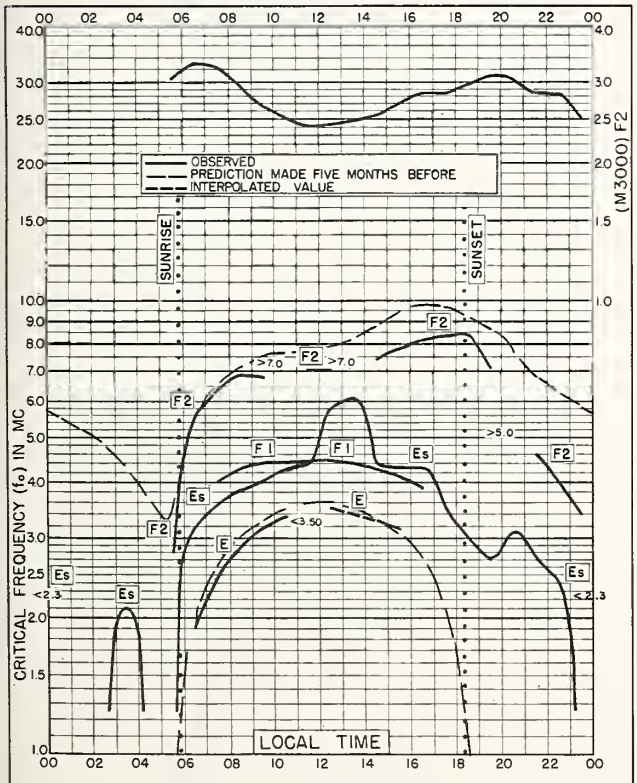

Fig. 95. DJIBOUTI, FRENCH SOMALILAND
11.5°N, 43.1°E JULY 1953

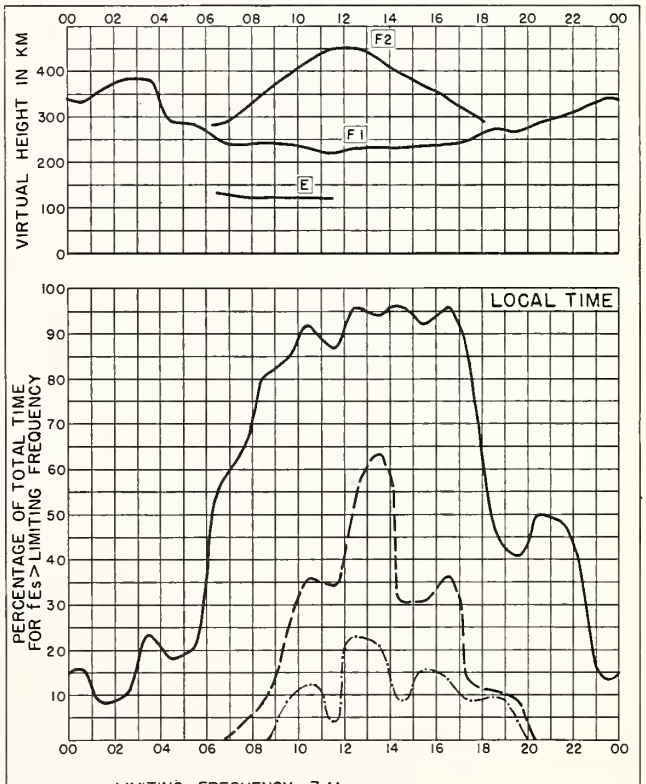

Fig. 96. DJIBOUTI, FRENCH SOMALILAND JULY 1953

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