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PART A

IONOSPHERIC DATA

ISSUED
OCTOBER 1959

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

CRPL-F 182
PART A

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

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IONOSPHERIC DATA

CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

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

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

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

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

There was an expansion in meaning of the following:

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

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

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

a. For all ionospheric characteristics:

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

b. For critical frequencies and virtual heights:

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

Values missing because of G are counted:

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

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

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

c. For MUF factor (M-factors):

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

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

d. For sporadic E (Es):

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

PREDICTED AND OBSERVED SUNSPOT NUMBERS

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

Month	Predicted Sunspot Number										
	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950
December		137	150*	150*	150	42	11	15	33	53	86
November		137	150*	150*	147	35	10	16	38	52	87
October		139	150*	150*	135	31	10	17	43	52	90
September		141	150*	150*	119	30	8	18	46	54	91
August		142	150*	150*	105	27	8	18	49	57	96
July		141	150*	150*	95	22	8	20	51	60	101
June		143	150*	150*	89	18	9	21	52	63	103
May		146	150*	150*	77	16	10	22	52	68	102
April		150*	150*	150*	68	13	10	24	52	74	101
March	133	150*	150*	150*	60	14	11	27	52	78	103
February	135	150*	150*	150*	53	14	12	29	51	82	103
January	136	150*	150*	150*	48	12	14	30	53	85	105

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

The latest available information follows concerning the corresponding observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1958.

Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	184	183	181	179	179
1959	177	175	173									

WORLD-WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 142 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

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

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

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

British Department of Scientific and Industrial Research, Radio Research Board:
- Falkland Is.
- Singapore, British Malaya

Defence Research Board, Canada:
- Ottawa, Canada
- Resolute Bay, Canada
- Winnipeg, Canada

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

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

The Finnish Academy of Sciences and Letters:
- Sodankyla, Finland

French National Center for Telecommunications Studies:
- Kerguelen I.

The Royal Netherlands Meteorological Institute:
- De Bilt, Holland

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

Icelandic Post and Telegraph Administration:
Reykjavik, Iceland

Geophysical and Geodetic Institute, Genoa, Italy:
Monte Capellino, Italy

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

General Directorate of Telecommunications, Mexico:
El Cerillo, Mexico

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

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

Manila Observatory:
Baguio, P. I.

South African Council for Scientific and Industrial Research:
Capetown, Union of South Africa
Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Kiruna, Sweden
Lycksele, 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
Grand Bahama I.
Okinawa I.
St. John's, Newfoundland
Thule, Greenland
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
- Chimbote, Peru
- Fairbanks (College), Alaska (Geophysical Institute of the University of Alaska)
- Huancayo, Peru (Instituto Geofisico de Huancayo)
- Ilo, Peru
- Little America, Antarctica
- Maui, Hawaii
- Point Barrow, Alaska
- Pole Station, Antarctica
- Talara, Peru (Instituto Geofisico de Huancayo)
- Washington, D. C.
- Wilkes Station, Antarctica

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by CRPL and the U. S. Army Signal Corps. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. These data are in place of the standard ionogram reductions formerly provided by this Station. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed for an IBM 650 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

Quantity	Units	Remarks
Electron Density (N)	$x10^3$ = electrons/cm^3	Body of table; given at each 10 km of height.
NMAX	$x10^3$ = electrons/cm^3	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$x10^{10}$ = electrons/cm^2 column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Two tabulations of arithmetic mean electron densities are also given for each hour. An average for the undisturbed ionosphere includes the soundings taken when the magnetic character figure K_p is less than 4+; the remaining data are combined to form a disturbed average. The latter may have little physical significance because the number of disturbed hours is usually small and the behavior of the ionosphere during disturbed hours is not consistent. On these tabulations the number of profiles in each average is given by CNT.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region. Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the integrated electron densities estimated to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

ELECTRON DENSITY

PUERTO RICO 60 W 1 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A			A			A	A	A		A
HMIN	279		244	238	248	260		107	117	112	113	112
HMAX	382		343	356	349	389		309	357	339	36	361
SHMAX	721		666	620	404	466		833	1676	1550	187	1914
KM												
390	1143					524						
380	1142					522						
370	1124					514					1341	1555
360	1081				794				1191		1341	1555
350	1012		1050	792	608	481			1190		1335	1545
340	917		1049	781	603	456			1183	1215	132	1518
330	781		1032	760	586	427			1170	1212	1298	1475
320	643		993	729	557	389			1152	1200	1267	1411
310	446		936	691	517	346		917	1128	1179	122	1341
300	262		854	636	465	286		911	1095	1150	1177	1240
290	119		742	569	403	233		888	1061	1111	1123	1133
280	40.2		596	477	318	167		847	1018	1065	1056	1019
270			417	362	219	104		794	973	1010	978	903
260			198	209	104	12.4		724	922	946	900	784
250			60.0	97.2	26.3			643	869	875	818	688
240				26.3				557	807	794	73	601
230								467	732	707	65	540
220								389	643	616	58	499
210								320	548	534	52	471
200								267	437	465	46	452
190								223	344	406	41	434
180								189	281	353	36	414
170								158	237	310	33	381
160								134	202	272	30	345
150								115	173	240	26	306
140								102	149	207	23	262
130								93.4	135	181	19	226
120								87.0	83.8	164	18	204
110								73.5				

ELECTRON DENSITY

PUERTO RICO 60 W 1 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	220	2300
QUAL	A		8	B			8					
HMIN	111	106	107	110	110	108		238	260	290	275	273
HMAX	360	377	378	371	352	342		398	406	422	411	394
SHMAX	1929	2392	2188	2101	1803	1484		1329	1101	1120	1201	1214
KM												
430										1473		
420										1473	158	
410									1341	1456	158	
400								1341	1338	1415	156	1640
390								1337	1316	1349	152	1638
380		1640	1583	1669				1321	1274	1250	145	1614
370		1637	1579	1668				1292	1210	1143	136	1563
360	1555	1622	1563	1659	1555			1250	1133	1019	122	1485
350	1547	1595	1535	1634	1555	1446		1191	1027	854	108	1383
340	1522	1555	1494	1593	1543	1446		1127	917	679	90	1254
330	1480	1503	1440	1535	1515	1431		1050	781	477	729	1096
320	1414	1452	1374	1467	1469	1393		949	643	298	557	896
310	1333	1374	1295	1373	1398	1333		844	492	143	36	679
300	1248	1280	1201	1270	1311	1248		729	348	65.7	17	446
290	1143	1187	1105	1143	1213	1153		608	219	3.1	83.8	219
280	1041	1086	1013	1027	1119	1038		492	127		43.3	54.8
270	939	982	917	903	993	917		362	54.8			
260	844	875	814	794	875	794		229				
250	754	778	716	688	764	667		97.2				
240	670	688	643	601	655	562		26.3				
230	602	608	573	535	557	469						
220	546	546	519	486	483	400						
210	500	495	477	446	427	353						
200	462	456	449	415	389	318						
190	427	429	420	389	359	293						
180	392	405	396	364	335	269						
170	355	381	370	340	310	245						
160	324	357	339	313	283	219						
150	299	332	307	283	260	196						
140	262	303	272	251	234	172						
130	217	266	243	221	206	151						
120	198	234	215	206	186	137						
110		198	179	49.6	49.6	112						

ELECTRON DENSITY

PUERTO RICO 60 W 2 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	100	1100
QUAL										A		A
HMIN	261	270	277	269	269	277	278	113	108	108	106	102
HMAX	351	386	382	397	389	389	378	364	383	377	35	384
SHMAX	869	1010	790	916	778	706	651	1116	1343	1400	141	1835
KM												
400				1119								
390		1341	1240	1115	1027	1004			917			1191
380		1338	1239	1097	1021	997	960		917	1050		1190
370		1316	1218	1063	1000	972	955	960	911	1047		1184
360	1555	1274	1165	1014	965	928	936	960	899	1033	114	1171
350	1555	1210	1077	952	917	868	900	952	880	1008	114	1150
340	1528	1233	960	865	847	784	851	936	851	968	112	1122
330	1456	1027	834	764	754	679	784	911	819	917	110	1091
320	1341	889	691	655	643	557	679	878	781	861	105	1050
310	1182	735	524	540	519	432	562	838	737	799	99	998
300	960	540	348	417	375	286	389	789	693	732	91	936
290	716	335	161	286	219	127	97.2	735	643	665	84	875
280	417	143	49.6	135	83.8	40.2	26.3	672	598	596	770	807
270	143	12.4		40.2	12.4			599	550	534	694	735
260								516	503	477	622	672
250								427	459	434	557	602
240								348	417	398	503	546
230								280	383	372	458	496
220								237	356	353	424	460
210								204	330	338	398	432
200								177	305	328	378	410
190								152	281	318	360	391
180								127	253	305	34	368
170								105	224	276	326	343
160								92.1	195	246	30	316
150								83.1	168	213	27	286
140								79.6	143	182	246	245
130								76.0	127	159	216	207
120								72.6	118	151	192	189
110									97.2	127	161	173

ELECTRON DENSITY

PUERTO RICO 60 W 2 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	220	2300
QUAL	A	A				A						A
HMIN		108	115	104	112	109	110	278	289	269	271	280
HMAX		388	386	349	348	344	354	417	416	393	395	420
SHMAX		1912	1968	1688	1459	1193	1083	933	836	939	885	817
KM												
420								982	1096			960
410								980	1092			954
400								969	1071	1191	1096	937
390		1341	1473					949	1031	1190	1094	907
380		1338	1471					920	968	1176	1080	870
370		1324	1457					883	892	1144	1052	814
360		1300	1431				960	834	804	1095	1009	739
350		1266	1392	1420	1215	1004	959	781	696	1028	954	652
340		1218	1341	1413	1212	1004	949	709	585	939	883	551
330		1164	1274	1392	1196	994	929	625	462	844	784	456
320		1102	1199	1355	1169	974	894	540	323	729	679	348
310		1027	1115	1294	1130	941	849	427	198	596	551	240
300		939	1016	1226	1082	900	799	298	104	446	403	135
290		844	896	1157	1017	851	735	170	40.2	286	240	71.4
280		754	784	1059	934	794	665	49.6		127	112	
270		672	679	939	844	732	590			40.2		
260		594	590	820	754	661	508					
250		529	521	707	661	587	439					
240		481	472	608	565	516	378					
230		446	435	532	484	446	325					
220		422	410	472	432	389	286					
210		406	392	425	389	344	257					
200		392	381	397	359	307	232					
190		380	371	375	333	281	210					
180		369	359	356	310	257	188					
170		354	337	339	286	231	165					
160		326	307	318	260	201	143					
150		290	280	292	236	174	123					
140		249	248	255	215	151	104					
130		219	217	222	182	134	93.5					
120		206	198	197	163	114	86.1					
110		143		182		71.4	12.4					

ELECTRON DENSITY

PUERTO RICO 60 W 3 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A						S					
HMIN	312	259	251	249	251	259	255	111	108	106	110	106
HMAX	405	390	363	343	365	359	349	338	323	341	333	384
SHMAX	587	735	677	513	526	411	412	1019	1286	1599	1639	2014
KM												
410	982											
400	979											
390	955	939										1393
380	905	931										1392
370	834	910	960		716							1381
360	729	875	960		715	643						1358
350	608	828	947	834	703	637	661			1367		1315
340	477	762	919	833	679	617	654	896		1367	1446	1261
330	310	679	875	818	646	581	630	893	1191	1360	1446	1204
320	83.8	590	814	784	596	529	593	882	1190	1339	1433	1143
310		487	729	729	534	469	540	858	1181	1307	1403	1069
300		371	619	657	456	389	483	830	1159	1262	1358	996
290		229	492	562	371	302	408	794	1126	1201	1291	917
280		132	348	437	278	209	310	750	1078	1135	1216	847
270		71.4	179	310	189	97.2	179	700	1021	1050	1131	774
260		12.4	71.4	143	83.8	12.4	71.4	643	953	949	1027	710
250				40.2				580	867	834	917	649
240								514	774	726	804	599
230								446	661	616	691	559
220								382	551	532	590	527
210								323	446	465	516	502
200								268	375	408	456	481
190								223	320	362	417	455
180								183	278	321	382	417
170								152	240	286	347	367
160								125	207	245	310	323
150								103	181	202	267	280
140								92.5	156	172	226	233
130								85.8	139	157	201	203
120								74.2	129	149	186	189
110									83.8	127	71.4	170

ELECTRON DENSITY

PUERTO RICO 60 W 3 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL										A		
HMIN	109	110	110	104	110	110	111	249	247	282	289	256
HMAX	379	381	368	374	365	367	372	367	397	417	427	373
SHMAX	2121	2404	2208	2163	1970	1876	1824	1189	1397	1322	1652	1206
KM												
430											1846	
420										1555	1841	
410										1551	1817	
400									1555	1527	1775	
390		1907							1551	1485	1712	
380	1640	1907		1756			1640		1530	1423	1630	1697
370	1633	1895	1786	1755	1669	1583	1640	1555	1490	1341	1529	1696
360	1608	1865	1780	1738	1666	1580	1626	1550	1433	1240	1407	1672
350	1566	1817	1759	1704	1649	1561	1594	1523	1358	1119	1269	1619
340	1501	1747	1722	1649	1614	1527	1541	1473	1260	960	1096	1536
330	1427	1669	1669	1582	1562	1477	1468	1394	1154	794	875	1433
320	1331	1555	1593	1496	1485	1406	1379	1296	1019	625	643	1291
310	1228	1433	1506	1388	1399	1323	1274	1179	875	446	375	1096
300	1115	1298	1404	1265	1296	1229	1172	1034	716	262	161	875
290	1004	1167	1291	1143	1171	1124	1050	854	557	112	12.4	625
280	896	1034	1157	1004	1050	1016	931	661	375			362
270	794	889	1019	875	917	917	807	446	219			143
260	709	774	889	754	804	794	688	143	97.2			44.9
250	636	679	754	652	691	679	590	12.4	40.2			
240	573	601	652	567	599	582	500					
230	526	535	567	508	521	492	432					
220	487	486	508	459	462	417	372					
210	455	450	459	426	417	362	315					
200	429	420	417	401	383	321	262					
190	410	400	386	378	352	289	222					
180	395	380	357	357	319	260	186					
170	375	357	332	332	289	232	152					
160	348	333	305	302	257	206	127					
150	314	310	278	274	229	179	108					
140	267	278	251	240	201	155	97.2					
130	231	240	219	206	176	140	91.1					
120	208	222	202	189	161	129	85.0					
110	127	60.0	40.2	168	12.4	40.2						

ELECTRON DENSITY

PUERTO RICO 60 W 4 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL							S	A		A	A	A
HMIN	246	220	219	264	278	277		110	107	106	109	109
HMAX	349	337	320	367	393	375		340	342	360	368	366
SHMAX	1062	985	587	456	456	420		1003	1587	1906	1968	1957
KM												
400					643							
390					642							
380					633	643						
370				698	613	641					1528	1583
360				694	581	628				1341	1524	1580
350	1727			676	535	601			1341	1338	1506	1561
340	1710	1316		643	482	562		875	1341	1327	1476	1525
330	1653	1310		596	408	508		870	1334	1310	1429	1472
320	1555	1286	917	534	327	439		857	1316	1286	1370	1394
310	1429	1241	908	454	240	355		834	1288	1254	1302	1304
300	1240	1175	882	362	138	262		800	1249	1213	1221	1208
290	1004	1086	838	262	75.6	152		759	1199	1169	1124	1105
280	716	982	778	143	21.7	60.0		709	1148	1122	1027	993
270	417	754	679	60.0				648	1073	1063	917	885
260	161	698	557					590	987	998	814	774
250	44.9	508	417					529	885	926	716	688
240		286	240					477	774	850	634	608
230		127	97.2					427	655	764	567	546
220		12.4	12.4					380	551	679	513	500
210								330	456	582	474	463
200								281	375	484	449	433
190								236	316	396	417	406
180								195	270	330	362	377
170								158	231	281	315	347
160								127	198	237	262	316
150								108	171	198	203	268
140								95.0	143	170	181	219
130								87.5	125	156	172	192
120								76.1	117	148	164	174
110								12.4	83.8	130	112	112

ELECTRON DENSITY

PUERTO RICO 60 W 4 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL						A	A	A				
HMIN	108	109	109	110	109		109	248	263	297	285	293
HMAX	380	382	384	374	371		378	378	415	438	406	400
SHMAX	2275	2612	2246	2048	1969		2015	1424	1286	1314	1114	976
KM												
440										1473		
430										1468		
420									1420	1446		
410									1418	1408	1583	
400									1401	1353	1578	1500
390		1697	1727						1367	1281	1544	1484
380	1786	1697	1725	1669	1669		1786	1612	1316	1193	1480	1429
370	1776	1690	1710	1667	1668		1780	1606	1248	1096	1383	1341
360	1747	1672	1677	1650	1657		1758	1582	1160	960	1265	1226
350	1700	1644	1618	1615	1628		1719	1537	1061	820	1111	1080
340	1625	1605	1555	1562	1580		1663	1477	946	661	917	903
330	1536	1555	1465	1480	1509		1590	1403	820	492	716	698
320	1435	1487	1370	1389	1427		1496	1311	679	310	508	477
310	1319	1414	1262	1285	1329		1388	1204	540	161	286	262
300	1198	1333	1143	1182	1198		1265	1080	403	49.6	127	97.2
290	1073	1248	1027	1073	1073		1154	931	262		49.6	
280	949	1143	907	960	946		1016	754	152			
270	844	1038	794	834	807		854	540	71.4			
260	747	939	698	726	691		698	286				
250	672	834	622	636	599		562	71.4				
240	602	726	564	562	521		456					
230	553	625	520	508	464		368					
220	515	540	488	462	421		305					
210	483	477	462	427	389		262					
200	452	432	437	395	366		226					
190	420	398	412	367	344		196					
180	392	372	386	342	320		169					
170	362	350	362	316	295		143					
160	332	330	328	286	268		122					
150	305	303	299	255	234		107					
140	278	266	274	228	204		96.7					
130	232	226	237	198	179		91.3					
120	208	205	209	185	167		86.0					
110	143	83.8	112	40.2	97.2		60.0					

ELECTRON DENSITY

PUERTO RICO 60 W 5 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL							A					
HMIN	251	208	251	308	326	278	108	117	108	109	109	109
HMAX	347	281	387	433	469	428	377	379	389	386	376	375
SHMAX	928	756	595	499	538	579	709	841	945	974	1193	1156
KM												
470					661							
460					657							
450					642							
440				661	617							
430				660	581	679						
420				651	535	676						
410				630	477	663						
400				595	417	640						
390			698	550	348	611			590	608		
380			695	495	286	568	661	661	589	607	794	679
370			685	432	224	517	659	658	583	601	793	679
360			667	355	152	459	648	650	573	591	786	675
350	1756		639	286	93.9	395	626	635	558	575	774	668
340	1741		604	219	57.4	329	600	615	542	552	757	657
330	1669		562	149	23.5	262	561	588	519	527	735	643
320	1540		508	77.6		192	517	555	494	497	713	623
310	1341		439	21.7		127	472	516	465	463	674	603
300	1119		368			80.7	417	477	433	430	625	578
290	794	1420	286			49.6	367	432	399	398	567	549
280	477	1419	198			12.4	315	383	365	372	508	518
270	179	1390	104				267	335	335	348	446	486
260	65.7	1311	49.6				223	290	308	329	401	453
250		1198					186	253	286	314	368	423
240		1004					156	224	272	305	344	397
230		808					132	205	261	297	332	374
220		179					113	189	255	289	327	357
210		26.3					99.8	173	249	282	322	344
200							88.3	158	243	274	317	333
190							79.2	142	234	266	312	325
180							71.4	128	220	248	304	317
170							65.7	113	200	219	291	308
160							60.0	102	181	192	268	292
150							57.5	95.0	163	174	229	266
140							54.9	90.5	148	161	203	227
130							52.4	86.1	138	154	190	197
120							49.9	65.7	130	147	180	185
110							12.4		97.2	97.2	127	127

ELECTRON DENSITY

PUERTO RICO 60 W 5 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			A	A	A	A	A	A	A			
HMIN	108	106		110		112		207	268	293	288	285
HMAX	394	361		336		335		380	399	429	425	416
SHMAX	1314	1373		890		822		581	535	649	659	623
KM												
430										794	834	
420										789	832	794
410										774	820	792
400	774								698	748	796	779
390	773								693	716	759	754
380	769							590	676	667	710	720
370	760	939						587	646	608	649	673
360	742	939						579	603	532	573	608
350	722	934						562	551	446	477	532
340	699	923		643		698		542	492	353	380	446
330	672	904		641		696		516	424	262	274	348
320	639	882		633		687		484	353	161	161	251
310	599	851		618		668		446	270	83.8	97.2	143
300	557	811		593		639		403	179	43.3	56.5	71.4
290	513	764		563		599		351	112		12.4	33.2
280	477	704		528		554		292	60.0			
270	444	643		491		503		235	12.4			
260	417	585		456		451		179				
250	398	531		426		403		127				
240	385	486		399		362		91.9				
230	377	450		377		330		64.6				
220	369	420		359		307		44.9				
210	361	399		348		289		12.4				
200	354	383		337		271						
190	347	370		325		253						
180	340	356		313		233						
170	328	339		294		210						
160	304	315		272		188						
150	233	282		248		165						
140	193	252		219		148						
130	177	225		192		136						
120	169	208		173		117						
110	161	179		12.4								

ELECTRON DENSITY

PUERTO RICO 60 W 6 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL							S					
HMIN	278	258	227	262	271	271	251	117	114	107	108	109
HMAX	399	360	321	386	396	389	343	343	345	342	357	387
SHMAX	530	492	330	382	330	287	292	870	1147	1252	1628	2016
KM												
400	774				446							
390	767			477	445	446						1393
380	745			475	435	442						1391
370	707			467	417	425						1378
360	655	794		452	391	395					1191	1355
350	582	784		429	357	356	492	794	896	1050	1189	1321
340	492	757		401	314	305	492	793	895	1049	1177	1277
330	389	710	557	365	268	246	482	785	887	1039	1157	1221
320	286	643	557	325	219	192	460	767	869	1015	1127	1156
310	179	557	549	272	167	138	430	739	840	970	1086	1080
300	104	456	527	223	119	93.9	383	702	807	917	1038	1004
290	60.0	323	492	174	77.6	62.9	318	653	770	854	979	917
280	12.4	179	446	122	44.9	40.2	240	602	726	787	911	826
270		83.8	380	60.0			143	546	679	716	847	747
260		21.7	294				65.7	489	633	650	778	679
250			179					435	583	580	709	613
240			77.6					383	536	521	643	564
230			30.9					335	490	468	579	522
220								290	446	430	519	489
210								249	401	398	472	459
200								212	357	373	432	430
190								176	310	350	398	401
180								146	262	324	368	372
170								123	222	293	335	344
160								107	193	259	301	313
150								96.7	166	226	269	282
140								91.8	147	193	240	244
130								86.8	136	174	207	215
120								71.4	119	163	186	201
110										112	127	112

ELECTRON DENSITY

PUERTO RICO 60 W 6 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			A			A	A			A		
HMIN	107	108	108	107	105	108	109	236	273	251	239	262
HMAX	371	363	361	360	356	350	379	423	384	391	374	407
SHMAX	2002	1991	2002	1798	1804	1424	1412	1382	1021	1207	838	800
KM												
430								1341				
420								1341				
410								1330				939
400								1308		1367		936
390								1272	1500	1367		922
380	1583						1143	1224	1498	1358	1119	896
370	1583	1669	1555				1139	1163	1473	1334	1117	858
360	1574	1668	1555	1555	1500		1125	1096	1421	1296	1099	811
350	1549	1655	1547	1545	1498	1240	1100	1004	1341	1242	1060	747
340	1509	1625	1524	1515	1482	1233	1066	907	1228	1174	997	670
330	1453	1579	1487	1465	1452	1213	1019	794	1096	1096	917	573
320	1379	1512	1433	1385	1407	1179	966	679	917	993	834	477
310	1295	1437	1367	1285	1348	1131	905	573	698	861	716	371
300	1191	1341	1286	1182	1276	1069	834	456	446	729	596	262
290	1073	1226	1191	1065	1191	996	762	335	198	573	402	161
280	960	1084	1086	939	1086	917	686	240	60.0	362	323	88.3
270	844	960	982	820	982	834	615	167		161	198	46.5
260	735	820	883	707	861	745	540	104		65.7	112	
250	643	704	794	608	729	661	462	60.0			56.5	
240	567	608	709	540	619	573	395	23.5			5.5	
230	508	529	636	486	532	492	330					
220	465	477	573	446	459	417	286					
210	432	439	513	417	410	356	246					
200	405	405	468	391	377	310	212					
190	383	374	428	371	348	270	182					
180	364	344	392	352	323	232	152					
170	342	313	358	333	298	195	127					
160	316	276	327	307	271	167	112					
150	282	232	296	278	238	153	101					
140	250	196	262	248	214	142	94.2					
130	223	178	228	211	190	137	89.3					
120	209	169	207	190	172	131	84.3					
110	143	143	161	152	143	97.2	49.6					

ELECTRON DENSITY

PUERTO RICO 60 W 7 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL							A	A		A		A
HMIN	268	257	240	238	251	228	201		110	110	112	110
HMAX	406	376	361	358	369	330	388		378	382	360	351
SHMAX	741	611	552	560	562	476	755		1574	1865	1803	1861
KM												
410	960											
400	958											
390	941						661			1265		
380	909	875					659		1072	1265		
370	863	872	794		774		654		1070	1259		
360	800	853	794	794	769		643		1061	1245	1555	1528
350	724	818	784	789	751		629		1045	1222	1546	1528
340	619	767	758	770	720		610		1022	1191	1518	1520
330	508	688	716	733	674	716	586		988	1152	1471	1498
320	389	596	657	684	619	710	558		948	1105	1394	1464
310	274	497	587	622	540	690	526		908	1044	1301	1411
300	161	398	514	532	446	659	486		860	982	1201	1353
290	92.8	274	403	437	348	618	442		809	917	1096	1279
280	54.8	161	294	344	240	553	389		754	847	971	1191
270	12.4	77.6	179	240	135	467	335		700	781	847	1086
260		10.3	97.2	127	63.8	348	274		648	710	735	975
250			53.1	63.8		229	212		598	649	634	854
240				12.4		112	149		550	590	560	729
230						26.3	101		503	540	499	619
220							65.7		459	500	460	534
210							40.2		417	462	430	467
200									377	424	407	417
190									339	389	386	382
180									295	348	358	350
170									249	310	323	317
160									209	270	281	286
150									173	233	237	246
140									146	201	207	223
130									134	178	192	211
120									117	162	180	201
110									40.2	49.6		49.6

ELECTRON DENSITY

PUERTO RICO 60 W 7 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A	A	A	A	A
HMIN		107		107				239		298	225	290
HMAX		385		357				383		427	411	392
SHMAX		2124		1970				975		859	888	561
KM												
430										1050		
420										1046	960	
410										1030	960	
400										1000	953	814
390		1612						1143		956	934	813
380		1610						1142		899	902	802
370		1594						1129		826	861	774
360		1563		1786				1100		745	807	731
350		1512		1780				1055		643	739	672
340		1457		1755				992		519	661	599
330		1376		1707				917		389	573	516
320		1286		1636				834		219	484	417
310		1186		1555				735		90.5	389	310
300		1084		1433				631		21.7	294	198
290		971		1298				519			219	12.4
280		854		1143				403			161	
270		745		990				286			119	
260		657		834				152			86.5	
250		580		679				71.4			62.3	
240		524		573				12.4			44.9	
230		481		492							15.9	
220		452		437								
210		434		396								
200		419		367								
190		399		348								
180		374		330								
170		342		313								
160		302		288								
150		262		259								
140		234		229								
130		215		205								
120		204		189								
110		142		143								

ELECTRON DENSITY

PUERTO RICO 60 W 8 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A		F		A		S	A	A	A		
HMIN	232	251	318	298	258	260					109	108
HMAX	377	393	448	459	384	357					363	382
SHMAX	613	570	562	790	573	478					1758	2065
KM												
460				834								
450			698	830								
440			694	819								
430			681	799								
420			658	771								
410			623	733								
400		698	578	688								
390		697	527	636	834							1555
380	834	689	462	567	832							1555
370	830	671	389	492	816						1393	1545
360	810	643	310	403	781	834					1393	1521
350	772	608	233	318	729	828					1382	1482
340	722	557	152	226	657	798					1358	1427
330	650	500	75.6	138	573	742					1316	1361
320	565	432	21.7	83.8	484	665					1265	1282
310	477	353		52.2	371	562					1203	1186
300	375	270		12.4	251	446					1127	1086
290	274	189			161	310					1050	987
280	186	117			92.8	179					960	885
270	123	71.4			54.8	77.6					865	794
260	87.2	44.9			12.4	3.1					764	709
250	57.9										661	636
240	35.5										573	573
230											503	528
220											451	488
210											411	453
200											384	420
190											359	385
180											337	347
170											313	310
160											286	270
150											251	233
140											209	196
130											181	178
120											169	169
110											127	161

ELECTRON DENSITY

PUERTO RICO 60 W 8 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A				S	S
HMIN				110	109			228	261	261	269	268
HMAX				355	353			417	393	385	387	394
SHMAX				2124	1635			1496	1078	1002	863	807
KM												
420								1290				
410								1288				
400								1278	1420			1167
390								1259	1419	1367	1215	1165
380								1232	1398	1364	1210	1143
370								1197	1353	1341	1182	1096
360				1876	1500			1153	1274	1294	1132	1025
350				1874	1500			1101	1182	1221	1058	928
340				1854	1485			1042	1073	1124	960	814
330				1815	1451			968	931	1004	847	679
320				1756	1383			875	774	854	716	540
310				1677	1304			786	631	698	557	389
300				1567	1213			698	477	524	389	219
290				1457	1119			596	310	335	219	119
280				1327	990			477	161	179	90.5	63.8
270				1143	861			348	65.7	71.4	12.4	12.4
260				990	729			219				
250				834	619			119				
240				691	532			60.0				
230				582	465			12.4				
220				495	417							
210				439	384							
200				406	359							
190				378	333							
180				353	307							
170				331	274							
160				307	226							
150				276	178							
140				233	162							
130				212	154							
120				200	148							
110				40.2	83.8							

ELECTRON DENSITY

PUERTO RICO 60 W 9 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL					F	F	S		A	A	A	
HMIN	262	239	260	247	301	285	258	115	115		110	109
HMAX	359	348	387	395	447	416	356	327	364		366	360
SHMAX	601	651	580	535	625	589	647	1216	1707		2090	2009
KM												
450					716							
440					714							
430					704							
420					686	774						
410					659	772						
400				661	625	757						
390			754	659	583	730						
380			752	648	529	690						
370			738	625	469	636			1446		1727	
360	1119		713	595	389	570	1027		1445		1723	1697
350	1102	1004	679	546	298	492	1024		1430		1703	1687
340	1041	997	631	489	198	408	1003		1400		1663	1651
330	939	969	567	429	127	310	965	1143	1353		1606	1591
320	807	917	487	367	75.6	219	910	1141	1287		1546	1519
310	655	842	398	304	44.9	132	834	1129	1211		1455	1427
300	492	742	302	240		71.4	716	1109	1115		1329	1331
290	310	619	198	179		33.2	540	1079	1016		1208	1224
280	152	497	112	122			262	1045	917		1080	1084
270	60.0	348	54.8	80.7			97.2	993	814		946	971
260		179		52.2			26.3	936	716		814	854
250		77.6		18.0				867	629		707	754
240		12.4						774	553		629	661
230								655	492		562	580
220								508	446		513	514
210								375	408		473	464
200								270	375		437	421
190								214	335		403	389
180								175	291		368	364
170								143	245		335	350
160								126	198		303	337
150								114	167		269	305
140								105	142		233	262
130								97.2	133		198	225
120								71.4	104		184	205
110											40.2	83.8

ELECTRON DENSITY

PUERTO RICO 60 W 9 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL				A	A		B					
HMIN	110	110	110			110		274	264	242	267	270
HMAX	388	350	346			399		414	399	385	400	392
SHMAX	2522	2147	2049			2050		1491	1532	1270	1175	1149
KM												
420								1697				
410								1696				
400						1555		1678	1846		1640	1756
390	2000					1550		1641	1836	1727	1624	1755
380	1993					1533		1584	1804	1721	1576	1726
370	1966					1503		1505	1748	1677	1486	1655
360	1919					1461		1415	1669	1590	1376	1542
350	1846	2227	2000			1400		1298	1574	1471	1240	1394
340	1764	2206	1995			1333		1157	1446	1291	1065	1201
330	1656	2141	1962			1248		1004	1291	1188	875	982
320	1531	2042	1897			1167		820	1096	1096	679	754
310	1407	1889	1796			1077		608	875	896	477	508
300	1269	1708	1680			971		403	643	679	286	298
290	1096	1501	1524			865		219	403	492	143	143
280	971	1301	1359			764		60.0	179	310	77.6	63.8
270	847	1065	1167			665			54.8	161	30.9	3.1
260	742	861	1004			582				83.8		
250	652	704	847			514				44.9		
240	580	596	716			456						
230	528	521	608			408						
220	491	469	524			365						
210	459	435	462			328						
200	430	410	417			293						
190	404	392	383			259						
180	379	373	358			228						
170	354	352	337			198						
160	328	327	306			161						
150	290	298	262			138						
140	248	266	231			126						
130	219	232	213			121						
120	204	209	201			116						
110	40.2	40.2	40.2			49.6						

ELECTRON DENSITY

PUERTO RICO 60 W 10 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL											A	A
HMIN	277	233	227	286	291	291	296	110	109	110	110	
HMAX	383	324	405	434	408	417	411	360	383	366	355	
SHMAX	1206	879	960	859	691	706	713	757	1212	1398	1554	
KM												
440				1004								
430				1003								
420				993		917	854					
410			1027	970	1027	914	854					
400			1025	935	1019	896	849					
390	1786		1011	891	989	861	834		834			
380	1784		984	826	936	814	809		833			
370	1757		941	745	858	754	776		829	1027		
360	1697		887	652	764	686	735	754	817	1025	1050	
350	1603		820	540	655	599	679	741	800	1015	1049	
340	1474		747	432	529	497	615	698	774	991	1044	
330	1321	1500	665	310	403	389	532	621	744	957	1034	
320	1096	1498	582	198	251	262	437	569	709	924	1018	
310	834	1466	492	112	127	135	298	519	670	883	996	
300	540	1399	408	62.9	60.0	63.8	60.0	465	625	842	969	
290	262	1296	327	26.3				412	578	794	937	
280	49.6	1159	255					362	526	735	903	
270		982	186					318	481	673	866	
260		716	127					280	434	608	819	
250		362	79.7					252	393	540	769	
240		71.4	49.6					232	359	477	710	
230			12.4					216	330	427	643	
220								204	307	385	573	
210								191	289	355	495	
200								178	272	333	432	
190								162	253	315	385	
180								145	231	296	348	
170								129	206	271	318	
160								113	181	243	291	
150								102	161	216	260	
140								93.7	146	192	229	
130								87.9	136	174	203	
120								79.2	131	162	186	
110								12.4	97.2	40.2	49.6	

ELECTRON DENSITY

PUERTO RICO 60 W 10 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A					B		S		S	
HMIN	109	110	112	112	113	108	112	228	264	262	279	281
HMAX	368	339	336	351	352	330	358	388	423	423	410	426
SHMAX	1854	1690	1606	1571	1483	1286	1197	922	1347	1183	944	939
KM												
430									1420	1265		1096
420									1419	1264		1093
410									1408	1253	1167	1078
400									1383	1229	1159	1048
390								1119	1345	1191	1135	1005
380								1113	1290	1140	1095	948
370	1420							1090	1223	1073	1038	882
360	1415			1341	1316		1072	1050	1142	996	966	794
350	1398			1341	1315		1069	992	1050	907	878	679
340	1366	1669	1420	1332	1303		1053	917	931	794	774	573
330	1319	1658	1417	1307	1275	1316	1026	834	794	679	643	456
320	1262	1620	1399	1266	1227	1305	985	735	643	551	519	335
310	1191	1555	1364	1208	1162	1274	933	619	492	417	362	209
300	1105	1465	1311	1143	1086	1219	875	508	335	286	198	119
290	1013	1341	1252	1050	993	1150	807	380	179	170	77.6	63.8
280	917	1282	1162	939	885	1059	732	262	90.5	90.5	12.4	
270	814	1019	1061	824	774	946	650	170	40.2	46.5		
260	724	861	949	707	679	807	573	90.5				
250	636	716	834	608	590	679	502	56.5				
240	568	408	716	527	514	562	432	44.9				
230	517	527	616	472	459	467	367	12.4				
220	477	469	532	430	417	400	310					
210	451	436	472	404	386	350	262					
200	428	410	428	385	356	316	214					
190	405	386	397	372	326	288	173					
180	381	359	374	357	293	262	141					
170	356	333	353	335	256	234	117					
160	329	314	328	310	225	204	96.2					
150	296	278	290	282	196	179	85.9					
140	253	236	248	248	177	159	80.7					
130	217	212	217	215	169	142	76.8					
120	204	200	202	198	162	132	73.0					
110	71.4	40.2				83.8						

ELECTRON DENSITY

PUERTO RICO 60 W 11 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL							S				A	
HMIN	289	253	257	242	264	241	259	114	109	109	108	109
HMAX	410	395	385	360	367	368	351	329	324	343	364	351
SHMAX	800	768	795	734	600	683	551	1184	1177	1426	1734	1601
KM												
410	1096											
400	1086	1004										
390	1058	1002	1072									
380	1010	982	1070									
370	939	939	1051		1004	854					1290	
360	854	881	1014	1004	998	851	896				1289	1341
350	754	802	954	996	965	836	896			1143	1279	1341
340	643	716	883	970	900	810	885			1142	1257	1331
330	508	625	784	928	814	773	855	1096	1096	1132	1225	1303
320	335	524	679	875	704	722	809	1092	1094	1109	1180	1257
310	170	417	551	794	573	661	739	1078	1081	1068	1123	1188
300	71.4	323	417	698	417	587	652	1054	1053	1019	1056	1111
290	12.4	219	286	585	262	487	524	1021	1004	960	982	1022
280		135	161	462	119	375	362	975	948	899	900	928
270		75.6	75.6	310	49.6	262	127	922	882	834	818	814
260		42.5	19.3	161		143	12.4	861	802	767	735	716
250				65.7		60.0		786	716	698	657	629
240								707	634	631	590	557
230								608	553	573	531	504
220								508	483	522	486	467
210								398	432	472	450	437
200								310	385	425	420	415
190								235	344	385	399	396
180								187	306	352	378	375
170								154	266	319	356	351
160								127	227	286	324	326
150								109	191	255	292	301
140								96.0	158	219	246	266
130								89.9	139	186	202	219
120								83.8	130	167	188	203
110									71.4	97.2	143	127

ELECTRON DENSITY

PUERTO RICO 60 W 11 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A										F	
HMIN	107	115	110	110	110	110	116	266	261	315	278	256
HMAX	395	395	387	394	416	434	392	380	435	453	363	378
SHMAX	2072	1475	2046	1707	1741	1970	1662	1084	1302	1321	504	1376
KM												
460										1756		
450										1754		
440						1341			1367	1728		
430						1340			1365	1669		
420					1119	1332			1350	1578		
410					1118	1315			1320	1446		
400	1316	1367		1143	1109	1289	1473		1274	1291		
390	1315	1366	1473	1142	1091	1253	1473		1212	1119		
380	1307	1355	1471	1133	1065	1208	1463	1420	1143	946		1969
370	1291	1333	1457	1113	1029	1155	1439	1410	1050	774	1240	1957
360	1268	1300	1433	1079	985	1096	1400	1383	939	573	1237	1911
350	1236	1255	1398	1036	936	1019	1347	1336	820	362	1176	1828
340	1194	1197	1352	988	881	943	1271	1271	704	198	1041	1708
330	1151	1135	1296	933	822	850	1191	1187	573	97.2	814	1555
320	1096	1057	1240	875	761	762	1105	1084	446	43.3	524	1362
310	1034	978	1152	814	704	672	982	946	327		286	1096
300	960	892	1059	754	643	590	861	754	219		127	834
290	889	804	949	695	579	516	716	508	135		65.7	540
280	814	716	834	638	526	456	596	219	79.7		12.4	262
270	742	643	726	588	481	408	477	49.6	46.5			97.2
260	673	579	634	540	440	368	389					40.2
250	613	526	560	502	409	341	325					
240	557	487	503	471	385	320	278					
230	515	460	463	444	367	304	246					
220	480	441	435	422	353	292	221					
210	452	427	414	398	340	279	202					
200	430	412	398	376	327	265	183					
190	410	397	381	355	314	248	163					
180	391	376	362	333	297	226	143					
170	368	351	340	310	275	203	125					
160	341	324	313	286	250	177	110					
150	310	293	279	262	222	158	99.3					
140	282	255	240	235	194	143	93.5					
130	250	229	216	215	175	137	88.9					
120	225	198	203	201	165	130	84.3					
110	161		49.6	40.2	49.6	12.4						

ELECTRON DENSITY

PUERTO RICO 60 W 12 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	F	F	F								A	
HMIN	229	199	209	295	291	285	233	113	106	108		109
HMAX	338	293	441	430	423	405	390	307	336	330		370
SHMAX	811	628	634	358	345	297	392	694	1113	1105		1517
KM												
450			403									
440			403									
430			402	432	417							
420			399	429	417							
410			395	420	412	403						
400			389	405	403	402						
390			382	384	387	395	446					
380			373	358	366	381	444					
370			362	324	338	359	435					1004
360			349	286	306	332	421					1000
350			335	240	262	294	400					987
340	1215		317	189	215	253	375		939			966
330	1207		299	143	170	209	343		937	1004		931
320	1172		280	97.2	127	155	305		925	995		892
310	1111		262	62.9	79.7	102	257	875	900	968		847
300	1022	1096	246	29.1	44.9	60.0	209	870	871	917		803
290	917	1095	230			29.1	161	847	828	854		754
280	794	1075	214				123	804	771	786		706
270	655	1029	196				89.2	747	716	707		653
260	492	960	177				65.7	661	650	616		608
250	286	861	159				48.0	562	585	540		566
240	77.6	716	136				22.8	456	521	477		529
230	12.4	477	109					362	462	427		497
220		198	75.6					280	412	389		469
210		65.7	12.4					224	372	364		444
200		12.4						183	335	346		420
190								147	304	331		400
180								117	274	321		378
170								98.8	246	310		348
160								89.7	216	286		323
150								82.8	189	253		303
140								79.3	163	215		286
130								75.9	143	186		253
120								72.5	134	170		224
110									97.2	112		83.8

ELECTRON DENSITY

PUERTO RICO 60 W 12 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A			A		A	A	A	A		A	A
HMIN		108	109	109	112			279	289	290		312
HMAX		402	399	405	412			375	440	460		442
SHMAX		1587	1701	1594	1502			410	639	647		507
KM												
460										652		
450										649		679
440									625	639		679
430									622	623		671
420					804				614	600		651
410		854		917	803				600	572		620
400		854	1004	917	802				580	536		578
390		852	1002	912	797				554	495		521
380		845	995	904	790			608	524	446		452
370		835	983	892	780			606	488	389		375
360		819	966	875	768			596	446	335		294
350		802	943	854	753			576	398	280		198
340		781	920	834	735			546	348	219		122
330		757	888	803	718			508	296	155		74.5
320		726	850	766	695			452	246	102		42.5
310		693	807	725	669			380	192	65.7		
300		657	759	679	636			274	132	42.1		
290		619	700	625	599			143	40.2			
280		581	648	573	554			12.4				
270		544	590	519	508							
260		511	536	473	459							
250		480	492	437	421							
240		454	454	408	389							
230		432	423	386	362							
220		413	400	370	344							
210		399	383	357	331							
200		387	370	348	323							
190		379	359	340	315							
180		371	350	327	304							
170		364	341	310	290							
160		352	329	288	269							
150		338	310	265	245							
140		286	267	242	216							
130		250	232	221	195							
120		229	211	207	182							
110		143	161	83.8								

ELECTRON DENSITY

PUERTO RICO 60 W 13 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A	A				A	A	A	A	A	A
HMIN	303	297	278	258	243	277	232	219		105	110	
HMAX	441	378	380	388	386	400	378	339		329	381	
SHMAX	609	435	443	469	410	435	415	613		1151	1508	
KM												
450	735											
440	735											
430	729											
420	714											
410	688											
400	654					540						
390	608			608	540	537					1016	
380	553	754	652	605	538	526	516				1016	
370	484	749	646	592	527	508	513				1011	
360	403	726	628	570	505	483	503				998	
350	318	687	597	540	473	450	484				977	
340	229	629	554	499	432	412	455	824			946	
330	152	540	502	446	383	362	421	819		939	908	
320	77.6	432	432	389	323	298	380	801		934	861	
310	42.5	286	353	316	262	233	329	769		917	811	
300		83.8	251	240	198	161	270	726		887	759	
290			112	152	143	83.8	209	672		847	706	
280			26.3	92.8	104	30.9	155	599		799	649	
270				54.8	73.9		108	508		749	596	
260				12.4	51.7		77.6	408		691	545	
250					28.3		53.8	274		637	500	
240							32.2	152		583	465	
230								67.6		536	436	
220								12.4		490	412	
210										446	397	
200										407	381	
190										372	365	
180										335	342	
170										301	313	
160										269	272	
150										240	227	
140										210	196	
130										186	177	
120										171	167	
110										152	40.2	

ELECTRON DENSITY

PUERTO RICO 60 W 13 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		A					8					
HMIN	108	108	109	109	110	110		280	251	258	278	258
HMAX	406	407	391	393	390	383		411	415	430	403	403
SHMAX	2187	2276	2110	2232	1971	1767		1144	1187	1410	1100	1079
KM												
430										1473		
420								1290	1316	1466		
410	1420	1528						1290	1314	1445	1446	1290
400	1418	1525	1612	1555				1282	1298	1409	1445	1289
390	1407	1511	1611	1555	1393	1316		1260	1266	1359	1427	1275
380	1387	1484	1601	1547	1388	1315		1221	1216	1294	1385	1244
370	1356	1446	1575	1528	1373	1307		1172	1155	1221	1318	1191
360	1309	1384	1525	1499	1347	1289		1111	1077	1124	1240	1135
350	1256	1318	1465	1460	1304	1261		1031	971	1004	1127	1050
340	1195	1240	1390	1410	1258	1221		943	861	861	990	946
330	1129	1165	1301	1357	1204	1175		844	742	716	834	820
320	1057	1086	1197	1282	1143	1123		716	608	540	661	691
310	975	996	1084	1196	1065	1050		573	487	375	462	540
300	896	907	971	1096	978	969		389	362	240	262	403
290	818	814	865	1004	892	885		112	240	152	112	262
280	742	732	754	896	804	794			143	88.3	26.3	127
270	679	657	661	794	716	707			83.8	54.8		65.7
260	623	590	582	698	643	616			46.5	12.4		12.4
250	573	540	529	615	573	540						
240	538	502	484	547	508	477						
230	513	474	455	495	464	422						
220	487	453	433	454	427	377						
210	459	439	414	420	397	342						
200	429	429	398	392	373	315						
190	398	418	381	370	351	291						
180	370	396	362	351	328	267						
170	341	370	340	333	306	245						
160	315	345	317	312	283	219						
150	291	321	286	288	259	195						
140	257	295	248	255	222	176						
130	210	260	219	222	196	160						
120	191	235	206	202	182	148						
110	179	198	97.2	49.6	12.4	40.2						

ELECTRON DENSITY

PUERTO RICO 60 W 14 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL										A	A	
HMIN	262	266	267	289	250	238	276	117	112	109	110	110
HMAX	391	379	409	418	360	417	413	389	368	368	380	390
SHMAX	876	819	845	913	622	722	728	1485	1938	2195	2246	2499
KM												
420				1167		754	834					
410			1050	1161		752	833					
400	1265		1043	1139		742	826					
390	1265		1022	1100		723	809	993				1876
380	1249	1215	985	1043		696	779	991			1583	1867
370	1205	1207	929	969		661	742	982	1420	1669	1578	1838
360	1133	1177	867	875	896	618	698	968	1417	1665	1561	1791
350	1038	1125	778	767	887	562	643	943	1407	1649	1532	1715
340	917	1050	679	631	862	502	580	914	1388	1621	1492	1631
330	781	931	562	492	817	432	500	881	1362	1580	1440	1534
320	625	774	446	335	760	362	408	847	1327	1525	1374	1423
310	477	608	323	179	686	294	310	810	1285	1465	1299	1303
300	286	432	209	77.6	596	229	198	770	1234	1390	1213	1186
290	161	240	112	12.4	487	170	90.5	729	1177	1301	1124	1073
280	83.8	112	63.8		362	123	40.2	684	1111	1201	1031	960
270	46.5	44.9	19.3		219	87.2		638	1031	1096	952	865
260					90.5	62.3		593	934	971	867	778
250						43.3		545	834	847	784	698
240						8.4		503	729	735	701	633
230								455	625	634	637	583
220								408	540	548	583	536
210								362	454	487	531	497
200								304	389	437	486	463
190								251	330	393	437	432
180								202	286	358	389	403
170								167	244	324	350	374
160								141	210	289	310	342
150								121	182	256	276	310
140								108	163	225	246	276
130								99.0	151	198	219	246
120								40.2	127	181	204	228
110										83.8	40.2	49.6

ELECTRON DENSITY

PUERTO RICO 60 W 14 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			S			A			S	S	A	A
HMIN	108	110	109	107	109	110	118	239	222	276	310	316
HMAX	399	396	383	385	403	396	368	385	392	418	424	453
SHMAX	2783	2724	2897	2477	2459	2390	1630	1317	1226	1043	1043	1135
KM												
460												1367
450												1366
440												1352
430											1420	1321
420										1240	1418	1271
410					1786					1235	1397	1203
400	1969	2193			1785	1756			1290	1214	1352	1124
390	1962	2189	2294	1922	1774	1754		1542	1290	1177	1283	1016
380	1940	2161	2293	1920	1749	1741		1539	1279	1124	1191	885
370	1900	2109	2276	1901	1710	1716	1669	1519	1254	1055	1073	735
360	1837	2032	2238	1863	1654	1679	1662	1480	1214	970	931	585
350	1768	1918	2179	1806	1584	1630	1635	1416	1159	865	774	417
340	1678	1798	2100	1723	1505	1569	1587	1341	1090	742	590	219
330	1584	1692	1998	1627	1415	1493	1510	1240	1004	619	389	97.2
320	1479	1493	1880	1519	1311	1411	1415	1119	909	462	161	40.2
310	1373	1324	1735	1400	1208	1319	1307	975	814	310	12.4	
300	1262	1179	1572	1278	1096	1208	1162	834	704	179		
290	1133	1034	1411	1143	975	1105	1019	661	596	83.8		
280	1027	889	1228	1016	861	982	861	492	477	40.2		
270	926	781	1096	889	745	861	704	310	362			
260	826	688	946	774	652	742	562	161	229			
250	745	619	820	679	567	634	437	71.4	135			
240	665	565	707	608	508	540	344	12.4	77.6			
230	601	524	622	551	459	469	286		43.3			
220	540	491	564	508	424	412	240					
210	492	466	520	474	395	369	198					
200	456	445	481	446	367	335	161					
190	429	430	446	424	344	304	130					
180	407	415	411	395	323	274	107					
170	387	389	385	362	303	243	93.9					
160	364	350	368	327	283	216	85.5					
150	340	305	335	301	256	195	81.2					
140	306	260	276	276	228	177	78.0					
130	266	237	240	240	203	161	74.7					
120	248	224	225	211	187	148	71.4					

ELECTRON DENSITY

PUERTO RICO 60 W 15 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL								S		S		
HMIN	299	288	250	208	218	192	315	110	114	107	105	104
HMAX	428	405	365	358	354	337	507	456	437	257	256	248
SHMAX	1150	1198	1080	1023	877	637	448	1145	1106	570	462	471
KM												
510							432					
500							430					
490							424					
480							409					
470							389					
460							366	565				
450							341	564				
440							310	561	582			
430	1555						279	555	581			
420	1547						244	547	575			
410	1513	1640					214	534	559			
400	1454	1637					189	518	540			
390	1360	1610					163	500	520			
380	1240	1556					143	481	500			
370	1111	1476	1555				125	459	479			
360	931	1373	1552	1167	1004		110	438	456			
350	742	1253	1524	1162	1004		94.2	417	434			
340	540	1073	1467	1143	995	688	78.5	395	413			
330	335	875	1383	1109	976	686	60.0	375	395			
320	161	625	1265	1060	946	675	33.2	357	378			
310	71.4	362	1127	997	908	656		343	362			
300	12.4	112	939	917	860	625		331	348			
290		26.3	716	820	794	589		324	334			
280			477	704	707	545		316	324			
270			240	585	596	492		309	314			
260			83.8	477	477	441		303	306	590	375	
250				371	335	383		297	299	588	375	410
240				262	179	329		291	293	579	373	409
230				161	83.8	274		286	286	561	370	406
220				83.8	21.7	223		276	278	540	365	401
210				21.7		174		265	270	508	359	393
200						127		248	261	465	352	384
190								222	249	425	346	375
180								187	235	375	340	365
170								155	226	316	330	349
160								131	203	276	306	327
150								116	161	248	282	296
140								103	136	225	240	259
130								92.8	122	194	204	228
120								83.8	113	173	189	209
110										143	161	186

ELECTRON DENSITY

PUERTO RICO 60 W 15 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		G	S				A		A	A	A	A
HMIN	108	106	109	109	113	110	239	428	283	197	234	279
HMAX	597	184	537	543	583	512	507	673	447	451	464	438
SHMAX	2025	212	2134	2374	2645	1791	925	591	643	784	417	275
KM												
680								410				
670								410				
660								408				
650								404				
640								398				
630								389				
620								379				
610								366				
600	524							351				
590	524				982			335				
580	523				982			314				
570	523				981			292				
560	522				977			268				
550	521			939	972			243				
540	519		854	938	966			214				
530	517		854	937	957			187				
520	515		851	933	946	834		163				
510	513		845	927	934	834	590	143				
500	510		837	919	920	832	590	130				
490	508		827	909	904	827	586	120				
480	504		814	897	886	820	580	111				
470	501		799	883	866	810	571	103			329	
460	497		779	866	845	798	558	94.3		540	329	
450	493		759	847	822	781	543	84.8	661	540	327	
440	489		735	827	798	763	525	68.6	659	538	322	262
430	484		711	803	771	743	506	21.7	651	534	316	262
420	479		684	779	743	721	481		637	527	307	259
410	474		658	754	713	695	455		615	517	296	253
400	468		632	725	682	668	424		586	504	283	246
390	463		605	696	649	640	392		553	489	267	235
380	457		576	666	617	608	358		513	470	248	223
370	450		548	633	586	573	324		465	449	228	208
360	443		523	601	553	537	289		406	424	207	191
350	434		498	570	523	501	257		346	399	186	173
340	426		474	537	492	467	231		286	372	163	153
330	417		451	508	463	433	210		224	344	141	132
320	409		431	479	437	401	195		161	316	121	112
310	400		412	454	412	372	186		102	288	103	91.5
300	391		394	431	389	347	176		65.7	257	86.8	71.4
290	384		379	409	371	325	167		40.2	228	73.9	51.7
280	376		364	389	353	305	155			196	62.3	6.8
270	369		352	372	337	287	138			167	51.7	
260	362		340	356	323	273	119			138	43.3	
250	358		330	342	310	261	99.3			112	29.1	
240	354		322	330	300	252	12.4			86.1	10.5	
230	350		314	319	291	243				66.5		
220	346		308	309	283	237				51.1		
210	342		304	302	277	232				37.4		
200	338		299	296	271	228				9.6		
190	330	348	295	289	266	223						
180	301	348	291	280	257	219						
170	276	339	287	269	245	196						
160	257	319	274	254	229	170						
150	240	294	259	234	210	142						
140	233	262	243	213	189	127						
130	226	238	221	195	174	121						
120	219	222	205	183	163	115						
110	161	161	112	60.0		12.4						

ELECTRON DENSITY

PUERTO RICO 60 W 16 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A	A	A	A	A	A	A	A	A	A
HMIN	221	326	319	295	225	219	200					109
HMAX	401	483	442	400	415	417	353					363
SHMAX	261	209	191	155	256	267	328					2112
KM												
490		203										
480		203										
470		202										
460		199										
450		194	235									
440		187	235									
430		178	232									
420		167	227		224	235						
410	257	155	219		224	234						
400	257	142	207	219	222	232						
390	255	125	194	217	218	227						
380	250	108	177	211	213	221						
370	243	90.5	152	201	206	211						1727
360	231	71.4	124	186	197	201	355					1726
350	219	55.6	97.2	170	186	188	355					1711
340	203	41.5	68.6	148	174	174	351					1677
330	185	12.4	43.9	124	161	159	344					1615
320	165		3.1	92.8	145	142	332					1546
310	143			60.0	127	125	316					1455
300	125			29.1	110	108	297					1352
290	104				94.2	92.8	273					1240
280	87.2				79.7	78.9	246					1131
270	72.8				66.4	66.9	212					1016
260	60.0				54.8	56.2	179					889
250	49.6				44.9	47.2	143					774
240	40.2				30.3	38.3	112					679
230	18.8				10.4	19.8	86.1					608
220						1.3	62.3					546
210							42.1					501
200												468
190												437
180												403
170												368
160												330
150												281
140												237
130												206
120												189
110												127

ELECTRON DENSITY

PUERTO RICO 60 W 16 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A		A	A	8	A		A	A	A
HMIN				110	109			277	238	241	313	
HMAX				380	364			392	401	435	482	
SHMAX				2262	1901			1047	1071	1008	1134	
KM												
490											1191	
480											1191	
470											1182	
460											1162	
450											1130	
440										1072	1084	
430										1071	1024	
420										1057	960	
410									1119	1028	875	
400								1367	1119	985	781	
390								1367	1111	929	667	
380				1756				1354	1091	861	540	
370				1748	1555			1324	1058	794	403	
360				1726	1554			1277	1009	707	286	
350				1688	1540			1212	948	616	189	
340				1631	1510			1143	887	519	112	
330				1568	1463			1027	810	408	67.6	
320				1476	1390			889	732	310	40.2	
310				1379	1307			698	643	235		
300				1274	1221			417	548	174		
290				1164	1124			143	446	131		
280				1034	1016			40.2	335	97.2		
270				903	907				219	69.5		
260				781	794				127	49.6		
250				679	698				65.7	29.8		
240				594	608				12.4			
230				536	534							
220				492	477							
210				456	432							
200				424	398							
190				389	370							
180				355	339							
170				318	307							
160				282	270							
150				246	237							
140				216	211							
130				194	195							
120				179	184							
110				12.4	112							

ELECTRON DENSITY

PUERTO RICO 60 W 17 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	F					A	A	A				A
HMIN	265	239	313	324	280	228	256	217	110	109	109	
HMAX	380	365	452	463	415	349	360	372	334	381	383	
SHMAX	921	782	666	534	642	545	469	727	1154	1778	1997	
KM												
470				679								
460			794	679								
450			793	669								
440			786	648								
430			769	615								
420			742	573	794							
410			707	514	792							
400			658	452	781							
390			594	382	757					1167	1393	
380	1265		524	316	720			754		1167	1393	
370	1255	1004	437	248	674			754		1163	1384	
360	1225	1002	344	179	619		079	749		1154	1365	
350	1175	987	251	107	553	754	673	736		1139	1332	
340	1104	956	161	63.8	477	749	656	716	1004	1119	1283	
330	1016	911	83.8	34.6	389	728	625	688	1004	1093	1234	
320	896	847	43.3		298	691	586	654	995	1062	1169	
310	754	770			189	643	534	612	976	1025	1102	
300	590	679			104	580	469	562	946	980	1034	
290	362.	573			53.1	508	380	502	909	931	960	
280	143	467				417	274	432	863	880	889	
270	49.6	335				335	119	362	805	820	818	
260		198				251	44.9	286	739	754	747	
250		83.8				152		212	665	685	679	
240		12.4				77.6		135	587	608	619	
230						21.7		71.4	508	534	564	
220								19.3	441	472	520	
210									383	422	481	
200									330	381	442	
190									286	343	403	
180									248	306	365	
170									212	266	324	
160									179	226	282	
150									149	189	240	
140									129	165	196	
130									121	155	177	
120									115	148	168	
110									49.6	71.4	127	

ELECTRON DENSITY

PUERTO RICO 60 W 17 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A		A	A	A		J	A
HMIN						118			218	326	271	249
HMAX						447			425	515	420	383
SHMAX						2722			1377	1815	1657	1609
KM												
520										1786		
510										1784		
500										1768		
490										1736		
480										1689		
470										1626		
460										1546		
450						1969				1455		
440						1965				1341		
430						1946			1215	1212		
420						1911			1214	1065	1846	
410						1849			1204	896	1835	
400						1786			1183	698	1803	
390						1702			1152	508	1749	2063
380						1607			1110	335	1674	2062
370						1501			1055	219	1577	2039
360						1394			992	135	1458	1987
350						1278			924	79.7	1312	1907
340						1143			850	49.6	1159	1797
330						1016			770	17.0	990	1652
320						896			686		814	1468
310						781			599		.625	1240
300						679			516		417	982
290						590			432		179	679
280						521			353		65.7	389
270						467			270			179
260						421			192			77.6
250						389			127			12.4
240						362			79.7			
230						343			49.6			
220						324			12.4			
210						306						
200						288						
190						265						
180						237						
170						207						
160						179						
150						155						
140						140						
130						131						
120						49.6						

ELECTRON DENSITY

PUERTO RICO 60 W 18 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A	A		A	A	A	A		A	A
HMIN		234	303	228	268	258	269			110		
HMAX		411	477	430	492	425	418			386		
SHMAX		1273	962	1177	973	1013	886			2490		
KM												
500					745							
490					745							
480			917		742							
470			915		734							
460			905		722							
450			887		705							
440			859		684							
430			826	1004	657	960						
420		1393	784	1001	627	959	885					
410		1393	733	990	592	952	883					
400		1383	673	972	553	936	873					
390		1355	608	945	508	913	856			1876		
380		1310	540	913	464	882	830			1873		
370		1247	462	875	417	842	797			1857		
360		1167	382	829	371	798	758			1826		
350		1073	302	777	323	744	711			1780		
340		971	226	716	276	679	655			1720		
330		847	167	649	232	608	594			1642		
320		716	112	573	191	532	516			1555		
310		573	53.1	500	152	446	439			1446		
300		446		417	115	353	344			1330		
290		310		342	80.7	251	209			1212		
280		198		270	52.2	143	104			1084		
270		132		205	12.4	71.4	12.4			960		
260		87.2		143		21.7				854		
250		55.9		88.3						745		
240		26.6		52.2						652		
230				12.4						573		
220										522		
210										477		
200										439		
190										401		
180										362		
170										315		
160										267		
150										226		
140										194		
130										175		
120										166		
110										49.6		

ELECTRON DENSITY

PUERTO RICO 60 W 18 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A		B	A	A	A	A			S		
HMIN	109	110	112	109			116	256	228	276	267	241
HMAX	404	400	432	407			402	405	393	420	369	357
SHMAX	2661	2556	2697	2378			1496	1296	1202	1359	993	890
KM												
440			1727									
430			1726									
420			1719							1555		
410	2063		1701	1640			1119	1446		1547		
400	2062	1815	1672	1637			1119	1444	1316	1520		
390	2043	1808	1624	1623			1112	1428	1315	1475		
380	2004	1786	1575	1597			1095	1396	1302	1413		
370	1944	1750	1517	1560			1067	1347	1274	1332	1612	
360	1860	1699	1453	1506			1027	1276	1230	1240	1596	1316
350	1760	1631	1367	1452			977	1196	1171	1119	1541	1309
340	1631	1555	1270	1379			922	1105	1096	975	1446	1275
330	1501	1456	1172	1295			863	990	1004	814	1324	1213
320	1356	1352	1073	1205			805	861	896	625	1143	1124
310	1216	1250	960	1115			742	704	781	403	939	1004
300	1096	1143	858	1013			684	540	661	229	679	875
290	946	1027	764	907			625	362	540	104	417	716
280	824	907	679	804			567	189	403	40.2	161	557
270	726	804	608	716			508	90.5	274		40.2	335
260	643	716	554	629			456	40.2	170			143
250	583	636	515	557			408		97.2			65.7
240	540	573	483	503			362		54.8			
230	508	528	459	465			315		12.4			
220	479	494	441	438			274					
210	446	467	427	417			240					
200	405	442	413	395			205					
190	375	421	400	368			176					
180	353	398	383	338			152					
170	327	372	352	313			129					
160	276	339	323	286			113					
150	234	303	293	251			102					
140	209	266	260	217			94.1					
130	195	237	235	197			89.0					
120	186	222	219	187			83.8					
110	127	60.0		127								

ELECTRON DENSITY

PUERTO RICO 60 W 19 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A	A	A	A	A	A	A	A	A	A	A
HMIN	243	260	263	288								
HMAX	351	388	366	431								
SHMAX	893	595	457	497								
KM												
440				484								
430				484								
420				482								
410				476								
400				466								
390		688		451								
380		685		434								
370		674	599	414								
360	1191	653	597	386								
350	1191	622	589	355								
340	1181	585	571	321								
330	1154	540	546	282								
320	1110	492	511	240								
310	1050	441	468	189								
300	969	382	422	132								
290	875	310	362	60.0								
280	742	233	286									
270	590	104	161									
260	389	12.4										
250	143											

ELECTRON DENSITY

PUERTO RICO 60 W 19 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	S	A	A	A	B			A	A	
HMIN					113			270	300	312	311	310
HMAX					367			404	430	442	449	414
SHMAX					1340			839	756	843	1029	836
KM												
450										982	1143	
440										982	1138	
430									917	974	1122	
420									910	953	1094	1167
410								928	890	921	1054	1165
400								927	854	875	1004	1148
390								918	809	820	939	1112
380								900	748	754	858	1056
370					960			871	685	670	764	978
360					958			834	608	573	655	885
350					947			788	524	477	519	774
340					928			729	427	362	389	643
330					894			665	323	240	219	477
320					854			582	219	119	83.8	219
310					811			487	104			12.4
300					760			389	12.4			
290					706			251				
280					649			127				
270					590							
260					536							
250					490							
240					450							
230					420							
220					396							
210					377							
200					360							
190					344							
180					325							
170					302							
160					274							
150					248							
140					219							
130					193							
120					179							

ELECTRON DENSITY

PUERTO RICO 60 W 20 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A							S			A	
HMIN	280	279	270	260	252	252	242	110	110	112		
HMAX	396	383	366	364	364	345	331	302	323	301		
SHMAX	1025	774	679	625	588	498	489	727	1040	1085		
KM												
400	1316											
390	1312	1119										
380	1293	1118										
370	1255	1102	1096	960	885							
360	1200	1065	1091	959	884							
350	1127	1004	1063	939	866	784						
340	1038	926	1010	896	829	782	754					
330	917	824	926	834	781	766	754		875			
320	774	691	814	754	701	734	747		875			
310	590	557	691	652	608	688	727	784	869	1143		
300	389	403	540	540	492	625	696	784	855	1143		
290	198	219	362	403	362	529	656	777	834	1132		
280	12.4	71.4	161	240	240	427	590	763	805	1104		
270			40.2	112	135	286	492	739	770	1055		
260				12.4	65.7	127	375	712	726	996		
250							143	669	679	909		
240								608	623	824		
230								532	562	716		
220								432	502	608		
210								327	441	508		
200								248	383	439		
190								194	325	375		
180								154	276	320		
170								125	236	274		
160								106	201	237		
150								88.8	171	202		
140								80.7	151	169		
130								76.3	137	154		
120								71.9	118	143		
110								12.4	49.6			

ELECTRON DENSITY

PUERTO RICO 60 W 20 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	R		S	A			A				A	
HMIN	110	111	110	110	110	115	114	249	218	295	300	297
HMAX	372	377	383	380	374	369	396	389	382	416	401	426
SHMAX	2139	2249	2201	2061	1952	1785	2071	1330	1306	894	789	1172
KM												
430												1367
420										1240		1364
410										1235	1265	1347
400							1583			1206	1265	1313
390			1669				1582	1612	1446	1150	1246	1264
380	1555	1683	1668	1669	1669		1570	1602	1446	1068	1196	1198
370	1555	1680	1656	1660	1667	1640	1549	1570	1434	960	1114	1124
360	1547	1663	1629	1634	1649	1632	1517	1515	1405	854	1004	1016
350	1527	1633	1588	1590	1612	1604	1476	1438	1358	729	847	889
340	1495	1589	1526	1524	1555	1555	1424	1350	1291	608	698	754
330	1451	1528	1454	1446	1472	1483	1362	1212	1213	462	540	590
320	1387	1460	1367	1341	1379	1399	1282	1065	1119	298	335	417
310	1316	1376	1270	1240	1265	1291	1199	917	1004	170	143	240
300	1233	1274	1164	1107	1131	1157	1115	735	875	71.4	12.4	83.8
290	1158	1178	1050	982	1004	1016	1004	540	742			
280	1068	1073	928	861	875	875	889	362	596			
270	969	949	824	742	754	742	774	229	417			
260	875	834	716	643	652	619	667	104	262			
250	794	735	636	567	573	524	551	12.4	161			
240	716	643	573	503	503	452	456		92.8			
230	643	568	522	462	455	398	375		54.8			
220	580	513	481	429	417	362	316		12.4			
210	524	465	452	404	389	329	262					
200	472	432	430	384	362	298	219					
190	425	404	407	367	335	268	186					
180	385	382	381	347	307	240	156					
170	353	365	352	323	281	213	134					
160	323	344	314	289	253	185	115					
150	289	316	276	257	224	161	103					
140	252	272	240	231	196	143	94.6					
130	234	237	214	212	176	136	89.5					
120	222	219	200	200	164	128	84.3					
110	49.6		12.4	40.2	40.2							

ELECTRON DENSITY

PUERTO RICO 60 W 21 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	S							B	A			A
HMIN	259	243	257	269	245	238	231		110	109	106	
HMAX	376	346	374	388	335	363	352		319	334	396	
SHMAX	943	739	658	735	565	478	528		1151	1541	2147	
KM												
400											1316	
390				960							1314	
380	1367		896	956							1307	
370	1362		895	940		648					1293	
360	1333		881	909		648	661				1273	
350	1277	1167	853	870		639	661				1246	
340	1194	1162	809	814	885	619	655			1303	1206	
330	1080	1132	754	735	883	585	641			1302	1164	
320	946	1076	679	631	867	544	619		1215	1291	1119	
310	781	993	585	508	834	489	589		1207	1267	1070	
300	608	875	487	375	787	417	553		1179	1230	1019	
290	389	754	362	219	716	344	502		1131	1179	973	
280	219	596	229	90.5	619	270	439		1065	1123	896	
270	83.8	417	104	12.4	497	179	362		978	1050	834	
260	12.4	198	40.2		335	107	251		875	969	777	
250		60.0			112	62.9	143		774	883	722	
240						12.4	65.7		679	802	661	
230									573	716	603	
220									487	634	557	
210									410	548	516	
200									342	462	467	
190									280	396	417	
180									224	341	371	
170									179	291	328	
160									143	248	290	
150									126	216	249	
140									119	191	203	
130									112	169	178	
120									103	153	168	
110									12.4	112	143	

ELECTRON DENSITY

PUERTO RICO 60 W 21 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	S		A	A	A	A		A	A	A
HMIN	113	112		113	109	110		220	252	270	289	292
HMAX	376	387		376	373	372		365	401	418	387	406
SHMAX	2400	2622		2531	2285	2319		1569	1542	1534	951	1173
KM												
420										1640		
410									1640	1635		1555
400									1640	1613		1551
390		2032							1630	1574	1528	1527
380	2000	2027		2161	2128	2193			1604	1519	1519	1480
370	1996	2005		2156	2127	2193		1697	1561	1446	1478	1410
360	1972	1965		2130	2104	2173		1695	1498	1359	1403	1318
350	1925	1907		2081	2053	2126		1677	1429	1251	1291	1198
340	1850	1826		2003	1964	2050		1642	1341	1131	1143	1065
330	1762	1732		1907	1858	1941		1589	1226	990	982	875
320	1643	1618		1786	1727	1812		1516	1096	820	754	643
310	1515	1487		1640	1572	1652		1436	939	643	477	375
300	1381	1354		1493	1411	1483		1329	774	446	143	143
290	1240	1228		1324	1216	1291		1198	590	274	12.4	
280	1080	1096		1143	1004	1096		1065	403	127		
270	946	975		990	847	917		917	240	12.4		
260	824	847		847	704	754		716	112			
250	716	735		726	596	619		508				
240	629	634		634	521	529		262				
230	564	560		560	464	459		127				
220	517	503		503	421	405		12.4				
210	477	458		459	385	365						
200	443	424		417	353	329						
190	410	398		383	324	298						
180	375	375		353	296	268						
170	342	350		325	268	237						
160	310	319		299	240	210						
150	278	289		273	212	182						
140	236	257		243	191	156						
130	210	232		215	176	139						
120	179	202		192	166	128						
110					112	40.2						

ELECTRON DENSITY

PUERTO RICO 60 W 22 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A		S				R	A	A		
HMIN	280	283	249	229	244	265	250	110			108	109
HMAX	392	370	340	320	362	364	377	324			351	364
SHMAX	1133	888	772	555	500	401	577	948			1967	2180
KM												
400	1555											
390	1555											
380	1537						643					
370	1494	1473			707	643	641					1756
360	1425	1456			707	641	633				1555	1755
350	1330	1405			697	626	619				1555	1738
340	1212	1320	1290		673	585	598				1548	1704
330	1065	1198	1275		643	535	570	993			1529	1647
320	896	1050	1229	960	587	477	536	992			1499	1577
310	679	854	1152	947	521	403	495	982			1456	1492
300	417	608	1050	907	446	335	446	960			1397	1388
290	179	262	896	841	362	255	383	931			1334	1274
280	12.4		716	748	274	161	316	891			1262	1164
270			508	631	170	65.7	240	827			1172	1050
260			219	492	90.5		143	745			1073	939
250			40.2	335	49.6		12.4	643			971	824
240				143				529			847	716
230				40.2				427			729	616
220								335			619	534
210								262			524	477
200								214			452	435
190								170			398	405
180								134			358	384
170								108			328	368
160								93.1			301	346
150								83.4			266	316
140								79.6			219	278
130								75.7			184	243
120								71.8			170	213
110								12.4			127	143

ELECTRON DENSITY

PUERTO RICO 60 W 22 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL							A					A
HMIN	110	109	117	115	116	115		259	249	273	278	302
HMAX	376	384	391	379	379	361		373	373	397	413	424
SHMAX	2358	2375	2549	2514	2395	1920		1420	1344	1417	1380	1386
KM												
430												1786
420											1612	1784
410											1611	1761
400			2063							1727	1595	1714
390		1907	2063							1721	1560	1642
380	1876	1905	2051	2096	2096			1938	1727	1694	1505	1545
370	1872	1887	2018	2087	2086	1876		1936	1726	1645	1429	1429
360	1850	1850	1964	2057	2055	1876		1911	1707	1573	1341	1269
350	1808	1792	1888	2006	2001	1860		1854	1664	1476	1226	1096
340	1739	1705	1795	1933	1925	1817		1762	1598	1365	1080	834
330	1658	1607	1680	1830	1819	1741		1640	1506	1226	917	573
320	1555	1495	1542	1708	1695	1643		1493	1394	1065	735	335
310	1435	1367	1401	1581	1555	1519		1321	1254	875	540	83.8
300	1319	1224	1240	1433	1394	1386		1096	1073	643	348	
290	1191	1080	1080	1291	1240	1240		834	854	417	179	
280	1061	946	931	1127	1034	1065		540	590	143	60.0	
270	939	824	794	975	875	917		179	310			
260	834	726	691	834	742	767		12.4	104			
250	735	636	608	716	631	655			12.4			
240	661	568	546	625	540	551						
230	598	520	495	547	477	469						
220	555	481	454	492	432	403						
210	519	449	427	450	396	346						
200	481	426	407	414	365	302						
190	442	404	389	380	335	262						
180	401	381	366	350	307	231						
170	362	352	338	321	280	201						
160	324	314	310	292	248	171						
150	292	274	272	262	215	152						
140	262	235	233	232	186	141						
130	236	215	209	209	171	134						
120	207	202	161	179	143	127						
110	40.2	97.2										

ELECTRON DENSITY

PUERTO RICO 60 W 23 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A						A	A	A	A	A
HMIN	287	233	235	309	304	265	228				109	117
HMAX	383	316	379	422	409	357	299				352	360
SHMAX	1299	909	975	668	629	691	422				1458	1794
KM												
430				960								
420				960								
410				947	960							
400				917	952							
390	2000			869	925							
380	1998		960	802	875							
370	1967		957	716	810							
360	1896		946	616	716	1096					1143	1446
350	1786		927	508	608	1090					1143	1440
340	1631		898	348	477	1064					1134	1420
330	1446		864	189	335	1017					1114	1387
320	1175	1907	824	77.6	161	943					1077	1341
310	875	1893	767	12.4	60.0	847					1031	1278
300	540	1811	704			716	834				979	1208
290	127	1669	636			557	825				922	1124
280		1420	560			362	794				854	1031
270		1096	484			112	742				787	928
260		679	389				661				716	820
250		262	286				540				643	707
240		60.0	135				286				573	608
230							49.6				508	527
220											456	467
210											417	421
200											386	386
190											362	362
180											341	345
170											316	326
160											286	295
150											240	248
140											209	217
130											192	205
120											180	161
110											49.6	

ELECTRON DENSITY

PUERTO RICO 60 W 23 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		A	S	A	A	A			A			A
HMIN	109	110			111		230	250	225	230	264	319
HMAX	374	364			370		396	385	363	384	403	434
SHMAX	2191	2127			2080		1803	1562	1227	1042	875	807
KM												
440												1096
430												1094
420												1077
410											1143	1042
400							1907				1142	987
390							1903	1756		1215	1126	909
380	1815						1880	1753		1214	1091	824
370	1814	1907			1846		1837	1734	1555	1198	1037	716
360	1797	1905			1835		1773	1694	1554	1165	960	608
350	1760	1885			1803		1688	1635	1536	1114	875	462
340	1704	1843			1751		1586	1555	1495	1042	754	310
330	1625	1777			1677		1460	1456	1430	960	631	143
320	1534	1687			1576		1312	1341	1349	865	508	12.4
310	1420	1568			1458		1143	1198	1240	764	362	
300	1291	1446			1329		939	1050	1107	655	240	
290	1143	1298			1191		716	875	930	540	138	
280	1004	1127			1034		508	679	774	417	79.7	
270	875	975			875		362	446	573	286	40.2	
260	745	820			729		286	198	310	179		
250	643	691			608		229	12.4	152	97.2		
240	560	590			516		179		79.7	49.6		
230	504	514			451		40.2		33.2			
220	468	456			407							
210	439	414			374							
200	415	379			348							
190	389	345			328							
180	362	313			307							
170	332	283			279							
160	294	255			240							
150	256	233			215							
140	228	217			195							
130	212	207			176							
120	201	194			162							
110	127	12.4										

ELECTRON DENSITY

PUERTO RICO 60 W 24 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A						8		A			A
HMIN	277	259	219	240	300	270		110		110	110	
HMAX	418	368	317	342	404	378		294		348	391	
SHMAX	898	659	682	491	475	521		559		871	1210	
KM												
420	1215											
410	1208				679							
400	1181				678						643	
390	1129				668						643	
380	1057				646	716					641	
370	960	1393			614	712					637	
360	834	1386			568	697					631	
350	704	1355		716	502	669				508	622	
340	557	1301		716	424	630				507	610	
330	403	1222		708	335	579				505	595	
320	251	1131	1143	687	233	514				502	578	
310	155	990	1136	655	127	439				497	559	
300	97.2	794	1101	612	12.4	353		643		490	538	
290	57.4	573	1038	553		251		642		481	515	
280	18.0	286	949	477		127		632		470	491	
270		112	820	371		12.4		610		456	469	
260		12.4	679	240				580		442	448	
250			508	97.2				535		427	431	
240			251					482		412	414	
230			97.2					417		397	401	
220			12.4					353		381	387	
210								280		365	373	
200								224		345	358	
190								179		324	339	
180								148		299	317	
170								125		271	295	
160								107		243	268	
150								91.9		212	232	
140								81.8		176	193	
130								76.9		156	174	
120								71.9		146	164	
110								12.4		49.6	12.4	

ELECTRON DENSITY

PUERTO RICO 60 W 24 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A			A	
HMIN								248	264	280	284	290
HMAX								366	411	409	401	414
SHMAX								1108	1172	1170	782	1129
KM												
420									1290			1446
410									1290	1420	1215	1445
400									1280	1412	1215	1425
390									1255	1386	1196	1385
380									1214	1342	1144	1323
370								1555	1156	1279	1060	1240
360								1550	1086	1196	946	1143
350								1520	996	1096	820	1016
340								1461	896	975	679	861
330								1370	784	834	524	698
320								1253	679	667	362	492
310								1119	562	492	219	286
300								960	446	286	97.2	127
290								754	310	127	46.5	12.4
280								508	198	12.4		
270								286	97.2			
260								112				
250								26.3				

ELECTRON DENSITY

PUERTO RICO 60 W 25 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL			A	A			A	A	A	A	A	A
HMIN	280	230	253	280	259	235	259			110	108	107
HMAX	394	339	364	410	372	319	366			365	348	383
SHMAX	954	955	741	690	604	482	387			1394	1536	1906
KM												
410				844								
400	1367			838								
390	1365			818								1240
380	1341			786	854							1240
370	1291		1096	744	854		524			1016		1233
360	1211		1094	685	842		523			1014		1219
350	1107		1074	622	814		514			1005	1215	1198
340	982	1316	1033	540	769		498			986	1212	1168
330	834	1307	968	462	709		474			956	1196	1131
320	661	1278	885	380	636	794	443			917	1169	1091
310	477	1229	781	286	551	788	403			870	1129	1037
300	262	1159	655	189	456	767	348			819	1078	973
290	112	1068	519	97.2	348	732	278			766	1017	910
280	12.4	946	310	40.2	198	684	198			710	946	841
270		807	135		90.5	608	112			653	868	767
260		625	54.8		12.4	492	12.4			598	794	704
250		417				335				546	724	643
240		179				112				504	643	588
230		12.4								465	573	544
220										432	508	505
210										404	456	474
200										378	413	446
190										348	375	417
180										314	342	389
170										278	313	358
160										243	282	324
150										213	250	292
140										182	219	259
130										158	197	229
120										146	183	207
110										40.2	143	161

ELECTRON DENSITY

PUERTO RICO 60 W 25 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	S	A		A		A	A			A
HMIN	110	110		113	112		117		243	289	329	299
HMAX	392	381		370	395		386		371	421	454	410
SHMAX	1950	2043		1976	1706		1649		932	738	920	852
KM												
460											1143	
450											1141	
440											1127	
430										939	1095	
420										938	1048	
410										929	982	1215
400	1290				1240					905	900	1204
390	1290	1583			1239		1500			865	814	1171
380	1284	1583			1228		1497		1050	811	704	1116
370	1270	1574		1612	1207		1479		1049	739	585	1041
360	1247	1549		1604	1176		1445		1042	661	467	939
350	1215	1509		1581	1132		1394		1022	573	310	820
340	1176	1453		1539	1078		1324		985	477	135	691
330	1127	1367		1485	1017		1240		936	362	12.4	508
320	1069	1270		1422	946		1143		885	240		286
310	1004	1178		1341	867		1019		820	143		119
300	931	1073		1240	786		889		754	83.8		12.4
290	858	949		1119	707		767		670	12.4		
280	778	834		993	629		631		582			
270	704	726		875	553		519		487			
260	636	643		745	492		424		362			
250	573	568		643	442		362		143			
240	519	513		548	403		314					
230	477	477		483	372		280					
220	446	451		435	348		251					
210	424	434		404	328		224					
200	404	419		382	310		201					
190	385	399		363	293		177					
180	368	375		342	270		155					
170	348	348		313	243		135					
160	323	321		282	217		118					
150	289	292		250	204		105					
140	251	265		221	194		95.3					
130	219	240		206	187		88.9					
120	204	222		143	180		71.4					
110	49.6	12.4										

ELECTRON DENSITY

PUERTO RICO 60 W 26 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A								A	A	
HMIN		280	282	247	228	256	287	114	110			107
HMAX		418	406	358	329	382	403	357	329			336
SHMAX		744	729	633	497	388	393	894	1389			1716
KM												
420		917										
410		913	982				508					
400		895	979				508					
390		863	961			477	502					
380		819	926			477	488					
370		761	880			472	467					
360		686	810	1016		461	440	688				
350		616	726	1008		444	405	687				
340		529	619	975		420	362	682				1555
330		427	508	917	804	392	310	672	1316			1552
320		310	375	834	796	354	251	658	1310			1531
310		198	229	729	770	310	179	638	1292			1492
300		104	119	596	726	251	97.2	613	1261			1429
290		54.1	56.5	446	665	192	40.2	585	1214			1341
280				286	582	138		553	1163			1240
270				143	477	79.7		519	1096			1143
260				71.4	348	40.2		484	993			1027
250				19.3	189			443	875			907
240					77.6			403	742			794
230					21.7			357	631			679
220								314	524			582
210								262	437			508
200								203	362			451
190								156	304			409
180								122	251			372
170								101	207			335
160								83.8	170			302
150								75.0	143			257
140								69.0	126			216
130								64.9	120			195
120								60.8	114			183
110									12.4			60.0

ELECTRON DENSITY

PUERTO RICO 60 W 26 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			S	A	A	A	A	A	A			
HMIN	112	111						269	259	281	274	246
HMAX	366	389						392	414	401	388	362
SHMAX	1998	2191						1517	1472	1271	1403	1367
KM												
420									1669			
410									1667	1846		
400								1969	1647	1845		
390		1612						1968	1605	1824	2000	
380		1606						1947	1537	1766	1989	
370	1528	1586						1897	1446	1671	1943	1969
360	1526	1550						1817	1330	1540	1863	1968
350	1512	1492						1707	1212	1376	1747	1943
340	1485	1430						1570	1080	1182	1593	1882
330	1446	1349						1394	946	917	1394	1786
320	1388	1265						1201	794	661	1167	1652
310	1327	1172						960	625	389	875	1483
300	1254	1068						679	446	179	540	1265
290	1162	969						446	298	71.4	240	1004
280	1068	867						143	161		60.0	716
270	969	778						12.4	71.4			389
260	867	694							12.4			143
250	774	622										44.9
240	679	562										
230	608	513										
220	540	476										
210	492	437										
200	451	408										
190	414	387										
180	379	369										
170	343	347										
160	292	323										
150	235	293										
140	215	253										
130	206	226										
120	194	201										

ELECTRON DENSITY

PUERTO RICO 60 W 27 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL			A	A					A	A	A	
HMIN	231	266	239	209	206	226	275	112	111			111
HMAX	362	401	353	318	308	368	377	321	328			370
SHMAX	1151	1188	934	781	515	491	422	781	1217			2001
KM												
410		1473										
400		1473										
390		1461										
380		1430					608					
370	1555	1280				634	605					1528
360	1555	1310	1420			631	593					1522
350	1535	1221	1418			617	570					1503
340	1488	1111	1393			593	540					1471
330	1408	975	1337			557	497	794	1215			1424
320	1303	794	1250	1191		513	439	794	1210			1369
310	1171	608	1143	1184	794	459	368	788	1190			1305
300	1034	389	990	1154	788	396	262	772	1154			1229
290	854	198	814	1102	768	318	161	744	1102			1124
280	679	90.5	625	1022	730	240	71.4	708	1034			1027
270	477	40.2	389	917	679	167		664	952			917
260	262		189	781	608	102		601	854			814
250	127		71.4	608	519	69.1		532	742			716
240	54.8		12.4	389	417	47.7		454	619			634
230				189	262	16.4		375	508			560
220				77.6	112			310	417			503
210				12.4	40.2			257	351			451
200								215	306			411
190								179	266			380
180								153	233			351
170								129	201			324
160								112	171			293
150								98.5	146			253
140								91.2	126			227
130								84.5	119			212
120								56.5	104			201

ELECTRON DENSITY

PUERTO RICO 60 W 27 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	B	A				A	A	A	A	A	S	F
HMIN			109	111	110				259	248	289	289
HMAX			370	376	369				396	400	424	447
SHMAX			2063	2035	1873				965	1056	836	1303
KM												
450												1420
440												1416
430											1119	1397
420											1118	1363
410											1100	1313
400									1316	1215	1063	1247
390									1311	1207	1006	1167
380				1669					1285	1180	930	1073
370			1727	1666	1583				1235	1137	834	960
360			1717	1647	1576				1160	1076	716	834
350			1688	1613	1552				1061	996	590	704
340			1639	1561	1511				931	907	462	557
330			1571	1490	1453				781	804	310	375
320			1476	1404	1379				643	707	179	189
310			1365	1301	1291				477	608	97.2	97.2
300			1251	1197	1179				298	497	53.1	53.1
290			1107	1084	1061				173	375	5.5	5.5
280			975	946	931				102	240		
270			834	820	807				54.8	135		
260			716	698	704				5.5	65.7		
250			616	599	608					12.4		
240			547	521	527							
230			495	462	465							
220			454	421	417							
210			428	389	380							
200			408	364	352							
190			389	340	328							
180			368	313	301							
170			345	286	269							
160			318	253	240							
150			289	219	211							
140			255	200	188							
130			224	190	173							
120			204	180	162							
110			127		12.4							

ELECTRON DENSITY

PUERTO RICO 60 W 28 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL	A	A	A	A			A	A	A	A	A	A
HMIN	281	265	217	206	250	250	251			106		
HMAX	398	370	334	360	382	379	343			305		
SHMAX	1183	1009	927	837	620	561	453			1018		
KM												
400	1583											
390	1576				774							
380	1545				774	716						
370	1490	1500			766	712						
360	1411	1487		917	748	698						
350	1303	1445		911	719	673	716					
340	1179	1376	1341	894	679	638	716					
330	1019	1280	1339	864	631	593	705					
320	834	1157	1318	824	567	540	681					
310	573	1004	1272	771	487	469	643			982		
300	310	794	1199	709	398	389	590			981		
290	97.2	540	1107	636	298	286	524			969		
280		219	990	565	198	170	432			942		
270		49.6	834	484	104	90.5	286			909		
260			643	410	54.8	49.6	90.5			863		
250			417	327						805		
240			179	240						732		
230			83.8	161						657		
220			30.9	83.8						580		
210				40.2						508		
200										432		
190										362		
180										305		
170										257		
160										198		
150										166		
140										149		
130										140		
120										133		
110										127		

ELECTRON DENSITY

PUERTO RICO 60 W 28 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A	A	A	A	A	A	A	A	A	A	A	A
HMIN								248	256	240	249	287
HMAX								368	399	369	393	419
SHMAX								1226	1247	958	1006	1077
KM												
420												1446
410												1436
400									1446		1290	1402
390									1439		1289	1343
380									1413		1273	1260
370								1583	1370	1290	1236	1154
360								1576	1305	1282	1179	1019
350								1545	1230	1253	1104	861
340								1490	1131	1204	1004	679
330								1408	1004	1135	885	492
320								1307	875	1050	735	298
310								1184	729	917	573	152
300								1050	573	781	432	67.6
290								875	403	608	274	19.3
280								679	240	446	161	
270								477	127	219	97.2	
260								179	60.0	104	53.1	
250								26.3		54.8	5.5	

ELECTRON DENSITY

PUERTO RICO 60 W 29 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL	A	A					A	S				
HMIN	270	259	233	228	260	210	209		109	109	110	109
HMAX	386	350	348	376	358	307	292		303	332	358	361
SHMAX	1111	931	848	798	676	617	333		779	998	1228	1486
KM												
390	1640											
380	1634			928								
370	1599			926								1038
360	1531			913	1119						794	1038
350	1431	1640	1191	888	1110						792	1033
340	1298	1618	1185	850	1072					679	785	1019
330	1143	1554	1159	804	1004					679	774	996
320	917	1446	1113	742	907					676	757	966
310	698	1307	1050	670	794	1027			754	670	735	926
300	446	1096	960	582	655	1021	582		754	660	706	880
290	179	814	847	492	508	990	582		745	646	672	829
280	71.4	508	704	398	286	931	572		725	626	635	777
270	3.1	112	557	286	97.2	854	550		690	605	595	716
260		12.4	348	170		742	515		647	581	553	658
250			143	97.2		608	465		598	552	515	602
240			54.8	54.8		462	396		550	523	483	550
230				12.4		262	286		499	494	456	504
220						83.8	127		451	466	435	468
210							12.4		398	438	415	438
200									348	411	399	412
190									302	383	380	389
180									259	350	359	364
170									222	310	332	340
160									189	270	301	313
150									158	237	269	286
140									135	198	236	260
130									122	177	201	231
120									114	167	187	205
110									40.2	60.0	60.0	97.2

ELECTRON DENSITY

PUERTO RICO 60 W 29 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL		A	A		A	A	A	A		A	A	
HMIN	111	110	110	109	110			249	217	259	253	311
HMAX	366	378	380	370	362			367	402	412	406	418
SHMAX	1646	1831	1934	1875	1589			1062	1208	993	891	609
KM												
420										1119		896
410									1215	1119	1050	890
400									1215	1109	1047	866
390									1207	1086	1032	822
380		1316	1420						1187	1049	1003	761
370	1265	1212	1414	1446	1341			1341	1155	998	960	686
360	1263	1300	1398	1440	1341			1337	1111	931	905	590
350	1248	1279	1371	1421	1329			1316	1056	858	834	477
340	1220	1247	1332	1390	1299			1277	987	764	745	362
330	1179	1203	1283	1346	1252			1221	909	661	643	229
320	1125	1157	1233	1284	1184			1156	814	540	529	112
310	1057	1096	1158	1216	1105			1061	716	432	417	
300	978	1022	1068	1135	1013			939	596	323	298	
290	892	934	971	1050	917			794	477	209	179	
280	804	844	865	939	824			643	353	112	112	
270	716	754	764	834	716			446	251	60.0	68.6	
260	643	661	661	735	625			161	170	5.5	40.2	
250	568	580	567	643	547			12.4	112			
240	513	519	503	557	495				74.5			
230	473	473	458	492	454				47.7			
220	442	438	429	443	420				12.4			
210	421	412	408	411	392							
200	405	389	391	385	362							
190	389	371	374	364	333							
180	369	352	355	342	307							
170	344	332	332	318	281							
160	310	303	305	291	253							
150	267	259	274	262	226							
140	231	222	237	234	205							
130	213	198	215	215	190							
120	202	186	203	202	179							
110		49.6	49.6	83.8	40.2							

ELECTRON DENSITY

PUERTO RICO 60 W 30 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
OUAL								S	A		A	A
HMIN	295	263	238	229	256	238	233	209	110	105		109
HMAX	414	362	357	338	338	340	347	328	305	290		375
SHMAX	678	696	692	501	392	348	342	467	855	1047		1759
KM												
420	960											
410	959											
400	943											
390	908											
380	857											1215
370	786	1167										1214
360	698	1166	1016									1206
350	596	1145	1011				500					1191
340	477	1094	990	754	698	540	497					1167
330	335	1013	946	749	691	535	485	608				1136
320	189	903	889	726	667	518	460	604				1099
310	90.5	767	807	687	623	491	428	591	885			1050
300	43.3	590	691	634	565	455	383	567	883			992
290		389	540	560	477	400	330	536	861	1050		924
280		179	389	477	375	327	270	492	824	1045		854
270		54.8	240	389	240	248	205	442	771	1029		786
260			127	286	71.4	152	138	383	710	1004		710
250			60.0	179		71.4	79.7	323	649	964		643
240			12.4	77.6		12.4	43.3	262	580	917		585
230				12.4				179	514	865		531
220								90.5	456	764		488
210								12.4	400	643		450
200									351	529		414
190									305	408		379
180									262	326		343
170									222	293		306
160									192	262		266
150									163	231		227
140									139	203		196
130									123	177		177
120									114	157		167
110									12.4	145		127

ELECTRON DENSITY

PUERTO RICO 60 W 30 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL	A		A	A		A	A	A			A	
HMIN	110	109	109	108	107	108		239	213	267	289	266
HMAX	383	386	390	376	366	371		350	361	405	389	426
SHMAX	1949	2106	2358	2144	1925	1934		1191	926	916	684	1090
KM												
430												1215
420												1213
410										1191		1197
400										1188		1168
390	1393	1928	1756							1169	1191	1125
380	1393	1525	1749	1727		1669				1129	1175	1068
370	1383	1511	1729	1724	1669	1668			1143	1069	1120	997
360	1361	1483	1696	1705	1665	1658			1143	987	1027	909
350	1327	1440	1650	1669	1645	1630		1583	1131	885	903	804
340	1280	1378	1590	1617	1606	1585		1572	1100	767	754	688
330	1216	1212	1513	1547	1547	1516		1539	1050	631	590	562
320	1136	1240	1427	1463	1463	1437		1483	978	508	417	432
310	1065	1143	1330	1353	1370	1341		1406	892	375	240	286
300	990	1059	1212	1240	1262	1226		1316	804	240	104	161
290	917	960	1080	1119	1154	1096		1184	704	135	12.4	72.8
280	834	865	946	982	1019	971		1027	596	71.4		57.4
270	754	770	820	847	875	834		814	487	19.3		23.5
260	672	686	704	742	742	716		540	362			
250	601	608	608	650	625	616		198	229			
240	540	551	534	573	540	532		40.2	127			
230	496	504	477	519	472	465			75.6			
220	460	471	440	472	425	411			42.5			
210	433	444	410	430	386	365						
200	413	425	388	392	355	324						
190	400	403	374	362	325	289						
180	386	379	359	335	299	256						
170	362	354	337	312	271	225						
160	324	328	300	282	240	198						
150	286	300	268	240	209	174						
140	250	258	240	212	177	154						
130	219	222	219	194	159	139						
120	206	206	206	184	150	130						
110	49.6	112	143	143	127	71.4						

ELECTRON DENSITY

PUERTO RICO 60 W 31 JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL		A	A				A	A	A	A	A	A
HMIN	289	269	284	247	225	248	278	211				
HMAX	426	381	417	356	392	390	368	353				
SHMAX	962	726	938	775	812	732	661	978				
KM												
430	1215											
420	1212		1167									
410	1193		1163									
400	1156		1144		917							
390	1102	1167	1111		917	917						
380	1031	1167	1061		908	910						
370	939	1148	997		887	890	1072					
360	824	1100	917	1143	850	854	1065	1143				
350	704	1022	807	1139	807	805	1035	1142				
340	557	917	679	1115	747	745	981	1128				
330	389	781	540	1071	670	661	900	1096				
320	219	631	375	1004	587	573	794	1038				
310	112	477	209	917	508	477	667	975				
300	53.1	262	104	804	424	371	524	900				
290	6.8	135	49.6	661	344	251	286	818				
280		67.6		508	262	161	49.6	735				
270		12.4		286	192	97.2		643				
260				112	132	54.8		548				
250				40.2	83.8	12.4		456				
240					52.2			323				
230					21.7			143				
220								60.0				

ELECTRON DENSITY

PUERTO RICO 60 W 31 JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A		A	A	A	A					A	A
HMIN		115	118	115	107	109	115	209	200	253	296	269
HMAX		367	356	353	356	356	336	338	374	394	415	388
SHMAX		2294	2245	2300	2240	2020	1741	1464	1202	913	947	1033
KM												
420											1341	
410											1338	
400										1215	1313.	
390										1214	1264	1420
380									1240	1194	1189	1412
370		2128							1239	1152	1096	1381
360		2120	2193	2260	2063	2032			1225	1088	960	1327
350		2080	2187	2258	2059	2027			1197	1004	807	1249
340		1998	2147	2233	2032	1996	1907	1727	1153	896	643	1153
330		1880	2072	2176	1982	1938	1902	1720	1089	767	446	1019
320		1742	1948	2088	1907	1851	1874	1695	1019	643	262	875
310		1588	1801	1962	1806	1747	1820	1651	928	492	112	679
300		1411	1636	1803	1682	1604	1740	1586	834	348	43.3	462
290		1240	1465	1631	1537	1460	1626	1501	745	219		240
280		1050	1274	1429	1371	1274	1487	1400	643	132		97.2
270		903	1080	1216	1191	1050	1341	1278	551	71.4		12.4
260		774	917	1004	1004	854	1159	1127	462	42.5		
250		670	767	814	847	704	960	939	371			
240		594	652	667	704	585	735	679	286			
230		540	567	565	585	477	557	389	198			
220		505	508	489	500	406	417	127	119			
210		479	465	443	441	353	310	12.4	60.0			
200		456	433	408	393	310	246		3.1			
190		429	406	378	362	270	205					
180		396	378	352	332	237	176					
170		365	348	328	301	195	152					
160		332	316	306	266	161	131					
150		300	278	283	233	130	115					
140		266	246	251	201	114	100					
130		227	221	216	181	107	90.9					
120		201	179	186	170	102	79.7					
110					161	97.2						

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

PUERTO RICO — 60 W — JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	27	27	29	29	28	26	23	19	19	20	20	17
HMIN	269	253	255	262	261	254	242	134	110	108	109	109
NMAX	1303	1181	934	821	764	700	692	871	1063	1076	1256	1421
HMAX	385	362	377	385	381	376	362	341	343	345	364	370
SHMAX	892	782	686	616	543	510	507	902	1278	1377	1697	1892
SHINF	4567	4113	3321	2932	2699	2484	2460	3359	4276	4413	5239	5901
KM												
950	127	103	87.0	80.4	73.5	65.5	61.1	68.7	85.0	87.5	111	129
900	162	132	112	103	94.2	84.0	78.3	88.0	109	112	142	166
850	208	169	143	132	121	108	101	113	140	144	182	213
800	267	216	183	169	155	138	129	145	179	184	233	272
750	341	277	234	216	198	176	164	185	229	236	298	348
700	433	352	298	275	251	224	210	236	293	301	381	444
650	549	447	377	347	318	284	266	301	372	382	483	563
600	688	563	473	434	399	357	335	380	470	483	608	708
550	849	701	585	535	492	442	416	476	588	603	757	880
500	1023	854	707	640	592	534	506	586	723	741	923	1070
490	1057	885	731	661	611	552	525	609	751	769	957	1108
480	1090	916	755	681	630	570	543	632	780	798	991	1146
470	1123	947	778	700	649	588	561	655	808	827	1024	1184
460	1153	977	800	718	666	604	578	679	836	855	1057	1220
450	1182	1006	821	735	683	620	595	702	864	883	1089	1255
440	1208	1034	840	749	697	635	611	724	891	910	1119	1288
430	1231	1059	857	761	710	649	626	746	917	936	1147	1319
420	1251	1083	872	771	720	660	640	767	942	961	1173	1347
410	1265	1104	883	775	727	670	652	786	966	984	1196	1371
400	1273	1122	891	776	731	675	662	804	987	1005	1216	1390
390	1271	1135	893	771	729	677	668	820	1006	1023	1231	1405
380	1258	1143	890	759	722	674	672	834	1021	1038	1242	1414
370	1228	1141	879	741	708	665	672	845	1034	1049	1248	1415
360	1179	1129	860	716	685	650	666	853	1042	1055	1247	1407
350	1112	1102	830	682	651	625	654	856	1044	1056	1238	1387
340	1023	1060	789	638	606	591	634	853	1042	1051	1218	1354
330	909	998	737	586	552	545	603	842	1033	1038	1189	1307
320	766	916	673	527	487	490	561	826	1017	1019	1148	1250
310	616	817	598	463	416	427	507	803	993	990	1098	1181
300	459	690	516	395	340	359	435	772	959	955	1037	1104
290	302	551	423	321	269	284	352	732	916	911	971	1019
280	181	415	326	248	197	210	273	685	865	862	898	931
270	105	303	232	178	132	141	198	629	806	807	822	842
260	54.4	213	148	113	77.8	87.0	140	566	739	746	746	754
250	24.4	142	85.2	68.5	37.6	52.1	88.0	496	668	682	674	673
240	6.2	86.7	39.5	32.5	20.6	29.6	54.9	423	595	620	607	601
230	.4	45.3	14.8	14.3	11.2	13.3	28.4	348	523	560	546	541
220		14.4	4.5	5.5	4.0	3.2	16.0	281	459	504	496	493
210		3.4	.4	1.8	1.4		8.4	225	401	451	454	455
200		.4					3.8	184	350	404	418	424
190							3.4	151	304	361	386	397
180							3.1	124	263	323	355	370
170							2.8	103	226	287	325	342
160							2.6	88.3	193	251	291	312
150							2.5	77.6	165	219	253	276
140							2.3	71.2	144	189	219	240
130							2.2	66.6	131	169	193	213
120							2.1	55.5	117	156	179	194
110							.5	6.4	44.4	86.6	85.0	95.0

AVERAGE ELECTRON DENSITY — KP BELOW 4.5

PUERTO RICO — 60 W — JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	15	19	16	20	20	14	9	22	25	26	25	27
HMIN	109	109	110	109	110	110	125	246	251	270	280	281
NMAX	1603	1672	1705	1645	1566	1523	1519	1376	1305	1265	1286	1319
HMAX	379	377	375	370	369	362	370	385	397	412	411	406
SHMAX	2111	2133	2145	2018	1881	1733	1641	1193	1123	1055	983	991
SHINF	6634	6851	6954	6657	6298	6030	5925	5075	4805	4623	4609	4712
KM												
950	152	157	159	150	141	135	139	134	135	141	144	142
900	195	202	203	192	181	173	179	172	174	181	185	183
850	251	258	261	246	233	222	229	221	222	231	236	234
800	321	331	334	315	298	285	293	282	284	296	302	299
750	410	423	426	403	380	364	375	361	363	377	385	382
700	522	539	543	514	485	464	478	459	462	479	489	485
650	662	683	689	651	615	589	606	581	583	603	616	612
600	831	858	866	820	774	742	762	728	729	751	766	763
550	1029	1063	1074	1018	962	922	945	899	896	917	935	934
540	1071	1107	1118	1061	1003	961	985	936	932	951	969	969
530	1115	1151	1164	1104	1044	1001	1025	972	967	985	1003	1004
520	1158	1196	1209	1148	1086	1041	1065	1009	1002	1019	1037	1040
510	1201	1242	1255	1193	1128	1082	1106	1047	1037	1052	1070	1074
500	1245	1287	1302	1237	1171	1123	1147	1083	1071	1084	1102	1108
490	1288	1332	1347	1282	1213	1164	1188	1119	1105	1115	1133	1141
480	1330	1376	1393	1326	1255	1205	1229	1155	1137	1143	1162	1172
470	1372	1419	1437	1369	1296	1245	1268	1189	1168	1170	1188	1201
460	1412	1461	1480	1411	1336	1285	1306	1221	1197	1194	1212	1228
450	1449	1500	1521	1452	1375	1322	1343	1252	1223	1215	1231	1251
440	1484	1537	1559	1490	1411	1359	1377	1280	1246	1231	1246	1271
430	1515	1570	1593	1525	1445	1392	1409	1304	1265	1243	1256	1286
420	1543	1600	1625	1557	1476	1423	1437	1325	1279	1248	1260	1294
410	1566	1624	1651	1584	1503	1450	1461	1341	1288	1245	1255	1295
400	1583	1643	1672	1607	1525	1473	1481	1351	1289	1230	1240	1284
390	1593	1655	1686	1624	1542	1490	1495	1354	1280	1203	1209	1259
380	1596	1659	1692	1634	1553	1502	1501	1348	1258	1160	1158	1218
370	1589	1653	1688	1635	1556	1506	1499	1331	1222	1101	1087	1158
360	1566	1633	1670	1624	1548	1502	1486	1302	1169	1025	995	1078
350	1530	1598	1639	1600	1527	1485	1460	1256	1101	932	883	976
340	1476	1548	1593	1559	1490	1453	1419	1194	1016	821	753	855
330	1410	1482	1530	1501	1436	1404	1363	1116	914	700	609	712
320	1327	1402	1449	1425	1364	1342	1289	1020	800	568	462	554
310	1235	1305	1354	1334	1278	1262	1202	910	675	434	313	395
300	1136	1200	1245	1230	1178	1165	1100	783	542	312	189	267
290	1027	1086	1126	1118	1070	1059	986	633	409	202	99.1	161
280	922	966	1001	994	949	943	864	487	289	115	50.3	90.7
270	822	850	880	867	829	824	744	348	191	54.1	22.6	41.7
260	731	742	769	751	719	707	631	209	108	23.3	11.6	14.2
250	651	650	671	648	622	606	526	109	56.8	9.1	4.9	4.0
240	584	576	592	565	541	520	431	56.9	30.0	1.9	2.0	
230	534	517	529	503	477	447	342	27.5	18.1		.6	
220	493	474	482	456	430	391	281	8.3	7.4			
210	460	442	447	421	394	347	235	1.1	2.4			
200	432	417	419	393	365	311	197		.1			
190	405	395	395	370	339	280	167					
180	380	373	372	347	314	251	142					
170	353	350	348	323	287	222	120					
160	323	322	320	296	257	193	104					
150	288	291	288	267	228	170	91.5					
140	252	255	252	237	202	151	82.8					
130	221	226	223	211	182	138	77.4					
120	204	208	202	192	168	128	72.2					
110	83.8	89.0	74.6	66.3	54.3	53.1	13.5					

AVERAGE ELECTRON DENSITY — KP ABOVE 4.5

PUERTO RICO — 60 W — JULY 1959

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
COUNT	2	3	2	2	2	4	3	2	1	2	1	4
KP									9		9	
DATE									15		15	
HMIN	260	282	276	218	243	238	281	110	114	108	105	106
NMAX	906	1079	1236	1086	875	790	614	604	582	1233	375	1137
HMAX	414	433	421	394	423	364	430	375	437	321	256	329
SHMAX	705	893	1021	1100	925	663	573	852	1106	1530	462	1423
SHINF	3260	3935	4507	4162	3391	2889	2304	2555	2747	5008	1519	4629
KM												
950	108	121	139	111	104	72.6	75.2	59.2	73.6	107	19.3	92.3
900	138	156	179	143	133	93.2	96.5	76.1	94.3	138	24.7	119
850	177	199	229	183	170	119	123	97.3	121	177	31.7	152
800	226	255	292	234	217	153	157	124	154	226	40.6	195
750	287	325	372	298	276	196	200	159	196	289	52.1	249
700	365	412	471	379	349	249	253	201	249	368	66.8	318
650	459	519	591	478	435	315	316	253	312	466	85.4	404
600	569	646	731	598	534	395	388	314	385	586	109	510
550	691	787	883	733	637	488	464	382	464	728	138	636
540	716	816	913	762	657	508	479	395	480	758	145	664
530	740	845	943	790	676	528	493	409	495	789	152	693
520	764	874	972	818	694	548	507	423	509	820	159	722
510	787	902	1000	847	711	569	520	436	523	852	167	751
500	808	929	1027	874	727	589	532	449	537	884	175	781
490	829	955	1051	901	742	609	541	461	548	915	183	811
480	848	979	1074	927	754	629	548	472	559	946	191	841
470	865	1001	1094	951	763	648	552	483	568	977	200	871
460	879	1020	1110	975	771	667	554	493	575	1007	209	901
450	891	1037	1121	995	776	684	554	501	580	1035	218	929
440	899	1050	1125	1014	778	700	552	508	582	1062	228	958
430	904	1059	1127	1028	777	714	548	514	581	1087	237	985
420	901	1063	1122	1040	773	727	541	519	575	1109	247	1010
410	885	1062	1111	1046	766	738	533	521	559	1129	257	1034
400	856	1054	1093	1048	756	744	524	522	540	1145	267	1055
390	808	1030	1071	1043	742	748	512	521	520	1157	278	1073
380	745	991	1044	1034	726	749	498	520	500	1164	288	1088
370	677	938	1008	1019	708	744	482	517	479	1164	298	1099
360	581	870	967	998	687	735	464	514	456	1156	308	1105
350	481	794	913	970	664	719	440	510	434	1141	318	1107
340	372	695	847	930	636	696	411	505	413	1118	327	1101
330	260	578	775	879	604	666	376	500	395	1087	336	1087
320	163	447	689	817	569	629	331	495	378	1050	345	1062
310	107	312	590	749	530	582	281	491	362	1001	353	1024
300	68.7	186	470	667	488	525	231	487	348	949	360	975
290	52.0	112	358	581	437	456	162	483	334	894	365	917
280	43.6	66.0	239	487	380	375	101	474	324	834	370	853
270	36.4	44.0	120	395	304	296	41.4	460	314	774	373	782
260	30.0	29.0	41.9	310	239	239	4.1	442	306	722	375	714
250	24.8	18.6		230	168	180		416	299	667	375	647
240	20.1	8.7		157	89.5	110		387	293	616	373	587
230	9.4			86.7	41.9	68.5		352	286	567	370	533
220				41.9	10.8	55.7		315	278	531	365	489
210				10.8		43.5		273	270	493	359	453
200						31.7		236	261	452	352	424
190								201	249	413	346	399
180								168	235	369	340	375
170								140	220	316	330	348
160								119	203	272	306	320
150								104	161	237	282	287
140								92.4	136	210	240	250
130								84.8	122	185	204	218
120								77.8	113	170	189	201
110								6.2		96.3	161	134

AVERAGE ELECTRON DENSITY — KP ABOVE 4.5

PUERTO RICO — 60 W — JULY 1959

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
COUNT	5	5	3	4	3	3	4	6	5	5	5	3
HMIN	109	110	110	110	111	112	147	290	249	279	264	281
NMAX	1344	1345	1351	1334	1114	1381	1171	1361	1246	1497	1405	1231
HMAX	430	349	452	428	464	464	421	434	422	448	400	424
SHMAX	2141	1795	2292	2108	2030	2161	1433	1107	1199	1310	994	1006
SHINF	5932	5589	6104	5870	5172	6057	4734	4946	4712	5531	4959	4477
KM												
950	154	131	178	161	170	194	130	155	145	204	143	140
900	197	168	228	206	217	248	167	198	186	262	183	180
850	251	216	292	263	277	317	214	253	238	335	235	230
800	320	276	373	335	351	405	273	321	305	427	300	294
750	406	352	472	425	440	514	348	404	388	542	383	374
700	512	448	594	536	546	648	441	504	492	682	487	474
650	637	567	738	668	664	806	554	620	619	849	616	597
600	779	711	899	817	781	984	687	752	769	1036	770	741
590	809	743	932	848	802	1020	716	780	802	1074	804	772
580	840	775	964	879	823	1057	745	808	834	1113	838	804
570	871	808	997	910	843	1093	774	837	868	1151	874	835
560	903	843	1028	941	863	1129	804	867	901	1188	910	868
550	936	877	1059	971	882	1163	834	897	935	1225	947	900
540	969	913	1089	1001	902	1196	864	926	969	1259	984	933
530	1001	948	1118	1030	920	1227	893	957	1002	1292	1021	965
520	1035	984	1145	1059	938	1256	922	988	1035	1323	1059	996
510	1068	1020	1171	1087	955	1282	951	1019	1066	1351	1096	1026
500	1100	1055	1195	1114	971	1305	978	1052	1097	1374	1133	1056
490	1133	1090	1217	1141	985	1325	1004	1085	1125	1392	1168	1084
480	1164	1124	1237	1166	998	1341	1029	1117	1152	1405	1203	1110
470	1193	1156	1254	1189	1009	1353	1052	1148	1176	1411	1236	1133
460	1221	1187	1267	1210	1019	1360	1072	1177	1197	1411	1267	1153
450	1247	1216	1277	1229	1025	1361	1090	1204	1214	1405	1295	1170
440	1270	1242	1282	1245	1030	1356	1106	1227	1226	1387	1320	1181
430	1290	1265	1284	1258	1031	1343	1118	1242	1233	1355	1341	1183
420	1306	1284	1280	1266	1028	1321	1125	1258	1232	1311	1358	1177
410	1318	1299	1271	1271	1021	1286	1129	1273	1223	1250	1369	1162
400	1324	1308	1257	1271	1010	1248	1127	1283	1201	1172	1372	1140
390	1324	1312	1234	1265	993	1198	1119	1286	1167	1083	1366	1104
380	1315	1306	1207	1251	970	1141	1103	1278	1121	986	1350	1057
370	1296	1290	1174	1230	941	1076	1077	1255	1058	889	1320	994
360	1269	1263	1136	1198	905	1009	1040	1217	979	782	1272	921
350	1231	1223	1088	1160	864	933	994	1162	895	667	1192	832
340	1182	1174	1032	1111	817	851	937	1092	803	555	1080	723
330	1128	1111	973	1055	767	766	876	995	703	438	933	627
320	1064	1040	915	995	715	686	812	881	597	329	754	540
310	996	969	841	931	661	608	732	738	487	216	566	444
300	926	890	770	860	606	539	653	558	382	133	370	351
290	848	807	697	783	552	477	569	369	289	80.6	195	244
280	772	723	626	706	503	427	487	183	199	47.2	72.2	132
270	702	651	562	638	457	387	411	73.0	132	33.4	18.3	59.6
260	636	589	509	568	418	354	347	25.3	74.8	27.6	8.6	25.8
250	580	534	468	511	387	330	299	4.3	44.8	22.4	5.8	4.1
240	530	492	436	463	363	311	242		26.9	17.2	2.1	
230	492	462	412	428	343	297	210		12.4	13.3		
220	458	439	395	401	328	284	187		2.4	10.2		
210	431	422	382	380	315	272	167			7.4		
200	406	405	370	362	303	260	147			1.9		
190	383	390	359	344	291	245	129					
180	358	373	345	323	275	227	113					
170	332	351	326	301	254	202	97.2					
160	298	325	303	277	232	175	85.2					
150	262	295	277	249	212	152	76.5					
140	238	260	248	222	192	137	70.7					
130	219	234	224	203	179	130	66.7					
120	206	213	209	179	169	98.2	59.3					
110	99.7	46.6	53.8	56.8	16.5	8.2						

TABLES OF IONOSPHERIC DATA

MAY 1959 – AUGUST 1956

Table

St. John's, Newfoundland (47.6°N, 52.7°W) May 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.35)	300					(2.50)
01		(5.6)	300					(2.50)
02		(5.2)	300				2.0	(2.50)
03		(4.5)	(310)					(2.50)
04		4.8	315		(116)	1.90		2.65
05	---	5.5	270	---	125	2.50		2.75
06	480	5.75	250	4.3	119	2.92	3.0	2.80
07	(535)	5.9	240	5.0	115	3.30		2.80
08	515	6.2	230	5.1	111	3.60		2.55
09	600	6.2	225	5.2	111	3.80		2.40
10	520	6.55	220	5.4	111	3.90		2.42
11	490	6.8	220	5.5	111	4.00		2.52
12	470	7.0	230	5.5	111	4.00		2.55
13	480	7.25	230	5.5	109	3.90		2.50
14	485	7.4	235	5.5	110	3.80		2.45
15	470	7.7	240	5.2	111	3.60		2.55
16	420	7.8	250	5.0	117	3.30		2.55
17	390	8.1	260	---	119	2.98		2.60
18	---	8.0	280		<129	2.50	2.5	2.60
19		7.8	285		---	----	1.5	2.60
20		7.8	280		---	----		2.55
21		7.6	295					2.50
22		7.2	305					2.50
23		6.85	300					2.50

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

Table 2

Thule, Greenland (76.6°N, 68.7°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	270		<129	1.70		2.75
01		5.45	270		(123)	(1.70)		2.80
02		5.7	280		(121)	1.88		2.75
03		6.0	270		120	1.90		2.75
04	---	6.5	260	---	115	2.08		2.80
05	G	6.2	250	3.8	111	2.25		2.75
06	G	5.8	250	3.8	111	2.45		2.85
07	(410)	6.3	240	4.0	111	2.65		2.75
08	415	5.9	250	4.3	109	2.80		2.65
09	(460)	6.1	240	4.2	109	3.00		2.72
10	420	6.2	235	4.6	109	3.02		2.70
11	500	6.0	235	4.6	105	3.00		2.60
12	435	6.3	235	4.5	109	3.00		2.60
13	470	7.0	235	4.5	107	3.00		2.65
14	440	6.75	240	4.5	107	3.00		2.65
15	425	6.05	240	4.4	109	2.88		2.62
16	460	6.65	240	4.2	109	2.70		2.65
17	410	6.7	250	4.0	109	2.50		2.70
18	---	6.5	260	---	111	2.35		2.70
19	---	6.6	<270	---	113	2.15		2.80
20	---	6.6	270	---	114	2.00	2.2	2.78
21	---	6.1	270	---	121	1.85	2.0	2.80
22		6.1	270		123	1.75		2.80
23		6.3	270		125	1.70		2.80

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

Table 3

Point Barrow, Alaska (71.3°N, 156.8°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0					4.4	(2.40)
01		5.8					5.0	2.50
02		(5.6)					4.4	(2.50)
03		4.85					4.0	2.40
04		5.2					3.4	2.50
05		5.55					3.0	2.40
06		5.3					2.6	2.30
07		5.7					3.2	2.45
08		5.5						2.30
09		6.0						2.35
10		6.2						2.40
11		6.35						2.40
12		6.2						2.32
13		6.2						2.38
14		6.6						2.38
15		7.65						2.45
16		6.95						2.45
17		6.8						2.50
18		7.1						2.65
19		6.7						2.65
20		5.45					2.9	2.62
21		5.35					3.4	2.55
22		5.2					3.3	2.50
23		5.5					4.8	2.50

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

Table 4

Godhavn, Greenland (69.3°N, 53.5°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.0)						(2.55)
01		(4.95)			---	----		(2.65)
02		(4.7)			---	----		(2.55)
03		(4.5)			(137)	----		(2.65)
04		(4.25)			<125	----		(2.65)
05		(4.15)			111	2.10		(2.60)
06		(4.5)		3.4	109	(2.20)		(2.65)
07		(4.8)		(3.7)	107	2.70		G
08		(5.45)		(3.9)	105	(2.80)		(2.92)
09		(5.6)		(4.3)	105	(3.15)		(2.50)
10		(6.55)		(4.4)	103	3.20		----
11		(6.5)		4.5	103	3.30		(2.65)
12		6.7		(4.6)	103	3.35		(2.62)
13		(7.3)		(4.6)	103	3.35		(2.40)
14		(6.3)		4.6	103	3.30		(2.50)
15		(6.65)		4.6	103	3.10		(2.55)
16		(6.5)		(4.3)	105	2.95		(2.70)
17		(6.7)		(4.6)	105	2.75	3.0	(2.65)
18		(6.6)		(4.2)	107	2.60		(2.70)
19		(6.5)		---	<113	2.25		(2.75)
20		(6.45)			(115)	2.10		(2.68)
21		(6.1)			115	1.80		(2.70)
22		(5.6)			(115)	----		(2.65)
23		(5.0)			---	----		(2.50)

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

Table 5

Reykjavik, Iceland (64.1°N, 21.8°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.7)	(400)					(2.52)
01		(5.3)	<400					(2.50)
02		(5.35)	(370)				2.9	(2.60)
03		>4.65	<380					(2.50)
04		>5.05	340					(2.55)
05		5.3	300					2.75
06		5.7	(270)					2.80
07	---	6.35	260	---	---	----		2.80
08	(470)	6.6	(250)	---	---	----		2.75
09	---	6.7	250	(4.4)	---	----		2.68
10	505	7.0	<250	(4.7)	111	----		2.65
11	450	7.1	240	(4.7)	115	----		2.60
12	460	7.4	<240	5.2	115	----		2.55
13	480	7.7	(240)	(5.0)	111	(3.45)		2.55
14	430	7.75	(240)	(5.1)	(115)	(3.30)		2.60
15	430	7.7	<250	5.0	<117	(3.20)		2.60
16	<425	7.5	(250)	(4.9)	---	----		2.65
17	(400)	7.3	250	---	---	----		2.70
18	---	7.1	270	---	---	----		2.75
19	---	6.8	(300)	---	---	----		2.70
20	---	(6.3)	(300)					2.75
21		(6.3)	<350					(2.62)
22		>5.55	(355)					(2.55)
23		5.1	(370)					(2.50)

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

Table 6

Narsarssuak, Greenland (61.2°N, 45.4°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)					3.5	(2.45)
01		(4.7)					3.2	(2.50)
02		(4.7)					3.0	(2.50)
03		(4.5)			---	----	3.2	(2.40)
04		(4.5)			---	----	3.2	(2.55)
05		4.9			112	2.20	>3.3	2.70
06		5.7			115	2.70	3.6	2.85
07		6.1		---	111	2.85		2.80
08		6.3		4.4	113	3.20		2.75
09		6.4		4.7	109	3.40		2.65
10		6.75		4.9	109	3.50		2.58
11		7.05		5.0	107	3.60		2.50
12		7.65		5.1	107	3.60		2.50
13		7.4		5.1	105	3.50		2.55
14		7.2		5.0	105	3.50		2.55
15		7.5		4.7	107	3.20		2.60
16		7.2		4.5	109	3.10		2.60
17		7.0		4.2	109	2.95		2.60
18		7.0		---	111	2.65	2.8	2.75
19		(6.5)			121	2.50	2.9	(2.65)
20		(6.0)			119	2.10	3.1	2.60
21		(6.0)			---	----	4.2	(2.50)
22		(5.65)			---	----	3.4	(2.48)
23		(5.3)					3.9	(2.50)

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

Table 7

Adak, Alaska (51.9°N, 176.6°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6	300					2.50
01		5.4	320					2.48
02		5.2	330					2.40
03		4.9	<330					2.42
04	---	4.8	340		---	----		2.45
05	---	5.25	300	---	<119	(1.70)		2.50
06	(510)	6.3	250	4.1	109	2.40		2.50
07	(455)	6.85	240	4.4	105	2.90		2.55
08	495	7.3	230	4.8	105	3.20		2.60
09	480	8.0	225	5.4	101	3.50	3.7	2.55
10	445	>8.7	220	5.2	103	3.60	3.8	2.65
11	(430)	>9.45	220	5.2	103	3.70	3.9	2.65
12	(440)	10.3	220	5.7	101	3.70	3.9	2.70
13	(455)	10.5	220	---	101	3.65	>3.6	2.68
14	(390)	10.15	220	---	103	3.55		2.75
15	---	10.0	230	---	105	3.35		2.78
16	---	9.75	235		105	3.10		2.80
17		9.45	240		109	2.65		2.85
18		8.95	245		(119)	2.15		2.90
19		8.75	240		(129)	----	1.5	2.90
20		7.95	240					2.85
21		7.2	250					2.78
22		6.3	260					2.60
23		5.95	290					2.50

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

Table 8

St. John's, Newfoundland (47.6°N, 52.7°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.7)	<305					(2.45)
01		(6.4)	325					(2.45)
02		(5.5)	300					(2.55)
03		(5.55)	310					(2.50)
04		(4.7)	315		---	----		(2.50)
05		5.5	285		<131	2.00		2.85
06		6.55	260		119	2.65		2.90
07	---	6.8	245	---	115	3.10		2.85
08	---	7.1	235	---	111	3.40		2.80
09	(490)	7.85	230	5.4	111	3.60		2.68
10	(500)	8.2	225	5.6	109	3.80		2.62
11	(470)	8.75	225	5.7	109	3.90		2.60
12	450	9.25	230	5.6	111	3.90		2.60
13	(450)	9.7	240	5.7	109	3.80		2.60
14	(450)	9.85	230	5.5	111	3.70		2.58
15	---	9.65	240	---	111	3.50		2.60
16	---	9.35	250	---	115	3.10		2.65
17		9.6	260		121	2.65		2.65
18		9.5	270		<134	2.15		2.70
19		9.3	270					2.65
20		>8.55	270					(2.50)
21		(7.85)	280					(2.52)
22		(6.5)	300					(2.50)
23		(7.1)	310					(2.48)

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

Table 9

Washington, D. C. (38.7°N, 77.1°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.45	285					2.60
01		7.2	280					2.60
02		6.85	280					2.60
03		6.35	280					2.55
04		5.8	280					2.50
05		5.7	285					2.60
06		6.55	260		<118	2.15		2.90
07	---	8.2	240		109	2.75		3.02
08	---	9.4	225	---	105	3.22		2.90
09	(355)	10.1	220	---	103	3.50		2.85
10	(465)	10.65	210	---	103	3.75		2.75
11	(390)	11.2	210	---	103	3.90		2.68
12	(405)	11.25	210	---	103	3.95		2.65
13	(410)	11.15	220	---	105	3.95		2.65
14	(420)	11.15	225	---	105	3.85		2.65
15	---	10.95	230	---	105	3.70		2.65
16	---	10.8	235	---	105	3.40		2.65
17	---	10.65	240		109	2.95		2.70
18	---	10.55	250		119	2.25		2.75
19		10.2	250		---	----		2.80
20		9.2	240					2.70
21		8.5	260					2.62
22		7.9	270					2.60
23		7.6	280					2.60

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

Table 10

White Sands, New Mexico (32.3°N, 106.5°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.1	300					2.58
01		7.2	310					2.55
02		6.0	<300					2.60
03		6.5	<300					2.55
04		6.4	<305					2.55
05		6.2	<300					2.60
06		7.2	265		<135	(2.20)		2.85
07	---	9.2	245		113	2.85		2.95
08	---	10.5	235	---	109	3.30	3.5	2.85
09	(470)	11.3	225	---	109	>3.60	3.7	2.75
10	---	12.3	220	---	109	3.80	4.1	2.70
11	(440)	12.9	225	---	111	4.00	4.2	2.65
12	(380)	12.9	225	---	110	4.05	>4.0	2.60
13	(395)	13.0	230	---	111	4.05		2.60
14	(410)	13.2	230	---	111	4.00		2.60
15	---	12.55	230	---	109	3.80		2.65
16	---	12.15	240	---	111	3.40	3.4	2.65
17		11.65	250		115	2.95	3.2	2.70
18		11.25	250		(123)	----	>2.4	2.78
19		10.0	235					2.70
20		8.7	245					2.65
21		8.2	265					2.65
22		7.8	295					2.65
23		7.4	290					2.60

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

Table 11

Grand Bahama I. (26.6°N, 78.2°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.5	270					2.70
01		8.4	265					2.75
02		7.9	260					2.00
03		7.2	260					2.68
04		7.2	265					2.70
05		7.0	275					2.65
06		7.8	250		151	1.90		2.88
07		9.5	235		109	2.80	2.9	3.05
08		11.2	230		107	3.30	3.4	2.92
09		12.0	220		105	3.60	3.7	2.85
10		12.3	210		107	3.90	4.2	2.75
11	---	13.0	215		107	4.00		2.70
12	---	13.4	220		107	4.10		2.70
13	---	13.2	220	---	105	4.08		2.65
14	(350)	12.8	230		107	4.00		2.65
15	---	12.8	230		105	3.85	4.0	2.65
16		12.2	<240		107	3.50	3.8	2.65
17		11.75	240		109	3.00	3.2	2.70
18		11.4	250		119	2.25		2.75
19		10.6	240					2.75
20		9.4	240					2.65
21		9.0	265					2.65
22		8.8	280					2.65
23		8.7	285					2.68

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

Table 12

Okinawa I. (26.3°N, 127.8°E) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.4	270					(3.00)
01		(14.8)	265					(2.98)
02		>14.4	245					(2.90)
03		>11.4	220					(3.02)
04		(9.5)	225					(2.80)
05		7.7	240					2.70
06		7.9	270		---	----		2.70
07		10.0	240		---	----		3.00
08		11.7	230		109	(3.35)	3.5	2.98
09		12.55	225		107	(3.80)	4.0	2.80
10		13.2	220		109	----	4.5	2.70
11		14.3	(220)		107	----	4.4	2.70
12		(15.1)	220		108	----		(2.65)
13	(380)	(15.9)	(220)		107	----		(2.60)
14	370	(16.1)	220	---	(109)	(4.15)		(2.60)
15	360	(16.2)	220	---	108	(4.00)		(2.60)
16	355	(16.6)	230	---	(107)	3.75		(2.60)
17	---	(16.35)	240		108	(3.30)		(2.65)
18		(16.0)	250		<118	----	3.0	(2.70)
19		>14.9	270					(2.70)
20		>14.5	290					(2.50)
21		>14.35	290					----
22		>14.5	290					(2.70)
23		>17.0	275					(2.90)

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

Table 13

Maui, Hawaii (20.8°N, 156.5°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.2	260					3.00
01		9.75	255					3.00
02		9.15	<255					2.95
03		7.9	<250					2.02
04		7.2	270					2.70
05		6.8	290				1.9	2.65
06		7.2	285		(137)	1.05	2.0	2.68
07		9.1	240		113	2.60	2.7	3.00
08		10.85	235		108	3.20	3.4	2.90
09		11.9	220		107	3.65	3.9	2.72
10		12.0	<220		107	3.90	>3.9	2.70
11		13.6	220		107	(4.00)	>4.0	2.70
12	(370)	15.0	220	---	107	(4.10)	4.2	2.70
13	(370)	15.5	225	---	107	(4.15)	4.2	2.65
14	370	15.55	225	---	107	4.10	4.3	2.65
15	365	15.8	230	---	109	3.90		2.65
16	340	16.0	235		109	3.60	3.8	2.70
17	---	15.5	240		<113	3.10	3.5	2.75
18		15.2	260		<123	2.32	3.7	2.75
19		14.7	<270		---	----	3.8	2.75
20		14.5	270				2.8	2.75
21		14.05	270				2.0	2.00
22		13.1	260				2.0	2.90
23		12.0	270					2.95

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

Table 14

Baguio, P.I. (16.4°N, 120.6°E) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>14.0	260					(3.05)
01		>13.1	240					3.10
02		10.75	225					2.95
03		9.0	240					2.82
04		7.5	250				1.8	2.72
05		6.7	260				2.3	2.80
06		8.2	<290		<145	----		2.75
07		10.7	265		121	(2.90)	3.2	2.80
08		12.7	<255		119	(3.50)	4.3	2.65
09		13.6	250		119	(3.85)	4.3	2.45
10		>14.0	240		119	(4.05)		2.22
11		13.6	(230)		119	(4.10)		2.10
12		13.3	230		119	(4.10)		2.10
13		13.5	(230)		119	(4.10)		2.15
14		13.8	<240		119	4.00		2.15
15		>13.9	245		119	3.80		(2.20)
16		14.0	255		119	3.40		(2.20)
17		13.55	275		<125	(2.95)		(2.22)
18		>13.0	305		<153	(1.95)		(2.20)
19		>12.2	420					----
20		>12.0	430					----
21		>12.25	350					----
22		>13.0	300					(2.70)
23		(13.5)	280					(3.00)

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 15

Talara, Peru (4.6°S, 81.3°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.9	215					2.80
01		10.5	230					2.85
02		9.8	235					2.95
03		8.1	230					3.05
04		7.1	230				1.8	3.05
05		6.9	230				1.8	3.10
06		5.8	240				1.7	2.95
07		9.0	260		121	2.40	3.0	2.95
08		11.5	240		115	3.15	3.2	2.85
09		12.55	230		111	3.68		2.60
10		13.0	220		109	4.00	4.2	2.35
11		13.2	215		109	4.15		2.20
12		13.25	<215		109	4.25		2.15
13		13.1	210		107	4.20	4.2	2.15
14		13.2	(210)		107	4.05	4.4	2.20
15		13.0	210		105	3.80	4.0	2.15
16		13.05	220		109	3.50	3.9	2.15
17		12.9	245		111	3.05	3.4	2.20
18		12.8	280		<130	2.30	3.2	2.15
19		>12.0	360				3.2	(2.02)
20		(11.95)	385				1.8	(2.12)
21		>12.0	305				1.9	(2.35)
22		12.2	230				2.2	(2.72)
23		11.9	215				2.2	2.90

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

Table 16

Chimbote, Peru (9.1°S, 78.6°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.4	230					2.85
01		8.05	235					2.90
02		8.25	235					3.00
03		7.4	240					3.00
04		6.6	240					3.05
05		6.25	235					3.10
06		5.65	<250					2.95
07		9.45	260		127	2.50	2.8	3.00
08		11.9	245		119	3.20	4.5	2.82
09		13.2	230		117	3.70	5.8	2.55
10		13.1	225		115	(4.00)	7.0	2.30
11		12.6	220		115	4.15	8.5	2.25
12		12.15	215		114	4.20	8.8	2.20
13		12.0	(215)		115	(4.15)	8.0	2.20
14		11.95	<220		115	(4.05)	7.8	2.20
15		12.3	(225)		115	(3.78)	7.7	2.20
16	---	12.2	240		115	(3.40)	7.5	2.20
17		11.7	(260)		119	2.95	5.4	2.15
18		11.3	300		<165	1.95	2.5	2.15
19		9.7	400					2.10
20		(9.4)	<380					(2.15)
21		9.9	310				1.8	(2.45)
22		(10.05)	245				2.3	(2.70)
23		9.7	230				2.0	2.82

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

Table 17

Huancayo, Peru (12.0°S, 75.3°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.2	215					3.00
01		8.6	220					3.05
02		7.5	220					3.10
03		6.7	230					3.10
04		5.8	225					3.15
05		5.3	220					3.20
06		6.1	255					2.95
07		10.1	240		111	2.60	4.4	3.10
08		12.4	230		105	(3.30)	7.5	2.90
09		13.7	215		---	(3.70)	8.4	2.60
10		13.45	210		---	(4.00)	8.2	2.35
11		12.4	200		---	----	8.5	2.30
12		12.0	200		---	----	8.5	2.25
13		11.95	200		---	----	8.5	2.25
14		11.85	200		---	----	8.0	2.25
15		12.25	210		---	(3.75)	7.8	2.25
16		12.0	230		---	(3.30)	7.5	2.20
17		11.6	250		---	(2.68)	6.8	2.15
18		11.4	305		---	----	4.3	2.15
19		9.75	385					2.12
20		9.2	350					2.30
21		9.2	265					2.55
22		9.3	230					2.80
23		9.4	220					2.90

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

Table 18

Ilo, Peru (17.4°S, 71.2°W) April 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.4	235					3.05
01		10.1	235					3.10
02		0.0	235					3.12
03		6.55	240					3.00
04		5.45	255					3.00
05		5.1	260					3.02
06		6.95	290		(139)	----		3.00
07		11.0	255		125	2.75		3.08
08		13.3	245		(121)	3.30	3.6	2.85
09		14.85	(235)		117	3.70	5.0	2.50
10	---	14.85	(230)		115	4.05	6.8	2.30
11	---	13.4	<235		115	----	7.0	2.25
12		12.8	(225)		117	----	6.8	2.20
13		12.6	<230		115	----	5.2	2.20
14		13.1	(230)		117	----	4.5	2.20
15		13.4	<245		119	(3.55)	4.6	2.25
16		13.15	260		(121)	3.15	4.5	2.25
17		12.9	(280)		(125)	2.50	4.8	2.20
18		12.0	340					2.15
19		11.1	380					2.12
20		11.5	320				1.8	2.30
21		11.45	270				3.4	2.62
22		11.4	255				4.6	2.85
23		11.45	240				4.6	2.95

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

Table 19

Point Barrow, Alaska (71.3°N, 156.8°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0					5.1	2.45
01		>5.05					5.3	(2.50)
02		6.4					4.6	2.40
03		4.5					3.3	2.32
04		(4.7)					2.8	(2.30)
05		4.5					>2.4	2.40
06		4.95					>2.7	2.35
07		5.35					>2.9	2.45
08		5.7					3.2	2.50
09		6.7						2.60
10		6.6						2.60
11		7.15						2.65
12		7.75						2.60
13		8.1						2.70
14		8.7						2.65
15		9.0						2.65
16		10.0						2.70
17		10.3						2.75
18		9.7						2.80
19		7.2					2.3	2.82
20		5.5					2.2	2.70
21		4.7					>2.3	2.70
22		4.5					3.0	2.52
23		4.75					4.7	2.50

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

Table 20

Godhavn, Greenland (69.3°N, 53.5°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.5)						(2.60)
01		(5.55)						(2.60)
02		(5.0)						(2.70)
03		(4.6)						(2.50)
04		(4.05)						(2.45)
05		(3.9)						(2.45)
06		(3.65)	---	---	----			-----
07		(3.9)	---	110	----		3.0	----
08		(5.3)	---	109	2.25			(2.70)
09		(6.05)	(3.8)	109	(2.60)			(2.90)
10		(7.8)	---	107	(2.90)			(2.92)
11		(8.55)	(4.0)	107	(3.00)			(2.65)
12		(8.2)	4.0	107	3.00			(2.68)
13		(7.25)	(4.3)	105	3.00			(2.55)
14		(7.15)	4.2	(107)	2.90			(2.70)
15		(7.85)	4.0	109	2.80			(2.65)
16		(7.0)	(3.8)	(109)	2.55			(2.85)
17		(7.7)	(3.6)	112	2.45		2.5	(2.85)
18		(7.2)	---	117	(2.30)			(2.75)
19		(6.9)		115	(1.90)		2.1	(2.75)
20		(7.8)		---	----			(2.70)
21		(5.7)						(2.60)
22		(5.9)						(2.55)
23		(5.9)						(2.75)

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

Table 21

Fairbanks, Alaska (64.9°N, 147.8°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.25)					2.4	(2.35)
01		(3.3)					3.8	(2.35)
02		(3.6)					3.3	(2.40)
03		(3.6)					3.6	(2.40)
04		(3.7)					2.1	(2.30)
05		(3.8)						(2.42)
06		(3.9)			---	E		(2.50)
07		(4.9)		---	---	E		(2.70)
08		5.4		---	131	1.50		2.75
09		5.95		---	117	1.90		2.72
10		6.2		3.6	114	2.00		2.70
11		7.0		3.4	109	2.20		2.70
12		7.8		---	111	2.22		2.70
13		8.3		---	111	2.20		2.65
14		8.65		---	113	2.05		2.70
15		9.0		---	115	1.90		2.75
16		9.6		---	120	1.70		2.80
17		9.7			---	E		2.80
18		9.4			---	E		2.90
19		8.3						2.90
20		6.45						2.80
21		(4.9)						(2.78)
22		(3.95)					2.3	(2.65)
23		(3.55)					2.3	(2.60)

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

Table 22

Reykjavik, Iceland (64.1°N, 21.8°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.05	(385)					(2.50)
01		>5.8	(380)				2.6	----
02		>5.45	(370)					----
03		>5.35	<355					(2.50)
04		>5.4	(350)					(2.52)
05		(5.35)	<325					(2.60)
06		5.3	(300)					2.75
07		6.3	260					2.90
08	---	7.4	250		---	----		2.95
09	---	8.1	245		119	----		2.90
10	---	8.7	245	---	119	----		2.85
11	<410	8.8	240	---	119	----		2.80
12	---	9.5	240	---	117	----		2.80
13	<420	10.05	235	---	---	----		2.75
14	<470	10.0	(240)	---	119	----		2.75
15	(375)	10.15	(240)	---	(121)	3.10		2.80
16	---	10.0	(250)		<122	(2.90)		2.80
17	---	8.8	(265)		---	----		(2.75)
18		(8.3)	(290)					(2.88)
19		>8.25	270					(2.88)
20		>6.65	<300					(2.78)
21		>5.8	<300					(2.70)
22		(6.0)	(340)					----
23		(5.5)	<350					(2.52)

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

Table 23

Narsarssuak, Greenland (61.2°N, 45.4°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.4)					3.2	(2.50)
01		(5.3)			---	----	3.3	(2.50)
02		(5.2)					2.9	(2.50)
03		(4.8)					3.2	(2.50)
04		(4.8)					3.2	(2.50)
05		(5.1)			---	----	3.2	(2.55)
06		(5.5)			121	1.75	3.1	2.78
07		6.5		---	119	2.25		2.95
08		7.6		---	113	2.80		3.00
09		8.6		---	115	3.05		2.90
10		9.3		4.2	111	3.20		2.80
11		10.05		4.5	109	3.38		2.70
12		10.4		(4.5)	111	3.35		2.70
13		10.9		4.7	109	3.30		2.70
14		10.5		4.6	113	3.20		2.68
15		10.65		---	113	3.02		2.75
16		8.4		---	113	2.80		2.80
17		7.6		---	119	2.50		2.80
18		7.5			121	2.28	2.3	2.80
19		(6.85)			---	----	2.7	2.60
20		(6.8)			---	----	3.2	(2.50)
21		(6.6)			---	----	3.2	(2.50)
22		(5.8)					3.5	(2.48)
23		(6.0)					4.0	(2.55)

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

Table 24

Ft. Monmouth, New Jersey (40.4°N, 74.1°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.3	(280)					2.65
01		7.0	(285)					2.60
02		(6.65)	<300					2.65
03		6.8	<290					2.65
04		6.4	(270)					2.60
05		6.0	<295					2.65
06		5.8	270		<139	(2.00)		2.85
07		8.2	240		119	2.60		3.05
08	---	10.75	230	---	111	3.00		3.05
09	---	12.0	225	---	111	3.40		2.95
10	---	12.7	220	---	109	3.70		2.90
11	---	13.0	220	---	110	3.90		2.80
12	---	13.0	220	---	109	3.88		2.75
13	---	12.9	225	---	110	3.90		2.75
14	---	12.9	230	---	111	3.75		2.70
15	---	12.5	230	---	111	3.50		2.70
16	---	12.2	240	---	115	3.20		2.75
17	---	12.15	245	---	119	2.65		2.78
18		11.6	245		---	----		2.85
19		10.5	240					2.80
20		9.4	240					2.75
21		8.6	250					2.80
22		8.1	260					2.70
23		7.6	(270)					2.65

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

Table 25

Grand Bahama I. (26.6°N, 78.2°W) March 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.45	255					2.75
01		8.0	260					2.80
02		7.6	255					2.00
03		7.1	250					2.75
04		6.6	255					2.60
05		6.1	280					2.60
06		6.4	290		---	E		2.65
07	---	9.0	240		115	2.40		3.05
08	---	11.3	230	---	109	3.10		3.05
09	---	12.9	230	---	109	3.50		2.95
10	---	13.5	220	---	107	3.80		2.90
11	---	13.9	220	---	109	4.00		2.80
12	---	14.0	220	---	109	4.05	4.2	2.70
13	---	13.9	220	---	108	4.05		2.70
14	---	13.6	230	---	109	4.00		2.62
15	(350)	13.3	230	---	105	3.80		2.65
16	---	13.0	235	---	109	3.45	3.6	2.65
17		12.7	240	---	111	2.98	3.0	2.70
18		12.1	240		125	2.15	2.4	2.80
19		11.3	225				2.5	2.75
20		9.7	230					2.70
21		9.2	250				2.4	2.70
22		8.9	260					2.75
23		8.55	260				2.0	2.72

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

Table 26

Godhavn, Greenland (69.3°N, 53.5°W) February 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.2)						(2.60)
01		(4.1)						(2.60)
02		(3.9)						(2.40)
03		(4.25)						(2.55)
04		(3.6)						(2.62)
05		---						----
06		(3.4)						----
07		(3.65)						----
08		(3.5)			---	----		(2.50)
09		(6.45)			115	----		----
10		(7.8)		---	111	(1.95)		(2.65)
11		(8.0)		---	115	2.45		(3.10)
12		(7.6)		---	(115)	(2.50)		(2.92)
13		(6.6)		---	(115)	2.50		(2.98)
14		(6.5)		---	<118	2.25		(2.80)
15		(5.9)		---	(119)	(2.40)		(2.60)
16		(7.5)		---	(119)	(2.08)		(2.85)
17		(6.25)			(115)	----		(2.85)
18		(5.7)			---	----		(2.65)
19		(6.3)						(2.70)
20		(6.55)						(2.55)
21		(5.6)						(2.65)
22		(5.8)						(2.70)
23		(6.5)						(2.60)

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

Table 27

Narsarssuak, Greenland (61.2°N, 45.4°W) February 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.4)					2.8	(2.60)
01		(5.3)					3.8	(2.60)
02		(5.4)					3.5	(2.52)
03		(5.0)					3.6	(2.55)
04		(5.2)					3.9	(2.60)
05		(5.2)					4.2	(2.68)
06		(5.3)					3.4	(2.68)
07		(5.2)			---	----		(2.80)
08		6.2			---	2.00		2.95
09		8.3		---	120	2.50		2.95
10		9.45		---	119	2.70		2.95
11		10.7		---	118	2.90		2.05
12		10.5		---	119	3.00		2.78
13		9.55		---	115	2.90		2.90
14		8.6		---	116	2.80		2.90
15		8.6		---	119	2.60		2.90
16		(6.95)			119	2.40		(2.88)
17		(6.1)			(123)	2.10	2.2	(2.00)
18		(5.05)			---	----	3.1	(2.68)
19		(5.6)			---	----	3.0	(2.60)
20		(6.0)			---	----	3.6	(2.45)
21		(6.1)			---	----	3.6	(2.55)
22		(6.0)			---	----	4.1	(2.58)
23		(6.0)			---	----	3.2	(2.60)

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

Table 28

Grand Bahama I. (26.6°N, 78.2°W) February 1959

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.85	250					2.82
01		6.5	255					2.80
02		6.3	270					2.75
03		5.95	270					2.78
04		5.5	255				(2.4)	2.72
05		5.3	270				(3.2)	2.70
06		4.9	270				(2.5)	2.75
07		7.1	255		<171	2.00		3.05
08		10.7	230		110	2.70		3.20
09		12.95	230		107	3.30		3.08
10		13.45	220		105	3.60		3.00
11	---	13.8	220		105	3.80		2.95
12	---	13.8	215		105	3.90		2.85
13	---	13.6	220		105	3.90		2.75
14		13.5	220		103	3.80		2.70
15		13.3	225		107	3.60		2.70
16		13.0	230		109	3.25		2.70
17		12.9	240		113	2.70		2.80
18		12.3	240		(138)	1.90		2.85
19		10.8	220				(2.4)	2.85
20		9.2	235				(2.6)	2.80
21		8.6	245				(2.4)	2.85
22		7.8	240				(2.4)	2.80
23		7.3	245					2.88

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

Table 29

Huancayo, Peru (12.0°S, 75.3°W) February 1959*

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.5)	255				3.5	(2.75)
01		(9.75)	235				3.7	(2.90)
02		(9.4)	225				3.9	(3.15)
03		8.4	215				4.0	3.22
04		6.4	210				4.0	3.20
05		5.1	210				4.3	3.25
06		6.8	265		---	----	3.0	3.00
07		10.1	240		110	2.70	5.8	2.95
08		12.7	225		---	(3.35)	7.6	2.70
09		13.5	215		---	(3.80)	9.0	2.45
10		13.5	210		---	(4.15)	9.0	2.35
11		13.5	200		---	(4.25)	9.0	2.35
12		12.7	200		---	----	9.0	2.25
13		13.5	200		---	----	9.0	2.25
14		13.5	190		---	(4.15)	8.8	2.15
15		13.4	200		---	(3.90)	8.6	2.15
16		13.5	210		---	(3.50)	8.0	2.05
17		12.7	240		---	(3.10)	7.2	2.15
18		11.9	270		---	(2.30)	5.7	2.15
19		10.0	330					2.15
20		9.1	(410)					(2.05)
21		(9.0)	(385)					(2.20)
22		(10.3)	310					(2.40)
23		(10.35)	290					(2.52)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.
*Data obtained through 0200 on 16th.

Table 30

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.1	260				1.6	(2.6)
01		5.2	260				1.8	2.6
02		5.4	270		---	---	2.5	(2.5)
03		5.0	270		---	---		2.55
04		5.0	260		---	---		(2.6)
05		4.6	270		---	---	1.1	2.7
06		4.8	260		---	---		(2.75)
07		4.5	260		---	---		2.75
08		4.6	280		---	---	1.9	2.55
09		5.1	260		---	---	1.5	2.6
10		(6.0)	250		---	---	2.5	(2.6)
11		6.5	270		---	---	4.0	2.6
12		6.8	260		---	1.2	1.4	(2.6)
13		7.0	260		---	1.2	1.4	(2.6)
14		6.5	260		---	---	1.1	2.7
15		6.8	250		---	---	1.3	(2.5)
16		6.3	270		---	---		(2.5)
17		6.3	260		---	---		(2.5)
18		6.4	260		---	---		(2.6)
19		(6.1)	260		---	---		----
20		5.5	270		---	---		(2.45)
21		5.2	280		---	---		(2.5)
22		6.0	260		---	---		----
23		5.2	270		---	---	3.5	(2.55)

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

Table 31

Tromso, Norway (69.7°N, 19.0°E) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)	(350)		---	----	3.6	----
01		(5.2)	350		---	----	>3.7	----
02		5.0	315		---	----	3.2	(2.40)
03		(5.1)	340				4.0	(2.55)
04		5.2	315				3.2	(2.50)
05		4.1	300				2.9	(2.70)
06		4.6	280		---	----	2.4	(2.65)
07		4.3	275		---	----	1.8	2.65
08		4.6	285		---	----	1.4	2.60
09		6.0	265		---	----		2.70
10		8.8	250		---	----	1.4	2.70
11		10.7	245		120	1.65		2.90
12		11.2	240		---	1.70		2.90
13		11.0	240		150	1.50		2.90
14		9.1	240		---	1.30	1.4	(2.85)
15		7.2	245		---	----	1.5	(2.95)
16		(4.5)	250				2.5	----
17		4.0	260				2.9	(2.85)
18		(4.5)	265		---	----	3.1	(2.80)
19		(4.3)	(280)		---	----	3.2	(2.85)
20		(4.0)	(300)		---	----	3.2	(2.70)
21		(3.2)	(305)		---	----	3.2	(2.45)
22		3.6	(310)		---	----	3.2	(2.40)
23		(3.2)	---				3.2	----

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

Table 32

Kiruna, Sweden (67.8°N, 20.3°E) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.3	390				4.0	2.6
01		4.6	360				4.0	2.6
02		4.5	330				3.2	2.6
03		5.1	330				3.2	2.6
04		5.2	295				3.0	2.6
05		5.0	285				3.0	2.6
06		4.0	275				2.6	2.8
07		4.0	260					2.8
08		4.8	270					2.6
09		6.4	260		130	1.5		2.8
10		9.0	250		110	1.6		2.9
11		11.0	240		110	1.8		3.0
12		11.6	230		---	1.9		3.0
13		11.6	235		---	1.6		3.0
14		10.4	230		---	1.4		3.0
15		8.0	225		---	---		3.0
16		5.8	250				2.0	3.0
17		4.8	<255				2.8	2.8
18		3.8	285				3.4	2.8
19		3.6	<300				3.0	2.8
20		4.6	295				3.2	2.7
21		4.6	340				4.0	(2.6)
22		4.6	350				4.0	2.6
23		4.4	<350				4.7	(2.6)

Time: 15.0°E.
Sweep: 0.8 Mc to 14.0 Mc in 30 seconds.

Table 33

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.9)	330				4.2	(2.45)
01		---	360				4.0	----
02		(3.7)	330				4.2	(2.55)
03		---	330				4.0	----
04		(4.8)	315				4.1	(2.50)
05		(4.3)	300				3.9	(2.55)
06		(4.8)	280				3.8	(2.75)
07		4.3	275				3.9	2.80
08		4.3	270				3.9	2.65
09		5.2	250		---	----	4.0	2.80
10		7.8	250		---	E	4.0	2.90
11		10.3	240		170	1.75	4.2	3.00
12		11.6	235		140	2.00	4.2	3.00
13		12.1	230		160	1.90	4.2	3.00
14		11.9	230		170	1.70	4.2	3.00
15		10.3	230		---	E	4.0	3.00
16		8.7	240		---	----	4.0	3.00
17		6.6	250				3.9	2.95
18		5.1	260				3.8	2.95
19		4.5	290				4.0	2.80
20		4.7	310				4.0	2.75
21		(4.6)	315				3.7	(2.65)
22		(4.2)	330				3.8	(2.70)
23		(4.1)	340				4.0	----

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

Table 34

Oslo, Norway (60.0°N, 11.1°E) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		2.8	350					2.40
01		2.6	350					2.40
02		2.7	320					2.55
03		3.0	315					2.45
04		3.2	305					2.55
05		3.6	290					2.55
06		3.3	270					2.60
07		3.2	270					2.70
08		4.5	250		---	----		2.60
09		8.0	250		115	1.85	1.9	2.80
10		10.7	240		---	2.15	2.3	2.95
11		11.6	240		115	2.40		(2.85)
12	---	(12.0)	240		---	2.45		(2.80)
13		(13.3)	240		110	2.40		----
14		(12.7)	235		110	2.25		----
15		(12.2)	240		---	1.90		(2.85)
16		10.9	220		---	----		(2.85)
17		8.1	220					(2.80)
18		6.1	225					2.85
19		5.1	250					2.70
20		4.6	260					2.70
21		3.8	290					2.55
22		3.4	300					2.55
23		3.2	310					2.40

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

Table 35

Winnipeg, Canada (49.9°N, 97.4°W) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.0	250					(3.1)
01		4.7	260					3.0
02		4.6	270					(3.0)
03		4.3	270				2.3	(2.9)
04		4.4	270					(2.9)
05		4.0	280					---
06		4.0	270					(3.0)
07		4.0	260					---
08		5.2	240		---	1.5		(3.0)
09		8.1	210		100	2.2		---
10		11.2	210		100	2.7		---
11		12.7	210		100	2.9		---
12		13.2	210		105	3.0		---
13		13.2	210		105	3.0		---
14		13.0	210		105	2.9		
15		13.0	210		110	2.6		---
16		13.0	210		110	2.1		---
17		12.7	200					---
18		10.8	210					
19		9.3	200					
20		7.8	210					3.15
21		6.4	210					3.1
22		5.7	230					3.1
23		5.2	240					(3.05)

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

Table 36

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.2	290					
01		5.0	290					---
02		5.1	290					
03		4.8	280					---
04		4.4	270					---
05		4.5	270					---
06		4.3	270					---
07		5.0	260		---	---		---
08		8.0	240		120	2.2		---
09		11.1	230		110	2.8		(3.1)
10		13.0	230		110	3.0		---
11		14.0	230		110	3.2		---
12		14.0	230		110	3.3		---
13		14.0	230		110	3.2		---
14		13.8	230		110	3.0		---
15		13.5	230		110	2.8		
16		13.0	230		120	2.1		---
17		12.2	230					
18		10.5	230					
19		9.2	230					
20		7.8	230					
21		7.0	250					---
22		6.2	260					---
23		5.5	270					---

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

Table 37

Monte Capellino, Italy (44.6°N, 8.0°E) December 1958

Time	h'F2	foF2	h'F1	foF1	h'E	foE	foEs	(M3000)F2
00		5.2						2.49
01		5.0						2.49
02		5.0						2.50
03		4.8						2.50
04		4.4						2.65
05		4.0						2.73
06		3.0						2.61
07		4.3						2.68
08		8.0				1.7		2.91
09		11.9				2.5		2.88
10		14.6				3.0		2.88
11		15.4				3.2		2.86
12		14.4				3.3		2.70
13		14.2				3.3		2.67
14		14.2				3.1		2.69
15		14.0				2.8		2.72
16		13.3				2.2		2.74
17		12.0						2.70
18		10.0						2.74
19		8.5						2.02
20		6.8						2.73
21		5.7						2.57
22		5.4						2.48
23		5.2						2.51

Time: 15.0°E.

Table 38

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.2	250					2.90
01		9.4	240					3.00
02		8.3	230					3.10
03		7.1	230					3.10
04		5.2	230					2.90
05		5.0	<270					2.60
06		5.8	270					2.70
07		10.7	250			---		3.10
08		13.8	240			---		3.10
09		15.1	240			---		3.10
10		15.1	230			---		2.90
11		15.4	230					2.75
12	---	16.2	230	---				2.70
13		17.0	230					2.60
14		(17.6)	230					(2.65)
15		>17.4	230				>4.0	(2.60)
16		>17.5	240				3.5	2.70
17		>16.5	240					(2.80)
18		16.9	240					2.75
19		>17.1	260					(2.80)
20		(16.5)	240					(2.85)
21		(15.7)	230					(3.00)
22		>13.0	230					2.95
23		10.9	240					2.85

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

Table 39

Singapore, British Malaya (1.3°N, 103.8°E) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.6	300				<1.2	2.50
01		10.5	300				<1.1	2.60
02		9.6	285		---	----	<1.0	2.70
03		8.9	280		---	----	<1.0	2.70
04		8.0	260		---	----	<1.1	2.75
05		7.3	245		---	----	<1.1	3.00
06	---	7.1	265	---	120	----	1.4	2.70
07	---	9.3	255	---	120	2.80	2.0	2.85
08	---	10.3	245	---	115	3.40		2.60
09	---	10.8	235	---	110	3.80		2.35
10	---	11.0	225	---	110	4.10		2.10
11	---	11.7	225	---	110	4.25		2.00
12	560	12.5	225	---	110	4.30		2.05
13	520	12.4	220	---	110	4.30		2.00
14	495	12.4	220	---	110	4.05	4.3	1.95
15	---	12.6	230	---	110	3.80	3.8	2.00
16	---	12.4	250	---	110	3.40		2.05
17	---	12.3	275	---	115	2.75		2.05
18	---	12.2	315	---	---	----	3.1	2.05
19		12.1	390				3.1	2.10
20		11.8	390				2.7	2.20
21		11.6	335				3.0	2.30
22		10.9	290				<1.6	2.30
23		10.5	290				1.4	2.40

Time: 105.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 40

Townsville, Australia (19.3°S, 146.7°E) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		----	295				3.2	
01		----	305				1.9	
02		----	325					
03		>7.5	(320)				2.8	
04		>7.0	320				2.0	
05		>7.0	330		---	<1.50		
06	---	----	270	---	120	2.45	2.7	
07	---	>8.4	250	---	110	3.15	4.0	
08	---	>8.5	240	---	110	3.60	4.2	
09	---	(9.6)	(230)	---	110	3.90	4.3	----
10	(450)	>10.0	230	6.5	100	4.10	5.3	----
11	(450)	>11.0	240	6.6	110	4.25	5.7	(2.40)
12	430	(12.0)	230	6.7	110	4.30	5.1	2.40
13	410	12.2	235	6.5	110	4.30	5.2	(2.50)
14	(420)	(11.9)	(240)	6.4	110	4.20	5.7	(2.45)
15	400	>11.0	225	6.1	110	3.90		----
16	(400)	>10.2	240	6.2	110	3.70	4.1	----
17		----	250		110	3.25	4.2	
18		----	275		120	2.50	4.0	
19		----	<325				3.4	
20		----	<360				>4.0	
21		----	350				4.2	
22		----	(340)				3.4	
23		----	300				3.8	

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 41

Watheroo, W. Australia (30.3°S, 115.9°E) December 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.0	300				3.1	(2.80)
01		6.7	300				>3.4	(2.90)
02		6.7	305				>3.6	(2.90)
03		6.5	<310				3.3	2.85
04		6.0	<305				3.0	(2.80)
05	---	(6.0)	305	---	<195	1.50	>2.2	(2.95)
06	(440)	6.7	255	4.0	105	2.50	2.6	3.10
07	(460)	6.9	240	4.8	100	3.15	3.4	2.85
08	480	7.2	230	5.3	100	3.50	4.0	2.80
09	490	7.7	235	5.7	100	3.90	4.2	2.60
10	500	8.3	(240)	6.0	100	4.00	>4.3	2.60
11	470	8.4	<250	6.2	100	4.10	6.0	2.55
12	495	8.2	(240)	6.0	100	>4.00	5.2	2.60
13	445	>8.4	(245)	6.1	100	4.10	5.8	2.60
14	445	>8.3	<245	6.0	100	4.00		2.60
15	460	8.2	240	6.0	100	4.00	4.2	2.60
16	450	8.1	235	5.7	100	3.80	4.3	2.65
17	415	>7.7	240	(5.2)	100	3.35	4.0	2.75
18	---	>7.0	260	---	105	2.75	3.6	(2.90)
19		(7.0)	295		120	1.50	2.5	----
20		>7.0	300				2.8	----
21		>7.0	300				1.4	----
22		>7.0	300				1.7	----
23		>7.0	300				>3.4	(2.85)

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

Table 42

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.1	345				3.2	2.30
01		10.2	320				3.5	2.30
02		9.8	315				2.8	2.20
03		9.7	345		---	1.40	2.1	2.20
04	---	10.2	300	---	---	(2.10)	3.1	2.10
05	460	10.8	260	4.6	115	2.60	3.2	2.20
06	450	11.2	250	5.2	110	3.00	4.0	2.20
07	445	11.2	250	5.8	105	3.45	5.0	2.20
08	440	10.9	245	5.8	100	3.70	5.9	2.20
09	435	11.1	250	6.0	100	3.90	6.4	2.20
10	420	11.0	240	6.1	100	4.00	6.7	2.30
11	420	11.2	240	6.1	100	4.10	6.2	2.30
12	410	11.1	230	6.2	100	4.10	5.7	2.35
13	410	10.6	235	6.2	100	4.10	5.5	2.40
14	405	9.9	235	6.1	100	4.00	4.8	2.45
15	405	9.1	245	6.0	100	3.90	4.7	2.50
16	405	8.7	250	5.8	100	3.60	5.8	2.50
17	405	8.5	250	---	105	3.30	5.7	2.55
18		8.4	255	---	110	2.85	5.8	2.50
19		8.2	260		---	2.10	5.8	2.50
20		8.2	310		---	1.50	3.9	2.25
21		9.0	300				3.6	2.20
22		9.6	360				3.5	2.20
23		9.7	350				3.1	2.20

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

Table 43

Tromso, Norway (69.7°N, 19.0°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		---	345		---	----	3.7	
01		(5.3)	340		---	----	3.6	----
02		(5.6)	340		---	----	3.5	----
03		(6.3)	305		---	----	3.2	(2.45)
04		(6.3)	295		---	----	2.9	(2.55)
05		(5.7)	260		---	----	1.4	(2.55)
06		(5.4)	260		---	----	1.4	(2.50)
07		(5.2)	255		---	----	1.2	2.55
08		6.0	255		---	----		2.65
09		(8.7)	250		---	1.85		2.75
10		11.0	245		---	2.10		2.90
11	245	12.7	245		---	2.20		3.00
12	240	(13.0)	240		---	2.15		2.95
13	---	(13.4)	235		---	1.90		3.00
14		11.5	240		---	1.80		2.90
15		11.4	245		---	----	1.4	2.90
16		(9.0)	235				2.9	(2.95)
17		8.8	250				2.9	(2.90)
18		(5.8)	255				3.0	(2.90)
19		(5.7)	255		---	----	2.9	(2.70)
20		(5.6)	270				2.8	(2.65)
21		4.8	300				3.0	(2.70)
22		(5.3)	(305)				3.1	----
23		(5.2)	---				3.2	----

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

Table 44

Kiruna, Sweden (67.8°N, 20.3°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.4	340				4.0	(2.5)
01		(6.6)	320				3.7	2.6
02		6.5	305				3.4	2.6
03		7.0	285				3.0	2.65
04		6.4	270				2.7	2.6
05		6.0	255				2.1	2.6
06		5.4	255					2.6
07		5.2	<260		---	---		2.7
08		6.6	250		---	1.6		2.8
09		9.0	245		---	1.8		2.9
10		11.5	240		---	2.0		2.9
11		13.0	240		---	2.0		2.9
12		13.5	230		---	2.0		2.9
13		13.8	230		---	2.0		2.9
14		13.0	230		---	1.6	1.7	3.0
15		11.9	235		---	1.4		2.9
16		10.8	240				1.9	3.0
17		8.0	245				2.4	2.9
18		6.0	250				2.3	2.9
19		5.4	285				2.1	2.8
20		4.8	<300				3.4	2.8
21		5.0	295				3.0	2.8
22		5.8	340				4.1	2.6
23		5.1	360				3.4	2.6

Time: 15.0°E.
Sweep: 0.8 Mc to 14.0 Mc in 30 seconds.

Table 45

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(3.9)	365				4.1	(2.55)
01		---	340				4.1	----
02		(4.6)	320				4.0	(2.65)
03		---	310				3.7	----
04		---	295				3.8	----
05		(5.3)	270				4.0	(2.70)
06		4.3	270				3.7	2.70
07		4.2	270				3.9	2.65
08		5.7	260		---	E	3.9	2.75
09		8.1	250		---	E	4.2	2.90
10		10.6	240		120	2.00	4.2	3.00
11		12.5	230		120	2.05	4.4	2.95
12		13.8	230		120	2.20	4.4	3.00
13		14.2	230		120	2.20	4.4	3.00
14		14.1	230		140	2.00	4.4	3.00
15		12.9	225		---	1.70	4.2	3.00
16		11.8	230		---	E	4.2	3.00
17		10.6	240		---	E	4.0	3.00
18		8.9	250		---	----	4.0	2.95
19		6.8	250				4.0	2.90
20		5.4	280				4.1	2.80
21		(5.0)	300				4.0	(2.75)
22		(4.6)	325				3.9	(2.65)
23		---	340				4.0	----

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

Table 46

Lulea, Sweden (65.6°N, 22.1°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)	335				<1.9	(2.4)
01		(5.8)	310				<1.8	(2.45)
02		(5.8)	300				<1.7	2.4
03		(6.0)	280				<1.8	(2.5)
04		(5.5)	270				<1.7	(2.5)
05		4.8	260				<1.7	2.6
06		4.2	260				<1.7	2.6
07		5.4	260		---	---	<1.8	2.6
00		7.9	250		---	1.9	<2.1	2.75
09		10.5	240		150	2.0	<2.5	2.9
10		12.4	240		150	2.3	<2.4	2.85
11		14.0	240		145	2.3	<2.9	2.8
12		>14.5	240		135	2.3	<4.3	2.7
13		>14.3	240		110	2.2	<2.4	2.8
14		14.0	240		---	2.0	<2.3	2.8
15		12.7	230		---	---	<2.0	2.8
16		10.9	230		---	---	<2.1	(2.9)
17		9.8	230				<2.0	2.9
18		7.5	240				<1.9	2.8
19		6.4	245				<1.8	2.7
20		5.4	260				<1.9	2.6
21		(5.1)	300				<1.8	2.5
22		4.3	310				<1.9	2.45
23		4.2	325				<2.1	2.4

Time: 15.0°E.
Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 47

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.7	320				3.2	2.4
01		4.4	300				3.0	2.4
02		4.7	290				2.0	2.45
03		5.2	275				2.8	2.5
04		4.6	260				2.9	2.4
05		4.4	255				2.6	2.6
06		3.9	245		---	----	2.4	2.6
07		4.7	250		---	E	2.5	2.6
08		7.3	240		130	1.50	3.2	2.8
09		9.8	235		120	1.80	3.7	2.9
10		12.3	235		120	2.00	3.2	3.0
11		13.5	230		115	2.15	3.2	3.05
12		14.0	230		110	2.20	3.5	3.0
13		14.0	230		115	2.05	3.4	3.1
14		13.5	225		---	1.80	3.1	3.1
15		13.0	220		---	1.55	3.0	3.15
16		11.6	220		---	E	2.7	3.0
17		9.6	220		---	E	3.0	2.9
18		7.3	235				2.6	2.9
19		5.9	235				2.4	2.8
20		5.1	250				2.4	2.7
21		5.0	200				2.4	2.6
22		5.0	300				2.7	2.5
23		4.6	305				2.6	2.4

Time: 15.0°E.
Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Table 48

Oslo, Norway (60.0°N, 11.1°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.4	330					2.40
01		4.2	300					2.45
02		3.9	305					2.55
03		3.8	295					2.55
04		3.8	290					2.55
05		3.7	265					2.70
06		3.2	260					2.70
07		3.6	270					2.55
08		7.7	250		---	1.80		2.80
09		10.9	245		115	2.10	2.4	2.85
10	---	13.2	240		115	2.40	2.6	2.85
11	240	(14.2)	240		115	2.65		(2.80)
12	240	----	240		115	2.65		----
13	235	(14.2)	240		115	2.60		----
14	(245)	(14.8)	240		110	2.45		----
15	---	(14.5)	235		---	2.20		(2.85)
16		(14.0)	225		---	1.00	2.6	(2.05)
17		(10.8)	225					(2.85)
18		10.2	225					2.80
19		8.0	240					2.75
20		6.2	240					2.70
21		5.1	260					2.55
22		4.6	295					2.55
23		4.5	315					2.40

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

Table 49

Upsala, Sweden (59.9°N, 17.6°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		4.2	310				3.0	2.4
01		4.2	305				2.9	2.5
02		4.0	295				3.0	2.6
03		3.8	290				3.2	2.6
04		3.8	270				3.1	2.7
05		3.5	255				3.1	2.0
06		3.3	250				2.9	2.6
07		4.7	245		---	E	3.1	2.7
08		8.5	235		140	1.60	3.2	2.9
09		11.7	230		115	2.15	3.2	3.0
10		13.2	225		115	2.35	3.6	2.95
11		14.3	225		110	2.55	3.0	2.9
12		14.8	225		115	2.60	3.1	2.9
13		14.0	225		125	2.45	3.0	2.9
14		14.5	230		125	2.20	3.0	2.9
15		13.8	220		140	1.75	3.1	2.9
16		13.0	220		---	E	3.2	2.95
17		10.2	220		---	E	3.0	3.0
18		0.0	220				2.8	2.9
19		7.0	225				2.7	2.9
20		5.8	240				2.5	2.8
21		4.8	250				2.6	2.7
22		4.3	285				2.5	2.6
23		4.3	310				2.9	2.4

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

Table 50

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<350	4.9						2.70
01	<350	4.7						2.75
02	<350	4.3						2.80
03	<330	4.2						2.90
04	<325	4.0						2.85
05	<340	(3.8)						(2.90)
06	<315	4.0						(2.90)
07	<250	6.8						3.10
08	220	10.5						3.20
09	220	>12.9	210	---	---	---		(3.15)
10	215	>13.2	---	---	---	---		----
11	220	>13.2	---	---				----
12	220	>13.2	---	---				----
13	230	>13.1	---	---				----
14	230	>13.2	---	---				(2.95
15	225	13.2	---	---				3.10
16	230	12.4	---	---				(3.10)
17	225	10.8						3.10
18	240	8.8						3.05
19	245	7.4						3.10
20	<260	6.0						3.00
21	<300	5.2						2.85
22	<330	4.8						2.80
23	<360	4.0						2.75

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

Table 51

Winnipeg, Canada (49.9°N, 97.4°W) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.6	260					2.0
01		5.2	280					2.8
02		5.3	280					2.9
03		5.0	280					2.8
04		5.0	280					(2.0)
05		4.8	280					(2.8)
06		4.6	280					2.05
07		5.0	270		---	---		(2.9)
08		7.0	240		110	2.0		(3.05)
09		10.0	230		110	2.5		(3.1)
10		12.2	230		105	2.9		(3.05)
11		13.2	230		105	3.0		----
12		14.0	230		105	3.0		----
13		14.0	230		105	3.0		
14		13.8	230		105	3.0		
15		13.6	230		110	2.7		
16		13.5	220		120	2.2		
17		13.0	220		---	1.6		----
18		12.0	220					
19		10.6	210					
20		9.2	220					----
21		7.7	230					(3.0)
22		6.5	230					2.9
23		6.0	250					2.95

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

Table 52

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.0	320					
01		5.0	305					
02		4.8	295					
03		4.6	275					
04		4.0	280					
05		4.4	290					
06		>7.0	240					
07		10.2	235		130	2.7		
08	---	13.3	235	---	120	2.8		
09	---	13.6	240	---	120	3.0		
10	---	13.7	235	---	120	3.2		
11	---	13.7	235	---	120	3.2		
12		13.6	240		120	3.1		
13		13.4	245		(125)	2.0		
14		13.2	240		(125)	2.6		
15		11.7	240		---	---		
16		>10.6	240					
17		9.1	250					
18		>6.6	255					
19		>6.3	260					
20		5.4	300					
21		5.0	310					
22		4.8	320					
23		4.8	330					

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

Table 53

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.8	270					---
01		6.2	270					---
02		6.2	280					---
03		6.0	280					---
04		5.6	260					
05		5.3	270					---
06		5.0	260					
07		7.0	250		---	1.8		---
08		10.2	240		115	2.5		(3.1)
09		12.6	230		110	3.0		3.05
10		14.0	230		110	3.2		(3.0)
11		14.6	230		110	3.4		(2.9)
12		15.0	230		110	3.4		---
13		14.0	230		110	3.3		---
14		14.6	230		110	3.1		---
15		14.2	230		115	2.8		---
16		14.0	230		120	2.2		
17		13.0	230		---	1.8		
18		11.8	230					
19		10.6	230					
20		9.3	230					
21		0.3	240					
22		7.6	250					---
23		7.0	260					---

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

Table 54

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	310					2.60
01		5.2	300					2.60
02		5.2	290				2.4	2.60
03		4.9	290					2.65
04		5.0	285					2.70
05		5.0	260					2.75
06		5.5	245					2.85
07		9.4	230			2.25		3.05
08		(12.8)	230			2.60	3.0	(3.15)
09		13.9	230			3.00	3.5	3.10
10		14.3	230			3.25	3.5	3.05
11		(14.2)	230			3.45		(3.00)
12		13.6	230			3.40		2.95
13		13.5	230			3.15		2.90
14		13.3	240			2.90		2.90
15		12.8	230			2.40		2.95
16		12.0	230			----		2.90
17		10.1	225					2.80
18		8.6	240					2.85
19		7.6	245					2.90
20		5.8	250					2.85
21		5.6	270					2.80
22		5.4	285					2.70
23		5.2	<310					2.60

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

Table 55

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	300					2.65
01		5.0	300					2.60
02		5.0	300					2.65
03		4.9	300					2.60
04		4.6	300					2.60
05		4.8	290					2.70
06		5.7	250					2.90
07	---	10.2	240			2.10		3.20
08	---	12.9	230			2.80		3.10
09	---	14.2	235			3.10		3.05
10	---	14.7	235			3.50	3.8	2.95
11	---	14.6	240			3.55	4.0	2.90
12	(245)	14.0	240			3.55		2.80
13	---	13.9	240			3.45		2.80
14	---	13.6	245			3.10		2.80
15		13.2	240			2.65		2.85
16		12.2	240			----		2.90
17		10.6	240					2.90
18		9.2	245					2.90
19		8.2	245					2.90
20		6.8	245					2.95
21		5.7	255					2.80
22		5.6	265					2.80
23		5.3	290					2.65

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

Table 56

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.5	300					2.65
01		5.3	300					2.60
02		5.2	295					2.65
03		5.0	280					2.70
04		4.5	275					2.55
05		4.8	305					2.60
06		(6.3)	255					(2.90)
07		(10.6)	240			2.40		(3.15)
08		12.7	240			2.90		3.10
09		14.0	240			3.35		3.00
10		14.5	240			3.55	3.7	2.90
11		(14.7)	240			(3.65)	3.6	(2.80)
12		(14.6)	240			(3.65)		(2.75)
13		(14.5)	245			3.55		(2.75)
14		14.1	250			(3.30)		2.70
15		13.6	245			2.90		2.75
16		12.8	240			----		2.80
17		11.8	240					2.80
18		(9.9)	250					(2.85)
19		(9.1)	250					(2.80)
20		8.2	250					2.85
21		6.8	255					2.75
22		6.3	265					2.70
23		5.9	285					2.70

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

Table 57

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0	250					2.80
01		7.4	240					2.85
02		6.6	250					2.90
03		6.0	250					2.90
04		5.4	230					2.90
05		4.5	250					2.80
06		4.5	250					2.85
07		8.6	240			1.90		3.20
08		12.0	225			2.70		3.25
09		13.9	225			3.20	3.3	3.20
10		14.7	220			3.50	3.6	3.05
11		14.9	225			3.70	4.7	2.95
12		14.8	220			(3.80)	4.0	2.80
13		15.0	225			(3.80)	4.0	2.80
14		14.8	230			3.60	4.2	2.80
15		14.6	230			3.25	3.6	2.80
16		14.4	230			2.70	3.5	2.85
17		13.8	230			1.80	3.2	2.85
18		12.9	220				3.2	2.85
19		11.9	240				2.9	2.85
20		(11.8)	235				2.3	(2.90)
21		11.0	230					2.95
22		(9.4)	225					(2.90)
23		(8.9)	245					(2.85)

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

Table 58

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		14.2	240					2.90
01		12.4	220					3.00
02		10.4	220					3.00
03		9.2	220					3.10
04		6.8	210					3.00
05		5.9	240					2.80
06		7.5	260					2.75
07		12.1	240			---		3.15
08		14.4	230			---		3.15
09		15.6	220			---		2.95
10		>16.3	220			---	4.2	2.75
11		>17.0	220			---	4.2	(2.70)
12		(17.4)	220			---	4.3	(2.65)
13		(17.9)	220	---		---		(2.70)
14		>17.8	220			---		(2.65)
15		(18.2)	230				4.0	(2.60)
16		>18.0	230				3.4	(2.70)
17		>18.4	250					(2.70)
18		(18.3)	250					(2.70)
19		>18.6	280					(2.75)
20		(19.0)	250					(2.90)
21		>19.0	230					(2.90)
22		18.3	220					2.90
23		15.0	220					2.95

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

Table 59

El Cerillo, Mexico (19.1°N, 99.6°W) November 1958

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		5.2						2.95
01		5.0						3.00
02		4.2						3.00
03		3.7						2.90
04		3.5						2.70
05		3.5						2.65
06		3.9						2.90
07		8.0						3.20
08		11.3						3.20
09		13.3						3.05
10		14.2						3.00
11		14.2						2.90
12		14.4						2.80
13		14.0						2.70
14		13.7						2.70
15		13.6						2.70
16		(13.1)						2.75
17		12.3						2.80
18		(10.8)						(2.90)
19		(9.7)						(2.90)
20		8.6						3.00
21		7.9						2.90
22		6.8						3.00
23		5.8						3.00

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 18 seconds.

Table 60

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	12.4						2.54
01	250	>11.6						<2.58
02	230	10.5						2.78
03	220	8.5					1.5	2.90
04	260	8.2			140	2.0	2.6	2.80
05	250	10.4	250	---	120	3.0	3.5	2.70
06	(250)	11.2	240	---	110	3.4		2.50
07	---	11.8	235	---	110	3.8		2.18
08	---	12.4	250	---	110	4.0		2.06
09	---	13.0	250	---	110	4.0		2.04
10	(515)	13.6	250	6.8	110	4.1		2.00
11	(495)	14.0	240	6.5	110	4.1		2.03
12	505	13.8	235	6.3	110	4.0		2.00
13	535	13.6	240	---	120	3.6	4.0	1.99
14	540	13.7	255	---	120	3.2	3.9	2.01
15	550	13.3	280	---	120	2.5	3.0	1.97
16	---	13.3	345	---			2.8	<1.94
17	440	(12.6)					2.2	(1.82)
18	410	----					1.8	----
19	330	----					1.8	
20	280	----					2.0	----
21	255	----						----
22	270	>11.4						<2.30
23	280	11.8						2.45

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

Table 61

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	13.1						2.48
01	250	12.0						2.57
02	235	9.6						2.63
03	235	8.6						2.68
04	230	6.6						2.74
05	250	0.0	---	---	130	2.1	2.7	2.75
06	250	9.6	240	---	115	3.0	3.5	2.63
07	---	10.6	235	---	110	3.6		2.44
08	---	11.5	230	---	110	4.0		2.16
09	---	12.3	240	---	110	4.0		2.07
10	---	13.2	250	---	110	4.1		2.07
11	495	14.0	250	---	110	---		2.04
12	470	14.8	250	---	110	4.2		2.10
13	450	14.8	250	6.0	110	4.0		2.10
14	435	14.8	240	6.0	110	3.0	4.2	2.10
15	415	14.4	250	---	110	3.3	3.9	2.12
16	(405)	14.6	270	---	120	2.5	3.0	2.15
17	320	>14.0	320	---			2.9	<2.12
18	300	----					3.0	----
19	350	----					2.8	
20	280	----					2.0	----
21	250	(16.6)						(2.48)
22	235	14.7						2.40
23	240	13.5						2.46

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

Table 62

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

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	10.1						2.52
01	255	9.2						2.58
02	245	8.0						2.65
03	235	6.7						2.59
04	260	0.0	---	---	130	2.0		2.79
05	250	9.5	245	---	110	3.0		2.67
06	255	10.6	235	---	110	3.5		2.55
07	---	11.3	235	---	110	3.8		2.35
08	(360)	11.7	245	---	110	4.0		2.27
09	390	12.5	250	---	110	4.0		2.23
10	410	13.0	245	6.5	110	4.0		2.20
11	420	13.0	250	6.4	110	4.1		2.21
12	420	13.1	245	6.2	110	4.0		2.20
13	410	13.0	250	6.0	110	3.9	4.1	2.20
14	390	13.0	250	---	110	3.5	4.1	2.23
15	380	12.7	260	---	115	2.8	3.9	2.24
16	300	12.8	290	---	---	---	2.9	2.29
17	310	12.5					2.5	2.32
18	310	13.0					2.3	2.38
19	280	14.0						2.46
20	260	13.6						2.54
21	255	13.3						2.59
22	250	11.4						2.56
23	250	10.4						2.50

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

Table 63

Johannesburg, Union of S. Africa (26.2°S, 28.0°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	265				<1.4	2.70
01		7.7	260				<1.4	2.70
02		7.2	<255				<1.5	2.65
03		6.8	<260				<1.6	2.70
04		6.0	(260)				<1.4	2.65
05		6.3	275			1.5		2.70
06		8.4	245			2.5		2.95
07	---	10.0	235			3.1		2.85
08	---	11.3	225	---		3.7		2.70
09	(460)	11.8	210	---		3.9		2.60
10	(450)	12.3	210	6.4		4.1		2.58
11	425	12.7	210	6.4		4.2		2.45
12	400	12.8	220	6.4		4.2		2.40
13	400	12.8	220	6.4		---		2.40
14	395	12.7	225	6.4		4.1		2.40
15	400	12.4	225	6.0		4.0		2.40
16	(415)	12.2	235	---		3.6	3.8	2.45
17	---	11.9	250	---		3.1	3.3	2.50
18		(11.8)	265			2.3		(2.60)
19		(11.4)	255			<1.6	2.0	(2.65)
20		10.8	250				1.8	2.65
21		10.2	250				<1.8	(2.65)
22		9.5	260				<1.5	(2.70)
23		8.9	270				<1.5	2.70

Time: 30.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 64

Capetown, Union of S. Africa (34.1°S, 18.3°E) November 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.9	<290				2.3	2.60
01		6.5	(290)				2.4	2.55
02		6.1	<290				2.3	2.55
03		6.0	<290				1.8	2.60
04		5.5	<280				<1.8	2.60
05		5.4	<300			<1.4	<1.4	2.55
06		7.1	268			2.1		2.85
07		9.0	250			2.9		2.90
08		10.6	240			3.3		2.75
09	---	11.4	235	---		3.7	3.9	2.55
10	(430)	11.9	225	---		3.9	4.2	2.50
11	410	12.2	(220)	6.3		4.0	4.5	2.45
12	420	12.8	(210)	6.8		---	4.3	2.40
13	410	12.8	220	6.5		---		2.40
14	410	12.8	225	6.6		---	4.2	2.40
15	395	12.7	240	6.2		4.0		2.40
16	400	12.2	240	5.8		3.8		2.45
17	(415)	11.8	245	---		3.4		2.50
18		11.8	250			2.8		2.60
19		(11.0)	260			2.1		2.65
20		10.4	250			<1.4	<1.5	2.70
21		9.2	<250				<1.5	2.70
22		8.3	<260				<1.8	2.70
23		7.4	<270				<1.9	2.60

Time: 30.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 65

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.9	310					2.45
01		(6.2)	300					2.50
02		(5.9)	320				3.0	2.40
03		>5.2	310				2.2	2.45
04		>5.0	310		---	----	1.8	(2.50)
05		>5.4	290		140	2.00	2.8	(2.65)
06		>6.8	260		120	2.70		2.80
07	---	7.5	240		110	3.30	3.3	2.70
08	(480)	7.8	230	---	110	3.50	4.0	2.65
09	470	8.0	230	---	---	----	4.4	2.50
10	470	8.1	230	5.6	---	----	4.5	2.50
11	480	8.6	230	5.8	---	----	4.5	2.45
12	460	8.9	230	6.2	---	----	4.5	2.45
13	460	8.7	230	5.8	110	4.00	4.2	2.45
14	460	8.4	230	5.8	110	4.00	4.4	2.45
15	460	8.2	230	5.6	110	3.80	4.0	2.50
16	470	>8.1	240	---	110	3.60		2.50
17	(440)	>8.1	250		120	3.15		2.55
18		8.1	260		120	2.60	3.5	2.60
19		8.2	290		---	----	3.5	2.60
20		(8.5)	300				3.9	2.60
21		(8.3)	300				4.0	2.55
22		(7.7)	320				3.8	2.50
23		(7.2)	320				3.9	2.50

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

Table 66

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	(5.7)	300	---	112	1.9		(2.50)
01	---	(5.5)	285	---	109	2.0		(2.50)
02	---	(5.6)	275	---	109	(2.3)		(2.60)
03	---	(5.4)	(280)	---	111	(2.6)		(2.50)
04	---	(5.6)	260	3.7	109	(2.8)		(2.55)
05	(490)	(6.4)	(250)	(4.1)	109	(3.2)		(2.50)
06	(400)	(6.8)	250	(4.4)	107	(3.3)		(2.40)
07	460	7.0	240	(4.0)	107	3.4		2.50
08	(435)	(7.6)	225	(5.0)	105	3.4		(2.45)
09	(420)	(8.0)	225	(5.0)	103	3.5		(2.45)
10	(445)	(8.8)	225	(5.4)	103	3.6		(2.50)
11	450	(7.8)	225	5.2	103	3.6		(2.45)
12	455	(7.7)	225	5.3	103	3.5		(2.40)
13	445	8.0	225	5.2	104	3.5		2.45
14	465	7.4	230	5.2	104	3.4		2.40
15	465	7.4	235	5.1	105	3.3		2.40
16	445	7.6	240	4.8	107	3.1		2.40
17	420	(7.6)	250	4.7	107	3.0		(2.40)
18	420	8.1	260	4.4	109	2.8		2.40
19	395	(8.0)	270	(4.0)	109	2.6		(2.45)
20	(370)	(7.4)	275	(3.5)	111	2.3		(2.45)
21	---	(7.1)	285	---	110	2.1		(2.45)
22	---	(6.7)	285	---	113	2.0		(2.50)
23	---	(6.2)	290	---	111	1.8		(2.50)

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

Table 67

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

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	5.5	270	---	120	2.3		2.35
01	---	5.4	270	---	120	2.3		2.35
02	---	5.6	280	3.5	120	2.3		2.30
03	480	5.8	270	4.0	115	2.5		2.30
04	(480)	6.0	270	4.1	115	2.6		2.35
05	430	6.1	250	4.2	110	2.7		2.35
06	470	(6.7)	250	4.4	110	2.9		(2.30)
07	(500)	6.7	250	4.6	110	3.0		2.35
08	520	6.6	240	4.6	110	3.1		2.35
09	470	6.8	240	5.0	105	3.2		2.30
10	500	7.2	230	5.0	105	3.2		2.30
11	470	7.0	230	5.2	105	3.3		2.35
12	470	7.3	230	5.2	105	3.3		2.30
13	480	7.3	230	5.1	105	3.3		2.30
14	470	7.4	240	5.0	105	3.2		2.25
15	460	7.4	250	4.8	105	3.1		2.30
16	440	7.7	250	4.7	110	3.0		2.25
17	440	7.4	250	4.6	110	3.0		2.30
18	420	7.8	250	4.3	110	2.8		2.30
19	420	7.6	260	(4.2)	110	2.7		2.30
20	420	6.9	260	4.1	115	2.5		2.30
21	(500)	6.4	260	---	115	2.4		2.30
22	(610)	6.3	270	4.0	120	2.4		2.35
23	---	5.8	270	---	120	2.3		2.40

Time: 165.0°E.

Table 68

Pole Station (90.0°S) April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.2)	270				5.4	(2.60)
01		(6.7)	275					(2.50)
02		(6.7)	290					(2.40)
03		(6.5)	290					(2.40)
04		(7.0)	300					(2.50)
05		(6.6)	320					(2.38)
06		(6.85)	320					(2.35)
07		(5.5)	360					(2.38)
08		(6.4)	(370)					(2.35)
09		(5.8)	365		---	----		(2.38)
10		(6.4)	(385)		---	----		(2.40)
11		(5.6)	(355)		---	----		(2.55)
12		5.05	<355		---	----		2.50
13		(5.3)	<375		---	----		(2.55)
14		(5.3)	320		---	----		(2.55)
15		(7.2)	305		---	----		(2.60)
16		(8.0)	320		---	----		2.78
17		(5.6)	285		---	----		(2.72)
18		(4.85)	285		---	----		----
19		(4.75)	265		---	----	2.5	(2.70)
20		(4.4)	260		---	----	3.8	(2.85)
21		(4.8)	<260		---	----	2.4	(2.70)
22		(5.0)	260				4.2	(2.70)
23		(5.4)	270					(2.70)

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

Table 69

Little America (70.2°S, 162.2°W) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.2)	<360					----
01		(3.7)	(375)		139	----	2.8	(2.25)
02		(4.0)	360		---	----	2.8	(2.50)
03		(4.6)	(380)		---	----	3.0	(2.55)
04	---	(4.7)	335		---	----		----
05	---	(4.75)	320	---	---	----		(2.90)
06	---	(5.5)	(315)	---	103	----		(2.78)
07	<440	(6.8)	300	---	---	----		2.80
08	---	(7.2)	<280	---	<120	----		2.70
09	(500)	(6.3)	275	---	111	----		2.60
10	(445)	(6.95)	(280)	(4.0)	107	----		(2.68)
11	---	(6.6)	(270)	---	109	(2.90)		(2.70)
12	---	(7.0)	<275	---	105	(3.00)		(2.82)
13	---	(6.9)	255	---	(107)	(2.85)		(2.80)
14	---	(7.2)	(270)	---	105	----	3.2	(2.80)
15	---	(7.2)	(280)	---	(105)	----		(2.70)
16	---	(7.0)	(280)	---	105	----		(2.62)
17	---	(8.0)	(280)	---	109	----	2.7	(2.75)
18	---	(7.8)	300	---	(115)	(2.20)		(2.65)
19		(7.3)	<305		(111)	(1.90)		(2.60)
20		(7.2)	300		110	(1.70)		(2.55)
21		(6.9)	310		123	----		(2.55)
22		(5.4)	320		<151	----		----
23		(4.4)	350		---	----		(2.25)

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

Table 70

Pole Station (90.0°S) March 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	(6.1)	(275)	---	119	----		(2.80)
01	---	6.4	<300	---	(121)	(2.40)		2.65
02	---	(6.8)	<295	---	(111)	2.25	3.9	(2.60)
03	---	(6.5)	<300	---	<126	2.20		2.60
04	---	6.8	<310	---	<125	2.20		2.55
05	(440)	(6.6)	300	---	(115)	(2.40)		2.55
06	(440)	(6.05)	<315	---	(119)	2.20		2.45
07	(420)	(6.1)	(320)	(3.6)	<131	----		(2.40)
08	(490)	(5.85)	<325	---	117	----		2.38
09	<550	(5.1)	<310	---	115	----		(2.45)
10	---	(5.0)	<315	---	(109)	----		(2.40)
11	---	(4.3)	(310)	---	119	----		(2.60)
12	---	(4.85)	(310)	---	(113)	----		(2.65)
13	---	4.75	(325)	---	(115)	----		(2.65)
14	---	(5.4)	<315		105	----		(2.85)
15	---	(5.8)	(310)		113	----		(2.78)
16	---	6.4	300		111	----		2.72
17	---	5.75	300		112	----		2.80
18	---	(5.5)	(285)		111	----		(2.75)
19	---	(5.6)	<285		114	(2.25)		(2.85)
20	---	(5.3)	(290)		115	----		(2.90)
21	---	(5.5)	(280)		119	(2.28)		2.88
22	---	(5.5)	<285		111	----		(2.80)
23	---	(5.7)	<300		113	----		(2.85)

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

Table 71

Wilkes Station (66.2°S, 110.5°E) February 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.7)	275				5.0	(2.55)
01		(4.7)	270				4.8	----
02		(4.95)	270		---	----	4.5	----
03		(5.0)	260		---	----	5.2	(2.70)
04		(5.1)	260	---	---	----	4.8	(2.90)
05	---	(5.3)	250	---	(103)	(2.40)	5.0	(2.75)
06	(470)	(5.7)	245	(4.0)	103	(2.75)	5.4	(2.50)
07	500	(5.8)	230	(4.2)	103	(2.90)	5.4	(2.50)
08	(470)	(6.5)	230	(4.6)	101	3.20		(2.50)
09	515	(6.0)	220	(4.6)	101	3.40		(2.38)
10	480	(6.65)	220	(4.7)	101	3.40		G
11	(475)	(6.3)	220	(4.8)	101	3.50		(2.35)
12	(455)	---	(220)	(4.8)	101	(3.50)		----
13	470	(6.15)	215	(4.7)	101	(3.45)		(2.28)
14	(465)	(6.95)	210	(4.5)	101	(3.45)		----
15	(490)	(6.0)	220	(4.5)	101	3.30		----
16	(480)	(6.0)	220	(4.3)	101	3.00	5.6	----
17	495	(6.0)	230	(4.0)	102	2.90	4.2	(2.20)
18	(510)	(6.0)	250	(4.0)	105	(2.50)	4.3	(2.40)
19	---	(6.2)	260	---	105	(2.10)	4.0	2.60
20		(5.8)	270		103	(1.80)	3.0	(2.60)
21		(5.5)	270		109	(1.60)	4.7	(2.62)
22		(5.25)	280		---	----	4.1	(2.60)
23		(4.3)	260				4.9	(2.60)

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

Table 72

Kerguelen I. (49.3°S, 70.5°E) August 1956

Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		1.6	295				1.5	2.95
01		1.6	300				1.5	2.98
02		1.6	320				1.6	2.80
03		1.6	310				1.6	2.85
04		1.6	320				1.4	2.80
05		1.7	325				1.2	2.78
06		2.0	300				1.1	2.80
07		3.8	265				1.2	2.95
08		6.6	225		109	2.20		3.30
09	---	8.4	220	---	106	2.75		3.30
10	---	9.6	215	---	104	3.00		3.10
11	(290)	11.0	215	5.0	105	3.20		2.95
12	(300)	11.5	215	5.1	101	3.30	3.3	2.95
13	(270)	11.6	215	4.5	100	3.20	3.4	3.00
14	(245)	11.6	210	4.4	104	3.20	3.4	2.90
15	---	11.6	215	---	106	2.95		2.95
16		11.3	215		109	2.50		3.10
17		10.2	210		---	----	1.6	3.10
18		8.4	210				1.5	3.20
19		5.9	205				1.4	3.35
20		3.4	210				1.2	3.25
21		2.5	240				1.1	3.15
22		2.2	240					3.15
23		1.7	240				1.6	3.05

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

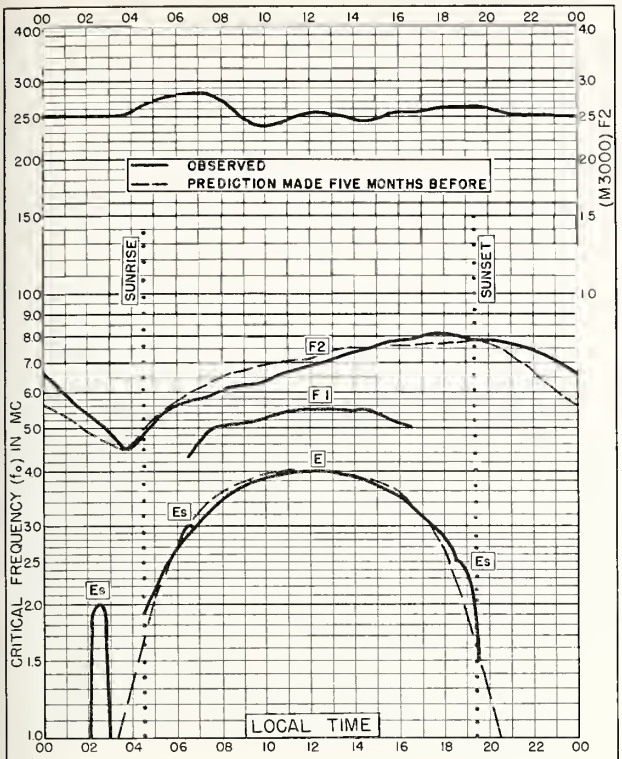


Fig. 1. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W MAY 1959

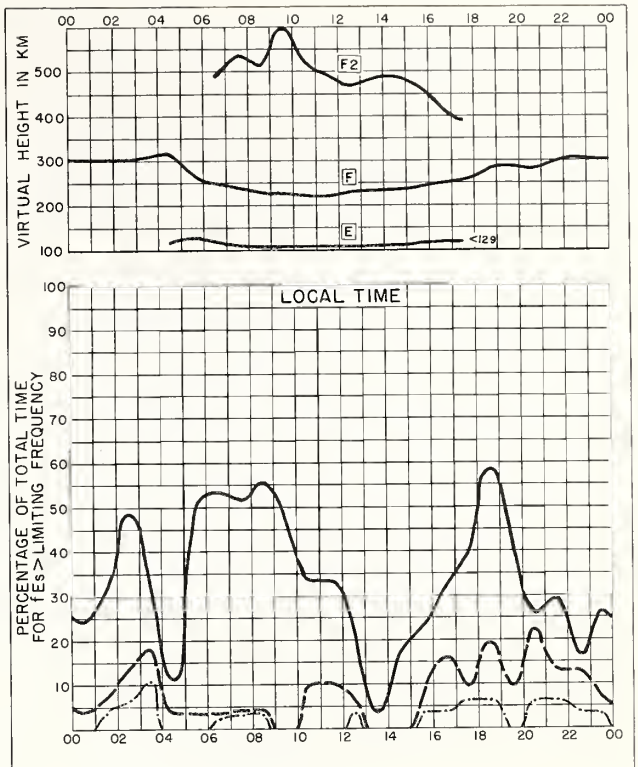


Fig. 2. ST. JOHN'S, NEWFOUNDLAND MAY 1959

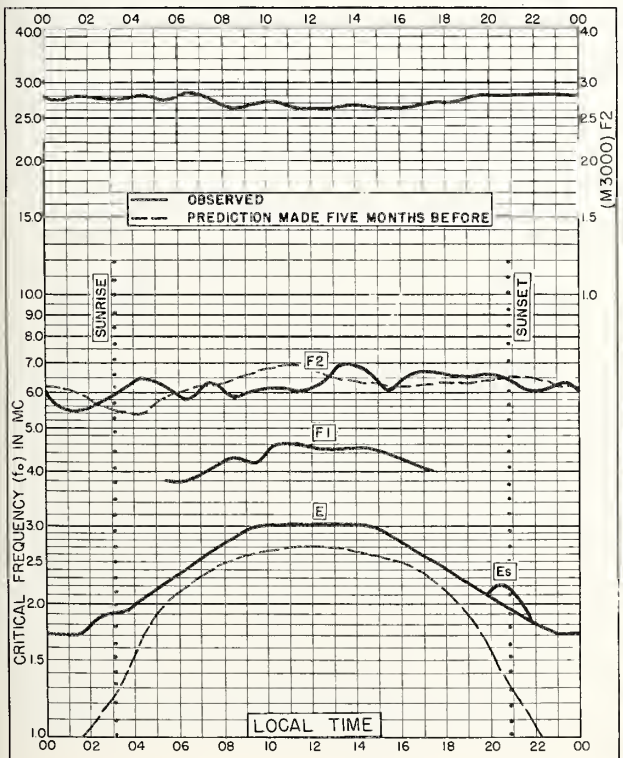


Fig. 3. THULE, GREENLAND
76.6°N, 68.7°W APRIL 1959

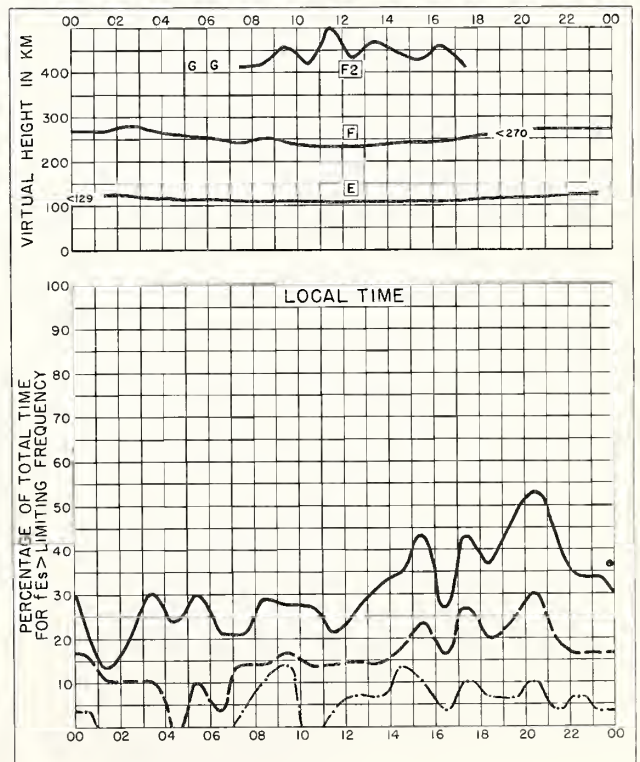


Fig. 4. THULE, GREENLAND APRIL 1959

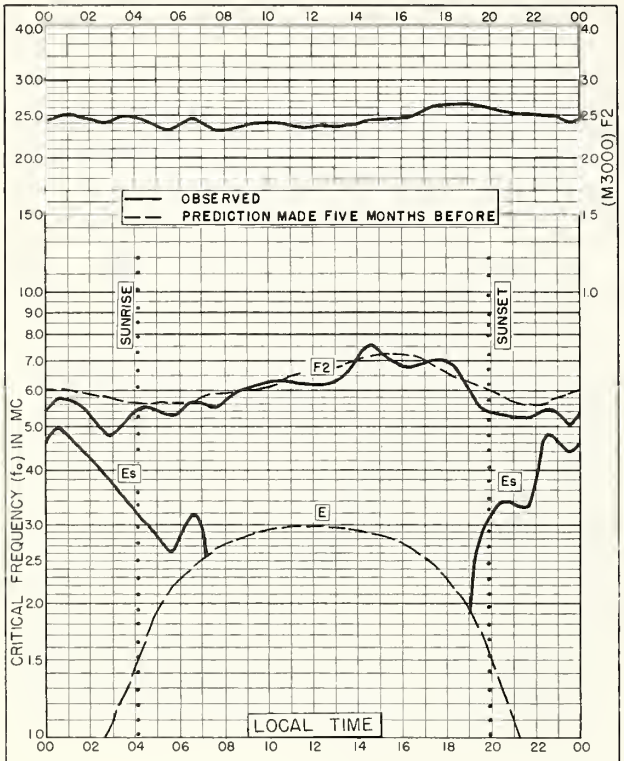


Fig. 5. POINT BARROW, ALASKA
71.3°N, 156.8° W APRIL 1959

NBS 503

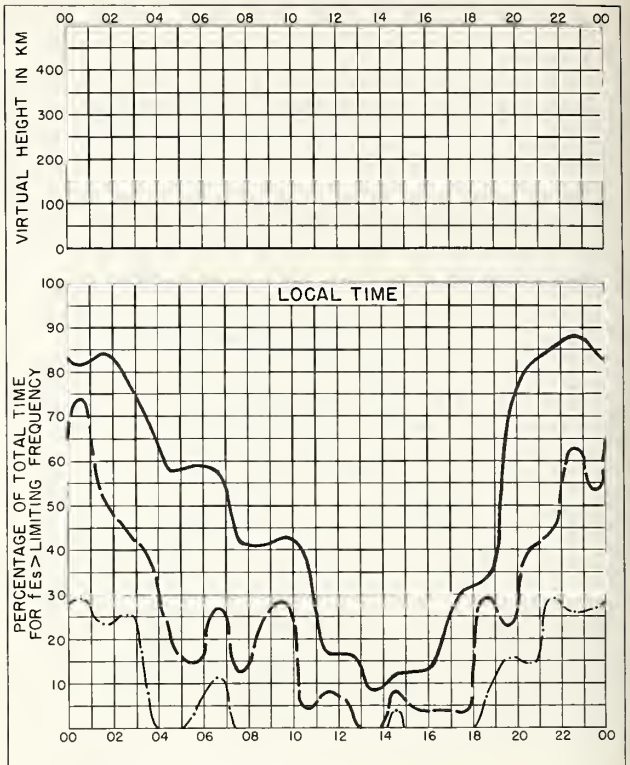


Fig. 6. POINT BARROW, ALASKA APRIL 1959

NBS 490

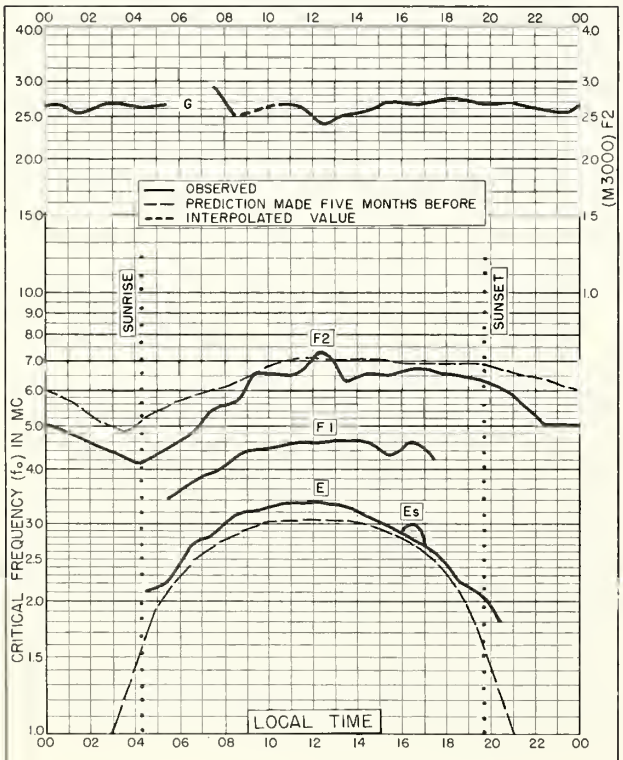


Fig. 7. GODHAVN, GREENLAND
69.3°N, 53.5° W APRIL 1959

NBS 503

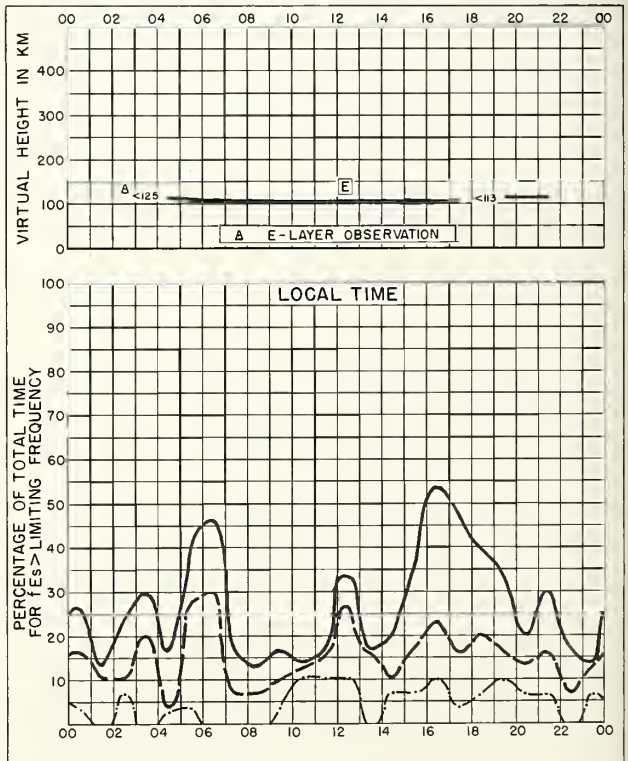


Fig. 8. GODHAVN, GREENLAND APRIL 1959

NBS 490

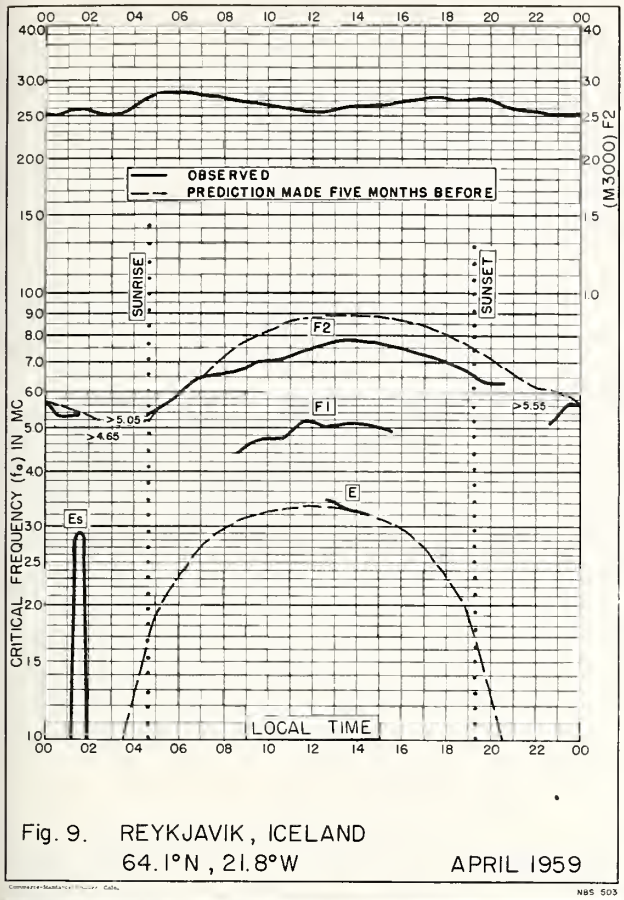


Fig. 9. REYKJAVIK, ICELAND
64.1°N, 21.8°W APRIL 1959

NBS 503

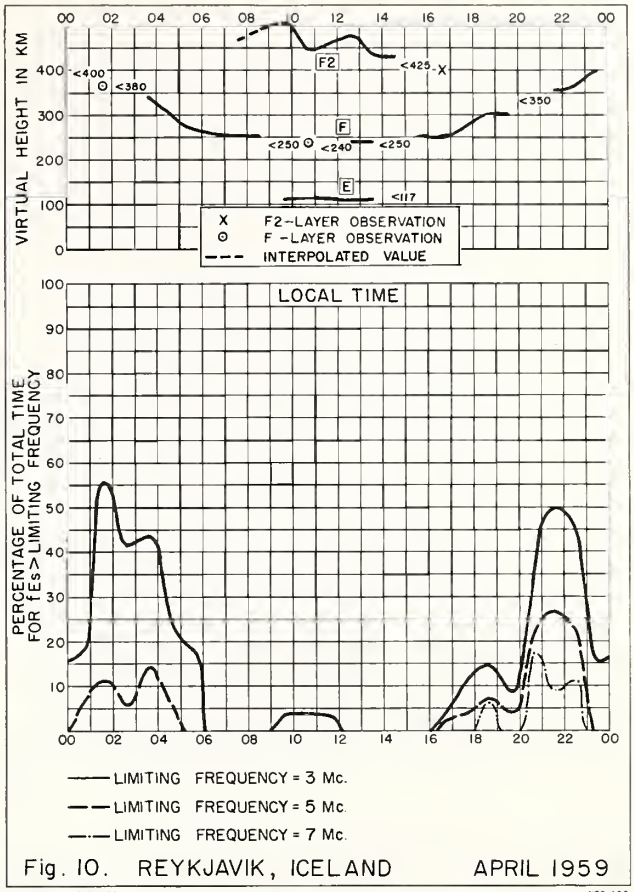


Fig. 10. REYKJAVIK, ICELAND APRIL 1959

NBS 490

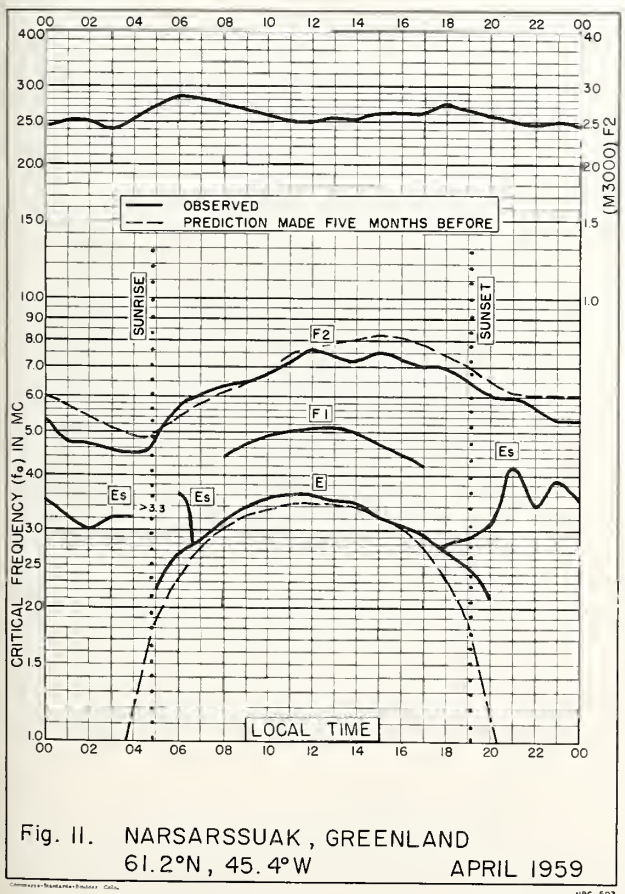


Fig. 11. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W APRIL 1959

NBS 503

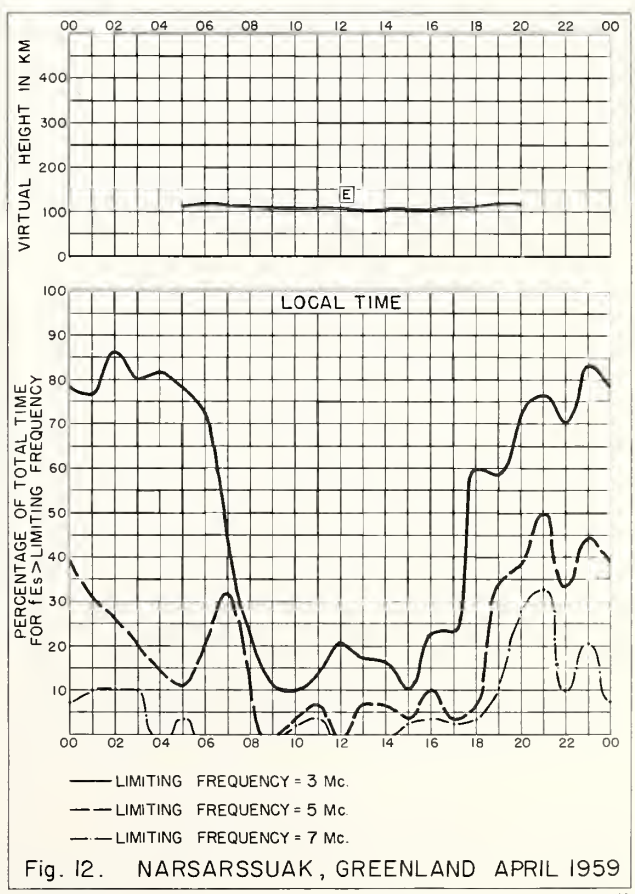


Fig. 12. NARSARSSUAK, GREENLAND APRIL 1959

NBS 490

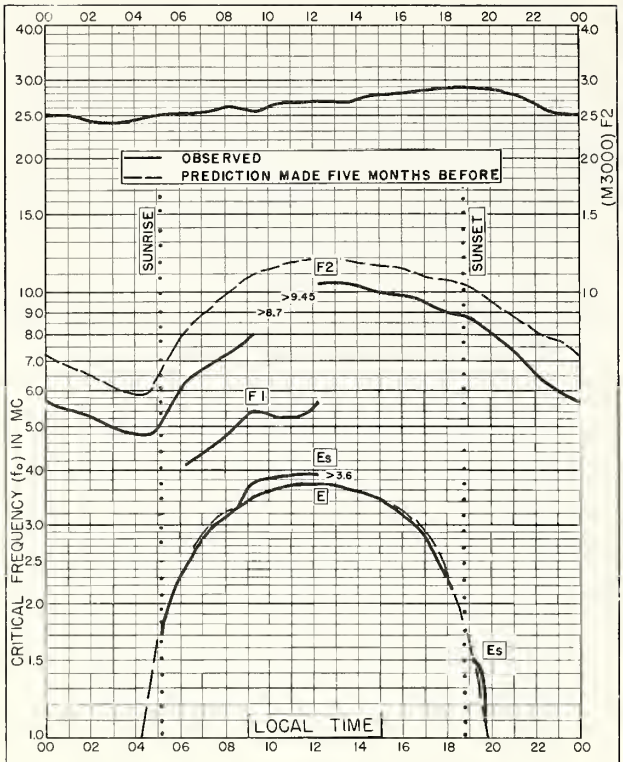


Fig. 13. ADAK, ALASKA
51.9°N, 176.6°W APRIL 1959

NBS 503

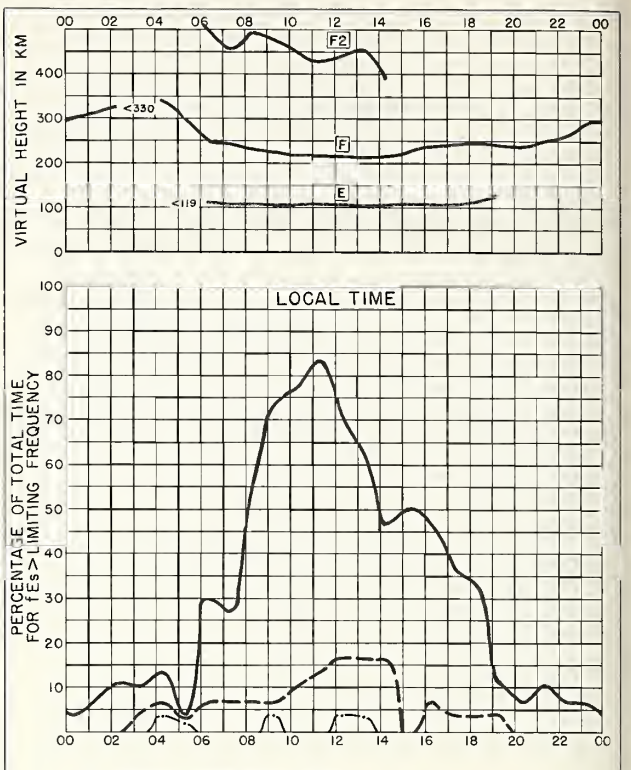


Fig. 14. ADAK, ALASKA APRIL 1959

NBS 490

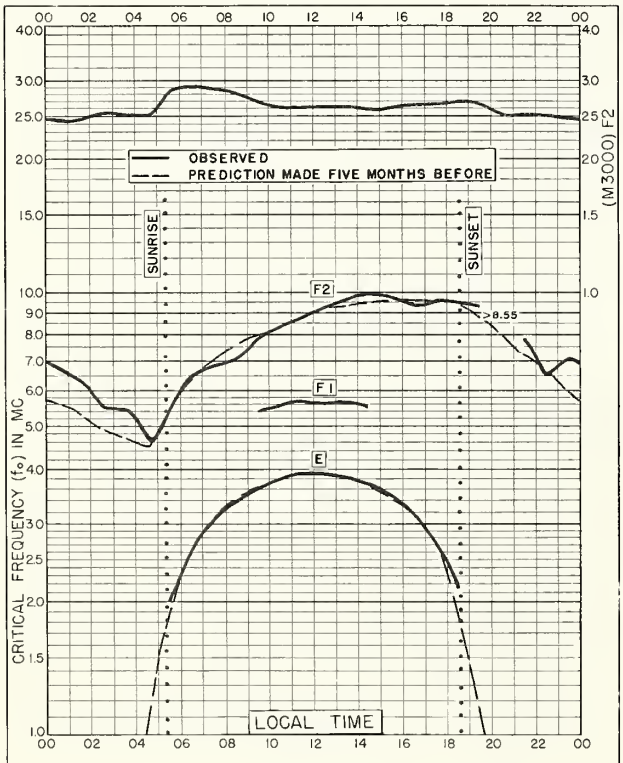


Fig. 15. ST. JOHN'S, NEWFOUNDLAND
47.6°N, 52.7°W APRIL 1959

NBS 503

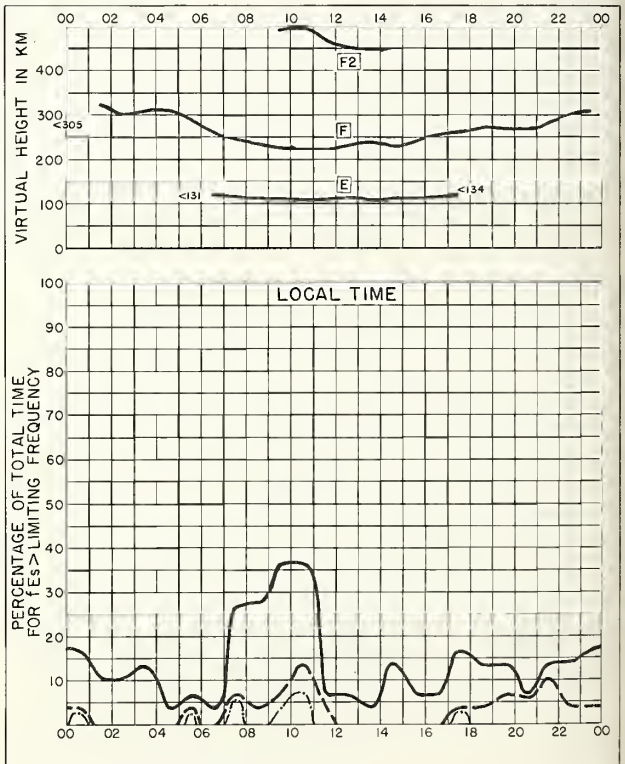


Fig. 16. ST. JOHN'S, NEWFOUNDLAND APRIL 1959

NBS 490

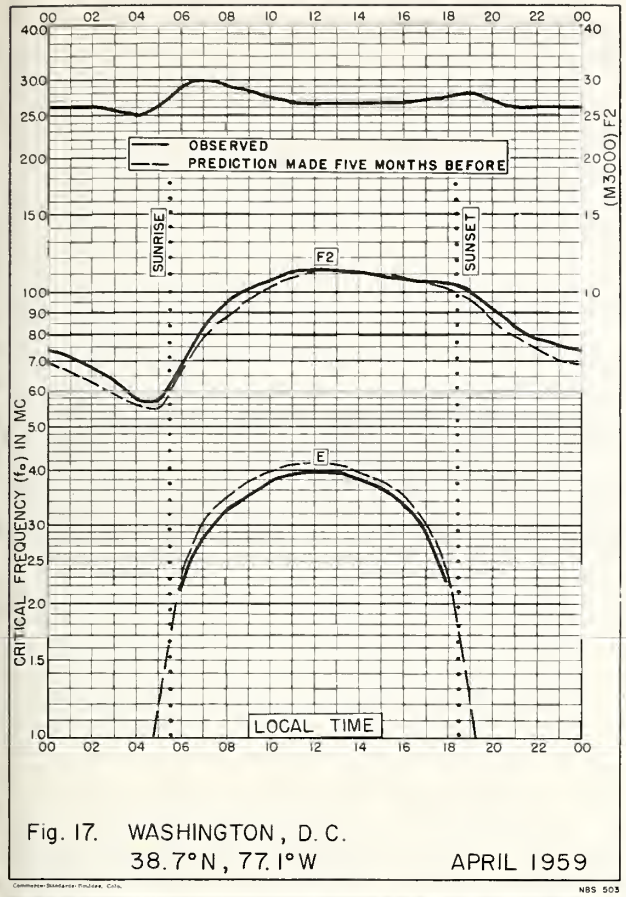


Fig. 17. WASHINGTON, D.C.
38.7°N, 77.1°W APRIL 1959

NBS 503

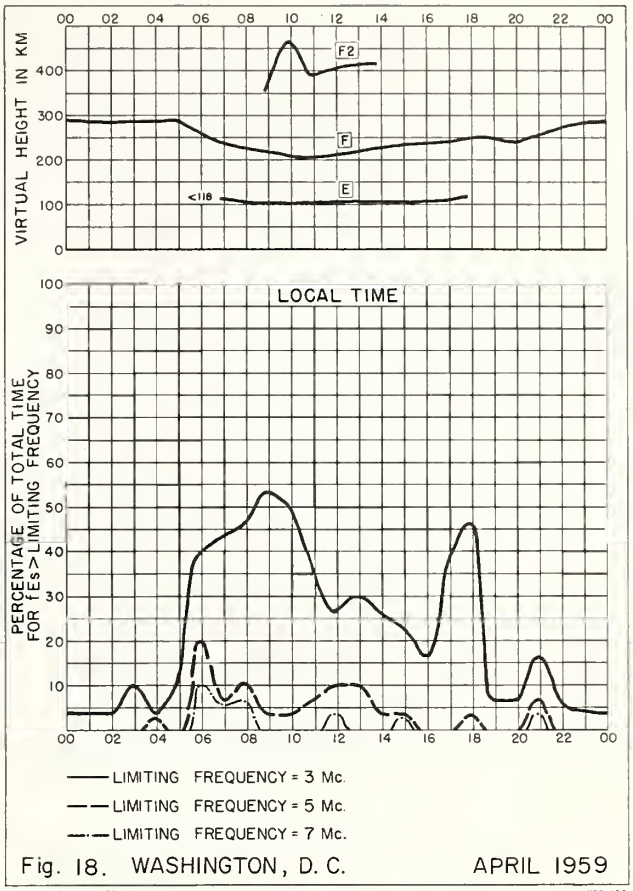


Fig. 18. WASHINGTON, D.C. APRIL 1959

NBS 490

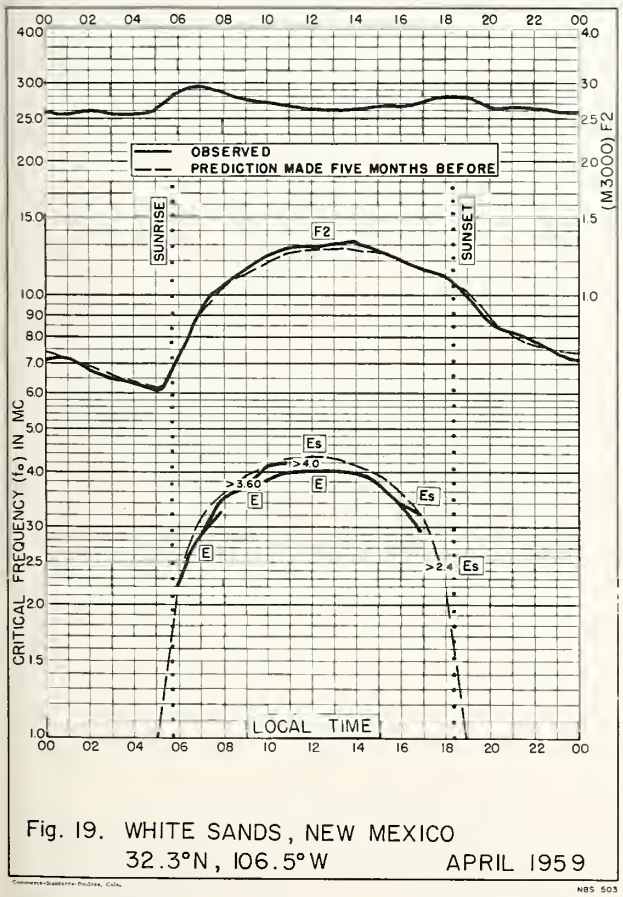


Fig. 19. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W APRIL 1959

NBS 503

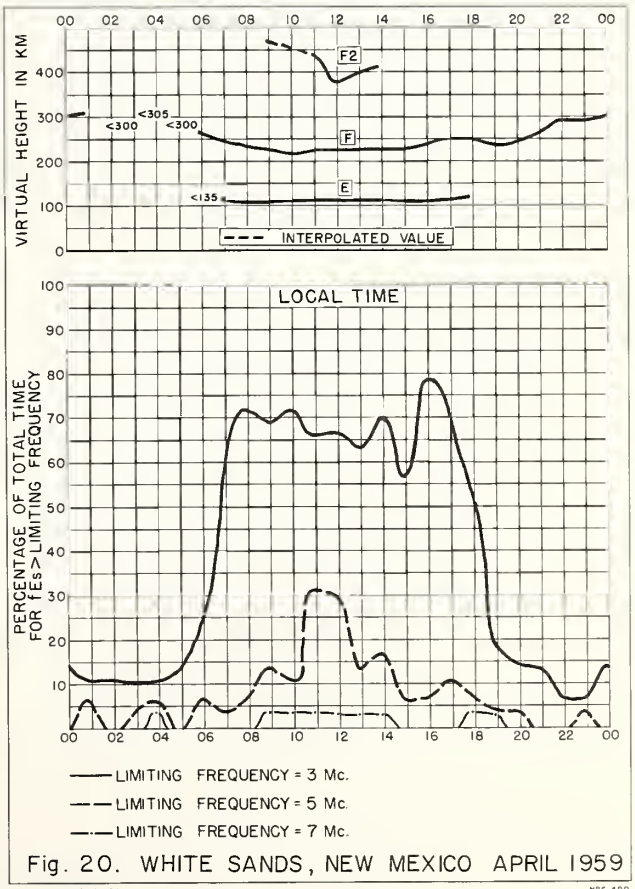


Fig. 20. WHITE SANDS, NEW MEXICO APRIL 1959

NBS 490

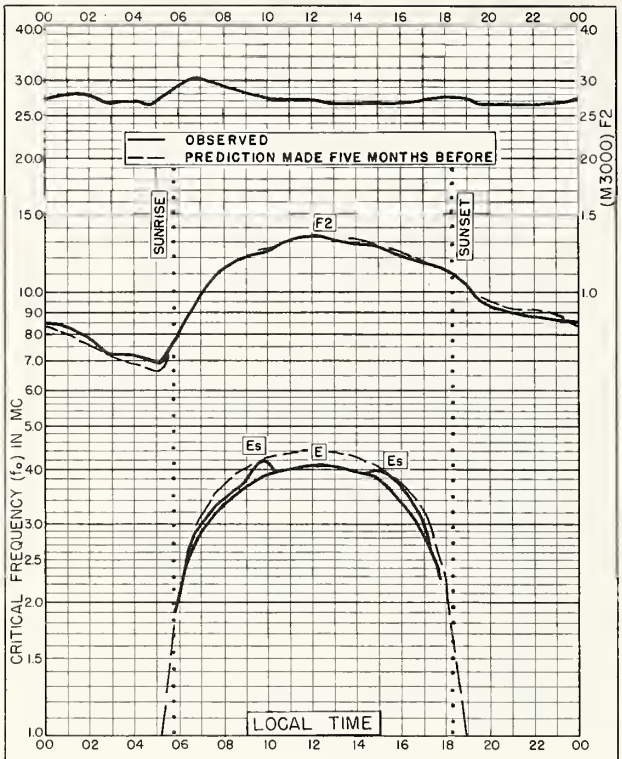


Fig. 21. GRAND BAHAMA I.
26.6°N, 78.2°W APRIL 1959

NBS 503

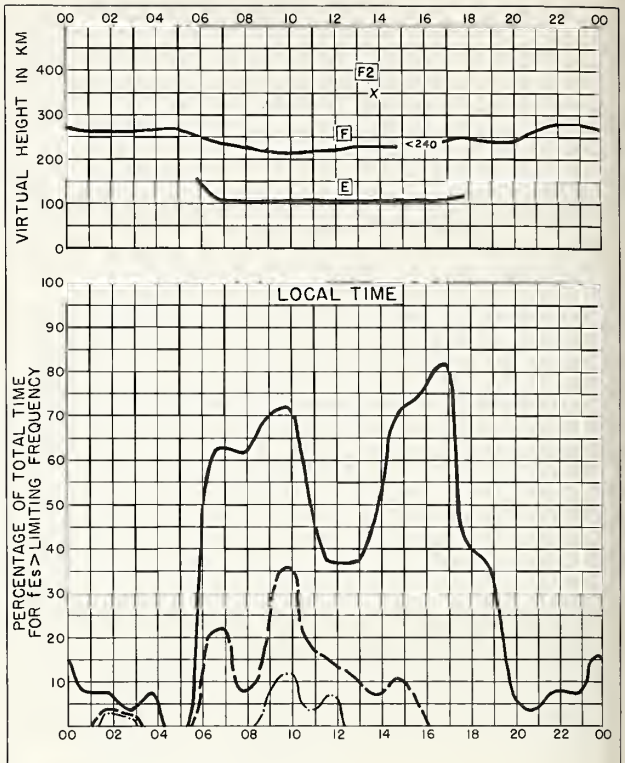


Fig. 22. GRAND BAHAMA I. APRIL 1959

NBS 490

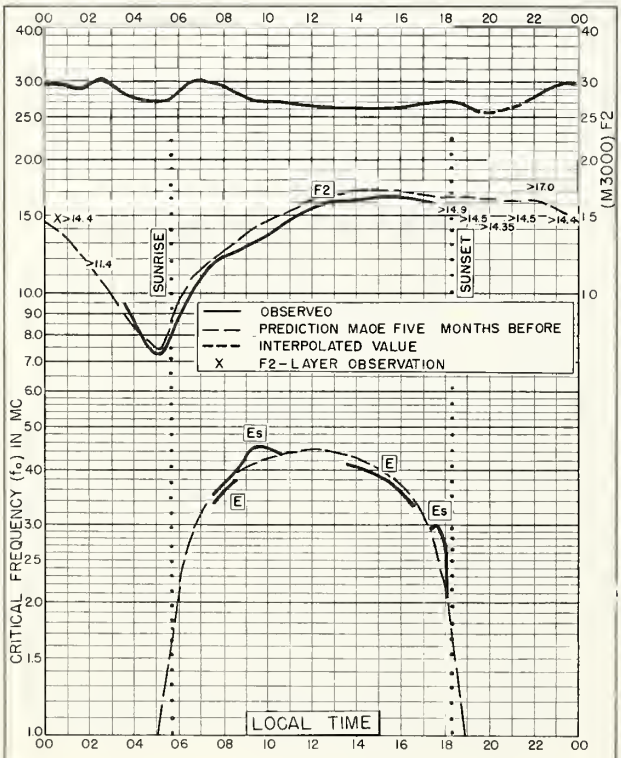


Fig. 23. OKINAWA I.
26.3°N, 127.8°E APRIL 1959

NBS 503

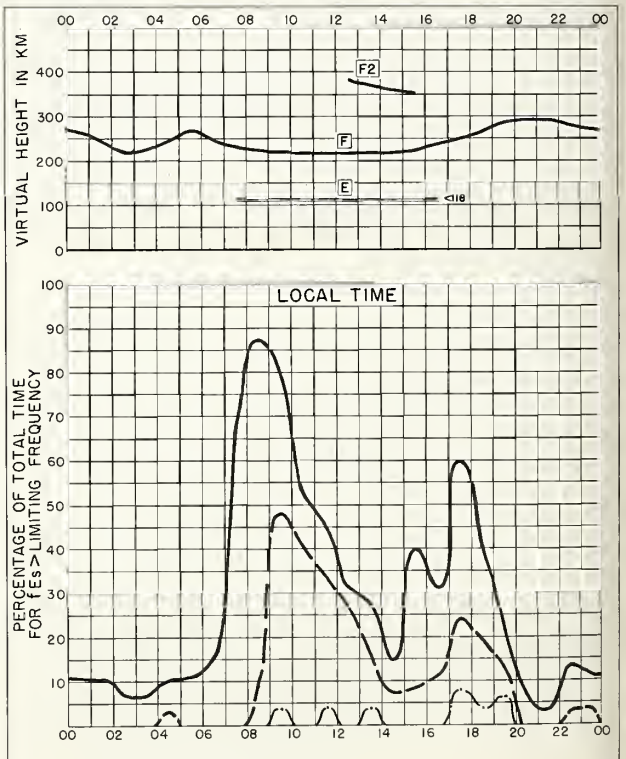


Fig. 24. OKINAWA I. APRIL 1959

NBS 490

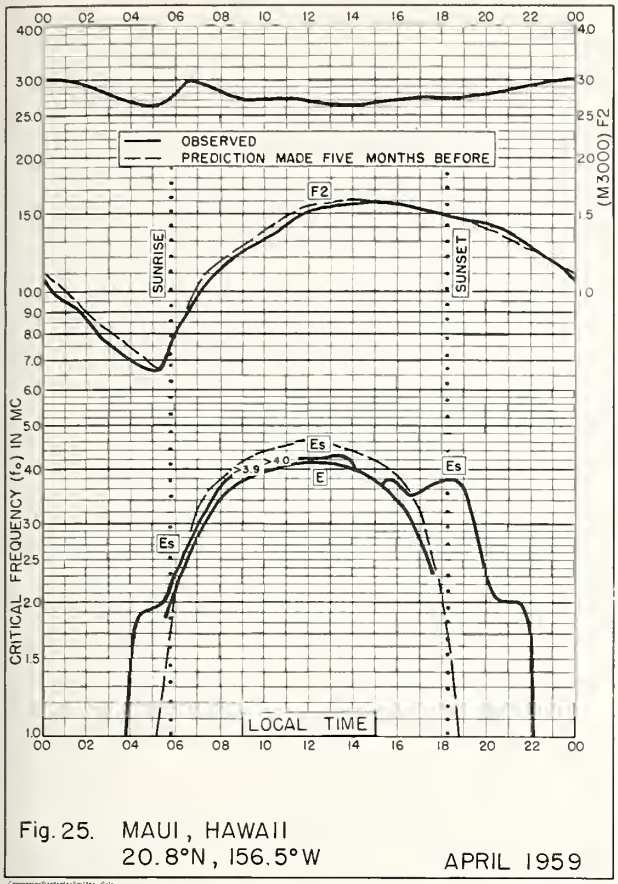


Fig. 25. MAUI, HAWAII
20.8°N, 156.5°W
APRIL 1959

NBS 503

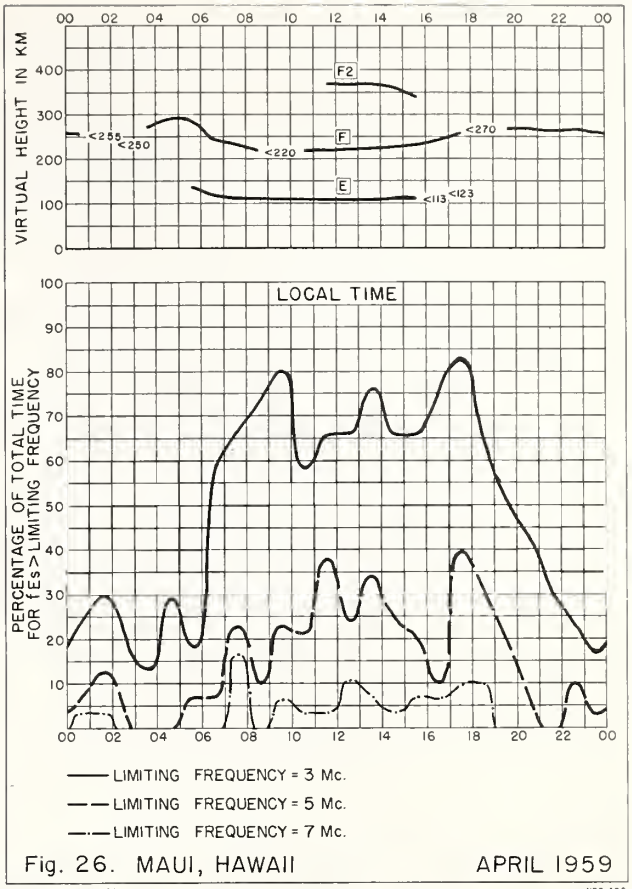


Fig. 26. MAUI, HAWAII
APRIL 1959

NBS 490

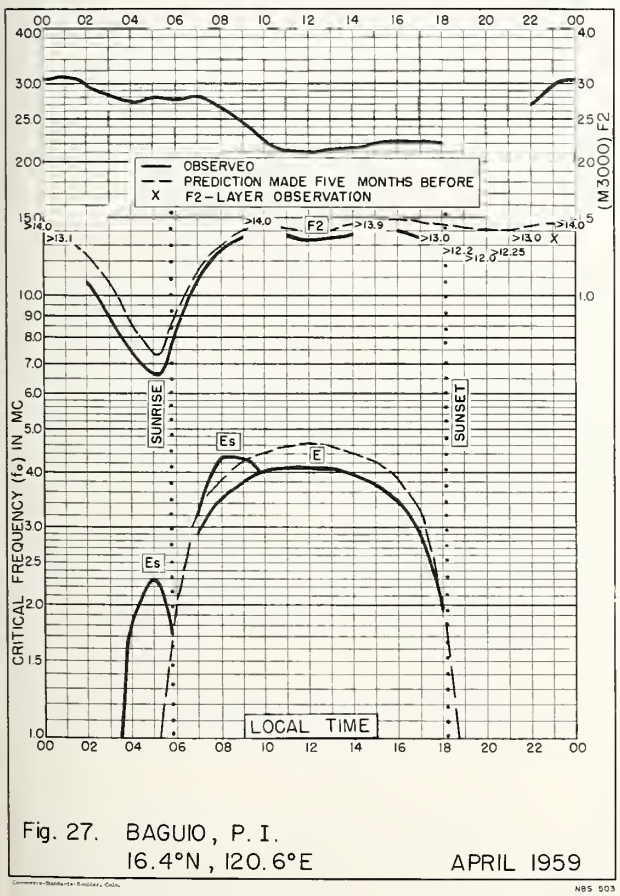


Fig. 27. BAGUIO, P. I.
16.4°N, 120.6°E
APRIL 1959

NBS 503

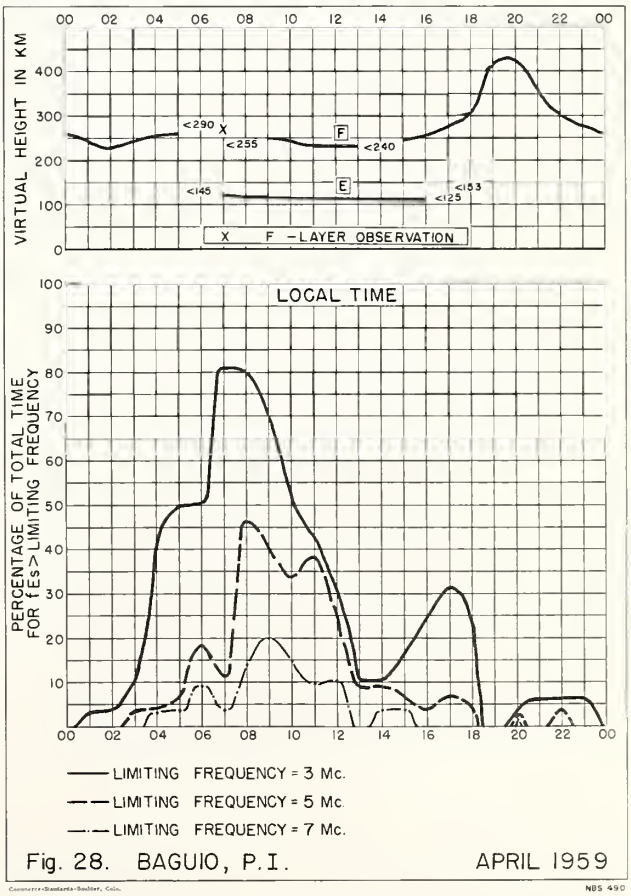


Fig. 28. BAGUIO, P.I.
APRIL 1959

NBS 490

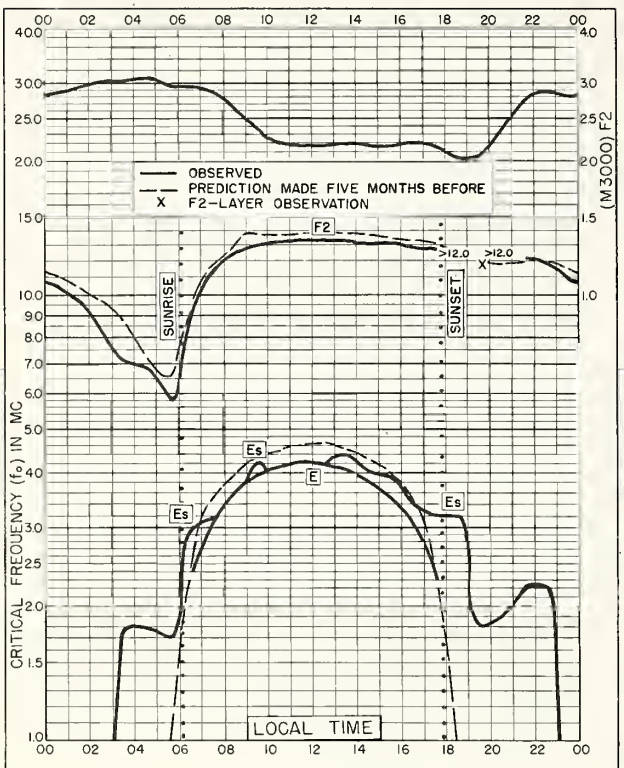


Fig. 29. TALARA, PERU
4.6°S, 81.3°W APRIL 1959

NBS 503

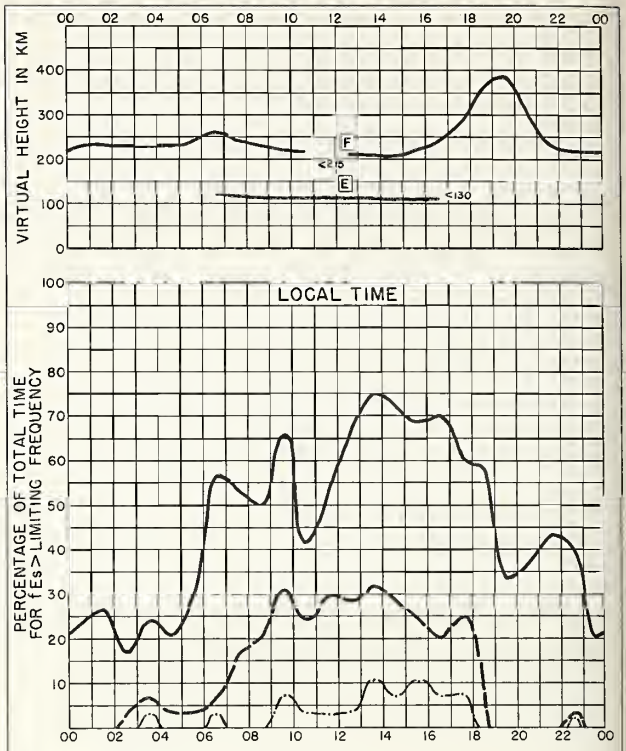


Fig. 30. TALARA, PERU APRIL 1959

NBS 490

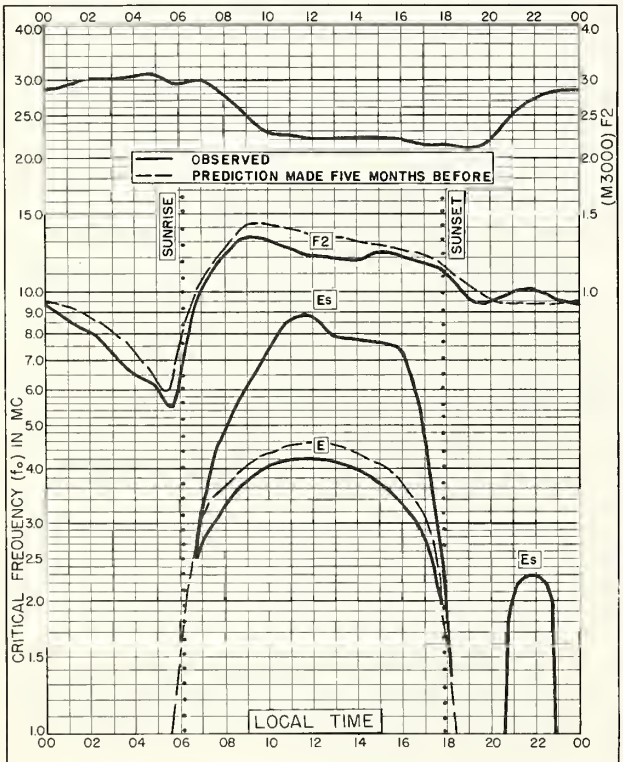


Fig. 31. CHIMBOTE, PERU
9.1°S, 78.6°W APRIL 1959

NBS 503

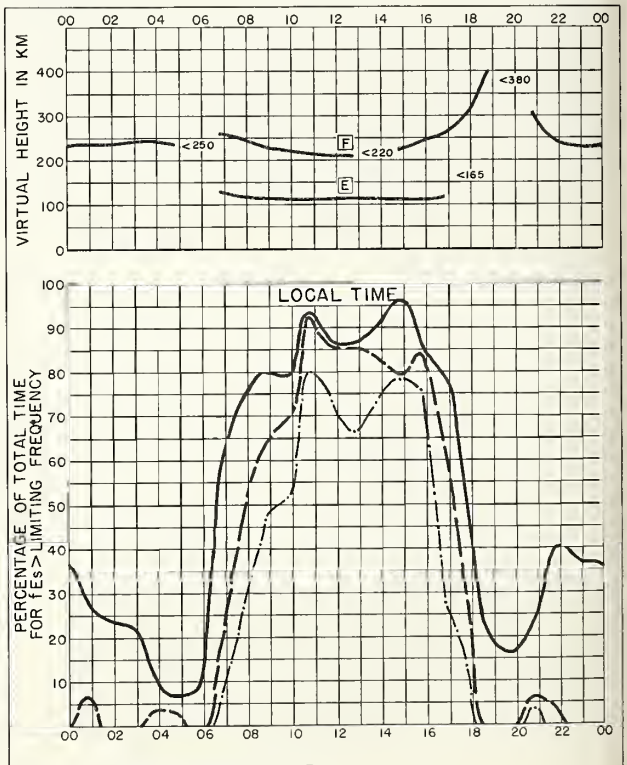


Fig. 32. CHIMBOTE, PERU APRIL 1959

NBS 490

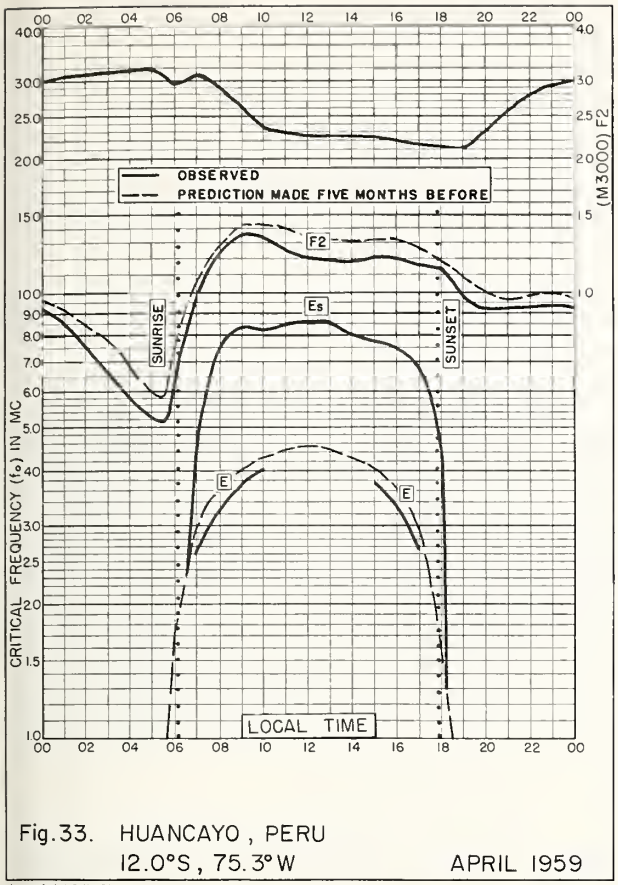


Fig. 33. HUANCAYO, PERU
12.0°S, 75.3°W APRIL 1959

NBS 503

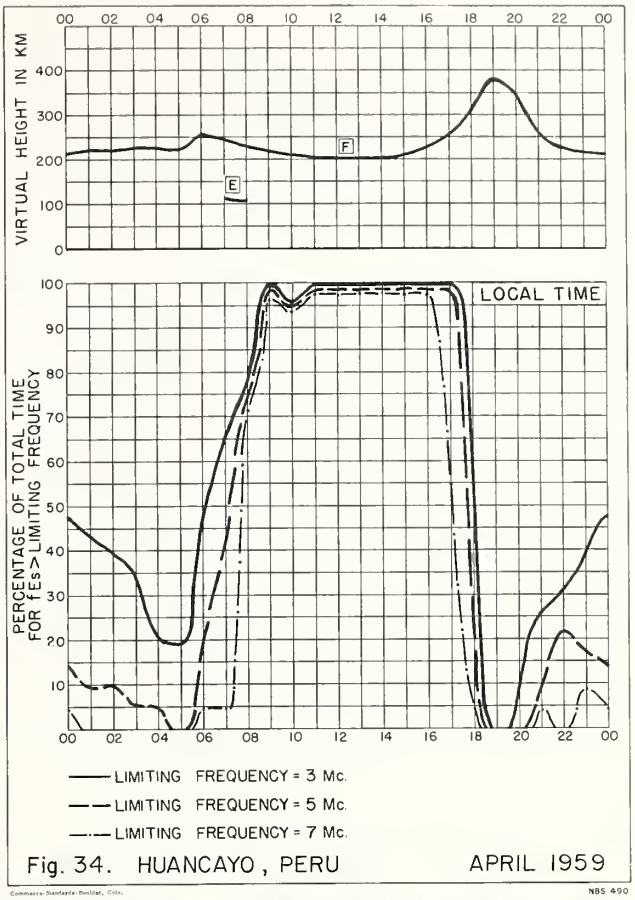


Fig. 34. HUANCAYO, PERU APRIL 1959

NBS 490

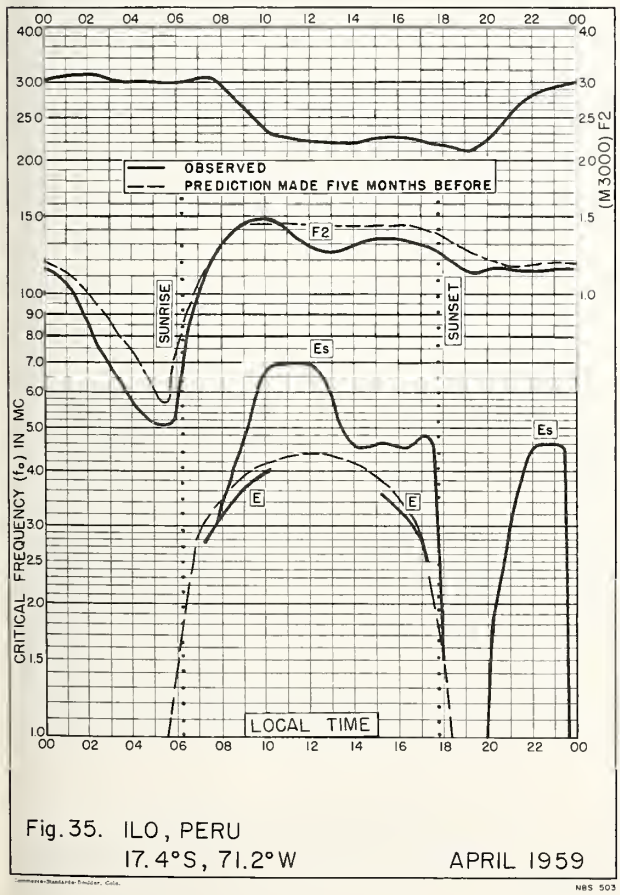


Fig. 35. ILO, PERU
17.4°S, 71.2°W APRIL 1959

NBS 503

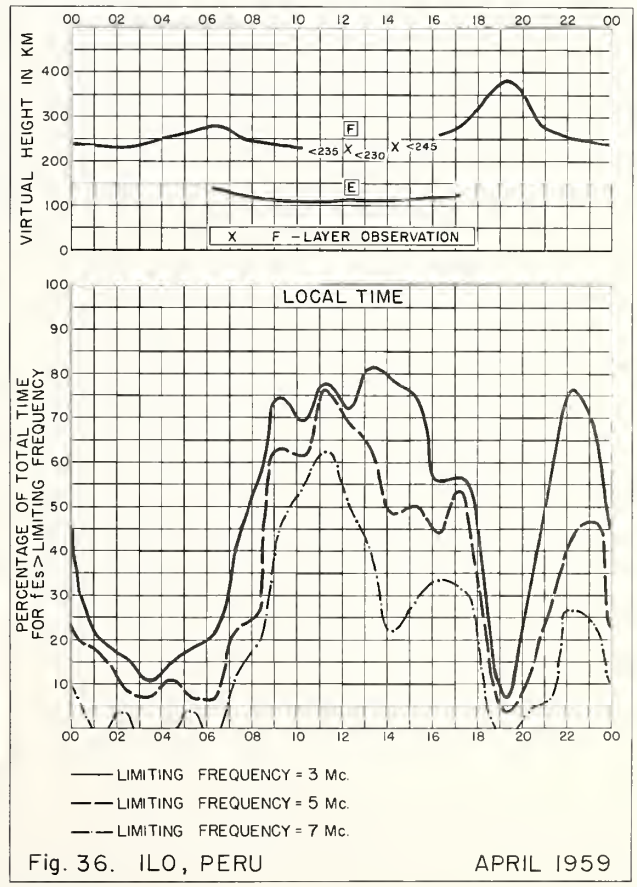


Fig. 36. ILO, PERU APRIL 1959

NBS 490

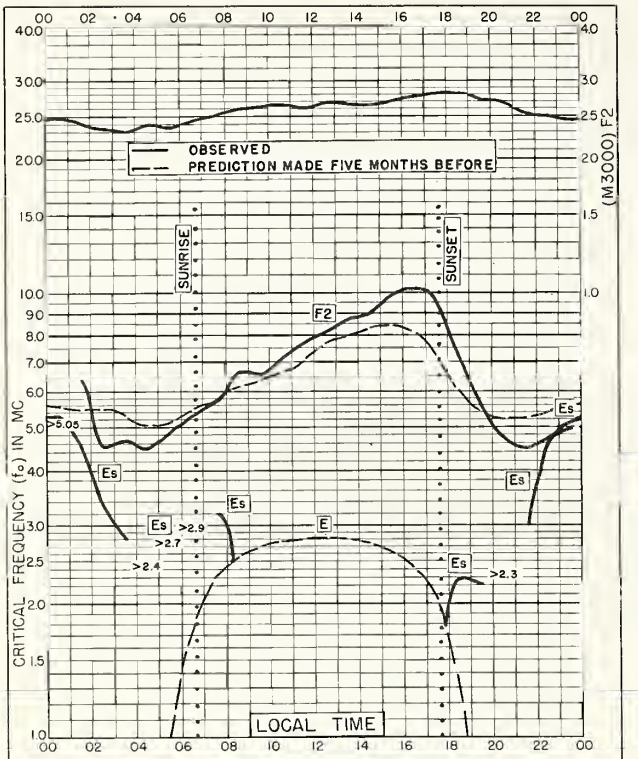


Fig. 37. POINT BARROW, ALASKA
71.3°N, 156.8°W MARCH 1959

NBS 503

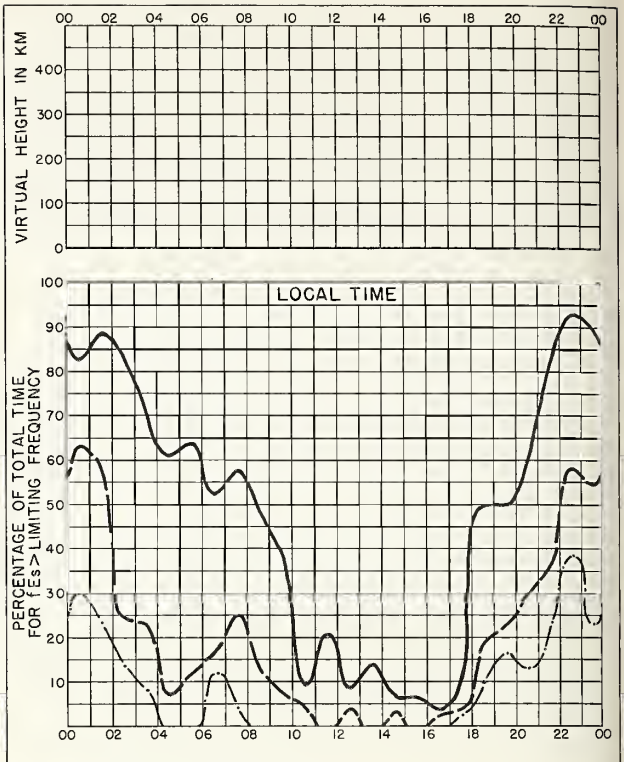


Fig. 38. POINT BARROW, ALASKA MARCH 1959

NBS 490

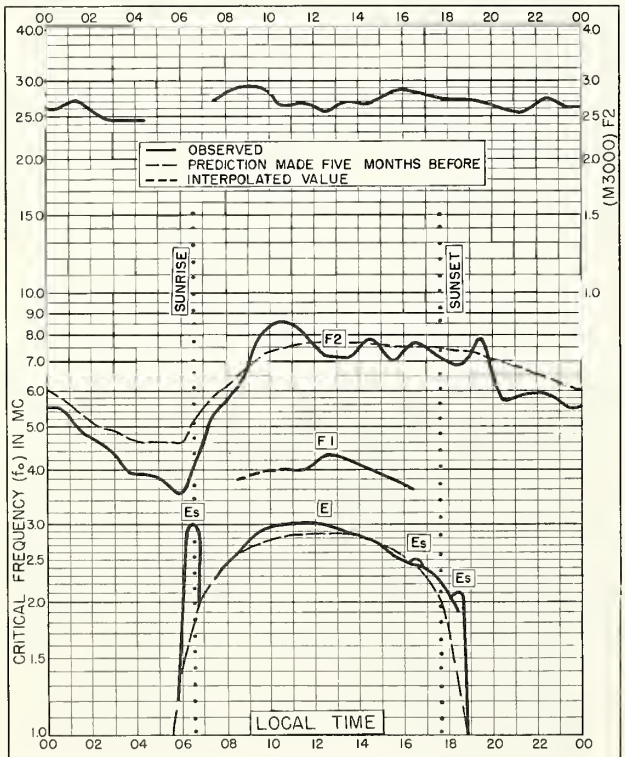


Fig. 39. GODHAVN, GREENLAND
69.3°N, 53.5°W MARCH 1959

NBS 503

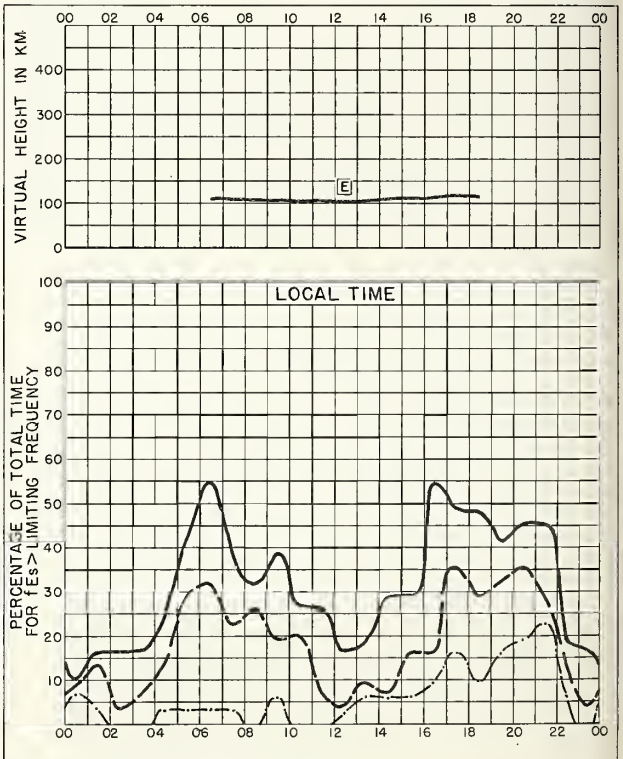


Fig. 40. GODHAVN, GREENLAND MARCH 1959

NBS 490

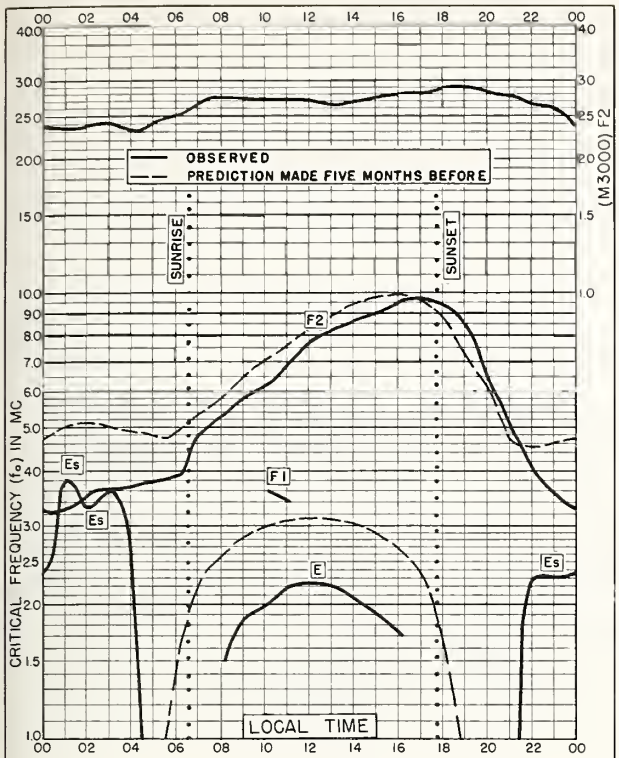


Fig. 41. FAIRBANKS, ALASKA
64.9°N, 147.8°W MARCH 1959

Commerce-Standards-Boulder, Colo. NBS 503

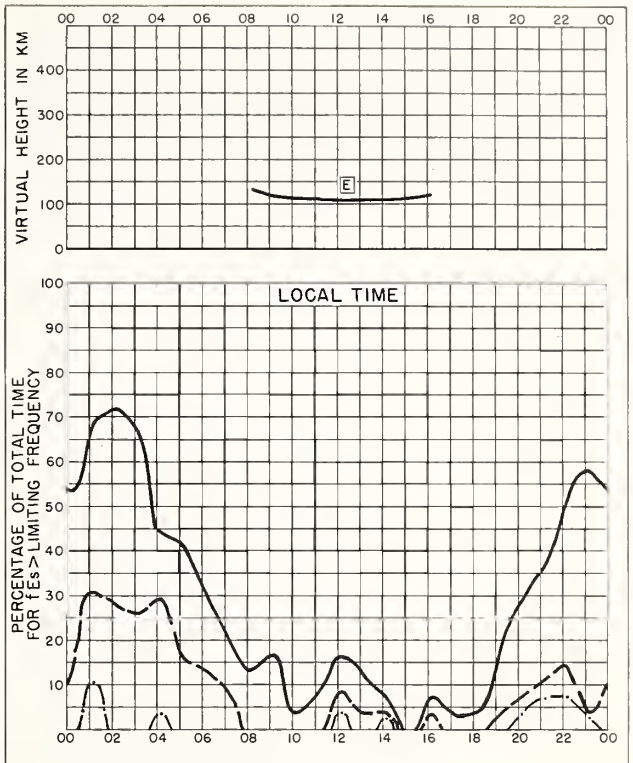


Fig. 42. FAIRBANKS, ALASKA MARCH 1959

Commerce-Standards-Boulder, Colo. NBS 490

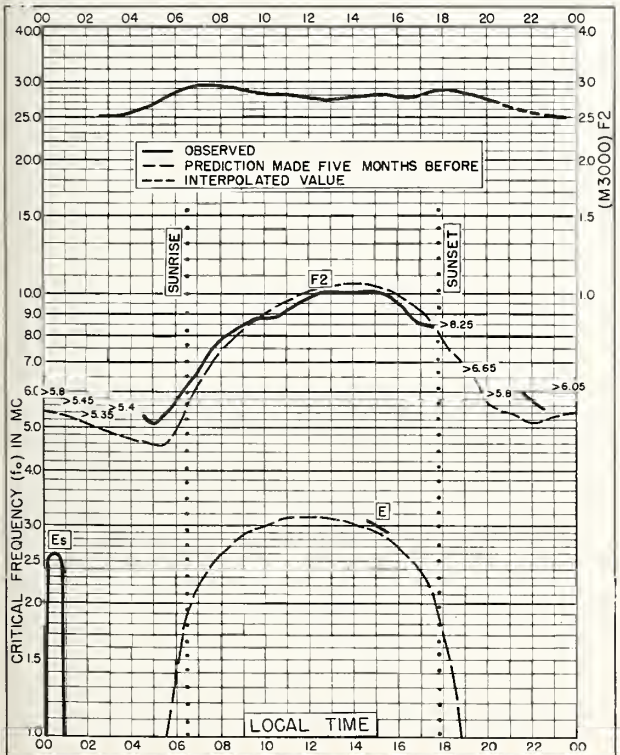


Fig. 43. REYKJAVIK, ICELAND
64.1°N, 21.8°W MARCH 1959

Commerce-Standards-Boulder, Colo. NBS 503

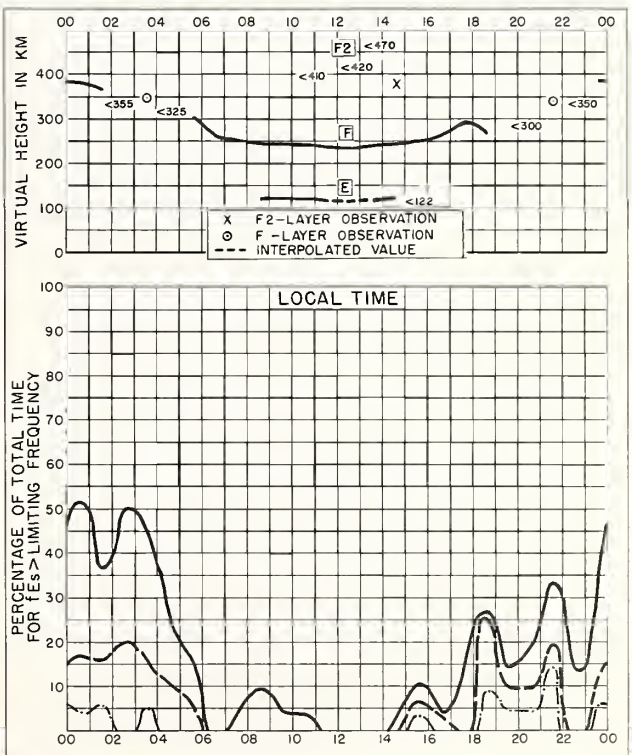


Fig. 44. REYKJAVIK, ICELAND MARCH 1959

Commerce-Standards-Boulder, Colo. NBS 490

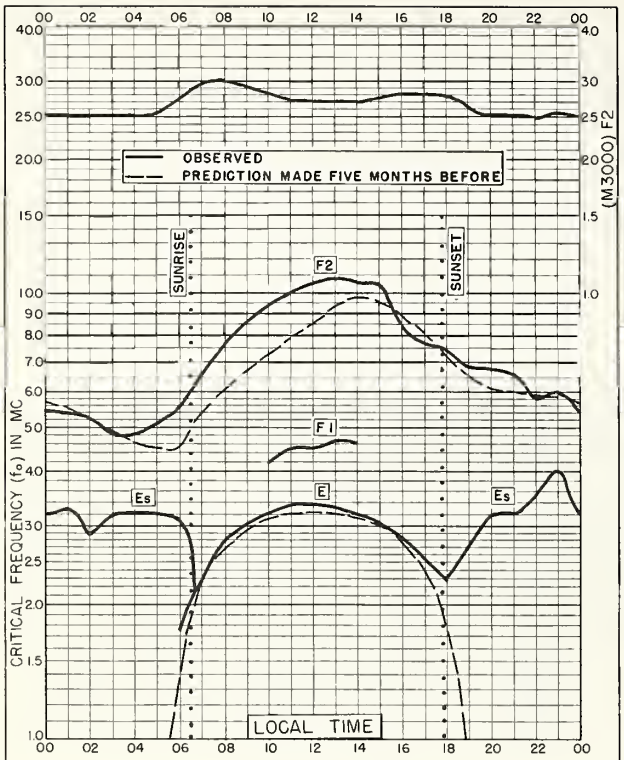


Fig. 45. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W MARCH 1959

NBS 503

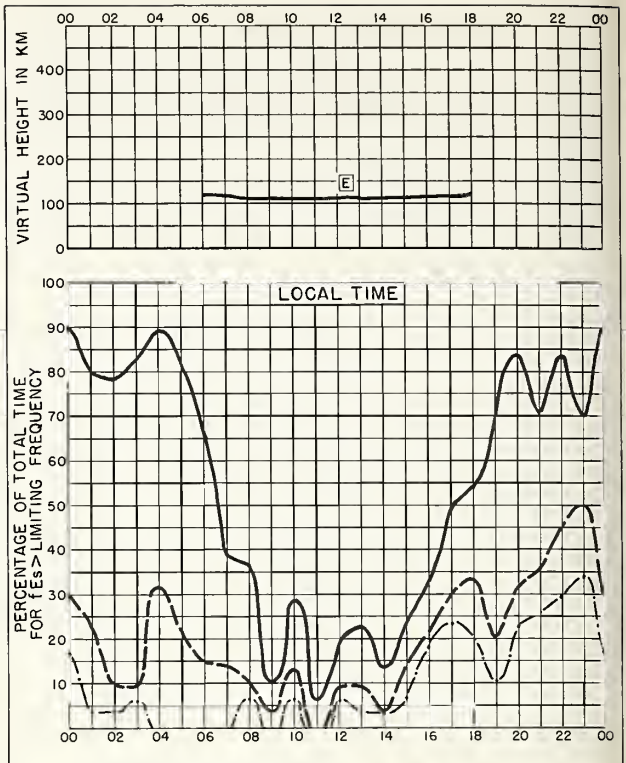


Fig. 46. NARSARSSUAK, GREENLAND

NBS 490

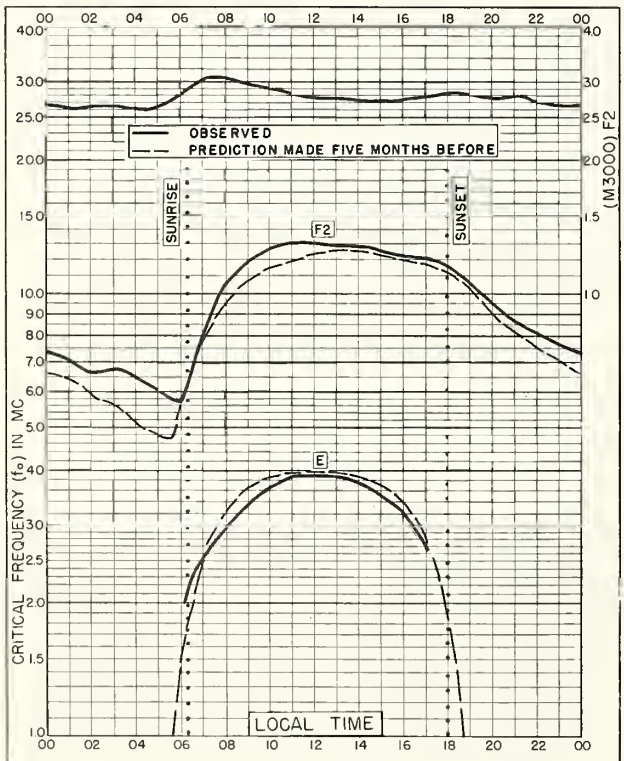


Fig. 47. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W MARCH 1959

NBS 503

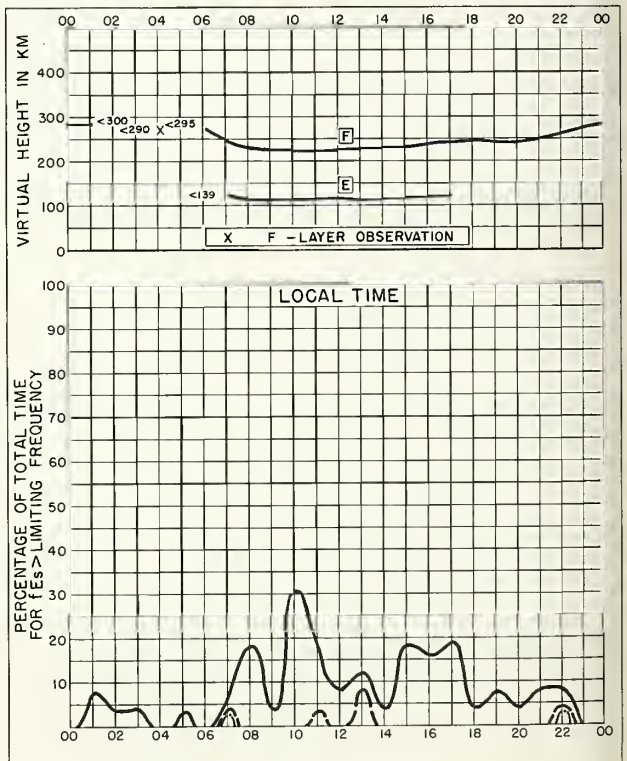


Fig. 48. FT. MONMOUTH, NEW JERSEY

NBS 490

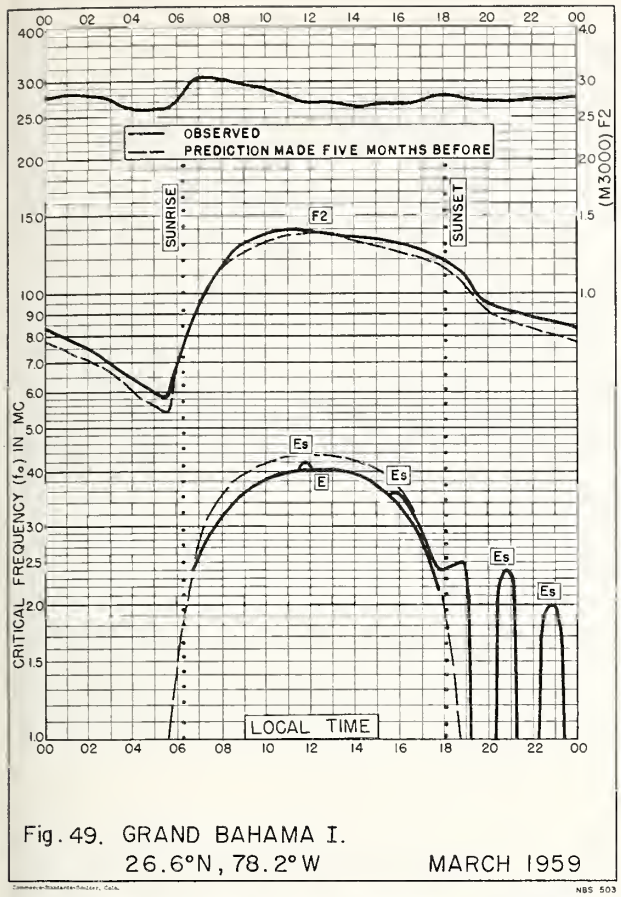


Fig. 49. GRAND BAHAMA I.
26.6°N, 78.2°W MARCH 1959

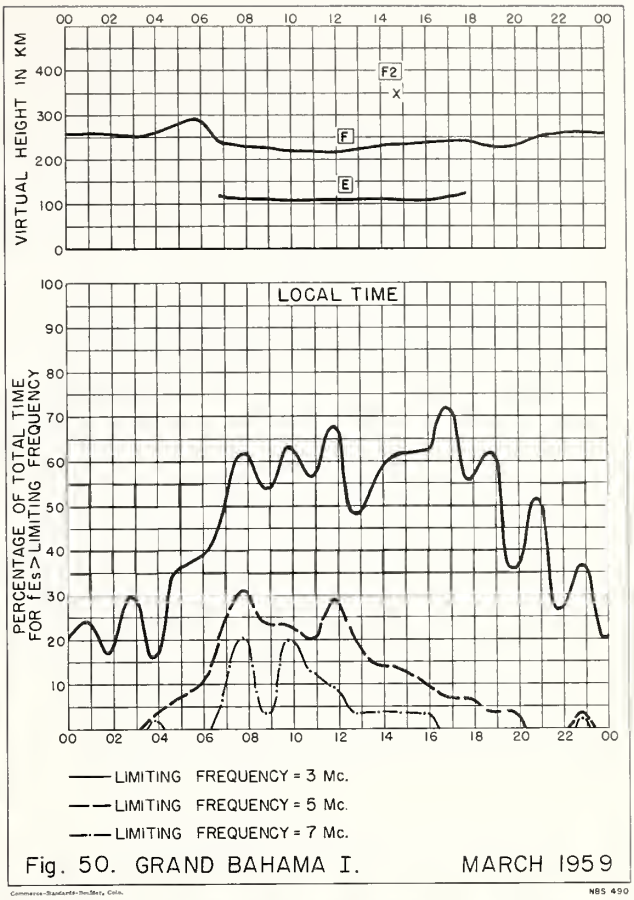


Fig. 50. GRAND BAHAMA I. MARCH 1959

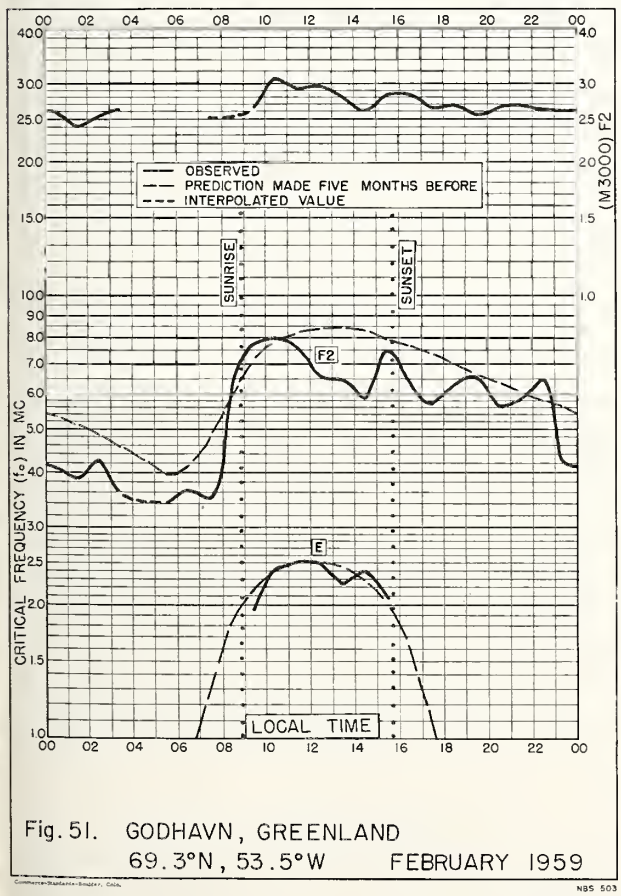


Fig. 51. GODHAVN, GREENLAND
69.3°N, 53.5°W FEBRUARY 1959

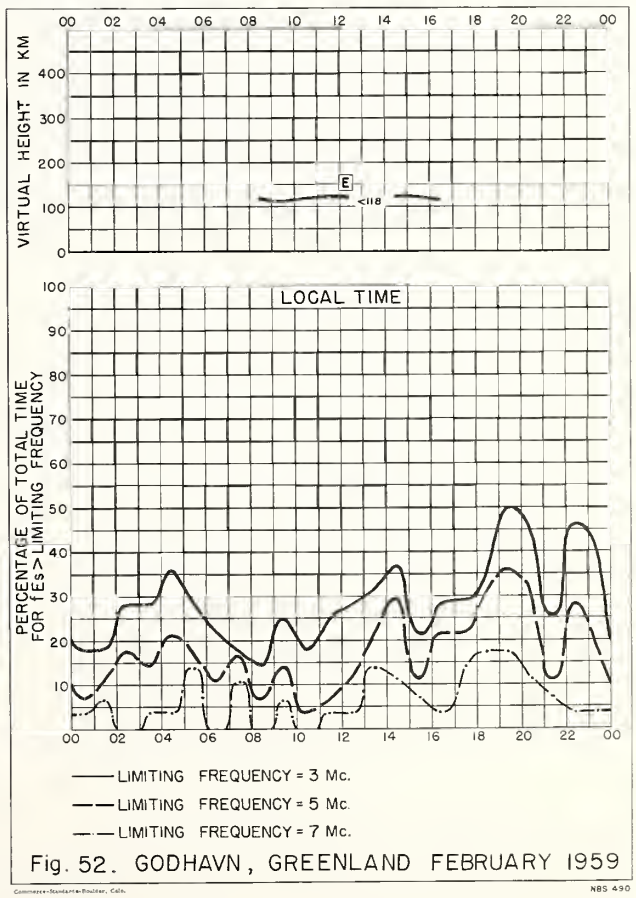


Fig. 52. GODHAVN, GREENLAND FEBRUARY 1959

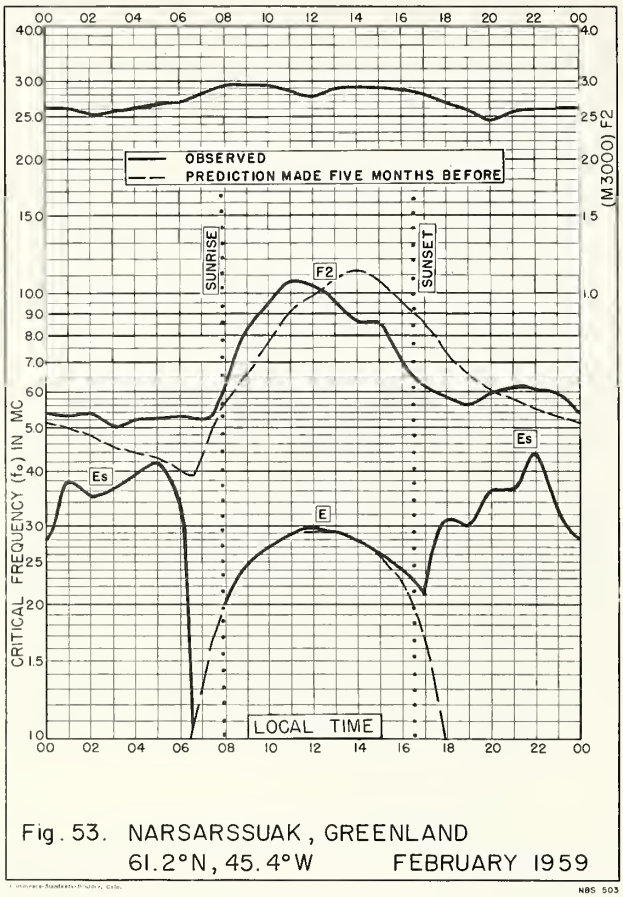


Fig. 53. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W FEBRUARY 1959

NBS 503

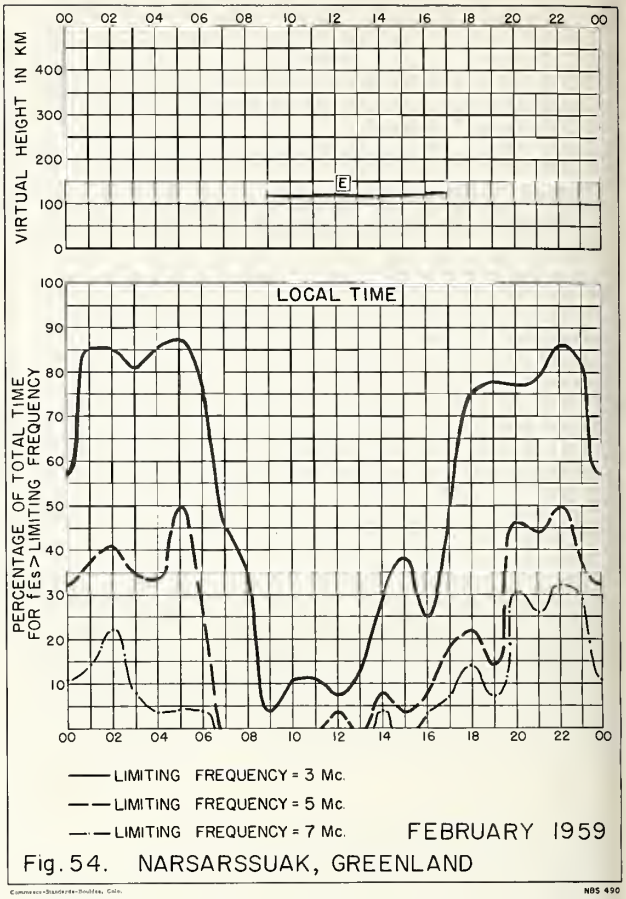


Fig. 54. NARSARSSUAK, GREENLAND FEBRUARY 1959

NBS 490

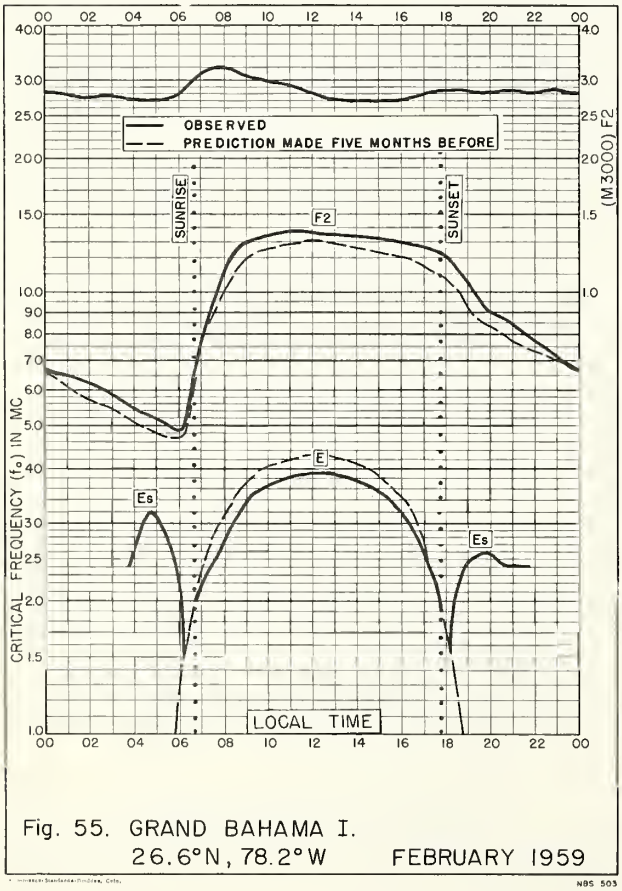


Fig. 55. GRAND BAHAMA I.
26.6°N, 78.2°W FEBRUARY 1959

NBS 503

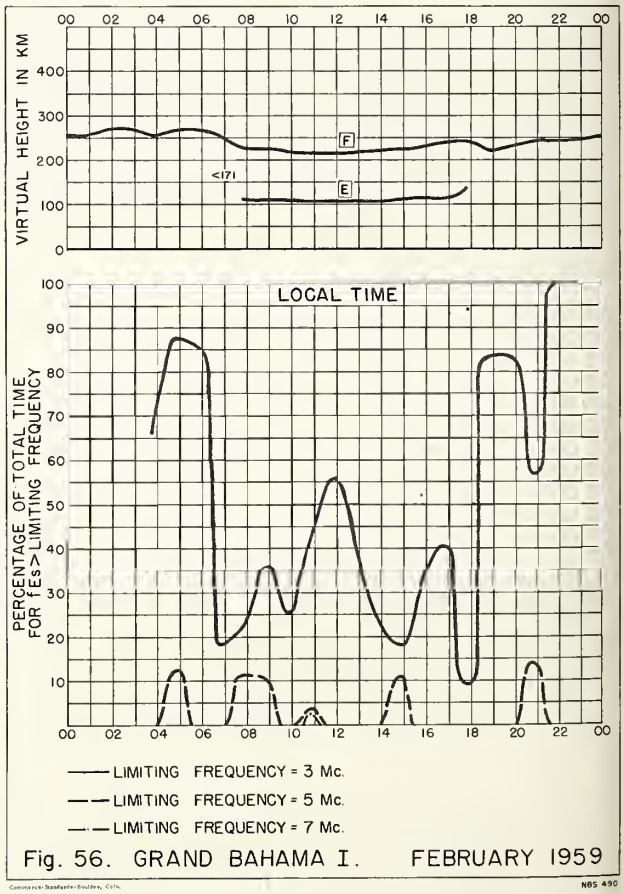


Fig. 56. GRAND BAHAMA I. FEBRUARY 1959

NBS 490

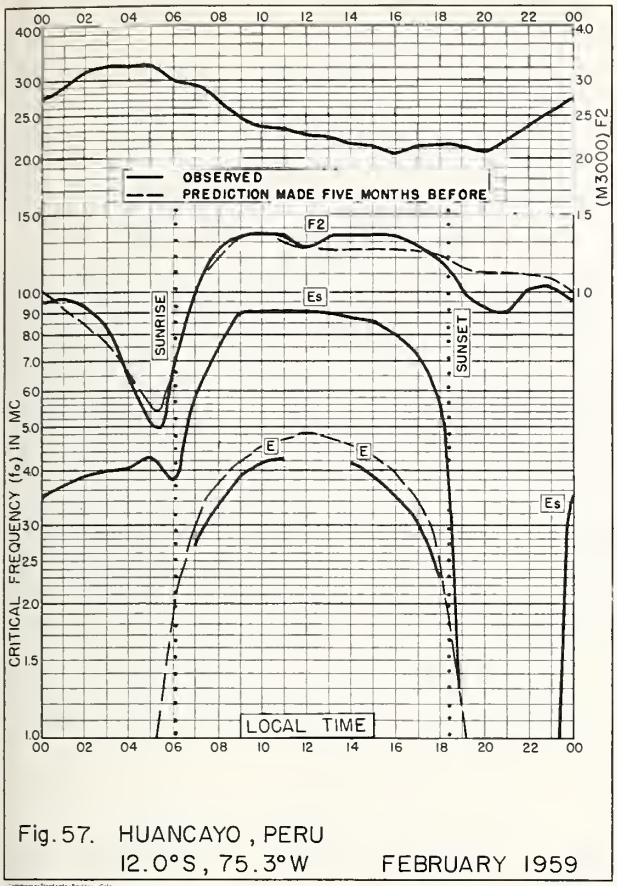


Fig. 57. HUANCAYO, PERU
12.0°S, 75.3°W FEBRUARY 1959

NBS 503

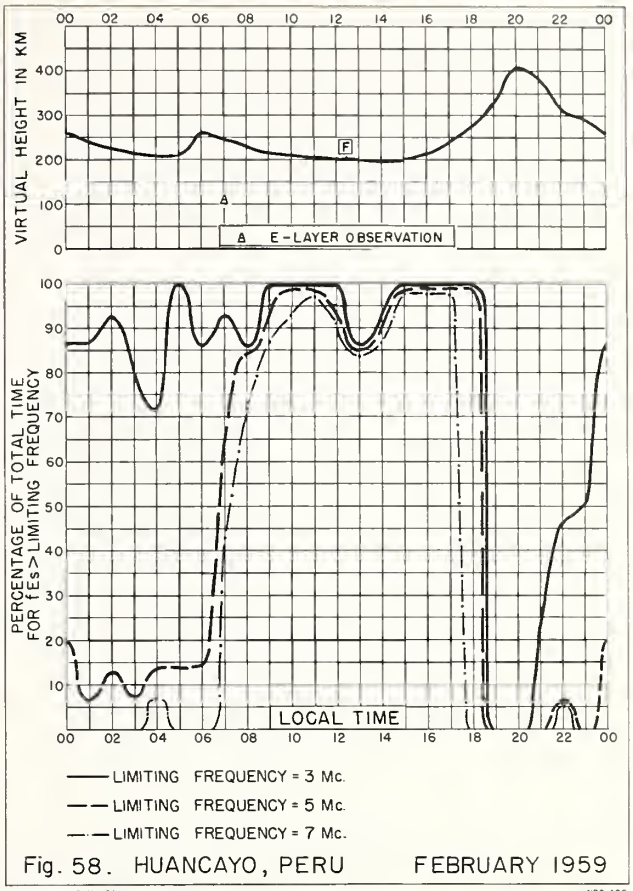


Fig. 58. HUANCAYO, PERU FEBRUARY 1959

NBS 490

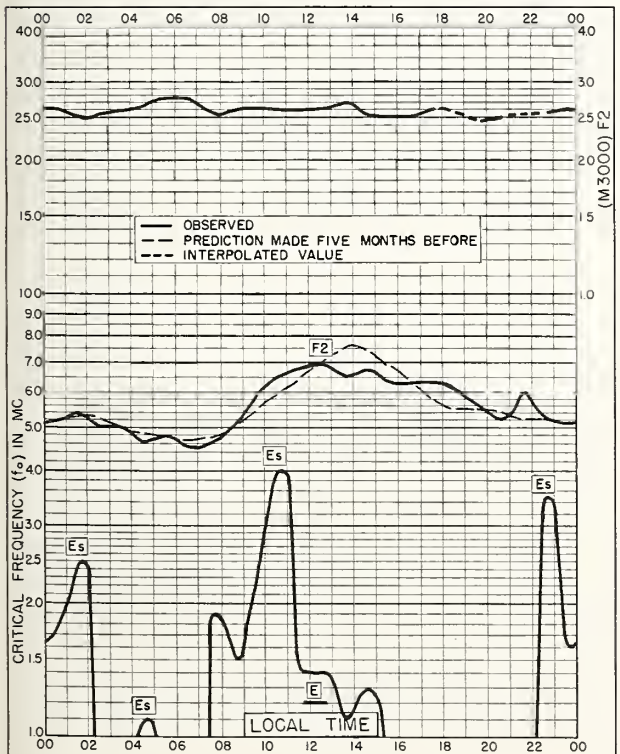


Fig. 59. RESOLUTE BAY, CANADA
74.7°N, 94.9°W DECEMBER 1958

NBS 503

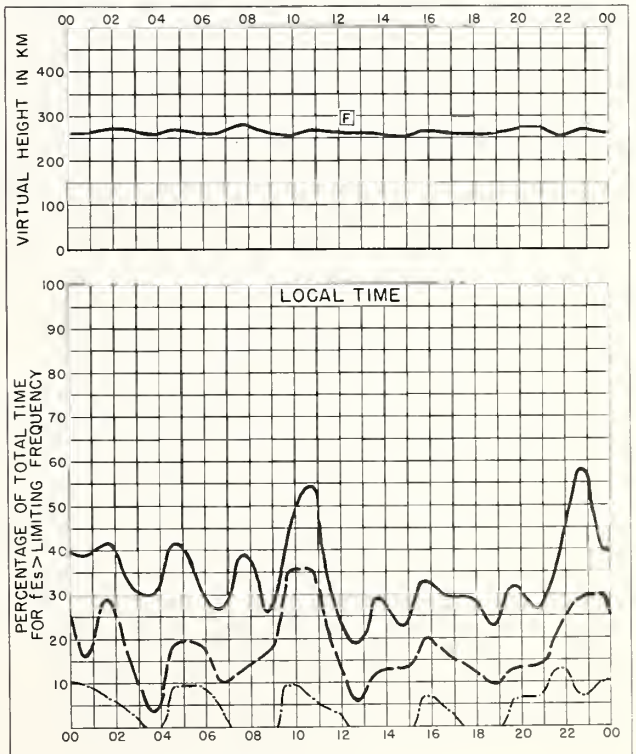


Fig. 60. RESOLUTE BAY, CANADA DECEMBER 1958

NBS 490

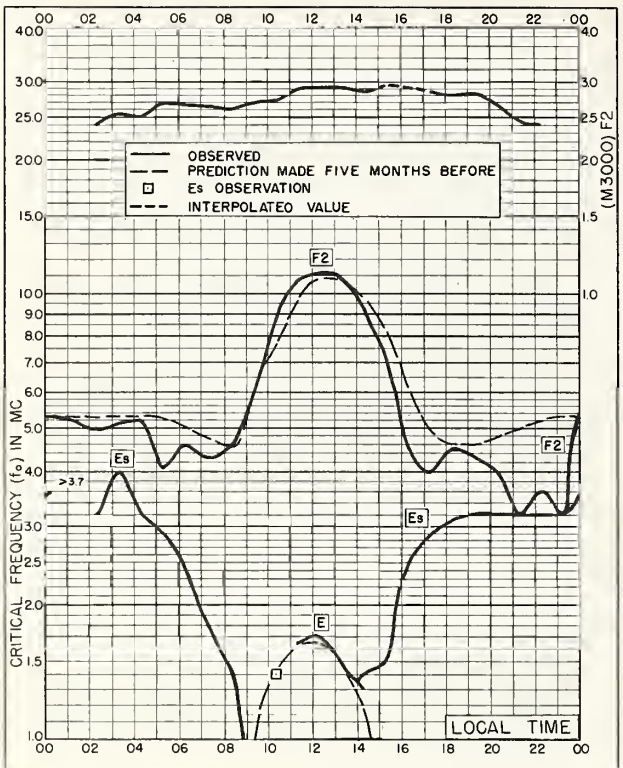


Fig. 61. TROMSO, NORWAY
69.7°N, 19.0°E DECEMBER 1958

NBS 503

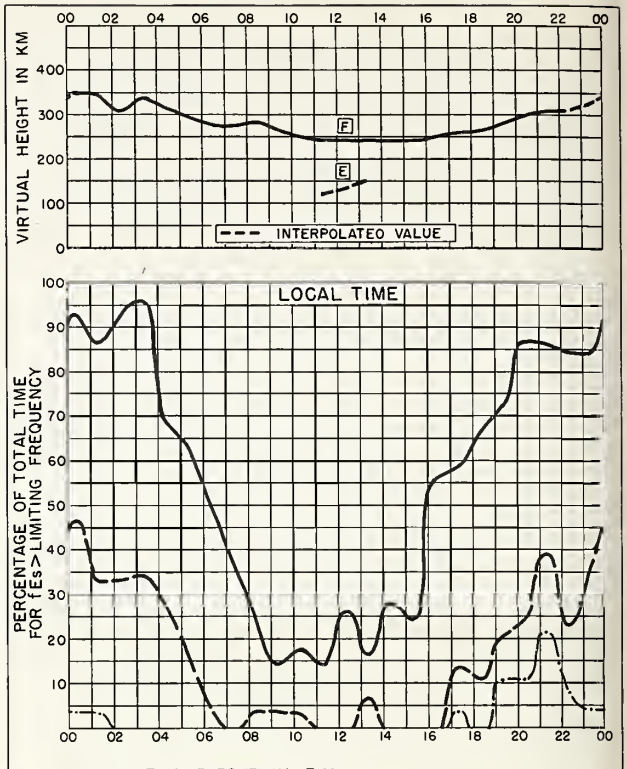


Fig. 62. TROMSO, NORWAY DECEMBER 1958

NBS 490

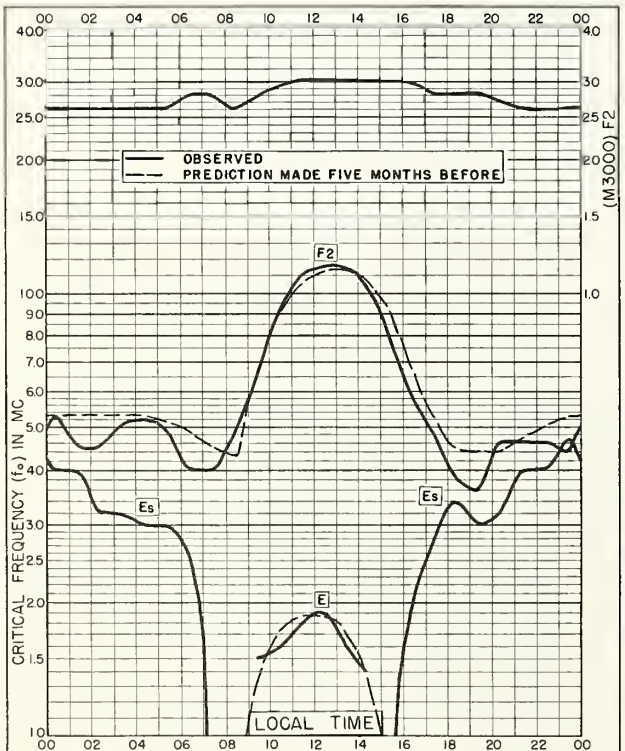


Fig. 63. KIRUNA, SWEDEN
67.8°N, 20.3°E DECEMBER 1958

NBS 503

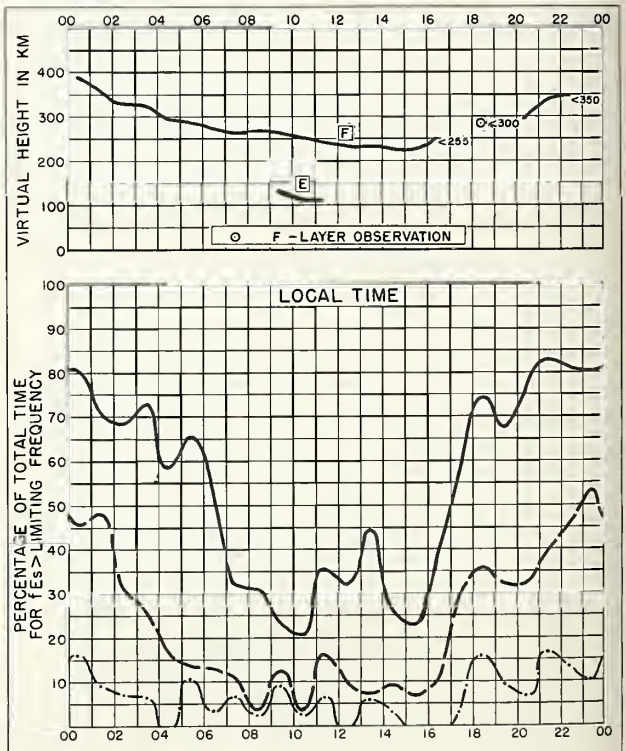


Fig. 64. KIRUNA, SWEDEN DECEMBER 1958

NBS 490

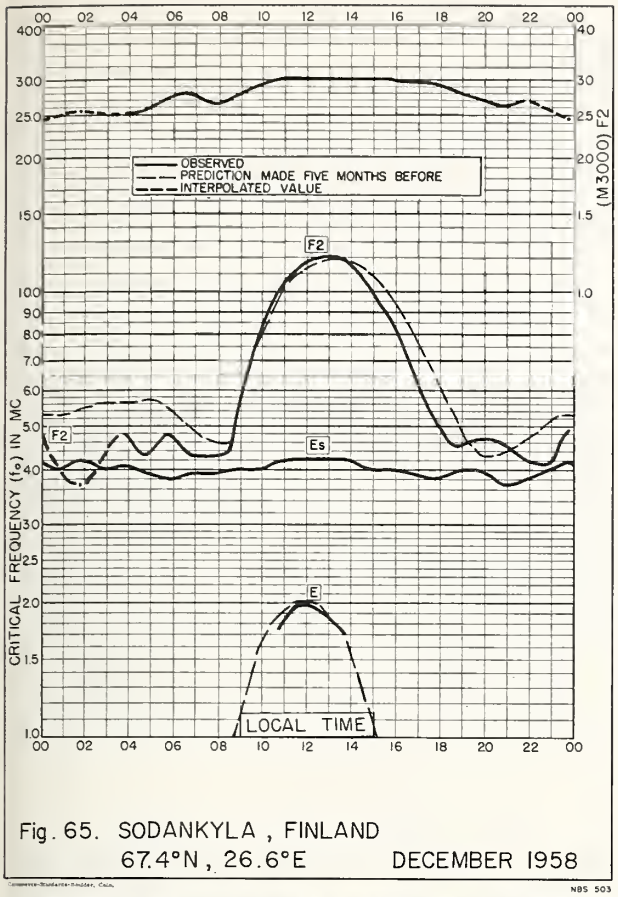


Fig. 65. SODANKYLA , FINLAND
67.4°N , 26.6°E DECEMBER 1958

NBS 503

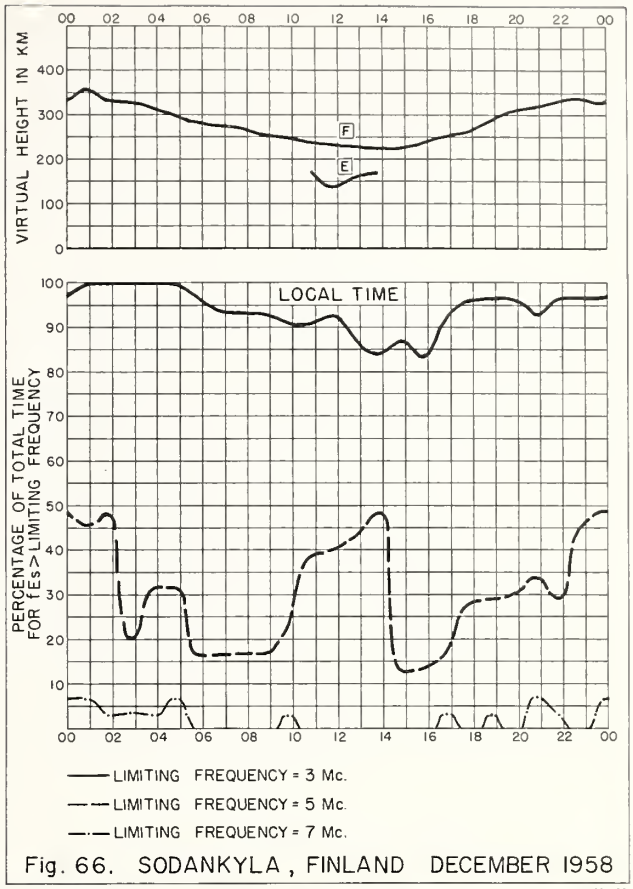


Fig. 66. SODANKYLA , FINLAND DECEMBER 1958

NBS 490

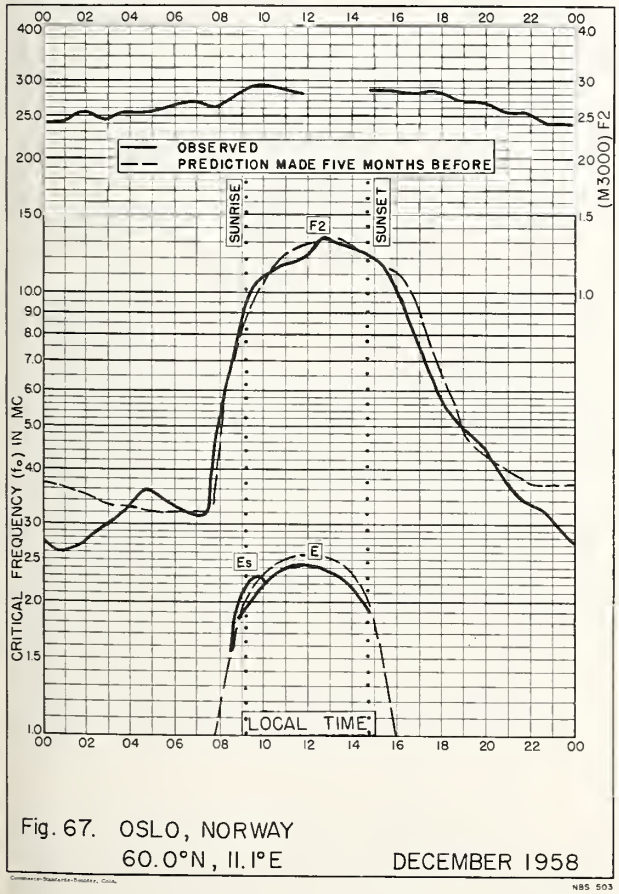


Fig. 67. OSLO, NORWAY
60.0°N, 11.1°E DECEMBER 1958

NBS 503

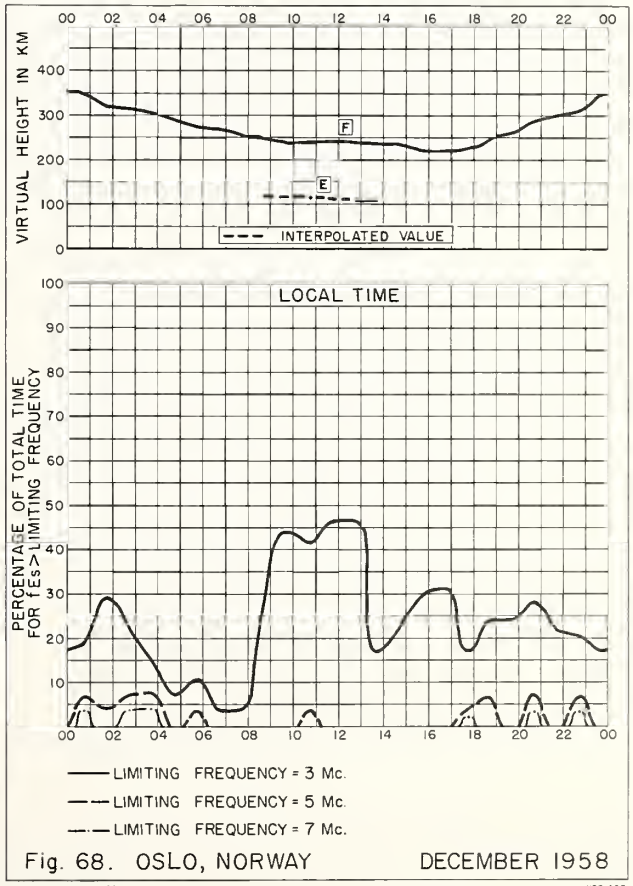


Fig. 68. OSLO, NORWAY DECEMBER 1958

NBS 490

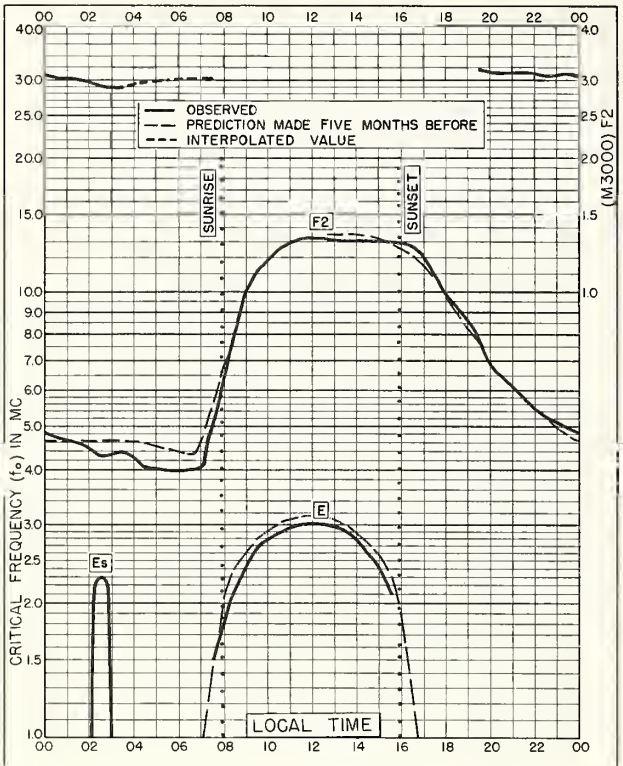


Fig. 69. WINNIPEG, CANADA
49.9°N, 97.4°W DECEMBER 1958

Commerce-Standards-Boulder, Colo.
NBS 503

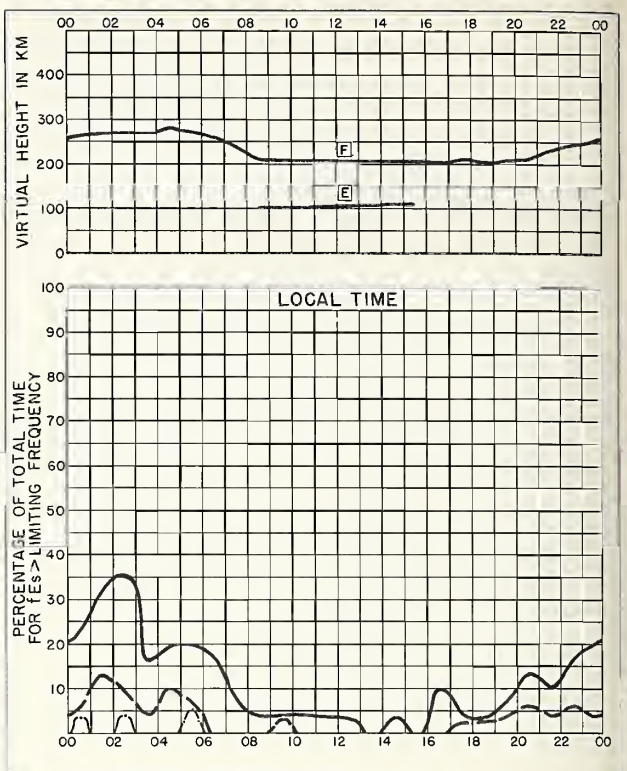


Fig. 70. WINNIPEG, CANADA DECEMBER 1958

Commerce-Standards-Boulder, Colo.
NBS 490

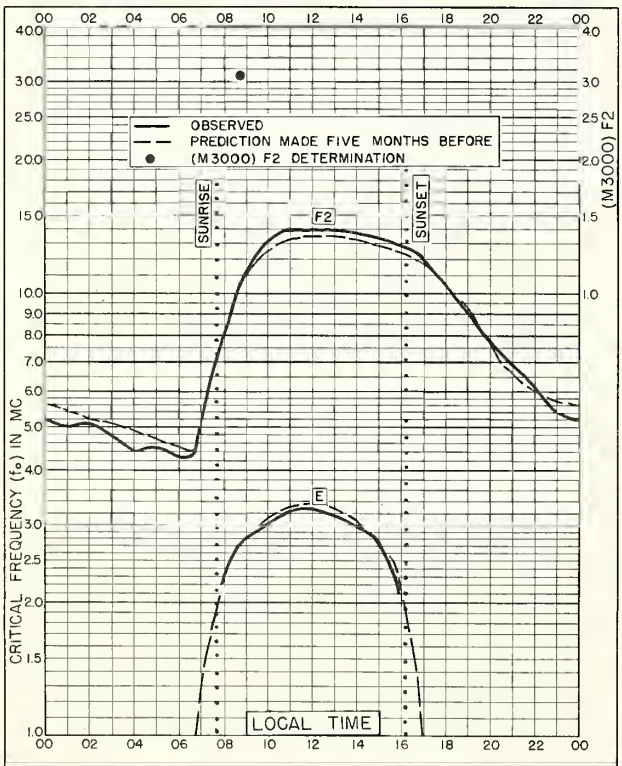


Fig. 71. OTTAWA, CANADA
45.4°N, 75.9°W DECEMBER 1958

NBS 503

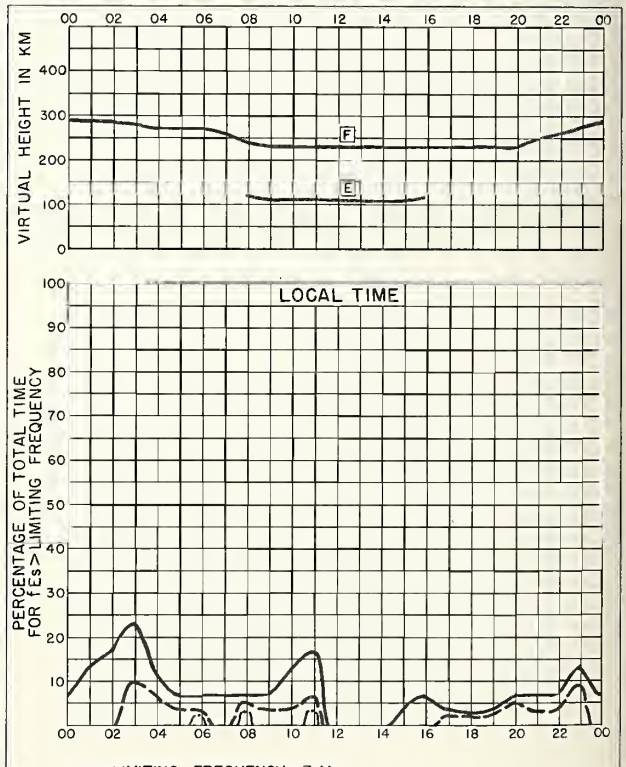


Fig. 72. OTTAWA, CANADA DECEMBER 1958

Commerce-Standards-Boulder, Colo.
NBS 490

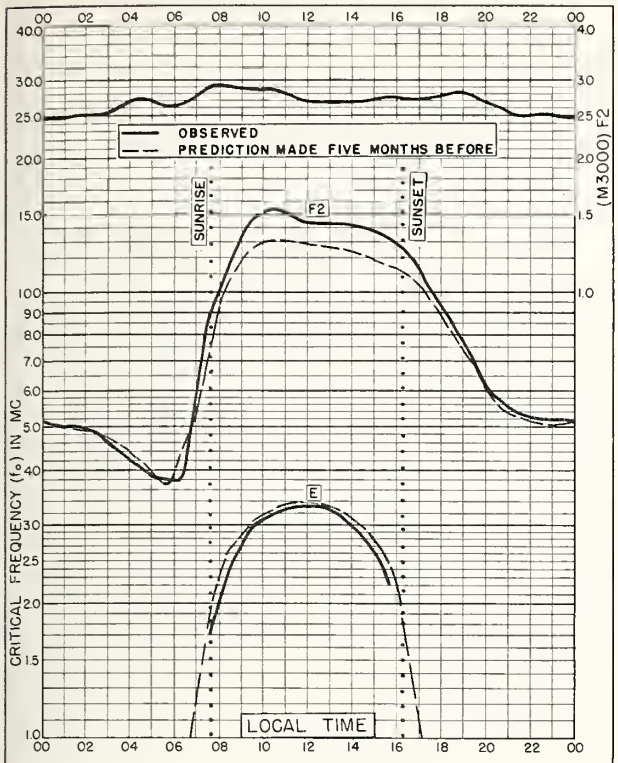


Fig. 73. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E DECEMBER 1958

NBS 503

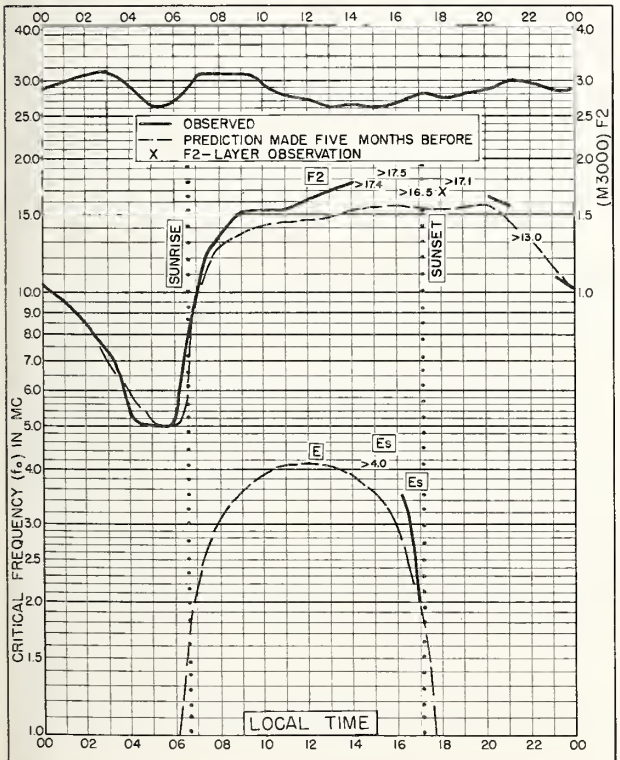


Fig. 74. FORMOSA, CHINA
25.0°N, 121.5°E DECEMBER 1958

NBS 503

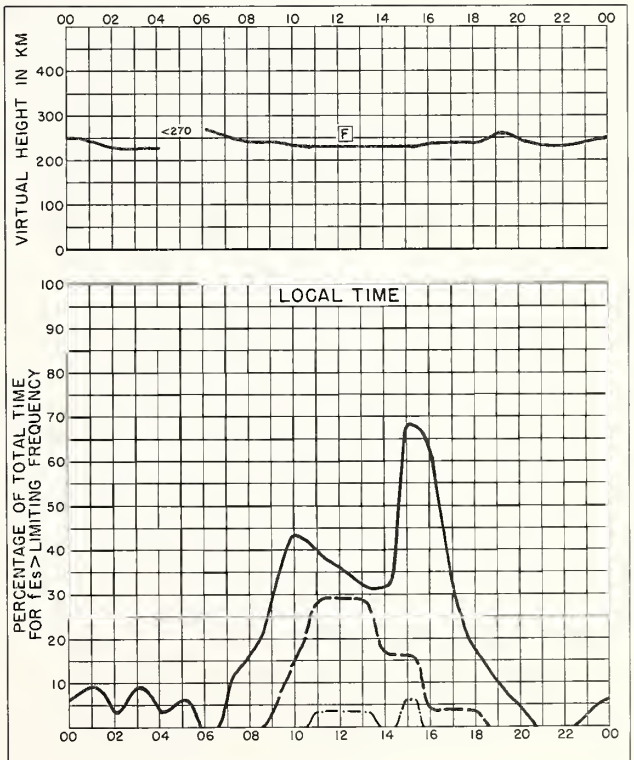


Fig. 75. FORMOSA, CHINA DECEMBER 1958

NBS 490

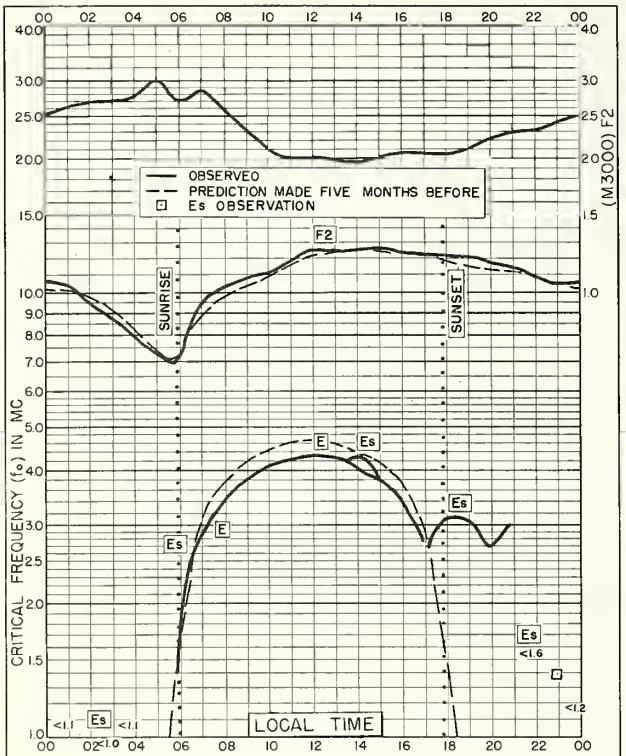


Fig. 76. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E DECEMBER 1958

NBS 503

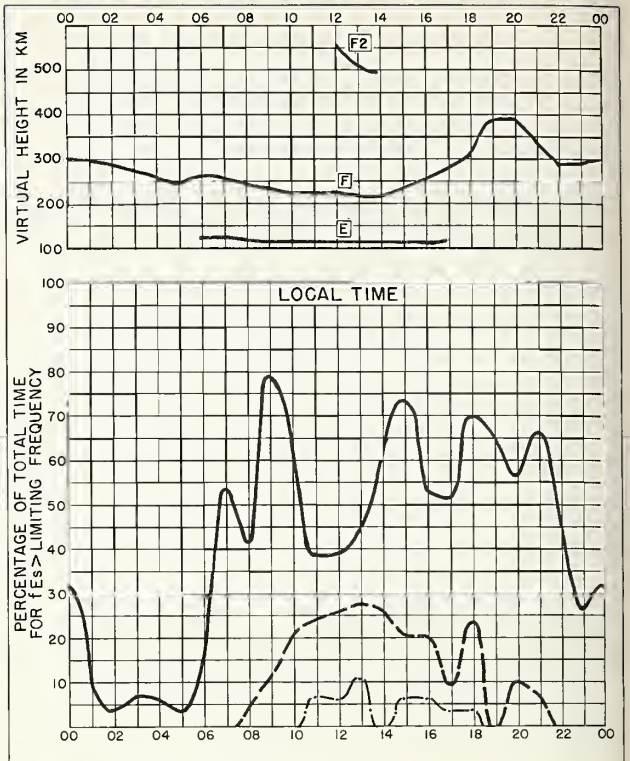


Fig. 77. SINGAPORE, BRITISH MALAYA DECEMBER 1958

NBS 490

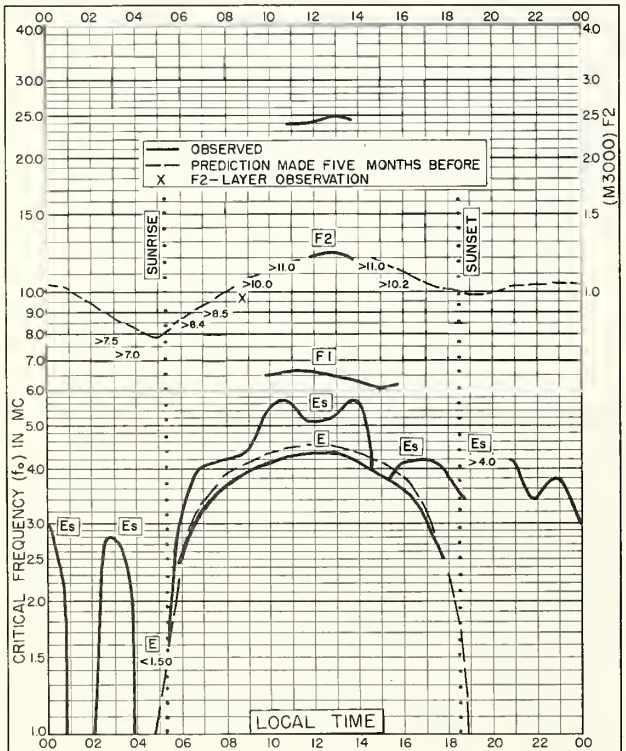


Fig. 78. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E DECEMBER 1958

NBS 503

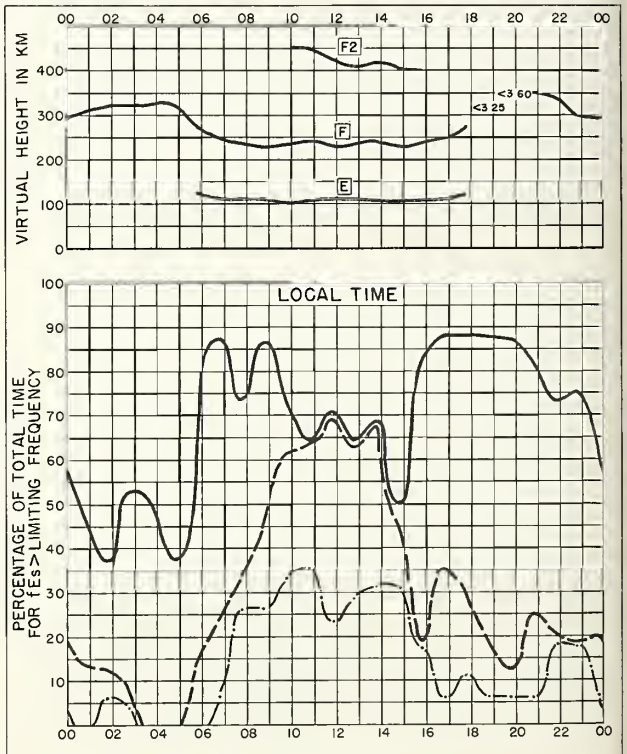


Fig. 79. TOWNSVILLE, AUSTRALIA DECEMBER 1958

NBS 490

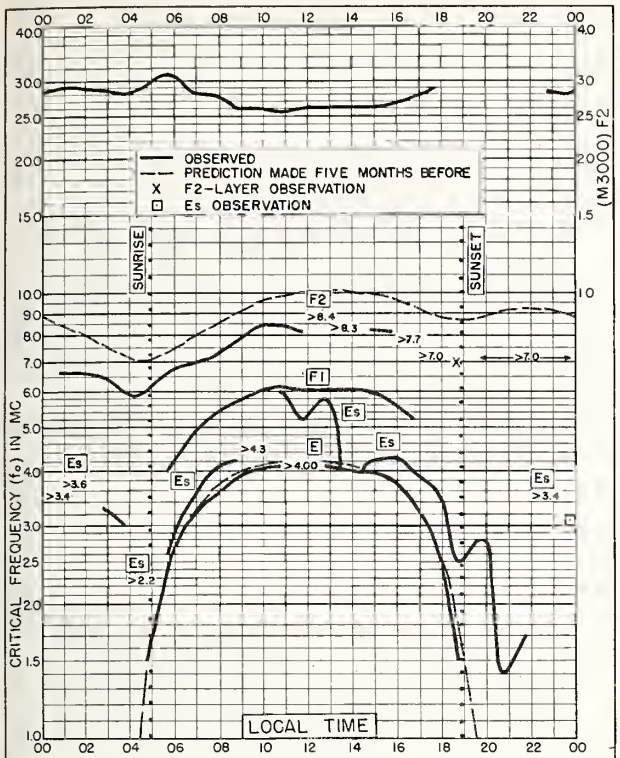


Fig. 80. WATHEROO, W. AUSTRALIA
30.3°S, 115.9°E DECEMBER 1958

NBS 503

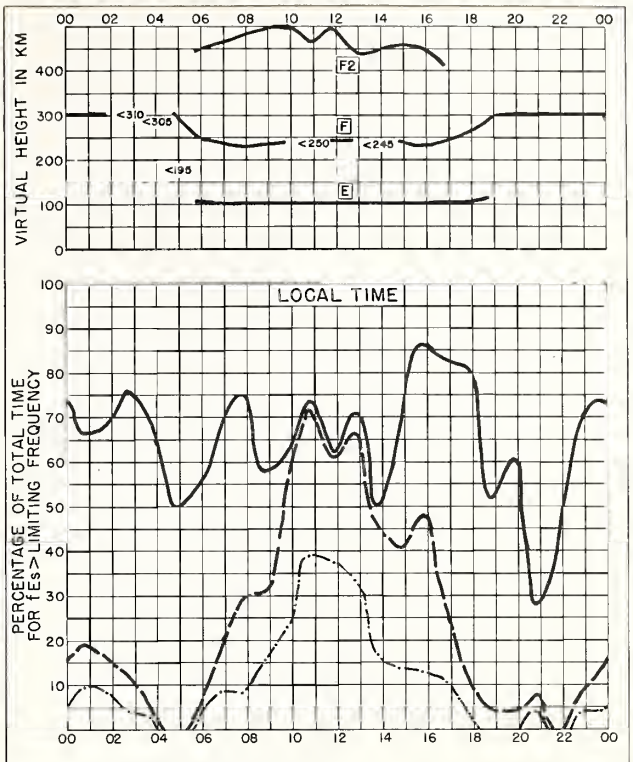


Fig. 81. WATHEROO, W. AUSTRALIA DECEMBER 1958

NBS 490

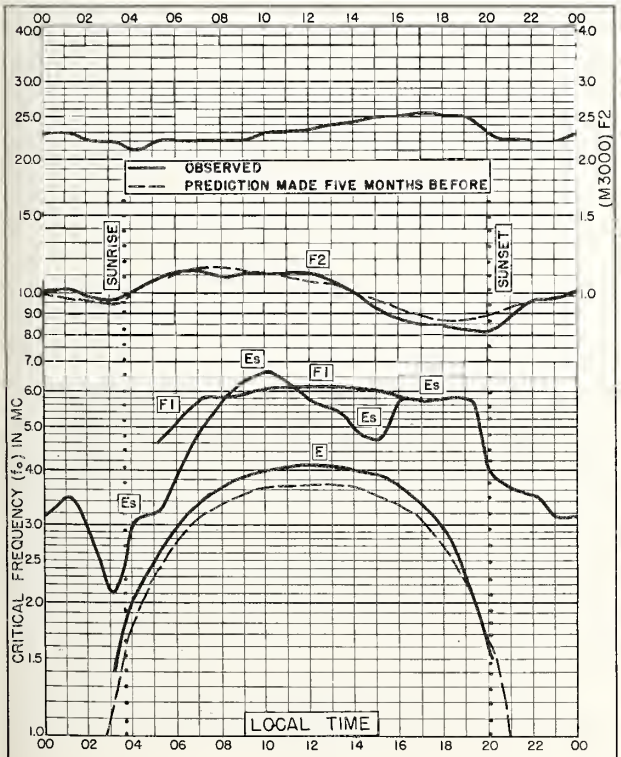


Fig. 82. FALKLAND IS.
51.7°S, 57.8°W DECEMBER 1958

NBS 503

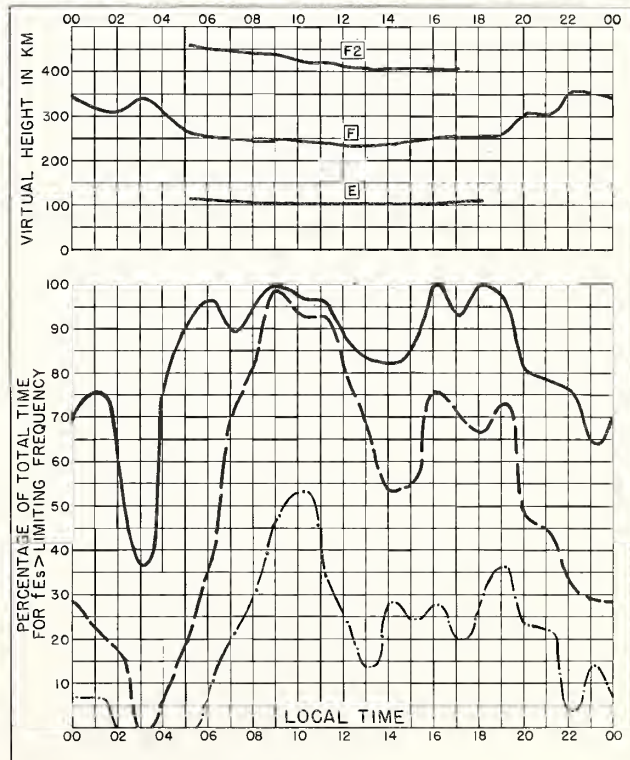


Fig. 83. FALKLAND IS. DECEMBER 1958

NBS 490

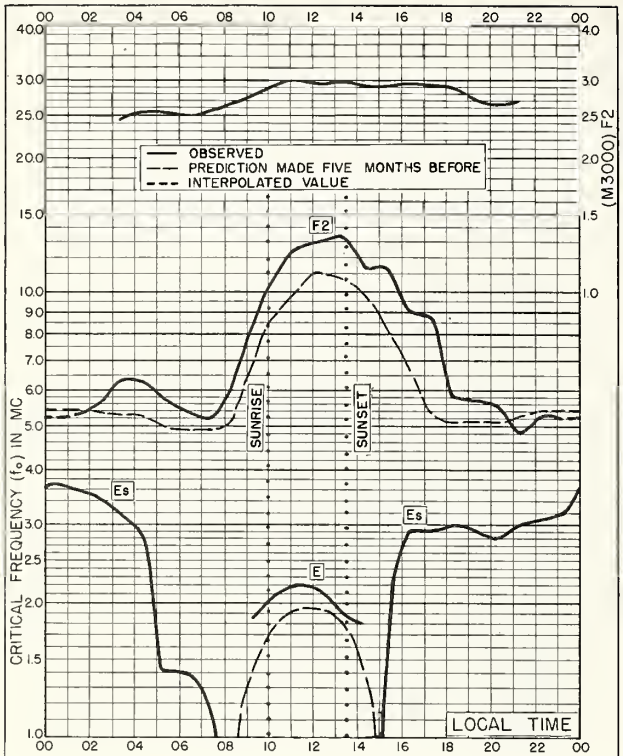


Fig. 84. TROMSO, NORWAY
69.7°N, 19.0°E NOVEMBER 1958

NBS 503

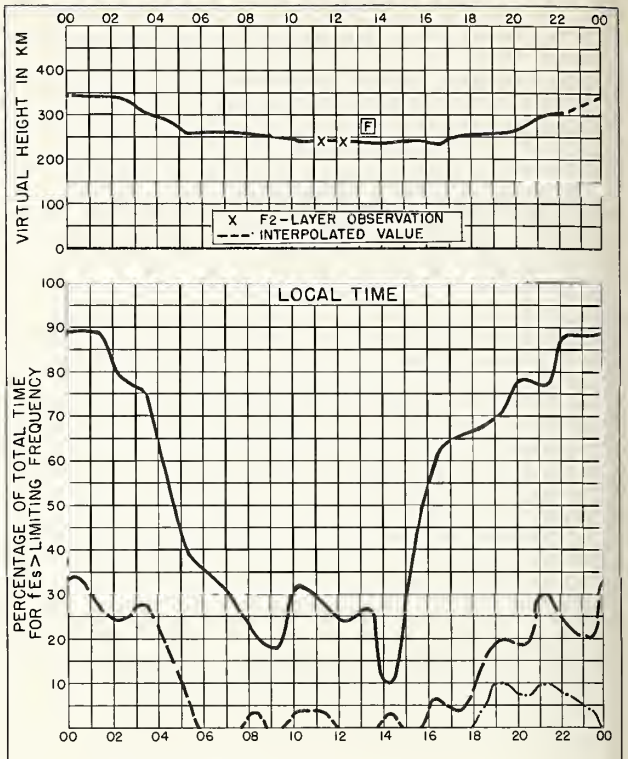


Fig. 85. TROMSO, NORWAY NOVEMBER 1958

NBS 490

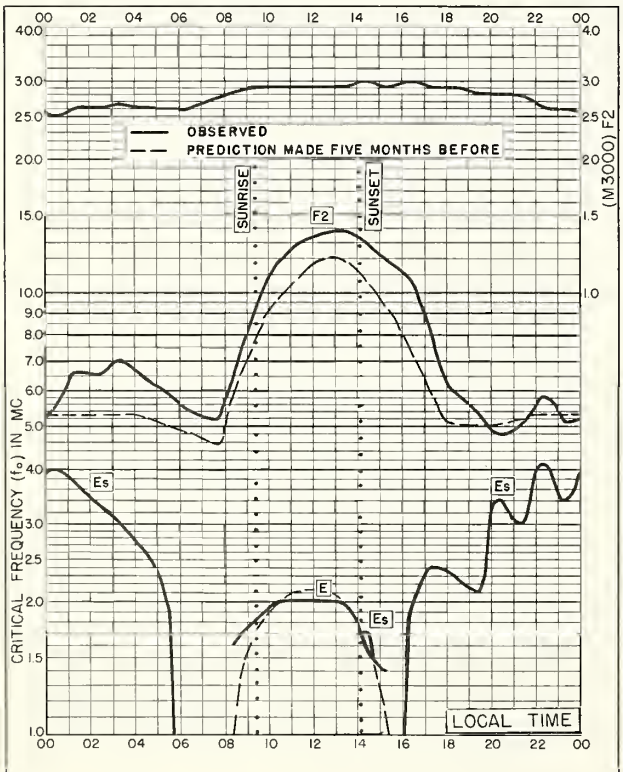


Fig. 86. KIRUNA, SWEDEN
67.8°N, 20.3°E NOVEMBER 1958

NBS 503

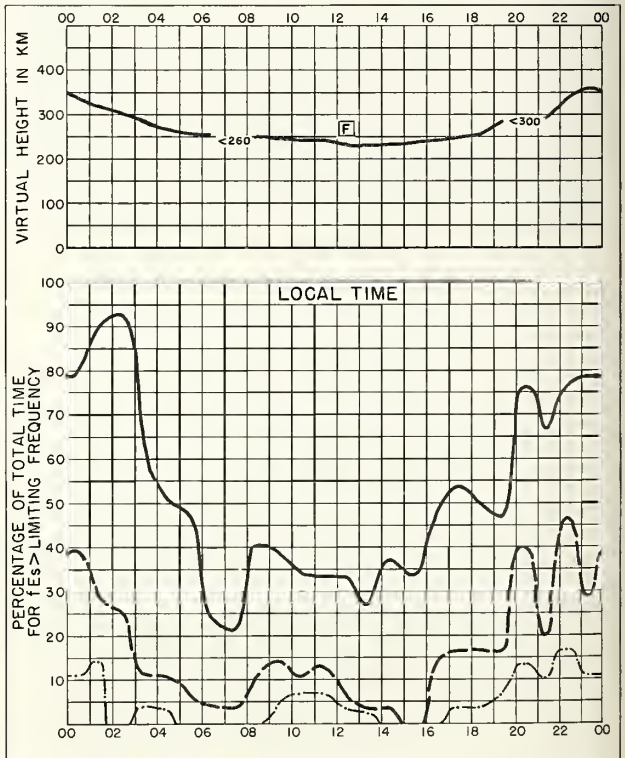


Fig. 87. KIRUNA, SWEDEN NOVEMBER 1958

NBS 490

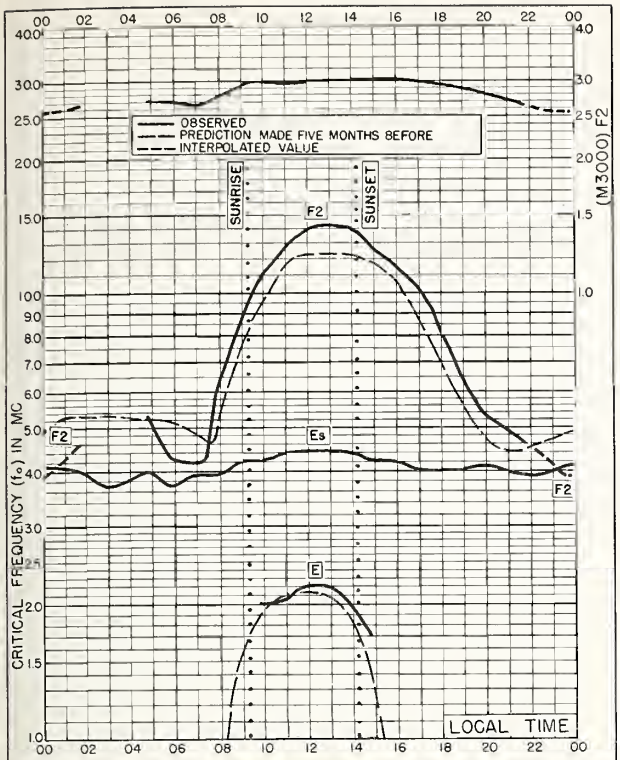


Fig. 88. SODANKYLA, FINLAND
67.4°N, 26.6°E NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503

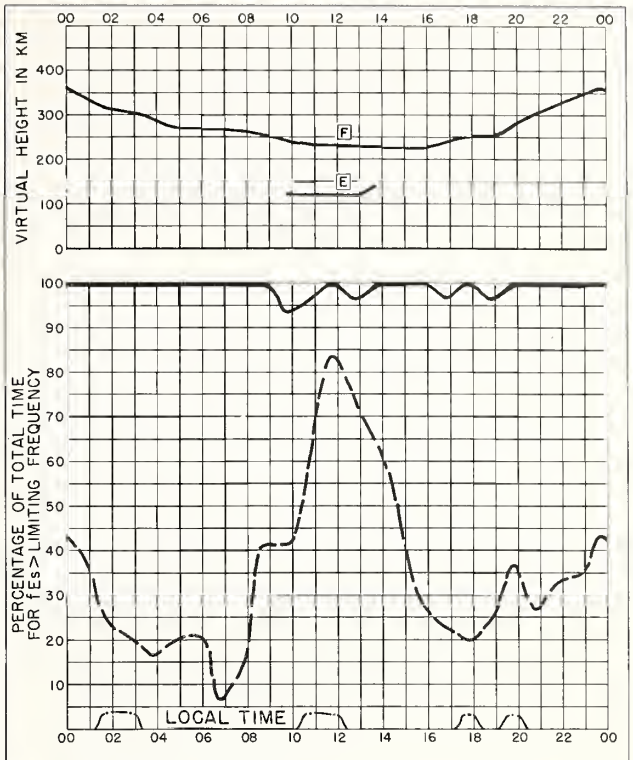


Fig. 89. SODANKYLA, FINLAND NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 490

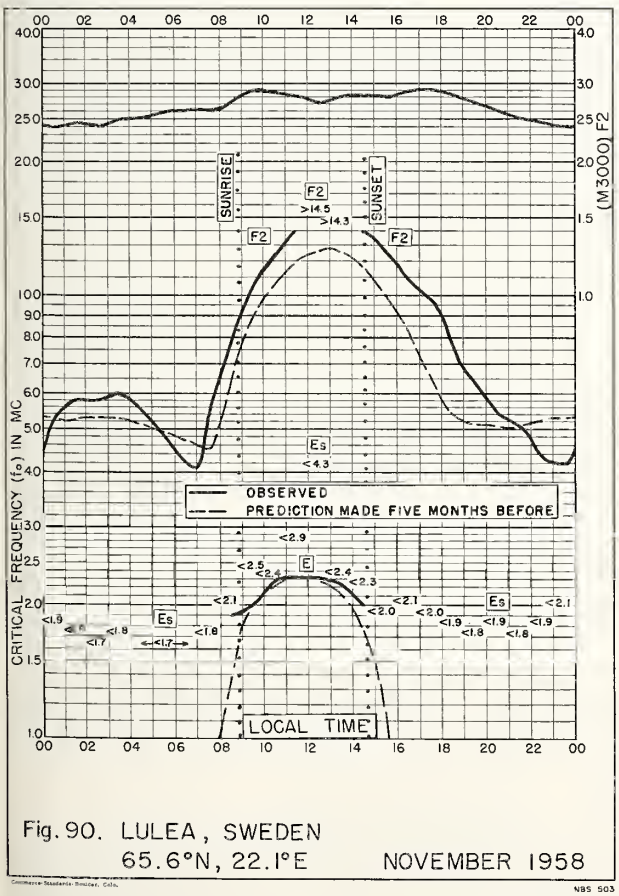


Fig. 90. LULEA, SWEDEN
65.6°N, 22.1°E NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503

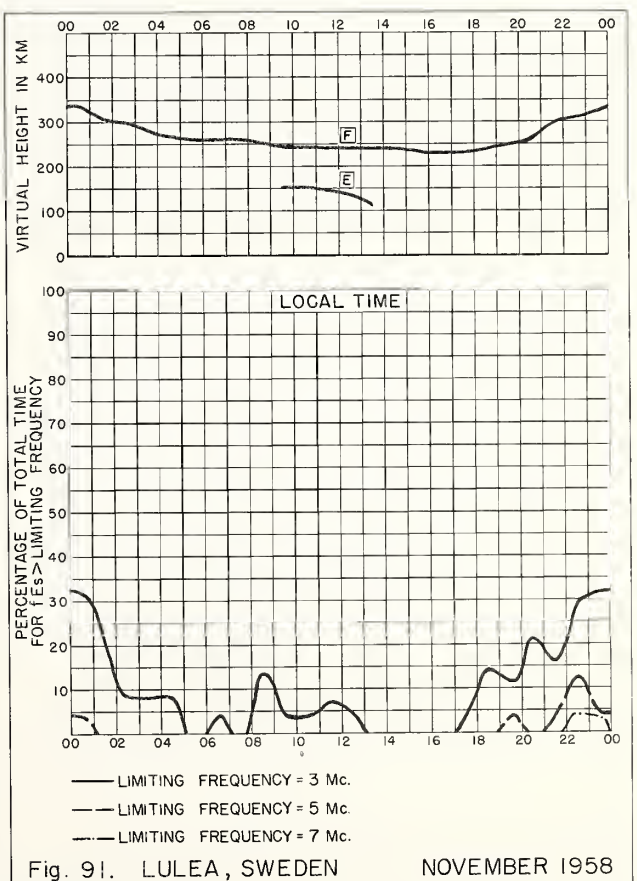


Fig. 91. LULEA, SWEDEN NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 490

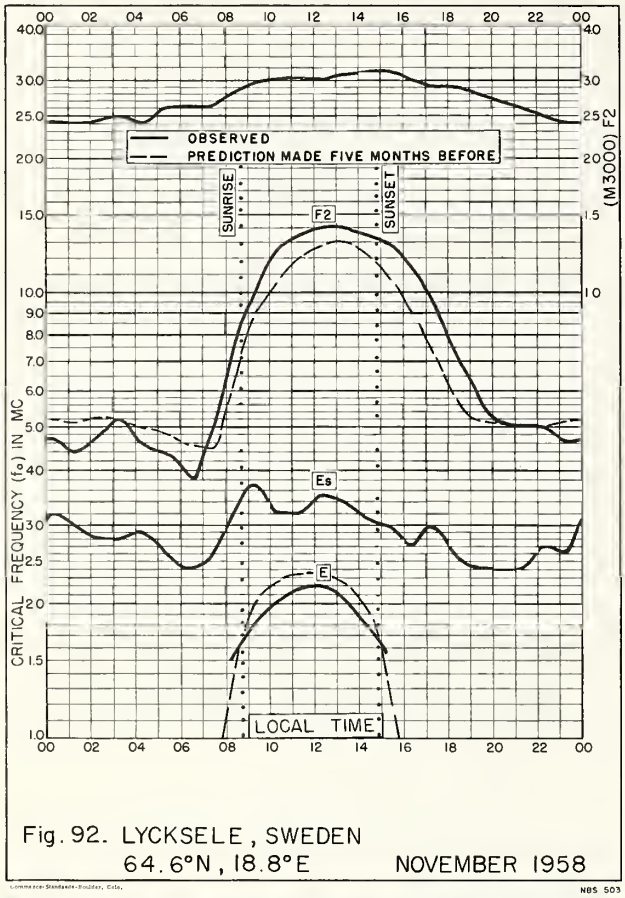


Fig. 92. LYCKSELE, SWEDEN
64.6°N, 18.8°E NOVEMBER 1958

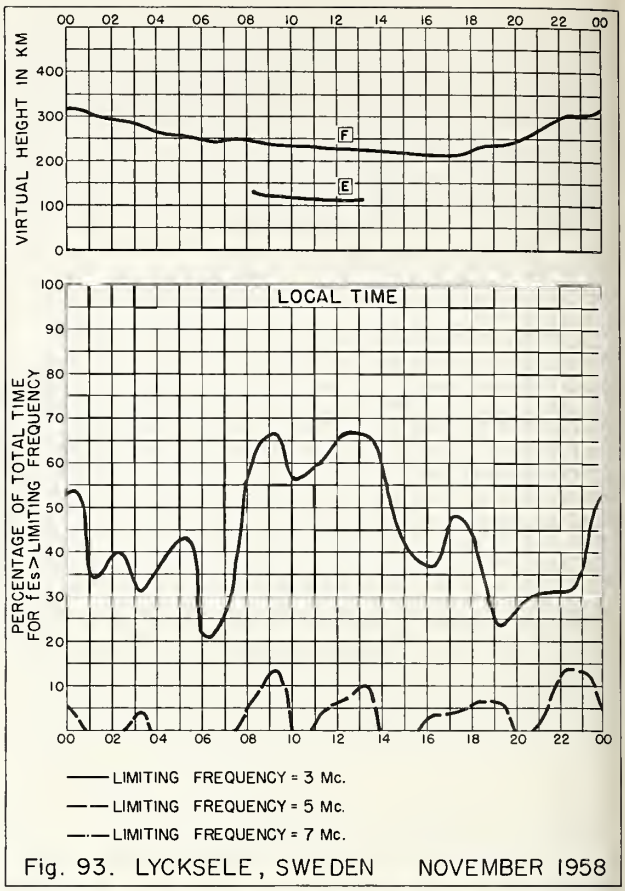


Fig. 93. LYCKSELE, SWEDEN NOVEMBER 1958

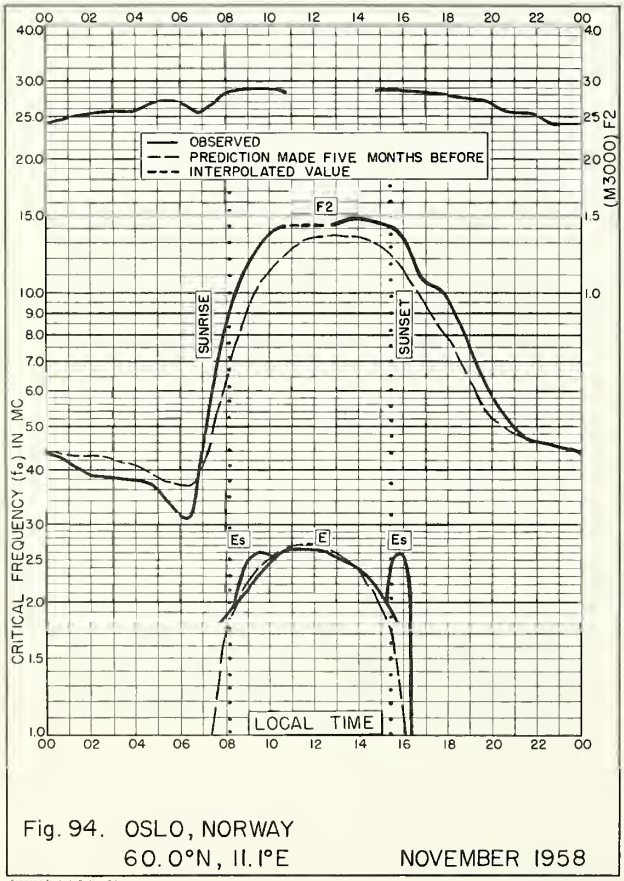


Fig. 94. OSLO, NORWAY
60.0°N, 11.1°E NOVEMBER 1958

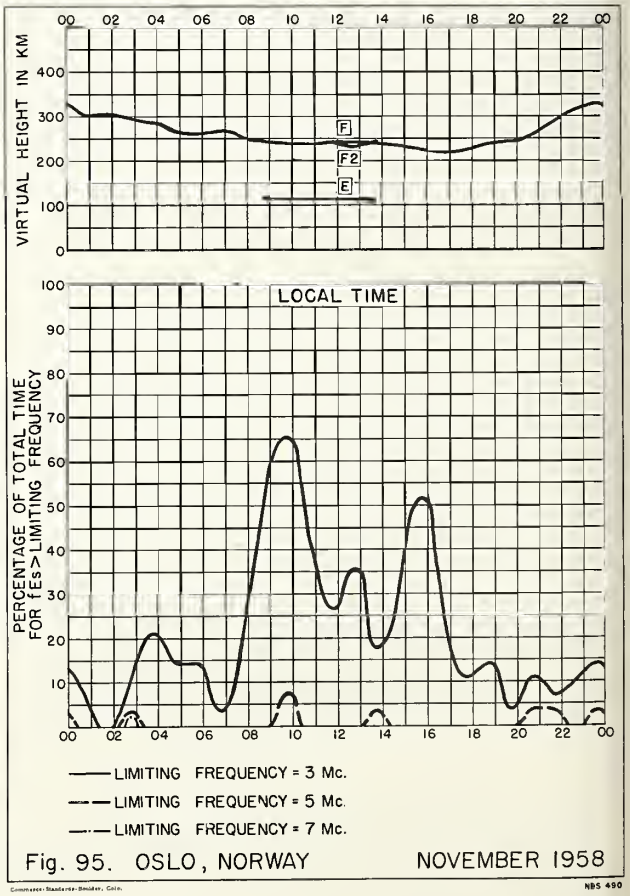


Fig. 95. OSLO, NORWAY NOVEMBER 1958

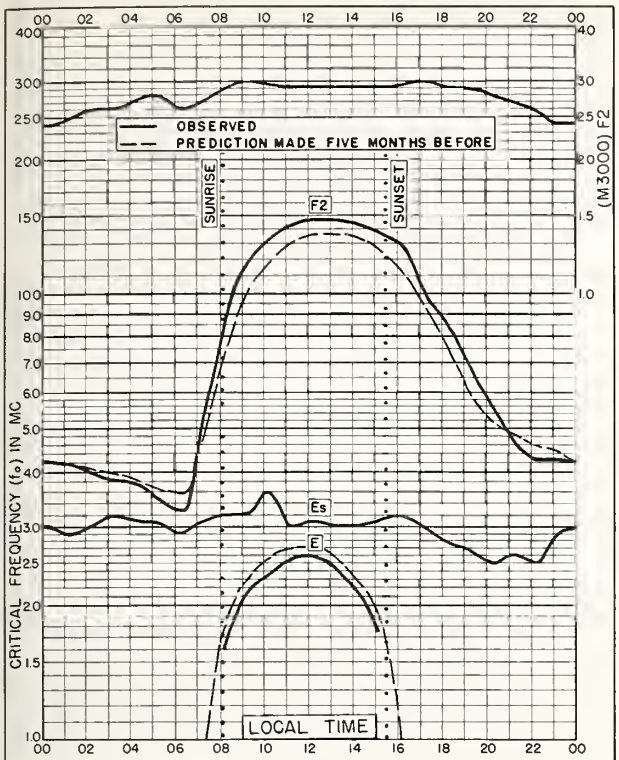


Fig. 96. UPSALA, SWEDEN
59.8°N, 17.6°E NOVEMBER 1958

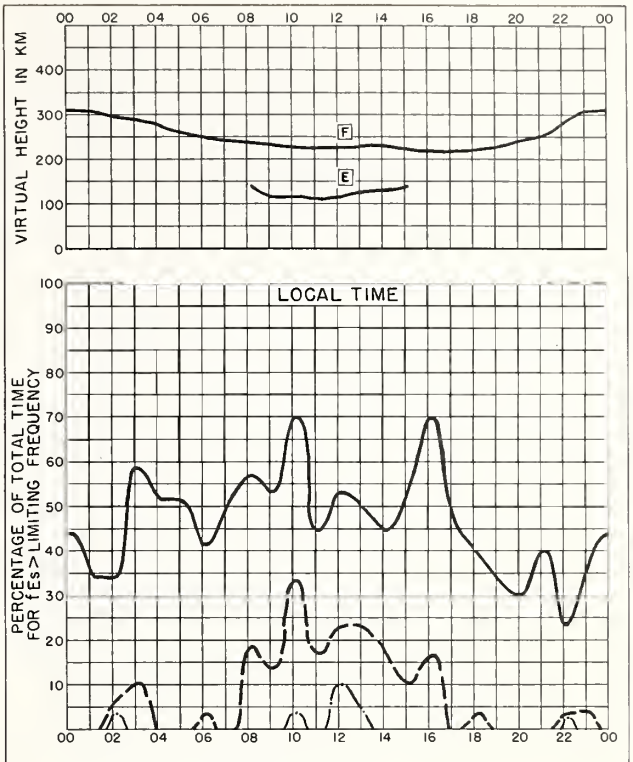


Fig. 97. UPSALA, SWEDEN NOVEMBER 1958

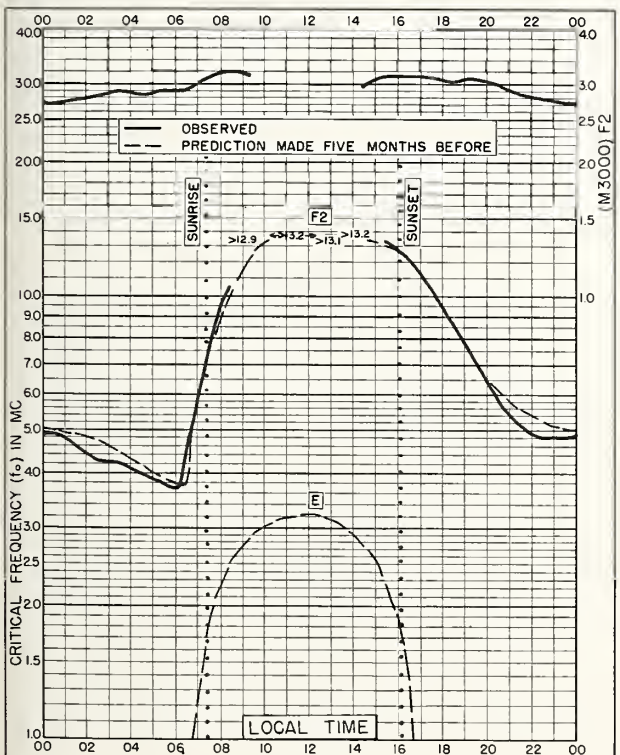


Fig. 98. De BILT, HOLLAND
52.1°N, 5.2°E NOVEMBER 1958

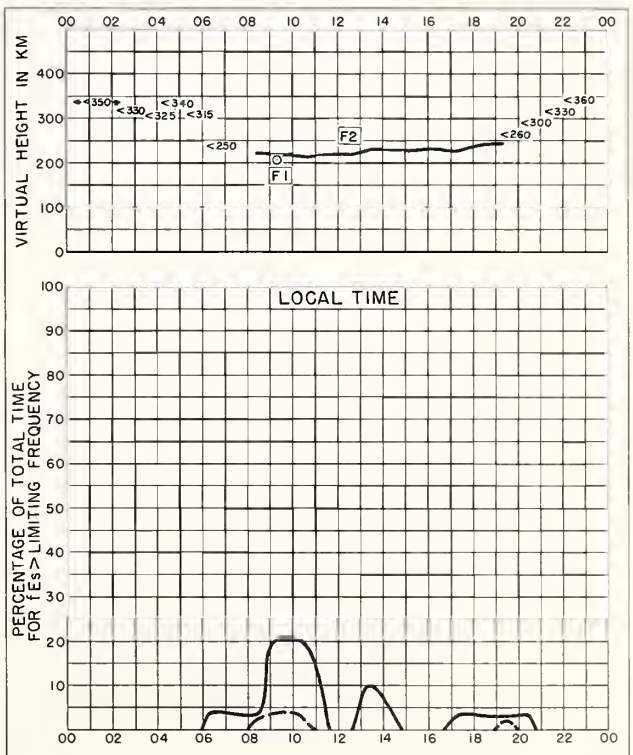


Fig. 99. De BILT, HOLLAND NOVEMBER 1958

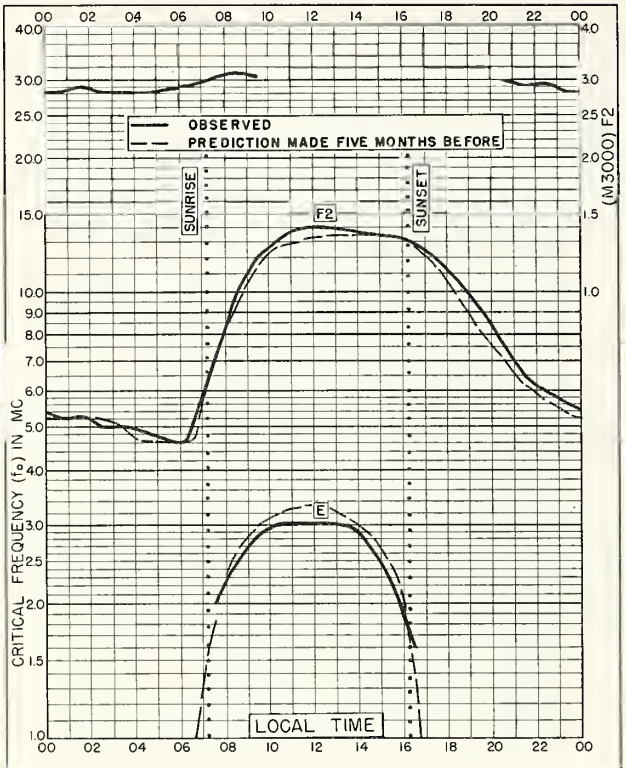


Fig. 100. WINNIPEG, CANADA
49.9°N, 97.4°W NOVEMBER 1958

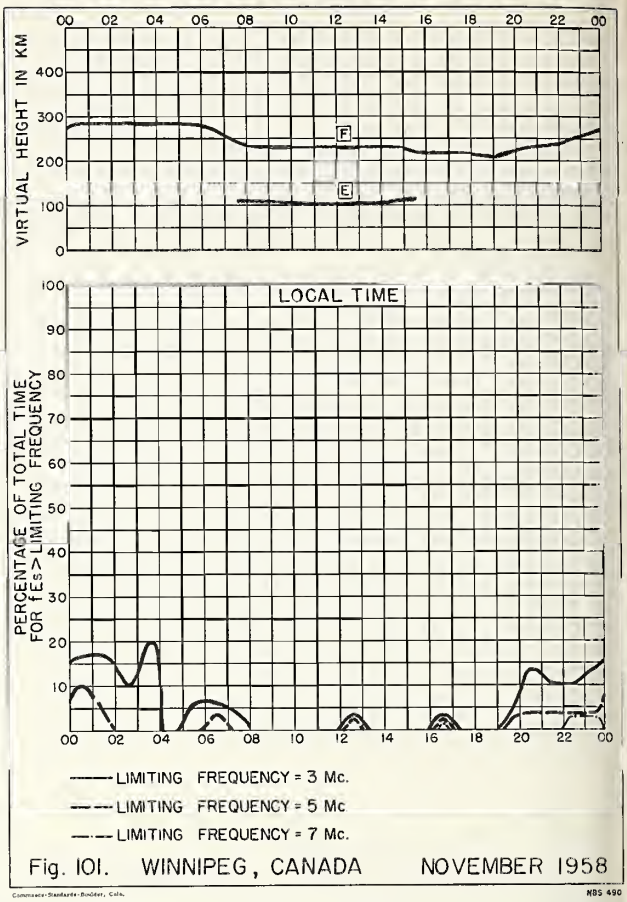


Fig. 101. WINNIPEG, CANADA NOVEMBER 1958

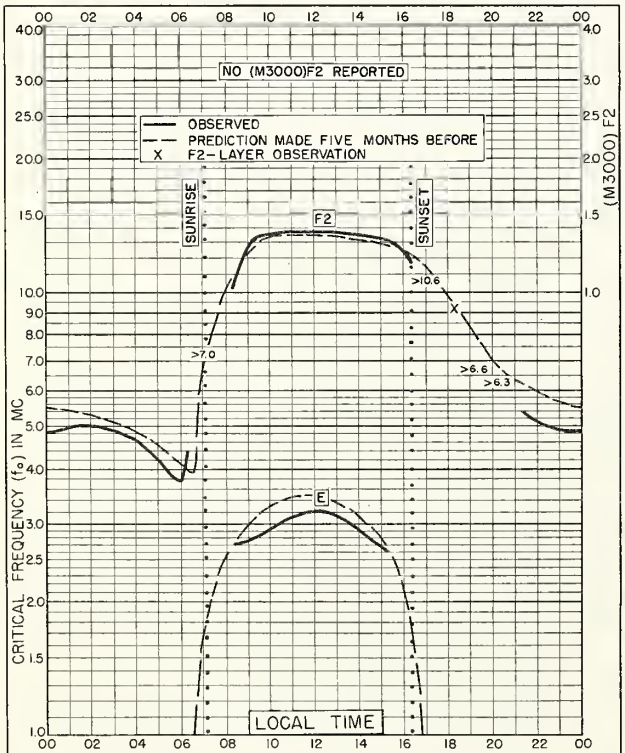


Fig. 102. BUDAPEST, HUNGARY
47.4°N, 19.2°E NOVEMBER 1958

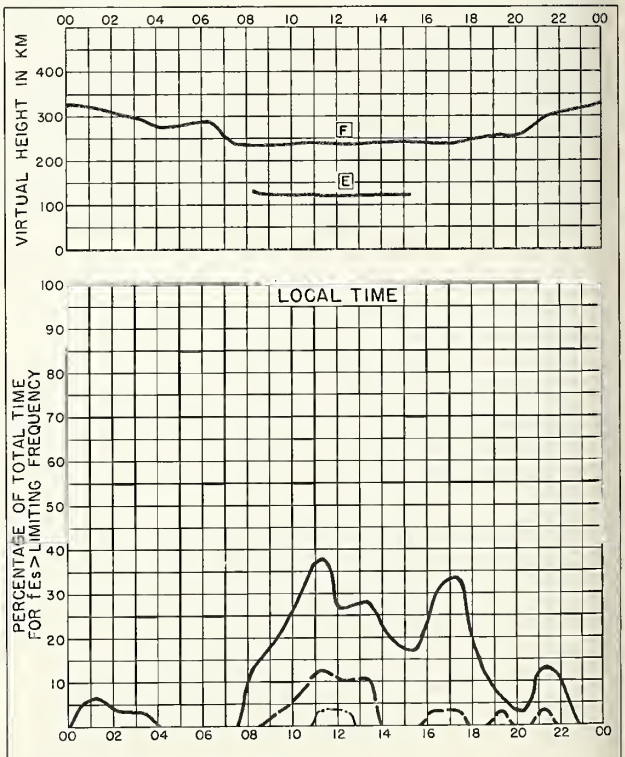


Fig. 103. BUDAPEST, HUNGARY NOVEMBER 1958

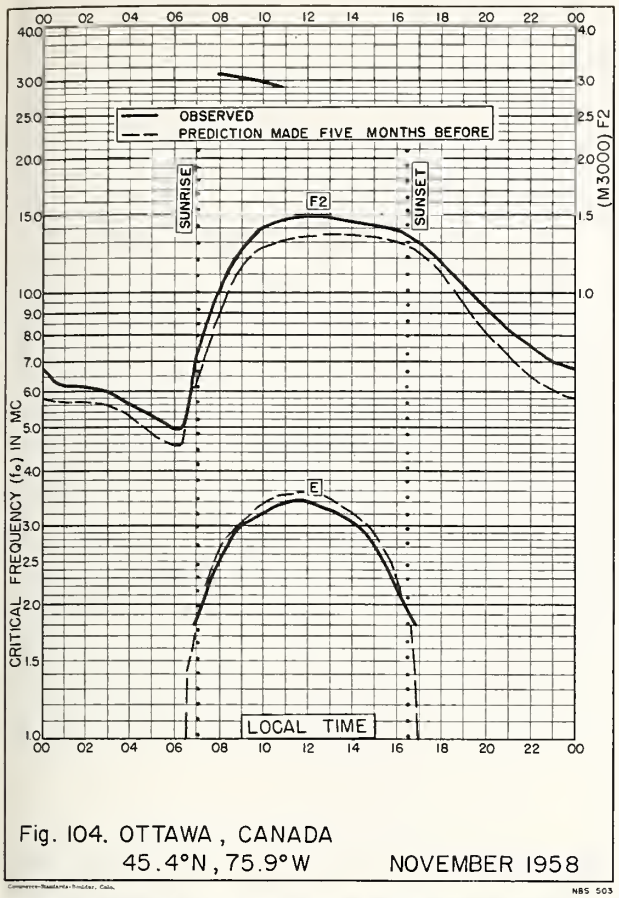


Fig. 104. OTTAWA, CANADA
45.4°N, 75.9°W NOVEMBER 1958

NBS 503

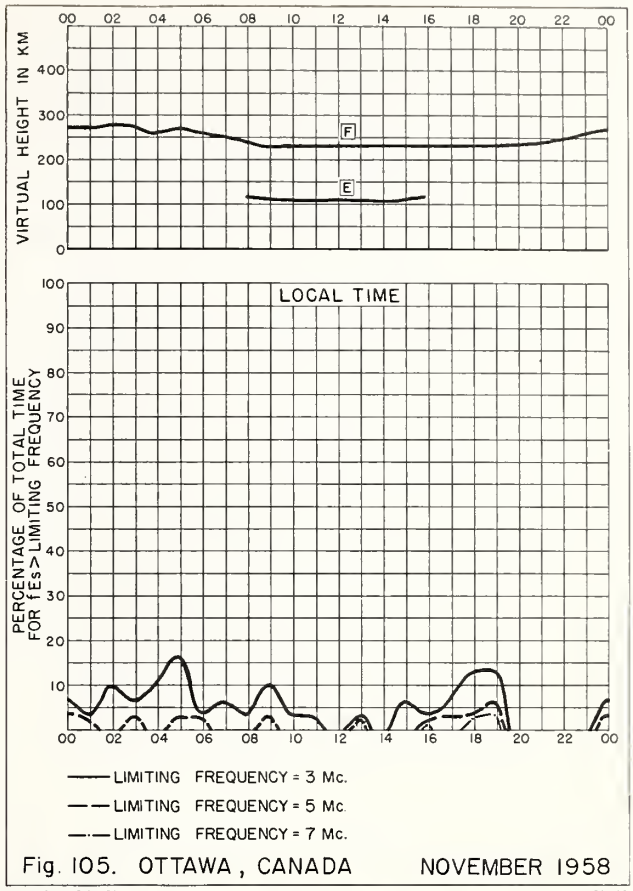


Fig. 105. OTTAWA, CANADA NOVEMBER 1958

NBS 490

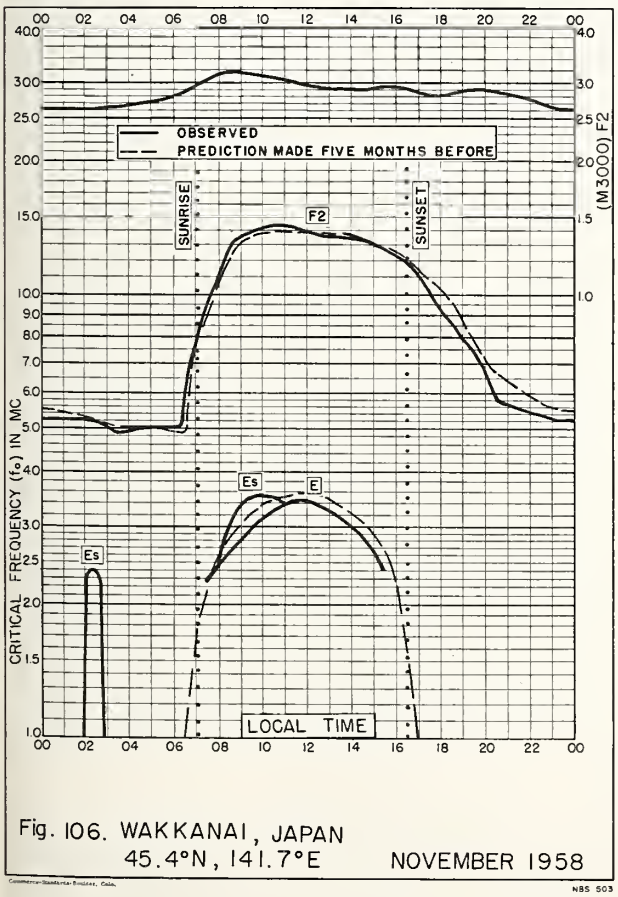


Fig. 106. WAKKANAI, JAPAN
45.4°N, 141.7°E NOVEMBER 1958

NBS 503

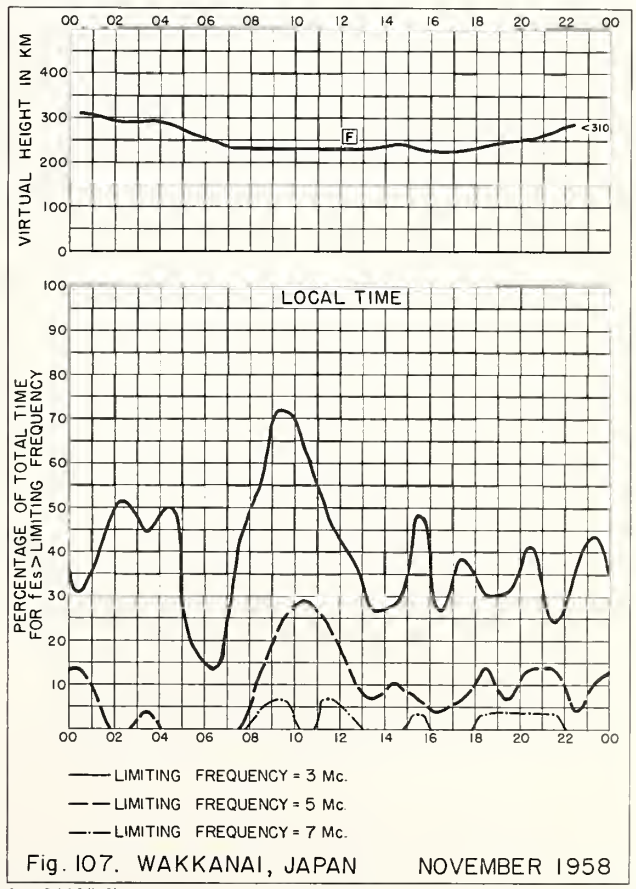


Fig. 107. WAKKANAI, JAPAN NOVEMBER 1958

NBS 490

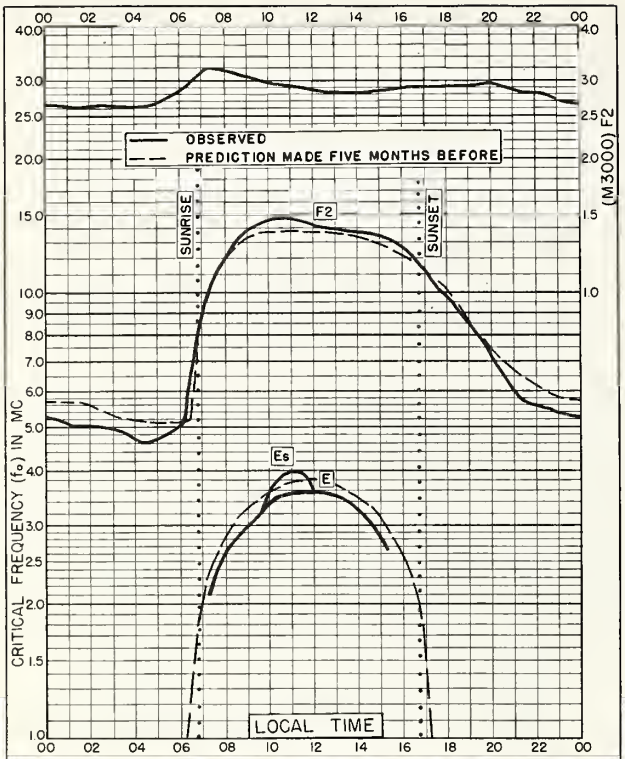


Fig. 108. AKITA, JAPAN
39.7°N, 140.1°E NOVEMBER 1958

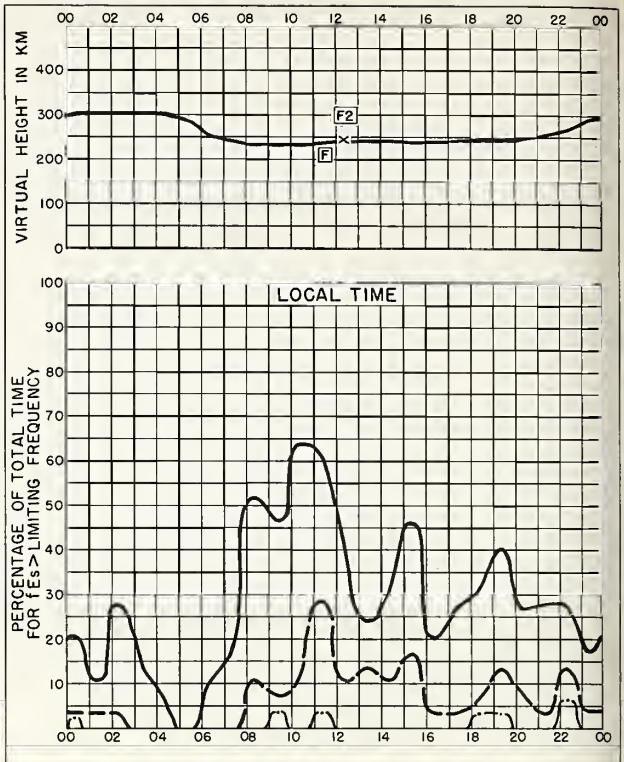


Fig. 109. AKITA, JAPAN NOVEMBER 1958

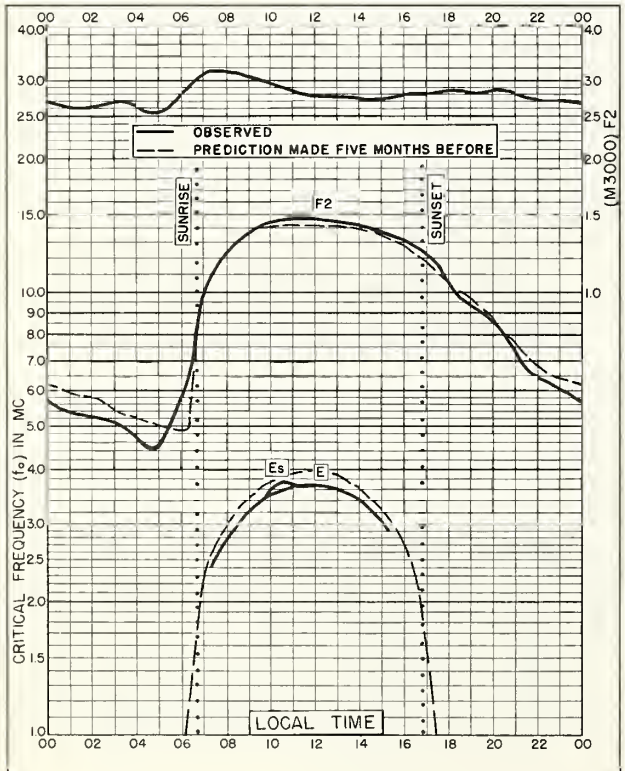


Fig. 110. TOKYO, JAPAN
35.7°N, 139.5°E NOVEMBER 1958

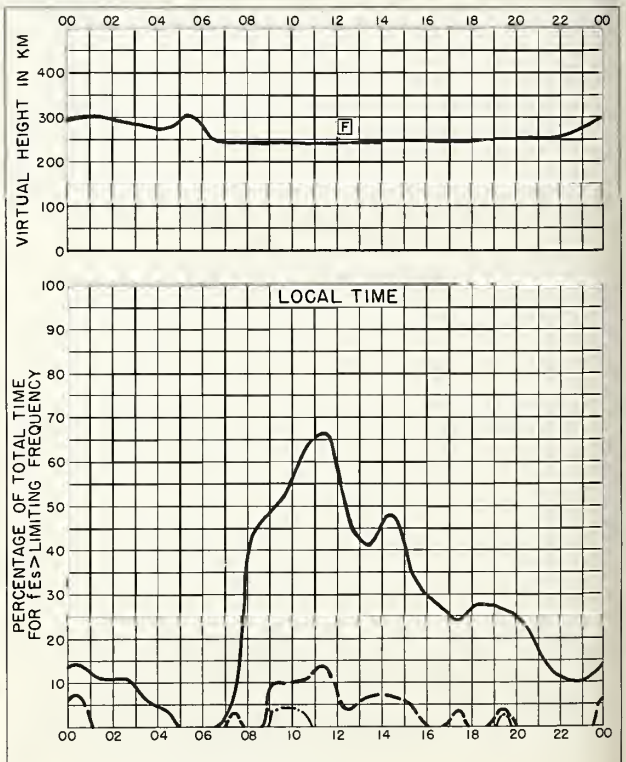


Fig. 111. TOKYO, JAPAN NOVEMBER 1958

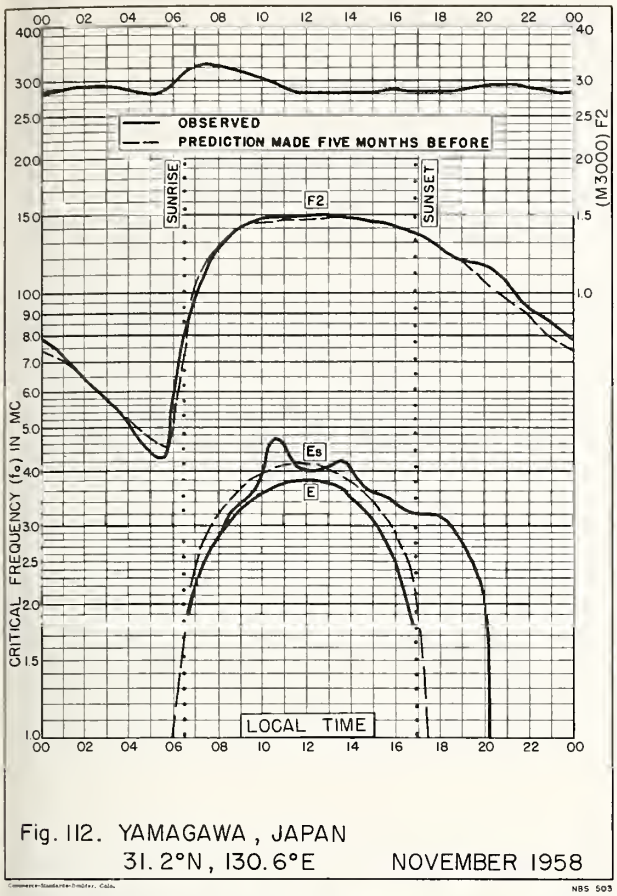


Fig. 112. YAMAGAWA, JAPAN
31.2°N, 130.6°E NOVEMBER 1958

NBS 503

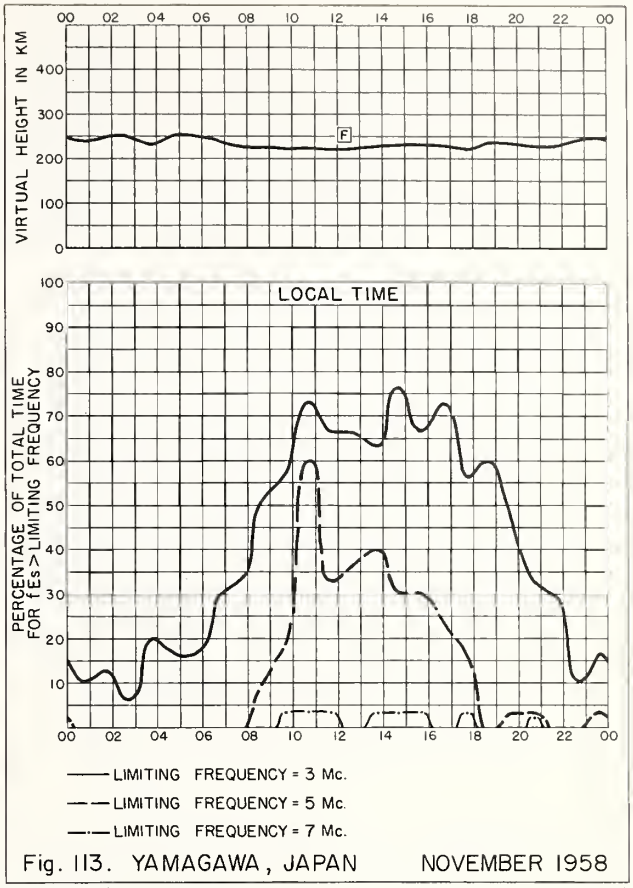


Fig. 113. YAMAGAWA, JAPAN NOVEMBER 1958

NBS 490

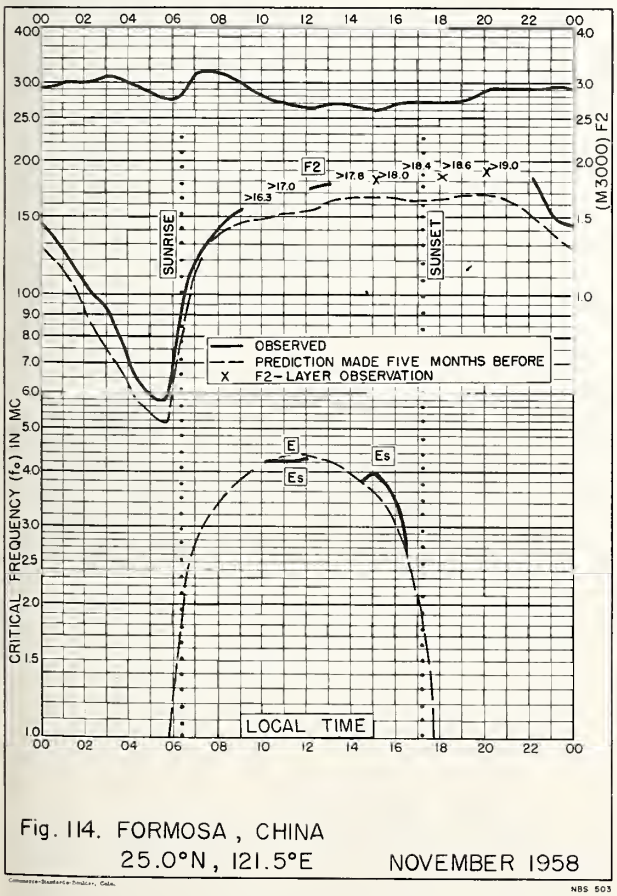


Fig. 114. FORMOSA, CHINA
25.0°N, 121.5°E NOVEMBER 1958

NBS 503

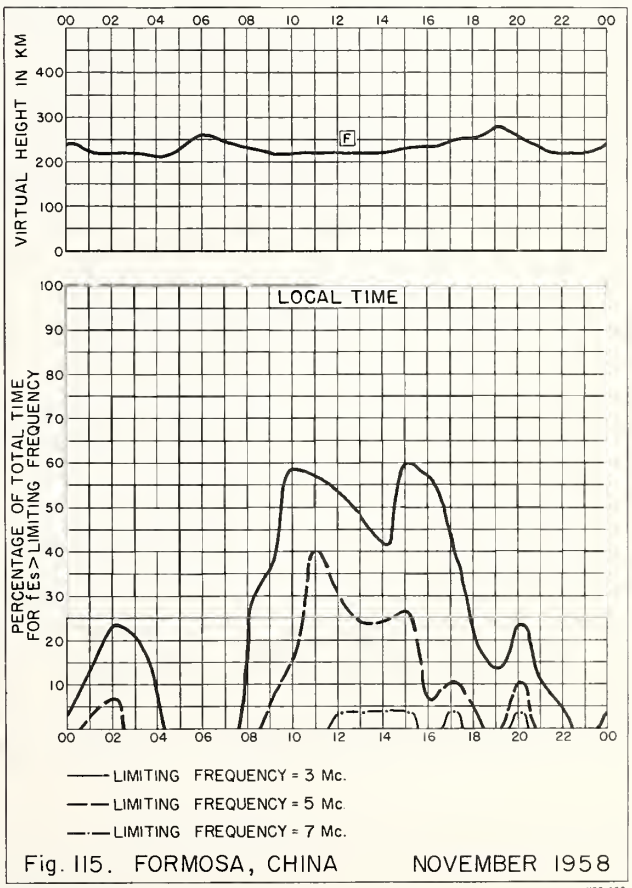


Fig. 115. FORMOSA, CHINA NOVEMBER 1958

NBS 490

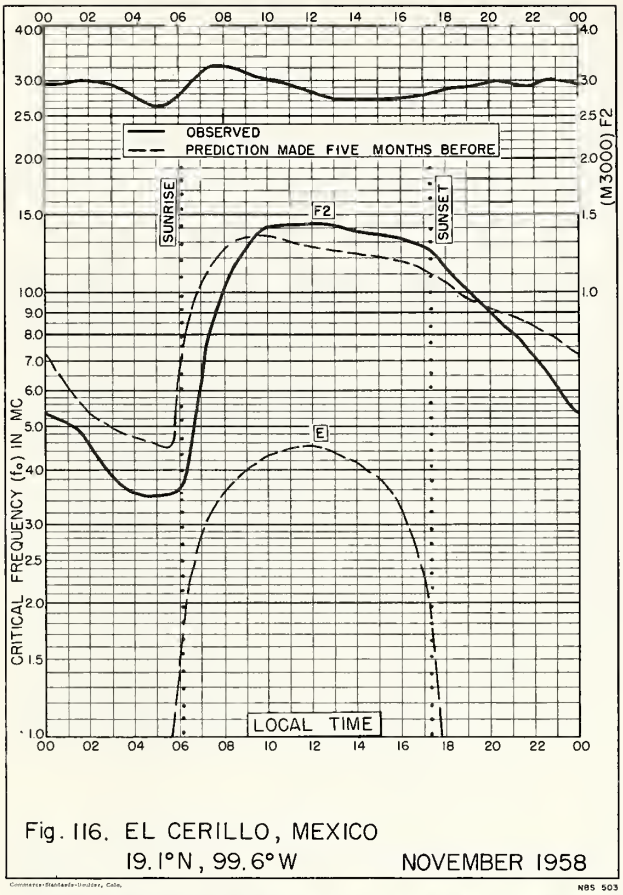


Fig. 116. EL CERILLO, MEXICO
19.1°N, 99.6°W NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503

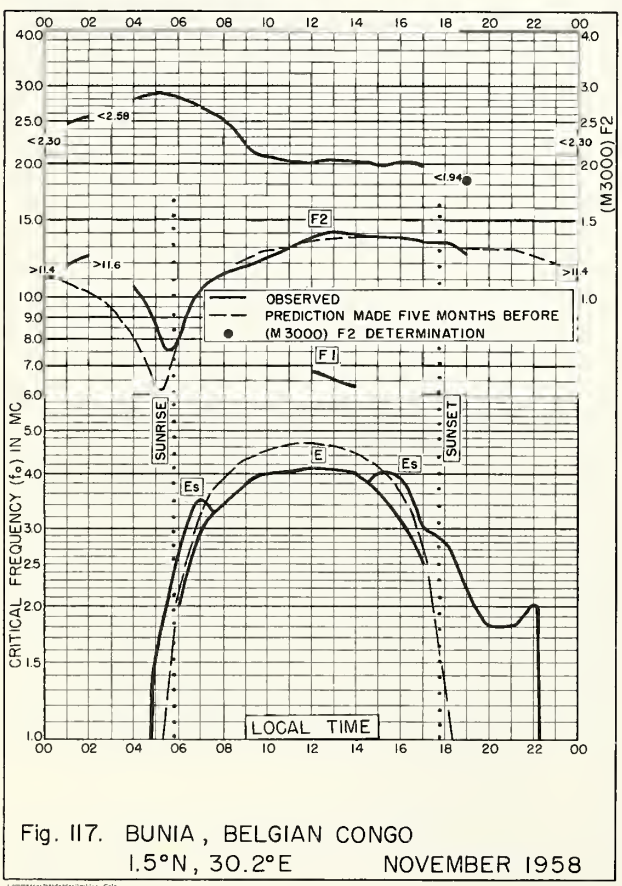
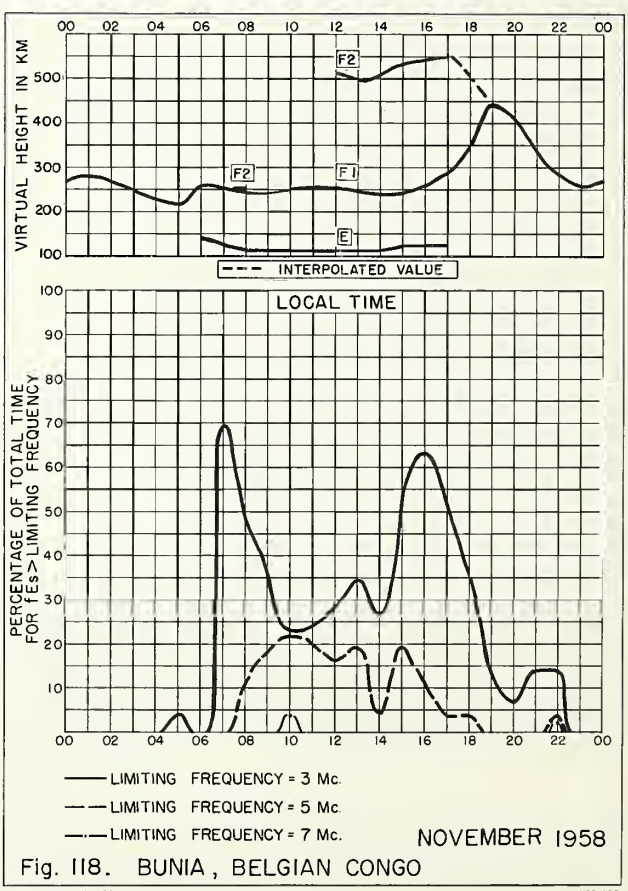


Fig. 117. BUNIA, BELGIAN CONGO
1.5°N, 30.2°E NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503



NOVEMBER 1958

Fig. 118. BUNIA, BELGIAN CONGO

Commerce-Standards-Boulder, Colo. NBS 490

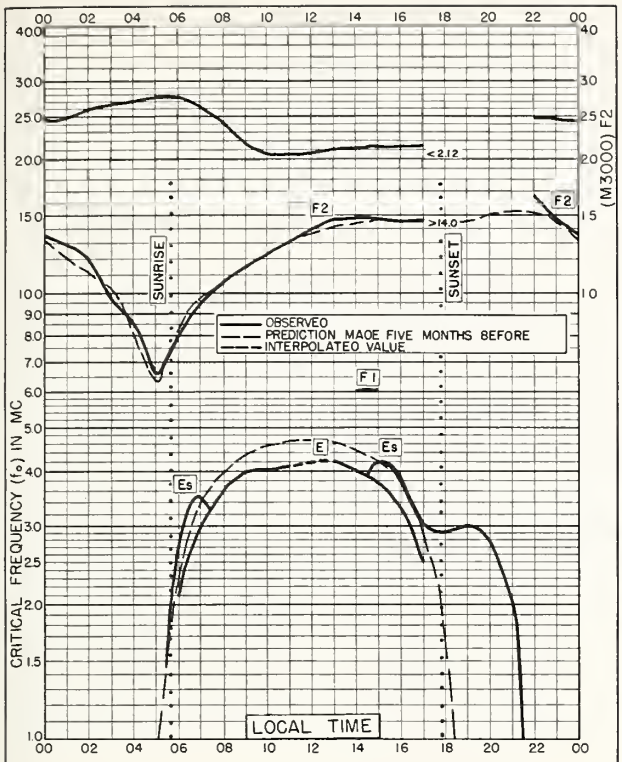
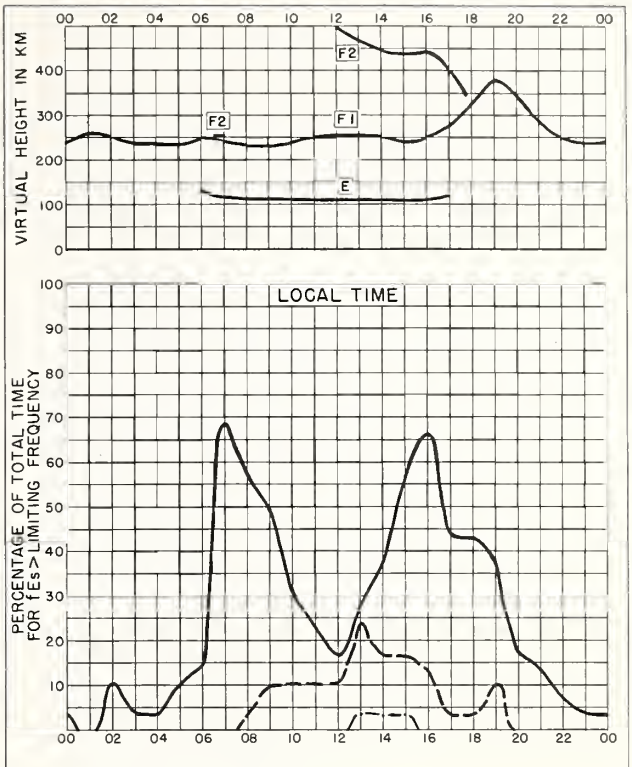


Fig. 119. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E NOVEMBER 1958



NOVEMBER 1958

Fig. 120. LEOPOLDVILLE, BELGIAN CONGO

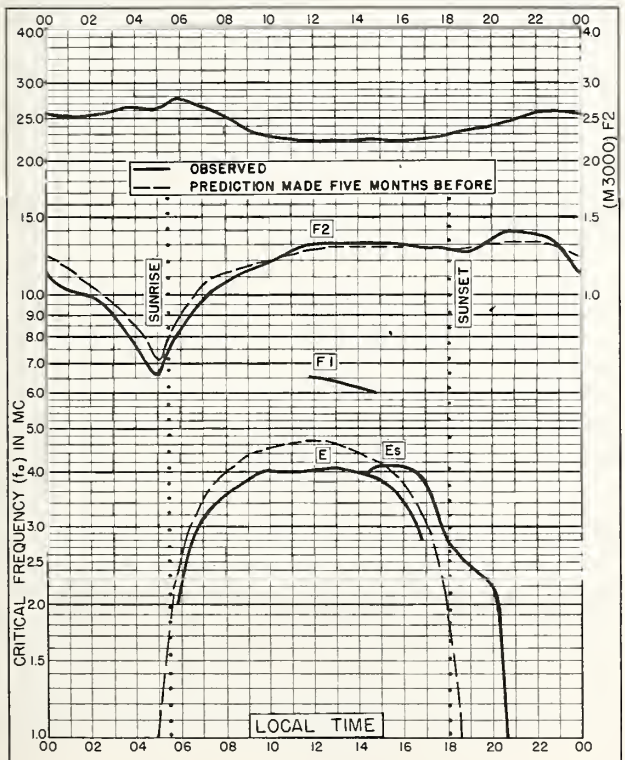
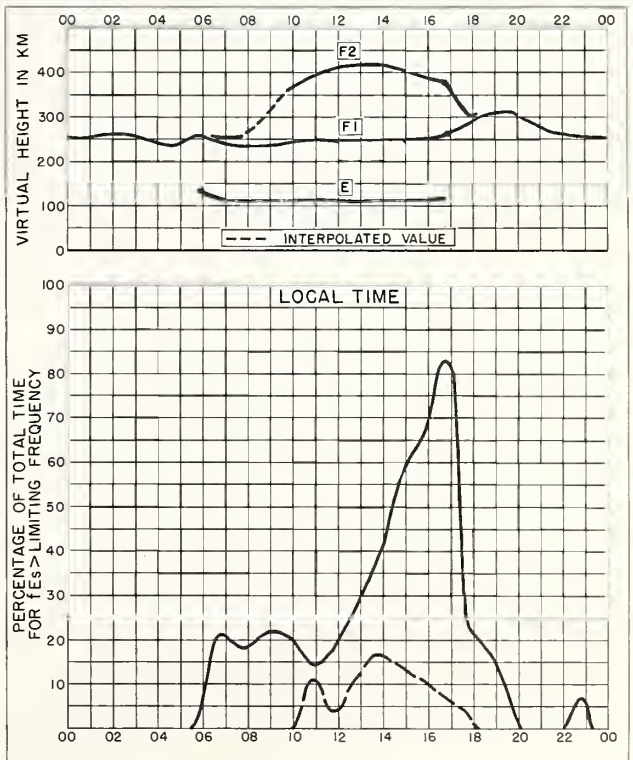


Fig. 121. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E NOVEMBER 1958



NOVEMBER 1958

Fig. 122. ELISABETHVILLE, BELGIAN CONGO

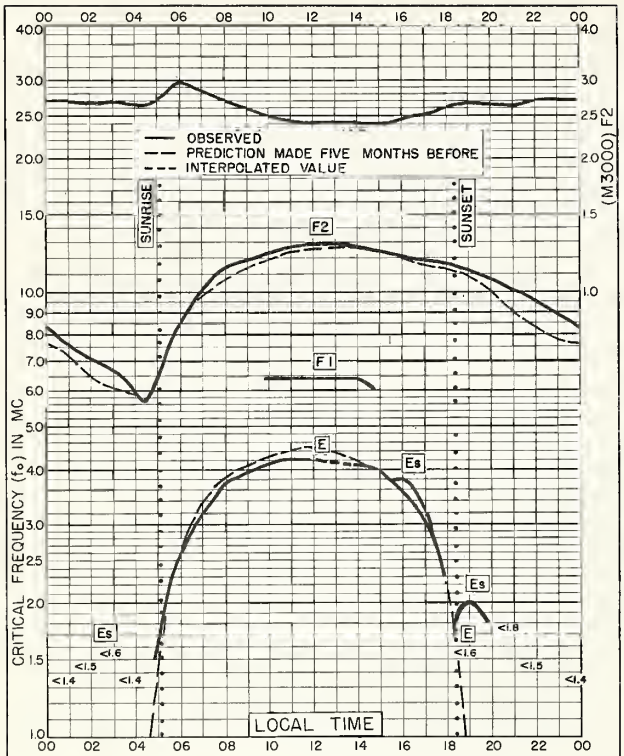


Fig. 123. JOHANNESBURG, UNION OF S. AFRICA
26.2°S, 28.0°E NOVEMBER 1958

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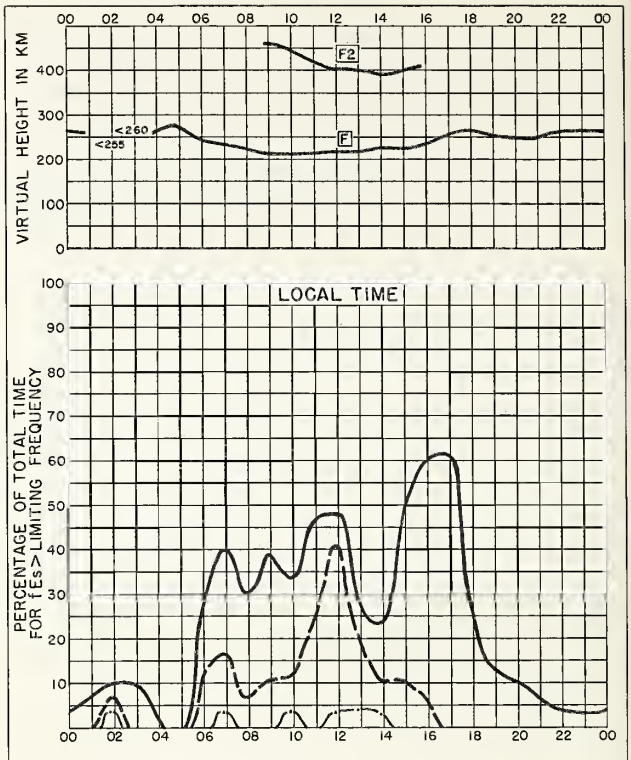


NOVEMBER 1958

Fig. 124. JOHANNESBURG, UNION OF S. AFRICA

Commerce-Standards-Boulder, Colo. NBS 490

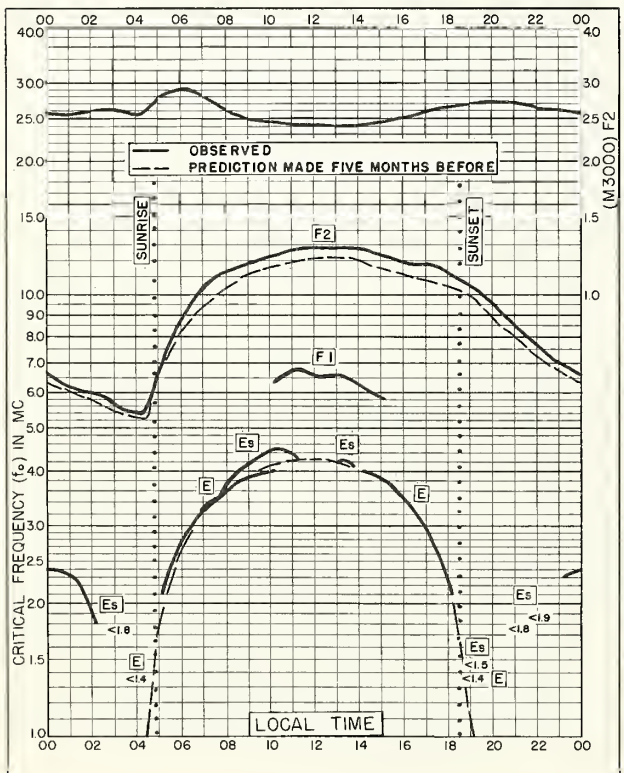
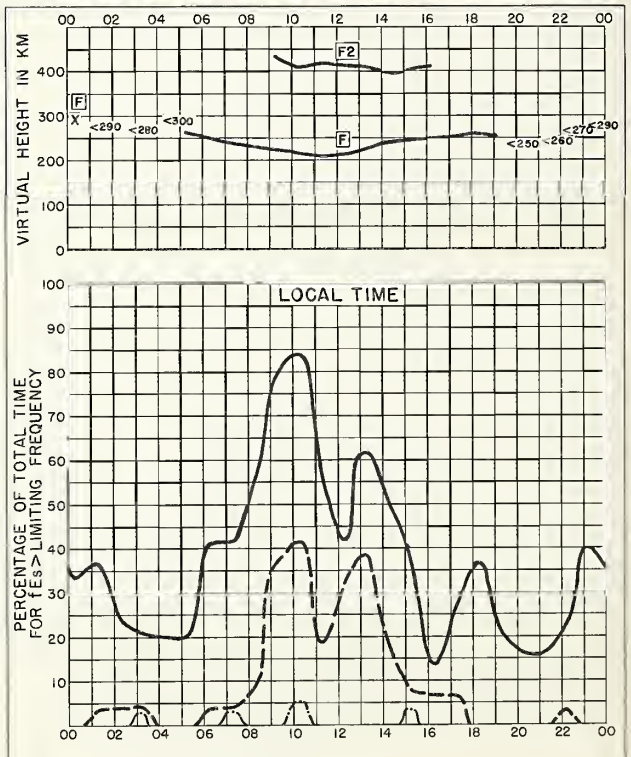


Fig. 125. CAPETOWN, UNION OF S. AFRICA
34.1°S, 18.3°E NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503



NOVEMBER 1958

Fig. 126. CAPETOWN, UNION OF S. AFRICA

Commerce-Standards-Boulder, Colo. NBS 490

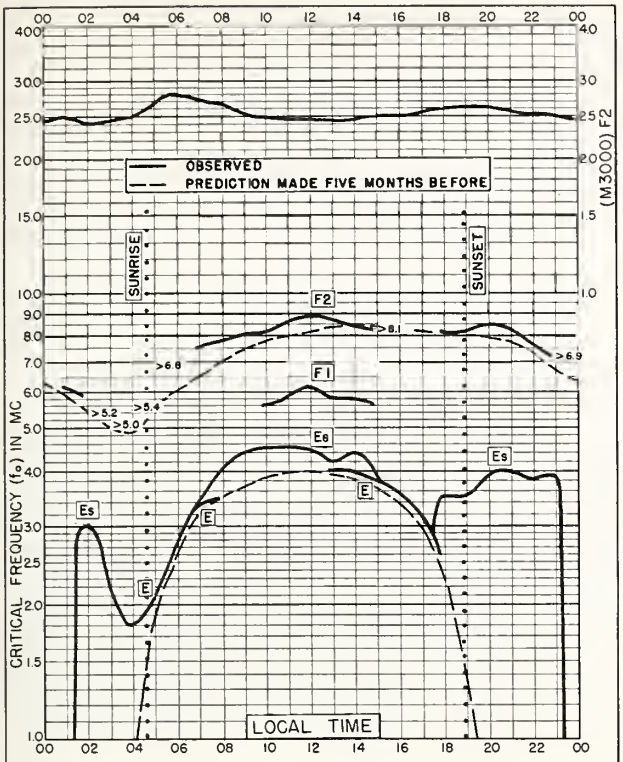


Fig. 127. HOBART, TASMANIA
42.9°S, 147.2°E NOVEMBER 1958

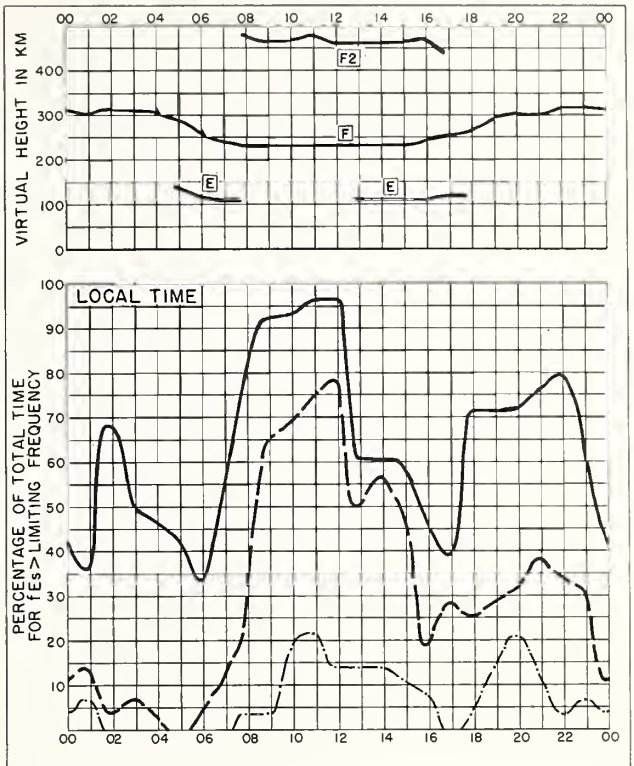


Fig. 128. HOBART, TASMANIA NOVEMBER 1958

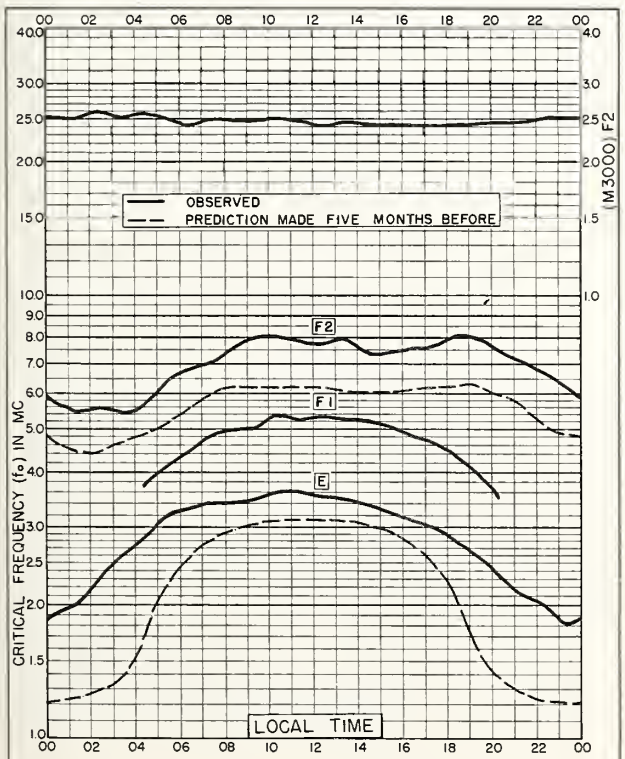


Fig. 129. CAPE HALLETT
72.3°S, 170.3°E NOVEMBER 1958

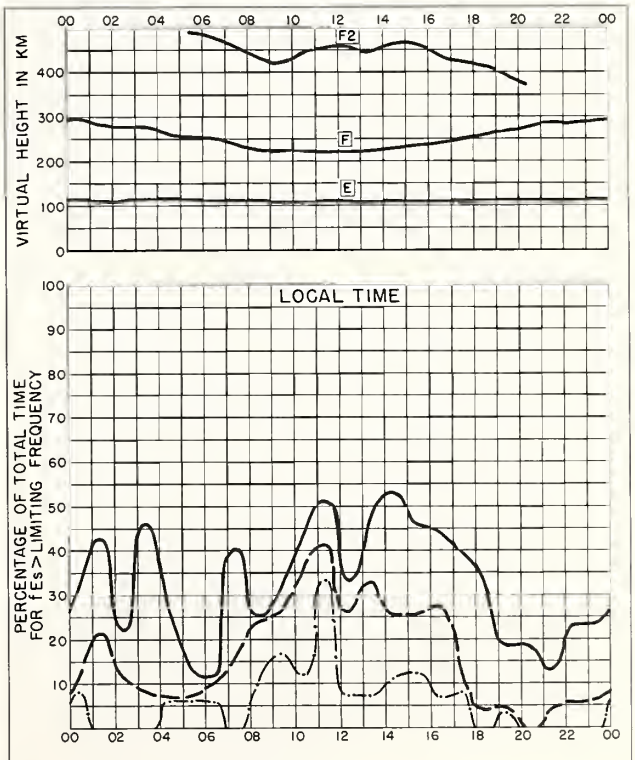


Fig. 130. CAPE HALLETT NOVEMBER 1958

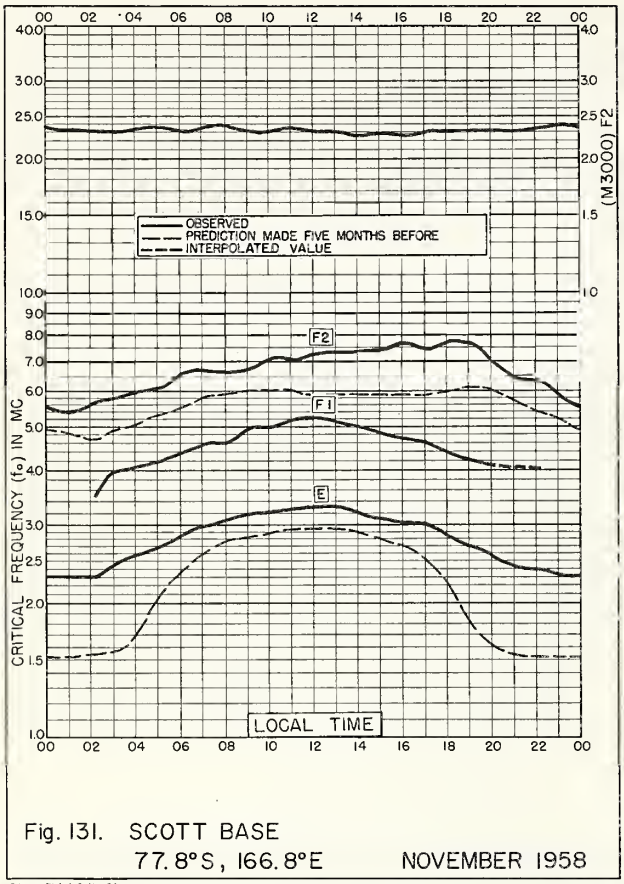


Fig. 131. SCOTT BASE
77.8°S, 166.8°E NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 503

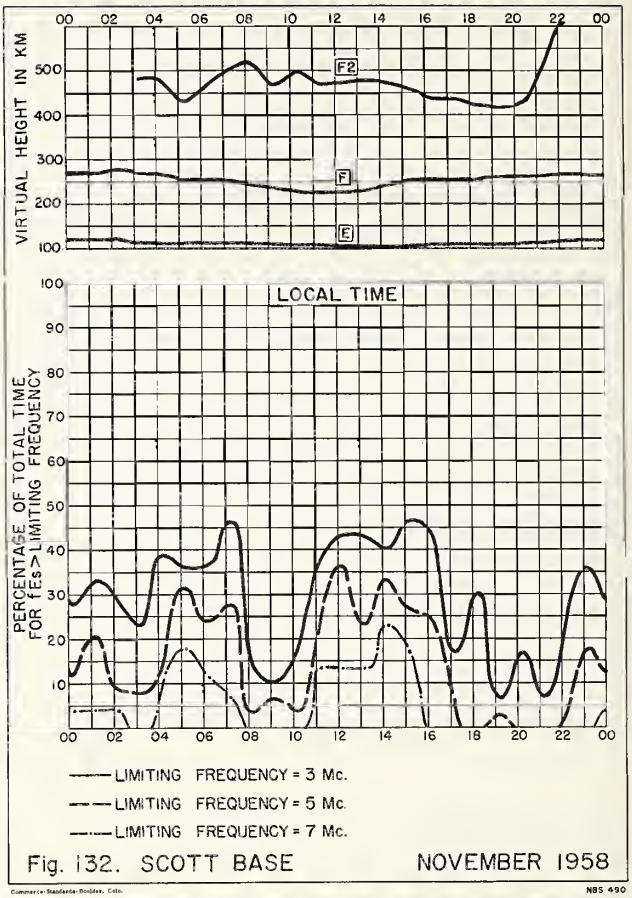


Fig. 132. SCOTT BASE NOVEMBER 1958

Commerce-Standards-Boulder, Colo. NBS 490

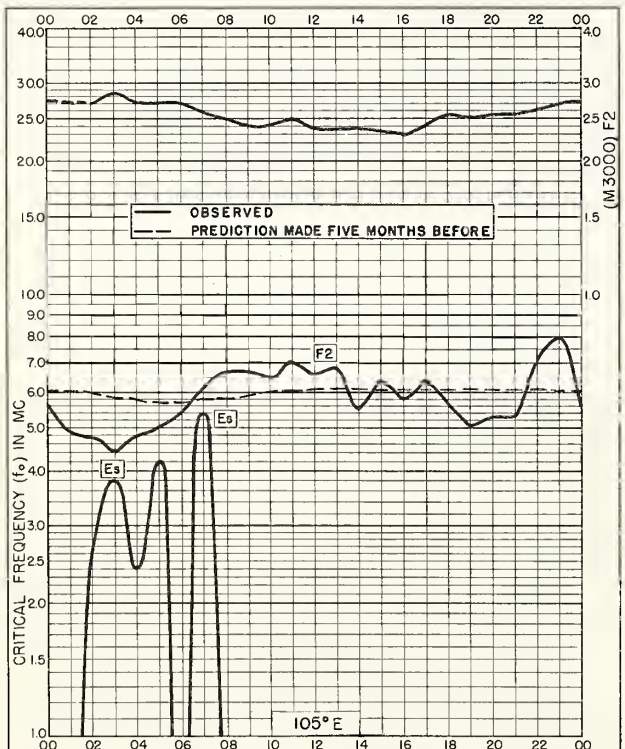


Fig. 133. POLE STATION
90.0° S APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 503

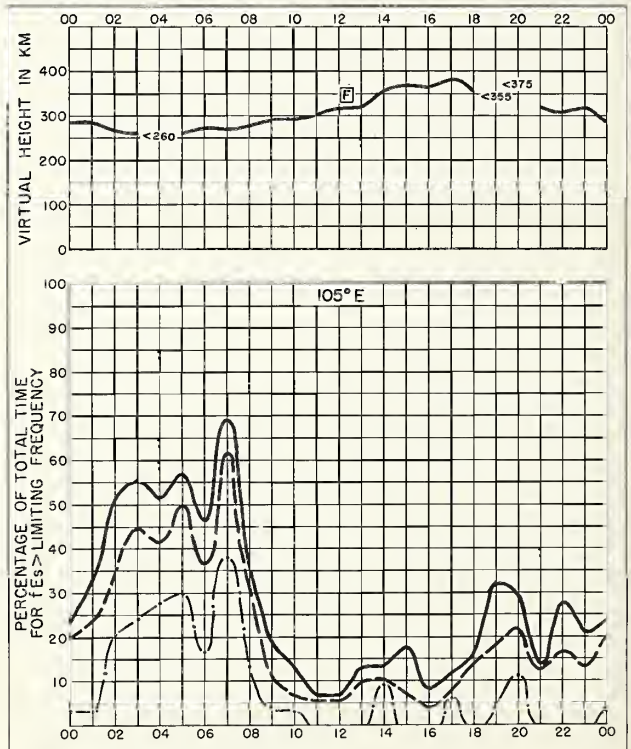


Fig. 134. POLE STATION APRIL 1958

Commerce-Standards-Boulder, Colo. NBS 490

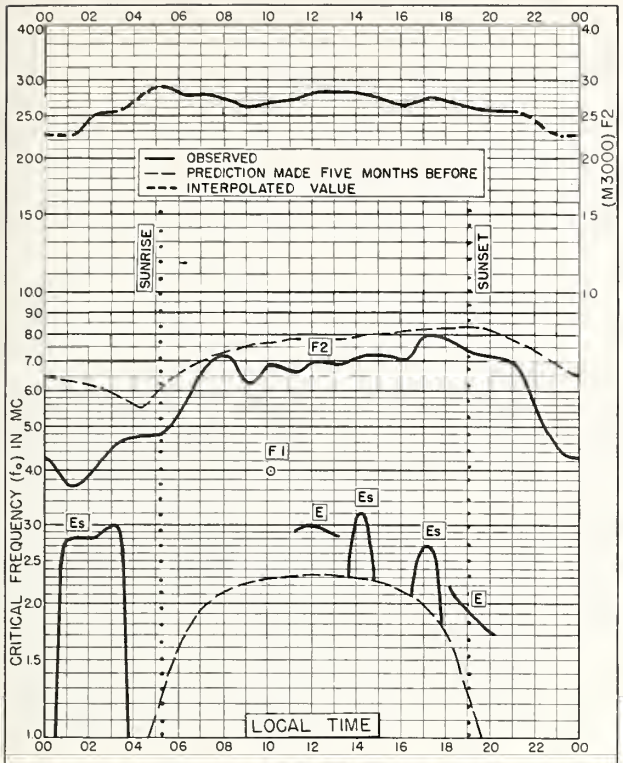


Fig. 135. LITTLE AMERICA
78.2°S, 162.2°W MARCH 1958

NBS 503

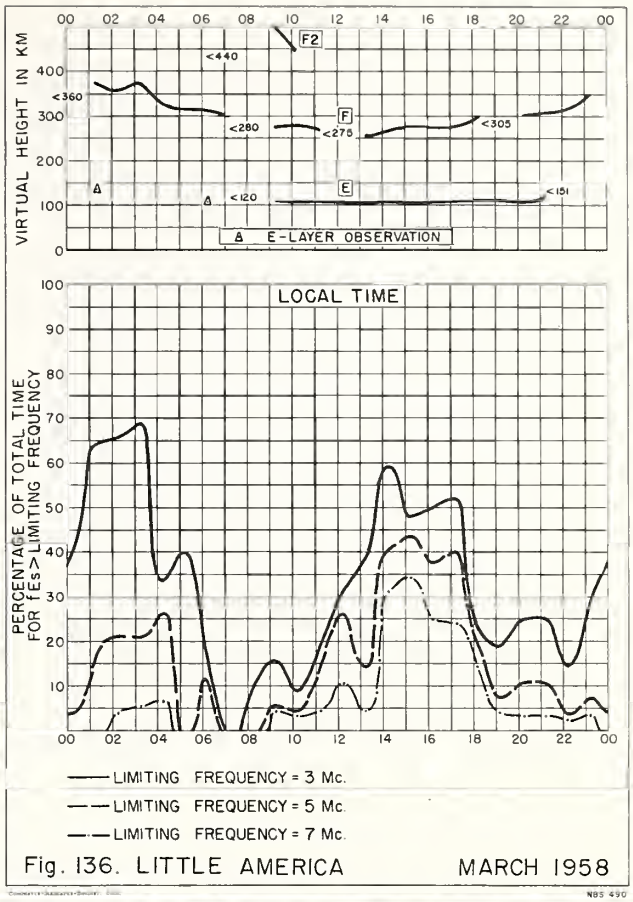


Fig. 136. LITTLE AMERICA MARCH 1958

NBS 490

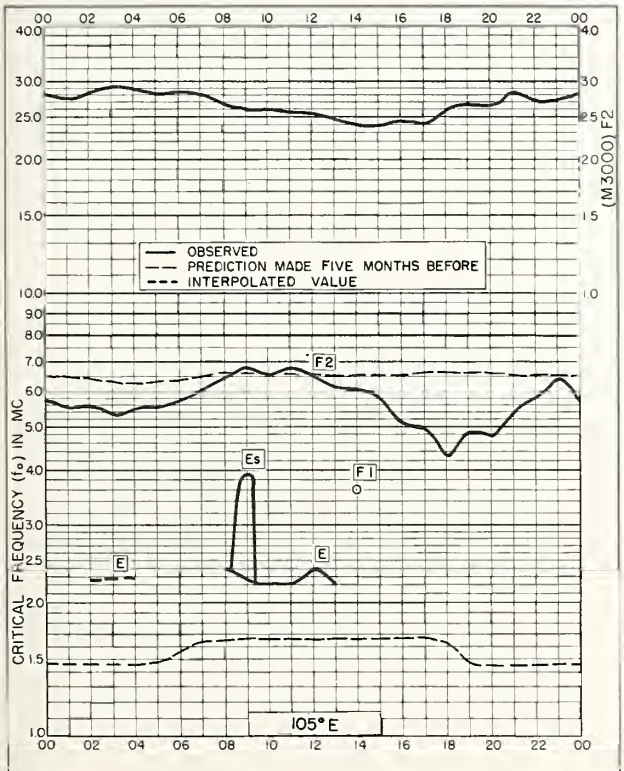


Fig. 137. POLE STATION
90.0°S MARCH 1958

NBS 503

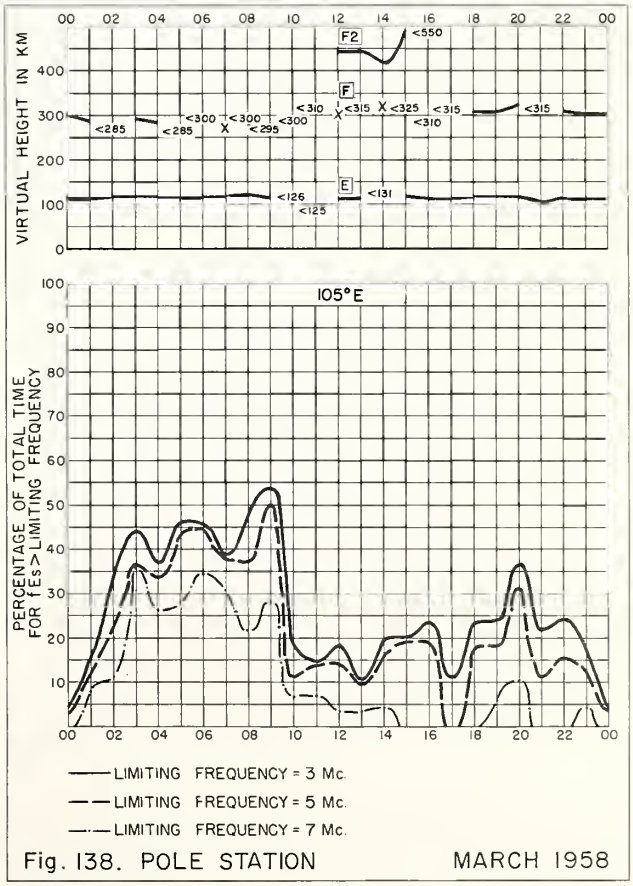


Fig. 138. POLE STATION MARCH 1958

NBS 490

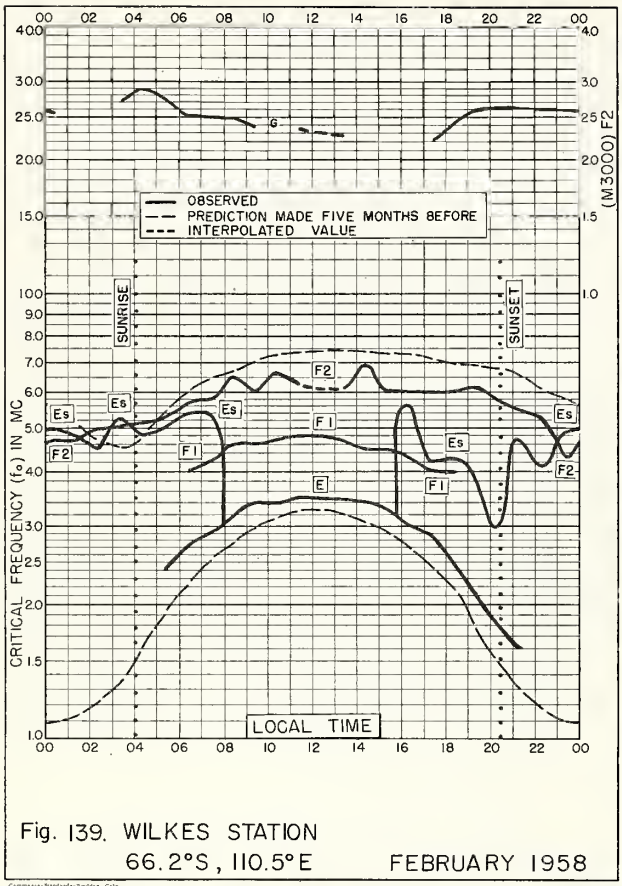


Fig. 139. WILKES STATION
66.2°S, 110.5°E FEBRUARY 1958

NBS 503

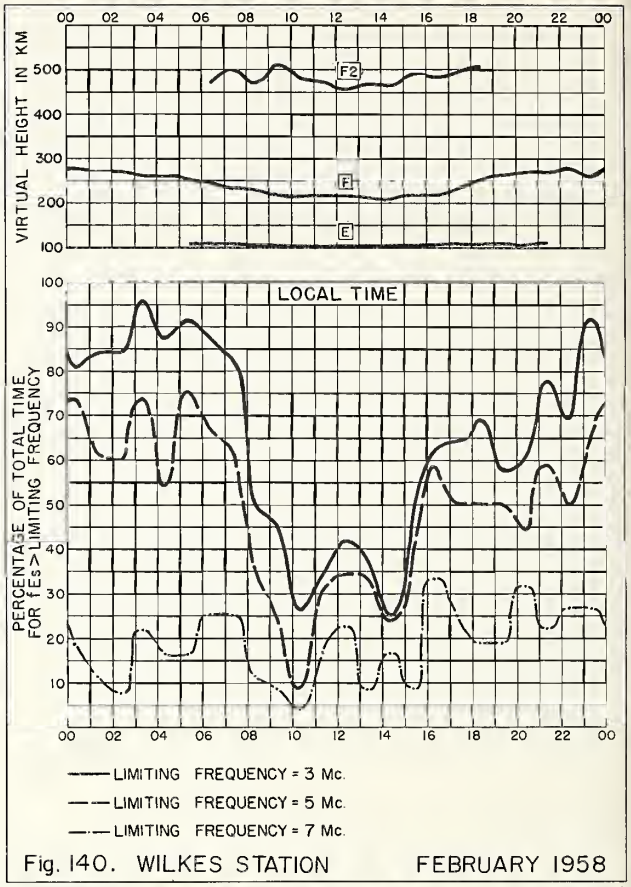


Fig. 140. WILKES STATION FEBRUARY 1958

NBS 490

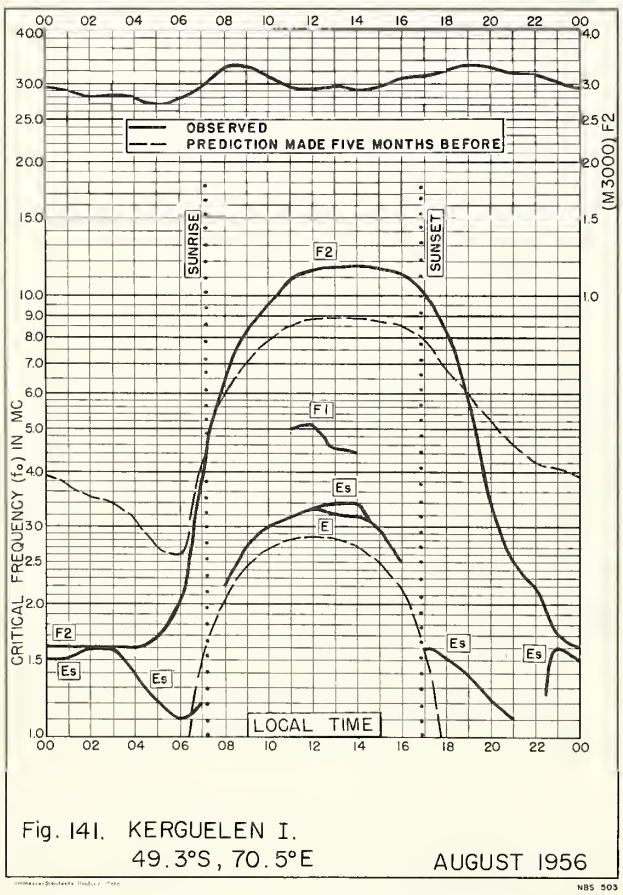


Fig. 141. KERGUELEN I.
49.3°S, 70.5°E AUGUST 1956

NBS 503

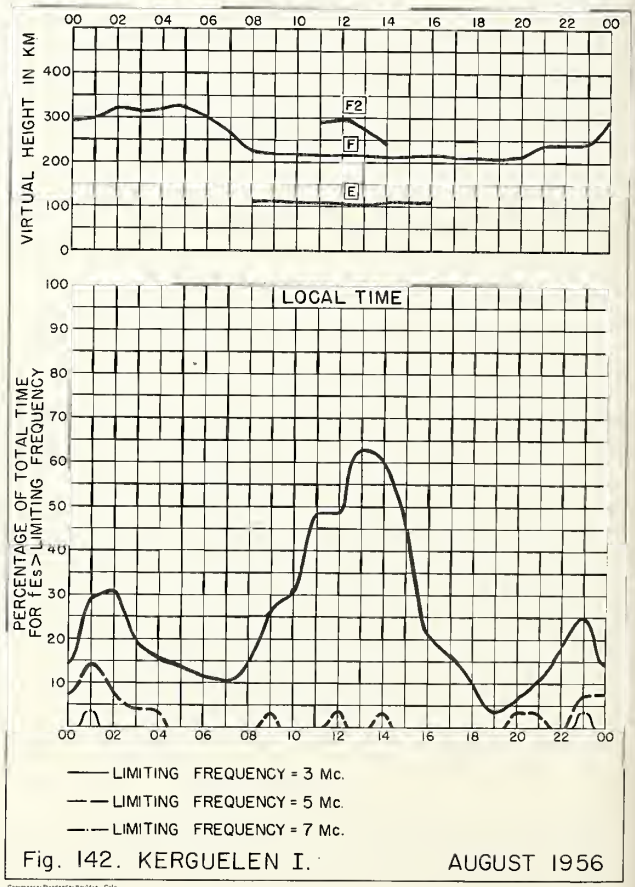


Fig. 142. KERGUELEN I. AUGUST 1956

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