PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
JUNE 1960

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

CRPL-F190
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
30 June 1960

SOLAR - GEOPHYSICAL DATA

CONTENTS

INTRODUCTION

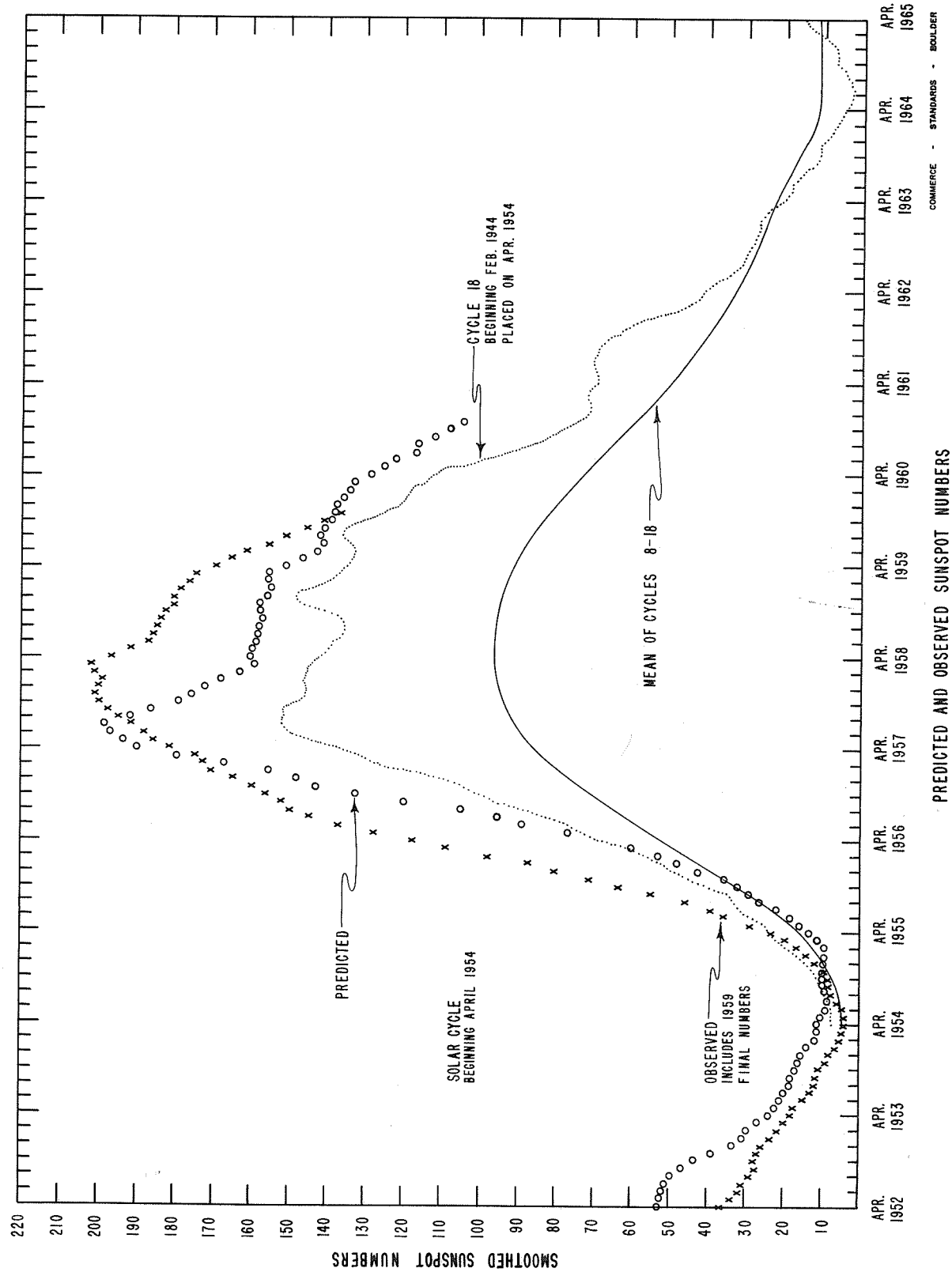
The descriptive text is published quarterly or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F189 Part B issued May 1960.

DAILY SOLAR INDICES

Apr. 1960	American Relative Sunspot Numbers R_A'
1	109
2	132
3	160
4	161
5	177
6	112
7	117
8	109
9	96
10	103
11	132
12	126
13	134
14	115
15	130
16	111
17	110
18	98
19	109
20	101
21	98
22	94
23	94
24	102
25	86
26	89
27	71
28	83
29	89
30	78
Mean:	110.9

May 1960	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	97	152
2	97	160
3	102	158
4	96	156
5	87	152
6	93	156
7	133	162
8	143	168
9	142	170
10	149	170
11	147	180
12	127	179
13	135	170
14	105	162
15	85	162
16	101	155
17	114	151
18	106	153
19	108	153
20	115	160
21	100	164
22	112	164
23	125	163
24	147	164
25	148	163
26	130	158
27	148	166
28	142	171
29	138	170
30	121	170
31	111	159
Mean:	119.5	162.6

COMMERCE - STANDARDS - BOULDER



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS

MAY 1960

CMP May 1960	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values				CMP Values		
				Area	Int.	History, Age		Area	Count	History
02.8	N16	5647	*	1500	2	ℓ — ℓ	3			
04.0	S10	5648	5620	1600	2	ℓ \ ℓ	3			
05.2	N14	5649	New	2100	2.5	ℓ \ ℓ	1	100	1	ℓ \ ℓ
05.5	N29	5651	5621	1200	1.5	ℓ ⌝\ d	4			
06.1	S21	5650	5622	1300	1.5	ℓ — ℓ	2			
06.9	N10	5652	New	4000	3	ℓ — ℓ	1	490	16	ℓ / ℓ
07.6	S11	5653	5625	4000	3	ℓ — ℓ	2	440	1	ℓ — ℓ
08.2	N29	5654	New	2000	3	ℓ — ℓ	1	440	6	ℓ / ℓ
09.3	S13	5655	New	3200	2.5	ℓ — ℓ	1	100	2	b ⋀ d
10.9	N10	5656	5627	3800	2	ℓ — ℓ	2			
13.0	S10	5657	5630	4500	2.5	ℓ — ℓ	3	180	2	ℓ — ℓ
13.7	N32	5659	5628	800	2.5	ℓ — ℓ	3			
14.2	N14	5658	5631	2900	2.5	ℓ — ℓ	7	60	1	b ⌜ ℓ
16.5	N09	5660	5633	5300	2.5	ℓ \ ℓ	2	200	6	ℓ ⌝\ d
16.7	S19	5666	5632	300	1.5	ℓ ⌝\ d	4			
18.3	N26	5662	5634	2300	2.5	ℓ — ℓ	3			
18.4	N06	5661	5636	1700	2	ℓ — ℓ	2	210	2	ℓ — ℓ
19.9	S16	5663	New**	7500	3	ℓ — ℓ	1	1720	16	ℓ — ℓ
21.2	N21	5664	New	1300	2	ℓ — ℓ	1	70	3	ℓ \ d
21.8	N01	5668	New	600	2	b ⌜ ℓ	1			
22.6	N18	5671	New	800	2.5	b / ℓ	1	50	2	b / ℓ
22.9	N00	5673	New	200	2	b / ℓ	1	40	2	b / ℓ
23.1	S15	5667	5641	1800	2	ℓ \ ℓ	6			
24.7	N12	5669	5642	4000	3	ℓ / ℓ	3	720	30	ℓ / ℓ
26.4	N09	5672	5644	800	3	ℓ / ℓ	7	270	9	b / ℓ
27.1	S26	5674	5646	1300	1.5	ℓ ⌝\ d	6			
27.5	S08	5670	5645	5800	3	ℓ — ℓ	3	110	6	ℓ ⌝\ d
30.2	N14	5675	5647	400	1	ℓ ⌝\ d	4			
31.3	N04	5676	New	400	2	ℓ — ℓ	1	10	1	ℓ ⌝\ d

COMMERCE - STANDARDS - BOULDER

* 5619, 5623.
** in position of 5635.

PROVISIONAL CORONAL LINE EMISSION INDICES

MAY 1960

CMP May 1960	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1	G_6	G_1	R_6	R_1
1	55	75	16a	29a	53	84	7a	9a	x	x	x	x	x	x	x	x
2	x	x	x	x	x	x	x	x	36	43	15	21	32	36	17	20
3	x	x	x	x	x	x	x	x	40	54	9	10	40	51	8	12
4	x	x	x	x	x	x	x	x	43	67	11	18	31	44	15	22
5	x	x	x	x	x	x	x	x	x	x	x	x	19a	24a	x	x
6	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
7	75	96	x	x	59*	116	x	x	35a	59a	11a	16a	50a	73a	12a	20a
8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	x	x	x	x	x	x	x	x	47	83	x	x	54	80	x	x
10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
11	x	x	x	x	x	x	x	x	42a	55a	x	x	36a	43a	x	x
12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	24	48	8	10	28	50	13	26
14	x	x	x	x	x	x	x	x	26	35	x	x	45	56	x	x
15	x	x	x	x	x	x	x	x	27	39	14	18	42	54	18	30
16	57	82	27	42	40	50	9	13	29	42	9	11	56*	81	15	28
17	x	x	23	38	53	67	9	12	22a	36a	13a	14a	55a	66a	14a	15a
18	x	x	22	33	x	x	21	30	39	74	14	28	49	62	13	21
19	x	x	x	x	23a	28a	x	x	35a	42a	19a	30a	48a	70a	29a	38a
20	x	x	x	x	x	x	x	x	x	x	9a	12a	x	x	10	18
21	x	x	10	17	x	x	9	13	39	56	16	29	40	64	23	50
22	20	30	x	x	21	30	x	x	x	x	x	x	x	x	x	x
23	42	60	13a	23a	39	58	15a	20a	x	x	x	x	x	x	x	x
24	x	x	x	x	x	x	x	x	21a	34a	27a	40a	44a	62a	27a	35a
25	x	x	14a	22a	28a	34a	7a	9a	36	46	13	23	68	92	14	18
26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27	30	58	8	13	40	73	9	12	57	83	x	x	36	77	x	x
28	16	20	11	14	32	48	14	28	48	61	9	11	25	32	6	10
29	21	31	16	26	32	39	15	22	30	40	x	x	21	24	x	x
30	22	26	14	25	28	31	10	16	x	x	x	x	x	x	x	x
31	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

COMMERCE - STANDARDS - BOULDER

x - no observations. a - index computed from low weight data. * - yellow line observed.

Note: These coronal line intensities, expressed in millionths of equivalent angstroms are believed to be correct to ± 10 per cent, probable error, according to the calibrations of February-March 1960. All intensities from the Climax and Sacramento Peak Observatories during the years 1956-1959, inclusive, if multiplied by the factor 0.60, will be expressed in the same scale to a somewhat lower precision.

Intensities prior to 1956 cannot be compared precisely with those obtained later because of changes in observing and reduction techniques. They may be converted roughly to millionths of equivalent angstroms by use of the table given by Billings and Varsavsky, 1955, Zs. f. Ap. 38, 160.

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
HUANCAYO	01	1558	1610	1602	N13	W45	5642	12	1	2	1605	1.30	2.00	2.40		
SAC PEAK	01	1742	1804	1754	N11	W60	5642	22	1	2		2.12			20	
LOCKHEED	01	1745	1820	1755	N12	W60	5642	35	1	2	1755	2.10			20	
ARCETRI	02	0821 E	0854 D		S04	W28	5645	33 D	1	3	0830	3.00	3.40			
ARCETRI	02	0832 E	0844 D		S15	E90	5655	12 D	1	3	0832	.70	3.20			
ARCETRI	02	0854 E	0912 D		S11	E60	5653	18 D	1	3						
ARCETRI	02	0902 E	0914 D		S15	E90	5655	12 D	1	3	0902	.70	3.20			
MCMATH	02	1311 E	1321 D		S08	E90	5655	10 D	1	1						
HUANCAYO	02	1422	1440	1425	S16	E90	5655	18	1	2	1432	1.00		3.40		G-SWF
MCMATH	02	1859	1950 D	1926	N18	W70	5642	51 D	1	2	1926		2.00			G-SWF
MCMATH	02	1932	2000	1941	S08	E53	5653	28	1	2	1941		3.00			
HAWAII	02	1934	1954	1940	S05	E53	5653	20	1+	3	1940	2.50				
HUANCAYO	02	1949 E	2001	1949	S12	E49	5650	12 D	1	2	1949	2.60	4.10	2.10		
HAWAII	02	2136	2152		N18	E30	5649	16	1	1	2144	1.30				
WENDEL	03	0732	0801		S14	E49	5653	29	1				4.00			
ONDREJOV	03	0738	0754	0741	S15	E50	5653	16	1	3	0741			2.50		
WENDEL	03	0803	0825 D		S07	E45	5653	22 D	1				4.00			
ONDREJOV	03	0806	0833		S09	E46	5653	27	2	2	0811			2.80		
ARCETRI	03	0807 E	0823 D		S09	E43	5653	16 D	1+	2						
WENDEL	03	0920	0936		N29	E61	5654	16	1				4.00			
ARCETRI	03	0924 E	0935 D		N32	E65	5654	11 D	1	2						
ONDREJOV	03	1520	1533	1522	S03	W44	5645	13	1	3	1522			2.50		
WENDEL	03	1523	1546 D		S04	W44	5645	23 D	1+				5.00			
MCMATH	03	2010	2120		N16	W90	5642	70	1	1						
WENDEL	04	0536 E	0558 D		N14	E13	5649	22 D	1				3.00			
ONDREJOV	04	0822 E	0829		S08	E31	5653	7 D	1	3	0823			2.30		
ONDREJOV	04	0850	0912		S10	E32	5653	22	1+	3	0907			2.10		
WENDEL	04	0852 E	0915 D		S07	E32	5653	23 D	1+				7.00			
NEDERHORST	04	1015	1105 D		N12	W90	5642	50 D	3	3						S-SWF
MCMATH	04	1850	1955	1900	S10	E32	5653	65	1	2	1900		2.20			
WENDEL	05	0542	0623 D		S10	E27	5653	41 D	2				12.00			
ONDREJOV	05	0544 E	0622		S08	E27	5653	38 D	1	3	0559			2.90		
ONDREJOV	05	0615 E	0801 D		N17	W02	5649	106 D	1+	3	0644			2.40		
WENDEL	05	0631	0810		N12	W01	5649	99	2				10.00			
ONDREJOV	05	0743	0759		N11	E15	5652	16	1	3	0749			2.20		
WENDEL	05	0744 E	0759		N11	E14	5652	15 D	1				3.00			
CAPRI S	05	1141 E	1206 D		N12	E12	5652	25 D	1	2	1147	2.00	2.10			
MCMATH	05	1524	1615	1540	S09	E20	5653	51	1	3	1540		2.00			
LOCKHEED	05	1527	1625	1536	S10	E20	5653	58	1	2	1536	2.00			20	
ONDREJOV	05	1537 E	1610		S08	E21	5653	33 D	2	2	1540			2.70		
WENDEL	06	0841 E	0845 D		N11	E01	5652	4 D	1				3.00			
SAC PEAK	06	1404	2020	1446	S10	E08	5653	376	3+	2		20.77			30	
NEDERHORST	06	1413	1600 D		S08	E08	5653	107 D	3	3						
ONDREJOV	06	1423 E	1711 D		S09	E10	5653	168 D	3	3	1435			4.70		
LOCKHEED	06	1440 E	1915	1515	S10	E08	5653	275 D	2+	2	1515	12.20			40	
R O HERST	06	1442 E	1554 D	1450	S08	E08	5653	72 D	2	1	1450	5.50	5.50			Slow S-SWF
MCMATH	06	1452 E	1632 D		S09	E07	5653	100 D	3	3	1534		12.50			
ARCETRI	06	1515 E	1651 D		S08	E06	5653	96 D	2+	3	1615	7.40	7.40			

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
HUANCAYO	MAY 06	1627 E	1735		S09	E08	5653	68 D	1+	2	1635	6.80	7.00	2.00		
HAWAII	06	1744 E	2008	1846	S05	E03	5653	144 D	1	3	1846	1.10				
SAC PEAK	06	2034	2126	2056	N15	W23	5649	52	2-	2		7.37			23	
LOCKHEED	06	2037	2123	2054	N15	W23	5649	46	1	2	2054	2.00			20	
HAWAII	06	2050	2122	2100	N11	W23	5649	32	1+	3	2100	2.60				
LOCKHEED	07	0050	0100	0053	S09	E90	5657	10	1	2	0053	2.10			10	
WENDEL	07	0634	0649		S07	W07	5653	15	1				3.00			
HAWAII	07	2244	2308	2248	S10	E20	5655	24	1	3	2248	1.10				
CAPRI S	08	0817	0827 D		S11	E72	5657	10 D	1	2	0821	1.00	3.00			
WENDEL	08	0908	0929		N18	E70	5658	21	1				3.00			
WENDEL	08	0913	0929 D		S11	E70	5657	16 D	1				3.00			
ONDREJOV	08	1013	1019 D	1013	N13	W25	5652	6 D	1	3	1013			3.00		
LOCKHEED	09	0030	0110	0044	S11	E04	5655	40	1	2	0044	2.10			20	
WENDEL	09	0704 E	1021 D	0734	S10	E55	5657	197 D	3				21.00			
CAPRI S	09	0801 E	1015 D		S11	E52	5657	134 D	3+	3	0813	18.00	29.00			
ARCETRI	09	0808 E	1002 D		S13	E50	5657	114 D	2+	3	0838	6.60	9.90			
ARCETRI	09	0838 E	0900 D		S11	E59	5657	22 D	1	3	0838	1.70	2.90			
ARCETRI	09	0921 E	0931 D		S13	E51	5657	10 D	3	3	0931	8.30	13.80			
WENDEL	09	0822	0848 D		N29	W15	5654	26 D	1+				6.00			
ARCETRI	09	0824 E	0900 D		N28	W18	5654	36 D	1	3	0838	1.70	2.00			
CAPRI S	09	1121 E	1148 D		N11	W36	5652	27 D	1	3	1123	3.20	4.00			
HAWAII	09	1916	1942	1918	N27	W27	5654	26	1	2	1926	1.60				
HUANCAYO	09	2018 E	2032	2018	N29	W23	5654	14 D	1	2	2020	3.30	4.20	2.10		
LOCKHEED	09	2310	2350	2315	N30	W25	5654	40	1	2	2331	1.90			40	Slow S-SWF
LOCKHEED	09	2310	2350	2331	N30	W25	5654	40	1	2	2331	1.90			40	
HAWAII	09	2350 E	0012		N09	E16	5656	22 D	1	2	2352	1.00				
LOCKHEED	09	2355	0005	2359	N14	E90	5660	10	1	2	2359	2.00			20	
ONDREJOV	10	0715	0726		S06	E45	5657	11	1	1	0719			1.80		
WENDEL	10	1454 E	1540		N08	E10	5656	46 D	1				5.00			
WENDEL	10	1552	1608		N30	W32	5654	16	1				3.00			
SAC PEAK	10	1810	1850	1812	N24	W30	5654	40	1	3		2.64			18	
HUANCAYO	10	2002 E	2110	2013	N26	W50	5654	68 D	2	2	2013	3.20	5.70	3.70		
HUANCAYO	10	2118 E	2159	2135	N26	W50	5654	41 D	1	2				3.50		
HUANCAYO	10	2136 E	2158	2143	N27	W37	5654	22 D	1	2	2146	.30	.40	3.90		
WENDEL	11	0718	0736	0720	N30	W43	5654	18	1				5.00			
ONDREJOV	11	0723	0734	0724	N30	W45	5654	11	1+	3	0724			1.90		
WENDEL	11	0920	0933		N30	W44	5654	13	1				3.00			
ARCETRI	11	0933 E	0946 D		N30	W41	5654	13 D	1	3	0933	1.70	4.40			
WENDEL	11	0957	1014 D		S10	E26	5657	17 D	1+				6.00			
ARCETRI	11	0958 E	1011 D		S13	E27	5657	13 D	1	3						
CAPRI S	11	0959 E	1015 D		S12	E27	5657	16 D	1	3	1005	3.00	3.40			
ONDREJOV	11	1032	1040 D		N31	W41	5654	8 D	1	1	1039			1.90		
CAPRI S	11	1338	1430 D		N30	W36	5654	52 D	2	3	1412	4.00	6.40			
SAC PEAK	11	1358	1436	1410	N30	W40	5654	38	1	3		2.14			18	Slow S-SWF
ONDREJOV	11	1411 E	1420		N32	W37	5654	9 D	1+	3	1415			3.00		
HAWAII	11	1914 E	1942		N23	W55	5654	28 D	1	2	1922	1.30				
HAWAII	11	2050	2152	2054	N07	W75	5652	62	2	2	2122	2.70				
LOCKHEED	11	2050	2215	2057	N12	W71	5652	85	1	3	2120	3.20			30	S-SWF

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
LOCKHEED	11	2050	2215	2120	N12	W71	5652	85	1	3	2120	3.20			30	
ONDREJOV	12	0657 E	0704		N27	W48	5654	7 D	1	3	0658			3.50		
ONDREJOV	12	0659	0737	0703	N13	W77	5652	38	1	2	0603			3.60		
CAPRI S	12	0729	0747 D		N32	W49	5654	18 D	1	3	0737	2.50	4.50			
ONDREJOV	12	0729	0749		N31	W48	5654	20	1	3	0731			2.70		
ONDREJOV	12	0754	0818 D		N32	W55	5654	24 D	1	3	0756			2.20		
WENDEL	12	0817 E	0849 D		N12	W82	5652	32 D	1+				7.00			
ONDREJOV	12	0819 E	0927		N11	W83	5652	68 D	1+	3	0825			3.60		
CAPRI S	12	0820 E	0855 D		N16	W85	5652	35 D	1	2	0825	2.00				
WENDEL	12	0852 E	0933		N12	W82	5652	41 D	1+				7.00			
ONDREJOV	12	0929 E	0940 D		N31	W56	5654	11 D	1	3	0933			2.50		
ONDREJOV	12	1002 E	1017		S12	W50	5657	15 D	1	3	1004			2.10		
WENDEL	12	1002	1020		S16	W50	5657	18	1				4.00			
WENDEL	12	1216 E	1234 D		N12	W84	5652	18 D	1+				7.00			
ARCETRI	12	1310 E	1515 D		N29	W60	5654	125 D	1	3	1448	.70	3.10			
CAPRI S	12	1342 E	1611 D		N30	W60	5654	149 D	1	3	1420	1.00	2.80			
ONDREJOV	12	1351 E	1533		N30	W57	5654	102 D	2	2	1403			3.00		
NEDERHORST	12	1400	1420		N30	W54	5654	20	2	1						Slow S-SWF
ARCETRI	12	1404 E	1426 D		N30	W60	5654	22 D	1	3	1426	.70	3.10			
WENDEL	12	1417 E	1444 D		N29	W59	5654	27 D	1+				5.00			
ARCETRI	12	1506 E	1514 D		N32	W66	5654	8 D	1	3	1514	.80	2.00			
HUANCAYO	12	1929	1942	1933	N25	W58	5654	13	1	2	1933	1.80	3.90	2.50		
ONDREJOV	13	0439 E	0456		N29	W65	5654	17 D	1	2	0443			2.50		
WENDEL	13	0522 E	0545 D		S13	E85	5663	23 D	2				13.00			
ONDREJOV	13	0522 E	0733		N30	W64	5654	131 D	3+	2	0530			15.00		
WENDEL	13	0522 E	0735 D	0550 U	N29	W65	5654	133 D	3				20.00			S-SWF
CAPRI S	13	0613 E	0725 D		N29	W68	5654	72 D	1	2	0618	1.80	5.50			
WENDEL	13	0734	0759 D		S13	E84	5663	25 D	1+				7.00			
ONDREJOV	13	0738	0754		S09	E80	5663	16	1+	3	0741			5.60		
ARCETRI	13	0922 E	0934 D		S10	E87	5663	12 D	1+	2						
WENDEL	13	0922	0936 D		S10	E83	5663	14 D	2				9.00			
WENDEL	13	1035	1102		N15	E20	5658	27	1				3.00			
HUANCAYO	13	2139	2147	2143	N27	W78	5654	8	2	2	2141	.50	3.30	6.00		
HAWAII	13	2214 E	2220 D		N17	E09	5658	6 D	1	2	2214	1.00				
WENDEL	14	0718	0728 D		N30	W86	5654	10 D	1+				6.00			
WENDEL	14	0748 E	0817 D		N30	W87	5654	29 D	1				4.00			
ARCETRI	14	0815 E	0830 D		N29	W85	5654	15 D	1	3	0826	1.30	5.10			
ARCETRI	14	0852 E	0909 D		N29	W85	5654	17 D	2	3	0909	2.30	9.00			
WENDEL	14	0904 E	0948 D		N30	W88	5654	44 D	1				3.00			
HUANCAYO	14	1434	1442	1436	S09	E68	5663	8	1	2	1436	.40	1.10	5.40		
HUANCAYO	14	1517	1529	1522	N29	W90	5654	12	1	2	1522			3.60		
SAC PEAK	14	1818	1834	1826	S09	E62	5663	16	1	2		2.60			18	
WENDEL	15	0529 E	0605 D		N15	E28	5660	36 D	1				3.00			
WENDEL	15	0604 E	0633 D		N18	E85	5664	29 D	1				3.00			
WENDEL	15	0643	0721		S11	E56	5663	38	2				12.00			
CAPRI S	15	0650	0716 D		S10	E53	5663	26 D	2	3	0656	3.00	5.40			
ONDREJOV	15	0652	0715		S09	E55	5663	23	1+	3	0654			5.00		
ONDREJOV	15	1250 E	1251 D		N18	E21	5660	1 D	1	1						
WENDEL	15	1350 E	1445 D		N16	E20	5660	55 D	2+				18.00			

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MCMATH	15	1412	1530	1425	N16	E19	5660	78	2	3	1425		5.50			
SAC PEAK	15	1432 E	1522 U	1432 U	N16	E19	5660	50 D	2	2		6.34			14	
SAC PEAK	15	1516 D	1534	1522	S11	E51	5663	18 D	1+	2		4.01			28	
CAPRI S	15	1518	1545 D		S12	E50	5663	27 D	2	2	1522	4.00	6.20			
MCMATH	15	1518	1618	1521	S12	E50	5663	60	1	2	1521		2.00			S-SWF
ONDREJOV	15	1519 E	1535		S10	E50	5663	16 D	2	3	1524			6.00		
HUANCAYO	15	1530 E	1546	1538	S11	E52	5663	16 D	1	2	1540	1.00	1.70	3.40		
CAPRI S	16	1306	1341 D		N15	E07	5660	35 D	1	3	1329	3.00	3.10			
ONDREJOV	16	1320 E	1345 D		N17	E05	5660	25 D	1+	1	1322			2.60		
WENDEL	16	1325 E	1352 D		N16	E11	5660	27 D	1				4.00			
WENDEL	16	1458 E	1507 D		N23	E36	5662	9 D	1				3.00			
SAC PEAK	16	1500	1512	1504	S10	E40	5663	12	1	2		2.58			18	
ONDREJOV	16	1500 E	1514		S10	E39	5663	14 D	1	2	1503			2.20		
CAPRI S	16	1503 E	1515 D		S08	E43	5663	12 D	1	1	1505	1.80	2.50			
WENDEL	16	1621	1638 D		N16	E09	5660	17 D	1				4.00			
HUANCAYO	16	1622	1630	1624	N17	E09	5660	8	1	2	1623	.90	1.00	4.60		
ONDREJOV	16	1623 E	1633		N17	E09	5660	10 D	1	3	1624			2.90		
SAC PEAK	16	1900	1950	1914	N14	E01	5660	50	2	1		8.31			20	
LOCKHEED	16	1900 U	2000	1915	N15	E00	5660	60 U	1	1	1915	3.60			20	G-SWF
HAWAII	16	1902	1938 D	1911	N15	W01	5660	36 D	2	2	1911	4.20				
HUANCAYO	16	1903 E	1944	1903	N14	W06	5660	41 D	1+	2	1906	6.80	7.20	2.50		
WENDEL	17	1135 E	1155 D		N13	W37	5658	20 D	1+				5.00			
WENDEL	17	1345	1401 D		S13	E38	5663	16 D	1				3.00			
WENDEL	17	1417 E	1435 D		N18	W07	5660	18 D	1				3.00			
LOCKHEED	21	2008	2220	2040	N13	E47	5669	132	1	2	2040	2.60			20	
LOCKHEED	21	2008	2220	2105	N13	E47	5669	132	1	2	2040	2.60			20	Slow S-SWF
SAC PEAK	21	2020	2216	2038	N11	E48	5669	116	1	2		2.37			17	
HAWAII	21	2028	2132 D	2052	N17	E46	5669	64 D	1	2	2052	1.40				
HUANCAYO	21	2042 E	2105 D	2049	S33	E41	□	23 D	1+	2	2040	6.80	11.20	1.90		
ONDREJOV	22	0543 E	0553		S13	W22	5663	10 D	1	3	0545			3.60		
CAPRI S	23	1317	1416 D		N13	E26	5669	59 D	1+	2	1335	4.00	4.80			
ONDREJOV	23	1322 E	1407		N12	W28	5664	45 D	1+	3	1323			3.30		
NEDERHORST	23	1325	1335		N11	E15	5669	10	2	2						
SAC PEAK	23	1318	1430	1326	N14	E27	5669	72	1+	2		3.78			18	
LOCKHEED	23	1655	1815	1704	N13	E21	5669	80	1	2	1721	2.50			20	
LOCKHEED	23	1655	1815	1721	N13	E21	5669	80	1	2	1721	2.50			20	
LOCKHEED	23	1655	1815	1733	N13	E21	5669	80	1	2	1721	2.50			20	
HAWAII	23	2034 E	2050		N14	E18	5669	16 D	1	2	2034	1.40				
LOCKHEED	24	0100	0235 D	0150	N03	E53	5672	95 D	1	1	0150	2.00			20	
ONDREJOV	24	0647 E	0701	0653	N16	E11	5669	14 D	1	3	0653			2.60		
ONDREJOV	24	0824 E	0936 D	0851	N02	E50	5670	72 D	1+	3	0851			3.10		
ARCETRI	24	0825 E	0909 D		N01	E49	5670	44 D	1	2	0841	1.40	2.10			
CAPRI S	24	0845 E	0917 D		N03	E48	5670	32 D	1	3	0902	1.50	2.50			
WENDEL	24	0846 E	0910 D		N02	E49	5670	24 D	1+				5.00			
ONDREJOV	24	1126 E	1148		S01	E47	5670	22 D	1	2	1128			2.10		
WENDEL	24	1135 E	1152 D		N02	E46	5670	17 D	1				3.00			
WENDEL	24	1356 E	1410 D		N11	E11	5669	14 D	1				3.00			

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
ONDREJOV	25	0454 E	0520 D		N14	W00	5669	26 D	1	3	0503			2.70		
ONDREJOV	25	1246	1257 D	1250	N15	W00	5669	11 D	1	3	1250			3.20		
WENDEL	25	1431	1451		N18	W38	5671	20	1				3.00			
SAC PEAK	25	1540	1552	1542	N18	W05	5669	12	1	2		2.18			15	
SAC PEAK	25	1752	1818	1756	N15	W07	5669	26	1	2		2.08			18	S-SWF
HAWAII	25	1826 E	1934		N14	W09	5669	68 D	1	2	1830	1.50				
WENDEL	26	0818	0958 D		N16	W15	5669	100 D	2+				17.00			
ARCETRI	26	0823	1001 D		N12	W16	5669	98 D	2	3						Slow S-SWF
CAPRI S	26	0855	1009		N12	W14	5669	74	2+	3	0938	7.00	8.00			
R O HERST	26	0900	1010	0922	N14	W16	5669	70	1+	2	0925	3.10	3.30	3.00	110	
ONDREJOV	26	1636	1700		N19	W52	5671	14	1	2	1646			2.70		
ONDREJOV	26	1705	1714 D		N19	E52	5675	9 D	1+	3	1706			2.70		
HAWAII	26	1822	1830 D	1824	N19	E90	5678	8 D	1	2	1824	.20				
LOCKHEED	26	1826	1915	1838	N14	W16	5669	49	1	2	1838	2.20			30	
HAWAII	26	2020	2030	2024	N17	E90	5678	10	1	3	2024	.30				
HAWAII	27	0002 E	0012	0002	N18	E90	5678	10 D	1	2	0002	.50				
CAPRI S	27	0541 E	0602 D		N15	E74	5678	21 D	1	3	0543	1.50	4.70			
CAPRI S	27	1414	1457 D		N15	W26	5669	43 D	1	3	1429	4.00	4.80			
ONDREJOV	27	1417 E	1510 D		N17	W24	5669	53 D	1+	1	1443			2.50		
HUANCAYO	27	1418 E	1507	1427	N15	W26	5669	49 D	1	2	1436	2.20	2.50	2.50		S-SWF
MCMATH	27	1421 E	1500 D		N15	W26	5669	39 D	1	1	1438		2.00			
WENDEL	27	1424 E	1507 D		N06	W26	5669	43 D	1+				6.00			
CAPRI S	27	1510 E	1535 D		N15	E70	5678	25 D	1	3	1520	1.80	5.00			
HUANCAYO	27	1511 E	1537	1511	N18	E75	5678	26 D	1	2	1511	1.30	4.20	2.60		
ONDREJOV	27	1519 E	1527 D		N10	E60	5678	8 D	1	1	1527			2.30		
ONDREJOV	27	1725	1753 D		N18	W68	5671	28 D	1+	3	1735			2.60		
HUANCAYO	27	1728	1808 D	1728	N20	W66	5671	40 D	1+	2	1730	1.40	3.40	4.60		
HAWAII	27	1740 E	1752 D		N12	W70	5671	12 D	1	2	1740	1.20				
HAWAII	27	1848	1930	1858	N13	W32	5669	42	1	3	1858	1.40				
MCMATH	27	1855 E	1920		N15	W30	5669	25 D	1	2	1900		2.00			
LOCKHEED	27	2125	2207	2131	N16	W30	5669	42	1+	2	2131	3.50			30	
HAWAII	27	2126	2216	2130	N14	W32	5669	50	2	3	2130	3.60				S-SWF
HUANCAYO	27	2129	2146	2130	N16	W29	5669	17	1+	2	2131	4.10	4.80	5.90		
HUANCAYO	27	2157 E	2205 D	2158	N15	E68	5678	8 D	1	2	2205	1.10	3.70	2.10		
LOCKHEED	28	0221	0240 D	0230	N16	W31	5669	19 D	1	1	0230	2.00			20	
WENDEL	28	1357	1500 D		N14	E58	5678	63 D	2				9.00			
SAC PEAK	28	1358	1506	1426	N14	E57	5678	68	1+	1		4.45			22	
CAPRI S	28	1404	1513 D		N12	E54	5678	69 D	2	1	1428	5.00	10.00			S-SWF
LOCKHEED	28	1410	1510	1417	N15	E58	5678	60	1	2	1417	3.10			30	
LOCKHEED	28	1410	1510	1430	N15	E58	5678	60	1	2	1417	3.10			30	
ONDREJOV	28	1416 E	1446 D		N13	E55	5678	30 D	1+	3	1417			3.00		
SAC PEAK	28	2148	2220	2156	N03	W13	5670	32	1	1		2.26			20	
WENDEL	29	0725 E	0748 D	0742	N13	E49	5678	23 D	1				4.00			
ONDREJOV	29	0735	0753		N11	E43	5678	18	1	3	0745			2.70		S-SWF
CAPRI S	29	0737	0753 D	0741	N10	E45	5678	16 D	1+	3	0742	1.50	2.10		230	
CAPRI S	29	1002 E	1024		N12	E43	5678	22 D	1	3	1006	1.50	2.10			
ONDREJOV	29	1004 E	1025		N14	E45	5678	21 D	1	3	1005			2.70		
HUANCAYO	29	1549 E	1604	1550	N15	E47	5678	15 D	1	2	1552	1.60	2.50	2.80		
CAPRI S	29	1550 E	1605 D		N12	E46	5678	15 D	1	3	1557	1.50	2.20			

SOLAR FLARES

MAY 1960

OBSERVATORY	DATE MAY 1960	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
SAC PEAK	29	1840	1858	1844	N14	E40	5678	18	1	1		2.72			16	
HAWAII	30	1802	1814 D	1803	N17	E25	5678	12 D	1	2	1803	1.20				S-SWF
HAWAII	30	2204	2210 D	2206	N32	E63	5680	6 D	1	3	2206	1.00				
CAPRI S	31	0655 E	0746 D		N32	E63	5680	51 D	1	3	0713	1.00	2.60			
WENDEL	31	0700 E	0816 D		N32	E66	5680	76 D	2				9.00			
WENDEL	31	0750 E	0825 D		N14	E21	5678	35 D	1				4.00			
CAPRI S	31	1320 E	1327 D		N15	W85	5669	7 D	1	3	1321	1.50				
CAPRI S	31	1506 E	1524 D		N13	E15	5678	18 D	1	3	1515	3.00	3.20			
WENDEL	31	1507	1522		N14	E13	5678	15	1				4.00			
HUANCAYO	31	2100 E	2145	2115	N14	E12	5678	45 D	2	2	2115	3.10	3.30	5.80		
LOCKHEED	31	2107	2215	2116	N13	E12	5678	68	1	2	2116	2.60			30	
MCMATH	31	2110 E	2130 D		N12	E12	5678	20 D	1	1	2120		2.00			S-SWF
SAC PEAK	31	2110	2142	2118	N13	E11	5678	32	1+	3		4.22			22	
HAWAII	31	2110	2144	2114	N15	E10	5678	34	1	3	2114	1.00				

CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNAL KODAIKANAL
KRASNYA KRASNAYA PAKHRA
LOCKHEED LOS ANGELES
MOSCOW-G MOSCOW - GAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK SACRAMENTO PEAK
SCHAUINS SCHAUINSLAND
USNRL UNITED STATES NAVAL RESEARCH LABORATORY

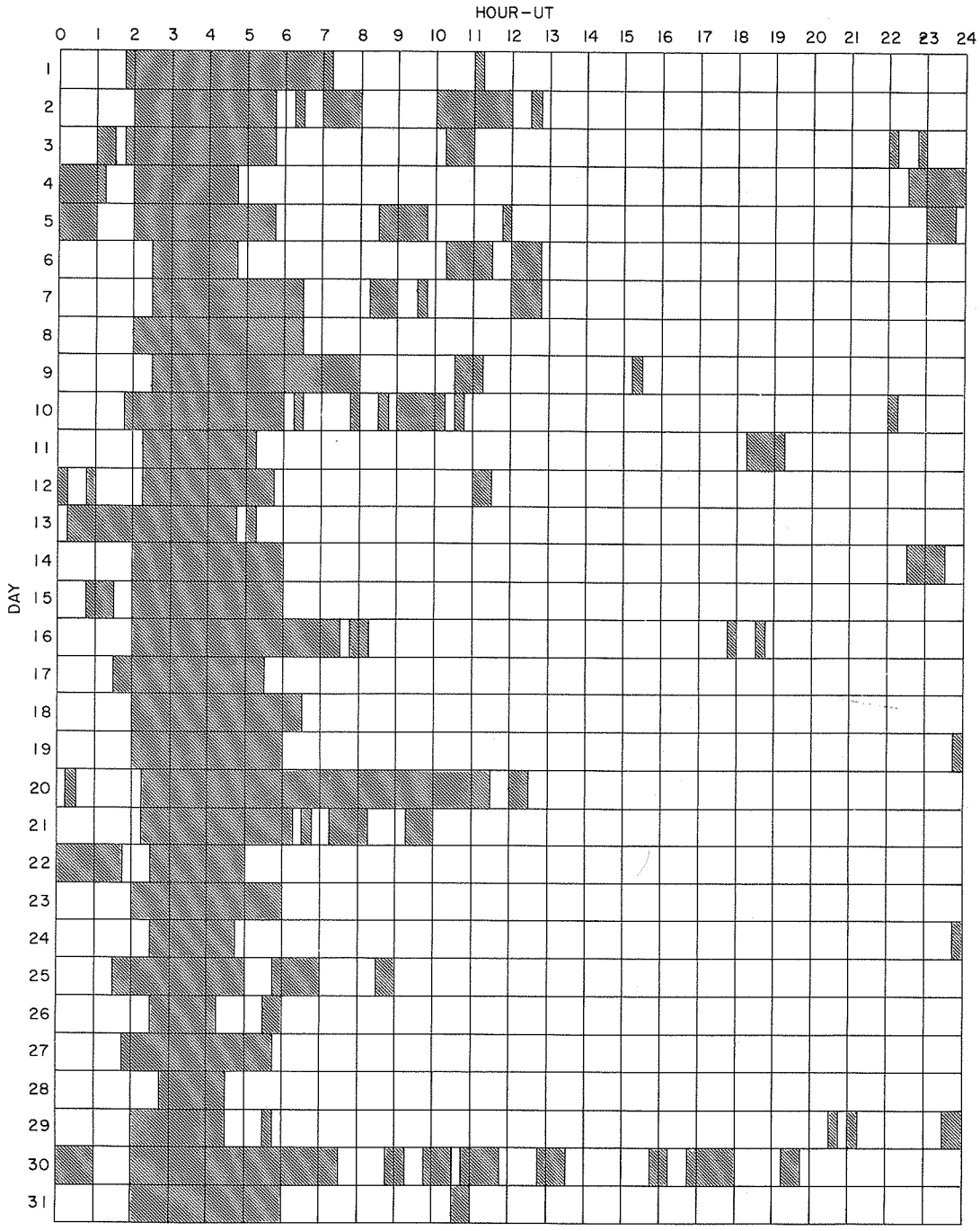
SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

MAY 1960



Stations Include:

Anacapri (Swedish)
Arcetri
Hawaii
Huancayo
Lockheed
McMath
Ondrejov
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

APRIL 1960

* ARCETRI	01	1241 E	N12 W11
* ARCETRI	01	1309 E	N12 W11
ARCETRI	01	1309 E	N11 W19
* SAC PEAK	01	1357 E	N10 W16
SAC PEAK	01	1524	N08 E60
* LOCKHEED	01	1604	N17 E47
* LOCKHEED	01	1604	N17 E47
LOCKHEED	01	1611	N08 W18
* LOCKHEED	01	1650	N17 E47
* LOCKHEED	01	1650	N17 E47
SAC PEAK	01	1656	N08 W13
LOCKHEED	01	1657	N07 W17
LOCKHEED	01	1702	N09 W13
LOCKHEED	01	1723	N07 W17
LOCKHEED	01	1735	N12 W16
LOCKHEED	01	1800	N07 W17
SAC PEAK	01	1812	N11 W19
LOCKHEED	01	1823	N12 W18
SAC PEAK	01	1836	N10 W19
HAWAII	01	1838	N10 W21
LOCKHEED	01	1927	N11 W18
LOCKHEED	01	1927	N11 W18
LOCKHEED	01	2020	N12 W17
LOCKHEED	01	2101	N11 W17
LOCKHEED	01	2114	N10 W15
LOCKHEED	01	2114	N10 W15
LOCKHEED	01	2136	N10 W17
LOCKHEED	01	2150	N10 W17
* SAC PEAK	01	2214 E	N10 W20
LOCKHEED	01	2314	N11 W18
* LOCKHEED	02	0013	N10 W17
LOCKHEED	02	0118	N11 W23
* ARCETRI	02	0836 E	N11 W27
WENDEL	02	0920 E	N11 W23
WENDEL	02	0955 E	S05 E24
* ONDREJOV	02	1219	N08 W25
LOCKHEED	02	1715	N09 W30
LOCKHEED	02	1730	N10 W30
LOCKHEED	02	1745	S02 E57
LOCKHEED	02	1826	N10 W27
LOCKHEED	02	1851	N08 W31
LOCKHEED	02	1912	S03 E56
LOCKHEED	02	1913	N10 W31
LOCKHEED	02	1938	N07 W31
LOCKHEED	02	1956	N12 E52
* LOCKHEED	02	2015	N13 W32
* LOCKHEED	02	2015	N13 W32
LOCKHEED	02	2035	S03 E55
* LOCKHEED	02	2131	N09 W33
* LOCKHEED	02	2131	N09 W33
LOCKHEED	02	2212	N10 W34
LOCKHEED	02	2258	N10 W34
LOCKHEED	02	2258	N10 W34
LOCKHEED	03	0035	N18 E32
LOCKHEED	03	0046	N09 W36
LOCKHEED	03	0122	N07 W36
WENDEL	03	0656 E	N08 W37
WENDEL	03	0850 E	N14 W38
* ONDREJOV	03	1050 E	N14 W38
WENDEL	03	1108 E	N16 E18
WENDEL	03	1108 E	S09 E03
WENDEL	03	1258 E	S10 E03
* ONDREJOV	03	1326	N08 W43
* MCMATH	03	1350 E	N16 E25
MCMATH	03	1400	N10 E39
WENDEL	03	1508 E	N06 W47
LOCKHEED	03	1530	N09 W42
* LOCKHEED	03	1545	N09 W46
* SAC PEAK	03	1556	N10 W39
* LOCKHEED	03	1556	N12 W41
LOCKHEED	03	1633	N10 W45
LOCKHEED	03	1645	S13 W57
LOCKHEED	03	1650	N12 W43
HAWAII	03	1744 E	N24 E21
SAC PEAK	03	1824	N15 W41
LOCKHEED	03	1856	N15 W42
LOCKHEED	03	1913	N12 W43
HAWAII	03	1914	N07 W46
* HAWAII	03	1958	N10 W47
* HAWAII	03	2036	N03 W50
* HAWAII	03	2242	N04 W51
SAC PEAK	03	2334	S03 W01
HAWAII	04	0044	N06 W03
* CAPRI S	04	0759	N08 W49
* ONDREJOV	04	0939 E	N11 W58
* STOCKHOLM	04	1005	N12 W47
* STOCKHOLM	04	1115	N13 W55
ONDREJOV	04	1332	S17 E28
SAC PEAK	04	1418	S21 E40
SAC PEAK	04	1456	S10 W08
ONDREJOV	04	1503 E	S09 W14
LOCKHEED	04	1700	N12 W58
SAC PEAK	04	1734	N13 E05
LOCKHEED	04	1741	N09 W60
* LOCKHEED	04	1845	S18 E43
* HAWAII	04	1916 E	S15 E44
LOCKHEED	04	2000 E	N10 W64
LOCKHEED	04	2034	N09 W64
LOCKHEED	04	2034	N09 W64
LOCKHEED	04	2036	N18 E08
SAC PEAK	04	2038	N15 E09
LOCKHEED	04	2128	N08 W64
SAC PEAK	04	2130	N08 W61
LOCKHEED	04	2144	N08 W64
LOCKHEED	04	2257	S18 E49
LOCKHEED	04	2313	N09 W64
LOCKHEED	04	2346	S10 W11
SAC PEAK	04	2346	S10 W10
LOCKHEED	05	0020	N12 W65
HAWAII	05	0108 E	N01 W68
ONDREJOV	05	0930	S06 E20
WENDEL	05	1041 E	N06 W63
CAPRI S	05	1434 E	N07 W74
SAC PEAK	05	1438	N10 W71
WENDEL	05	1444 E	N08 W66
SAC PEAK	05	1448	N18 W06
SAC PEAK	05	1542	S10 E19
SAC PEAK	05	1542	N08 W76
* LOCKHEED	05	1600	N14 W68
* SAC PEAK	05	1600	N14 W67
LOCKHEED	05	1607	S08 W28
SAC PEAK	05	1608	S08 W27
LOCKHEED	05	1620	S08 W28
LOCKHEED	05	1738	N09 W77
SAC PEAK	05	1748	N16 W07
LOCKHEED	05	1750	N18 W07
* LOCKHEED	05	1920 E	S08 W22
* MCMATH	05	1948 E	N17 W07
LOCKHEED	05	2031	N09 W77
SAC PEAK	05	2032	N08 W80
SAC PEAK	05	2204	N08 E07
HAWAII	05	2206 E	N12 E06
HAWAII	05	2206 E	S11 W31
HAWAII	05	2334	N12 E06
LOCKHEED	06	0030 E	N09 W77
LOCKHEED	06	0103	N13 W80
WENDEL	06	0617 E	S09 W35
WENDEL	06	0753 E	N09 W72
* STOCKHOLM	06	0856 E	N11 W80
WENDEL	06	1003 E	N04 W59
WENDEL	06	1040 E	N07 W83
WENDEL	06	1230 E	S19 E27
WENDEL	06	1245 E	S09 W39
WENDEL	06	1248 E	N09 W77
WENDEL	06	1315 E	S07 E03
* WENDEL	06	1403 E	N09 W79
WENDEL	06	1438 E	S10 W40
SAC PEAK	06	1456	N18 W18
ARCETRI	06	1457 E	N19 W17
SAC PEAK	06	1644	N11 W90
LOCKHEED	06	1644	N11 W90
LOCKHEED	06	1736	S09 W46
LOCKHEED	06	1821	S03 W42
SAC PEAK	06	1842	N11 W90
LOCKHEED	06	1948	S04 W44
LOCKHEED	06	1955	N11 W90
LOCKHEED	06	2015	N30 E17
LOCKHEED	06	2022	N11 W05
SAC PEAK	06	2026	N07 W06
LOCKHEED	06	2055	N10 W90
SAC PEAK	06	2100	N10 W90
LOCKHEED	06	2102	S19 E16
SAC PEAK	06	2102	S22 E15
LOCKHEED	06	2126	S07 E77
LOCKHEED	06	2155	S03 W45
LOCKHEED	06	2224	N18 W23
LOCKHEED	06	2235	N11 W90
LOCKHEED	06	2304	S08 W47
HAWAII	07	0120 E	S20 E10
HAWAII	07	0136 E	N15 W29
* ARCETRI	07	0755 E	S08 E50
WENDEL	07	1113 E	S09 E50
* STOCKHOLM	07	1251	S10 E50
* SAC PEAK	07	1424	S08 E46
SAC PEAK	07	1532	S21 E12
LOCKHEED	07	1604	N05 W90
SAC PEAK	07	1840	S09 E42
LOCKHEED	07	1840	S06 E43
LOCKHEED	07	1938	S06 E43
SAC PEAK	07	1938	S07 E42
LOCKHEED	07	2023	S06 E43
LOCKHEED	08	0114	N21 W38
STOCKHOLM	08	1412	S22 W10
HUANCAYO	08	1617	S09 W18
MCMATH	08	1622 E	S08 W21
MCMATH	08	1707 E	S04 W31
SAC PEAK	08	2044	S07 W28
HAWAII	08	2048 E	S11 W27
LOCKHEED	09	0028	N12 E64
ONDREJOV	09	0637 E	N11 W57
CAPRI S	09	0813 E	N10 E62
ARCETRI	09	0814 E	N12 E59
WENDEL	09	0909 E	S22 W21
* STOCKHOLM	09	1053 E	N05 E52
* SAC PEAK	09	1508	N10 E55
SAC PEAK	09	1554	N10 E55
CAPRI S	09	1558 E	N10 E54
LOCKHEED	09	1800 E	N12 E52
LOCKHEED	09	1825 U	N16 E58
SAC PEAK	09	1828	N10 E55
LOCKHEED	09	1835	N29 E80
HAWAII	09	1908 E	N14 E53
LOCKHEED	09	1926	N13 E53
SAC PEAK	09	2112	S07 W90
SAC PEAK	09	2152	N10 E48
MCMATH	10	1241	S11 E84
* MCMATH	10	1352	N12 E46
* SAC PEAK	10	1354	N10 E42
* MCMATH	10	1419	N10 E41
MCMATH	10	1506	N10 E42
WENDEL	10	1533 E	N12 E46
MCMATH	10	1604	N10 E41
* MCMATH	10	1650	N18 W90
* SAC PEAK	10	1650	N19 W90
MCMATH	10	1757	N10 E42
MCMATH	10	1815	N10 E40
HAWAII	10	1816	S05 W01
MCMATH	10	1852	N10 E40
HAWAII	10	1906	S12 W00
HAWAII	10	1936	N17 E40
HAWAII	10	2012	N17 E37
LOCKHEED	10	2014 E	N10 E39
HAWAII	10	2116	N14 E40
LOCKHEED	10	2118 U	N09 E41
SAC PEAK	10	2258	N10 E43
HAWAII	10	2258	N16 E43
LOCKHEED	10	2300	N11 E43
HAWAII	10	2306	N18 E34
LOCKHEED	10	2308	N12 E36
* SAC PEAK	10	2314	S09 W03
LOCKHEED	11	0032	N11 E35
HAWAII	11	0040 E	N16 E32
CAPRI S	11	0730 E	S08 W59
ONDREJOV	11	1258 E	N09 E25
SAC PEAK	11	1400 U	N10 E26
SAC PEAK	11	1400 U	N10 E26
SAC PEAK	11	1516	N09 E25
SAC PEAK	11	1606 U	N12 E27
HUANCAYO	11	1652 E	S09 W12
SAC PEAK	11	1656	S08 W13
SAC PEAK	11	1838	N12 W90
* MCMATH	12	1208 E	N10 E19
MCMATH	12	1225	S12 E52
MCMATH	12	1650	N10 E17
LOCKHEED	12	1650	N12 E16
LOCKHEED	12	1650	N12 E16
MCMATH	12	1744	N10 E15
LOCKHEED	12	1817	N12 E16
LOCKHEED	12	1843	N10 E13
MCMATH	12	1848	N07 E07
MCMATH	12	1908	N09 E12
LOCKHEED	12	1913	N10 E13
LOCKHEED	12	1919	N09 E07
LOCKHEED	12	2001	N13 E15
LOCKHEED	12	2001	N13 E15
MCMATH	12	2003	N10 E15
LOCKHEED	12	2021	N23 E27
LOCKHEED	12	2021	N23 E27
LOCKHEED	12	2025	S12 W35
MCMATH	12	2026	S08 W24
LOCKHEED	12	2029	N14 E15
LOCKHEED	12	2117	S12 E48
LOCKHEED	12	2121	N15 E14
HAWAII	12	2134 E	S06 E46
LOCKHEED	12	2202	N10 E17
HAWAII	12	2206 E	N11 E05
LOCKHEED	12	2209	N14 E13
HAWAII	12	2210 E	N15 E10
HAWAII	12	2226	N10 E05
* LOCKHEED	12	2325	N11 E10
* LOCKHEED	12	2325	N11 E10
HAWAII	12	2326	N06 E05
WENDEL	13	0640 E	N11 E10
ONDREJOV	13	1320 E	N10 E07
SAC PEAK	13	1456	S07 W04
WENDEL	13	1516 E	N12 E04
* SAC PEAK	13	1528 E	N02 W03
SAC PEAK	13	1540	N09 W01
WENDEL	13	1540 E	N10 E01
WENDEL	13	1638 E	S12 W39
LOCKHEED	13	1718	N21 E22
* MCMATH	13	1718	S11 E36
LOCKHEED	13	1726	N16 W03
LOCKHEED	13	1726	N16 W03
LOCKHEED	13	1726	N16 W03
LOCKHEED	13	1726	N16 W03
SAC PEAK	13	1754 E	N08 W02
LOCKHEED	13	1845	N14 E04
LOCKHEED	13	1901	N09 W08
SAC PEAK	13	1904	N08 W07
HAWAII	13	1910 E	N09 W09
MCMATH	13	1925 E	N10 W01
LOCKHEED	13	1930	N09 W01
LOCKHEED	13	2005	N10 W04
LOCKHEED	13	2019	N12 E02
LOCKHEED	13	2019	N12 E02
LOCKHEED	13	2048	N11 E00
LOCKHEED	13	2053	S08 E33
SAC PEAK	13	2054	S09 E32
HAWAII	13	2056 E	S06 E32
LOCKHEED	13	2119	S08 W46
* HAWAII	13	2202 E	N07 W07
* HAWAII	13	2234 E	N11 W01
SAC PEAK	13	2330	S08 E36
LOCKHEED	13	2331	S07 E34
LOCKHEED	13	2355	N08 W08
LOCKHEED	14	0006	N10 W03
ONDREJOV	14	0610 E	N29 E16
SAC PEAK	14	1428	S10 E24
SAC PEAK	14	1506	N10 W09
SAC PEAK	14	1524	S09 W54
SAC PEAK	14	1620	S04 W09
CAPRI S	14	1626 E	S07 W01
SAC PEAK	14	1646	N09 W14
SAC PEAK	14	1708 U	S08 W56
LOCKHEED	14	1827	S12 E21
LOCKHEED	14	1845	N10 W20
LOCKHEED	14	1902	S10 E22
LOCKHEED	14	1935	N13 W12
LOCKHEED	14	1959	N27 E80
LOCKHEED	14	1959	N14 W15
SAC PEAK	14	2002	N25 E76
HAWAII	14	2044 E	N10 W13
LOCKHEED	14	2053	N15 E62
LOCKHEED	14	2108	N15 W13
LOCKHEED	14	2133	S10 E20
LOCKHEED	14	2149	N09 E63
LOCKHEED	14	2159	N14 W14
LOCKHEED	14	2200	S08 W59
LOCKHEED	14	2200	S08 W59
LOCKHEED	14	2250	N13 E70
LOCKHEED	14	2300	S12 E19
LOCKHEED	14	2323	N14 W15
LOCKHEED	14	2330	S12 E19
HAWAII	14	2334 E	N12 W16
HAWAII	14	2334 E	S11 E21
LOCKHEED	14	2359	N14 E71
CAPRI S	15	0718	N08 W25
CAPRI S	15	0718	N13 W15
CAPRI S	15	0756	N13 W15
ARCETRI	15	0800 E	N11 W20
SAC PEAK	15	1328	N11 W25
SAC PEAK	15	1534	S04 W25
LOCKHEED	15	1545	N12 W26
SAC PEAK	15	1546	N11 W25
LOCKHEED	15	1554	S03 W26
LOCKHEED	15	1627	N12 W26
LOCKHEED	15	1650	S08 W71
LOCKHEED	15	1650	S08 W71
LOCKHEED	15	1650	S08 W71
LOCKHEED	15	1650	S08 W71
LOCKHEED	15	1750	N11 W25
SAC PEAK	15	1800	N11 W23
LOCKHEED	15	1857	S12 E08
LOCKHEED	15	1920	N14 W24
* LOCKHEED	15	1939	S12 E08
* LOCKHEED	15	1939	S12 E08
LOCKHEED	15	1943	N10 W30
LOCKHEED	15	2012	N10 W25
LOCKHEED	15	2012	N10 W25
HAWAII	15	2048 E	S12 E11
HAWAII	15	2048 E	N06 W30
LOCKHEED	15	2118	N15 E50
LOCKHEED	15	2321	S10 W75
HAWAII	16	0100 E	N31 E53
LOCKHEED	16	1504 E	S08 W90
LOCKHEED	16	1504 E	S08 W90
LOCKHEED	16	1504 E	S08 W90
SAC PEAK	16	1526	S05 W90
LOCKHEED	16	1625	S07 W90
LOCKHEED	16	1700	N32 W80
LOCKHEED	16	1800	S07 W90
HAWAII	16	1828 E	N26 E11
LOCKHEED	16	1833	S11 W19
SAC PEAK	16	1834	S12 W20
HAWAII	16	1834	S13 W18
LOCKHEED	16	1854	N13 E42
LOCKHEED	16	1927	N10 E37
LOCKHEED	16	2026	N10 E37
LOCKHEED	16	2037	S10 W08
SAC PEAK	16	2038	S10 W08
HAWAII	16	2056 E	S10 W07
LOCKHEED	16	2101	N16 E36
LOCKHEED	16	2143	N12 E40
LOCKHEED	16	2147	S07 W90
SAC PEAK	16	2148	S04 W90
LOCKHEED	16	2212	N16 E35
LOCKHEED	16	2212	N16 E35
LOCKHEED	16	2237	N13 W40
LOCKHEED	16	2325	N13 W40
LOCKHEED	17	0024	N14 W42
LOCKHEED	17	0044	N14 W42
HAWAII	17	0140	N18 E31
LOCKHEED	17	1455 E	N31 W90
LOCKHEED	17	1455 E	N31 W90
LOCKHEED	17	1513	N11 E32
SAC PEAK	17	1514	N12 E32
SAC PEAK	17	1518	N08 E30
LOCKHEED	17	1521	N13 W54
LOCKHEED	17	1521	N13 W54
LOCKHEED	17	1521	N13 W54
SAC PEAK	17	1532	N14 W50
SAC PEAK	17	1532 E	N08 W52
LOCKHEED	17	1535	N31 W90
LOCKHEED	17	1535	N31 W90
SAC PEAK	17	1552	N30 W90
SAC PEAK	17	1620	N14 W50
LOCKHEED	17	1620	N16 W52
LOCKHEED	17	1623	N10 E26
LOCKHEED	17	1625	N31 W90
SAC PEAK	17	1634	N07 E26
LOCKHEED	17	1652	N16 W52
LOCKHEED	17	1653	N25 E36

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

APRIL 1960

	SAC PEAK	17	1656	N23 E38
	SAC PEAK	17	1658	N14 W50
	LOCKHEED	17	1741	N10 E26
	LOCKHEED	17	1755	N16 W52
	SAC PEAK	17	1834	N08 E24
	LOCKHEED	17	1835	N09 E25
	LOCKHEED	17	1836	N25 W53
	LOCKHEED	17	1847	N12 W55
	LOCKHEED	17	1855	N25 E36
	LOCKHEED	17	1909	S08 W21
	LOCKHEED	17	1950	N10 E24
	LOCKHEED	17	2028	N28 W55
	LOCKHEED	17	2042	N12 W53
	LOCKHEED	17	2042	N23 E35
	LOCKHEED	17	2121	N31 W31
	SAC PEAK	17	2122	N30 W32
	LOCKHEED	17	2146	S13 W68
	LOCKHEED	17	2227	N10 E20
	LOCKHEED	17	2242	S13 E68
	HAWAII	17	2244	S07 E68
	SAC PEAK	17	2244	S14 E68
	LOCKHEED	17	2256	S07 W24
	SAC PEAK	17	2328	S13 W22
	LOCKHEED	18	0022	N24 E39
	WENDEL	18	0931 E	S11 W26
	WENDEL	18	1018 E	N08 E11
	WENDEL	18	1018 E	N11 E08
	WENDEL	18	1102 E	N09 W64
	WENDEL	18	1149 E	N11 W64
	SAC PEAK	18	1314	N12 E17
	SAC PEAK	18	1608	N22 E27
	LOCKHEED	18	1646	N24 E28
	LOCKHEED	18	1718	N14 E09
	SAC PEAK	18	1722	N12 E06
	LOCKHEED	18	1724	N24 E29
	SAC PEAK	18	1726	N22 E25
	LOCKHEED	18	1738	N09 E12
*	SAC PEAK	18	1748	S09 W33
	SAC PEAK	18	1748	N22 E25
	LOCKHEED	18	1810	N23 E28
	LOCKHEED	18	1840	N15 E08
	LOCKHEED	18	1840	N15 E08
	LOCKHEED	18	1845	N23 E25
	MCMATH	18	1847	N20 E26
	SAC PEAK	18	1848	N22 E25
	SAC PEAK	18	1910	N14 E08
	LOCKHEED	18	1930	N14 E12
	MCMATH	18	1942 E	N10 E14
	MCMATH	18	2001	S10 W35
	LOCKHEED	18	2011	N13 W80
	MCMATH	18	2012	N14 W88
	LOCKHEED	18	2025	N14 E07
	MCMATH	18	2039	S10 W36
	LOCKHEED	18	2039	S09 W36
	SAC PEAK	18	2040	N13 E07
	LOCKHEED	18	2052	N14 E09
	LOCKHEED	18	2052	N14 E09
	LOCKHEED	18	2055	N23 E23
	LOCKHEED	18	2055	N23 E23
	SAC PEAK	18	2056	N11 E14
	MCMATH	18	2056	S09 W33
	LOCKHEED	18	2056	S09 W33
	LOCKHEED	18	2058	N08 W69
	SAC PEAK	18	2100	S09 W33
	SAC PEAK	18	2108	N23 E23
	LOCKHEED	18	2154	N08 W70
	LOCKHEED	18	2219	N15 E05
	LOCKHEED	18	2219	N15 E05
	LOCKHEED	18	2242	N12 E10
	LOCKHEED	18	2257	S10 W37
	LOCKHEED	18	2326	N11 E10
	LOCKHEED	18	2328	S10 W38
	LOCKHEED	19	0000	N22 E16
	LOCKHEED	19	0003	S09 W39
	LOCKHEED	19	0036	N13 W78
	WENDEL	19	0732 E	N13 W87
	SAC PEAK	19	1356	N13 E03
	MCMATH	19	1356	N10 E03
*	SAC PEAK	19	1444	S10 W45
*	SAC PEAK	19	1500	N22 E13
	LOCKHEED	19	1631 D	N13 W05
	SAC PEAK	19	1634	N15 W04
	MCMATH	19	1634	N11 W03
	LOCKHEED	19	1650	N11 W01
	LOCKHEED	19	1732	N24 E16
	LOCKHEED	19	1757	N11 W01
	LOCKHEED	19	1807	S09 W46
	LOCKHEED	19	1808	N24 E16
	SAC PEAK	19	1810	S09 W46
	MCMATH	19	1812	S08 W47
	SAC PEAK	19	1822	S10 W49
	LOCKHEED	19	1837	N25 E14
	SAC PEAK	19	1838	N24 E14
	MCMATH	19	1838	N21 E14
	HAWAII	19	1840 E	N27 E10
	LOCKHEED	19	1900	N14 W06
	MCMATH	19	1900	N12 W04
	SAC PEAK	19	1912	N14 W06
	LOCKHEED	19	1930	N26 E15
	MCMATH	19	1930	N22 E16
	LOCKHEED	19	1955	N11 W03
	LOCKHEED	19	2025	N24 E14
	LOCKHEED	19	2028	N10 W03
	LOCKHEED	19	2047	N13 W07
	LOCKHEED	19	2112	N14 W07
	MCMATH	19	2115	N11 W07
	HAWAII	19	2116	N11 W10
*	SAC PEAK	19	2120	S09 W48
	SAC PEAK	19	2120	N12 W07
	MCMATH	19	2120	S09 W49
	HAWAII	19	2122	S13 W49
	LOCKHEED	19	2223	N14 W08
	LOCKHEED	19	2223	N14 W08
	SAC PEAK	19	2226	N13 W08
	LOCKHEED	19	2242	S08 W51
	LOCKHEED	19	2337	N23 E12
	WENDEL	20	0745 E	N22 E09
	WENDEL	20	0819 E	S21 W11
	WENDEL	20	0824 E	S10 W56
*	WENDEL	20	0909 E	N10 E18
	STOCKHOLM	20	1003	S23 E07
	STOCKHOLM	20	1027 E	S23 E07
	STOCKHOLM	20	1258 E	S23 E05
*	SAC PEAK	20	1301 E	N30 E05
	SAC PEAK	20	1306	S08 E64
*	SAC PEAK	20	1314	N13 W17
	SAC PEAK	20	1410	N27 E03
	SAC PEAK	20	1418	N11 W08
	MCMATH	20	1418	N09 W08
*	SAC PEAK	20	1530	S07 E63
*	SAC PEAK	20	1614	N25 E02
	SAC PEAK	20	1628	S08 E63
	LOCKHEED	20	1630	S18 E63
	LOCKHEED	20	1630	S18 E63
	MCMATH	20	1710 E	N06 E14
*	MCMATH	20	1735	N23 E02
*	SAC PEAK	20	1736	N25 E02
	LOCKHEED	20	1805	S17 E62
	LOCKHEED	20	1805	S17 E62
	HAWAII	20	1808	S11 E62
	MCMATH	20	1809	S18 E60
	SAC PEAK	20	1814	S08 E62
	LOCKHEED	20	1937	N15 W13
	SAC PEAK	20	1938	N15 W12
	HAWAII	20	1940	N12 W15
	LOCKHEED	20	1957	N13 W20
	LOCKHEED	20	2006	S17 E63
	LOCKHEED	20	2006	S17 E63
	MCMATH	20	2015	S18 E60
*	SAC PEAK	20	2016	S07 E60
	LOCKHEED	20	2101	N24 E01
	SAC PEAK	20	2102	N23 E01
*	LOCKHEED	20	2133	N04 E90
*	SAC PEAK	20	2134	N03 E90
*	LOCKHEED	20	2137	N11 E13
	HAWAII	20	2140	S11 E60
*	SAC PEAK	20	2140	N09 E12
	LOCKHEED	20	2215	N16 E90
	HAWAII	20	2222	S12 E60
	LOCKHEED	20	2300	N24 W02
	LOCKHEED	20	2350	N24 W02
	LOCKHEED	20	2356	N15 W21
	LOCKHEED	21	0009	N23 W03
	LOCKHEED	21	0110	S16 E58
*	ONDREJOV	21	1001 E	S18 E51
	WENDEL	21	1218 E	N19 W08
*	WENDEL	21	1237 E	S15 E53
*	CAPRI S	21	1242 E	N11 W27
*	ARCETRI	21	1349 E	S17 E52
	WENDEL	21	1445 E	N10 W30
	SAC PEAK	21	1520	N08 E80
	SAC PEAK	21	1522	N15 W32
	WENDEL	21	1636 E	N12 W31
	SAC PEAK	21	1732	N22 W10
	SAC PEAK	21	1806	N25 W17
	SAC PEAK	21	1812	N14 W32
	HAWAII	21	1822 E	N24 W22
	LOCKHEED	21	1905	S12 W75
	LOCKHEED	21	1906	N24 W13
	SAC PEAK	21	1906	N23 W13
	HAWAII	21	1908	N23 W17
	LOCKHEED	21	1915	S17 E48
	LOCKHEED	21	1917	N24 W13
	LOCKHEED	21	1939	S17 E48
	SAC PEAK	21	1940	S07 W48
	SAC PEAK	21	1942	N22 W13
	LOCKHEED	21	1954	N13 W35
	SAC PEAK	21	1954 U	N12 W34
	LOCKHEED	21	2000	S17 E48
	SAC PEAK	21	2024	S17 W48
	LOCKHEED	21	2054	S12 W76
	HAWAII	21	2058 E	S17 W76
	SAC PEAK	21	2058	S11 W74
	LOCKHEED	21	2102	S17 E48
	HAWAII	21	2104	S13 E49
	LOCKHEED	21	2205	N16 E79
	HAWAII	21	2250 E	S14 E48
	CAPRI S	22	0818 E	N09 W03
	ARCETRI	22	0823 E	N10 W07
*	MCMATH	22	1208	S18 E36
	MCMATH	22	1305	S18 E36
	SAC PEAK	22	1418	N25 W24
*	MCMATH	22	1440	S18 E35
	MCMATH	22	1451	N16 W42
	SAC PEAK	22	1452	N15 W43
	CAPRI S	22	1454	N14 W42
	MCMATH	22	1455	N20 W23
	SAC PEAK	22	1456	N22 W23
	CAPRI S	22	1458	N20 W20
	MCMATH	22	1705	N08 W13
	SAC PEAK	22	1706	N08 W14
	MCMATH	22	1717	N24 W24
	SAC PEAK	22	1722 E	N24 W25
	SAC PEAK	22	1730	N09 E56
	MCMATH	22	1730	N08 E69
	MCMATH	22	1838	S13 W90
*	MCMATH	22	1848	S18 E34
*	HAWAII	22	1850 E	S15 E33
	MCMATH	22	1957	S18 E34
	HAWAII	22	2228 E	S15 E36
	HAWAII	22	2308 E	S15 E33
	HAWAII	22	2356 E	S15 W33
	HAWAII	22	2356 E	N20 E33
	HAWAII	23	0122	S15 E33
	CAPRI S	23	0615 E	N15 W61
	ARCETRI	23	0956 E	S11 W90
*	MCMATH	23	1244 E	S18 E24
*	SAC PEAK	23	1503	N12 W53
	SAC PEAK	23	1504	N23 W36
	MCMATH	23	1505	N24 W40
*	MCMATH	23	1516	S18 E24
	SAC PEAK	23	1518	N11 E54
	MCMATH	23	1519	N08 E52
	LOCKHEED	23	1527 E	N08 E52
	LOCKHEED	23	1527 E	N08 W27
	LOCKHEED	23	1635	N22 W40
	MCMATH	23	1645 E	N08 W26
	LOCKHEED	23	1820	N08 W27
	MCMATH	23	1821	N08 W26
	HAWAII	23	1822	N05 W27
	SAC PEAK	23	1822	N08 W28
*	LOCKHEED	23	1915 U	N08 W27
*	MCMATH	23	1920 E	S18 E20
*	HAWAII	23	1958 E	S14 E23
	SAC PEAK	23	2008	N13 E48
	HAWAII	23	2020 E	N04 W31
	SAC PEAK	23	2036	N15 E50
	SAC PEAK	23	2256	S18 E18
	HAWAII	23	2258	S15 E22
*	SAC PEAK	23	2330	S18 E18
	HAWAII	24	0100	N05 W35
	CAPRI S	24	0856 E	N25 W57
	WENDEL	24	1043 E	N15 E48
	CAPRI S	24	1136 E	N21 W46
	MCMATH	24	1150 E	N08 E76
	WENDEL	24	1151 E	S18 E11
	SAC PEAK	24	1322	N08 W40
	MCMATH	24	1325	S08 E85
	SAC PEAK	24	1326	S07 E81
	SAC PEAK	24	1326	N09 E74
	MCMATH	24	1341	N08 W36
	SAC PEAK	24	1422	N09 E74
	MCMATH	24	1425 E	N07 W38
	MCMATH	24	1425 E	N22 W50
	SAC PEAK	24	1430	S08 E10
	MCMATH	24	1431	S19 E10
	MCMATH	24	1530	N12 W67
*	SAC PEAK	24	1548	N07 W40
*	SAC PEAK	24	1656	N07 W38
	LOCKHEED	24	1935	N08 W43
	LOCKHEED	24	1935	N08 W43
	SAC PEAK	24	1942	N07 W38
	SAC PEAK	24	1942	N08 W42
	HAWAII	24	2018 E	N02 W47
	LOCKHEED	24	2051	N27 W58
	LOCKHEED	24	2105	N08 W43
	SAC PEAK	24	2252	S03 E74
	SAC PEAK	24	2252	N11 W42
	LOCKHEED	24	2319	N11 E66
*	SAC PEAK	24	2336	N15 E35
	LOCKHEED	25	0025 E	N11 W72
	LOCKHEED	25	0124	N11 E66
	HAWAII	25	0125	N14 E62
	ARCETRI	25	0857 E	N09 W48
*	MCMATH	25	1318	N14 W88
*	SAC PEAK	25	1320	N13 W85
	SAC PEAK	25	1354	S08 E67
	LOCKHEED	25	1648	N08 W54
	SAC PEAK	25	1704	N09 W54
	LOCKHEED	25	1722	S08 E64
	HAWAII	25	1746	S03 E64
	LOCKHEED	25	1842	N16 E25
	LOCKHEED	25	2004	N09 E56
	SAC PEAK	25	2024	S09 E63
	LOCKHEED	25	2054	N07 W53
*	LOCKHEED	25	2112	N09 E55
*	SAC PEAK	25	2118	N08 E56
*	LOCKHEED	25	2238	N09 E55
	LOCKHEED	25	2310	S12 E03
	HAWAII	25	2314	S12 E04
	SAC PEAK	25	2314	S09 E62
	HAWAII	25	2314	S04 E62
	CAPRI S	26	0648 E	N14 E17
	SAC PEAK	26	1526	S10 E52
	SAC PEAK	26	1658	N08 E43
	HAWAII	26	1850 E	N06 W68
	SAC PEAK	26	2034 E	S08 E46
	SAC PEAK	26	2202	S11 E49
	HAWAII	26	2342	S20 W27
	MCMATH	27	1140	S04 E40
	MCMATH	27	1157	S18 W27
	MCMATH	27	1200	N04 W04
	WENDEL	27	1204 E	N04 W05
	SAC PEAK	27	1334 E	N04 W06
	MCMATH	27	1340	N04 W04
	SAC PEAK	27	1352	N05 W90
	MCMATH	27	1625	N05 W90
	SAC PEAK	27	1628	N04 W90
	MCMATH	27	1722	S04 E40
	SAC PEAK	27	1736 E	S04 E39
	HAWAII	27	1738	N02 E38
	MCMATH	27	1900	N04 W08
	SAC PEAK	27	1904	N04 W08
	HAWAII	27	1918 E	N06 W08
	SAC PEAK	27	1942	S04 E38
	HAWAII	27	1944	N01 E37
*	SAC PEAK	27	2006 E	N10 W02
*	MCMATH	27	2006	N09 W02
*	MCMATH	27	2025	N04 W08
	HAWAII	27	2230	N01 E33
	SAC PEAK	27	2318	N04 W12
	HAWAII	27	2354	S21 W38
	MCMATH	28	1153	N14 W06
	CAPRI S	28	1200	N14 W05
	MCMATH	28	1242	S04 E26
	MCMATH	28	1335	N04 W19
	LOCKHEED	28	1648	N16 W08
	MCMATH	28	1650	N13 W09
	LOCKHEED	28	1700	S03 E21
	LOCKHEED	28	1700	S03 E21
	MCMATH	28	1705	S04 E21
	SAC PEAK	28	1706	S04 E21
	HAWAII	28	1836	N10 W17
	LOCKHEED	28	1906	S04 E25
	LOCKHEED	28	1939	S04 E23
	MCMATH	28	2200	S08 E18
	MCMATH	28	2209	N07 E14
	LOCKHEED	28	2215 U	N08 E13
	MCMATH	28	2230 E	N07 W20
	MCMATH	28	2247 E	S07 E17
	LOCKHEED	28	2255	S06 E16
	LOCKHEED	28	2350	S03 E15
	ARCETRI	29	0959 E	N13 W23
	STOCKHOLM	29	1000 E	N13 W22
	LOCKHEED	29	1500	N12 W32
	LOCKHEED	29	1510	S10 W57
	CAPRI S	29	1520 E	S13 W50
	LOCKHEED	29	1556	S10 W57
	LOCKHEED	29	1605	N14 W22
*	SAC PEAK	29	1632 E	N16 W27
	LOCKHEED	29	1645	S10 E12
	LOCKHEED	29	1657	N11 E88
	LOCKHEED	29	1709	N15 W22
	LOCKHEED	29	1733	N13 W30
	LOCKHEED	29	1818	N18 W26
	HAWAII	29	1822	N12 W22
	LOCKHEED	29	1843	S02 E07
	LOCKHEED	29	1853	N12 E70
	LOCKHEED	29	1856	N15 W23
	HAWAII	29	1902	N11 W24
*	HAWAII	29	2008	N12 W27
*	HAWAII	29	2022	N11 W22
	LOCKHEED	29	2121	N14 W31
	LOCKHEED	29	2121	N13 W31
	LOCKHEED	29	2134	N09 00
	LOCKHEED	29	2200	N13 W23
	LOCKHEED	29	2217	N15 W31
	SAC PEAK	29	2220	N15 W30
	HAWAII	29	2222	N12 W33
	LOCKHEED	29	2345	S08 E20
	LOCKHEED	29	2359	N13 W23
	LOCKHEED	29	2359	N13 W23
	HAWAII	30	0002	N10 W24
	LOCKHEED	30	0108	S11 E06
	LOCKHEED	30	0113	N07 W37
	HAWAII	30	0114	S02 E06
	LOCKHEED	30	1455	N12 E85
	LOCKHEED	30	1507	N14 W36
	LOCKHEED	30	1507	N14 W36
	LOCKHEED	30	1709	S12 E85
	LOCKHEED	30	1853	N12 E75
	LOCKHEED	30	1927	S13 E85
	LOCKHEED	30	2009	N12 E79
	LOCKHEED	30	2305	S12 E80
	LOCKHEED	30	2345	N12 E75

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F-189 Part B).

SOLAR FLARES

FEBRUARY 1960

OBSERVATORY	DATE FEB 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MITAKA	01	0346 E	0414 D		N07	W39	5550	28 D	1	1	0346	3.93	5.90	1.98	91	
GOOD HOPE	01	1122	1130	1122	S15	W08	5551	8	1		1122	2.10	2.20			
CAPRI S	01	1344 E	1407 D		S14	W10	5551	23 D	1	3	1346	3.00	3.10			
CAPRI S	01	1408	1541 D		N07	W20	5550	93 D	1	3	1416	3.00	3.10			
CAPRI S	01	1501	1520 D		S14	W10	5551	19 D	1	3	1505	3.00	3.10			
CAPRI S	01	1554 E	1607 D		S14	W12	5551	13 D	1	2	1555	2.10	2.10			
STOCKHOLM	02	0910 E	0925 D		S26	E53	5561	15 D	1	1	0912	2.00	4.00			
GOOD HOPE	02	1021	1043	1024	S17	W18	5551	22	1		1024	2.30	2.50			
GOOD HOPE	02	1038	1050	1042	N12	W66	5550	12	1		1042	1.00	2.50			
GOOD HOPE	02	1220	1238	1227	N12	W66	5550	18	1		1227	.90	2.20			
GOOD HOPE	02	1307	1316 D	1311	N25	W17	5553	9 D	1		1311	2.10	2.50			
CAPRI S	03	0817 E	0859 D		S15	W35	5551	42 D	2	3	0820	5.00	6.20			S-SWF
GOOD HOPE	03	0817	0930	0820	S13	W36	5551	73	2		0820	7.10	8.90			
CAPRI S	03	0934 E	1015 D		N10	W23	5552	41 D	1	3	0957	3.00	3.30			
GOOD HOPE	03	0945 E	1017	0950	N10	W22	5552	32 D	1		0950	2.50	2.80			
NIZAMIAH	03	0954	1017	1002	N06	W20	5552	23	1	1	1002	2.13	2.31	1.70		S-SWF
GOOD HOPE	03	1215	1241 D	1231	N10	W26	5552	26 D	2		1231	10.10	11.80			Slow S-SWF
CAPRI S	03	1215 E	1305		N09	W25	5552	50 D	2	3	1231	5.00	5.50			
MITAKA	03	2353 E	0004 D		S15	W44	5551	11 D	1+	1	2353	5.90	7.91	3.14	134	S-SWF
MITAKA	04	0115 E	0132 D		N10	W33	5552	17 D	2+	1	0115	6.19	7.55	3.17	213	S-SWF
GOOD HOPE	04	0719	0734	0724	S13	W48	5551	15	1		0724	1.50	2.20			
GOOD HOPE	04	0738	0813 D	0757	S12	W49	5551	35 D	1		0757	2.60	4.00			S-SWF
ATHENS	04	0845 E	0857		N10	W41	5552	12 D	1			1.70	2.10			S-SWF
KODAIKNL	04	0845 E	0858 D	0845	N10	W37	5552	13 D	1+	4	0845	5.20	6.80	2.00	154	
GOOD HOPE	04	1306	1355	1316	S15	W50	5551	49	2		1316	5.50	8.60			Slow S-SWF
MITAKA	05	0204 E	0226		S16	W06	5560	22 D	1+	1	0220	7.86	8.02	2.45	107	
MITAKA	05	0315 E	0325		S15	E20	5562	10 D	2	1	0320	5.90	6.37	1.78	183	
GOOD HOPE	05	0645	0701	0648	S16	W08	5560	16	1		0648	2.70	2.80			
CAPRI S	05	0956 E	1023 D		S15	E18	5562	27 D	1	1	1002	2.50	2.70			
GOOD HOPE	05	0956	1040	0957	S14	E17	5562	44	1		0957	1.70	1.80			
R O HERST	05	1350 E	1400	1350 E	N11	W50	5552	10 D	1	3	1351	1.90	3.60			Slow S-SWF
MITAKA	06	0306 E	0325		S17	W73	5551	19 D	1	1	0306	3.44		2.22		Slow S-SWF
GOOD HOPE	06	1222	1247		N11	W67	5552	25	1		1231	1.20	3.20			S-SWF
CAPRI S	06	1224 E	1241 D		N10	W65	5552	17 D	1	2	1227	2.00	4.90			
GOOD HOPE	06	1340	1346 D	1344	S13	W80	5551	6 D	1		1344	1.80				Slow S-SWF
GOOD HOPE	07	1013	1043	1019	N15	W78	5552	30	1		1028	.60				
UCCLE	07	1020 E			N13	W80	5552		1	3						
GOOD HOPE	07	1134	1215	1137	N14	W81	5552	41	2		1137	1.70				
UCCLE	07	1135			N12	W80	5552		2	4						
GOOD HOPE	08	0834	0906	0841	N14	W90	5552	32	1		0841	.30				
MITAKA	09	0115	0208	0125	S16	W33	5562	53	1	1	0121	2.75	3.30	2.50	134	
UCCLE	09	1045	1130	1058	S13	W45	5562	45	2	2	1058	7.00	10.00			
NIZAMIAH	10	0427	0434 D		S13	W50	5562	7 D	1	1	0427	1.82	2.93	1.50		S-SWF

SOLAR FLARES

FEBRUARY 1960

OBSERVATORY	DATE FEB 1960	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. .%	PROVISIONAL IONOSPHERIC EFFECT
ATHENS	11	0750 E	0800		N12	E51	5570	10 D	1+			2.50	4.20			
MITAKA	13	0425	0447	0435	N13	E24	5570	22	1	1	0435	2.95	3.57	1.85	107	
GOOD HOPE	16	1129	1149	1132	N22	W65	5566	20	1		1132	.80	2.30			
MITAKA	20	0235	0259	0238	S20	E63	5580	24	2	1	0238	9.83	20.45	1.75	152	Slow S-SWF
MITAKA	20	0302 E	0331	0314	S20	E63	5580	29 D	1	1	0302	1.47	3.06	1.95	110	Slow S-SWF
KODAIKNL	20	0307 E	0313 D	0307	S20	E63	5580	6 D	1	2	0307	2.60	5.50	1.60	135	
GOOD HOPE	20	1054	1112	1102	N12	W69	5570	18	1		1102	1.60	4.90			
CAPRI S	20	1531 E	1546 D		N17	E90	5584	15 D	1	1	1538	2.00				
GOOD HOPE	21	0755	0817	0758	N14	W85	5570	22	1		0758	.70				
GOOD HOPE	21	1355	1411 D	1358	N18	W70	5570	16 D	1		1358	.90	3.10			
MITAKA	22	0313 E	0321		N04	E32	5581	8 D	1	1	0313	1.47	1.75	2.27	107	
GOOD HOPE	22	1352	1405 D	1400	N11	E41	5581	13 D	3		1400	12.00	17.00			S-SWF
MITAKA	23	0246 E	0253	0247	N08	E37	5581	7 D	1	2	0248	2.95	4.01	2.39	120	
MITAKA	23	0551	0646	0604	S20	E20	5580	55	1+	2	0551	4.92	5.56	3.32	146	Slow S-SWF
GOOD HOPE	23	0637 E	0722		S19	E22	5580	45 D	1		0640	3.10	3.40			
MITAKA	24	0121 E	0126 D		N07	E47	5584	5 D	1	1	0121	4.92	7.18	1.64	100	
NIZAMIAH	24	0435	0442	0437	N08	E15	5581	7	1	2	0437	2.43	2.60	1.50		
NIZAMIAH	24	0539	0546	0542	N08	E14	5581	7	1	2	0542	2.43	2.60	1.50		
NIZAMIAH	24	0930 E	0959	0953	N08	E15	5581	29 D	1	2	0953	2.43	2.60	1.50		
STOCKHOLM	24	1425 E	1435 D		S21	E06	5580	10 D	1	1	1525	2.50	2.60			
GOOD HOPE	26	0702	0808	0711 U	S19	W17	5580	66	2		0711	6.60	7.10			
ATHENS	26	0709 E	0835		S20	W16	5580	86 D	2+			11.20	11.70			
CAPRI S	26	0742	0845 D		S25	W15	5580	63 D	1	3	0746	4.80	5.30			
CAPRI S	27	0829 E	0852 D		S12	E62	5587	23 D	2	3	0845	4.00	8.00			
GOOD HOPE	27	1117	1137	1120	S21	W30	5580	20	1		1120	1.90	2.20			
CAPRI S	27	1426 E	1449 D		S12	E62	5587	23 D	2	1	1430	3.00	6.00			
CAPRI S	28	1020	1049 D		N11	W07	5584	29 D	1	3	1024	2.00	2.00			
CAPRI S	29	1324 E	1347 D		N22	E05	5586	23 D	1	3	1344	2.50	2.70			
CAPRI S	29	1522 E	1635 D		N22	E04	5586	73 D	1	2	1550	3.50	3.80			

These flare reports are addenda to the February 1960 flares published in CRPL-F 187 Part B, March 1960.

COMMERCE - STANDARDS - BOULDER

CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKNAL KODAIKANAL
KRASNYA KRASNAYA PAKHRA
LOCKHEED LOS ANGELES
MOSCOW-G MOSCOW - GAISH
R O EDIN ROYAL OBSERVATORY, EDINBURGH
R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK SACRAMENTO PEAK
SCHAUINS SCHAUINSLAND
USNRL UNITED STATES NAVAL RESEARCH LABORATORY

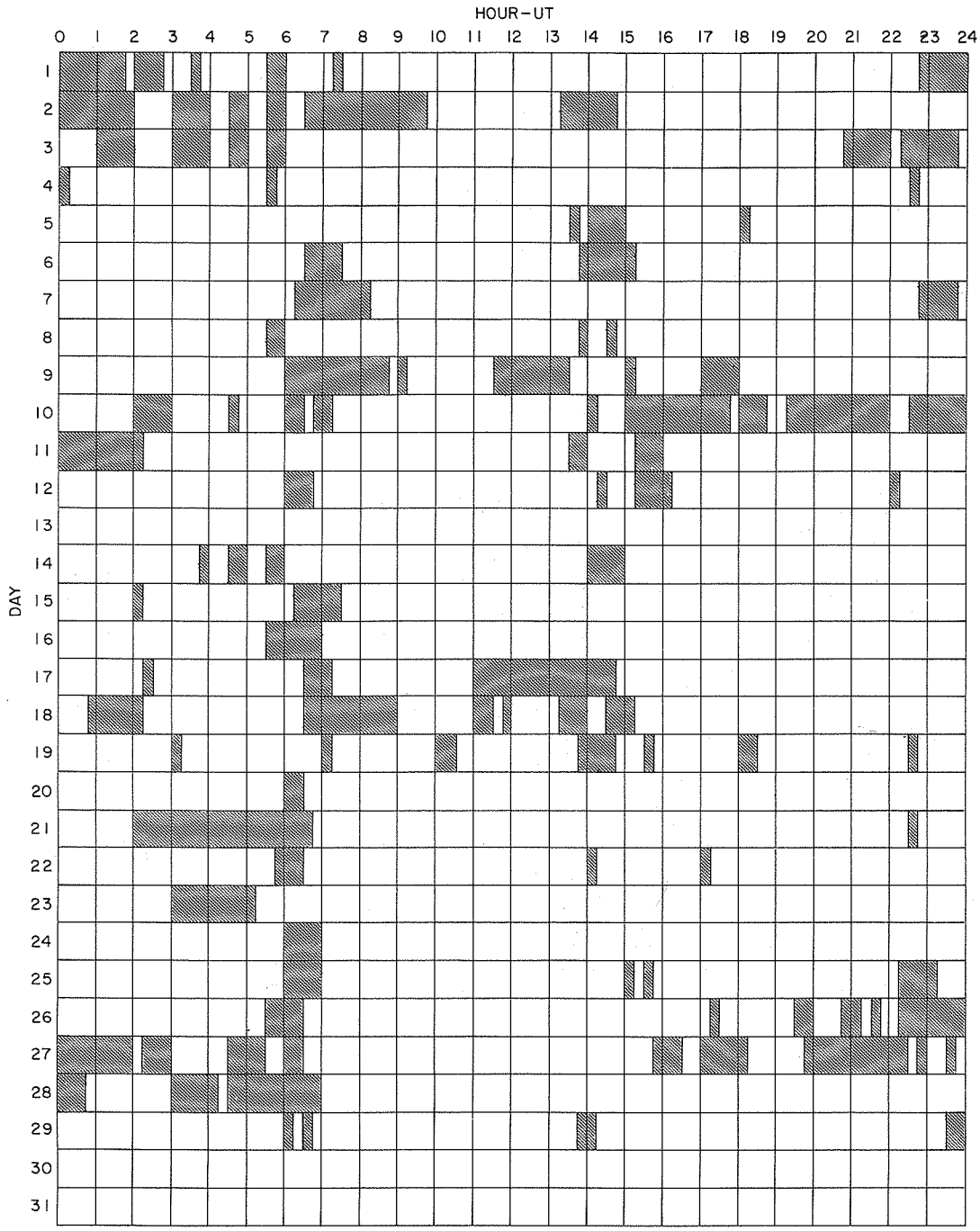
SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

FEBRUARY 1960



Stations Include:

Anacapri (Swedish)
Arcetri
Athens
Dunsink
Good Hope
Hawaii
Huancayo
Kodaikanal
Lockheed
McMath
Meudon
Mitaka
Nizamiah
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Uccle

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

APRIL 1960

Apr. 1960	Start UT	End UT	Type	Wide Spread Index	Impor-tance	Observation Stations	Known Flare, UT CRPL-F 189B
1	0850	0947	S-SWF	5	3	NE, OK, SW, CW‡‡+, CW***	0845
2	0518	0607	S-SWF	1	2-	OK	*
2	0842	0902	S-SWF	4	2	BR, NE, SW	0834
2	2014	2045	G-SWF	5	1	AD, FM, MC, PR	
3	0001	0018	S-SWF	5	1-	AD, OK, PR	
3	0305	0330	S-SWF	5	2+	AD, SY, TO, CW‡‡+	*
3	0520	0620	S-SWF	5	3	NE, OK, TO, CW‡‡+	*
3	1157	1308	S-SWF	5	2	FM, MC, NE, PR, SW, CW***	1045
4	0854	0924	S-SWF	5	2+	KU, NE, CW**	0846
5	0140	0417	Slow S-SWF	5	3+	AD, AN, CA, OK, SY, TO, CW‡‡+	*
5	1520	1627	Slow S-SWF	5	2+	BE, FM, HU, MC, NE	1603E
5	1936	2005	S-SWF	4	1+	BE, HU, MC, PR**	1932
6	1134	1154	S-SWF	5	2	NE, PR, SW, CW***	1132E
7	1857	2005	Slow S-SWF	5	2+	BO, FM, MC, PR, WS	
9	0440	0540	S-SWF	1	2	OK	*
9	1050	1110	S-SWF	1+	5	NE, PR	1045E
9	1515	1530	Slow S-SWF	5	1	BE, FM, HU, MC, PR	1517
9	1648	1702	Slow S-SWF	5	1	BE, BO, FM, HU, MC, PR	1644
10	0042	0110	S-SWF	5	1+	AD, OK, TO	0039
12	0928	0938	S-SWF	3	2	BR, NE	*
16	1525	1540	S-SWF	5	1	BE, FM, HU, KU, MC, NE, PR, WS	
23	0938	0958	S-SWF	1	2	KU	0931
23	1234	1305	S-SWF	5	1+	HU, MC, PR, PU	1232
23	1500	1545	Slow S-SWF	5	1+	BE, FM, HU, MC, PR, PU	1514
24	0318	0343	S-SWF	5	1	AD, OK	*
27	2212	2250	S-SWF	5	1+	AN, BE, BO, FM, MC, PR, WS	
28	0120	0300	Slow S-SWF	5	3+	AD, AN, BO, CA, OK, TO	0130E
29	0205	0355	Slow S-SWF	5	2+	AD, AN, BO, OK	0107D
29	0355	0500	Slow S-SWF	5	2+	AD, CA, NE, OK, CW++	*
30	1248	1412	S-SWF	3	2+	BE, FM	

* = No known flare patrol
BO = Boulder, Colorado
BR = Breisach, G.F.R.
CA = Canberra, Australia
KU = Kuhlungsborn, G.D.R.
NE = Nederhorst den berg, Netherlands
PU = Prague, Czechoslovakia
SW = Enkoping, Sweden
SY = Sydney, Australia
TO = Hiraiso Radio Wave Observatory, Japan
CW+ = Cable and Wireless, Hong Kong
CW++ = Cable and Wireless, Singapore
CW** = Cable and Wireless, Somerton, England
CW*** = Cable and Wireless, Brentwood, England

Addendum to table in CRPL-F 188 Part B, p. IIIl:
Feb. 4, 1960 0840-0902 S-SWF 1 3 LI, NE

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc.)

APRIL 1960

Apr. 1960	CLASS SCNA	CLASS SEA	CLASS Burst	WIDE SPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
*1			3	5	1300E		2300D		BO, HA (Noise Storm)
1		1+		5	0853		1000		A3, DU, HO, NE
1		1		1	2237	2245	2300D		A7
2		1		1	0658		0718		NE
2		1		3	0840	0846	1000		DU, NE
2			1-	1	1222		1225		RE
2			1+	1	1239		1247		RE
2		1		1	1242		1312		NE
*2			3	5	1300E		2300D		BO, HA, RE (Noise Storm)
2		2		3	1427	1450	1520D		A1, A3, A5
2		1		1	1526		1537		NE
2		1+		5	2022		2050		A1, A3, A5, A10, RE
2			1	1	2034		2040		RE (Series of Bursts)
3		2		1	0525				HO
3		2-		5	1157	1215	1311		A1, A3, A5, A10, DU, PA, RE
3			1	3	1559		1602		MC, RE
3			1	5	1753		1755		BO, MC, RE
3		1		1	1755		1757		RE
3			2-	5	1840		1843		BO, MC, RE
3		1+		5	2027		2115		A3, A5, A7, BO, MC
3			1	4	2029		2031		BO, MC
3	1			5	2035	2046	2100	10%	BO, HA, MC
4		1+		3	0854		0939		A3, NE
4		1		1	0954		1014		NE
5		2		1	0140		0310		TO
5	2			4	1523	1540		35%	BO, MC
5		1+		5	1600	1615	1724		BO, DU, NE, PA
5	1			4	1601	1605	1615	15%	BO, MC
5	1			5	1932	1935	1952	20%	BO, HA, MC
5		1		5	1937	1952			BO, HA
5			1	4	1955		1959		BO, MC
5			1	4	2130		2133		BO, MC
5			1	4	2137		2139		BO, MC
5			1	1	2312		2325		HA, (Series of Bursts)
6		1+		5	1135		1210		A5, NE
6			1	4	1846		1901		BO, MC
7			1	4	1756		1758		BO, MC
7	2			4	1902	1937	2045	30%	BO, MC
8		1		1	0649		0724		NE
9		1		5	1053		1118		NE, PA
9		1+		5	1645	1658	1712		A1, A3, BO, MC
9	1			4	1646	1658	1710	15%	BO, MC
10	2			1	0045	0048	0102	40%	HA
10			1	5	2023		2024		BO, HA, MC
11			1	4	1836		1838		BO, MC
12			1	1	0036		0039		HA
12		1		1	0928				NE
13			1	1	0002		0005		HA
13			1	1	0033		0034		HA
13			2	1	0043		0052		HA
15			1	5	1736		1738		BO, HA
16		1-		3	1329	1337	1354		A1, A5, A10
16	1			4	1527	1530	1538	15%	BO, MC
16		1+		5	1529		1549		A1, A3, A5, A9, A10, BO, NE, PA
16			1	5	2017		2018		BO, HA, MC
16			1	5	2211		2215		BO, HA
16			1	1	2231		2256		HA
17			1	1	0007		0011		HA
17			1	1	0103		0105		HA

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption / Sudden Enhancements Of Atmospherics / Solar Noise Bursts At 18 Mc.)

APRIL 1960

Apr. 1960	CLASS SCNA	CLASS SEA	CLASS Burst	WIDE SPREAD INDEX	TIME (UNIVERSAL TIME) BEGIN	TIME (UNIVERSAL TIME) MAX.	TIME (UNIVERSAL TIME) END	PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
19			1	1	0146		0158		HA
19			1	1	0204		0206		HA
19			1	1	0225		0226		HA
19			1	1	0249		0254		HA
19			1	1	0316		0318		HA
19			1	1	0332		0334		HA
19			1	4	1721		1727		BO, MC
19			1	4	1837		1841		BO, MC
19			1	5	1930		1938		BO, HA, MC
19			1	5	1957		2000		BO, HA, MC
20			1	1	0000		0003		HA
20			1	1	0022		0025		HA
20		1		3	1311	1328	1405		A3, A10
20	1			4	1742	1746	1752	15%	BO, MC
21			1	4	1524		1537		BO, MC
21			1	1	2254		2258		HA
21			1	1	2355		2400		HA
22			2	1	0002		0010		HA
22			1	4	1435		1441		BO, MC
22		1+		5	1444		1507		A1, A5, A10, NE
22		2+		3	1602	1617	1648		A1, A5, A10
22			1	5	2156		2159		BO, HA
23	1			4	1525	1531	1533	10%	BO, MC
23		1		5	1525	1532	1541		A10, BO, NE
23		2-		5	1922	1933	1952		A1, A3, A5, A6, A10
23		2+		5	2013	2019	2040		A1, A3, A5, A6, A9
23			1	5	2013		2015		BO, HA
23			1	5	2045		2050		BO, HA
24			2	5	1608		1618		BO, MC, RE
24			1	4	1858		1904		BO, MC
24			2	1	2300U		0045U		HA
25			1	1	0135		0138		HA
25			1	5	2050		2052		BO, HA
26		1		1	1012		1047		NE
26			1	4	1736		1738		BO, MC
26			1	4	1835		1838		BO, MC
26			1	5	2032		2034		BO, HA
27			1	4	1624		1627		BO, MC
27			1	5	2005		2009		BO, HA, MC
27			1	5	2022		2024		BO, HA, MC
27		1+		5	2213	2224	2327		A1, A3, A5, A6
28				1	0123	0131	0224		HA
28		1		1	0127	0133	0159		HA
29		1		3	1622	1629	1652		A1, A5
29			1	5	2027		2035		BO, HA, MC, RE
29			1	5	2050		2052		BO, HA, MC
29			1+	4	2106		2109		BO, MC
29			1	5	2151		2153		BO, HA, MC, RE
29		1		4	2158	2203	2225		A5, BO
29	1			5	2158	2202	2210	15%	BO, HA
30		1		1	1442		1502		PA
30			1	4	1611		1613		BO, MC

*Noise storm on Boulder and Hawaii records April 1 and 2: maxima April 1 at 1700-1715, 1839-1855, 2114-2120; April 2 at 1449-1510, 1610-1645, 1715-1740, 1825-1835, 2034-2040.

Notes: 1. TO = Tokyo
2. No usable records from Sacramento Peak, N.Mex., during April 1960.

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

Ottawa — MAY 1960 — 2800 Mc

May 1960	Type*	Start UT	Duration Hrs:Mins	Maximum Time UT	Maximum Peak Flux	Remarks
1	2 Simple 2	2243	1.5	2243.3	36	
2	3 Simple 3 f	2023	9	2025.5	6	
3	3 Simple 3	1920	9	1924	6	
3	3 Simple 3	2017	20	2026	4	
4	6 Complex	b1025	>1 30	1046	600	In sunrise
	4 Post Increase		1 15		15	
4	3 Simple 3 f	1850	40	1855.5	7	
6	9 Precursor A	1339	27.5		7	
	6 Complex f	1406.5	1 30	1434.5	695	
	4 Post Increase		6 00		70	
	2 Simple 2 f	1339	9	1343.5	30	
8	2 Simple 2	1438.5	1.5	1439	14	
9	- Record Incomplete A	b1040	>3 30	indet.	*35	*Maximum during this period. (In sunrise oscillations.)
9	6 Complex	1216	5	1217	9	
10	2 Simple 2	1809	4	1810.3	20	
12	9 Precursor	1250	50		8	
	6 Complex f	1340	1 20	1426	250	
	4 Post Increase		6 15		38	
13	2 Simple 2	1618.2	3	1618.8	72	
14	1 Simple 1	1708	2	1708.5	7	
14	1 Simple 1	1824	6	1827	4	
15	2 Simple 2	2308.5	2	2309	8	
16	1 Simple 1	1502	2.5	1503	6	
16	3 Simple 3	b1915	>1 45	1930	7	
17	2 Simple 2	1950.2	2.5	1950.5	70	
21	3 Simple 3	2023	1 27	2048	6	
22	3 Simple 3	1705	30	1710	4	
23	2 Simple 2	1320.5	13	1324.3	85	
	4 Post Increase		1 30		10	
26	6 Complex	1832	15	1834	17	
27	6 Complex	1416.5	> 18*	1426.5	17	*Interference
27	2 Simple 2 f	2128	4.5	2130	135	
	4 Post Increase		30		6	
28	2 Simple 2	1818.8	2	1819	25	
28	3 Simple 3 A	1854	35	1857	5	
	2 Simple 2	1908.8	2	1909.2	20	
29	8 Group (2)	1542	29			
	2 Simple 2 f	1542	4	1543.7	13	
	2 Simple 2	1553.5	2.5	1554.7	10	
	4 Post Increase		15		4	
29	1 Simple 1	1840.5	3.5	1841.5	6	
30	8 Group (2)	1809.5	6.3			
	1 Simple 1	1809.5	1	1809.8	4	
	2 Simple 2	1813.3	2.5	1814	13	
30	1 Simple 1	2202	2	2203.3	6	
31	2 Simple 2	2113	5	2115	77	
	4 Post Increase		1 20		4	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

MAY 1960

BOULDER

167 MC

May 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	3	1203.5	1203.5	0.5	2*
1	3	1225.3	1225.0	0.3	2*
1	3	1253.3	1253.3	0.2	2*
1	3	1321.0	1321.2	0.3	2
1	3	1408.0	1408.0	0.1	2
1	7	1555	1820	590 D	3
2	6	1157 E	2204	825 D	2
3	6	1155 E	1922	827 D	2
3	8	1830.1	1832.0	5	3
3	8	1916.2	1917.1	8	2
4	6	1157 E		827 D	2
4	8	1609.0	1611.2	5	2
5	3	1606.8	1606.8	0.1	1
5	3	1611.0	1611.0	0.3	2
5	3	1649.5	1649.5	0.7	2
6	1	1205.0	1205.0	0.1	1*
6	9	1420.0	1553.5	130	3
6	7	1630		240	3
6	3	2142.2	2142.2	0.2	2
7	3	0049.0	0050.6	3.0	2**
7	3	0053.2	0053.5	0.8	3**
7	3	1322.3	1322.3	0.3	3
7	2	1620	1635	62	1
7	3	2021.0	2021.0	0.1	1
8	3	0046.2	0046.2	0.2	2**
8	3	1439.0	1439.0	0.1	2
9	3	0043.0	0045.5	3.8	1
9	3	1731.8	1732.0	1.2	1
9	3	1855.9	1855.9	0.1	2
9	8	2347.3	2348.9	2.0	3
10	3	1434.0	1434.2	2.0	3
11	6	1148 E		190	1
11	3	1530.8	1530.8	0.1	2
11	7	1630		75	1
11	7	1953		350	1
12	9	1330.0	1407.9	135	2
12	3	2055.5	2055.5	0.2	1
12	3	2355.5	2355.5	0.3	2
13	3	0026.9	0026.9	0.1	2
13	3	0059.2	0059.2	0.8	2**
13	3	1304.0	1304.0	0.3	2
13	3	1346.2	1346.2	0.2	2
13	3	1520.1	1520.1	0.2	2
13	2	1535.5	1537.8	3.4	2
13	8	1543.0	1543.6	2.0	2
13	3	1555.1	1556.6	2.4	2
13	3	1618.6	1618.6	0.2	2
13	3	1632.0	1632.0	0.1	2
13	3	1912.2	1912.2	0.4	2
13	8	2045.0	2046.5	2.6	1
13	7	2130		260 D	2
13	8	2153.0	2159.2	10	2
14	6	1145 E		846 D	2
14	8	1207.0	1208.8	3.0	3*
14	8	1433.4	1435.8	4.6	2
14	8	1823.0	1826.0	3.0	3
14	3	2000.4	2001.0	1.0	3
14	3	2313.3	2313.9	1.8	2
15	3	1325.0	1325.0	0.2	2
15	3	1328.3	1328.3	0.1	1
15	3	1357.0	1357.0	0.3	2
15	3	1359.0	1359.0	0.5	3
15	3	1401.5	1401.5	0.4	2
15	3	1459.0	1459.8	1.0	2
15	8	1518.0	1519.8	6	3
15	3	1538.0	1538.5	1.0	2
15	3	1607.9	1607.9	0.1	1
15	3	1706.0	1706.0	0.3	1
15	3	1807.0	1807.0	0.2	2
15	2	1944.0	1945.8	3	2
15	3	1951.0	1952.1	1.2	2
15	3	2131.0	2131.2	1.0	2
15	2	2148.0	2148.5	1.5	2
15	3	2209.4	2209.5	0.8	3
15	8	2308.0	2308.8	3.0	2
15	8	2317.8	2320.7	5	3
15	3	2332.5	2332.5	0.4	2
16	3	0010.9	0010.9	0.2	2
16	3	0013.1	0013.1	0.1	2
16	3	0024.2	0024.2	1.6	3
16	3	0040.8	0040.8	0.7	2
16	3	0134.0	0134.9	1.0	2**
16	2	1250.0	1251.1	3.0	2
16	3	1333.0	1333.0	0.2	2
17	9	1739.3	1751.2	31	2
18	3	1216.0	1216.0	0.3	2*
18	3	1405.0	1405.0	0.5	3
18	3	1508.0	1508.0	0.1	2
18	3	1535.5	1535.5	0.1	2
18	3	1546.9	1546.9	0.1	2
18	3	1608.6	1608.6	0.8	2
18	3	1613.2	1613.2	0.6	2
18	3	1657.0	1658.2	2.0	2
18	3	1737.0	1737.9	1.0	2
18	2	1740.5	1742.5	2.5	2
18	3	1749.8	1749.8	0.9	3
18	2	1751.5	1752.0	4.0	2
18	3	1930.0	1930.5	1.0	2
18	3	1932.8	1932.8	0.1	2
18	2	1958.6	1959.5	2.4	2
19	3	0132.0	0132.0	0.5	2**
19	6	1140 E		856 D	2
19	2	2247.0	2254.2	13	3
20	6	1140 E		856 D	3
21	6	1137 E	1731	860 D	3
21	8	1701.2	1704.9	9	3
21	3	2145.0	2146.4	2.0	3
21	3	2219.1	2219.1	0.3	3
22	6	1138 E	1348	860 D	2
22	8	2118.0	2119.1	3.8	2
23	8	1323.0	1323.9	6	2
24	7	0135		23 D	2**
24	6	1135 E	2358	868 D	3
25	6	1133 E	1859	869 D	3
26	6	1131 E	2141	874 D	3
26	8	1833.0	1833.8	13	3
27	6	1133 E	1507	874 D	3
28	6	1133 E	1413	873 D	2
28	3	1818.6	1819.1	1.0	3
28	3	2330.4	2330.9	0.6	3
29	6	1132 E		872 D	1
29	3	1541.8	1542.0	1.1	2
30	3	0040.0	0040.0	0.2	2
30	3	0111.2	0111.6	1.8	3
30	6	1131	1738	875 D	1
30	2	1355.5	1356.2	2.0	2
30	8	2041.5	2042.9	2.1	3
30	8	2242.2	2243.1	4.5	3
30	3	0142.0	0142.5	3.0	3**
31	3	1450.9	1450.9	0.3	3
31	3	1505.0	1505.0	1.0	2
31	3	1612.5	1612.9	1.0	2
31	3	1616.9	1616.9	0.3	2
31	3	1624.2	1624.2	0.1	2
31	3	2020.5	2021.0	0.6	2
31	3	2025.9	2025.9	0.6	2

COMMERCE - STANDARDS - BOULDER

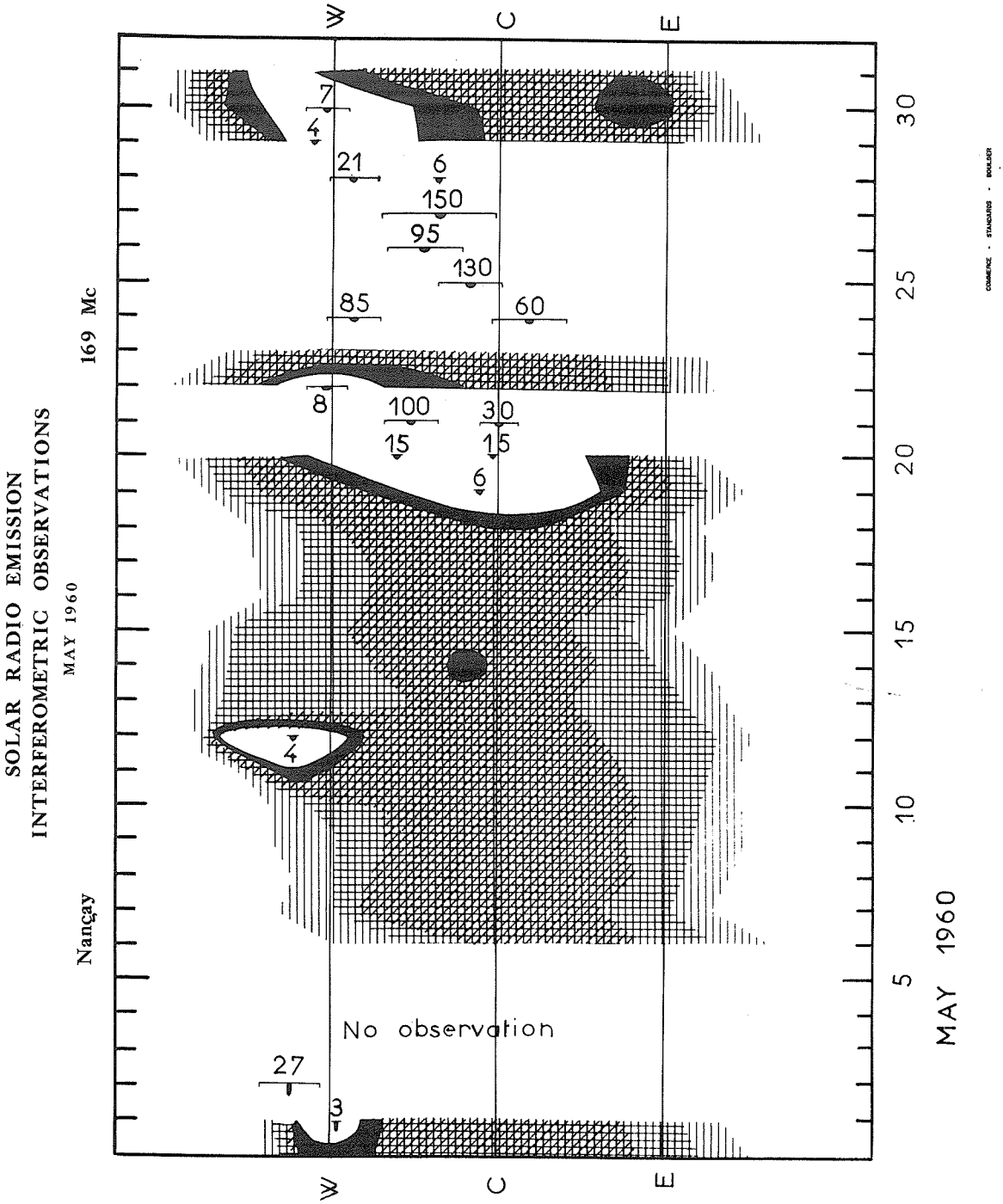
* On sunrise pattern.
** On sunset pattern.

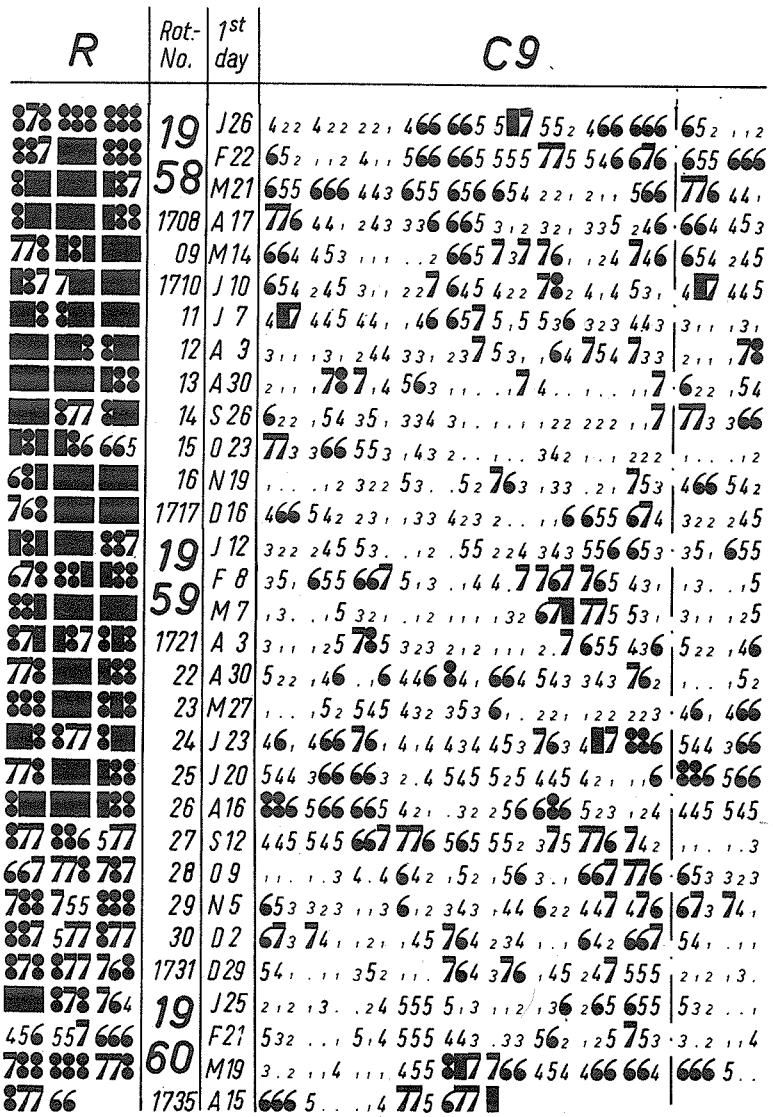
TIMES OF OBSERVATION

BOULDER

May 1960	U.T.	May 1960	U.T.
1	1159-0141	16	1142-0151 I 1829-2315
2	1157-0142	17	1142-0152 I 1830-2330
3	1155-0142	18	1140-2056 I 2034-0045
4	1157-0144 I 2208-2300		2127-0153
	I 0037-0144	19	1140-0156 I 1632-1830
5	1156-0143	20	1140-0156
6	1155-0144 I 2205-2225	21	1137-0157
7	1154-0145	22	1138-0158
8	1153-0147 I 1830-2250	23	1135-0158 I 2130-0115
9	1150-0147 I 2040-2208	24	1135-0203
10	1150-1310	25	1133-0202
	1331-0149	26	1131-0205
11	1148-0149	27	1133-0207
12	1145-0150	28	1133-0206
13	1145-0150	29	1132-0206 I 2115-2345
14	0145-0151	30	1131-0206
15	1145-0151 I 1145-0151	31	1130-0207 I 1955-2005
			I 2355-0017

COMMERCE - STANDARDS - BOULDER


SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS
MAY 1960
169 Mc
Nançay
W
C
E
7
4
21
6
150
95
130
85
60
8
100
30
15
15
6
4
No observation
27
3
5
10
15
20
25
30
MAY 1960



Symbol	.	,	2	3	4	5	6	7	8	■
R = 0		1 / 15	16 / 30	31 / 45	46 / 60	61 / 80	81 / 100	101 / 130	131 / 170	171
C9 = 0	1	2	3	4	5	6	7	8	9	
Cp = 0.0 / 0.1	0.2 / 0.3	0.4 / 0.5	0.6 / 0.7	0.8 / 0.9	1.0 / 1.1	1.2 / 1.4	1.5 / 1.8	1.9	2.0 / 2.5	

Göttingen, May 1960

Daily Indices C9 (scale 0 to 9)

arranged in solar rotations

R is relative sunspot number.

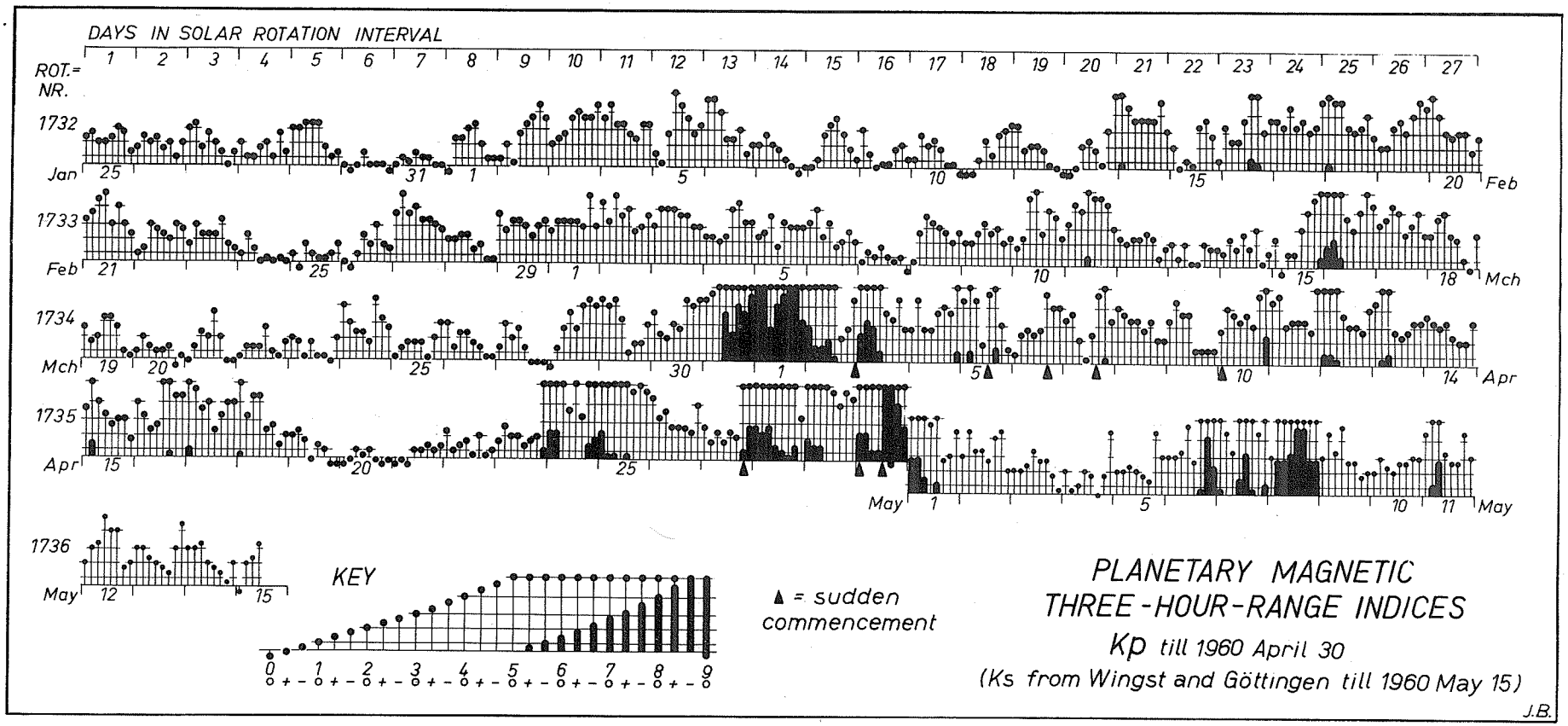
COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

APRIL 1960

Apr. 1960	C	Values Kp — Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	2.0	9- 9- 7o 8o	8+ 9- 9- 7+	65+	241	Five
2	1.5	7o 6o 6o 6+	5+ 2o 3- 4+	40-	62	Quiet
3	1.5	7- 7+ 7o 6-	4- 3+ 4+ 3-	41-	68	
4	1.1	3- 4+ 3- 3-	4- 4o 4- 6-	29+	26	9
5	1.2	4+ 6- 4+ 2-	5- 6o 3o 1+	31o	34	19
						20
6	0.9	1o 2+ 3- 2o	3- 5- 4o 4o	23+	17	21
7	1.1	3+ 4- 2o 1-	2+ 5- 5+ 3+	25+	22	22
8	0.9	4o 4- 3+ 3+	3- 3+ 2o 2o	24+	16	
9	0.7	3+ 4+ 4- 4-	1+ 1+ 1+ 1+	20+	14	
10	1.2	3- 4o 4- 3+	4- 3o 5- 7-	32-	33	
11	1.0	4+ 5- 3o 3+	3+ 3+ 3- 5o	30-	25	Five
12	1.2	6- 6- 5+ 4-	3o 3o 3- 4o	33o	35	Disturbed
13	1.0	4+ 5+ 6- 3-	2+ 3- 3+ 3+	30-	28	
14	0.8	4- 3+ 3o 3+	2+ 2o 2o 3+	23o	14	1
15	1.0	4- 6o 4o 3+	3- 3o 3o 2-	27+	24	3
						24
16	1.2	4o 3+ 2+ 3-	5o 5+ 4+ 4+	31+	29	28
17	1.1	6- 5- 4- 4o	2+ 3+ 4o 4o	32-	30	30
18	1.0	5+ 3+ 4+ 4+	2+ 3- 1+ 2o	26-	21	
19	0.1	2o 2+ 2- 0+	1+ 1o 0o 0o	9-	4	
20	0.0	0o 0+ 1o 1-	1o 0+ 0o 0+	4-	2	
21	0.1	0o 0+ 0o 1o	1o 1+ 1o 1+	6o	3	Ten
22	0.2	2+ 1o 1+ 2-	1- 2o 1- 1o	11-	5	Quiet
23	0.8	2- 3- 2o 2o	1+ 2- 2o 6-	19o	15	
24	1.6	7- 7- 5o 4-	5o 3+ 6o 6+	43-	66	6
25	1.4	7- 5+ 5+ 5o	5+ 5- 5o 5-	42o	57	8
						9
26	1.0	4+ 3+ 4- 3-	3- 3- 2+ 4o	26-	18	14
27	1.3	3- 2- 2+ 2-	2+ 2o 6- 7o	25+	31	19
28	1.7	7o 7- 7o 6o	6- 5+ 6o 3+	47o	84	20
29	1.4	6+ 6o 6o 5o	5- 4o 5- 4+	41o	55	21
30	2.0	7- 7- 6- 6-	9- 9o 8o 7o	57+	174	22
						23
						26
Mean:	1.07			Mean:	42	

COMMERCE - STANDARDS - BOULDER



COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

APRIL 1960

Apr. 1960	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day index	Advance forecasts (J-reports) for whole day; issued in advance by:				Geomagnetic K_{Fr}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-7 days Final	1-7 days Js	1-3 days SDW	1-7 days J	Half (1)	Day (2)
1	1+	1+	1o	1+	2	1	3	1	(1+)	4		5	4	(7)	(7)
2	1o	1+	3+	5-	1	1	3	4	(2+)	2	2		5	(5)	3
3	3-	1+	5-	6o	5	2	3	5	(3+)	4	4		7	(6)	(4)
4	6-	4+	6o	6o	5	4	6	6	5+	5	5		7	3	3
5	5-	4+	6-	5+	6	4	6	5	5o	6	6		6	(4)	3
6	6o	5+	7-	6o	5	5	6	6	6o	6	6		6	2	3
7	6-	5o	6+	6-	5	5	6	5	6-	6			6	2	3
8	5o	5o	6+	7-	5	5	6	6	6-	6			6	(4)	2
9	6-	5+	6+	7-	6	5	6	6	6o	7			7	(4)	1
10	7-	6-	7-	6-	6	6	7	7	6o	7			7	(4)	(4)
11	5o	4-	6-	6+	4	5	6	5	5o	7			7	3	3
12	5-	4-	5+	6-	5	3	6	6	5-	5			5	(4)	3
13	5o	4+	5+	6+	4	4	6	6	5o	5			5	(4)	3
14	6o	5o	6+	7-	5	5	6	6	6o	5			5	3	2
15	6+	6o	6+	7-	6	5	6	7	6+	6			6	3	2
16	7-	6-	6+	6o	7	6	7	7	6o	6			6	2	3
17	5-	5-	6+	7-	6	4	6	6	6-	6			6	(4)	3
18	6-	5-	6-	7-	6	5	6	6	6-	6			6	(4)	2
19	7-	6+	7-	7-	6	5	6	7	7-	6			6	2	1
20	7-	6+	7o	7-	7	6	6	7	7-	6			6	1	0
21	7o	6+	7o	7o	7	6	7	7	7-	7			7	0	2
22	7-	7-	7o	7o	7	6	7	7	7-	7			7	2	1
23	7-	6+	7-	6+	7	6	7	7	7-	7			7	2	2
24	3+	3+	6-	5-	6	2	6	5	(4o)	7			7	(5)	(5)
25	3+	3-	5o	5-	4	3	6	5	(4-)	7			7	(5)	(4)
26	4+	4-	5o	6-	4	4	6	6	5-	5	5		7	3	2
27	6-	4o	6-	5-	6	5	6	6	5-	6	6		7	2	(4)
28	2+	1+	3+	4-	3	2	2	3	(3-)	3		3	6	(6)	(4)
29	3o	2+	4o	5o	3	2	4	5	(3+)	4		4	6	(5)	3
30	4o	2+	3+	1+	4	2	4	2	(3-)	3	3	5	6	(6)	(8)

Score:									
Quiet Periods	P	11	11	16	14	14		12	
	S	10	4	8	13	7		6	
	U	0	0	1	0	1		4	
	F	0	0	0	0	0		0	
Disturbed Periods	P	4	9	2	1	3		0	
	S	3	6	2	2	2		0	
	U	1	0	1	0	1		2	
	F	1	0	0	0	2		6	

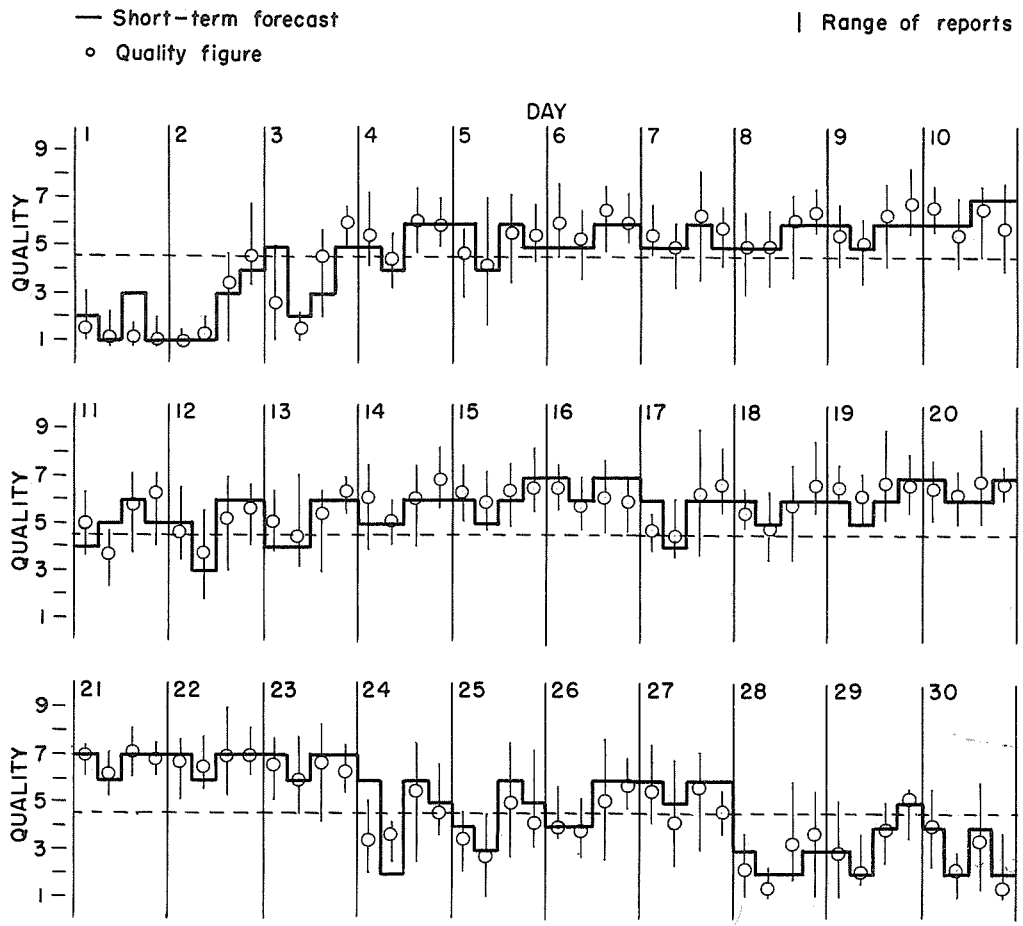
( ) represent disturbed values.

All times are Universal time (UT).

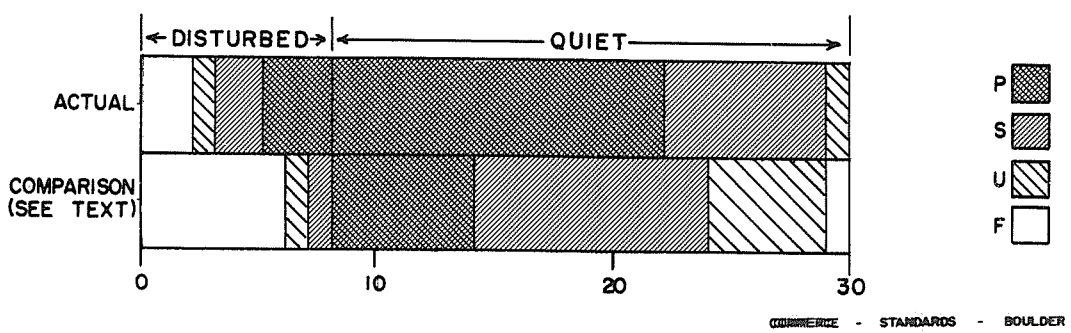
COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

APRIL 1960

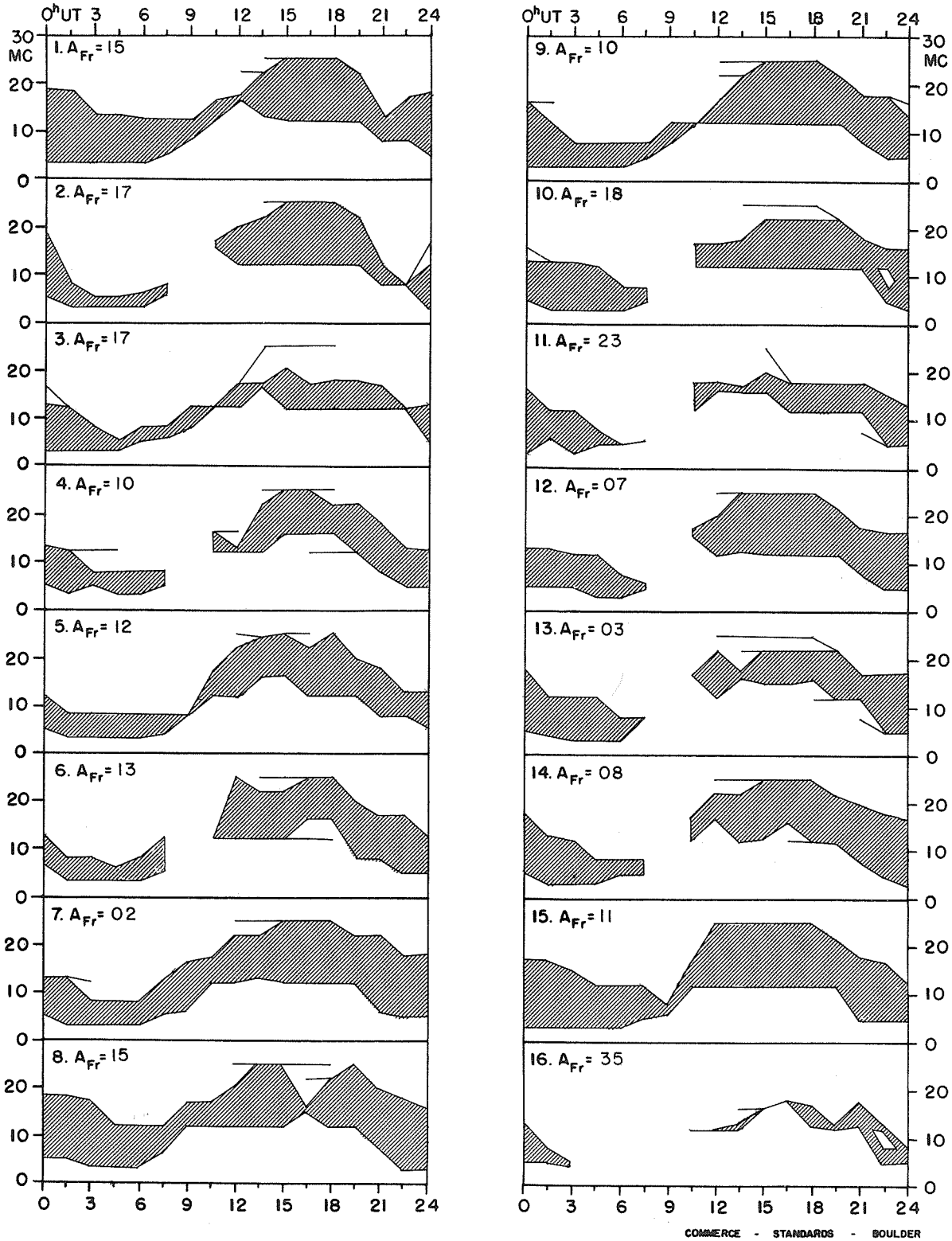


OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE

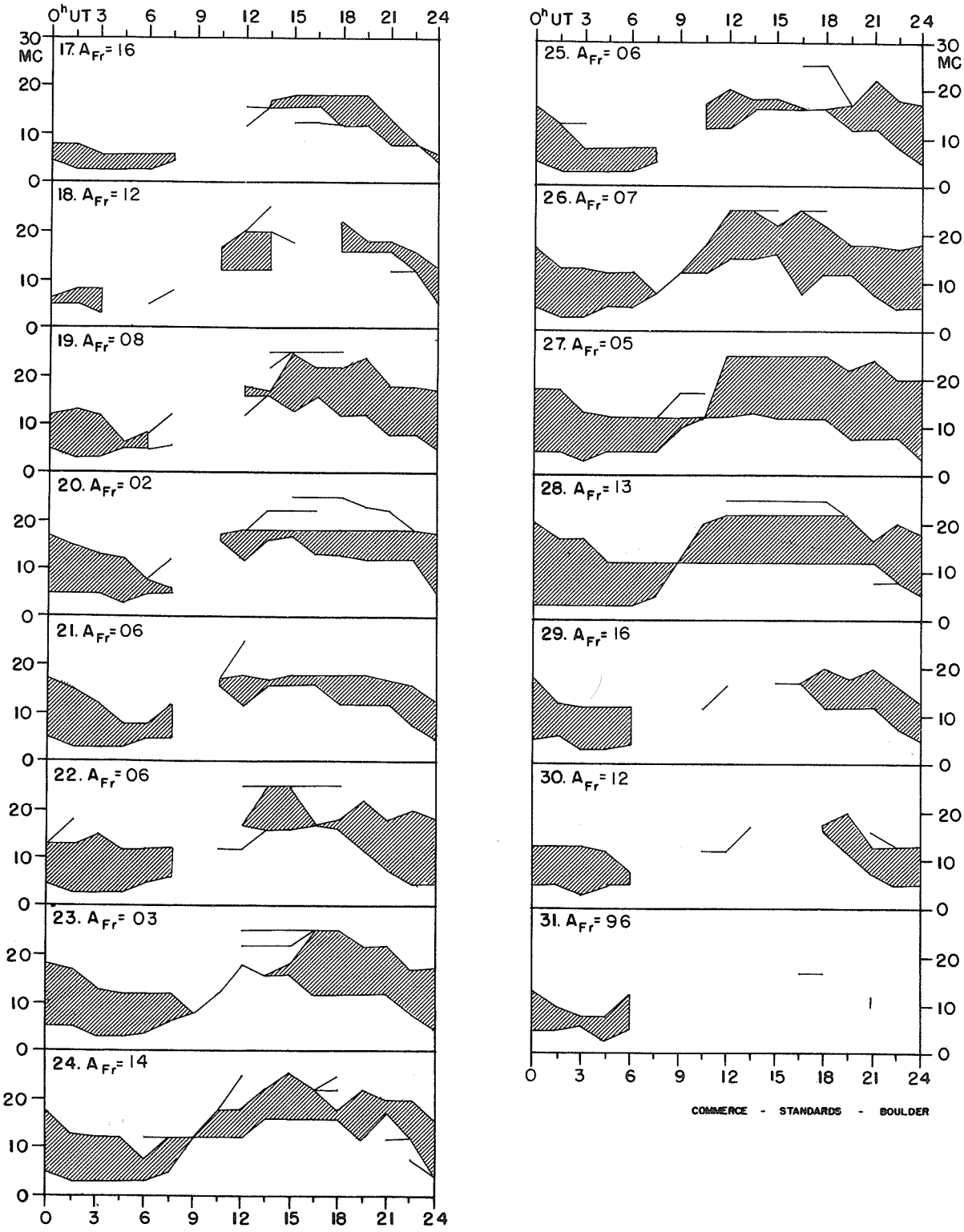


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

MARCH 1960



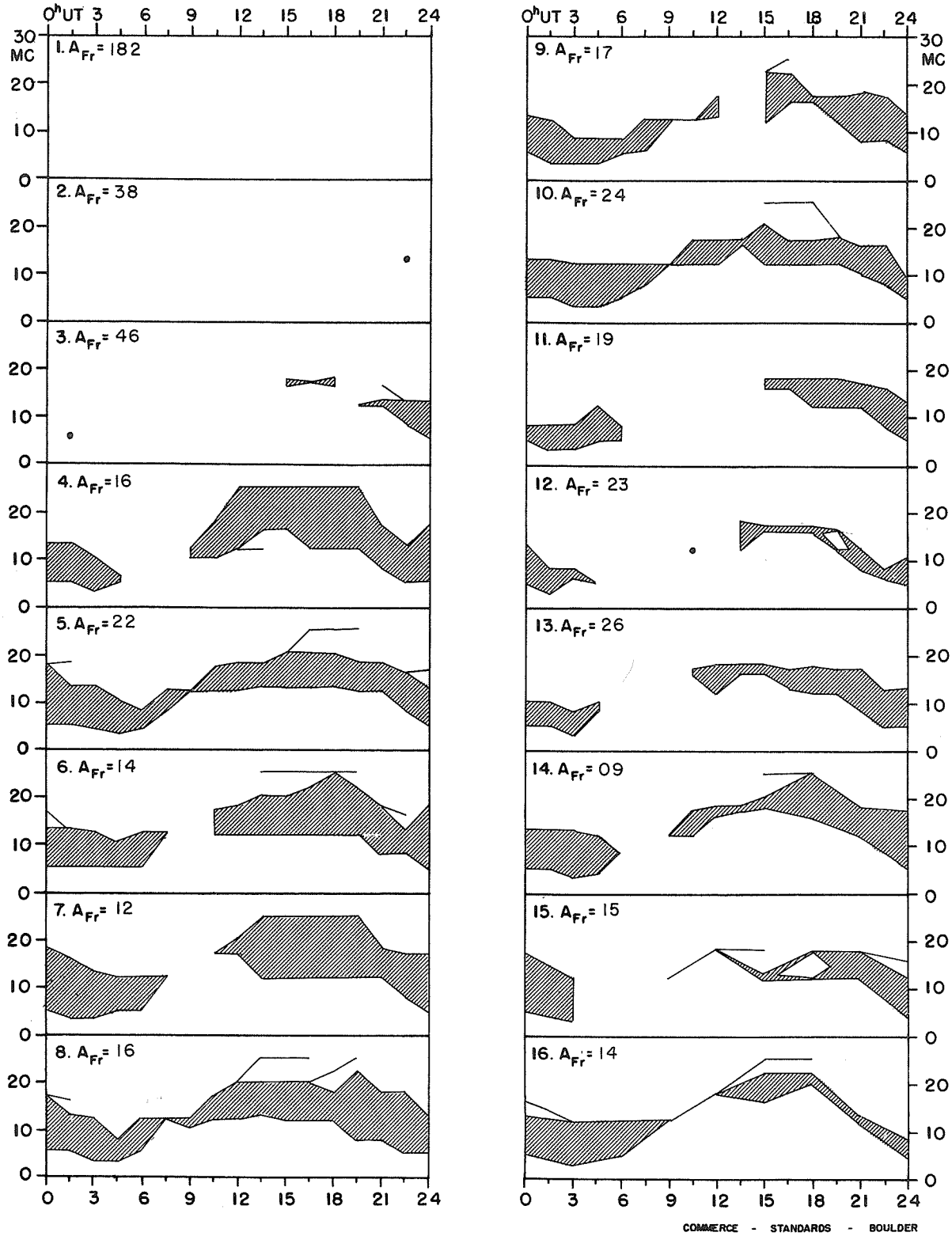
MARCH 1960

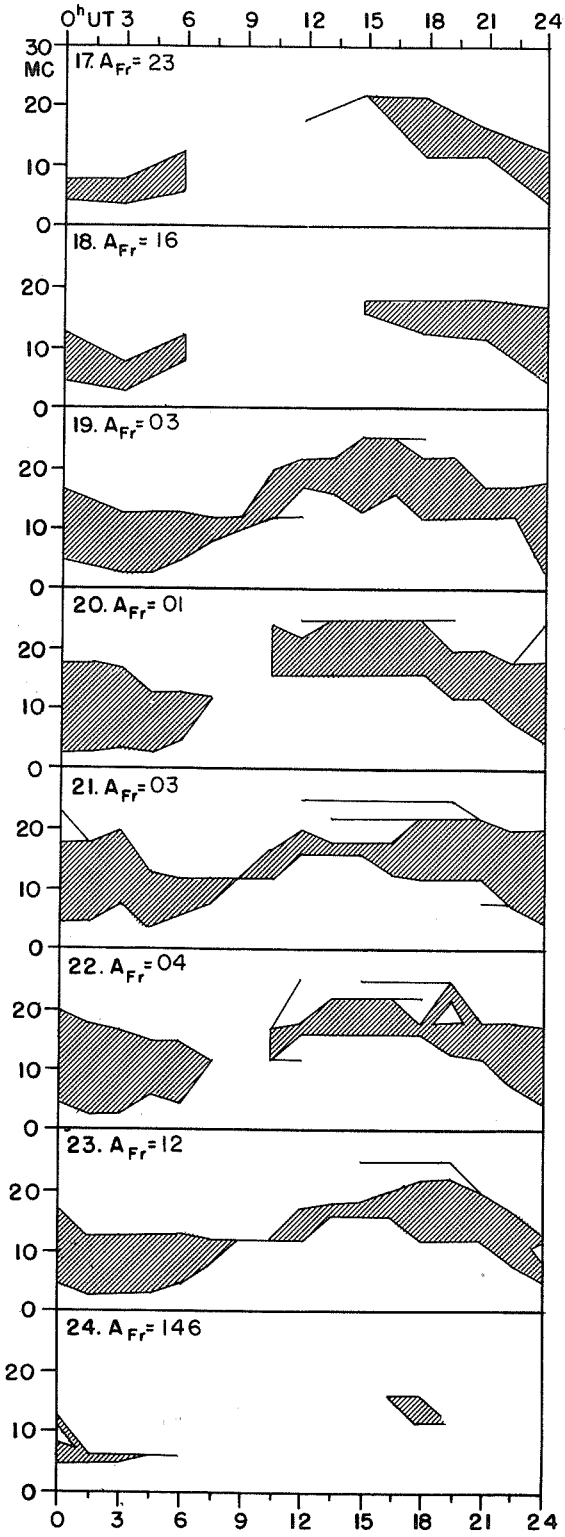


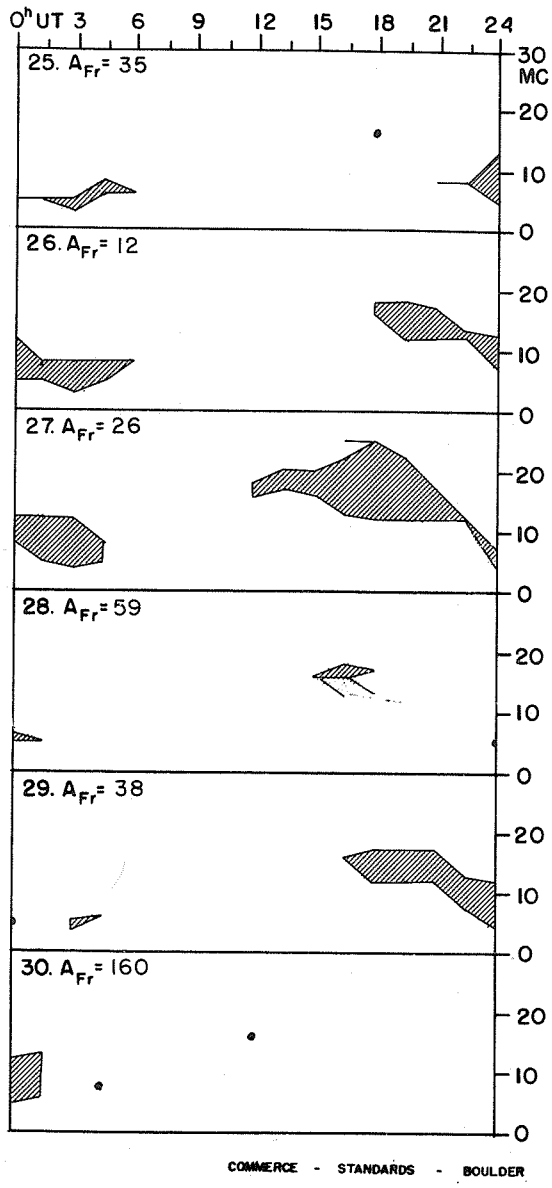
Adapted from Observations by Deutsches Bundespost

USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1960







Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

APRIL ,1960

Apr. 1960	North Pacific 12-hourly quality figures		Short-term forecasts issued at		Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:				Geomagnetic K_{Si}	
	0700 to 1900	1900 to 0700	0600	1800		1-7 days Final	1-7 days Jps	1-3 days SDW	1-7 days Jp	Half Day (1)	Day (2)
1	3	2	3	3	(3)	4			4	(8)	(8)
2	2	6	3	4	(3)	3	3		5	(7)	(4)
3	5	6	2	5	5	4	4		6	(7)	3
4	7	5	5	6	6	4	4		6	3	3
5	5	6	5	5	6	5	5		6	(4)	(4)
6	6	7	6	6	7	6	6		6	2	3
7	7	5	5	5	6	5			5	2	(4)
8	6	6	6	6	6	6			6	(4)	2
9	7	7	6	6	7	6			6	(4)	2
10	7	5	6	6	6	6			6	(4)	(4)
11	6	5	5	5	5	6			6	3	3
12	6	6	5	6	6	5			5	(5)	3
13	6	7	4	5	6	5			5	(5)	2
14	7	7	6	7	7	6			6	3	2
15	7	6	6	7	7	6			6	(4)	2
16	6	6	6	6	6	6			6	3	(5)
17	6	6	6	6	6	6			6	(5)	3
18	6	7	6	5	6	6			6	(4)	2
19	6	7	6	6	7	6			6	1	0
20	7	7	7	7	7	6			6	0	0
21	6	6	7	6	7	7			7	0	1
22	6	6	7	5	7	7			7	2	1
23	6	5	6	6	6	7			7	2	2
24	5	5	5	5	5	6			6	(6)	(6)
25	5	5	5	4	(4)	6			6	(6)	(4)
26	6	6	5	5	5	6			6	(4)	3
27	6	5	6	6	6	6			6	3	(4)
28	3	3	4	2	(3)	3			3	(7)	(6)
29	5	3	2	4	(4)	3			3	(6)	(4)
30	2	3	2	2	(2)	3		3	4	(8)	(8)

Score:				
Quiet Periods	P 12	10	8
	S 9	13	15
	U 2	2	0
	F 3	1	1
Disturbed Periods	P 2	0	2
	S 2	4	3
	U 0	0	0
	F 0	0	1

( ) represent disturbed values.
All times are Universal time (UT)

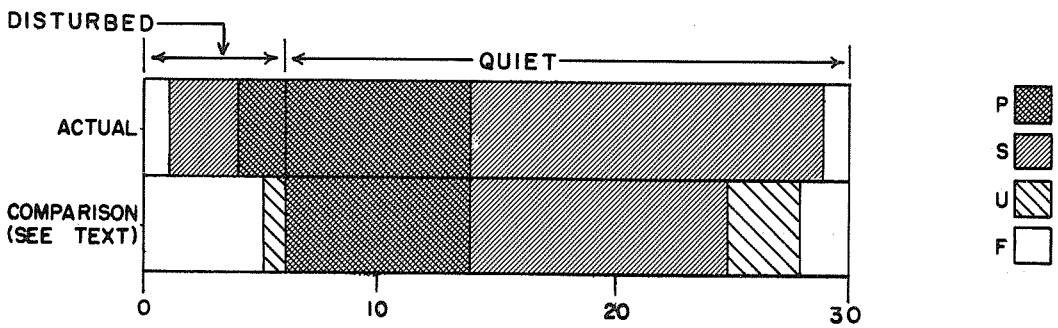
COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

APRIL 1960

OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE



COMMERCE - STANDARDS - BOULDER

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

MAY 1960

Issued Day/Time UT May. 1960	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
1/1600		62		Finish Special World Interval
4/1515	Chicago Cosmic Ray Increase 04/1033Z			
4/1600		63	Cosmic Ray Increase 04/1033Z	
6/2000	Ft. Belvoir Magnetic Storm 05/20XXZ			
7/1600		64	Magnetic Storm Aurora Probable 05/20XXZ	Start Special World Interval
8/1600		65	Magnetic Storm Aurora Probable 08/0422Z	Continue Special World Interval
9/1600		66		Finish Special World Interval
11/0659	Ft. Belvoir Magnetic Storm 11/0438Z			
11/1600		67	Magnetic Storm 11/0438Z	
16/1600		68	Magnetic Storm 16/12XXZ	
23/1850	Ft. Belvoir Magnetic Storm 23/14XXZ			
24/1600		69	Magnetic Storm 24/14XXZ	
29/0515	Ft. Belvoir Magnetic Storm 28/2020Z			
29/1600		70	Magnetic Storm 28/2020Z	

COMMERCE - STANDARDS - BOULDER