

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
OCTOBER 1961

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

SOLAR - GEOPHYSICAL DATA

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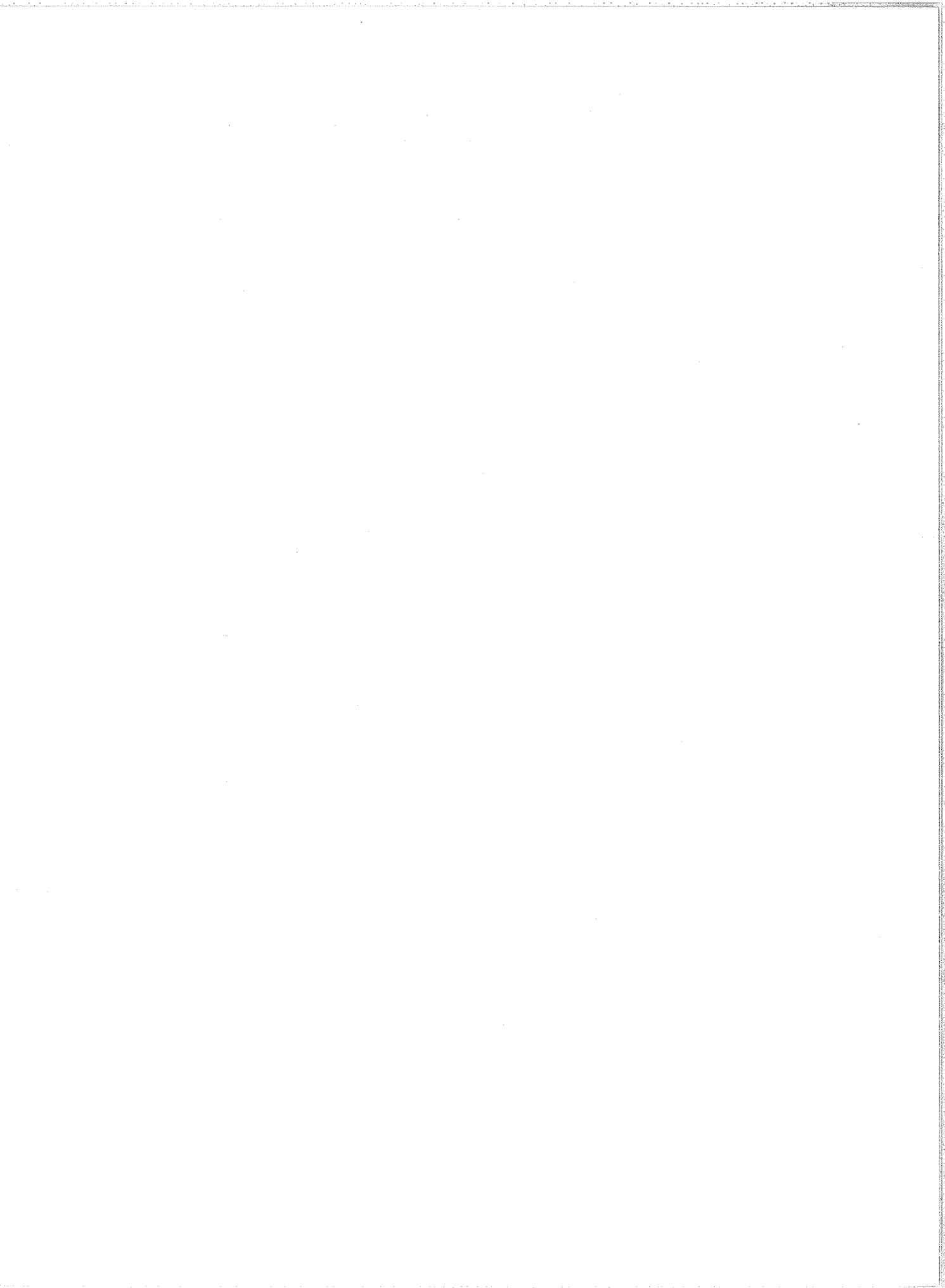
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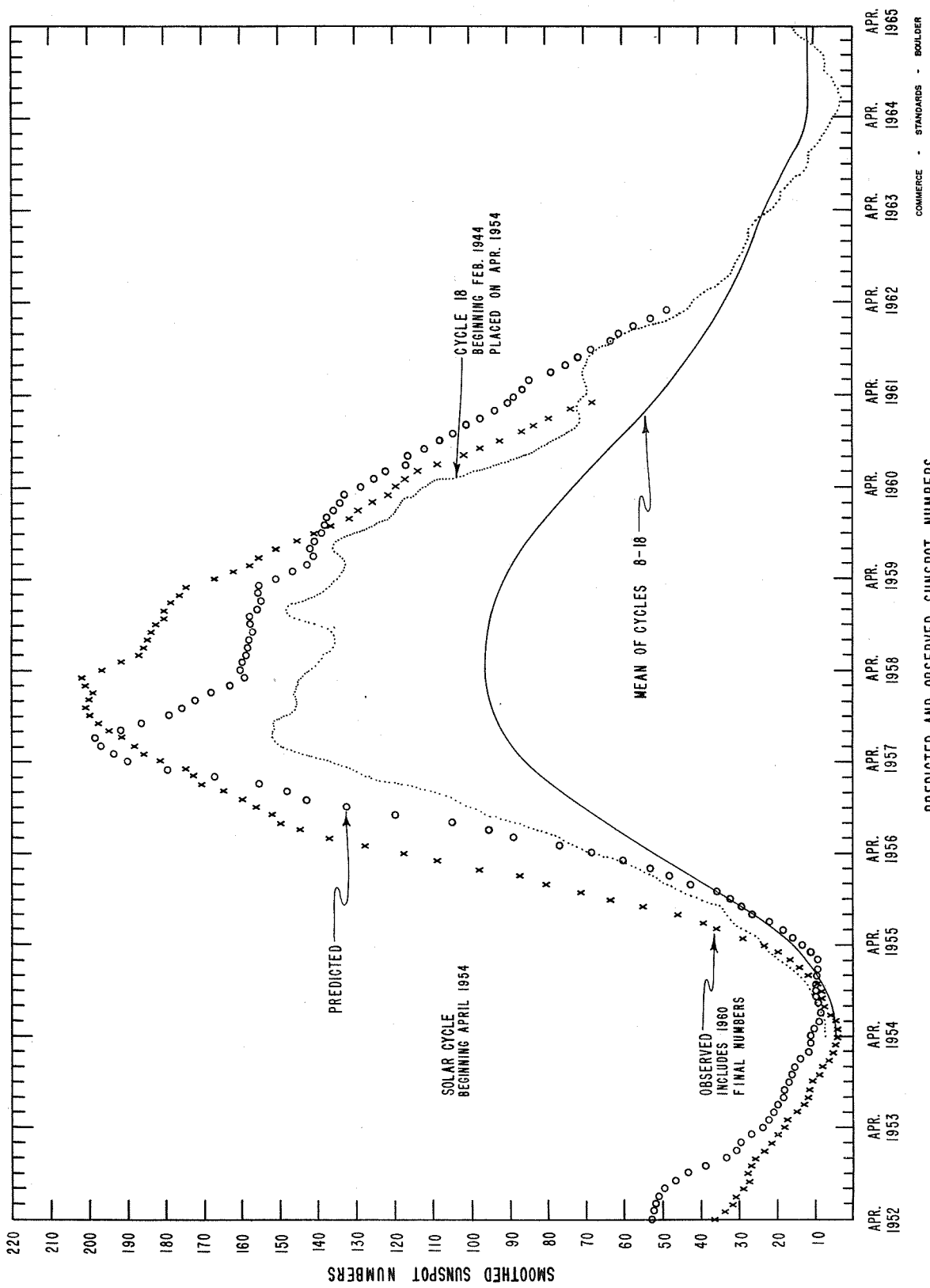


The descriptive text was published separately, November 1960.

DAILY SOLAR INDICES

Aug. 1961	American Relative Sunspot Numbers R_A'
1	20
2	16
3	17
4	8
5	1
6	0
7	5
8	21
9	42
10	62
11	88
12	80
13	82
14	89
15	99
16	86
17	78
18	48
19	46
20	35
21	30
22	23
23	21
24	32
25	35
26	37
27	32
28	28
29	47
30	46
31	47
Mean:	42.0

Sept. 1961	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	51	110
2	53	110
3	54	117
4	55	118
5	55	114
6	57	112
7	51	115
8	33	117
9	45	126
10	57	130
11	62	127
12	68	130
13	89	130
14	109	137
15	114	135
16	102	133
17	84	124
18	73	115
19	70	108
20	46	101
21	41	96
22	40	92
23	43	90
24	74	97
25	83	97
26	74	98
27	67	96
28	69	96
29	58	102
30	52	100
Mean:	64.3	112.4



CALCIUM PLAGE AND SUNSPOT REGIONS

SEPTEMBER 1961

CMP Sep. 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data			Sunspot Data		
				CMP Values Area Int.		History, Age	CMP Values Area Count		History
03.2	S07	6213	6196	500	2	l \ d	2		
03.2	S04	6220	*	(1000)	(1.5)	b / l	-		
04.2	N16	6212	6197	5300	2	l - l	2	990	25
05.8	S03	6215	6191	1800	2	l - l	4		l - l
08.6	N19	6216	6193	600	2	l - l	4		
09.0	S07	6218	6194	1600	2	l \ l	4		
10.3	N14	6217	6195	2800	2.5	l - l	2		
10.3	S10	6219	6194	400	2	l / l	4		
12.0	N03	6221	**	2100	2.5	l - l	2		
13.4	N08	6222	**	3000	3	l - l	2	90	8
14.8	S10	6223	New	6800	3	l - l	1	470	42
16.2	N15	6224	New	3000	3	l - l	1	530	4
17.4	N08	6225	6204	1500	2	l - l	4		
18.9	N06	6229	New	700	3	b / l	1	(50)	(2)
19.8	N25	6226	6205	(600)	(2.5)	l \ d	4		
20.4	N25	6230	****	400	1.5	b ^ d	-		
20.8	N03	6233	New	(300)	(2.5)	b / l	1		
22.0	N16	6227	6206	1800	3	l - l	4	170	1
23.3	S18	6231	6207	1600	2.5	l \ d	3		l - l
23.5	N08	6228	***	1000	3.5	l - l	1	80	3
26.4	N19	6232	6210	900	1.5	l - l	5		
29.0	N05	6234	New	1500	3	l - l	1	70	2

* Same as 6213

** 6199, 6200

*** New in position of 6208

**** Same as 6226

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME		LOCATION		DUR. TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. WIDTH Hr.	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX PHASE	APPROX. LAT.				MGRATH PLACE REGION	MEAS. AREA Sq. Deg.			
LOCKHEED	01	0035	0135	0050	N20 W85	60	1	1	1.00	2.90	1.0	10	
LOCKHEED	01	0035	0135	0110	N20 W85	60	1	1	1.00	2.90	1.0	10	
KODAIKNI	01	0323	0330	0323	N12 E45	7	1	1	2.90	3.20	4.50		
BUCHAREST	01	0700 E	0851 D	0747 U	N14 E45	111	D	3					
WENDEL	01	0817 E	0817 D		N13 E37	6212	1	1	4.00	4.00			
WENDEL	01	1232	1250 D		N11 E35	6212	1	1	3.00				
ONDREJOV	01	1313 E	1320		N19 W90	6206	1	3					
KODAIKNI	02	0323	0341	0330	N12 E28	6212	1	2	2.30	2.60	2.48	114	
MEUDON	02	0600	0730		N12 E26	6212	1	1	3.00	3.00			
WENDEL	02	0602 E	0710 D	0634	N13 E28	6212	1+	3	7.00		2.20		
ONDREJOV	02	0606 E	0626		N13 E29	6212	20	D					
CAPRI S	02	0610 E	0714 D		N12 E32	6212	64	D	1.80	2.20			
KODAIKNI	02	0613 E	0620 D		N08 E30	6212	7	D	1.80	2.10	1.60	114	
ONDREJOV	02	0628	0650	0631	N12 E24	6212	22	1			2.10		
BUCHAREST	02	0653 E	0714	0656	N11 E29	6212	21	D	2.30	2.50	2.10		
BUCHAREST	02	0820	0829	0825	N12 E24	6212	9	1	2.50	3.00	2.10		
ONDREJOV	02	1212	1219	1214	N12 E23	6212	7	1			2.10		
CAPRI S	02	1330	1423 D		N12 E28	6212	53	D	2.50	3.00	2.10		
MEUDON	02	1345	1415 D		N13 E25	6212	30	D	3.92	3.98	2.30	30	SLOW S-SWF
SAC PEAK	02	1348	1426	1358	N15 E26	6212	38	1			2.30		
WENDEL	02	1348	1439 D	1413	N13 E23	6212	51	D	2.87	2.87	2.90	26	S-SWF
ONDREJOV	02	1407 E	1428		N14 E25	6212	21	D	4.00	3.90	2.90	30	
SAC PEAK	02	1638 U	1700	1650	N16 E28	6212	22	U	5.94	5.67	2.60	26	
HUANCAYO	02	1647	1719 D	1648	N13 E25	6212	32	D	2.89	2.87	2.30	26	S-SWF
LOCKHEED	02	2230	2350	2250	N11 E12	6212	80	1	4.00	3.90	2.90	30	
LOCKHEED	02	2230	2350	2312	N11 E12	6212	80	1					
SAC PEAK	02	2234	2356	2250	N10 E15	6212	82	2					
SAC PEAK	02	2234	2356	2238	N10 E15	6212	82	2					
BUCHAREST	03	0703	0730	0720	N13 E10	6212	27	1			3.50		
ONDREJOV	03	0843	0852	0845	N13 E08	6212	9	1					
WENDEL	03	0844	0851 D		N11 E16	6212	7	D					
BUCHAREST	03	0845	0855	0847	N12 E09	6212	10	1					
WENDEL	03	1429 E	1441 D		N12 E80	6217	12	D					
WENDEL	03	1504 E	1507 D		N12 E09	6212	3	D					
LOCKHEED	03	2015	2100 U	2026 U	N07 E80	6217	45	U	1.20	3.00	1.0	10	S-SWF
LOCKHEED	03	2040	2125	2047	N10 E02	6212	45	2	6.00	5.90	3.0	30	
HONOLULU	03	2042	2106	2051	N12 E01	6212	24	1	1.40	1.40	2.50	20	
MCNATH	03	2057 E	2121		N11 W01	6212	24	D	2.00	2.00	2.00	20	
LOCKHEED	03	2347	2425 U	2356	N13 E16	6212	38	U					
ONDREJOV	04	0726	0750	0729	N13 W04	6212	24	1+			4.30		S-SWF
BUCHAREST	04	0727	0749	0735	N12 W03	6212	22	1	3.40	6.00			
WENDEL	04	0727	0752	0732	N11 W08	6212	25	1+	6.00	2.30	2.08	122	
KODAIKNI	04	0730 E	0745	0734	N11 W04	6212	15	D	2.30	2.30			
WENDEL	04	0921 E	1027 D		N12 W02	6212	66	D	5.18	5.18		24	
SAC PEAK	04	1428	1512	1434	N14 W04	6212	44	2	10.00	10.00			
WENDEL	04	1429	1546	1436	N12 W03	6212	77	2	4.00	4.00			
CAPRI S	04	1430	1503 D		N13 W00	6212	33	D	2.10	2.10			
MCNATH	04	1512 E	1515 D		N12 W04	6212	3	D	3.30	3.30			
SAC PEAK	04	1512	1540 U	1520	N14 W04	6212	28	U					

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEP 1961	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT			
		START	END	MAX. PHASE	APPROX.				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Hr	MAX. INT. %	
					LAT.										MER. DIST.
[] CAPRI S	04	1512	1542 D		N13 W00	30 D	1	3	3.50	3.50	3.50				
[] NERA	04	1514	1520 D		N13 W02	6 D	2	1							
[] WENDEL	04	1557	1606 D		N12 W03	9 D	1		3.00		3.00	30			
[] LOCKHEED	04	1834	2010	1846	N13 W07	96	1+	2	5.00	4.90	4.90				
[] LOCKHEED	04	1834	2010	1906	N13 W07	6212						S-SWF			
[] LOCKHEED	04	1834	2010	1918	N13 W07	6212									
[] LOCKHEED	04	1834	2010	1918	N13 W08	6212									
[] SAC PEAK	04	1902	1919 U	1905	N13 W08	6212		3	2.17	2.17	2.17	17			
[] SAC PEAK	04	1911	2018	1924 U	N13 W06	6212		3	5.22	5.22	5.22	30			
[] SAC PEAK	04	1912 E	1950 D	1920	N16 W04	6212		2	2.30	2.30	2.30	30			
[] SAC PEAK	04	1912 E	1950 D	1920	N16 W04	6212		2	4.00	4.00	4.00	20			
[] HONOLULU	04	2140	2240	2151	N13 W14	6212		2							
[] ONDREJOV	05	0903 E	0913 D		N10 W20	6212		3				2.50			
[] ONDREJOV	05	1014 E	1028		N14 W22	6212		3				2.40			
[] ONDREJOV	05	1240	1255	1246	N14 W15	6212		3				2.50			
[] CAPRI S	05	1415	1510 D		N12 W20	6212		3	2.30	2.30	2.30				
[] MCMATH	05	1416	1506 D		N10 W22	6212		2				2.50			
[] WENDEL	05	1428 E	1514 D		N12 W21	6212	1+	2	6.00	6.00	6.00				
[] ONDREJOV	05	1451 E	1458 D		N10 W25	6212	7 D	1							
[] WENDEL	05	1514	1544 D		N14 W17	6212	30 D	1				4.00			
[] SAC PEAK	05	1646	1725 U	1700	N12 W18	6212	39	2	2.10	2.10	2.10	20			
[] SAC PEAK	05	1649	1738 U	1705	N13 W18	6212	49 U	2	2.60	2.60	2.60	24			
[] MCMATH	05	1728 E			N12 W19	6212		2	2.00	2.00	2.00				
[] KODAIKNI	07	0618	0622	0618	N11 W40	6212	4	2	3.00	3.00	3.00	1.44			
[] LOCKHEED	07	2121	2218	2144	S10 E90	6223	57	2	1.10	1.10	1.10	20			
[] CAPRI S	08	1158	1213 D		N07 E22	6217	15 D	3	1.90	1.90	1.90				
[] MEUDON	08	1158	1215		S10 E30	6219	17	1				2.10			
[] MCMATH	08	1445	1710	1518	N18 W52	6212	145	2	5.50	5.50	5.50				
[] MEUDON	08	1450	1630	1520	N20 W53	6212	100	2	8.00	8.00	8.00				
[] CAPRI S	08	1515	1559 D		N19 W52	6212	44 D	2	3.60	3.60	3.60				
[] MEUDON	08	1545	1650		S10 E90	6223	65	1?				5.80			
[] MCMATH	08	1555	1630 D	1603	S09 E89	6223	35 D	2	2.10	2.10	2.10				
[] KODAIKNI	09	0507	0514	0509	N12 W67	6212	7	1+				4.60			
[] CAPRI S	09	0925 E	0943 D		S17 W51	6215	18 D	1	2.30	2.30	2.30	114			
[] MCMATH	09	1207	1309 D	1217	S09 E78	6223	62 D	3	1.30	1.30	1.30				
[] LOCKHEED	09	1801	1820	1806	N20 E80	6224	19	2	1.10	1.10	1.10	10			
[] WENDEL	10	0611 E	0631 D		S12 E66	6223	20 D	1				4.00			
[] WENDEL	10	0658	0748 D		S08 E60	6223	50 D	1+	7.00	7.00	7.00				
[] CAPRI S	10	0700 E	0735 D		S09 E60	6223	35 D	1	3.20	3.20	3.20				
[] LOCKHEED	10	1555	1615 E	1610 U	N10 W90	6212	20 D	3	1.50	1.50	1.50	10			
[] LOCKHEED	10	1950	2052	2010	N08 W80	6212	62	2	1.00	1.00	1.00	10			
[] MCMATH	10	2018 E	2038 D		N13 W90	6212	20 D	1				Slow S-SWF			
[] HONOLULU	10	2018	2054	2030	N16 W90	6212	36	2	.80	.80	.80				
[] ONDREJOV	13	0925 E	0929 D		S14 E10	6223	4 D	1				4.00			
[] WENDEL	13	1007 E	1052 D		S13 E11	6223	10 D	1	3.00	3.00	3.00				
[] WENDEL	13	1020 E	1045 D		S14 E10	6223	25 D	1	3.00	3.00	3.00				

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT		
		START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.				MAGNITUDE PLACE REGION	TIME — UT	MEAS. AREA Sq. Deg.		CORR. AREA Sq. Deg.	MAX. WIDTH Hr
UCCLE	13	1119	1131	1129	N14 E37	6224	12	1	3	2.00	2.30	1129	2.00	2.30	30
WENDEL	13	1126	1207		N14 E37	6224	41	1		4.00	4.00		4.00	4.00	
LOCKHEED	15	0031	0130	0044 U	S14 W11	6223	59	U	2	4.00	4.00	0044	4.00	4.00	10
BUCHAREST	15	0735 E	0757 D	0744 U	S10 W09	6223	22	D	3	2.40	2.40		2.40	2.40	
LOCKHEED	15	2144	2210	2151	N13 E90	6227	26	1	2	1.00	2.90	2151	1.00	2.90	
MEUDON	16	1057	1125	1105	N20 E80	6227	28	2		26.00	26.00		26.00	26.00	
WENDEL	16	1059	1258	1115	N17 E77	6227	119	D	3						
ONDREJOV	16	1100	1148		N19 E75	6227	48	2+	3	4.50	9.00	1106	4.50	9.00	
UCCLE	16	1103	1154	1109	N15 E77	6227	51	D	3	4.00	13.60	1109	4.00	13.60	
CAPRI S	16	1103	1159		N20 E76	6227	56	3	3	3.00	3.00	1106	3.00	3.00	
WENDEL	16	1158 E	1211 D		N22 W33	6222	13	D	1						
KODAIKNL	17	0452	0457	0454	S11 W37	6223	5	1	2	1.90	2.50	0454	1.90	2.50	122
WENDEL	17	0920 E	0935 D		S12 W42	6223	15	D	1	3.00	3.00		3.00	3.00	
ONDREJOV	17	0920 E	0948 D		S11 W39	6223	28	D	3	2.20	2.20	0927	2.20	2.20	
WENDEL	17	0925 E	0948 D		N21 W43	6222	23	D	1	3.00	3.00		3.00	3.00	
ONDREJOV	17	1307	1328		S12 W45	6223	21	1	3	1.88	2.33	1410	1.88	2.33	18
SAC PEAK	17	1402	1515		S09 W29	6223	73	1	3	2.12	2.17		2.12	2.17	
SAC PEAK	17	1726	1744	1734	S14 W46	6223	18	1	3						18
SAC PEAK	17	1748	1808	1756	N13 W27	6224	20	1	3	3.30	5.00	1135	3.30	5.00	
BUCHAREST	18	0715 E	0715 E		S10 W52	6223	35	1	2						
MEUDON	18	1120	1155		S05 W53	6223	46	D	2	3.20	4.00		3.20	4.00	
WENDEL	18	1126	1212		S09 W45	6223	35	2	3	2.40	9.00	1142	2.40	9.00	
ONDREJOV	18	1128	1203	1142	S05 W49	6223	35	1+	3						
CAPRI S	18	1128	1218		S08 W48	6223	50	D	3	3.30	5.30	1135	3.30	5.30	
SALTSJOBADN	18	1135 E	1209		S08 W42	6223	34	D	2	5.00	7.50	1136	5.00	7.50	
BUCHAREST	19	0750 E	0830 D	0810 U	N16 W40	6224	40	D	3						
ISTANBUL	19	0756	0815		N02 W05	6229	19	1							
ISTANBUL	19	0758	0830 D		N16 W40	6224	32	D	1						
UCCLE	20	1021	1026	1022	N14 W64	6224	5	1	3	1.00	2.20	1022	1.00	2.20	2.30
ONDREJOV	20	1022 E	1026		N12 W62	6224	4	D	3						
WENDEL	23	0615 E	0636		N02 E74	6234	21	D	1	4.00	4.00		4.00	4.00	
WENDEL	23	0615 E	0653		N07 E03	6228	38	D	1+	6.00	6.00		6.00	6.00	
CAPRI S	23	0620	0703		N08 E04	6228	43	D	1	2.10	2.10	0640	2.10	2.10	
KODAIKNL	23	0631 E	0641 D	0631	N07 E09	6228	10	D	1	2.30	2.30		2.30	2.30	
ONDREJOV	23	0631 E	0646		N06 E01	6228	15	D	1						
ARCETRI	23	0855 E	0955 D		N01 E80	6234	40	D	1	4.00	4.00	0631	4.00	4.00	
WENDEL	23	0929 E	0950 D		N02 E72	6234	21	D	1	3.00	3.00		3.00	3.00	
WENDEL	23	1101 E	1113 D		N02 E71	6234	12	D	1						
WENDEL	23	1323	1407		N02 E70	6234	44	1							
ONDREJOV	24	0535 E	0545		N03 E60	6234	10	D	1	2.00	4.60	0536	2.00	4.60	2.60
BUCHAREST	24	0700 E	0900 D		N06 W10	6228	120	D	1	2.60	2.60		2.60	2.60	
CAPRI S	24	0708 E	0825 D		N24 W30	6227	77	D	1	2.10	2.10	0737	2.10	2.10	
BUCHAREST	24	0715	0850	0737 U	N23 W27	6227	95	1	1						
MEUDON	24	0720	0845		N20 W30	6227	85	1	1						

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IN- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX.	MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
→ ONDREJOV	24	0732	0803	N25 W30	6227	31	1	3	0737	1.00	3.00	2.00	
WENDEL	24	1350	1431 D	N02 E58	6234	41 D	1				3.00		
WENDEL	24	1402	1426	N02 E66	6234	24	1			1.00	4.00		10
LOCKHEED	24	2107	2127	N02 E90	6235	20	1				5.00		
LOCKHEED	24	2107	2127	N02 E90	6235	20	1						
KODAIKUNL	25	0301 E	0309 D	N05 E53	6234	8 D	1			1.70	2.90	2.92	Slow S-SWF
WENDEL	25	0641	0720	N07 W23	6228	39	1+				8.00		
BUCHAREST	25	0651 E	0720	N08 W23	6228	29 D	1				3.70		
WENDEL	25	1016	1030 D	N07 W26	6228	14 D	1				3.00		
SALTSJOBADN	25	1017 E	1027	N08 W25	6228	10 D	1			4.00	4.40		
WENDEL	25	1127	1150 D	N12 E70	6235	23 D	1				3.00		
WENDEL	26	0620 E	0820 D	N14 E86	6237	120 D	2				9.00		
BUCHAREST	26	0700 E	0903 D	N14 E90	6237	123 D	1				3.60		
BUCHAREST	26	0700 E	0903 D	N12 E63	6235	123 D	1				3.50		
ARCETRI	26	0909 E		N13 E86	6237		1				8.83		
CAPRI S	26	1016 E	1108 D	N16 E66	6235	52 D	2		0909	4.00	8.40		
WENDEL	26	1100 E	1127 D	N17 E65	6235	27 D	1+		1040		7.00		
WENDEL	26	1518 E	1547 D	N10 E57	6235	29 D	1				3.00		
WENDEL	26	1542	1547 D	N14 E80	6237	5 D	1				3.00		
MCMATH	26	2007	2146 D	N12 E60	6235	99 D	1				2.00		
UGCLE	27	1107	1121	N10 E78	6237	14	1			1.50	3.00		
WENDEL	27	1107	1125 D	N14 E71	6237	18 D	1+		1110		6.00		
SALTSJOBADN	27	1109 E	1121 D	N12 E70	6237	12 D	1			1.60	4.20		
CAPRI S	27	1110 E	1124 D	N14 E70	6237	14 D	1			1.40	4.50		
MEUDON	27	1116	1124 D	N13 E75	6237	8	1				3.00		
WENDEL	27	1149 E	1249 D	N13 E69	6237	60 D	1				4.00		
WENDEL	27	1214 E	1232 D	N08 W53	6228	18 D	1				2.70		
CAPRI S	27	1448 E	1503 D	N12 E42	6235	15 D	1			1.30	2.00		
ONDREJOV	27	1449 E	1455 D	N15 E62	6237	6 D	1				2.39		18
MEUDON	27	1456	1508	N13 E63	6237	12	1		1451		2.70		
SAC PEAK	27	1852	1952 U	N12 E57	6235	60 U	1			1.73	2.50		
MCMATH	27	1852	1958	N12 E60	6237	66	1		1922		4.60		
HUANCAYO	27	1950	2007	N13 E70	6237	17	1+		1956		2.20		
MCMATH	27	1950	2016	N13 E74	6237	26	1		1954		2.08		S-SWF
SAC PEAK	27	1952 E	2005 D	N14 E69	6237	13 D	1			1.16	2.00		
CAPRI S	28	0907 E	0920 D	N14 E37	6235	13 D	1		0912		3.00		
WENDEL	28	0907 E	0938 D	N15 E63	6237	31 D	1				2.70		
MEUDON	28	0915	0921	N14 E40	6235	6	□				3.00		
ONDREJOV	28	0916	0931 D	N14 E63	6237	15 D	1		0919		4.00		
WENDEL	28	1018 E	1034 D	N15 E62	6237	16 D	1				3.00		
WENDEL	28	1022 E	1050 D	N13 E31	6235	28 D	1				4.00		
ONDREJOV	28	1520 E	1536	N15 E34	6235	16 D	1		1530		4.00		
WENDEL	28	1524 E	1550 D	N12 E34	6235	26 D	1				20.70		
LOCKHEED	28	2202	2230 D	N15 E29	6235	208	3		2224		22.50		
HONOLULU	28	2208	2330 D	N13 E30	6235	82 D	3		2222		21.90		Slow S-SWF
HONOLULU	28	2208	2330 D	N13 E30	6235	82 D	3		2222		22.50		
→ ISTANBUL	29	1051 E	1105 D	N13 E43	6237	14 D	1+						

SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE SEPT 1961	OBSERVED TIME		MAX. PHASE	LOCATION			DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	TIME - UT	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MATH PLACE REGION	CORR. AREA Sq. Deg.					MEAS. AREA Sq. Deg.	MAX. WIDTH H _o	MAX. INT. %	
— CAPRI S	29	1051	1106		N13 E41	6237	15	1	3	1057	1.80	2.50			
— WENDEL	29	1052 E	1111 D		N13 E44	6237	19 D	1			3.00				
— SALTJOBADN	29	1053 E	1103		N12 E42	6237	10 D	1+	2	1054	4.00	5.10			
— WENDEL	29	1118	1146 D		N13 E44	6237	28 D	1			3.00				
— SALTJOBADN	29	1120 E	1145 D		N12 E42	6237	25 D	1	2	1142	2.50	3.30			
— WENDEL	29	1121 E	1142 D		N13 E41	6237	21 D	1			3.00				
— WENDEL	29	1148 E	1216 D		N09 W82	6228	28 D	1+			6.00				
— WENDEL	29	1415 E	1437 D		N13 E41	6237	22 D	1			3.00				
— WENDEL	30	0810 E	0836 D		N13 E31	6237	26 D	1			3.00				
— WENDEL	30	0940 E	1035 D		N13 E30	6237	55 D	1+			6.00				
— CAPRI S	30	0948 E	1030 D		N14 E31	6237	42 D	1	3	1000	2.00	2.40			
— WENDEL	30	1236 E	1332 D		N13 E28	6237	56 D	1+			6.00				

COMMERCE - STANDARDS - BOULDER

ATHENS BAKOU CAPETOWN CAPRI F CAPRI S CRIMEE HERSTMONCEU	ATHENS, GREECE PERCULL, USSR ROYAL OBSERVATORY, CAPE OF GOOD HOPE CAPRI, ITALY (GERMAN) CAPRI, ITALY (SWEDISH) SIMEIZ, USSR ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND	HONOLULU IKOMASAN KIEV KO KIEV KY LOCKHEED MCMATH MOSCOU	HAWAII, USA KYOTO, JAPAN KIEV GAO, USSR KIEV UNIVERSITY, USSR LOS ANGELES, CALIF., USA MCMATH-HULBERT, PONTIAC, MICH., USA MOSCOW GAISH, USSR	NERA NEDERHORST den BERGH, NETHERLANDS KRASNAYA PAKHRA, USSR SAC. PEAK STOCKHOLM, SWEDEN SCHAULINSLAND, GFR TASHKENT, USSR WENDELSTEIN, GFR
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ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

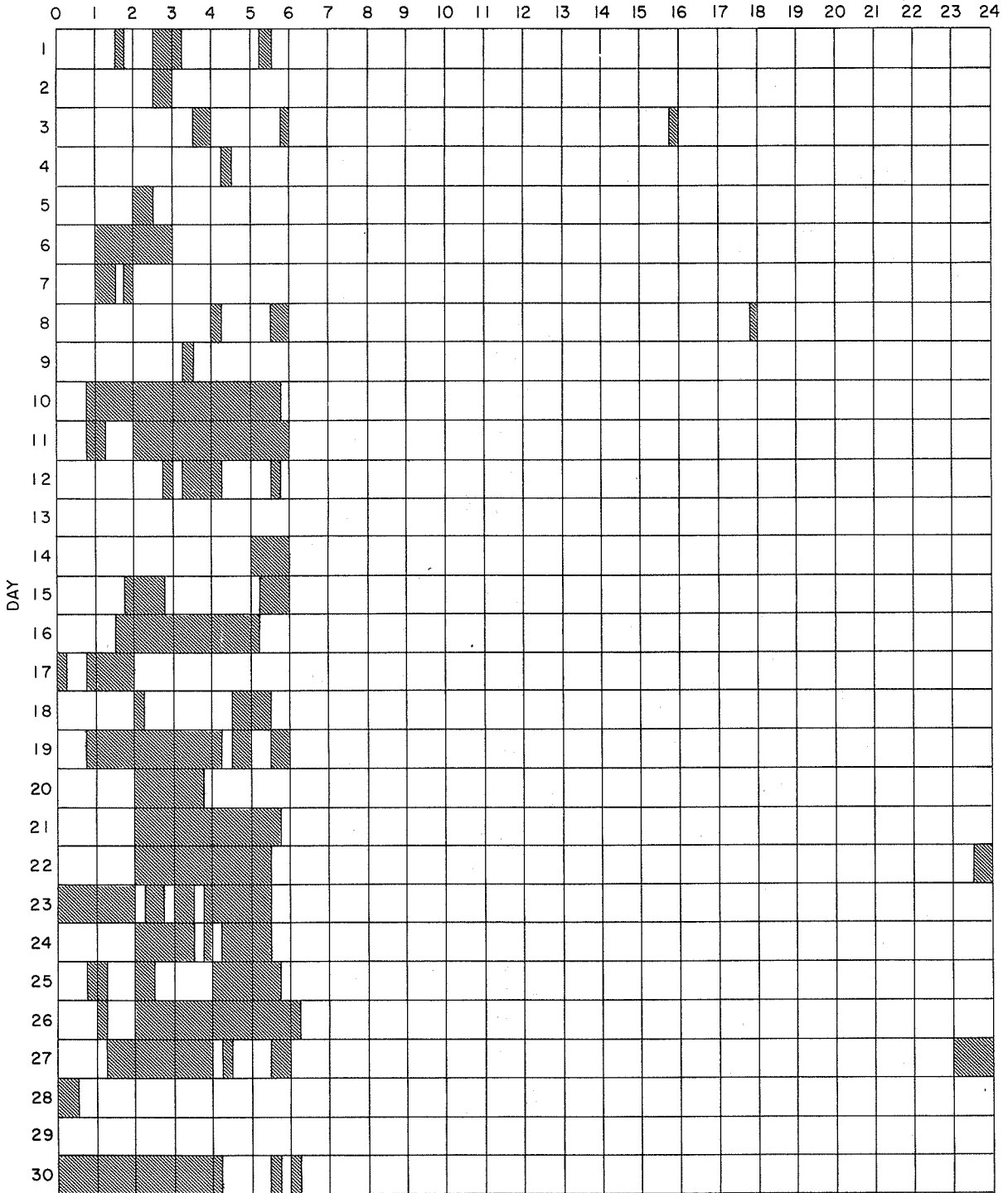
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN D = GREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

SEPTEMBER 1961

HOUR-UT



COMMERCE - STANDARDS - BOULDER

Stations Include:

- | | | | |
|--------------------|----------|----------------|-----------------|
| Anacapri (Swedish) | Honolulu | Kodaikanal | Meudon |
| Arcetri | Huancayo | Lockheed | Ondrejov |
| Bucharest | Istanbul | McMath-Hulbert | Sacramento Peak |
| | | | Wendelstein |

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

AUGUST 1961

* CAPRI S	01	0711 E	S22 E23	LOCKHEED	12	1939	N05 E42	LOCKHEED	20	1755	N07 W63
* CAPRI S	01	0751 E	N04 W90	MCNATH	12	2032 E	N01 E48	LOCKHEED	20	1825	N07 W63
SAC PEAK	01	1424	S19 E80	HAWAII	12	2050 E	N02 E41	LOCKHEED	20	2138	N22 E70
LOCKHEED	01	1859	N12 E12					LOCKHEED	20	2148	N12 E85
* LOCKHEED	01	2019	N23 W43	CAPRI S	13	0905 E	N05 E36	LOCKHEED	20	2215	S02 W34
SAC PEAK	01	2100	S13 E11	CAPRI S	13	0940 E	N18 E12	LOCKHEED	20	2300	N12 E85
* LOCKHEED	01	2040	N13 E12	* CAPRI S	13	1015 E	N05 E33	LOCKHEED	20	2346	S01 W36
* LOCKHEED	01	2120	N23 W43	MCNATH	13	1354	S02 E71				
SAC PEAK	02	1316 E	N22 W56	MCNATH	13	1355	N11 E09	ISTANBUL	21	0730	N08 W70
* SAC PEAK	02	1820 E	S05 E90	MCNATH	13	1410	N05 E32	WENDEL	21	0744	N19 E15
* HAWAII	02	1828	S07 E90	CAPRI S	13	1508 E	N07 E30	LOCKHEED	21	2105	N09 W06
				MCNATH	13	1519	N05 E31				
HAWAII	03	0122	N24 W62	LOCKHEED	13	1603	N14 W62	MCNATH	22	1512 E	N08 E60
WENDEL	03	1621 E	S16 W44	LOCKHEED	13	1620	N04 E29	SAC PEAK	22	1538	N10 E99
HAWAII	03	1912	S07 E90	LOCKHEED	13	1643	N04 E29	MCNATH	22	1627 E	N09 E60
* LOCKHEED	03	2122	S10 E80	LOCKHEED	13	1653	N11 E06	LOCKHEED	22	1640	N11 E58
LOCKHEED	03	2205	S10 E80	SAC PEAK	13	1654	N04 E28	LOCKHEED	22	1910	N11 E56
				LOCKHEED	13	1705	N09 E24	LOCKHEED	22	2310	N12 E57
				LOCKHEED	13	1815	S10 W88	LOCKHEED	22	2357	N10 E57
* MEUDON	04	1115	N20 W20	* HAWAII	13	1908	N05 E28				
* CAPRI S	04	1126 E	N14 E25	* HAWAII	13	1952 E	N02 E30	LOCKHEED	23	1754	S15 E56
SAC PEAK	04	1534	N22 W86	* MCNATH	13	2007 E	N01 E32	LOCKHEED	23	1841	S13 E50
SAC PEAK	04	1812	N22 W86	LOCKHEED	13	2112	S09 E07	SAC PEAK	23	1844 E	S13 E50
				LOCKHEED	13	2236	N10 W02	HUANCAYO	23	1845	S12 E54
WENDEL	05	0753 E	S13 W66	LOCKHEED	13	2245	N10 E03	LOCKHEED	23	2057	N19 W26
WENDEL	05	0817 E	S13 W66	LOCKHEED	13	2315	S19 E90				
* ARCETRI	05	0834	S16 W72	LOCKHEED	13	2343	N09 E04				
LOCKHEED	05	2138	N19 E10					HAWAII	24	1940 E	N08 E28
								HAWAII	24	2320 E	S21 E11
				LOCKHEED	14	0017	S07 E06	* CAPRI S	25	1405 E	N14 E05
				HAWAII	14	0108 E	N04 E24	SAC PEAK	25	1608	N16 W01
LOCKHEED	06	1602	S16 W90	KYOTO	14	0113	N06 E26	LOCKHEED	25	1608	N17 W02
LOCKHEED	06	1652	N17 E90	* CAPRI S	14	0113	N15 E03	LOCKHEED	25	1911	S13 E11
* LOCKHEED	06	2029	N17 E85	* WENDEL	14	1034 E	N09 E24	LOCKHEED	25	1914	S17 E12
				MCNATH	14	1138 E	N15 W06	SAC PEAK	25	1917	E12 E12
				LOCKHEED	14	1605	N14 W80	LOCKHEED	25	2006	N06 E12
				* LOCKHEED	14	1700	N06 E28	MCNATH	25	2015	S18 E09
				LOCKHEED	14	1730	N04 E22	SAC PEAK	25	2010 E	N19 W02
* MEUDON	08	1019 E	S12 E32	MCNATH	14	1731	N05 E20	LOCKHEED	25	2210	N16 W05
				WENDEL	14	1732 E	N08 E21	MCNATH	25	2216	N16 W05
* CAPRI S	09	0753 E	N08 E57	LOCKHEED	14	1801	S01 E18	* LOCKHEED	25	2357	N17 W04
* MCNATH	09	1638	S03 E90	MCNATH	14	1803	S04 E20	HAWAII	26	0000 E	N17 W03
* MCNATH	09	1710	N05 E90	HAWAII	14	1806 E	S04 E19	* ONDREJOV	26	0613 E	N08 E08
* MCNATH	09	1729	N12 E64	MCNATH	14	1845	N04 E14	* CAPRI S	26	0620	N09 E09
* LOCKHEED	09	1732	N12 E64	LOCKHEED	14	1846	N04 E14	WENDEL	26	0652 E	N16 W08
				LOCKHEED	14	2150	N05 E17	WENDEL	26	0729 E	N12 E13
* ONDREJOV	10	0520 E	N16 W16	MCNATH	14	2208 E	N15 W88	* MEUDON	26	1005	N10 E04
* BUCHAREST	10	0700	N16 W20	LOCKHEED	14	2213	N07 E85	* CAPRI S	26	1008	S16 E14
WENDEL	10	1054	N13 E51	LOCKHEED	14	2246	N16 W85	SAC PEAK	26	1518	N20 W10
WENDEL	10	1115 E	N13 E50	LOCKHEED	14	2250	S06 E16	WENDEL	26	1614 E	N15 W14
* MEUDON	10	1215	N10 E78	MCNATH	14	2254 E	S04 E15	MCNATH	26	1618	N15 W15
MEUDON	10	1216	N16 E50	LOCKHEED	14	2312	N05 E17	LOCKHEED	26	1905	N11 W11
* MCNATH	10	1221	N08 E80	* SAC PEAK	15	1648 E	N11 W20	MCNATH	26	1907	N12 W12
WENDEL	10	1339 E	N09 E78	LOCKHEED	15	1807	N12 W20	LOCKHEED	26	2207	N10 W04
MCNATH	10	1435	N09 E78	LOCKHEED	15	1811	N06 E02	HAWAII	26	2230 E	N06 W02
* CAPRI S	10	1438 E	N08 E75	HAWAII	15	2012 E	S11 W10	LOCKHEED	26	2258	N17 W17
* SAC PEAK	10	1504	N11 E48	LOCKHEED	15	2013	N12 W21				
* MCNATH	10	1505	N13 E49	MCNATH	15	2018	N12 W21	LOCKHEED	27	0018	N20 W15
MCNATH	10	1507 E	N12 E44	LOCKHEED	15	2120 E	N02 E36	WENDEL	27	1133 E	N16 W25
MCNATH	10	1720 E	N16 W23	LOCKHEED	15	2123	N13 W20	LOCKHEED	27	1729	N11 W26
HAWAII	10	1950	N09 E45	LOCKHEED	15	2234	N03 W22	LOCKHEED	27	2015	N18 W26
LOCKHEED	10	2003	S07 W18	LOCKHEED	15	2237	S09 W21	MCNATH	28	2111	S07 W09
LOCKHEED	10	2040	N16 W27	KYOTO	15	2313 E	N12 W22				
LOCKHEED	10	2139	N07 E72					STOCKHOLM	29	1021 E	N08 E90
LOCKHEED	10	2210	N16 W27	HAWAII	16	0018 E	S14 W09	MEUDON	29	1215	N12 E80
LOCKHEED	10	2227	N07 E68	CAPRI S	16	0730 E	N11 W04	WENDEL	29	1229 E	S20 W55
HAWAII	10	2308	S15 E69	MCNATH	16	1210	N09 W07	WENDEL	29	1349 E	N12 E76
				MCNATH	16	1256	N09 W09	WENDEL	29	1529 E	N12 E74
LOCKHEED	11	0002	N10 E70	* SAC PEAK	16	1643 E	N02 E26	MCNATH	29	1715	N12 E78
LOCKHEED	11	0040	S03 E72	LOCKHEED	16	2040	N16 W90	* WENDEL	29	1717 E	N13 E72
* HAWAII	11	0040	S03 E72	LOCKHEED	16	2225	N07 W11	SAC PEAK	29	1718 E	N14 E73
MITAKA	11	0395 E	N09 E68	LOCKHEED	16	2341	N06 W09	HAWAII	29	1740	N12 W51
MEUDON	11	0637	N07 E64	LOCKHEED	16	2355	N08 W13	HAWAII	29	1846 E	N09 E70
* CAPRI S	11	0640 E	N08 E63	SAC PEAK	17	1422	N06 W17	MCNATH	29	1937	N11 E75
* MEUDON	11	0810	N07 E64	CAPRI S	17	1440 E	N09 W15	MCNATH	29	2021	N11 E75
ARCETRI	11	0849	N08 E64	MCNATH	17	1445	N07 W18				
LOCKHEED	11	1631	N06 E58	SAC PEAK	17	1650	N06 W19	HAWAII	30	0100	N11 E55
MCNATH	11	1635 E	N05 E60	LOCKHEED	17	1651	N05 W20	WENDEL	30	0902 E	N12 E68
LOCKHEED	11	1651	N06 E58	LOCKHEED	17	1715	S02 W26	MCNATH	30	1200	N11 E64
MCNATH	11	1653	N05 E60	LOCKHEED	17	1836	S02 W26	* MCNATH	30	1357	N12 E61
LOCKHEED	11	1708	S03 E61	MCNATH	17	1839	N00 W25	* ONDREJOV	30	1400	N14 E58
LOCKHEED	11	1729	N00 E90	* SAC PEAK	17	2114 E	N08 W23	MCNATH	30	1606	N11 E60
LOCKHEED	11	1745	S02 E60	LOCKHEED	17	2253	N05 W22	* HUANCAYO	30	1607 E	N11 E60
LOCKHEED	11	1818	N05 E58	LOCKHEED	17	2255	S04 W59	* MCNATH	30	1621	N18 W68
LOCKHEED	11	1835	N00 E90	BUCHARREST	18	0850	S00 E25	MCNATH	30	1649	N12 E61
LOCKHEED	11	1920	N05 E58	* MCNATH	18	1597	N20 E54	MCNATH	30	1905 E	N10 E60
LOCKHEED	11	1936	S01 E90	LOCKHEED	18	1650	N05 W38	* HAWAII	30	1934 E	N10 E59
* LOCKHEED	11	1937	N06 E56	LOCKHEED	18	1710	N19 E51	* HAWAII	30	2318	N11 E56
LOCKHEED	11	2040	N04 E56	LOCKHEED	18	1715	S10 W57				
LOCKHEED	11	2112	S01 E90	MCNATH	18	1717	S09 W60	KYOTO	31	0251 E	N13 E60
LOCKHEED	11	2123	N04 E55	SAC PEAK	18	1720 E	S09 W57	* MEUDON	31	0858	N12 E45
LOCKHEED	11	2138	N15 W37	LOCKHEED	18	1845	N20 E59	* BUCHAREST	31	0859	N17 W73
LOCKHEED	11	2205	S01 E90	* HAWAII	18	2040	N10 W57	* ONDREJOV	31	0906 E	N13 E48
LOCKHEED	11	2212	N03 E54	LOCKHEED	18	2205	N06 W37	WENDEL	31	0926 E	N12 E48
LOCKHEED	11	2248	N06 E54	BUCHARREST	19	0715	N07 W46	* MEUDON	31	1100	N12 E45
LOCKHEED	11	2250	S01 E90	ISTANBUL	19	0725 E	N08 W50	* CAPRI S	31	1106 E	N13 E47
LOCKHEED	11	2310	N06 E53	LOCKHEED	19	1724	N04 W48	MCNATH	31	1135	N12 E49
LOCKHEED	11	2320	N10 E57	LOCKHEED	19	1757	N04 W48	ONDREJOV	31	1258	N11 E48
				LOCKHEED	19	1816	N05 E22	MCNATH	31	1258	N11 E51
LOCKHEED	12	0006	N09 E58	LOCKHEED	19	1830	N04 W48	ONDREJOV	31	1330 E	N17 W77
LOCKHEED	12	0022	N18 W40	LOCKHEED	19	1920	N11 W78	* MEUDON	31	1458	N11 E45
KYOTO	12	0154 E	N07 E54	LOCKHEED	19	2101	N11 W78	* CAPRI S	31	1500	N13 E45
* MCNATH	12	1116 E	N05 E47	LOCKHEED	19	2202	N04 W51	* MCNATH	31	1501	N12 E46
MCNATH	12	1130 E	S11 W60	LOCKHEED	19	2220	N04 W48	MCNATH	31	1752	N11 E45

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION			DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END		LAT.	APPROX. MER. DIST.	M-MATH PLACE REGION				TIME - U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	
GOOD HOPE	02	1309	1340	1325	N10	W87	6125	31	1		1.10	1.10	3.10		
[GOOD HOPE	04	1023	1038	1026	N02	E50	6135	15	1		2.00	2.00	5.00		
[CAPRI G	04	1041 E	1044 D		N04	E50	6135	3 D	1+	2					
UCCLE	05	1000	1010		N00	E38	6135	10	1	2	2.00	2.00	2.20		
CAPRI G	06	1251 E	1303 D		N02	E20	6135	12 D	1+	2			5.00		
KHARKOV	07	0636 E	0644 D		S05	W12	6134	8 D	1	2	2.29	2.30	2.30		
[KRASNAYA	07	0732	0858 D	0734 U	N00	E09	6135	86 D	1		1.80				65
[KRASNAYA	07	0732	0858 D	0748 U	N00	E09	6135								
[GOOD HOPE	07	0830	0920	0852	N04	E13	6135	50	2	2	7.50	7.50	7.70		S-SWF
[CAPRI G	07	0850 E	0921		N02	E09	6135	31 D	2	2			6.00		
KHARKOV	08	0758 E	0808		N06	W85		10 D	1+	2	1.14	1.14	6.80	2.70	
KHARKOV	08	1136 E	1145		S03	E60	6138	9 D	1	2	1.14		6.80	1.50	
BUCHAREST	09	0745	0900	0824	N02	E81	6140	75	1	2			3.20		
[CAPRI G	09	1240 E	1335		N01	W23	6135	55 D	1	2			4.00		
[KIEV	09	1250 E	1325 D	1254	S10	W21	6135	35 D	1+	2	1254				64
[UCCLLE	09	1251 E	1318 D		N02	W22	6135	27 D	1	1	3.61	3.50	5.10		S-SWF
[CLIMAX	09	1255 E	1323 D	1256	N00	W21	6135	28 D	1	2	5.10	5.10	5.10		S-SWF
[CAPRI G	09	1435 E	1450 D		N01	E88	6140	15 D	1	2			4.00		
BUCHAREST	10	0816	0836	0825	N02	W32	6135	20	1	2			4.00		
MITAKA	11	0427	0458	0443	N02	W43	6135	31	1	2	1.80	1.80	2.35	2.09	96
PIRCULI	11	0711	0720	0717 U	N00	E57	6140	9	1	2	1.45	1.45			52
KRASNAYA	11	0828	0836	0831	N00	W46	6135	8	1	2	1.70	1.70			70
[CAPRI G	11	0941 E	0950 D		N02	E70	6140	9 D	1	2			4.00		
[PIRCULI	11	0945 E	1055 D	1005 U	N05	E57	6140	70 D	1	2	2.28	2.28			56
[OTTAWA	11	1009 E	1052	1009	N05	E59	6140	43 D	1	2	1.50	1.50	2.10		
[CAPRI G	11	0948 E	1107 D		N01	W46	6135	79 D	2	2			8.00		
[PIRCULI	11	0959 E	1100 D	1038 U	N00	W49	6135	61 D	2	2	8.21	8.21	4.40		56
[OTTAWA	11	1009 E	1141	1041	N00	W49	6135	92 D	1	2	3.70	3.70	4.40		
[GOOD HOPE	11	1024 E	1145		N02	W48	6135	81 D	2	2	4.20	4.20	6.10		
[CAPRI G	11	1502 E	1612 D		N02	W51	6135	70 D	2+	2			10.00		S-SWF
CLIMAX	12	0107	0122 D	0115	N02	W56	6135	15 D	1	2	2.20	2.20	3.10		
TASHKENT	12	0254 E	0304		N04	E49	6140	10 D	1	2	.36	.36	.60		56
[MITAKA	12	0254 E	0318	0610	N03	E49	6140	24 D	1	2	1.03	1.03	1.58	2.07	149
TASHKENT	12	0548	0621 D	0555	N00	W57	6135	33 D	1	2	1.20	1.20	1.20		84
[MITAKA	12	0549	0632		N02	W56	6135	43	1	2	1.54	1.54	2.67	2.06	120
TASHKENT	13	0439	0456	0442	N02	E28	6140	17	1	2	1.37	1.37	1.60	3.00	85
[KRASNAYA	13	0733 E	0751 D	0742 U	N02	E27	6140	18 D	1+	2	3.15	3.15	5.00		90
[ABASTUMANI	13	0733 E	0757 D	0743 U	N02	E26	6140	24 D	1	3	4.50	4.50	5.00		74
[KIEV	13	0741 E			N01	E25	6140	1+	1+	2	3.09	3.09	3.00		78
[BUCHAREST	13	0741	0758	0744	N02	E27	6140	17	1	1					
[GOOD HOPE	14	0933	0959	0935	N02	E12	6140	26	1	2	3.60	3.60	3.70		
[SCHAUJINS	14	0934	0952		N04	E16	6140	18	1	2			4.00		

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — UT	MEASUREMENTS		MAX. WIDTH He	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.					MONTH PLACE REGION	AREA Sq. Deg.			
[] KHARKOV	14	0934 E	1005	N01 E11	6140	31 D	2	0938	14.44	14.80	3.50	110	S-SWF	
[] UCLE	14	0926 E	0949	N01 E11	6140	13 D	1		3.50			99		
[] KRASNIA	14	0937 E	0948	N02 E13	6140	17 D	2	0934	3.60					
[] KIEV	14	0938 E	0955 D	N02 E10	6140	11 D	3	0938	4.13					
[] KHARKOV	14	1033	1044	S02 E15	6140	11	1	1041	.57	.60	1.50			
[] KHARKOV	14	1109	1117	S00 E13	6140	8	1	1117	.57	.60	1.50			
[] UCLE	14	1618	1650	S02 E07	6140	32	1+	1631	4.50					
[] SCHAUINS	14	1621 E	1645	N05 E12	6140	24 D	1		1.02	1.02	1.82	120		
[] MITAKA	14	2334 E	2356	N02 E02	6140	22 D	1	2335	4.74					
[] KYOTO	14	2336	2350 D	N02 E03	6140	14 D	1	2336			1.23	100		
[] KYOTO	14	2348	0006 D	S05 E90	6146	18 D	1				1.71	100		
[] KYOTO	15	0530 E	0556 D	S08 W34	6142	26 D	1	0543	2.06					
[] KYOTO	15	0654 E	0710	N02 W30	6145	16 D	1	0654	4.13					
[] KRASNIA	15	0709 E	0711	N07 W90	6145	2 D	1		.90					
[] UCLE	15	0900	0922	S08 E40	6144	22	2							
[] KHARKOV	15	0939	0950	S06 E38	6144	11	1	0947	.57	.70	1.60			
[] GOOD HOPE	15	0940	0952	S07 E38	6144	12	1	0941	2.10	2.70				
[] GOOD HOPE	15	0955	1024	S07 E38	6144	29	1	1006	2.70	3.50				
[] KRASNIA	15	1001	1010 D	S04 E38	6144	9 D	1	1004	1.80		2.00	70		
[] KHARKOV	15	1002 E	1023 D	S05 E36	6144	21 D	1		1.18					
[] SCHAUINS	15	1003 E	1050	S12 E37	6144	47 D	1							
[] CLIMAX	15	1630 E	1713 D	N05 W09	6140	43 D	2	1640	7.70					
[] CLIMAX	15	1705 E	1713 D	S09 E29	6144	8 D	1		2.80					
[] CLIMAX	15	1722 E	1729	N02 W07	6140	7 D	1	1724	1.30	1.30				
[] UCLE	16	0829 E	0841	N14 W87	6145	12 D	3							
[] UCLE	16	0842	0859	S07 E22	6144	17	1	0846	3.50					
[] KIEV	16	0848 E	0910 D	S06 E22	6144	22 D	1	0848	2.06			74		
[] MITAKA	17	0455 E	0503 D	S08 E09	6144	8 D	1	0458	1.23	1.27	2.07	143		
[] ABASTUMANI	17	0718	0737 D	N04 W38	6140	19 D	1		1.80	2.10		74		
[] PIRCULI	17	0721	0730	N03 W28	6140	9	3		2.28			62		
[] GOOD HOPE	17	1303	1320	S06 W71	6142	17	1	1309	.90	2.70				
[] VOROSHILOV	17	2254	2316	S07 W80	6142	22	2		.72			82		
[] TASHKENT	18	0356	0436	S08 E45	6146	40	3	0401	3.09	4.40	2.10	75		
[] MITAKA	18	0400 E	0425	S08 E40	6146	25 D	1	0403	1.03	1.50	2.06	107		
[] OTTAWA	18	1314	1353 D	S10 E41	6146	39 D	1		2.80					
[] CLIMAX	18	1315	1350	S11 E41	6146	35	1		3.60					
[] GOOD HOPE	18	1318	1344	S11 E40	6146	26	1	1329	1.90	2.50				
[] OTTAWA	18	1345	1359	S10 W40	6143	14	1		4.60	5.10				
[] KYOTO	18	2330	2340	S05 W90	6142	10	1	2330	1.44			80		
[] MITAKA	19	0143 E	0159	S09 W45	6144	16 D	1	0146	3.09	4.38	2.49	128		
[] PIRCULI	19	0805	0830	N14 E07	6151	25	3		1.37			56		
[] UCLE	19	1124 E		S09 W53	6143		2		2.00	3.20				
[] ALMA-ATA	20	0345	0541 D	N12 W04	6151	116 D	1	0358	2.68		2.06	70		
[] MITAKA	20	0402 E	0427 D	N14 W05	6151	25 D	1	0405	.51	.52		125		
[] BUCHAREST	20	0726	0810	N13 E45	6149	44	2		8.80					

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME			LOCATION APPROX.		DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX PHASE	LAT.	NET DIST.				MGRATH PLACE REGION	TIME U T	MEAS. AREA Sq. Deg.	
PIRCULI	20	0729	0749	0731 U	N12	E45	6149	1	3	2.09	4.50	1.70	56
SIMEIZ	20	0731	0742	0734	N12	E45	6149	1	2	2.70			113
KHARKOV	20	0733 E	0750	0735	N23	E37	6148	1	2	3.43			
UCCLE	20	0747 E			N14	E45	6149	1	3				
GOOD HOPE	20	1100	1120	1103	N15	E44	6149	1		1.80	2.60		
GOOD HOPE	20	1256	1303	1257	N12	E44	6149	1		1.50	2.10		
MITAKA	21	0036	0043	0043	N12	W14	6151	1	1	.34	.39	1.53	105
MITAKA	21	0426 E	0446 D		N14	W19	6151	1	1	1.23	1.30	2.81	143
MITAKA	21	0458	0513		N13	W20	6151	1	1	1.23	1.30	1.96	115
KHARKOV	21	0900 E	0953		N13	W22	6151	1	2	2.29	2.50	1.70	
KHARKOV	21	0959	1018		N13	W24	6151	1	2	3.43	3.70	1.50	
KHARKOV	21	1048	1117		N14	W24	6151	1	2	2.29	2.50	1.50	
UCCLE	21	1106	1119	1111	N15	W24	6151	1	3	3.00	3.30		
GOOD HOPE	21	1107	1126	1109	N14	W23	6151	1	2	2.40	2.70		
CLIMAX	21	1317	1331	1323	N15	W25	6151	1	1	2.70	2.70		
GOOD HOPE	21	1318	1328	1321	N14	W23	6151	1	3	2.30	2.50		
UCCLE	21	1348	1402	1354	N12	E29	6149	1	3	3.00	3.30		
ABASTUMANI	22	0621	0642 D	0624	N14	W36	6151	1	2	1.98	2.60		68
UCCLE	22	1109	1131	1113	S11	E31	6152	1	3	2.50	3.30		
UCCLE	22	1141	1210 D	1157	N22	E05	6148	1	3	2.20	2.20		
CLIMAX	22	1637	1648	1641	N15	W44	6151	1	1	3.70	4.40		
KHARKOV	23	0806 E	0831	0831	N12	W52	6151	1	2	2.86	4.40	1.80	
KHARKOV	23	1015 E	1151 D	1103	N11	W53	6151	1+	2	6.87	11.60	1.70	
GOOD HOPE	23	1044	1052	1045	N12	W54	6151	1	2	1.50	2.70		
GOOD HOPE	23	1106	1128	1112	N12	W54	6151	1	3	2.10	3.70		
UCCLE	23	1107	1132	1112	N11	W52	6151	1	3	1.50	2.20		
KIEV	23	1112 E	1155 D	1112	N13	W53	6151	2-	1	8.25			98
KIEV	23	1113 E	1240 D	1124	N13	W53	6151	1	2			1.50	
KHARKOV	23	1113 E	1248	1209	N20	W08	6148	1	2	3.43	3.70		
UCCLE	23	1151	1248	1209	N22	W07	6148	1	3	3.00	3.00		
GOOD HOPE	23	1154	1237	1204	N23	W18	6148	1	2	2.90	3.10		
CAPRI G	23	1159 E	1222	1204	N12	W53	6151	1	2	4.00	4.00		
KIEV	23	1200 E	1240 D	1205	N22	W09	6148	1	1	2.06	2.06		74
KIEV	23	1402	1404 D	1404	N13	W55	6151	1+	1	2.10	2.10		
UCCLE	23	1403	1420	1404	N11	W52	6151	1	3	3.10	3.10		110
CAPRI G	23	1404 E	1412	1404	N11	W56	6151	1	2	4.00	4.00		
UCCLE	23	1507 E	1513	1507	N13	W52	6151	1	2				S-SHF
UCCLE	24	1022	1036	1029	N23	W20	6148	1	3	3.20	3.50		
GOOD HOPE	24	1034	1046	1036	N12	W66	6151	1	1	1.10	2.70		
KIEV	24	1050 E	1100 D		N13	W63	6151	1	1	1.55	1.55		98
BUCHAREST	25	0845	0903	0846	N13	W90	6151	1+	2	1.70	2.20		
GOOD HOPE	25	1255	1325	1302	N22	W36	6148	1	2				
CAPRI G	25	1308 E	1325		N14	W28	6149	1	2				
VOROSHILOV	26	0225	0229	0227	N13	W90	6151	1	1	.63	.63		68
GOOD HOPE	26	0801	0830	0814	N14	W90	6151	1	1	.20	.20		
GOOD HOPE	26	0951	1036	0954	N17	W35	6149	1	1	2.90	2.90		
PIRCULI	26	1012 E	1025 D	1019 U	N13	W38	6149	1+	1	7.75	7.75		64

SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — UT	MEASUREMENTS		MAX. INT. %,	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX.	LAT.	LONG.					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		
UCCLE	26	1014 E	1035 D	N14	W37	6149	21 D	1+	2		4.20	5.00		
PIRCULI	27	0701 E	0800	N06	E17	6155	59 D	1	1		4.56	4.90	65	
BUCHAREST	27	0725 E	0815	S05	E18	6155	50 D	1	2			5.00		
CAPRI G	27	0740 E	0755	N06	E16	6155	15 D	1	2					
BUCHAREST	28	0740 E	0740	N14	W56	6149		1	2			2.10		
KIEV	29	1318	1319 D	N16	W75	6149	1 D	1+	2	1319	2.06		60	
NEDERHORST	29	1320 E	1335	N14	W74	6149	15 D	1+	3					
UCCLE	29	1423	1433	N15	W73	6149	10	1	3	1424	2.20	4.40		
ALMA-ATA	30	0300 E	0315	N07	W23	6155	15 D	1	2	0300	2.68		68	
KRASNYA	30	0706	0711	N16	W85	6149	10	1	1		1.80		75	
PIRCULI	30	0744	0755	N07	W28	6155	11	1	1		1.64		56	
KRASNYA	30	0745	0751	N08	W28	6155	6	1	2		1.80		90	
CAPRI G	30	0825	0836	N06	W30	6155	11	1	2			4.00		

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the June 1961 flares published in CRPL-F 203 Part B, July 1961.

ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH,
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN	NETHERLANDS	
CAPETOWN	ROYAL OBSERVATORY,	KIEV KO	KIEV CAO, USSR	KRASNYA FAKHRA, USSR	
	CAPE OF GOOD HOPE	KIEV KY	KIEV UNIVERSITY, USSR	SACRAMENTO PEAK, N. MEX., USA	
CAPRI F	CAPRI, ITALY (GERMAN)	LOCKHEED	LOS ANGELES, CALIF., USA	STOCKHOLM, SWEDEN	
CAPRI S	CAPRI, ITALY (SWEDISH)	MC MATH	MC MATH-HULBERT,	SCHAUINSLAND, GFR.	
CRIMEE	SIMEIZ, USSR		PONTIAC, MICH., USA	TASHKENT, USSR	
HERSTMONCEUX	ROYAL GREENWICH OBSERVATORY,	MOSCOW	MOSCOW GAISH, USSR	WENDELSTEIN, GFR	
	HERSTMONCEUX, ENGLAND				

ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

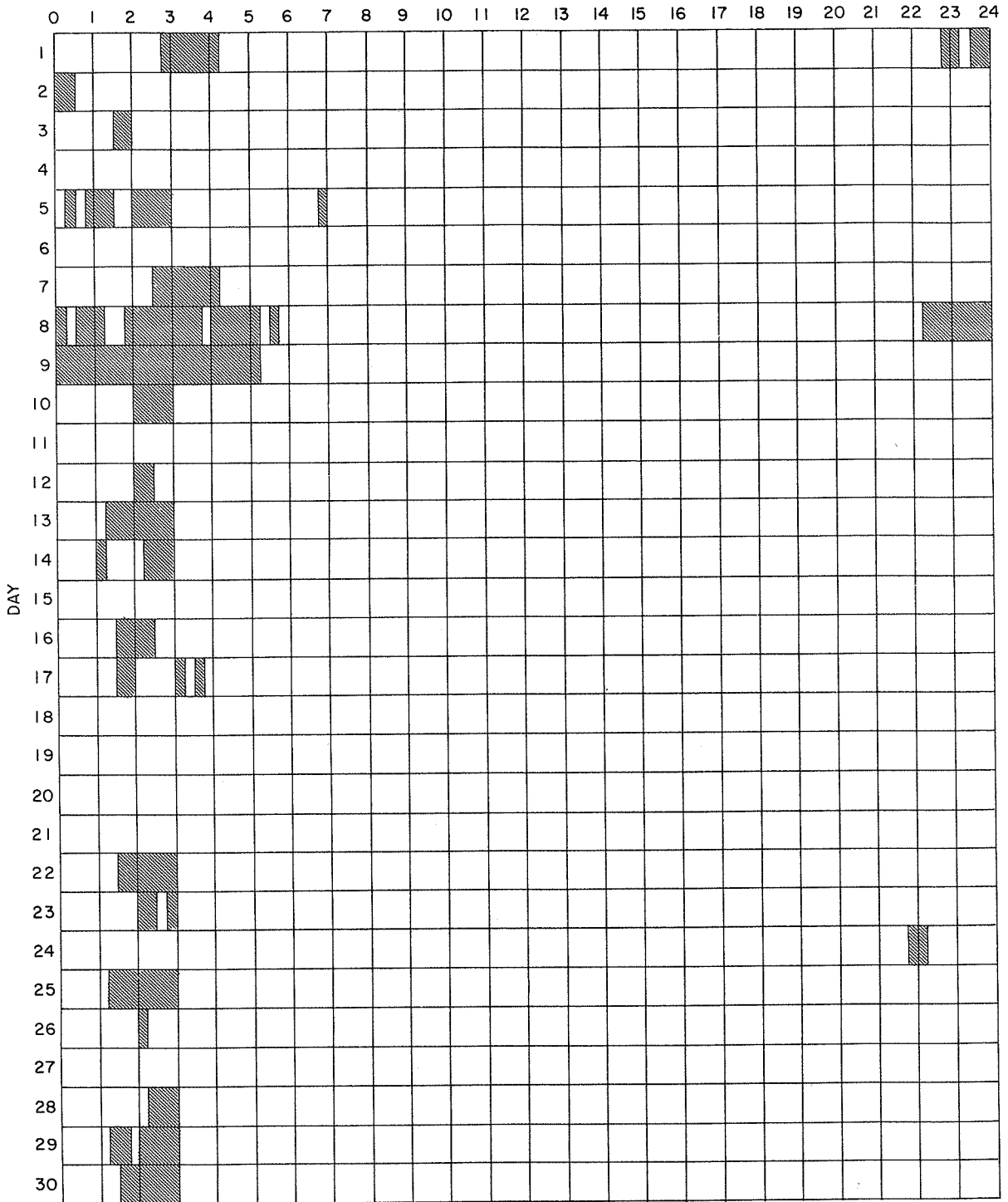
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

E = LESS THAN D = GREATER THAN U = APPROXIMATE □ = NOT REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

JUNE 1961

HOURLY-UT



COMMERCE - STANDARDS - BOULDER

Stations Include:

- | | | | | |
|-----------------|--------------|------------|----------------|-----------------|
| Arcetri | Crimee | Ikomasan | McMath-Hulbert | Ondrejev |
| Bucharest | Herstmonceux | Kharkov | Meudon | Sacramento Peak |
| Capetown | Honolulu | Kodaikanal | Mitaka | Uccle |
| Capri (Swedish) | Huancayo | Lockheed | Nizmir | Voroshilov |
| | | | | Wendelstein |

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIIm

SHORT WAVE RADIO FADEOUTS
 SUDDEN COSMIC NOISE ABSORPTION
 SUDDEN ENHANCEMENTS OF ATMOSPHERICS
 SUDDEN PHASE ANOMALIES
 SOLAR NOISE BURSTS AT 18 Mc

AUGUST 1961

AUG. 1961	UNIVERSAL TIME			SWF TYPE	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX		IMP	ABS	SCNA	SEA	SPA			
[01	2012	2040	2020	SL 1				X		1	BO	2020
- 01	2020	2100								5	FM AN BE MC PR	
- 01	2025	2115	2035				1			1	A6	
- 01	2030	2033								5	BO HA	
- 01	2043	2044								1	BO HA	
05	1710	1711							1	4 BO MC		
06	2010	2012							1	5 BO HA MC		
07	2116	2205	2125				2			3 A1 A3 A5		
08	2250	2330	2302					X		1 BO		
09	1928	1933							1	4 BO MC (Group)		
10	0002	0004							1-	5 BO HA MC		
+ [10	1432	1443							2	5 BO HA MC RE	1434 1434 1502	
10	1435	1500	1445			1			3	A1 A3		
10	1505	1510							2	5 RE BO HA MC		
10	1532	1538							2	5 RE BO HA MC		
10	2321	2346	2328			1			1	TY		
11	1301	1307							2	1 RE		
11	1400	1407							1	1 RE		
11	1632	1634							1	4 BO MC		
* 11	1718	1805	1732				2			3 A1 A5		
11	1820	1835							1	4 BO MC (Group)		
* [11	1934	2020	1952					X		1 BO	1956	
- 11	1939	2015	1952		10	1			5	BO HA		
- 11	1942	2020		S 1-					4	MC BE PR WS		
- 11	1944	2026	2004				1+		5	BO A1 A5 A6 HA		
- 11	2027	2028							5	BO HA MC		
11	2145	2149							2	5 BO HA MC RE		
12	0030	0036							2	1 HA		
++ [12	1530	1536							1+	5 RE BO HA MC	2050	
12	1614	1635							1	5 RE BO HA MC (Group)		
- 12	1615	1645	1630				1+		3	A5 A1 A3		
12	1711	1717							2	5 RE BO HA MC		
12	1940	2010U	1947				1		3	A5 A1 A3		
12	2052	2105		S 1-					3	MC BE PR		
[13	0344	0424	0351				1			1 TY	0340	
- 13	0346	0359		S 1					4	TO OK		
13	1135	1220	1152				2		3	A5 A1		
+++ 13	1907	1914							2	5 RE BO HA MC	1906	
14	1400E	0145D							1	5 BO HA MC (Noise Storm)	1400	
14	1500	1530	1510					X	1	BO		
15	1400E	0100D							1	5 BO HA MC RE (Noise Storm)	1640	
[15	1643	1720	1652					X	1	BO		
* 15	1647	1708	1655				1+		5	A5 A9		

IONOSPHERIC EFFECTS OF SOLAR FLARES

SHORT WAVE RADIO FADEOUTS
 SUDDEN COSMIC NOISE ABSORPTION
 SUDDEN ENHANCEMENTS OF ATMOSPHERICS
 SUDDEN PHASE ANOMALIES
 SOLAR NOISE BURSTS AT 18 Mc

AUGUST 1961

AUG. 1961	UNIVERSAL TIME			SWF TYPE	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE		
	START	END	MAX		IMP	ABS	SCNA	SEA	SPA				BUR	
16	1200E	0045D								1	5	BO HA MC RE (Noise Storm)		
17	2103	2112								3	5	BO HA MC RE	2102	
[18	2036	2050		S 1+					X	3	5	BO HA MC RE (Group)	2038	
-18	2040	2120										BE BO FM HU LA MC PR WS		
-18	2040	2220	2055											BO
*-18	2045	2135	2107											BO A1 A5 A9 HA MC
-18	2049E	2200U										X		BO HA MC
-18	2105	2109												BO HA MC
-18	2152	2203												BO HA (Group)
23	1338	1425	1352			1				3	5	A1 A5		
23	1740	0200								1	5	BO HA (Noise Storm)		
23	2114	2127								1	5	BO HA MC (Group)		
29	0730	0800	0745				1+			1	5	A11	0722	
29	2000	2002								1	5	BO HA		
[31	0100	0131	0107	S 1+		20	1				1	HA	0058E	
-31	0102	0130										TO		

COMMERCE - STANDARDS - BOULDER

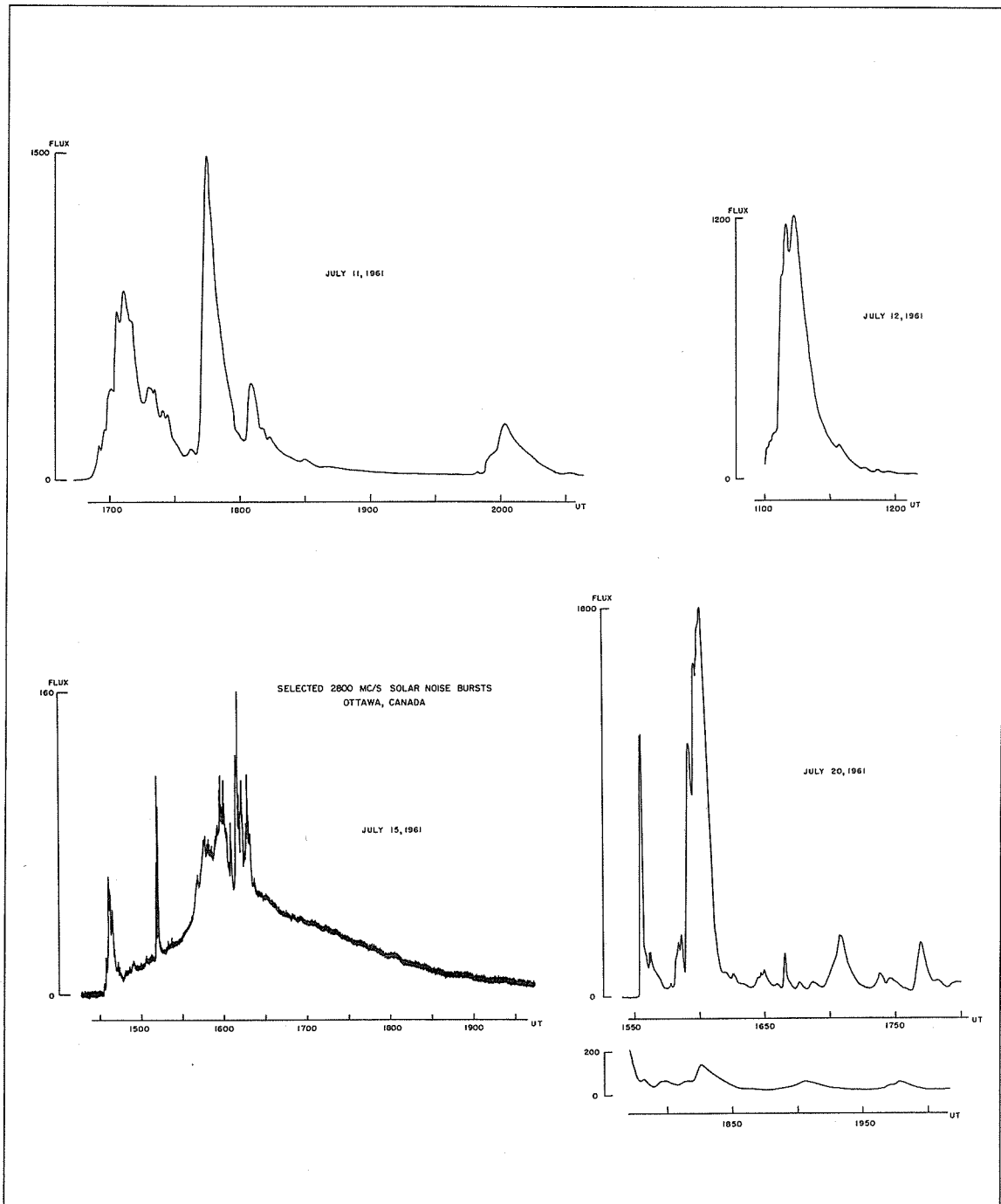
Notes:

1. The times of observation of the events are those of the first station listed in the "STATIONS" column.
2. Under SWF type: S = S-SWF; SL = Slow S-SWF.
3. Column headed "ABS" is the percent absorption of the SCNA.
4. Column headed "BUR" is for solar noise bursts at 18 Mc.
5. Column headed "SPA" is sudden phase anomalies as observed at Boulder, Colorado on GBR-England.
6. LA = Los Angeles, Calif; TO = Hiraiso Radio Wave Observatory, Japan; TY = Research Institute of Atmospherics, Toyokawa, Japan.
7. Asterisk * indicates Sudden Enhancement of Signal from 18 kc (NBA Panama Canal Zone) observed by A5.
8. + = Intermittent bursts all day 1432-0128 BO HA MC
 ++ = Intermittent bursts all day 1515-0100 BO HA MC
 +++ = Intermittent bursts all day 1249-0102 BO HA MC.

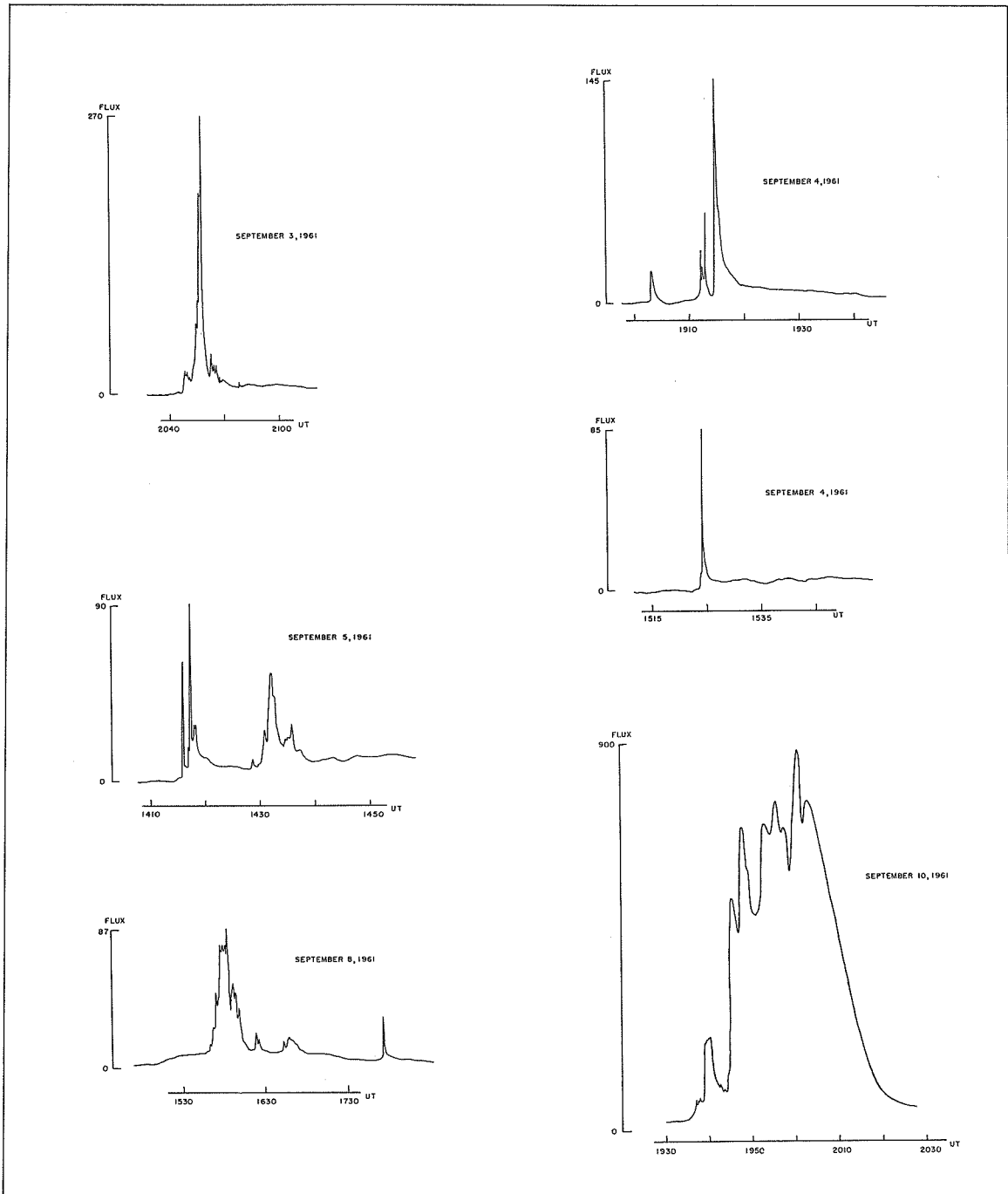
OTTAWA 2800 MC OUTSTANDING OCCURRENCES

IVa

JULY 1961



OTTAWA 2800 Mc OUTSTANDING OCCURRENCES SEPTEMBER 1961



SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

IVc

SEPTEMBER 1961

OTTAWA

2800 MC

SEPTEMBER 1961	TYPE	START UT	DURATION HRS: MINS	MAXIMUM			REMARKS
				TIME UT MAX	PEAK FLUX	NEAR FLUX	
3	3 Simple 3 f A	1402	3 2	1500	6	3	
	1 Simple 1	1425.5	4.5	1427	5	3	
3	2 Simple 2 f	2042	10	2045.5	270	35	
	4 Post Increase		> 1 58		8	2.4	
4	3 Simple 3 A	1425	6 40	indet.	6	3.7	
	2 Simple 2 f	1431.5	2	1432.3	46	12	
4	4 Post Increase		14.5		7	3.5	
	2 Simple 2	1513.7	2.5	1514	85	23	
4	4 Post Increase		42.8		4	2	
	2 Simple 2 f	1902.8	2.2	1903.2	16	7	
4	6 Complex f	1911	8	1914.8	143	20	
	4 Post Increase		31		8	4	
5	3 Simple 3 A	1415	7 40	indet.	12	6.5	
	6 Complex f	1415.5	7	1417.2	88	12	
5	6 Complex f	1428.3	10.7	1432	50	13	
	1 Simple 1	1509.9	2.1	1510.3	6	3	
5	2 Simple 2	1647	8	1652	20	11	
	4 Post Increase		1 3		8	5	
6	3 Simple 3	1535	6 50	2005	9	5	
8	3 Simple 3 A	1430	6 45	indet.	9	6	
	6 Complex f	1546	31	1602	78	29	
8	2 Simple 2 f	1621.8	5.2	1623.2	10	4	
	6 Complex	1641	16	1647.2	9	4.5	
8	2 Simple 2	1754.3	4.2	1755.3	25	8	
	2 Simple 2	1945	2.8	1946.3	11	3.5	
8	3 Simple 3	2201	29	2205	4	2	
10	9 Precursor	1545	3 45		6	3	
	6 Complex f	1930	1 1	2001	880	300	
12	4 Post Increase		> 2 00		44	-	
	1 Simple 1	1512.2	2.8	1513	3	1	
12	3 Simple 3	1817	1 2	1832	6	3.3	
13	3 Simple 3	1633	32	1648	5	3	
17	3 Simple 3 f	1305	2 8	1330	4	3	
17	1 Simple 1	1730.5	1.5	1731.8	4	3	
	2 Simple 2 f	1750.2	7.7	1752.4	18	4	
17	4 Post Increase		47		2	1	
	2 Simple 2	1839.5	2	1840.3	12	5	
27	6 Complex	1952.5	2	1952.7	13	5	
28	1 Simple 1	1528.5	2	1529	6	2	
28	2 Simple 2 f	2211	> 30	2218	800	-	Interference present

COMMERCE - STANDARDS - BOULDER

HOURS OF OBSERVATION: JULY, AUGUST, SEPTEMBER 1961

OBSERVING PERIOD:

July 10:50 UT - 24:10 UT (approx)
 August 11:05 UT - 23:40 UT (approx)
 September 11:35 UT - 22:45 UT (approx)

with the following exceptions:

- (1) Observations commenced:

July	13 - 12:25
	14 - 12:00
	18 - 12:15
August	17 - 11:55
	29 - 12:00
September	3 - 12:15
	4 - 12:20
	10 - 12:20
	13 - 12:10
- (2) Observations ended:

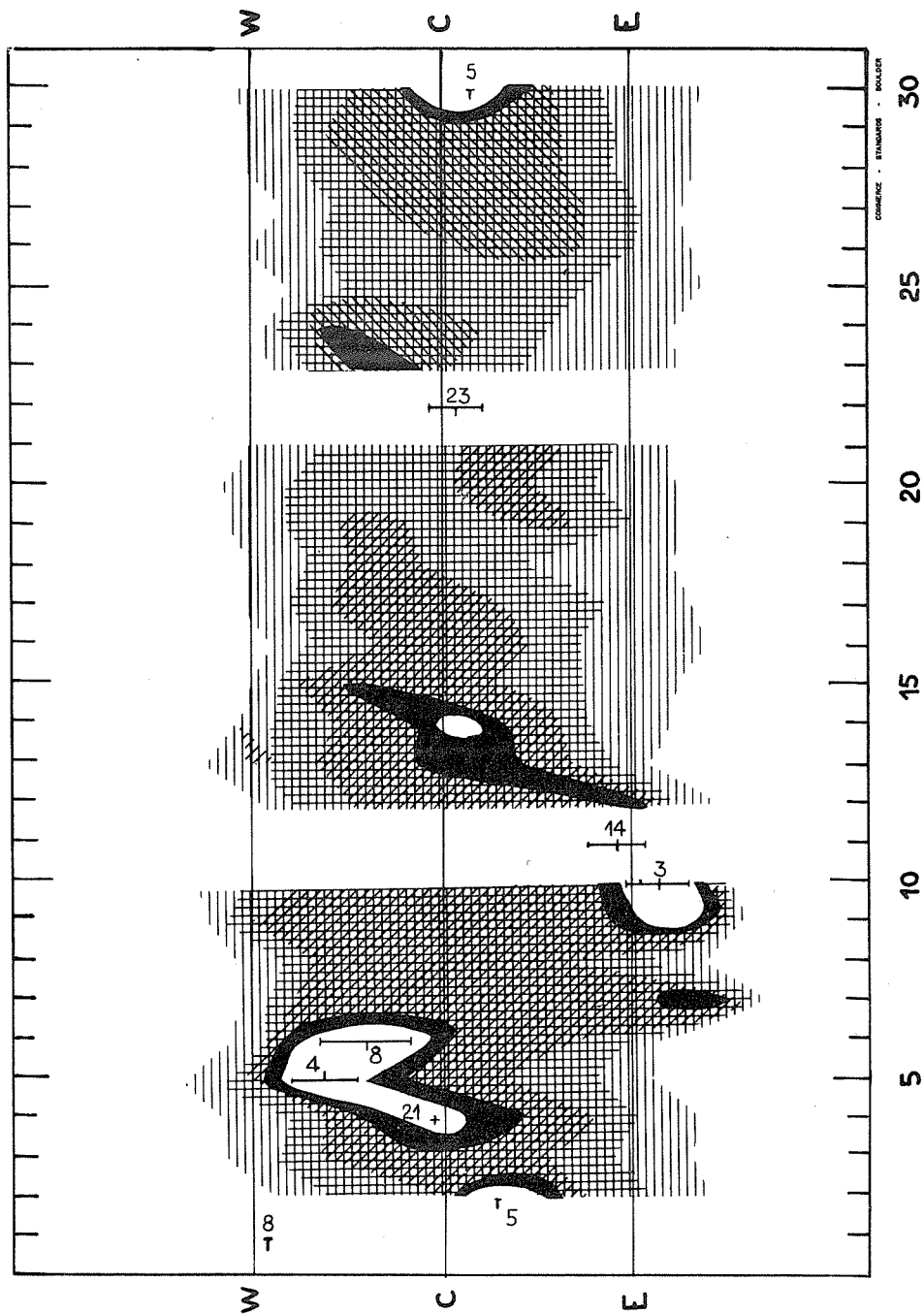
August	27 - 22:50
	29 - 23:00
	31 - 23:00
- (3) No observations: August 27 - 17:20 to 18:40.
- (4) Interference obscured portions of the records on 70 days during this quarter.

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

Nançay

SEPTEMBER 1961

169 Mc



**SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES**

IVc

SEPTEMBER 1961

BOULDER

108 Mc.

Sep 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	6	1232 E		155 D	1
2	2	1404.0	1411.0	14	3
2	3	1431.9	1432.6	2.8	3
2	3	2308.5	2309.8	1.5	2
2	8	2312.0	2317.0	8.0	2
2	8	2352.9	2357.0	8.0	3
3	3	2050.0	2050.7	2.0	2
6	7	1625		185	2
7	3	1245.9	1246.5	2.0	2
8	9	1556.0	1603.1	28	2
10	7	1934.0	1939.3	40	2
15	3	1504.0	1504.5	1.0	2
17	3	1741.5	1742.5	1.1	2
21	7	1734		415	2
25	3	1927.5	1928.2	1.0	2
25	3	2357.3	2358.0	1.3	3
27	3	1543.6	1544.5	1.5	3
27	8	1604.2	1607.5	4.0	3
27	2	1952.5	1953.4	12	2
28	9A	2213.0	2217.0	9	3
28	9B	2222	2347	102	3
29	3	1906.2	1907.5	1.4	2

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

SEPTEMBER 1961

BOULDER

108 MC

Sept. 1961	U.T.		Sept. 1961	U.T.	
1	1232-0116		17	1247-0051	
2	1233-0114		18	1248-0049	I 2003-2148
3	1234-0113		19	1249-0048	I 1249-0048
4	1235-0111		20	1250-0046	
5	1236-0110		21	1251-0044	
6	1237-0108		22	1252-0043	
7	1238-0106		23	1253-0041	
8	1239-0106		24	1254-0039	
9	1240-1520		25	1255-0038	
	2000-0104		26	1256-0036	
10	1241-0103		27	1257-0034	
11	1242-0101		28	1258-0033	
12	1243-0059		29	1259-0031	I 2100-0031
13	1244-0058		30	1300-0030	
14	1415-0056				
15	1246-0054				
16	1247-0053	I 2100-2330			

COMMERCE - STANDARDS - BOULDER

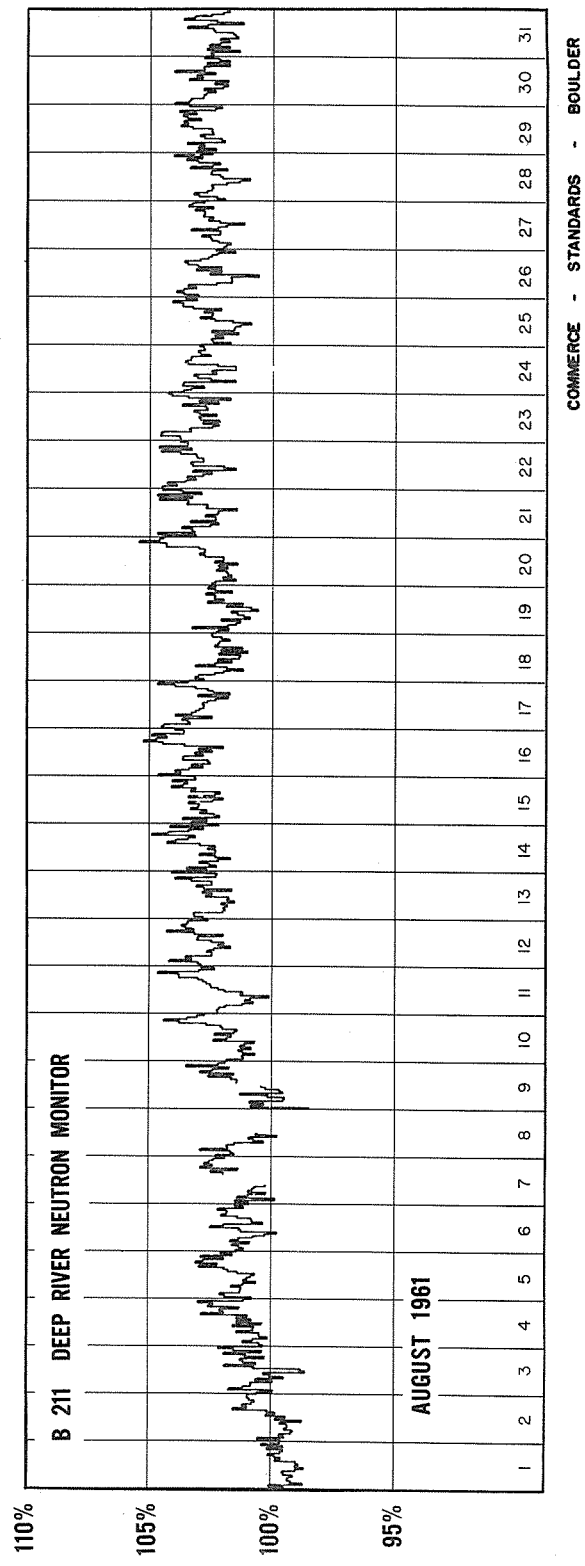
COSMIC RAY INDICES
(Climax Neutron Monitor)

AUGUST 1961

Aug. 1961	Daily average counts/hr.	Aug. 1961	Daily average counts/hr.
1	2850.5	16	2983.0
2	2898.2	17	2979.1
3	2918.5	18	2962.8
4	2928.7	19	2958.4
5	2935.7	20	2970.7
6	2934.9	21	2995.1
7	2924.1	22	2999.6
8	2929.4	23	3004.8
9	2927.5	24	2993.3
10	2947.8	25	2989.7
11	2945.1	26	2974.6
12	2946.2	27	2974.4
13	2934.7	28	2971.9
14	2954.8	29	2990.2
15	2963.9	30	3000.6
		31	2979.6

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

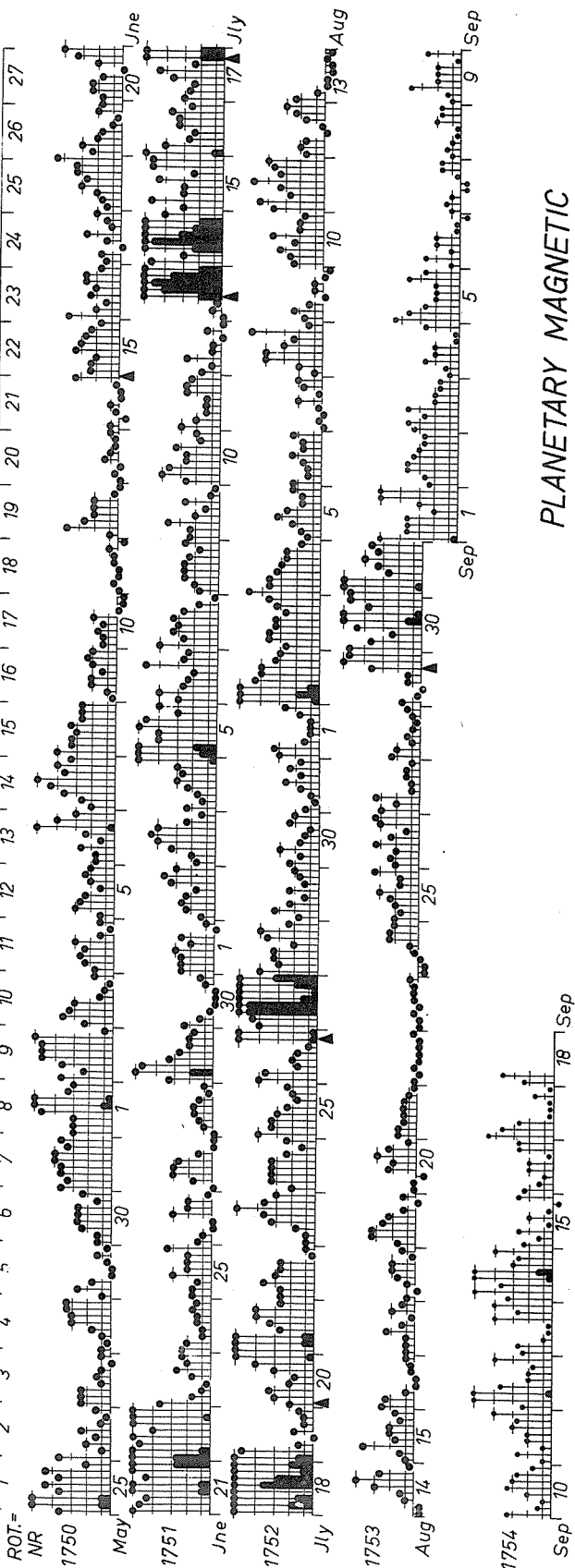


GEOMAGNETIC ACTIVITY INDICES

AUGUST 1961

Aug. 1961	C	Values Kp								Sum	Ap	Final Selected Days	
		Three hour Gr. interval											
		1	2	3	4	5	6	7	8				
1	0.5	3o	3+	1+	1o	1o	1o	2-	3-	15o	8	Five Quiet	
2	1.4	5+	6+	6-	4+	4o	4o	3+	3o	36o	42		
3	1.0	3-	4-	4-	3+	3+	3-	3+	4-	26+	18		
4	1.1	5-	4-	4-	3+	3o	3-	3-	2-	25+	18		
5	0.7	1+	2-	2+	3+	3-	2-	2-	2+	17o	9		
6	0.5	2+	1+	1+	2-	2+	2-	2-	2+	15-	7	7	
7	0.2	0+	1-	0+	1-	2o	1-	2-	2o	8+	4	9	
8	0.8	1o	2o	4o	4o	3o	2+	5-	1+	22+	17	13	
9	0.1	2-	2+	1+	0+	1o	1o	0+	0o	8o	4	22	
10	0.7	2+	3-	3+	2+	4-	2o	2o	2-	20o	11	23	
11	1.2	4-	4+	3-	3+	5-	3+	4-	4o	30-	24	Five Disturbed	
12	0.4	2-	2o	2-	0+	1-	2-	2+	3o	13+	7		
13	0.2	2+	1o	0+	0+	0o	0o	0+	0o	4+	2		
14	0.6	0o	0o	1o	1+	3o	4o	3-	1-	13-	8		2
15	0.6	1o	1+	4-	2-	2o	2o	1+	2-	15-	8		4
16	0.3	3-	2+	1o	0+	0+	1-	1-	1o	9o	5	11	
17	0.3	1o	1o	1o	2+	1+	1-	2o	1+	11-	5	30	
18	0.3	1o	0+	1o	2-	2o	2o	1-	1+	10o	5	31	
19	0.4	2-	3+	3+	3-	2+	1+	0+	1+	16+	9		
20	0.4	1-	1-	0o	2+	2o	3o	2+	1o	12o	6		
21	0.2	2-	2-	1+	1+	1+	1+	1o	1-	10+	5	Ten Quiet	
22	0.0	1-	0+	1-	0+	0+	0+	0+	1-	4-	2		
23	0.2	0+	0+	1-	0+	1-	1-	1-	1o	5-	3		
24	0.3	0o	0o	0+	1-	1o	2+	2+	2o	9-	4		7
25	0.7	2o	2-	2o	2+	3o	2-	2-	3+	18-	9		9
26	0.8	2o	2+	2o	3+	2+	1+	3o	3+	20-	11	13	
27	0.6	3o	2o	3+	1o	1o	1+	1+	1o	14o	8	16	
28	0.2	2+	2o	1o	1+	1o	1-	1o	1+	11-	5	17	
29	1.0	2-	1-	0+	1+	1+	4-	5o	5-	19-	16	18	
30	1.4	5-	4-	2+	4+	6o	5+	4-	5-	35-	37	21	
31	1.3	5-	5+	5o	3-	3+	4o	3+	4-	32o	30	22	
												23	
												24	
Mean:	0.59									Mean:	11		

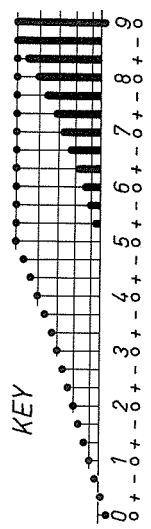
DAYS IN SOLAR ROTATION INTERVAL



PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES

Kp till 1961 August 31
(Ks from Wingst and Göttingen till Sep. 18)

▲ = sudden
commencement



J.B.

COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
AUGUST 1961

NORTH ATLANTIC

NORTH PACIFIC

DATE AUGUST 1961	NORTH ATLANTIC				NORTH PACIFIC				ADVANCE FORECASTS FOR WHOLE DAY, ISSUED IN ADVANCE BY:		WHOLE DAY INDEX	SHORT-TERM FORECASTS ISSUED AT:		ADVANCE FORECASTS (U-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:	GEOMAGNETIC K _z I											
	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES		SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF:		WHOLE DAY INDEX		ADVANCE FORECASTS (U-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:		NORTH PACIFIC 12-HOURLY QUALITY FIGURES			SHORT-TERM FORECASTS ISSUED AT:			ADVANCE FORECASTS (U-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:		GEOMAGNETIC K _z I									
	00	06	12	18	00	06	12	18	0700 TO 0900	1900 TO 0700	0600 (800)	0600 (800)	1-7	1-7	1-3	1-3	1-7	1-7	1-3	1-3	FINAL U.S. SOW J-P	FINAL U.S. SOW J-P	HALF DAY (U)	HALF DAY (I)	HALF DAY (I)	HALF DAY (I)
01	7-	6-	7-	7-	6	4	6	7	6+	4	4	6	6	5	4	4	4	4	4	4	4	5	2	2	2	
02	5-	4-	5+	5+	7	3	4	5	5-	5	5	3	4	3	4	4	4	4	4	4	4	4	(3)	(6)	(4)	(4)
03	5-	4-	5-	6-	4	4	5	5	5-	5	5	5	5	4	5	5	5	5	5	5	5	(4)	(4)	(4)	(3)	(4)
04	5-	4-	6-	6+	6	4	6	6	5-	6	6	6	6	5	6	6	6	6	6	6	6	5	6	(4)	2	2
05	6-	5-	6+	6+	6	4	6	6	6-	6	6	6	6	5	6	6	6	6	6	6	6	5	6	3	2	2
06	6+	6-	6+	7-	6	5	6	6	6+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	2	2
07	7-	6-	6+	7-	7	6	6	7	6+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	2	2
08	7-	5-	6+	6+	7	6	6	6	6+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	3	3	3
09	6+	5+	6+	7-	6	5	6	7	6+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	2	1	1
10	7-	5-	6+	6+	7	6	6	6	6-	6	6	6	6	6	6	6	6	6	6	6	6	5	6	3	3	3
11	5-	4-	6-	6-	6	4	6	5	5-	6	6	6	6	5	5	6	6	6	6	6	6	5	6	(4)	(4)	(4)
12	6-	5-	6+	6+	4	4	6	7	6-	6	6	6	6	6	6	6	6	6	6	6	6	5	6	2	2	2
13	7-	6-	7-	7-	6	5	6	6	7-	6	6	6	6	5	6	6	6	6	6	6	6	6	6	1	0	0
14	7-	5+	6+	7-	5	4	6	5	6+	4	4	4	4	7	6	6	6	6	6	6	6	6	4	4	0	2
15	7-	5-	6+	7-	6	6	6	7	6+	4	4	4	4	6	6	6	6	6	6	6	6	6	6	2	1	1
16	7-	6-	6+	6+	7	5	6	7	6+	5	5	6	6	7	6	6	6	6	6	6	6	6	6	2	0	0
17	7-	6+	7-	7-	7	6	7	7	7-	6	6	6	6	7	6	6	6	6	6	6	6	6	6	2	1	1
18	7-	6-	7-	7-	7	6	6	6	7-	7	7	7	7	6	7	7	7	7	7	7	7	6	7	3	2	2
19	7-	6+	7-	7-	7	6	6	7	7-	7	7	7	7	6	6	6	6	6	6	6	6	6	7	7	2	2
20	7-	6-	7-	7-	7	6	6	7	6+	7	7	7	7	6	6	6	6	6	6	6	6	6	6	7	1	2
21	6-	6-	6+	7-	7	6	6	7	6+	7	7	7	7	7	6	6	6	6	6	6	6	6	6	2	1	1
22	6+	6-	7-	7-	6	5	6	6	6+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0
23	7-	6-	7-	7-	7	6	7	7	7-	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0
24	7-	6-	7-	7-	7	6	7	7	7-	7	7	7	7	6	6	6	6	6	6	6	6	6	6	0	1	1
25	7-	6-	7-	7-	7	6	7	7	7-	7	7	7	7	6	6	6	6	6	6	6	6	6	6	2	2	2
26	7-	6-	6+	7-	7	6	7	7	6+	7	7	7	7	6	6	6	6	6	6	6	6	6	6	2	2	2
27	6-	5+	6+	7-	6	6	6	7	6+	7	7	7	7	6	6	6	6	6	6	6	6	6	6	2	1	1
28	6+	6-	7-	7-	7	5	6	7	6+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1	1	1
29	7-	6-	6+	7-	6	6	7	7	6+	5	5	5	5	6	5	7	7	6	6	6	6	6	6	0	3	3
30	5+	4-	5-	5-	6	4	5	5	5-	5	5	5	5	3	4	5	4	6	6	6	6	(4)	(4)	(5)	(5)	
31	3-	2+	6-	6-	4	3	5	6	4-	5	5	5	5	3	4	3	5	4	4	4	(4)	(3)	(5)	3	3	
Score: Quiet Periods	P	17	12	19	22					16	16	11	12	11	15	15	12	13	13	13	10					
	S	10	12	12	8					11	11	15	15	15	15	15	12	10	10	10	10					
	U	2	0	0	1					0	0	0	0	0	0	0	0	2	2	2	2					
	F	1	1	0	0					3	3	0	0	0	0	0	0	0	0	0	0					
Disturbed Periods	P	0	4	0	0					0	0	3	2	0	0	0	0	0	0	0	0					
	S	1	2	0	0					1	1	0	1	0	1	1	0	3	3	3	3					
	U	0	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0					
	F	0	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0					

() Represent disturbed values
All times are Universal Time (U.T.)

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

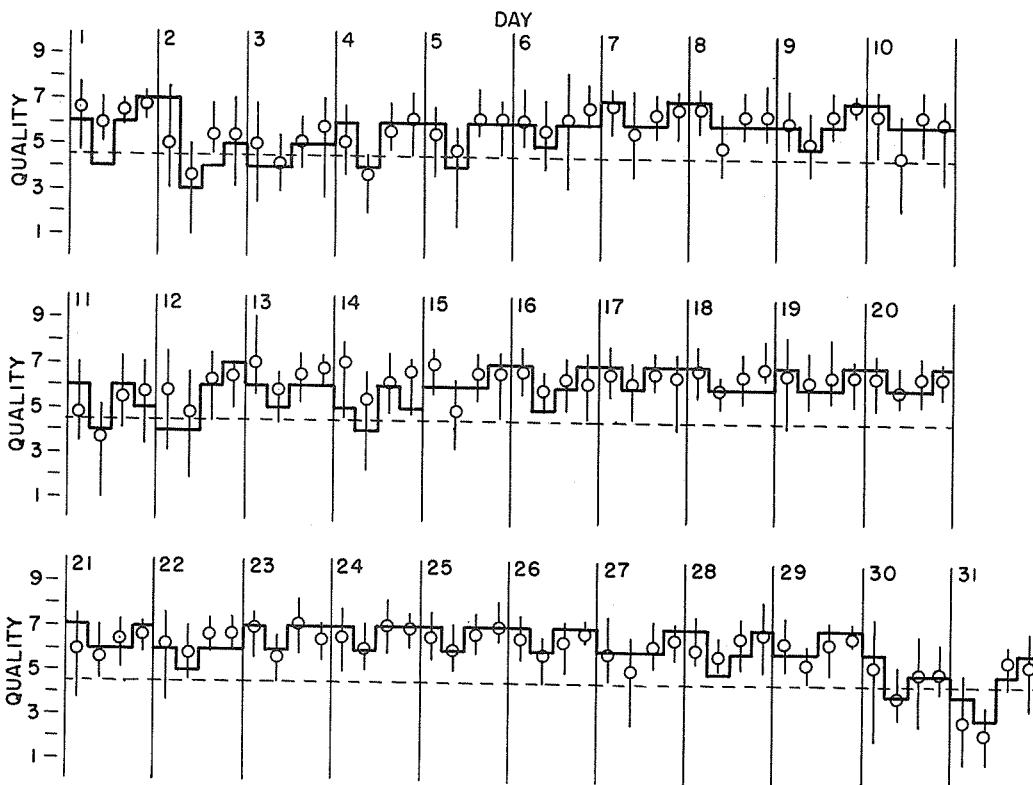
VIIb

AUGUST 1961

— Short-term forecast

| Range of reports

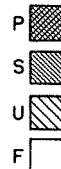
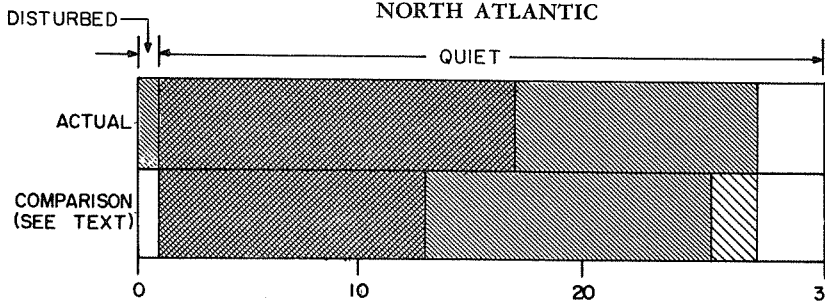
o Quality figure



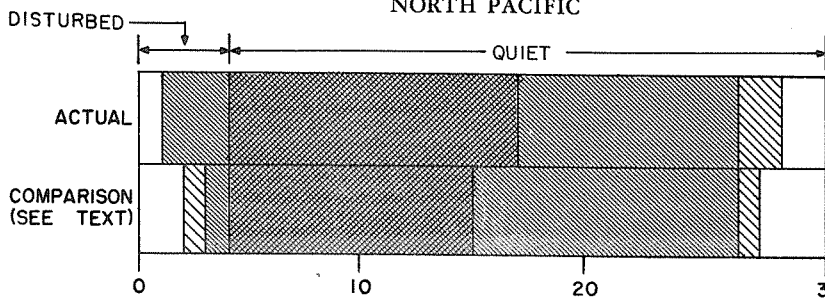
OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

NORTH ATLANTIC

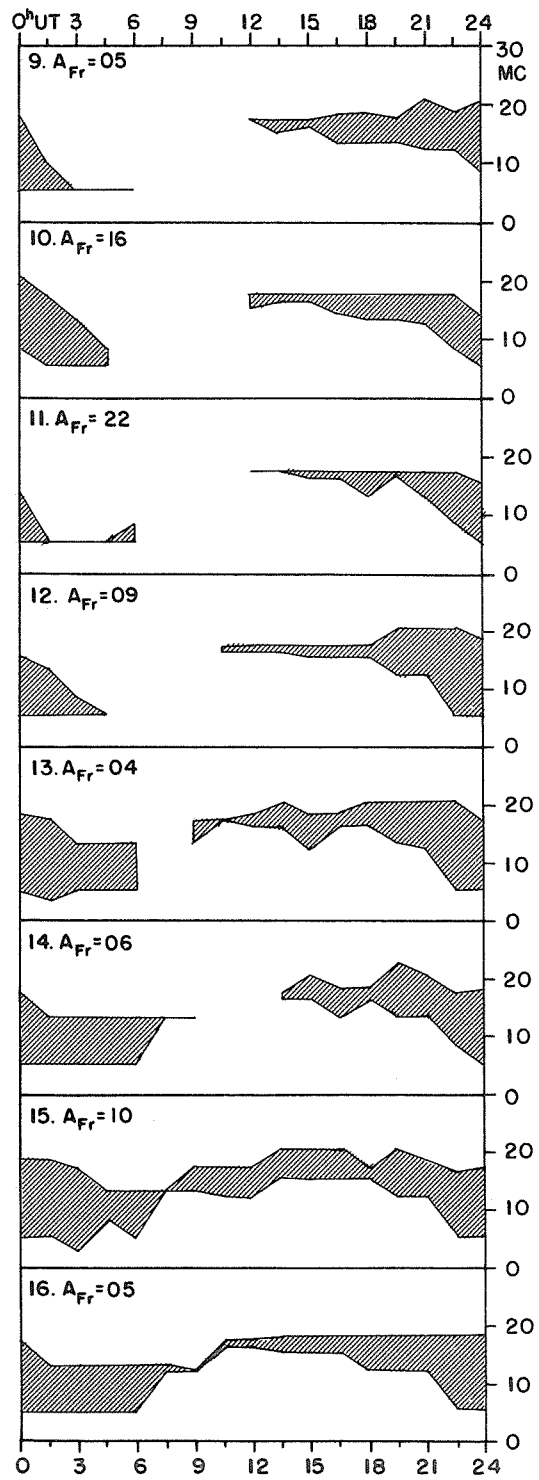
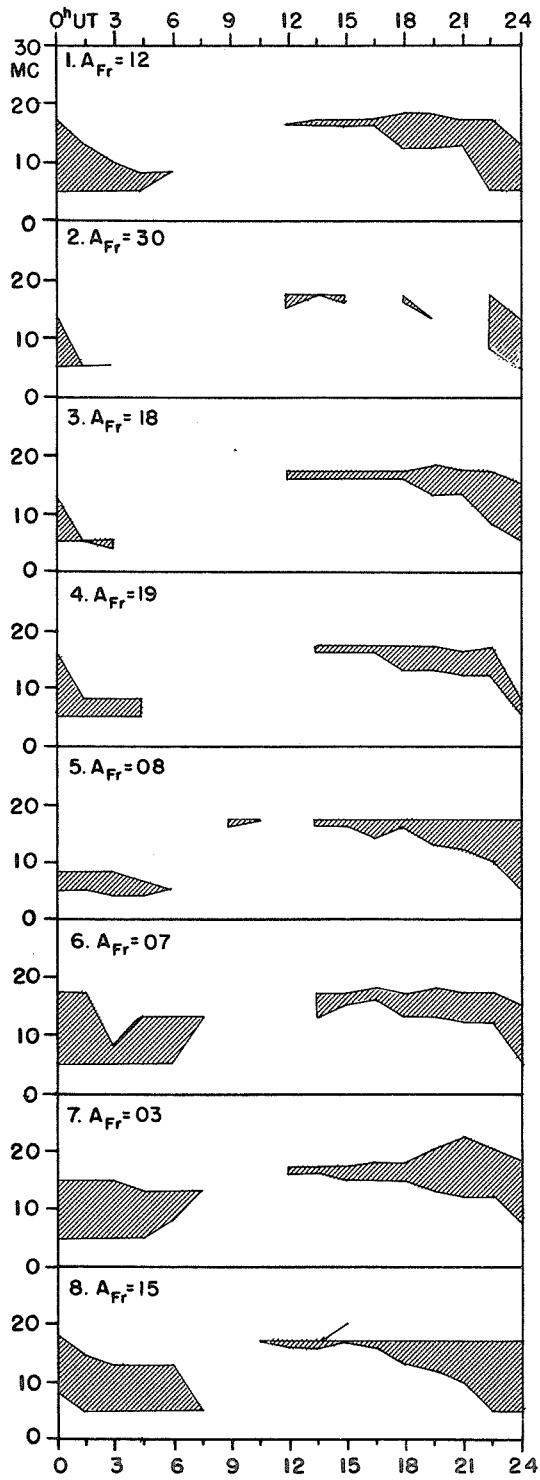


NORTH PACIFIC



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1961



COMMERCE - STANDARDS - BOULDER

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

SEPTEMBER 1961

Issued September 1961 Day/Time UT	Advance Geophysical Alert	No. World-Wide Geophysical Alert	Special World Interval
02/1445	Sac Peak, Solar Flare, Two 02/1400Z		
04/1654	Sac Peak, Solar Flare, Two 04/1432Z		
05/1935	Climax, Solar Flare, One Plus 05/1425Z		
08/1642	McMath, Solar Flare, One Plus 08/1502Z		
08/1642	McMath, Solar Flare, One Plus 08/1552Z		
24/1240	Ft. Belvoir, Magnetic Storm 24/08XXZ		
24/1600		140 Magnetic Storm 24/08XXZ	Start
25/1600		141	Continue
26/1600		142	Finish
27/1252	Ft. Belvoir, Magnetic Storm 26/22XXZ		
27/1600		143 Magnetic Storm 26/22XXZ	
29/0015	Lockheed, Solar Flare, Three Plus 28/2200Z		
29/1600		144	Start (Predicted)
30/1600		145	Continue (Predicted)
30/2121	Ft. Belvoir, Magnetic Storm Aurora Probable 30/2111Z		