

NOV 15 1961

CRPL-F 206 PART B

FOR OFFICIAL USE

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taken from the library.*

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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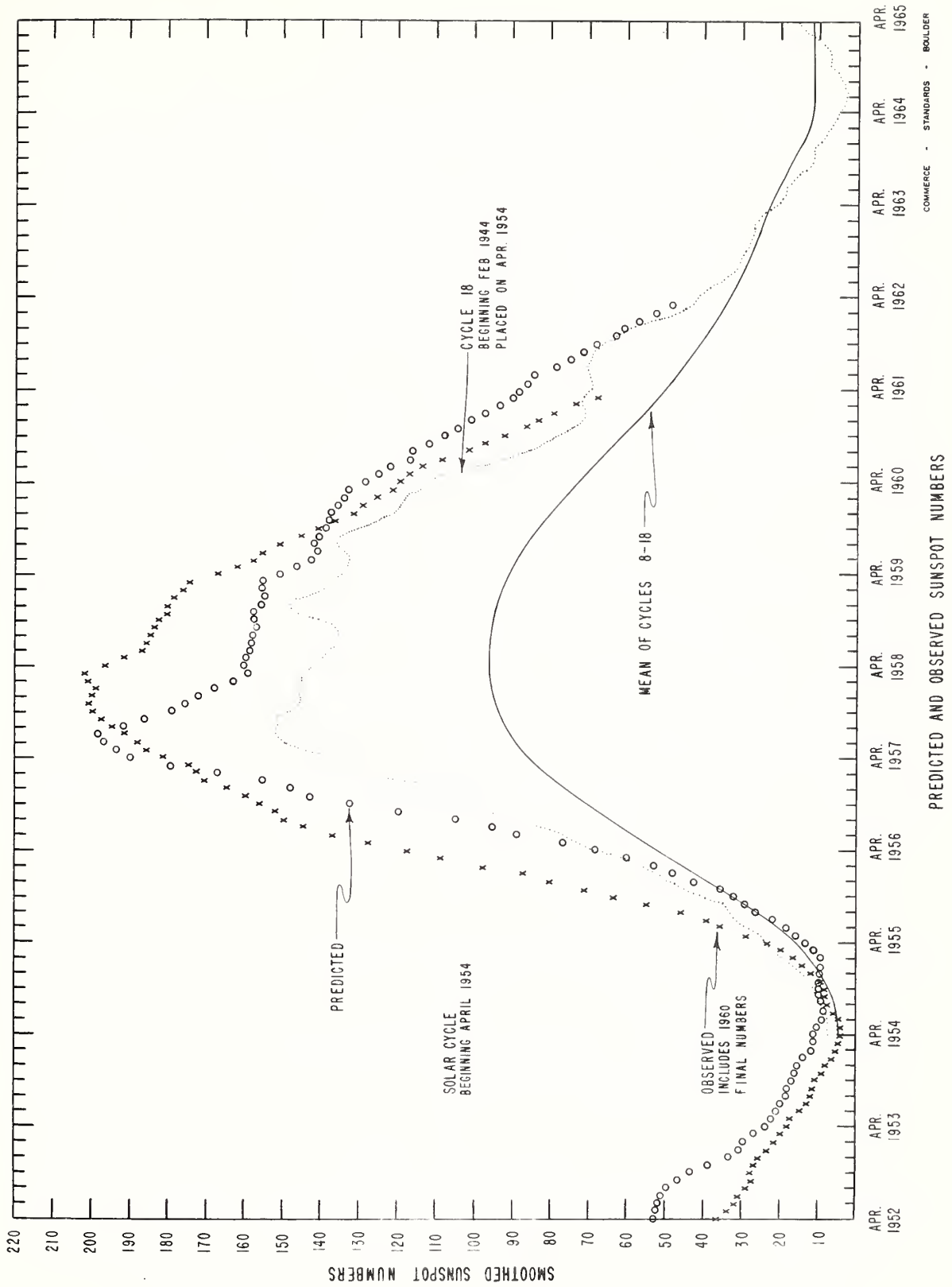


The descriptive text was published separately, November 1960.

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

\* 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			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
				APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H <sub>z</sub>	MAX. INT. %
[ ] LOCKHEED	01	0035	0135	0050		N20 W85	6206	1	1	0050	1.00	2.90		10
[ ] KODAIKNL	01	0035	0135	0110		N20 W85	6206	1	1	0050	1.00	2.90		10
[ ] KODAIKNL	01	0323	0330	0323		N12 E45	6212	1	1		2.30	3.20		
[ ] BUCHAREST	01	0700	0851	0747	U	N14 E45	6212	1	3		4.50	4.50		
[ ] WENDEL	01	0817	0817			N13 E37	6212	1			4.00	4.00		
[ ] WENDEL	01	1232	1250			N11 E35	6212	1			3.00	3.00		
[ ] ONDREJOV	01	1313	1320			N19 W90	6206	1	3					
[ ] KODAIKNL	02	0323	0341	0330		N12 E28	6212	1	2	0330	2.30	2.60	2.48	114
[ ] MEUDON	02	0600	0730			N12 E26	6212	1			3.00	3.00		
[ ] WENDEL	02	0602	0710	0634		N13 E28	6212	1+			7.00	7.00		
[ ] ONDREJOV	02	0606	0626			N13 E29	6212	1	3	0607			2.20	
[ ] CAPRI S	02	0610	0714			N12 E32	6212	1+		0619	1.80	2.20		
[ ] KODAIKNL	02	0613	0620			N08 E30	6212	1	1	0613	1.80	2.10	1.60	114
[ ] ONDREJOV	02	0628	0650	0631		N12 E24	6212	1	3	0631		2.30	2.10	
[ ] BUCHAREST	02	0653	0714	0656		N11 E29	6212	1	3		2.50	2.50		
[ ] BUCHAREST	02	0820	0829			N12 E24	6212	1	3	1214			2.10	
[ ] ONDREJOV	02	1212	1219	1214		N12 E23	6212	1	3	1214				
[ ] CAPRI S	02	1330	1423			N12 E28	6212	1	3	1400	2.50	3.00		
[ ] MEUDON	02	1345	1415			N13 E25	6212	1	3		3.92	3.98		30
[ ] SAC PEAK	02	1348	1426	1358		N15 E26	6212	1	3			11.00		
[ ] WENDEL	02	1348	1439	1413		N13 E23	6212	1		1412			2.30	
[ ] ONDREJOV	02	1407	1428			N14 E25	6212	2	3					
[ ] SAC PEAK	02	1638	1700	1650		N16 E28	6212	1+	3	1412	2.89	2.87		
[ ] HUANCAYO	02	1647	1719	1648		N13 E25	6212	1	3	1650	2.30	2.60	2.90	26
[ ] LOCKHEED	02	2230	2350	2250		N11 E12	6212	1	2	2250	4.00	3.90		30
[ ] LOCKHEED	02	2230	2350	2312		N11 E12	6212	1+	2					
[ ] LOCKHEED	02	2230	2356	2250		N10 E15	6212							
[ ] SAC PEAK	02	2234	2356	2238		N10 E15	6212	2			5.94	5.67		26
[ ] BUCHAREST	03	0703	0730	0720		N13 E10	6212	1	2			2.10		
[ ] ONDREJOV	03	0843	0852	0845		N13 E08	6212	1	3	0845			3.50	
[ ] WENDEL	03	0844	0851			N11 E16	6212	1			4.00	4.00		
[ ] BUCHAREST	03	0845	0855	0847		N12 E09	6212	1	2		2.30	2.30		
[ ] WENDEL	03	1429	1441			N12 E80	6217	1			4.00	4.00		
[ ] WENDEL	03	1504	1507			N12 E09	6212	1+	1		6.00	6.00		
[ ] LOCKHEED	03	2015	2100	2026	U	N07 E80	6217	1	1	2026	1.20	3.00		10
[ ] LOCKHEED	03	2040	2125	2047		N10 E02	6212	2	2	2047	6.00	5.90		30
[ ] HONOLULU	03	2042	2106	2051		N12 E01	6212	1	3	2051	1.40	1.40		
[ ] MCMATH	03	2057	2121			N11 W01	6212	1	2	2057	2.50	2.50		
[ ] LOCKHEED	03	2347	2425	2356	U	N13 E16	6212	1	2	2356	2.00	2.00		20
[ ] ONDREJOV	04	0726	0750	0729		N13 W04	6212	1+	3	0729			4.30	
[ ] BUCHAREST	04	0727	0749	0735		N12 W03	6212	1	1		3.40	3.40		
[ ] WENDEL	04	0727	0752	0732		N11 W08	6212	1+	1		6.00	6.00		
[ ] KODAIKNL	04	0730	0745	0734		N11 W04	6212	1	1	0734	2.30	2.30	2.08	122
[ ] WENDEL	04	0921	1027			N12 W02	6212	1+	3		6.00	6.00		
[ ] SAC PEAK	04	1428	1512	1434		N14 W04	6212	2			5.18	10.00		24
[ ] WENDEL	04	1429	1546	1436		N12 W03	6212	2	3	1444	4.00	4.00		
[ ] CAPRI S	04	1430	1503			N13 W00	6212	1	3	1515		2.10		
[ ] MCMATH	04	1512	1515			N12 W04	6212	1	3		3.30	3.30		
[ ] SAC PEAK	04	1512	1540	1520	U	N14 W04	6212	1	3					

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES  
SEPTEMBER 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT			
		START	END	MAX PHASE	APPROX. LAT.	MER DIST				MC-MATH PLACE REGION	TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX WIDTH Ha	MAX INT. % <sub>s</sub>	
CAPRI S NERA WENDEL LOCKHEED LOCKHEED LOCKHEED SAC PEAK SAC PEAK HONOLULU LOCKHEED	04	1512	1542 D		N13 W00	6212	30 D	1	3	1520	3.50	3.50		30	S-SWF		
	04	1514 E	1520 D		N13 W02	6212	6 D	2	1								
	04	1557	1606 D		N12 W03	6212	9 D	1			3.00						
	04	1834	2010	1846	N13 W07	6212	96	1+	2	1918	5.00	4.90					
	04	1834	2010	1906	N13 W07	6212									17	S-SWF	
	04	1834	2010	1918	N13 W07	6212											
	04	1902	1919 U	1905	N13 W08	6212	17 U	1	3		2.17	2.17					
	04	1911	2018	1924 U	N13 W06	6212	67	2	3		5.22	5.22					
	04	1912 E	1950 D	1920	N16 W04	6212	38 D	1	2	1920	2.30	2.30			20	S-SWF	
	04	2140	2240	2151	N13 W14	6212	60	1	2	2151	4.00	3.90					
ONDREJOV ONDREJOV ONDREJOV CAPRI S MCNATH WENDEL WENDEL ONDREJOV WENDEL LOCKHEED SAC PEAK MCNATH	05	0903 E	0913 D		N10 W20	6212	10 D	1	3	0904			2.50	20	S-SWF		
	05	1014 E	1028		N14 W22	6212	14 D	1	3	1015			2.40				
	05	1240	1255	1246	N14 W15	6212	15	1	3	1246			2.50				
	05	1415	1510 D		N12 W20	6212	55 D	1	3	1440	2.30						
	05	1416	1506 D		N10 W22	6212	50 D	1	2	1439		2.50			20	S-SWF	
	05	1428 E	1514 D		N12 W21	6212	46 D	1+	1		2.00	6.00					
	05	1451 E	1458 D		N10 W25	6212	7 D	1	1		4.00						
	05	1514	1544 D		N14 W17	6212	30 D	1	2	1700	2.10	2.10					
	05	1646	1725	1700	N12 W18	6212	39	1	2		2.60	2.60			24	S-SWF	
	05	1849	1738 U	1705	N13 W18	6212	49 U	1	2	1728	2.00	2.00					
05	1728 E			N12 W19	6212			1	2								
KODAIKNL LOCKHEED	07	0618	0622	0618	N11 W40	6212	4	1	2	0618	2.30	3.00	1.44	122	20		
	07	2121	2218	2144	S10 E90	6223	57	2	2	2144	1.10	5.50		20			
CAPRI S MEUDON MCNATH MEUDON CAPRI S CAPRI S MEUDON MCNATH	08	1158	1213 D		N07 E22	6217	15 D	1	3	1202	1.90	2.10			S-SWF		
	08	1158	1215		S10 E30	6219	17	1									
	08	1445	1710	1518	N18 W52	6212	145	2	2	1518		5.50					
	08	1450	1630	1520	N20 W53	6212	100	2	2		8.00						
	08	1515	1559 D		N19 W52	6212	44 D	2	2	1529	3.60	5.80				S-SWF	
	08	1515	1559 D		S10 E90	6223	65	1?	2								
	08	1545	1650		S09 E89	6223	35 D	1	2	1603		2.10					
	08	1555	1630 D	1603													
	KODAIKNL CAPRI S MCNATH LOCKHEED WENDEL WENDEL CAPRI S LOCKHEED MCNATH HONOLULU	09	0507	0514	0509	N12 W67	6212	7	1+	1	0509	2.30	4.60	2.24	114		S-SWF
		09	0925 E	0943 D		S17 W51	6215	18 D	1	3	0930	1.30	2.10				
09		1207	1309 D	1217	S09 E78	6223	62 D	1	2	1217		2.30					
09		1801	1820	1806	N20 E80	6224	19	1	2	1806	1.10	3.20		10			
10		0611 E	0631 D		S12 E66	6223	20 D	1				4.00			10	S-SWF	
10		0658	0748 D		S08 E60	6223	50 D	1+				7.00					
10		0700 E	0735 D		S09 E60	6223	35 D	1	3	0704	1.50	3.20					
10		1555	1615 E	1610 U	N10 W90	6212	20 D	1	2	1610	1.00	5.00					
10		1950	2052	2010	N08 W80	6212	62	1	2	2010	1.00	2.90			10	S-SWF	
10		2018 E	2038 D		N13 W90	6212	20 D	1	1								
10	2018	2054	2030	N16 W90	6212	36	1	2	2030	.80	3.90						
ONDREJOV WENDEL WENDEL WENDEL	13	0925 E	0929 D		S14 E10	6223	4 D	1	3					4.00	3.00		
	13	0927 E	0937 D		S13 E11	6223	10 D	1									
	13	1007 E	1052 D		N14 E35	6224	45 D	1									
	13	1020 E	1045 D		S14 E10	6223	25 D	1									

# 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	APPROX. LAT.	APPROX. MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX WIDTH H <sub>30</sub>	
UCCLE WENDEL	13 13	1119 1126	1131 1207	N14 N14	E37 E35	6224 6224	1 1	3	2.00	2.30 4.00		
LOCKHEED BUCHAREST LOCKHEED	15 15 15	0031 0735 E 2144	0130 U 0757 D 2210	S14 S10 N13	W11 W09 E90	6223 6223 6227	1+ 1 1	2 3 2	4.00 2.40 1.00	4.00 2.40 2.90		30 10 SLOW S-SWF
MEUDON WENDEL	16 16	1057 1059	1125 1258 D	N20 N17	E80 E77	6227 6227	2 3+			26.00	6.10	
ONDREJOV UCCLE	16 16	1100 1103	1148 1154 D	N19 N15	E75 E77	6227 6227	2+ 51 D	3 3	4.50 4.00	9.00 13.60		
CAPRI S WENDEL	16 16	1103 1158 E	1159 1211 D	N20 N22	E76 W33	6227 6222	3 13 D	3	4.00	3.00		
KODAIKNL WENDEL	17 17	0452 0920 E	0457 0935 D	S11 S12	W37 W42	6223 6223	1 15 D	2	1.90	2.50 3.00	2.00 2.20	122
ONDREJOV WENDEL	17 17	0920 E 0925 E	0948 D 0948 D	S11 N21	W39 W43	6223 6222	1 23 D	3		3.00		
ONDREJOV SAC PEAK	17 17	1307 1402	1328 1515	S12 S09	W45 W29	6223 6223	21 73	3		3.00	2.10	
SAC PEAK SAC PEAK	17 17	1726 1748	1744 1808	S14 N13	W46 W27	6223 6224	18 20	3 3	1.88 2.12	2.33 2.17		18 18
BUCHAREST MEUDON	18 18	0715 E 1120	1155 1212 D	S10 S05	W52 W53	6223 6223	1 35	2		3.20 4.00		
WENDEL ONDREJOV	18 18	1126 1128	1203 1218 D	S09 S05	W45 W49	6223 6223	2 35	3		9.00	2.40	
CAPRI S SALTSJOBADN	18 18	1128 1135 E	1218 D 1209	S08 S08	W48 W42	6223 6223	2 34 D	3 2	3.30 5.00	5.30 7.50		
BUCHAREST ISTANBUL	19 19	0750 E 0756	0830 D 0815	N16 N02	W40 W05	6224 6229	1 19	3		3.20		
ISTANBUL UCCLE	19 20	0758 1021	0830 D 1026	N16 N14	W40 W64	6224 6224	1 5	3		1.00	2.30	
ONDREJOV WENDEL	20 23	1022 E 0615 E	1026 0636	N12 N02	W62 E74	6224 6234	4 D 21 D	3		2.20		
WENDEL WENDEL	23 23	0615 E 0620	0653 0703 D	N07 N08	E03 E04	6234 6228	1+ 43 D		4.00 6.00			
CAPRI S KODAIKNL	23 23	0620 0631 E	0703 D 0641 D	N08 N07	E04 E09	6228 6228	1 10 D	3	2.10 2.30	2.10 2.30		
ONDREJOV ARCETRI	23 23	0631 E 0855 E	0646 0935 D	N06 N01	E01 E80	6228 6234	15 D 40 D	3 1			2.00	
WENDEL WENDEL	23 23	0929 E 1101 E	0950 D 1113 D	N02 N02	E72 E71	6234 6234	21 D 12 D	3		4.00 3.00		
ONDREJOV BUCHAREST	24 24	0535 E 0700 E	0545 0900 D	N03 N06	E60 W10	6234 6228	10 D 120 D	3		3.00	2.80	
CAPRI S BUCHAREST	24 24	0708 E 0715	0825 D 0850	N24 N23	W30 W27	6227 6227	1 95	1	2.00	4.60 2.60		
MEUDON WENDEL	24 24	0720 0845	0845 0845	N20 N20	W30 W30	6227 6227	85 85	1		2.10		

# SOLAR FLARES

SEPTEMBER 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER. DIST.				MC-MATH FLARE REGION	TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Ha
ONDREJOV WENDEL WENDEL LOCKHEED	24 24 24 24	0732 1350 1402 2107	0803 1431 D 1426 2127	N25 W30 N02 E58 N02 E66 N02 E90		6227 6234 6234 6235	1 1 1 1	3	0737		3.00 4.00 5.00	2.00	10	Slow S-SWF
	25	0301 E	0309 D	N05 E53		6234	1	1	0309	1.70	2.90	2.92	122	
	25	0641	0720	N07 W23		6228	1+				8.00			
	25	1016	1030 D	N08 W26		6228	1	2			3.70			
SALTJOBADN WENDEL	25 25	1017 E 1127	1027 1150 D	N08 W25 N12 E70		6228 6235	1 1	2	1021	4.00	4.40 3.00			
	26	0620 E	0820 D	N14 E86		6237	2				9.00			
BUCHAREST BUCHAREST ARCETRI CAPRI S	26 26 26 26	0700 E 0700 E 0909 E 1016 E	0903 D 0903 D 1108 D 1127 D	N14 E90 N12 E63 N13 E86 N16 E66		6237 6235 6237 6235	1 1 1 2	2			3.60 3.50 8.40 7.00			
	26	1518 E	1547 D	N17 E65		6235	1+	3	0909	.83	4.00			
	26	1542	1547 D	N10 E57		6235	1		1040					
	26	2007	2146 D	N14 E80 N12 E60		6237 6235	5 1 1	2			3.00 3.00 2.00			
UCCLE WENDEL SALTJOBADN CAPRI S	27 27 27 27	1107 1107 1109 E 1110 E	1121 1125 D 1121 D 1114	N10 E78 N14 E71 N12 E70 N14 E70		6237 6237 6237 6237	1 1+	3	1110	1.50	3.00 6.00 4.20 4.50			
	27	1116	1124	N13 E75		6237	1	3	1112	1.40				
	27	1149 E	1249 D	N13 E69		6237	1				3.00			
	27	1214 E	1232 D	N08 W53		6228	1				4.00			
ONDREJOV CAPRI S MEUDON SAC PEAK	27 27 27 27	1448 E 1449 E 1456 1852	1503 D 1455 D 1508 1952 U	N12 E42 N15 E62 N13 E63 N12 E57		6235 6237 6237 6235	1 1 1 1	3	1451 1451	1.30	2.70 2.39 2.50 4.60	2.00	18	
	27	1852	1958	N12 E60		6237	1	1	1922	1.73	2.99			
	27	1950	2007	N13 E70		6237	1+	2	1956	1.40	4.60 2.20	3.80		
	27	1950	2016	N13 E74		6237	1	2	1954		2.60 2.08			
CAPRI S WENDEL MEUDON ONDREJOV	27 28 28 28	1952 E 0907 E 0907 E 0915	2005 D 0920 D 0938 D 0921	N14 E69 N14 E37 N15 E63 N14 E40		6237 6237 6235 6235	1 1 1 1	1		1.16	2.08	2.00	23	
	28	0916	0931 D	N14 E63		6237	1	3	0912	2.00	2.60 3.00			
	28	1018 E	1034 D	N15 E62		6237	1		0919			2.70		
	28	1022 E	1050 D	N13 E31		6235	1				3.00 4.00			
WENDEL ONDREJOV WENDEL LOCKHEED	28 28 28 28	1520 E 1524 E 2202 2208	1536 1550 D 2530 2330 D	N15 E34 N12 E34 N15 E29 N13 E30		6235 6235 6235 6235	1 1 3 3	3	1530		4.00 20.70 22.50	2.00	40	
	28	1524 E	1550 D	N12 E34		6235	1				4.00			
	28	2202	2530	N15 E29		6235	3	3	2224	20.00	20.70			
	28	2208	2330 D	N13 E30		6235	3	2	2222	21.90	22.50			
HONOLULU	28	2208	2330 D	N13 E30		6235	3							
ISTANBUL	29	1051 E	1105 D	N13 E43		6237	1+							

# 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	APPROX. LAT.	MER. DIST.	McNATH PLACE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H <sub>g</sub>	MAX INT. %
— CAPRI S	29	1051	1106	N13 E41		6237	15	1	3	1057	1.80	2.50		
— WENDEL	29	1052	1111 D	N13 E44		6237	19 D	1				3.00		
— SALTSJOBADN	29	1053	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		
— SALTSJOBADN	29	1120	1145 D	N12 E42		6237	25 D	1	2	1142	2.50	3.30		
— WENDEL	29	1121	1142 D	N13 E41		6237	21 D	1				3.00		
— WENDEL	29	1148	1216 D	N09 W82		6228	28 D	1+				6.00		
— WENDEL	29	1415	1437 D	N13 E41		6237	22 D	1				3.00		
— WENDEL	30	0810	0836 D	N13 E31		6237	26 D	1				3.00		
— WENDEL	30	0940	1035 D	N13 E30		6237	55 D	1+				6.00		
— CAPRI S	30	0948	1030 D	N14 E31		6237	42 D	1	3	1000	2.00	2.40		
— WENDEL	30	1236	1332 D	N13 E28		6237	56 D	1+				6.00		

COMMERCE - STANDARDS - BOULDER

ATHENS  
BAKOU  
CAPETOWN

ATHENS, GREECE  
PIRCULI, USSR

ROYAL OBSERVATORY,  
CAPE OF GOOD HOPE

CAPRI F  
CAPRI, ITALY (GERMAN)  
CAPRI S

CRINEE  
SIMEIZ, USSR  
HERSTMENCEU

ROYAL GREENWICH OBSERVATORY,  
HERSTMENCEUX, ENGLAND

HONOLULU  
IKOMASAN

HAWAII, USA  
KYOTO, JAPAN

KIEV KO  
KIEV KY

LOCKHEED  
LOS ANGELES, CALIF., USA

MCNATH  
MCNATH-HULBERT,  
PONTIAC, MICH., USA

MOSCOW  
MOSCOW GAISH, USSR

NERA

NEDERHORST den BERGH,  
NETHERLANDS

KRASNAYA PAKHRA, USSR  
SAC PEAK

SACRAMENTO PEAK, N.MEX., USA  
SALTSJOBADEN

STOCKHOLM, SWEDEN  
SCHAUINS  
TASHKENT, USSR

WENDEL  
WENDELSTEIN, GFR

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.

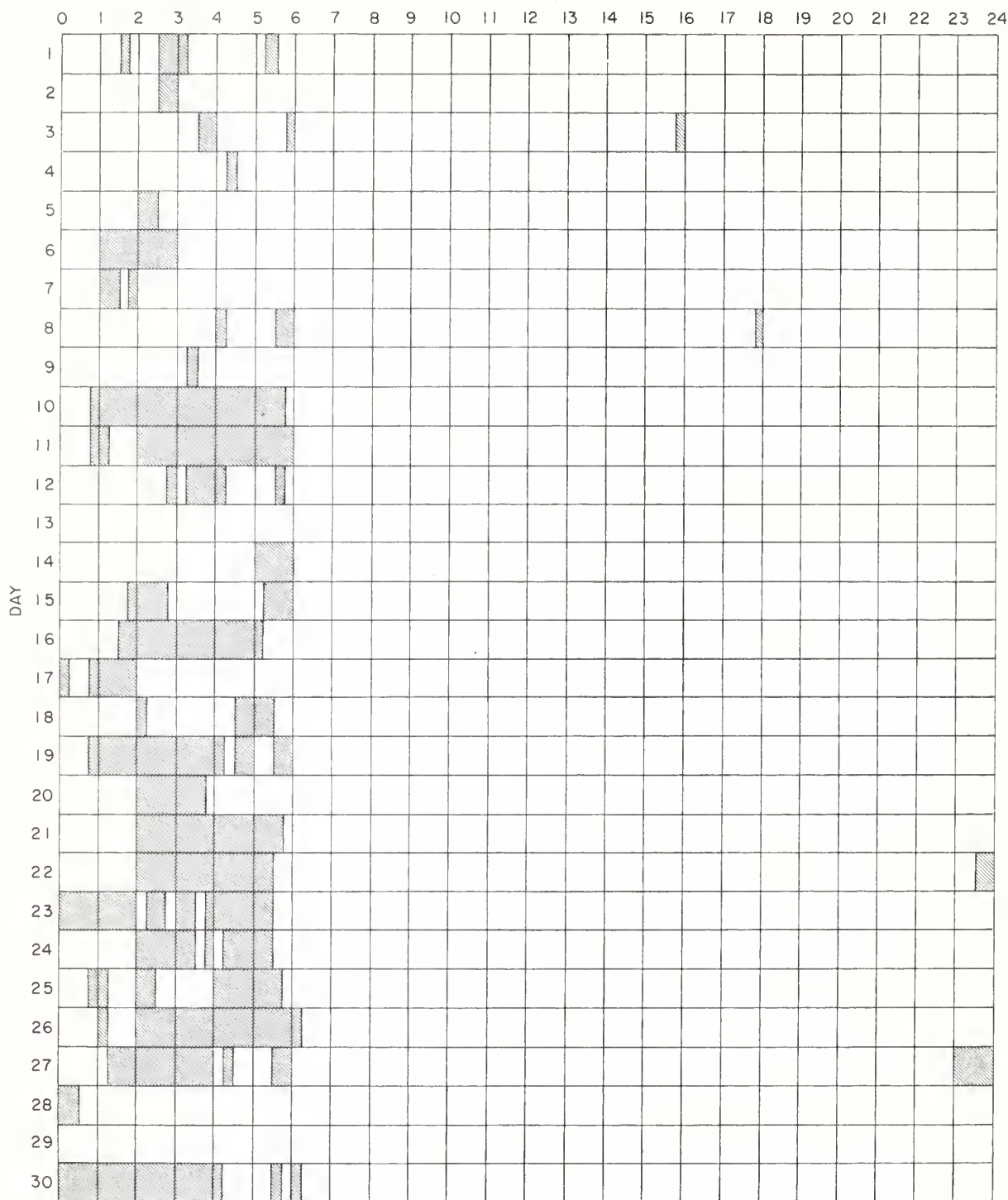
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

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)  
Arcetri  
Bucharest

Honolulu  
Huancayo  
Istanbul

Kodaikanal  
Lockheed  
McMath-Hulbert

Meudon  
Ondrejov  
Sacramento Peak  
Wendelstein

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 0731 E	N04 W90	MCATH	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 2219	S02 W34
SAC PEAK	01 2020	N13 E11	CAPRI S	13 0940 E	N18 E12	LOCKHEED	20 2300	N17 E85
LOCKHEED	01 2040	N13 E12	* CAPRI S	13 1015 E	N05 E33	LOCKHEED	20 2346	S01 W36
* LOCKHEED	01 2120	N23 W43	MCATH	13 1354	S02 E71			
SAC PEAK	02 1316	N22 W56	MCATH	13 1355	N11 E09	ISTANBUL	21 0730	N08 W70
* SAC PEAK	02 1820 E	S05 E90	MCATH	13 1410	N05 E32	WENDEL	21 0744 E	N19 E15
* HAWAII	02 1828	S07 E90	CAPRI S	13 1508 E	N07 E30	LOCKHEED	21 2105	N09 W06
			MCATH	13 1519	N05 E31			
HAWAII	03 0122	N24 W62	LOCKHEED	13 1603	N14 W62	MCATH	22 1512 E	N08 E40
WENDEL	03 1621 E	S16 W44	LOCKHEED	13 1620	N04 E29	SAC PEAK	22 1538	N10 E59
HAWAII	03 1912	S07 E90	LOCKHEED	13 1643	N04 E29	LOCKHEED	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 E	N04 E28	LOCKHEED	22 1910	N11 E58
			LOCKHEED	13 1705	N10 E03	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 W25	HAWAII	13 1952 E	N02 E30	LOCKHEED	23 1756	S15 E56
SAC PEAK	04 1534	N22 W86	* MCATH	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			
* ARCTERI	05 0834	S18 W72	LOCKHEED	13 2343	N09 E04	HAWAII	24 1940 E	N08 E28
LOCKHEED	05 2138	N19 E10				HAWAII	24 2320 E	S21 E11
			LOCKHEED	14 0017	S07 E06			
LOCKHEED	06 1602	S16 W90	HAWAII	14 0108 E	N04 E24	* CAPRI S	25 1405 E	N14 E05
LOCKHEED	06 1652	N17 E90	KYOTO	14 0113	N06 E26	SAC PEAK	25 1608	N16 W01
LOCKHEED	06 2028	N17 E85	* CAPRI S	14 0148	N12 E22	LOCKHEED	25 1625 E	N17 W02
			WENDEL	14 1054 E	N09 E24	LOCKHEED	25 1911	S13 E11
LOCKHEED	07 1624	N16 E90	MCATH	14 1138 E	N15 W06	SAC PEAK	25 1914	S17 E12
LOCKHEED	07 1704	N08 W05	LOCKHEED	14 1605	N14 W80	LOCKHEED	25 1920	N17 E12
			* LOCKHEED	14 1700	N12 W65	MCATH	25 2010 E	N18 W01
* MEUDON	08 1019 E	S12 E32	LOCKHEED	14 1730	N04 E22	SAC PEAK	25 2010 E	N19 W02
			MCATH	14 1731	N05 E20	LOCKHEED	25 2210	N16 W05
* CAPRI S	09 0753 E	N08 E67	WENDEL	14 1732 E	N01 E21	MCATH	25 2216	N16 W05
LOCKHEED	09 1638	S03 E90	LOCKHEED	14 1801	S04 E18	LOCKHEED	25 2357	N17 W04
* MCATH	09 1710	N05 E90	MCATH	14 1803	S04 E20			
* LOCKHEED	09 1729	N12 E84	HAWAII	14 1806 E	S04 E19	HAWAII	26 0000 E	N17 W03
			MCATH	14 1807	N04 E14	* ONDREJOV	26 0613 E	N08 E50
			LOCKHEED	14 1846	N04 E14	* CAPRI S	26 0620	N09 E09
* ONDREJOV	10 0520 E	N16 W16	LOCKHEED	14 2150	N05 E17	WENDEL	26 0652 E	N16 W08
* BUCHAREST	10 0700	N18 W20	LOCKHEED	14 2208 E	N15 W88	WENDEL	26 0729 E	N17 W05
WENDEL	10 1054 E	N13 E55	LOCKHEED	14 2213	N17 W85	* MEUDON	26 1005	S18 E07
WENDEL	10 1115 E	N13 E55	LOCKHEED	14 2246	N16 W85	* CAPRI S	26 1008	S16 E04
* MEUDON	10 1215	N10 E78	LOCKHEED	14 2250	S06 E16	SAC PEAK	26 1518	N20 W10
* MCATH	10 1216	N10 E78	MCATH	14 2254	E15	WENDEL	26 1614 E	N15 W14
WENDEL	10 1221	N08 E80	LOCKHEED	14 2312	N05 E17	LOCKHEED	26 1618	N15 W15
WENDEL	10 1339 E	N09 E76				LOCKHEED	26 1905	N11 W11
MCATH	10 1339	N09 E88	* SAC PEAK	15 1648 E	N11 W20	MCATH	26 1907	N12 W12
* MCATH	10 1439	N09 E78	LOCKHEED	15 1807	N12 W20	LOCKHEED	26 2207	N10 W04
* CAPRI S	10 1438 E	N08 E75	LOCKHEED	15 1811	N06 E02	HAWAII	26 2220 E	N20 W02
* SAC PEAK	10 1504	N11 E48	HAWAII	15 2012 E	S11 W10	MCATH	26 2230 E	N06 W02
* MCATH	10 1505	N13 E49	LOCKHEED	15 2013	N12 W21	LOCKHEED	26 2258	N17 W17
* WENDEL	10 1507 E	N12 E44	MCATH	15 2015	N12 W21			
MCATH	10 1720 E	N16 W23	LOCKHEED	15 2031	N07 W00	LOCKHEED	27 0018	N20 W15
HAWAII	10 1950	N09 E45	HAWAII	15 2120 E	N02 E36	WENDEL	27 1133 E	N16 W25
LOCKHEED	10 2003	S07 E90	LOCKHEED	15 2123	N13 W20	LOCKHEED	27 1729	N11 W16
LOCKHEED	10 2040	N16 W27	LOCKHEED	15 2234	N13 W22	LOCKHEED	27 2015	N11 W26
LOCKHEED	10 2139	N07 E72	LOCKHEED	15 2237	S09 W21	LOCKHEED	27 2045	S17 W16
LOCKHEED	10 2210	N14 W27	KYOTO	15 2313 E	N12 W22			
LOCKHEED	10 2227	N07 E68				MCATH	28 2111	S07 W09
HAWAII	10 2308	S19 E69	HAWAII	16 0018 E	S14 W09			
LOCKHEED	11 0002	N10 E70	* CAPRI S	16 0730 E	N11 W04	STOCKHOLM	29 1021 E	N08 E90
LOCKHEED	11 0010	N04 E70	MCATH	16 1210	N09 W07	MEUDON	29 1215	N12 E58
* HAWAII	11 0040	S03 E72	MCATH	16 1228	S00 E28	WENDEL	29 1229 E	N20 W55
MITAKA	11 0355 E	N09 E68	* SAC PEAK	16 1256	N09 W09	WENDEL	29 1349 E	N12 E76
MEUDON	11 0637	N07 E64	LOCKHEED	16 1643 E	N02 E26	WENDEL	29 1529 E	N12 E74
* CAPRI S	11 0640 E	N06 E63	LOCKHEED	16 2030	N04 W14	MCATH	29 1715	N12 E78
* MEUDON	11 0810	N07 E64	LOCKHEED	16 2040	N16 W90	WENDEL	29 1717 E	N13 E72
ARCTERI	11 0849	N08 E64	LOCKHEED	16 2225	N07 W11	SAC PEAK	29 1718 E	N14 E73
LOCKHEED	11 1631	N06 E58	LOCKHEED	16 2341	N08 W09	HAWAII	29 1740	N12 W51
MCATH	11 1635 E	N05 E60	LOCKHEED	16 2355	N08 W13	HAWAII	29 1846 E	N09 E70
LOCKHEED	11 1651	N06 E58	SAC PEAK	17 1422	N06 W17	MCATH	29 1937	N11 E75
MCATH	11 1653	N05 E60	CAPRI S	17 1440 E	N09 W15	MCATH	29 2021	N11 E73
LOCKHEED	11 1708	S03 E61	MCATH	17 1445	N07 W18	MCATH	29 2106	N11 E75
LOCKHEED	11 1729	N00 E90	SAC PEAK	17 1650	N06 W19	HAWAII	30 0100	N11 E55
LOCKHEED	11 1745	S02 E60	LOCKHEED	17 1651	N05 W20	WENDEL	30 0902 E	N12 E68
LOCKHEED	11 1818	N05 E98	LOCKHEED	17 1715	S02 W26	MCATH	30 1200	N11 E64
LOCKHEED	11 1835	N00 E90	LOCKHEED	17 1836	S02 W26	MCATH	30 1357	N12 E61
LOCKHEED	11 1920	N05 E58	MCATH	17 1839	N00 W25	* ONDREJOV	30 1400	N14 E58
LOCKHEED	11 1936	S01 E90	* SAC PEAK	17 2114 E	N08 W23	MCATH	30 1606	N11 E60
* LOCKHEED	11 1937	N06 E56	LOCKHEED	17 2253	N05 W22	HUANCAYO	30 1607 E	N11 E60
LOCKHEED	11 2040	N04 E56	LOCKHEED	17 2255	S04 W59	* MCATH	30 1621	N18 W68
LOCKHEED	11 2112	S01 E90				MCATH	30 1649	N12 E61
LOCKHEED	11 2125	N04 E55	BUCHAREST	18 0850	S00 E25	MCATH	30 1905 E	N10 E60
LOCKHEED	11 2138	N15 W37	* MCATH	18 1557	N20 E54	HAWAII	30 1934 E	N10 E59
LOCKHEED	11 2205	S01 E90	LOCKHEED	18 1650	N05 W38	HAWAII	30 2248 E	N09 E58
LOCKHEED	11 2212	N03 E54	LOCKHEED	18 1710	N19 E51	HAWAII	30 2318	N11 E56
LOCKHEED	11 2246	N06 E54	LOCKHEED	18 1715	S10 W57			
LOCKHEED	11 2250	S01 E90	MCATH	18 1717	S09 W60	KYOTO	31 0251 E	N13 E60
LOCKHEED	11 2310	N08 E53	SAC PEAK	18 1720 E	S09 W57	* MEUDON	31 0858	N12 E45
LOCKHEED	11 2320	N10 E57	LOCKHEED	18 1845	N20 E59	BUCHAREST	31 0859	N17 W73
			* HAWAII	18 2040	N10 W37	* ONDREJOV	31 0906 E	N13 E48
LOCKHEED	12 0006	N09 E58	LOCKHEED	18 2205	N06 W37	WENDEL	31 0926 E	N12 E48
LOCKHEED	12 0022	N18 W40				* MEUDON	31 1100	N12 E45
* KYOTO	12 0154 E	N07 E54	BUCHAREST	19 0715	N07 W46	* CAPRI S	31 1106 E	N13 E47
* MCATH	12 1116 E	N05 E47	ISTANBUL	19 0725 E	N08 W50	MCATH	31 1135	N12 E49
MCATH	12 1130 E	S11 W60	LOCKHEED	19 1724	N04 W48	ONDREJOV	31 1258	N11 E48
MCATH	12 1130 E	N18 W47	LOCKHEED	19 1757	N04 W48	MCATH	31 1258	N11 E51
CAPRI S	12 1149 E	N19 W45	LOCKHEED	19 1818	N05 E22	ONDREJOV	31 1330 E	N17 W77
MCATH	12 1344	N12 E20	LOCKHEED	19 1830	N04 W48	* MEUDON	31 1458	N11 E45
LOCKHEED	12 1605 E	N10 E21	LOCKHEED	19 2101	N11 W78	* CAPRI S	31 1500	N13 E45
MCATH	12 1608	N11 E21	LOCKHEED	19 2302	N10 W51	* MCATH	31 1501	N12 E46
* LOCKHEED	12 1612	N16 W49	LOCKHEED	19 2220	N04 W48	MCATH	31 1752	N11 E45
* LOCKHEED	12 1628	N05 E44	LOCKHEED	19 2303	N04 W51	HAWAII	31 1752 E	N11 E45
* MCATH	12 1631 E	N05 E45				SAC PEAK	31 1756	N12 E45
LOCKHEED	12 1920	N15 E13	ISTANBUL	20 0830 E	N10 W57	MCATH	31 2113	N18 W85
						MCATH	31 2135	N18 W85

\*Rated as flare of importance by other observations (See CPRI-F 203 Part B for September 1961)

CONRAD STANBARD WILDER

# SOLAR FLARES

## JUNE 1961

OBSERVATORY	DATE JUNE 1961	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX LAT	MER DIST	MC-MATH PLACE REGION				TIME U.T.	MEAS AREA Sq Deg	CORR AREA Sq Deg	MAX WIDTH H <sub>fo</sub>	
GOOD HOPE	02	1309	1340	N10	W87	6125	31	1		1325	1.10			
GOOD HOPE CAPRI G	04	1023	1038	N02	E50	6135	15	1		1026	2.00	3.10		
	04	1041	1044	N04	E50	6135	3 D	1+	2			5.00		
UCCLE	05	1000	1010	N00	E38	6135	10	1	2		2.00	2.20		
CAPRI G	06	1251	1303	N02	E20	6135	12 D	1+	2			5.00		
KHARKOV	07	0636	0644	S05	W12	6134	8 D	1	2	0640	2.29	2.30		
KRASNYA	07	0732	0858	N00	E09	6135	86 D	1			1.80			65
KRASNYA	07	0732	0858	N00	E09	6135								
GOOD HOPE	07	0830	0920	N04	E13	6135	50	2		0852	7.50	7.70		
CAPRI G	07	0850	0921	N02	E09	6135	31 D	2	2			6.00		
KHARKOV	08	0758	0808	N06	W85		10 D	1+	2	0800	1.14	6.80	2.70	
KHARKOV	08	1136	1145	S03	E60	6138	9 D	1	2	1140	1.14	6.80	1.50	
BUCHAREST	09	0745	0900	N02	E81	6140	75	1	2			3.20		
CAPRI G	09	1240	1335	N01	W23	6135	55 D	1	2			4.00		
KIEV	09	1250	1325	S10	W21	6135	35 D	1+	2	1254	3.61			64
UCCLE	09	1251	1318	N02	W22	6135	27 D		1		3.50			
CLIMAX	09	1255	1323	N00	W21	6135	28 D	1			5.10	5.10		
CAPRI G	09	1435	1450	N01	E88	6140	15 D	1	2			4.00		
BUCHAREST	10	0816	0836	N02	W32	6135	20	1	2			4.00		
MITAKA	11	0427	0458	N02	W43	6135	31	1	2	0443	1.80	2.35	2.09	96
PIRCULI	11	0711	0720	N00	E57	6140	9	1	2		1.45			52
KRASNYA	11	0828	0836	N00	W46	6135	8	1	2		1.70			70
CAPRI G	11	0941	0950	N02	E70	6140	9 D	1	2			4.00		
PIRCULI	11	0945	1055	N05	E57	6140	70 D	1	2		2.28			56
OTTAWA	11	1009	1052	N05	E59	6140	43 D	1	2		1.50	2.10		
CAPRI G	11	0948	1107	N01	W46	6135	79 D	2	2		8.21	8.00		
PIRCULI	11	0959	1100	N01	W48	6135	61 D	2	2		3.70	4.40		56
OTTAWA	11	1009	1141	N00	W49	6135	92 D	1		1035	4.20	6.10		
GOOD HOPE	11	1024	1145	N02	W48	6135	81 D	2	2			10.00		
CAPRI G	11	1502	1612	N02	W51	6135	70 D	2+	2					
CLIMAX	12	0107	0122	N02	W56	6135	15 D	1			2.20	3.10		
TASHKENT	12	0254	0304	N04	E49	6140	10 D		2	0254	.36	.60		56
MITAKA	12	0254	0318	N03	E49	6140	24 D	1	2	0254	1.03	1.58	2.07	149
TASHKENT	12	0548	0621	N00	W57	6135	33 D		2	0610	.64	1.20		84
MITAKA	12	0549	0632	N02	W56	6135	43	1	2	0555	1.54	2.67	2.06	120
TASHKENT	13	0439	0456	N02	E28	6140	17		2	0442	1.37	1.60	3.00	85
KRASNYA	13	0733	0751	N02	E27	6140	18 D	1+			3.15			90
ABASTUMANI	13	0733	0757	N02	E26	6140	24 D	1	3		4.50	5.00		74
KIEV	13	0741	0758	N01	E25	6140	17	1+	1	0741	3.09			78
BUCHAREST	13	0741	0758	N02	E27	6140	17	1	1			3.00		
GOOD HOPE	14	0933	0959	N02	E12	6140	26	1		0935	3.60	3.70		
SCHAUMS	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.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	MAX. PHASE	LAT.					McMATH PLAGE REGION	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH He		MAX. INT. %	
					NER.	DIST.										
— KHARKOV — UCCLE — KRASNAYA — KIEV	14	0934	E 1005	0938	N01	E11	6140	31 D	2	3	0938	14.44	14.80	3.50	110	S-SWF
	14	0936	E 0949		N01	E11	6140	13 D	1	2		3.50			99	
	14	0937	E 0948	0938 U	N02	E13	6140	11 D	2		0934	3.60				
	14	0938	E 0955	0938	N02	E10	6140	17 D	2	3	0938	4.13				
	14	1033	E 1044		S02	E15	6140	11	1	3	1041	.57	.60	1.50		
— KHARKOV — UCCLE — SCHAUJINS	14	1109	E 1117		S00	E13	6140	8	1	3	1117	.57	.60	1.50	Slow S-SWF	
	14	1618	E 1650	1631	N02	E07	6140	32	1+	2	1631	4.50	5.00			
	14	1621	E 1645		N05	E17	6140	24 D	1	2		1.02				
	14	2334	E 2356		N02	E02	6140	22 D	1	1	2335	4.74		1.82		120
	14	2336	E 2350	D	N02	E03	6140	14 D	1		2336			1.23		100
— KYOTO	14	2348	E 0006	D	S05	E90	6146	18 D	1						80	
— KYOTO — KRASNAYA — UCCLE — KHARKOV — GOOD HOPE — GOOD HOPE	15	0530	E 0556	D	S08	W34	6142	26 D	1		0543	2.06		1.71	100	
	15	0654	E 0710		N02	W90	6145	16 D	1		0654	4.13				
	15	0709	E 0711		N07	W90	6145	2 D	1			.90				
	15	0900	E 0922		S08	E40	6144	22	1	2				1.60		
	15	0939	E 0950		S06	E38	6144	11	1	2	0947	.57	.70			
— KHARKOV — GOOD HOPE — GOOD HOPE — KRASNAYA — KHARKOV	15	0940	E 0952	0941	S07	E38	6144	12	1		0941	2.10	2.70		70	
	15	0955	E 1024	1006	S07	E38	6144	29	1		1006	2.70	3.50			
	15	1001	E 1010	D	S04	E38	6144	9 D	1			1.80				
	15	1002	E 1023	D	S05	E36	6144	21 D	1	2	1004	1.18	1.30	2.00		
	15	1003	E 1050		S12	E37	6144	47 D	1	2		3.00				
— SCHAUJINS — CLIMAX — CLIMAX — CLIMAX	15	1630	E 1713	D	N05	W09	6140	43 D	2		1640	7.70	7.70		S-SWF	
	15	1705	E 1713	D	S09	E29	6144	8 D	1			2.80	2.80			
	15	1722	E 1729		N02	W07	6140	7 D	□		1724	1.30	1.30			
	16	0829	E 0841		N14	W87	6145	12 D	□	3						
	16	0842	E 0859	0846	S07	E22	6144	17	1	3	0846	3.50	3.50			74
— KIEV  MITAKA — ABASTUMANI — PIRCULI — GOOD HOPE — VOROSHILOV	16	0848	E 0910	D	S06	E22	6144	22 D	1		0848	2.06				
	17	0455	E 0503	D	S08	E09	6144	8 D	1	1	0458	1.23	1.27	2.07	143	
	17	0718	E 0737	D	N04	W38	6140	19 D	1	3		1.80	2.10		74	
	17	1201	E 1230	0725	N03	W28	6140	9	1	3		2.28			62	
	17	1303	E 1320	1309	S06	W71	6142	17	1		1309	.90	2.70		82	
— TASHKENT — MITAKA — OTTAWA — CLIMAX — GOOD HOPE — OTTAWA — KYOTO	17	2254	E 2316	2358	S07	W80	6142	22	1+	2		.72				
	18	0356	E 0436	0402	S08	E45	6146	40	1	3	0401	3.09	4.40	2.10	75	
	18	1314	E 1353	D	S08	E40	6146	25 D	1	1	0403	1.03	1.50	2.06	107	
	18	1315	E 1350	1330	S10	E41	6146	39 D	1			2.80	3.10			
	18	1315	E 1350	1330	S11	E41	6146	35	1			3.30	3.60			
— GOOD HOPE — OTTAWA — KYOTO  MITAKA — PIRCULI — UCCLE	18	1318	E 1344	1329	S11	E40	6146	26	1		1329	1.90	2.50		80	
	18	1345	E 1359	1349	S10	W40	6143	14	1			4.60	5.10			
	18	2330	E 2340		S05	W90	6142	10	1		2330	1.44				
	19	0143	E 0159		S09	W45	6144	16 D	1	1	0146	3.09	4.38	2.49		128
	19	0805	E 0830	0814 U	N14	E07	6151	25	1	3		1.37				56
— ALMA-ATA — MITAKA — BUCHAREST	19	1124	E		S09	W53	6143	1	2			2.00	3.20			
	20	0345	E 0541	D	N12	W04	6151	116 D	1	2	0358	2.68	.52	2.06	70	
	20	0402	E 0427	D	N14	W05	6151	25 D	1	1	0405	.51			125	
	20	0726	E 0810	0734	N13	E45	6149	44	2				8.80			

# SOLAR FLARES

## JUNE 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		IM- POR- TANCE	DURA- TION -- MINUTES	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MCMATH PLAGE REGION				TIME U T	MEAS. AREA Sq Deg	CORR. AREA Sq Deg	MAX WIDTH H <sub>g</sub>	
PIRCULI SIMEIZ KHARKOV UCCLE GOOD HOPE GOOD HOPE	20	0729	0749	N12 U	E45 6149	1	20	3	0734	2.09			56
	20	0731	0742	N12 E45	6149	1	11	2	0734	2.70			113
	20	0733	0750	N23 E37	6148	1	17 D	2	0735	3.43	4.50	1.70	
	20	0747	0747	N14 E45	6149	1		3					
	20	1100	1120	N15 E44	6149	1	20		1103	1.80	2.60		
	20	1256	1303	N12 E44	6149	1	7		1257	1.50	2.10		
MITAKA MITAKA MITAKA KHARKOV KHARKOV KHARKOV UCCLE GOOD HOPE CLIMAX GOOD HOPE UCCLE	21	0036	0043	N12 W14	6151	1	7	1	0043	.34	.39	1.53	105
	21	0426	0446 D	N14 W19	6151	1	20 D	1	0426	1.23	1.30	2.81	143
	21	0458	0513	N13 W20	6151	1	15	1	0458	1.23	1.30	1.96	115
	21	0900	0953	N13 W22	6151	1	53 D	2	0942	2.29	2.50	1.70	
	21	0959	1018	N13 W24	6151	1	19	2	1009	3.43	3.70	1.50	
	21	1048	1157	N14 W24	6151	1	69	2	1053	2.29	2.50	1.50	
	21	1106	1119	N15 W24	6151	1	13	3	1111	3.00	3.30		
	21	1107	1126	N14 W23	6151	1	19		1109	2.40	2.70		
	21	1317	1331	N15 W25	6151	1	14		1109	2.70	2.70		
	21	1318	1328	N14 W23	6151	1	10		1321	2.30	2.50		
	21	1348	1402	N12 E29	6149	1	14	3	1321	2.30	2.50		
	21		1402						1354	3.00	3.30		
ABASTUMANI UCCLE UCCLE CLIMAX	22	0621	0642 D	N14 W36	6151	1	21 D	2		1.98	2.60		68
	22	1109	1131	S11 E31	6152	1	22	3	1113	2.50	3.30		
	22	1141	1210 D	N22 E05	6148	1	29 D	3	1157	2.20	2.20		
	22	1637	1648	N15 W44	6151	1	11			3.70	4.40		
KHARKOV KHARKOV GOOD HOPE GOOD HOPE UCCLE KIEV KIEV KHARKOV UCCLE GOOD HOPE CAPRI G KIEV KIEV UCCLE GOOD HOPE CAPRI G UCCLE	23	0806	0831	N12 W52	6151	1	25 D	2	0816	2.86	4.40	1.80	
	23	1015	1151 D	N11 W53	6151	1+	96 D	2	1050	6.87	11.60	1.70	
	23	1044	1052	N12 W54	6151	1	8		1045	1.50	2.70		
	23	1106	1128	N12 W54	6151	1	22		1112	2.10	3.70		
	23	1107	1132	N11 W52	6151	1	25	1	1112	1.50	2.20		
	23	1112	1155 D	N13 W53	6151	2-	43 D	1	1112	8.25			98
	23	1112	1155 D	N13 W53	6151								
	23	1113	1240 D	N20 W08	6148	1	87 D	2	1216	3.43	3.70	1.50	
	23	1151	1248	N22 W07	6148	1	57	3	1209	3.00	3.00		
	23	1154	1237	N23 W18	6148	1	43		1204	2.90	3.10		
	23	1159	1222	N12 W53	6151	1	23 D	2		4.00			
	23	1200	1240 D	N22 W09	6148	1	40 D	1	1205	2.06			74
UCCLE GOOD HOPE CAPRI G UCCLE CAPRI G UCCLE	23	1402	1404 D	N13 W55	6151	1+	2 D	1	1404	2.06			110
	23	1403	1420	N11 W52	6151	1	17	3	1404	2.10	3.10		
	23	1404	1412	N11 W56	6151	1	8 D			4.00			
	23	1507	1513	N13 W52	6151	□	6 D	2	1507				
	24	1022	1036	N23 W20	6148	1	14	3	1209	3.20	3.50		
	24	1034	1046	N12 W66	6151	1	12		1036	1.10	2.70		
GOOD HOPE KIEV	24	1050	1100 D	N13 W63	6151	1	10 D	1	1051	1.55			98
	25	0845	0903	N13 W90	6151	1+	18	2	1302	1.70	2.20		
	25	1255	1325	N22 W36	6148	1	30	2			4.00		
BUCHAREST GOOD HOPE CAPRI G	25	1308	1325	N14 W28	6149	1	17 D						
	26	0225	0229	N13 W90	6151	1	4	1		.63			68
VOROSHILOV GOOD HOPE GOOD HOPE GOOD HOPE PIRCULI	26	0801	0830	N14 W90	6151	1	29		0814	2.90	3.60		
	26	0951	1036	N17 W35	6149	1	45		0954	7.75			
	26	1012	1025 D	N13 W38	6149	1+	13 D	1					64
	26												

# SOLAR FLARES

JUNE 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	LAT.	MER DIST.	M-MATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H <sub>g</sub>		MAX. INT. %
UCCLE	26	1014 E	1035 D	N14	W37	6149	21 D	1 +	2		4.20	5.00			
	27	0701 E	0800	N06	E17	6155	59 D	1	1		4.56			65	
	27	0725 E	0815	S05	E18	6155	50 D	1	2			4.90			
	27	0740 E	0755	N06	E16	6155	15 D	1	2			5.00			
BUCHAREST	28	0740 E	0740	N14	W56	6149		1	2			2.10			
KIEV NEDERHORST UCCLE	29	1318	1319 D	N16	W75	6149	1 D	1 +	2	1319	2.06			60	
	29	1320 E	1335	N14	W74	6149	15 D	1 +	3						
	29	1423	1433	N15	W73	6149	10	1	3	1424	2.20	4.40			
	30	0300 E	0315	N07	W23	6155	15 D	1	2	0300	2.68			68	
ALMA-ATA KRASNYA	30	0706	0716	N16	W85	6149	10	1	1		1.80			75	
PIRCULI KRASNYA CAPRI G	30	0744	0755	N07	W28	6155	11	1	1		1.64			56	
	30	0745	0751	N08	W28	6155	6	1	1		1.80			90	
	30	0825	0836	N06	W30	6155	11	1	2			4.00			

COMMERCE - STANDARD - BOULDER

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

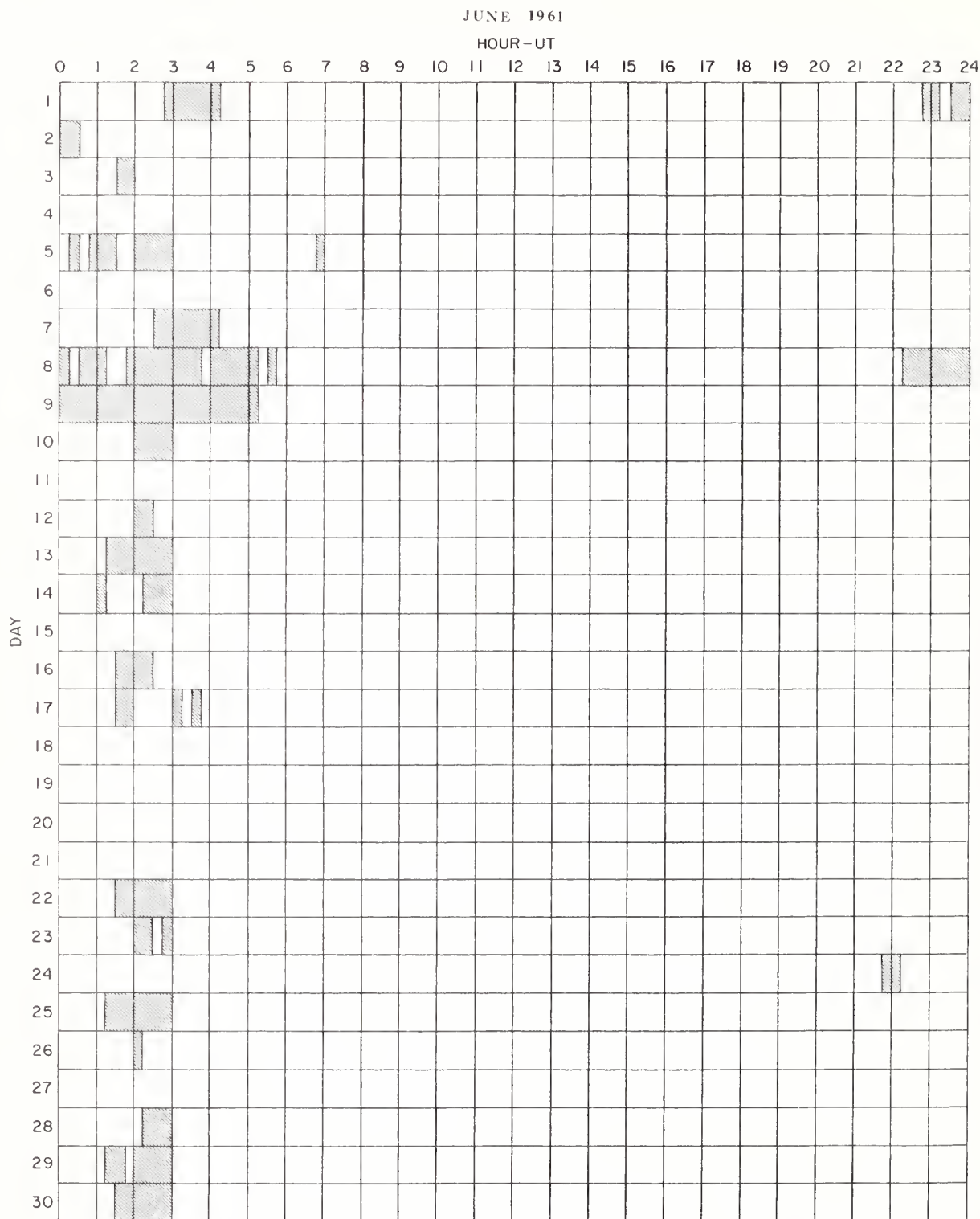
ATHENS	ATHENS, GREECE	HONOLULU	HAWAII, USA	NERA	NEDERHORST den BERGH,
BAKOU	PIRCULI, USSR	IKOMASAN	KYOTO, JAPAN		NETHERLANDS
CAPETOWN	ROYAL OBSERVATORY,	KIEV KO	KIEV GAO, USSR	NIZMIR	KRASNAYA PAKHRA, USSR
CAPRI F	CAPE OF GOOD HOPE	KIEV KY	KIEV UNIVERSITY, USSR	SAC PEAK	SACRAMENTO PEAK, N.MEX., USA
CAPRI S	CAPRI, ITALY (GERMAN)	LOCKHEED	LOS ANGELES, CALIF., USA	SALTSJOBADEN	STOCKHOLM, SWEDEN
CRINEE	CAPRI, ITALY (SWEDISH)	MCNATH	MCNATH-HULBERT,	SCHAUINS	SCHAUINSLAND, GFR.
HERSTMONCEU	SIMEIZ, USSR		PONTIAC, MICH., USA	TASHKENT	TASHKENT, USSR
	ROYAL GREENWICH OBSERVATORY,	MOSCOU	MOSCOW GAISH, USSR	WENDEL	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



Stations Include:

COMMERCE - STANDARDS - BOULDER

Arcetri  
 Bucharest  
 Capetown  
 Capri (Swedish)

Crimee  
 Herstmonceux  
 Honolulu  
 Huancayo

Ikomasan  
 Kharkov  
 Kodaikanal  
 Lockheed

McMath-Hulbert  
 Meudon  
 Mitaka  
 Nizmir

Ondrejov  
 Sacramento Peak  
 Uccle  
 Voroshilov  
 Wendelstein

# IONOSPHERIC EFFECTS OF SOLAR FLARES

III m

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	IMP	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX			ABS	SCNA	SEA	SPA	BUR			
[ 01	2012	2040	2020	SL 1				1	X		1	BO	2020
01	2020	2100									5	FM AN BE MC PR	
01	2025	2115	2035								1	A6	
01	2030	2033								1	5	BO HA	
01	2043	2044								1	5	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
10	1435	1500	1445					1			3	A1 A3	1434
10	1505	1510								2	5	RE BO HA MC	1502
10	1532	1538								2	5	RE BO HA MC	
10	2321	2346	2328					1			1	TY	2309
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	
* 11	1939	2015	1952			10	1				5	BO HA	
11	1942	2020		S 1-							4	MC BE PR WS	1956
11	1944	2026	2004					1+			5	BO A1 A5 A6 HA	
11	2027	2028								1	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	
[ 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	2050
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)	
14	1500	1530	1510						X		1	BO	1400
15	1400E	0100D								1	5	BO HA MC RE (Noise Storm)	
[ 15	1643	1720	1652					1+	X		1	BO	1640
* 15	1647	1708	1655								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		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+					3	5	BO HA MC RE (Group)	
18	2040	2120							5	5	BE BO FM HU LA MC PR WS	
18	2040	2220	2055						1	1	BO	
18	2045	2135	2107				3	x	5	5	BO A1 A5 A9 HA MC	2038
18	2049E	2200U				x			5	5	BO HA MC	
18	2105	2109							1	5	BO HA MC	
18	2152	2203							1	5	BO HA (Group)	
23	1338	1425	1352				1			3	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	A11	0722
29	2000	2002							1	5	BO HA	
31	0100	0131	0107			20	1			1	HA	0058E
31	0102	0130		S 1+						1	TO	

COMMERCE - STANDARDS - BOULDER

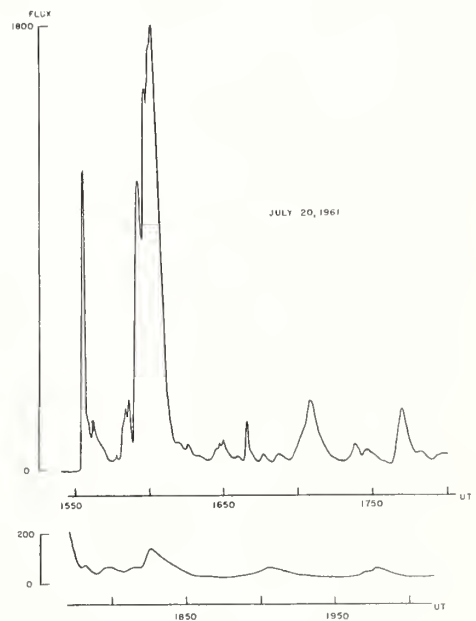
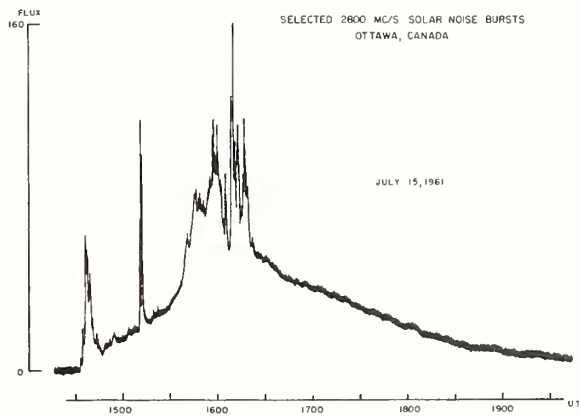
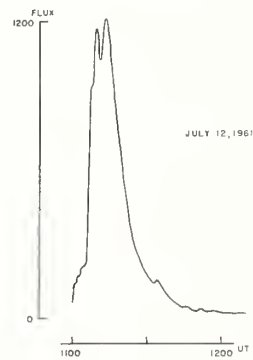
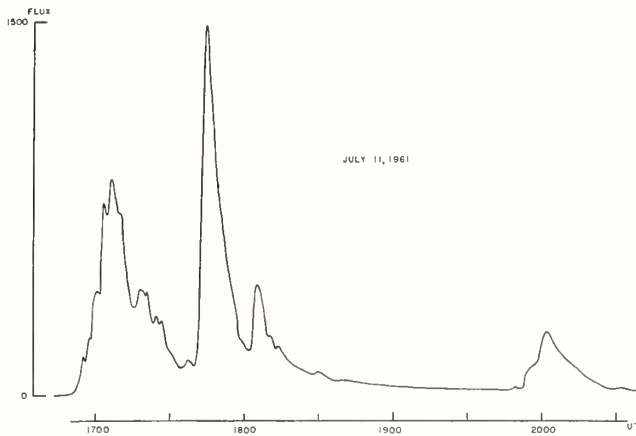
## Notes:

- The times of observation of the events are those of the first station listed in the "STATIONS" column.
- Under SWF type: S = S-SWF; SL = Slow S-SWF.
- Column headed "ABS" is the percent absorption of the SCNA.
- Column headed "BUR" is for solar noise bursts at 18 Mc.
- Column headed "SPA" is sudden phase anomalies as observed at Boulder, Colorado on GBR-England.
- LA = Los Angeles, Calif; TO = Hiraio Radio Wave Observatory, Japan; TY = Research Institute of Atmospherics, Toyokawa, Japan.
- Asterisk \* indicates Sudden Enhancement of Signal from 18 kc (NBA Panama Canal Zone) observed by A5.
- + = 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

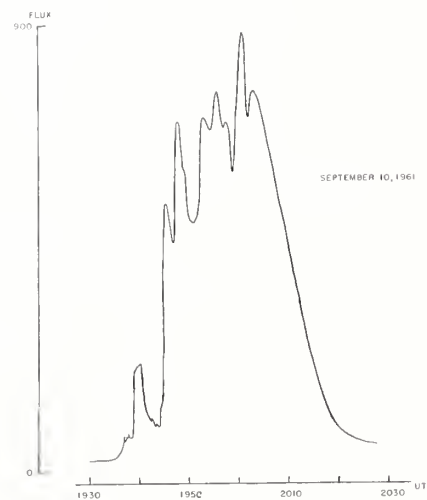
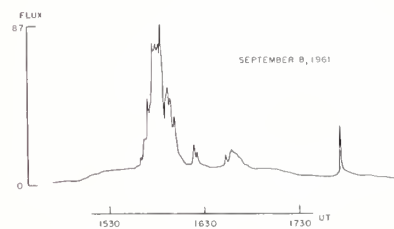
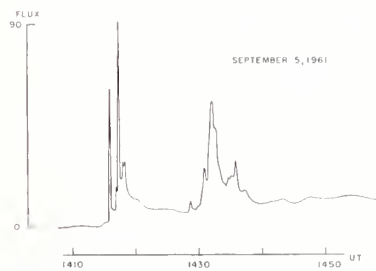
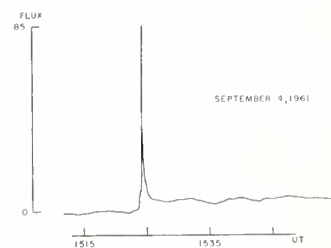
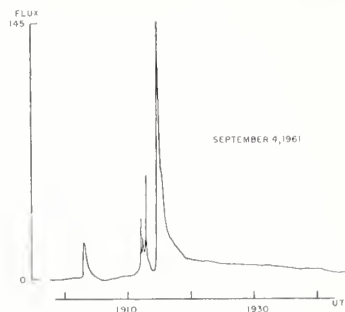
IVa

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	MEAN 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 Post Increase		14.5		7	3.5	
	2 Simple 2	1513.7	2.5	1514	85	23	
	4 Post Increase		42.8		4	2	
4	2 Simple 2 f	1902.8	2.2	1903.2	16	7	
	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	
	6 Complex f	1428.3	10.7	1432	50	13	
5	1 Simple 1	1509.9	2.1	1510.3	6	3	
	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	
	2 Simple 2 f	1621.8	5.2	1623.2	10	4	
	6 Complex	1641	16	1647.2	9	4.5	
	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	
	4 Post Increase		> 2 00		44	-	
12	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	
17	2 Simple 2 f	1750.2	7.7	1752.4	18	4	
	4 Post Increase		47		2	1	
25	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.

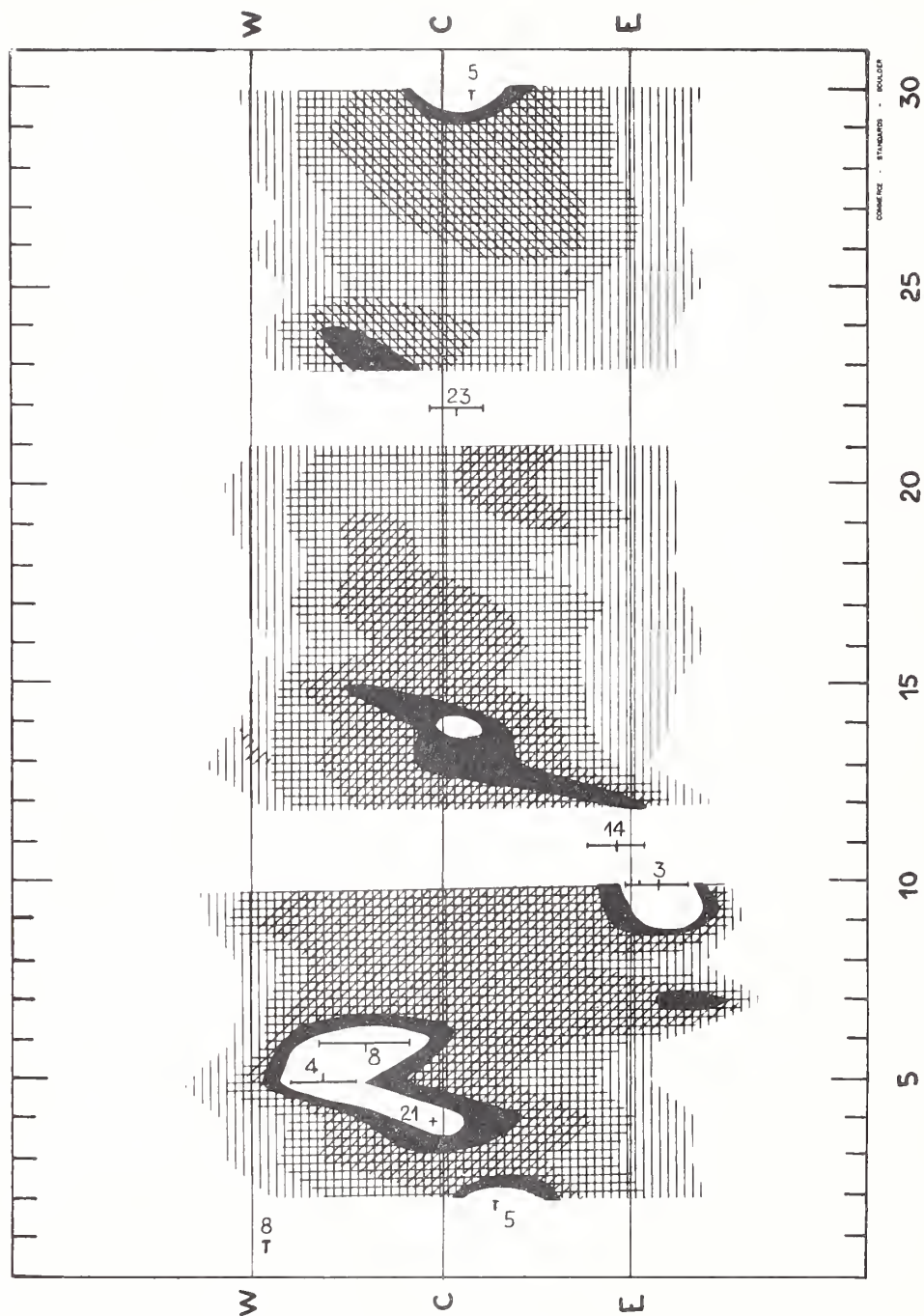
- (4) Interference obscured portions of the records  
on 70 days during this quarter.

# SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

Nancay

SEPTEMBER 1961

169 Mc



# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

IVe

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

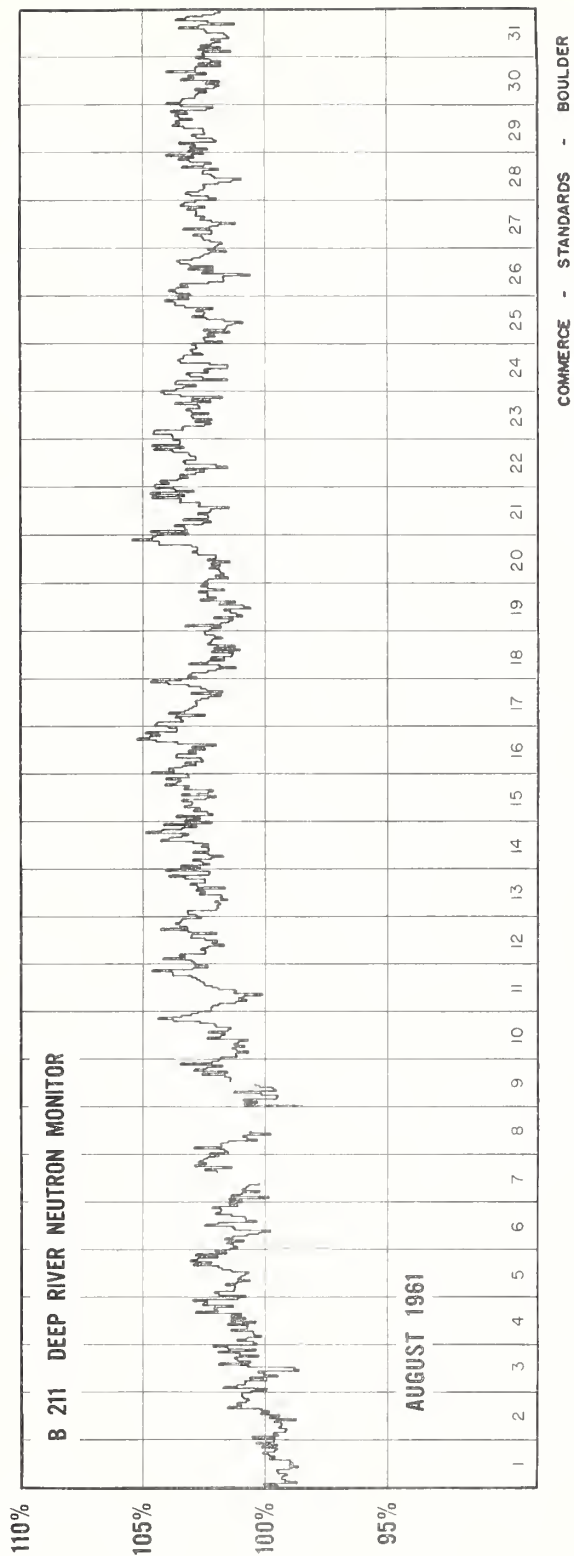
COSMIC RAY INDICES  
(Climax Neutron Monitor)

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)



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		7
5	0.7	1+	2-	2+	3+	3-	2-	2-	2+	17o	9		9
												13	
6	0.5	2+	1+	1+	2-	2+	2-	2-	2+	15-	7	22	
7	0.2	0+	1-	0+	1-	2o	1-	2-	2o	8+	4	23	
8	0.8	1o	2o	4o	4o	3o	2+	5-	1+	22+	17		
9	0.1	2-	2+	1+	0+	1o	1o	0+	0o	8o	4		
10	0.7	2+	3-	3+	2+	4-	2o	2o	2-	20o	11		
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
												11	
16	0.3	3-	2+	1o	0+	0+	1-	1-	1o	9o	5	30	
17	0.3	1o	1o	1o	2+	1+	1-	2o	1+	11-	5	31	
18	0.3	1o	0+	1o	2-	2o	2o	1-	1+	10o	5		
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
												13	
26	0.8	2o	2+	2o	3+	2+	1+	3o	3+	20-	11	16	
27	0.6	3o	2o	3+	1o	1o	1+	1+	1o	14o	8	17	
28	0.2	2+	2o	1o	1+	1o	1-	1o	1+	11-	5	18	
29	1.0	2-	1-	0+	1+	1+	4-	5o	5-	19-	16	21	
30	1.4	5-	4-	2+	4+	6o	5+	4-	5-	35-	37	22	
31	1.3	5-	5+	5o	3-	3+	4o	3+	4-	32o	30	23	
												24	
Mean: 0.59										Mean:	11		

DAYS IN SOLAR ROTATION INTERVAL

ROT =

NR

1750

May

1751

Jne

1752

Jly

1753

Aug

1754

Sep

KEY

▲ = sudden commencement

# PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 1961 August 31

(Ks from Wingst and Göttingen till Sep. 18)

J.B.

COMMERCE - STANDARDS - BOULDER

## CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

AUGUST 1961

## NORTH ATLANTIC

## NORTH PACIFIC

DATE AUGUST 1961	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES				WHOLE DAY INDEX	ADVANCE FORECASTS (1-7-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:				GEOMAGNETIC K <sub>p</sub>		SHORT-TERM FORECASTS ISSUED AT				NORTH PACIFIC 12-HOURLY QUALITY FIGURES		WHOLE DAY INDEX		ADVANCE FORECASTS (1-7-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY:				GEOMAGNETIC K <sub>s</sub>	
	00 06 12 18 TO TO TO TO 06 12 18 24					1-7 1-7 1-3 1-7 DAYS DAYS DAYS DAYS FINAL JPS SOW J				HALF DAY 11 (1) 12		0600 1800				0700 1900 TO TO 1900 0700		DAY		1-7 1-7 1-3 1-7 DAYS DAYS DAYS DAYS FINAL JPS SOW J				HALF DAY 11 (1) 12	
01	7- 60	5+ 7-			6+	4	4	3	2	6	5	6	6	5	6	6	6	5	5	4	4	2	2		
02	50 4-	5+ 5+			5-	5	5	(5)	3	3	4	3	4	3	4	5	6	(3)	(3)	4	4	(6)	(4)		
03	50 40	50 6-			5-	5	5	(4)	3	4	5	4	5	4	5	5	6	(4)	(4)	5	5	(4)	3		
04	50 4-	6- 6+			50	6	6	(4)	3	5	6	5	6	5	6	6	6	5	5	6	6	(4)	2		
05	6- 5-	6+ 6+			6-	6	6	2	2	6	6	6	6	5	6	6	6	2	2	6	6	3	2		
06	6+ 6-	6+ 7-			6+	6	6	2	2	6	5	6	6	6	6	6	6	6	6	6	6	2	2		
07	7- 6-	6+ 7-			6+	6	6	1	2	6	6	6	6	6	6	6	6	6	6	6	6	0	2		
08	7- 50	6+ 6+			60	6	6	3	3	5	6	6	6	5	6	6	6	5	5	6	6	3	3		
09	6+ 5+	6+ 7-			6+	6	6	2	0	6	6	6	6	6	6	6	6	6	6	6	6	2	1		
10	7- 5-	6+ 6+			60	6	6	(4)	2	6	6	6	6	6	6	6	6	5	5	7	7	3	3		
11	5- 4-	6- 6-			5-	6	6	(4)	3	6	5	5	6	5	6	5	6	5	5	7	7	(4)	(4)		
12	6- 5-	6+ 6+			6-	6	6	2	2	6	6	6	6	6	6	5	7	6	6	6	6	2	2		
13	70 6-	7- 7-			7-	6	6	2	1	6	5	6	6	5	6	6	6	6	6	6	6	1	0		
14	70 5+	6+ 7-			6+	4	4	0	3	7	6	5	6	5	6	6	4	6	6	4	4	0	2		
15	70 50	7- 7-			6+	4	4	3	2	6	6	6	6	6	6	7	4	6	6	4	4	2	1		
16	7- 60	6+ 6+			6+	5	5	2	1	7	6	6	6	7	6	6	5	6	6	5	5	2	0		
17	7- 6+	7- 7-			7-	6	6	2	2	6	6	7	7	6	7	7	7	6	6	7	7	2	1		
18	7- 60	7- 70			7-	7	7	2	2	6	6	7	7	6	7	7	7	6	6	7	7	2	1		
19	7- 6+	7- 7-			7-	7	7	3	2	6	7	7	7	6	7	7	7	6	6	7	7	3	2		
20	7- 60	7- 7-			6+	7	7	1	2	6	6	6	7	6	6	7	7	6	6	7	7	1	2		
21	60 6-	6+ 7-			6+	7	7	2	2	7	6	6	7	7	6	7	6	6	6	6	6	2	1		
22	6+ 60	7- 7-			6+	6	6	1	0	6	6	6	7	6	6	7	6	6	6	6	6	0	0		
23	70 6-	70 7-			7-	6	6	0	1	6	6	7	7	6	6	6	6	6	6	6	6	0	0		
24	7- 60	70 70			7-	7	7	0	2	6	6	7	7	6	6	7	6	7	6	6	6	0	1		
25	7- 60	7- 70			7-	7	7	2	3	6	6	6	7	6	6	7	6	6	6	6	6	2	2		
26	7- 60	6+ 7-			6+	7	7	3	2	6	6	6	7	6	6	7	6	6	6	6	6	2	2		
27	60 5+	6+ 7-			60	7	7	3	1	6	6	6	7	6	6	7	6	6	6	6	6	2	1		
28	6+ 60	7- 7-			6+	6	6	2	1	6	6	6	6	6	6	6	6	6	6	6	6	1	1		
29	7- 6-	6+ 7-			6+	5	5	1	3	6	6	5	7	6	6	7	6	6	6	6	6	0	3		
30	5+ 40	50 50			5-	5	5	(4)	(4)	3	4	5	4	3	4	5	4	(4)	(4)	6	6	(4)	(5)		
31	30 2+	6- 6-			4-	5	5	(4)	3	3	4	3	5	3	4	3	5	(3)	(3)	4	4	(5)	3		
Score: Quiet Periods P 17 12 19 22																									
S 10 12 12 8																									
U 2 0 0 1																									
F 1 1 0 0																									
Disturbed Periods P 0 4 0 0																									
S 1 2 0 0																									
U 0 0 0 0																									
F 0 0 0 0																									

( ) Represent disturbed values

All times are Universal Time (U.T.)

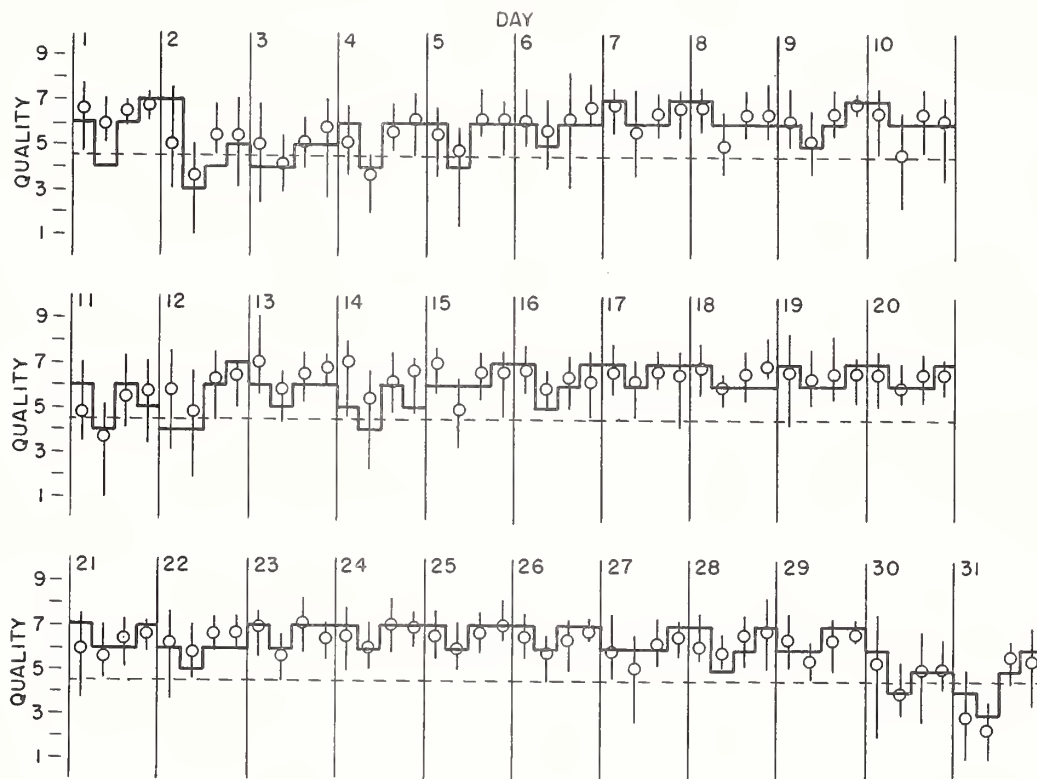
COMMERCE - STANDARDS - BOULDER

AUGUST 1961

— Short-term forecast

| Range of reports

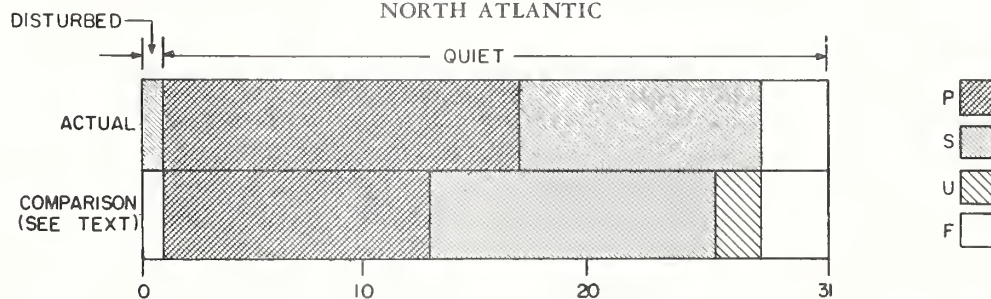
o Quality figure



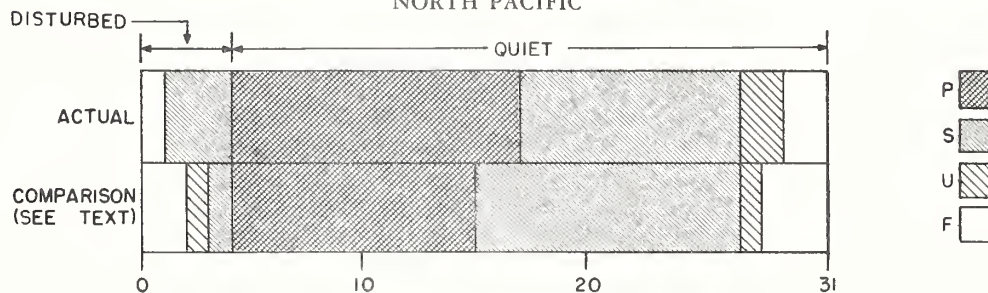
OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

NORTH ATLANTIC

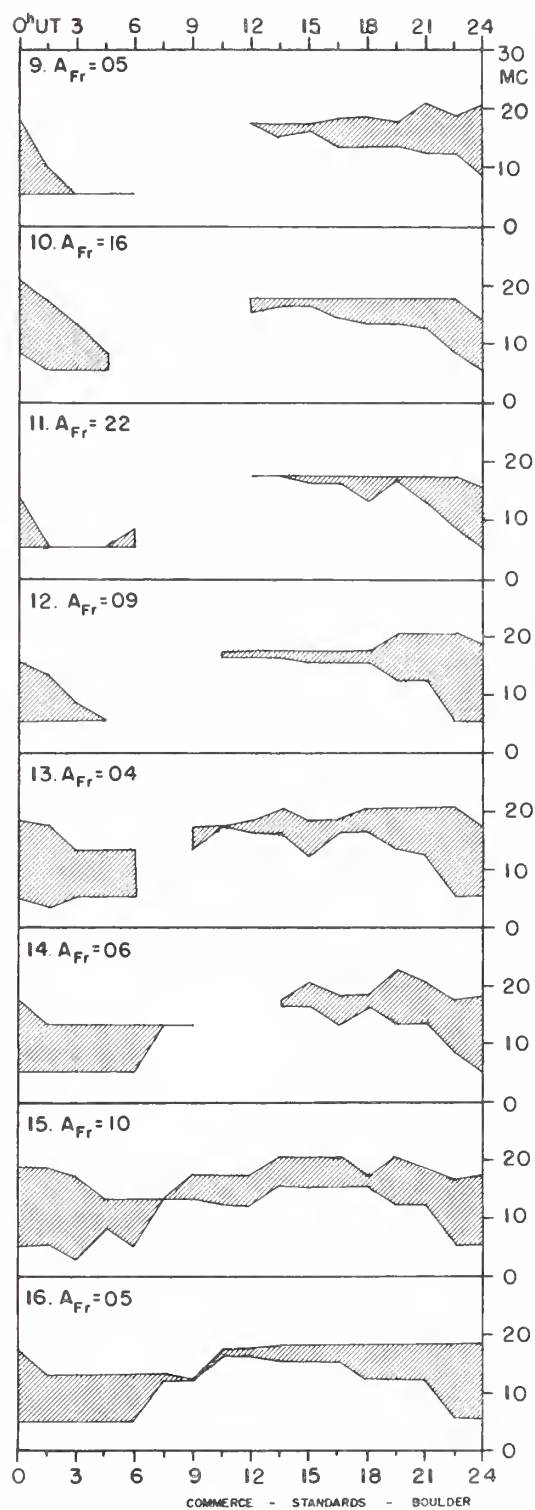
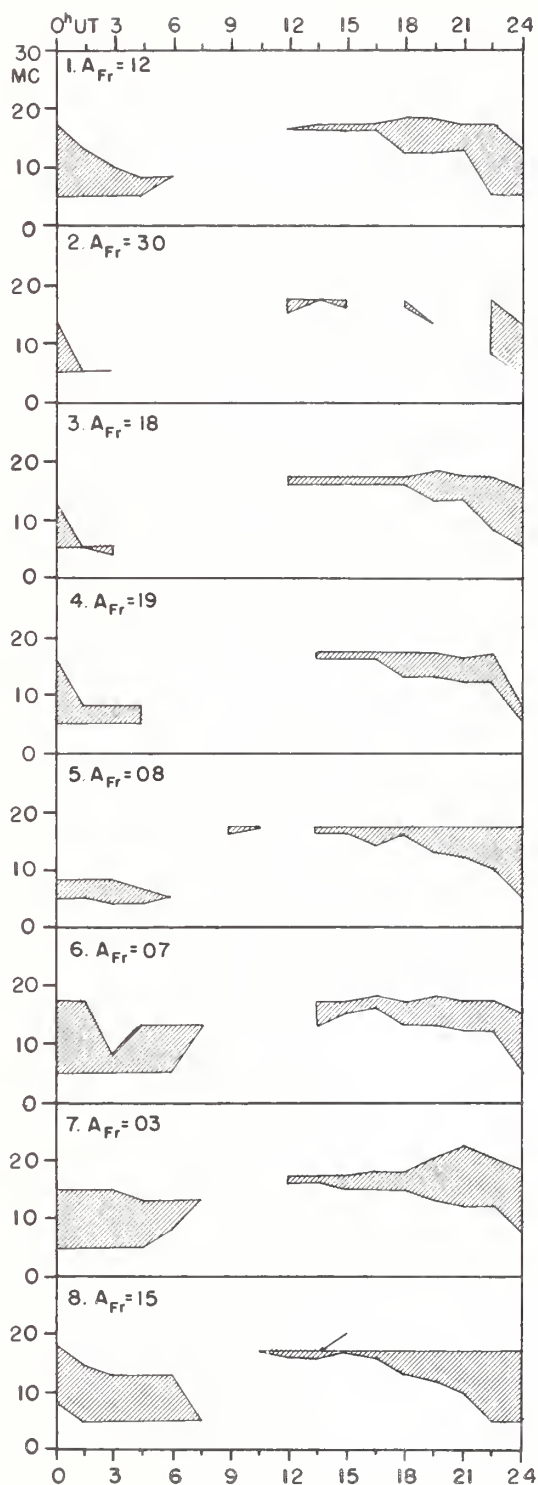


NORTH PACIFIC

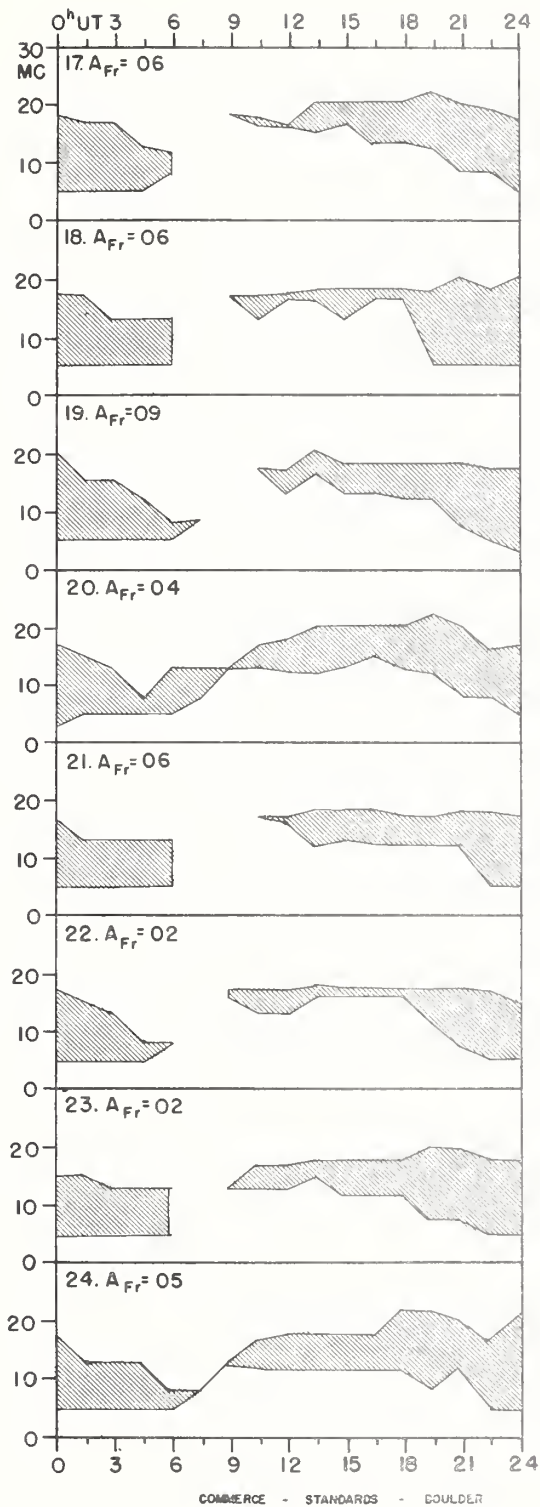


## USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

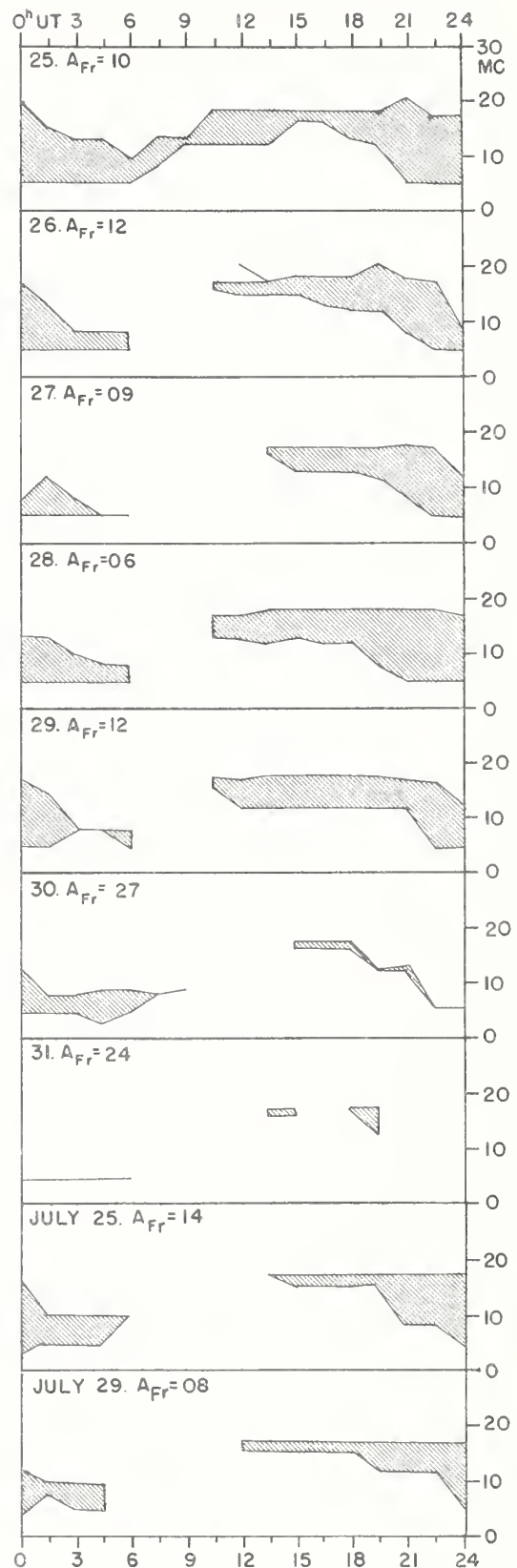
AUGUST 1961



AUGUST 1961



Adapted from Observations by Deutsches Bundespost



## 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		

COMMERCE - STANDARDS - BOULDER



