

*Reference book not to be
taken from the library.*

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
JUNE 1961

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

SOLAR - GEOPHYSICAL DATA

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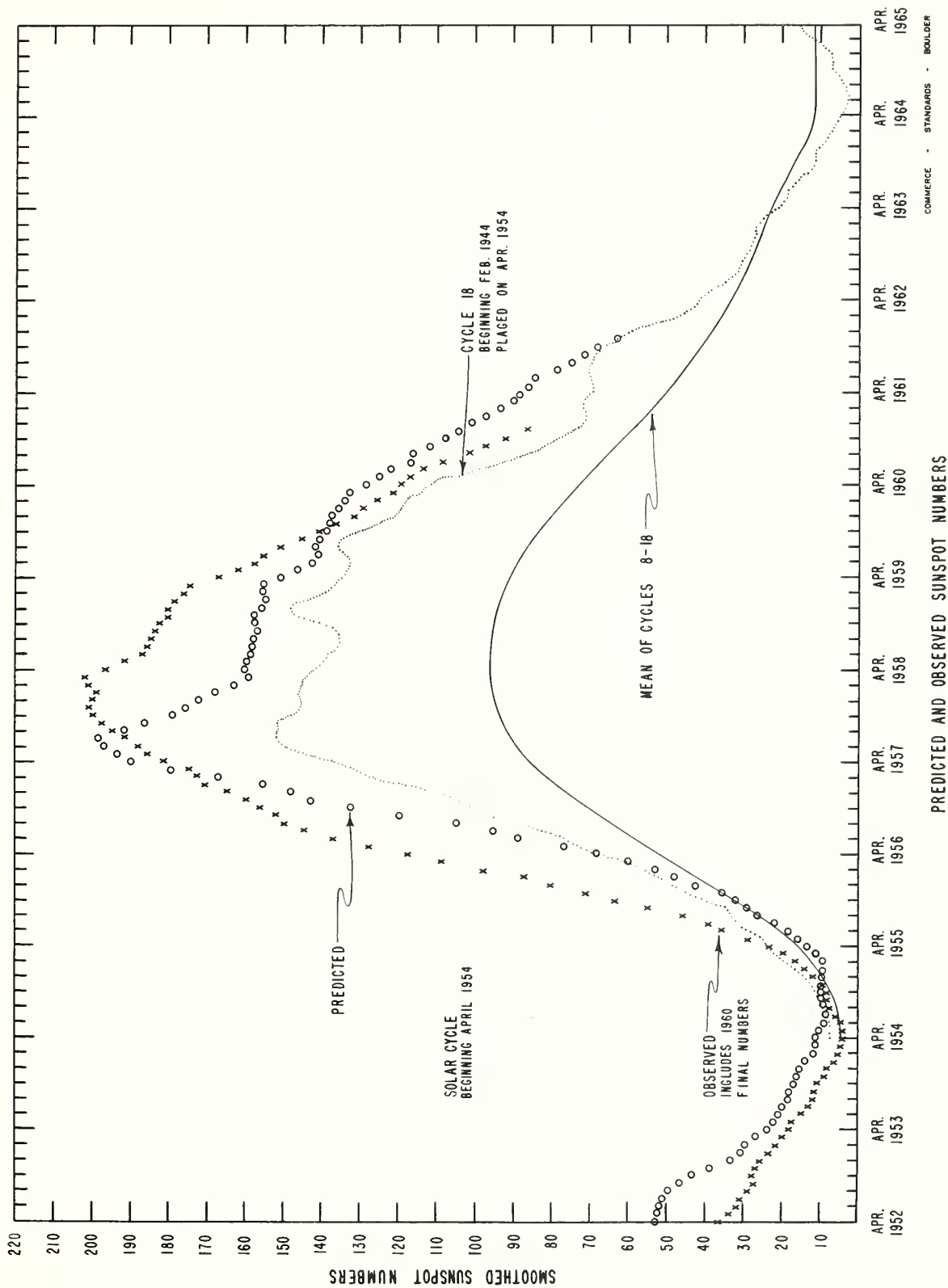
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The descriptive text was published separately, November 1960.

Apr. 1961	American Relative Sunspot Numbers R_A'
1	77
2	58
3	71
4	75
5	82
6	81
7	61
8	51
9	44
10	34
11	40
12	41
13	36
14	49
15	39
16	58
17	68
18	70
19	70
20	60
21	43
22	38
23	27
24	43
25	43
26	54
27	70
28	85
29	77
30	86
Mean:	57.7

May 1961	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	102	125
2	84	119
3	72	111
4	55	104
5	42	103
6	36	97
7	31	97
8	28	94
9	44	96
10	46	92
11	45	98
12	56	101
13	52	97
14	46	93
15	38	91
16	31	38
17	23	88
18	44	95
19	47	100
20	59	105
21	58	110
22	66	109
23	74	110
24	78	108
25	72	106
26	47	88
27	41	95
28	38	91
29	36	91
30	41	88
31	24	88
Mean:	50.2	99.3



CALCIUM PLAGE AND SUNSPOT REGIONS

MAY 1961

CMP May 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area Int.		History, Age		CMP Values Area Count		History
01.7	S02	6100	New	300	2	b \nearrow ℓ	1	20	1	$\ell - \ell$
02.4	N07	6103	New	200	1.5	b \wedge d	1			
03.6	N13	6099	6077	1800	2.5	$\ell - \ell$	2			
06.3	S09	6102	6079	400	2	$\ell \searrow$ d	5			
08.5	S07	6107	New	500	1	b \nearrow ℓ	1			
09.0	N08	6110	New	(400)	(1.5)	b \nearrow ℓ	1	40	4	$\ell \searrow$ d
10.6	N10	6104	6082	2400	3	$\ell - \ell$	3			
12.6	N14	6105	New	1500	3	$\ell - \ell$	1			
12.8	N04	6106	New	3100	3	$\ell - \ell$	1			
14.1	N19	6109	6086	700	2.5	$\ell \searrow$ ℓ	2			
14.6	N03	6108	6087	1000	2	$\ell - \ell$	2	310	17	$\ell - \ell$
14.9	S17	6113	6089	700	1.5	b \nearrow ℓ	4			
15.0	N21	6111	New	500	2.5	b \nearrow ℓ	1			
16.7	S10	6112	6089	1000	1.5	$\ell - \ell$	4			
18.0	N04	6120	New	(1300)	(3)	b \nearrow ℓ	1			
19.1	N30	6117	6090	600	1.5	$\ell - \ell$	6	20	2	b \wedge d
19.4	S14	6116	6091	2100	3	$\ell - \ell$	4			
19.7	N10	6114	6092	1900	2.5	$\ell - \ell$	3			
21.0	S09	6118	6091	(800)	(1)	$\ell \searrow$ d	4			
23.6	N15	6119	New	900	3	$\ell - \ell$	1			
24.0	S14	6121	6093	1400	1.5	$\ell - \ell$	3	270	8	$\ell \searrow$ d
25.6	N17	6122	New	2800	3.5	$\ell - \ell$	1			
25.6	N05	6123	6097	800	2.5	$\ell \searrow$ d	2			
27.2	S13	6124	*	5300	3	$\ell - \ell$	2,4			
27.4	N07	6125	6097	3400	3	$\ell - \ell$	2			
30.2	N13	6126	6099	1200	2	$\ell - \ell$	3	240	8	$\ell - \ell$

*6096, 6098

COMMERCE - STANDARDS BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES

MAY 1961

CMP May 1961	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	41	52	13	14	39	88	13	18	34	42	x	x	35	67	x	x
3	x	x	x	x	17	x	x	x	x	x	x	x	x	x	x	x
4	40	47	x	x	13	22	x	x	x	x	x	x	x	x	x	x
5	17	19	x	x	x	17	x	x	x	x	x	x	x	x	x	x
6	32a	48a	10a	13a	29a	38a	12a	16a	x	x	x	x	x	x	x	x
7	x	x	x	x	x	25	x	x	14	22	6	10	17	20	8	12
8	29	45	x	x	17	x	x	x	7	12	5	10	15	17	12	18
9	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
11	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
14	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
15	x	x	x	x	x	x	x	x	23	31	x	15a	27	39	7a	15a
16	41	45	x	x	32	48	x	x	57a	75a	x	x	54a	64a	x	x
17	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
18	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
19	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
21	34	42	6	10	30	55	7	8	x	x	x	x	x	x	x	x
22	32	40	3	5	20	24	9	14	20	35	14	25	35	55	11	12
23	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
24	x	x	x	x	x	x	x	x	34	57	2a	10a	54	84	5a	8a
25	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
28	33	39	12a	23a	56	67	18a	30a	x	x	x	x	x	x	x	x
29	35	64	x	x	24	31	x	x	x	x	x	x	x	x	x	x
30	45	70	x	x	18	22	x	x	x	x	x	x	x	x	x	x
31	x	x	x	x	x	x	x	x	18	22	11	16	29	50	13	16

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

SOLAR FLARES

MAY 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.	MEAS. AREA Sq Deg.	CORR. AREA Sq Deg.	MAX WIDTH H _g		MAX. INT. °	
CAPRI S ZURICH { MEUDON SAC PEAK MCMATH	MAY 1961														
	01	1205 E	1233 D		S09 W08	6098	1	2	1205	2.00	2.00				
	01	1510 E	1532		N04 W20	6097	1	2	1510	5.00	5.00				
	01	1538	1606 D		N04 W20	6097	1	2	1538						
	01	1619	1640 D	1623	N03 W15	6097	1	3		2.60	2.60		32	S-SWF	
{ STOCKHOLM CAPRI S HUANCAYO { LOCKHEED	01	1621	1724	1625	N04 W19	6097	1	3	1625						
	01	1621	1717	1625	N04 W20	6097	1	1		2.20	2.20				
	02	1016	1310 D		N04 W28	6097	1	2	1105	2.00	2.20				
	02	1022 E	1107 D		N03 W25	6097	1	2	1022	2.00	2.20				
	02	1300 E	1411	1310	N03 W27	6097	1+	2	1305	7.30	8.40	2.30		Slow S-SWF	
{ LOCKHEED	02	1725	1900	1735	N05 W34	6097	1	2	1815	2.00	2.20		30		
	02	1725	1900	1815	N05 W34	6097	1	2	1815	2.00	2.20		30		
	03	0548 E	0607		N03 W38	6097	1	1	0558			2.20			
	04	1305	1322		N03 W55	6097	1	2	1310	1.00	1.00				
	04	1306	1343 D		N06 W56	6097	1+	2		6.00	6.00				
{ HUANCAYO LOCARNO WENDEL { SAC PEAK	04	1309	1323	1313	N04 W56	6097	1	2	1313	2.20	4.10	2.20			
	04	1407	1431		N12 W23	6099	24	1							
	04	1408	1433		N22 W23	6099	25	1		3.00	3.00		19	S-SWF	
	04	1615	1637	1617	N04 W59	6097	22	1	3	2.45	3.67		30		
	04	2145	2333 D	2212	S10 W55	6098	108 D	3	3	12.27	16.67				
{ SAC PEAK HAWAII LOCKHEED MCMATH	04	2150 E	2324 D	2210	S10 W56	6098	94 D	2	2	2210	5.60	7.90		Slow S-SWF	
	04	2155	2340	2216	S12 W56	6098	105	2	1	2216	6.20	8.60			
	04	2202	2300 D	2213	S10 W57	6098	58 D	3	1	2213	12.50				
	05	0021	0026 D	0026 U	S14 W60	6098	5 D	1	1	0026	2.00	3.10		30	
	05	0804	0828		N12 W33	6099	24	1+	2	0815	2.00	2.00			
{ WENDEL MEUDON ZURICH	05	0809	0838	0814	N12 W32	6099	29	1+		7.00					
	05	0810	0832		N15 W30	6099	22	1							
	05	0811	0830		N12 W34	6099	19	1	0811	3.00	3.00				
	05	1200 E	1210 D		S13 W70	6098	10 D	2	3	1200	9.00	9.00		14	
	05	1235 E	1241 D		N02 W70	6097	6 D	1	3	1237	.60	2.40			
{ SAC PEAK WENDEL SAC PEAK LOCKHEED LOCKHEED SAC PEAK MCMATH	05	1512	1523	1514	S03 W80	6096	11	1	2	.87	2.19		16		
	05	1609	1627 D		N03 W78	6097	18 D	1			3.00	3.00		10	
	05	1724	1731	1726	S03 W80	6096	7	1	2	.83	2.08		18		
	05	1928	1949	1933	N05 W80	6097	21	1	1	1933	.70	2.10		10	
	05	1928	1949	1945	N05 W80	6097	21	1	1	1933	.70	2.10		10	
{ ARCETRI LOCKHEED LOCKHEED	05	1928	2000	1933	S03 W80	6096	32	1	2	.83	2.08		18		
	05	1929	1948	1931	N04 W90	6097	19	1	2	1942	2.50				
	06	0917 E			N06 E90	6106	□	1	3	0917	1.00	4.80			
	06	2203	2240	2216	S02 W90	6097	37	2	1	2216	1.50	7.40		10	
	06	2347	0003	2353	S02 W90	6097	16	1	1	2353	1.00	5.00		10	
{ MEUDON SAC PEAK CAPRI S LOCKHEED SAC PEAK	09	1438	1750	1620	N08 E12	6104	192	2-		12.99	12.99		30		
	09	1540	1942	1552	N09 E11	6104	242	3	3	4.00	4.30		30		
	09	1544 E	1615 D		N09 E14	6104	31 D	1	3	1552	6.50	6.40		30	
	09	1545 E	1805	1550	N09 E11	6104	140 D	2	2	1550	4.33	4.83		26	
	09	2248	2327 D	2306	N03 E40	6106	39 D	1	3						
HAWAII	10	0018	0112	0038	N08 E30	6106	54	1	2	0038	2.80	2.90		Slow S-SWF	

SOLAR FLARES

MAY 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT. DIST.	APPROX. MER REGION				TIME U T	MEAS AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX WIDTH Ha
SAC PEAK SAC PEAK	MAY 1961	10 2030	2142	N07 E24	6106	72	1	3		3.34	3.34		19
	10 2212	2256	N01 E24	6106	44	2	3			5.98	5.98		24
MEUDON {	11 0830	0855	0833	N03 E23	6106	25	1						
	12 0551	0615 D	0555	N05 E05	6106	24 D	1+						
CAPRI S LOCARNO	12 0612	0648 D		N03 E07	6106	36 D	1	3	0624	4.00	4.00		
	12 0710	0715		N04 W00	6106	5 D	1	3					
LOCARNO LOCARNO	12 0945	1000		N04 W01	6106	15 D	1	3					
	12 1028	1040		N04 W02	6106	12	1	3					
MEUDON {	12 1242	1335 D		N07 W03	6106	53 D	1	3					
	12 1248	1354	1308	N08 W05	6106	66	2	3		6.79	6.79		20
SAC PEAK MCMATH	12 1256	1343	1316	N08 W04	6106	47	1	3	1316	2.50	2.50		
	12 1307	1333	1311	N06 W04	6106	26 D	1	2	1311	3.40	3.40	2.30	
HUANCAYO LOCARNO	12 1320	1345		N09 W07	6106	25 D	1	3					
	12 1825	1838	1828	S15 E90	6116	13	1	2	1829	.70	3.50		20
LOCKHEED													
CAPRI S	13 0559	E 0616 D		N03 W10	6106	17 D	1	3	0602	3.50	3.60		
WENDEL WENDEL	18 0525	E 0605 D		S12 E16	6116	40 D	1				4.00		
	18 0702	E 0718 D		S12 E15	6116	16 D	1				4.00		
{	MEUDON	21 1650	1710	N03 E67	6125	20	1						
	21 1654	1716	1702	N05 E75	6125	22	2	3		2.89	6.19		16
SAC PEAK LOCKHEED	21 1655	1719	1702	N06 E74	6125	24	1	2	1402	1.10	2.30		20
ZURICH	22 1718	E 1722		N18 E40	6122	4 D	1	2	1718	2.00	2.00		
WENDEL	23 0734	E 0816		N18 E34	6122	42 D	1+						
{	ONDREJOV	23 0910	E 0923 D	N03 W73	6120	13 D	1	2	0914		7.00		
	CAPRI S	23 0912	E 0925 D	N03 W77	6120	13 D	1	3	0913	.70	3.50	2.50	
WENDEL MCMATH	23 0936	1006 D		N18 E33	6122	30 D	1+				5.00		
	23 1205	E 1405		N15 E28	6122	120 D	1	2	1207		2.10		
MEUDON	24 0451	E 0520		N17 E20	6122	29 D	1+						
{	ZURICH	24 1225	1235	N17 E14	6122	10	1	2	1225	3.00	3.00		
	CAPRI S	24 1228	E 1245 D	N16 E19	6122	17 D	1	3	1238	3.30	3.30		
{	LOCARNO	25 0751	0812	N16 E06	6122	21	1	2					
	WENDEL	25 0754	E 0821	N15 E03	6122	27 D	1						
ONDREJOV WENDEL	25 1518	1537 D		N07 E21	6125	19 D	1+	3	1520	4.00	4.00	2.10	
	25 1555	E 1606 D		N03 E10	6123	11 D	1				3.00		

COMMERCE - STANDARDS - BOULDER

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

CAPRI G ANACAPRI - GERMAN
CAPRI S ANACAPRI - SWEDISH
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV* KIEV UNIVERSITY
KODAIKANAL KODAIKANAL
KRASNAYA KRASNAYA PAKHRA
LOCKHEED LOS ANGELES

MC MATH MC MATH-HULBERT
MOSCOW - GAISH
ROYAL GREENWICH OBSERVATORY
HERSTMONCEUX
SAC PEAK SACRAMENTO PEAK
SCHAUBINS SCHAUBINS
WENDEL WENDELSTEIN

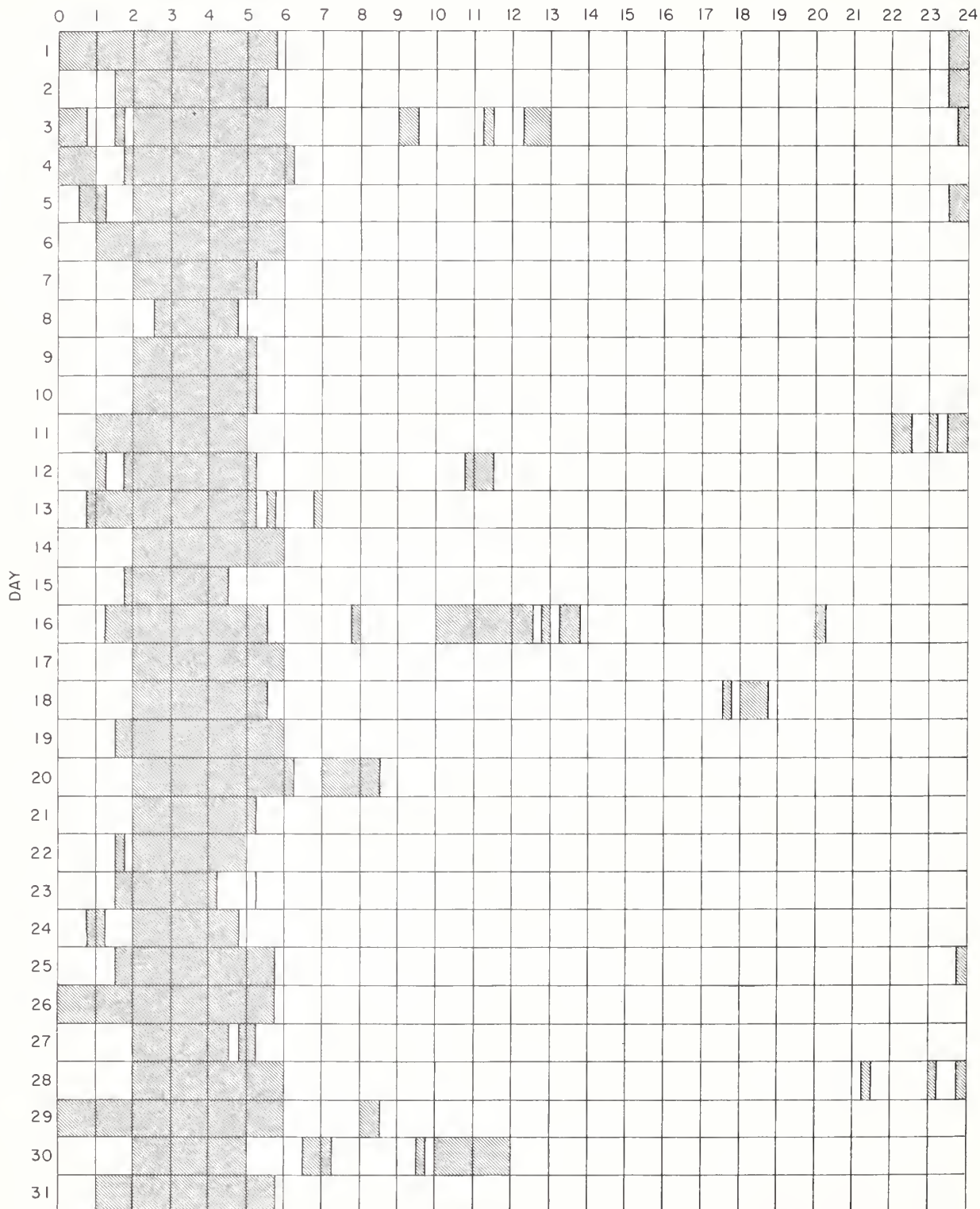
ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

MAY 1961

Hour-UT



Stations Include:

Anacapri (Swedish)
Arcetri
Hawaii

Huancayo
Lockheed
McMath-Hulbert

Meudon
Ondrejov
Royal Greenwich Observatory
Herstmonceux

Sacramento Peak
Wendelstein

COMMERCE - STANDARDS - BOULDER

SUBFLARES

Noted as follows: Date-Universal Time -Coordinates

APRIL 1961

* WENDEL	01	1115	E	S10 W18	SAC PEAK	11	1813	E	N10 W73	LOCKHEED	26	2341	E	S12 E49
WENDEL	01	1155	E	N10 W48	LOCKHEED	11	1852		N17 E44	LOCKHEED	26	2353		S12 E50
WENDEL	01	1218	E	N06 W68	LOCKHEED	11	2005		N10 W76					
SAC PEAK	01	1607	S	S11 W16	LOCKHEED	11	2151		N11 W79	LOCKHEED	27	0020		S08 E50
LOCKHEED	01	1607	S	S11 W16						LOCKHEED	27	0030		N10 W61
LOCKHEED	01	1709	N	N07 W77	LOCKHEED	12	0042		N11 W79	ARCETR1	27	1037	E	S08 E44
SAC PEAK	01	1738	N	N10 W89	UCCLE	12	0943		S04 W16	ARCETR1	27	1100	E	S08 E44
LOCKHEED	01	2008	S	S12 W85	UCCLE	12	1622		N04 E65	* CAPRI S	27	1224	E	S11 E45
LOCKHEED	02	2011	S	S17 W16	ONOREJOV	14	0857		N15 E32	LOCKHEED	27	1607	E	S08 E39
LOCKHEED	02	2205	S	S14 E13	LOCKHEED	14	2012		N17 E24	LOCKHEED	27	1612		S08 E42
* SAC PEAK	03	1710	S	S11 W43	LOCKHEED	14	2013		S27 E06	LOCKHEED	27	1708		S10 E42
* LOCKHEED	03	1710	S	S12 W43	LOCKHEED	14	2013		S27 E06	SAC PEAK	27	1709		S10 E43
ARCETR1	04	0855	E	S10 W10	SAC PEAK	14	2014		N14 E29	LOCKHEED	27	1738		S07 E41
HUANCAYO	04	1316	N	N13 W24	SAC PEAK	14	2052		S28 E04	HAWAII	27	1754	E	S12 E40
WENDEL	04	1316	E	N11 W28	LOCKHEED	14	2126		S27 E06	LOCKHEED	27	1836		S12 E39
MC MATH	04	1317	N	N13 W25	SAC PEAK	14	2223		N12 E22	LOCKHEED	27	1938	E	S23 E35
* MC MATH	04	1346	N	N12 E22	HAWAII	14	2224		N13 E25	LOCKHEED	27	2054		S10 E41
* HUANCAYO	04	1394	S	S13 W50	LOCKHEED	14	2225		N17 E24	LOCKHEED	27	2058		N03 E38
* MC MATH	04	1358	S	S10 W54	LOCKHEED	14	2225		S27 E06	LOCKHEED	27	2058		N03 E38
SAC PEAK	04	1409	N	N12 E22	LOCKHEED	14	2357		N17 E24	LOCKHEED	27	2202		S12 E37
HUANCAYO	04	1411	S	S09 W21						SAC PEAK	27	2205		S13 E37
SAC PEAK	04	1411	S	S10 W23	LOCKHEED	15	0010		S27 E07	LOCKHEED	27	2310		S07 E38
HUANCAYO	04	1413	E	N13 W22	HAWAII	15	0020	E	N14 E09	KYOTO	28	0430	E	S07 E35
SAC PEAK	04	1431	S	S09 W23	MC MATH	15	1401		N05 E90	WENDEL	28	0848	E	S10 E34
SAC PEAK	04	1442	N	N13 E22	SAC PEAK	15	1411		S11 E48	UCCLE	28	0849		S11 E34
SAC PEAK	04	1501	N	N13 E20	MC MATH	15	1422		S11 E48	SAC PEAK	28	1439		S13 W81
WENDEL	04	1516	E	N13 W23	SAC PEAK	15	1525		N14 E14	SAC PEAK	28	1445		S10 W60
LOCKHEED	04	1655	S	S10 W25	SAC PEAK	15	1602		N14 E15	HUANCAYO	28	1447	E	S12 W63
LOCKHEED	04	1700	S	S21 W37	LOCKHEED	15	1604		N17 E15	SAC PEAK	28	1521		S02 E27
SAC PEAK	04	1701	S	S20 W37	SAC PEAK	15	1640		N14 E12	SAC PEAK	28	1622		S10 W61
SAC PEAK	04	1906	S	S09 W26	LOCKHEED	15	1755		N17 E11	LOCKHEED	28	1623		S11 W60
LOCKHEED	04	1928	N	N13 E18	SAC PEAK	15	1830		N10 E10	LOCKHEED	28	1715		N03 E29
LOCKHEED	04	1921	N	N14 E18	LOCKHEED	15	1833		N16 E10	LOCKHEED	28	1806		S11 W60
LOCKHEED	04	2005	S	S09 W26	LOCKHEED	15	2112		N17 E11	SAC PEAK	28	1807		S10 W62
LOCKHEED	04	2044	N	N13 E17	LOCKHEED	16	1711		N13 W14	LOCKHEED	28	1840		S08 E25
LOCKHEED	04	2110	N	N13 E17	LOCKHEED	16	2014		N15 W20	LOCKHEED	28	1905		N09 E41
SAC PEAK	04	2135	S	S18 W16	SAC PEAK	16	2106		N05 E08	LOCKHEED	28	1945		S11 W60
LOCKHEED	04	2139	S	S17 W17	SAC PEAK	16	2316		N06 E78	LOCKHEED	28	2011		N03 E24
MC MATH	04	2140	S	S16 W17						LOCKHEED	28	2024		S03 E23
SAC PEAK	04	2232	N	N12 E18	LOCKHEED	17	2220		S15 W24	LOCKHEED	28	2040		S12 W65
LOCKHEED	04	2330	N	N13 E17	LOCKHEED	17	2300		N01 W49	HUANCAYO	28	2044		S15 W83
LOCKHEED	04	2340	S	S08 W29						SAC PEAK	28	2047		S03 E22
* CAPRI S	05	0826	E	N12 E15	KYOTO	18	0142	E	N03 W50	LOCKHEED	28	2050		S03 E20
* ARCETR1	05	0833	E	N14 E13	ARCETR1	18	0932	E	N15 W28	LOCKHEED	28	2050		S15 E57
ARCETR1	05	0925	E	N14 E13	ONOREJOV	18	0943		N04 E51	LOCKHEED	28	2108		S10 E29
WENDEL	05	0928	E	N13 E08	HAWAII	18	2356		N04 E49	LOCKHEED	28	2145		S09 W61
WENDEL	05	1000	E	N13 E08						LOCKHEED	28	2151		N03 E23
UCCLE	05	1005	N	N14 E07	KYOTO	19	0630	E	S12 E56	LOCKHEED	28	2224		N03 E22
* UCCEL	05	1224	E	N14 E07	UCCEL	19	0910		S14 E42	SAC PEAK	28	2226		N02 E22
WENDEL	05	1315	E	N13 E11	HAWAII	19	1846		N06 W36	* HAWAII	28	2236		S04 E20
* CAPRI S	05	1350	E	N14 E14	SAC PEAK	19	1846		N06 W34	* LOCKHEED	28	2250		S07 E22
* MC MATH	05	1352	N	N13 E10	SAC PEAK	19	1900		N16 W46	LOCKHEED	28	2305		N03 E22
* WENDEL	05	1439	E	N13 E10	LOCKHEED	19	2308		S12 E30	LOCKHEED	28	2315		S08 W64
MC MATH	05	1440	N	N12 E10	SAC PEAK	19	2311		S13 E30	LOCKHEED	28	2335		N03 E22
UCCEL	05	1444	E	N14 E10	HAWAII	19	2312		S13 E29					
UCCEL	05	1531	N	N14 E10						LOCKHEED	29	0015		N05 E23
MC MATH	05	1532	N	N13 E10	* KYOTO	20	0040	E	S13 E35	LOCKHEED	29	0037		S09 W64
UCCEL	05	1545	N	N14 E07	WENDEL	20	0700	E	S13 E29	LOCKHEED	29	0056		S08 E22
SAC PEAK	05	1545	N	N13 E04	SAC PEAK	20	1732		N15 W59	SAC PEAK	29	1406		S12 E18
* SAC PEAK	05	1554	N	N13 E08	SAC PEAK	21	1553		N15 W70	HUANCAYO	29	1408	E	S12 E19
HAWAII	05	1756	E	N13 E09	LOCKHEED	21	1927		S13 E06	SAC PEAK	29	1423		S09 W74
SAC PEAK	05	1800	N	N12 E09	SAC PEAK	21	1928	U	S14 E04	SAC PEAK	29	1435		S08 E15
SAC PEAK	05	1933	N	N13 E03	CLIMAX	21	1931		S14 E03	HUANCAYO	29	1437		S07 E16
HAWAII	05	2210	S	S18 W41	HAWAII	21	1932		S14 W04	CLIMAX	29	1437	E	S07 E14
SAC PEAK	05	2213	S	S19 W40	HUANCAYO	21	1935		S17 E05	CLIMAX	29	1451		S12 E18
HAWAII	06	0010	N	N13 E01	MC MATH	21	1939	E	S14 E05	SAC PEAK	29	1453		S13 E18
WENDEL	06	0607	E	N14 W04	LOCKHEED	21	2353		S08 E03	LOCKHEED	29	1540	E	N04 E14
WENDEL	06	0614	E	N13 W01						LOCKHEED	29	1655		N02 E11
* ONOREJOV	06	0916	E	N13 W02	ONOREJOV	22	1210		N14 W90	LOCKHEED	29	1707		S08 E12
* ARCETR1	06	0920	E	N14 E00	SAC PEAK	24	1537		S04 E72	LOCKHEED	29	1714		N04 E09
* ONOREJOV	06	0923	N	N13 E01	LOCKHEED	24	1640		N05 E80	LOCKHEED	29	1727		S08 E11
* UCCEL	06	1115	N	N15 W05	LOCKHEED	24	1640		N05 E80	LOCKHEED	29	1736		N03 E08
WENDEL	06	1356	E	S16 W33	LOCKHEED	24	1722		S07 E73	SAC PEAK	29	1813		N02 E11
WENDEL	06	1550	E	S18 W52	LOCKHEED	24	2122		N08 W34	SAC PEAK	29	1815	U	N02 E10
HUANCAYO	06	1740	N	N13 W07						LOCKHEED	29	1836		S12 E15
* HAWAII	06	2140	E	N15 W09	LOCKHEED	25	0018		S06 E76	LOCKHEED	29	1843		N02 E08
ONOREJOV	07	1053	E	N14 W15	ONOREJOV	25	1010	E	S09 E72	LOCKHEED	29	1859		S08 E09
WENDEL	07	1055	E	N13 W14	UCCEL	25	1139		S10 E71	LOCKHEED	29	2005		S06 E07
MEUDON	08	0700	N	N15 E70	* UCCEL	25	1205		S19 E71	LOCKHEED	29	2005		S06 E07
LOCKHEED	08	1717	S	S09 W30	SAC PEAK	25	1410		N04 E70	LOCKHEED	29	2057		S07 E11
LOCKHEED	08	1844	N	N13 W40	UCCEL	25	1412		N04 E70	SAC PEAK	29	2223		S10 E08
LOCKHEED	08	2153	N	N13 W40	LOCKHEED	25	1635		S06 E67	LOCKHEED	29	2224		S08 E08
LOCKHEED	09	0101	N	N12 W43	LOCKHEED	25	1739		S04 E61					
LOCKHEED	09	0135	N	N13 W43	LOCKHEED	25	1840		S08 E74	LOCKHEED	30	0011		N03 E07
LOCKHEED	09	1810	S	S11 W78	LOCKHEED	25	1924		S04 E61	CAPRI S	30	1446	E	S09 E07
LOCKHEED	09	2035	N	N13 W49	LOCKHEED	25	1938		S05 E64	LOCKHEED	30	1700	E	N03 W05
LOCKHEED	09	2240	N	N13 W52	* LOCKHEED	25	2029		S07 E64	LOCKHEED	30	1812		S12 W03
UCCEL	10	1132	N	N16 W52	LOCKHEED	25	2042		S04 E58	SAC PEAK	30	1849		N02 W05
SAC PEAK	10	1549	N	N03 E40	LOCKHEED	25	2145		S04 E58	LOCKHEED	30	1850		N04 W01
SAC PEAK	10	1827	N	N03 E40	SAC PEAK	25	2157		S06 E58	LOCKHEED	30	1916		N04 W06
SAC PEAK	10	1924	N	N03 E40	LOCKHEED	25	2250		S04 E58	LOCKHEED	30	1936		N04 W06
LOCKHEED	11	1736	N	N10 W76	STOCKHOLM	26	0915	E	S10 E57	LOCKHEED	30	2120		N04 W07
MC MATH	11	1737	N	N12 W74	* SAC PEAK	26	1251		S12 E57	LOCKHEED	30	2135		N03 W10
MC MATH	11	1808	N	N12 W74	* LOCKHEED	26	1631		S11 E94	LOCKHEED	30	2205		N03 W10
LOCKHEED	11	1808	N	N12 W74	LOCKHEED	26	1996		S10 E59	LOCKHEED	30	2212		S10 W04
LOCKHEED	11	1808	N	N10 W76	LOCKHEED	26	2142		S10 E51	LOCKHEED	30	2333		N03 W10
					* LOCKHEED	26	2207		S08 E50					
					LOCKHEED	26	2304		S08 E50					

CORRECTION STANDARDS BOLD

*Rated as flare of importance by other observatories (See CRPL-F 201 Part B, for May 1961).

SOLAR FLARES

FEBRUARY 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT	APPROX. MER DIST				MONTH REGION	TIME — UT	MEAS. AREA Sq Deg	CORR. AREA Sq Deg		MAX WIDTH H ₃₀₀₀
{ GOOD HOPE PIRCULI	FEB 1961													
	01	0705	0740	0712	N11 W15	6013	35	1	3	0712	4.56	5.01		62
	01	0947	1124	1034	N25 E26	6016	97	1+		1034	2.70	3.50		
PIRCULI	01	0953	1123 D	1028 U	N24 E25	6016	90 D	1+	3	1028	6.84	8.98		66
MITAKA	03	0606	0618		N11 W43	6013	12	1	1	0606	.88	1.05	1.54	96
{ ABASTUMANI PIRCULI	04	0816	0826	0820	N04 E76	6022	10		1		1.08	3.50		
	04	0819	0830	0823 U	N04 E79	6022	11	1+	3	0823	2.28	9.50		62
OTTAWA	06	1412	1432	1415	N23 W46	6016	20	1		1415	1.80	2.30		
MITAKA	07	2356	0016		S08 E20	6023	20	1	1	2359	2.46	2.63	2.28	107
MITAKA	08	0235 E	0247		S12 E14	6023	12 D	1	1	0236	.98	1.03	1.95	128
PIRCULI	09	0708	0727	0711 U	S12 E01	6023	19	1	2	0711	1.83	1.86		56
{ GOOD HOPE ABASTUMANI GOOD HOPE CAPRI G GOOD HOPE	14	0649	0710	0652	N06 W64	6022	21	1		0652	1.50	3.50		
	14	0656	0823	0706	N06 W64	6022	87	1	2		1.80	4.70		68
	14	1038	1049	1042	N06 W64	6022	11	1		1042	1.00	2.40		
	14	1244 E	1250 D		N04 W66	6022	6 D	1	2		4.00			
	14	1356	1406	1358	N06 W66	6022	10	1		1358	1.30	3.40		
ALMA-ATA	15	0530	0605	0532	S08 W79	6023	35	2	2	0532	2.68			61
GOOD HOPE	15	0641 E	0701		S09 W88	6023	20 D	1		0641	.30			
GOOD HOPE	15	1059	1129	1102	S09 W88	6023	30	1		1102	.30			
CAPRI G	16	0849 E	0854		N06 W90	6022	5 D							
CAPRI G	20	1238	1258		S11 E43	6036	20	1+	2		5.00			
VOROSHILOV	21	2307 E	2330		S14 E80	6040	23 D	1+	3	2311	.72			88
PIRCULI	22	0758	0815	0806 U	S15 E72	6040	17	1	3		1.83			56
PIRCULI	22	0854 E	0859 D	0856 U	S15 E72	6040	5 D	1	3		1.19			52
CAPRI G	22	1335 E	1344		S11 E21	6036	9 D	1	2		4.00			
CAPRI G	23	1032 E	1038		S11 E35	6040	6 D	1	2		4.00			
CAPRI G	23	1207 E	1220		S12 E37	6040	13 D	1	2		4.00			
CAPRI G	25	1354	1407		S12 E11	6040	13	1	2		4.00			

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the February 1961 flares published in CRPL-F 199 Part B, March 1961

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

ANACAPRI - GERMAN
ANACAPRI - SWEDISH
ROYAL OBSERVATORY, CAPE OF GOOD HOPE
KIEV UNIVERSITY
KODAIKANAL
KRASNAYA PAKHRA
LOCKHEED LOS ANGELES

MCWATH
MCWATH-HULBERT
MOSCOW - GAISH
ROYAL GREENWICH OBSERVATORY
HERSTMONCEUX
SAC PEAK
SCHAUTINS
WENDEL

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.

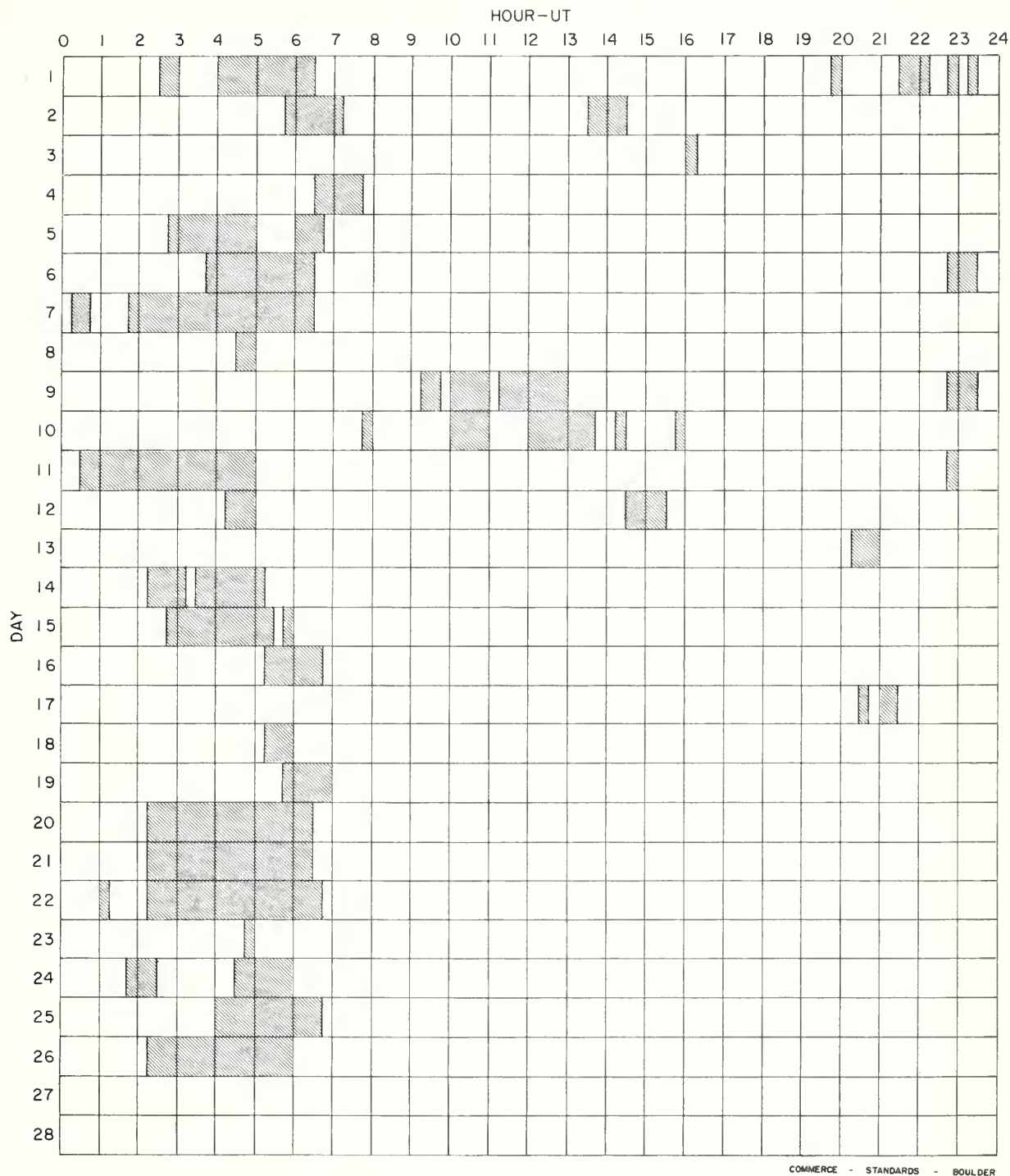
SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1960 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLINAX, HAWAII, LOCKHEED AND SAC PEAK.

Errata in CRPL-F 201 Part B, May 1961 page IIb:

For the flare observed at Ondrejov, April 26, 1961 the following corrections should be made: The times of beginning, ending and measurement should be 1504E, 1536D and 1517 not 1604E, 1636D and 1617, respectively. Correct the McMath Plage Region number of flare reported by Huancayo, April 26, 1961 at 1755E, U.T. from 6091 to 6098.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

FEBRUARY 1961



Stations Include:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Climax
Good Hope

Hawaii
Huancayo
Kharkov
Kiev GAO
Krasnaya Pakhra
Kyoto

Lockheed
McMath-Hulbert
Meudon
Mitaka
Ondrejov

Ottawa
Pirculi
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak

Simeiz
Tashkent
Uccle
Voroshilov
Wendelstein

HOURS OF FLARE PATROL OBSERVATIONS
Kyoto (Ikomasan) Observatory

Corrections to be made to Intervals of No Flare Patrol Observations May 1960 - December 1960

The following hours should be whited out on the charts presented in CRPL-F Part B 190 to 200.
The Kyoto, Japan solar flare patrol covered these times.

May		Aug.		Oct.	
26	0345-0400	1	2345-2400	19	0215-0245
31	0445-0500	2	0230-0300	20	0100-0130,
		5	0115-0130		0145-0245
June		12	0245-0300	22	0030-0115
1	0115-0300	16	0215-0300	23	0045-0200
6	0230-0245	20	0215-0300	25	0215-0230
7	0045-0200	22	0200-0230	26	0400-0600
20	0515-0600	25	0200-0215		
		27	0200-0300	Nov.	
July				8	0200-0230,
17	0245-0300	Sep.			0345-0515
20	2330-2400	2	0200-0215	10	0430-0530
21	0015-0030	6	0200-0215	20	0630-0645
22	0030-0045,	21	0600-0615	24	0000-0015,
	0145-0245				0030-0115,
24	0000-0015	Oct.			0600-0645
28	0200-0245	3	0145-0200		
29	0230-0245	5	0200-0215,	Dec.	
			0445-0500	9	0345-0515
		12	0200-0230	11	0430-0500
		13	0045-0245,	20	0530-0600
			0515-0530		

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIh

(SHORT-WAVE RADIO FADEOUTS)

APRIL 1961

1961 Apr.	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 201
5	1623	1645	S-SWF	5	1+	BE, FM, HU, <u>MC</u> , PR	1555
6	1745	1820	Slow S-SWF	5	1	BE, BO, HU, <u>MC</u> , PR	*
11	1805	1840	Slow S-SWF	4	1-	<u>BE</u> , HU, MC	
26	1430	1555	Slow S-SWF	5	2+	BE, DA, FM, <u>HU</u> , MC, PR	1424
26	1650	1843	Slow S-SWF	5	3	BE, FM, HU, <u>LA</u> , MC, <u>PR</u>	1646
27	0244	0336	Slow S-SWF	5	1+	AD, AN, <u>OK</u>	0245E
27	0407	0454	Slow S-SWF	1	1+	<u>OK</u>	*

DA = Darmstadt, G.F.R.
LA = Los Angeles, Calif.

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

APRIL 1961

1961 Apr.	CLASS			WIDESPREAD INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
{ 5	1			5	1623	1626	1641	25	BO, MC, RE
5		□		1	1624	1629	1717		<u>DU</u>
5			1	4	1702		1704		<u>BO</u> , MC
5			1	5	1902		1906		<u>BO</u> , MC, RE
5			1	4	1917		1919		<u>BO</u> , MC
6			2	1	0015		0020		<u>HA</u>
11			1	4	1720		1724		<u>BO</u> , MC
26		□		1	0902	0905	0945		<u>DU</u>
26	1			4	1428	1440		15	BO, <u>MC</u>
26	2			5	1652	1707	1825	30	BO, <u>MC</u> , RE
27		1		1	0251	0300			<u>TY</u>
28		1		1	0208	0213	0245		<u>TY</u>

TY = Research Institute of Atmospherics, Toyokawa, Japan.

COMMERCE - STANDARDS - BOULDER

IVa

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

MAY 1961

OTTAWA

2800 MC

May 1961	Type	Start UT	Duration Hrs:Mins	Maximum			Remarks
				Time UT	Peak Flux	Mean Flux	
1	2 Simple 2	1207.5	4.5	1208.7	10	3	In Sunset.
1	2 Simple 2 f	1621.7	6 2	1624.1	8	2.6	
1	3 Simple 3 f	1648	1 42	Indet.	4	2.3	
2	3 Simple 3	1437	2 33	Indet.	6	3.2	
2	3 Simple 3	1725	1 42	Indet.	4	2.5	
4	1 Simple 1	1309.5	3	1310.3	4	1.8	
4	3 Simple 3 A	2145	36	Indet.	10	6	
	2 Simple 2 f	2205	9	2208.8	95	31	
5	1 Simple 1 f	1322	1.2	1322.5	4	2.2	
5	1 Simple 1	1559	1	1559.5	4	1.7	
9	3 Simple 3 A	1540	2 50	Indet.	6	3.7	
	2 Simple 2 f	1543	3.3	1544.8	9	4.6	
10	3 Simple 3	2030	> 2 55	Indet.	5	---	
11	3 Simple 3	1122	43	1129	3	1.6	
11	3 Simple 3	1755	57	1808	3	1.7	
11	3 Simple 3	2157	18	2203	4	1.8	
12	1 Simple 1	1243.2	1.8	1244.3	3	1.2	
12	3 Simple 3 A	1250	2 25	Indet.	5	2.2	
	2 Simple 2	1355.2	1.7	1355.8	12	3	
12	1 Simple 1	1637	8	1638.5	2	1.4	

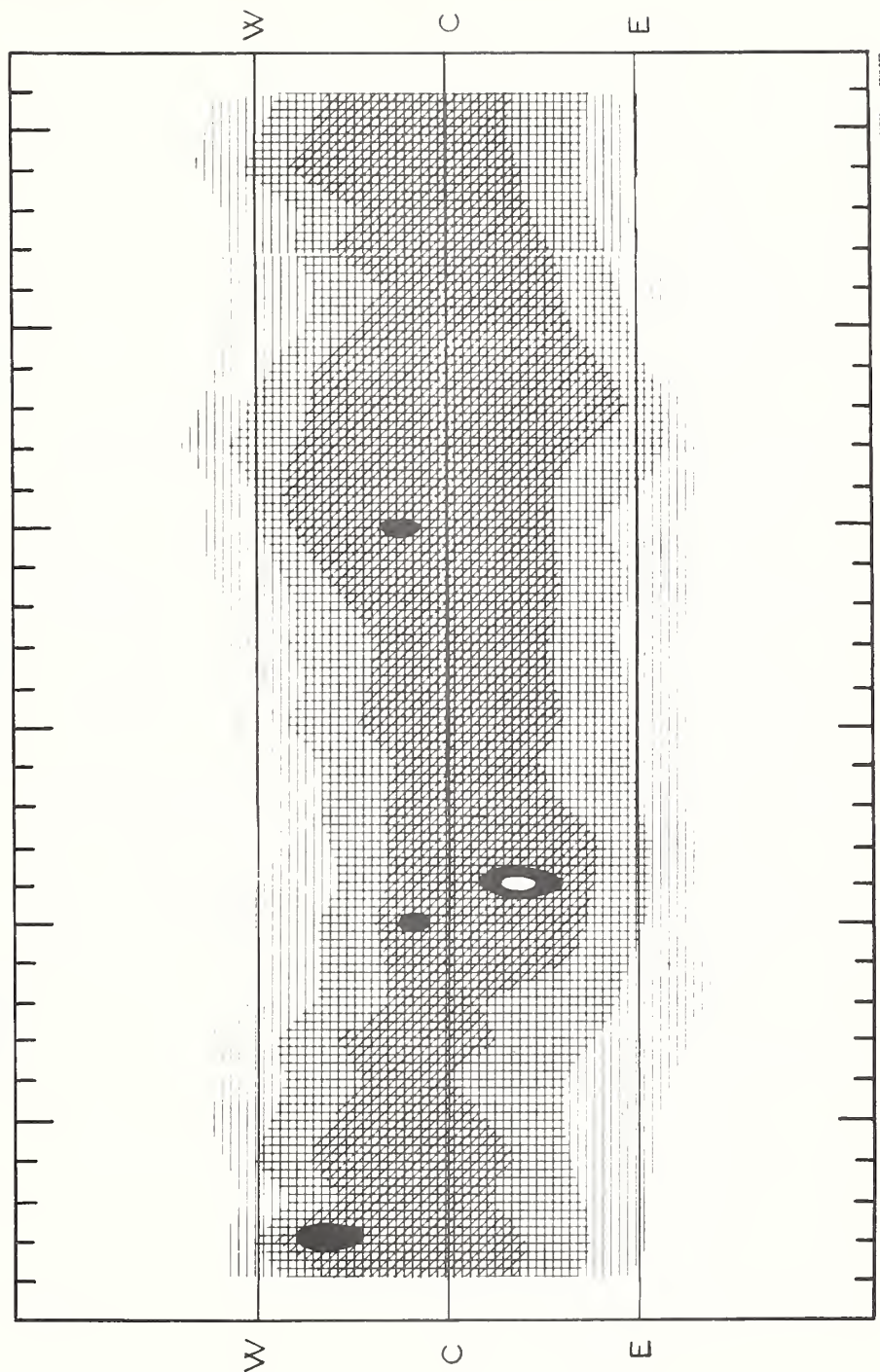
COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

169 Mc

MAY 1961

Nançay



MAY 1961

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

MAY 1961

BOULDER

108 Mc.

May 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity	May 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	2	1229.0	1230.3	1.3	2	11	3	2103.0	2103.7	0.7	2
1	3	1304.3	1304.8	0.7	2	11	3	2245.0	2245.5	0.5	2
1	3	1558.6	1559.5	1.2	2	11	3	2308.2	2309.0	1.0	3
1	3	1809.9	1810.1	0.3	2	12	3	1244.0	1245.0	1.0	3
2	2	1219.8	1221.4	1.5	2	12	3	1355.2	1356.8	1.7	3
2	3	1259.3	1300.0	0.9	3	12	3	1803.2	1803.8	0.6	3
2	3	1306.5	1307.0	0.5	2	12	3	1859.9	1900.4	0.5	3
2	3	1513.5	1514.9	2.0	2	12	3	2001.5	2001.9	0.4	2
2	3	1616.2	1617.4	1.0	2	14	3	1222.8	1223.3	0.5	2
2	3	1835.0	1836.0	1.5	3	16	3	1730.4	1730.8	0.4	2
2	3	2225.0	2225.6	0.6	3	17	3	1553.5	1553.9	0.5	2
2	3	2350.5	2351.0	0.5	2	17	3	1955.0	1955.5	0.5	2
3	3	0023.7	0024.2	0.5	3	17	3	2215.4	2216.5	1.5	3
3	3	1511.3	1511.9	0.6	2	18	3	1349.9	1350.0	0.5	2
3	3	1541.0	1541.8	0.8	2	18	3	1417.0	1417.5	0.5	2
3	3	1642.4	1643.9	1.8	2	18	3	1633.0	1633.6	0.6	2
3	3	1738.3	1738.8	0.5	3	18	3	1921.0	1922.5	2.2	2
3	3	1800.0	1800.1	0.3	2	19	3	1541.2	1541.9	0.8	3
3	3	1858.2	1858.5	0.5	2	19	3	1615.0	1615.6	0.7	2
4	3	2207.5	2208.6	3.0	2	19	3	1724.9	1725.5	0.6	2
5	3	1230.6	1231.1	1.0	3	19	3	1744.1	1744.1	0.5	2
5	2	1255.3	1257.0	4.0	3	20	3	1255.5	1255.9	0.5	2
5	3	1332.5	1333.9	1.8	3	20	3	1440.6	1440.8	0.3	2
5	3	1604.2	1606.0	1.8	3	21	3	1822.0	1822.8	1.0	2
5	3	1929.0	1930.0	1.0	3	22	3	1340.3	1340.9	0.7	3
5	3	2230.0	2232.0	2.0	3	22	3	1451.0	1451.6	0.6	2
5	3	2242.8	2243.2	0.5	2	22	3	1551.8	1552.4	0.7	3
6	2	1435.0	1436.1	1.2	2	22	3	1657.0	1657.4	0.5	3
6	3	1537.5	1538.0	0.7	2	22	3	1704.0	1704.5	0.3	3
6	3	1558.8	1559.4	0.6	2	22	3	2255.4	2255.8	0.7	2
6	3	1839.2	1839.7	0.5	2	23	3	0113.2	0113.7	0.7	2
7	3	1457.5	1457.9	0.8	2	23	3	1612.6	1612.9	0.7	2
8	3	1711.3	1712.1	1.1	3	23	3	1726.0	1726.5	0.6	2
8	3	1733.5	1734.1	0.6	2	24	3	1211.2	1212.0	0.5	3
8	3	1803.2	1804.5	1.4	3	24	3	1329.9	1330.1	0.5	2
9	3	1604.5	1605.8	1.5	2	26	3	1144.9	1145.8	0.9	3
9	3	1747.0	1747.4	0.5	2	26	3	1325.2	1326.1	0.9	2
9	3	1958.0	1958.5	0.5	2	26	2	1747.0	1747.7	1.2	2
9	3	2028.2	2028.6	0.4	2	27	2	1248.9	1252.4	8	3
9	3	2344.2	2345.0	0.7	2	27	3	1522.5	1523.0	0.6	2
10	3	0041.5	0042.0	0.8	2	27	3	1721.1	1721.9	0.8	3
10	3	1339.3	1340.0	0.6	3	27	3	1906.9	1907.1	1.0	2
10	3	1418.5	1419.5	1.5	3	28	3	1513.5	1514.0	0.5	2
10	3	1506.4	1507.2	0.6	3	28	3	1613.3	1613.9	0.6	3
10	3	1628.0	1628.7	0.7	2	28	3	1726.8	1727.4	0.7	2
10	3	1816.0	1816.7	0.7	2	28	3	1745.0	1745.2	0.4	2
10	3	1830.1	1830.5	0.4	2	29	3	1439.0	1439.6	0.6	2
10	2	1858.3	1859.6	1.8	2	30	3	1533.0	1533.6	0.6	3
10	3	2027.7	2028.0	0.4	2	30	3	1600.0	1600.2	0.3	2
10	3	2133.3	2133.9	0.7	2	30	3	1642.0	1643.2	0.8	3
10	3	2233.8	2234.4	0.8	2	30	3	1915.1	1915.6	0.5	2
11	3	1534.2	1534.8	0.7	2						
11	3	1757.0	1758.8	2.0	2						
11	3	1803.0	1803.4	1.0	2						
11	3	1805.5	1807.8	2.5	3						

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

MAY 1961

BOULDER

108 MC

May 1961	U. T.		May 1961	U. T.	
1	1205-0136		17	1148-0149	I 1148-1330
2	1204-0137		18	1147-0150	I 1147-1315
3	1203-0138		19	1147-0152	I 1147-1330
4	1202-0139	I 1202-1400	20	1146-0152	I 1605-0152
5	1201-0139	I 1201-2100	21	1145-0153	I 2246-0030
6	1159-0140	I 1242-1800	22	1144-0154	
7	1158-0141	I 1720-2210	23	1143-0154	I 1810-2040
8	1157-0142	I 1157-1305	24	1143-2218;	I 1605-2218
9	1156-0142	I 1156-1400		2330-0154	
10	1155-0144	I 1155-1400	25	1142-0156	I 1142-0156
11	1154-0144	I 1154-1430	26	1141-0156	I 1445-1515;
12	1153-0145	I 1153-1330;			1840-0022
		2225-0145	27	1141-0158	
13	1152-0146	I 1152-1930	28	1140-0158	I 1820-2305
14	1151-0147		29	1140-0158	I 2031-0158
15	1150-1732;	I 1825-2243	30	1139-0159	
	1752-0148		31	1139-0200	I 1139-0200
16	1149-0148	I 1149-1335;			
		1917-0148			

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

MARCH - MAY 1961

OWENS VALLEY, CALIFORNIA

540-975 Mc

Date 1961	Observing Hours	Important Bursts			Frequency Range Mcs	Remarks
		Type	Times U.T.	Int.		
Mar. 15	1726-2141 2201-2417					No activity No activity
Mar. 16	1623-2225					No activity
Mar. 27	1620-1922 1924-2403					No activity No activity
Mar. 28	1627-2056					No activity
Mar. 29	1617-2310	Cont.	2306	1-	850-950	4 seconds duration
Mar. 30	1615-2420					No activity
Mar. 31	1620-2039					No activity
Apr. 3	1644-2414					No activity
Apr. 4	1615-1703.5					No activity
Apr. 4	1711-2051.5					No activity
Apr. 4	2226-2401	Cont. Cont. Cont. Cont. Cont.	2234.5 2235 2237 2237.5 2238	1 1- 1 1 1	540-975 540-975 540-650 540-975 540-975	30 seconds 15 seconds 45 seconds 30 seconds 30 seconds, drifted to low frequency by 2238.5
		Cont. Cont. Cont.	2238.5 2240.5 2241.5	1 1- 1-	540-650 540-975 540-975	120 seconds 60 seconds 90 seconds, drifted to low frequency by 2243
Apr. 5	1608-1827	IIIg Cont.	1624 1625	1- 1-	975-600 540-950	Very fast drift Most energy at low frequency
Apr. 5	1850-2412	Cont. IIIg	2056-2104 2104	3 2	540-950 950-650	Peak 2059, 550-800 Mc/s Very short shift in frequency, 0.25 seconds duration
Apr. 6	1647-2219					No activity
Apr. 7	1613-1753					No activity
Apr. 7	1809-2235					No activity
Apr. 8	1645-2402					No activity
Apr. 9	1622.5-2402					No activity
Apr. 24	1830-2400					No activity, record obscured between 625-800 Mcs due to camera light leak
Apr. 25	1612-2400					No activity, record obscured see Apr. 24
Apr. 26	1605-2402					No activity
Apr. 27	1603-2400					No activity, obscured 1603-2100
Apr. 28	1617-2101 2117-2101					No activity, record obscured No activity, record obscured
Apr. 29	1638-1952 2028-2041 2132-2144 2205-2302					No activity, record obscured No activity, record obscured No activity, record obscured No activity, record obscured
Apr. 30	1758-2402					No activity, record obscured
May 1	1616-2255					No activity, record obscured
May 2	1605-2327					No activity, record obscured
May 4	1755-2357					No activity, record obscured
May 5	1719-1740 1909-2310	IIIb IIIb IIIb	2020 2023 2126	1- 1- 1-	800-600 720-620 600-550	No activity, record obscured 1 second duration 1 second duration 1 second duration, strong at 550 Mc/s

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVf

MAY 1961

OWENS VALLEY, CALIFORNIA

540-975 Mc

Date 1961	Observing Hours	Important Bursts			Frequency Range Mc	Remarks
		Type	Times U.T.	Int.		
May 6	1630-2402					No activity
May 7	1640-2406					No activity
May 8	1615-1710					No activity, obscured 1635-1710
May 8	1818-2128 2133-2401					No activity, record obscured No activity, obscured 2157-2401
May 9	1614-2020 2033-2401					No activity, record obscured No activity, record obscured
May 10	1614-2402					No activity, record obscured
May 11	1614-1900	Cont.	1804-1807	1-	550-650	Spotty, maximum 1806
May 11	1948.5-2355					No activity, obscured 2040-2355
May 12	1613-2401					No activity, obscured 1637-2401
May 13	1626-2046					No activity
May 17	2236-2257 2259-2351					No activity, record obscured No activity, record obscured
May 18	1626-1928 1936-2359.5					No activity No activity
May 19	1756-2400					No activity
May 20	1641-2400					No activity
May 22	1608-1803 1809-2402	II Ig II Ib	1717.5 1753	1-2 2	750-550 950-550	0.50 seconds duration 0.50 seconds, very fast No activity
May 23	1608-2403	II Ib	2125	1-	600-570	0.25 seconds, very fast
May 24	1605-2220					No activity
May 24	2224-2403.5	II Ig	2322.25	1-	700-875	2 reverse, 1 forward
May 25	1604-2138 2148-2401	II Ig II Ib	1921 2148.25	1- 1-	750-540 625-540	0.25 seconds duration Fast, 0.25 seconds duration
May 26	1606.5-1626					No activity
May 28	1607.5-2403					No activity
May 30	1629-1914					No activity
May 30	2043.5-2355					No activity
May 31	1606-2402					No activity

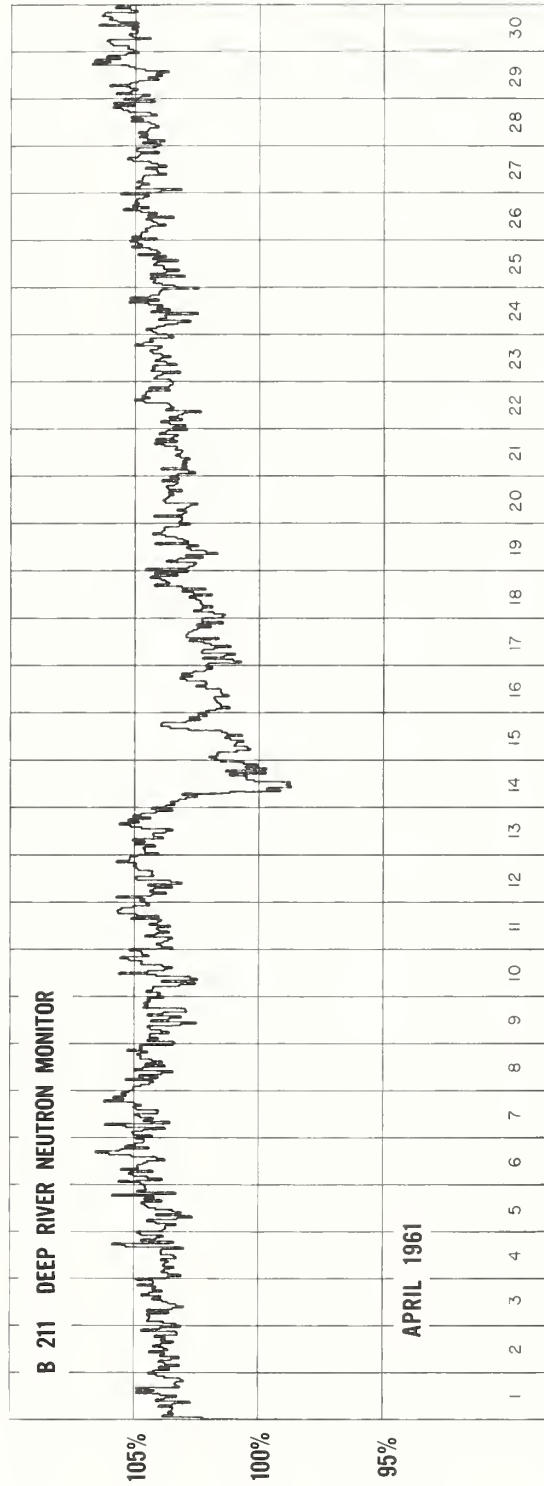
COMMERCE • STANDARDS • BOULDER

COSMIC RAY INDICES
(Climax Neutron Monitor)

APRIL 1961

Apr. 1961	Daily average counts/hr	Apr. 1961	Daily average counts/hr
1	2946.3	16	2915.2
2	2950.8	17	2904.0
3	2969.7	18	2883.7
4	2965.7	19	2945.0
5	2974.9	20	2948.1
6	2994.5	21	2967.2
7	2986.6	22	2988.6
8	2989.9	23	2976.0
9	2972.7	24	2984.2
10	2976.0	25	2998.2
11	2989.8	26	3000.6
12	2995.2	27	2992.0
13	2998.1	28	2994.8
14	2898.9	29	3014.8
15	2936.6	30	3013.5

COSMIC RAY INDICES (Pressure Corrected Hourly Totals)



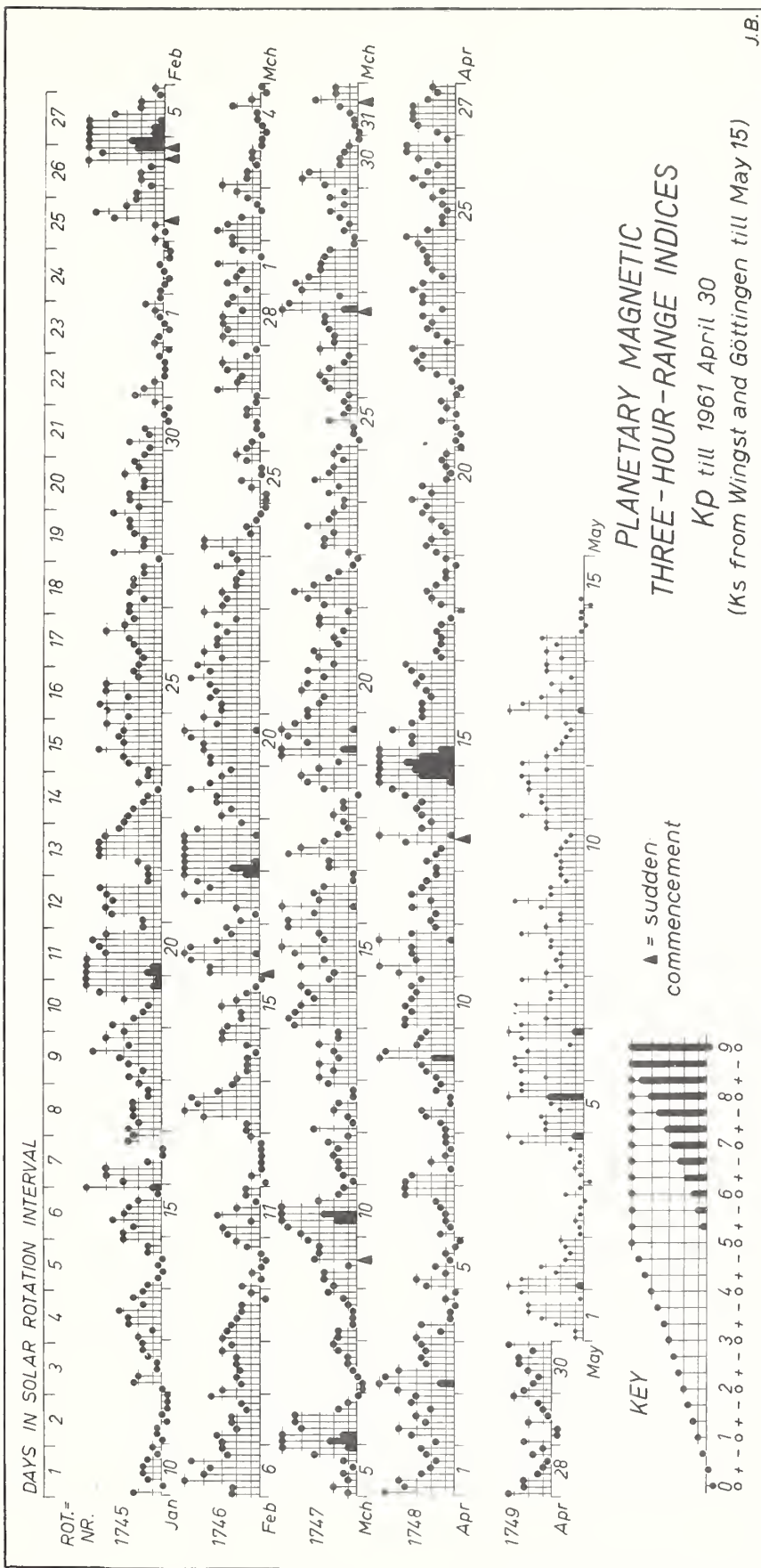
COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

APRIL 1961

Apr. 1961	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	1.0	5-	4-	4o	3-	2o	2-	2+	3-	24-	17	Five Quiet
2	0.9	2-	3+	4o	2+	3o	2o	3+	3o	23-	14	
3	1.2	4o	6o	5-	4o	2+	3-	2+	3-	29-	27	
4	0.2	3o	1+	3-	1-	1-	0+	1o	0+	10o	6	
5	0.2	2+	3o	1o	2-	1-	1o	0+	0o	10o	5	
												17
6	0.6	1+	1-	1o	1o	1+	2-	4-	4-	14+	9	18
7	0.5	4-	3+	1-	2o	1o	1-	1o	1o	13+	8	21
8	0.2	1o	1+	2+	3-	1-	1-	2-	1+	12-	6	
9	1.2	2-	2+	3-	6+	5-	3o	3-	2+	26-	24	
10	1.0	4-	4-	3+	4-	3+	3o	3+	3-	27-	17	
11	1.3	4o	5o	3o	3+	3+	5+	3+	2-	29o	26	Five Disturbed
12	0.6	2o	2-	3+	2o	3+	3-	2+	2-	19o	10	
13	0.8	2-	2+	2-	1+	4-	5+	3-	2o	21-	15	
14	1.5	3-	3o	3-	4-	4+	5+	7o	7+	36o	54	
15	1.5	8-	7o	6o	3+	3+	4+	3+	3-	38-	61	
												11
16	0.9	3-	3-	2o	2+	3o	3-	3+	4-	22+	13	14
17	0.1	1+	2-	1+	1+	3-	1+	1-	0o	9+	4	15
18	0.1	1+	2o	2+	2-	1o	1o	0+	1o	11-	5	
19	0.5	2-	2+	2o	1o	1+	2o	3-	2+	15+	7	
20	0.3	3+	2o	3-	1o	1-	1o	1+	1o	13o	7	
21	0.0	0o	0+	0o	0+	1+	0+	1o	1+	5-	2	Ten Quiet
22	0.6	0+	0o	1-	2-	3-	3o	3-	3+	14+	8	
23	0.5	1o	2-	2+	2o	3-	1+	3-	3-	16+	8	
24	0.7	3+	3-	1+	2o	2+	2+	3-	3o	20-	11	
25	0.4	4-	2+	1+	1+	1o	1+	2o	1+	14+	8	
												5
26	0.6	3-	3+	2+	2-	3o	4-	4-	1o	21+	14	8
27	0.8	2-	3o	3+	3+	3+	2+	2-	2o	21-	12	17
28	0.4	3+	2+	2+	1+	1o	1-	2-	1o	14-	7	18
29	0.3	2+	0o	0o	2o	1-	1o	1+	3o	10+	5	19
30	0.6	2+	2-	1+	2o	3-	3-	2-	3+	18+	9	20
												21
												28
												29
Mean:	0.65									Mean:	14	

COMMERCE - STANDARDS - BOULDER



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

APRIL 1961

NORTH ATLANTIC

NORTH PACIFIC

DATE	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES					SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				WHOLE DAY INDEX	ADVANCE FORECASTS (4-REPORTS) FOR WHOLE DAY, ISSUED IN ADVANCE BY				GEOMAGNETIC M ₃₀₀₀ F ₂	GEOMAGNETIC K _p 1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	QUALITY FIGURES					ISSUED AT					WHOLE DAY INDEX	DAYS DAYS DAYS DAYS FINAL J ₃ S ₀ W J ₄																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	00	06	12	18	24	0000	0600	1800	0000			0600	1800	0000			0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800	0000	0600	1800

() Represent disturbed values.

All times are Universal Time (U.T.)

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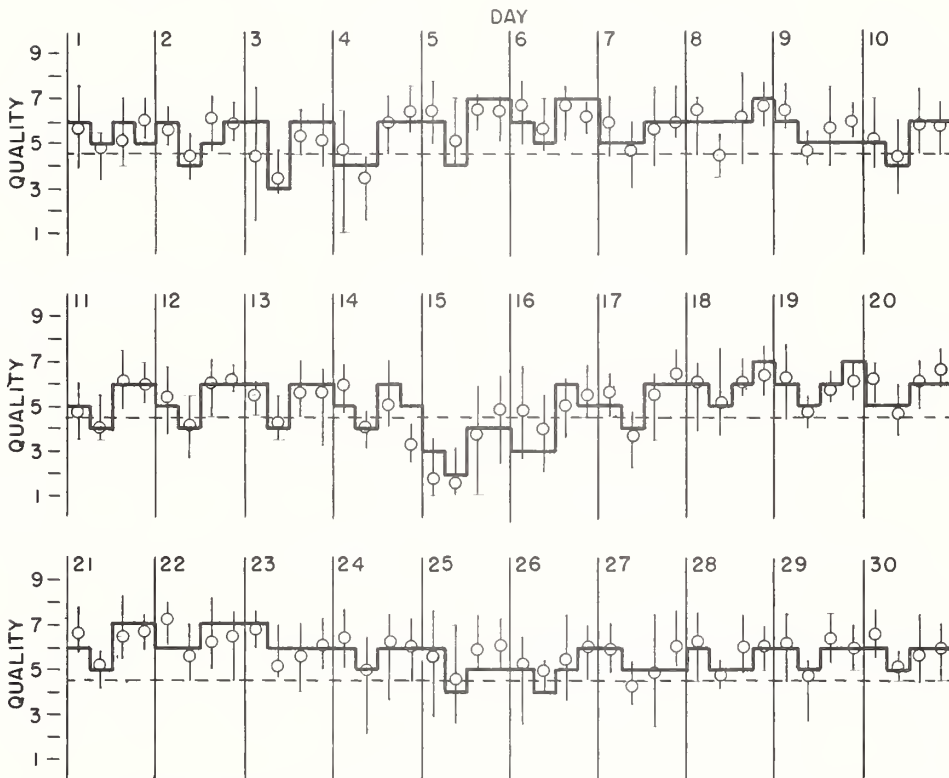
NORTH ATLANTIC

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— Short-term forecast

| Range of reports

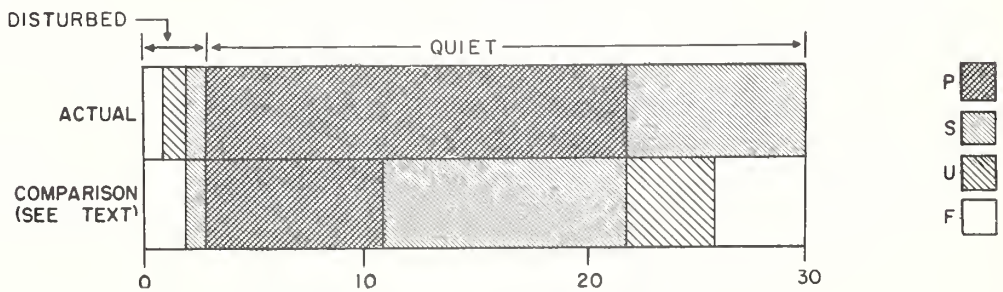
○ Quality figure



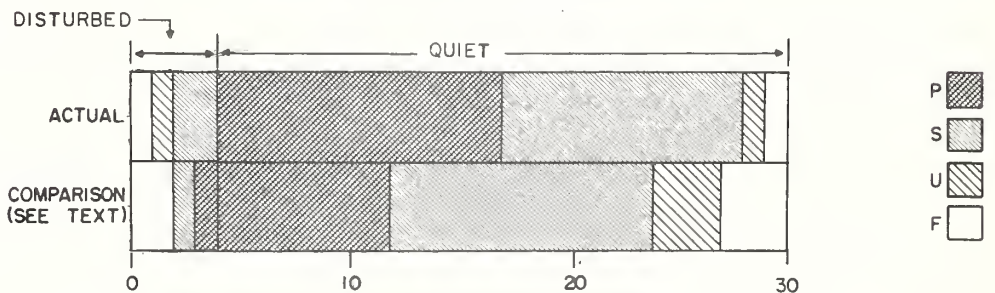
OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE

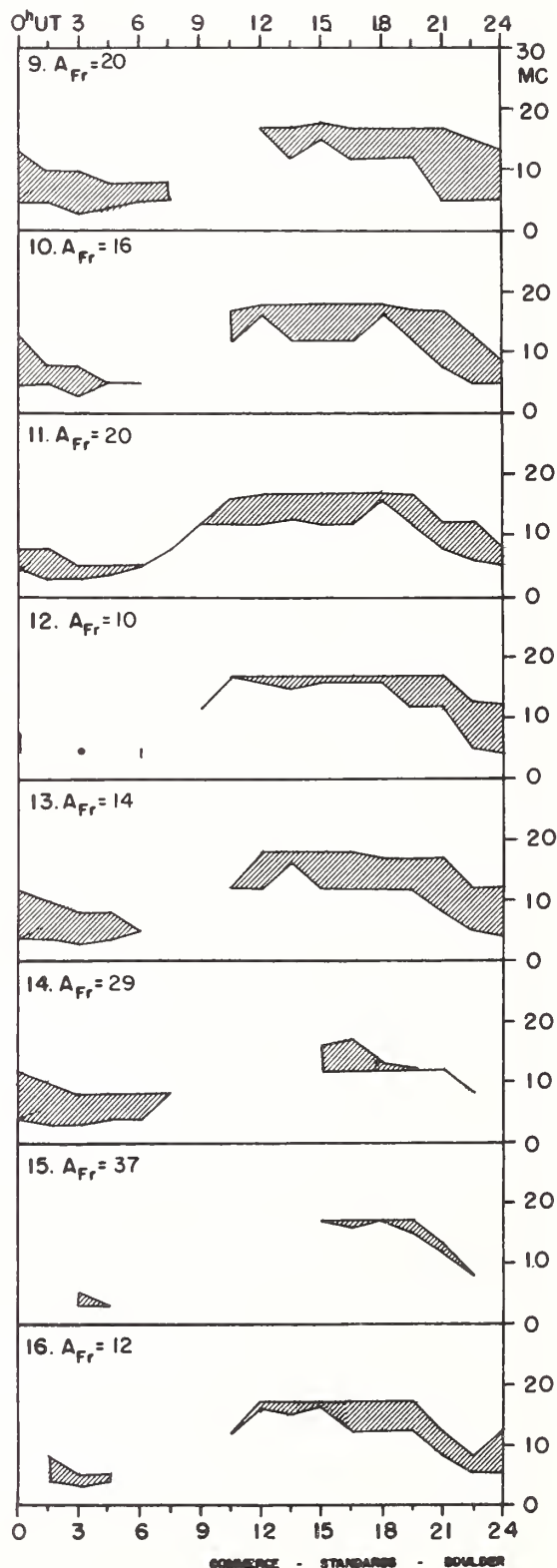
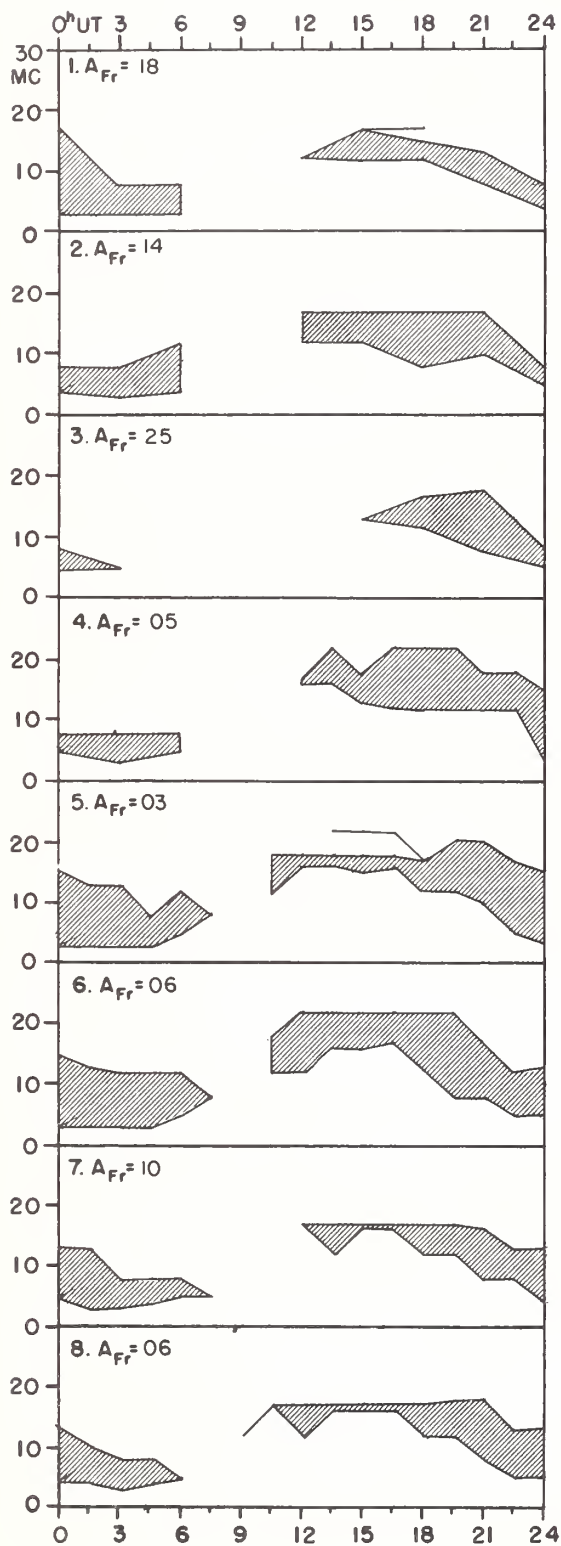
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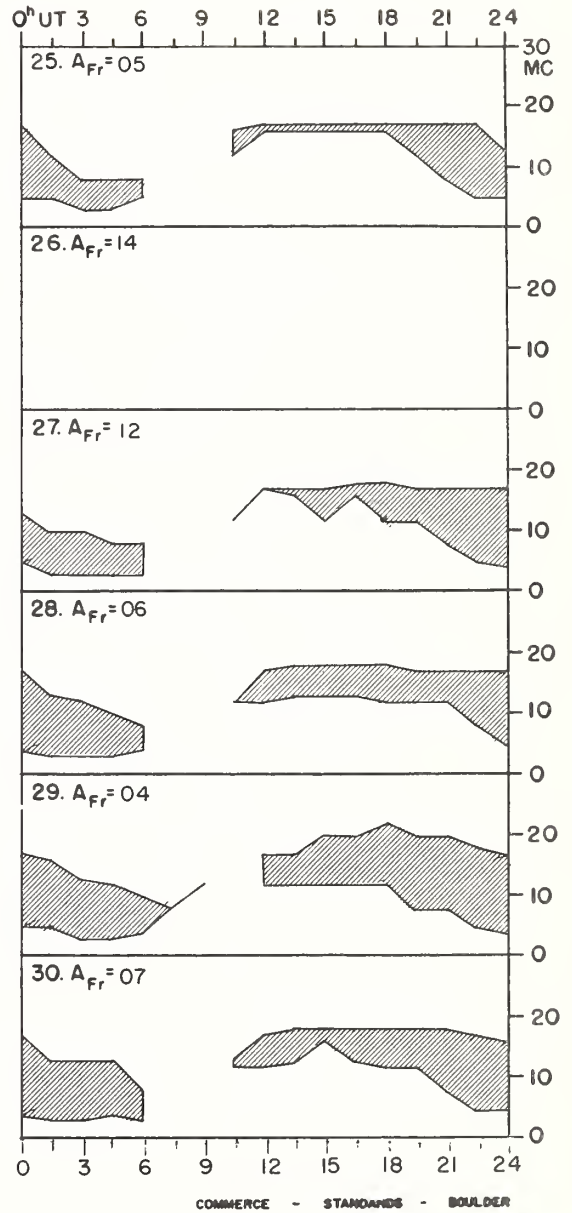
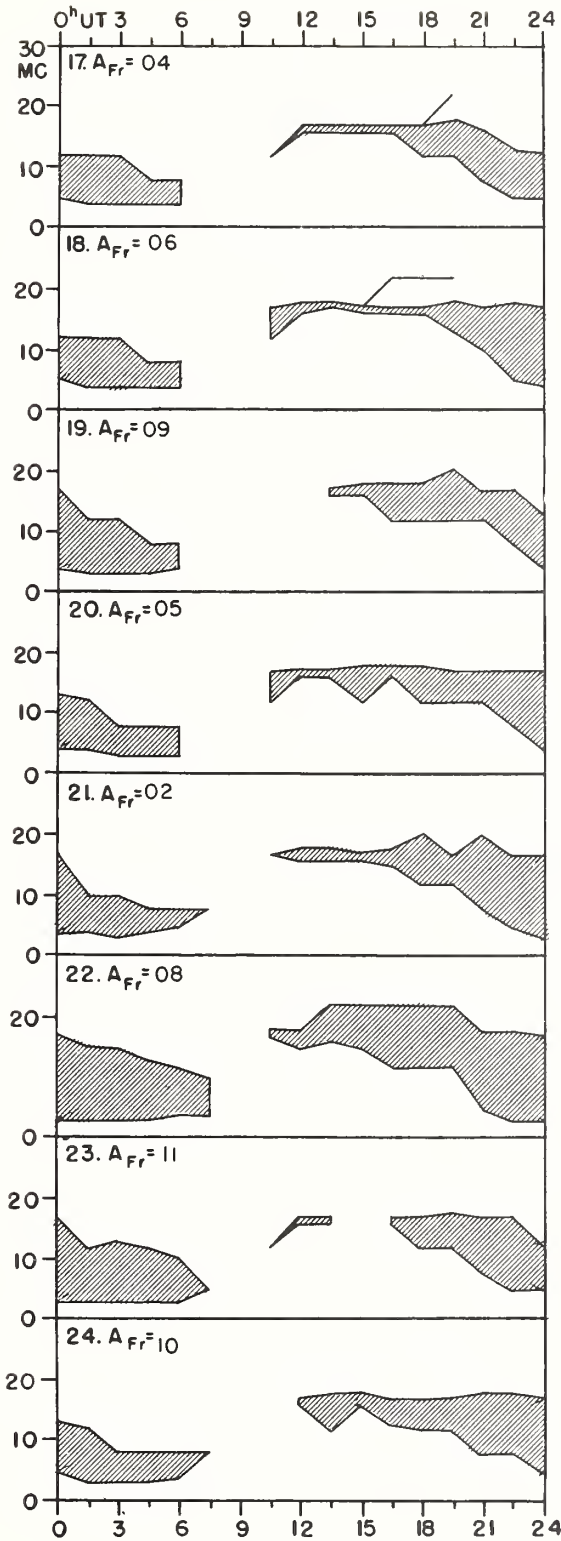


NORTH PACIFIC



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ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

MAY 1961

Issued Day/Time UT May 1961	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
02/0410	Ft. Belvoir, Magnetic Storm 01/22XXZ*			
06/1600		119		Start (Predicted).
07/1600	Sacramento Peak, Solar Flare 09/1535Z	120		Finish (Predicted).
09/1640				
25/1600		121	Magnetic Storm 24/23XXZ	

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*Magnetic activity later proved to be bay-type, not storm-type.

