

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
AUGUST 1961

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

SOLAR - GEOPHYSICAL DATA

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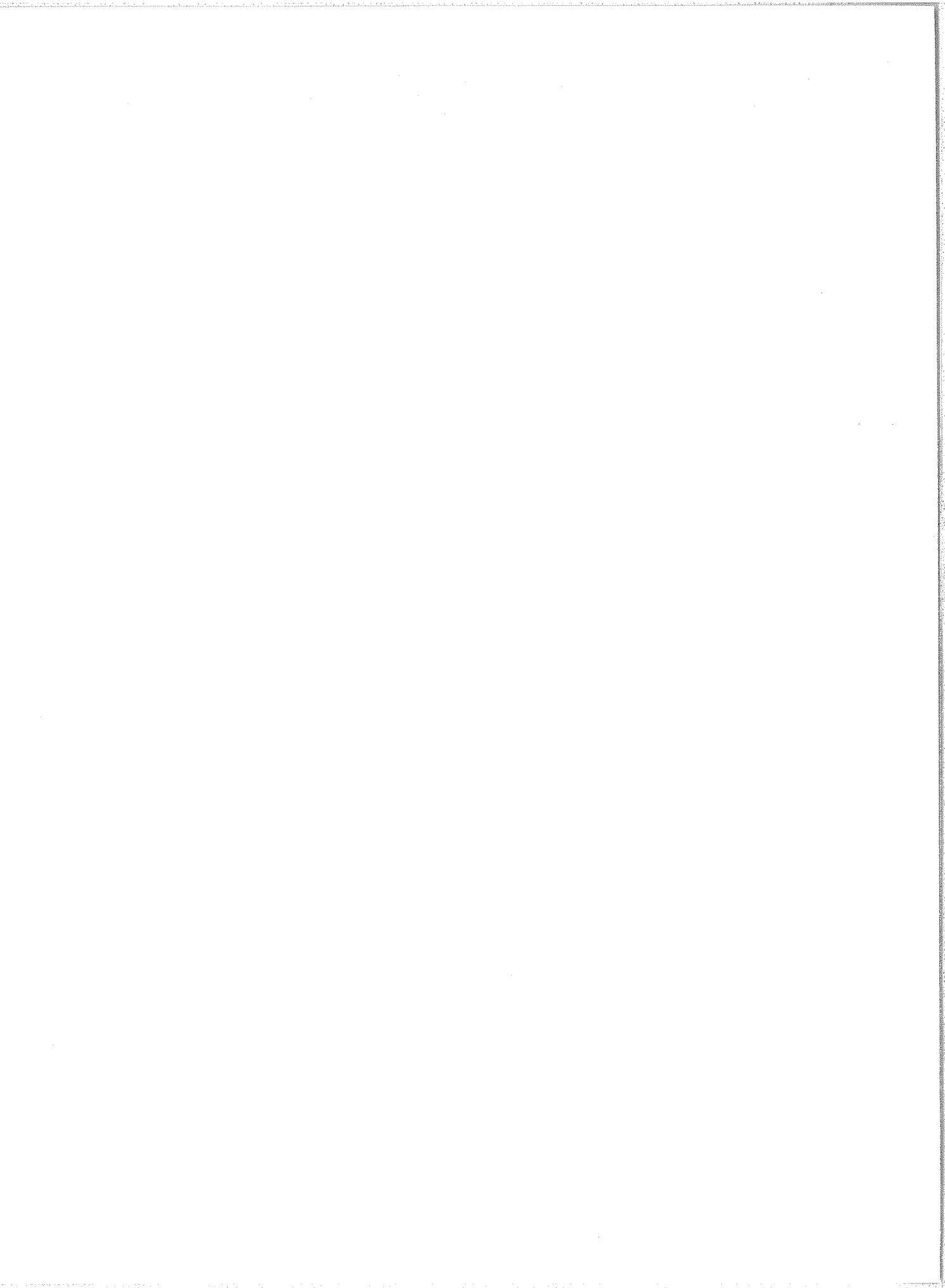
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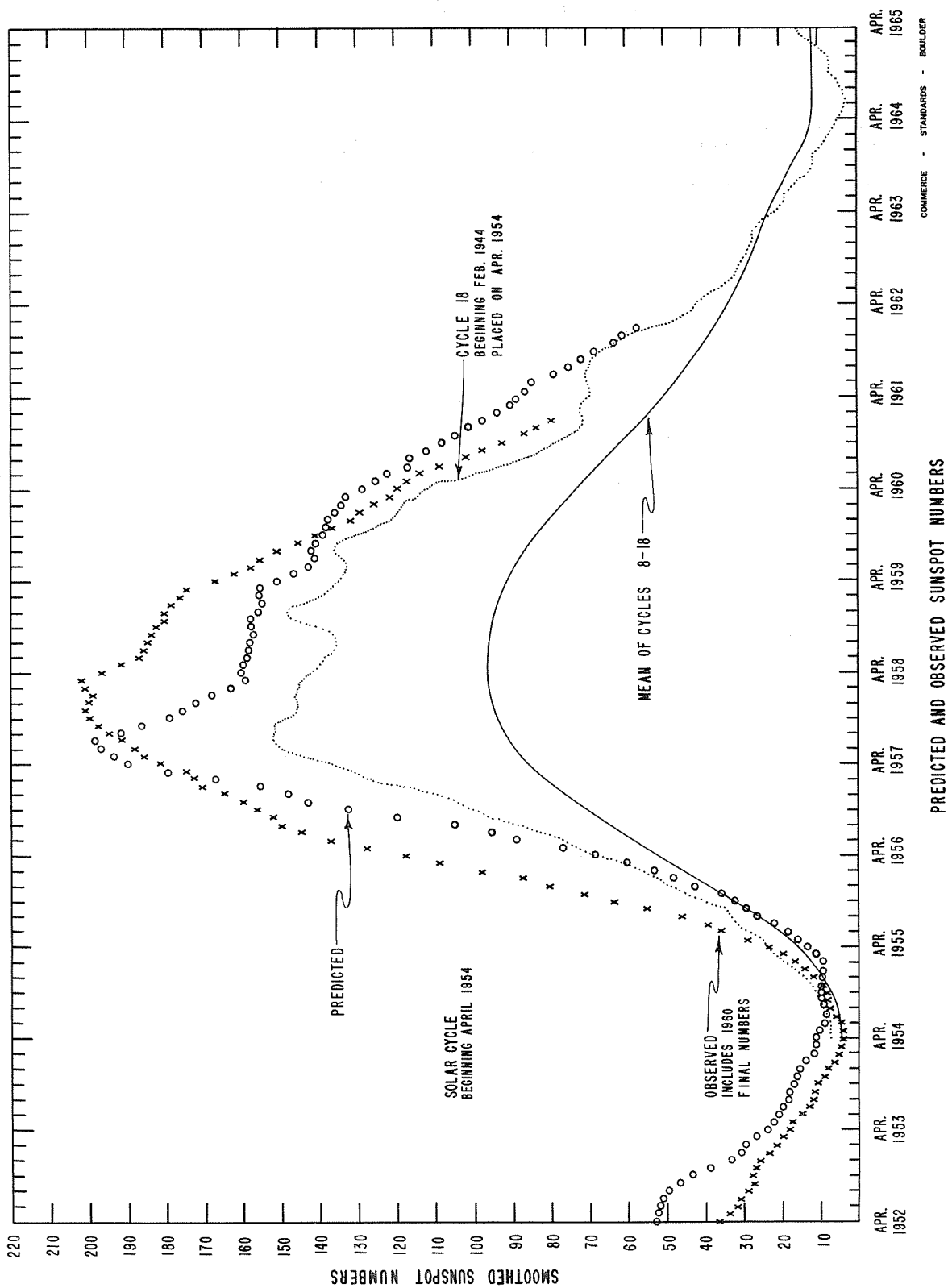
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The descriptive text was published separately, November 1960.

DAILY SOLAR INDICES

June 1961	American Relative Sunspot Numbers R _A '	July 1961	Zürich Provisional Relative Sunspot Numbers R _Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	30	1	60	104
2	25	2	65	99
3	38	3	68	104
4	37	4	63	103
5	46	5	44	106
6	43	6	50	102
7	41	7	51	105
8	40	8	60	107
9	49	9	65	112
10	57	10	73	124
11	56	11	85	138
12	58	12	96	137
13	60	13	86	141
14	72	14	107	136
15	84	15	100	136
16	102	16	94	132
17	108	17	92	137
18	101	18	82	131
19	115	19	86	126
20	126	20	85	123
21	114	21	85	118
22	108	22	75	119
23	79	23	81	118
24	68	24	78	118
25	61	25	63	117
26	42	26	62	115
27	48	27	53	111
28	46	28	42	105
29	52	29	32	103
30	53	30	30	92
		31	34	91
Mean:	65.3	Mean:	69.3	116.5



CALCIUM PLAGE AND SUNSPOT REGIONS

JULY 1961

CMP July 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	S10	6157	6136	1700	3.5	<i>l</i> \ <i>l</i> 2	50	1	<i>l</i> \ <i>d</i>
01.9	N15	6156	6133	2100	2	<i>l</i> \ <i>l</i> 5			
02.2	N18	6167	New	(700)	(3.5)	<i>b</i> / <i>l</i> 1	(200)	(3)	<i>b</i> / <i>l</i>
03.3	S09	6158	6134	2000	2	<i>l</i> - <i>l</i> 2			
05.0	N11	6163	New	3800	3.5	<i>l</i> - <i>l</i> 1	130	7	<i>b</i> / <i>l</i>
05.1	N01	6162	6135	(1800)	(2)	<i>l</i> \ <i>d</i> 3			
07.6	N15	6164	6145	5100	3	<i>l</i> - <i>l</i> 2	440	5	<i>l</i> - <i>l</i>
09.4	S01	6165	6142	1800	2	<i>l</i> - <i>l</i> 6			
12.2	N03	6166	*	1600	3	<i>l</i> - <i>l</i> -	150	2	<i>l</i> - <i>l</i>
12.7	S11	6169	6143	1000	2.5	<i>l</i> - <i>l</i> 6			
12.8	N06	6168	6140	(2000)	(3)	<i>l</i> \ <i>d</i> 5			
14.1	N15	6170	New	1100	3	<i>l</i> \ <i>l</i> 1	50	1	<i>l</i> \ <i>d</i>
14.4	S10	6171	6144	5100	3.5	<i>l</i> - <i>l</i> 2	1420	14	<i>l</i> - <i>l</i>
17.2	N13	6172	6151	4000	3	<i>l</i> - <i>l</i> 2	220	1	<i>l</i> - <i>l</i>
18.5	S08	6173	6146	1500	2	<i>l</i> - <i>l</i> 2			
20.3	S10	6174	New	2600	3.5	<i>l</i> \ <i>l</i> 1	110	3	<i>l</i> \ <i>l</i>
20.9	N13	6175	6149	1900	3	<i>l</i> / <i>l</i> 4	(190)	(3)	<i>b</i> / <i>l</i>
23.0	N17	6183	New	(200)	(2.5)	<i>b</i> / <i>l</i> 1			
23.1	N03	6176	New	1400	3.5	<i>l</i> - <i>l</i> 1	120	2	<i>l</i> \ <i>d</i>
23.5	S13	6177	New	1800	3	<i>l</i> - <i>l</i> 1			
25.1	N08	6178	6155	3900	3.5	<i>l</i> - <i>l</i> 2	550	5	<i>l</i> - <i>l</i>
26.4	N20	6179	6160	1700	2.5	<i>l</i> - <i>l</i> 2			
30.0	N18	6180	6167	1000	2	<i>l</i> - <i>l</i> 2	(60)	(3)	<i>b</i> / <i>l</i>
30.1	S03	6181	6158	2200	2.5	<i>l</i> - <i>l</i> 3	(50)	(1)	<i>l</i> \ <i>d</i>

COMMERCE - STANDARDS - BOULDER

* Small, ephemeral

FINAL CORONAL LINE EMISSION INDICES

JANUARY 1961

GHP Jan 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 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	72	117	35	68	112	35	72	50	69	13	22	67	79	27	42
2	55	70	12	34	62	9	20	42	54	10	14	66*	104	22	28
3	92	120	11	80	116	7	13	61	76	10	16	68	90	17	32
4	69	98	36	53	88	11	38	53	64	27	44	85	105	53	84
5	68	112	30	57	76	12	13	34	51	21	30	56	84	32	63
6	102	198	x	46	64	x	x	36	46	13	20	60	71	32	54
7	73	110	11	38	52	7	9	50	58	6	11	17	110	17	33
8	72	91	9	20	60	7	10	26	40	8	13	42	52	10	15
9	48	52	5	44	53	10	18	80	109	x	x	91	99	x	x
10	73	84	35	59	130	35	56	x	x	x	x	x	x	x	x
11	68	78	34	67	119	37	52	x	x	x	x	x	x	x	x
12	52	70	9	56	94	18	23	66	157	45	88	40	48	25	40
13	39	48	14	46	98	24	42	51	106	39	82	34	38	19	30
14	43	50	18	39	64	31	60	36	62	29	54	33	50	18	40
15	35	48	15	13	19	20	35	19	24	15	21	30	36	13	16
16	28	37	21	21	27	17	30	21	25	-	-	34	39	4	12
17	33	44	20	28	34	12	16	x	x	x	x	x	x	x	x
18	19	22	41	24	32	21	24	x	x	x	x	x	x	x	x
19	19	23	17	20	26	9	10	x	x	x	x	x	x	x	x
20	29	54	24	20	25	14	18	16	24	x	x	x	x	x	x
21	39	47	10	41	53	8	16	27	48	19	28	40	54	15	20
22	42	70	48	23	60	11	25	26	52	-	-	38	58	13	28
23	76	91	x	64	95	x	40	30	39	2	10	44	54	3	15
24	x	x	x	x	x	x	x	51	108	4	13	53	63	6	14
25	90	113	x	80	144	x	x	52	67	2	9	62	79	11	20
26	70	91	40	43	88	28	42	45	69	3	6	64	82	8	18
27	77*	110	40	41	62	13	24	36	59	1	5	78	114	11	23
28	78	123	61	44	66	25	16	25	x	x	x	x	x	x	x
29	83	118	x	34	50	12	16	25	36	16a	18a	49*	78	27a	43a
30	84	105	12	48	57	-	-	32	40	17a	19a	67	100	46a	60a
31	x	x	x	x	x	-	-	22	26	x	x	54	68	x	x

a = index computed from low weight data. * = yellow line observed. x = no observations. - = below threshold of visibility

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FINAL CORONAL LINE EMISSION INDICES
FEBRUARY 1961

GMP Feb 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	58	105	32	48	65	92	46	99
2	x	x	x	x	x	x	x	x	5	7	4	5	19	31	5	7
3	77a	113a	x	x	38a	x	x	x	61	66	x	x	113	133	x	x
4	60	89	35	52	19	28	50	62	67	95	x	x	89	112	x	x
5	58	82	43	69	36	34	62		74	99	x	x	69	85	x	x
6	57	64	6	14	57	9	23		48	70	x	x	45	51	x	x
7	80	91	3	12	85	6	19		53	81	x	31	46	53	14	18
8	85	105	5	13	69	15	39		34	52	12	17	27	38	8	18
9	67	98	9	20	52	20	32		71	149	24	35	74	110	5	7
10	84	119	14	36	74	23	33		x	x	x	x	x	x	x	x
11	x	x	x	x	x	x	x		21	40	8	12	16	18	5	11
12	27	30	23a	29a	12	18a	26a		17	22	5	7	25	31	14	33
13	30	38	25a	38a	27	22a	28a		34	43	x	x	39	45	x	x
14	23	34	x	x	31	66	x		18	30	11	17	21	28	13	17
15	32	46	20	30	70	29	66		17	40	8	14	17	23	7	10
16	7	9	7	9	6	5	6		22	28	7	9	29	32	5	8
17	56	66	x	x	45	60	x		8	10	9	12	17	20	6	8
18	61	68	x	x	50	54	x		8	14	7	12	20	26	10	10
19	64	76	x	x	37	47	x		x	x	x	x	x	x	x	x
20	48	60	x	x	38	58	x		26a	36a	x	x	41a	53a	x	x
21	58	81	x	x	63	96	20a		75	106	1	4	76	116	5	14
22	64	106	9	12	40	68	14		33	54	8	21	38	64	6	7
23	122	165	13	22	81	140	33		59	124	11	18	49	62	11	20
24	x	x	x	x	x	x	x		91	162	5	7	87	116	3	4
25	60	88	8	17	35	60	6		83	109	x	x	91	125	x	x
26	84	100	8	16	35	78	19		44	67	x	x	69	93	x	x
27	120	152	x	x	63	108	x		45	69	11	16	67	99	6	12
28	58	92	20	47	33	62	38		26	41	5	6	48	56	3	4

a = index computed from low weight data. * = yellow line observed. x = no observations. - = below threshold of visibility
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FINAL CORONAL LINE EMISSION INDICES

MARCH 1961

GNP Mar 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	H ₁	G ₆	G ₁	H ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	54	72	7	12	24	28	5	6	28	38	14	16	41	53	14	19
2	57	78	13	28	26	32	3	6	21	24	9	10	38	50	15	33
3	44	58	13	32	23	32	4	6	36	62	9	x	48	58	x	x
4	44	58	21	38	37	50	4	5	33	41	x	x	35	50	x	x
5	x	x	x	x	x	x	x	x	22	38	10	19	23	29	6	14
6	43a	47a	x	x	31a	45a	x	x	42	62	26	43	52	84	26	72
7	31	52	9	25	16	29	5	20	38	88	11	23	49	101	14	41
8	30	43	6	7	36	63	17	27	66	108	24	60	80	126	10	30
9	47	73	13	23	45	105	27	38	72	111	17	28	69	97	6	13
10	89	96	12	27	51	145	15	20	47	67	16	24	47	53	6	8
11	59	63	x	x	31	50	x	x	x	x	x	x	x	x	x	x
12	57	75	x	x	16	26	x	x	x	x	x	x	x	x	x	x
13	42	49	9	14	36	52	18	24	x	x	x	x	x	x	x	x
14	49	63	9	14	61	113	19	34	84	138	17	33	45	60	10	17
15	22	28	19	28	32	73	24	36	17	26	9	10	15	18	9	11
16	25	33	13	20	11	13	26	33	10	12	6	7	13	18	7	9
17	32	42	x	x	36	43	x	x	33	36	10	14	37	50	12	20
18	44	62	x	x	27	42	x	x	38	45	4	5	65	99	12	16
19	63	110	19	49	37	55	8	10	50	69	5	6	99	161	9	13
20	64	95	31	72	36	60	11	15	42	55	2	11	82	123	5	24
21	64	94	14	26	45	101	8	15	42	57	10	18	35	60	8	35
22	132	191	17	39	105	183	9	16	77	98	11	26	93	104	11	14
23	149	176	9	11	118	141	12	27	58	87	x	x	49	78	x	x
24	102	152	12	26	85	124	24	47	60	102	-	-	73	104	-	-
25	x	x	x	x	x	x	x	x	46	57	11	23	59	81	12	33
26	x	x	x	x	x	x	x	x	25	40	13	23	46	65	14	28
27	x	x	x	x	x	x	x	x	23	31	8	14	36	59	12	18
28	125	144	10	27	54	73	16	26	14	19	6	10	21	24	9	12
29	36	42	7	9	15	23	10	14	25	36	24	44	25	31	14	26
30	36	48	8	10	38	68	15	37	49	63	13	38	44	50	-	-
31	75	92	7	10	111	158	36	74	65	104	15	25	39	47	-	-

a = index computed from low weight data. * = yellow line observed. x = no observations. - = below threshold of visibility
 COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

JULY 1961

OBSERVATORY	DATE JUL Y 1961	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.	MCNATH PLACE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hr	
[WENDEL	01	0508	0542		N07 W38	6155	34	1+	3	0549	6.00				
[ONDREJOV	01	0546	0557		N05 W35	6155	11	1							
[WENDEL	01	0813	0847	D	N08 W39	6155	34	D	3	0815	5.00		2.00		
[ZURICH	01	0815	0855		N07 W41	6155	40	1	3	0952	3.00				
[ARCETRI	01	0915	0955		N07 W41	6155	40	1	3		2.50				
[LOCARNO	01	0944	0955		S13 E11	6157	11	D	2						
[UCCLE	01	1008	1015		N13 W40	6155	7	1	3	1010	4.00				
[ARCETRI	01	1017	1031		N07 W41	6155	14	1	3	1017	2.80				
[WENDEL	01	1516	1551	D	N08 W42	6155	35	D	3		6.00				
[WENDEL	01	1615	1719	D	N07 W44	6155	64	D	2		5.00				
[WENDEL	01	1739	1811	D	N07 W44	6155	32	D	2		5.00				
[WENDEL	02	0615	0636	E	N07 W52	6155	21	D	3		3.00				
[WENDEL	02	1125	1137	D	N05 W53	6155	12	D	3		4.00				
[CAPRI S	02	1125	1203	D	N05 W47	6155	38	D	3	1144	2.00	1.20			
[WENDEL	02	1302	1345		N06 W54	6155	43	1+			6.00				
[CAPRI S	02	1308	1338	D	N07 W50	6155	30	D	3	1311	2.00	1.10			
[WENDEL	02	1335	1357	E	N19 W48	6160	22	D	3		3.00				
[WENDEL	02	1458	1529	E	N05 W53	6155	31	D	2		5.00				
[SAC PEAK	02	1506	1528		N05 W56	6155	22	1	2	2.89	3.53		19		
[SAC PEAK	02	1610	1640		N05 W56	6155	30	1	2	3.47	4.00		22		
[WENDEL	02	1610	1641	D	N07 W57	6155	31	D			6.00				
[WENDEL	02	1703	1733		N08 W57	6155	30	1			3.00				
[WENDEL	03	0939	0959		N07 W68	6155	20	1			3.00				
[WENDEL	03	1256	1316	D	N06 W70	6155	20	D	1		3.00				
[WENDEL	04	0745	0752	D	N12 W76	6155	7	D	1		4.00				
[HAWAII	07	0036	0048		N01 E75	6168	12	1	3	0040	2.60	1.00			
[ZURICH	07	0926	0955		S04 E17	6165	29	1	2	0926	4.00				
[CAPRI S	07	0928	1031	D	S07 E19	6165	63	D	3	0940	2.50	2.30			
[BUCHAREST	07	0938	1050	E	S01 E20	6165	72	D	2		3.10				
[SAC PEAK	07	1332	1358		N11 W11	6164	26	1	3		2.83				
[MCMATH	07	1332	1359		N11 W11	6164	20	1	2	1334	2.10	2.89		22	
[ZURICH	07	1333	1345		N12 W12	6164	12	1	2	1333	4.00				
[UCCLE	07	1333	1349	D	N11 W10	6164	16	D	2	1335	2.20	2.20			
[SAC PEAK	07	1356	1404		N16 E90	6170	8	1	3		2.17	.43		15	
[SAC PEAK	07	1644	1710		N17 E90	6170	26	1	3		2.89	.58		20	
[LOCARNO	08	1054	1110	D	N18 E75	6170	16	D	2		5.00				
[WENDEL	08	1100	1123	D	N16 E76	6170	23	D	1		3.00				
[WENDEL	08	1313	1333	D	N15 W28	6164	20	D	1						
[LOCARNO	08	1315	1343		N10 W28	6164	28	1	2						
[LOCARNO	09	1024	1103		N03 E42	6166	39	1+	2	1038	3.40	2.50			
[CAPRI S	09	1030	1055		N04 E42	6166	25	D	3						
[CAPRI S	10	0605	0646	D	S08 E52	6171	41	D	3	0612	2.40	1.20			
[ARCETRI	10	0810	1035		S07 E52	6171	145	1	3	0843	2.60	1.70			
[ZURICH	10	0830	0913	D	S07 E50	6171	43	D	2	0830	5.00				

SOLAR FLARES

JULY 1961

OBSERVATORY	DATE JULY 1961	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	TIME - UT	MEASUREMENTS		MAX. WIDTH H _r	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
ARCETRI	10	0915	0925		S07	E50	10	1	3	0915	2.50	3.90			S-SWF
ZURICH	10	1312	1450		S07	E48	98	1	2	1410	5.00				
CAPRI S	10	1314	1345		S08	E49	31 D	1	2	1315	2.00				
MCMAH	10	1317	1430		S08	E49	73 D	1	3	1321					
HUANCAYO	10	1420	1453	1420	S07	W46	33 D	1	2	1420	3.20		2.10		
LOCKHEED	10	1741	1800	1753	N18	E85	19	1	2	1753	1.10				
WENDEL	11	0530	0543	D	S07	E40	13 D	1			3.00				
WENDEL	11	0625	0632	D	S07	E36	7 D	1			3.00				
WENDEL	11	0632	0642	D	S07	E39	10	1			4.00				
WENDEL	11	0648	0722	D	S07	E39	34 D	1+			5.00				
WENDEL	11	0652	0728	D	S06	E34	36 D	1			4.00				
BUCHAREST	11	0700		0700	S08	E38	□	2	3		6.00				
WENDEL	11	0749	0822		S06	E35	33	1			3.00				
ZURICH	11	0835	0845		S07	E38	10	1	2	0835	2.00				
WENDEL	11	0912	0930	D	S06	E36	18 D	1+			5.00				
WENDEL	11	1100	1139	D	S08	E34	39 D	1+			6.00				
WENDEL	11	1133	1139	D	N15	W65	6 D	1+			5.00				
ONDREJOV	11	1332	1348		S08	E36	16	1	3	1336		2.70		S-SWF	
MCMAH	11	1333	1409		S08	E35	36	1+			4.30				
CAPRI S	11	1333	1412	D	S05	E33	39 D	1	3	1338	1.60				
WENDEL	11	1339	1408	D	S07	E34	29 D	2+			2.20				
LOCKHEED	11	1615	2000	D	S06	E31	25	2+	2	1710	8.80		30		
MCMAH	11	1620	1930	D	S07	E30	190 D	3	2	1657	16.00				
HUANCAYO	11	1640	2040		S08	E33	240 D	2	2	1704	7.50		4.30		
SAC PEAK	11	1654	1916		S06	E32	142	3	2	1704	11.72				32
SAC PEAK	11	1654	1916		S06	E32	142	3	3		12.38				
ONDREJOV	12	0504	0521		S05	E26	17	1+	3	0506		2.20			
LOCARNO	12	0740	0805		S05	E23	25	1	2			3.80			
ONDREJOV	12	0742	0759		S05	E24	17	1+	3	0743					
ZURICH	12	0746	0753		S06	E22	7	1	2	0746		2.00			
CAPRI S	12	0746	0848	D	S06	E24	62 D	1	2	0830	2.40				
LOCARNO	12	0815	0840		S08	E26	6171	25	1	2		1.00			
ZURICH	12	0816	0834		S09	E26	6171	18	1	2	0816		2.70		
ONDREJOV	12	0817	0842	D	S09	E28	6171	25 D	1	2	0823				
ARCETRI	12	0822	0845		S07	E20	6171	23	1	3					
UCCLE	12	0823	0839		S09	E26	6171	16 D	3						
WENDEL	12	0845			S07	E22	6171	2	3			8.00			
ONDREJOV	12	0845	0850		S07	E25	6171	5	3	0845		3.10			
KODAIKUNL	12	0909	0926		S09	E29	6171	17	1	2	3.90				
ZURICH	12	0917	0927		S07	E23	6171	10	1	0917		4.30			
ONDREJOV	12	0917	0933		S07	E26	6171	16 D	1+	0925		3.00			
ARCETRI	12	0918	0928		S07	E18	6171	10	3	0918		2.80			
ARCETRI	12	0923	0932		S07	E20	6171	9	3						
LOCARNO	12	1000	1048	D	S06	E23	6171	48 D	3	1043		17.00			
CAPRI S	12	1000	1230		S08	E22	6171	150	2	1032		10.40			
WENDEL	12	1001	1303	D	S07	E24	6171	182 D	3+		9.00				
ONDREJOV	12	1003	1206		S07	E25	6171	123 D	3+	1031		32.00			
STOCKHOLM	12	1004	1127	D	S08	E20	6171	83 D	3	1032		15.60		S-SWF	

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OBSERVATORY	DATE JULY 1961	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION			DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	APPROX. MER. DIST.	MCMATH PLACE REGION				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	
[UCLE ZURICH NEDERHORST ARCTRI NEDERHORST MCMATH WENDEL SAC PEAK	12	1018	1020 D	1020	S07 E23	E23	6171	2 D	1+	3	4.00	4.80	17.00		
	12	1020	1225 D		S07 E22	E22	6171	125	3+	2					
	12	1024 E	1235 D		S07 E23	E23	6171	112	3	2					
	12	1043	1235 D		S08 E20	E20	6171	112	3	2					
	12	1049 E	1059 D		S07 E23	E23	6171	10 D	3	2		16.00			
	12	1106 E	1300 D		S07 E22	E22	6171	114 D	3	3		3.00			
	12	1155 E	1617 D		S08 E23	E23	6171	22 D	1	1		2.89			17
	12	2248	2318 D	2254	S07 E15	E15	6171	30	1	1					
	13	0850	0952 D	0905	S08 E10	E10	6171	62	1	2		3.60			
	13	0900	0943 D		S04 E05	E05	6171	43	1	2		2.20			
	13	1204	1236 D		S07 E09	E09	6171	32	1+	2		6.00			
	[WENDEL LOCKHEED	13	2240	2335 D	2245	S05 E00	E00	6171	55	1	2	2.10	2.10		20
13		2240	2335 D	2254	S05 E00	E00	6171								
[KODAIKNI WENDEL WENDEL WENDEL WENDEL WENDEL	14	0255	0309 D	0307	S07 W03	W03	6171	14	1	1	1.30	3.20		122	
	14	0459 E	0517 D		S07 W02	W02	6171	18 D	1						
	14	0520	0544 D	0530	S07 W01	W01	6171	24	1+	3		6.00			
	14	0554 E	0602 D		S09 E80	E80	6174	8 D	1+	3		3.00			
	14	0616	0637 D		S07 E01	E01	6171	21	1	3		4.00			
	14	0827	0902 D		S06 E00	E00	6171	35	1	3					
	15	0630 E	0639 D		S07 W14	W14	6171	9 D	1	3		2.20			
	15	0650 E	0705 D	0700	S06 W16	W16	6171	15 D	1	2		2.50			
	15	0700 E	0710 D	0700	S07 W16	W16	6171	10 D	1	3		2.40			
	15	1117	1134 D		S05 W18	W18	6171	17	1	3		2.20			
[ONDREJOV BUCHAREST CAPRI S ONDREJOV MCMATH SAC PEAK CAPRI S HUANCAYO SAC PEAK MCMATH CAPRI S HUANCAYO SAC PEAK MCMATH LOCARNO HUANCAYO LOCKHEED SAC PEAK	15	1118 E	1138 D	1439	S06 W19	W19	6171	20 D	2	3		18.00			
	15	1433	1929 D	1559	N11 E12	E12	6172	296	3	3	28.01	27.62		34	
	15	1529	1857 U	1508	N14 E14	E14	6172	263 U	3+	2					
	15	1434	1857 U	1556	N14 E14	E14	6172	175 D	3	3	16.00	17.60			
	15	1435	1730 D		N14 E15	E15	6172	22	1	2	1.40	1.50			
	15	1508	1530 D	1512	S07 W19	W19	6171	34	2	2	7.51	7.51			
	15	1508	1542 D	1512	S07 W21	W21	6171	41	2	3	1512	6.00			
	15	1508	1549 D	1512	S07 W22	W22	6171	26 D	2+	3	7.00	7.40			
	15	1510	1536 D		S05 W20	W20	6171	15 D	1+	2					
	15	1515 E	1530 D		S08 W20	W20	6171	15 D	1	2		25.00			
	15	1520	1707 D		N15 E17	E17	6172	107 D	3	2	7.80	8.10		30	
	15	1543 E	1802 D	1545	N11 E14	E14	6172	139 D	2	2	8.80	8.70		18	
[ZURICH BUCHAREST CAPRI S WENDEL LOCKHEED LOCKHEED LOCKHEED LOCKHEED MCMATH	15	1600 E	1915 D	1605 U	N14 E16	E16	6172	195 D	2	1	1.92	2.21			
	15	1613	1644 D	1621	S07 E55	E55	6174	31	1	2					
	16	0609 E	0614 D	0807	S05 W31	W31	6171	5 D	1	2	2.00	2.00			
	16	0730	0816 D		S07 W31	W31	6171	46	1	2	5.40	5.40			
	16	1254	1309 D		S03 W32	W32	6171	15	1	3	2.60	2.60			
	16	1507 E	1525 D		S09 W30	W30	6171	18 D	1	3	2.20	4.00			
	16	1909	1935 D	1922	S10 W36	W36	6171	26	1	1	1923	2.20		20	
	16	1938	2055 D	1943	S08 W38	W38	6171	77	1+	1	2005	4.50		30	
	16	1938	2055 D	2005	S08 W38	W38	6171								
	16	1938	2055 D	2040	S08 W38	W38	6171								
	16	1939	2005 D	1953	S08 W38	W38	6171	26 D	1+	2	3.50	3.50			

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OBSERVATORY	DATE JULY 1961	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — UT	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.	McMATH PLACE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH — Hc	
SAC PEAK	16	1950 E	2106	2040	S07 W39		6171	76 D	2		5.05	5.67		18	
CAPRI S	17	0720	0920	0736 D	S09 W42		6171	120	3	1	11.00	15.40			
BUCHARST	17	0721 E	0736		S07 W43		6171	15 D	2	1		7.20			
LOCARNO	17	0725 E	0840		S07 W45		6171	75 D	2	3					
ONDREJOV	17	0750 E	0808 D		S07 W44		6171	18 D	2	2	0754				
MCNATH	17	1300	1344	1313	S08 W44		6171	44	1	2	1313				
CAPRI S	17	1307	1345		S10 W40		6171	38	1	2	1324				
MCNATH	17	1345	1449		S08 W44		6171	64	1	1					
ZURICH	17	1610 E	1635 D		N05 E39		6175	25 D	1	2	1613				
MCNATH	17	1610 E	1804 D		N10 E40		6175	114 D	1	2	1707				
LOCKHEED	17	1645	1711	1657	S06 W49		6171	26	1	1	1657				
LOCKHEED	17	1907	1935	1916 U	S06 W50		6171	28	1	1	1916				
LOCKHEED	17	1914	1922	1916 U	S07 W52		6171	8	1	1					
SAC PEAK	17	1915	1935	2138	S08 W50		6171	20	1	1	1917				
HUANCAYO	17	2125	2255	2138	S08 W49		6171	90	1	2	2138				
LOCKHEED	17	2125	2255	2147	S08 W49		6171		1+	2					
SAC PEAK	17	2132	2234	2146 U	S10 W48		6171	62	1	1	3.47	4.37			
MCNATH	17	2153 E	2235 D		S08 W50		6171	42 D	2	1	2156				
LOCKHEED	17	2259	2345	2302	S07 W55		6171	46	1	1	2316				
LOCKHEED	17	2259	2345	2316	S07 W55		6171		1	1					
LOCKHEED	17	2345	0015	2347	S07 W55		6171	30	1	1	2347				
LOCKHEED	17	2345	0015	2351	S07 W55		6171		1	1					
SAC PEAK	17	2346 E	2350	2348	S09 W52		6171	4 D	1	1	1.88	2.45			
ONDREJOV	18	0754	0823 D		S08 W56		6171	29 D	2+	1	0811				
ARCTRI	18	0806	0826		S08 W62		6171	20	1	3					
KODAIKNL	18	0813 E	0831		S07 W55		6171	18 D	1+	1					
R O HERST	18	0813 E	0835 D	0815 U	S08 W59		6171	22 D	2	3	0815				
NEDERHORST	18	0814 E	0835 D		S08 W55		6171	21 D	2	2					
CAPRI S	18	0921	1155		S06 W59		6171	154	3+	3	1016				
STOCKHOLM	18	0945	1150		S07 W55		6171	125	3	1	1022				
LOCARNO	18	0945 E	1330	1030	S05 W60		6171	225 D	3	3	1030				
ONDREJOV	18	0946 E	1026 D	0959	S06 W58		6171	40 D	3	3	0959				
DUNSINK	18	0948 E	1218 D		S05 W56		6171	150 D	3+	3	1019				
R O HERST	18	0950 E	1052 D	1003	S06 W59		6171	62 D	3	3	1003				
ARCTRI	18	1020	1122		S08 W63		6171	62	3	3					
UCCLE	18	1030 E			S06 W59		6171	□	3	4	8.50	17.00			
KODAIKNL	18	1043 E	1053 D		S07 W55		6171	10 D	2	1	3.90	7.40			
NEDERHORST	18	1052 E	1116 D		S08 W55		6171	24 D	3+	2					
MCNATH	18	1107 E	1210		S07 W60		6171	63 D	3+	2	1107				
CAPRI S	18	1218 E	1225 D		S06 W57		6171	7 D	1	3	1220				
HUANCAYO	18	1617	1635	1619	S05 W63		6171	18	1	2	1619				
KODAIKNL	19	0210	0230	0225	S06 W70		6171	20	1	1	0222				
WENDEL	19	0736 E	0748 D		N07 E82		6178	12 D	1	1					
WENDEL	19	0740	0800 D		S02 W72		6171	20 D	1+						
WENDEL	19	0752 E	0818 D		N07 E82		6178	26 D	1						
CAPRI S	19	1443 E	1519	1454	S07 W70		6171	36 D	1	2	1455				
HUANCAYO	19	1446	1508		S11 W75		6171	22	1	2	1454				
CAPRI S	19	1501 E	1510 D		N06 E85		6178	9 D	1	2	1504				

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		START	END	APPROX. LAT.	MER. DIST.	MCMATH PLACE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hr	
[LOCKHEED]	19	1903	1945	S10	W75	6171	42	1	1	1912	1.00	2.30	20	
	19	2051	2120	S10	W75	6171	29	1	1	2102	1.50	3.40	30	
	19	2106 E	2122 D	S10	W80	6171	16 D	1	1	2110		2.50		
CAPRI S	20	0853 E	0912 D	S07	W90	6171	19 D	1	3	0855	1.00	3.00	34	
	20	1150	1211 D	S07	W10	6174	21 D	1						
SAC PEAK	20	1334	1354	S03	W90	6171	20	1	2		.58	2.89		
	20	1525 E	1726 D	S07	W90	6171	121 D	1	2					
LOCARNO	20	1553		S05	W90	6171	202 D	3	1					
	20	1840	1915 D	S05	W90	6171	3 D	2	1		1.73	8.66	26	
SAC PEAK	20	1600 E	1603 D	S05	W90	6171	10	1	2					
	20	1600	1610	S08	W90	6171	53 D	3+	2		6.64	33.21	35	S-SWF
ARCTRI	20	1633 E	1726	S06	W90	6171	45 D	2	2	1650	2.00	9.70	10	
	20	1650 E	1735	S05	W90	6171	42	3	2	1840	2.60	12.90	30	
SAC PEAK	20	1828	1910	S07	W90	6171	72	2	1	1848	1.00	5.00	40	
	20	1830	1942	S07	W90	6171	52 D	3+	2		6.64	33.21		
HAWAII	20	1832 E	1924 U	S09	W90	6171	29	2+	2	1850	4.90	6.70		
	20	1832 E	1924 U	S09	W90	6171	29	2+	2					
SAC PEAK	20	1838	1907	S06	W90	6171	41 D	1	1			4.00		
	20	1838	1907	S06	W90	6171	41 D	1	1			4.00		
WENDEL	21	0511	0552 D	N01	E28	6176	29	1	3		3.61		30	S-SWF
	21	0556	0625	S00	E26	6176	20	2						
SAC PEAK	21	1714	1734	S04	W90	6171	43	2	2	1736	3.00	14.90	20	
	21	1714	1734	S04	W90	6171	19 D	3	1		1.11	2.35	18	G-SWF
SAC PEAK	21	1717	1800	S04	W90	6171	30	1	3		2.00	2.50	30	
	21	1736 E	1755 U	S01	W90	6171	47	1	1	2348		29.00		
SAC PEAK	22	1440	1510	N14	W76	6172	100 D	3+						
	22	1440	1510	N14	W76	6172	15 D	2						
LOCKHEED	23	2343	0030	S06	W49	6174	63	1	3					
	23	2343	0030	S06	W49	6174	80 D	2+						
WENDEL	24	0500 E	0640 D	N15	E18	6178	10	1	3	0903	3.50	14.00	25	
	24	0550 E	0605 D	N11	E17	6178	32	1	3	0936	3.09	6.00		
ARCTRI	24	0900	1003	N10	E13	6178	149 D	1+	3		2.00	2.10	28	
	24	0900 E	1020 D	N08	E14	6178	28 D	1	3	1437	2.00	4.00	28	
ZURICH	24	0903	0913	N11	E10	6178	30 D	1	2		17.94	17.94		
	24	0903 E	1045 D	N09	E14	6178	181 D	2+	2	1815	4.30	14.00	30	S-SWF
CAPRI S	24	0936	1008	N09	E12	6178	65 D	2+	2	1827	6.40	6.30	30	
	24	0936	1008	N09	E12	6178	265 D	2	2	1820	8.20	8.40		
SAC PEAK	24	1410 U	1639 D	N01	W20	6176	55	1+	2	1801	2.00	2.00		
	24	1410 U	1639 D	N01	W20	6176	55	1+	2	1801	2.00	2.00		
WENDEL	24	1434 E	1512	N01	W18	6176	2	1	3	0801	3.50	7.70		
	24	1435 E	1503 D	N03	W17	6176	9	1+	3					
CAPRI S	24	1636 E	1706 D	N01	W19	6176	2	1	3					
	24	1636 E	1706 D	N01	W19	6176	2	1	3					
WENDEL	24	1722	2214 D	N07	E10	6178	181 D	2+	2	1815	4.30	14.00	30	
	24	1732	2033 D	N08	E07	6178	182 D	1+	2	1820	6.40	6.30		
SAC PEAK	24	1735 E	1840 D	N07	E10	6178	265 D	2	2	1827	6.40	6.30		
	24	1746 E	2048	N07	E09	6178	55	1+	2	1801	2.00	2.00		
WENDEL	24	1755 E	2220	N09	E07	6178	2	1	3	0801	3.50	7.70		
	24	1757	1852	N08	E11	6178	2	1	3					
HAWAII	25	0801	0803	N06	W01	6178	2	1	3					
	25	1102	1111	N00	E68	6181	9	1+	3					

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OBSERVATORY	DATE JUL Y 1961	OBSERVED UNIVERSAL TIME		LOCATION		DIRA- TION MINUTES	IM- POR- TANCE	OBS. COND.	TIME UT	MEASUREMENTS			PROVISIONAL LONGSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. MER. DIST.					MAX. PHASE	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
ONDREJOV	25	1357 E	1403	N07 W06	6178	6 D	1	3	1358			2.10	
AROSA	25	1442	1449	N07 W04	6178	7	1						
[SAC PEAK	25	1849	1855	N08 W10	6178	45	1	3	0633	3.03	3.03		22
[SAC PEAK	25	1849	1934	N08 W10	6178								
[SAC PEAK	25	1849	1934	N08 W10	6178								
[SAC PEAK	25	2242 E	2316	N08 W12	6178	34 D	1	3		4.04	4.04		22
[AROSA	27	0627	0648	N06 W27	6178	21	1						
[WENDEL	27	0628 E	0709 D	N07 W26	6178	41 D	1+			7.00	7.00		
[BUCHAREST	27	0632 E	0651	N08 W27	6178	19 D	1			3.30	3.30		
[ZURICH	27	0633 E	0645	N06 W27	6178	12 D	1	3	0633	4.00	4.00		
[LOCARNO	27	0740 E	0825	N10 W84	6175	45 D	1+	2					
[ARCETRI	27	0943	0954	N08 W82	6175	11	1+	3					
[WENDEL	27	1151 E	1220 D	N10 W85	6175	29 D	1+	1	1938	0.80	5.00		10
[LOCKHEED	27	1932	2040	N09 W88	6175	68	1				2.40		
[LOCKHEED	27	1932	2040	N09 W88	6175								
[LOCKHEED	27	1932	2040	N09 W88	6175								
[SAC PEAK	27	2308	2324	N12 E80	6184	16	1	2	2358	0.93	2.35		18
[LOCKHEED	27	2350	0030 D	N10 W90	6175	40 D	1	1		0.70	3.50		10
[SAC PEAK	28	1512	1938 U	N08 W44	6178	266 U	3	1		12.42	14.50		24
[LOCKHEED	28	1643	1845	N09 W45	6178	122	1	1	1715	3.50	4.10		10
[HAWAII	28	1754 E	1930	S27 W33	□	96 D	1+	2	1800	4.10	4.80		
[LOCKHEED	29	1635	1715	N07 W58	6178	40	1	1	1648	2.00	2.90		20
[SAC PEAK	29	1646 E	1649 D	N05 W61	6178	3 D	2	1		7.80	11.69		20
[LOCKHEED	29	1952	2020 U	N08 W61	6178	28 U	1	1	1958	2.10	3.10		20
[LOCKHEED	29	2327	2355	N12 W65	6178	28	1	1	2333	1.50	2.40		20
[AROSA	30	1625 E	1635 D	N09 W71	6178	10 D	1						
[SAC PEAK	30	1626	1639 D	N07 W71	6178	13 D	1	1		1.59	3.09		16
[WENDEL	31	0709 E	0730 D	N10 W81	6178	21 D	1				3.00		
[WENDEL	31	0740	0815	N24 W21	6180	35	1				3.00		
[WENDEL	31	1219	1235	N23 W24	6180	16	1				3.00		

COMMERCE - STANDARDS - BOULDER

E = LESS THAN
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□ = NOT REPORTED

ONDREJOV: MCMATH - HULBERT
AROSA: MOSCOW - GAISH
[SAC PEAK]: ROYAL GREENWICH OBSERVATORY,
[]: HERSTMONCEUX
[]: SAC PEAK
[]: SACRAMENTO PEAK
[]: SCHAUTINSLAND
[]: WENDELSTEIN

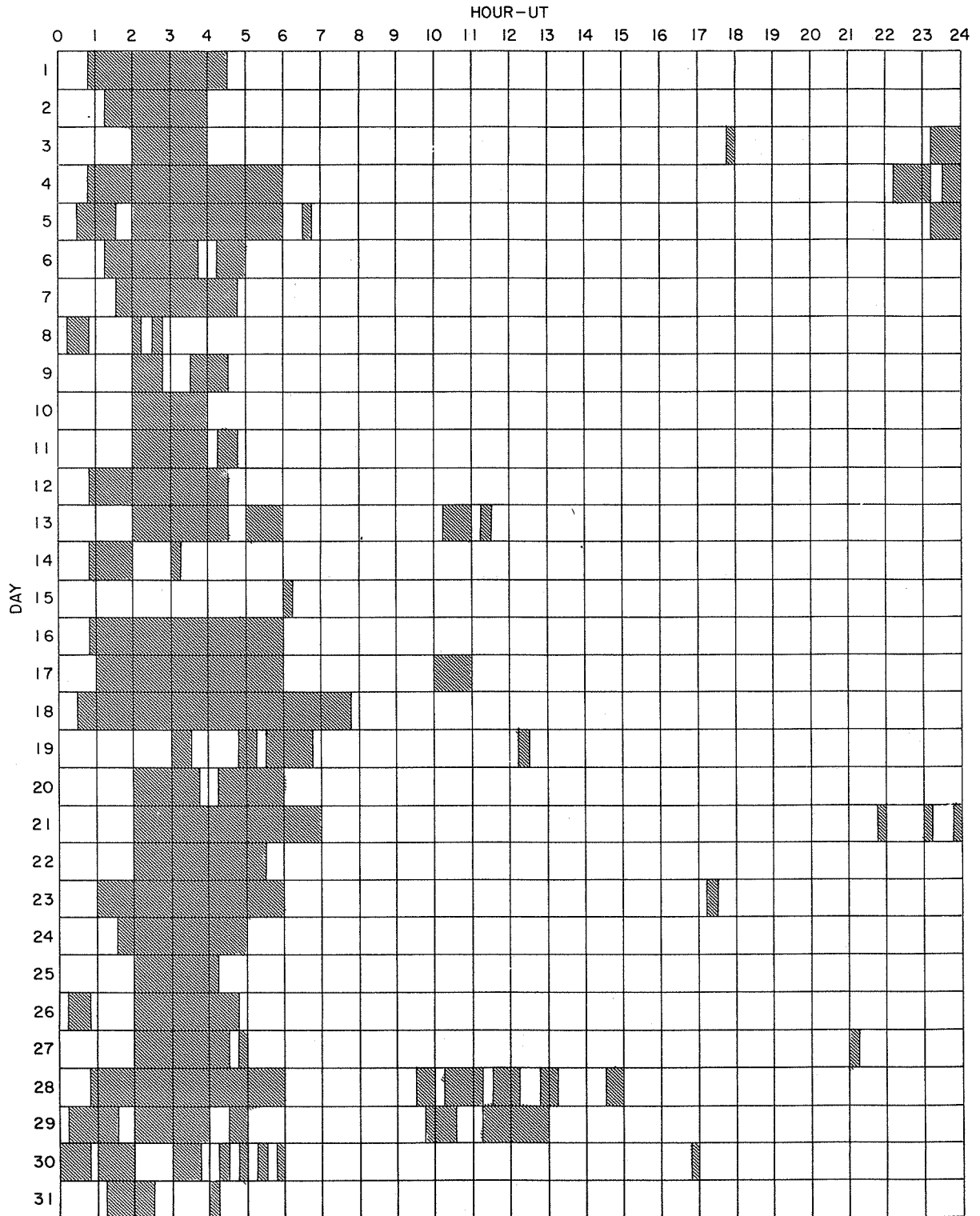
[AROSA]: ANACAPRI - GERMAN
[]: ANACAPRI - SWEDISH
[]: ROYAL OBSERVATORY, CAPE OF GOOD HOPE
[]: KIEV UNIVERSITY
[]: KODAIKANAL
[]: KRASNAYA PAKHRA
[]: LOCKHEED LOS ANGELES

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.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

JULY 1961



COMMERCE - STANDARDS - BOULDER

Stations Include:

Anacapri (Swedish)
Arcetri
Bucharest

Hawaii
Huancayo
Lockbeed

McMath-Hulbert
Ondrejov
Royal Greenwich Observatory
Herstmonceux

Sacramento Peak
Tashkent
Wendelstein

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

JUNE 1961

WENDEL	02 0601 E	S07 E67	LOCKHEED	15 1733	N12 W74	LOCKHEED	22 1859	N12 W42
* ARCTRI	02 0840 E	S06 E58	MCNATH	15 1737	N12 W78	LOCKHEED	22 2004	N12 W43
MCNATH	02 1313 E	N11 W89	* WENDEL	15 1741 E	N03 W06	SAC PEAK	22 2006	N14 W43
KODAIKNL	03 0245 E	N07 W48	* LOCKHEED	15 1752	N02 W18	LOCKHEED	22 2245	N10 W47
LOCKHEED	03 1731	N17 W46	LOCKHEED	15 1833	N02 E78	LOCKHEED	22 2250	N11 W46
LOCKHEED	03 1741	N09 W56	LOCKHEED	15 1840	N12 W74	LOCKHEED	22 2328	N11 W50
LOCKHEED	03 1848	N00 E59	LOCKHEED	15 1861	N06 E28	WENDEL	23 0739 E	N11 W47
LOCKHEED	03 2030	N00 E59	MCNATH	15 1923	N01 W07	WENDEL	23 0752 E	N13 W50
LOCKHEED	03 2138	N17 W47	LOCKHEED	15 1923	N02 W08	* WENDEL	23 0754 E	N12 W48
LOCKHEED	03 2245	N02 E55	LOCKHEED	15 1955	N00 W05	* ARCTRI	23 1045 E	N11 W54
LOCKHEED	03 2340	N02 E55	LOCKHEED	15 2012	S06 E28	* WENDEL	23 1045 E	N11 W54
LOCKHEED	04 0031	S07 E34	LOCKHEED	15 2044	N01 E00	* CAPRI S	23 1402 E	N12 W54
KODAIKNL	04 0225 E	S07 E35	SAC PEAK	15 2054	S14 E38	ONDRJJOV	23 1537	N14 W55
MEUDON	04 1012	N02 E48	LOCKHEED	15 2110	N13 W77	LOCKHEED	23 1652	N12 W55
LOCKHEED	04 2144	S07 E23	LOCKHEED	15 2117	S22 E90	LOCKHEED	23 1752	N11 W49
LOCKHEED	04 2145	N00 E42	LOCKHEED	15 2200	N13 W77	LOCKHEED	23 1823	N13 W45
LOCKHEED	04 2205	N02 E44	HAWAII	15 2202	N02 W09	HAWAII	23 1824	N13 W47
LOCKHEED	04 2242	N00 E24	LOCKHEED	15 2202	N02 W09	LOCKHEED	23 1836	N11 W47
LOCKHEED	04 2247	S07 E25	MCNATH	15 2203	N02 W09	LOCKHEED	23 1850	N13 W58
HAWAII	04 2250 E	S06 E24	LOCKHEED	15 2210	N22 E90	LOCKHEED	23 1930	N12 W55
LOCKHEED	04 2314	N00 E42	LOCKHEED	15 2315	N13 W77	HAWAII	23 1934	N23 W56
LOCKHEED	05 0033	N00 E42	LOCKHEED	15 2352	S13 W77	LOCKHEED	23 1942	N12 W50
* STOCKHOLM	05 1010	N08 E02	* HAWAII	15 2358 E	N21 E90	LOCKHEED	23 2236	N14 W65
* MCNATH	05 1522	N02 E33	LOCKHEED	16 0040	N22 E90	HAWAII	23 2238	N16 W66
* R O HERST	05 1532 E	N01 E34	LOCKHEED	16 0111	S00 W11	LOCKHEED	23 2245	N12 W55
SAC PEAK	05 1546	N11 E05	WENDEL	16 0538 E	N02 W13	LOCKHEED	23 2255	N14 W61
SAC PEAK	05 1560	S05 E13	MEUDON	16 0717	N02 W14	HAWAII	23 2318	N16 E01
SAC PEAK	05 1652	E14	* MEUDON	16 0801	S07 E22	LOCKHEED	23 2319	N16 E02
MCNATH	05 1655	S04 E14	* ONDRJJOV	16 0832	S07 E22	LOCKHEED	23 2323	N13 W65
MCNATH	05 1948	N01 E30	ARCTRI	16 0833 E	S06 E94	LOCKHEED	23 2346	N12 W55
* HAWAII	05 2141 E	N13 W73	* CAPRI S	16 0846 E	S04 E22	LOCKHEED	24 0025	N13 W61
SAC PEAK	05 2302	N12 E00	* ONDRJJOV	16 1000 E	S10 W10	WENDEL	24 0050	N13 W61
* CAPRI S	06 1235 E	S01 E25	* ARCTRI	16 1000 E	S10 W10	WENDEL	24 0517 E	N16 W06
MCNATH	06 1235	N04 E21	* CAPRI S	16 1037 E	S12 W09	* WENDEL	24 0812 E	N10 W64
HAWAII	06 2008	N03 E15	* MCNATH	16 1334	S10 E22	MEUDON	24 1036	N23 W17
LOCKHEED	06 2124	N00 E16	MCNATH	16 1454	S12 W13	WENDEL	24 1030 E	S08 W47
HAWAII	06 2224	N01 E15	LOCKHEED	16 1633	N14 W90	* MEUDON	24 1030	N12 W60
LOCKHEED	06 2236	N01 E15	LOCKHEED	16 1755	N03 W23	WENDEL	24 1113 E	N12 W62
LOCKHEED	06 2309	N01 E17	LOCKHEED	16 1845	S07 E16	MCNATH	24 1113 E	N10 W10
LOCKHEED	06 2328	S04 W08	LOCKHEED	16 1935	S14 W13	LOCKHEED	24 1633	N13 W70
MEUDON	07 0621	N02 E07	LOCKHEED	16 2009	S14 W14	SAC PEAK	24 1848	N13 W61
LOCKHEED	07 1928	S04 W18	LOCKHEED	16 2042	S13 W18	HAWAII	24 1850 E	N07 W58
HUANCAYO	08 2143	N05 W90	LOCKHEED	16 2106	N06 W18	MCNATH	24 1854 E	N13 W60
* CAPRI S	09 1252	N02 W18	LOCKHEED	17 0017	S10 E10	LOCKHEED	24 2228	N15 W16
WENDEL	09 1542 E	N02 E77	LOCKHEED	17 0025	S11 E17	ONDRJJOV	25 0535	N14 W65
WENDEL	09 1707 E	N02 E77	LOCKHEED	17 0102	S11 E17	ONDRJJOV	25 1106	N14 W80
HAWAII	09 1838	N01 E85	LOCKHEED	17 0104	N03 W24	* SAC PEAK	25 1306 E	N22 W36
* LOCKHEED	09 1939	N01 E76	HAWAII	17 0108	S09 W23	SAC PEAK	25 1440	S07 W48
* HAWAII	09 1940	N01 E85	KODAIKNL	17 0200 E	N03 W23	ONDRJJOV	25 1455 E	N13 W85
* LOCKHEED	09 2103	N01 E76	ONDRJJOV	17 1217	S09 W62	MCNATH	25 1600 E	N16 W25
* MCNATH	09 2108 E	N02 E77	MEUDON	17 1333	N06 W25	LOCKHEED	25 1651	N15 W23
LOCKHEED	09 2129	S03 W51	MCNATH	17 1336	N06 W25	LOCKHEED	25 1703	N15 W85
LOCKHEED	09 2141	N01 W71	WENDEL	17 1457 E	S11 E07	LOCKHEED	25 1719	N15 W85
LOCKHEED	09 2205	S02 W52	LOCKHEED	17 1634	N03 W31	SAC PEAK	25 1720	N16 W81
LOCKHEED	09 2212	N16 W66	LOCKHEED	17 1724	S12 E07	LOCKHEED	25 1741	N15 W85
* LOCKHEED	09 2246	N02 E68	LOCKHEED	17 2041	S09 E04	SAC PEAK	25 1828	N12 W89
* HAWAII	09 2250 E	N01 E85	LOCKHEED	17 2116	N00 W34	LOCKHEED	25 1830	N15 W85
LOCKHEED	09 2252 E	S13 W72	LOCKHEED	17 2202	S01 W33	HAWAII	25 1850	N14 W90
LOCKHEED	10 0038	N02 E78	MCNATH	17 2207	S01 W33	MCNATH	25 1940	N15 W87
MEUDON	10 1021	N02 W31	LOCKHEED	17 2207	N11 E75	MCNATH	25 2110	N14 W87
SAC PEAK	10 1318	S14 W88	LOCKHEED	17 2246	S01 W35	HAWAII	25 2114	N15 W90
* SAC PEAK	10 1506	N00 W77	LOCKHEED	18 0025	N24 E63	LOCKHEED	25 2134	N10 W80
SAC PEAK	10 1834	N02 E67	WENDEL	18 0656 E	S08 E00	MCNATH	25 2327	S16 E90
LOCKHEED	10 1856 U	S12 W90	WENDEL	18 0657 E	S11 W35	* STOCKHOLM	26 0952	N16 W31
LOCKHEED	10 1858	N00 W39	WENDEL	18 0703 E	S06 W80	LOCKHEED	26 1600	S07 W67
LOCKHEED	10 1944	N02 W48	WENDEL	18 0727 E	S06 W80	LOCKHEED	26 1633	S07 W65
LOCKHEED	10 2019	S01 W65	WENDEL	18 0738 E	S11 W35	LOCKHEED	26 1739	N15 W39
LOCKHEED	10 2153	S01 W65	* WENDEL	18 1108 E	S12 W36	MCNATH	26 1743	N15 W40
LOCKHEED	10 2252	N03 W42	* MCNATH	18 1102	S11 E40	LOCKHEED	26 1843	S08 W78
MEUDON	11 0821	N02 W50	ONDRJJOV	18 1348	S11 W37	LOCKHEED	26 2001	N14 W41
* MEUDON	11 0930	N02 W52	ONDRJJOV	18 1515 E	N03 W43	HAWAII	26 2004	N18 W40
* MEUDON	11 0955	N02 E55	LOCKHEED	18 1728	S12 W39	MCNATH	26 2004	N05 W41
* R O HERST	11 1002 E	N02 W47	LOCKHEED	18 1751	S07 W90	LOCKHEED	26 2047	S10 W39
CAPRI S	11 1453	S14 E63	LOCKHEED	18 1851	S05 W45	LOCKHEED	26 2300	S06 W70
LOCKHEED	11 1825	S04 W71	LOCKHEED	18 1920	N12 E65	SAC PEAK	26 2300	N15 W43
LOCKHEED	11 1844	N02 E53	LOCKHEED	18 1941	N12 E65	MCNATH	26 2301	N12 W42
MCNATH	11 1908	N02 E54	HAWAII	18 2354	N08 E37	LOCKHEED	26 2301	N16 W43
LOCKHEED	11 2315	N02 W52	ONDRJJOV	19 0620 E	S11 W13	HAWAII	26 2302 E	N16 W43
LOCKHEED	11 2323	N02 E50	WENDEL	19 0623 E	S12 W09	MCNATH	27 1633 E	N15 W52
LOCKHEED	12 0111	N04 W58	WENDEL	19 0626 E	S08 W15	LOCKHEED	27 1635 E	N14 W52
HAWAII	12 0112	N03 W53	WENDEL	19 0806 E	S12 W50	SAC PEAK	27 1716	N14 W54
* MEUDON	12 1055	N04 E50	WENDEL	19 0895 E	N01 W55	MCNATH	27 1719 E	N15 W52
WENDEL	12 1135 E	N04 E45	WENDEL	19 0923 E	N03 W43	LOCKHEED	27 1722 E	N14 W52
ONDRJJOV	12 1141 E	N03 E44	WENDEL	19 1059 E	N10 W43	LOCKHEED	27 1806 U	S07 W80
* MCNATH	12 1146 E	N02 W60	WENDEL	19 1057 E	N10 W46	LOCKHEED	27 2009	N05 E10
MCNATH	12 1147	N26 E20	WENDEL	19 1103 E	S08 W23	LOCKHEED	27 2021	N13 W54
SAC PEAK	12 1308	S13 E80	WENDEL	19 1137 E	S06 W36	LOCKHEED	27 2220	N05 E09
MCNATH	12 1308	S13 E80	WENDEL	19 1219 E	S12 W50	LOCKHEED	27 2303	S08 W85
SAC PEAK	12 1504 U	N03 E38	WENDEL	19 1251 E	S12 W51	MCNATH	28 1149	N05 W01
SAC PEAK	12 1628	N03 E41	MCNATH	19 1424	S12 W21	ONDRJJOV	28 1243	N11 W63
SAC PEAK	12 1724	N03 E40	LOCKHEED	19 1605 E	S12 W52	MCNATH	28 1430	N12 E90
LOCKHEED	12 1833	N02 E33	LOCKHEED	19 1615	S07 W23	SAC PEAK	28 1432	N12 E90
LOCKHEED	12 1809	N02 E33	LOCKHEED	19 1616	S11 E54	MCNATH	28 1523	N12 E90
LOCKHEED	12 1934	N02 E33	SAC PEAK	19 1652	N14 E55	SAC PEAK	28 1524	N12 E90
LOCKHEED	12 2050	N04 E32	LOCKHEED	19 2044	S13 W55	SAC PEAK	28 1608	N12 W64
MCNATH	12 2053	N03 E31	LOCKHEED	19 2117	N12 E01	LOCKHEED	28 1617 E	N13 W90
LOCKHEED	12 2059	N05 E40	LOCKHEED	19 2141	S09 W27	LOCKHEED	28 1818	N06 W04
MEUDON	13 0636	N02 E23	* LOCKHEED	20 0053	N13 W03	LOCKHEED	28 1944	N11 W65
MEUDON	13 0732	N02 E25	MEUDON	20 0721	N12 E56	LOCKHEED	28 2030	N04 W06
SAC PEAK	13 1404	N02 E21	ARCTRI	20 0927 E	N12 W07	HAWAII	28 2034	N06 W05
SAC PEAK	13 1425	S02 E26	WENDEL	20 1254 E	S11 E37	LOCKHEED	28 2051	N12 W66
LOCKHEED	13 1911	N03 E25	SAC PEAK	20 1552	S12 W36	HUANCAYO	28 2051	N12 W60
LOCKHEED	13 2020	S10 E59	LOCKHEED	20 1729	S07 W15	HAWAII	28 2052	N14 W65
LOCKHEED	13 2035	N02 E19	LOCKHEED	20 1750 E	N03 W76	LOCKHEED	29 0040	N04 W04
LOCKHEED	13 2109	N03 E18	LOCKHEED	20 1915	S09 W15	MEUDON	29 0750	N08 W12
LOCKHEED	13 2123	N03 E24	LOCKHEED	20 2210	N11 E37	* MEUDON	29 1310	N13 W70
LOCKHEED	13 2126	N03 E19	LOCKHEED	20 2357	N08 E34	* MCNATH	29 1317	N14 W77
LOCKHEED	13 2236	S01 E21	ONDRJJOV	21 0457 E	N12 W20	* ONDRJJOV	29 1330 E	N15 W75
LOCKHEED	13 2321	N05 E16	ONDRJJOV	21 0561	N12 W20	LOCKHEED	29 1750	N05 W20
WENDEL	14 1407 E	S10 E30	MCNATH	21 1154	N10 E27	MCNATH	29 1820	N13 W74
* MEUDON	14 1605	N03 E10	SAC PEAK	21 1318	N14 W24	LOCKHEED	29 1845	N05 W20
LOCKHEED	14 1814	S08 E48	SAC PEAK	21 1348	N12 E29	MCNATH	29 1901	N08 W20
LOCKHEED	14 1935	S09 E48	MCNATH	21 1350	N12 E27	LOCKHEED	29 1917	N12 W78
LOCKHEED	14 2013	S07 E45	MCNATH	21 1546	N10 E25	LOCKHEED	29 1922	N13 E84
LOCKHEED	14 2044	N01 E04	SAC PEAK	21 1722 E	N10 E27	SAC PEAK	29 1945 U	N08 W21
MCNATH	14 2047	N02 E04	MCNATH	21 2007 E	N14 E24	LOCKHEED	29 2057	N05 W20
LOCKHEED	14 2122	S09 W48	LOCKHEED	21 2100 E	N14 E24	* CAPRI S	30 0618	N07 W24
LOCKHEED	14 2210	S09 E48	SAC PEAK	21 2107 E	N14 E24	WENDEL	30 0730 E	N08 W26
LOCKHEED	14 2230	N01 E04	LOCKHEED	21 2119	N14 W28	* ONDRJJOV	30 0743	N07 W28
LOCKHEED	14 2300	S09 E48	LOCKHEED	21 2131	N12 W24	ARCTRI	30 0826 E	N08 W27
LOCKHEED	14 2332	N01 E04	LOCKHEED	21 2136	N08 E21	WENDEL	30 0829 E	N07 W27
LOCKHEED	14 2334	S07 E43	SAC PEAK	21 2136	N09 E23	LOCKHEED	30 0913 E	N07 W27
LOCKHEED	14 2357	N00 E04	LOCKHEED	21 2238	E22	WENDEL	30 1052 E	N07 W28
WENDEL	15 0941 E	S03 W37	LOCKHEED	21 2257	N11 W26	ARCTRI	30 1114 E	N06 W29
WENDEL	15 0625 E	S07 W68	LOCKHEED	21 2305	N14 W30	WENDEL	30 1117 E	N08 W28
MEUDON	15 0930	S07 E37	LOCKHEED	21 23				

SOLAR FLARES

APRIL 1961

OBSERVATORY	DATE APR 1961	OBSERVED TIME		MAX. PHASE	LOCATION		IN- COR- RECTION	DURA- TION - MINUTES	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MER. DIST.				MEAS. AREA Sq. Deg.	CORR. AREA SR. Deg.	MAX. WIDTH In	MAX. INT. %	
GOOD HOPE BUCHAREST KIEV GOOD HOPE	01	0643 E	0655 D	0900	S09 W60	6067	1	12 D	2	0643	0.80	2.10		88
	01	0852 E	0910 D		S19 E07	6071	1	18 D	1	1126	1.75			
	01	1126 U	1140 D	1323	S12 W12	6069	1+	14 U	1	1323	1.30			
	01	1318 U	1334 D		N08 W74	6065	1	16	1					
{ PIRCULI BUCHAREST	03	0738 E	0755 D	0744	S14 W37	6069	1	17	3	0744	3.10	3.98		61
	03	0740 E	0820 D	0743	S13 W37	6069	1	40 D	2			2.80		
{ BUCHAREST SINEIZ PIRCULI	05	0828 E	0857 D	0837	N13 E12	6077	1	29 D	1	0840	1.34	2.90		100
	05	0829 E	0857 D	0840	N14 E13	6077	1	28 D	1	0842	1.55	1.73		58
	05	0832 E	0900 D	0842 U	N14 E13	6077	1	28 D	3					
KIEV	06	1126 E			N13 W06	6077	2	□	1	1126	4.64			88
PIRCULI KIEV	07	0934 E	0956 D	0946 U	N15 W17	6077	1	22 D	2	0946	2.09	2.39		55
	07	1055 E	1140 D	1055	N13 W16	6077	1	45 D	1	1056	3.61			110
KIEV	08	1036 U	1120 D	1036	N14 W29	6077	1	44 U	1	1036	1.03	24.70	2.00	84
NIZAMIAH	13	0556 E	0620 D		N26 W90	6077	1	24 D	3	0556	0.61			
MITAKA ABASTUMANI	16	0356 E	0400 D	0604	N03 E16	6087	1	4 D	1	0356	1.89	2.00	2.12	93
	16	0600 U	0626 D		N15 E05	6086	1	26 D	3					59
PIRCULI	18	0732 E	0818 D	0802	N15 W22	6086	1	46 D	3	0802	2.28	2.64	2.00	50
	20	0245 E	0253 D	0248	N15 W48	6086	1	8	2	0248	1.81	2.92	1.60	50
{ NIZAMIAH PIRCULI	20	0744 E	0841 D	0806 U	S12 E22	6091	1	57 D	3	0806	1.64	1.80		50
	20	0744 E	0841 D	0806 U	S14 E28	6091	1	57 D	3	0806	3.47	4.02		50
PIRCULI PIRCULI	26	0751 U	0816 D	0807	S13 E61	6098	1	25	1	0807	1.45	2.99		55
	26	0910 U	0950 D	0925	S12 E62	6098	1	40	1	0925	1.64	3.51		51
GOOD HOPE	26	1040 U	1116 D	1048	S13 E59	6098	1	36	1	1048	1.50	3.00		
NIZAMIAH NIZAMIAH	27	0650 U	0659 D	0654	S09 E48	6098	1	9	2	0654	1.81	2.71	1.50	
	27	0711 U	0720 D	0714	S09 E48	6098	1	9	2	0714	1.81	2.71	1.60	
OTTAWA	27	1220 U	1244 D	1225	S10 E41	6098	1	24	1		0.70	0.77	2.62	120
{ MITAKA TASHKENT	28	0219 U	0233 D	0223	S07 E31	6098	1	14	1	0221	3.22	3.90	1.30	135
	28	0224 E	0238 D	0226	S06 E34	6098	1	14 D	3	0226	1.09	1.30		
{ BUCHAREST SINEIZ	29	0750 U	0802 D	0753	S10 W68	6091	1	12 D	2	0755	0.90	3.90		71
	29	0755 U	0805 D	0755	S10 W72	6091	1	10 D	1					
KHARKOV	30	1038 E	1106 D		S12 E06	6098	1	28 D	2	1040	2.29	2.30	1.60	

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the April 1961 flares published in CRPL-F 201 Part B, May 1961.

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

MCMATH - G
 R O HERST
 SCHAUTS
 WENDEL
 MCMATH - HULBERT
 MOSCOW - GAISH
 ROYAL GREENWICH OBSERVATORY,
 HERSTMONCEUX
 SAC PEAK
 SCHAUTS
 WENDEL

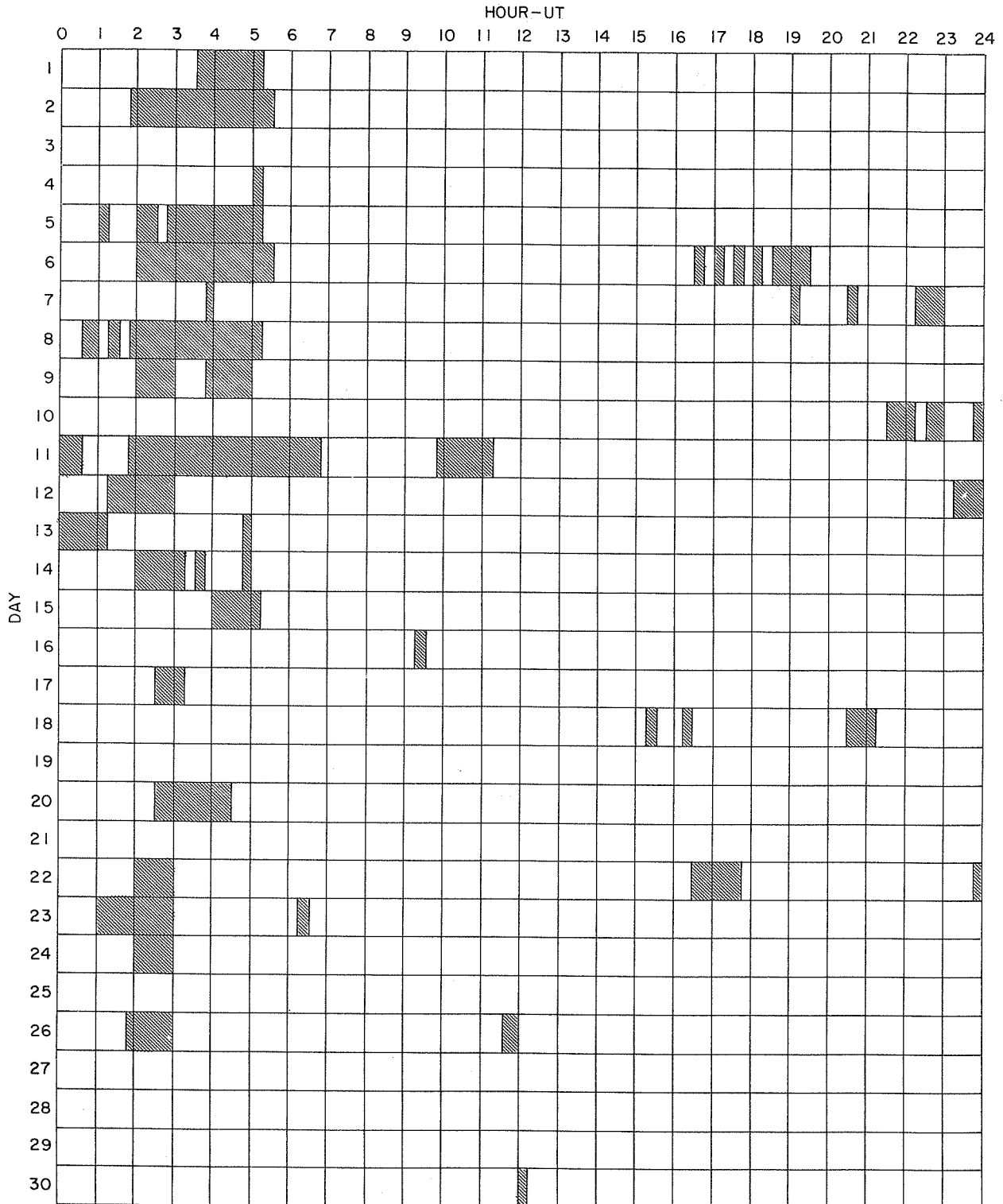
ALL VALUES IN THE MAXIMUM INTENSITY COLUMN FOR SAC PEAK ARE ARBITRARY UNITS (0-40) AND FOR LOCKHEED ARE ARBITRARY UNITS (10-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

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

INTERVALS OF NO FLARE PATROL OBSERVATIONS

APRIL 1961

IIIj



COMMERCE - STANDARDS - BOULDER

Stations Include:

- | | | | | |
|------------|----------|----------------|-----------------------------|-------------|
| Abastumani | Hawaii | McMath-Hulbert | Pirculi | Tashkent |
| Alma Ata | Huancayo | Meudon | Royal Greenwich Observatory | Uccle |
| Arcetri | Kyoto | Mitaka | Herstmonceux | Voroshilov |
| Bucharest | Kharkov | Moscow - Gaish | Sacramento Peak | Wendelstein |
| Good Hope | Kiev GAO | Ondrejov | Schauinsland | |
| Climax | Lockheed | Ottawa | Simeiz | |

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

JUNE 1961

JUNE 1961	UNIVERSAL TIME			SWF TYPE	IMPORTANCE				WIDE SPREAD INDEX	STATIONS	KNOWN FLARE	
	START	END	MAX		IMP	ABS	SCNA	SEA				SFA
03	1700		1840					X		1	BO	
03	1700	1915	1850					X				
05	1235	1238							1	4	BO MC	
05	1525	1600		S 1+						5	MC AN BE BO FM HU PR	1520
*05	1525	1610	1535					X		1	BO	
05	1548	1550							1	4	BO MC	
05	2142	2156							1	1	HA	2140E
*05	2151	2237	2159		17	1				1	HA	
05	2154	2256	2204				1			1	HA	
05	2301	2314							1	1	HA	
07	0832	0905		S 2						3	PU JU	0830E
08	1505	1630	1510					X		1	BO	
08	1917	1919							1-	1	HA	
08	2055	2125U	2110					X		1	BO	
08	2125	2210	2130					X		1	BO	
*09	1257	1320		S 1						5	PR MC PU	1254E
09	1438	1452		S 1						5	MC BE PR PU	1436
09	2138	2143	2142						2	5	BO HA MC	
11	1458	1610	1510					X		1	BO	1502
11	1503	1600		S 2+						5	FM BE BO HU MC NE PR	
11	1505	1511							2+	4	BO MC	
11	1505	1520	1513		22	1+				4	BO MC	
11	1505	1600	1519				1+			5	DU A1 MC NE A5	
11	1515	1519						X	2	4	BO MC	
11	2055	2130	2100							1	BO	
12	1814	1815							1	4	BO MC	
13	1631	1633							1+	1	MC	
13	2035	2037							1+	5	MC HA	
13	2142	2144							1-	5	MC HA	
14	0934	0954		S 1						3	JU NE	0924
14	0935	1019	0938				2			3	DU NE	
14	1625	1650		SL 1+						5	PR BE HU MC	1610
14	2046	2048							1+	5	MC HA	
14	2332	2336							2	1	HA	
14	2358	0001							1+	1	HA	2354
15	1454	1457							1+	4	BO MC	
15	1600		1650					X		1	BO	1622
15	1600	2000	1730									
15	1635	1638							1+	4	BO MC	
15	1638	1643							2	4	BO MC	
15	1640	1705	1650		20	1				4	BO MC	
15	1640	1710	1655				1			5	BO A1 A3 A6 MC PA	
15	1640	1715		S 1+						5	MC BE BO DA FM HU PR	
15	1644	1653							1+	4	BO MC	
15	1700	1710	1707						2+	4	BO MC	1710
15	1717	1722							2	5	BO HA MC	
15	1720	1735		S 1-						5	MC BO FM PR	
15	1739	1741							1	4	BO MC	
15	1820	2055							1	4	BO MC	
15	2103	2110	2107						2	4	BO MC (Series of bursts)	
15	2203	2206							2	5	BO HA MC	
15	2339	2341							1-	1	HA	
15	2346	2349							1+	1	HA	
16	0034	0037							1	1	HA	
16	0043	0045							1	1	HA	
16	1604	1940	1650					X		1	BO	
17	0108	0111							1+	1	HA	
17	0200	0202							1	1	HA	
17	1811	1812							1-	4	BO MC	
18	0618	0658	0626				2			1	A11	
18	1709	1711							1	4	BO MC	
18	1725	1726							1-	4	BO MC	
18	1746	1747							1-	4	BO MC	
19	1307	1311	1310						1	1	MC	
19	1437	1441							1	4	BO MC	
19	1913	1915							1	4	BO MC	
19	2035	2036							1-	4	BO MC	
19	2147	2150							1	5	BO HA MC	
22	1320	1935							1-	4	BO MC (Minor noise storm)	
23	1403	1435		S 1						5	MC BO FM PR PU	1402
23	1403	1540	1411				1			5	DU A3 NE PA A5	
23	1600	1650	1620					X		1	BO	1635
23	2019	2022							1-	4	BO MC	
25	0545	0625U	0600				1			4	A11 TA	
25	1700	2010	1815					X		1	BO	
25	2009	2010							1-	4	BO MC	
*29	1317	1322	1320						2	4	BO MC	1315
29	1915	1917							1	4	BO MC	
29	1921	1923							1	4	BO MC	
29	1955	2030							1+	4	BO MC	
29	2050	2150	2110		25	1+		1+		1	BO MC (Series of burats)	
29	2050	2200	2117				1+			1	BO	
29	2100	2150	2108					X		5	BO A1 A3 MC	
29	2102	2125		SL 1-						1	BO	
29	2102	2125								5	MC AD BE	

COMMERCE - STANDARDS - BOLDER

Notes

1. The times of observation of the events are those of the first station listed in the "STATIONS" column.
2. Under SWF type: S = S-SWF; SL = Slow S-SWF.
3. Column headed "ABS" is the percent absorption of the SCNA.
4. Column headed "BUR" is for solar noise bursts at 18 Mc.
5. Column headed "SFA" is sudden phase anomalies as observed at Boulder, Colorado on GBR-England except that on July 29 event is as observed on NBA-Panama Canal Zone.
6. DA = Darmstadt, G.F.R.; JU = Juhlesruh, G.D.R.; TA = Tasmania.
7. Asterisk * indicates Sudden Enhancement of Signal from 18 kc (NBA Panama Canal Zone) observed by A5.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

IVa

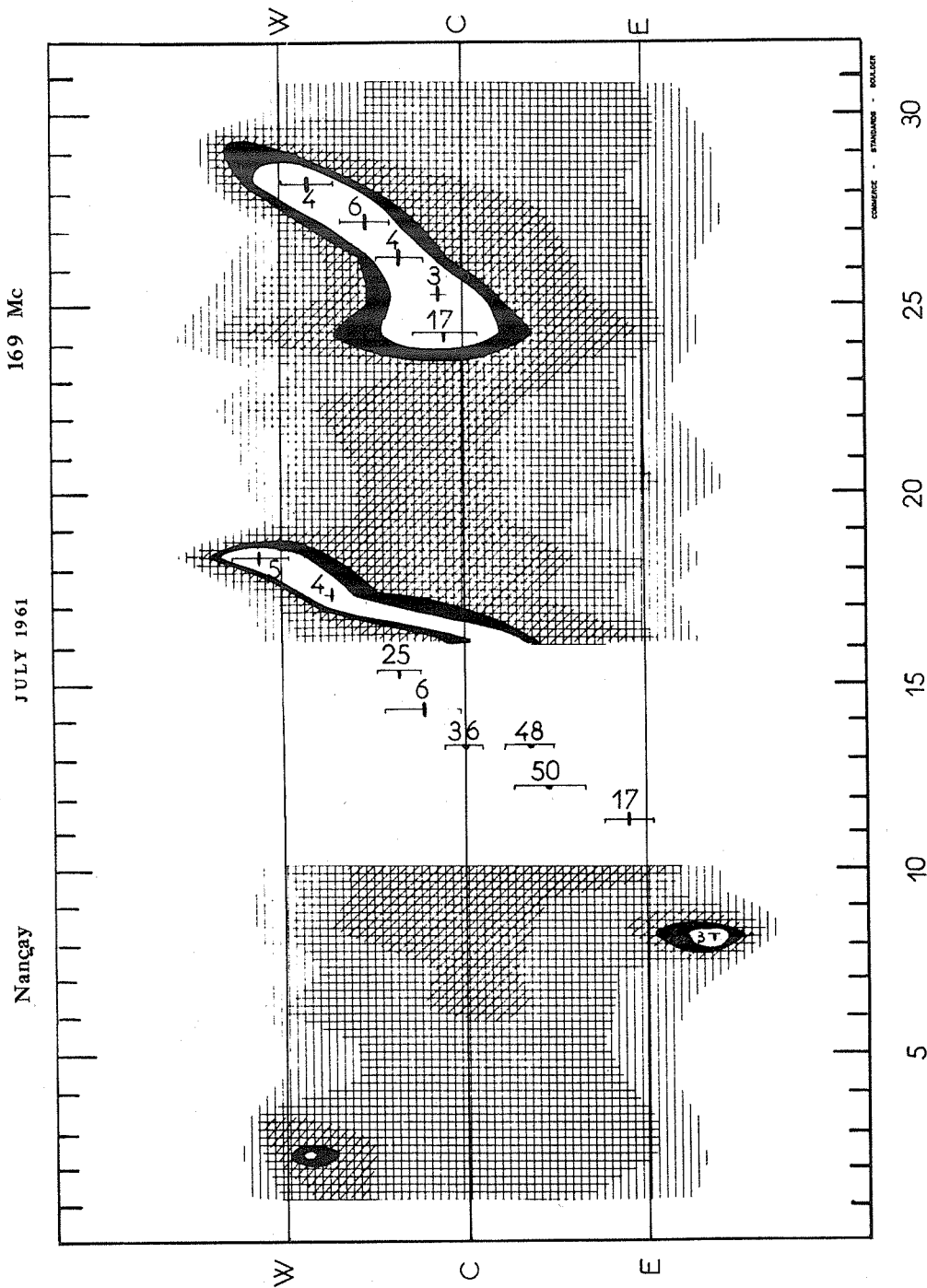
JULY 1961

OTTAWA

2800 MC

JULY 1961	TYPE	START UT	DURATION HRS: MINS	MAXIMUM			REMARKS
				TIME UT	PEAK FLUX	MEAN FLUX	
11	3 Simple 3 A	1332	>43	1348	5	3.5	
	2 Simple 2	1332.5	2.3	1333.5	11	5	
	2 Simple 2 f	1337	0.9	1337.3	22	11	
11	9 Precursor f	1604	46		8	4	
	6 Complex f	1650	1 55	1745	1500	360	
	4 Post Increase A		4 45		65	30	
12	2 Simple 2 f	1952	36	2002.3	230	90	In sunrise
	2 Simple 2 f	b1100	>45	1114	1210	436	
12	4 Post Increase		3 45		45	13	
13	6 Complex	1931	2.7	1931.8	9	4	
13	3 Simple 3 f A	2135	2 10	2256	10	4	
	2 Simple 2	2213	2.3	2214	11	4	
13	2 Simple 2 f	2241.5	2	2242.3	23	8	
	6 Complex f	2245	1	2245.5	24	12	
	2 Simple 2 f						
15	3 Simple 3 A	1432	7 38	1623	54	23	
	6 Complex f	1432	14	1436.3	54	16	
	6 Complex f	1510.5	6.5	1512	76	14	
16	6 Complex f	1536	47	1610	111	25	
	2 Simple 2	1557.3	9.5	1557.8	15	4.6	
16	3 Simple 3	1620	30	1628	4	3	
16	3 Simple 3 A	1933	1 52	1955	16	7	
	2 Simple 2	1950	5.3	1952	14	8	
17	3 Simple 3 A	1307	1 33	1355	7	4	
	2 Simple 2 f	1307	3	1307.8	30	10	
	2 Simple 2 f	1315	24.5	1320	21	9	
17	1 Simple 1	1403.8	2	1404.5	3	2	
	3 Simple 3 f A	1640	40	1650	4	3	
17	6 Complex	1657	2	1657.5	7	2.3	
	3 Simple 3	1830	45	1850	4	2	
17	6 Complex f	2140	22	2141.8	54	28	
	4 Post Increase		1 17		15	6	
18	- Record Incomplete	b1215	>2 05	indet.	26	--	
18	3 Simple 3	2106	34	2112	4	3	
19	3 Simple 3 A	1452	58	1454	2	1.7	
	1 Simple 1	1527	5.5	1528	3	1.5	
19	1 Simple 1	1604.5	4	1605	2.4	1.0	
19	3 Simple 3 A	2100	14	indet.	2	1.7	
	6 Complex	2103.3	6	2105	13	4.5	
19	2 Simple 2	2151.3	3.5	2152.6	22	8	
	4 Post Increase		6		2	1	
20	3 Simple 3	1347	1 00	1411.5	9	4	
20	6 Complex f	1552	42	1553.5	1200	500	
				1621.3	1800		
	4 Post Increase A		>7 30		80	--	
20	7 Period Irregular Activity	1634	3 42	1725.5	250	55	
	2 Simple 2	2148	11	2152	17	7	
21	- Record incomplete	b1220	>3 20	1350	10	--	
21	3 Simple 3 A	1655	>6 35	1827	10	--	
	6 Complex f	1701	20	1703.5	59	20	
22	6 Complex	1440	7	1442.8	3	1.2	
22	3 Simple 3	1635	1 15	indet.	5	3	
24	3 Simple 3 f	1730	>6 00	1802	16	--	
25	6 Complex	1224	4	1224.8	7	3	
	3 Simple 3 f	1355	12	1357.5	5	2.5	
25	2 Simple 2 f	2239.5	4	2241.5	13	8	
	4 Post Increase		>20		5	--	
26	2 Simple 2	1947	5	1947.8	45	10	Interference
27	3 Simple 3	2308	14	2314	3.5	1.5	
28	3 Simple 3 A f	1158	8 35	1228	5.5	3	
	3 Simple 3 A	1642	2 30	1752	10	6	
28	2 Simple 2	1649	5	1650	8	3	
	1 Simple 1	2223	1	2223.5	5	2	
29	3 Simple 3 A f	1430	4 15	1647	7	3	
	2 Simple 2 f	1642.2	3	1643.7	35	12	
29	3 Simple 3 A	1953	1 00	indet.	--	--	Interference present
	2 Simple 2 f	1955	2.5	1956	14	6	
30	3 Simple 3 A	1617	50	1630.7	3.6	1.8	
	6 Complex	1624	6.7	1625	7	3	
30	1 Simple 1	2207	1	2207.2	5.5	2	

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS



SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1961

BOULDER

108 Mc.

July 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	3	1601.0	1601.9	1.2	2
1	3	2120.7	2121.3	2.3	2
2	3	1648.2	1649.0	1.3	3
2	3	1706.0	1706.9	1.1	3
2	3	1711.0	1712.5	1.7	3
2	3	1824.0	1824.2	1.0	3
3	3	1521.0	1521.9	1.3	3
3	2	1542.2	1543.3	3.2	2
3	3	1630.0	1630.8	1.0	2
3	3	1658.0	1658.5	0.7	3
3	3	1704.3	1705.0	1.0	3
3	3	1916.2	1916.7	1.0	3
4	6	1141		145 D	2
4	3	1832.3	1833.0	1.3	2
5	3	0137.0	0138.0	1.3	3
5	6	1142		90 D	1
6	6	1142		115 D	1
6	3	1459.4	1500.1	0.7	3
6	3	1514.4	1515.0	0.7	3
6	3	1529.5	1530.5	0.7	3

July 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
6	3	1709.0	1709.2	1.0	2
7	3	1309.2	1310.0	0.8	3
8	3	1234.0	1235.0	2.6	2
8	3	1259.5	1300.0	1.0	2
8	3	1357.0	1357.6	1.0	3
11	2	1544.0	1548.0	9.0	1
11	9	1654.0	1750	554	3
12	6	1146		861 D	3
13	6	1147		860 D	3
14	6	1148		145 D	1
15	7	0030		90	2
15	8	1436.0	1437.8	4.0	2
15	9	1505	1615	220	3
16	3	1233.5	1235.0	1.5	2
17	6	1150		160 D	1
18	3	1213.5	1213.8	1.3	3
18	3	1616.0	1616.9	2.9	2
20	9A	1557.0	1559.0	7.2	3
20	9B	1605.2	1608.0	12.5	3
20	3	1749.0	1750.2	2.0	3
20	8	1757.0	1758.0	4.0	3
20	3	2006.5	2007.4	1.3	2

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

JULY 1961

BOULDER

108 MC

July 1961	U.T.		July 1961	U.T.	
1	1140-0210	I 1955-2050; 2224-0210	10	1145-0208	I 1645-0208
2	1140-0210		11	1145-0208	
3	1141-0209		12	1146-0207	
4	1141-0209	I 1850-0045	13	1147-0207	
5	1142-0209	I 1650-2340	14	1148-0207	I 1700-0000
6	1142-0209	I 2220-2315; 0030-0125; 0200-0209	15	1148-0207	I 1715-0207
7	1143-0208	I 1805-0208	16	1149-0206	I 1840-0030
8	1144-0208	I 1830-0208	17	1150-1510; 2030-0206	I 2030-0000
9	1144-0208	I 1900-2225	18	1151-0205	I 2030-2230
			19	1152-0204	I 2000-0020
			20	1152-0204	I 2030-0145

COMMERCE - STANDARDS - BOULDER

Note: No record July 21 through 31 because of equipment difficulties.
I = interference.

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

APRIL-JUNE 1961

Fort Davis

25-580, 2100-3900 Mc

1961	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE Mc.	REMARKS
		TYPE	TIMES U.T.	INT.		
April	1					
		0000-0050 1322-2400				
	2	0000-0050 1320-2400				
	3	0000-0050 1320-2400				
	4	0000-0050 1321-2400	IV 1421-1424 IV 2234.5-2320 Uncl. 2239.8-2245	2 2 2	580-260 580-90 130-50	2239.8 Uncl. has harmonic but no drift.
	5	0000-0050 1322-2400	IV 1625-1628 III G 1904-1905 IV 2056.7-2105 Uncl. 2059.7-2108	2 2 1-3 2	580-280 580-25 3000-125 150-25	2059.7 Uncl. has harmonic.
	6	0000-0100 1300-2400	IV 0013-0019 II 0015.0-0021 III G 1536-1540	2-3 3 2	580-150 200-40 260-25	
	7	1300-2400				
	8	0000-0100 1300-2308				Weak I throughout day.
	9	1300-2400				
	10	0000-0105 1300-2400				
	11	1300-2400				
	12	1300-2400				
	13	1300-2400				
	14	1300-2400	III G 2113-2116	2	580-25	
	15	1300-2400				
	16	1300-2400				
	17	1300-2400	III G 2341-2342	2	180-50	
	18	1300-2400				Weak I throughout day
	19	1300-2400	III G 1746-1750	1-3	200-25	Weak I throughout day.
	20	1300-2400				Weak I throughout day.
	21	1300-2400				
	22	1300-2400				
	23	1300-2400				
	24	1300-2400				
	25	1300-1523 1541-2400				
	26	1300-2400				
	27	1300-2400				
	28	1300-2400				
	29	1300-2231				
30	1240-1415 1523-2400					
May	1	0000-0010 1242-2400				
	2	1241-2400				
	3	1242-2400				
	4	1242-2400	IV 2207.5-2210	2	3900-2100	

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

APRIL - JUNE 1961

Fort Davis

25-580, 2100-3900 Mc

1961	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE NO.	REMARKS	
		TYPE	TIMES U.T.	INT.			
May 5	1242-2400	III G	1929-1930	3	250-25	Weak I throughout day.	
		III G	2230-2232	1-3	300-25		
6	1240-2400	Unc1.	2219-2221	1-	100-60		
7	1240-2400						
8	1241-2400						
9	1240-2400						
10	1240-2400						
11	1240-2400	III G	1750-1753	2	580-400		
		III G	1757-1808	1-3	580-25		
12	1240-2400	III G	1850-1852	2	180-25		
		III G	2247-2249	1-2	580-125		
		III G	2305-2306	3	220-25		
		III G	2309-2310	2	300-25		
		III G	2348-2350	2	500-50		
		III G	2359	3	320-25		
13	0000-0002	III G	0001	3	320-25		
	1240-2400						
14	1240-2400						
15	1241-2400						
16	1241-2305						
17	1240-2400						
18	1241-2400						
19	1240-2400						
20	1240-2400	III G	1949-1951	3	250-25	Weak I throughout day.	
21	1225-2400						
22	1225-2400						
23	1225-2400						
24	1225-2400						
25	1225-2400	III G	2144-2146	2	500-180		
26	1225-2400						
27	1225-2400						
28	1225-2400						
29	1225-2400						
30	1225-2400						
31	1226-2400						
June 1	1225-2400						
	2	1225-2400					
	3	1225-2400				Weak I throughout day.	
	4	1225-2400					
	5	1225-2400	Unc1.	1523-1531	1-	580-125	
	6	1225-2400					
	7	1226-2400					Weak I throughout day.
	8	1225-2400					
	9	1225-2400	Unc1.	2136-2144	2	240-25	2135: Unc1. resembles Type II.

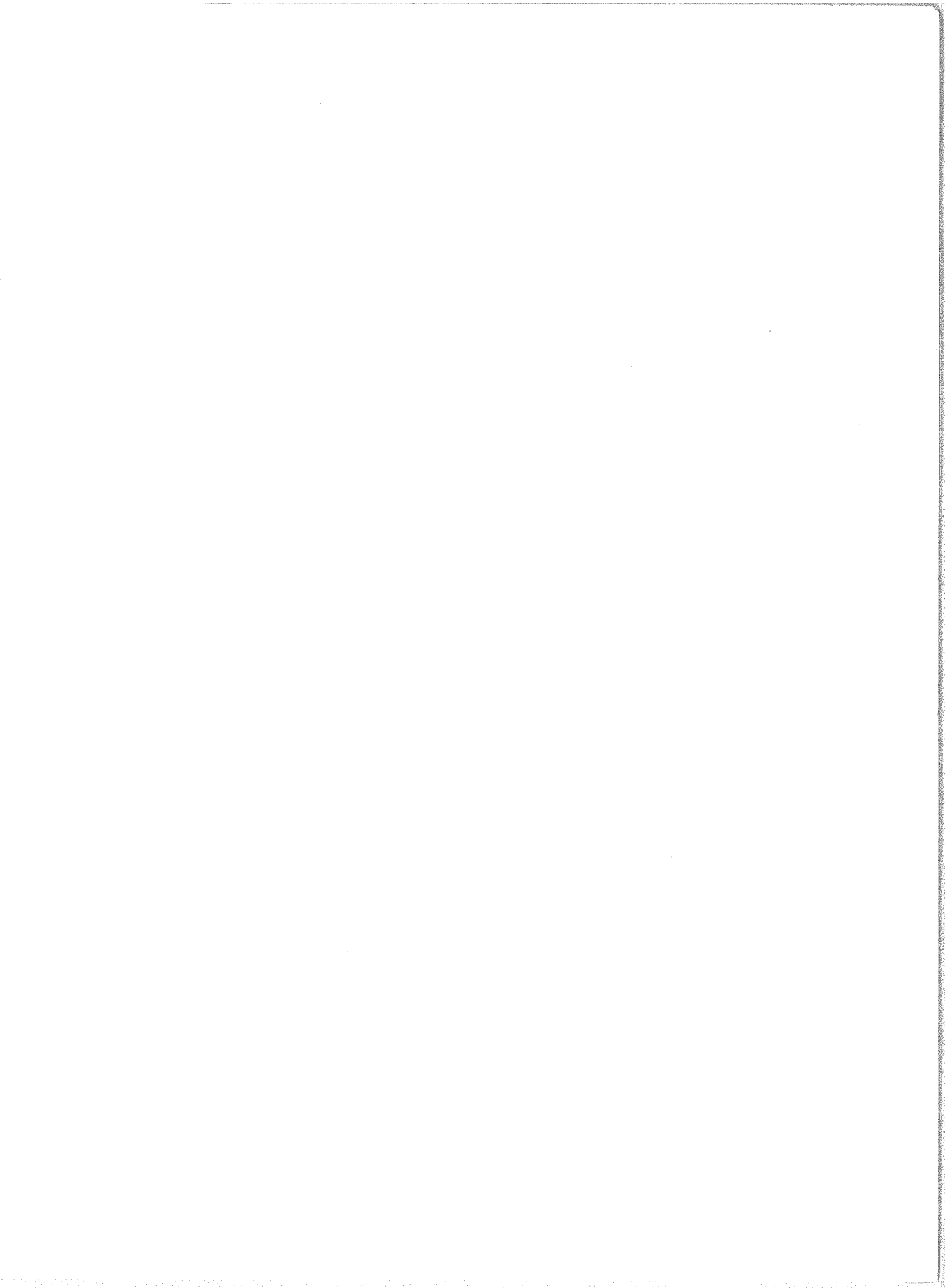
SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

APRIL-JUNE 1961

Fort Davis

25-580, 2100-3900 Mc

1961	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC.	REMARKS
		TYPE	TIMES U. T.	INT.		
June 10	1225-2400					
11	1225-2400	III G IV II	1503-1507 1505-1526 1507.5-1515	1-3+ 1-3 2	580-25 3000-100 150-50	
12	1225-2400					
13	0000-0148 1225-2400	III G III G	0125-0128 2035-2037	1-3 2	300-100 280-25	
14	0000-0148 1225-2400	III G III G III G II III G III G III G	1235-1237 1613-1615 1627-1631 1634.2-1638 1730-1731 2332-2334 2355-2359	2 2 2-3 1 3 2 2	350-75 420-25 420-25 140-45 580-25 500-50 580-100	
15	0000-0148 1210-2400	III G III G III G III G III G II III G III G III G II III G III G III G III G III G	1322-1323 1324-1325 1401-1403 1455-1456 1552-1554 1635-1646 1646.3-1701 1702-1712 1718-1720 1721-1722 1722.7-1727 1842-1843 2103-2109 2112-2113 2202-2204 2205-2208	1-2 2-3 1-2 1-3+ 2 1-3+ 2 3+ 1 2 2 1-3+ 2 2-3 1-3	200-25 300-50 280-25 580-25 220-25 3900-25 150-25 490-25 580-25 580-125 200-50 250-25 500-25 280-25 3000-25 350-25	Weak I throughout day
16	0000-0148 1210-2400	III G	0042-0043	2-3	240-25	Weak I throughout day.
17	0000-0148 1210-2400	III G	0108-0112	2	350-25	Weak I throughout day.
18	0000-0150 1210-2400	III G	1356-1359	2	580-160	Weak I throughout day.
19	0000-0147 1210-2400	III G III G	1439-1441 1919-1920	2 2	350-25 280-25	Weak I throughout day.
20	0000-0150 1210-2400	I	1210-2400	1	320-100	
21	0000-0150 1210-2400	I	0000-0150	1	320-100	Weak I throughout day.
22	0000-0150 1210-2400	I	1210-2400	1	320-100	
23	0000-0150 1215-2400	I	0000-0150	1-2	320-100	Weak I throughout day.
24	0000-0150 1210-2400					Weak I throughout day.
25	0000-0150 1210-2400					Weak I throughout day.
26	0000-0150 1210-2400					
27	1210-2400					
28	1210-2400	III G III G III G	1443-1445 1945-1946 2052-2055	2 2 1-2	400-240 580-180 580-170	
29	1210-2400	III G Uncl.	1317-1319 2005-2007	2 2	300-25 50-30	
30	0000-0155 1210-2400					



DEEP RIVER NEUTRON MONITOR

SOLAR INJECTION OF JULY 18, 1961

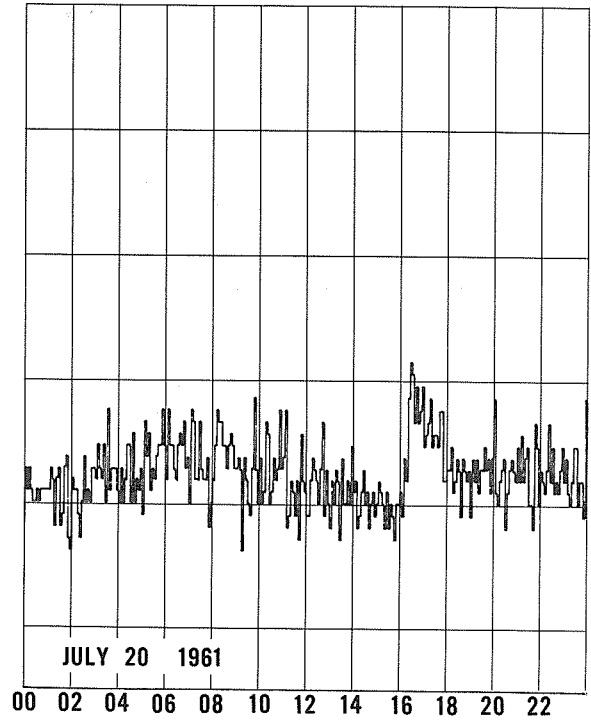
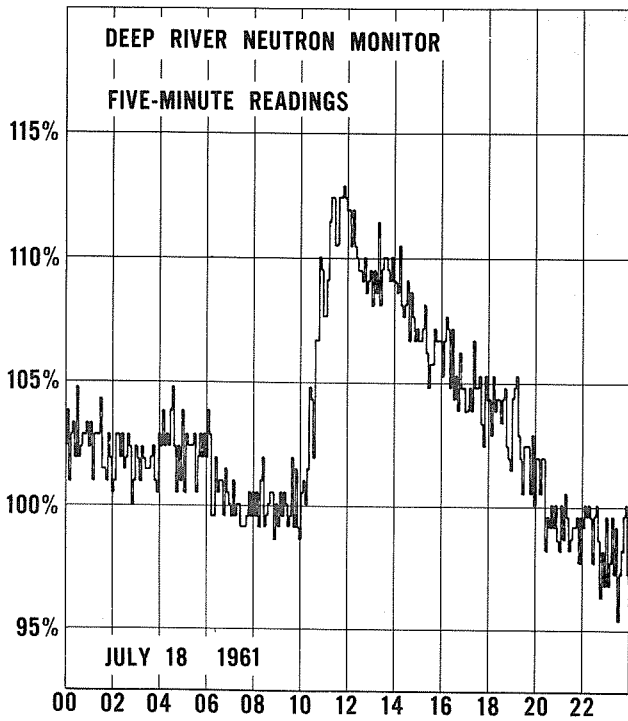
Hrs. U.T.	Minutes at start of interval											
	00	05	10	15	20	25	30	35	40	45	50	55
00	216	219	213	217	218	215	221	215	216	217	217	218
01	216	218	213	217	217	217	220	214	214	213	217	215
02	212	213	217	217	215	217	214	215	217	216	211	213
03	216	215	213	216	215	214	214	215	216	213	212	217
04	216	219	216	217	216	219	221	216	212	216	213	219
05	212	217	216	216	216	217	212	215	217	215	217	215
06	219	217	210	210	215	212	213	213	210	214	212	211
07	210	213	210	211	211	209	209	209	210	212	210	212
08	210	212	209	213	215	209	210	211	212	212	208	211
09	209	212	210	212	211	209	210	215	209	214	209	208
10	212	213	211	214	221	220	215	225	225	232	231	227
11	227	230	235	237	237	233	233	237	237	238	237	236
12	236	233	236	233	232	231	231	230	232	229	230	231
13	228	231	229	235	228	231	232	232	231	230	232	230
14	230	229	233	228	227	228	230	225	229	227	225	226
15	225	225	226	228	224	221	223	223	226	225	225	225
16	222	225	227	226	221	226	220	222	219	224	221	221
17	219	219	221	219	225	221	221	222	218	216	222	220
18	220	217	222	219	220	220	218	220	221	216	215	214
19	220	221	222	217	215	212	216	216	216	212	217	211
20	215	215	212	215	215	207	210	209	211	209	211	208
21	207	211	208	212	210	207	208	209	209	210	206	210
22	209	211	210	211	210	206	210	211	208	203	207	204
23	210	204	206	210	205	209	201	205	207	210	211	205

SOLAR INJECTION OF JULY 20, 1961

Hrs. U.T.	Minutes at start of interval											
	00	05	10	15	20	25	30	35	40	45	50	55
10	212	208	209	215	214	208	209	212	210	211	216	211
11	212	216	206	207	210	209	207	210	205	214	210	209
12	207	207	210	212	211	210	208	211	215	207	211	208
13	206	210	208	211	210	205	212	208	208	210	208	213
14	209	210	206	207	209	211	208	209	206	208	209	207
15	208	210	209	208	206	209	206	208	207	205	208	208
16	209	207	212	210	217	220	219	215	218	215	216	218
17	213	214	215	217	213	214	214	213	216	216	210	210
18	211	211	213	209	210	212	211	207	212	211	210	211
19	207	212	210	212	209	211	211	213	211	212	209	212
20	217	209	208	210	211	212	206	209	211	212	211	210
21	213	210	214	210	212	213	208	208	206	215	213	208
22	211	210	209	211	215	210	213	209	210	209	211	213
23	210	212	209	208	210	213	213	208	210	210	207	217

Five minute readings, corrected for pressure
Scaling factor 100

COMMERCE - STANDARDS - BOULDER



COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Climax Neutron Monitor)

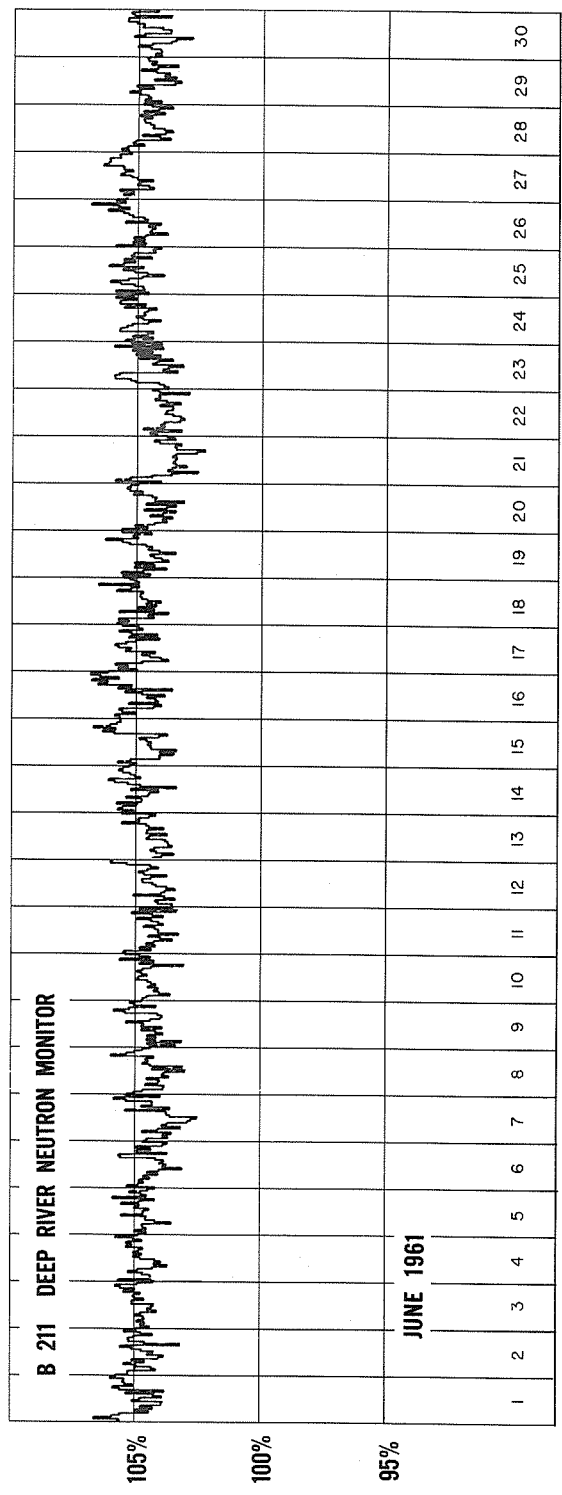
JUNE 1961

June 1961	Daily average counts/hr.	June 1961	Daily average counts/hr.
1	3012.2	16	2994.0
2	2999.7	17	2990.1
3	2999.5	18	2984.9
4	3004.8	19	2996.2
5	3023.0 (10)*	20	2979.8
6	2999.6	21	2983.2 (38)
7	2976.6 (33)	22	2994.0 (30)
8	2990.1	23	2999.6 (29)
9	2991.2	24	3010.3
10	2989.0	25	3014.1
11	2984.5	26	3015.6
12	2985.7	27	3041.8
13	2994.1	28	3018.9
14	3007.7	29	3007.8
15	2989.2	30	3007.2

COMMERCE - STANDARDS - BOULDER

*Number of hours in average.

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

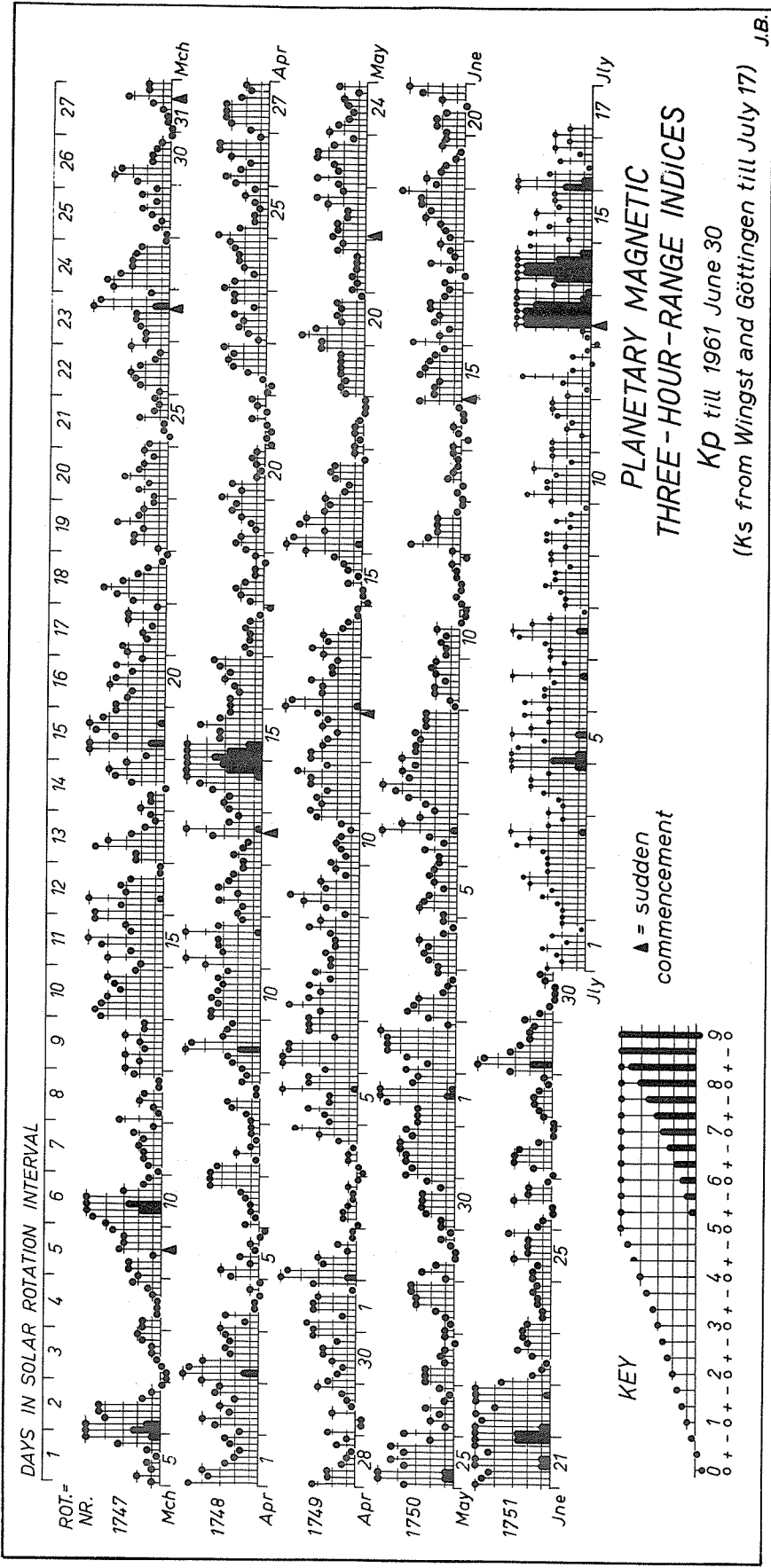


COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

JUNE 1961

June 1961	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	1.3	3o	3o	3o	5-	6-	5+	3+	3o	31o	30	Five Quiet
2	1.3	4-	2+	4-	5-	5-	5-	5o	1o	30-	28	
3	0.6	2+	4-	3+	3o	1+	1o	1-	2-	17o	10	
4	0.4	2-	2+	3-	2+	3o	1+	1-	1+	15+	8	
5	0.4	1+	3o	3-	2+	1+	2o	2+	2o	17o	9	
6	1.0	2-	2-	3-	1+	2+	5+	4o	3o	22o	17	13
7	1.1	2o	3-	4-	4+	5o	4-	4o	3+	29-	24	28
8	1.0	4o	3+	3+	3o	3+	3-	3-	3-	25o	16	30
9	0.3	1-	1o	2o	2o	1+	2o	2+	2o	13+	6	
10	0.1	1+	1+	2-	1+	2o	0+	0o	0o	8o	4	
11	0.0	0+	1-	0+	0+	1-	1-	1o	0o	4o	2	Five Disturbed
12	0.6	1o	4-	3-	2o	2o	2o	1-	0+	14+	8	
13	0.1	0+	1-	0+	1+	1o	1-	1-	1o	6o	3	
14	0.2	1o	0o	1-	1o	0+	0+	1-	3+	7+	4	
15	0.7	2+	2+	2o	3+	3o	3-	2+	2-	20-	11	
16	0.6	4-	2o	1+	2+	2o	3-	3-	2-	18+	10	21
17	0.3	1+	2-	0+	1+	3-	1o	1+	2o	12-	6	22
18	0.8	1+	2-	2o	3o	3-	3+	3+	4+	22-	14	29
19	0.3	2+	3o	2o	2-	1o	1-	2o	2-	14+	7	
20	0.7	2-	2+	2+	2-	0+	2o	3+	4o	18-	10	2
21	1.7	5o	5-	4+	6-	6-	4+	5o	7o	42-	58	Ten Quiet
22	1.6	7-	6-	5-	5o	4o	5o	5+	5o	42-	58	
23	0.4	4-	2-	1o	1-	2-	3-	2o	2+	16-	9	
24	0.3	2+	2o	1o	1o	1+	1+	2-	1+	12o	6	
25	0.5	2-	2-	1+	3o	2o	2o	2o	3+	17o	9	
26	0.4	1+	1o	0+	0+	3o	2o	2o	1-	11-	6	11
27	0.4	0+	2-	3o	3o	3-	1+	0+	0+	13-	7	13
28	0.1	0+	1o	1+	2-	2-	1+	1-	1o	9o	4	14
29	1.4	3+	6+	5-	3+	3-	2o	2o	2-	26o	25	17
30	0.1	2+	1+	1-	0+	0+	0+	1o	1+	8-	4	24
												26
												28
												30
Mean:	0.62									Mean:	14	



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
JUNE 1961

NORTH ATLANTIC

NORTH PACIFIC

DATE	NORTH ATLANTIC Q-INDICATOR QUALITY FIGURES				SHORT-TERM FORECASTS (ISSUED ABOUT ONE HOUR IN ADVANCE OF)		WHOLE DAY INDEX	ADVANCE FORECASTS (1-1-REPORTS) FOR WHOLE DAY (ISSUED IN ADVANCE BY)		GEOMAGNETIC K _{Fr}		NORTH PACIFIC 12-HOURLY QUALITY FIGURES			SHORT-TERM FORECASTS ISSUED AT:		WHOLE DAY INDEX	ADVANCE FORECASTS (1-1-REPORTS) FOR WHOLE DAY (ISSUED IN ADVANCE BY)			GEOMAGNETIC K _{SI}						
	00 TO 06	06 TO 12	12 TO 18	18 TO 24	00	06		12	18	1-7	1-3	1-7	1-7	1-3	1-7	0600		1800	1-7	1-3	1-7	1-7	1-3	1-7	FINAL J'S	SDW	Jp
JUNE 1961																											
01	6-	4+	5+	6-	5	4	5	5	4	(4)	(4)	4	5	5	5	4	(4)	4	4	4	4	(4)	(4)	(4)	(4)	(4)	(4)
02	6-	4+	5+	6-	5	4	5	5	4	(4)	(4)	4	5	5	4	(4)	4	5	5	5	3	1	3	1	3	1	3
03	6-	5-	6-	6-	6	5	6	6	6	3	2	6	6	6	6	6	5	6	6	6	6	3	2	3	2	3	2
04	7-	6-	6+	6+	7	6	6	7	6	3	2	6	6	6	7	6	6	6	6	6	6	3	2	3	2	3	2
05	7-	6-	6+	7-	7	6	6	7	6	3	2	6	6	6	7	6	6	6	6	6	6	3	2	3	2	3	2
06	7-	6-	6-	6-	7	6	6	6	6	6	2	(4)	6	6	7	5	5	6	6	6	6	6	6	6	6	6	6
07	6-	5-	6-	6-	6	6	6	6	6	3	(4)	6	6	6	6	6	6	6	6	6	6	(4)	3	(4)	3	(4)	3
08	6-	4+	5+	6-	5	5	6	5	5	(4)	3	5	5	6	6	6	5	5	5	5	5	(4)	2	(4)	2	(4)	2
09	6-	5+	6-	6+	6	5	6	6	6	2	2	6	6	6	6	6	6	6	6	6	6	2	2	2	2	2	2
10	7-	6-	6+	7-	6	5	6	7	6	2	1	6	6	6	6	6	6	6	6	6	6	2	1	2	1	2	1
11	7-	6-	6-	7-	7	6	6	6	6	0	1	6	7	7	6	6	7	6	6	6	6	7	6	7	6	7	6
12	7-	5+	6+	6+	7	6	6	7	6	3	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
13	7-	7-	7-	7-	7	5	7	6	6	1	1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
14	7-	6+	6+	7-	7	6	7	7	6	1	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
15	7-	6+	7-	7-	7	6	7	7	6	2	3	7	6	6	7	6	6	6	6	6	6	6	6	6	6	6	6
16	7-	6-	6+	6+	7	7	6	7	6	3	2	7	6	6	6	6	6	6	6	6	6	7	6	7	6	7	6
17	7-	7-	6+	7-	7	6	7	7	6	2	2	7	6	6	6	6	6	6	6	6	6	7	6	7	6	7	6
18	7-	6+	7-	7-	7	6	6	7	6	2	3	6	6	6	6	6	6	6	6	6	6	7	6	7	6	7	6
19	6-	6+	6+	6+	6	5	6	7	6	3	1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
20	7-	7-	7-	7-	7	6	7	7	6	2	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
21	5+	5+	6-	5+	7	4	5	6	6	(5)	(5)	6	6	6	6	6	6	6	6	6	6	(5)	(6)	(5)	(6)	(5)	(6)
22	3+	2+	4+	5-	4	2	4	4	(4-)	(6)	(4)	5	5	5	5	5	5	5	5	5	5	(3)	4	4	4	4	4
23	6-	4+	6-	6+	4	5	6	6	5+	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
24	7-	6-	6-	7-	6	5	6	7	6+	7	2	2	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6
25	7+	6+	6-	7-	7	6	6	6	7-	2	2	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
26	7-	6-	6-	6+	7	6	6	6	6+	1	2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
27	7-	6-	5+	6+	6	6	6	6	6	2	1	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6
28	7-	6+	7-	7-	6	6	6	7	7-	1	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
29	6-	4+	6-	6-	7	5	6	6	5+	(4)	2	6	6	6	6	6	6	6	6	6	6	(4)	2	(4)	2	(4)	2
30	6+	6-	6-	7-	6	5	6	6	6+	1	1	6	6	6	6	6	6	6	6	6	6	1	1	1	1	1	1
Score: Quiet Periods	P	17	11	21	18							15	15	13													
	S	10	12	8	12							13	13														
	U	1	1	0	0							1	1	1													
	F	1	0	0	0							0	0	0													
Disturbed Periods	P	0	3	1	0							0	0	0													
	S	1	3	0	0							1	1	1													
	U	0	0	0	0							0	0	0													
	F	0	0	0	0							0	0	0													

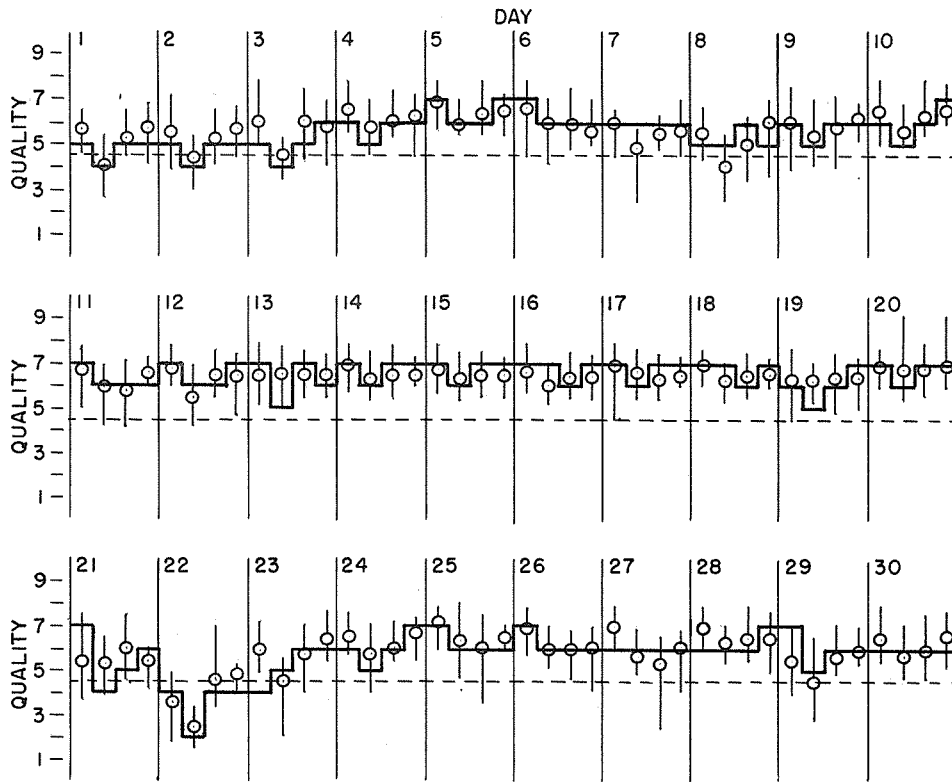
() Represent disturbed values.
All times are Universal Time (U.T.)

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

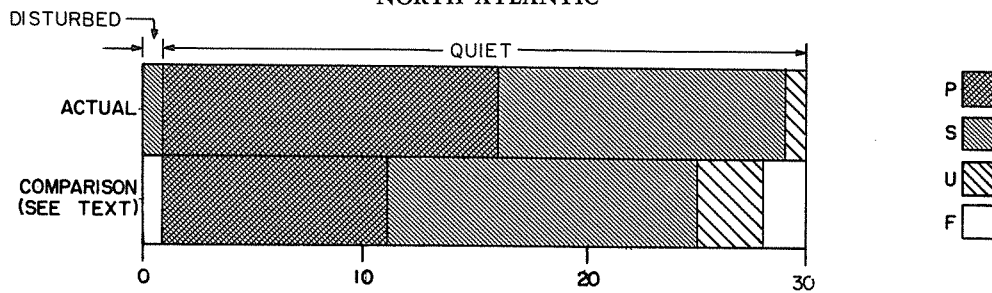
JUNE 1961

— Short-term forecast
○ Quality figure

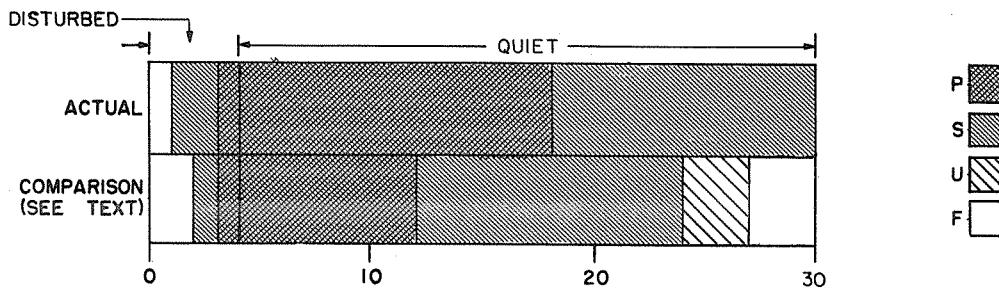
| Range of reports



OUTCOME OF ADVANCED FORECASTS FINAL ESTIMATE
NORTH ATLANTIC

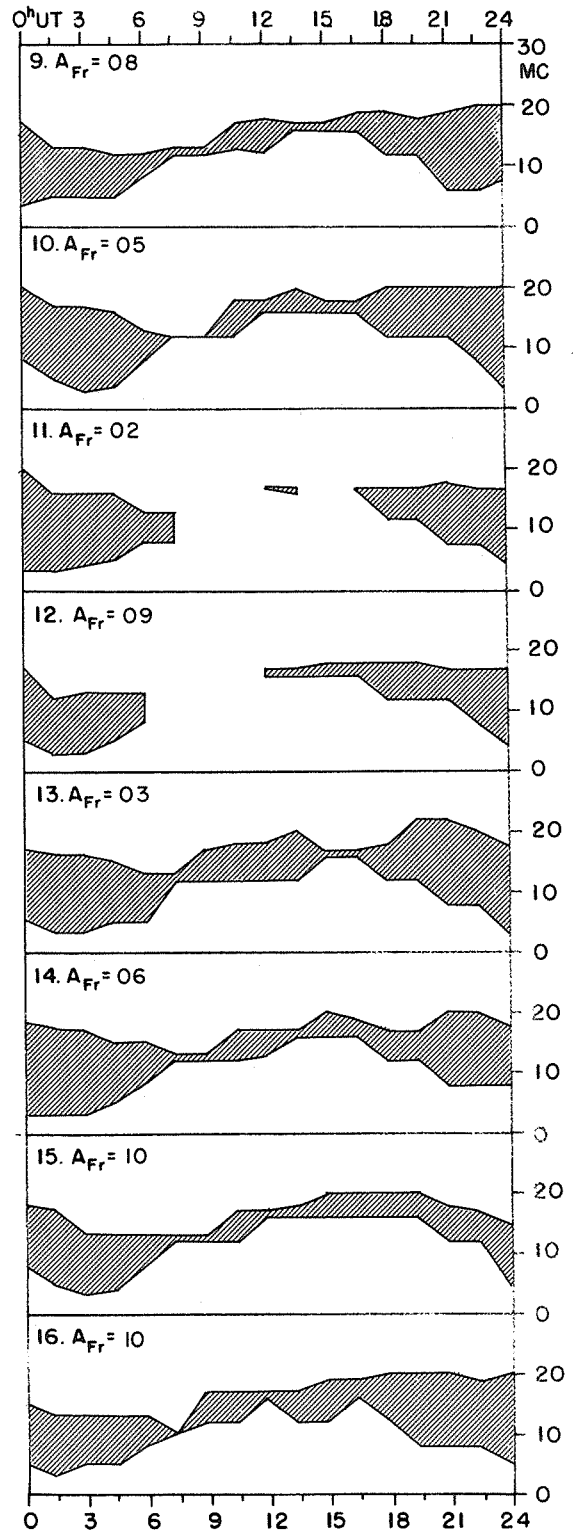
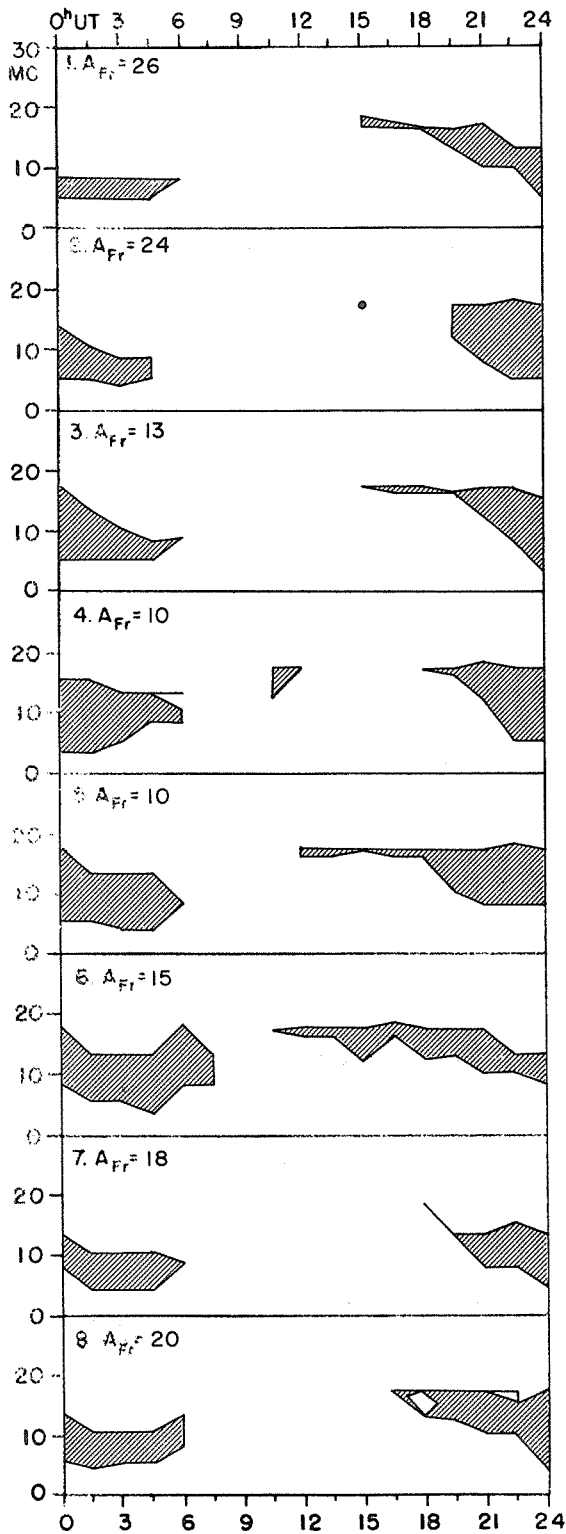


NORTH PACIFIC



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

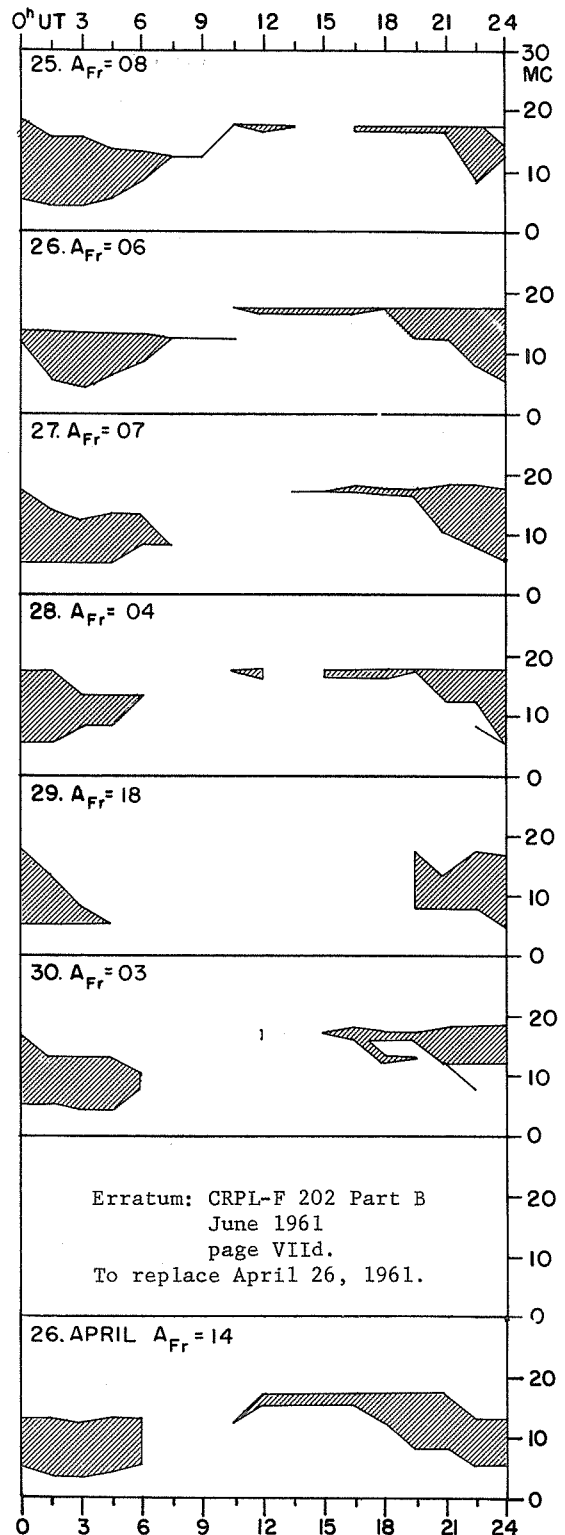
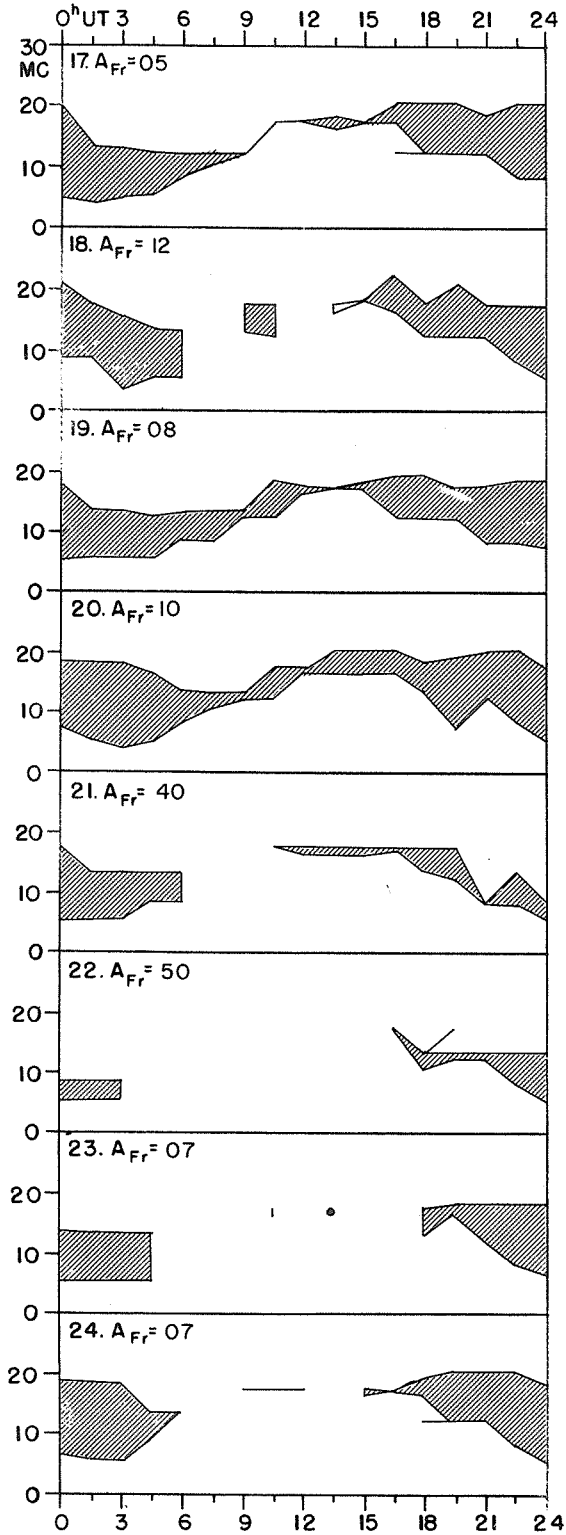
JUNE 1961



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

VII d

JUNE 1961



COMMERCE - STANDARDS - BOULDER

Adapted from Observations by Deutsches Bundespost

ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

JULY 1961

Issued July 1961 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
05/0540	Ft. Belvoir, Magnetic Storm 04/20XXZ*			
05/1600		125	Magnetic Storm 04/13XXZ	
11/1740	McMach, Solar Flare 11/1635Z			
12/1600		126		Start (Predicted)
13/1255	Ft. Belvoir, Magnetic Storm 13/1115Z			
13/1600**		127	Magnetic Storm	
		128	Aurora Probable 13/1115Z	Continue
13/1605	Chicago, Cosmic Ray Increase 13/11XX			
14/1600		129		Continue
15/1600		130		Finish
15/1630	Sacramento Peak, Solar Flare 15/1545Z			
16/1600		131		Start (Predicted)
17/1600		132		Continue (Predicted)
17/1950	Ft. Belvoir, Magnetic Storm 17/1827Z			
18/1345	Minneapolis, Cosmic Ray Increase 18/1100Z			
18/1600		133	Magnetic Storm 17/1827Z Cosmic Ray Increase 18/1100Z	Finish
21/1335	Ft. Belvoir, Magnetic Storm 20/16XXZ***			
21/1600		134	Magnetic Storm 20/0249Z	
26/2120	Ft. Belvoir, Magnetic Storm 26/1950Z			
27/1230	Ft. Belvoir, Magnetic Storm Aurora Probable 26/1950Z			
27/1600		135	Magnetic Storm Aurora Probable 26/1950Z	Start
28/1600		136		Finish
28/1930	Sacramento Peak, Solar Flare 28/1700Z			

*Later judged to have begun 04/13XXZ.

**GEOALERT issued at 1600Z, July 13, carried two GEOALERT numbers.

***Later judged to have begun 20/0249Z.

COMMERCE - STANDARDS - BOULDER