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PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
DECEMBER 1961

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

SOLAR - GEOPHYSICAL DATA

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The descriptive text was republished November 1961.

DAILY SOLAR INDICES

Oct. 1961	American Relative Sunspot Numbers R_A
1	37
2	54
3	48
4	45
5	40
6	32
7	25
8	23
9	36
10	47
11	50
12	53
13	50
14	48
15	41
16	40
17	24
18	28
19	41
20	48
21	15
22	5
23	3
24	11
25	8
26	1
27	7
28	12
29	13
30	7
31	2
Mean:	28.8

Nov. 1961	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	0	86
2	0	83
3	0	81
4	10	82
5	17	87
6	20	87
7	46	93
8	48	99
9	67	98
10	67	101
11	53	99
12	50	94
13	49	91
14	48	86
15	47	80
16	24	86
17	11	83
18	17	79
19	10	77
20	15	80
21	26	83
22	24	84
23	7	87
24	16	87
25	26	92
26	31	93
27	31	95
28	34	98
29	47	98
30	68	104
Mean:	30.3	89.2

CALCIUM PLAGE AND SUNSPOT REGIONS

NOVEMBER 1961

CMP Nov. 1961	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data			
				CMP Values		History, Age		CMP Values		History	
				Area	Int.			Area	Count		
03.6	N14	6264	6240	1500	3	$\begin{array}{c} \nearrow \\ \searrow \end{array}$	4	50	4	$b \nearrow \rho$	
05.4	N12	6265	6249	1400	2	$\rho \nearrow \rho$	2	(130)	(4)	$b \nearrow \rho$	
07.0	N23	6269	New	(400)	(3)	$b \nearrow \rho$	1	(10)	(1)	$b \nearrow d$	
07.7	S12	6266	*	3300	3	$\rho \searrow \rho$	3	90	3	$b \nearrow \rho$	
08.8	N15	6267	6247?	900	2	$\rho \searrow \rho$	3				
10.2	N19	6270	**	900	3	$b \nearrow \rho$	1	190	6	$b \nearrow \rho$	
12.7	N18	6268	6250	2200	2.5	$\rho \nearrow \rho$	2				
15.3	N10	6271	6254	2100	3	$\rho \nearrow \rho$	2	180	1	$\rho \searrow \rho$	
15.8	N20	6272	6254	400	2	$\rho \searrow d$	2				
17.0	N08	6273	6255	900	3	$\rho \nearrow \rho$	3	(320)	(2)	$b \nearrow \rho$	
18.8	N11	6275	New	100	2	$b \nearrow d$	1				
19.6	S19	6276	6256	700	1	$\rho \nearrow \rho$	2				
20.5	N19	6274	6257	1800	2	$\rho \nearrow \rho$	2				
22.0	N09	6277	6261	400	2	$\rho \searrow d$	1				
23.8	N08	6279	6262	400	2.5	$\rho \searrow d$	3				
26.1	N10	6278	6262	1200	2.5	$\rho \searrow d$	3	20	1	$\rho \searrow d$	
26.7	S20	6283	New	(500)	(2.5)	$b \nearrow d$	1				
30.4	N12	6280	6264	2400	3	$\rho \nearrow \rho$	5	300	8	$\rho \searrow d$	

* 6245, 6246.

** New, in position of 6258.

COMMERCE - STANDARDS - BOULDER

FINAL CORONAL LINE EMISSION INDICES

JULY 1961

CMP Jul 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	18a	28a		x	x	9a	24a		31	64	15	24		56	87	24	38	
2	33	62	23a	26a		37	92	18a	26a		73	112	12	18		21	22	12	20	
3	x	x	x	x		x	x	x	x		49	66	16	51		51	73	13	39	
4	x	x	x	x		x	x	x	x		x	x	8	11		x	x	12	25	
5	75	144	22	42		66	136	12	23		15	22	18	24		72	132	11	20	
6	58	81	12	41		11	26	7	12		23	28	0	0		60	84	3	8	
7	118	158	19	42		57	94	5	8		30	47	6	7		73	104	11	13	
8	74	106	18a	40a		40	84	1a	4a		54	72	0	0		36	46	0	0	
9	48	62	17	24		64	146	14	32		47	58	0	0		48	60	0	0	
10	x	x	16a	42a		x	x	4a	12a		46a	62a	11	16		28a	45a	13	16	
11	52	70	23	40		27	42	15	16		42	70	5	11		38	64	0	0	
12	74	106	15	28		79	126	16	26		42	71	18	26		25	51	7	8	
13	67	98	11	16		92	252	23	36		x	x	x	x		x	x	x	x	
14	58	81	x	x		98	224	x	x		75	110	14	30		45	57	4	8	
15	44	50	16	40		53	81	20	32		x	x	x	x		x	x	x	x	
16	58	73	18	32		39	64	18	27		10	12	5	6		12	18	7	10	
17	58	68	9	20		47	56	8	12		36	55	8	11		15	88	11	19	
18	x	x	11	23		x	x	20	27		61	82	13	23		50	75	15	25	
19	87	106	17	24		65	146	17	44		x	x	x	x		x	x	x	x	
20	72	92	9	24		52	92	9	36		x	x	x	x		x	x	x	x	
21	78	93	14	22		73	98	12	20		x	x	x	x		x	x	x	x	
22	57	104	17	36		57	115	5	14		52	70	14	29		26	44	11	20	
23	63	77	10	19		71	102	6	16		46	77	11	28		49	66	20	31	
24	51a	73a	25	48		36a	73a	19	32		19	37	19	34		37	45	11	21	
25	68	107	9	15		34	53	4	15		29	45	0	0		45	57	0	0	
26	59	74	9	15		23	27	9	15		x	x	x	x		x	x	x	x	
27	x	x	x	x		x	x	x	x		10	21	11	13		29	37	12	16	
28	x	x	14	21		x	x	11	14		24	47	7	11		26	57	8	15	
29	x	x	x	x		x	x	x	x		37	75	5	10		65	74	4	10	
30	18	31	7	11		6	13	8	13		13	22	10	12		13	15	5	8	
31	40	58	5	9		15	24	6	8		63	84	7	14		45	68	0	0	

x = no observations

a = index computed from low weight data

* = yellow line observed

COMMERCE - STANDARDS - BOULDER

FINAL CORONAL LINE EMISSION INDICES

AUGUST 1961

CMP Aug 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	61	96	7	9	14	19	6	9	51	71	1	5	54	79	0	0
2	x	x	x	x	x	x	x	x	27	42	1	6	37	61	0	0
3	x	x	x	x	x	x	x	x	47	65	7	10	67	86	0	0
4	x	x	x	x	x	x	x	x	55	74	0	0	67	80	0	0
5	38	62	9	17	13	18	9	14	38	46	0	0	59	84	0	0
6	38	51	6	8	25	30	2	6	25	34	0	0	17	22	0	0
7	37	52	3	10	21	28	2	5	7	8	19	44	49	83	17	24
8	49	61	0	0	32	45	2	6	69	98	x	x	67	85	x	x
9	x	x	x	x	x	x	x	x	61	67	3	12	50	58	6	13
10	33	47	13	21	44	85	16	18	39	62	x	x	89	108	x	x
11	30	45	20	37	45	87	13	31	50	62	6	8	34	42	13	20
12	79	92	11	18	70	109	2	7	42	70	8	12	62	104	11	24
13	63	104	20	31	34	72	11	32	57	95	x	x	87	146	x	x
14	128	163	21	39	63	98	3	11	62	73	4	12	67	73	7	16
15	152	181	10	18	62	139	0	0	150	358	10	16	132	246	25	64
16	118	170	20	26	57	78	0	0	75	154	2	9	103	174	12	24
17	111	126	11	18	70	84	1	4	44	91	10	26	16	60	4	13
18	80	84	14	25	61	83	0	0	46	82	14	25	38	69	8	18
19	97	137	18	27	52	98	8	38	54	76	16	24	42	62	13	24
20	52	84	13	20	36	64	8	19	31	53	17	44	64	90	16	24
21	17	22	6	20	43	53	17	36	29	39	15	24	58	92	18	20
22	71	84	x	x	52	64	x	x	28	40	0	0	61	93	0	0
23	63	68	4	11	44	51	0	0	x	x	x	x	x	x	x	x
24	72	117	x	x	43	68	0	x	13	21	16	20	38	60	18	38
25	40	59	9	12	21	31	6	16	32	52	9	13	37	70	9	15
26	62	116	11	20	53	120	10	16	x	x	x	x	x	x	x	x
27	43	81	x	x	54	123	x	x	61	107	7	15	43	49	1	4
28	53	60	0	0	51	72	2	9	19	24	12	15	24	30	8	10
29	65	98	3	4	25	31	9	12	35	42	4	9	35	56	0	0
30	63	118	0	0	27	52	2	13	20	34	13	16	37	48	8	12
31	57	82	0	0	37	56	4	17	19	20	11	20	36	48	5	12

x = no observations

a = index computed from low weight data

* = yellow line observed

COMMERCE - STANDARDS - BOULDER

FINAL CORONAL LINE EMISSION INDICES

SEPTEMBER 1961

CMP Sep 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	34	46	6	8	14	18	8	10	20	28	5	8	39	50	7	8
2	34	39	7	8	15	28	9	12	38	48	2	9	63	74	9	18
3	34	53	17	32	21	36	12	20	48	58	x	x	77	105	x	x
4	64	87	27	44	39	76	18	20	28	36	9	12	72	113	21	52
5	78	121	7	19	36	74	0	0	39a	64a	6	12	63a	132a	14	24
6	x	x	x	x	x	x	x	x	42	48	12	16	41	56	14	20
7	41	68	22	35	38	85	9	20	37	62	x	x	29	34	x	x
8	33	40	7	13	34	60	6	10	56	76	10	12	54	87	15	23
9	x	x	x	x	x	x	x	x	36	61	9	10	48	76	13	30
10	131	187	12	25	69	110	0	0	68	90	x	x	89	162	x	x
11	54	68	9	10	30	40	12	18	x	x	x	x	x	x	x	x
12	106	171	16	24	68	160	15	32	67	118	10	15	129	160	12	16
13	121	157	16	36	56	132	17	28	96	124	20	27	98	136	22	50
14	101	123	18	32	42	84	8	16	30	48	13	30	36	45	11	15
15	72	92	11	18	58	90	10	22	25	44	11	18	42	52	12	15
16	106	140	12	30	94	118	8	22	75	104	7	10	114	171	14	28
17	92	142	x	x	66	98	x	x	15	28	6	7	34	50	9	10
18	38	42	16	24	13	22	8	12	24	56	30a	44a	36	50	44a	46a
19	22a	25a	14	16	11a	17a	11	16	13	18	10	16	31	47	x	x
20	50	64	11	16	11	14	9	12	18	45	25	40	37	64	23	32
21	56	84	x	x	17	35	x	x	23	50	17	20	56	78	35	56
22	89	138	16	23	18	47	8	10	51	75	0	0	65	69	10	21
23	24	38	14	15	24	44	11	13	26	50	3	7	41	58	10	22
24	50	55	x	x	65	72	x	x	11a	20a	7a	10a	18a	28a	6a	12a
25	x	x	x	x	x	x	x	x	17	22	12a	16a	22	31	11a	16a
26	36	53	8	11	17	22	6	11	11	14	18	25	18	20	16	20
27	62	88	8	15	45	55	12	18	13	17	34a	48a	32	42	30a	40a
28	13	20	15	20	7	8	12	15	19	22	x	x	36	53	x	x
29	24	32	16	46	11	16	7	13	9	14	x	x	x	x	x	x
30	121	136	14	23	58	85	10	13	12	22	x	x	53	73	9	14

x = no observations

a : index computed from low weight data

* = yellow line observed

COMMERCE - STANDARDS - BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES

NOVEMBER 1961

CMP Nov 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	18a	24a	6a	10a		15a	24a	4a	7a		23	28	12	20		22	25	18	28	
2	20a	28a	8a	12a		15a	20a	6a	10a		27	36	9a	12a		40	67	20a	60a	
3	37a	52a	5a	7a		17a	20a	4a	7a		30a	70a	8a	10a		29a*	40a	6a	10a	
4	x	x	x	x		x	x	x	x		19a	28a	17a	20a		64a*	96a	19a	52a	
5	x	x	x	x		x	x	x	x		43a	72a	9a	12a		31a*	44a	10a	15a	
6	64	84	7a	10a		64	112	5a	5a		78	140	19	28		54	95	23	36	
7	62	73	14a	16a		79	140	16a	28a		56	84	11a	14a		38	53	13a	16a	
8	x	x	x	x		x	x	x	x		48	62	13	24		58	98	16	28	
9	x	x	x	x		x	x	x	x		23	31	5a	5a		54*	87	14a	27a	
10	21a	27a	19a	40a		9a	12a	7a	8a		x	x	x	x		x	x	x	x	
11	34a	48a	16a	30a		6a	8a	9a	10a		4a	6a	12a	15a		40a	76a	19a	25a	
12	54	106	21a	30a		8	11	12a	15a		4a	6a	11a	12a		47a	76a	15a	22a	
13	66	123	14a	18a		8	11	6a	8a		x	x	x	x		x	x	x	x	
14	113	151	x	x		14	25	x	x		x	x	x	x		x	x	x	x	
15	74	120	28	46		11	17	13	16		x	x	x	x		x	x	x	x	
16	45	89	10a	12a		13	25	8a	12a		17	22	11	18		49	90	17	28	
17	21a	24a	8a	10a		8a	12a	8a	10a		x	x	8a	10a		x	x	7a	10a	
18	18a	20a	12a	15a		12a	16a	12a	15a		x	x	x	x		x	x	x	x	
19	19a	28a	8a	10a		15a	18a	7a	10a		x	x	x	x		x	x	x	x	
20	47	65	16	32		38	70	15	18		9a	17a	x	x		27a	31a	x	x	
21	37	53	13a	16a		19	31	13a	16a		15	17	9a	12a		35	39	6a	8a	
22	37	47	10a	20a		14	17	12a	18a		x	x	x	x		x	x	x	x	
23	20	25	5a	5a		11	14	7a	10a		x	x	x	x		x	x	x	x	
24	x	x	x	x		x	x	x	x		8a	8a	11a	12a		14a	22a	12a	20a	
25	12a	16a	9a	10a		9a	12a	6a	7a		x	x	x	x		x	x	x	x	
26	18a	30a	5a	5a		18a	46a	7a	10a		x	x	x	x		x	x	x	x	
27	x	x	x	x		x	x	x	x		24	31	9a	12a		26	31	8a	12a	
28	x	x	x	x		x	x	x	x		12a	20a	11a	15a		29a	40a	10a	12a	
29	x	x	x	x		x	x	x	x		49	126	21a	32a		57	100	28a	64a	
30	67	126	25	40		19	31	7	16		27	48	15	20		64	132	25	48	

x = no observations

a = index computed from low weight data

* = yellow line observed

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

NOVEMBER 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURATION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX.					TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha		MAX. INT. %
					LAT.	MER. DIST.									
ISTANBUL	05	1010	1040	N10	W22	6264	30 D	1							
	09	0237	0246	N22	W32	6269	9	1	2	0239	1.70	2.10	1.80	114	
	09	1004 E	1011 D	N12	W80	6264	7 D	1	2	1007	.60	2.20			
	09	1335 E	1346 D	N13	W85	6264	11 D	1	3	1340	1.00	4.50			
	10	1434	1452	N09	W90	6265	18	1+	3		1.73			28	
	10	1510 E	1530 D	N07	W90	6265	20 D	1	1					SLOW S-SWF	
	10	1852 E	1917	N09	E63	6271	25 D	1	1	1853		2.00			
	10	1853 E	1858 D	N11	E62	6271	5 D	1	1	1858	2.10	4.30	1.80	18	
	10	1855 U	1916	N07	E62	6271	21 U	1	3		1.96	2.93			
	11	1125 E	1136 D	N18	W15	6270	11 D	1				3.00			
WENDEL	11	1213	1252 D	N04	E49	6271	39 D	1+			5.00				
	11	1411	1438 D	N17	W15	6270	27 D	1			3.00				
ONDREJOV	12	1257 E	1303	N17	W27	6270	6 D	1	1						
WENDEL	15	0840 E	0858 D	N08	E22	6273	18 D	1			3.00				
	15	1046 E	1113 D	N20	W73	6270	27 D	1			4.00				
	15	1245 E	1317	N07	E19	6273	32 D	1			3.00				
	16	1603	1620	N20	W90	6270	17	2		2.40	12.00			S-SWF	
	19	1128	1141	N10	W62	6271	13	1			4.00				
WENDEL	20	1303	1338 D	N09	W75	6271	35 D	1			4.00				
	20	1307 E	1330 D	N09	W70	6271	23 D	1	3	1313	.60	2.20	3.20		
	20	1308 E	1320 D	N08	W80	6271	12 D	1	3	1309					
	21	0710 E	0735 D	N10	W54	6273	25 D	1	1						
UCCLE	21	0835 E	0835 D	N10	W57	6273		1	3						
ONDREJOV	21	1331 E	1338	N10	W58	6273	7 D	1	3	1334			2.70		
KODAIKNI	22	0239	0248	N07	W65	6273	9	1+	2	0244	1.70	4.20	1.00	114	
	22	0836 E	0900	N07	W70	6273	24 D	1	3						
	22	1034 E	1215 D	N08	W68	6273	101 D	1	2	1049	3.00	7.50			
	22	1139	1154	N07	W70	6273	15	1	3	1143	1.50	3.00			
	22	1142 E	1202 D	N10	W70	6273	20 D	1	3	1144			3.80		
	22	1442 E	1454	N09	W73	6273	12 D	1+	2	1444	1.20	3.50	4.00		
HUANCAYO	22	1442 E	1454	N09	W73	6273	12 D	1	2		3.90	6.91		27	
	22	2012	2044	N09	W79	6273	32	2	3					SLOW S-SWF	
SAC PEAK	22	2012	2044	N09	W79	6273	32	2	3						
KODAIKNI	23	0445	0452	N07	W75	6273	7	1	2	0447	.60	2.90	2.40	114	
	23	0742 E	0757	N11	W86	6273	15 D	1	2			3.00			
	23	0748	0753	N07	W77	6273	5	1	2	0750	.60	2.00			
	23	1008 E	1022	N11	W88	6273	14 D	1	2			3.00			
	23	1924	2005	N06	E90	6280	41	1	2	1945	.60	2.00		20	
LOCKHEED	23	2105	2131	N05	E90	6280	26	1	2	2114	.40	2.00		20	
LOCKHEED	23	2151	2248	N06	E90	6280	57	1	2	2216	.40	2.00		20	
WENDEL	26	1206	1220	N06	E03	6278	14	1				3.00			

SOLAR FLARES

NOVEMBER 1961

OBSERVATORY	DATE	OBSERVED TIME		LOCATION		DURATION	IM	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX	MAX PHASE				MEAS. AREA	CORR. AREA	MAX WIDTH	
	1961			LAT		MINUTES	FOR TANCE		Sq Deg	Sq Deg	H ₃₀	
[HONOLULU HUANCAYO SAC PEAK	30	2048 E	2138	N08	2058	50 D	1	2	3.10	3.10	2.60	
	30	2100 E	2112 D	N06	2108	12 D	2	1	2.60	2.70		
	30	2121 E	2152 D	N07	2121 U	31 D	1	1	4.76	4.76		

COMMERCE - STANDARDS - BOULDER

ATHENS ATHENS, GREECE
 BAKOU PIRICULI, USSR
 CAPETOWN ROYAL OBSERVATORY, CAPE OF GOOD HOPE
 CAPRI F CAPRI, ITALY (GERMAN)
 CAPRI S CAPRI, ITALY (SWEDISH)
 CRIMEE SIMEIZ, USSR
 HERSTMONCEU ROYAL GREENWICH OBSERVATORY, HERSTMONCEUX, ENGLAND
 HONOLULU HONOLULU
 IKOMASAN KYOTO, JAPAN
 KIEV NO KIEV GAO, USSR
 KIEV KY KIEV UNIVERSITY, USSR
 LOCKHEED LOS ANGELES, CALIF., USA
 MCNATH MCNATH-HULBERT
 MOSCOW PONTIAC, MICH., USA
 MOSCOW MOSCOW-GAISH, USSR
 NERA NEDERHORST den BERGH, NETHERLANDS
 NIZMIR KRASNAYA PAKHRA, USSR
 SAC PEAK SACRAMENTO PEAK, N.MEX., USA
 SALTSJOBADEN STOCKHOLM, SWEDEN
 SCHAUIS SCHAUISLAND, GFR
 TASHKENT TASHKENT, USSR
 WENDEL WENDELSTEIN, GFR

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

SEE DESCRIPTIVE TEXT PUBLISHED NOVEMBER 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK

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

IIIc

HOUR-UT

Sacramento Peak

Sacra
Uccle

Wendelstein

SUBFLARES

Noted as follows: Date-Universal Time-Coordinates

OCTOBER 1961

CAPRI	01	1030	N14 E15	MCMATH	09	1512	N05 W08	WENDEL	15	1423	E	S07 W55		
MCMATH	02	1435	N15 W01	MCMATH	09	1625	N05 W09	CAPRI S	15	1423	E	S06 W52		
CAPRI S	02	1435	E	N14 E00	MCMATH	09	1812	N05 W10	WENDEL	15	1436	E	N16 E60	
				HONOLULU	09	1822	E	N04 W09						
WENDEL	03	0539	E	N17 W60	KODAIKNL	10	0427	E	N04 W15	WENDEL	16	0707	E	N14 W43
WENDEL	03	0719	E	N14 W60	WENDEL	10	0756	E	N06 W15	ONDREJOV	16	0710	N09 W47	
MCMATH	03	2045	E	S13 E04	MCMATH	10	1220	E	N15 E78	ONDREJOV	16	0936	E	N13 W45
SAC PEAK	03	2056	N16 W19	HERSTHONCEU	10	1230	E	N11 E34	WENDEL	16	0937	E	N13 W49	
MCMATH	03	2100	N13 W20	MCMATH	10	1315	N15 E78	ONDREJOV	16	1305	E	N09 W50		
				MCMATH	10	1755	N15 E75	MCMATH	16	1315	N12 E46			
								MCMATH	16	1452	N12 E46			
KODAIKNL	04	0311	E	S13 E03	WENDEL	11	0908	E	N12 E22	CAPRI S	17	1116	E	S20 E90
MEUDON	04	0822	E	S13 W00	WENDEL	11	0947	E	N12 E22	MCMATH	17	1730	S19 E90	
WENDEL	04	0905	E	S13 W02	WENDEL	11	1217	E	N17 E64					
MCMATH	04	1305	E	S13 W06	WENDEL	11	1343	E	N21 E61	MCMATH	18	1442	N17 W32	
MCMATH	04	1310	N13 W28	WENDEL	11	1523	E	N08 W33	MCMATH	18	1816	N15 E16		
MCMATH	04	1538	N13 W29	HONOLULU	11	2306	N18 E56	MCMATH	18	1919	N18 E73			
SAC PEAK	04	1540	N15 W28					MCMATH	18	2013	S09 E60			
MCMATH	04	1616	N13 W08	WENDEL	12	1014	E	N17 E56	MCMATH	18	2057	S09 E60		
HUANCAYO	04	1845	E	N07 W51	WENDEL	12	1022	E	N14 E08	MCMATH	19	1500	N17 E60	
MCMATH	04	1849	E	N05 W57	CAPRI S	12	1044	E	N14 E08	SAC PEAK	19	2000	S05 W10	
					SAC PEAK	12	1416	S07 W10	SAC PEAK	19	2200	N16 W63		
WENDEL	05	1115	E	S12 W20	MCMATH	12	1417	S09 W10						
MCMATH	05	1659	S14 W22	CAPRI S	12	1419	E	S07 W10	ARCTERI	20	0905	E	S07 E53	
MCMATH	05	1750	S14 W23	HUANCAYO	12	1423	S08 W08	SAC PEAK	20	1748	N12 W13			
				WENDEL	12	1515	E	S08 W10	SAC PEAK	20	1918	N15 W75		
WENDEL	06	0756	E	N18 E21	MCMATH	12	2005	N13 E04						
WENDEL	06	1108	E	S13 W29	HONOLULU	12	2008	N15 W01	WENDEL	22	0954	E	N16 E18	
					SAC PEAK	13	1826	N15 W08	WENDEL	22	1041	E	N16 E17	
MCMATH	07	1239	N12 W70	WENDEL	14	0833	E	N12 E15	HONOLULU	22	2012	E	S18 E21	
MCMATH	07	1241	S15 W46	WENDEL	14	0907	E	N20 E28						
MCMATH	07	1801	N12 W73	CAPRI S	14	1040	E	N12 E75	WENDEL	24	1059	E	S07 E01	
MCMATH	07	2014	N12 W75	CAPRI S	14	1200	E	N12 E74	SAC PEAK	24	1848	S07 W04		
HONOLULU	07	2016	N15 W74	CAPRI S	14	1245	E	N12 E74						
				WENDEL	14	1344	E	N12 E74	KODAIKNL	26	0746	E	N03 E44	
MCMATH	08	1720	N11 W19	WENDEL	14	1441	E	N17 E21	KODAIKNL	26	0824	E	N02 E40	
MCMATH	08	1740	N11 E61	WENDEL	14	1517	E	N21 E24						
MCMATH	08	1930	E	N12 W38	WENDEL	14	1533	E	N13 W20	WENDEL	27	0824	E	N11 W06
MCMATH	08	2013	E	N04 E04	SAC PEAK	14	2154	N12 W25	SAC PEAK	28	2122	N12 W34		
MCMATH	09	1234	E	N05 W05	WENDEL	15	1201	E	S09 W54					
MCMATH	09	1309	N05 W07	SAC PEAK	15	1418	S07 W54							
MCMATH	09	1313	N16 E88											
MCMATH	09	1343	N16 E88											
MCMATH	09	1405	N05 W05											

COMBINE - STANFORD - BULLOCK

SOLAR FLARES

JULY 1961

IIIc

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.	MAX. FLARE REGION			TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	MAX. INT. °
NIZMIR	01	0815	0846	0822 U	N07 W41	6155	1			1.34			85
KIEV KO	02	1128 E	1200 D	1130 U	N05 W53	6155	1+	1	1130	2.58			74
KIEV KO	07	1331 E	1355 D	1336 U	N12 W10	6164	1+	1	1336	4.13			63
KIEV KO	08	1058 E	1110 D	1101 U	N15 E78	6170	1	1	1101	2.06			60
KHARKOV	08	1100 E	1116 D		N19 E80	6170	1	1	1101	1.13	4.40	1.90	
BAKOU	11	0817 E	0958 D	0939	S06 E35	6171	1	1		3.65			54
MOSCOW	11	1146 E	1157 D		N15 W68	6164	1	1					
KIEV KO	11	1332 E	1338 D		S08 E35	6171	1+	1	1338	3.09			110
ALMA ATA	12	0435	0500	0441	N16 W82	6164	1			.72			66
ALMA ATA	12	0457	0556	0501	S08 E27	6171	1			2.17			75
TACHKENT	12	0505	0554	0512	S08 E27	6171	1	3	0515		2.40	2.70	110
KIEV KO	12	0748 E	0810 D		S07 E26	6171	1+	1	0748	5.16			77
KIEV KO	12	0922 E	0950 D	0930 U	S08 E26	6171	1+	1	0930	5.16			84
KIEV KO	12	1030 E	1230 D		S08 E25	6171	1	1	1030	25.78			250
KHARKOV	12	1130 E	1215 D		S05 E17	6171	1	2	1155	3.40		1.90	
TACHKENT	13	0315 E	0502	0326	S05 E08	6171	1	3	0326		3.50	2.10	85
KHARKOV	13	0700 E	0704 D		S03 E08	6171	1	1	0704	5.67	5.90	1.40	
BAKOU	13	0834 E	0935 D	0906	S05 E05	6171	1+	1		7.29			57
KHARKOV	13	0920 E	0950 D		S03 E05	6171	1	1	0920	1.13	1.20	1.30	
VOROSHILOV	13	2300 E	2340		S03 W04	6171	1	1	2303	3.05			60
TACHKENT	14	0254 E	0600 D		S06 W01	6171	1	3	0255	2.46	3.00	2.70	110
TACHKENT	14	0311	0322	0315	S09 E88	6174	1	3		.36			
KHARKOV	14	0851 E	0916 D		S04 W06	6171	1	1	0851	3.40	3.50	1.50	
KIEV KO	14	1021 E	1040 D		S04 W06	6171	1	1	1030	2.06			67
ABASTUMANI	15	0550	0707	0655 U	S07 W14	6171	1	3		2.25	2.40		68
KIEV KO	15	0701 E	0710 D		S07 W16	6171	1	1	0701	2.66			77
KHARKOV	15	1041 E	1144 D		S06 W29	6171	1	1	1043	4.27	2.50	1.90	
KIEV KO	15	1120	1133	1123	S05 W20	6171	1+	1	1128	5.16			110
MOSCOW	15	1123 E	1135		S05 W21	6171	1	2	1129	2.63	2.84	2.47	150
KHARKOV	16	0750 E	0849 D	0821	S05 W29	6171	1	1	0822	4.54	5.40	2.70	
KHARKOV	16	0955 E	1119 D		S05 W32	6171	1	1	1112	3.40	4.10	1.90	
VOROSHILOV	17	0026	0036 D	0029	S05 W41	6171	1+	1		2.78			98
TACHKENT	17	0218 E	0600 D		S06 W45	6171	1	1	0304	2.00	2.90	3.10	115
KHARKOV	17	0757 E	0926		S05 W46	6171	3	3	0804		28.60	2.00	
ABASTUMANI	18	0502	0823	0808	S08 W60	6171	2	3		3.60	7.70		94
TACHKENT	18	0503 E	0515	0505	S06 W58	6171	1+	1	0504	4.10		5.50	180
KIEV KO	18	0510 E	0520 D		S08 W60	6171	1	1	0510	2.06			98
NIZMIR	18	0805	0842	0809	S08 W59	6171	2	2		4.54			180
KHARKOV	18	0809 E	0839 D		S09 W60	6171	3	3	0812	6.91	12.60	2.40	
KIEV KO	18	0810 E	0830 D		S07 W61	6171	1+	1	0810	3.09			136

COMMERCE • STANDARDS • BOULDER

SOLAR FLARES

JULY 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS COND	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX LAT.	M-MATH PLAGE REGION					TIME	MEAS AREA Sq Deg	CORR. AREA Sq Deg	MAX. WIDTH Ha		MAX. INT %
					MER DIST										
	JULY 1961														
BAKOU	18	0813	0840	S04	W59	6171	27	2	2	6.38			65		
CRIMEE	18	0814 E	0823	S07	W55	6171	9 D	1+	1						
NIZMIR	18	0929	1206	S11	W59	6171	157	3+		21.66			240		
NIZMIR	18	0929	1206	S11	W59										
NIZMIR	18	0929	1206	S11	W59										
BAKOU	18	0930	1105	S07	W60	6171	95	3	2	15.05	56.90	4.10	79		S-SWF
KHARKOV	18	0931	1200	S08	W62	6171	149	3+	3	0952	26.33				
MOSCOU	18	0944 E	1106	S10	W63	6171	82 D	3+		1010	23.65	7.50	300		
CRIMEE	20	0718	0736	S10	W85	6171	18 D	1	1	0721	1.35		84		S-SWF
ALMA ATA	22	0526	0545	N13	W75	6172	19	1		.72			57		
TACHKENT	24	0410	0602	N13	E18	6178	112	3		0458	27.16	28.70	3.10	90	
ALMA ATA	24	0410	0612	N12	E19	6178	122	2			6.67		100		LOW S-SWF
ALMA ATA	24	0410	0612	N17	E18										
ALMA ATA	24	0410	0612	N19	E18										
ALMA ATA	24	0507	0514	N09	E11	6178	7	1			.90		88		
KHARKOV	24	0854	1016 D	N05	E12	6178	82 D	1+	2	0859	6.81	7.00	1.50		
NIZMIR	24	0904 E	0945	N12	E12	6178	41 D	1			1.80		95		
NIZMIR	24	0904 E	0945	N09	E13			1			4.50				
KIEV KO	24	0910 E	0938 D	N12	E11	6178	28 D	1	1	0910	2.06		84		
NIZMIR	25	0801	0803 D	N07	W01	6178	2 D	1		< 0805	1.03		95		
BAKOU	27	0628	0651	N07	W27	6178	23	1+	1		5.93		52		
KIEV KO	27	0955 E	1535 D	N08	W90	6175	340 D	□	1	1212	4.13				
TACHKENT	28	0248 E	0431	N13	W40	6178	103 D	2		0249	3.61	4.60	4.00	175	S-SWF
ALMA ATA	28	0502	0548	N10	W89	6175	46	1+			.54		88		

These flare reports are addenda to the July 1961 flares published in CRPL-F 204 Part B, August 1961 also CRPL-F 207 Part B, November 1961.

COMMERCE - STANDARDS - BOULDER

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

JULY 1961

HOUR-UT

IIIg

Stations Include:

Abastumani	Capri S	Kharkov	Moscou	Uccle
Alma-Ata	Climax	Kiev KO	Nizmir	Voroshilov
Arcetri	Crimee	Lockheed	Ondrejov	Wendelstein
Bakou	Herstmonceux	McMath-Hulbert	Ottawa	
Bucharest	Honolulu	Meudon	Sacramento Peak	
Capetown	Ikomasan	Mitaka	Tachkent	

COMMERCE - STANDARDS - 50% DER

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA TION — MINUTES	IM- POR- TANCE	OBS. COND	TIME UT	MEASUREMENT			PROVISIONAL LONGSPHERIC EFFECT
		START	END	APPROX LAT	M-MATH PLACE REGION					MEAS AREA Sq Deg	CORR. AREA Sq Deg	MAX WIDTH Ha	
ABASTUMANI CAPRI F NIZMIR	01	0708 E	0732 D	S22 E22	6187	24 D	1	3	0712	2.70	3.40	58	
	01	0711 E	0731	S21 E20	6187	20 D	1	3			3.00		
	01	0715 E	0734	N01 W90	6178	43 D	1			1.34		80	
CAPRI F	02	0542 E	0613	N21 W50	6180	31 D	1	3	0544		3.00		
CAPRI F CRIMEE	03	0700 E	0750	S14 W38	6181	50 D	1	3	0717		5.00		
	03	0722 E	0745	S14 W41	6181	23 D	1	1	0722	1.35		80	
KHARKOV CAPRI F CAPRI F	04	1119 E	1218	N22 W24	6184	59 D	1	3	1139	2.29	2.50	1.20	
	04	1130 E	1138 D	N08 W19	6184	8 D	1	3			3.00		
	04	1601 E	1611 D	S14 W56	6181	10 D	1	2	1602		2.00		
CAPRI F	06	0615 E	0627 D	S13 W82	6181	12 D	1	3	0617		2.00		
NIZMIR CAPRI F	06	0644 E	0705	S11 W90	6181	21 D	1			1.80		50	
	06	0947 E	0957 D	S13 W85	6181	10 D	1	3	0947		2.00		
NIZMIR NIZMIR	07	0909 E	0925	N11 E-0	6182	16	1			1.80		45	
	07	0945 E	0948	N14 E90	6182	3 D	1			.93		50	
CAPRI F CAPRI F	08	1038 E	1129 D	S05 E11	6191	51 D	1	3	1041		5.00		
	08	1456 E	1525 D	N16 E75	6195	29 D	1	3	1500		4.00		
CAPRI F BAKOU CAPRI F CAPRI F	09	0605 E	0732 D	N17 W4	6197	87 D	1	3	0607		3.00		
	09	0754 E	0803 D	N15 E70	6195	9 D	1	3	0758	1.37	3.77		
	09	0755 E	0906	N14 E68	6195	13 D	1	3	0757		4.00	50	
	09	1407 E	1417	N17 W08	6197	10 D	1	3			3.00		
CAPRI F	09	1436 E	1442	N18 E64	6195	7 D	1	2	1437		4.00		
CAPRI F CAPETOWN CAPETOWN	10	0547 E	0659 D	N17 W17	6197	69 D	1	3	0555		3.00		
	10	1215 E	1235	N16 E55	6195	20	1		1221	2.10	3.60		
	10	1218 E	1230	N09 E78	6192	12	1		1222	.70			
CAPRI F	10	1232 E	1242 D	N15 E52	6195	10 D	1	3	1235		2.00		
OTTAWA CAPRI F UCCLE	10	1433 E	1448	N10 E80	6199	15	1	3	1410	1.20	2.80		
	10	1434 E	1449 D	N09 E76	6195	15 D	2	3	1439		7.00		
	10	1437 E	1446	N09 E80	6192	9	1+	3	1439	2.70	8.10		
CAPRI F	10	1510 E	1517 D	N14 E50	6195	7 D	1	3	1514		3.00		
ALMA-ATA CRIMEE KHARKOV	11	0350 E	0410 D	N08 E69	6192	20 D	1	1	0355	.77		50	
	11	0636 E	0646 D	N03 E04	6193	12 D	1	1	0638	1.80		71	
	11	0637 E	0646	N05 E61	6199	9 D	1+	3	0643	2.29	4.00		
CAPRI F	11	0643 E	0653	N07 E64	6194	10 D	1	3	0645		3.00	1.70	
NIZMIR	11	0811 E	0814	N06 E63	6199	3 D	1			.93		90	
CAPRI F	11	0845 E	0917 D	N07 E63	6199	32 D	1	3	0848		3.00		
CAPRI F	11	1015 E	1022 D	N13 E42	6195	7 D	1	3	1018		3.00		
KHARKOV	11	1021 E	1035	N05 E59	6199	14 D	1	3	1021	2.29	4.60	1.20	
CAPRI F	11	1144 E	1152 D	N13 E44	6195	8 D	1	3			3.00		
CAPETOWN UCCLE	11	1301 E	1306 D	N09 E61	6199	5 D	1	3	1303	1.00	2.10		
	11	1301 E	1312	N09 E62	6199	11	1	3	1303	1.00	3.80		
	11	1650 E	1710 D	N06 E60	6199	20 D	1	3	1655		3.00		

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT			
		START	END	MAX. PHASE	APPROX.					MC-MATH PLACE REGION	TIME — UT	MEAS. AREA Sq. Deg.	CORR. Sq. Deg.		MAX. WIDTH He	MAX INT %	
					LAT.	MER DIST											
CAPRI F KHARKOV CAPRI F KHARKOV KHARKOV KHARKOV CRIMEE CAPETOWN OTTAWA KIEV NO CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F	AUG 1961	0610 E	0636		N06 E49	6199	26 D	1	3	0610	1.71	3.00	1.20				
	12	0947 E	1119	1055	N19 W47	6197	92 D	1	3	1055		2.20					
	12	1010 E	1102 D	1034	N17 W45	6197	52 D	2	3	1034		7.00					
	12	1030 E	1140 D	1036	N14 W46	6197	70 D	1	3	1036	1.71	2.20	1.50				
	12	1100 E	1117 D	1109	N07 E63	6199	17 D	1	3	1109	2.87	2.80	2.40				
	12	1106 E	1117 D		N07 E48	6199	11 D	1+	2	1109	3.60			72			
	12	1106	1119	1109	N07 E47	6199	13	1	1109	2.90	4.30						
	12	1106	1120	1109	N06 E48	6199	14	1		2.10	2.50						
	12	1107 E	1119 D	1110	N07 E48	6199	12 D	1+	3	1113	3.09			110			
	12	1109 E	1120 D		N06 E46	6199	11 D	1+	3	1147		6.00					
	12	1140 E	1232 D		N18 W46	6197	52 D	1	3	1437		4.00					
	12	1437 E	1443		S02 E80	6201	6 D	1	3	1627		3.00					
TACHKENT CAPRI F CAPETOWN CRIMEE SCHAJINS CAPRI F CAPRI F CLIMAX CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F		0330	0410	0344	N05 E39	6199	40	1+	2	0348	5.16	6.00	4.00	155			
	13	0625 E	0634 D		N05 E36	6199	9 D	1	3	0627		3.00					
	13	0903	0917	0906	N05 E36	6199	14	1		0908	1.70	2.10					
	13	0903 E	0919 D	0907	N05 E36	6199	16 D	1	2	0907	2.25			73			
	13	0940 E	1035 D		N17 E12	6195	55 D	1	3		3.00	4.00					
	13	0944 E	0952 D		N16 E05	6195	8 D	1	3	0945		3.00					
	13	1014 E	1027 D		N05 E34	6199	13 D	1	2	1016		3.00					
	13	1351	1404 D	1355	S01 E71	6201	13 D	1	2		2.40	4.60					
	13	1405 E	1421		N13 E09	6195	16 D	1	3	1408		3.00					
	13	1405 E	1427		S01 E71	6202	22 D	1+	3	1408		6.00					
	13	1410 E	1440		N05 E32	6199	30 D	1	3	1410		3.00					
	13	1420 E	1447 D		N20 W60	6197	27 D	1	3	1427		3.00					
CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F		1508 E	1512 D		N05 E36	6199	4 D	1	3	1509		2.00					
	13	1520 E	1542 D		N06 E30	6199	22 D	1	3	1520		5.00					
	13	1607 E	1615 D		N18 W62	6197	8 D	1	3	1607		4.00					
	13	1658 E	1707 D		N05 E29	6199	9 D	1	3	1659		3.00					
	14	0647 E	0652 D		N08 E27	6199	8 D	1	3	0648		4.00					
	14	0730 E	0742 D		N18 W75	6197	12 D	1+	3	0730		6.00					
	14	0732 E	0811	0744 U	N16 W76	6197	39 D	1			1.00						
	14	0740 E	0742 D		N05 E27	6199	2 D	1	3	0742		3.00					
	14	0908	0930	0912	S01 E60	6201	22	1	2	0912	2.73	5.84		56			
	14	0908	0930	0911	N00 E61	6201	22	1		0911	1.50	3.10					
	14	0935	0959	0942	N16 E07	6195	24	1	2	0942	2.28	2.36		56			
	14	0936	1014	0944	N16 E05	6195	38	1		0944	2.10	2.10					
CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F CAPRI F		1415	1705		S08 W69	6191	170	2		1505	3.30	6.00					
	14	1432 E	1702 D	1500	S10 W73	6191	150 D	2	3	1500		8.00					
	14	1710 E	1717 D		N16 W80	6197	7 D	1	2	1703		5.00					
	14	1730	1739	1732	N06 E21	6199	9	1			2.20	2.20					
	15	1037 E	1142 D	1055	N17 W85	6197	65 D	1	3	1056		6.00					
	15	1040	1115	1050	N16 W90	6197	35	1			.20						
	15	1655 E	1717 D		N12 W19	6195	22 D	1	3	1700		4.00					
	15	1656 E	1714 D		N05 W20	6195	18 D	1		1657	2.40	2.40					
	16	0259	0346	0303	N12 W24	6195	47	1+	3	0303	2.06		2.60	97			
	16	0304	0350	0306	N13 W25	6195	46	1	3	0315	1.83	2.00	2.60	65			

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME			LOCATION			DURATION — MINUTES	IM POR- TANCE	OBS COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX PHASE	LAT	APPROX MER DIST	MCARTHUR PLACE REGION				TIME UT	MEAS AREA Sq. Deg	CORR AREA Sq. Deg	MAX WIDTH H _o	MAX INT °
ALMA-ATA	16	0359 E	0422	0339	N17	W17	6195	23 D	1	3	0339	1.03			58
ALMA-ATA	16	0455	0527	0500	N17	W27	6195	32	1+	3	0500	6.60			60
CAPRI F	16	0557 E	0647 D		50	W24	6194	50 D	1	3	0558		3.00		
CAPRI F	16	1020 E	1037 D		N16	W21	6195	17 D	1	3	1024		5.00		
CAPRI F	16	1257 E	1340 D		N07	W03	6195	43 D	1	3	1300		3.00		
CAPRI F	16	1632 E	1634 D		S01	E26	6201	2 D	2	1	1641		11.00		
CAPRI F	17	1146 E	1212 D		N10	W16	6199	26 D	1	3	1202		3.00		
CAPRI F	17	1330 E	1337 D		S14	E35	6203	7 D	1	3	1333		3.00		
CAPRI F	17	1432 E	1505 D		N06	W17	6199	33 D	1	3	1432		3.00		
TACHKENT	18	0358	0512	0411	N09	W28	6199	14	1	3	0413	2.37		2.50	85
CAPRI F	18	0613 E	0637 D		N09	W27	6199	24 D	1	3	0625		3.00		
OTTAWA	18	1253	1400	1310	N09	W35	6199	67	1	3		3.00			
CAPRI F	19	0727 E	0747 D		N07	W42	6199	20 D	1	3	0728		3.00		
CAPETOWN	19	0804	0832	0806	N16	W71	6195	28	1		0806	.70			
CAPRI F	19	0818 E	0832 D		N12	W73	6195	14 D	1	3	0820		3.00		
CAPETOWN	19	0900	0925	0906	N16	W71	6195	25	1		0906	.80			
CAPRI F	19	0901 E	0912 D		N12	W73	6195	11 D	1	3	0903		3.00		
CAPETOWN	20	0736	0748	0738	N13	W89	6195	12	1		0738	.30			
ALMA-ATA	22	0256 E	0459	0319	N01	W52	6201	123 D	1	2	0319	1.19			63
CAPETOWN	22	1037	1342 D	1132 U	N09	W12	6204	185 D	2+		1132	8.90	9.00		
CAPRI F	22	1038 E	1235 D	1136	N06	W15	6204	117 D	2	2	1136		11.00		
KIEV KO	22	1121 E	1156		N10	W13	6204	35 D	1+		1121	7.22			61
CAPRI F	22	1317 E	1322 D		N09	E58	6208	5 D	1	3	1324		4.00		
CAPRI F	24	1316 E	1342 D		N20	E77	6210	26 D	1	3	1319		5.00		
CAPRI F	25	1405 E	1435 D		N16	E02	6206	30 D	1	3	1407		4.00		
CAPRI F	26	0628 E	0654		N10	E12	6208	26 D	1	3	0642		3.00		
CAPRI F	26	0652 E	0700		N16	W06	6206	8 D	1	3	0655		2.00		
SCHAUMS	26	1616 E	1630 D		N16	W11	6206	14 D	1	2		3.00			
CAPRI F	27	0930 E	0953 D		S15	W10	6207	23 D	1	3	0933		3.00		
CAPRI F	27	1105 E	1115 D		S15	W10	6207	10 D	1	3			3.00		
CAPRI F	28	1125 E	1142 D	1134	N21	W35	6206	17 D	1	3	1137		3.00		
CAPRI F	28	1535 E	1610 D		N18	W37	6206	35 D	1	3	1552		5.00		
CAPRI F	29	1035 E	1135 D		N20	E24	6210	60 D	1	3	1048		5.00		
SCHAUMS	29	1055 E	1110		N18	E17	6210	15 D	1	2		3.00			
CAPRI F	29	1528 E	1605 D		N12	E76	6212	37 D	1	3	1530		3.00		
CAPRI F	30	0632 E	0720 D		N12	E69	6212	48 D	1	3	0642		4.00		
BAKOU	30	0806 E	0935 D	0826	N12	E68	6212	89 D	1	2		1.19			51
UCCLE	30	0930	0933 D	0933	N20	W72	6206	3 D	1+	3	0933	3.00	6.00		
CAPETOWN	30	0931 E	0959		N18	W63	6206	28 D	2		0935	2.60	5.30		

SOLAR FLARES

AUGUST 1961

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
				APPROX. LAT.	McMATH PLAGE REGION	MER. DIST.				TIME	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
	AUG 1961	START	END	MAX PHASE						U T			
SCHAUMS	30	0938 E	0953		N19 W60	6206	15 D	1	2		3.00		
CAPRI F	30	0939 E	0957 D		N20 W60	6206	18 D	1	3	0941		5.00	
CAPRI F	30	1340 E	1355 D		N12 E60	6212	15 D	1	3	1345		5.00	
CAPRI F	30	1535 E	1607 D		N20 W65	6206	32 D	1	3	1540		5.00	
CAPRI F	30	1535 E	1607 D		N11 E60	6212	32 D	1	3	1540		3.00	
CAPRI F	31	0714 E	0808 D		N10 E51	6212	54 D	1	3	0716		4.00	
CAPRI F	31	0737 E	0808 D		N19 W71	6206	31 D	1	3	0738		3.00	
CAPRI F	31	0828 E	0857 D		N14 W06	6210	29 D	1	3	0830		5.00	
SCHAUMS	31	0830 E	0840 D		N20 W06	6210	10 D	1	2		3.00		
CRIMEE	31	0901 E	0909	0903	N13 E50	6212	8 D	1	2	0903	.90		
CAPRI F	31	0913 E	0925		N12 E48	6212	12 D	1	3	0918		4.00	84
CAPRI F	31	1137 E	1142 D		N19 W75	6206	5 D	1	3	1140		4.00	
CAPRI F	31	1240	1302 D		N12 E45	6212	22 D	2	3	1244		7.00	
SCHAUMS	31	1500	1514		N09 E46	6212	14	1	2		3.00		
CAPRI F	31	1505 E	1545 D		N12 E45	6212	40 D	1	3	1507		5.00	

COMMERCE - STANDARDS - BOULDER

These are additions to flares published in 35-Flares, September 1961.

E = LESS THAN	CAPRI G	ANACAPRI - GERMAN	MCNATH	MCNATH-HULBERT
D = GREATER THAN	CAPRI F	ANACAPRI - SWEDISH	MOSCOW-G	MOSCOW - GAISH
U = APPROXIMATE	GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	R O HERST	ROYAL GREENWICH OBSERVATORY.
□ = NOT REPORTED	KIEV*	KIEV UNIVERSITY		HERSTMONCEUX
	KODAIKANAL	KODAIKANAL	SAC PEAK	SACRAMENTO PEAK
	KRASNYA	KRASNAYA PAKHRA	SCHAUMS	SCHAUMS
	LOCKHEED	LOS ANGELES	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 1961 FOR DEFINITION OF CORRECTED AREA VALUES LISTED FOR CLIMAX, HAWAII, LOCKHEED AND SACRAMENTO PEAK.

INTERVALS OF NO FI ARE PATROL OBSERVATIONS AMENDED AUGUST 1961

III

HOUR-UT

Stations Include:

COMMERCE - STANDARDS - BOULDER

Abastumani	Capri S	Ikomasan	McMath-Hulbert	Ottawa
Alma-Ata	Climax	Istanbul	Meudon	Sacramento Peak
Arceetri	Crimee	Kharkov	Mitaka	Tachkent
Bakou	Herstmonceux	Kiev KO	Moscou	Uccle
Bucharest	Honolulu	Kodaikanal	Nizmir	Vorashilov
Capetown	Huancayo	Lockheed	Ondrejov	Wendelstein

NO. 100-100-100

SOLAR FLARES

JANUARY - 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.					MATH PLACE REGION	TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH He	MAX. INT. °
					LAT.	MER. DIST.										
KODAIKNL	1961 JAN 01	0257 E	0317 D	0257	N10	W39	5977	20 D	1	2	2.20	2.90	2.40	154	Slow S-SMF	
	17	0445 E	0502 D	0455	S08	W45	5998	17 D	2	3	0459	3.90	5.70	2.40		154
	27	0436 E	0448 D	0438	N09	E51	6013	12 D	1	3	0437	1.90	2.90	1.60		154
	29	0511 E	0534 D	0528	N05	W37	6009	23 D	1	3	0528	3.90	4.60	1.56		154
	29	0631 E	0636 D	0636	N06	W38	6009	5 D	1	3		3.20	4.20	1.56		154
	30	0631 E	0636 D	0632	N10	E11	6013	5 D	1		0632	2.80	3.00	2.10		135
KODAIKNL	FEB 01	0708 E			N10	W15	6013		1	1	2.60	2.80				
	08	0235 E	0245 D	0237	S12	E15	6023	10 D	1	2	0237	1.60	1.60	1.44		122
KODAIKNL	MAR 18	0558 E	0612 D	0607	N04	E16	6059	14 D	1	2	0605	2.50	2.70	1.32	122	
KODAIKNL	APR 06	0200 E	0230 D	0210	N15	W03	6077	30 D	1	2	0210	2.50	2.60	1.56	122	Slow S-SMF
KODAIKNL	27	0244 E	0315 D	0250	S08	E45	6098	31 D	1	2	0250	1.90	2.70	1.52	114	
KODAIKNL	MAY 24	0426 E	0501 D	0430	N17	E18	6122	35 D	2	2	0430	6.80	7.60	2.00	154	Slow S-SMF

COMMERCE - STANDARDS - BOULDER

These are addenda to flares published in CRPL-F 197 thru 201 Part B, January - May 1961.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

JANUARY 1961

HOUR-UT

Stations Include:

COMMERCE - STANDARDS - BOULDER

Alma-Ata	Crimée	Kharkov	Mitaka	Uccle
Arcetri	Herstmonceux	Kiev KO	Nizmir	Varoshilov
Bakou	Honolulu	Kodaikanal	Ondrejov	Wendelstein
Capetown	Huancayo	Lockheed	Ottawa	
Capri S	Ikomasan	McMath-Hulbert	Sacramento Peak	
Climax	Istanbul	Meudon	Tachkent	

INTERVALS OF NO FLARE PATROL OBSERVATIONS
AMENDED
FEBRUARY 1961
HOUR-UT

1110

Stations Include:

COMMERCE - STANDARDS - BOULDER

Abastumani	Climax	Ikomasan	McMath-Hulbert	Sacramento Peak
Alma-Ata	Crimée	Kharkov	Meudon	Tachkent
Arcetri	Herstmonieux	Kiev KO	Mitaka	Uccle
Bakou	Honolulu	Kodaikanal	Ondrejov	Voroshilov
Capetown	Huancayo	Lockheed	Ottawa	Wendelstein
Capri S				

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

MARCH 1961

HOUR-UT

IIIp

Stations Include:

COMMERCE - STANDARDS - BOULDER

Abastumani	Capri S	Ikomasan	Meudon	Sacramento Peak
Alma-Ata	Climax	Kharkov	Mitaka	Tachkent
Arcetri	Crimée	Kiev KO	Moscou	Uccle
Bakou	Herstmonceux	Kodaikanal	Nizmir	Voroshilov
Bucharest	Honolulu	Lockheed	Ondrejov	Wendelstein
Capetown	Huancayo	McMath-Hulbert	Ottawa	

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

APRIL 1961

HOURLY-UT

IIIq

Stations Include;

Abastumani	Capetown	Huancayo	Lockheed	Ondrejov	Uccle
Alma-Ata	Climax	Ikomasan	McMath-Hulbert	Ottawa	Voroshilov
Arcetri	Crimée	Kharkov	Meudon	Sacramento Peak	Wengeisteir
Bakou	Herstmonceux	Kiev KO	Mitaka	Schauinsland	
Bucharest	Honolulu	Kodaikanal	Moscou	Tachkent	

COMMERCE - STANDARDS - BOULDER

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AMENDED

MAY 1961

HOUR-UT

IIIr

Stations Include:

COMMERCE - STANDARDS - BOULDER

Abastumani	Capri S	Ikomasan	Meudon	Sacramento Peak
Alma-Ata	Climax	Kharkov	Mitaka	Tachkent
Arcetri	Crimée	Kiev KO	Moscou	Uccle
Bakou	Herstmonceux	Kodaikanal	Nizmir	Voroshilov
Bucharest	Honolulu	Lockheed	Ondrejov	Wendelstein
Capetown	Huancayo	McMath-Hulbert	Ottawa	

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

OCTOBER 1961

OCTOBER 1961	UNIVERSAL TIME			SWF TYPE	IMP	IMPORTANCE					WIDE SPREAD INDEX	STATIONS	KNOWN FLARE
	START	END	MAX			ABS	SCNA	SEA	SPA	BUR			
[03	2305	2318	2307			25	1				5	HA 60	
03	2313		2322					1			3	A5 A3	
30	2033	2110	2045					2			5	A5 A9	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

NOVEMBER 1961

OTTAWA

2800 MC

Nov. 1961	Type	START UT	DURATION HRS:MIN	MAXIMUM			REMARKS
				TIME UT MAX	PEAK FLUX	NEAR FLUX	
6	3 Simple 3	1845	28	1850	3	1.4	
10	6 Complex f	1428	38	1444	124	46	
	4 Post Increase		2 50		8	5.5	
16	3 Simple 3 A	1527	3 43	1635	6	4	
	6 Complex	1535.8	4.2	1538	7	3	
22	1 Simple 1	1441.3	2	1441.8	3	1.5	
30	3 Simple 3	1810	2 08	1832	5	2	

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

Nançay

NOVEMBER 1961

169 Mc

SOLAR RADIO EMISSION

NOVEMBER 1961

BOULDER

108 Mc.

Nov. 1961	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
3	3	1403.0	1405.4	1.0	3
3	3	1717.3	1717.9	1.0	2
4	3	1752.4	1752.8	1.2	2
8	3	1429.6	1431.1	1.6	2
10	1	1404		28	1
10	9A	1432.0	1435	5	3
10	9B	1438.0	1441	23	3
11	8	1348.0	1349.2	3.2	3
11	8	1541.5	1542.5	2.8	3

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATION

NOVEMBER 1961

BOULDER

108 MC

Nov. 1961	U.T.	Nov. 1961	U.T.
1	1334-2037; 2223-2343	16	1351-1536; 1631-2328
2	1335-2342	17	1352-2327
3	1336-2341	18	1353-2327
4	1337-2340	19	1355-2326
5	1338-1458; 1646-2338	20	1356-2325
6	1340-2337	21	1357-2325
7	1341-2336	22	1358-2324
8	1342-2335	23	1359-2324
9	1343-2334	24	1400-2323
10	1344-2333	25	1401-2323
11	1345-2333	26	1402-2322
12	1415-2332	27	1403-2321
13	1348-2331	28	1404-2320
14	1349-2330	29	1405-2320
15	1350-2329	30	1406-2320

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVd

JULY 1961

Fort Davis

25-580; 1200-3900 Mc.

1961 <small>1000-1500 Mc. 12</small>	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U.T	INT		
July 1	0000-0150 1210-2400					Weak I throughout day
July 2	0000-0150 1210-2400	III	1823-1825	1-3	350-25	Weak I throughout day
July 3	0000-0150 1210-2400					
July 4	0000-0150 1210-2400					
July 5	0000-0035 1225-2400					
July 6	0000-0150 1225-2400					
July 7	0000-0150 1225-2400	I I I IIIG	2020-2120 ~2120-2215 ~2215-2400 2322-2323	1- 1 1- 2	350-200 320-175 320-200 320-50	
July 8	0000-0150 1225-2400					
July 9	0000-0150 1225-2400	IIIG	1442-1444	2	350-50	
July 10	0000-0150 1226-2400					Weak I throughout day
July 11	0000-0150 1226-2400	IV II	1655-1845 1701.5-1718	1-3 3	3900-25 140-25	Weak I throughout day
July 12	0000-0150 1226-2400	I	1300-2400	1	150-25	
July 13	0000-0150 1226-2400	I	~1600-~1700	1	150-50	Weak I throughout day
July 14	0000-0150 1225-2400	IIIG IIIG	0025-0031 0033.5-0035	1-2 2	350-25 260-100	Weak I throughout day
July 15	0000-0150 1225-2400	I IIIG IV** I	~0030-0145 1433-1441 1533-1623 ~1540-1710	1 1-3 1-3 1-2	200-100 350-25 580-100 300-50	IV** Continuum with Type III structure
July 16	0000-0150 1226-2400	IIIG	1259-1301	2	580-240	
July 17	0000-0150 1225-2400					
July 18	0000-0150 1226-2400	IIIG IIIG	0037-0038 1615-1618	3 3	280-50 580-25	
July 19	0000-0150 1226-2400					
July 20	0000-0150 1226-2400	IV II IV** IV IIIG	1552-1602 1554.3-1555.8 1557.2-1619 1607-1613* 1614-1629 2007-2008	2-3 3 3 3 2-3 3	3900-350 420-150 250-25 3900-50 3900-180 150-25	IV** Continuum with Type III structure
July 21	0000-0150 1226-2400	Unc1.	1704-1722	1-3	580-100	1704: Unc1. Resembles Type II burst
July 22	0000-0150 1226-2400					
July 23	0000-0150 1226-2400	I IIIG IIIG IV	~0000-0145 2129-2132 2227-2229 2347-2359	1 1 3 2-3	300-100 580-150 450-25 580-100	
July 24	0000-0150 1226-2400	IIIG IIIG I I	0118-0121 1737-1738 ~1925-~1945 ~2020-~2200	2 3 1 1-2	450-100 150-25 450-25 180-25	Weak I throughout day 1925: Mainly increase in continuum background
July 25	0000-0150 1226-2400	IIIG IIIG IIIG	1529-1531 1640-1643 1857-1901	2-3 2 2-3	240-25 200-25 300-25	Weak I throughout day
July 26	0000-0150 1226-2400					Weak I throughout day
July 27	0000-0150 1226-2400					
July 28	0000-0150 1226-2400					

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

JULY-AUGUST 1961

Fort Davis

25-580; 1200-3900 Mc.

(96)	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U T	INT		
July 29	0000-0130 1226-2400	IIIG	1643-1644	2	300-125	
July 30	0000-0145 1241-2400	II	1926.7-1930	2	180-50	
July 31	0000-0145 1240-2400					
Aug. 1	1240-2400					
Aug. 2	1240-2400	IIIG	1753-1755	1-2	250-50	
Aug. 3	1240-2400					
Aug. 4	1241-2400					
Aug. 5	1241-2400					
Aug. 6	1241-2400					
Aug. 7	1241-2400					
Aug. 8	1240-2400					
Aug. 9	1241-2400					
Aug. 10	1241-2400	IIIG IIIG IIIG IIIG	1437-1440 1445-1447 2141-2143 2316-2319	2 2 2 1-2	300-50 280-100 220-25 450-50	
Aug. 11	1241-2400	IIIG IIIG	1301-1303 1306-1309	2 1-2	400-25 400-100	
Aug. 12	1240-2400	IIIG II IIIG IIIG IIIG IIIG IIIG IIIG	1613-1617 1618.2-1631 1628-1631 1711-1717 1720-1723 1811.5-1813 2048-2052 2311-2314	3 2 2 1-3 3 3 4+ 2	500-25 220-25 240-25 580-25 150-25 240-25 350-25 500-50	
Aug. 13	1240-2400	IIIG IIIG	1516-1520 1908-1913	2 3	200-25 300-25	
Aug. 14	1240-2400					
Aug. 15	1240-2400	IIIG IIIG IIIG IIIG	1454-1456 1906-1909 2018-2020 2030-2035	2 1-3 2 2-3	200-25 350-25 240-25 400-25	Weak I throughout day
Aug. 16	1240-2400	I IIIG	1245-1320 1827-1829	1 1-3	300-100 350-25	Weak I throughout day
Aug. 17	1242-2400					Weak I throughout day
Aug. 18	1240-2400	IIIG II	2039-2048 2046.2-2110	2-3 3	180-25 180-25	Weak I throughout day
Aug. 19	1241-2400					
Aug. 20	1241-2400					
Aug. 21	1241-2400					
Aug. 22	1256-2400					
Aug. 23	1256-2400					
Aug. 24	1256-2400					
Aug. 25	1256-2400					
Aug. 26	1256-2400					
Aug. 27	1256-2400					
Aug. 28	1256-2400					
Aug. 29	1256-2400	IIIG IIIG IIIG	1713.5-1716 1937-1938 2019-2021	2 3 3	350-60 450-60 450-60	
Aug. 30	1256-2400	I IIIG	1755-1840 2319-2322	1-2 3	250-25 580-125	Weak I throughout day
Aug. 31	1256-2400	IIIG IIIG	1501-1504 1513-1515	2 2	580-230 500-75	Weak I throughout day

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVf

SEPTEMBER 1961

Fort Davis

25-580; 1200-3900 Mc.

1961 <small>SEPTEMBER 1961</small>	OBSERVING HOURS	IMPORTANT BURSTS			FREQUENCY RANGE MC	REMARKS
		TYPE	TIMES U. T	INT		
Sep. 1	0000-0110 1257-2400	IIIG	2156-2158	1	300-30	Weak I throughout day
Sep. 2	0000-0110 1257-2400	IIIG	1403-1408	2	580-25	2309: Reverse drifts 500-350 Mc Weak I throughout day 2043: Uncl. Resembles weak Type II burst
		IIIG	1410-1416	2-3	580-25	
		IIIG	1432-1434	3	580-25	
		Uncl.	2043-2054	1	90-25	
Sep. 3	0000-0105 1257-2400	I	1913-2400	1	300-100	Weak I throughout day
		II	2049-2055	1	200-35	
Sep. 4	0000-0105 1257-2400	I	0000-0100	1	300-120	Weak I throughout day
		IIIG	2150-2152	2	500-100	
Sep. 5	0000-0100 1257-2400	Uncl.	1500.6-1504	3	490-350	Weak I throughout day 1500.6: Uncl. Short lived continuum burst
		IIIG	1510.5-1511	2	350-125	
Sep. 6	0000-0100 1257-2400	I	~ 1840-~2100	1	300-25	
Sep. 7	0000-0100 1257-2400					
Sep. 8	0000-0055 1840-2050 2200-2400					
Sep. 9	0000-0055 1257-2400					
Sep. 10	0000-0050 1300-2400	IV	1937-2017	2-3	3900-2100	Weak I throughout day
		II	1946.5-1958	3	150-25	
			1958-2014	3	125-25	
Sep. 11	0000-0050 1300-2400					Weak I throughout day
Sep. 12	0000-0050 1301-2400					
Sep. 13	0000-0040 1301-2400					Weak I throughout day
Sep. 14	0000-0040 1300-2400					Weak I throughout day
Sep. 15	0000-0040 1316-2400					
Sep. 16	0000-0035 1536-2400					
Sep. 17	0000-0035 1316-2400					
Sep. 18	0000-0035 1316-2400	IIIG	2043-2044	1	480-240	
Sep. 19	0000-0035 1316-2400					
Sep. 20	0000-0030 1316-2400					
Sep. 21	0000-0030 1316-2400	I	~ 1740-~2040	1-2	300-25	Weak I throughout day
Sep. 22	0000-0030 1316-2400					
Sep. 23	1316-2400					
Sep. 24	1333-2400					
Sep. 25	1316-2400	IIIG	1927-1930	3	240-25	
		IIIG	2357-2359	1-3	450-25	
Sep. 26	1316-2400					
Sep. 27	1316-2400	IIIG	1438-1442	1-3	490-25	
		IIIG	1544-1545	3	580-25	
		IIIG	1604-1609	2-3	490-25	
		IIIG	1910-1913	2	180-25	
		IIIG	1952.5-1955	3+	450-25	
		II	1956.1-2013	3	180-25	
Sep. 28	1316-2400	IV**	2212-2249	1-3	3900-50	IV** Continuum with Type III structure. 2212: IV** Continues at low intensity until ~2340
		II	2217.4-2231	3	150-25	
		IIIG	2341-2343	1	380-100	
Sep. 29	1316-2400	IIIG	1731-1736	1-2	75-25	Weak I throughout day
Sep. 30	1316-2400					

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

NOVEMBER 1961

HAO BOULDER

7.6-41 MC

Date	Bursts				Date	Bursts			
1961	Type	Time (U.T.)	Intensity	Frequency Range (mc)	1961	Type	Time (U.T.)	Intensity	Frequency Range (mc)
3 Nov	III	1615.30-1615.45	1-	21 - 41	13 Nov	III	2027.45-2028	1-	29 - 41
5	III	1640.30-1640.45	1-	21 - 41		III	2034.30-2034.45	1-	26 - 41
	III	2020.15-2020.45	1-	22 - 41		III	2043.30-2043.45	1-	28 - 41
	III	2025-2025.15	1	21 - 41		III	2047.30-2047.45	1-	26 - 35
6	III	1744.15-1744.45	1-	21 - 35		III	2050.45-2051	1	21 - 41
	III	1822.15-1823	1	21 - 40		III	2056.45-2057	1-	28 - 41
	III	2106.15-2106.30	1-	21 - 36		III	2059-2059.15	1	24 - 41
8	III	1419.45-1420.30	1-	27 - 41		III	2130.30-2130.45	1-	29 - 41
	III	1430.15-1432.15	2	22 - 41		III	2134.30-2134.45	1-	29 - 41
	III	1442.15-1442.30	1	25 - 41		III	2145-2145.15	1-	26 - 41
	III	1602.15-1603.15	1-	24 - 41		III	2150.45-2151	1-	22 - 38
	III	1607.45-1608	1-	25 - 41		III	2156-2156.15	1-	20 - 41
	III	1608.45-1609	1	25 - 41		III	2224.15-2224.30	1-	25 - 41
	III	1646.30-1646.45	1-	23 - 41	14	continuum	1357-2256.30	1-	24 - 41
9	III	1630.30-1630.45	1-	24 - 36	15	III	1540.45-1541.15	1-	23 - 36
	III	1700.15-1700.30	1-	25 - 41		III	1556-1556.30	1-	28 - 36
	III	1729.45-1730.15	1	23 - 41		III	1604.15-1604.30	1-	25 - 38
	III	1745.15-1745.30	1-	25 - 41		III	1741-1741.30	1	21 - 41
	III	1747.45-1748	1-	25 - 41		III	1817.45-1818	1	21 - 41
10	II	1433.45-1509	3	21 - 41		III	1913-1913.15	1-	27 - 41
	IV	1440-1543	3	21 - 41		III	2122.15-2122.30	1-	24 - 39
11	III	1347-1347.45	1-	36 - 41	16	III	1450-1450.15	1-	29 - 41
	II	1349-1351.30	1	22 - 41		III	1456-1456.15	1-	29 - 41
	III	1542-1543.45	1+	23 - 41		III	1459.15-1459.30	1	25 - 41
	III	1627-1627.30	1	26 - 41		III	1527.30-1527.45	1-	29 - 41
12	III	1534.45-1535.15	1	27 - 41		III	1558-1558.15	1-	26 - 41
	III	1556-1556.30	1-	30 - 38		III	1558.30-1558.45	1-	29 - 41
	III	1821.30-1821.45	1-	28 - 41		III	1753.45-1754	1-	25 - 41
	III	2059.30-2059.45	1-	25 - 41		III	1833.45-1834.15	1-	22 - 39
	III	2126-2126.45	1	24 - 32		III	1858.45-1859	1-	25 - 41
	III	2134.45-2134.47	1-	27 - 41		III	1859.15-1859.30	1-	25 - 41
	III	2308.45-2309	1-	30 - 41		III	1905.45-1906	1	22 - 41
	III	2309.15-2309.30	1-	35 - 41	19	III	1444.45-1445	1-	27 - 41
13	III	1428.15-1428.30	1-	26 - 41		III	1511.15-1511.45	1+	21 - 41
	III	1432.30-1432.45	1-	26 - 41		III	1519.15-1520.15	1	21 - 41
	III	1457-1457.15	1-	26 - 41		III	1521-1521.15	1-	26 - 41
	III	1623.45-1624	1-	22 - 41		III	1552.15-1552.30	1-	24 - 41
	III	1707.30-1707.45	1-	24 - 40		III	1609.30-1609.45	1	23 - 41
	III	1722.45-1723	1-	24 - 41		III	1610-1610.15	1	26 - 40
	III	1723.45-1725.30	2	15 - 41		III	1620.45-1621.15	1-	27 - 38
	III	1752.15-1752.30	1-	23 - 41		III	1650.15-1651	1	24 - 39
	III	1808.15-1808.30	1-	26 - 41		III	1652.15-1653.30	1	19 - 41
	III	1821.45-1822	1-	27 - 41		III	1654.15-1654.30	1-	31 - 41
	continuum	1830-2230	1-	27 - 41		III	1907.15-1907.45	1+	22 - 41
	III	1844.30-1844.45	1-	22 - 41		III	2008.45-2009	1-	27 - 35
	III	1858-1858.15	1-	22 - 41		III	2029.30-2030	1-	24 - 36
	III	1910.15-1910.30	1-	25 - 41		III	2109.30-2110.30	1	22 - 41
	III	1911.30-1911.45	1-	25 - 41	20	III	1516.30-1517	1-	22 - 41
	III	1912.15-1912.30	1-	25 - 41		III	2114-2114.15	1-	32 - 41
	III	1920.15-1920.30	1-	24 - 41	21	III	1743.45-1744.15	1	21 - 32
	III	1939.30-1939.45	1-	23 - 41		III	1943.15-1944.45	1+	16 - 41
	III	1941.30-1941.45	1-	24 - 41	22	III	1721.30-1721.45	1-	24 - 41
	III	2020.30-2020.45	1-	27 - 41	29	III	2112-2112.15	1	34 - 39
	III	2021.30-2021.45	1-	27 - 41		III	2113.15-2115	1-	28 - 41
	III	2026.45-2027	1-	26 - 41	30 ^x				

COMMERCE - STANDARDS - BOULDER

^x = no observations

COSMIC RAY INDICES
(Climax Neutron Monitor)

OCTOBER 1961

Oct. 1961	Daily average counts/hr.	Oct. 1961	Daily average counts/hr.
1	2894.3	16	3025.8
2	2906.5 (8 hrs.)	17	3039.2
3	2959.9 (36 hrs.)	18	3031.5
4	2967.3	19	3039.0
5	2995.9	20	3059.2
6	3005.9	21	3046.0
7	3001.6	22	3058.4
8	3009.4	23	3061.1
9	3012.8	24	3067.6
10	3014.3	25	3057.1
11	3011.4	26	3073.0
12	3022.5	27	3086.4
13	3015.8	28	3085.2
14	3022.9	29	3046.0
15	3028.8	30	3037.6
		31	3057.8

COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

COMMERCE - STANDARDS - BOULDER

GEOMAGNETIC ACTIVITY INDICES

OCTOBER 1961

Oct. 1961	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	1.8	9-	8+	7o	8-	5-	2o	2o	2+	43-	114	Five Quiet
2	0.3	1-	1o	1+	1+	2-	3-	2o	0+	11o	6	
3	0.2	1o	0+	1o	1+	2o	2o	2-	1o	10+	5	
4	0.4	1-	1o	0+	1+	3-	2o	2-	3o	13-	7	
5	0.1	2+	1-	1o	1+	0+	0o	1o	0+	7o	4	
6	0.3	1-	0+	1+	2-	1+	2-	2o	2-	11-	5	16
7	0.3	3+	2+	2-	2-	2-	0o	0+	1-	12-	6	17
8	0.1	0o	2-	3o	2+	1o	2-	1-	1-	11o	6	18
9	0.0	2-	2o	1o	1-	0+	0o	0o	0o	6-	3	
10	0.0	0+	0+	0+	0o	0+	0+	1+	1+	4+	2	
11	0.8	1+	2-	3-	3+	3o	2-	3+	3-	20-	12	Five Disturbed
12	1.0	5o	4+	4o	3-	3-	3+	2-	2+	26o	20	
13	0.8	2+	4+	4-	3-	1o	3-	1+	3-	21-	14	
14	0.4	3+	1+	2o	2o	2+	0+	0o	1-	12o	6	
15	0.0	1-	0+	0+	1o	0+	1o	1+	0+	5+	3	
16	0.0	0o	0o	0+	0+	0+	0o	0o	0o	1o	1	26
17	0.0	0o	0o	0o	0o	0o	0o	0o	2o	2o	1	27
18	0.0	0+	1o	1o	0+	1-	1-	1-	1-	5+	3	28
19	0.3	2o	2+	1+	1o	1-	0+	1+	2+	11+	6	29
20	0.8	5+	5-	4+	2-	0+	1o	1-	0+	18+	18	
21	0.6	2-	1-	1-	2o	2+	2+	2+	3o	15o	8	Ten Quiet
22	0.2	2-	2-	1o	2o	2-	2-	0+	1-	11-	5	
23	0.3	0+	1-	1o	1o	0+	2o	2o	3o	10+	6	
24	0.1	2-	3-	2-	2-	1o	0+	1-	0+	10o	5	
25	0.6	1o	1-	1o	1o	2+	3-	3-	3o	14+	8	
26	1.4	3-	4-	5o	3+	3o	3+	5+	5+	32-	31	6
27	1.3	4+	5+	4-	4+	3o	3o	4o	5-	32+	30	9
28	1.9	2+	2+	5o	6+	8o	8o	9-	7+	48o	128	10
29	1.3	6-	5+	6o	4o	2o	1+	1-	2+	27+	32	15
30	0.3	0+	0o	2-	3-	2o	3o	1o	1+	12o	6	16
31	0.1	1o	1o	3+	1o	1+	0+	0+	0+	9-	5	17
												18
												31
Mean:	0.51									Mean:	16	

DAYS IN SOLAR ROTATION INTERVAL

ROT. =
NR.

1752

July

1753

Aug

1754

Sep

1755

Oct

1756

Nov

KEY

▲ = sudden
commencement

0 + - 0 + - 2 + - 3 + - 4 + - 5 + - 6 + - 7 + - 8 + - 9

PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 1961 Oct. 31

(Ks from Wingst and Göttingen till Nov. 14)

J.B

COMMENCE - STANDARDS - BOULDER

V1b

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

OCTOBER 1961

NORTH ATLANTIC

NORTH PACIFIC

DATE OCTOBER 1961	NORTH ATLANTIC 8-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				WHOLE DAY INDEX		ADVANCE FORECAST* (LI-REPORTS) FOR WHOLE DAY ISSUED IN ADVANCE BY				GEOMAGNETIC K _{PR}		NORTH PACIFIC 12-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED AT		WHOLE DAY INDEX		ADVANCE FORECASTS LI-REPORTS FOR WHOLE DAY ISSUED IN ADVANCE BY				GEOMAGNETIC K _{SI}				
	00 06 12 18		06 12 18 24		00 06 12 18				1-7 1-7 1-3 1-7 FINAL J _S SOW J		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P		1-7 1-7 1-3 1-7 FINAL J _S SOW J _P				
	00	06	12	18	06	12	18	24	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18	00	06	12	18	
01	1+	1+	4+	3+	2	1	2	3	(2+)	3	3	6	(7)	3	3	5	2	4	5	5	(4)	5	5	3	6	(9)	3	3	6	(4)	3	6	(9)
02	2-	20	6+	6-	2	2	5	5	(30)	4	4	6	1	1	4	5	5	5	5	5	5	5	5	6	1	1	1	1	4	4	6	1	1
03	6-	4-	6+	6+	2	3	6	6	50	4	4	6	1	1	5	5	5	5	5	5	5	5	6	1	0	0	0	5	5	6	0	0	0
04	60	5-	7-	60	6	4	6	6	6-	6	6	6	1	2	5	5	5	5	5	5	5	5	6	1	2	1	2	5	5	6	1	2	1
05	6-	50	7-	60	6	5	6	6	6-	6	6	6	2	0	5	6	6	6	6	6	6	6	5	1	0	0	0	5	5	5	1	0	0
06	6-	4+	6+	6+	6	5	6	6	5+	6	6	6	1	1	5	6	6	6	6	6	6	6	5	1	2	2	2	5	5	5	1	2	2
07	6-	5+	7-	6+	6	5	6	6	60	6	6	6	2	1	5	6	6	6	6	6	6	6	6	6	2	1	2	5	6	6	2	1	2
08	6+	50	7-	7-	6	5	6	7	60	6	6	6	2	2	5	6	6	6	6	6	6	6	6	6	2	1	2	5	6	6	2	1	2
09	60	50	7-	7-	6	5	7	6	60	6	6	6	1	0	5	6	6	6	6	6	6	6	6	6	0	0	0	5	5	5	0	0	0
10	6+	6-	7-	7-	6	5	7	7	6+	6	6	6	0	1	5	6	6	6	6	6	6	6	6	5	0	0	0	5	5	5	0	0	0
11	7-	6-	70	6+	6	6	6	7	6+	6	6	6	2	3	5	6	6	6	6	6	6	6	7	5	2	2	2	5	5	5	2	2	2
12	5+	50	6+	5+	6	4	6	6	6-	6	6	6	(4)	2	5	6	6	6	6	6	6	6	6	6	(4)	2	2	5	6	6	(4)	2	2
13	50	5+	6+	6-	6	4	6	6	6-	6	6	6	3	2	5	6	6	6	6	6	6	6	6	6	3	1	1	5	6	6	3	1	1
14	5+	50	6+	6+	6	5	6	6	6-	6	6	6	2	0	5	6	6	6	6	6	6	6	7	7	2	1	1	5	6	6	2	1	1
15	60	6-	7-	6+	6	5	7	6	60	6	7	7	1	1	5	6	6	6	6	6	6	6	7	7	1	0	0	5	6	6	1	0	0
16	6+	6-	7-	7-	6	6	7	6	6+	7	7	7	0	1	5	6	6	6	6	6	6	6	7	7	0	0	0	5	6	6	0	0	0
17	6-	6-	7-	6+	6	5	7	7	6+	7	7	7	0	1	5	6	6	6	6	6	6	6	7	7	0	0	0	5	6	6	0	0	0
18	60	6-	7-	7-	6	6	7	7	6+	6	6	6	2	1	5	6	6	6	6	6	6	6	7	7	0	0	1	5	6	6	0	1	0
19	60	6-	6+	7-	6	6	7	7	6+	6	6	6	2	2	5	6	6	6	6	6	6	6	7	7	1	0	1	5	6	6	1	0	0
20	5+	50	7-	6+	6	5	6	6	60	6	5	6	(4)	1	5	6	6	6	6	6	6	6	7	7	(4)	0	0	5	6	6	(4)	0	0
21	6-	6-	7-	7-	5	4	6	6	60	5	4	6	2	2	5	6	6	6	6	6	6	6	7	7	0	2	2	5	6	6	0	2	2
22	6-	5+	7-	6+	5	4	6	7	60	5	4	6	1	1	5	6	6	6	6	6	6	6	7	7	1	1	1	5	6	6	1	1	1
23	60	6-	7-	7-	6	5	7	6	6+	4	4	4	1	2	5	6	6	6	6	6	6	6	7	7	0	1	1	5	6	6	0	1	1
24	60	5+	7-	7-	6	6	7	6	6+	4	4	4	2	1	5	6	6	6	6	6	6	6	7	7	2	0	2	5	6	6	2	0	2
25	6+	6-	7-	7-	6	6	7	6	6+	5	5	5	1	2	5	6	6	6	6	6	6	6	7	7	1	2	2	5	6	6	1	2	2
26	60	50	6+	5-	6	6	6	6	6-	6	6	6	(4)	3	5	6	6	6	6	6	6	6	7	7	(4)	(4)	2	5	6	6	(4)	(4)	(4)
27	3+	4+	60	4+	3	3	5	6	(4+)	6	6	6	(4)	3	5	6	6	6	6	6	6	6	7	7	(4)	3	3	5	6	6	(4)	3	(4)
28	4-	4+	4-	2+	4	3	3	3	(3+)	6	6	6	(4)	(7)	5	6	6	6	6	6	6	6	7	7	(3)	6	6	5	6	6	(4)	(8)	(8)
29	2-	2+	60	5+	1	1	4	5	(3+)	3	3	6	(5)	2	5	6	6	6	6	6	6	6	7	7	(4)	1	1	5	6	6	(4)	1	(4)
30	5-	4-	5-	5-	5	3	6	5	(4+)	4	4	6	1	2	5	6	6	6	6	6	6	6	7	7	(4)	1	1	5	6	6	1	1	1
31	40	3-	6-	50	4	4	5	5	(40)	6	6	6	2	1	5	6	6	6	6	6	6	6	7	7	5	2	2	5	6	6	2	0	0
Score: Quiet Periods																																	
P 17 11 15 16																																	
S 7 10 13 12																																	
U 0 1 0 0																																	
F 1 0 1 0																																	
Disturbed Periods																																	
P 4 2 0 1																																	
S 2 7 0 1																																	
U 0 0 1 0																																	
F 0 0 1 1																																	

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS NORTH ATLANTIC

VIIIb

OCTOBER 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

OCTOBER 1961

COMMERCE - STANDARDS - BOULDER

USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

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OCTOBER 1961

Adapted from Observations by Deutsche Bundespost

NOVEMBER 1961

Issued November 1961 Day/Time UT	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Intervals
03/1600		151		Start (Predicted)
04/1600		152		Finish (Predicted)
07/1600		153	Magnetic Storm 06/23XXZ	
10/1610	Sac Peak* Solar Flare 10/1540Z			
18/1000	Ft. Belvoir Magnetic Storm 17/13XXZ			
18/1600		154	Magnetic Storm 17/14XXZ	
23/0315	Climax Solar Flare One Plus 22/1527Z			
30/2251	Sac Peak Solar Flare, Two 30/2135Z			

*Adalert message erroneously indicated observing station was ACIWARN (Ft. Belvoir).

COMMERCE - STANDARDS - BOULDER