PART B

SOLAR - GEOPHYSICAL DATA

ISSUED
FEBRUARY 1958

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

CRPL-F 162
PART B

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

Issued
28 Feb. 1958

SOLAR - GEOPHYSICAL DATA

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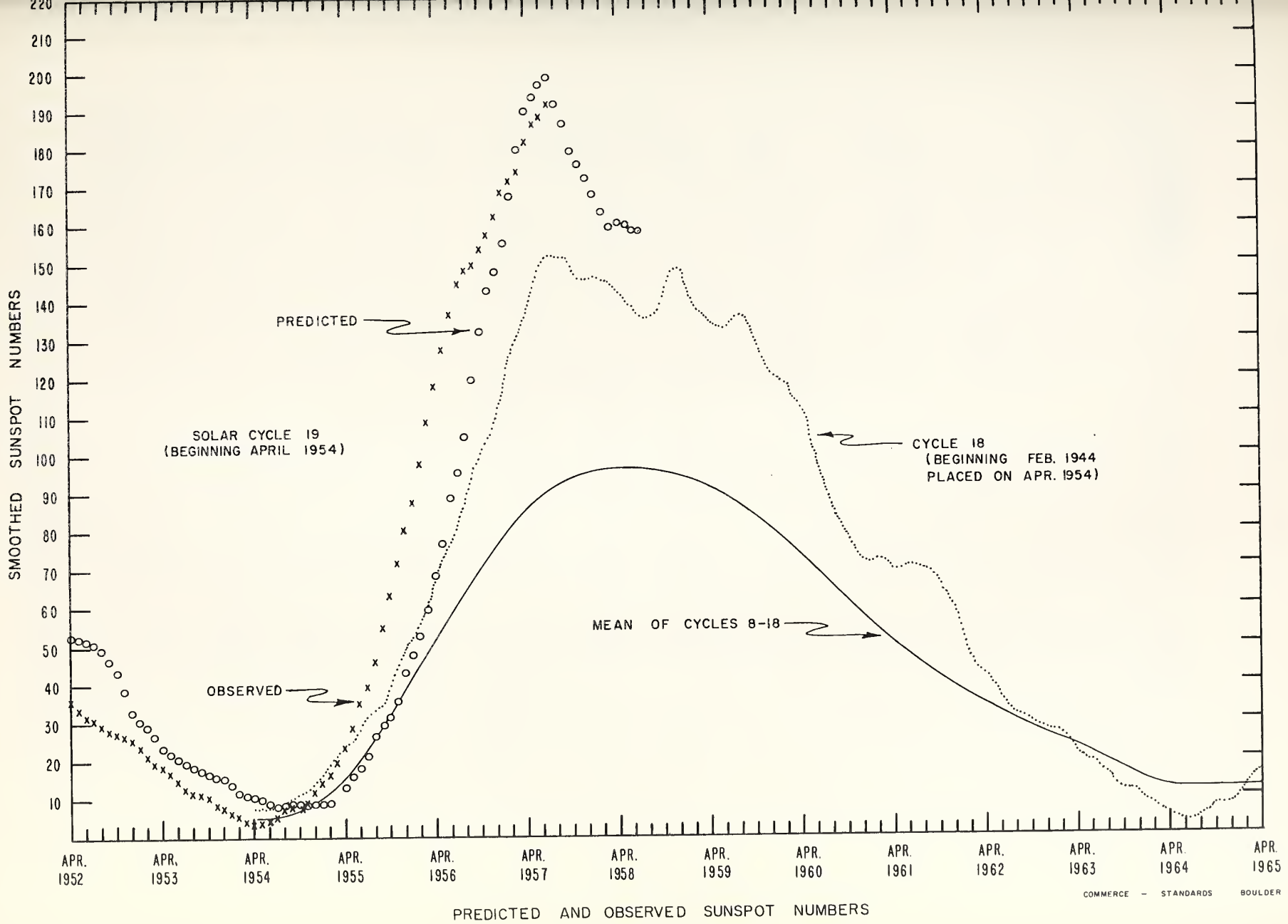
INTRODUCTION

The descriptive text will be published quarterly, hereafter, or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F161 Part B issued January 1958.

DAILY SOLAR INDICES

Dec. 1957	American Relative Sunspot Numbers $R_{A'}$
1	206
2	206
3	203
4	264
5	209
6	251
7	192
8	167
9	151
10	121
11	124
12	116
13	125
14	151
15	169
16	205
17	194
18	213
19	257
20	288
21	323
22	342
23	295
24	312
25	375
26	307
27	292
28	292
29	246
30	238
31	231
Mean:	227.9

Jan. 1958	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	214	257
2	213	263
3	200	262
4	217	261
5	191	246
6	192	254
7	205	255
8	210	255
9	232	259
10	252	274
11	253	273
12	255	290
13	262	310
14	270	321
15	284	309
16	290	297
17	247	285
18	230	260
19	212	238
20	190	251
21	171	239
22	173	227
23	192	210
24	137	211
25	137	206
26	143	220
27	182	200
28	160	189
29	130	194
30	110	181
31	132	187
Mean:	202.8	247.9



PREDICTED AND OBSERVED SUNSPOT NUMBERS

CALCIUM PLAGE AND SUNSPOT REGIONS
JANUARY 1958

CMP Jan. 1958	Lat	McMath Plage Number	Return of Region	Calcium Plage Data			Sunspot Data		
				CMP Values		History, Age	CMP Values		History
				Area	Int.		Area	Count	
01.6	S29	4341	4285	1400	2	ℓ – ℓ 2			
02.9	S28	4342	4285	800	1.5	ℓ – ℓ 2			
03.8	N29	4338	*	2800	3	ℓ ∨ ℓ 3	390	9	ℓ ¬ ℓ
04.4	S19	4340	New	1700	3	ℓ ∧ ℓ 1	290	8	b ∧ d
04.5	S05	4339	New	300	2	ℓ ⌙ ℓ 1			
04.7	S28	4343	4301	600	1.5	ℓ ⌙ ℓ 2			
05.1	N20	4345	*	800	1.5	ℓ – ℓ 3			
05.8	S26	4344	4301	1000	1.5	ℓ – ℓ 2			
06.0	N06	4346	4296	2000	3	ℓ ⌙ ℓ 3	100	1	ℓ ¬ d
06.2	N19	4352	**	600	1.5	** – ℓ **			
06.9	N33	4349	New	1000	2	ℓ ⌐ ℓ 1	(390)	(13)	b ∧ d
07.0	N12	4347	4296	7000	3.5	ℓ ⌐ ℓ 3	730	32	ℓ ∧ ℓ
07.2	S18	4348	4300	2500	2	ℓ ⌐ ℓ 5	100	1	ℓ ⌊ ℓ
08.5	S38	4357	New	800	3	b / ℓ 1	340	7	b ∧ d
08.8	S08	4350	New	300	1	ℓ ⌙ d 1			
09.5	N13	4354	4305	800	2.5	ℓ – ℓ 2			
09.5	S21	4369	New	(600)	(1.5)	b – ℓ 1			
09.7	N32	4367	New	500	2	b – ℓ 1			
10.0	S18	4356	New	2100	3	ℓ – ℓ 1	440	9	ℓ ¬ ℓ
10.4	S30	4351	New	2700	3	ℓ – ℓ 1	460	7	ℓ ^ ℓ
10.8	N25	4353	4305	1300	1.5	ℓ ⌙ ℓ 2			
10.8	N05	4361	New	800	1.5	b – d 1			
11.6	N13	4358	4306	400	1.5	ℓ ⌙ ℓ 2			
11.7	S13	4355	4308	5500	3.5	ℓ – ℓ 3	580	29	ℓ ^ ℓ
13.5	S20	4362	4311	1000	2	ℓ ⌐ ℓ 2	50	3	b ⌙ d
13.8	N25	4359	New	5800	3	ℓ ⌐ ℓ 1	1330	31	ℓ ∧ ℓ
14.3	S14	4360	4313	1000	1.5	ℓ ⌙ ℓ 2	(50)	(1)	b – d
15.3	S15	4365	4313	800	2	ℓ ⌙ ℓ 2			
15.5	N28	4366	New	2000	2.5	ℓ – ℓ 1	230	1	ℓ – ℓ
15.6	S26	4363	4313	600	2	ℓ ⌐ ℓ 2	180	4	ℓ ⌙ ℓ
15.9	N18	4364	314	3000	2	ℓ – ℓ 2	50	5	b ⌙ d
16.6	S08	4368	New	6500	3	ℓ – ℓ 1	510	8	ℓ ∧ ℓ
17.8	N14	4370	New	3700	2.5	ℓ – ℓ 1	1720	21	ℓ – ℓ
18.4	N27	4374	4316	700	1.5	ℓ – ℓ 2			
19.2	S18	4373	4318	100	1	ℓ – ℓ 4			
19.5	N22	4375	4317	1000	1.5	ℓ – ℓ 2	50	1	b \ d
20.5	S15	4377	New	700	2	ℓ ⌙ ℓ 1	50	1	b – d
20.6	S24	4372	4319	1500	1.5	ℓ ∧ ℓ 6	170	3	b / ℓ
21.0	N27	4376	***	3500	2.5	ℓ ⌐ ℓ 2	480	6	ℓ – ℓ
22.2	N07	4379	4334	1500	1.5	ℓ – ℓ 2	20	1	b – d
22.4	S15	4378	4323	4000	2.5	ℓ ¬ ℓ 3	150	3	ℓ ¬ ℓ
22.7	S06	4380	4326	(500)	(1.5)	ℓ ¬ d 2			
23.2	N27	4381	***	5500	3	ℓ – ℓ 2	440	9	ℓ ¬ ℓ
23.6	N14	4383	4325	(1000)	(1.5)	ℓ – d 7			
24.8	S17	4382	4333	4000	3	ℓ ⌐ ℓ 6	870	18	ℓ ∧ ℓ
27.2	S12	4384	4336	2000	2	ℓ – ℓ 2	120	1	b – ℓ
28.3	S25	4385	4335	(1500)	(2)	ℓ – ℓ 6	50	3	b ∧ d
28.4	N26	4386	4337	2800	2	ℓ – ℓ 2	150	3	ℓ ¬ d
30.4	N11	4389	New	(300)	(1.5)	b – ℓ 1			
30.5	N22	4387	4338	5300	3	ℓ – ℓ 4	360	15	ℓ ∧ ℓ
31.8	N18	4388	4338	3600	1	ℓ – ℓ 4	310	6	ℓ ∧ d
31.9	S06	4391	4339	600	3	ℓ – ℓ 2	70	3	b ∧ ℓ

* 4294, 4295.

** Originally given as part of region 4347.

*** 4321, 4328.

COMMERCE - STANDARDS - BOULDER

Note: Long gaps in McMath observations render identification and disk passage histories questionable in some cases.

CORONAL LINE EMISSION INDICES

JANUARY 1958

CMP Jan. 1958	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	156	246	23	46	114	192	27	43
2	128	180	27	40	207	312	34	84	101	151	11	20	79	142	25	42
3	141	216	35	64	168	289	31	57	206	277	40	73	153	256	50	81
4	x	x	x	x	x	x	x	x	117	162	20	48	123	166	27	53
5	x	x	x	x	x	x	x	x	127	186	24	40	187	256	51	90
6	x	x	x	x	x	x	x	x	60	80	9	20	95	130	36	50
7	197	268	55	111	120	164	33	92	75	115	x	x	79	104	x	x
8	x	x	x	x	135	174	x	x	137	169	x	x	136	186	x	x
9	x	x	x	x	x	x	x	x	108	130	31	50	84	112	21	36
10	x	x	x	x	x	x	x	x	154*	200	x	x	89	102	x	x
11	143	220	39	65	126*	170	34	87	x	x	x	x	x	x	x	x
12	154	220	26	36	120	150	40	78	x	x	x	x	x	x	x	x
13	148	202	31	78	153	192	41	84	158a	253a	51a	80a	x	x	47a	80a
14	160	222	42	70	130*	188	66	97	x	x	x	x	x	x	x	x
15	186	226	32	60	156	211	37	50	206	300	41	75	185	270	38	73
16	101	137	39	67	89	144	35	54	212	276	x	x	143	195	x	x
17	160	248	94	186	128	156	53	90	x	x	x	x	x	x	x	x
18	168	294	27	53	88	154	24	45	x	x	x	x	x	x	x	x
19	182*	253	41	72	111	213	29	84	x	x	x	x	x	x	x	x
20	81	126	38	80	54	93	37	96	x	x	x	x	x	x	x	x
21	84	136	x	x	65	88	x	x	x	x	x	x	x	x	x	x
22	199*	220	x	x	186	211	x	x	x	x	x	x	x	x	x	x
23	130*	184	50	66	114	144	24	42	x	x	x	x	x	x	x	x
24	121	164	x	x	148	196	x	x	x	x	x	x	x	x	x	x
25	x	x	x	x	x	x	x	x	186	226	x	x	76	115	x	x
26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
27	105a	188a	44a	69a	153a	212a	50a	72a	x	x	x	x	x	x	x	x
28	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
29	115	176	36	54	123	192	16	28	x	x	x	x	x	x	x	x
30	104	172	x	x	105	143	x	x	x	x	x	x	x	x	x	x
31	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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

COMMERCE — STANDARDS — BOULDER

SOLAR FLARES

JANUARY 1958

OBSERVATORY	DATE Jan. 1958	OBSERVED UNIVERSAL TIME START	OBSERVED UNIVERSAL TIME END	OBSERVED UNIVERSAL TIME MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
MITAKA	01	0039 E	0045		S11	E00	4336	6 D	1	2	0041	1.84	1.86	1.92	1	
TASHKENT	01	0511	0615		N03	E66	4346	64	1&							
WENDEL	01	1046	1107		S23	W33	4333	21	1				3.00			
WENDEL	01	1058	1138		S18	E38	4340	40	1				3.00			
WENDEL	01	1121	1135		S23	E32	4340	14	1				4.00			
WENDEL	01	1330	1346 D		S05	W32	4336	16 D	1				3.00			
SAC PEAK	01	1617	1637	1622	S19	E35	4340	20	1	2		.60			13	
SAC PEAK	01	1700	1710	1705	N02	E60	4346	10	1	2		.50			13	
CLIMAX	01	1702	1814	1743	S23	W32	4333	72	1			2.80				
SAC PEAK	01	1712	1717	1705	S23	W35	4333	5	1	2		1.00			13	
SAC PEAK	01	1745	1755	1750	S22	W38	4333	10	1	2		.50			14	
CLIMAX	01	1729	1911	1817	N19	E52	4345	102	2			7.40				
SAC PEAK	01	1747	1820 U	1800	N18	E47	4345	33 U	1	2		2.70			14	
SAC PEAK	01	2037	2047	2040	N17	E25	4338	10	1	2		.30			13	
NIZAMIAH	02	0557 E	0616		S14	E29	4340	19 D	1	3	0557	2.43	2.82	1.60		S-SWF
ARCETRI	02	0910	0943		S23	W41	4333	33	1&	2						
ZURICH	02	0931	0942		S22	W46	4333	11	1	3	0934		2.00			
WENDEL	02	0936 E	0946		S22	W47	4333	10 D	1				4.00			
USNRL	02	1550	1612	1558	N14	E58	4347	22	1	2	1558	1.02	2.12		72	
MT WILSON	02	2002	2007		N12	E52	4347	5	1							
USNRL	02	2011	2103	2017	S23	W48	4333	52	1	2	2017	1.13	1.81	2.00	106	
MT WILSON	02	2015	2121		S22	W50	4333	66	1							
MITAKA	02	2347 E	2353		N13	E48	4346	6 D	1	2	2350	.89	1.41	2.50	134	
MITAKA	03	0227	0304		N12	E61	4347	37	1&	2	0227	5.67	12.00	2.62	107	
MITAKA	03	0406	0418	0408	N12	E60	4347	12	1&	1	0409	1.86	4.20	3.00	176	
MITAKA	03	0406	0418		N17	E50	4347	12	1	1	0410	1.07	1.90	1.87	96	
MITAKA	03	0507	0526	0512	S28	W45	4333	19	1	1	0514	1.84	2.58	2.39	122	
UCCLE	03	1044	1055	1046	N21	E01	4338	11	1	3	1046	1.50	2.00			
UCCLE	03	1053	1057	1055	N13	E45	4347	4	1&	3	1055	4.00	5.60			
ARCETRI	03	1150 E	1205		N15	E63	4347	15 D	1&	2						
UCCLE	03	1427	1455	1432	N18	W01	4338	28	1&	2	1432	5.00				
UCCLE	03	1505			S25	E14	4340		2	1						
SAC PEAK	03	1510 E	1610	1525	S23	E14	4340	60 D	1	2		2.50			20	
OTTAWA	03	1526 E			S21	E14	4340		1	1	1528	2.84	3.10			
CLIMAX	03	1540 E	1607	1556	S21	E16	4340	27 D	1			2.80				
MT WILSON	03	1814	1836		N13	W50	4337	22	1							
UCCLE	04	1138 E			S20	E03	4340		1&	2	1138	4.50				
WENDEL	04	1147 E	1205 D		S19	W03	4340	18 D	1				4.00			
USNRL	04	1350	1416	1352	S11	E90	4355	26		2	1352	.45		1.0	5	
MT WILSON	04	2029	2235 D		S15	E30	4348	126 D	1&							
CLIMAX	04	2128	2253 D	2210	S17	E32	4348	85 D	2			8.20				C-SWF
MITAKA	05	0556	0630 D		S13	E76	4355	34 D	1	1	0556	2.78	11.00	4.86		S-SWF
USNRL	05	1454	1530	1500	S20	E21	4348	36	1&	1						
CLIMAX	05	1526 E	1712	1548	S15	E24	4348	106 D	2			9.80				
MT WILSON	05	1632	1642		N22	W28	4338	10	1							
CLIMAX	05	1959	2009	2004	N13	E17	4347	10	1			2.20				
HAWAII	05	2012 E	2022		N19	E23	4347	10 D	1	1	2014	2.90	3.30			
CLIMAX	05	2013	2038 D	2017	N12	E22	4347	25 D	1			2.40				
MT WILSON	05	2014	2035		N13	E20	4347	21	1							

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SOLAR FLARES

JANUARY 1958

OBSERVATORY	DATE Jan. 1958	OBSERVED UNIVERSAL TIME START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION	DURATION — MINUTES	IMPORTANCE	OBS. COND.	MEASUREMENTS TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
HAWAII	05	2034 E	2042		N21	W32	4338	8 D	1	1	2034	2.10	2.70			
MT WILSON	05	2035	2042		N22	W30	4338	7	1							
USNRL	06	1252 E	1343	1259	N11	E12	4347	51 D	1&	2	1259	2.70	2.90	1.00	134	
USNRL	06	1359	1409	1400	N12	E11	4347	10	1	3	1400	1.02	1.07		104	
USNRL	06	1611	1616	1612	N15	E13	4347	5	1&	2	1612	1.93	2.32		99	
USNRL	06	1704	1717	1705	N14	E11	4347	13	1	3	1705	1.47	1.59	1.00	118	
CLIMAX	06	1908	2010	1925	S17	E08	4348	62	1			4.80				
SAC PEAK	06	1910	2005 U	1930	S15	E06	4348	55 U	1	2		2.80			16	
USNRL	06	1917 E	2025		S06	E07	4348	68 D	1	1	1923	3.41	3.54	1.00	88	
CLIMAX	06	2122	2145	2125	S18	E49	4356	23	1			3.80				
SAC PEAK	06	2122	2147 U	2125	S18	E47	4356	25 U	1	2		2.60			24	
MITAKA	07	0304 E	0313		S18	E41	4356	9 D	1	1	0305	.89	1.25	2.29	96	
MITAKA	07	0315	0322		S16	E45	4356	7	1	1	0315	1.86	2.68	1.98	107	
MITAKA	07	0413	0434		S16	E44	4356	21	1	1	0423	1.84	2.65	1.70	122	
CLIMAX	07	1820	1910	1842	S18	E39	4355	50	2			10.00				
SAC PEAK	07	1825	1925 U	1832	S18	E38	4355	60 U	2	2		8.30			18	S-SWF
HAWAII	07	1826	1904 D	1835	S08	E42	4355	38 D		2	1835	12.40	17.00			
SAC PEAK	07	1855	1940	1902	N11	W00	4347	45	1&	2		3.80			20	
HAWAII	07	1856	1938 D	1901	N10	W09	4347	42 D		2	1901	6.20	6.50			Slow S SWF
CLIMAX	07	1901	1924	1907	N12	W02	4347	23	1			3.60				
MT WILSON	07	1911 E			N12	W00	4347		1							
SAC PEAK	07	2210	2220	2215	S41	E07	4357	10	1	2		2.20			15	
CLIMAX	07	2210	2222	2214	S41	E09	4357	12	1			2.70				
HAWAII	07	2212	2220	2214	S43	E05	4357	8	1	2	2214	1.70	2.10			
MITAKA	08	0141	0151		S13	E48	4355	10	1	2	0144	1.84	2.76	1.60	96	
OTTAWA	08	1821		1833	N27	E21	4353		1	1	1833	2.55	3.23			
MITAKA	09	0216	0230	0220	N12	W21	4347	14	1&	1	0216	7.57	8.33	1.87	149	
USNRL	09	1321	1422	1328	N11	W25	4347	61	1&	2	1328	3.04	3.51		132	
USNRL	09	1506	1524	1521	S10	E25	4355	18	1	2	1521	1.98	2.26		90	
MT WILSON	09	2307	2332		N10	W30	4347	25	1							
HAWAII	09	2312	2338	2318	N15	W36	4347	26	1	3	2320	3.10	4.10			
MITAKA	10	0308 E	0312		S15	E53	4360	4 D	1	1	0308	1.34	2.28	2.27		
MITAKA	10	0438 E	0445 D		S16	E64	4360	7 D	1	1	0438	1.84	3.13	1.89		
UCCLE	10	0841	0909	0848	N11	W41	4347	28	1	3	0848	2.20	2.60			
UCCLE	10	0843	1000	0903	S15	E18	4355	77	1&	3	0903	5.10	5.30			
UCCLE	10	0907	0946	0929	S17	W43	4348	39	1&	3	0929	4.50	5.60			
UCCLE	10	0918	0933	0926	N18	E90	4370	15	1&	3	0926	2.80	6.20			
UCCLE	10	0927	0942	0931	S17	E17	4355	16	2	3	0931	4.00	6.80			
UCCLE	10	0947	1010	0958	S10	E87	4368	23	2	3	0958	5.60	10.40			
UCCLE	10	1029	1157	1047	N12	W42	4347	88	1&	3	1047	3.40	4.20			
UCCLE	10	1032	1102	1043	N25	E45	4359	30	2	3	1043	5.10	7.60			
UCCLE	10	1034	1120	1041	S38	W27	4357	46	1&	3	1041	4.50	5.50			
UCCLE	10	1043	1101	1051	N37	W18	4367	18	1&	3	1051	4.50	6.30			
UCCLE	10	1106	1151	1108	S15	E11	4355	45	1	3	1108	3.40	3.50			
WENDEL	10	1312	1329		S27	W01	4351	17	1				3.00			
ZURICH	10	1321	1333		S13	E15	4355	12	1	2	1324		2.00			S-SWF
WENDEL	10	1321	1342		S15	E20	4355	21	1				4.00			
WENDEL	10	1414	1428		N25	W69	4345	14	1				4.00			

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ARCETRI	10	1415	1427		N25	W69	4345	12	1&	2						
ARCETRI	10	1423	1433		N13	W30	4347	10	1	2						
CLIMAX	10	2120	2144	2130	S12	E06	4355	24	1			2.30				
HUANCAYO	11	1553 E	1603 D	1556	N16	E56	4364	10 D	1	3						
SAC PEAK	11	1722	1742	1730	S16	W03	4355	20	1	2		2.40			22	
MT WILSON	11	1725	1737		S15	W02	4355	12	1							
MT WILSON	11	1810	1836		S15	W01	4355	26	1							
SAC PEAK	11	1902	1947	1907	S09	W03	4355	45	1	2		4.20			20	
MT WILSON	11	1905	1944		S12	W05	4355	39	1							Slow S-SWF
R O HERST	13	1047 E	1115	1050	N12	E45	4370	28 D	1	1	1055	1.10	2.30	1.66	63	S-SWF
R O EDIN	13	1258 E	1420		S20	E27	4365	82 D	1&	2	1300	10.00	11.50	1.96		
NEDERHORST	13	1300 E	1315		S20	E26	4365	15 D	2							
UTRECHT	13	1300 E	1315 D		S20	E26	4365	15 D	2							
UCCLE	13	1315 E	1335 D	1318	S19	E28	4365	20	3	2	1318	28.00	31.00			
HUANCAYO	13	1614	1625	1614	N25	E05	4359	11	1	2						S-SWF
SAC PEAK	13	2042	2100	2047	N33	W05	4359	18	1	2		2.30			17	
MT WILSON	13	2231	2243		N14	E45	4370	12	1							
WENDEL	14	1351	1400 D		S13	W41	4360	9 D	1				4.00			
SAC PEAK	14	1555	1900	1602	S13	W46	4355	185	1	2		3.30			18	Slow S-SWF
SAC PEAK	14	2142	2215	2147	S18	W42	4355	33	1	2		2.60			25	
MT WILSON	14	2145	2215		S18	W39	4355	30	1&							
NIZAMIAH	15	0509 E	0553	0526	S11	W54	4355	44 D	1&	2	0526	3.04	5.18	1.60		Slow S-SWF
CAPRI S	15	0923	0947		N18	E36	4370	24	1	2	0925	2.00	2.60			S-SWF
ARCETRI	15	0945	1135		N19	E30	4370	110	1&	2						
CAPRI S	15	1017 E	1032		S13	W54	4355	15 D	1	2	1022	1.50	2.70			
CAPRI S	15	1017 E	1121		N19	E34	4370	64 D	1	2	1032	2.00	2.60			
ARCETRI	15	1341 E			N17	E12	4364		1	3	1341	2.50	2.70			
CLIMAX	15	1640	1738		S12	W59	4355	58	2		1651	11.10				
HUANCAYO	15	1640 E	1745 D	1643	S14	W57	4355	65 D	3	2						
SAC PEAK	15	1640	1757 D	1642	S18	W60	4355	77 D	2	2		7.70			28	S-SWF
MT WILSON	15	1641			S12	W60	4355		2							
MC MATH	15	1645 E	1735 D		S12	W55	4355	50 D	2							
MT WILSON	15	2044	2049		S06	E01	4368	5	1							
MT WILSON	15	2214	2232		N18	W28	4359	18	1							
MT WILSON	15	2306	2322		N14	E22	4370	16	1							
HAWAII	15	2306	2322	2308	N15	E31	4370	16	1	3	2308	2.90	3.60			
MITAKA	16	0054	0103		S13	W65	4355	9	1	1	0056	1.84	3.92	3.97		
MITAKA	16	0507	0525	0515	S13	W67	4355	18	1	1	0515	1.34	2.85	2.85	120	
MITAKA	16	0527	0545	0529	N17	E23	4370	18	1	1	0529	1.34	1.60	1.66	120	
NIZAMIAH	16	0927 E	0940	0930	S15	E57	4377	33 D	1	2	0930	1.21	2.23	2.10		
CAPRI S	16	0928	0934 D		S09	E51	4377	6 D	1	3	0930	1.50	2.40			
CAPRI S	16	1208	1225		S13	W65	4355	17	1	3	1211	1.20	2.90			S-SWF
CAPRI S	16	1414 E	1441		N18	E26	4375	27 D	1&	3	1422	4.30	4.70			S-SWF
CAPRI S	16	1542 E	1555 D		N22	E32	4375	13 D	1	2	1544	3.50	4.50			
CLIMAX	16	1542 E	1610		N22	E28	4375	28 D	1		1542	4.90				
CLIMAX	16	1805	1817	1808	N25	E85	4381	12	1			2.80				Slow S-SWF
MT WILSON	16	1951	2010		N14	E02	4370	19	1							
MT WILSON	16	2100	2121		N16	E01	4370	21	1							

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MT WILSON	16	2202	2230		N16	E01	4370	28	1							
CLIMAX	16	2255	2326 D	2307	S16	E48	4377	31 D	2			6.40				
MT WILSON	16	2300	2347		S15	E46	4377	47	1							
MITAKA	17	0026	0041	0027	N13	E04	4370	15	1	1	0027	1.86	1.97	1.86	120	
MITAKA	17	0040 E	0055	0047	N08	E03	4370	15 D	1	1	0051	1.84	1.90	2.33	134	
MITAKA	17	0130	0143	0130	S14	W62	4355	13	1	1	0130	1.84	3.83	2.74	149	
MITAKA	17	0208	0216	0208	N13	E10	4370	8	1&	1	0208	2.78	2.98	1.92	188	
MITAKA	17	0223 E	0231		S18	W70	4355	8 D	1	1	0223	1.84	4.60	1.54		
MITAKA	17	0235	0251		N08	E03	4370	16	1	1	0235	1.84	1.90	2.09	107	
ATHENS	17	0818	0840		N24	W45	4359	22	1	3		2.70	4.40			
R O EDIN	17	1139	1151	1145	N12	E07	4370	12	1	3	1145	4.00	4.20	2.30		
CAPRI S	17	1154 E	1220 D		N27	E70	4381	26 D	1	3	1212	1.20	3.80			
R O EDIN	17	1155	1250	1159	N23	E65	4381	55	1&	3	1159	3.00	8.80	2.25		
ARCETRI	17	1205 E	1222		N25	E69	4381	17 D	1&							
ARCETRI	17	1205 E	1220		S21	E18	4373	15 D	1							
ZURICH	17	1255 E	1339		N08	W03	4368	44 D	1&	1	1255		2.00			
R O EDIN	17	1300	1307 D	1303	N09	W04	4368	7 D	1	1	1303	4.00	4.10	2.90		
CLIMAX	17	1742 E	1753		N25	E68	4381	11 D	1		1747	2.90				S-SWF
MT WILSON	17	2016	2025		N30	E60	4376	9	1							
CLIMAX	17	2117	2210	2127	N22	E62	4381	53	1			2.60				
MITAKA	18	0517	0531	0518	N17	W02	4370	14	1	1	0518	1.86	2.02	2.27	149	
HAWAII	18	2254	2314	2254	S12	W32	4368	20	1	1	2254	2.40	2.80			
HUANCAYO	19	1629	1634	1629	N10	W34	4370	5	1	2						
MT WILSON	19	2018	2100		N35	E15	4376	42	1							
UCCLE	20	0842 E	0848	0845	N25	E30	4381	6 D	1	2	0845	2.20	2.40			
UCCLE	20	0844	0851 D	0851	N09	W43	4370	7 D	1&	2	0851	3.40	4.20			
USNRL	20	1322	1400	1329	N10	W43	4370	38	1	3	1329	.79	1.02	2.00	102	
USNRL	20	1435	1601	1505	N27	E44	4381	86	2&	3	1505	4.29	7.16	2.00	160	
OTTAWA	20	1446	1552		N28	E42	4381	66	2	4	1509	7.60	12.59			Slow S-SWF
R O HERST	20	1449 E	1525	1455	N28	E46	4381	36 D	2&	2	1458	3.40	6.10	3.80	150	
R O EDIN	20	1507 E	1518 D		N28	E46	4381	11 D	2	1	1511	9.00	15.60	2.50		
USNRL	20	1621	1629	1625	N31	W70	4359	8	1	2	1625	.56	2.48		64	
USNRL	20	1708	1747	1713	N10	W45	4370	39	1	3	1713	.45	.64		111	
MT WILSON	20	2058	2119		N28	E28	4381	21	1							
MITAKA	22	0247 E	0304	0247	N28	E12	4381	17 D	1&	1	0247	3.80	4.52	1.72	165	
MITAKA	22	0315 E	0324	0315	S19	E56	4384	9 D	1&	1	0315	5.67	11.30	2.39	149	
ATHENS	22	0810 E	0840 D		N17	W72	4364	30 D	2	3		2.20	7.00			
WENDEL	22	0929	0941		S27	W32	4372	12	1				3.00			
UCCLE	22	0951 E	1107	1035	N29	E25	4381	76 D	1&	2	1035	3.40	4.2			
UCCLE	22	0951 E	1112		N25	W12	4376	81 D	1	2		2.20				
UCCLE	22	0951 E	1115 D	1107	S27	W35	4372	84 D	1&	2	1107	4.50	4.90			
UCCLE	22	1012	1108	1104	S17	E54	4384	56	1	2	1104	2.20	3.30			
UCCLE	22	1056	1112	1106	S15	W27	4377	16	1	3	1106	3.40	3.70			
CLIMAX	22	1802	1901	1833	S24	W38	4372	59	2			7.20				G-SWF
USNRL	22	1811 E	1937	1821	S24	W37	4372	86 D	1&	2	1821	3.06	4.00		123	
MITAKA	23	0102	0113	0105	S16	E44	4384	11	1	1	0107	.89	1.32	2.19	120	
NIZAMIAH	23	0520 E			N	W			1	1	0520			1.50		

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WENDEL	23	0904	1053	0918	S22	W45	4372	109	3				19.00			
NEDERHORST	23	0919 E	0945		S25	W47	4372	26 D	2							Slow S-SWF
UCCLE	23	0928 E	1024	0933	S28	W48	4372	56 D	2&	4	0933	11.00	15.00			
WENDEL	23	1328	1344		S25	W48	4372	16	1				3.00			
USNRL	23	1329	1349	1331	S28	W48	4372	20	1	2	1331	1.92	3.00		85	
WENDEL	23	1355	1415 D		S15	E35	4384	20 D	1&				6.00			
MT WILSON	23	1919	2019		S20	W10	4378	60	1&							
USNRL	23	1945	2026	1950	S12	W13	4378	41	1&	3	1950	3.85	3.96	2.00	106	
HUANCAYO	23	1946	2000	1949	S09	W11	4378	14	1	2						
MT WILSON	23	2119 E			N30	E05	4381		1&							
NIZAMIAH	24	0334	0424	0347	S23	W55	4372	50	1	3	0347	1.22	2.15	1.70		
MITAKA	24	0348	0433 D	0357	S23	W57	4372	45 D	1&	1	0404	3.80	7.15	1.97	125	
WENDEL	24	0812	0842 D		S24	W63	4372	30 D	1&				5.00			
WENDEL	24	0858	0954 D		S22	W61	4372	56 D	1&				6.00			
ARCETRI	24	0903	0926		S23	W60	4372	23	1	3	922	1.30	2.60			
R O EDIN	24	1243	1307	1244	S13	E20	4384	24	1	1	1244	4.50	4.90	1.87		
CAPRI S	24	1320	1420 D		S16	E23	4384	60 D	1	3	1327	2.20	2.40			
R O HERST	24	1333 E	1415	1333 E	S19	E23	4384	42 D	1&	2	1335	1.90	2.10	2.08	80	
HAWAII	25	0040 E	0104	0042	N30	W12	4381	24 D	1	2	0042	2.50	3.10			
MITAKA	25	0040	0105	0045	N28	W13	4381	25	2&	2	0045	15.20	19.20	2.32	183	
ARCETRI	25	0839 E			N20	E68	4387		1		839	1.10	3.20			
WENDEL	25	0845 E	0856		N23	E68	4387	11 D	1				3.00			
ARCETRI	25	0843 E	0851 D		S12	W34	4378	8 D	1		843	1.80	2.20			
WENDEL	25	0845 E	0925		S12	W31	4378	40 D	1&				5.00			
UCCLE	25	0853 E	0907 D	0907	S11	W36	4378	14 D	1	3	0907	3.20	3.80			
ABASTUMANI	25	0925	1046		S	W	4372	81	3							
NIZAMIAH	25	0927	1029	0950	S21	W69	4372	62	2	2	0950	2.43	6.73	2.54		
UCCLE	25	0930	1045	0942	S25	W70	4372	75	3	2	0942	10.00	20.00			
WENDEL	25	0930	1100 D		S23	W66	4372	90 D	3				23.00			
ZURICH	25	0934	1046 D		S25	W68	4372	72 D	2	3	0934		8.00			
ARCETRI	25	0935	1038		S23	W74	4372	63	3	3	1009	4.10	14.00			Slow S-SWF
CAPRI S	25	0936 E	1046		S25	W68	4372	70 D	2	3	1011	3.00	7.50			
NEDERHORST	25	0936 E	1050		S25	W70	4372	74 D	2&							
STOCKHOLM	25	0944 E	1040 D		S22	W70	4372	56 D	2&	2						
ARCETRI	25	0947 E			S22	W68	4372		2		947	2.70	7.30			
R O HERST	25	0954 E	1032 D	1010	S24	W70	4372	38 D	2	1	1010	2.40	6.90			
UCCLE	25	0958	1019	1005	N25	W57	4376	21	2	2	1005	5.00	8.00			
ZURICH	25	1000	1011 D		N22	W55	4376	11 D	1	3	1000		3.00			
WENDEL	25	1001	1022 D		N25	W47	4376	21 D	1&				6.00			
ABASTUMANI	25	1005	1028		N	W	4376	23	2							
CAPRI S	25	1205	1244 D		S21	E11	4384	39 D	1&	3	1230	3.80	4.20			
WENDEL	25	1205	1333		S18	E12	4384	88	3				20.00			S-SWF
MITAKA	26	0115 E	0127 D		N19	E56	4387	12 D	1	1	0115	.89	1.85	2.56	120	
MITAKA	26	0138 E	0226	0156	N21	E54	4387	48 D	1	1	0156	.89	1.85	2.40	131	
MITAKA	26	0210 E	0226		N20	E56	4387	16 D	1	1	0210	1.84	3.83	1.81	102	
MITAKA	26	0441	0458		N21	E52	4387	17	1	1	0443	.89	1.78	2.64	107	
MITAKA	26	0503	0516		S17	W05	4382	13	1	1	0503	1.84	1.87	2.39	140	
WENDEL	26	0913 E	0958		S11	E25	4384	45 D	1&				5.00			Slow S-SWF
WENDEL	26	1310 E	1418 D		S10	E22	4384	68 D	1&				6.00			
USNRL	26	1314 E	1429	1322	N11	E22	4386	75 D	1&	2	1322	1.92	2.10	1.00	105	
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WENDEL	26	1355 E	1418 D		N21	E50	4387	23 D	1				3.00			
CLIMAX	26	1640	1657	1647	N21	E50	4387	17	1			2.80				S-SWF
HAWAII	26	1836	1906	1836	N24	W39	4381	30	1	3	1838	2.00	3.00			
HAWAII	26	2208	2220	2208	N24	E49	4387	12	1&	3	2208	4.10	7.80			
HAWAII	27	0030	0054	0032	N25	E49	4387	24	1	3	0032	2.50	4.70			
MITAKA	27	0034	0043	0034	N23	E47	4387	9	1&	1	0034	5.67	9.60	1.58	134	
MITAKA	27	0146 E	0202 D		S10	E17	4384	16 D	1	1	0146	2.78	2.95	1.92	110	
MITAKA	27	0316 E	0329		S10	E16	4384	13 D	1	1	0316	2.78	2.95	3.00	120	
MITAKA	27	0323 E	0329		N22	E46	4387	6 D	1	1	0328	.41	.69	1.97	96	
ZURICH	27	1046	1128 D		S11	E10	4384	40 D	1	3	1055		2.00			
WENDEL	27	1350	1413		S19	W53	4378	23	1				3.00			
MT WILSON	27	2246	2319		S26	E66	4397	33	1							
UCCLE	28	1008	1052	1019	S10	W02	4384	44	1	2	1019	2.80				
UCCLE	28	1053	1203 D	1106	N24	E29	4387	10 D	1&	3	1106	2.80	3.50			
WENDEL	28	1213 E	1239		S09	W03	4384	26 D	1&				6.00			
WENDEL	28	1337	1425		N19	E43	4388	48	1&				7.00			
USNRL	28	1343 E	1439	1347	N21	E42	4388	56 D	1	2	1347	1.47	2.29	1.00	87	Slow S-SWF
UCCLE	28	1406 E	1417		N19	E39	4388	11 D	1	3		3.00	4.20			
USNRL	28	2040	2100		S26	E70	4397	20	1	2	2045	1.36	3.60		63	G-SWF
UCCLE	29	1118	1147	1125	S10	W18	4384	29	1	3	1125	1.80				
SAC PEAK	29	1602	1637	1610	N12	E60	4394	35	1	1		2.50			16	
ATHENS	30	0709	0751		S18	W54	4382	42	1	3		2.00	3.40			Slow S-SWF
MT WILSON	30	0904 E			S19	W65	4382		2							
SAC PEAK	30	1750	1945 U	1752	S15	W60	4382	115 U	2	1		6.70			17	S-SWF
USNRL	30	1828 E	2015	1842	S18	W65	4382	107 D	2&	2	1842	2.26	5.19		95	G-SWF
SAC PEAK	30	2020	2112 D	2025	S16	W66	4382	52 D	1	1		2.90			16	
MITAKA	31	0137 E	0203 D		S20	W63	4382	26 D	1	1	0137	4.70	9.76	2.32		
MOSCOW	31	1148	1356	1224	N10	W20	4387	128	2&							
WENDEL	31	1155 E	1405		N20	W13	4387	130	3				20.00			Slow S-SWF
CAPRI S	31	1226 E	1319		N21	W13	4387	53 D	1	1	1242	3.80	4.20			
USNRL	31	1231 E	1452		N19	W12	4387	141 D	2&	1	1234	5.89	6.89		124	
KANZELHOHE	31	1200 E	1320		N22	E14	4392	80 D	2&							
UCCLE	31	1435 E	1503 D		S17	W80	4382	28 D	1							
UCCLE	31	1503 E			S05	E05	4391		1&							

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CAPRI S — ANACAPRI SWEDISH
KODAIKNL — KODAIKANAL
KRASNYA — KRASNAYA PAKHRA
R O EDIN — ROYAL OBSERVATORY, EDINBURGH
R O HERST — GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
SAC PEAK — SACRAMENTO PEAK
SCHAUINS — SCHAUINSLAND
USNRL — UNITED STATES NAVAL RESEARCH LABORATORY

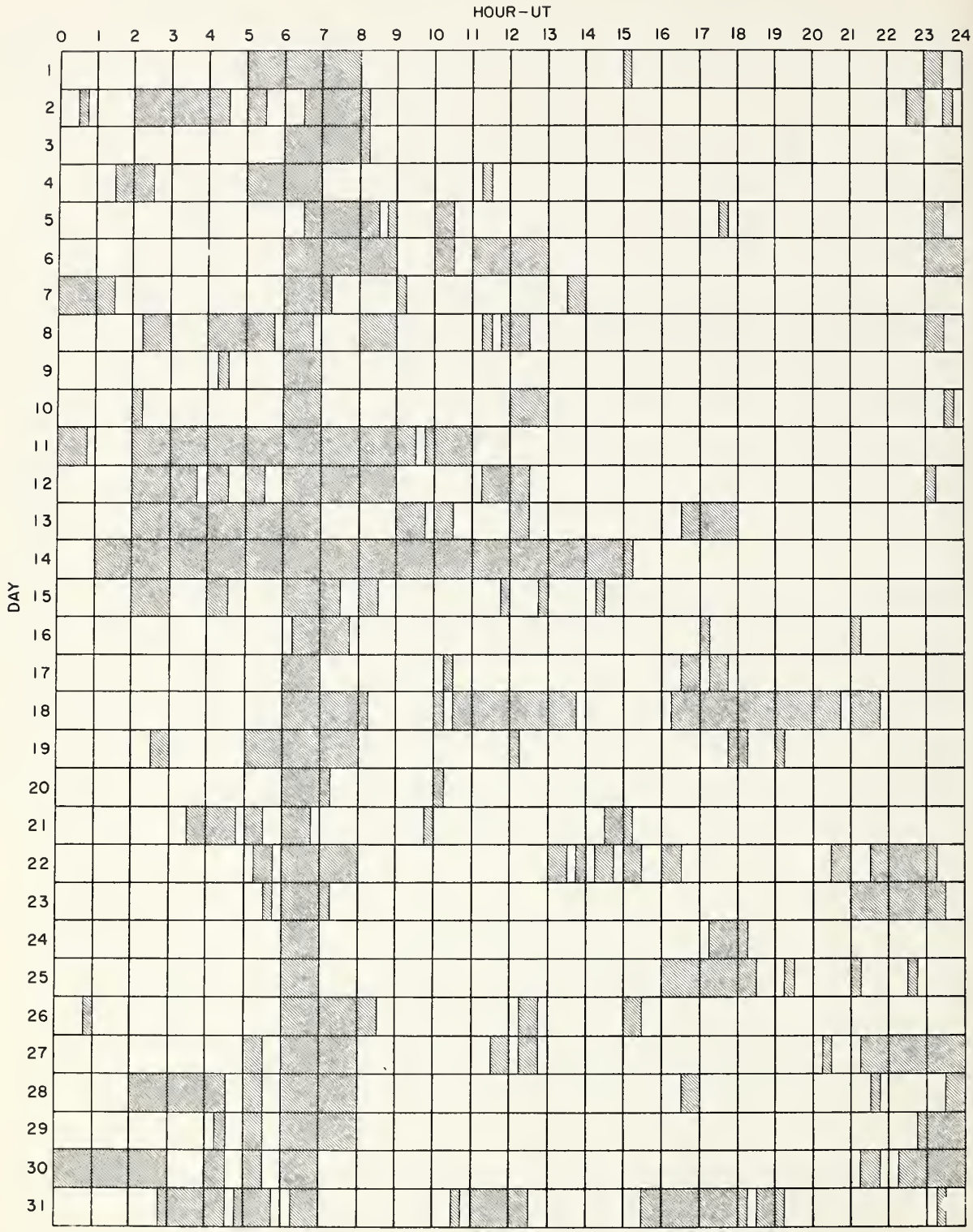
* RATED AS IMPORTANCE 1- BY OTHER OBSERVATORIES.

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.

E — LESS THAN
D — GREATER THAN
U — APPROXIMATE
& — PLUS
\- — MINUS

INTERVALS OF NO FLARE PATROL OBSERVATIONS

JANUARY 1958



COMMERCE – STANDARDS – BOULDER

Stations included:

Anacapri (Swedish)
Arcetri
Arosa
Athens
Climax
Dunsink
Greenwich Royal Observatory, Herstmonceux
Hawaii
Huancayo
Mitaka
Nizamiah
Ottawa
Royal Observatory, Edinburgh
Sacramento Peak
Uccle
U. S. Naval Research Laboratory
Zurich

SUBFLARES NOTED AS FOLLOWS, DATE - UNIVERSAL TIME - COORDINATES

DECEMBER 1957

UCCLE	01	0900 E	S09	W15
UCCLE	01	0900	S08	W65
UCCLE	01	0938	S09	W15
UCCLE	01	0946	S09	W15
UCCLE	01	1016	S09	W15
*SAC PEAK	01	1550	S16	W27
SAC PEAK	01	1630	S30	E25
SAC PEAK	01	1640	S28	E60
CLIMAX	01	1730	S31	E25
SAC PEAK	01	1730	S29	E25
CLIMAX	01	2040	S21	E29
SAC PEAK	01	2042	S22	E27
MEUDON	02	1055	S16	W33
HUANCAYO	02	1607	S13	E10
USNRL	02	1607	S14	E09
USNRL	02	1711	S18	W40
USNRL	02	1750	S20	W40
USNRL	02	1819	N25	W61
UCCLE	03	0939	S22	W09
UCCLE	03	0948	N16	W35
HYDERABAD	03	1021 E	S18	W50
UCCLE	03	1050	N16	W35
*R O HERST	03	1205 E	S17	W48
UCCLE	03	1219 E	S16	W05
OTTAWA	03	1340	S20	E04
OTTAWA	03	1355	S15	W03
*SAC PEAK	03	1516 E	S19	E00
SAC PEAK	03	1535	S17	W52
*OTTAWA	03	1543	S20	W49
*CLIMAX	03	1548	S18	W56
*USNRL	03	1632 E	S17	W52
SAC PEAK	03	1705	S17	W52
*SAC PEAK	03	1805	S24	W04
SAC PEAK	03	1805	S18	W55
SAC PEAK	03	1935	S22	W14
HUANCAYO	03	1945	S15	W53
SAC PEAK	03	2000	S18	W55
SAC PEAK	03	2042	S18	W55
SAC PEAK	03	2110	S22	W01
CLIMAX	03	2112	S22	E01
SAC PEAK	03	2125	N16	W43
CLIMAX	03	2127	N17	W44
UCCLE	04	1139	S25	E85
SAC PEAK	04	1507	S17	W68
SAC PEAK	04	1520	S21	W16
SAC PEAK	04	1537	N25	E56
SAC PEAK	04	1607	S17	E85
*SAC PEAK	04	1655	S21	W20
SAC PEAK	04	1750	S17	W69
SAC PEAK	04	1807	S15	W64
SAC PEAK	04	1927	S16	W70
CAPRI S	05	0930 E	S21	W31
OTTAWA	05	1420	S15	W30
*OTTAWA	05	1425	S14	W62
*USNRL	05	1538 E	S17	E81
USNRL	05	1543	N16	W17
OTTAWA	05	1544	N16	W17
USNRL	05	1556	S31	W90
USNRL	05	1735	N18	W19
*R O EDIN	06	1247	S15	W74
HUANCAYO	06	1533	S32	W04
HUANCAYO	06	1539	S20	W36
SAC PEAK	06	1755	S24	E60
SAC PEAK	06	1800	S14	W80
SAC PEAK	06	1827	S13	W47
*SAC PEAK	06	1842	S14	W80
*SAC PEAK	06	1910	S22	W50
*HUANCAYO	06	1955 E	S32	W05
SAC PEAK	06	2010	S35	E64
*ATHENS	07	0808	S20	E30
*CAPRI S	07	0809	S17	E30
*ATHENS	07	0847 E	N15	E27
SAC PEAK	07	1508 E	S20	E27
*SAC PEAK	07	1610	N06	W02
*SAC PEAK	07	1625	S12	W60
SAC PEAK	07	1805	S19	E25
SAC PEAK	07	1945	S18	E24
SAC PEAK	07	2050	N23	E11
SAC PEAK	07	2122	S13	W90
UCCLE	08	1310	S20	W77
UCCLE	08	1310	S24	E23
*SAC PEAK	08	1503 E	S15	W80
HUANCAYO	08	1535 E	N06	W17
SAC PEAK	08	1635	N18	E19
SAC PEAK	08	1650	N18	E19
SAC PEAK	08	1650	N14	E67
SAC PEAK	08	1922	S15	W80
SAC PEAK	08	2155	N13	E63
SAC PEAK	08	2212	S15	W80
ONOREJOV	09	0928 E	S12	W72
SAC PEAK	09	1457 E	N07	W27
SAC PEAK	09	1457 E	S14	W90
SAC PEAK	09	1600	S11	W78
HUANCAYO	09	1603 E	N08	W73
SAC PEAK	09	1705	S11	W78
SAC PEAK	09	1802	S11	W80
SAC PEAK	09	1920	S11	W78
SAC PEAK	09	1927	N18	E04
SAC PEAK	09	2042	S15	E16
UCCLE	10	0945	S16	E11
SAC PEAK	10	1612	N12	E07
SAC PEAK	10	2010	N11	E04
SAC PEAK	11	2040	N08	W61
*USNRL	12	1310 E	S23	E70
*SAC PEAK	12	1610	S27	E70
SAC PEAK	12	1735	S16	E90
SAC PEAK	12	1832	N05	W31
CLIMAX	12	1835 E	N05	W30
CLIMAX	12	1843	N16	W47
USNRL	12	1848	N15	W47
SAC PEAK	12	1850	N17	W49
*SAC PEAK	12	1905	N31	W28
*CLIMAX	12	1907	N32	W30
*SAC PEAK	12	1957	N28	W57
*SAC PEAK	12	2050	S16	E90
*USNRL	12	2051	S15	E88
CLIMAX	12	2051 E	S15	E90
SAC PEAK	12	2152	N06	W34
ATHENS	13	0741	N07	W22
USNRL	13	1416	S12	E33
USNRL	13	1455	S12	E33
USNRL	13	1534 E	N23	E90
USNRL	13	1605	S12	E33
CLIMAX	13	1616	N21	E90
*USNRL	13	1626	N23	E90
*SAC PEAK	13	1630	N21	E90
SAC PEAK	13	1822	N21	E90
CLIMAX	13	1825	N21	E90
*SAC PEAK	13	1947	S17	E77
CAPRI S	14	0849 E	N09	W45
SAC PEAK	14	1525	S12	W17
USNRL	14	1532 E	S13	W17
SAC PEAK	14	1542	N18	E80
USNRL	14	1545	N11	W48
SAC PEAK	14	1637	N18	E75
CLIMAX	14	1823	S12	W18
CLIMAX	14	1826	N06	W60
SAC PEAK	14	1952	N20	E78
SAC PEAK	14	2035	N17	W74
CLIMAX	14	2040	N16	W73
USNRL	15	1434	S14	E47
USNRL	15	1500	N17	E60
USNRL	15	1506	S12	E55
HUANCAYO	15	1544 E	N12	E56
HUANCAYO	15	1615 E	N18	E68
ONOREJOV	16	0939	S25	E22
ONOREJOV	16	1046 E	S25	E22
ONOREJOV	16	1350 E	S12	E40
USNRL	16	1449	N23	E13
SAC PEAK	16	1515	S26	E17
OTTAWA	16	1541	S19	E83
SAC PEAK	16	1615	N07	W90
SAC PEAK	16	1637	S26	E17
SAC PEAK	16	1705	N19	E52
SAC PEAK	16	1712	S26	E16
SAC PEAK	16	1715	N05	W90
USNRL	16	1717 E	S25	E17
HAWAII	16	1944	S28	E14
HUANCAYO	16	1948 E	S26	E15
USNRL	16	1949 E	S25	E17
USNRL	16	2022	N15	E45
SAC PEAK	16	2115	S14	E33
*HAWAII	17	0040	N12	E44
*R O HERST	17	0850 E	N22	E41
*HYDERABAD	17	0907 E	N17	E39
WENOEL	17	1103 E	S25	W11
WENOEL	17	1128 E	S06	E45
WENOEL	17	1206 E	S11	E24
USNRL	17	1314	S26	E88
USNRL	17	1325	S05	E43
USNRL	17	1430	S05	E43
USNRL	17	1514	N24	E90
CLIMAX	17	1546 E	S28	E82
USNRL	17	1552	S22	E90
USNRL	17	1608	N21	E47
USNRL	17	2010	S20	E90
USNRL	17	2038	N20	E30
HAWAII	17	2138	N17	E37
ATHENS	18	0713	S24	W22
SAC PEAK	18	1535 E	N22	E16
SAC PEAK	18	1555	N26	E90
HAWAII	18	1854	N12	W49
SAC PEAK	18	2120 E	N26	E90
MEUDON	19	0915 E	N24	E20
MEUDON	19	1155	N17	E40
SAC PEAK	19	1952	S27	E66
USNRL	19	1952	S24	E68
SAC PEAK	19	2057	N18	E44
SAC PEAK	19	2135	S18	E78
*CAPRI S	20	0857 E	N17	W06
WENDEL	20	1157 E	N14	W05
SAC PEAK	20	1510	S18	W25
SAC PEAK	20	1525	N27	E14
SAC PEAK	20	1622	S27	E50

COMMERCE - STANDARDS - BOULDER

SUBFLARES NOTED AS FOLLOWS, DATE - UNIVERSAL TIME - COORDINATES

DECEMBER 1957

	SAC PEAK	20	1625	N27 E14
	SAC PEAK	20	1625	S19 E86
	SAC PEAK	20	1750	N23 E64
	SAC PEAK	20	1755	N15 E30
	SAC PEAK	20	1915	S23 E58
	HUANCAYO	20	1927 E	S21 E51
	HAWAII	20	2006	N22 E61
*	SAC PEAK	20	2017	N14 E23
	SAC PEAK	20	2020	S18 W28
*	SAC PEAK	20	2107	S13 W15
*	HUANCAYO	20	2112	S14 W14
	HUANCAYO	20	2136	S07 E90
	SAC PEAK	20	2150	S23 E39
	HUANCAYO	20	2152	S23 E39
	WENDEL	21	1007 E	S13 W35
	WENDEL	21	1041 E	S20 W72
*	WENDEL	21	1320 E	S13 W39
*	USNRL	21	1324	S15 W38
	WENDEL	21	1400 E	N17 E20
	USNRL	21	1437	S20 W37
	USNRL	21	1457	N14 W21
	SAC PEAK	21	1502	N14 W21
	SAC PEAK	21	1502	N29 E48
	USNRL	21	1542	N22 E34
*	SAC PEAK	21	1612	S17 W38
*	CLIMAX	21	1615	S18 W39
*	CLIMAX	21	1639	S17 E69
	CLIMAX	21	1715	N14 E17
*	CLIMAX	21	1730	N30 E55
	SAC PEAK	21	1812	S12 W42
	HUANCAYO	21	2020 E	S15 E69
*	CLIMAX	21	2044	N29 E46
*	SAC PEAK	21	2045	N26 E46
*	SAC PEAK	21	2055	N16 W25
*	CLIMAX	21	2056	N17 W26
	SAC PEAK	21	2107	N15 E30
	HUANCAYO	21	2108	N25 E29
*	SAC PEAK	21	2127	N25 E31
*	CLIMAX	21	2133 E	N28 E31
*	CLIMAX	21	2201	N28 E00
	WENDEL	22	1212 E	N23 W58
	WENDEL	22	1232 E	S18 W41
	WENDEL	22	1238 E	S21 E12
	UCCLE	22	1333	S25 E29
*	WENDEL	22	1335 E	N23 E24
*	USNRL	22	1335	N23 E22
	USNRL	22	1357	S15 W37
	UCCLE	22	1358	S13 W52
	WENDEL	22	1359 E	N16 W31
	USNRL	22	1400	N14 W33
	UCCLE	22	1401	N16 W35
	USNRL	22	1435	N23 E22
	USNRL	22	1436	S23 E18
*	SAC PEAK	22	1507 E	S28 E34
	SAC PEAK	22	1552	N21 E23
	SAC PEAK	22	1620	N17 W28
	SAC PEAK	22	1625	S13 E08
	CLIMAX	22	1643	N23 E20
	SAC PEAK	22	1645	N25 E21
	CLIMAX	22	1650	S18 E34
	SAC PEAK	22	1700	S18 E35
	SAC PEAK	22	1830	N18 W65
	CLIMAX	22	1849	N24 E35
	SAC PEAK	22	1855	N24 E35
	CLIMAX	22	1903	S17 E34
	SAC PEAK	22	1905	N17 W30
*	SAC PEAK	22	1905	S13 W54
	SAC PEAK	22	1905	S18 E36
	HAWAII	22	1914 E	S17 E37
	CLIMAX	22	1959	S17 W08
	HAWAII	22	2000	S13 W09
	SAC PEAK	22	2000	S15 W08
	SAC PEAK	22	2150	N25 E37
	SAC PEAK	22	2155	N20 W70
	USNRL	23	1325	S27 E12
	USNRL	23	1356	S17 E46
*	USNRL	23	1402	N29 W02
	CAPRI S	23	1422 E	S27 E12
	USNRL	23	1423	S28 E12
	USNRL	23	1510	S21 E43
	USNRL	23	1531	N30 W03
	USNRL	23	1822	S29 E10
*	CLIMAX	23	1835	N25 E21
	USNRL	23	1920	N23 E24
	CLIMAX	23	2013	N24 E21
	USNRL	23	2016	N24 E21
	HUANCAYO	23	2016	N22 E20
	SAC PEAK	23	2022	N24 E22
	CLIMAX	23	2023	N22 E04
	USNRL	23	2024	N22 E05
	CLIMAX	23	2115	S26 E17
	UCCLE	24	1019	S26 E06
	UCCLE	24	1129	S27 E31
	WENDEL	24	1212 E	N22 W37
	HUANCAYO	24	2020	S19 E28
	ATHENS	25	0725	N26 W08
	ATHENS	25	0754	N17 W61
	UCCLE	25	1019	N28 E07
	UCCLE	25	1020	N24 E04
	HYDERABAD	25	1030 E	N09 W61
	UCCLE	25	1056	S04 W66
	UCCLE	25	1124	N15 W34
*	WENDEL	25	1152 E	N31 E10
	UCCLE	25	1154	N25 W17
	WENDEL	25	1251 E	N23 W15
	USNRL	25	1252	N22 W17
	WENDEL	25	1315 E	N30 W02
*	USNRL	25	1322	N27 W10
	USNRL	25	1330	S18 E25
	USNRL	25	1340	N25 E04
	OTTAWA	25	1402	N17 W66
*	CAPRI S	25	1406 E	N15 W70
	OTTAWA	25	1430	N12 E53
*	OTTAWA	25	1435	S04 W68
	SAC PEAK	25	1510	S22 E69
	USNRL	25	1520 E	S20 E68
	SAC PEAK	25	1535	S14 W90
	CLIMAX	25	1616 E	N32 E04
	SAC PEAK	25	1632	N20 W70
	CLIMAX	25	1634	N23 W74
	CLIMAX	25	1656	N28 W06
	SAC PEAK	25	1657	S28 W10
	SAC PEAK	25	1702	S24 W37
	SAC PEAK	25	1742	S20 E15
	SAC PEAK	25	1812	N23 W00
	SAC PEAK	25	1815	S19 E22
	SAC PEAK	25	1920	S18 E15
	SAC PEAK	25	2027	N25 W22
	CLIMAX	25	2057	S18 E21
	SAC PEAK	25	2057	S20 E20
	SAC PEAK	25	2100	N24 W02
*	SAC PEAK	25	2122	S20 E20
	ATHENS	26	0701 E	N30 W02
	UCCLE	26	0954 E	S25 W35
	UCCLE	26	0954 E	N29 W10
	UCCLE	26	0954 E	N27 W25
	UCCLE	26	1010	N25 W27
	UCCLE	26	1010	S07 W90
	UCCLE	26	1056	S19 W51
*	WENDEL	26	1059 E	S23 W45
	UCCLE	26	1104	N28 W12
	UCCLE	26	1105	S25 W27
	UCCLE	26	1106	S25 W34
	UCCLE	26	1110	N28 W12
	UCCLE	26	1117	S25 W27
	SAC PEAK	26	1811 E	N19 E71
	CLIMAX	26	1850	S28 W23
	CLIMAX	26	1915	N30 W13
	CLIMAX	26	1918	N24 W36
	CLIMAX	26	2011	S18 E09
	CLIMAX	26	2131	N23 W37
	CLIMAX	26	2139	S25 W39
	HAWAII	26	2228	S22 N44
	WENDEL	27	1020 E	N22 W23
	WENDEL	27	1148 E	N29 W20
	WENDEL	27	1258 E	N28 W21
	USNRL	27	1259	N23 W21
	USNRL	27	1307	S07 W90
	USNRL	27	1307	S23 W50
	USNRL	27	1336	N20 W02
*	WENDEL	27	1356 E	N27 W15
	OTTAWA	27	1419 E	N24 W16
	SAC PEAK	27	1506	S22 W45
	USNRL	27	1515	S22 W45
*	CLIMAX	27	1635	S25 W42
*	SAC PEAK	27	1642	S22 W42
	SAC PEAK	27	1835	S21 W42
	USNRL	27	1836	S24 W40
	SAC PEAK	27	1907	S21 W13
	USNRL	27	1910	S20 W15
	SAC PEAK	27	2000	N27 W40
	SAC PEAK	27	2015	N23 W38
	SAC PEAK	27	2017	S26 E32
	USNRL	27	2020	N22 W38
	USNRL	27	2032	S23 E30
	SAC PEAK	27	2122	N25 W42
*	HAWAII	27	2136	S10 W15
	SAC PEAK	27	2147	N23 W41
	HAWAII	28	0120	S24 E24
*	SAC PEAK	28	1550	S23 E21
	SAC PEAK	28	1645	S23 E17
	SAC PEAK	28	1945	N11 W90
	SAC PEAK	28	2125	N23 W43
	USNRL	29	1255 E	N21 W50
	USNRL	29	1435	S24 E09
	USNRL	29	1554	N23 W59
*	USNRL	29	1617 E	N23 W59
*	SAC PEAK	29	1617 E	N22 W63
	SAC PEAK	29	1740	N19 W76
	SAC PEAK	29	1747	S07 E85
	SAC PEAK	29	1817	S11 W40
	SAC PEAK	29	2010	N26 W52
	HUANCAYO	29	2011 E	S25 W59
	SAC PEAK	29	2110	S26 E06
	SAC PEAK	29	2117	N24 W67
	WENDEL	30	0930 E	N14 E22
	WENDEL	30	0942 E	N27 E00
	WENDEL	30	1150 E	S23 W85
	WENDEL	30	1250 E	N20 W49
*	SAC PEAK	30	1705	S20 W53
	USNRL	30	1820	N21 E13
	SAC PEAK	30	1835	N18 E57
	SAC PEAK	30	2012	S06 E65
*	SAC PEAK	30	2015	N18 E55
*	CAPRI S	31	1117 E	S23 W18
*	CAPRI S	31	1353 E	S19 W67
*	CAPRI S	31	1408	S21 W17
	SAC PEAK	31	1520	N29 W78
	USNRL	31	1524	S23 W21
	SAC PEAK	31	1540	N23 W90
	USNRL	31	1541	N21 W90
	SAC PEAK	31	1547	S18 W57
	SAC PEAK	31	1552	S17 W90
	CLIMAX	31	2003	S18 E46

* Rated as flare of importance ≥1 by other observatories (See CRPL-F Part B).

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)
DECEMBER 1957

Dec. 1957	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 161-B
01	1635	1815	G-SWF	5	1+	BE, CR, HU, MC, PR, WS	1630
02	1101	1136	S-SWF	1	1	NE	1058
03	1312	1342	Slow-S-SWF	5	2	DA, HU, NE, PR	1317E
03	1403	1433	Slow-S-SWF	4	1	HU, NE, PR	1350
03	1542	1615	Slow S-SWF	5	1+	BE, HU, MC, PR, WS	1546
03	1632	1650	Slow S-SWF	5	1	BE, CR, MC, PR, WS	1631
04	0823	0853	S-SWF	1	2	PU	0840E
04	1238	1251	S-SWF	5	2	DA, HH, HU, NE, PR	1232E
05	1012	1041	Slow S-SWF	2	2	HH, NE	1014E
05	1633	1655	Slow S-SWF	5	2-	BE, HU, MC, PR, WS	1633
06	0348	0414	Slow S-SWF	5	2	AN, CA, OK, TO	0345
06	0933	0953	S-SWF	1	2-	TO	
06	1250	1323	Slow S-SWF	1	1	NE	1250E
06	2347	0010	Slow S-SWF	5	1+	AD, CA, OK	*
12	1215	1234	S-SWF	1	2	HH	1214E
12	1305	1320	S-SWF	3	1-	HU, PR	1309E
12	1802	1830	Slow S-SWF	5	1	BE, HU, MC, PR, WS	1757
13	0156	0245	Slow S-SWF	5	3	AD, AN OK, SY, TO CW	0215E
14	0513	0552	Slow S-SWF	3	1+	OK, CW+	
14	1233	1340	Slow S-SWF	5	3	BE, DA, MA, NE, PR, SW TO, RCA*, CW***	1245E
16	1129	1202	Slow S-SWF	5	1+	HU, NE, PR, PU	1125
16	1158	1226	Slow S-SWF	3	1-	PR, CW**	1143
17	0732	0830	Slow S-SWF	5	2+	HH, OK, NE, CW+, CW***	0734E
17	1532	1612	Slow S-SWF	5	2	BE, CR, HU, MC, PR, WS	1531E
18	0500	0515	G-SWF	4	1+	OK, TO, CW+	0450
18	0620	0650	S-SWF	5	2	OK, NE, CW+	0620E
18	1655	1728	Slow S-SWF	5	2	BE, CR, HU, MC, NE, PR, WS	1653
19	0757	0820	S-SWF	5	3	NE, PU, CW+, CW***	0757E
19	1714	1732	S-SWF	5	1+	BE, CR, MC, PR, WS	1707
20	0545	0611	S-SWF	5	2	OK, NE, TO	0543E
20	0757	0854	S-SWF	1	3	KO	0828E
20	0856	0928	Slow S-SWF	1	1	NE	0850
20	1625	1645	Slow S-SWF	5	1	BE, HU, MC, PR, WS	
21	2235	2340	Slow S-SWF	1	3+	AD	
22	1030	1052	S-SWF	3	3	HH, PU	1025
22	1718	1803	Slow S-SWF	5	2+	BE, CR, HU, MC, PR, WS	1715
22	2238	2330	S-SWF	5	2+	AD, CA, OK, SW, TO WS	2240E
23	0022	0105	Slow S-SWF	5	1+	AD, OK, TO	0028
23	1438	1502	Slow S-SWF	5	2+	BE, HU, MC, NE, PR, WS, RCA*	1436
24	2000	2030	Slow S-SWF	5	1	BE, HU, MC, PR, WS	*
25	0430	0455	S-SWF	5	2+	KO, OK	0435E
25	0632	0659	Slow S-SWF	1	2	KO	0634E
25	1605	1625	Slow S-SWF	4	1+	MC, PR, WS	1605
25	1628	1707	S-SWF	5	3	BE, CR, HU, MC, NE, PR, WS	
25	1815	1902	Slow S-SWF	5	3	BE, CR, HU, MC, NE, PR, WS	1812
25	2238	2256	Slow S-SWF	2	1	AD, AN	*
26	0245	0325	S-SWF	5	2+	AD, CA, OK, TO, CW+	*
26	0920	0942	S-SWF	5	2	HH, NE, PU, CW***	0912
26	1305	1342	Slow S-SWF	5	1+	NE, PR	1300E
26	1810	1837	G-SWF	5	1+	BE, HU, PR, WS	1751
27	0818	0912	Slow S-SWF	1	2	NE	0818
27	0916	1016	Slow S-SWF	1	1	NE	0914E
27	1257	1320	S-SWF	5	2	HH, MA, NE, PR	1303
28	2230	2300	S-SWF	5	2+	AD, CA, HU, OK, SW, WS, RCA+	2229
30	1608	1628	Slow S-SWF	5	1+	BE, CR, MC, PR, WS	1602

COMMERCE - STANDARDS - BOULDER

* No known flare patrol at this time.

CA - Canberra, Australia.
CR - Cornell University, N.Y.
DA - Darmstadt, G.F.R.
HH - Heinrich Hertz Institute, Berlin.
KO - Kodaikanal
NE - Nederhorst den Berg, Netherlands.
PU - Prague, Czech.
TO - Hiraiso Radio Wave Observatory.
CW** - Cable and Wireless, Somerton, England.
CW***- Cable and Wireless, Brentwood, England.
CW+ - Cable and Wireless, Hongkong.
CW++ - Cable and Wireless, Singapore.
RCA* - RCA Communications, Inc., Riverhead, N.Y.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

OTTAWA — JANUARY 1958 — 2800 MC

Jan. 1958	Type*	Start UT Hrs:Mins	Duration Hrs:Mins	Maximum Time UT Hrs:Mins	Maximum Peak Flux	Remarks
1	1 Simple 1	15 37	3	15 38	5	
2	2 Simple 2	14 46	1.5	14 46.5	18	
	4 Post Increase		6		5	
2	1 Simple 1	15 21.9	1	15 22.3	5	
2	1 Simple 1	20 15	2	20 15.8	5	
3	1 Simple 1	15 18.5	4	15 20.7	5	
3	2 Simple 2	19 36.5	4.5	19 37.3	12	
4	2 Simple 2	14 56.5	2.5	14 57.2	15	
4	2 Simple 2	19 48.4	1.5	19 49	8	
5	3 Simple 3	14 45	1	14 49.5	20	
5	2 Simple 2	20 13.1	1	20 13.6	8	
6	2 Simple 2	21 23	3	21 24.2	90	In sunset
7	3 Simple 3 A	18 22	1 20	18 40	26	
	6 Complex f	18 29.5	5	18 31.7	28	
	2 Simple 2	18 55	1	18 55.6	17	
8	1 Simple 1	15 10	2.5	15 11	4	
11	3 Simple 3 A	17 26	15	17 30	7	
	2 Simple 2	17 27.8	1.5	17 28.2	53	
11	2 Simple 2 f	19 03.6	8	19 04.9	31	
12	2 Simple 2	14 43	1	14 43.2	9	
12	1 Simple 1	19 31.3	1.5	19 31.8	7	
12	1 Simple 1	20 02.7	1	20 03	7	
13	2 Simple 2	15 07	1	15 07.3	9	
13	3 Simple 3 A	15 44	2 30	16 40	25	
	1 Simple 1	16 13	3	16 14.2	4	
	2 Simple 2 f	16 28.8	9	16 32.2	55	
14	3 Simple 3 A	14 05	1 25	14 37	20	
	1 Simple 1	14 10.5	1.5	14 11	7	
	2 Simple 2	14 38	3.5	14 39.5	27	
14	2 Simple 2	15 42.3	3	15 43	53	
14	2 Simple 2	15 59	6	16 01.8	70	
	4 Post Increase		8		8	
14	3 Simple 3	17 15	3 15	18 35	23	
15	3 Simple 3 A	16 40	4	17 20	40	
	2 Simple 2	16 40	28	16 42.7	1350	
16	2 Simple 2	13 55.9	1	13 56.1	35	
16	3 Simple 3	14 09	1	14 18.5	20	
16	1 Simple 1	15 38.5	5	15 40	7	
16	2 Simple 2	21 13	7	21 14.7	100	In sunset osc.
17	2 Simple 2	17 26	6	17 27.1	30	
19	3 Simple 3	18 25	>3	indet.	13	
20	6 Complex f	14 45.2	22	14 57.8	320	
	4 Post Increase		55		25	
20	2 Simple 2	20 33.7	1	20 34.2	19	
22	3 Simple 3 A	18 09	35	18 18	8	
	2 Simple 2	18 11.2	1.7	18 11.8	9	
23	3 Simple 3	19 49	45	19 59	6	
25	2 Simple 2	16 34	4	16 35.8	10	
25	6 Complex f	17 10	9	17 13.5	98	
28	2 Simple 2	13 43.4	1	13 43.6	24	
29	2 Simple 2	16 37.5	5	16 39	13	
29	3 Simple 3	17 10	24	17 21	6	
30	3 Simple 3	17 51	>3 40	19 15	15	

SOLAR RADIO EMISSION

DAILY DATA
NOVEMBER 1957

BOULDER 167 MC

Nov. 1957	Flux Density 10^{-22}w m^{-2}(c/s)$^{-1}$ Hours UT 0 3	12 15	15 18	18 21	21 24	Day	Variability 0 to 3 Hours UT 0 3	12 15	15 18	18 21	21 24	Day	Observing Periods Hours UT
1	-	-	21	15	12	17	-	1	1	1	0S	1	13.5-23.8
2	-	-	16	17	14	16	-	1	1	1	0S	1	13.5-23.8
3	-	-	19	-	-	18	-	1	3	-	-	2	13.5-19.1
4	-	-	10	14	19	14	-	-	2S	2S	1S	2S	14.5-23.7
5	-	-	19	22	18	19	-	0	1S	1S	1S	1S	13.6-23.7
6	-	-	-	18	17	18	-	-	-	2	2S	2	18.1-23.6
7	-	-	11	12	-	12	-	1	1S	2	1S	1S	13.7-23.6
8	-	-	13	16	-	14	-	0	2	2S	1S	1S	13.7-23.6
9	-	-	14	14	12	13	-	0	2	0S	2	2	13.7-23.6
10	-	-	13	16	14	15	-	2	1S	2	0	1	13.7-23.6
11	-	-	14	14	12	14	-	3	1	1	1	2	13.8-23.5
12	-	-	15	-	14	15	-	0	1S	2	2S	2S	13.8-23.5
13	-	-	15	14	15	15	-	0	0	0	0	0	13.8-23.5
14	-	-	14	15	-	15	-	1S	2S	1S	0S	1S	13.8-23.5
15	-	-	15	15	14	14	-	1	0	2S	2S	2S	13.8-23.5
16	-	-	17	17	16	17	-	1	1	2	2	2	13.8-22.8
17	-	-	21	22	21	21	-	2	2	2	0	2	14.3-23.5
18	-	-	23	18	20	21	-	0	1	1	0	1	14.0-17.3,18.6-23.5
19	-	-	21	17	17	19	-	2	1	0	0	1	13.8-23.4
20	-	-	24	35	19	27	-	0	2S	1	1	2	13.9-23.4
21	-	-	23	22	22	23	-	1	1S	2S	2S	1S	13.9-23.4
22	-	-	16	13	25	17	-	0S	0S	0S	0S	0S	13.9-23.4
23	-	-	50	42	43	45	-	2	2	3	2	2	14.0-23.4
24	-	-	92	117	64	94	-	2S	2S	2S	2S	2S	14.0-23.3
25	-	-	675	304	142	455	-	1S	1S	2S	2S	2S	14.0-23.3
26	-	-	75	82	141	93	-	2S	1S	1S	2S	2S	14.0-23.3
27	-	-	79	60	42	66	-	1S	2S	2S	2S	2S	14.0-16.4,17.0-23.3
28	-	-	32	29	28	30	-	1S	2S	2S	2S	2S	14.1-23.3
29	-	-	168	-	-	331	-	2S	2S	2S	2S	2S	14.1-23.3
30	-	-	99	98	44	88	-	2	2	2	2	2	14.1-23.3
31													

COMMERCE - STANDARDS - BOULDER

ERRATA - In the October 1957 CRPL-F 158 Part B publication, Tables of IVg and IVh of Solar Radio Emission Daily Data, Boulder, September 1957 are incorrectly identified. Table IVg should have been labeled 450 Mc/s instead of 167 Mc/s and Table IVh should have been labeled 167 Mc/s instead of 450 Mc/s.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
NOVEMBER 1957

BOULDER 167 MC

Nov. 1957	Type Ap.J	Start UT	Time of Maximum	Duration Minutes	Type IAU	Max. Flux Density 10^{-22} w $m^{-2}(c/s)^{-1}$ Inst.	Smooth	Remarks
1	1	1330 B	1659.3	210 D	MF	340	-	N2
1	3	1920.3	1920.3	0.2	ESD	780	-	
2	1	1500	1554.1	525 D	MF	170	-	
3	1	1330 B	1429.3	337 D	MF	670	-	
3	8	1651	1652.1	6.0	ECD	2500 D	410	
4	1	1845	2055.0	295 D	MF	7000 D	-	N3
5	1	1947	2329.0	233 D	M	420	-	
6	1	1805 B	2211.7	330 D	M	1400	-	
6	2	2017.3	2017.8	1.3	ECD	9300 D	-	N4
7	3	1419.5	1419.6	0.4	ESD	360	-	
7	3	2043.6	2043.8	0.9	ECD	270	-	
8	4	1745	1745.2	250	ECD	190	-	N5
8	3	1858.2	1858.3	0.3	ECD	560	-	
9	1	1541	2122.2	344	M	1200 D	-	
9	3	1642.7	1643.2	5.4	ECD	160	45	
10	2	1454.3	1456.7	1.9	ECD	1400 D	400	S;Burst 1820.4
11	8	1416	1419 X	08	ECD	2900 D	1200 D	S;Burst 1603.1
12	1	1530	2103 X	480 D	M	1800 D	-	S;N6
14	1	1345 B	1531.5	585 D	MF	490	-	
15	1	1423	2015.2	547 D	MF	2800 D	-	S
15	3	2012.2	2012.4	0.3	ESD	2700 D	-	
15	3	2237.2	2237.3	0.2	ESD	1900 D	-	
16	1	1350 B	2108.1	534 D	MF	1300 D	-	Bursts 1631.2,2221.9
16	8	1811.3	1814.1	3.0	CD	2300 D	290	
17	1	1418 B	1636.4	399	MF	1900	-	N7
17	8	1421	1424 I	10 X	ECD	2300	1000	I.Cal.Period
17	2	2046.8	2047.0	8	ECD	3100 D	-	
18	3	1632.4	1632.4	0.3	ESD	1600	-	Burst 2057.1
19	3	1357.9	1358.1	0.7	ESD	1600 X	-	
19	3	1421.6	1421.9	0.8	ESD	1800	-	
20	3	1730.2	1730.3	0.1	ESD	220	-	
20	9	1734	1750.0	81	CD	350	29	Burst 2114
21	3	1415.7	1415.9	0.7	ESD	220	-	N8
21	3	2029.3	2029.6	0.4	ESD	2400	-	
23	6	1400 B	2057.4	565 D	CA	2200	38	N9
23	2	2237.1	2237.1	0.8	CD	2000	-	
24	6	1400 B	1812.2	560 D	CA	1500	130	N10
25	6	1400 B	1858.8	560 D	CA	3000 D	750	N11
26	6	1400 B	2252.2	560 D	CA	2800	110	N12
27	6	1400 B	1708.4	560 D	CA	1800	73	I 1626-1700;N13
27	3	1842.7	1843.1	1.0	ECD	2700	-	
27	3	1947.5	1947.9	1.0	ECD	3500 D	-	
28	3	1505.7	1506.1	0.7	ESD	640	-	
28	6	1510	1705.1	490 D	CA	720	21	Large burst 2318.7
29	1	1405 B	1440.8	145 D	MF	680	-	Large burst 1446.8
29	6	1630	2112.2	410 D	CA	4400 D	610	Large bursts 2129.0,2201.3
30	6	1405 B	1811.8	555 D	CA	3500 D	100	N14

COMMERCE - STANDARDS - BOULDER

1. Interference may occasionally obscure or be mistaken for solar events. Relatively small events not reported.
2. November 1, bursts 1458.2, 1623.4, 1659.4.
3. November 4, large bursts 1454.1, 2022.3.
4. November 6, large bursts 2114.1, other bursts 2035.0, 2050.1.
5. November 8, large bursts 1959.3, 2002.5, 2154.7.
6. November 12, large bursts 2050.9, 2110.2, 2114.3, 2317.0.
7. November 17, large bursts 1530.3, 1630.4, 1737.9, 2035.3.
8. November 21, large burst, also S at approximately 2201.
9. November 23, large bursts 1412.3, 1435.9, 1615.8, 1704.2, 1934.3, 2048.3, 2103.7.
10. November 24, large bursts, 1406.9, 1408.5, 1453.3, 2207.9.
11. November 25, large bursts 1711.4, 2115.1, other bursts 2111.1, 2231.2, 2233.1.
12. November 26, other bursts, 1410.3, 1733.6, 2154.2.
13. November 27, large bursts 1507.7, 1705.0, 1707.8, 2318.4, other bursts 2034.6, 2312.1.
14. November 30, large bursts 1409.0, 1548.1, 2306.0, other bursts 1637.9, 1644.1, 1937.1.

SOLAR RADIO EMISSION

DAILY DATA

DECEMBER 1957

BOULDER — 167 MC

Dec. 1957	Flux Density 10^{-22} w m^{-2}(c/s)$^{-1}$ Hours UT 0 3	12 15	15 18	18 21	21 24	Day	Variability 0 to 3 Hours UT 0 3	12 15	15 18	18 21	21 24	Day	Observing Periods Hours UT
1	-	-	168	131	89	134	-	-	1	1	1	1	14.5-23.3
2	-	-	49	-	74	61	-	-	2	2	2	2	14.1-23.3
3	-	-	28	30	26	28	-	-	2	1	1S	1S	14.2-23.3
4	-	-	33	26	27	29	-	-	0S	0S	1S	0S	14.6-23.3
5	-	-	36	26	23	29	-	-	2	2	1S	2	14.2-23.3
6	-	-	-	25	22	24	-	-	2S	2S	1S	2S	14.2-23.3
7	-	-	30	51	-	39	-	-	2	2	2	2	14.3-23.3
8	-	-	26	25	23	25	-	-	1	1S	1S	1S	14.3-23.3
9	-	-	28	26	27	27	-	-	1S	2S	1S	1S	14.3-23.3
10	-	-	25	25	17	23	-	-	0S	1S	1S	1S	14.3-23.3
11	-	-	25	26	-	25	-	-	1S	0S	0S	0S	14.3-21.4,21.9-23.3
12	-	-	29	29	-	29	-	-	1S	1S	1S	1S	14.3-23.3
13	-	-	-	26	-	25	-	-	1S	1S	0S	1S	14.3-20.9,22.2-23.3
14	-	-	24	24	20	23	-	-	1	1	2S	1	14.3-23.3
15	-	-	33	30	23	30	-	-	3	3	2	3	14.3-23.3
16	-	-	26	30	31	29	-	-	2	2	2S	2	14.3-23.3
17	-	-	107	223	123	155	-	-	3S	3	2	3	14.3-23.3
18	-	-	346	451	476	418	-	-	1S	2	2S	2S	14.3-23.3
19	-	-	523	443	852	575	-	-	1	2	2S	2	14.3-23.3
20	-	-	673	507	457	557	-	-	2S	2S	1S	2S	14.3-23.3
21	-	-	216	256	278	246	-	-	2	2	1S	2	14.3-23.3
22	-	-	552	682	613	616	-	-	1	1	1	1	14.3-23.3
23	-	-	251	230	163	221	-	-	2	2S	2S	2S	14.4-23.3
24	-	-	42	36	35	38	-	-	2	2S	2	2	14.4-23.4
25	-	-	41	42	33	39	-	-	3	3	3	3	14.4-23.4
26	-	-	44	136	339	152	-	-	2	3	3	3	14.4-23.4
27	-	-	-	50	44	48	-	-	-	2S	2S	2S	17.0-23.4
28	-	-	107	-	261	184	-	-	2	-	2S	2S	15.1-17.3,20.8-23.4
29	-	-	279	-	-	-	-	-	0	-	-	-	14.4-17.3
30	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	40	35	38	-	-	-	1	2	1	18.0-23.5

SOLAR RADIO EMISSION

OUTSTANDING OCCURRENCES

BOULDER — DECEMBER 1957 — 167 MC

Dec. 1957	Type Ap.J	Start UT	Time of Maximum	Duration Minutes	Type IAU	Max. Flux Density 10^{-22} w $m^{-2}(c/s)^{-1}$ Inst.	Smooth	Remarks
1	6	1428 B	2151.6	532 D	CA	1000	140	N2
2	6	1405 B	2023.7	555 D	CA	1400	57	N3
3	1	1410 B	1735.7	550 D	MF	250	-	
4	1	1436 B	2156.1	524 D	M	150	-	S
5	6	1410 B	1645.5	320 D	CA	570	19	
5	3	1417.2	1417.3	0.2	ECD	1500X	-	
5	1	1930	1955.5	225 D	MF	500	-	Burst 2031.7
6	1	1410 B	1425.2	545 D	MF	1600X	-	S;N4
7	1	1415 B	1438.7	222 D	M	250	-	Burst 1712.3
7	6	1757	1809.9	318 D	CA	190	35	S
7	3	1430.3	1430.7	1.2	ECD	1400	-	
7	3	1522.2	1522.3	0.8	ECD	1500	-	
7	3	2229.3	2229.8	2.7	ECD	1200	-	S
8	1	1415 B	1500.0	540 D	M	380	-	N5
9	1	1415 B	1415.4	540 D	M	600X	-	S;N6
10	3	1811.3	1812.0	1.0	ECD	460	-	S;Bursts 2041.1,2135.2
12	1	1415 B	2123.9	540 D	MF	510	-	S;N7
13	1	1420 B	1432.6	535 D	MF	190	-	S;I 2055-2210
13	3	1919.6	1919.7	1.0	ECD	350	-	
14	1	1420 B	2310.1	535 D	MF	370	-	S;Bursts 1831.6,2009.9
14	3	2312.4	2312.4	11	ECD	2000X	-	
15	6	1420 B	1620.4	535 D	CD	1200	16	N8
15	3	1820.9	1821.3	0.9	CD	2200	-	
16	1	1420 B	1741.8	280 D	MF	840	-	
16	6	1900	2140.7	260 D	CA	870	8	Large Burst 1939.8
17	6	1420 B	1620.9	540 D	CA	3500D	200	N9
17	3	1806.1	1806.1	1.0	CD	2100	-	
17	3	1918.0	1918.2	0.6	ESD	2700	-	
18	6	1420 B	1949.1	367 D	CA	3300D	500	N10
18	3	1512.0	1512.0	0.3	ESD	2100	-	
18	9	2027	2046.7	173 D	CD	1700	600	
18	3	2203.3	2203.6	0.6	CD	3600D	-	
19	6	1420 B	2056.8	540 D	CD	2800D	680	N11
20	6	1420 B	1713.1	540 D	CD	3000D	650	S;N12
21	6	1420 B	1831.3	540 D	CD	3100D	250	Large Burst 1553.9

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
DECEMBER 1957

BOULDER 167 MC

Dec. 1957	Type Ap.J	Start UT	Time of Maximum	Duration Minutes	Type IAU	Max. Flux Density 10^{-22} w $m^{-2}(c/s)^{-1}$ Inst.	Smooth	Remarks
21	3	1431.5	1432.1	1.4	CD	2700D	-	
21	3	1808.1	1808.7	0.7	ECD	2800D	-	
21	3	1834.1	1834.2	0.2	ESD	3100D	-	
22	6	1420 B	1817.2	540 D	CA	2500D	670	N13
23	6	1425 B	2116.4	535 D	CA	3000D	230	N14
23	2	1621.4	1621.9	1.6	CD	3300D	1000	
24	6	1425 B	2024.8	540 D	CA	560	19	N15
25	6	1425 B	1655.2	540 D	CA	1200	19	N16
25	8	1634.4	1634.8	5.0	ECD	3400D	1300	
25	3	1700.4	1701.0	0.8	ECD	3400D	-	
25	9A	1815.2	1816.2	1.9	ECD	3100D	1400	
25	9B	1821.8	1823.0	2.7	ECD	3000D	550	
25	8	2029 X	2031.6	6.0 X	CD	3400D	1300	
25	8	2058	2058.8	2.0	ECD	3600D	1900	
25	3	2123	2125	3.0 X	ECD	3600D	-	
26	6	1425 B	2101.1	540 D	CD	3400D	220	N17
26	2	1835	1835.4	3.0	CD	3000D	1200	
26	2	1910	1911.9	3.0	CD	3500D	1300	
26	3	1914.3	1915.0	0.7	ECD	3500D	-	
27	6	1700 B	2139.9	385 D	CA	670	6	Bursts 2137.0,2150.0
28	6	1505 B	1702.3	500 D	CD	1400	160	S;I 1715-2050;N18
29	6	1425 B	1431.9	170 D	CD	440X	6	
31	6	1800 B	2142.2	330 D	MF	750	9	Bursts 2017.2, 2213.1

1. Interference may obscure or be mistaken for solar events. Relatively small events are not reported.
2. December 1, large bursts 2250.2, 2307.8.
3. December 2, large bursts 1416.6,1422.2,1613.1,1809.1,other bursts 1414.1,1545.8,1635.4,2117.5,2244.7.
4. December 6, large bursts 1421.1, 1423.7, 1455.6.
5. December 8, bursts 1451.5, 1504.1, 1639.2.
6. December 9, bursts 1840.4, 1845.8, 2003.0.
7. December 12, large burst 1419.8, bursts 1615.9, 1757.4, 1802.5.
8. December 15, large bursts 1456.4, 2038.1, bursts 1422.5, 1509.4, 1519.2, 1650.1, 1941.1.
9. December 17, large bursts 1713.1,1809.9,1810.4,2022.1,2030.5,bursts 1554.5,1652.4,2145.2,2231.2.
10. December 18, large bursts 2137.0, 2152.8, 2153.2, 2210.7, bursts 1905.4, 1920.7.
11. December 19, large bursts 1430.2, 1847.8, 1911.3, 2240.9, bursts 1520.7, 1639.3, 1710.0.
12. December 20, large bursts 1454.5, 1552.3, 1603.3, 1750.2, 1811.2, 2141.1, 2151.8.
13. December 22, large bursts 1434.0, 2035.9, 2237.0.
14. December 23, large burst 1441.5, bursts 1809.8, 1847.1, 2041.9, 2110.3.
15. December 24, large bursts 1432.2, 1710.0, 1719.9, burst 1839.9.
16. December 25, large burst 2142.5, bursts 1949.9, 2150.9.
17. December 26, large bursts 1609.8, 1841.3, 1910.0, 2252.9, bursts 1607.5, 1821.9.
18. December 28, large bursts 2111.8, 2157.1, 2208.5.

SOLAR RADIO EMISSION
DAILY DATA
DECEMBER 1957

BOULDER 470 MC

Dec. 1957	Flux Density 10^{-22} w m^{-2}(c/s)$^{-1}$ Hours UT 0 3	3 15	15 18	18 21	21 24	Day	Variability 0 to 3 Hours UT 0 3	3 15	15 18	18 21	21 24	Day	Observing Periods Hours UT
1	-	-	84	81	82	82	-	-	0S	0S	1S	0S	14.4-23.3
2	-	-	-	-	-	-	-	-	0S	-	-	-	14.2-17.0
3	-	-	-	112	123	117	-	-	-	1S	1S	1S	18.7-23.3
4	-	-	116	116	120	117	-	-	1	0	0S	0S	14.2-23.3
5	-	-	114	120	117	117	-	-	1	0	0S	0S	14.3-23.3
6	-	-	119	120	119	119	-	-	0	0	1S	0	14.3-23.3
7	-	-	110	114	111	112	-	-	0	0	0	0	14.3-22.5
8	-	-	111	117	115	114	-	-	1	0	1S	1	14.3-23.3
9	-	-	106	107	109	107	-	-	0	0	0	0	14.3-23.3
10	-	-	103	106	106	105	-	-	1	0	0S	0	14.3-23.3
11	-	-	107	110	113	110	-	-	0	0	0S	0	14.7-23.3
12	-	-	102	110	110	107	-	-	0	0	0S	0	14.3-23.3
13	-	-	103	105	59	93	-	-	0	0	0S	0	14.3-20.0,20.5-23.3
14	-	-	54	58	57	56	-	-	0	0	1	0	14.3-23.3
15	-	-	57	58	-	57	-	-	0	0	0	0	14.3-21.0,21.8-23.3
16	-	-	56	59	62	58	-	-	0	0	0S	0	14.3-23.3
17	-	-	59	61	64	61	-	-	0S	1	0S	0S	14.3-23.3
18	-	-	62	62	65	63	-	-	0S	0S	1S	0S	14.3-19.5,20.3-23.3
19	-	-	62	61	68	63	-	-	0	0S	0S	0S	14.3-23.3
20	-	-	93	87	91	90	-	-	1	0S	0S	0S	14.4-23.3
21	-	-	93	102	112	101	-	-	1	0S	1	1	14.4-23.3
22	-	-	109	104	126	111	-	-	3	2	3	3	14.4-23.3
23	-	-	78	75	77	76	-	-	1S	1	1S	1S	14.4-23.3
24	-	-	66	74	75	71	-	-	0	0	1	0	14.4-23.3
25	-	-	68	70	67	68	-	-	2	1	1	1	14.4-18.4,19.5-23.4
26	-	-	67	71	73	70	-	-	1	1	1S	1	14.4-23.4
27	-	-	69	71	71	70	-	-	0	1S	1S	1S	14.4-23.4
28	-	-	65	67	68	66	-	-	0	0	2	0	14.4-23.4
29	-	-	66	66	69	66	-	-	0	0	1	0	14.4-23.4
30	-	-	63	65	71	66	-	-	0	1S	0S	0S	14.5-23.4
31	-	-	63	64	65	64	-	-	0S	0	0S	0S	14.5-23.4

COMMERCE - STANDARDS - BOULDER

ERRATA - In the October 1957 CRPL-F 158 Part B publication, Tables of IVg and IVh of Solar Radio Emission Daily Data, Boulder, September 1957 are incorrectly identified. Table IVg should have been labeled 450 Mc/s instead of 167 Mc/s and Table IVh should have been labeled 167 Mc/s instead of 450 Mc/s.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
DECEMBER 1957

BOULDER 470 MC

Dec. 1957	Type Ap.J	Start UT	Time of Maximum	Duration Minutes	Type IAU	Max. Flux Density 10^{-22} w $m^{-2}(c/s)^{-1}$ Inst.	Smooth	Remarks
1	1	1426 B	2044.0	534 D	M	210	-	S
1	0	1634	1636.7	16.0	SD	270	31	S
3	6	1839	1954.2	281 D	CA	250	78	S
3	3	2111.3	2111.3	1.2	ECD	1200	-	S
4	1	1410 B	1732.3	550 D	MF	210	-	
4	2	1706.6	1708.1	3.0	ECD	290	61	
5	3	1557.3	1557.3	0.3	ESD	420	-	
7	1	1415 B	1819.3	495 D	M	200	-	
8	2	1452	1504.4	14	ECD	1000	-	
8	2	2142.0	2142.4	2.5	ECD	850	290	S
10	1	1415 B	1704.5	540 D	M	250	-	
14	1	1900	2251.2	255 D	MF	200	-	
17	1	1420 B	1933.2	540 D	MF	240	-	S
18	1	1415 B	2119.6	545 D	M	220	-	S,N2,I 1931-2016
20	6	1425 B	1810.3	535 D	CA	150	53	
21	6	1425 B	1720.9	535 D	CA	800	53	Bursts 1458.9,2205.8
22	6	1425 B	2048.3	535 D	CA	510	64	N3
22	8	1602	1612.0	12	ECD	1200	490	S
22	8	1622	1624.2	9 D	ECD	2000D	550	I
22	9A	1716	1720.4	32	ECD	3700D	1100	
22	9B	1748	1752.6	10	ECD	2400D	900	
22	8	2112	2122.0	14 D	CD	1100	290	
22	9A	2234.3	2236.3	4.6	ECD	4700D	3500D	
22	9B	2238.9	2241.8	11	CD	3900D	1000D	
22	9	2249.9	2357.3	15.6	CD	2300D	700	
22	3	2311.2	2312.1	1.6	ECD	2200D	-	
23	9	1438 X	1447.2	21 X	CD	3400D	1900D	N4
23	1	1500	1622.4	500 D	M	240	-	
24	3	2004.4	2004.9	0.6	ECD	360	-	
25	1	1425 B	2103.8	540 D	M	360	-	I 1826-1930
25	8	1633	1635.3	6.0	ECD	1900D	190	N5
26	1	1517	2124.8	488 D	M	330	-	S
26	3	1605.7X	1606.1	0.8X	ECD	950	-	Bursts 1908.8,1912.0
27	3	2037.4	2039.2	2.4	ECD	860	200	S,Bursts 2135.2
28	9	2229 I	2229.9	15	ECD	3600D	270	I

COMMERCE — STANDARDS — BOULDER

1. Interference may occasionally obscure or be mistaken for solar events.
2. December 18, bursts 2201.9.
3. December 22, large bursts 2013.1, bursts 1543.5, 2217.1.
4. December 23, bursts 1519.1, 1601.8, 1847.1.
5. December 25, large bursts 1629.2, bursts 1547.1, 2150.1, 2303.4.

GEOMAGNETIC ACTIVITY INDICES

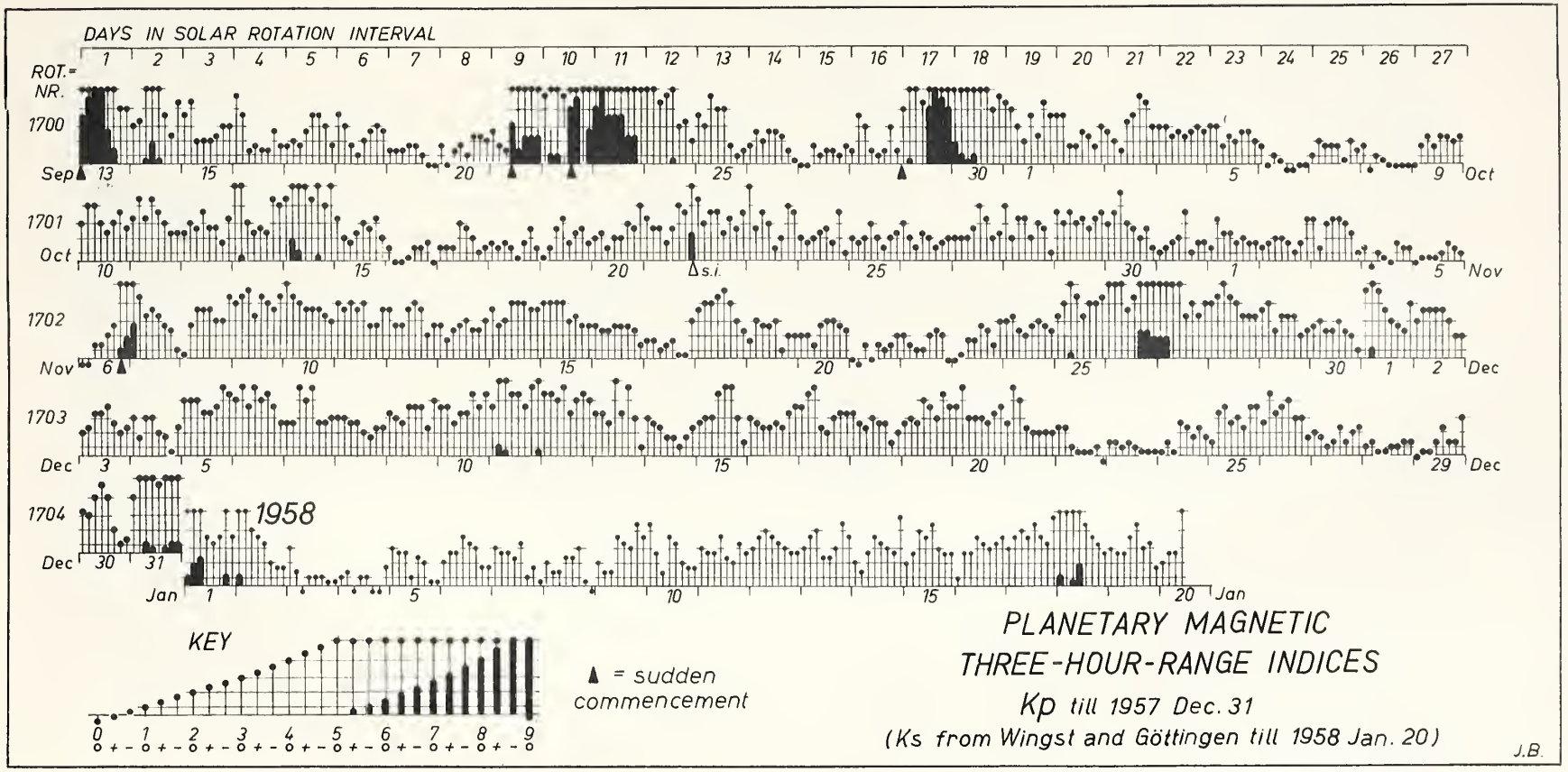
DECEMBER 1957

Dec. 1957	C	Values Kp Three hour Gr. interval 1 2 3 4	5 6 7 8	Sum	Ap	Final Selected Days
1	1.2	5- 6- 5- 4-	3o 3- 2+ 4o	31-	29	Five
2	0.9	3o 4- 4- 4-	4- 3o 2o 2o	25-	16	Quiet
3	0.8	2o 2+ 3+ 3+	4- 3- 2o 2+	22-	13	
4	0.5	3o 2- 3o 3o	2o 2- 1- 2+	17+	10	22
5	1.1	4o 4o 4o 3+	3+ 4- 5- 4+	31+	26	23
						27
6	1.1	4o 5- 4- 5-	4o 4+ 4- 3-	32-	28	28
7	1.1	3- 3- 5- 4o	5- 3- 3- 3o	27o	21	29
8	0.5	3o 3o 3- 3-	2o 2- 2+ 2+	20-	11	
9	1.0	3+ 3o 3- 4-	4- 4- 2+ 4o	27-	18	
10	1.1	4- 4- 3- 3+	3+ 4+ 4- 4+	29o	22	
11	1.4	4- 6- 5+ 4+	4+ 4- 5- 5+	37o	41	Five
12	1.1	4+ 4+ 4o 5-	3+ 4o 4+ 4o	33o	29	Disturbed
13	1.0	3+ 3+ 3- 5o	3+ 5- 3o 1o	26+	22	
14	0.3	3o 3- 2+ 2-	2- 1o 2- 2+	16+	8	1
15	1.1	3- 3o 3o 4+	5- 5- 3o 1+	27-	22	6
						11
16	0.8	3o 3- 2+ 2+	3- 2+ 3+ 4-	22+	13	12
17	1.0	4- 4+ 5- 2+	2o 3o 3+ 3+	27-	20	31
18	0.5	3+ 3- 2+ 3o	3- 3- 1+ 2o	20o	11	
19	1.1	3- 3o 3- 4o	4- 3o 4+ 4-	27o	20	
20	1.1	4- 5- 3o 3o	3o 3- 3+ 4-	27o	20	
21	0.7	3- 5- 4o 2+	2o 2o 2o 2o	22-	14	Ten
22	0.1	2+ 2+ 1o 1-	1- 1- 1o 0o	9-	4	Quiet
23	0.1	1+ 1+ 1o 1+	1o 1- 1- 1-	8o	4	
24	0.4	1- 1+ 1- 3-	2+ 2- 2+ 2-	13+	7	4
25	1.0	1+ 3+ 4- 3-	3o 2+ 4- 4-	24-	16	8
						14
26	1.0	3- 4+ 3+ 4-	4o 3o 3o 2-	26-	18	18
27	0.4	2o 2- 1o 1+	2+ 1+ 2o 2+	14o	6	22
28	0.1	1o 1+ 1- 1-	1o 1o 1+ 1+	8+	4	23
29	0.4	0+ 1- 1- 1+	2+ 1+ 1+ 3o	11o	6	24
30	1.0	3+ 3o 4o 5-	4o 2o 1o 1+	23+	18	27
31	1.6	4o 5o 6- 5+	5- 5+ 6- 6-	41+	53	28
						29
Mean:	0.82			Mean:	18	

Errata:

COMMERCE – STANDARDS – BOULDER

In CRPL-F 157 Part B, Geomagnetic Activity Indices, July 1957 under the Five Disturbed Days the date 10 should be omitted. The five disturbed days for July 1957 were 1, 2, 3, 5 and 19.



COMMERCE - STANDARDS - BOULDER

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC
DECEMBER 1957

Dec. 1957	North Atlantic 6-hourly quality figures				Short-term forecasts issued about one hour in advance of:				Whole day index	Advance forecasts (J-reports) for whole day; issued in advance by:			Geomagnetic K_{Fr}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-4 days	4-7 days	8-25 days	Half (1)	Day (2)
1	7-	7-	7o	7o	7	6	7	7	7-	7	6		(4)	3
2	7o	7o	7o	7o	7	7	7	7	7o	7	6		3	3
3	7o	6+	7-	7-	7	7	7	7	7-	7	7		3	2
4	6+	7-	7-	7-	6	6	7	7	7-	7	7		2	2
5	6+	6o	7-	6o	7	6	7	7	6+	7	7		3	3
6	6o	6+	7o	7-	6	6	7	7	6+	6	7		(4)	3
7	6+	7-	7o	7o	6	7	7	7	7-	7	7		3	3
8	7-	7-	7-	7o	6	7	7	7	7-	7	7		3	2
9	6+	7-	7o	7o	7	7	7	7	7-	7	7		2	3
10	7o	7-	6o	6-	6	7	7	6	6+	7	7		3	3
11	6o	6-	7o	6+	6	6	6	7	6+	7	7		(4)	(4)
12	6+	7-	7+	6o	6	6	7	7	6+	7	7		(4)	3
13	6o	6+	7-	7-	6	6	6	7	6+	7	7		(4)	3
14	7-	7-	7o	7-	6	7	7	7	7-	7	7		2	2
15	6+	6+	7+	7-	6	6	7	7	7-	7	7		3	3
16	6o	7-	7+	6+	7	7	7	7	7-	7	7		2	3
17	6-	7-	7o	7-	6	6	7	7	7-	7	7		3	3
18	6+	7-	7o	7-	6	7	7	7	7-	7	7		3	2
19	7-	7-	7-	6o	6	7	6	5	7-	6	7		3	3
20	6o	6+	7o	6+	5	6	7	6	6+	4	5		3	3
21	6+	6o	7-	7-	6	7	7	6	6+	5	5		3	2
22	6+	7o	7o	7o	7	7	7	7	7-	5	6		1	0
23	7o	7-	7o	7o	7	7	7	7	7o	6	7		1	1
24	6+	6+	7+	7o	7	7	7	7	7-	7	7		1	2
25	7o	7-	7o	7-	7	7	7	7	7-	7	7		2	3
26	6+	6o	6+	7-	6	6	7	6	6+	6	7		3	3
27	7o	7o	7o	7o	6	7	7	7	7o	5	6		1	2
28	7o	7-	7o	7o	7	7	7	7	7o	5	6		1	1
29	7o	7o	7+	7o	7	7	7	7	7o	5	6		1	2
30	7-	7-	7o	7o	7	7	7	7	7-	6	6		3	3
31	7-	6-	6+	5o	7	6	6	6	6-	7	6		(4)	(4)
Score: Quiet Periods					P	20	24	26	23	16	15			
					S	11	7	5	8	10	16			
					U	0	0	0	0	4	0			
					F	0	0	0	0	1	0			
Disturbed Periods					P	0	0	0	0	0	0			
					S	0	0	0	0	0	0			
					U	0	0	0	0	0	0			
					F	0	0	0	0	0	0			

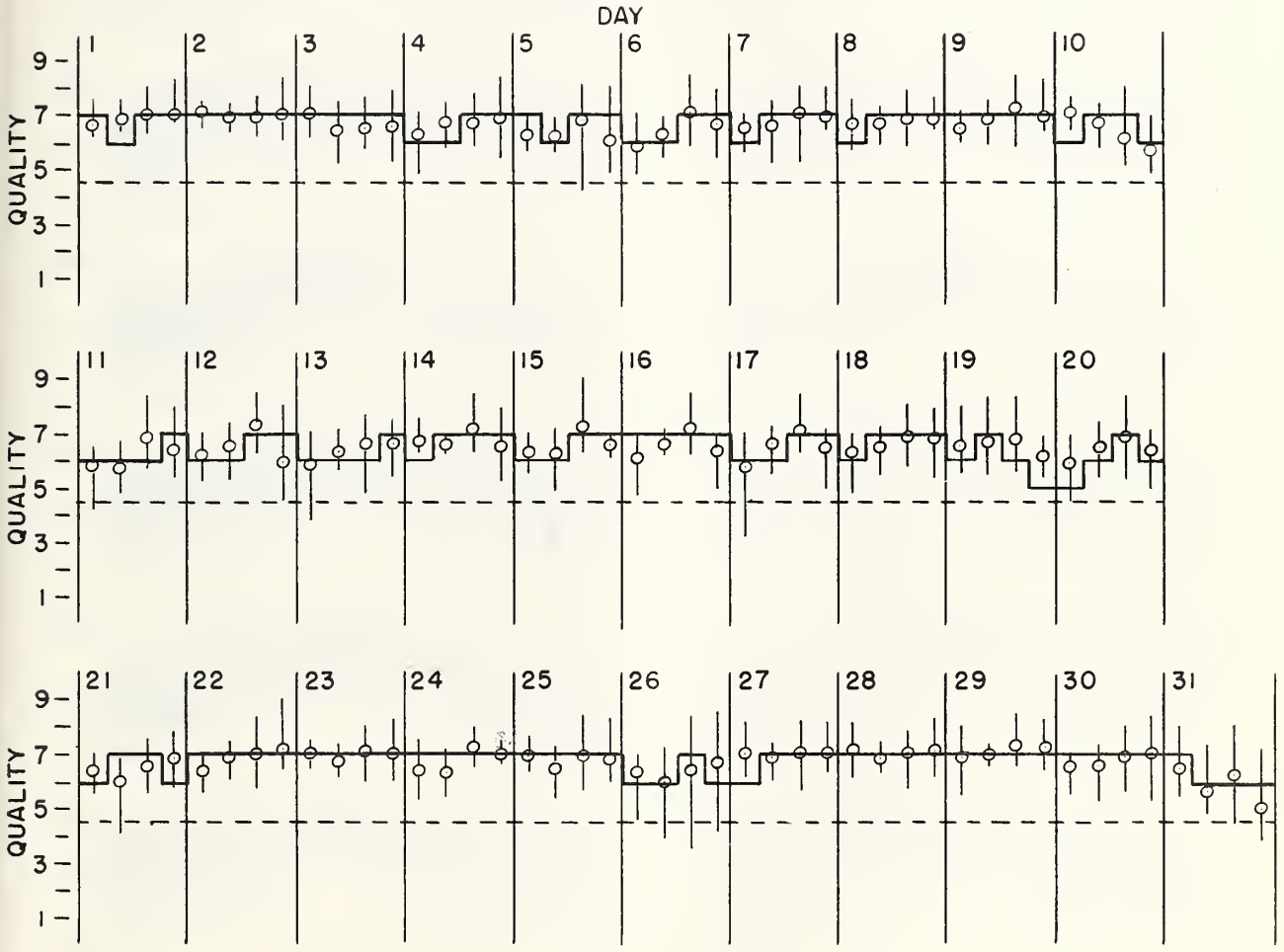
( ) represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

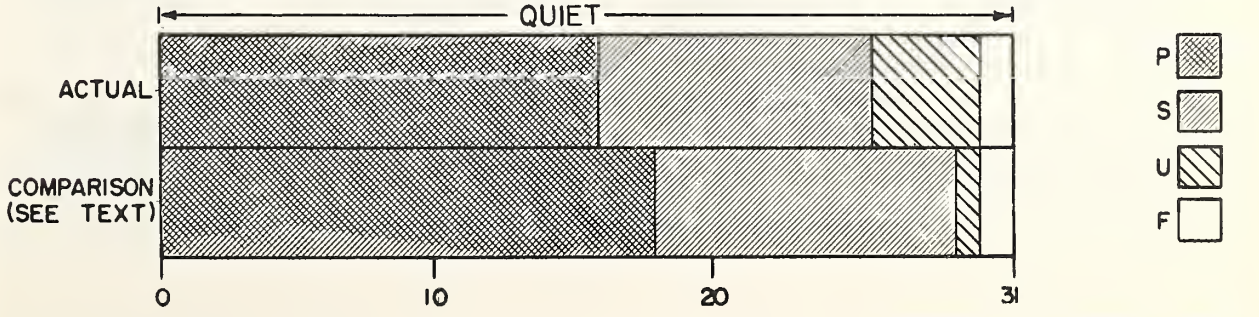
NORTH ATLANTIC

DECEMBER 1957

— Short-term forecast
o Quality figure
| Range of reports

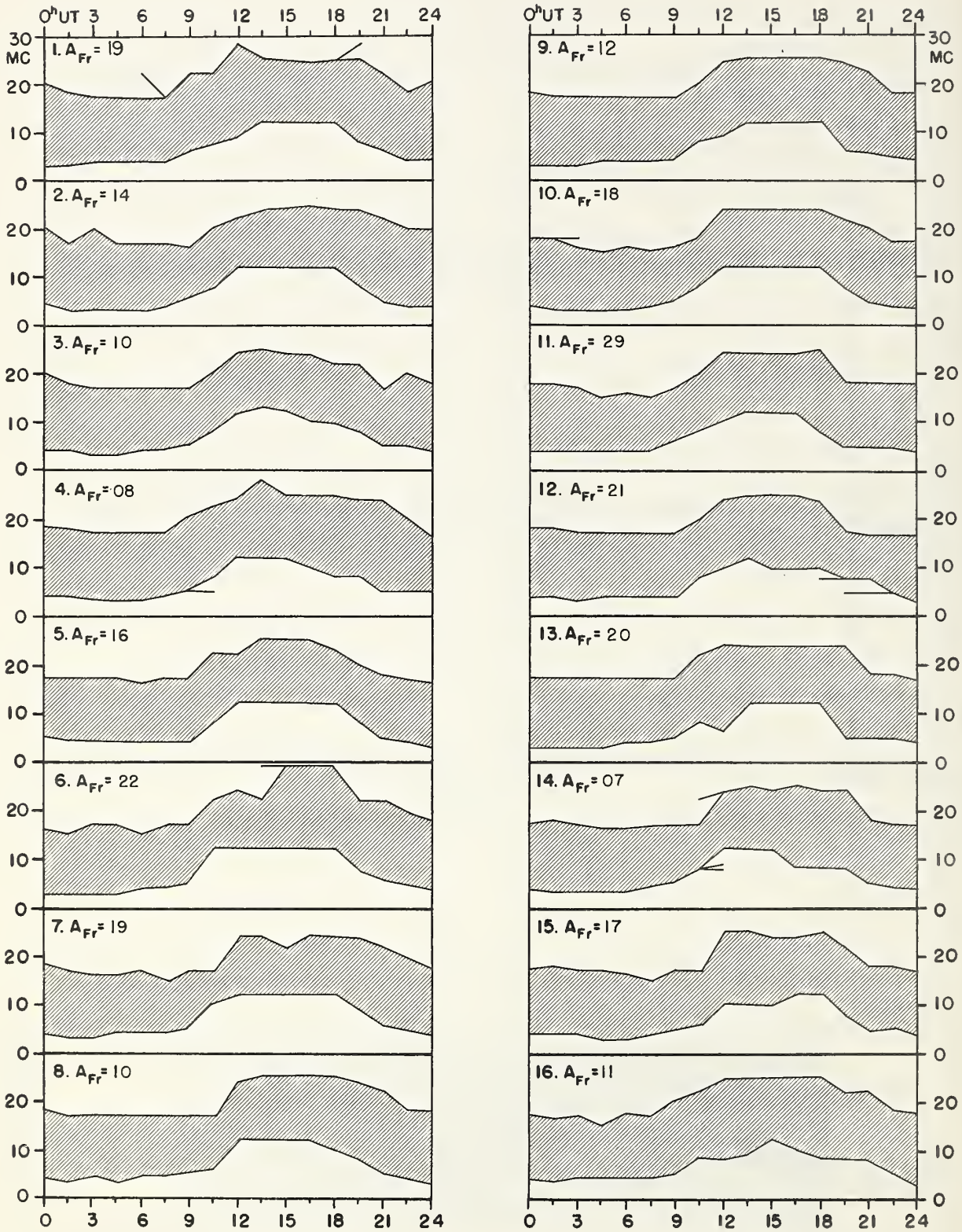


OUTCOME OF ADVANCED FORECASTS 1 TO 4 DAYS AHEAD

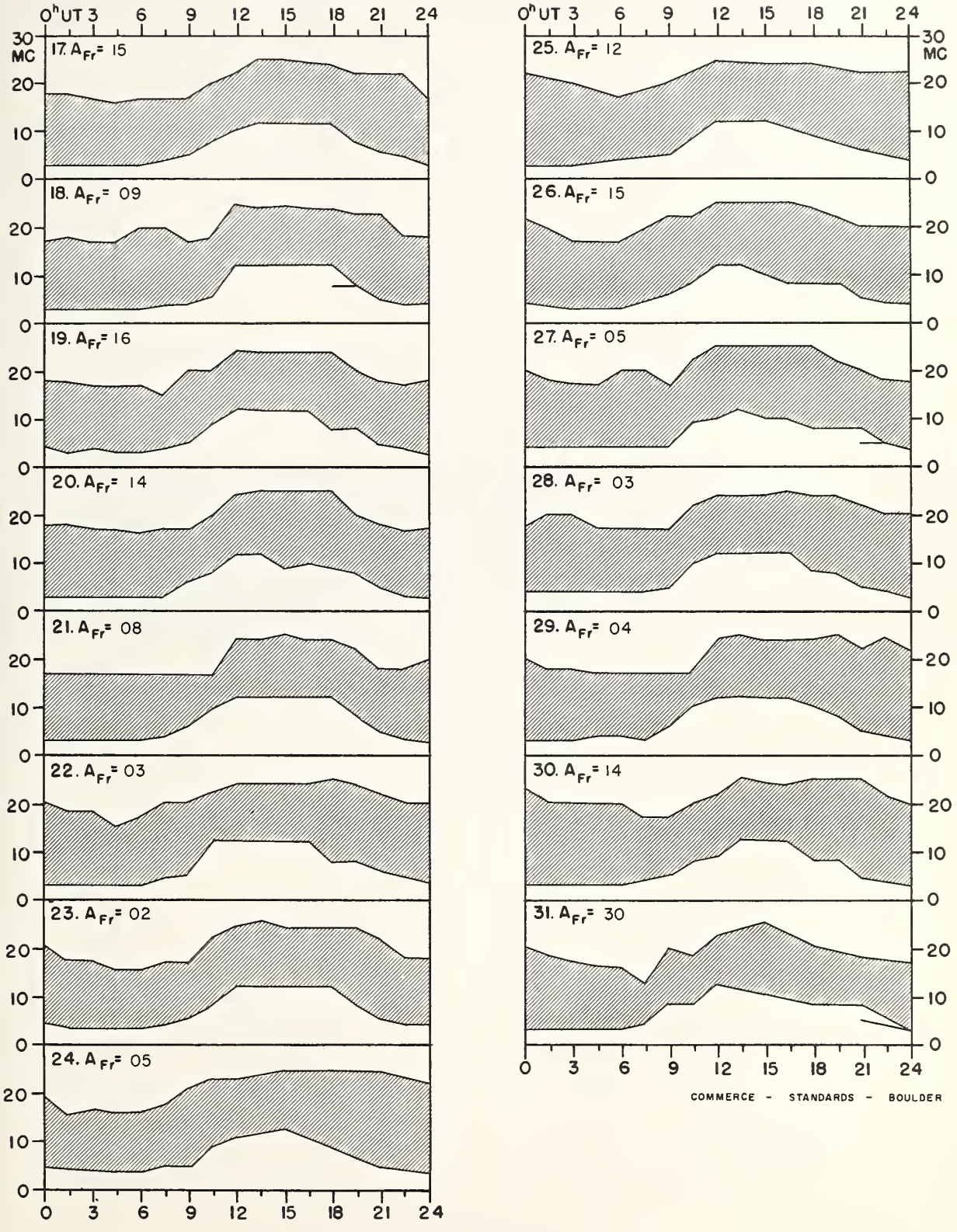


USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1957



DECEMBER 1957



Adapted from Observations by Deutsches Bundespost

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

DECEMBER 1957

Dec. 1957	North Pacific 8-hourly quality figures			Short-term forecasts issued at			Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:		Geomagnetic K_{Si}	
	03 to 11	11 to 19	19 to 03	02	10	18		1-4 days	4-7 days	8-25 days	Half (1)	Day (2)
1	6	5	5	7	6	6	6	6	6		(4)	3
2	5	6	7	6	6	6	6	6	6		(4)	(4)
3	7	6	7	6	6	6	7	7	6		2	2
4	6	6	7	6	6	6	6	6	7		2	2
5	6	6	6	6	6	5	6	5	7		(4)	(4)
6	6	6	7	6	6	5	6	5	7		(4)	(4)
7	6	5	6	6	6	6	6	6	6		3	(4)
8	6	6	6	6	6	6	6	6	6		2	2
9	6	6	7	6	6	6	6	6	6		3	3
10	5	5	6	6	6	6	6	6	6		3	(4)
11	5	6	6	6	5	6	6	6	6		(4)	(4)
12	5	5	6	6	6	6	5	6	6		(4)	(4)
13	6	7	7	6	6	6	7	6	6		3	3
14	6	6	6	6	6	7	6	6	6		2	2
15	5	6	6	6	5	6	6	6	6		2	(4)
16	7	6	6	6	6	6	6	6	6		2	2
17	7	6	6	6	6	7	7	6	6		3	2
18	6	6	6	7	6	6	6	6	6		2	2
19	7	6	6	6	6	6	6	5	6		2	(4)
20	7	7	6	6	7	7	7	4	6		2	3
21	7	7	7	6	6	6	7	5	4		3	2
22	6	5	6	7	5	6	6	5	6		1	1
23	6	6	6	6	6	6	6	6	6		1	0
24	7	6	6	6	7	7	6	6	6		1	0
25	6	7	7	6	7	6	7	6	7		2	3
26	7	6	7	7	6	7	6	6	7		(4)	3
27	7	6	6	7	7	7	6	6	7		0	2
28	6	7	7	7	6	7	7	7	6		1	1
29	6	7	6	7	7	7	7	7	6		1	2
30	6	6	5	7	5	6	6	7	6		(4)	3
31	5	2	4	6	4	4	(3)	7	6		(5)	(6)

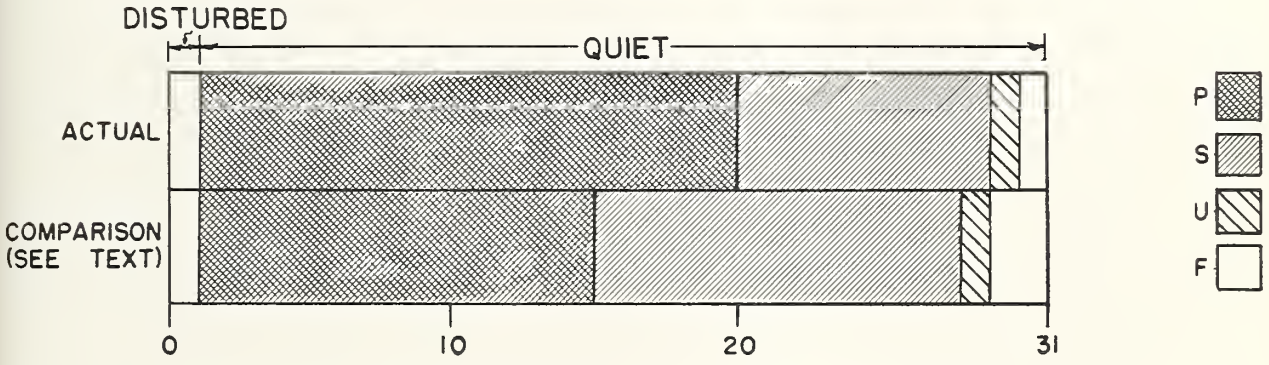
Score:								
Quiet Periods	P	12	18	13	19	17		
	S	19	12	16	9	12		
	U	0	0	1	1	0		
	F	0	0	0	1	1		
Disturbed Periods	P	0	0	1	0	0		
	S	0	0	0	0	0		
	U	0	1	0	0	0		
	F	0	0	0	1	1		

( ) represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH PACIFIC

DECEMBER 1957

OUTCOME OF ADVANCED FORECASTS 1 TO 4 DAYS AHEAD



COMMERCE – STANDARDS – BOULDER

ALERT PERIODS AND SPECIAL WORLD INTERVALS

Alert Issued 1600 UT	Ends 1600 UT	SWI	A_{Be} On Days of Alert Period (SWI Underlined)	Number of Flares of IMP ≥ 2 Reported Promptly on Days of Alert Period
1958				
Jan 08	Jan 10		04-06-09	0-0-0
Jan 27	Jan 29		06-09-09	0-0-0

COMMERCE - STANDARDS - BOULDER