

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
NOVEMBER 1960

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

SOLAR - GEOPHYSICAL DATA

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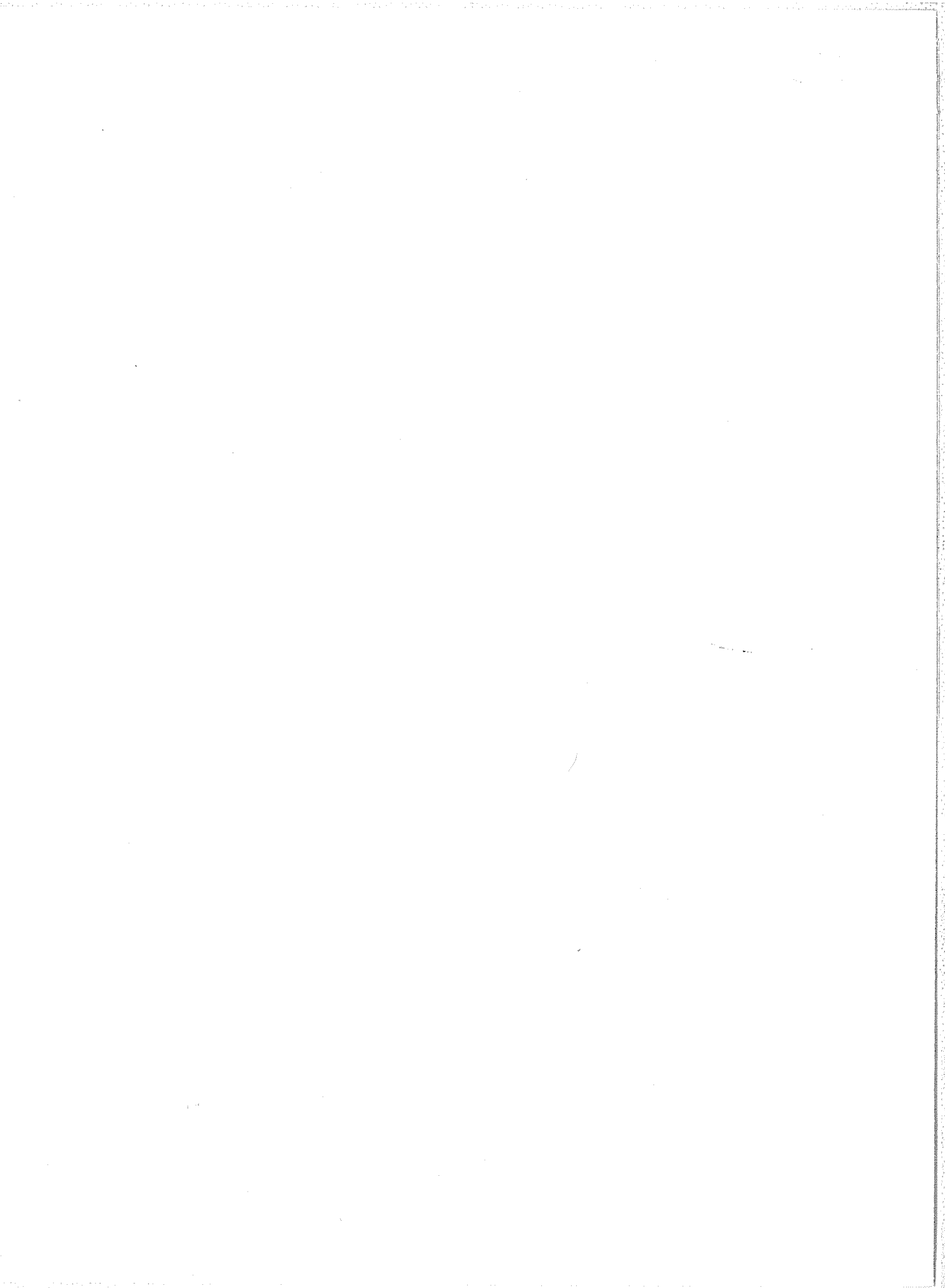
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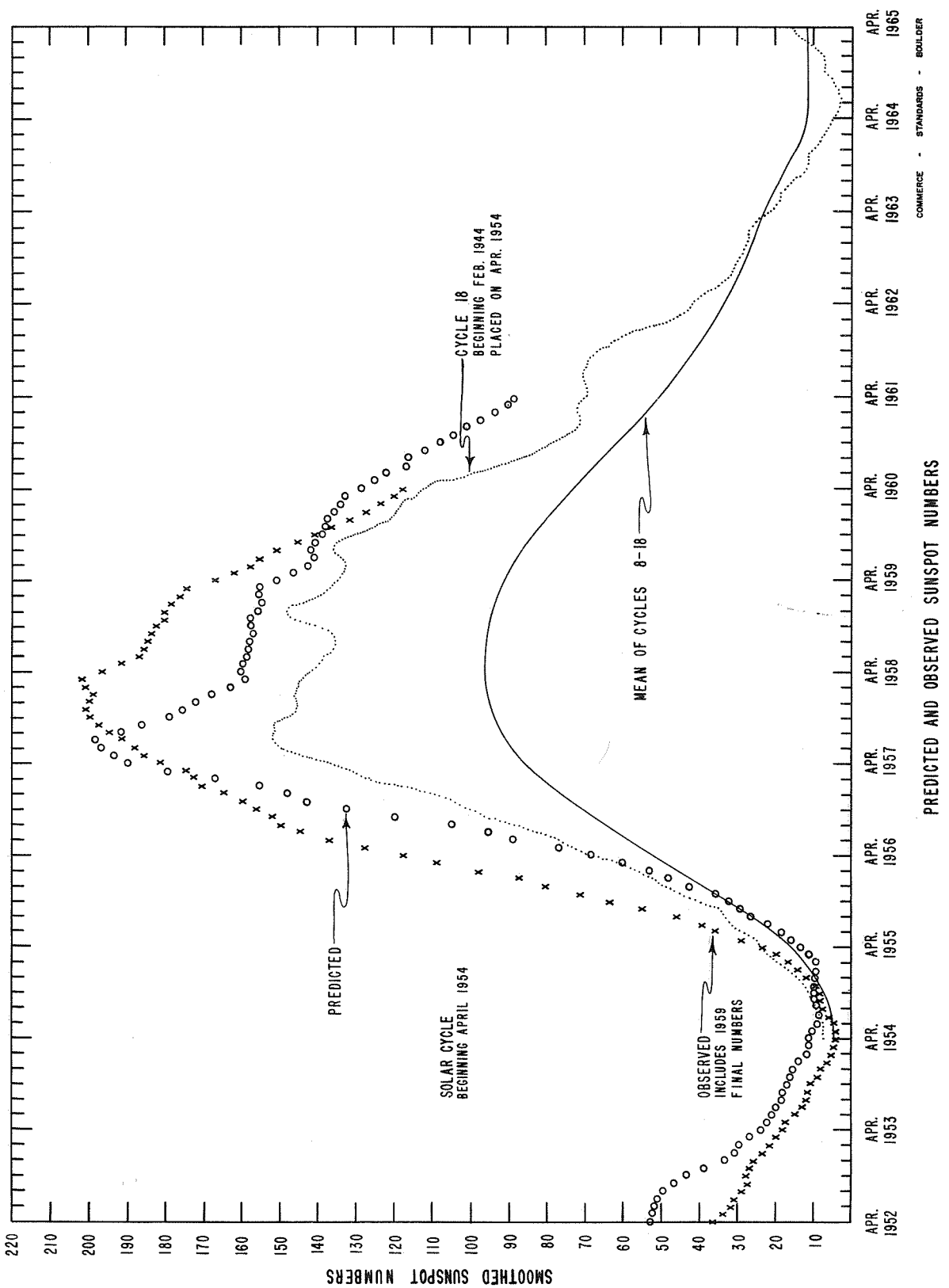


The descriptive text was published separately, November 1960.

DAILY SOLAR INDICES

Sept. 1960	American Relative Sunspot Numbers R_A'
1	92
2	90
3	78
4	69
5	66
6	92
7	120
8	126
9	132
10	148
11	123
12	120
13	161
14	142
15	117
16	96
17	108
18	137
19	149
20	173
21	176
22	157
23	160
24	141
25	131
26	110
27	87
28	71
29	53
30	18
Mean:	114.8

Oct. 1960	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	22	115
2	34	112
3	22	120
4	53	132
5	70	132
6	82	132
7	95	144
8	110	143
9	128	151
10	140	159
11	137	152
12	123	159
13	123	162
14	95	166
15	95	165
16	98	165
17	99	167
18	98	154
19	96	153
20	92	149
21	82	144
22	60	141
23	54	134
24	49	129
25	62	130
26	72	132
27	67	132
28	52	122
29	73	131
30	68	128
31	68	127
Mean:	81.3	141.4



CALCIUM PLAGE AND SUNSPOT REGIONS

OCTOBER 1960

CMP Oct. 1960	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area Int.		History, Age		CMP Values Area Count		History
01.6	S22	5875	5832	1400	1.5	b / l	6	50	4	b ^ d
03.1	S12	5869	New	1500	2	l - l	1			
04.3	N22	5872	5835	700	2	l \ d	4			
04.7	S05	5873	5841	1100	2	l - l	2			
05.5	N05	5882	New	800	3	b / l	1	360	8	b / l
06.7	N16	5874	5837	4000	2	l - l	4			
07.5	S14	5880	5839	5000	3.5	l - l	3	510	11	l - l
08.0	N08	5879	*	(1600)	(1.5)	l \ d				
08.0	N07	5888	New	700	3	b / l	1	220	8	b / l
08.4	N27	5878	5837	1800	1.5	l - l	4			
09.1	N04	5898	New	(200)	2.5	b / l	1			
10.1	S17	5881	5854	3200	3.5	l - l	2			
10.5	N04	5883	5844	500	2	l \ d	3	40	1	l \ d
10.7	N16	5884	5844	3500	3	l - l	3	470	9	l / l
11.1	S13	5886	5845	1400	2.5	l - l	4			
12.1	S03	5887	5847	800	2	l - l	2			
12.8	N20	5889	5848	1900	2	l - l	3			
12.8	S15	5890	5845	1700	2.5	l - l	4			
14.0	N22	5891	5848	(1300)	2	l \ d	3			
15.4	N22	5894	5864	1000	2.5	l - l	2	150	4	l - l
16.4	S11	5893	5856	5500	3.5	l - l	5	410	1	l \ l
16.8	N25	5895	5857	400	2	l - l	3			
18.8	N14	5903	5859	1000	2	b / l	5			
19.0	S20	5896	5858	2700	2.5	l - l	3			
19.8	S11	5897	5858	1300	2	l \ l	3			
21.0	S15	5900	5861	3700	3.5	l - l	3	190	1	l - l
21.5	N21	5901	5862	6300	3.5	l - l	5	1450	18	l - l
21.7	N09	5904	5862	1500	2	l - l	5	20	1	b / l
22.5	S20	5906	5863	1200	2	l - l	3			
23.6	S15	5907	5863	2200	2.5	l \ l	3			
24.6	N23	5905	**	3800	2.5	l - l	2,8	50	1	b ^ d
29.4	S21	5908	5875	1100	2	l \ l	7			
31.3	N24	5909	New	2800	3	l - l	1	500	22	l \ l
31.5	S08	5912	5873	500	1	b / l	3			

* 5879 merged with 5874
 ** 5866, 5868

COMMERCE - STANDARDS - BOULDER

PROVISIONAL CORONAL LINE EMISSION INDICES

SEPTEMBER 1960

CMP Sep 1960	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	R ₆	R ₁	G ₆	R ₆	R ₁	G ₆	R ₆	R ₁	G ₆	R ₆	R ₁
1	44a	x	x	19a	x	x	25	19	20	47	34	60
2	x	x	x	x	x	x	21	x	x	39	x	x
3	49	10a	12a	32	19a	28a	39a	10a	16a	32a	10a	14a
4	56a	x	x	65a	x	x	46	12	22	35	10	13
5	60a	x	x	x	x	x	63	13	18	41	15	20
6	x	21a	25a	48a	x	x	38	16	27	43	19	35
7	144a	30a	88a	34a	20a	26a	43	29	51	53	19	25
8	100a	33a	60a	26a	15a	18a	44a	38a	55a	75a	23a	27a
9	125a	41a	64a	32a	37a	76a	x	x	x	x	x	x
10	116a	38a	72a	67a	46a	100a	62	x	x	90	x	x
11	x	42a	68a	107a	48a	116a	79	110	87	91	38	52
12	95a	x	x	84a	x	x	x	x	x	105	x	x
13	111a	21	40	79a	23	60	89a	106a	40a	70a	15a	23a
14	120a	43a	60a	88a	x	x	86	166	x	86	x	x
15	103	78	98	65	54	108	x	x	x	x	x	x
16	99	53	72	60	28	42	47	60	30	80	53	70
17	x	59a	72a	44a	x	x	50a	74a	80a	72a	97a	132a
18	101	36	48	46	11	15	86	110	56a	99	51a	86a
19	102	67	92	62	31	52	88	105	30	71	27	46
20	61	22	40	57	26	35	83a	133a	50a	56a	29a	56a
21	91	19	28	67*	13	20	94a	114a	17	72a	7	9
22	79a	26a	42a	52a	18a	25a	108a	144a	38	92a	21	40
23	x	x	x	x	x	x	x	x	x	x	x	x
24	87	x	x	94	x	x	98a	152a	32a	88a	13a	20a
25	82	30	36	89	56	92	89a	145a	96a	68a	28a	44a
26	x	x	x	x	x	x	x	x	x	x	x	x
27	68a	13a	18a	34a	7a	8a	x	x	x	x	x	x
28	56	x	x	19	x	x	13	18	36a	55	28a	36a
29	x	x	x	x	x	x	27	35	x	39	x	x
30	33	16	20	29	12	16	25a	36a	x	27a	x	x

x - no observations
 a - index computed from low weight data
 * - yellow line observed
 COMMERCE - STAMPAARD - BOULDER

SOLAR FLARES

OCTOBER 1960

OBSERVATORY	DATE OCT 1960	OBSERVED TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX.	MATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CONR. AREA Sq. Deg.		MAX. WIDTH Hz
{ I STANBUL HAWAII LOCKHEED HAWAII	02	0820	0835	S16	E80	5880	1						
	03	1824	1852	S27	E90	5881	1+	3	1836	0.70	6.00		
	03	1828	1843	S21	E90	5881	1	3	1836	1.00	3.00	20	
	03	2150	2206	S27	E90	5881	1	3	2156	0.20	3.01	10	
{ LOCKHEED HAWAII	03	2153	2208	S20	E90	5881	1	2	2157	0.70	5.00	15	
	03	2236	2246	S27	E90	5881	1+	3	2240	0.80	2.06	17	
	04	1007	1044	N10	E87	5883	1+						
	04	1008	1036	S08	E51	5880	1	3					
{ SAC PEAK LOCKHEED LOCKHEED	04	1552	1600	N03	E87	5883	8 D	3	1558	1.02	3.00	15	Slow-S-SWF
	04	1600	1705	N04	E80	5883	1	3	1615	0.70	5.00	10	G-SWF
	04	2241	2253	N12	E80	5884	1	1	2245	0.70	3.00	10	
	05	0940	1025	S16	E38	5880	1+	2	2248	3.32	5.00	20	
{ SAC PEAK HAWAII	05	2240	2252	S18	E26	5880	1	2		1.60	3.57	20	
	05	2242	2300	S22	E22	5880	1+	3	2248	1.00	2.20	30	
	06	0042	0055	N04	W10	5882	1	1	0044	1.80	3.00		
	06	0042	0056	N05	W10	5882	1	3	0044	1.40	3.10		
{ HAWAII HAWAII MCMATH	06	2016	2032	S19	E19	5880	1+	2	2020	2.10	4.09	17	
	06	2017	2040	S15	E23	5880	1	2	2023	2.00	3.00		
	07	1348	1408	N16	E46	5884	1	1	1351	3.74	3.00		
	07	1814	1826	N09	W30	5882	1	3	1816	1.00	3.00		S-SWF
I STANBUL I STANBUL WENDEL WENDEL	08	0720	0746	S17	E03	5880	2						
	08	0805	0810	N17	E34	5884	1	2	26 D				
	08	1229	1231	S17	W01	5880	1	1	5				
	08	1343	1402	N11	E23	5884	1	1	2 D				
{ SAC PEAK MCMATH	08	1802	1830	N24	E34	5884	1+	3	19 D				
	08	1805	1910	N25	E36	5884	1	1	28 U				
	09	0810	0829	S17	W10	5880	1	1	65 D				
	10	0016	0037	S17	E00	5881	1	1	19 D				
{ HAWAII ONDREJOV WENDEL SAC PEAK	10	0016	0048	S18	W02	5881	1	1	21	3.00	3.00	20	
	10	0722	0801	S16	W23	5880	2	2	0022	1.40	2.40		
	10	0723	0824	S16	W23	5880	1+	3	0727				
	10	1854	1855	S15	W28	5880	1	2					
KODAIKUN WENDEL I STANBUL WENDEL	10	2230	2242	N12	E03	5884	1	2	1.77	2.10	5.00	15	
	11	0554	0630	S13	W35	5880	2	2	2.06		7.00	17	S-SWF
	11	0649	0756	S19	W37	5880	1+	1					
	11	0750	0813	S08	E66	5893	1	1	67 D				
{ I STANBUL WENDEL LOCKHEED SAC PEAK	11	0753	0822	S06	E64	5893	1+	1	29 D				
	11	1050	1123	S19	W40	5880	1+	1	33 D				
	11	1746	2007	S16	W45	5880	1	2	141	4.20	5.00	20	Slow-S-SWF
	11	1748	1922	S18	W47	5880	2	3	94	7.42	9.62	32	
{ MCMATH HAWAII	11	1754	1915	S17	W44	5880	1	2	1819	5.20	5.20		
	11	1806	1906	S12	W47	5880	1+	2	1820	3.50	3.50		

SOLAR FLARES

OCTOBER 1960

OBSERVATORY	DATE OCT 1960	OBSERVED TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER. DIST.				PLAGE REGION	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH R _g
{ ISTANBUL LOCKHEED SAC PEAK MCMATH SAC PEAK LOCKHEED MCMATH	12	0720 E	0745 D	S09 E90	5896	25 D	1						
	12	0755 D	0900 D	N12 W14	5884	65 D	1	2					
	12	1722 D	1820 D	S17 W60	5880	58 D	1	3		2.00	9.62	20	27
	12	1722 D	1822 D	S18 W61	5880	60 D	2	3		5.92	2.50		
	12	1726 D	1758 D	S16 W60	5880	32 D	1	2					
	12	1742 E	1852 D	N11 W24	5884	70 D	1	3		3.93	3.95	33	30
	12	1743 E	1859 D	N11 W24	5884	76 D	1	3		2.60	2.60		
	12	1745 E	1830 D	N10 W23	5884	45 D	1	2					
	12	1745 E	1830 D	N10 W23	5884	45 D	1	2					
	13	0850 E	0904 D	S13 E34	5893	14 D	1+	3		6.00	6.00		
	13	0856 E	0901 D	N01 W86	5888	□	1	3		2.20	2.20		
	{ LOCKHEED SAC PEAK MCMATH HUANCAYO HAWAII	13	1901 D	2010 D	S16 E85	5896	69 D	2+	2				
13		1902 D	2030 D	S18 E80	5896	88 D	2+	2		10.30	10.30	20	22
13		1905 E	2030 D	S17 E80	5896	85 D	2	2		6.00	6.00		
13		1913 E	1913 D	S10 E70	5896	□	1+	2		3.60	11.30		
13		1914 E	1928 D	S26 E90	5900	14 D	1+	2		1.20	1.20	1.80	
14		0710 D	0728 D	N13 W43	5884	18 D	1	2		3.00	3.00		
14		0710 E	0745 D	N12 W44	5884	35 D	1	2					
14		0756 E	0811 D	N13 W44	5884	15 D	1	2		3.00	3.00		
14		0949 D	1016 D	S13 E22	5893	27 D	1+	2		7.00	7.00		
14		0953 E	1011 D	S13 E21	5893	18 D	1+	2					
14		0954 E	1014 D	S16 E23	5893	20 D	1	2		2.00	2.30		
14		1506 E	1510 D	N05 W90	5888	4 D	1	2		4.52	2.60	15	30
14	2033 D	2245 D	S21 E57	5896	132 D	2	1		4.50	4.50			
14	2033 D	2245 D	S21 E57	5896	132 D	2	1		4.50	4.50			
14	2040 D	2238 D	S29 E56	5896	118 D	1	2		1.60	1.60			
14	2046 D	2226 D	S23 E55	5896	100 D	3	2		9.60	14.75	21	20	
14	2341 D	2354 D	N19 E77	5901	13 D	1	1		1.20	1.20			
15	1924 D	1943 D	N13 W60	5884	19 D	1	1		1.40	1.40	30		
16	0430 D	0434 D	S13 E57	5900	4 D	1	2		1.22	2.34	1.50		
16	0546 D	0554 D	S13 E56	5900	8 D	1	2		1.22	2.34	1.50		
17	2135 D	2143 D	N14 W90	5884	8 D	1	2		4.0	4.0	10		
18	0905 E	0916 D	N22 E33	5901	11 D	1+	2		1.82	2.82			
18	0954 E	1012 D	N19 E35	5901	18 D	1	2		1.80	2.20			
18	1356 D	1443 D	N19 E32	5901	47 D	1	2		2.00	2.00			
18	1402 E	1449 D	N18 E35	5901	47 D	1+	2		5.00	5.00			
19	0038 E	0045 D	N17 E25	5901	7 D	1	1		2.00	2.00	30		
19	0720 E	0745 D	N17 E22	5901	25 D	2+	2						
19	0731 D	0741 D	N21 E29	5901	10 D	1+	2						
19	0839 D	0859 D	N18 E20	5901	20 D	1	2						
19	0909 E	0918 D	N18 E19	5901	9 D	1	2						
19	1105 D	1212 D	N18 E20	5901	67 D	1	3		1.90	1.90			
19	1145 E	1215 D	N17 E22	5901	30 D	1	2		4.00	4.00			
20	1215 D	1250 D	N16 E09	5901	35 D	1	2		4.00	4.00			

SOLAR FLARES

OCTOBER 1960

OBSERVATORY	DATE OCT 1960	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	APPROX. MER. DIST.					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH E _r	
WENDEL	20	1405 E	1422 D	N23 W65	5894	17 D	1			3.00			
LOCKHEED	21	1915	2000	N25 W82	5894	45	1	3	1928	.60			10
LOCKHEED	21	2137	2203	N25 W85	5894	26	1	2	2150	.60			10
LOCKHEED	21	2224	2245	N25 W85	5894	21	1	2	2228	.60			10
{ ONDREJOV	22	1236 E	1241 D	N20 W19	5901	5 D	1	1					
{ CAPRI S	22	1240 E	1343 D	N18 W15	5901	63 D	2+	2	1319	5.00	5.50		S-SWF
SAC PEAK	22	1520	1540	N26 W90	5894	20	1	2		.58	2.91		17
SAC PEAK	22	1724	1802	N27 W90	5894	38	1	2		.87	4.36		19
HUANCAYO	23	1518	1520	S17 W31	5906	2	1	2	1520	3.00	3.50	2.70	
{ WENDEL	23	1518 E	1525 D	N18 W34	5901	7 D	1+	2		5.00	5.00		
{ CAPRI S	23	1531 E	1545 D	N18 W32	5901	14 D	2	1	1540	6.00	7.20		
{ SAC PEAK	23	2114	2131	N22 E90	5909	56	1	2		1.16	2.00		22
{ LOCKHEED	23	2114	2210	N25 E90	5909	61	2	2	2128	2.00	5.82		30
{ LOCKHEED	23	2114	2215	N25 E90	5909	61	1	2	2128	2.00	2.00		30
{ LOCKHEED	23	2114	2215	N25 E90	5909	61	1	2	2128	2.00	2.00		30
{ HAWAII	23	2130 E	2204 D	N13 E90	5909	34 D	1+	2	2143	.80			
{ SAC PEAK	24	2210	2222 D	N20 E90	5909	12 D	2	2		1.74	8.72		16
{ HAWAII	24	2214 E	2220 D	N09 E90	5909	6 D	1	2	2220	.80			
{ STOCKHOLM	25	0902 E	0912 D	N19 E75	5909	10 D	1	2	0908	2.00			
{ CAPRI S	25	0945 E	1022 D	N22 E90	5909	37 D	1	2	0950	3.00			
STOCKHOLM	25	1050	1102 D	N19 E74	5909	12 D	1+	2	1055	3.00			
WENDEL	25	1457 E	1507 D	N14 W17	5905	10 D	1	2			3.00		
HAWAII	25	2116	2240	N07 E90	5913	84	1	3	2211	.50			
HAWAII	25	2255 E	0008 D	N07 E90	5913	73 D	1	2	2340	.40			
HAWAII	26	0034 E	0118	N07 E90	5913	44 D	1	2	0056	.30			
WENDEL	26	0847 E	0902 D	N17 E84	5913	15 D	1	2			3.00		
ONDREJOV	26	1344 E	1354	N21 W68	5901	10 D	1	3	1347		1.90		19
SAC PEAK	26	2202	2218 D	N18 E65	5913	16 D	1	2		2.89	4.69		20
LOCKHEED	26	2204	2231	N21 E62	5909	27	1	1	2210	1.50			
NIZAMIAH	27	0504	0519	N23 E54	5909	15	1+	2	0508	1.82	3.18	1.90	
WENDEL	27	0830 E	0948 D	N08 W76	5904	78 D	1	2		4.00	4.00		
WENDEL	27	0946 E	1035 D	N23 E54	5909	49 D	1	2		4.00	4.00		
{ CAPRI S	27	1025 E	1056 D	N22 E52	5909	31 D	1+	3	1034	1.50			
WENDEL	27	1033	1058 D	N22 E54	5909	25 D	1	2		4.00	4.00		
{ ONDREJOV	27	1043 E	1052 D	N20 E58	5909	9 D	1	2	1046	2.30	2.90		
{ CAPRI S	27	1103 E	1121 D	N22 E57	5909	18 D	1+	3	1108	4.60	4.60	2.60	
{ ONDREJOV	27	1105 E	1121	N20 E58	5909	16 D	2	2	1109	6.00	6.00		
WENDEL	27	1105	1125 D	N22 E54	5909	20 D	1+	2		2.08	2.08		17
SAC PEAK	27	1840	1850	N19 E51	5909	10	1	2		1.62	1.62		21
{ SAC PEAK	27	2202	2216 D	N21 W90	5901	14 D	2+	2	2210	1.74	8.72		20
LOCKHEED	27	2202	2221	N21 W90	5901	19	2	1	2210	1.10			
{ SAC PEAK	28	2120	2218 D	S14 E30	5912	58 D	1	1	2140	3.78	4.05	15	
{ HAWAII	28	2130 E	2220	S20 E26	5912	50 D	1	2		2.10	2.10		
{ WENDEL	29	1104 E	1331 D	N22 E26	5909	147 D	3			19.00	19.00		

COMMENCE - STANDARDS - BOULDER

SOLAR FLARES

OCTOBER 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	TIME - U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	MAGNITH PLAGE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH He	
CAPRI S { WENDEL { SAC PEAK	29	1140 E	1142 D	N21 E25	5909	2 D	1	1	1140	2.40	2.90			
	29	1314 E	1450 D	N21 E45	5913	96 D	2			2.49	9.00		18	
	29	1415 E	1506 U	N17 E40	5913	48 D	1				2.83			
WENDEL SAC PEAK	30	1312 E	1323 D	N20 E10	5909	11 D	1	2		2.91	3.00		18	
	30	1552	1636	N20 E28	5913	44	1				3.01			

COMMERCE - STANDARDS - BOULDER

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

E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

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

MOSCOW-G MOSCOW - GAISH
 R O EDIN ROYAL OBSERVATORY, EDINBURGH
 R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
 SAC PEAK SACRAMENTO PEAK
 SCHAUNIS SCHAUNISLAND
 USNRL UNITED STATES NAVAL RESEARCH LABORATORY

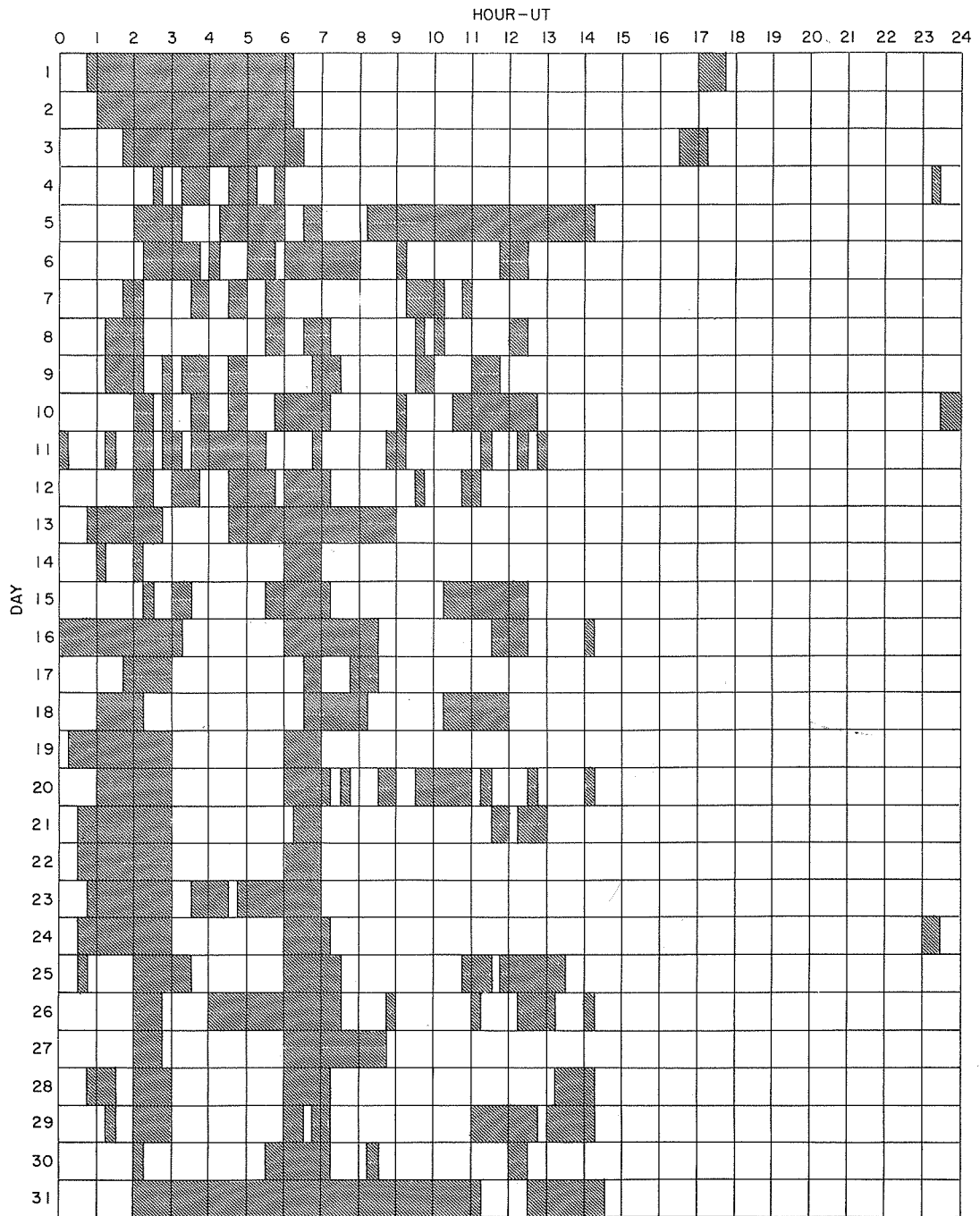
Though Climax operated a flare patrol during October 1960, there were no observations suitable for reduction.

See descriptive text for details of corrected area reported by Sacramento Peak and flare importances reported by Hawaii, Lockheed and Sacramento Peak.

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

OCTOBER 1960



COMMERCE - STANDARDS - BOULDER

Stations Include:

- | | | |
|--------------------|------------|-----------------------------|
| Anacapri (Swedish) | Istanbul | Nizamlah |
| Arcetri | Kodaikanal | Ondrejov |
| Hawaii | Lockheed | Royal Greenwich Observatory |
| Huancayo | McMath | Herstmonceux |
| | | Sacramento Peak |

SUBFLARES

Noted as follows: Date-Universal Time - Coordinates

SEPTEMBER 1960

* MCMATH	08 1452	N04 E27	SAC PEAK	12 1822	S11 E11	MCMATH	15 1339	S03 W06
LOCARNO	08 1615	S08 E22	MCMATH	12 1823	S04 E37	MCMATH	15 1508	E S06 W03
SAC PEAK	08 1616	S10 E22	MCMATH	12 1823	S10 E10	MCMATH	15 1538	S20 E90
* MCMATH	08 1719	S09 E21	LOCKHEED	12 1825	S10 E10	SAC PEAK	15 1550	E S11 E90
* MCMATH	08 1737	S09 E20	HAWAII	12 1826	E N09 E32	MCMATH	15 1606	S19 E90
MCMATH	08 1816	N18 E90	HAWAII	12 1826	E S11 E11	MCMATH	15 1615	E S06 E46
MCMATH	08 1933	N04 E25	LOCKHEED	12 1913	S10 E10	LOCKHEED	15 1850	S18 E83
			SAC PEAK	12 1914	S10 E09	MCMATH	15 1911	E S20 E85
UCCLE	09 1133	N23 W02	HAWAII	12 1915	S11 E09	LOCKHEED	15 1937	S03 W11
UCCLE	09 1527	S05 E08	MCMATH	12 1916	E S10 E10	SAC PEAK	15 1938	S03 W10
SAC PEAK	09 1842	N22 W08	HUANAYO	12 1917	S09 E09	LOCKHEED	15 2139	S19 E85
HAWAII	09 1850	E N23 W05	LOCKHEED	12 1922	S04 E35	HAWAII	15 2148	E S23 E79
MCMATH	09 1856	E N22 W06	* LOCKHEED	12 1941	S11 E10	LOCKHEED	15 2148	N01 W42
HAWAII	09 2114	N05 E14	* HUANAYO	12 1941	E S10 E11	HAWAII	15 2212	S25 E80
MCMATH	09 2115	N05 E12	* MCMATH	12 1942	S10 E10	LOCKHEED	15 2318	N16 W01
SAC PEAK	09 2224	N02 W52	* HAWAII	12 1943	S11 E10			
HAWAII	09 2250	E S07 W01	LOCKHEED	12 1949	N20 E17	LOCKHEED	16 0100	S12 W34
			HAWAII	12 1950	N25 E31	HAWAII	16 0101	S10 W34
WENDEL	10 0728	E N22 W14	LOCKHEED	12 2039	S03 E31	CAPRI S	16 0729	E S19 E70
LOCARNO	10 1126	S05 W37	SAC PEAK	12 2040	S03 E31	STOCKHOLM	16 1107	E S10 W90
* CAPRI S	10 1228	E N18 W15	LOCKHEED	12 2040	S11 E10	SAC PEAK	16 1518	S04 E34
* MCMATH	10 1308	E N18 W15	MCMATH	12 2043	S03 E31	CAPRI S	16 1520	E S19 E66
LOCKHEED	10 1953	N19 W17	LOCKHEED	12 2125	S11 E10	SAC PEAK	16 1600	S19 E66
LOCKHEED	10 2020	N10 E05	LOCKHEED	12 2150	N14 E32	* SAC PEAK	16 1706	S21 E66
* LOCKHEED	10 2059	N18 W21	* LOCKHEED	12 2240	S02 E30	LOCKHEED	16 1935	N16 W24
* LOCKHEED	10 2114	N18 W21	LOCKHEED	12 2243	N14 E31	LOCKHEED	16 2048	S20 E66
* MCMATH	10 2116	E N18 W20	LOCKHEED	12 2247	S10 E09	LOCKHEED	16 2226	N26 E16
LOCKHEED	10 2223	S03 E59	LOCKHEED	12 2310	S04 E33			
HAWAII	10 2222	S08 E60	LOCKHEED	13 0020	S12 E08	LOCKHEED	17 0040	N23 W90
LOCKHEED	10 2238	N20 W17	LOCKHEED	13 0043	S04 E33	* ISTANBUL	17 0813	S07 E26
LOCKHEED	10 2328	S03 E59	* CAPRI S	13 0630	E N17 E08	CAPRI S	17 1218	E N25 E04
LOCKHEED	10 2328	S03 E59	ONDREJOV	13 0737	S10 E17	LOCKHEED	17 1955	N14 W26
HAWAII	10 2328	S08 E60	* CAPRI S	13 1039	E S05 W45	LOCKHEED	17 2047	N22 W35
LOCKHEED	10 2352	S03 W46	SAC PEAK	13 1500	N04 W47	SAC PEAK	17 2106	N21 E90
			* MCMATH	13 1504	S05 W48	LOCKHEED	17 2156	S19 E52
LOCKHEED	11 0039	N19 E68	* ONDREJOV	13 1504	S03 W46	HAWAII	17 2216	S25 E42
LOCKHEED	11 0052	S03 E59	SAC PEAK	13 1504	S06 E26	LOCKHEED	17 2218	S21 E42
* WENDEL	11 0812	E S03 E57	* CAPRI S	13 1505	E S03 W46	SAC PEAK	17 2220	S20 E44
MCMATH	11 1230	S03 E45	* SAC PEAK	13 1505	S11 W02	LOCKHEED	17 2345	N13 W34
MCMATH	11 1308	S04 E53	* MCMATH	13 1538	S12 W01			
LOCKHEED	11 1500	N11 W11	* CAPRI S	13 1540	E S11 W00	* ISTANBUL	18 0730	E S21 E45
* LOCKHEED	11 1550	N23 E31	* LOCKHEED	13 1540	U S13 W02	* CAPRI S	18 0857	E S19 E47
* MCMATH	11 1551	N19 W17	LOCKHEED	13 1619	S04 W49	UCCLE	18 0940	S22 E48
LOCARNO	11 1555	S03 E52	LOCKHEED	13 1639	S05 E23	WENDEL	18 1053	E S18 E43
* LOCKHEED	11 1608	S02 E51	SAC PEAK	13 1648	S04 E23	* CAPRI S	18 1112	E S19 E46
* MCMATH	11 1610	S04 E50	MCMATH	13 1651	E S05 E24	WENDEL	18 1336	E S18 E41
LOCKHEED	11 1810	S03 E48	LOCKHEED	13 1852	S03 E17	LOCKHEED	18 1610	S08 E08
HAWAII	11 1814	S09 E49	SAC PEAK	13 1854	S03 E18	LOCKHEED	18 1618	S21 E41
MCMATH	11 1815	S04 E50	MCMATH	13 1856	E S03 E18	LOCKHEED	18 1618	S21 E41
LOCKHEED	11 1945	N09 W11	HAWAII	13 1900	E S10 E29	LOCKHEED	18 1627	N22 W07
HAWAII	11 2000	N13 W14	LOCKHEED	13 2012	S05 W49	MCMATH	18 1629	N26 W06
LOCKHEED	11 2059	N23 E25	LOCKHEED	13 2221	S03 W52	LOCKHEED	18 1731	S21 E41
HAWAII	11 2108	E N19 W32	SAC PEAK	13 2224	S05 W50	LOCKHEED	18 1747	S22 E41
LOCKHEED	11 2123	N23 W39	HAWAII	13 2232	E N25 E53	LOCKHEED	18 1751	E S23 E42
LOCKHEED	11 2135	N19 W33	SAC PEAK	13 2330	N13 E18	LOCKHEED	18 1825	S18 E54
MCMATH	11 2138	E N18 W32	LOCKHEED	13 2334	S06 W53	LOCKHEED	18 2006	N20 W07
HAWAII	11 2140	E N21 W33	LOCKHEED	13 2334	N13 E17	LOCKHEED	18 2030	S09 E06
LOCKHEED	11 2238	N19 W33	LOCKHEED	13 2338	S12 W05	SAC PEAK	18 2038	U S20 E38
LOCKHEED	11 2341	N18 W33	HAWAII	13 2342	E N11 E18	LOCKHEED	18 2040	S21 E39
HAWAII	11 2344	E N21 W31			MCMATH	18 2045	E S20 E38	
			LOCKHEED	14 0036	S03 E14	MCMATH	18 2119	S20 E38
LOCKHEED	12 0051	N18 E26	ONDREJOV	14 0806	E S04 W61	MCMATH	18 2128	N21 E90
HAWAII	12 0058	E N17 E28	* MCMATH	14 1238	N17 W20	HAWAII	18 2138	S06 E00
CAPRI S	12 0753	E S02 E40	* MCMATH	14 1303	N19 W05	SAC PEAK	18 2138	S06 E01
UCCLE	12 0938	S03 E45	MCMATH	14 1339	S04 E11	LOCKHEED	18 2140	S05 E01
UCCLE	12 1040	N20 W08	MCMATH	14 1339	S12 W11	* LOCKHEED	18 2245	S21 E38
UCCLE	12 1058	S19 E02	LOCKHEED	14 1517	N21 W07	SAC PEAK	18 2316	S03 E03
UCCLE	12 1058	S12 E11	SAC PEAK	14 1520	N21 W07	LOCKHEED	18 2317	S04 E02
UCCLE	12 1134	N26 E78	* LOCKHEED	14 1721	S16 E90	LOCKHEED	18 2321	S21 E34
UCCLE	12 1134	N10 E40	* SAC PEAK	14 1724	E S18 E90	LOCKHEED	18 2349	S17 E76
* MCMATH	12 1135	E N19 E20	* LOCKHEED	14 1749	N18 W71	LOCKHEED	18 2349	S17 E76
WENDEL	12 1135	E S13 E38	* HAWAII	14 1756	E N22 W73	HAWAII	18 2352	E S24 E78
SAC PEAK	12 1516	N12 E37	LOCKHEED	14 1825	S02 W90			
SAC PEAK	12 1534	S07 W59	HAWAII	14 2004	N23 E08	LOCKHEED	19 0020	S21 E38
LOCKHEED	12 1617	N13 E33	SAC PEAK	14 2004	N22 E07	LOCKHEED	19 0020	S21 E38
SAC PEAK	12 1618	N12 E35	LOCKHEED	14 2004	N25 E06	HAWAII	19 0024	S25 E38
SAC PEAK	12 1654	S10 E12	MCMATH	14 2005	N22 E07	HAWAII	19 0114	E S25 E38
LOCKHEED	12 1655	S11 E11	SAC PEAK	14 2102	N20 W74	CAPRI S	19 0710	E S19 E33
LOCKHEED	12 1655	S11 E11	LOCKHEED	14 2107	N19 W74	* CAPRI S	19 0750	E N26 W17
LOCKHEED	12 1715	S04 E32	LOCKHEED	14 2107	N19 W74	HAWAII	19 1828	E N28 W14
LOCKHEED	12 1730	S11 E11	HAWAII	14 2116	E N25 W72	LOCKHEED	19 1924	N27 W23
LOCKHEED	12 1730	S11 E11	LOCKHEED	14 2217	S16 E90	HAWAII	19 1932	E N29 W22
SAC PEAK	12 1732	S11 E12	LOCKHEED	14 2224	N14 E03	LOCKHEED	19 1940	S03 E71
LOCKHEED	12 1737	S19 E02	HAWAII	14 2312	N22 W78	SAC PEAK	19 1942	N13 E50
MCMATH	12 1747	E S11 E11	LOCKHEED	14 2312	N19 W78	LOCKHEED	19 1943	N15 E47
SAC PEAK	12 1808	N10 E32	SAC PEAK	14 2314	E N19 W76	HAWAII	19 1952	E N10 E41
LOCKHEED	12 1809	N12 E32			LOCKHEED	19 2000	N24 E82	
MCMATH	12 1809	N10 E33	LOCKHEED	15 0117	N14 E00	SAC PEAK	19 2002	N22 E88
LOCKHEED	12 1817	S04 E32	ONDREJOV	15 0626	E S13 W18	LOCKHEED	19 2015	S03 W09
			ARCETRI	15 0850	E N13 E08	LOCKHEED	19 2023	S08 W67

SUBFLARES

Noted as follows: Date-Universal Time- Coordinates

SEPTEMBER 1960

LOCKHEED	19	2025	N26 W25	SAC PEAK	23	1642	S21 E08	LOCKHEED	25	2320	N24 W05
LOCKHEED	19	2036	N23 W23	LOCKHEED	23	1656	S20 E06	LOCKHEED	25	2320	N24 W05
LOCKHEED	19	2036	N23 W23	SAC PEAK	23	1758	N03 E11				
HAWAII	19	2042	S07 E73	LOCKHEED	23	1857	N09 E09	CAPRI S	26	0634	E S20 W59
LOCKHEED	19	2108	N16 W52	SAC PEAK	23	1902	N10 E10	LOCARNO	26	0904	S21 W59
LOCKHEED	19	2140	S12 E85	SAC PEAK	23	1958	S20 W30	* CAPRI S	26	1014	E S10 E10
LOCKHEED	19	2145	S20 E25	LOCKHEED	23	2000	S12 W27	LOCARNO	26	1056	S16 W06
HAWAII	19	2154	S24 E72	LOCKHEED	23	2032	N05 E04	* LOCARNO	26	1319	S20 W62
LOCKHEED	19	2155	S21 E71	SAC PEAK	23	2054	S23 E08	* SAC PEAK	26	1406	N08 W29
LOCKHEED	19	2224	N26 W24	LOCKHEED	23	2056	S21 E07	UCCLLE	26	1408	E N08 W29
LOCKHEED	19	2241	S18 E59	SAC PEAK	23	2112	S05 E19	UCCLLE	26	1408	E N08 W29
HAWAII	19	2244	S07 E70	LOCKHEED	23	2117	S02 E07	LOCARNO	26	1408	E N08 W27
				LOCKHEED	23	2210	S19 E05	SAC PEAK	26	1408	S10 E02
LOCKHEED	20	0021	S19 E59	* LOCKHEED	23	2235	S20 E05	LOCARNO	26	1410	S10 E03
HAWAII	20	0104	S21 E16					* SAC PEAK	26	1454	N31 W06
CAPRI S	20	0657	E N23 E78	LOCKHEED	24	0020	S21 E05	* UCCLLE	26	1457	N32 W04
ISTANBUL	20	0740	E S20 E13	LOCKHEED	24	0020	S21 E05	LOCARNO	26	1544	S18 W68
CAPRI S	20	0744	E S21 E17	LOCKHEED	24	0106	E N06 E03	LOCKHEED	26	1635	S11 W02
* CAPRI S	20	0923	S20 E14	HAWAII	24	0636	E S19 E03	LOCKHEED	26	1635	S11 W02
LOCARNO	20	1100	N21 E54	WENDEL	24	0636	E S19 E03	SAC PEAK	26	1708	S11 W02
SAC PEAK	20	1347	E S22 E18	* CAPRI S	24	0708	S19 E01	LOCKHEED	26	1810	S18 W31
SAC PEAK	20	1508	S08 W20	* STOCKHOLM	24	0717	E S21 W01	LOCKHEED	26	1848	S16 W05
SAC PEAK	20	1526	N27 E75	LOCARNO	24	1025	S20 W02	LOCKHEED	26	1901	S01 W20
LOCKHEED	20	1527	N27 E73	* WENDEL	24	1328	E S20 W01	SAC PEAK	26	1902	S01 W21
SAC PEAK	20	1734	S17 E55	LOCARNO	24	1430	S00 W39	LOCKHEED	26	1902	S18 W32
LOCKHEED	20	1737	S18 E53	* SAC PEAK	24	1432	N04 W05	SAC PEAK	26	1904	S19 W32
SAC PEAK	20	1742	N20 E67	* WENDEL	24	1435	E N11 W03	* LOCKHEED	26	1909	S15 W26
LOCKHEED	20	1742	N21 E66	SAC PEAK	24	1610	* N23 E13	LOCKHEED	26	1950	S20 W33
LOCKHEED	20	1823	S06 W25	LOCKHEED	24	1612	N23 E12	SAC PEAK	26	2034	E N26 W18
SAC PEAK	20	1826	S09 E24	WENDEL	24	1612	N23 E12	LOCKHEED	26	2036	N25 W19
LOCKHEED	20	1855	S21 E48	LOCKHEED	24	1614	N30 E21	* SAC PEAK	26	2106	S20 W33
LOCKHEED	20	2029	S14 E80	WENDEL	24	1618	E N30 E22	LOCKHEED	26	2106	S19 W32
HAWAII	20	2118	S23 E47	LOCKHEED	24	1652	N23 E12	LOCKHEED	26	2120	S15 W35
LOCKHEED	20	2119	S19 E24	LOCKHEED	24	2031	N06 W08	LOCKHEED	26	2122	S15 W35
LOCKHEED	20	2123	S19 E09	SAC PEAK	24	2032	N05 W10	LOCKHEED	26	2210	S16 W34
LOCKHEED	20	2145	S21 E46	LOCKHEED	24	2122	N07 W07	LOCKHEED	26	2213	S22 W70
HAWAII	20	2152	S24 E46	MC MATH	24	2123	N07 W07	LOCKHEED	26	2213	S22 W70
HAWAII	20	2212	S14 E67	MC MATH	24	2134	S10 E12	LOCKHEED	26	2213	S22 W70
				LOCKHEED	24	2134	S11 E11	SAC PEAK	26	2326	S22 W70
LOCKHEED	21	0006	S19 E46	SAC PEAK	24	2134	S11 E14				
LOCKHEED	21	0006	S19 E46	LOCKHEED	24	2134	N23 E06	LOCKHEED	27	0124	N24 E16
LOCKHEED	21	0008	S21 E07	HAWAII	24	2150	E S21 W11	* LOCARNO	27	0745	N11 W39
LOCKHEED	21	0046	S21 E07	LOCKHEED	24	2223	S16 W02	* ISTANBUL	27	0752	N08 W40
HAWAII	21	0136	E N18 E61	SAC PEAK	24	2224	S17 W02	* UCCLLE	27	0851	S19 W41
CAPRI S	21	0248	E S22 E16	* LOCKHEED	24	2255	N31 E18	* UCCLLE	27	0952	E S19 E18
LOCARNO	21	1210	S19 E32					LOCARNO	27	1134	N29 W12
LOCARNO	21	1216	S20 W06	LOCKHEED	25	0026	S19 W07	WENDEL	27	1135	E N28 W15
SAC PEAK	21	1706	N22 W44	WENDEL	25	0752	E S19 W04	* LOCARNO	27	1228	N11 W39
MC MATH	21	1707	N23 W47	* WENDEL	25	1035	E S16 W15	LOCARNO	27	1231	S12 W19
* SAC PEAK	21	1834	S18 E42	WENDEL	25	1037	E N18 W52	* WENDEL	27	1232	E S13 W23
* LOCKHEED	21	2113	E S14 E58	WENDEL	25	1058	E S16 W15	* UCCLLE	27	1233	S12 W24
				WENDEL	25	1115	E S18 W18	UCCLLE	27	1352	N18 W43
LOCARNO	22	0729	N25 E44	WENDEL	25	1307	E N20 W23	* UCCLLE	27	1423	N18 W43
LOCARNO	22	0738	N09 E29	WENDEL	25	1307	E N18 W17	* WENDEL	27	1428	E N17 W39
* ISTANBUL	22	0740	N25 E47	MC MATH	25	1429	N23 W03	* LOCARNO	27	1428	N18 W41
LOCARNO	22	1032	S19 E24	* LOCKHEED	25	1510	E S23 W11	* ONDREJOW	27	1429	E N18 W44
LOCARNO	22	1315	S20 W07	LOCKHEED	25	1510	E N24 W03	* SAC PEAK	27	1430	N09 W45
SAC PEAK	22	1448	E S11 E46	MC MATH	25	1512	N23 W03	* WENDEL	27	1431	E N11 W43
* LOCKHEED	22	1513	S20 E28	* MC MATH	25	1516	S18 W19	MC MATH	27	1529	E S09 W24
* SAC PEAK	22	1514	S20 E31	WENDEL	25	1540	E S17 W19	LOCKHEED	27	1615	S09 W24
LOCARNO	22	1520	S20 W08	* SAC PEAK	25	1554	S02 W06	LOCKHEED	27	1619	S14 W90
SAC PEAK	22	1630	S21 W08	* MC MATH	25	1558	E S02 W05	LOCKHEED	27	1640	N09 W47
LOCARNO	22	1633	S20 W08	WENDEL	25	1606	E S17 W19	* SAC PEAK	27	1702	N10 W46
LOCKHEED	22	1705	S20 E19	WENDEL	25	1610	E S19 W20	* MC MATH	27	1703	N10 W45
SAC PEAK	22	1710	S22 E21	LOCKHEED	25	1616	S10 E01	LOCKHEED	27	1725	N18 W43
SAC PEAK	22	1740	S20 E20	WENDEL	25	1616	E S10 E03	LOCKHEED	27	1749	S20 W80
LOCKHEED	22	1747	S20 E19	LOCKHEED	25	1628	S23 W52	LOCKHEED	27	1810	S23 W80
HUANKAYO	22	1749	E S21 E20	WENDEL	25	1630	E S22 E50	* LOCKHEED	27	1900	N09 W47
* LOCKHEED	22	1800	S17 W20	LOCKHEED	25	1706	S02 W07	* LOCKHEED	27	1900	N09 W47
LOCKHEED	22	1849	S20 E19	LOCKHEED	25	1720	N07 W20	* SAC PEAK	27	1906	U N10 W48
HAWAII	22	1900	E S17 W21	LOCKHEED	25	1758	S21 W52	LOCKHEED	27	1945	E S23 W80
LOCKHEED	22	1917	S20 E19	* HAWAII	25	1840	E S17 W24	LOCKHEED	27	1945	S23 W80
LOCKHEED	22	1938	S11 E39	LOCKHEED	25	1915	N08 W19	LOCKHEED	27	2008	N11 W47
SAC PEAK	22	1954	E S15 E45	HAWAII	25	1916	N10 W18	SAC PEAK	27	2056	N10 W48
LOCKHEED	22	2011	S20 E18	SAC PEAK	25	1916	N08 W19	MC MATH	27	2058	N09 W48
LOCKHEED	22	2055	N08 E21	LOCKHEED	25	2010	S17 W24	LOCKHEED	27	2157	N09 W47
				SAC PEAK	25	2013	S18 W23	LOCKHEED	27	2330	E N09 W48
WENDEL	23	0541	E S12 E42	HAWAII	25	2018	S17 W24	LOCKHEED	27	2355	N09 W48
LOCARNO	23	0701	E N23 W60	LOCKHEED	25	2022	S07 W90				
LOCARNO	23	1001	S13 E41	LOCKHEED	25	2022	N18 W19	LOCKHEED	28	0003	N11 W49
STOCKHOLM	23	1002	E S30 E36	LOCKHEED	25	2035	S22 W53	LOCKHEED	28	0034	N10 W49
WENDEL	23	1003	E S13 E40	SAC PEAK	25	2106	S18 W23	LOCKHEED	28	0119	N11 W48
WENDEL	23	1026	E S03 E26	LOCKHEED	25	2139	N31 E03	UCCLLE	28	1327	S08 W28
WENDEL	23	1049	E N30 E39	SAC PEAK	25	2142	N10 W20	HAWAII	28	1934	E S06 W33
* STOCKHOLM	23	1130	E S23 E12	LOCKHEED	25	2142	N21 W22				
WENDEL	23	1155	E S20 E14	HAWAII	25	2144	N15 W21	SAC PEAK	29	1756	N13 E84
WENDEL	23	1209	E N20 E10	SAC PEAK	25	2150	N30 E06	LOCKHEED	29	2031	S16 W77
* CAPRI S	23	1334	S19 E08	* LOCKHEED	25	2156	S01 W11	SAC PEAK	29	2032	S16 W78
* SAC PEAK	23	1345	E S22 E09	LOCKHEED	25	2219	S17 W24	HAWAII	29	2033	E S10 W75
SAC PEAK	23	1806	N32 E36	SAC PEAK	25	2220	S19 W25	LOCKHEED	29	2207	S16 W80
LOCKHEED	23	1610	D N28 E33	LOCKHEED	25	2220	S17 W60				
								WENDEL	30	0734	E N30 W51
								LOCKHEED	30	2301	S11 W60

*Rated as flare of importance ≥ 1 by other observatories (see CRPL-F 194 Part B, October 1960).

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE JULY 1960	OBSERVED TIME		MAX. PHASE	LOCATION		MCMATH PLAGE REGION	DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. WIDTH H _g	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT. MER. DIST.	MEAS. AREA Sq. Deg.					CORR. AREA Sq. Deg.	TIME — U T			
VOROSHILOV	01	0004	0013 D	0006	N08 E38	5726	9 D	1+	1	1	3.25			106	
HAWAII	01	0058	0112	0104	N22 W69	5713	14	1	3	3	1.00			62	
ALMA-ATA	01	0359	E	0359	N22 W80	5713	25-D	2+	2	2	6.44			49	
ALMA-ATA	01	0359	E	0424	S15 W08	5725	25-D	1	2	2	4.57			82	
ALMA-ATA	01	0404	E	0404	N08 E37	5726	70	2+	2	2	16.10				
TASHKENT	01	0440	E	0550	N18 W74	5713	65 D	1	3	3	1.84	6.00			S-SWF
{	01	0508	E	0613 D	N20 W73	5713	108 D	1	3	3	8.16	26.40			
ABASTUMANI	01	0617	E	0805 D	N09 E35	5726	19	1	3	3	3.18	3.90			
ZURICH	01	0824	E	0843	N21 W75	5713	4 D	1	1	1	.50	1.00			
CAPRI S	01	0941	E	0945 D	N20 E80	5735	20	1	3	3	.70	2.80			S-SWF
{	01	1012	E	1032	N20 W75	5713	12	1	3	3	2.00	2.00			
CAPRI S	01	1015	E	1027	N21 W76	5713	8 D	1	3	3	2.00	2.00			
ZURICH	01	1015	E	1027	N21 W76	5713	9	1	3	3	2.00	2.00			
WENDEL	01	1042	E	1050 D	N11 E34	5726	92 D	1	1	1	.80	2.90			
{	01	1042	E	1051	N11 E34	5726	36 D	1	2	2	4.00	4.00			
ZURICH	01	1042	E	1051	N11 E34	5726	110 D	2	1	1	8.00	8.00			
{	01	1151	E	1323	N18 W76	5713	5 D	1	1	1	1.04				G-SWF
CAPRI S	01	1154	E	1230 D	N18 W76	5713	55 D	1	1	1	1.04				
CAPRI G	01	1154	E	1230 D	N19 W77	5713	24 D	1	1	1	2.70				
WENDEL	01	1154	E	1344 D	N18 W77	5713	7 D	1+	3	3	1.00	4.00			
{	01	1205	E	1210 D	N18 W75	5713	4	1	3	3	1.00	6.60			
ONDREJOV	01	1205	E	1210 D	N18 W75	5713	12	1	4	4	.50	3.00			
KIEV	01	1205	E	1300 D	N18 W80	5713	20 D	1+	1	1	.80	4.10			
{	01	1210	E	1255 D	N22 W86	5713	14	1	3	3	3.64				
SCHAUINS	01	1210	E	1434 D	N22 W80	5713	10 D	1	2	2	5.50				
ZURICH	01	1242	E	1330 D	N22 W83	5713	47	1	3	3	3.21				
WENDEL	01	1336	E	1355 D	N21 W79	5713	18	1	3	3	1.56				
{	01	1406	E	1416	N21 W85	5713	13 D	1	2	2	3.00				
SAC PEAK	01	1406	E	1416	N21 W85	5713	8	1	2	2	2.00				
{	01	1410	E	1509 D	N22 W87	5713	6 D	1	2	2	1.20				
WENDEL	01	1410	E	1509 D	N22 W87	5713	4	1	2	2	3.00				
HUANCAYO	01	1502	E	1503	N21 W79	5713	12	1	4	4	3.00				
ZURICH	01	1524	E	1528	N21 W79	5713	20 D	1+	1	1	1.847				
LOCKHEED	01	1702	E	1714	N21 W85	5713	14	1	3	3	.80				
MC MATH	01	1843	E	1903 D	N22 W87	5713	14	1	3	3	3.64				
HAWAII	01	2008	E	2022	N21 W90	5713	14	1	3	3	5.50				
ALMA-ATA	02	0357	E		N10 E18	5726	□	1	2	2	3.64				
ALMA-ATA	02	0422	E		N28 E02	5724	□	1+	2	2	3.64				
WENDEL	02	0732	E	0742 D	N11 E21	5726	10 D	1	2	2	3.00				
WENDEL	02	1222	E	1307 D	S13 W27	5725	45 D	1	2	2	3.00				
TASHKENT	03	0426	E	0513	N10 E07	5726	47	1	3	3	3.21				
TASHKENT	03	0438	E	0456	N27 W23	5724	18	1	3	3	1.56				
WENDEL	03	1020	E	1033 D	N25 W21	5724	13 D	1	2	2	3.00				
ZURICH	03	1432	E	1440	N26 W27	5724	8	1	2	2	2.00				
HAWAII	03	2038	E	2044 D	N31 W27	5724	6 D	1	2	2	1.20				
UCCLE	04	0914	E	0916 D	N33 W35	5724	2 D	1	2	2	3.00				
ZURICH	04	1054	E	1058 D	N27 W40	5724	4 D	1	2	2	4.50				
{	04	1220	E	1332	N14 E60	5737	72	2	2	2	2.00				
MC MATH	04	1220	E	1332	N14 E60	5737	72	2	2	2	7.50				
CAPRI S	04	1232	E	1251 D	N14 E60	5737	19 D	1	3	3	4.40				
ZURICH	04	1232	E	1246 D	N14 E60	5737	13 D	1+	2	2	2.00				
{	04	1245	E	1251	N16 E60	5737	□	1+	2	2	5.00				
SCHAUINS	04	1245	E	1251	N16 E60	5737	6 D	1+	2	2	5.00				
CAPRI G	04	1245	E	1251	N17 E60	5737	92	1	2	2	2.60				
LOCKHEED	04	2358	E	0130	N15 E55	5737	92	1	2	2	4.00				
HAWAII	05	0030	E	0104 D	N16 E52	5737	34 D	2	2	2	3.00			10	

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME — U T	MEASUREMENTS		MAX. WIDTH — H _z	MAX. INT. — %	PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	MCMATH PLACE — REGION					MEAS. AREA — Sq. Deg.	CORR. AREA — Sq. Deg.			
{ PIRCULI KRASNIA KRASNIA STOCKHOLM	05	0740 E	0747 D	0744 U	N26 W51	5724	7 D	1+	2	0744	3.21	5.19		85	
	05	0741	0756	0746	N25 W51	5724	15	1	2	0744	2.29			65	
	05	0749	0754	0750	S16 W62	5725	5	1	2	0744	1.19			85	
	05	1400 E	1436 D		S17 E90	5741	36 D	1	1	1436	2.00				
	06	0759	0835		N28 W62	5724	36	1	3	0811	1.00	2.50			
{ CAPRI S CAPRI G MEUDON CAPRI S UCCLE ARCTERI CAPRI G	06	0802	0814		N25 W59	5724	12	1	3	0811	1.00	3.00			
	06	0805 E	0820		N25 W63	5724	15 D	1	2						
	06	0917	1017		N10 W35	5726	60	1	3	0931	3.50	4.00			
	06	0920	0955		N06 W29	5726	35	1	3	0931	3.50	7.50			
	06	0921	0926 D	0926	N09 W35	5726	5 D	2	4	0926	6.00				
{ CAPRI G UCCLE HAWAII HAWAII HAWAII	06	0923 E	0945 D		N10 W41	5726	22 D	1+	3						
	06	0930 E	0950 D		N07 W33	5726	20 D	1	2						
	06	1221	1223 D	1223	N25 W65	5724	2 D	1	4	1223	2.00	4.00			
	06	1758 E	1810	1800	N08 W40	5726	12 D	1	3	1800	1.40	5.00			
	06	1918	1946	1918	N06 W40	5726	28	1	3	1918	1.30				
{ LOCKHEED VOROSHILOV KIEV MCMATH WENDEL KHARKOV CAPRI G MCMATH HAWAII SAC PEAK	06	2314	2322	2316	S04 W47	5726	8	1	3	2316	1.00				
	07	0200	0245 D	0210	N24 E13	5737	45 D	2	1	0210	5.20			20	S-SWF
	07	0214 E	0326 D		N24 E11	5737	72 D	2	2	0217	9.40			91	
	07	1100 E	1120 D	1100	S13 E58	5741	21 D	1	1	1100	1.04	2.00		50	
	07	2004	2033 D	2007	N12 E35	5740	29 D	1	3	2007		2.00			
{ WENDEL KHARKOV CAPRI G MCMATH HAWAII SAC PEAK	08	0746	0802		N18 E66	5746	16	1	1	0953	2.29	4.00	1.60		
	08	0932 E	1006		S12 E48	5741	34 D	1	2						
	08	0936 E	1005		S12 E45	5741	29 D	1	2						
	08	1927	1959	1931	N06 W76	5726	32	1	3	1931	6.40	3.10			
	08	2328	0010	2332	N07 W32	5732	42	2+	3	2332	6.54			23	
{ MITAKA PIRCULI MCMATH LOCKHEED HAWAII HAWAII	08	2331 E	2354 D	2333 U	N08 W33	5732	23 D	2	1						
	09	0505 E	0527 D		S10 W00	5744	22 D	1	1	0512	1.23	1.27	1.80	89	
	09	0732 E	0750 D	0736 U	N13 E15	5740	18 D	1	2	0736	1.84	1.95	6.00	66	
	09	1730	1913 D	1819	S16 E32	5741	103 D	2	3	1819	2.30	6.00		20	G-SWF
	09	1813	1910	1824	S15 E30	5741	57	1	2	1824	2.50				
{ VOROSHILOV MITAKA PIRCULI WENDEL CAPRI S CAPRI G WENDEL PIRCULI ABASTUMANI CAPRI S CAPRI G ZURICH ONDREJOV	09	1816 E	1904	1820	S15 E29	5741	48 D	2	2	1820	2.50				
	09	2024 E	2028 D	2024	N15 E07	5740	4 D	1	2	2024	1.20				
	10	0122	0128	0126	N05 W82	5726	6 D	1+	1		.73			107	
	10	0250 E	0256		N05 W79	5732	6 D	1	1	0250	1.03			96	
	10	0635 E	0650 D	0640 U	N13 E03	5740	15 D	1	3	0640	2.01	2.02	2.49	57	
{ WENDEL PIRCULI CAPRI S CAPRI G WENDEL PIRCULI ABASTUMANI CAPRI S CAPRI G ZURICH ONDREJOV	10	0715	0745 D		N20 W01	5740	30 D	1+	3						
	10	0715	0750 D	0725 U	N16 E01	5740	35 D	1+	3	0725	10.10	10.40		78	
	10	0725 E	0745		N15 E00	5740	20 D	1	3	0735	4.50	6.00			
	10	0734 E	0750		N14 E02	5740	16 D	1	2						
	10	0739	0816 D		S10 W15	5744	37 D	2	3						
{ WENDEL PIRCULI ABASTUMANI CAPRI S CAPRI G ZURICH ONDREJOV	10	0739	0840		S10 W15	5744	61	1+	3	0750	4.59	4.97		92	
	10	0740 E	0811 D	0754 U	S10 W16	5744	31 D	1	3	0757	3.62	3.90		76	
	10	0743	0826		S09 W15	5744	43	1	3	0757	3.50	5.00			
	10	0744 E	0820		S10 W15	5744	36 D	1+	2						
	10	0746 E	0807 D		S12 W18	5744	21 D	1	1	0746	4.00	4.00	2.10		

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE JULY 1960	OBSERVED TIME		LOCATION		DURA- TION — MINUTES	IM- POP- TANCE	OBS. COND.	TIME — U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MGRATH PLACE REGION					MEAS. AREA Sq. Degs.	COBR. AREA Sq. Degs.	MAX. WIDTH H _z	
KRAMSNA	10 0750	0819	0754	S09 W15	5744	29	1		1.82	3.00		90	
	10 0806	0816	D	N17 E80	5749	10 D	1						
PIRCULI	10 0928	1107	0944	N15 W00	5740	99	1+	3	0944	5.05	5.18	77	
	10 0937	1030		N15 W01	5740	53	1		1000	3.00	3.10		
CAPRI S	10 0951	E	1025	N13 E00	5740	34 D	1	2		3.00	3.00		
	10 1429	E	1510	N13 W02	5740	41 D	1	1		3.00	4.50		
CAPRI S	10 1435	E	1505	N13 W03	5740	30 D	1	1	1452	4.50	4.50		
	10 1532	E	1642	N17 W06	5740	70	1	2	1615	3.30	3.40	16	
CAPRI G	10 1539	E	1620	N15 W03	5740	41 D	1	2		3.84	5.00		
	10 1858	E	1922	N12 W05	5740	24	1	2		1.50			
HAWAII	10 1858	E	1908	N14 W04	5740	40 D	1	2	1908	2.00		20	
	10 2307	E	2345	S19 E17	5741	38	1	2	2320	3.05		18	
LOCKHEED	10 2310	E	2332	S15 E13	5741	22 D	1	2	2320	2.00			
	10 2312	E	2340	S15 E12	5741	28	1+	3					
HAWAII	11 0030	E	0038	S16 E11	5741	8 D	1	2	0030	1.30	5.58	56	
	11 0700	E	0755	S18 W70	5734	55 D	1	2	0725	1.84	3.00		
WENDEL	11 0716	E	0755	S13 W65	5734	39 D	1			3.68	4.41	80	
	11 0701	E	0748	S09 W29	5744	44	1+		0717		3.00		
WENDEL	11 0710	E	0748	S10 W30	5744	38 D	1	2		4.00	4.00		
	11 0714	E	0745	S10 W28	5744	31 D	1	2		7.00			
CAPRI G	11 0958	E	1200	N14 W36	5737	122 D	1+	4	1028	9.00	11.00		
	11 1009	E	1106	N16 W35	5737	111 D	1+	3	1034	5.00	5.50		
CAPRI S	11 1001	E	1106	N13 W14	5740	□	2	2		2.00	2.00		
	11 1008	E	1040	N13 W14	5740	18	1	4	1028	5.00	5.00		
UCCLE	11 1022	E	1040	N16 W27	5740	13 D	1	1	1157	2.00	2.40		
	11 1150	E	1203	N15 W14	5740	51 D	1	2	1335	2.90	3.10	2.50	
STOCKHOLM	11 1330	E	1421	N17 W11	5740	20 D	1	3	1336	3.00	3.10		
	11 1335	E	1355	N14 W15	5740	36	1	3	1342	2.00	2.10		
CAPRI S	11 1336	E	1412	S18 E13	5741	6 D	1+	2	1356	4.00	4.80		
	11 1355	E	1401	S16 E10	5741	8 D	1	2		2.00	2.00		
STOCKHOLM	11 1355	E	1403	S18 E13	5741	14 D	1	3	1358	3.00	3.30		
	11 1356	E	1410	N14 E62	5749	8	1	3	1830	3.00	2.50		
CAPRI S	11 1828	E	1836	N17 W24	5740	20	1	1	0906	3.21	3.63	68	
	12 0900	E	0920	N16 W27	5740	2 D	1	1	1350	2.60		70	
PIRCULI	12 1348	E	1350	N14 W30	5740	34 D	1	1	1653	1.80	1.80		SLOW S-SWF
	12 1648	E	1722	N18 W28	5740	21	1	2	1658	3.40	3.90		
HUANCAYO	12 1651	E	1712	N14 W31	5740	47 D	1+	1	2038	3.50	3.50		S-SWF
	12 2028	E	2115	N16 W29	5740	22	2+	2	2037	12.20	14.20		S-SWF
MCMATH	12 2032	E	2054	N13 W31	5740	32 D	1	2	2354	1.20			
	12 2338	E	0010	N16 W40	5740	21 D	1	2	1822	2.50	3.30		
HUANCAYO	13 1820	E	1841	S04 E75	5756	18 D	1	2		1.80	3.20		
	14 0532	E	0550	N18 W50	5740	4 D	1	3	0949	1.80	7.00		
CAPRI G	14 0947	E	0951	N13 W51	5740	57 D	1+			6.00	10.00		
	14 1054	E	1151	N19 W48	5740	49 D	2	3	1105	2.10	3.80		
WENDEL	14 1056	E	1145	N14 W54	5740	33	1+	3	1059	14.96	22.90		
	14 1057	E	1130			52	2	3	1108				
STOCKHOLM	14 1057	E	1149										
	14 1057	E	1149										

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA-TION - MINUTES	IM-POR-TANCE	OBS. COND.	TIME - U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.					MONTH PLAGE REGION	MEAS. AREA Sq. Deg.	COOR. AREA Sq. Deg.	
MEUDON CAPRI G UCCLE R O HERST SCHAUINS KIEV NEDERHORST CAPRI G HAWAII {SAC PEAK	14	1058	1137		N16 W50	5740	39	1+	2		8.00	6.00		
	14	1100 E	1145		N14 W53	5740	45 D	2			12.00			
	14	1101 E	1230 D		N15 W54	5740	89 D	2	4	1120	1.40		72	
	14	1102 E	1113 D	1102 U	N16 W48	5740	11 D	1	1	1102	8.00			
	14	1104 E	1130		N15 W54	5740	26 D	2	1		2.60		123	
	14	1119 E	1129. D		N16 W58	5740	10 D	1+	1	1129	4.00			
	14	1110 E	1113 D		N15 W15	5746	3 D	2	1		2.00			
	14	1438 E	1450		N19 E31	5749	12 D	1	2	2138	2.16		17	
	14	2126	2200	2138	N13 W90	5737	34	1+	3		1.60			
	14	2148 E	2152 D	2148 U	N14 W90	5737	4 D	1	1		1.90			
	15	0002 E	0006	0004	N25 E26	5749	4 D	1	3	0004	4.31	10.00		
	15	0048 E	0100 D		N21 E23	5749	12 D	1+	2	0048	3.22			
	15	0515 E	0600	0529	N14 W65	5740	45	1	2	0529	5.19			
	15	0515 E	0602		N17 W63	5740	47 D	2	2		6.92			
15	0524 E	0600	0542	N11 W68	5740	36	1+	2	0542	1.82		110	Slow S-SWF	
15	0526 E	0555 D	0542	N16 W63	5740	29 D	2+	1	0543	2.00	2.00	200		
15	0533 E	0556 D		N14 W61	5740	23 D	1+	3	0544	.50				
15	0534 E	0546 D	0544	N18 W64	5740	12 D	1+	1		4.62		53		
16	0958 E	1010	1001 U	N25 E85	5763	12 D	1	3	1000	3.00				
16	0959. E	1011 D		N24 E87	5763	12 D	1+	1		2.80				
16	1003 E	1006		N26 E82	5763	3 D	1	2	1003	5.00				
16	1828 E	1836 D	1833	N12 E68	5766	8 D	1	3	1833					
17	0811 E	0828		S12 W74	5741	17 D	1	1		1.00				
17	0827 E	0900 D		N22 E78	5763	33 D	1	3	0836	3.50				
17	0835 E			N18 E77	5763	□	1	3		3.12		78		
17	0837 E	0843		N18 E71	5763	6 D	1+	2		2.83		16		
18	1040	1055		N17 E60	5763	15	1	2		1.98		68		
18	1040	1102	1044	N18 E62	5763	22	1+	3		3.40		30		
18	1041 E	1100		N20 E64	5763	19 D	2	2	1045	4.25		92		
18	1046 E			N18 E63	5763	□	1+	1	1046	1.00				
18	2238	2300	2244	N04 W53	5759	22	1	2		3.22		55		
18	2240	2304 D		N03 W54	5759	24 D	1	2	2256	4.23	5.00			
18	2251 E	2257 D		N03 W56	5759	6	1	1	2251	3.69		98		
19	0013	0120	0045	N24 W28	5749	67	1+	1	0045	2.06		76		
19	0014	0126 D	0051	N23 W29	5749	72 D	1+	1		2.37		120		
19	0052 E	0108 D		N23 W27	5749	16 D	1	2	0052	4.89		118		
19	0318	0340	0323	N07 W56	5759	22	1	2	0323	3.08		98	S-SWF	
19	0316	0559	0448	N22 W30	5749	163	1+	2	0448	3.08		98		
19	0318	0550	0450	N22 W29	5749	152	2	2		2.73				
19	0319	0456 D	0456	N22 W30	5749	97 D	2+	2	0456	2.58				
19	0321	0458 D	0458	N23 W26	5749	97 D	1	1		2.54				
19	0342	0423	0407	N21 W27	5749	41	1	1	0357	3.29				
19	0357 E	0418		N18 W31	5749	21 D	1	1	0357	3.08				
19	0437 E	0515		N21 W26	5749	38 D	1	1	0455	2.73				
19	0437 E	0515		N18 W31	5749	38 D	1	1		2.58				
19	0447 E	0454 D	0454 D	N22 W30	5749	7 D	1+	1	0447	1.60				

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE JULY 1960	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. WIDTH H _z	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT. — MER. DIST.	MAGNITH PLACE REGION				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
{ KIEV WENDEL ISTANBUL WENDEL ISTANBUL PIRCULI CAPRI G WENDEL SAC PEAK CAPRI S CAPRI G SAC PEAK LOCKHEED HAWAII MCMATH HUANCAYO	19	0508 E	0550 D	N21 W29	5749	42 D	2	1	6.23	7.00		86	
	19	0530 E	0553	N21 W31	5749	23 D	1+						
	19	0810	0830	N25 W29	5749	20	1						
	19	0821	0844	N11 E62	5765	23	1						
	19	0822	0830 D	N11 E63	5765	8 D	1						
	19	0824 E	0843 D	N11 E61	5765	19 D	1	2	1.01	4.00		64	
	19	1145 E	1225	N03 W59	5759	40 D	1	2					
	19	1256	1310 D	N21 W31	5749	14 D	1	2					
	19	1350	1432	N22 W33	5749	42	1	2	3.32	2.50		15	
	19	1350	1503	N20 W31	5749	73	1	3	2.00	6.00			
	19	1356 E	1442	N20 W31	5749	46 D	1+	2					
	19	1816 U	1822 D	N18 W41	5749	6 D	1	3	2.18	3.00		20	
	19	1817	1833	N19 W42	5749	16	1	2	2.20	2.84		100	
	19	1818	1828 D	N16 W42	5749	10 D	1	1	1.822	1.80		169	
	19	1818 E	1835 D	N18 W42	5749	17 D	1+	2	1.10	4.50			S-SWF
	19	1821	1833 D	N19 W41	5749	12 D	1	2	1.90	2.60	2.60		
	20	0526	0552	N22 W43	5749	27	1	1	2.01	3.00			
	20	0528	0542	N21 W45	5749	14	1	1	2.06	2.84			
	20	0530 E	0540 D	N20 W48	5749	10 D	1	1	0.530	2.00	2.00		
20	0525 E	0638	N12 E57	5765	13	2	1	3.60	7.00	1.80			
20	0525 E	0658	N10 E55	5765	33 D	1	2	3.60	4.00	5.45			
20	0528 E		N14 E58	5765	□	1	2	3.43	6.30				
20	1020	1116 D	N21 W46	5749	56 D	2	2	1020	8.00				
20	1020 E	1120	N22 W44	5749	60 D	2	3	1033	9.70				
20	1021	1140	N20 W47	5749	79	2	2	1026	12.80	3.40			
20	1035 E		N21 W45	5749	□	2	1	13.40	10.00				
21	1201	1232	S06 E52	5767	31	1	1	4.00	4.00				
21	1637	1645	N19 W63	5749	8	1	3	1637	2.00				
21	1931 E	1957	N18 W77	5749	26 D	1+	1	1935	3.00				
22	0054 E	0116 D	N14 W48	5752	22 D	1+	1	0054	2.40				
22	0444 E	0451	S11 E19	5764	7 D	1	1	0444	4.11	1.85	120		
22	0512	0600 D	N22 E07	5763	48 D	1	2	0524	2.00				
22	0514 E	0541 D	N19 E08	5763	27 D	1	1	0526	2.06	1.44	102		
22	0602	0620	S11 E18	5764	18	1	3	2.72	2.96		68		
22	0604 E	0624	S11 E15	5764	20 D	1+	2						
22	0604 E	0625 D	S14 E14	5764	21 D	1	2	0606	1.82	1.65	88		
22	0605 E	0615	S11 E18	5764	10 D	1	1	0611	2.06		102		
22	0639	0654	S04 E43	5767	15	1	2						
22	0759	0831	N18 W80	5749	32	2	2						
22	0802 E	0824 D	N16 W86	5749	22 D	1+	3	.90	6.00	6.51	69		
22	0803	0813	N19 W76	5749	10	2	3						
22	0823 E	0835 D	N16 W80	5749	12 D	1	1	0823	3.30	3.30			
22	0823 E	0835 D	N20 W72	5749	12 D	1	3	0823	1.20	2.80			
22	0900	1110	N11 W09	5766	130	1	2						
22	0901	1030 D	N13 W02	5766	89 D	1	2	0922	2.50	2.50			
22	0915 E	0938 D	N13 W06	5766	23 D	1	1	0925	6.96	6.70			
22	0906	0913	S06 E39	5767	7	1	2	0906	2.00	2.00			
22	0907	0914	S10 E39	5767	7	1	2						

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE JULY 1960	OBSERVED TIME		MAX. PHASE	LOCATION		DURA- TION MINUTES	IM- POR- TANCE	OBS. COND.	TIME UT	MEASUREMENTS		MAX. WIDTH Hr	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT	
		START	END		APPROX. LAT.	APPROX. MER. DIST.					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.				
{ CAPRI S MCMATH STOCKHOLM CAPRI G UCCLE WENDEL CAPRI G CAPRI G {HUANCAYO {MCMATH {HUANCAYO {MCMATH {HUANCAYO HUANCAYO	22	1242	1326		N24 W73	5749	44	1	3	1303	1.50	4.80			Slow S-SWF	
	22	1245	1332	D	N22 W80	5749	47 D	2	1	1256		7.40				
	22	1247	1312	D	N22 W69	5749	25 D	1	1	1249	1.50	3.90				
	22	1254	1325	D	N22 W73	5749	31 D	1+	2		4.00	4.00				
	22	1304	1323	D	N24 W74	5749	19 D	1	2	1308	4.00	8.00				
	22	1308	1355	D	N22 W71	5749	27 D	1+	4		7.00	7.00				
	22	1406	1425	D	S11 E11	5764	19 D	2	2		4.00	4.00				
	22	1622	1635	D	S05 E37	5767	13 D	1	2	1629	1.90	2.40	2.50			
	22	1625	1640	D	S02 E38	5767	15	1	2	1725	2.00	2.00				
	22	1722	1743		N14 W55	5752	21	1	3	1725	1.80	2.10				
	22	1723	1736		N13 W55	5752	13	1	2	1725	1.80	2.10				
	22	1831	1844		N23 W79	5749	13	1+	3	1832	4.00	4.00				
	22	1833	1844		N21 W76	5749	11	1	2	1836	1.00	3.50	3.00			
	22	2107	2112		N19 W78	5749	5 D	1	2	2109	.30	1.20	6.30			
	PIRCULI	23	0742	0800	D	N09 E10	5765	18 D	1	1	1.84			72		
		23	0830	0852	D	N09 E06	5765	22 D	1	1	5.05			75		
		23	0833	0840	D	S09 E37	5767	7 D	1	1	1.19			70		
		23	1020	1030	D	S11 E36	5767	10 D	1	2		4.00				
		23	1105	1124	D	N17 W90	5749	19 D	1	2		5.00				
		23	1227	1242		N15 W68	5752	22	2	3	1229	2.50	6.10			
		23	1231	1252		N13 W65	5752	21 D	2	3	1235	2.70	4.00			
		23	1232	1248		N13 W71	5752	16 D	1+	2		2.00		10		
23		1704	1915		N11 E09	5765	131	1	2	1714	2.70	2.00				
23		1705	1758	D	N10 E08	5765	53 D	1	2	1713	2.40	2.50				
TASHKENT KARKOV SCHAUINS PIRCULI ISTANBUL PIRCULI SAC PEAK CAPRI S CAPRI G MCMATH LOCKHEED CAPRI G HAWAII	23	1808	1828		N11 E14	5765	48 D	1	2	1727	2.40	2.50			S-SWF	
	23	1808	1828		N04 E87	5775	20	1+	2	1727	2.40	2.50				
	23	2258	2322		N09 W04	5765	24	1	2	2302	1.00	4.00				
	24	0508	0622		S08 E25	5767	74	1	2	0538	3.03	3.00				
	24	0547	0645	D	N08 W05	5765	58 D	1	2	0558	2.94	3.00				
	24	0555	0636		N07 W06	5765	41 D	1	2	0606	2.91	2.80	1.70			
	24	0605	0613		N07 W05	5765	8 D	1	2							
	24	0620	0705		N08 W06	5765	45 D	1+	2		7.82		80			
	24	0620	0841		N08 W05	5765	141 D	1+	2							
	24	0640	0705	D	N07 E89	5775	25 D	1+	2		1.29		78			
CAPRI G KARKOV HAWAII HAWAII TASHKENT ARCETRI	24	1408	1518		N10 W10	5765	70	1	3	1444	2.60	5.50			Slow S-SWF	
	24	1410	1512		N08 W07	5765	62	2	3		5.50	5.50				
	24	1422	1505		N08 W13	5765	43	2	2		6.00	6.00				
	24	1424	1515	D	N09 W10	5765	51 D	1	2	1432	2.00	2.00				
	24	1450	1510	U	N08 W12	5765	20 D	1	1	1450	2.50	3.00		10		
	24	1456	1516		S07 E13	5767	20	1	2		1.40					
	24	2150	2248	D	N08 W13	5765	58 D	1	2	2214	1.40	3.00				
	25	0933	0944		S09 W31	5764	11	1	2	0935	1.14	3.00	1.80			
	25	0935	0946	D	N09 W22	5765	11 D	1	2	0935	1.14	1.20				
	25	2124	2206		N07 W28	5765	42	1	3	2126	1.50	4.00				
HAWAII TASHKENT ARCETRI	26	0054	0114		N07 W30	5765	20	1	3	0056	1.00	4.00			Slow S-SWF	
	26	0320	0502		N09 W31	5765	102	1	2	0333	3.40	2.10				
	26	0840	0842	D	N06 W90	5768	2 D	1	3	0842	.40	2.10				

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE JULY 1960	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS			MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END		LAT.	MER. DIST.	MCMATH PLACE REGION				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Rg		
{ KHARKOV CAPRI S KHARKOV CAPRI G	26	1109 E	1121 D		N10 W37		5765	12 D	1	2	2.29	2.70	1.40	S-SWF	
	26	1146 E	1225		N03 E53		5775	39 D	1	3	1.50	2.60	1.80		
	26	1147 E	1239		N06 E52		5775	52	1+	2	5.71	9.00			
	26	1151 E	1215		N04 E52		5775	24 D	1	2	4.15	4.00			
	26	1702 E	1732	1708	N03 E50		5775	30	1+	2	7.00	7.00			
	26	1705 E	1723 D		N04 E50		5775	18 D	1+	2	1.70	2.70			
{ WENDEL HUANCAYO HAWAII	26	1707 E	1728	1711	N00 E52		5775	21	1	2	1.40				
	26	2220	2232 D	2228	N16 E43		5775	12 D	1	2					
TASHKENT	27	0245	0254	0249	N05 E40		5775	9	1	2	2.26	3.00			
	27	0318	0326		N04 E40		5775	8 D	1	1	1.03	1.35	1.86		
ISTANBUL	27	0722	0733		N06 E43		5775	11	1	2					
	27	0743	0759		N09 W50		5765	16	1	2					
{ ISTANBUL CAPRI G	27	0825	0830 D		N06 E43		5775	5 D	1	2		4.00			
	27	0829	0838		N04 E43		5775	9 D	1	1	4.59	3.60	72		
{ PIRGULI MCNATH	27	0842	0842	0834	N05 E43		5775	10	1+	1					
	27	1122	1216	1135	N12 W36		5765	54	1+	3			1.80		
{ ONDREJOV CAPRI G	27	1126	1232		N10 W36		5765	56	1	3					
	27	1133	1220		N12 W37		5765	47 D	1+	2					
ISTANBUL	28	0710	0730		N06 E31		5775	20	1	2					
	28	0840	0852		S10 W78		5764	12	1	2		4.00			
{ WENDEL CAPRI G	28	1240	1253 D		N11 E31		5775	13 D	1	2		3.00			
	28	1243	1252		N13 E28		5775	9 D	1	2		4.00			
{ CAPRI G SAC PEAK	28	1557	1652		N06 E26		5775	55	1	2					
	28	1632	1710	1636	S09 W89		5764	38	1	2	3.95	3.00	16		
{ CAPRI G PIRCULI	28	1635	1700 D		S10 W82		5764	25 D	1	2					
	29	0637	0647 D	0637 U	N09 E13		5775	10 D	1	2	2.11		54		
{ PIRGULI PIRCULI	29	0647	0714 D	0651 U	S08 W90		5764	27 D	1	2	1.10		52		
	29	0809	0845 D	0814 U	S08 W90		5764	36 D	1+	2	1.46		63		
{ ARCTRI CAPRI G	29	0813	0852 D		S08 W90		5764	39 D	1	3		2.60			
	29	1215	1247		N04 E10		5775	32	2	2		6.00			
{ MCNATH CAPRI S	29	1215	1256 D	1228	N05 E14		5775	41 D	1+	2		4.60			
	29	1216	1247		N04 E12		5775	31	1	3	4.00	4.00			
{ WENDEL KIEV	29	1217	1244		N06 E10		5775	27	1+	2		7.00			
	29	1223	1250 D	1232	N04 E13		5775	27 D	1+	1	4.15		70		
KRASNAYA	30	0644	0714	0655	N10 E03		5775	30	1+	2	5.45	3.00	85		
	30	0644	0716		N08 E04		5775	32	1	2		3.00			
{ WENDEL WENDEL	30	0644	0718		N10 E09		5775	34	1	2		3.00			
	30	0649	0750 D	0740 U	N08 E05		5775	61 D	1+	3	5.97		73		
{ PIRGULI ZURICH	30	0651	0705		N09 E05		5775	14 D	1	2		4.00			
	30	1112	1138		N08 E05		5775	26	1	2		3.00			
{ CAPRI G KIEV	30	1215	1240 D	1217	N08 E04		5775	25 D	1	1	3.12	4.00	70		
	30	1223	1239		N08 E03		5775	16 D	1	2		4.00			
{ CAPRI G WENDEL	30	1225	1246 D		N09 E03		5775	21 D	1+	2		4.00			
	30	1359	1436		N09 E02		5775	37	1+	2		6.00			
{ KIEV ONDREJOV	30	1404	1407 D	1407	N07 E03		5775	3 D	1	2		5.00			
	30	1404	1440		N06 E01		5775	36	1	2	3.12		70		
{ CAPRI G	30	1407	1431		N08 E02		5775	24	1	2		5.00			
	30	1407	1431		N08 E02		5775	24	1	2		5.00			

SOLAR FLARES

JULY 1960

OBSERVATORY	DATE JULY 1960	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION - MINUTES	IM- POR- TANCE	OBS. COND.	TIME - U T	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	MAX. PHASE	APPROX.	LAT.					MER. DIST.	MONTH PLACE REGION	MEAS. AREA Sq. Deg.	
{ MITAKA	31	0217	0227	0219	N10 W11	5775	10	1	1	0219	1.54	1.54	1.64	110
	31	0218	0237 D	0230	N08 W07	5775	19 D	1	1	0230	2.10	2.10	2.49	20
{ MITAKA	31	0226 E	0253	0239	N10 W06	5775	27 D	2	1	0226	5.14	5.24	2.49	183
	31	0323 E	0330	0500	N10 W06	5775	7 D	1	1	0326	3.09	3.15	1.44	120
{ MITAKA	31	0458	0504	0500	N10 W12	5775	6	1	1	0500	3.09	3.09	2.54	122
	31	0500 E	0510	1111	N10 W15	5775	10 D	1	3	0501	2.30	2.30	2.80	
ONDREJOV	31	1045	1111		N07 W17	5775	26	1	3	1046				
WENDEL	31	1150 E	1206 D		N10 W16	5775	16 D	1	2		3.00	3.00		
CAPRI G	31	1405 E	1412	1650	N04 W16	5775	7 D	1	3	1650	3.00	2.00		
MCMATH	31	1642	1700	2228	N24 W23	5774	18	1	2					
VOROSHILOV	31	2226	2242	2228	N24 W64	5779	16	1	2		1.00			76

These flare reports are addenda to the July 1960 flares published in CRPL-F 192 Part B, August 1960.

COMMERCE - STANFORDS - BOLDER

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

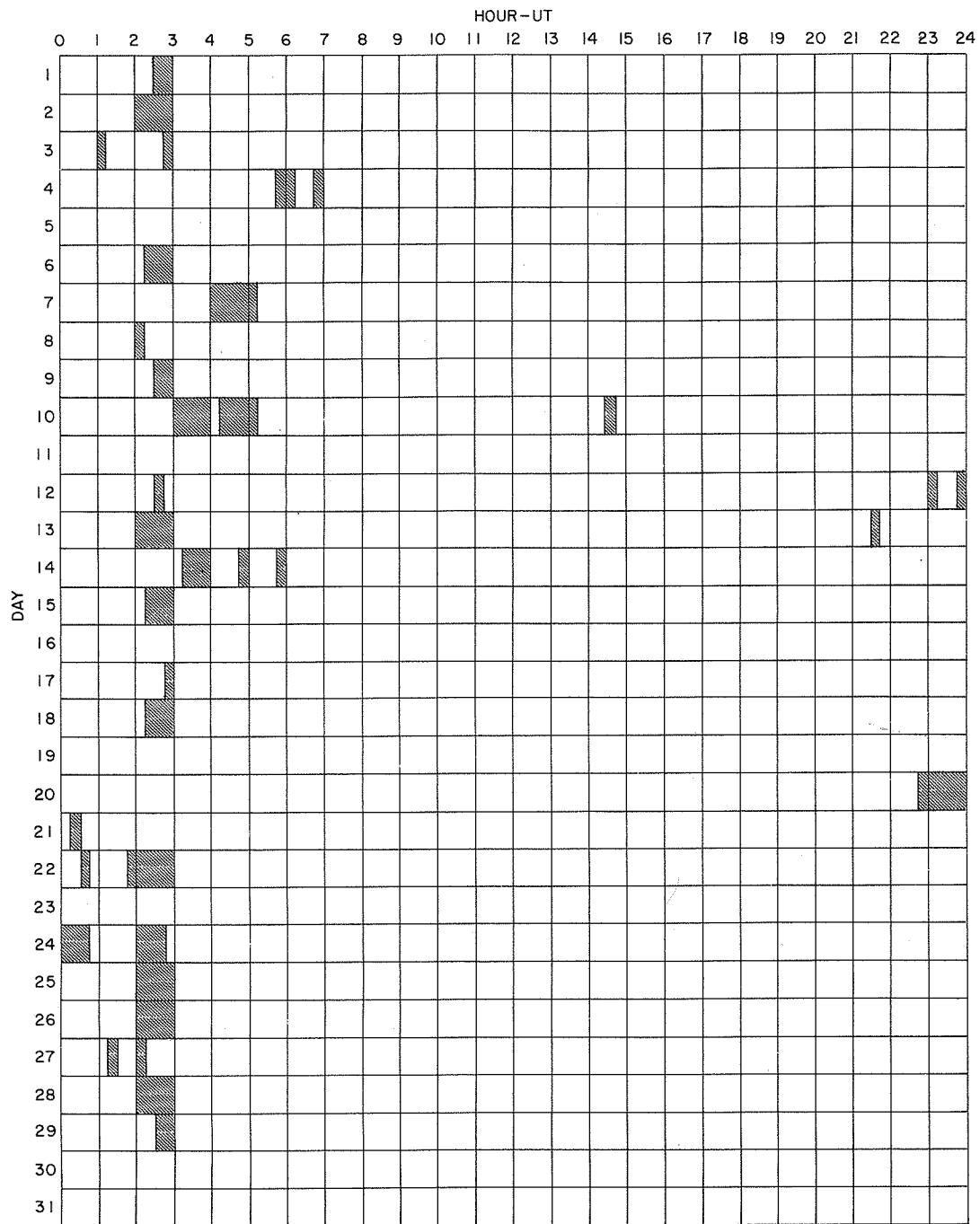
MOSCOW-G MOSCOW - GAIISH
 R O EDIN ROYAL OBSERVATORY, EDINBURGH
 R O HERST GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
 SAC PEAK SACRAMENTO PEAK
 SCHAUTINS SCHAUTINSLAND
 USNRL UNITED STATES NAVAL RESEARCH LABORATORY

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40) NOT PERCENT OF CONTINUOUS SPECTRUM.
 E - LESS THAN & - PLUS
 D - GREATER THAN - - MINUS
 U - APPROXIMATE □ - NOT REPORTED

LOCKHEED OBSERVATIONS: ALL VALUES IN THE MAXIMUM INTENSITY COLUMN ARE ARBITRARY UNITS ON A SCALE OF 10 TO 40 - NOT PERCENT OF THE CONTINUOUS SPECTRUM.

INTERVALS OF NO FLARE PATROL OBSERVATIONS

JULY 1960



COMMERCE - STANDARDS - BOULDER

Stations Include:

- | | | | |
|--------------------|-----------------|-----------------------------|-----------------|
| Alma Ata | Istanbul | Meudon | Sacramento Peak |
| Anacapri (Swedish) | Kharkov | Moscow-G | Simeiz |
| Arcetri | Kiev GAO | Nizamia | Tashkent |
| Capetown | Kodaikanal | Ondrejov | Uccle |
| Dunsink | Krasnaya Pakhra | Pirculi | Voroshilov |
| Hawaii | Lockheed | Royal Greenwich Observatory | |
| Huancayo | McMath | Herstmonceux | |

SOLAR FLARES

JUNE 1960

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	TIME		MEASUREMENTS		PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	McMATH PLAGE REGION				MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GOOD HOPE	JUNE 01 1960	0823	1318 D	N30 E50		5680	295 D	3+		0900	27.00	46.00		Slow S-SWF
GOOD+HOPE	03	1105	1137	S11 W06		5679	32	1		1110	3.20	3.30		
GOOD HOPE	09	1011	1032	S11 E84		5695	21	1		1014	.70			
GOOD HOPE	10	0713 E	0737	N32 W63		5680	24 D	2		0713	3.30	8.20		Slow S-SWF
GOOD HOPE	10	0959 E	1011 D	N33 W63		5680	12 D	2		1003	3.40	8.40		Slow S-SWF
GOOD HOPE	10	1003 E	1011 D	N09 W90		5687	8 D	1		1003	.30			Slow S-SWF
GOOD HOPE	10	1047	1107	N09 W90		5687	20	1		1048	.30			
GOOD HOPE	10	1158	1219	N09 W90		5687	21	1		1201	.60			
GOOD HOPE	10	1212	1248	S18 W90		5679	36	1		1232	1.00			
GOOD HOPE	14	1043	1051 D	N13 W28		5693	8 D	1		1049	2.10	2.40		
GOOD HOPE	16	0846 E	0916 D	N10 E63		5706	30 D	1		0846	1.10	2.60		
GOOD HOPE	27	0757	0826	N10 E25		5720	29	1		0800	3.80	4.30		
GOOD HOPE	27	1017	1042	N29 E62		5724	25	2		1030	2.20	5.40		
GOOD HOPE	27	1149	1216	N12 W87		5706	27	1		1152	1.00			S-SWF
GOOD HOPE	28	0716 E	0731	S16 E31		5725	15 D	1		0717	2.50	3.10		
GOOD HOPE	28	0815	0906	N17 W90		5706	51	1		0850	1.00			
GOOD HOPE	28	1215	1234	N22 W37		5713	19	1		1220	2.30	3.00		
GOOD HOPE	29	0716 E	0757	N29 E45		5724	41 D	1		0722	2.80	4.30		
GOOD HOPE	29	1044	1058	N29 E41		5724	14	1		1045	2.40	3.50		
GOOD HOPE	30	1024	1055 D	N20 W65		5713	31 D	1		1034	1.60	3.90		S-SWF

COMMERCE - STANDARDS - BOULDER

These flare reports are addenda to the June 1960 flares published in CRPL-F 191 Part B, July 1960.

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

SEPTEMBER 1960

Sept. 1960	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 194
1	1455	1523	S-SWF	3	1-	<u>BE</u> , <u>MC</u>	1449E
1	2042	2057	S-SWF	5	1-	<u>LA</u> , <u>MC</u> , <u>PR</u> , <u>WS</u>	2038
2	0240	0323	S-SWF	5	2-	<u>AD</u> , <u>CA</u> , <u>OK</u> , <u>TO</u> , <u>CW++</u>	0250E
2	0540	0646	Slow S-SWF	1	2	<u>OK</u>	*
2	0707	0830	S-SWF	5	1+	<u>OK</u> , <u>PU</u>	0706E
2	2300	2350	S-SWF	5	2+	<u>AD</u> , <u>AN</u> , <u>BO</u> , <u>LA</u> , <u>MC</u> , <u>NZ</u> , <u>OK</u> , <u>TO</u> , <u>WS</u>	2234
3	0045	0251	Slow S-SWF	5	3+	<u>AD</u> , <u>AN</u> , <u>LA</u> , <u>OK</u> , <u>TO</u> , <u>CW++</u>	0037
3	0730	0800	Slow S-SWF	1	1	<u>OK</u>	0725E
3	1605	1715	G-SWF	5	2	<u>BE</u> , <u>BO</u> , <u>FM</u> , <u>HU</u> , <u>MC</u> , <u>PR</u> , <u>WS</u>	
4	0003	0140	Slow S-SWF	5	3	<u>AD</u> , <u>AN</u> , <u>NZ</u> , <u>OK</u> , <u>TO</u>	
4	1100	1127	S-SWF	1	2	<u>TO</u>	1051E
4	1630	1650	S-SWF	5	1	<u>BE</u> , <u>HU</u> , <u>MC</u> , <u>PR</u> , <u>WS</u>	1624
5	0208	0240	S-SWF	5	1	<u>AD</u> , <u>OK</u> , <u>TO</u>	*
5	0300	0328	S-SWF	5	1+	<u>NZ</u> , <u>TO</u>	*
7	1230	1305	S-SWF	3	1-	<u>FM</u> , <u>MC</u>	
7	1307	1400	G-SWF	5	1+	<u>DA</u> , <u>FM</u> , <u>HU</u> , <u>PR</u>	
7	2310	2340	S-SWF	5	2	<u>AD</u> , <u>AN</u> , <u>LA</u> , <u>NZ</u> , <u>OK</u> , <u>TO</u> , <u>WS</u>	2308
14	0814	0839	S-SWF	1	2	<u>PU</u>	
14	1006	1012	S-SWF	1	2	<u>NE</u>	
14	1620	1830	Slow S-SWF	5	3	<u>BE</u> , <u>BO</u> , <u>FM</u> , <u>HU</u> , <u>MC</u> , <u>PR</u> , <u>WS</u>	1722
15	0047	0130	Slow S-SWF	5	2	<u>AD</u> , <u>AN</u> , <u>OK</u> , <u>TO</u>	
15	1510	1555	Slow S-SWF	5	2+	<u>BE</u> , <u>BO</u> , <u>FM</u> , <u>HU</u> , <u>MC</u> , <u>PR</u> , <u>PU</u> , <u>WS</u>	
15	1913	1940	Slow S-SWF	4	1	<u>BE</u> , <u>MC</u> , <u>PR</u>	
15	1950	2025	G-SWF	5	2-	<u>AN</u> , <u>BE</u> , <u>HU</u> , <u>MC</u> , <u>PR</u> , <u>WS</u>	
16	1709	1850	S-SWF	5	3	<u>BE</u> , <u>BO</u> , <u>FM</u> , <u>HU</u> , <u>LA</u> , <u>MC</u> , <u>NE</u> , <u>PR</u> , <u>WS</u>	1710
18	1114	1124	S-SWF	1	1	<u>NE</u>	1114E
18	1824	1850	S-SWF	5	1+	<u>AN</u> , <u>BE</u> , <u>FM</u> , <u>HU</u> , <u>LA</u> , <u>MC</u> , <u>NE</u> , <u>PR</u> , <u>WS</u>	1815
19	0217	0238	S-SWF	5	1-	<u>AD</u> , <u>OK</u>	*
19	0703	0800	S-SWF	5	2+	<u>NE</u> , <u>OK</u> , <u>TO</u> , <u>CW++</u> , <u>CW***</u>	0707E
19	1333	1355	Slow S-SWF	5	2-	<u>BE</u> , <u>DA</u> , <u>HU</u> , <u>MC</u> , <u>PR</u>	*
20	0330	0344	S-SWF	5	1	<u>AD</u> , <u>AN</u> , <u>OK</u> , <u>TO</u>	*
21	0835	0844	S-SWF	3	2	<u>BR</u> , <u>NE</u> , <u>CW**</u>	0832E
26	0520	0721	Slow S-SWF	1	3+	<u>OK</u>	
26	1350	1425	Slow S-SWF	5	2	<u>BE</u> , <u>FM</u> , <u>HU</u> , <u>JU</u> , <u>MC</u> , <u>NE</u> , <u>PR</u> , <u>PU</u> , <u>WS</u>	1332
27	1703	1713	S-SWF	5	1-	<u>BE</u> , <u>FM</u> , <u>HU</u> , <u>MC</u> , <u>PR</u> , <u>WS</u>	1702
29	0504	0540	Slow S-SWF	1	1	<u>OK</u>	*

COMMERCE - STANDARDS - BOULDER

BR = Breisach G.F.R.
 CA = Canberra, Australia
 DA = Darmstadt, G.F.R.
 JU = Juhlesruh, G.D.R.
 LA = Los Angeles Calif.
 NE = Nederhorst den Berg, Netherlands
 NZ = New Zealand Post and Telegraph Department

PU = Prague Czechoslovakia
 TO = Hiraio Radio Wave Observatory Japan
 CW** = Cable and Wireless Somerton England
 CW*** = Cable and Wireless Brentwood England
 CW+ = Cable and Wireless Hong Kong
 CW++ = Cable and Wireless Singapore

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIc

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

SEPTEMBER 1960

Sept. 1960	CLASS			WIDE SPREAD INDEX	TIME (UNIVERSAL TIME) END			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.			
1			1	1	0015		0031		<u>HA</u> (Group of Bursts)
1			1	1	1322	1325	1329		<u>RE</u>
{1	1		1	1	2005	2009	2028	15	<u>HA</u>
{1			2	5	2030		0017		<u>BO</u> , <u>HA</u> , <u>MC</u> , <u>RE</u> (Noise Storm with strongest peaks at: 2045, 2103, 2112, 2142, 2202, 2232, 2246, and 2251.
{1	□	2	5	2042	2112	2147		10	<u>A1</u> , <u>A3</u> , <u>A9</u> , <u>A10</u> , <u>HA</u>
{1			5	2047U					<u>BO</u> , <u>HA</u> (Times and Maximum absorption obscured by bursts. 10% absorption at 2047).
1		1+	3	2130	2140U	2230			<u>A1</u> , <u>A10</u>
{2		1	5	0240	0255	0315			<u>A11</u> , <u>HA</u> , <u>HO</u> , <u>TY</u>
{2	2		1	0240	0247	0330		45	<u>HA</u>
2		1	1	0552	0558				<u>A11</u>
2		1	1	0939	0945	1006			<u>TY</u>
2			2	5	1742	1811	1850		<u>BO</u> , <u>MC</u> , <u>RE</u> , (Group of Bursts).
2		1+	5	2159	2211	2235			<u>A1</u> , <u>A3</u> , <u>TO</u>
{2	2		5	2302	2305	2340		50	<u>BO</u> , <u>HA</u> , <u>MC</u>
*{2		3	5	2303	2310	0000			<u>A2</u> , <u>BO</u> , <u>HA</u> , <u>TO</u>
{2			2	5	2306	2314			<u>BO</u> , <u>HA</u>
3			2	1	0007		0011		<u>HA</u>
{3	3		1	0103	0109	0230D		90	<u>HA</u>
{3		3	1	0103	0116	0230			<u>HA</u>
{3		2+	1	0652	0656U	0728			<u>A11</u>
{3		2+	1	0728	0737	0755D			<u>A11</u>
*3			1	1	1609		1650		<u>RE</u> , (Group of Bursts).
3			1	1	1728	1730	1733		<u>RE</u>
{4	2		1	0005	0020	0130D		50	<u>HA</u>
{4		3-	5	0007	0026	0140			<u>A11</u> , <u>HA</u>
*4		1	5	1242		1322			<u>A1</u> , <u>A3</u> , <u>A5</u> , <u>NE</u> , <u>PA</u>
4			1	5	1923	1926	1927		<u>BO</u> , <u>MC</u> , <u>RE</u>
{5	1		1	0206	0212	0235		10	<u>HA</u>
{5		1	1	0212	0227	0305			<u>HA</u>
5			5	1952		1957			<u>BO</u> , <u>HA</u> , <u>MC</u>
{5		2+	3	2113	2119	2155			<u>A1</u> , <u>A10</u>
{5			1	1	2114	2116			<u>HA</u>
{7	1		1	1	1248	1259	1307		<u>MC</u>
{7		1	5	1307		1352			<u>NE</u> , <u>PA</u>
{7			5	2310	2314	2330		50	<u>BO</u> , <u>HA</u>
{7	2		5	2310	2321	2350			<u>A3</u> , <u>A11</u> , <u>HA</u> , <u>HO</u> , <u>TY</u>
{7			5	2331		2333			<u>BO</u> , <u>HA</u>
8		3+	1	0357	0408	0457			<u>A11</u>
8		2	1	0726	0735	0820D			<u>A11</u>
8			5	2340		2342			<u>BO</u> , <u>HA</u>
10		1	1	2324	2339	2357			<u>TY</u>
*11		2	5	1204	1212	1242			<u>A5</u> , <u>DU</u>
11			1	1	2245	2249			<u>HA</u>
11			1	1	2300	2303			<u>HA</u>
12			1	4	1516	1518			<u>BO</u> , <u>MC</u>
12			1	4	1618	1624			<u>BO</u> , <u>MC</u>
12		2	4	1804		1815			<u>BO</u> , <u>MC</u>
12			1	4	1820	1840			<u>BO</u> , <u>MC</u> , (Group of Bursts).
13		1	1	1	1113				<u>NE</u>
{13		1+	3	1456	1505	1530			<u>A1</u> , <u>A3</u>
{13			4	1513		1518			<u>BO</u> , <u>MC</u>
13			4	1555		1602			<u>BO</u> , <u>MC</u>
13			1	5	2035	2037			<u>BO</u> , <u>HA</u>
14		1+	1	0003	0012	0042			<u>TY</u>
14		1	1	0516	0524	0551			<u>TY</u>
14		1	1	1006		1026			<u>NE</u>
14		2	5	1400		2300D			<u>BO</u> , <u>HA</u> , <u>MC</u> , (Noise Storm).

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

SEPTEMBER 1960

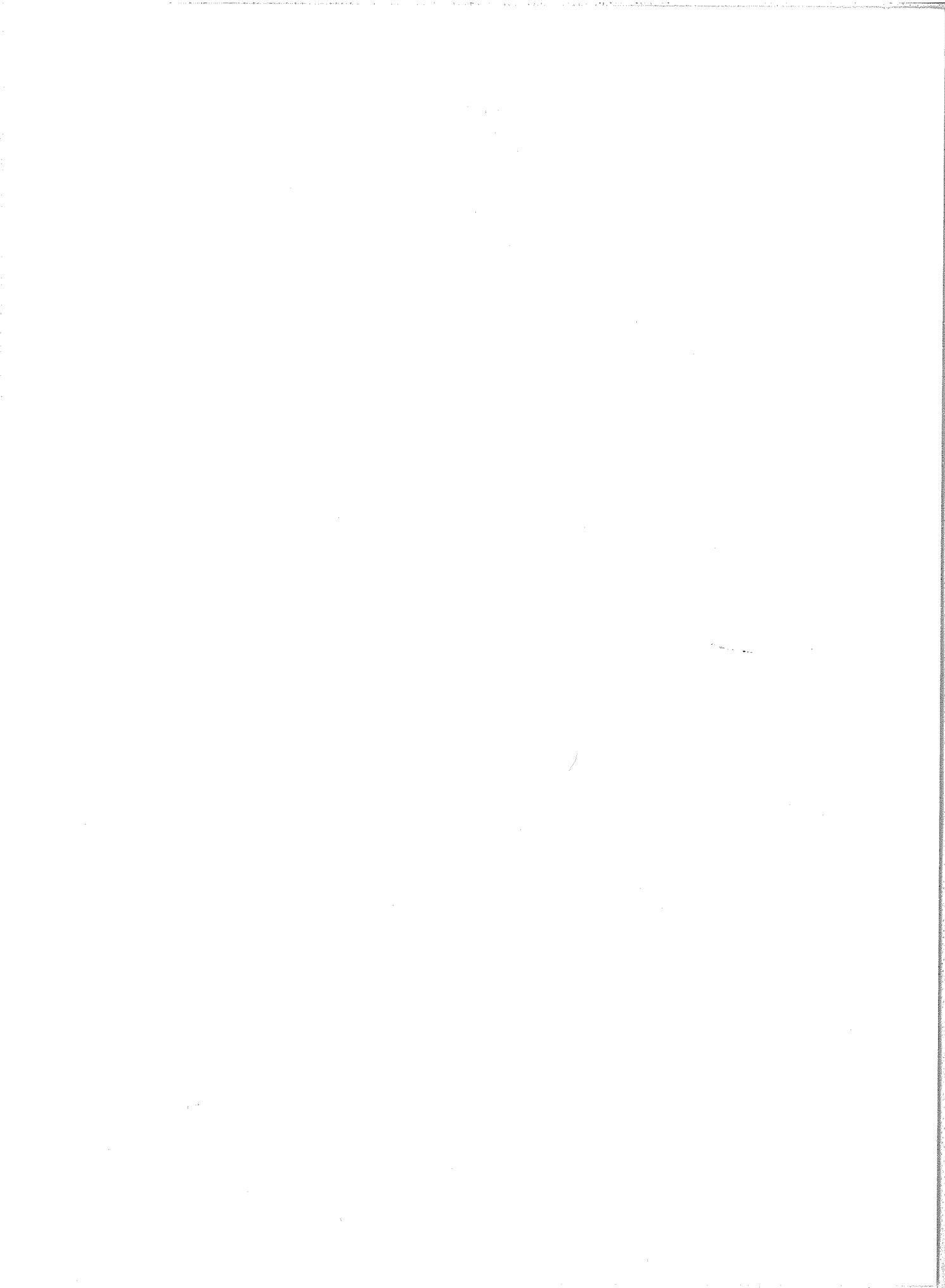
Sept. 1960	CLASS			WIDESPREAD INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
{ 14	2	1+		4	1648	1720	1815D	45	BO, MC
				3	1700	1708			Al, A3
{ 15	1	1+		1	0046	0055	0110	15	HA
{ 15				5	0049	0058	0116		HA, TY
*+ { 15	1	1+		3	1510	1520	1620		A3, A5
{ 15				1	1520	1528	1540		MC
15			1	5	2140		2153		BO, HA, (Group of Bursts).
16			3	4	1518		1525		BO, MC
{ 16	2	3+		5	1708	1718	1745D	40	A1, A3, A5, A10
				5	1710	1730	1746		BO, MC, RE
{ 16	2			3	1718	1724	1726		RE
{ 16				2-	5	1744		1835	
16			1	1	2116		2121		BO
18	2			1	1114		1144D		PA
18				2	5	1400		2200D	
18	2	1-		1	1404	1405	1434	35	DU
{ 18				5	1827	1830	1837		BO, HA, MC
*+ { 18	1			5	1827	1838	1915		A1, A3, A9, A10, BO, HA
{ 19				1	0705	0710	0742		TY
* 19	1+			3	1327	1343	1355D		A3, A5
19				1	1753		1757.		PO, MC
19			1	4	1825		1828		BO, MC
19			1	5	2023		2028		PO, HA
19			1	5	2039		2040		PO, HA
20	1			4	0333	0350	0400		A11, TY
20				1	4	1634		1636	
21	2			4	0834	0839	0935		A11, TY
21				1	1	2215	2219	2223	
21			1	1	2229		2232		RE
22			1	1	2001		2003		PO, HA
22			1-	1	2111	2114	2115		RE
24			1	5	2115	2118	2121		PO, MC, RE
25	2			3	1835	1854	1940		A1, A3, A10
25				1	4	2035		2040	
25	2			3	2116	2132	2210		A1, A3, A10
26				3	1	0534	0606	0827	
26			1-	1	1812	1814	1816		RE
26			1	5	1847		1852		BO, MC, RE
26			1	1	2148	2150	2152		RE
{ 27	1			5	1703	1706	1715	15	BO, MC, RE
* { 27				1	4	1703			1725
27			1	5	1816		1821		PO, MC, RE
{ 27	1			1	2052	2100	2124	10	A3
{ 27				5	2057	2100	2108		
28			1	5	2041		2044		PO, HA, MC
28			1	1	2351		2353		HA

COMMERCE - STANDARDS - BOULDER

* = Sudden Enhancement of Signal from 18 kc to (NBA - Panama Canal Zone) observed by A5.

+ = Sudden Phase Anomaly of 18 kc (NBA) at Boulder, Colorado. (equipment working part of Sept. 12, 13, 14, 16, 17, and 20, 1960).

Note: No usable record at Sacramento Peak for September 1960.



**SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES**

Ottawa OCTOBER 1960 2800 Mc

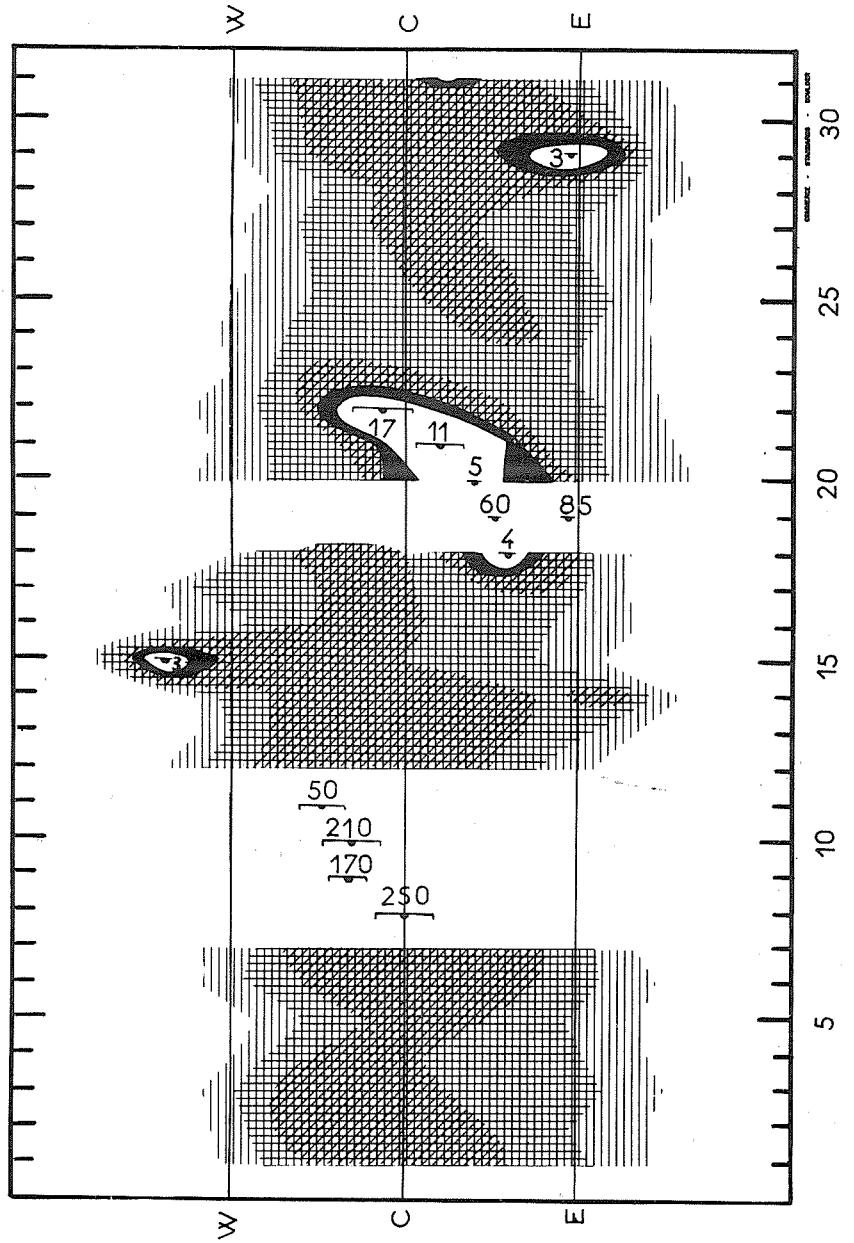
Oct. 1960	Type*	Start UT	Duration Hrs:mins	Maximum		Remarks
				Time UT	Peak Flux	
7	2 Simple 2	1949	3.5	1949.8	45	
8	2 Simple 2	1228.5	5	1229.5	10	
9	2 Simple 2	1157	15	1200	85	
	4 Post Increase		50		9	
9	2 Simple 2	1547.5	1	1547.8	10	
9	2 Simple 2	1639.7	2	1640.3	10	
9	2 Simple 2	2137	3	2137.3	11	
10	3 Simple 3 A	1420	1 10	1453	6	
	2 Simple 2	1428	2.5	1429.1	18	
10	3 Simple 3	1830	2 00	1930	5	
11	1 Simple 1	1610.2	1	1610.7	4	
11	3 Simple 3 A	1748	1 42	1815	13	
	2 Simple 2 f	1759.5	12.5	1804.7	190	
	6 Complex	1817	18	1818	28	
12	2 Simple 2	1211	5	1212	62	
12	3 Simple 3 A	1722	1 25	indet.	8	
	6 Complex f	1725	6	1726.5	29	
	6 Complex	1734	5	1736.5	8	
	6 Complex f	1745.5	7	1748	83	
13	3 Simple 3 A	1910	1 20	indet.	5	
	1 Simple 1	2000	5	2002.5	4	
15	1 Simple 1	1327	6	1330	7	
15	3 Simple 3 f	1414.5	9	1419.5	15	
15	2 Simple 2 f	1924	2	1924.5	12	
16	2 Simple 2	1519.5	1	1520	12	
16	1 Simple 1	1825	1.5	1825.5	5	
18	1 Simple 1	1934	1	1934.3	7	
20	1 Simple 1	1245	3	1246	7	
20	2 Simple 2	1453	1	1453.3	40	
21	1 Simple 1	1239.3	5	1239.9	7	
23	9 Precursor	2056	4.7		9	
	6 Complex f	2100.7	37	2122.5	325	
	4 Post Increase		> 20		15	
29	- Record Incomplete	11215	> 3 15	1215	15	
30	3 Simple 3	1553	1 10	indet.	4	

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATIONS

169 Mc

OCTOBER 1960

Nancay



SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

BOULDER

OCTOBER 1960

108^{MC}

Oct. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
3	3	1413.2	1413.2	0.4	1*
3	2	1443.3	1444.0	2.7	1
3	3	1547.6	1548.0	1.2	1
3	3	1549.8	1550.1	0.4	1
3	3	2221.0	2221.0	-0.2	1
4	3	2248.2	2248.2	0.9	1
5	3	1400.0	1400.1	0.3	1
5	3	1417.5	1418.0	0.6	2
6	3	1900.0	1900.9	1.0	1
6	3	1916.8	1917.1	1.2	1
6	3	2015.2	2015.2	1.0	2
6	8	2019.0	2020.0	3.2	2
6	3	2024.9	2025.3	2.0	2
6	3	2032.0	2032.0	2.5	2
6	3	2046.4	2046.7	0.7	2
6	3	2337.5	2338.0	2.1	2
7	3	1654.0	1654.2	0.4	1
7	2	1944.0	1946.0	2.6	1
7	8	1948.8	1950.0	3.2	3
7	7	2005		214. D	1
7	3	2352.4	2353.1	0.8	2**
7	3	2359.0	2359.5	0.5	1**
8	6	1308 E	1347	649 D	2
9	6	1309 E	1835	647 D	2
9	8	2136.0	2137.5	2.9	3
10	6	1310 E	2150	644 D	3
11	6	1311 E		499 D	2
11	8	1803.4	1804.7	3.6	3
12	6	1312 E		433 D	1
12	8	1645.5	1646.0	3.5	2
12	8	1725.0	1727.5	5.0	2
12	3	1751.5	1753.0	2.0	3
12	8	1756.8	1758.9	4.2	3
13	3	1734.8	1735.2	0.5	2
13	3	1804.0	1805.0	1.6	2
13	3	1905.1	1906.2	2.0	2
13	3	2238.5	2238.9	0.2	2
14	2	1506.5	1510.0	6	1
14	3	1814.2	1814.5	0.3	2
14	8	2116.5	2119.0	3.0	1
14	8	2123.0	2123.0	10	1
14	2	2146.0	2150.0	13	1
14	8	2200.0	2204.0	14	1
14	3	2341.0	2342.0	1.9	2
14	3	2348.5	2349.0	1.3	1
15	2	1414.4	1422.0	11	2
15	3	2156.8	2157.2	1.0	2
16	8	1408.0	1410.0	2.5	2
16	7	1418.0		492	1
16	3	1928.0	1929.3	1.5	3
17	3	1413.5	1414.4	0.9	2
17	3	1452.6	1454.4	2.0	2
17	3	1456.8	1457.0	0.8	2
17	3	1517.0	1517.0	0.4	2
17	3	1520.0	1520.7	1.3	2

Oct. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
18	2	2011.0	2019.4	9	2
18	7	2156	2306	112 D	2
19	6	1320 E	1503	627 D	3
19	8	1925.0	1927.5	3.0	3
20	3	1349.4	1349.6	0.6	1
20	3	1359.5	1359.5	0.3	1
20	3	1422.6	1423.0	1.0	1
20	3	1446.0	1448.0	2.0	3
20	3	1453.0	1453.5	2.0	3
20	3	1618.3	1618.5	0.4	2
20	3	1645.2	1645.2	0.4	1
20	3	1713.6	1714.7	1.4	3
20	3	1827.5	1827.9	1.0	1
20	3	1834.0	1835.5	2.0	2
20	3	1903.0	1903.8	1.0	1
20	3	1910.0	1910.0	0.4	1
20	3	1953.0	1953.4	0.7	1
20	3	2136.1	2136.1	0.5	1
21	6	1322 E		622 D	1
22	6	1323 E		102 D	1
22	3	1358.4	1359.0	3.5	3
22	3	2244.7	2245.2	0.9	2
23	8	2107.0	2110.0	16	1
24	7	1531		58	1
24	2	1656.0	1656.7	3.4	2
24	3	1704.2	1704.2	0.2	1
24	3	1718.0	1718.6	0.9	2
24	3	1948.1	1949.0	0.9	3
24	3	2007.0	2008.2	1.0	2
24	3	2123.0	2123.0	0.4	2
24	2	2149.8	2150.0	41	2
25	3	1337.0	1337.1	0.3	1
25	2	1347.0	1347.1	3.5	1
25	3	1407.3	1407.3	0.2	1
25	3	1701.9	1702.0	0.4	1
28	3	1830.0	1830.2	0.7	1
29	3	1401.0	1402.0	4.2	2
29	3	1428.0	1428.0	0.3	1
29	3	1528.4	1529.4	2.0	1
29	3	1600.0	1600.3	0.7	1
29	2	1622.0	1624.6	5	1
29	3	1638.8	1638.8	0.4	1
29	8	1656.5	1658.7	8	3
29	3	1705.0	1706.4	1.7	1
29	3	1711.0	1711.0	1.0	1
29	3	1728.0	1728.5	1.0	1
29	3	1753.0	1753.0	0.7	1
29	2	1905.0	1906.8	3.0	1
29	3	1939.5	1940.0	1.0	1
29	2	1959.0	2007.7	15	1
29	3	2046.5	2047.5	2.0	2
29	3	2052.1	2052.8	0.8	2
29	2	2054.0		2.0	1
29	2	2148.1	2150.0	3.4	2
29	3	2158.1	2158.9	0.9	1

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

BOULDER

108MC

Oct. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity	Oct. 1960	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
17	3	1532.5	1533.0	0.8	1	29	3	2241.0	2241.0	0.1	1
17	3	1545.7	1547.9	2.5	1	29	3	2322.5	2322.8	0.7	1
17	3	1614.5	1614.7	0.4	2	30	3	1911.0	1911.0	0.4	1
17	3	1706.0	1706.0	0.4	2	30	3	2007.0	2007.5	0.7	2
17	3	1716.3	1716.5	1.7	1	30	2	2025.0	2041.0	39	1
17	3	1910.9	1911.0	0.3	1	30	3	2131.0	2131.0	0.4	1
17	2	1922.2	1934.1	17	1	30	3	2217.5	2219.4	3.0	1
17	3	2032.5	2033.0	1.0	2	31	3	1420.1	1420.2	0.3	1
17	3	2048.8	2049.6	2.0	1	31	3	2022.9	2023.5	1.2	1
17	3	2129.0	2129.1	0.5	1	31	3	2111.0	2112.2	1.2	1
17	2	2245.0	2245.5	30	2	31	3	2148.9	2149.1	0.6	1
17	3	2346.2	2347.0	1.0	2	31	2	2156.0	2201.0	7	2
18	3	1351.1	1352.2	1.3	1						
18	7	1458	1511	63	1						
18	7	1625	1653	171	2						

COMMERCE - STANDARDS - BOULDER

NOMINAL TIMES OF OBSERVATIONS

BOULDER

108 MC

Oct. 1960	U.T.	Oct. 1960	U.T.
1	1301-0010	17	1317-2348
2	1302-0010	18	1319-2348
3	1303-0007	19	1320-2347
4	1304-0002	20	1321-2345
5	1305-0002	21	1322-2344
6	1306-0000	22	1323-2343
7	1307-2359	23	1324-2341
8	1308-2357	24	1325-2340
9	1309-2356	25	1326-2340
10	1310-2354	26	1327-2339
11	1311-2353	27	1328-2336
12	1312-2353	28	1330-2335
13	1313-2352	29	1331-2335
14	1314-2352	30	1332-2334
15	1315-2351	31	1333-2331
16	1316-2349		

COMMERCE - STANDARDS - BOULDER

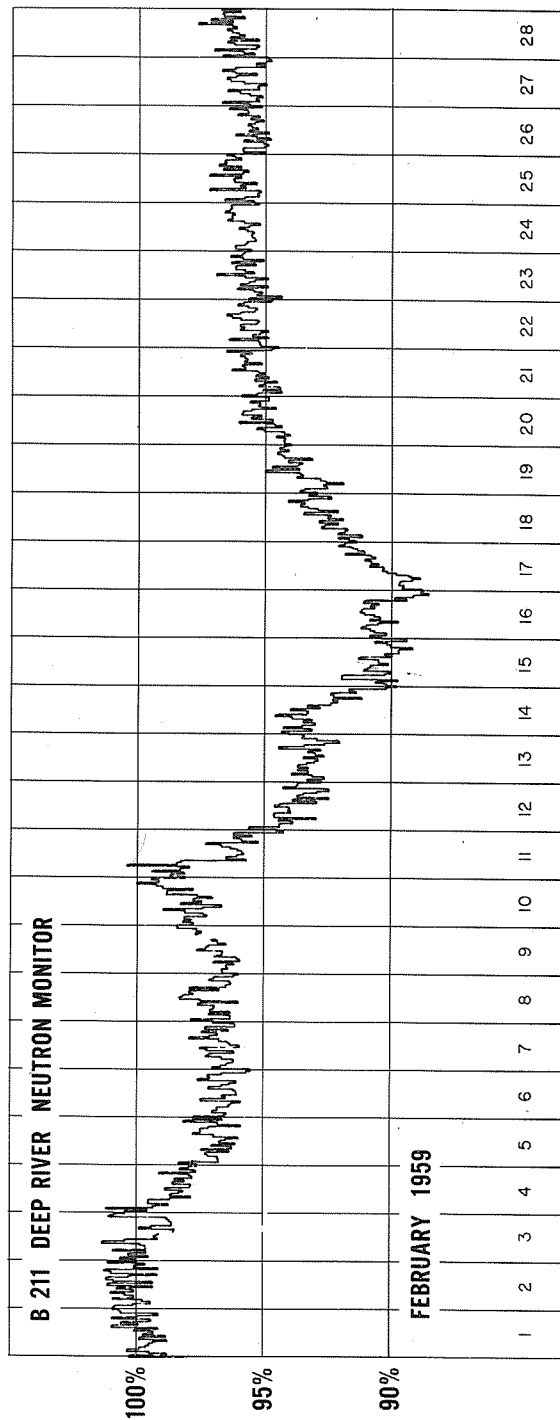
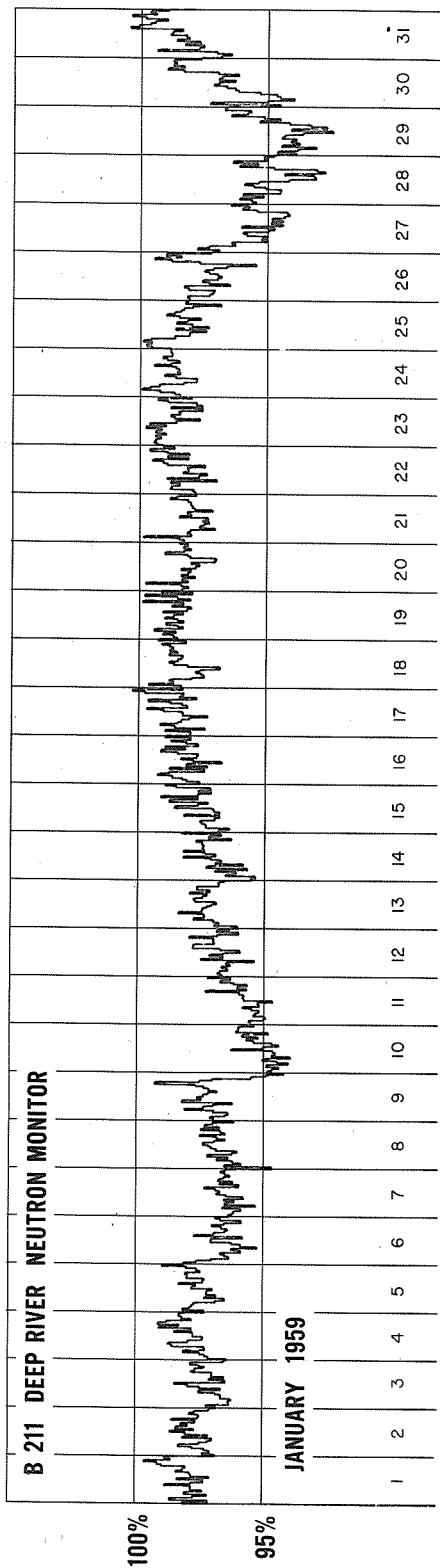
COSMIC RAY INDICES
(Climax Neutron Monitor)

Sept. 1960	Daily average counts/hr	Sept. 1960	Daily average counts/hr
1	2857.5	16	2885.1
2	2864.5	17	2877.2
3	2862.1	18	2899.6
4	2827.7	19	2905.2
5	2828.0	20	2904.9
6	2780.3	21	2903.6
7	2764.5	22	2912.7
8	2781.1	23	2913.1
9	2802.2	24	2915.5
10	2824.4	25	2894.5
11	2835.7	*26	2894.8 (18)
12	2850.1	27	2906.8
13	2881.5	*28	2888.2 (18)
14	2883.1	29	2901.6
15	2894.1	30	2909.7

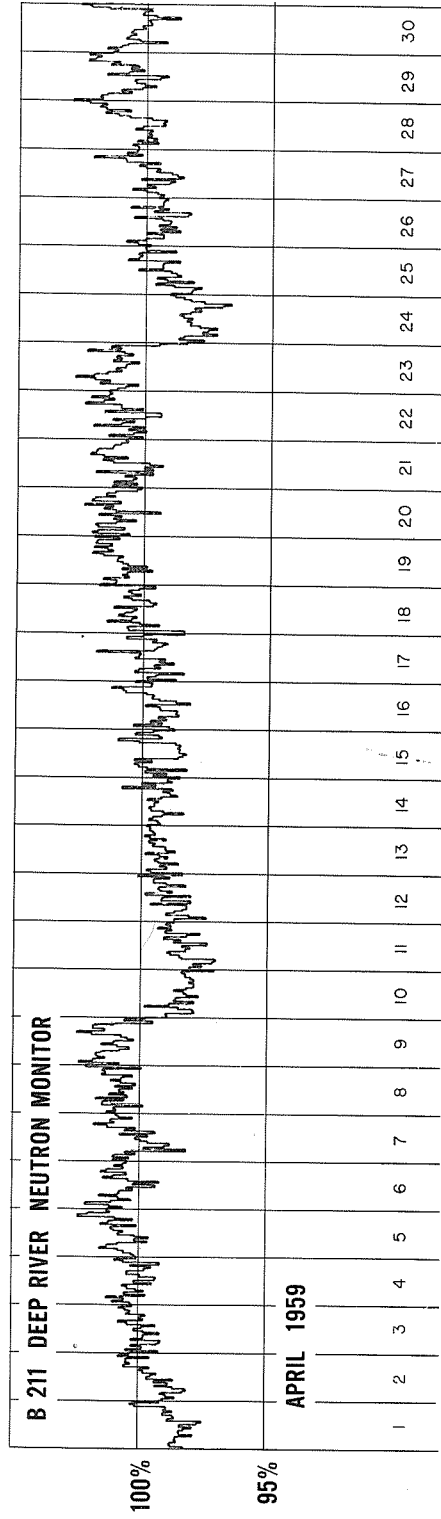
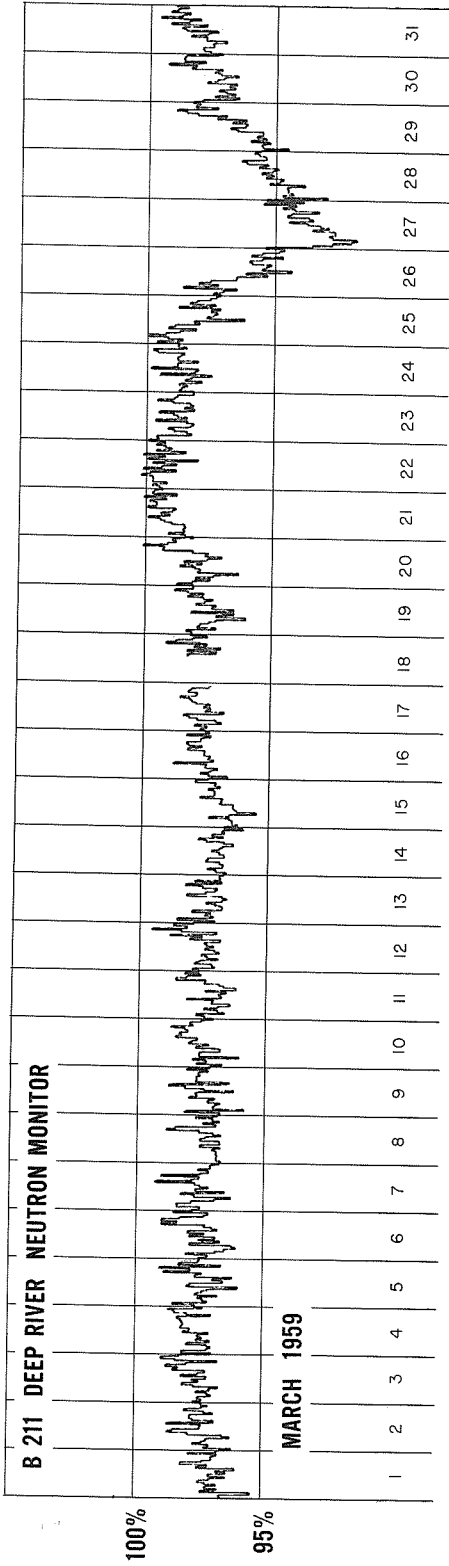
COMMERCE - STANDARDS - BOULDER

*There were fewer than 20 hours contributing to the given average. The number in parentheses following the average gives the number of hours in the average.

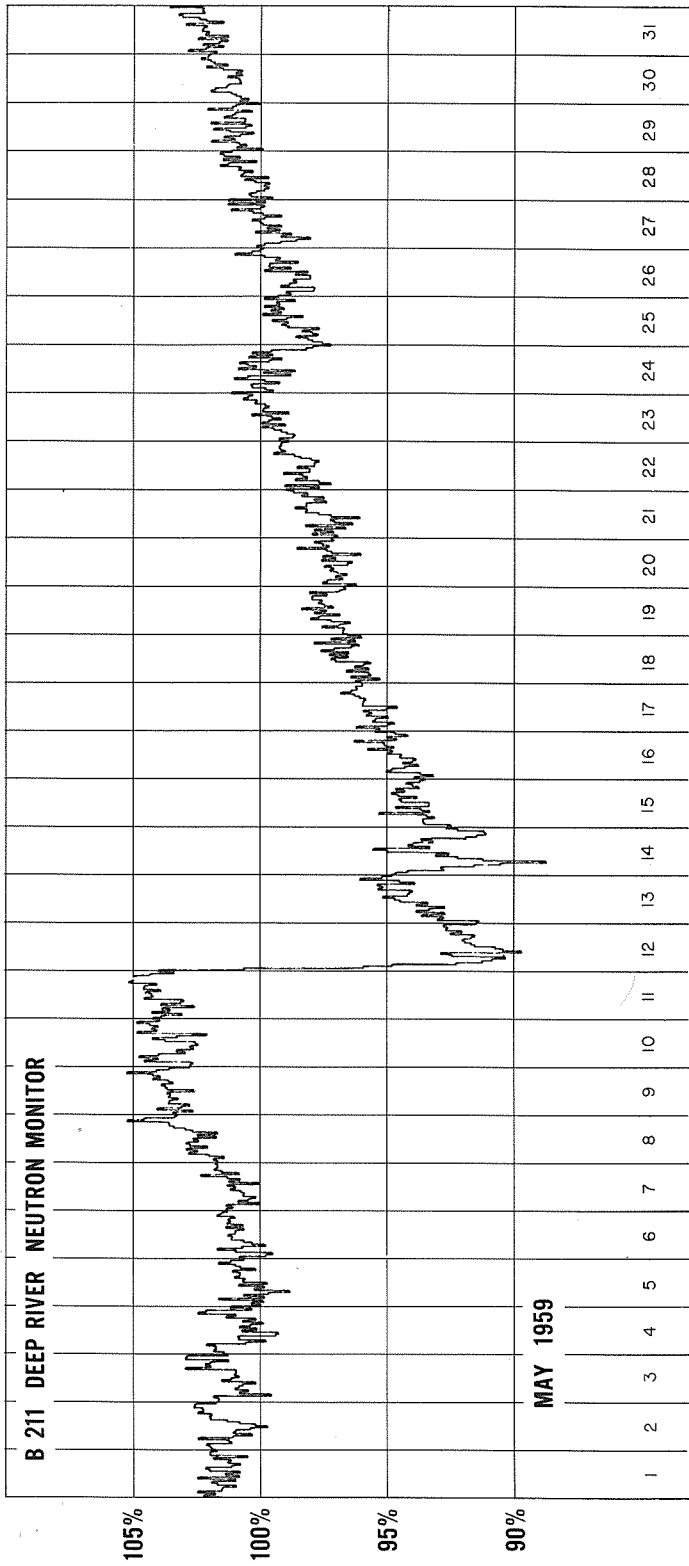
COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

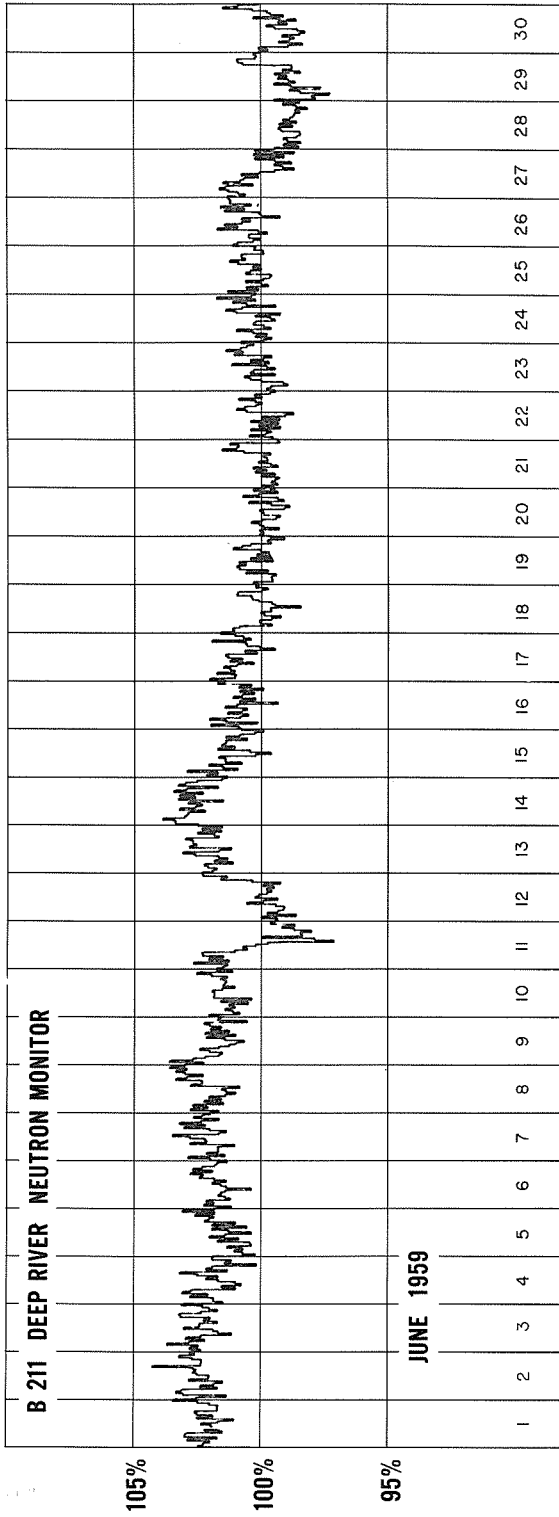


COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



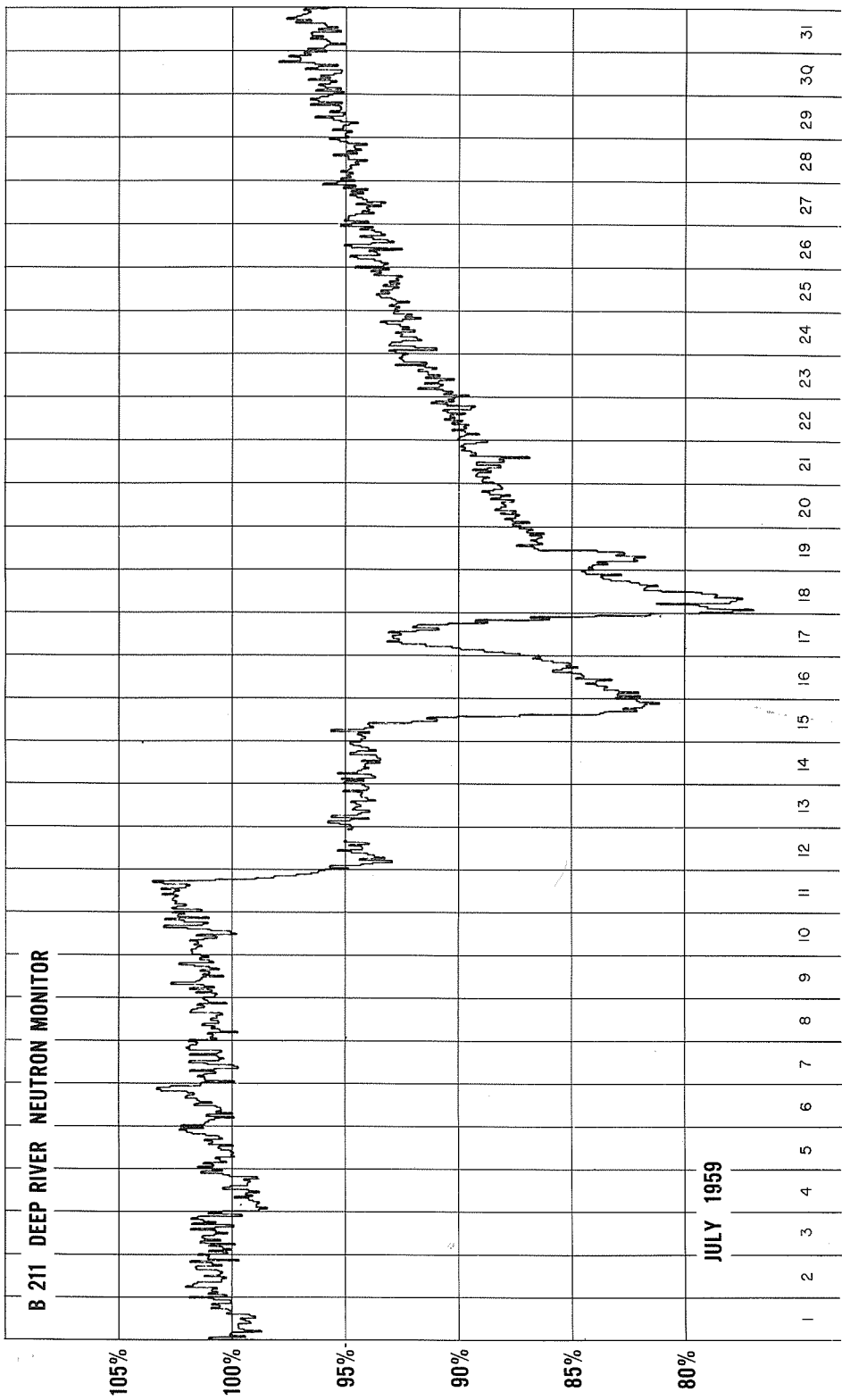
COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



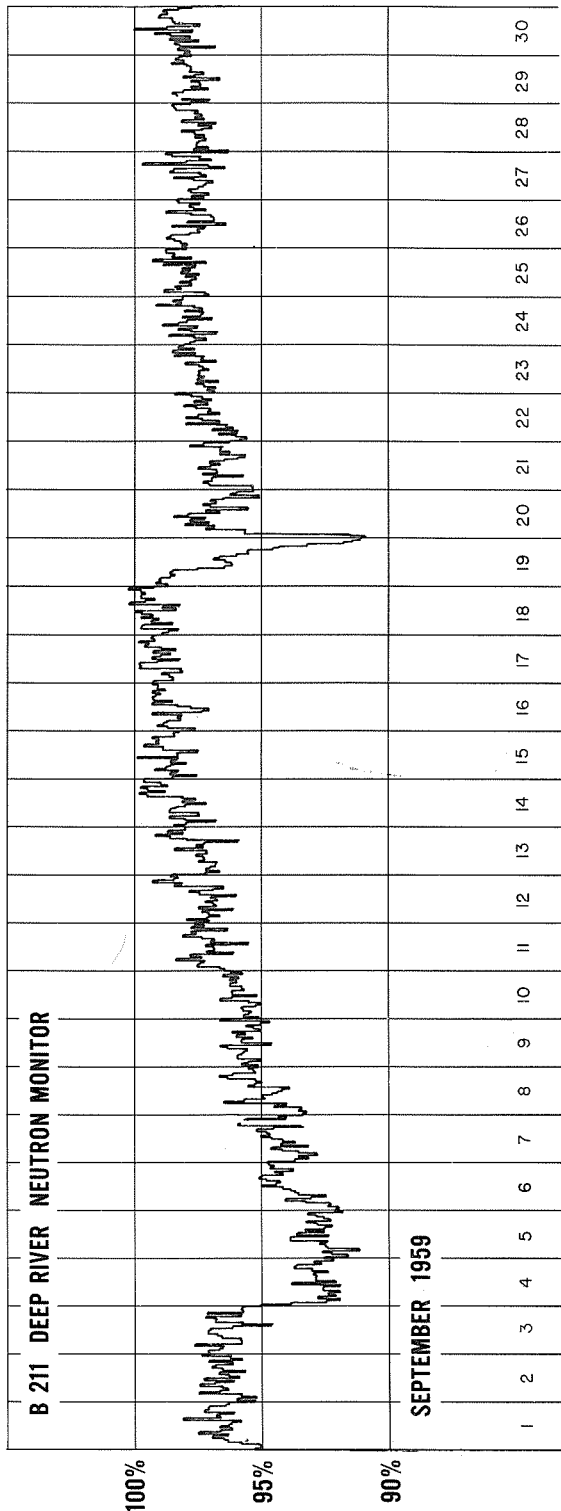
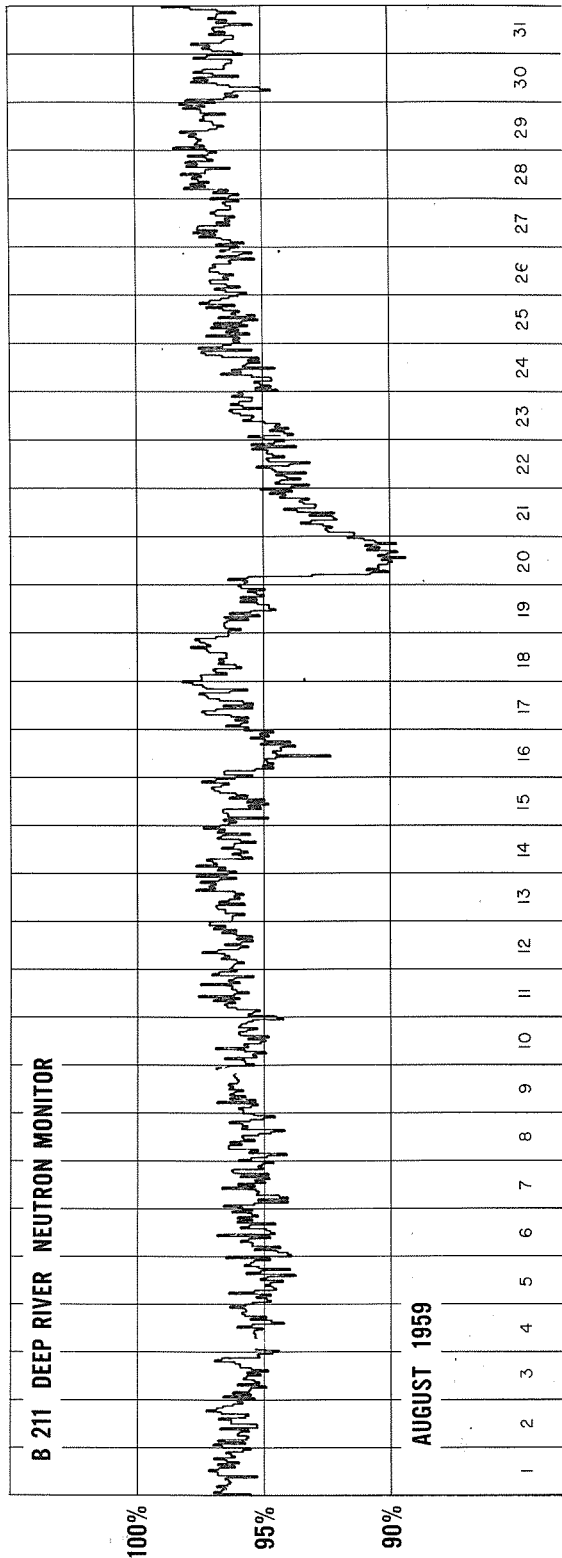
COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

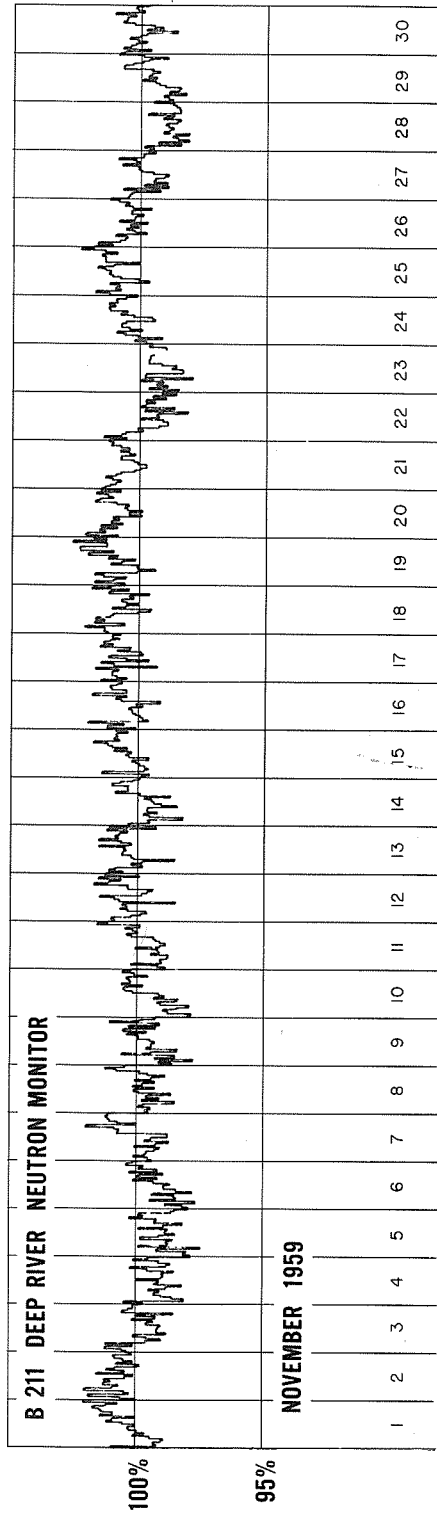
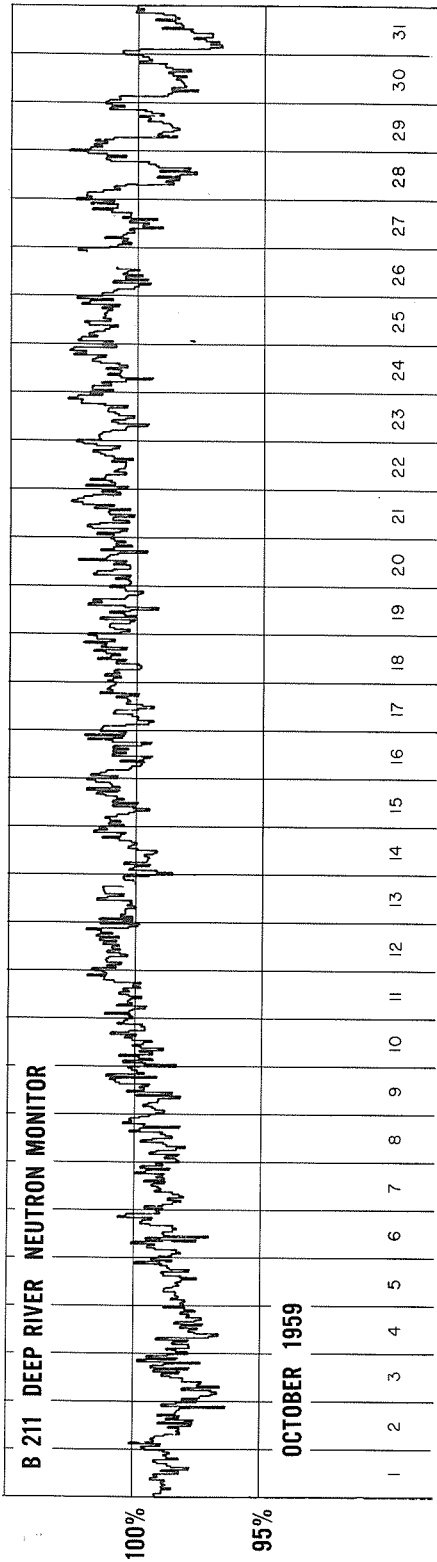


COMMERCE - STANDARDS - BOULDER

COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

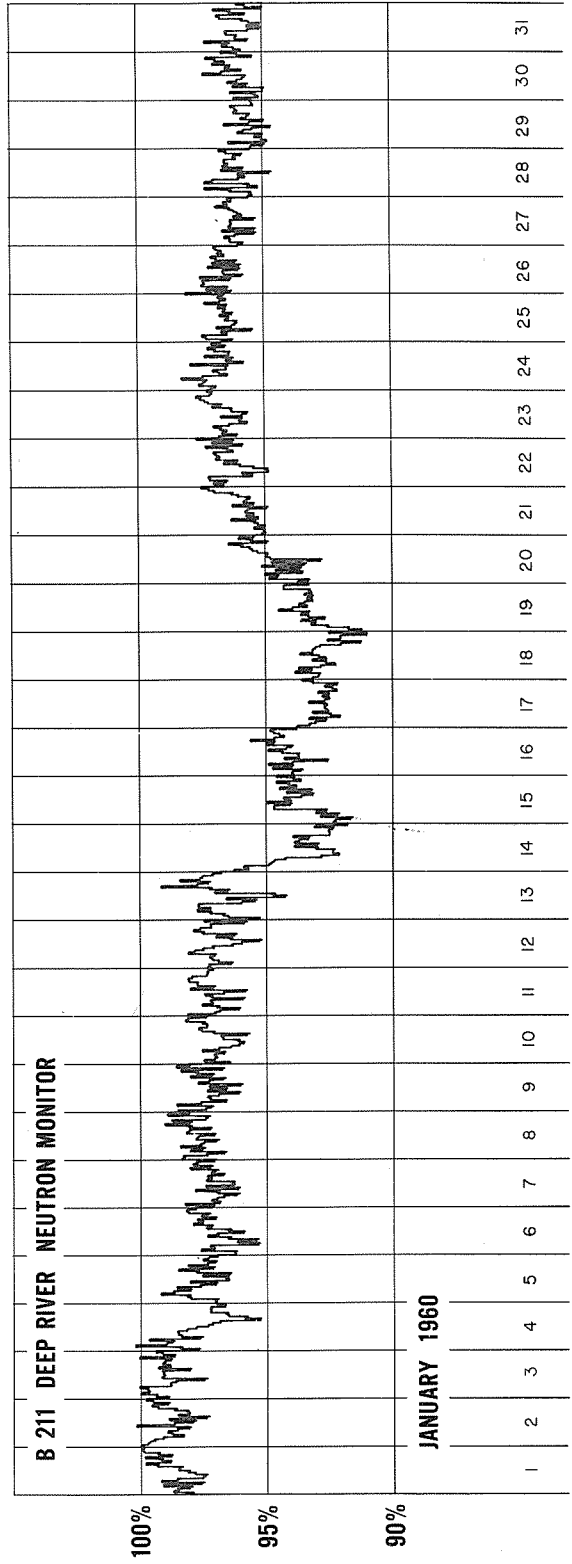
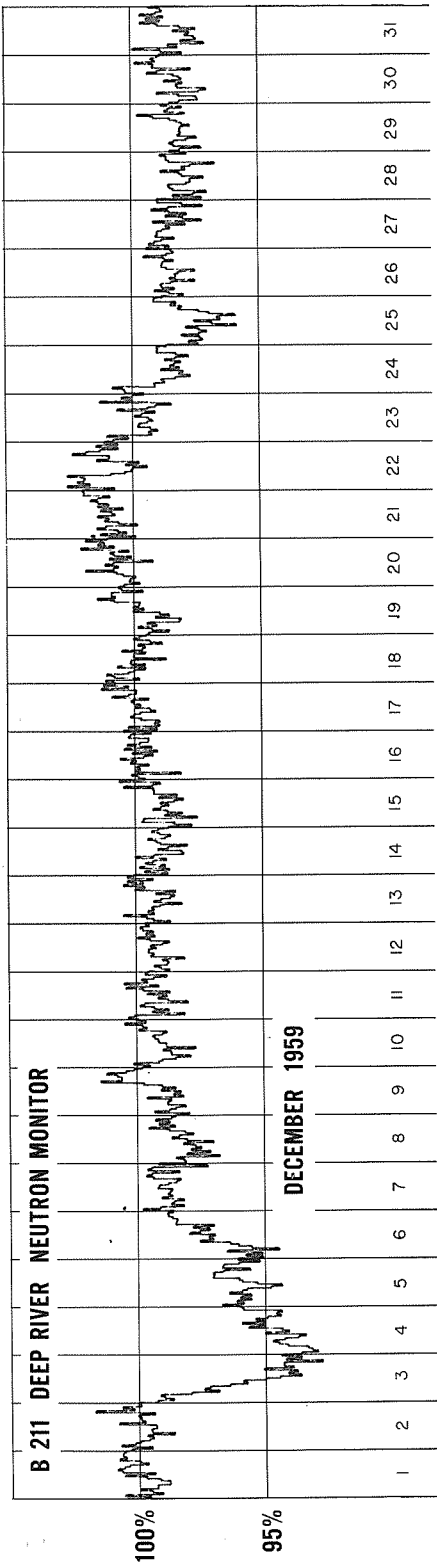


COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)

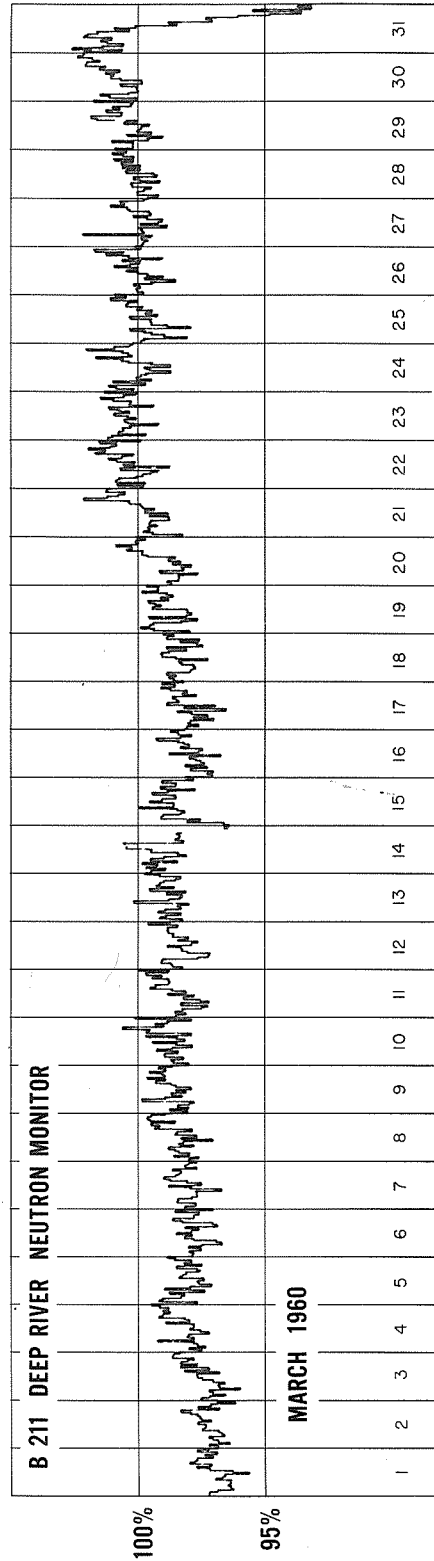
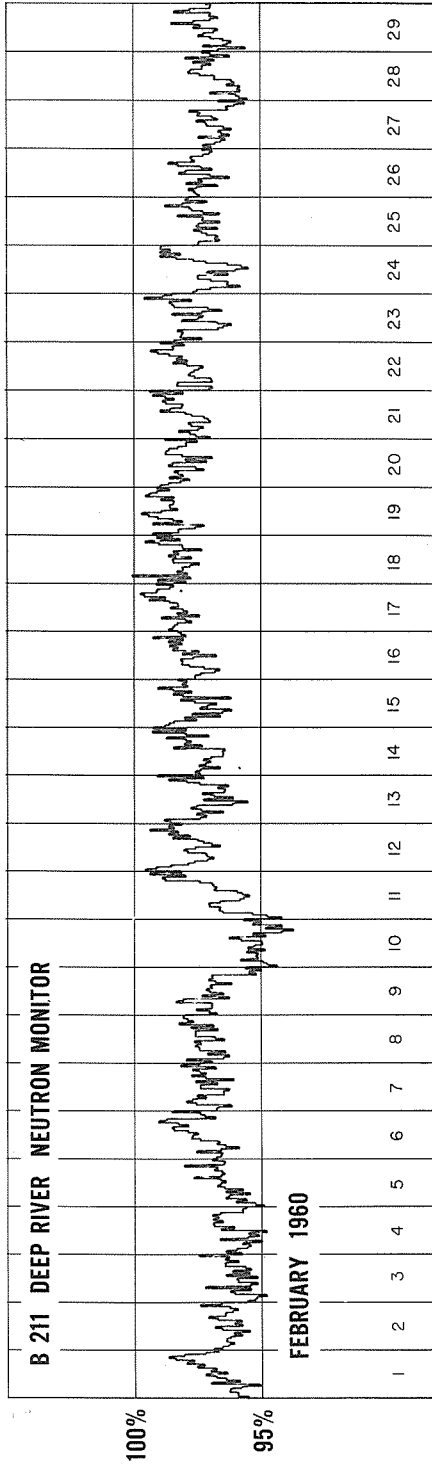


COMMERCE - STANDARDS - BOULDER

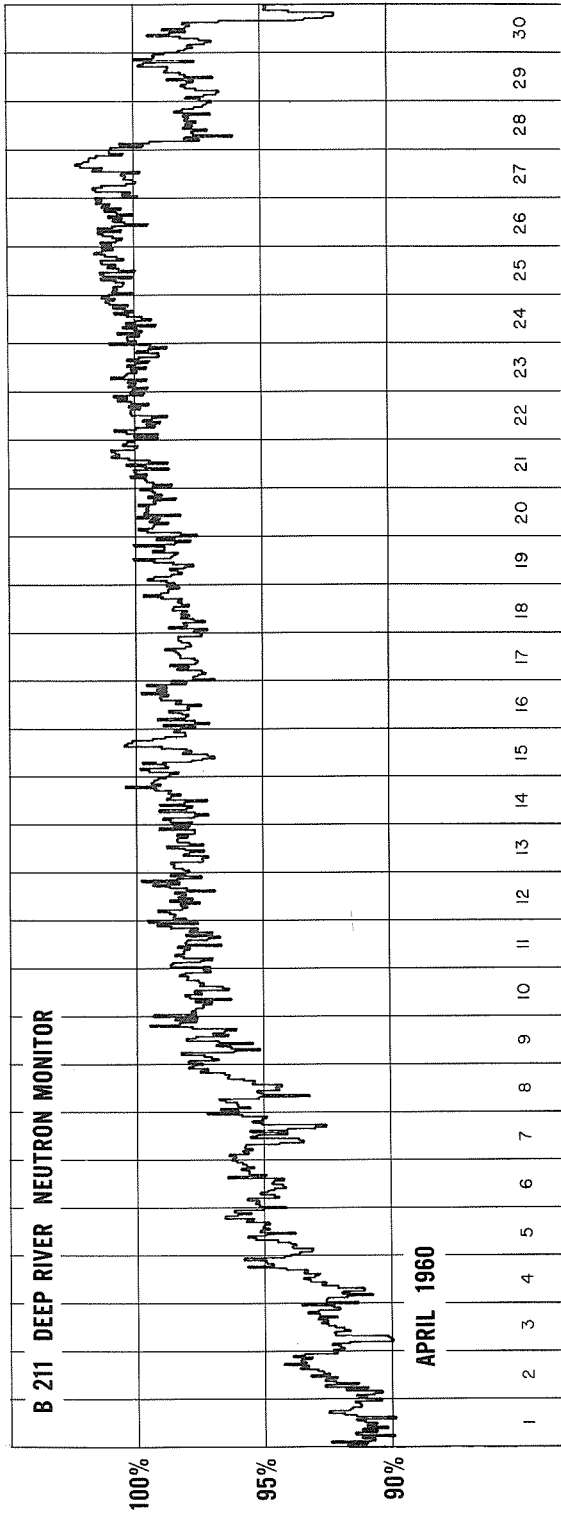
COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



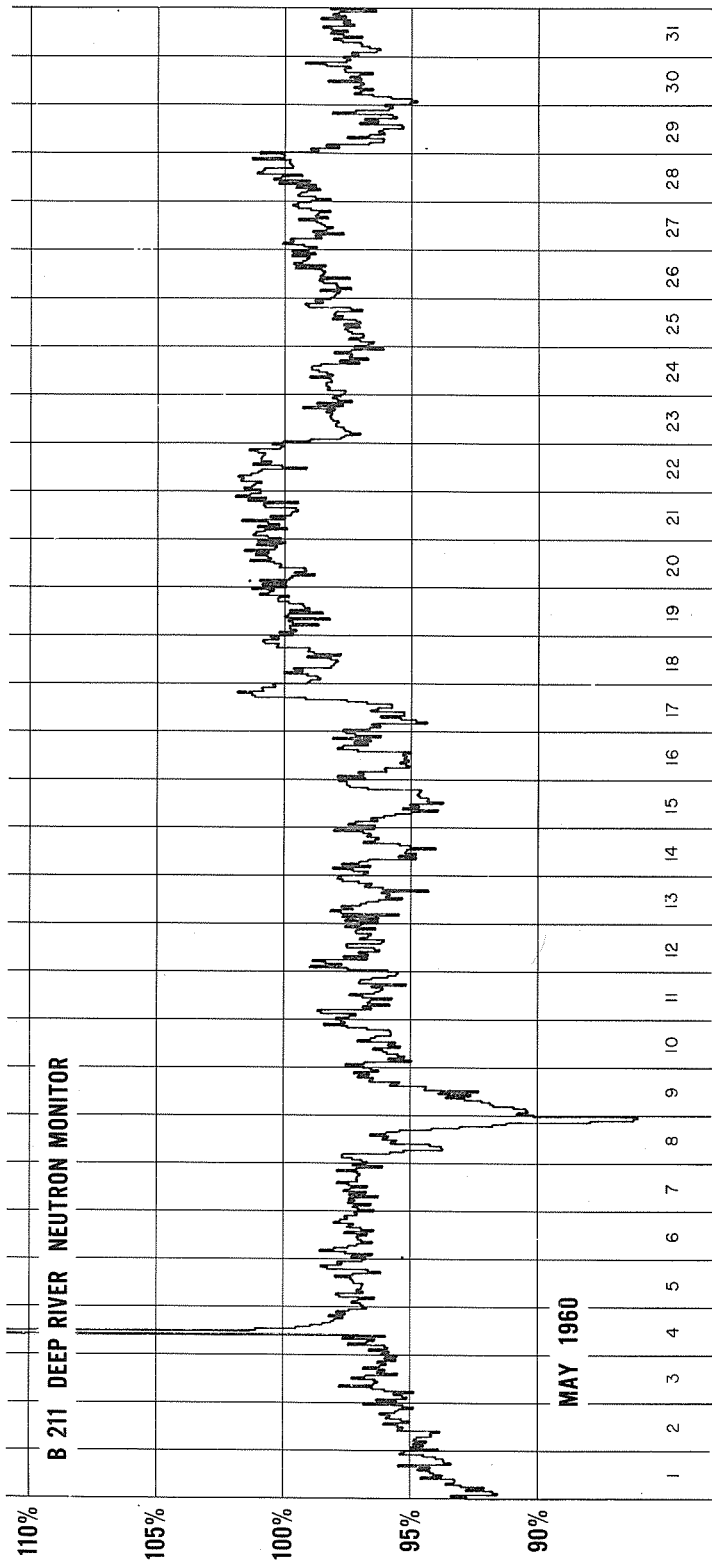
COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



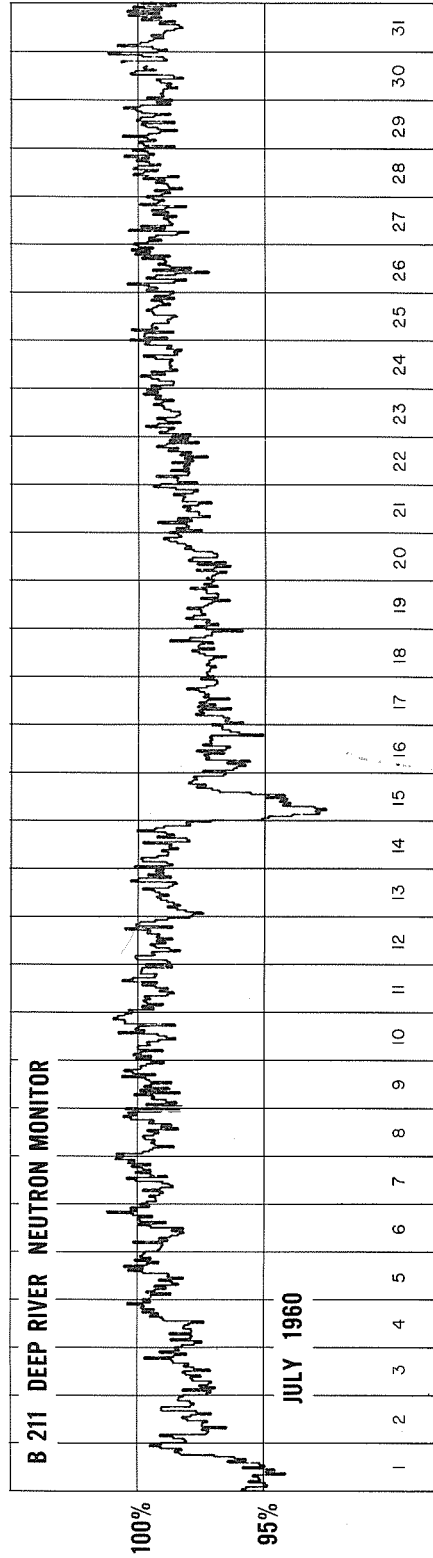
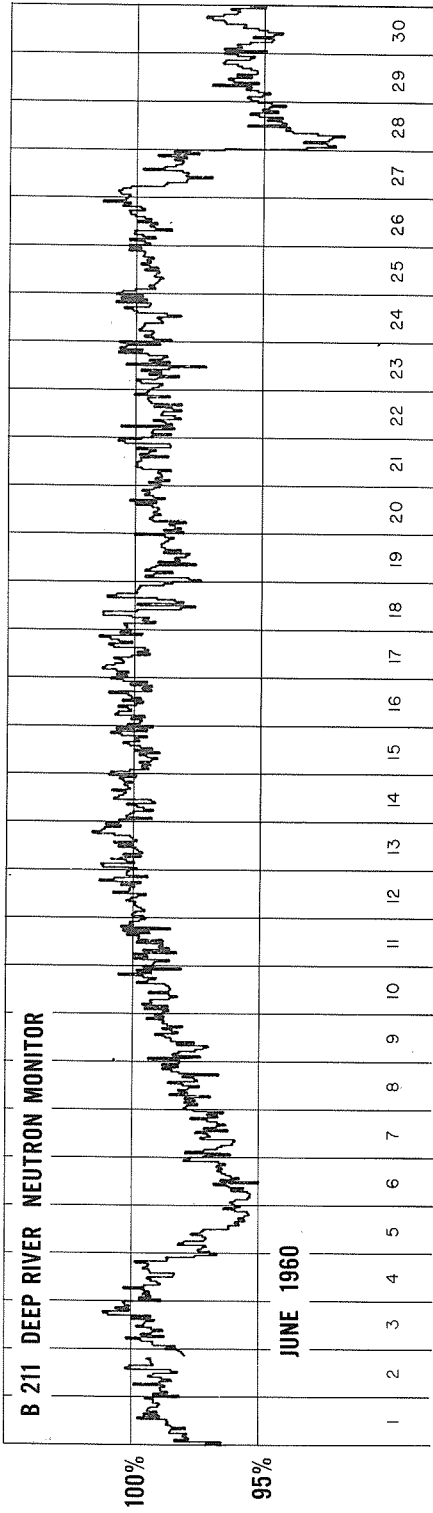
COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



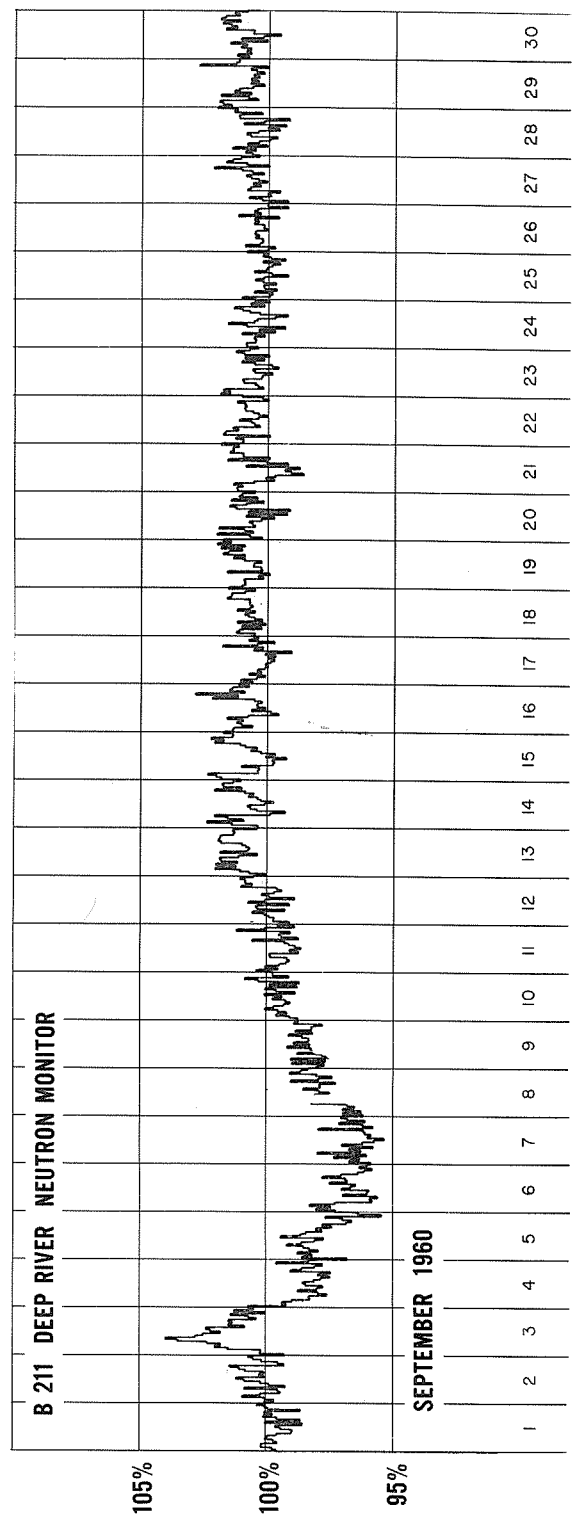
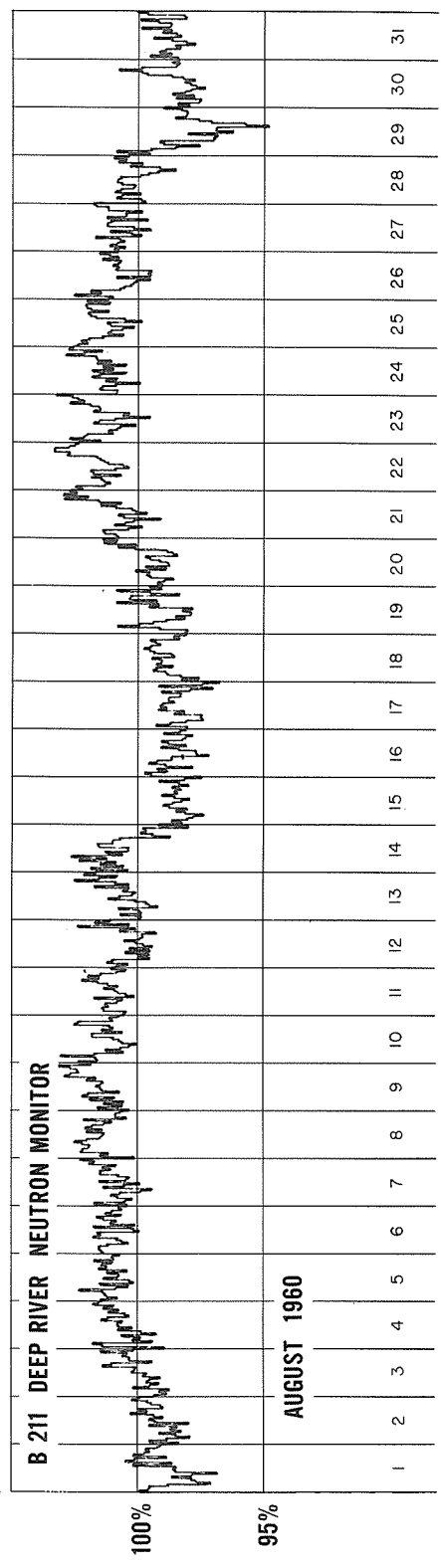
COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



COSMIC RAY INDICES
(Pressure Corrected Hourly Totals)



GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1960

Sept. 1960	C	Values Kp								Sum	Ap	Final Selected Days
		Three hour Gr. interval										
		1	2	3	4	5	6	7	8			
1	0.0	0+	0+	1-	1-	1o	1-	0+	1o	5o	3	Five Quiet
2	1.2	1-	2o	2o	2o	3+	3o	4+	6-	23o	20	
3	1.3	5o	5+	7-	3o	3+	3-	3-	2o	31-	35	
4	1.8	4-	5-	7-	6o	7-	6o	7-	8o	48+	95	
5	1.9	7+	8-	8-	8-	5o	6-	6o	5+	52+	118	
6	1.3	5+	5o	5-	2+	2-	2-	3o	5o	29-	28	
7	1.2	3+	3o	3o	4-	6-	3+	4+	4o	30+	27	
8	1.0	4-	3+	5-	3+	3o	4-	3-	1o	25+	19	
9	0.7	4o	4o	3+	3-	3-	2-	3-	3o	24o	16	
10	0.8	2+	2+	2+	3+	2+	4-	3o	3o	22+	13	
11	0.8	4+	3+	3-	1o	2o	3-	3o	3+	22+	15	Five Disturbed
12	0.4	3+	3-	3+	3-	2-	3-	1+	1+	19o	11	
13	1.0	4-	5o	4+	4-	2+	1o	3-	4-	26+	21	
14	0.7	5o	4o	2+	2+	1+	1+	0+	0+	17o	13	
15	0.1	0+	2o	1+	1+	1o	1o	1o	1-	9-	4	
16	0.1	1+	0+	0+	1o	1+	1o	1o	1-	7o	4	
17	0.4	1o	2o	0+	1-	2-	2o	3+	3+	14+	8	
18	0.7	5-	4+	2+	4-	2+	1+	1+	1+	21+	16	
19	0.0	1+	1o	2-	1o	1+	1o	1-	0+	8+	4	
20	0.2	1-	0+	1+	1+	1-	1o	1+	3-	9+	5	
21	0.5	2+	1-	1o	2+	2+	2o	2+	3-	16-	8	Ten Quiet
22	0.6	3-	2+	2-	1-	2+	2+	3+	3-	18o	10	
23	0.7	3+	3o	4o	4-	1+	1+	1+	3+	21+	14	
24	1.2	5o	5-	5-	5-	2+	4-	3o	1+	29+	27	
25	0.2	1o	1o	1-	1o	0+	1+	3-	1+	9+	5	
26	0.7	3-	1+	3-	2-	1-	1+	3-	4-	17-	10	
27	0.8	5-	4+	4o	3-	1+	1o	2+	1+	22-	17	
28	0.3	1o	2-	2-	3+	1+	2-	1o	1o	13-	7	
29	0.9	1o	0+	3-	2o	5-	3o	2+	4o	20o	14	
30	1.3	5-	4o	4-	3o	4+	4-	4+	5-	32+	28	
Mean:	0.76									Mean:	20	

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

SEPTEMBER 1960

Sept. 1960	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:				Geomag- netic K _{Fr}	
	00 to 06	06 to 12	12 to 18	18 to 24	00	06	12	18		1-7 days Final	1-7 days Js	1-3 days SDW	1-7 days J	Half Day (1) (2)	
1	6-	5+	7-	7-	5	4	6	6	6o	5		5	0	1	
2	6+	6-	6+	6o	6	6	6	7	6o	6		6	2	3	
3	5o	4-	5o	5o	5	4	6	5	(4+)	6		6	(5)	3	
4	4+	2+	4-	3o	5	3	4	4	(3+)	4	4	6	(5)	(6)	
5	2-	1o	3+	3o	2	1	2	5	(2+)	3	3	6	(7)	(5)	
6	2+	3-	5+	6o	2	2	4	4	4-	5	5	6	(4)	3	
7	6-	5o	6-	6-	5	5	6	6	6-	6		6	3	(4)	
8	5+	5+	5+	6o	5	5	6	6	6-	6		6	3	2	
9	4+	4+	6-	6+	6	4	6	6	5-	6		6	(4)	2	
10	6-	5o	6+	6+	6	5	6	7	6-	7		7	3	3	
11	5+	5-	6o	6+	6	5	6	6	6-	7		7	3	3	
12	6-	5-	6+	6+	6	5	6	7	6-	6		6	3	2	
13	6-	4+	6o	6+	6	5	6	6	5+	6		6	(4)	2	
14	6o	5+	6+	7-	5	5	6	6	6o	6		6	3	1	
15	7-	6+	7-	7-	6	6	6	7	7-	6		6	2	1	
16	6+	7-	7o	7o	7	6	7	7	7-	6		6	0	1	
17	7-	6+	7-	7-	7	6	6	5	7-	5	5	6	1	2	
18	5+	5+	6+	7-	4	3	6	6	6o	3	3	6	(4)	2	
19	7-	6+	7-	7-	6	6	7	7	7-	4	4	6	1	1	
20	7-	6+	7o	7-	7	6	7	7	7-	7	7	6	1	2	
21	7-	6+	7-	7o	7	6	7	7	7-	7	7	6	2	2	
22	6o	6+	7o	7-	7	6	7	7	7-	7		7	2	2	
23	6-	6-	6+	6+	6	6	7	7	6o	7		7	3	2	
24	5+	4o	6+	7-	6	5	6	7	5+	7		7	(5)	2	
25	6+	6+	7o	7o	6	6	7	7	7-	6		6	1	1	
26	6+	6+	7o	7-	7	6	7	7	7-	5		5	2	2	
27	5+	5+	7-	7-	6	4	6	7	6o	5		5	(4)	2	
28	6+	6-	7o	7-	6	6	6	7	7-	6		6	3	1	
29	7-	6o	7o	6+	7	6	7	7	6+	6		6	2	3	
30	4+	5-	6-	5+	5	4	6	6	5o	6		6	(4)	(4)	
31															
Score: Quiet Periods		P		13	18	19	17		9		8				
		S		12	4	9	9		12		16				
		U		0	1	0	1		3		2				
		F		0	0	0	1		2		0				
Disturbed Periods		P		2	3	1	0		0		0				
		S		2	4	1	1		3		0				
		U		0	0	0	1		0		0				
		F		1	0	0	0		1		4				

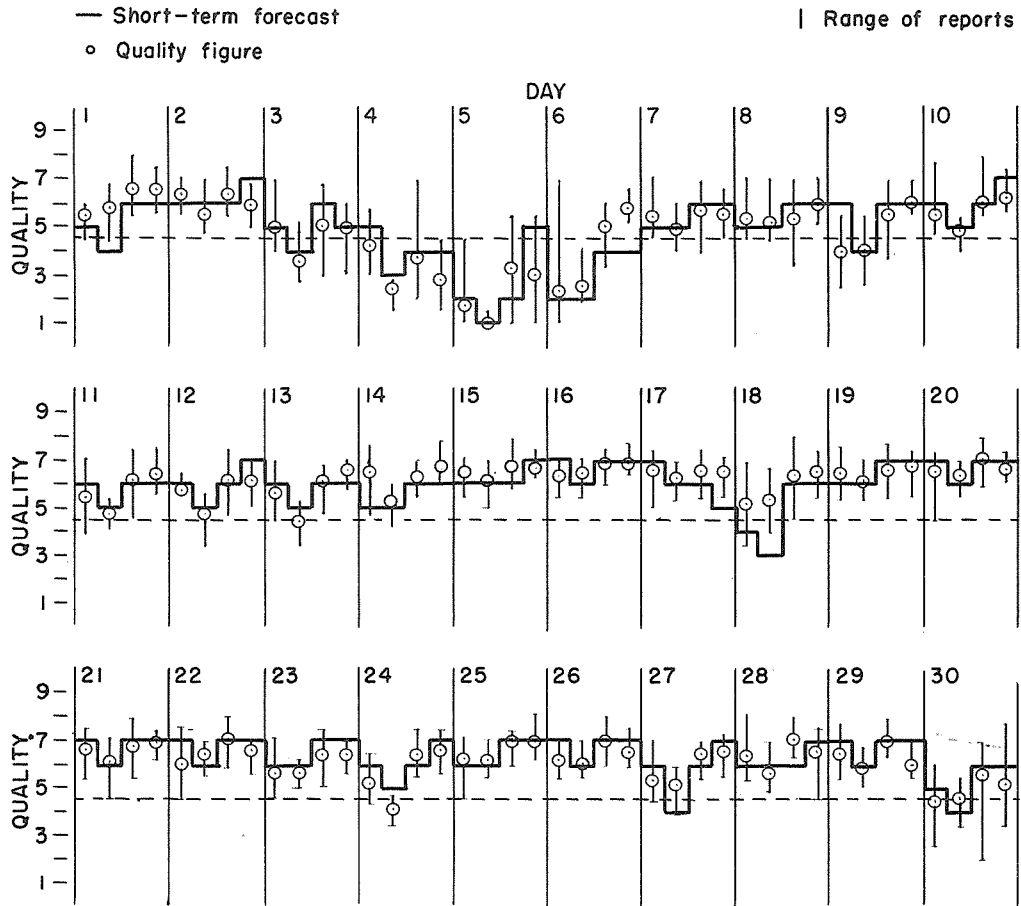
() represent disturbed values.

All times are Universal time (UT).

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC

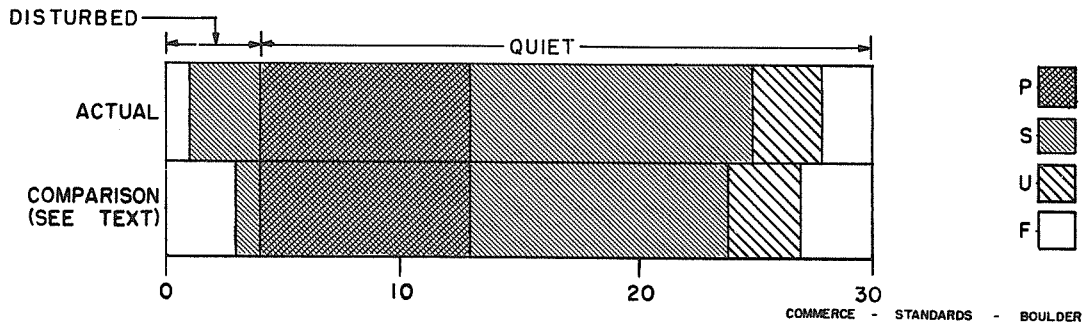
VIIb

SEPTEMBER 1960



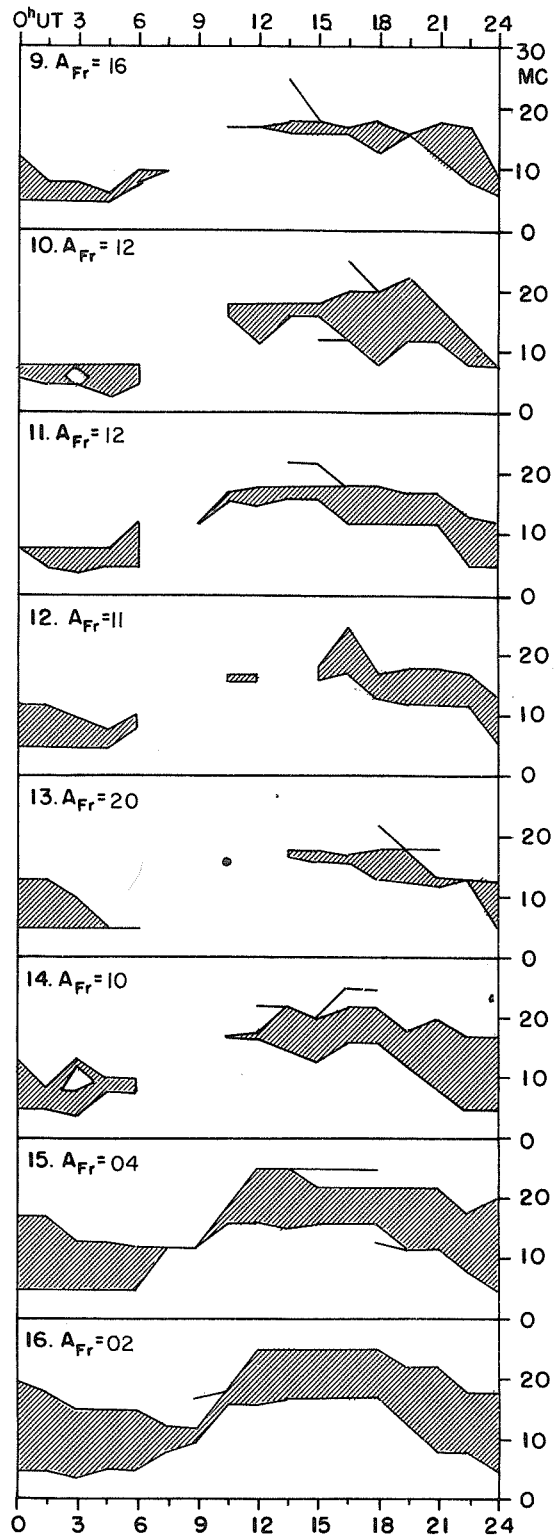
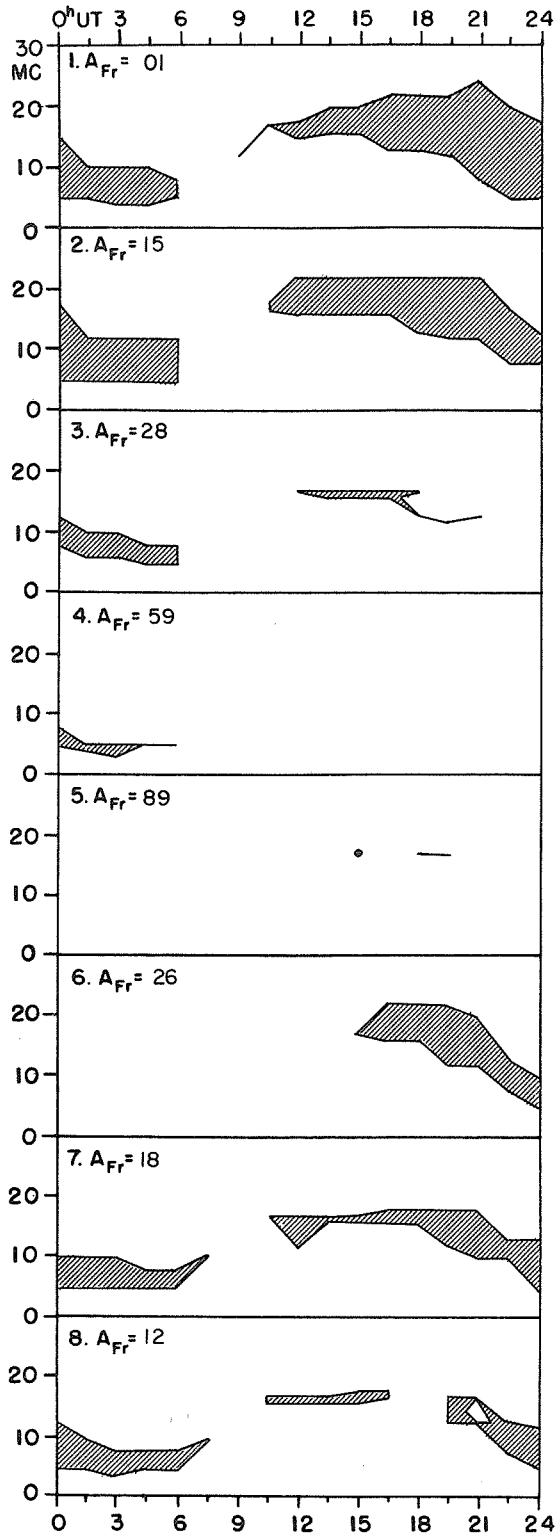
OUTCOME OF ADVANCED FORECASTS

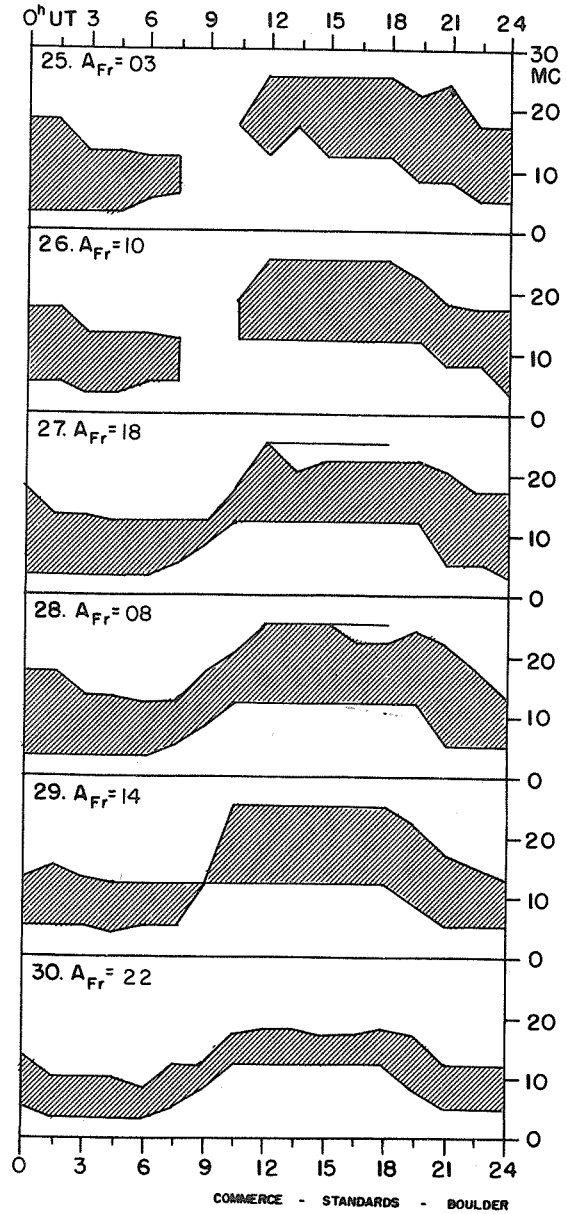
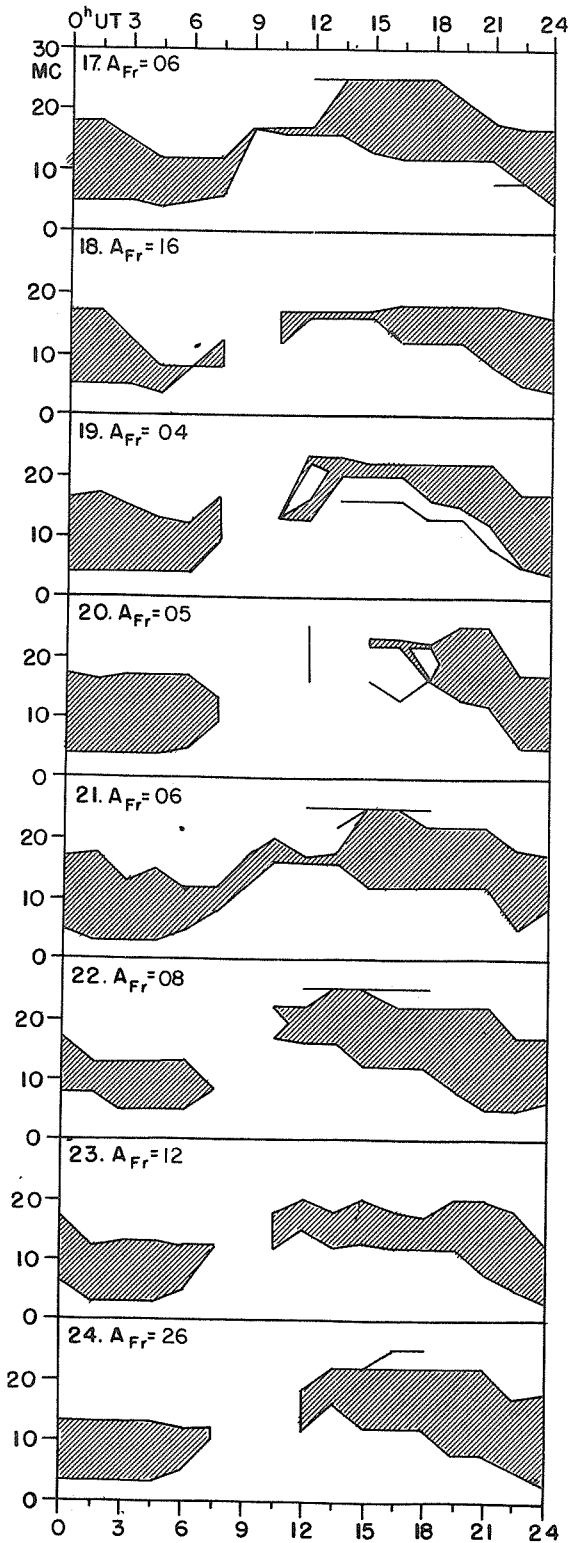
FINAL ESTIMATE



USEFUL FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1960





CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

SEPTEMBER 1960

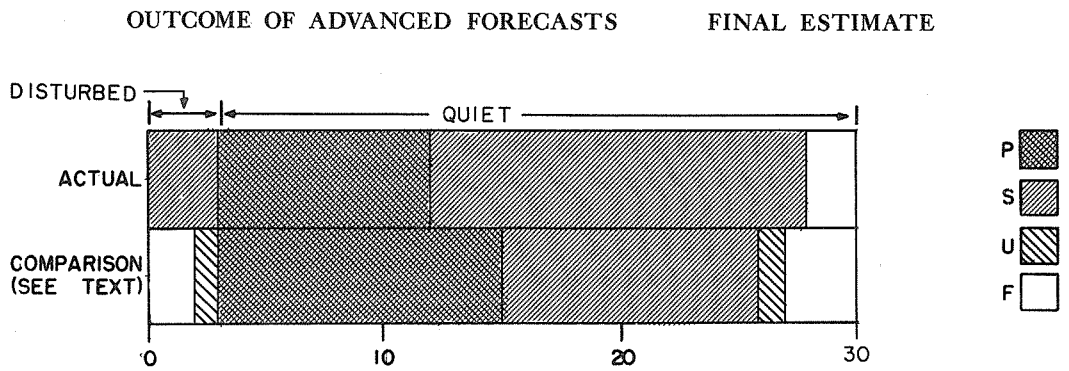
Sept. 1960	North Pacific 12-hourly quality figures		Short-term fore- casts issued at		Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:				Geomag- netic K _{SI}	
	0700 to 1900	1900 to 0700	0600	1800		1-7 days Final	1-7 days Jps	1-3 days SDW	1-7 days Jp	Half Day (1) (2)	
1	5	5	6	6	5	6			6	0	1
2	6	5	6	6	5	6			6	2	(4)
3	5	5	5	5	5	6			6	(5)	3
4	3	2	4	3	(3)	4		4	6	(6)	(6)
5	3	3	2	3	(2)	3		3	6	(8)	(5)
6	4	4	3	5	(4)	3		3	6	(4)	2
7	5	6	5	6	5	6			6	3	(4)
8	6	6	6	5	5	5			5	(4)	2
9	6	6	6	6	6	6			6	(4)	3
10	6	5	6	5	5	6			6	3	3
11	6	6	6	6	6	6			6	2	2
12	6	7	6	6	6	6			6	3	2
13	6	6	5	6	6	5			5	(4)	2
14	6	6	5	6	6	5			5	3	1
15	6	6	6	6	6	5			5	1	0
16	6	6	6	7	6	6			6	0	1
17	7	6	6	6	7	6		6	6	0	2
18	6	6	4	6	6	3		3	6	3	1
19	6	6	6	6	6	4		4	6	0	1
20	7	6	6	6	7	6	6		6	2	1
21	6	7	7	6	6	6	6		6	2	2
22	7	6	7	7	6	7			7	2	2
23	7	6	6	7	6	7			7	(4)	1
24	6	6	5	6	6	6			6	(5)	2
25	6	6	7	6	6	6			6	0	1
26	6	6	6	7	6	6			6	2	2
27	6	7	4	6	6	5			5	(4)	2
28	6	6	6	6	6	5			5	2	2
29	6	6	7	7	6	5			5	2	3
30	5	5	6	5	5	6			6	(4)	(4)
Score:	Quiet Periods		P 14	16		9					
			S 11	11		16					
			U 0	0		0					
			F 2	0		2					
	Disturbed Periods		P 0	1		0					
			S 3	2		3					
			U 0	0		0					
			F 0	0		0					

(), represent disturbed values.

All times are Universal Time (U.T.).

NORTH PACIFIC

SEPTEMBER 1960



ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL WORLD DAY SERVICE

OCTOBER 1960

Issued Day/Time UT Oct. 1960	Advance Geophysical Alert	No.	World-Wide Geophysical Alert	Special World Interval
1/1600		89	Magnetic Storm 9/13XXZ	
4/1915	Ft. Belvoir, Magnetic Storm 04/14XXZ			
6/0500	Ft. Belvoir, Magnetic Storm 06/02XXZ*			
6/1600		90	Magnetic Storm Aurora Probable 05/19XXZ	Start Special World Interval
7/1600		91		Continue Special World Interval
10/1600**		92		Finish Special World Interval 08/2359Z
25/1400	Ft. Belvoir, Magnetic Storm 24/1450Z			
25/1600		93	Magnetic Storm 24/1450Z	

COMMERCE - STANDARDS - BOULDER

*Beginning time later amended to 05/19XXZ.
 **Should have been issued October 8.