

OCT 10 1959

CRPL-F181 PART B

FOR OFFICIAL USE

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
SEPTEMBER 1959

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

SOLAR - GEOPHYSICAL DATA

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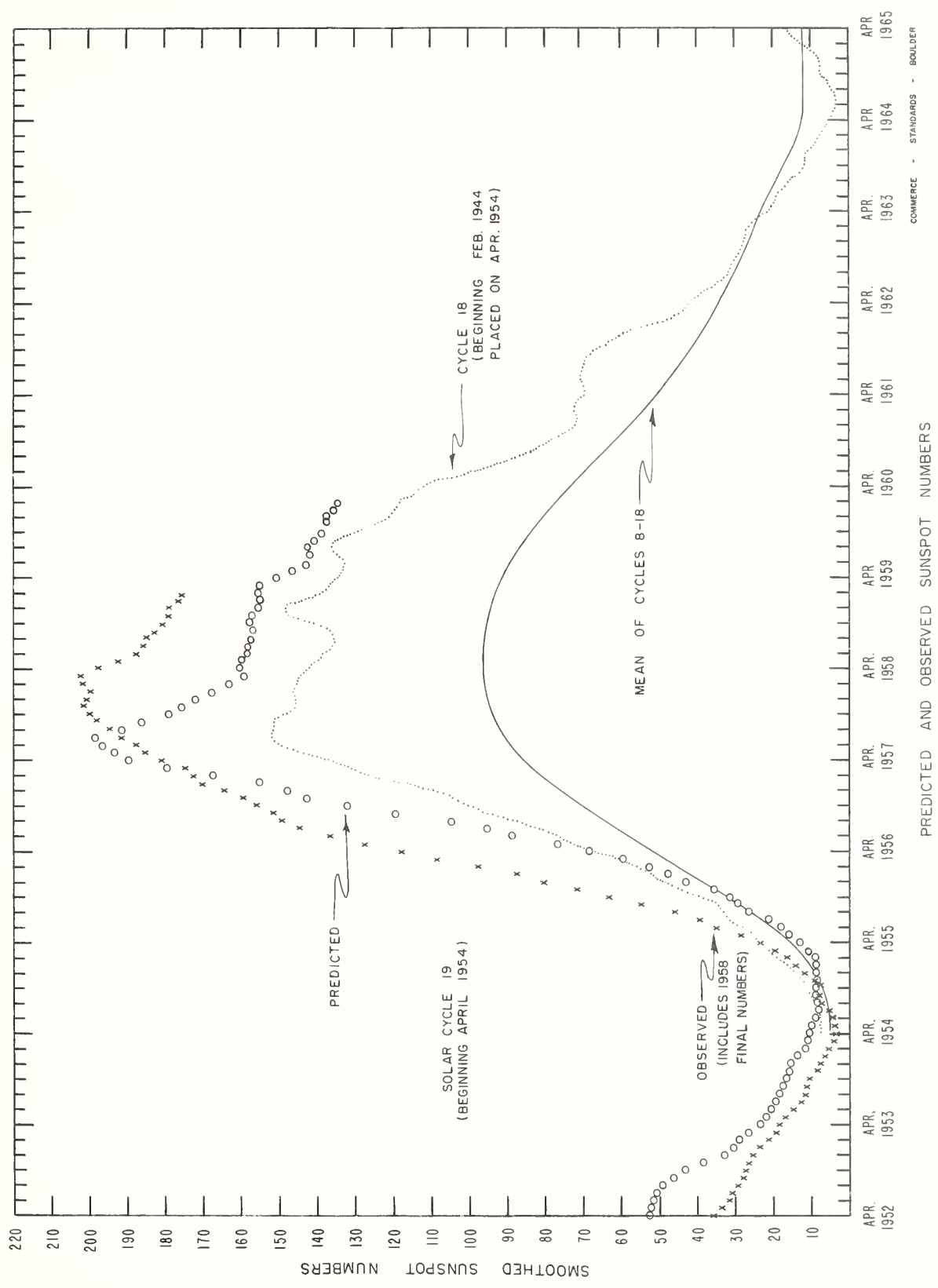
INTRODUCTION

The descriptive text is published quarterly or whenever context of the report is changed. The last issue in which the text appeared was CRPL-F180 Part B issued August 1959.

DAILY SOLAR INDICES

July 1959	American Relative Sunspot Numbers R_A'
1	163
2	121
3	145
4	118
5	121
6	113
7	113
8	102
9	100
10	84
11	102
12	123
13	152
14	152
15	150
16	197
17	209
18	178
19	154
20	143
21	109
22	104
23	106
24	117
25	133
26	156
27	176
28	178
29	184
30	197
31	191
Mean:	141.6

Aug. 1959	Zürich Provisional Relative Sunspot Numbers R_Z	Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux
1	177	214
2	210	228
3	213	240
4	225	236
5	212	229
6	207	227
7	179	212
8	175	204
9	170	204
10	155	202
11	180	200
12	160	196
13	125	194
14	139	189
15	129	190
16	151	201
17	158	224
18	174	229
19	182	215
20	180	224
21	200	230
22	200	243
23	205	262
24	217	245
25	212	253
26	220	257
27	231	279
28	274	302
29	301	308
30	292	312
31	284	305
Mean:	198.0	234.0



CALCIUM PLAGE AND SUNSPOT REGIONS

AUGUST 1959

CMP Aug. 1959	Lat	McMath Plage Number	Return of Region	Calcium Plage Data				Sunspot Data		
				CMP Values Area Int.		History, Age		CMP Values Area Count		History
01.9	N12	5299	*	1800	3.5	$\ell - \ell$	-	190	12	$\ell \neg d$
03.4	N11	5300	5271	6700	3.5	$\ell - \ell$	2	860	15	$\ell \setminus \ell$
03.5	N27	5307	New	400	1.5	$b \wedge d$	1			
03.8	S12	5301	New	600	3.5	ℓ / ℓ	1			
03.9	S22	5303	**	800	3	$\ell - \ell$	4	180	6	$b \wedge d$
05.3	N17	5304	5252	300	1.5	$\ell - \ell$	5			
05.9	S31	5309	New	(400)	(1)	$\ell \neg d$	-			
06.5	N10	5310	***	400	2.5	ℓ / ℓ	5			
06.8	N25	5311	****	1200	2	$\ell \setminus \ell$	5,9	20	2	$b \wedge d$
07.0	S20	5324	New	800	2	b / ℓ	1	40	2	b / ℓ
07.6	N00	5314	New	1400	3	ℓ / ℓ	1	600	24	b / ℓ
08.7	S16	5313	5264	700	2	$\ell - \ell$	6			
08.7	N33	5316	New	900	1	$\ell \neg d$	1			
08.8	S10	5317	New	1500	3.5	ℓ / ℓ	1	390	3	$\ell - \ell$
10.1	N17	5315	5265	11,000	3	$\ell - \ell$	5,3	620	12	$\ell - \ell$
12.0	N27	5319	5270	1000	1	$\ell \neg d$	5			
12.2	N13	5318	5272	900	2.5	ℓ / ℓ	6	150	10	b / ℓ
12.6	S19	5320	5273	900	2.5	$\ell \neg d$	3			
13.2	N25	5321	5274	1200	1	$\ell \neg d$	10			
14.2	S06	5327	New	700	2.5	b / ℓ	1	70	1	b / ℓ
14.3	N16	5322	5274	2700	1	$\ell \neg d$	10			
15.0	S16	5338	New	(1200)	(2.5)	b / ℓ	1			
16.0	N14	5323	5280	6000	3	$\ell - \ell$	4	530	8	$\ell - \ell$
16.6	N33	5325	5277	700	1.5	$\ell \neg d$	4			
18.2	N22	5326	5283	400	1.5	$\ell \neg d$	3			
18.7	N08	5328	5284	800	2	$\ell - \ell$	3			
19.1	N22	5333	New	200	1	b / ℓ	1			
19.2	N35	5332	New	300	1.5	$b \wedge d$	1			
20.0	N09	5329	New	6500	3	$\ell - \ell$	1	880	33	ℓ / ℓ
20.6	S06	5330	5296	1800	2	$\ell - \ell$	2	20	2	$\ell - \ell$
21.4	S23	5337	New	400	2.5	b / ℓ	1	40	2	b / ℓ
21.8	N25	5334	5286	1600	2	$\ell - \ell$	3,4			
22.4	N10	5331	New	1000	2	$\ell - \ell$	1			
24.0	S13	5335	5289	800	2	$\ell - \ell$	4,3			
25.4	N18	5336	New	9000	3.5	$\ell - \ell$	1	1210	15	$\ell - \ell$
27.2	N20	5339	+	8000	3.5	$\ell - \ell$	2	820	17	ℓ / ℓ
28.7	S12	5340	New	4500	3.5	ℓ / ℓ	1	2020	27	ℓ / ℓ
29.0	N13	5341	++	7300	3	$\ell - \ell$	2,3	820	22	$\ell - \ell$
31.0	N17	5346	New	2000	2.5	b / ℓ	1	340	6	$\ell - \ell$
31.2	S18	5342	+++	3000	2.5	$\ell - \ell$	2,5			
31.7	S05	5343		2500	3	ℓ / ℓ		390	8	$\ell - \ell$

COMMERCE - STANDARDS - BOULDER

* Merged with 5294 (July).

** 5250 and 5254.

*** Part of 5260.

**** Part of 5260 and 5256.

+ 5298, 5293, 5292.

++ 5294, 5300.

+++ 5301, 5303.

CORONAL LINE EMISSION INDICES
AUGUST 1959

CMP Aug 1959	North East Quadrant (observed 7 days earlier)				South East Quadrant (observed 7 days earlier)				South West Quadrant (observed 7 days later)				North West Quadrant (observed 7 days later)			
	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁	G ₆	G ₁	R ₆	R ₁
1	x	x	x	x	x	x	x	x	x	x	x	56a	x	x	48a	109a
2	207a	359a	x	x	165a	206a	x	x	83a	108a	x	35a	x	102a	x	x
3	255a	300a	x	x	184a	348a	x	x	103	185	28	28	116	196	23	38
4	146	246	x	x	87	108	x	x	70	80	18a	21a	100	144	x	x
5	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6	139	164	33	78	93	124	24	39	140	196	x	x	179	309	x	x
7	133a	190a	35a	54a	77a	92a	32a	54a	148	303	x	x	x	x	x	x
8	97	116	x	x	95	122	x	x	x	x	x	x	x	x	x	x
9	187	216	46	102	144	200	28	78	98	151	16	24	167	207	28	60
10	100*	178	x	x	58	76	x	x	77	99	x	x	160	200	x	x
11	184	228	x	x	107	140	x	x	92	120	x	x	205	260	x	x
12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13	x	x	x	x	x	x	x	x	128a	167a	17a	25a	150a	167a	14a	20a
14	x	x	x	x	x	x	x	x	102	170	12	21	130	150	16	40
15	x	x	22a	30a	x	x	25a	36a	165	300	x	x	219	300	x	x
16	340a	403a	x	x	88	107	x	x	x	x	x	x	x	x	x	x
17	191	346	33	49	81	96	16	19	62	90	13	21	148	180	x	x
18	93	150	30a	40a	69	84	29a	36a	x	x	x	x	x	x	x	x
19	x	x	x	x	x	x	x	x	135	165	55	90	x	x	x	x
20	160	202	x	x	195	390	x	x	x	x	x	x	138	188	36	60
21	109	163	x	x	82	102	x	x	109	136	46	70	124	160	33	48
22	x	x	x	x	x	x	x	x	100	132	15	27	161	204	24	36
23	83	100	25	32	87	111	13	18	61	80	20	24	75	100	52	96
24	94	112	x	x	154	198	x	x	44	74	20	25	121	172	56	102
25	157	184	35	73	97	126	23	30	45	60	x	x	126	180	x	x
26	x	x	x	x	x	x	x	x	80	92	x	x	182	216	x	x
27	237	400	30	48	95	206	22	36	102	116	26	48	203	344	33	66
28	273*	383	38	91	125	250	20	50	112	143	x	x	145	260	41	54
29	208*	300	x	x	132	250	x	x	148	231	21	30	234	350	31	40
30	x	x	x	x	x	x	x	x	171	207	39	82	208	276	29	48
31	130	170	28	35	123	250	48	65	105	156	x	x	246	280	37	54

COMMERCE - STANDARDS - BOULDER

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

SOLAR FLARES

AUGUST 1959

OBSERVATORY	DATE AUG 1959	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	NER. DIST.				MC-MATH REGION	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH Ha
{ LOCKHEED	01	0125	0142 D	N14	E11	5299	17 D	1	0127	4.00	4.64	1.92	120	G-SWF
	01	0127 E	0210	N10	E16	5299	43 D	1	0136	4.60	4.70	2.40	140	
	01	0128 E	0148 D	S02	E09	5299	20 D	1	0718		.90	76		
	01	0713	0750	N13	E05	5299	37	1	0724		.90	68		
	01	0717	0750	N11	E01	5299	33	1	0724		1.20			
	01	0724	0750	N17	W43	5291	26	1	0732					
	01	1040 E	1045 D	N07	W18	5294	5 D	1						
	01	1313	1430 D	N27	W38	5295	77 D	1	1345		4.50			
	01	1320 E	1412 D	N29	W34	5293	52 D	1	1335		4.90			
	01	1314	1442	N27	W37	5293	88	2	1322		9.00			
{ LOCKHEED	01	1322 E	1350 D	N25	W38	5293	8 D	2	1322		9.00		S-SWF	
	01	1324	1450	N27	W36	5293	86	26	1340					
	01	1504	1535	N11	E66	5310	31	1						
	01	1816	1840	N15	W04	5294	24	1						
	01	2030	2040	S20	E28	5303	60	1	2040		2.50			
	01	2033	2100	S20	E27	5303	27	1		3.70				
	02	0558 E	0619 D	N04	E19	5300	21 D	1	0600		2.10	84		
	02	0600 E	0640 D	N04	E20	5300	40 D	1	0616		2.70	107		
	02	0612 E	0622	N03	E19	5300	10 D	1	0621		1.90	100		
	02	0613 E	0627 D	N10	W20	5294	14 D	1	0624		1.90			
{ LOCKHEED	02	0616 E	0633 D	N10	W19	5294	17 D	1			3.00		S-SWF	
	02	0616 E	0633 D	N03	E20	5300	17 D	1			3.00			
	02	0720 E	0727 D	N03	E18	5300	7 D	1	0726		.90	84		
	03	0545	0552	S21	E12	5303	7	1						
	03	0649 E	0708 D	N03	E05	5300	19 D	1	0656		2.90	68		
	03	0655 E	0708 D	S22	E05	5303	13 D	1	0702		1.00	64		
	03	0721	0725 D	N04	E05	5300	4	1						
	03	0721 E	0736 D	N03	E05	5300	15 D	1	0725		1.80	84		
	03	0730 E	0737 D	N14	W22	5299	7 D	1	0732		1.00	80		
	03	0732 E	0745 D	N14	W27	5299	13 D	1	0739		2.00	120		
{ LOCKHEED	03	1349 E	1404	N16	W70	5291	15 D	1	1349		1.00		S-SWF	
	03	1349 E	1358	S22	E08	5303	9 D	1	1349		2.00			
	03	1350	1400	S21	E08	5303	10	1						
	03	1515	1525	N07	W08	5300	10	1						
	03	1550	1605	N01	W07	5300	15	1						
	03	2044	2108	N02	W07	5300	24	1		3.50				
	04	0604 E	0621 D	N26	E76	5315	17 D	1	0617		3.00	76		
	04	0700 E	0709	N16	W83	5291	9 D	1	0700		2.00			
	04	0700 E	0718	S02	E47	5314	18 D	1	0700		2.00			
	04	0715	0727	N04	W11	5300	12	1	0715		5.00	104		
{ LOCKHEED	04	0715 E	0731 D	N05	W10	5300	16 D	1	0717		1.40		S-SWF	
	04	0717 E	0727 D	N06	W08	5300	10 D	1			4.00			
	04	0802 E	0804 D	N00	W16	5300	2 D	1	0805		4.50			
	04	0837 E	0852 D	N16	W90	5291	15 D	1			2.00			
	04	1033 E	1103 D	N04	W11	5300	30 D	1	1036		2.00			
	04	1438	1505	N15	W54	5294	27	1	1448		2.10			
	04	1448 E	1510 D	N16	W50	5294	22 D	1	1450		3.30			
	05	0133	0215	N10	W33	5300	42	1		3.70				
	05	0140 E	0154 D	N14	W32	5300	14 D	1	0140		2.90			
	{ HAWAII													

SOLAR FLARES

AUGUST 1959

OBSERVATORY	DATE AUG 1959	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS					PROVISIONAL IONOSPHERIC EFFECT	
		START	END	MAX. PHASE	APPROX. LAT.	MER. DST.				McMATH PLAGE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH He		MAX. INT. %
{ SIMEIZ { SIMEIZ { SIMEIZ { ZURICH { ZURICH { CAPRI S { ZURICH { LOCARNO LOCARNO { LOCARNO { ZURICH { ZURICH { MCNATH MCNATH	05	0636 E	0638 D	0638 U	N02 E33	5314	2 D	1	1	0638	2.10	2.10	2.20	68		
	05	0643 E	0646 D	0644 U	N12 E85	5315	3 D	1	1	0644	1.90	1.90	2.20	72		
	05	0707 E	0714 D	0711 U	N16 E54	5315	7 D	1	1	0711	3.00	3.00	2.00	72		
	05	0710 E	0715		N16 E48	5315	5	1	3	0710	2.00	2.00				
	05	0701 E	0708		N36 W57	5292	7 D	1	3	0701	5.00	5.00				
	05	0701 E	0725		N16 W63	5294	24 D	1	3	0701	5.00	5.00				
	05	0705 E	0905 D	0708 U	N14 W65	5294	120 D	16	1	0823	8.90	8.90	2.50	80		
	05	0821 E	0840 D		N16 W63	5294	19 D	1	3	0825	4.40	4.40				
	05	0822 E	0907		N15 W63	5294	45 D	2	2	0822	10.00	10.00				
	05	0835 E	0915		N14 W64	5294	40 D	16	2	0835	4.00	4.00				
{ LOCARNO LOCARNO { LOCARNO { ZURICH { ZURICH { MCNATH MCNATH	05	0930	1001		N03 W26	5300	31	16	2	0935	2.00	2.00				
	05	1000	1018	1005	N36 W61	5292	18	16	2	1005	3.00	3.00				
	05	1006 E	1016		N36 W58	5292	10 D	1	2	1006	6.00	6.00				
	05	1006 E	1017		N16 W64	5294	11 D	1	2	1006	1.00	1.00				
	05	1537	1610 D	1557	N06 W30	5300	33 D	1	1	1557	2.00	2.00				
	05	1935	1955 D		S18 E38	5313	20 D	1	1	1947	2.00	2.00				
	{ LOCKHEED MITAKA { SIMEIZ { CAPRI S LOCARNO SIMEIZ MCNATH MCNATH { ZURICH { LOCARNO LOCARNO { LOCARNO { ZURICH { ZURICH { LOCARNO LOCARNO { LOCKHEED MCNATH LOCKHEED	06	0102	0120	0108	N14 E70	5315	18	1	1		2.40	2.40	3.06	134	
		06	0553 E	0617		N16 E64	5315	24 D	16	1	0553	5.97	5.97	3.06	134	
		06	0651 E	0730 D	0652 U	N15 E67	5315	39 D	16	1	0652	2.50	2.50	4.30	192	
		06	0652	0724 D		N17 E62	5315	32 D	1	3	0655	1.00	1.00			
06		0814	0825		N17 E37	5315	11	1	2	0820	1.00	1.00	2.00	88		
06		0836 E	0847 D	0840 U	N11 W80	5294	11 D	16	1	0842	8.50	8.50				
06		1120 E	1230 D		S11 E36	5317	70 D	1	2	1135	2.00	2.00				
06		1324	1333		N16 E61	5315	9	1	2	1324	3.00	3.00				
06		1340 E	1405		N20 E50	5315	25 D	1	2	1340	2.00	2.00				
06		1353	1408	1358	N17 E35	5315	15	1	2	1358	1.00	1.00				
{ LOCARNO LOCARNO { ZURICH { ZURICH { ZURICH { LOCARNO LOCARNO { LOCKHEED MCNATH LOCKHEED	06	1440 E	1540		N17 E59	5315	60 D	1	2	1450	3.00	3.00				
	06	1520 E	1526		N15 E30	5315	6 D	1	2	1520	2.00	2.00				
	06	1520 E	1532		N16 E55	5315	12 D	1	2	1520	2.00	2.00				
	06	1522 E	1535		N01 E17	5314	13 D	1	2	1522	1.00	1.00				
	06	1526	1531		S01 E16	5314	5	1	2	1526	2.00	2.00				
	06	1636	1710 D	1654	N09 W78	5294	34 D	16	2	1654	3.00	3.00				
	06	1715	1747	1730	N03 W40	5300	32	1	2		2.40	2.40				
	06	1715	1810	1735	N13 W40	5300	55	1	1	1735	3.00	3.00				
	06	2309	2333	2319	N14 E59	5315	24	1	2		3.20	3.20				
	{ MITAKA SIMEIZ WENDEL { WENDEL { SIMEIZ WENDEL { WENDEL { SIMEIZ LOCARNO LOCARNO { WENDEL STOCKHOLM { R O HERST WENDEL WENDEL { WENDEL	07	0253 E	0302 D	0619 U	N16 E26	5315	9 D	1	1	0255	1.79	1.79	1.69	110	
07		0618 E	0621 D		S08 E27	5317	3 D	1	1	0619	4.00	4.00	60			
07		0719 E	0749		S07 E23	5317	30 D	1	1		3.00	3.00				
07		0724	0748		N23 E39	5315	24	16	1		5.00	5.00				
07		0727 E	0745 D	0732	N21 E40	5315	18 D	1	1	0737	1.80	1.80	2.50	68		
07		0744	0816 D		N15 E50	5315	32 D	1			3.00	3.00				
07		0847 E	0919 D		N18 E31	5315	32 D	1	1		3.00	3.00				
07		0854 E	0910 D	0854 U	N18 E30	5315	16 D	1	1	0852	1.80	1.80	2.80	76		
07		0900 E	0910		N18 E28	5315	10 D	1	2							
07		0950 E	1055		N16 E47	5315	65 D	16	2	1000	3.00	3.00				
{ WENDEL STOCKHOLM { R O HERST WENDEL WENDEL { WENDEL	07	1002 E	1115 D		N15 E48	5315	73 D	16	2		6.00	6.00				
	07	1014 E	1042		N10 E48	5315	28 D	1	3	1019	1.70	1.70	2.70	2.70		
	07	1035 E	1050	1035 U	N15 E49	5315	15 D	1	1	1034	2.10	2.10	1.80	61		
	07	1151 E	1202 D		N12 E40	5315	11 D	1	1		3.00	3.00				
	07	1258 E	1322 D		N14 E47	5315	24 D	1	1		3.00	3.00				
	07	1326	1356 D		N15 E47	5315	30 D	2			8.00	8.00				

SOLAR FLARES

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OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	APPROX. LAT.	APPROX. MCR. DIST.				MC-MATH PLAGE REGION	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH H _g	MAX. INT. %
{ SAC PEAK CAPRI S ZURICH LOCARNO WENDEL LOCKHEED SAC PEAK WENDEL LOCARNO WENDEL	AUG 1959	07 1330	1402	1340	N15 E47	5315	32	1	3	2.18	4.50		16	S-SWF	
		07 1334	E 1350	D	N14 E47	5315	16	D	1	3	3.00				
		07 1507	1517		N14 E47	5315	10	1	3			2.00			
		07 1530	E 1550		N17 E19	5315	20	D	1	2		1.00			
		07 1534	1544	1537	S07 E17	5317	10	1	2			1.00			
		07 1535	1544	D	S07 E17	5317	9	D	1			3.00			
		07 1551	1635	1604	N15 E46	5315	44	1	2	3.60					
		07 1554	1634	1606	N15 E46	5315	40	16	2	3.60					
		07 1558	1634	D	N17 E46	5315	26	D	2			10.00			
		07 1600	1636	1615	N16 E44	5315	36	2	2	1615		7.00			
{ WENDEL SIMEIZ WENDEL SIMEIZ WENDEL WENDEL ZURICH SIMEIZ ARCETRI ZURICH STOCKHOLM WENDEL WENDEL ZURICH	AUG 1959	07 1734	E 1750	D	N16 E17	5315	16	D	1		3.00			S-SWF	
		08 0534	E 0556	D	N18 E33	5315	22	D	1			3.00			
		08 0619	E 0630	D	S12 W60	5301	11	D	1	1	0625		3.00		64
		08 0653	E 0709	D	N18 E10	5315	16	D	1			3.00			
		08 0734	E 0737	D	N17 E28	5315	3	D	1	1	0734		1.60		76
		08 0736	E 0810	D	S07 E10	5317	14	D	1	1	0739		2.00		80
		08 0737	E 0759	D	S08 E10	5317	22	D	1			3.00			
		08 0839	E 0851	D	N14 E37	5315	12	D	1			3.00			
		08 0840	E 0851	D	N14 E36	5315	11	D	1	1	0843		4.00		
		08 0841	0850	D	N13 E37	5315	9	D	1	1	0842		2.30		64
{ ZURICH LOCARNO DUNSINK WENDEL CAPRI S LOCARNO SAC PEAK HAWAII LOCKHEED MCMATH HAWAII	AUG 1959	08 0900	E 0916	D	N02 W09	5314	16	D	1		5.00			18	
		08 0936	0950	D	N17 E08	5315	14	1	1	0938		2.40			
		08 0937	0958	D	N24 E21	5315	21	D	1	2	0938		4.00		
		08 0940	E 0953	D	N14 E36	5315	13	D	1			3.00			
		08 0941	E 0951	D	N18 E11	5315	10	D	1			5.00			
		08 0941	0953	D	N14 E36	5315	12	1	1	0946					
		08 1040	E 1050	D	N18 E16	5315	10	D	1	2		3.20			
		08 1048	E 1100	D	N13 E38	5315	12	D	1	1	1048		2.15		
		08 1050	D 1103	D	N16 E35	5315	13	D	1			4.00			
		08 1051	E 1101	D	N15 E35	5315	10	D	1	3	1052		2.50		
{ CAPRI S LOCARNO SAC PEAK HAWAII LOCKHEED MCMATH HAWAII	AUG 1959	08 1320	1345		N13 E34	5315	25	1	2	1330		1.00		18	
		08 1444	1520	1452	N14 E34	5315	36	1	1		2.05				
		08 1854	1904	1856	N02 W16	5314	10	1	3	1856		2.60			
		08 1934	2030	1942	N12 E30	5315	56	1	2		3.20				
		08 1934	2110	1946	N12 E30	5315	96	1	2	1946		2.00			
		08 1936	2024	D	N13 E30	5315	48	D	16	2	1948		4.40		
		09 0756	E 0811		N12 W38	5310	15	D	1	1	0756		1.00		
		09 0817	E 0827	D	N10 W38	5310	10	D	1	1	0819		2.30		64
		09 0940	E 0958	D	N12 W40	5310	18	D	1			3.00			
		09 1214	1233		N21 E06	5315	19	16				5.00			
{ SAC PEAK CLIMAX SIMEIZ MCMATH CAPRI S LOCKHEED MCMATH HAWAII	AUG 1959	09 1420	1502	1424	N21 E06	5315	42	1	2		3.03		17	S-SWF	
		09 1422	1439	1426	N22 E07	5315	17	1		1426		2.90			
		10 0824	E 0827	D	N11 E80	5323	3	D	16	1	0827		6.00		48
		10 1555	1635	D	N26 W08	5315	40	D	16	3	1608		4.00		
		10 1556	1642	1606	N27 W08	5315	46	16	2			5.10			16
		10 1559	1610	D	N28 W05	5315	11	D	1	3	1605		2.20		
		10 2200	2233	2220	N11 E03	5315	93	2	3		7.90				
		10 2231	E 2302	D	N13 E02	5315	31	D	2	3	2233		5.50		
		10 2232	E 2232	D	N13 E00	5315	31	D	2	1	2232		8.30		
		{ SIMEIZ	AUG 1959	11 0646	E 0654	D	N11 E65	5323	8	D	1	1	0649		

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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.	APPROX. MER. DIST.	McMATH PLACE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _o		MAX. INT. %
{ SIMEIZ ZURICH ZURICH SIMEIZ SIMEIZ WENDEL LOCARNO ZURICH ZURICH { LOCARNO WENDEL { CAPRI S ZURICH ZURICH ZURICH ZURICH WENDEL WENDEL	11	0653 E	0658 D	0655 U	N22 E58	5323	5 D	1	1	0654	2.30	2.00	1.90	64	G-SWF
	11	0657 E	0707		N21 E57	5323	10 D	1	2	D657	2.00	2.00			
	11	0702 E	0711		N17 ED1	5318	9	1	2	D702	1.00	1.00			
	11	0715 E	0717 D	0715 U	S09 W30	5317	2 D	1	1	D715	2.10	2.10		64	
	11	0729 E	0737 D	0731 U	N10 E69	5323	12 D	1	1	D737	2.30	3.00	1.80	76	
	11	0850 E	0906 D		N12 W51	5310	16 D	1	2	0903	2.00	2.00			
	11	0901 E	0912	0903	N10 E61	5323	11	1	2	0905	2.00	2.00			
	11	0905 E	0917		S08 W33	5317	12 D	1	2	0916	1.00	3.00			
	11	0916 E	0924		N23 W16	5315	8	1	2	0916	3.00	4.00			
	11	1040 E	1049	1043	N10 E61	5323	9	1	2	1043	3.00	3.50			
	11	1044 E			N11 E61	5323	23	16	2	1210	3.00	2.00			
{ SIMEIZ SIMEIZ LOCARNO { CAPRI S ZURICH ZURICH ZURICH ZURICH WENDEL WENDEL	11	1205 E	1228		N18 W24	5315	23	16	2	1210	3.00	2.00			72
	11	1221 E	1232		N21 W24	5315	11 D	1	2	1221	2.00	2.00			
	11	1231 E	1238		N12 W21	5315	7	1	2	1231	1.00	1.00			
	11	1416 E	1421		N01 W61	5314	5 D	1	2	1416	1.00	1.00			
	11	1416 E	1423		S07 W36	5317	7 D	1	2	1416	1.00	1.00			
	11	1559 E	1623 D		N28 W06	5315	24 D	1	2	1416	1.00	3.00			
	11	1559 E	1625 D		N26 W09	5315	26 D	1			4.00	4.00			
	12	0732 E	0820 D	0741 U	S10 W45	5317	48 D	16	1	D741	5.30	2.70	1.90	72	
	12	0841 E	0858 D	0843 U	S11 W45	5317	17 D	1	1	D843	2.70	1.00			
	12	0845 E	0900		N18 W37	5315	15 D	1	3	D845	3.50	3.50			
	{ CAPRI S MCNATH { MCNATH ZURICH ZURICH ZURICH ZURICH HUANCAYO HUANCAYO HUANCAYO	12	1110 E	1145 D		S06 W44	5317	35 D	1	1	1128	2.50	2.50		
12		1121 E	1129 D	1221	S06 W46	5317	8 D	16	2	1127	4.00	4.00			
12		1218 E	1238		S06 W45	5317	20 D	1	2	1221	2.00	2.00			
12		1223 E	1239		S07 W45	5317	16 D	1	2	1223	4.00	4.00			
12		1223 E	1230		N12 E53	5323	7 D	1	2	1223	3.00	3.00			
12		1435 E	1603 D	1436	S08 E19	5327	88 D	16	2	1436	5.50	6.10	3.60		
12		1448 E	1502	1455	N18 W40	5315	14	1	2	1455	1.80	2.40	2.60		
12		1943 E	1959	1951	N11 W80	531D	16	2	2	1951	1.60	7.1D	5.50		
13		0012 E	0104	0018	S10 W51	5317	52	16	3	0018	6.90	6.90			
13		0056 E	0110 D	0058	S08 E14	5327	14 D	1	2	0058	3.10	3.10			
{ SIMEIZ ZURICH LOCARNO { HAWAII MITAKA SIMEIZ SIMEIZ ZURICH ZURICH ZURICH MCNATH HAWAII SIMEIZ LOCARNO MCNATH LOCKHEED ZURICH		13	0705 E	0720 D	0708 U	N23 E32	5323	15 D	1	2	0710	1.70	2.50	2.50	64
	13	0903 E	0907		N06 E84	5328	4	1	3	D9D3	2.00	2.00			
	13	1420 E	1435		N02 W86	5314	15	1	2						
	14	0044 E	0234 D	0119	N12 E28	5323	110 D	26	3	0119	12.00	13.40	2.49	169	
	14	0211 E	0326	0236	N10 E27	5323	75 D	2	2	0211	7.20	8.28	2.49	64	
	14	0556 E	0606 D	0558 U	N05 E60	5328	10 D	1	2	0558	2.60	2.60			
	14	0616 E	0631 D	0618 U	N15 E23	5323	15 D	1	2	0628	1.50	1.50	1.80	60	
	14	0621 E	0637		N14 E23	5323	16 D	1	2	D621	2.00	2.00			
	14	0621 E	0639		N19 E53	5326	18 D	1	2	0621	2.00	2.00			
	14	0624 E	0632		N19 W63	5315	8 D	1	2	0624	1.00	1.00			
	14	1420 E	1450 D	1450	N05 W90	5314	30	1	1						
{ SIMEIZ SIMEIZ LOCARNO MCNATH HAWAII HAWAII SIMEIZ LOCARNO MCNATH LOCKHEED ZURICH	14	1804 E	1830 D	1810	S11 W74	5317	26 D	16	3	1810	1.10	3.6D	3.6D	88	88
	14	1848 E	1902	1854	N14 E15	5323	14	1	3	1854	3.40	3.6D			
	15	0803 E	0832 D	0805	N12 E06	5323	29 D	1	2	08D5	2.30	2.30	3.00		
	15	1440 E	1514	1440	N12 E05	5323	34	2-	2	1500	6.00	6.00			
	15	1445 E	1520	1500	N13 E06	5323	35	1	3	15D0	2.50	2.50			
	15	1931 E	1955	1933	N13 W01	5323	24	1	3		2.40	2.40			
	16	0928 E	0936 D		N14 W04	5323	8 D	1	1	D928	5.00	5.00			
	16	0928 E	0936 D		N14 W04	5323	8 D	1	1	D928					
	16	0928 E	0936 D		N14 W04	5323	8 D	1	1	D928					
	16	0928 E	0936 D		N14 W04	5323	8 D	1	1	D928					

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OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DUR. - TION MINUTES	IM- POR- TANCE	OBS. COND.	TIME		MEASUREMENTS		MAX. WIDTH H ₀	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT. MER. DIST.	MC-MATH PLAGE REGION				U T	Sq. Deg.	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.			
{ MITAKA NIZAMIAH SIMEIZ LOCARNO SIMEIZ CAPRI S CAPRI S LOCARNO ZURICH ZURICH MEUDON CAPRI S SAC. PEAK CLIMAX LOCARNO LOCKHEED HAWAII CLIMAX	17	0328	0346	N14 W15	5323	18	16	1	0342	2.06	2.04	2.14	1.81	176	S-SWF
	17	0331	0337	N15 W16	5323	6	D	1	0331	2.43	2.55	2.55	1.60	76	
	17	0636	0645	N08 E67	5331	9	D	2	0641		2.20	2.20	2.60		
	17	0708	0739	N13 W18	5323	31	2-	2	0717		4.00	4.00	7.00	80	S-SWF
	17	0710	0740	N17 W18	5323	30	D	2	0714		2.00	2.10			
	17	0716	0736	N17 W14	5323	20	1	3	0719	2.50	2.70	2.70			
	17	1220	1238	N16 W17	5323	18	D	3	1222		4.00	4.00			S-SWF
	17	1225	1248	N13 W21	5323	23	D	3	1225		2.00	2.00			
	17	1234	1242	N15 W21	5323	8	D	2	1234		1.00	1.00			
	17	1237	1242	N05 E36	5329	5	1	2	1237		1.00	1.00			
{ MITAKA MITAKA SIMEIZ SIMEIZ AROSA WENDEL CAPRI S LOCARNO WENDEL SIMEIZ WENDEL WENDEL STOCKHOLM LOCARNO MEUDON R O HERST LOCARNO MEUDON AROSA LOCARNO WENDEL LOCARNO SAC. PEAK DUNSINK ZURICH AROSA SAC. PEAK WENDEL SAC. PEAK CLIMAX WENDEL	17	1305	1315	N14 W21	5323	10	1	2	1305		4.00	4.00			
	17	1408	1438	S07 W45	5327	30	1	3	1416	1.50	2.00	2.00			
	17	1410	1430	S08 W47	5327	20	16	3	1413	3.27	2.20	2.20			
	17	1411	1424	S07 W44	5327	13	D	3	1413	3.00	1.00	1.00		20	Slow S-SWF
	17	1436	1504	N15 W24	5323	30	1	2	1440						
	17	1438	1500	N16 W24	5323	22	1	3	1521	4.00	10.00	10.00			S-SWF
	17	1515	1532	N07 E39	5329	17	1	2	1521	7.10					
	17	2046	2113	N14 W28	5323	27	16	2	2048						
	17	2048	2106	N14 W26	5323	18	2	2	2050	3.08	3.33	3.33	2.16	125	
	17	2050	2059	N14 W27	5323	9	D	2	2050	1.80	2.10	2.10	1.37	107	
{ MITAKA MITAKA SIMEIZ SIMEIZ AROSA WENDEL CAPRI S LOCARNO WENDEL SIMEIZ WENDEL WENDEL STOCKHOLM LOCARNO MEUDON R O HERST LOCARNO MEUDON AROSA LOCARNO WENDEL LOCARNO SAC. PEAK DUNSINK ZURICH AROSA SAC. PEAK WENDEL SAC. PEAK CLIMAX WENDEL	18	0024	0044	N17 W22	5323	20	D	1	0029		3.60	3.60	104		
	18	0113	0123	N14 W28	5323	10	D	1	0113						
	18	0630	0634	N15 W34	5323	4	D	1	0630	6.00	6.00	6.00	3.50	68	
	18	0630	0644	N07 E30	5329	14	1	1	0631	1.50	4.00	4.00			
	18	0631	0645	N08 E30	5329	14	1	1							
	18	0631	0645	N08 E30	5329	14	D	1							
	18	0634	0645	N05 E28	5329	9	D	3	0638	1.80	5.00	5.00			
	18	0800	0830	N14 E85	5336	30	D	2							
	18	0802	0820	N16 E48	5331	18	D	1							
	18	0808	0817	N07 E30	5329	9	1	1	0811		1.50	1.50			
{ MITAKA MITAKA SIMEIZ SIMEIZ AROSA WENDEL CAPRI S LOCARNO WENDEL SIMEIZ WENDEL WENDEL STOCKHOLM LOCARNO MEUDON R O HERST LOCARNO MEUDON AROSA LOCARNO WENDEL LOCARNO SAC. PEAK DUNSINK ZURICH AROSA SAC. PEAK WENDEL SAC. PEAK CLIMAX WENDEL	18	0809	0816	N08 E29	5329	7	D	1							
	18	1019	1049	N12 W31	5323	30	D	26							
	18	1020	1143	N13 W32	5323	83	2	3	1029	4.00	4.00	4.00			
	18	1020	1250	N11 W34	5323	150	3	2	1050		24.00	24.00			S-SWF
	18	1022	1216	N11 W38	5323	114	3	2			30.00	30.00			
	18	1203	1235	N12 W30	5323	32	D	2	1203	5.20	6.20	6.20			
	18	1124	1136	N04 E14	5329	12	1	2	1130		1.00	1.00			
	18	1126	1150	N05 E17	5329	24	1	2			3.00	3.00			
	18	1300	1310	N08 E26	5329	10	1	2							
	18	1310	1440	N08 W34	5323	90	16	2	1400		3.00	3.00			
{ MITAKA MITAKA SIMEIZ SIMEIZ AROSA WENDEL CAPRI S LOCARNO WENDEL SIMEIZ WENDEL WENDEL STOCKHOLM LOCARNO MEUDON R O HERST LOCARNO MEUDON AROSA LOCARNO WENDEL LOCARNO SAC. PEAK DUNSINK ZURICH AROSA SAC. PEAK WENDEL SAC. PEAK CLIMAX WENDEL	18	1328	1411	N12 W33	5323	43	D	1							
	18	1404	1417	N04 E13	5329	13	1	2	1408		3.00	3.00			
	18	1410	1422	N28 E45	5334	12	1	2	1415		1.00	1.00			
	18	1452	1522	N06 E17	5329	30	1	2							
	18	1527	1537	N13 W38	5323	10	16	2	1531	2.92	2.40	2.40	3.30	15	
	18	1528	1531	N16 W38	5323	3	D	1	1528	1.90	2.00	2.00			
	18	1528	1535	N16 W38	5323	7	D	1							
	18	1618	1646	N14 W40	5323	28	1	2			3.93	4.00		18	Slow S-SWF
	18	1622	1632	N14 W39	5323	10	D	1							
	18	1654	1822	N05 E15	5329	78	26	2			11.58	11.58		35	Slow S-SWF
{ MITAKA MITAKA SIMEIZ SIMEIZ AROSA WENDEL CAPRI S LOCARNO WENDEL SIMEIZ WENDEL WENDEL STOCKHOLM LOCARNO MEUDON R O HERST LOCARNO MEUDON AROSA LOCARNO WENDEL LOCARNO SAC. PEAK DUNSINK ZURICH AROSA SAC. PEAK WENDEL SAC. PEAK CLIMAX WENDEL	18	1656	1814	N08 E17	5329	88	2	2	1733	11.10	17.00	17.00			
	18	1657	1813	N04 E16	5329	76	D	26							

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		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.				MC- MAGE REGION	TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
{ SAC PEAK ZURICH HAWAII CLIMAX	18	1658	1728	1703	N12 W42	5323	30	1	2	1714	3.93	11.00	16	
	18	1714 E	1726 D		N05 E16	5329	12 D	26	2	2226	2.60	3.40		
	18	2224	2250	2226	N15 W40	5323	26	1	3	2236	2.20			
	18	2231	2246	2236	N16 W42	5323	15	1						
{ SIMEIZ SIMEIZ ZURICH CAPRI S ZURICH	19	0647 E	0648 D	0647 U	N21 E90	5336	1 D	1	1	0648		4.20	48	
	19	0820	0830	0822 U	N15 E90	5336	10	16	1	0826		7.00		
	19	0850	0854		N11 E72	5336	4	1	2	0850		3.00		
	19	0850 E	0855 D		N12 E78	5336	5 D	1	3	0852	.80	3.20		
{ WENDEL SIMEIZ WENDEL LOCARNO ARCTRI WENDEL ZURICH HUANCAYO LOCKHEED	19	1345	1400		N15 E71	5336	15	1	3	1345		5.00		
	20	0554 E	0634 D		N04 W08	5329	40 D	2	1	0601		11.00	S-SWF	
	20	0601 E	0715 D		N05 W05	5329	74 D	16	1		2.60	5.00		
	20	0920	0943 D		N14 E85	5339	23 D	16			5.00			
{ SIMEIZ WENDEL CAPRI S SIMEIZ WENDEL SIMEIZ WENDEL W														

SOLAR FLARES

AUGUST 1959

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME	LOCATION	APPROX. LAT. MER. DIST.	DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
								TIME — U T	MEAS. AREA Sq. Deg.	COOR. AREA Sq. Deg.	MAX. WIDTH H _g	MAX. INT. %
SIMEIZ	23	0822	0830 D	0822	8 D	1	1	0824		1.30	1.60	72
{SIMEIZ	23	0850 E	0903 D	0852	13 D	1	1	0852		1.50	2.30	84
{SIMEIZ	23	0852 E	0855 D	0852	3 D	1	1	0855		2.60	2.30	100
CAPRI S	23	0853 E	0907 D	0852	14 D	1	1	0900	2.00	2.70		
LOCARNO	23	1610	1656	1625	46	1	3	1625		2.00		
HAWAII	23	2340 E	2410 D	2350	30 D	1	2	2350	3.70	4.30		Slow S-SWF
HAWAII	24	0110	0120	0110	10	1	3	0110	2.90	5.60		
{LOCKHEED	24	0122	0215 D	0155	53 D	2	1		8.30			
{HAWAII	24	0126	0200 D	0150	34 D	26	1	0150	14.50	16.70		
{SIMEIZ	24	0742	0752 D	0744 U	10 D	1	2	0743		1.00	2.00	68
{WENDEL	24	0742 E	0754		12 D	1	2			4.00		
LOCARNO	24	0907	0920		13	1	3	0910		1.00		
LOCARNO	24	1010 E	1030		20	1	3	1010		1.00		
LOCARNO	24	1100	1110 D		10 D	1	2	1110		1.00		
{LOCKHEED	24	2233	2332	2239	59	26	3		9.00			S-SWF
{HAWAII	24	2236	2315	2240	39	26	3	2240	18.60	21.50		
MITAKA	25	0153 E	0157		4 D	1	1	0153	6.17	7.22	1.46	87
SIMEIZ	25	0558 E	0606 D	0601 U	8 D	1	3	0603		1.00	1.80	76
{SIMEIZ	25	0624	0740 D	0634	96 D	2	3	0632		6.70	3.70	196
{WENDEL	25	0627	0716 D		49 D	2				8.00		
{CAPRI S	25	0634	0715		49 D	2				11.00		
{SIMEIZ	25	0711	0720 D	0712	41 D	2	2	0650	8.00	8.80		68
{ZURICH	25	0712	0719		7	1	3	0712		2.30		
{ARCTETRI	25	0929 E	0939 D		10 D	1	2	0930	.70	3.00		
{MEUDON	25	0932 E	1315		223 D	16	2					Slow S-SWF
{ARCTETRI	25	0958 E	1007 D		9 D	1	2	0958	2.00			
{LOCARNO	25	1050	1115	1104	25	16	2					
{MEUDON	25	1050	1132		42	2	2					
{ZURICH	25	1100 E	1110 D		10 D	1	3	1100		5.00		
LOCARNO	25	1250	1258		8	1	2					
{WENDEL	25	1642	1701 D		19 D	16	2			6.00		Slow S-SWF
{ZURICH	25	1643 E	1700 D		17 D	1	2	1643		5.00		
{WENDEL	25	1723 E	1736 D		13 D	16				5.00		
WENDEL	26	0605 E	0619 D		14 D	1	2			4.00		
{SIMEIZ	26	0645	0719 D	0651	34 D	1	2	0654		1.10	2.30	112
{WENDEL	26	0648 E	0714 D		26 D	1				4.00		
{ZURICH	26	0650 E	0720		30 D	1	3	0650		4.00		
SIMEIZ	26	0713 E	0717 D	0715 U	4 D	1	2	0715		5.10		60
{ZURICH	26	0735 E	0740		5 D	1	3	0735		3.00		
LOCARNO	26	0800	0819		19	1	2					
{ZURICH	26	0804	0818		14	1	3	0804		1.00		
{SIMEIZ	26	0844 E	0856 D	0850 U	12 D	1	2	0850		2.70	1.80	80
{ZURICH	26	0852	0856		4	1	3	0852		3.00		
{SIMEIZ	26	0854 E	0900 D	0857 U	6 D	1	2	0858		1.20	1.80	64
{ZURICH	26	0856	0902		6	1	3	0856		1.00		
{SIMEIZ	26	0859 E	0902 D	0859 U	3 D	1	2	0859		1.40		
{ZURICH	26	0859	0912		13	1	3	0859		2.00		
{WENDEL	26	0907 E	0943 D		36	1	3	0907		5.00		S-SWF
{WENDEL	26	0911 E	0945 D		34 D	16				7.00		

SOLAR FLARES

AUGUST 1959

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION			DURATION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	MER. DIST.	MGMATH PLACE REGION				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha		MAX. INT. %
{ AROSA ZURICH MEUDON { LOCARNO { WENDEL ZURICH ZURICH WENDEL WENDEL	26	0912	0930 D	S10 E33		5340	18 D	1	3	0920		3.00			
	26	0920	0938	N24 E13		5339	18	1							
	26	0922	0950	N10 E90		5347	28	1							
	26	1206	1224	N10 E29		5341	18	16	2	1212		2.00			
	26	1212 E	1221 D	N12 E33		5341	9	1				3.00			
	26	1238 E	1251 D	S09 E28		5340	13 D	1				3.00			
	26	1311 E	1323	N11 E33		5341	12 D	1	3	1311		1.00			
	26	1442 E	1502 D	N17 E07		5339	20 D	1				3.00			
	26	1612 E	1630 D	N13 E06		5339	18 D	16				7.00			
	27	0646	0650 D	S24 W85		5337	4 D	1	2	0647		6.60			
{ SIMEIZ LOCARNO SIMEIZ SIMEIZ ZURICH { LOCARNO { ZURICH { AROSA ZURICH LOCARNO LOCARNO	27	0650 E	0718	N09 E80		5347	28 D	1	2					88	
	27	0754 E	0759 D	N22 E00		5339	5 D	1	2	0756		4.80		64	
	27	0853 E	0857 D	N13 W23		5336	4 D	1	2	0854		.30			
	27	0935 E	1000	N10 E74		5347	25 D	1	3	0935		3.00			
	27	0925	1002	S08 E14		5340	37	16	2	0940		2.00			
	27	0935 E	1000	S08 E15		5340	25 D	1	3	0935		3.00			
	27	0942	0950	S08 E15		5340	8	1							
	27	1022	1032	S08 E15		5340	10	1	3	1022		3.00			
	27	1125 E	1155	S25 W88		5330	30 D	1	2						
	27	1125 E	1202	N25 E01		5339	37 D	16	2	1125		2.00			
{ LOCARNO { WENDEL ZURICH { LOCARNO { WENDEL { LOCARNO ZURICH ZURICH ZURICH ZURICH	27	1208	1230	N17 W04		5339	22	1	2	1215		2.00			
	27	1215 E	1229 D	N15 W09		5339	14 D	16	2			5.00			
	27	1222 E	1229	N17 W05		5339	7 D	1	2	1222		5.00			
	27	1155	1235	S08 E13		5340	40	1	2	1210		2.00			
	27	1219 E	1236 D	S10 E16		5340	17 D	2	2	1230		10.00			
	27	1220	1250	S12 E18		5340	30	16	2	1232		3.00			
	27	1423	1444	S10 E18		5340	54 D	2	2	1232		9.00			
	27	1433	1444	S10 E13		5340	21	1	2	1423		3.00			
	27	1500 E	1520	N15 W37		5336	11	1	2	1433		1.00			
	27	1530	1533	N10 E58		5344	20 D	1	2	1500		1.00			
{ LOCARNO { HUANCAYO { LOCARNO LOCARNO { CLIMAX HAWAII MITAKA { LOCKHEED MITAKA MITAKA { MITAKA MITAKA LOCARNO LOCARNO ZURICH ZURICH ZURICH AROSA	27	1530	1533	N12 W34		5336	3	1	2	1500		1.00			
	27	1600	1620	N18 W21		5336	20	2-	2	1604		3.00			
	27	1604 E	1622	N18 W19		5336	18 D	1	2	1613	2.30	2.50	2.60		
	27	1615	1635 D	N16 W37		5336	20 D	1	2	1615		1.00			
	27	1605	1615	N27 W00		5339	10	16	2	1605		1.00			
	28	0027	0121 D	N10 E70		5347	54 D	1		0040	2.40				
	28	0030	0108 D	N07 E74		5347	38 D	16	2	0038	3.80	12.10			
	28	0030	0123	N13 E69		5347	53	2	1	0040	3.29	7.44	3.69	162	
	28	0031 E	0128	N12 E72		5347	57 D	1	1	0050	2.20				
	28	0427	0445	N11 W03		5341	18	1	1	0427	1.03	1.03	2.16	140	
28	0546 E	0611	S09 E04		5340	25 D	1	1	0546	2.57	2.70	1.62	120		
28	0611	0703 D	N22 W10		5339	52 D	1	1	0617	3.08	3.23	1.82	134		
28	0654	0706 D	N29 W08		5339	12 D	1	1	0654	1.03	1.11	1.57	115		
28	0643	0704 D	S08 E03		5340	21 D	1	1	0643	1.07	1.07	1.65	128		
28	0754	0814	N13 E63		5347	20	16	2	0800		3.00				
28	1109 E	1120	N22 W14		5339	11 D	1	2	1109		3.00				
28	1225 E	1233	N12 W47		5336	8 D	1	2	1225		4.00				
28	1228	1234	N18 W18		5339	6	1	2	1228		2.00				
28	1525	1530 D	N10 E50		5344	5 D	1								
MITAKA	29	0102	0107	S10 W03		5340	5	1	1	0102	1.54	1.57	1.82	120	

SOLAR FLARES

AUGUST 1959

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT	
		START	END	APPROX. LAT.	APPROX. MER. DIST.				MGMATH PLAGE REGION	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH H _g
{ LOCKHEED	29 AUG 1959	0206	0214 D	N08 E47	5347	8 D	1	1	0211	3.70	4.37	2.15	278	S-SWF
	29	0207 E	0217	N08 E46	5347	10 D	16	1	0211	3.08	4.37	2.15	278	
	29	0417	0428	S10 W05	5340	20	1	1	0427	.77	.79	2.44	149	
	29	0454	0501	S10 W05	5340	7	1	1	0454	.62	.63	3.48	131	
	29	0601 E	0620	S11 W09	5340	19 D	1	1			2.00			
	29	0930 E	0944	S10 W08	5340	14 D	1	3	0930		1.00			
	29	0948	1005	N14 W18	5341	17	1	3	0948					
	29	1320 E	1345	N28 W25	5339	25 D	16	2						
	29	1330	1400	N15 W60	5336	30	16	2						
	29	1334 E	1353 D	N07 W55	5336	19 D	1	3	1340	1.20	2.10			
{ CAPRI S	29	1415	1425 D	N35 E08	5345	10 D	1	1						Slow S-SWF S-SWF G-SWF G-SWF
	29	1523	1535	N08 E38	5344	12	1	2						
	29	1550	1625	N13 W20	5341	35	1	2						
	29	1722	1740	N08 E36	5344	18 D	1	2						
	29	2245	2340	N13 W25	5339	55	1	3						
	29	2251	2320	N12 E39	5344	59	1	3						
	29	2250 E	0020	N10 E37	5344	90 D	16	2	2256	3.80	4.80			
	29	2328 E	2336 D	N12 E38	5344	8 D	1	3	2336	2.10	6.10			
	29	2250 E	2328 E	N14 W03	5341	38 D	2	3	2256	5.60				
	30	0056	0106	S12 E90	5353	10	16	3	0058	1.00				
{ HAWAII	30	0058 E	0110	S11 E84	5353	12 D	1	3	0058	.80		3.76	100	
	30	0424	0431	N08 E23	5344	7	1	1	0424	1.01	1.14	1.35	105	
	30	0432	0435	N12 E35	5347	3	1	1	0432	1.33	1.33	1.31	105	
	30	0511	0516	S08 W24	5340	5	1	1	0511	1.01	1.11	1.10	102	
	30	0634	0638	N16 W77	5336	4	1	1	0636	3.50	3.50	5.00	76	
	30	0727 E	0750 D	S19 E64	5350	23 D	16	1	0729	4.70	4.70	5.00	100	
	30	0730 E	0820 D	S12 E75	5353	50 D	16	1	0732	4.30	4.30	5.20	72	
	30	0834 E	0847 D	N11 W73	5336	13 D	1	1	0838	4.20	4.20	2.20	68	
	30	1415 E	1430 D	S11 W24	5340	15 D	1	2						
	30	1535	1630	N11 W36	5339	55	1	3						
{ CAPRI S	30	1536	1644 U	N15 W37	5339	68 D	2	3						Slow S-SWF
	30	1542 E	1621	N13 W37	5339	39 D	16	2	1548	4.30	5.10		18	
	30	1720	1724 D	S01 E69	5351	4 D	1	3	1724	2.20				
	30	1742 E	1810	S07 W30	5340	28 D	1	2	1743	2.10				
	30	2018	2044	S08 W30	5340	26	1	3						
	30	2020	2040	S10 W29	5340	20	1	3	2028	2.50	4.00		14	
	30	2348	2402	N10 E11	5344	14	16	3	2350	4.10	4.20			
	31	0406 E	0448 D	N11 E24	5344	42 D	1	1	0406	2.57	2.80	1.92	149	
	31	0729 E	0745	S19 E60	5353	16 D	1	1	0730	1.20	2.80			
	31	1026 E	1031 D	S12 W35	5340	5 D	1	1	1027	2.50	3.10			
{ CAPRI S	31	1032	1045	S13 W37	5340	13	1	2	1032		4.00			Slow S-SWF
	31	1240 E	1252	N27 W46	5339	12 D	1	2	1240	1.00	1.00			
	31	1421	1425	N09 E03	5344	4	1	2	1421	1.00				
	31	1500 E	1525	N11 E20	5344	25 D	16	2						
	31	1502	1546 D	N10 E05	5344	44	1	2						
	31	1502	1550	N10 E04	5344	48	1	2						
	31	1510	1547 D	N10 E04	5344	37 D	1	3	1519	2.20	2.20	2.00		
	31	1520 E	1553	N09 E04	5344	33 D	1	1	1532	2.90	2.90			
	31	1534 E	1548 D	N10 E03	5344	14 D	1	2	1534	3.00	3.00			
	31	1543 E	1635 D	S14 E70	5353	52 D	1	2						
{ MEUDON	31	1545	1617	S13 E62	5353	32	1	2	1545		10.00			Slow S-SWF
	31													

SOLAR FLARES

AUGUST 1959

OBSERVATORY	DATE AUG 1959	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	'APPROX. LAT.	'MER. DIST.				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	MAX. INT. %
CAPRI S	31	1546 E	1606 D	S12 E65	S353	20 D	1	3	1553	1.20	2.90		
LOCARNO	31	1550	1620 D	S12 E68	5353	30 D	1	2					
ZURICH	31	1607	1617	N17 E28	5348	10	1	2	1607		2.00		15
SAC PEAK	31	1618	1632	N15 E29	5344	14	1	2		2.50			
CLIMAX	31	1850	1949 D	N09 E11	5344	59 D	1	2	1915	4.90			
LOCKHEED	31	1850	2030	N10 E11	5344	100	16	3		3.90			
HAWAII	31	1852	2030	N10 E11	5344	98	2	3	1909	9.50	9.70		
SAC PEAK	31	2029 E	2054	N10 E10	5344	25 D	1	2		2.50			15
SAC PEAK	31	2029 E	2046	S09 W42	5340	17 D	1	2		2.18			17
SAC PEAK	31	2222	2332	S08 W46	5340	70	26	2		9.28			35
HAWAII	31	2234	2330	S07 W46	5340	56	26	3	2252	13.60	20.60		
LOCKHEED	31	2235	2323	S08 W46	5340	48	26	3		5.50			
SAC PEAK	31	2316	2344	S28 W53	5340	28	1	2		2.32			16

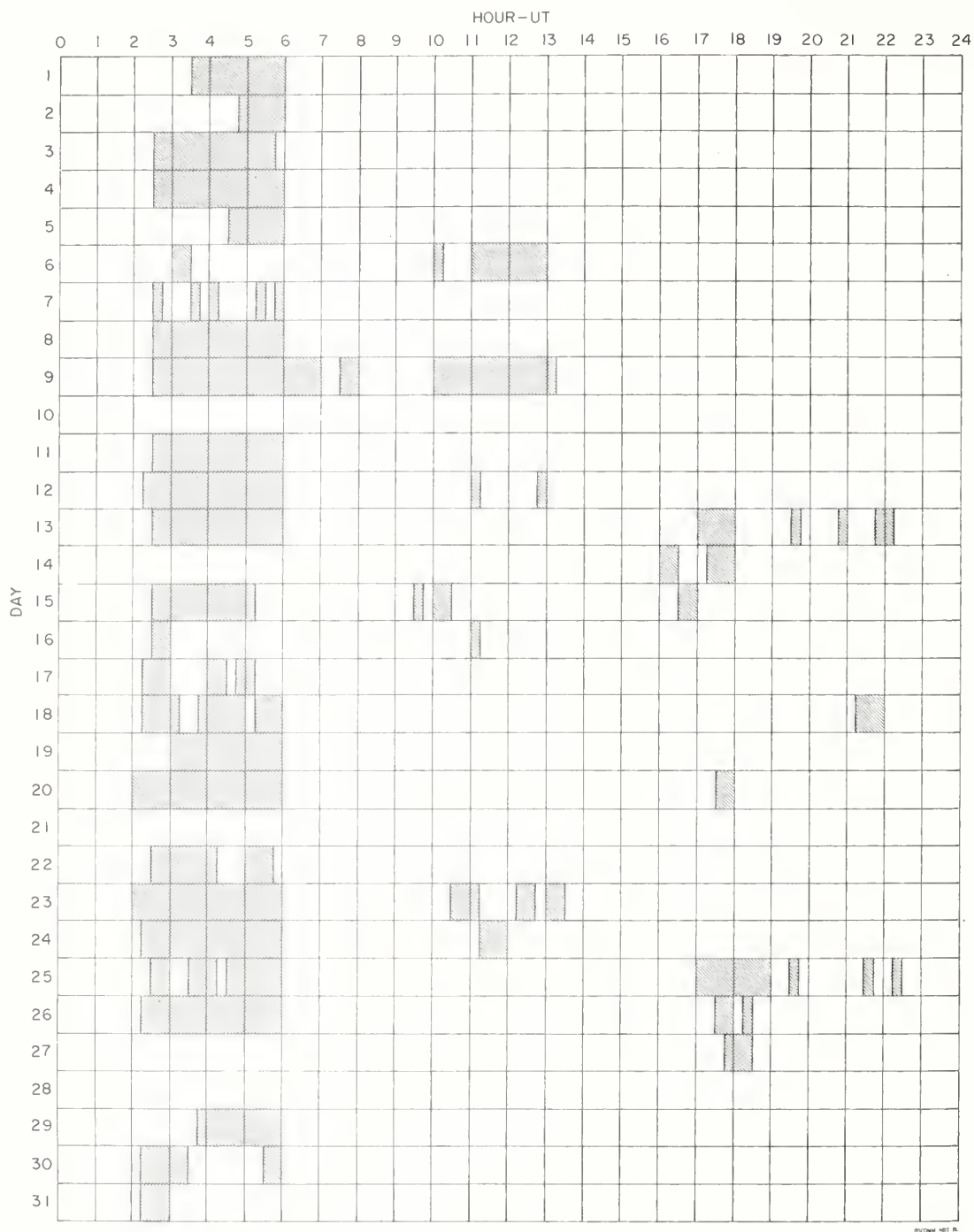
Errata:

The areas reported for Sacramento Peak in the July 1959 flare table published in CRPL-F 180 Part B, August 1959, were incorrectly placed in the corrected area column. They belong in the measured area column.

CAPRI G	ANACAPRI - GERMAN	MOSCOW-G	MOSCOW - GAISH	SAC PEAK:	ALL VALUES IN MAX. INT. COLUMN ARE
CAPRI S	ANACAPRI - SWEDISH	R O EDIN	ROYAL OBSERVATORY, EDINBURGH		ARBITRARY UNITS (0-40), NOT PERCENT
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX		OF CONTINUOUS SPECTRUM.
KIEV*	KIEV UNIVERSITY	SAC PEAK	SACRAMENTO PEAK		E - LESS THAN
KODAIKANAL	KODAIKANAL	SCHAUNS	SCHAUNSLAND		D - GREATER THAN
KRASNYA	KRASNYA PAKHRA	USNL	UNITED STATES NAVAL RESEARCH LABORATORY		U - APPROXIMATE
LOCKHEED	LOS ANGELES				□ - NOT REPORTED

INTERVALS OF NO FLARE PATROL OBSERVATIONS

AUGUST 1959



Stations Include:

Anacapri (Swedish)	Meudon
Arcetri	Mitaka
Arosa	Nizamiyah
Climax	Royal Greenwich Observatory
Dunsink	Herstmonceux
Hawaii	Sacramento Peak
Huancayo	Simeiz
Locarno	Zurich.
Lockheed	

SUBFLARES

III

Noted as follows: Date-Universal Time - Coordinates

JULY 1959

LOCKHEED	01	0008	N11 W15	MCMAH	05	1728	N11 W26	LOCARNO	10	1010	N15 E57
LOCKHEED	01	0012	N11 W15	MCMAH	05	1801	N11 W13	MCMAH	10	1159	N11 W55
LOCKHEED	01	0058	N09 W17	MCMAH	05	1859	N10 W20	MCMAH	10	1235	E20 E90
LOCKHEED	01	0146	N21 W41	MCMAH	05	1914	N16 W64	MCMAH	10	1246	N13 E55
MCMAH	01	1121	N15 W45	MCMAH	05	2034	N11 W20	MCMAH	10	1316	N14 W66
* CAPRI S	01	1140	N15 W49	LOCKHEED	05	2139	N10 W10	* MCMAH	10	1316	N06 E55
MCMAH	01	1144	S15 W85	MCMAH	05	2210	N10 W19	* WENDEL	10	1316	E16 E52
SAC PEAK	01	1408	N13 E46	SAC PEAK	05	2235	N8 W23	* CAPRI S	10	1317	E16 E55
SAC PEAK	01	1408	N11 W90	SAC PEAK	05	2333	N10 E90	* LOCARNO	10	1320	N17 E56
SAC PEAK	01	1705	E	* HAWAII	05	2338	N11 W22	* LOCARNO	10	1410	N10 W80
LOCKHEED	01	1728	S10 W41	* SAC PEAK	05	2341	N09 W24	WENDEL	10	1446	E16 E57
MCMAH	01	1730	E					CLIMAX	10	1645	S28 E90
LOCKHEED	01	1834	N11 W43					MCMAH	10	1645	S29 E90
* LOCKHEED	01	1915	N17 W69	CAPRI S	06	1158	N10 W45	MCMAH	10	1646	S17 E26
LOCKHEED	01	1918	N15 E35	MCMAH	06	1212	N10 W30	SAC PEAK	10	1646	E26 E90
LOCKHEED	01	1956	N12 E46	MCMAH	06	1524	N12 W31	MCMAH	10	1648	S15 E25
SAC PEAK	01	1958	N34 W31	MCMAH	06	1553	N16 W25	MCMAH	10	1730	E15 E55
SAC PEAK	01	2010	N28 W57	LOCKHEED	06	1625	N16 W26	MCMAH	10	1750	N16 W05
LOCKHEED	01	2011	N15 E61	MCMAH	06	1625	N16 W35	LOCKHEED	10	1751	N17 E05
LOCKHEED	01	2014	N10 W57	LOCKHEED	06	1634	N17 W40	MCMAH	10	1817	S18 E26
MCMAH	01	2105	E	MCMAH	06	1635	N11 W20	LOCKHEED	10	1823	S22 E90
LOCKHEED	01	2202	N15 W50	SAC PEAK	06	1655	N11 W20	MCMAH	10	1823	S24 E90
LOCKHEED	01	2205	N14 E39	LOCKHEED	06	1808	N13 W24	MCMAH	10	1925	E14 W85
CLIMAX	01	2205	N12 E98	MCMAH	06	1808	N13 W22	MCMAH	10	2002	S29 E90
LOCKHEED	01	2233	N15 E44	LOCKHEED	06	1810	N17 W09	MCMAH	10	2036	E14 W85
SAC PEAK	01	2240	N29 W58	LOCKHEED	06	1835	N15 W47	MCMAH	10	2046	N14 W85
LOCKHEED	01	2241	N29 W58	LOCKHEED	06	1857	N13 W25	MCMAH	10	2047	E20 W86
LOCKHEED	01	2243	N22 W63	LOCKHEED	06	1905	N17 W41	HAWAII	10	2050	N14 W82
* LOCKHEED	01	2248	N18 E62	* SAC PEAK	06	1926	N13 W28	MCMAH	10	2140	S17 E24
LOCKHEED	01	2307	N17 W69	* HUANCAYO	06	1939	E12 W27	MCMAH	10	2243	E15 E21
SAC PEAK	01	2310	N17 W67	SAC PEAK	06	1942	N13 E46	LOCKHEED	10	2251	S14 E20
				LOCKHEED	06	1942	N15 W47	MCMAH	10	2252	N08 W48
				MCMAH	06	1944	N12 E46	LOCKHEED	10	2252	N07 W37
* LOCKHEED	02	0127	S17 W11	HUANCAYO	06	1950	N08 E30	HAWAII	10	2304	S14 E20
LOCKHEED	02	0119	S15 W55	LOCKHEED	06	2037	N16 W49				
LOCKHEED	02	0213	S15 W54	MCMAH	06	2135	N12 W29	CLIMAX	11	0014	S29 E90
CAPRI S	02	0541	E	LOCKHEED	06	2137	N12 W28	CAPRI G	11	0053	E17 W12
* CAPRI S	02	0543	E	SIMEIZ	06	2155	N10 W34	WENDEL	11	0609	E13 E47
* CAPRI G	02	0553	N04 W80	CAPRI G	06	2158	N17 W12	WENDEL	11	0616	E16 W69
CAPRI G	02	0554	E	SAC PEAK	06	2159	N17 W12	* ARCTETRI	11	0841	E17 E46
SAC PEAK	02	1256	N11 E14	LOCKHEED	06	2159	N17 W11	* LOCARNO	11	0922	N16 E41
SAC PEAK	02	1336	N18 E56	MCMAH	07	0144	S03 E54	MCMAH	11	1219	E16 W84
MCMAH	02	1340	N18 E57	LOCKHEED	07	0650	N07 W40	MCMAH	11	1239	E20 E70
MCMAH	02	1351	N16 E57	SIMEIZ	07	0651	N07 W41	MCMAH	11	1240	E15 E45
LOCARNO	02	1430	N24 W81	CAPRI G	07	0653	N07 W41	MCMAH	11	1240	E15 E45
LOCKHEED	02	1616	S16 W68	* CAPRI G	07	0715	N18 E39	SAC PEAK	11	1253	E14 W90
LOCKHEED	02	1748	N08 W62	* CAPRI S	07	0719	N18 E40	MCMAH	11	1355	E09 W53
MCMAH	02	1738	S12 W62	* STOKHOLM	07	0731	N16 W11	SAC PEAK	11	1450	N16 W74
LOCKHEED	02	1808	N27 W14	MCMAH	07	1048	N10 E28	MCMAH	11	1507	N16 E45
HAWAII	02	1811	N28 W13	MCMAH	07	1057	S11 E31	CAPRI G	11	1511	E16 E41
MCMAH	02	2110	E	LOCARNO	07	1125	N11 W44	SAC PEAK	11	1542	N14 W90
LOCKHEED	02	2306	N28 W16	LOCARNO	07	1125	N11 W44	SAC PEAK	11	1716	N16 W41
LOCKHEED	02	2310	N16 W72	MCMAH	07	1248	E	MCMAH	11	1845	N04 E45
				* CAPRI G	07	1249	N12 W39	LOCKHEED	11	2006	S14 E08
CAPRI G	03	0529	E	* MCMAH	07	1256	N18 E50	MCMAH	11	2022	S26 E60
CAPRI G	03	0730	E	* CAPRI S	07	1627	N11 W38	* LOCKHEED	11	2100	E17 E37
MCMAH	03	1138	N16 E35	LOCKHEED	07	1626	N15 W46	MCMAH	11	2240	E09 W59
STOKHOLM	03	1050	E	LOCKHEED	07	1824	N13 E33	MCMAH	11	2311	E19 E27
MCMAH	03	1114	N19 E48	LOCKHEED	07	2258	N10 W45				
SAC PEAK	03	1324	N27 W46					* CAPRI S	12	0626	E
LOCARNO	03	1535	E	* CAPRI G	08	0618	E	* CAPRI S	12	0634	E
LOCKHEED	03	1628	N10 E07	WENDEL	08	0618	E	* WENDEL	12	0857	E
MCMAH	03	1653	N18 E58	WENDEL	08	0744	E	CAPRI G	12	0914	E
SAC PEAK	03	1700	E	WENDEL	08	0823	E	* MCMAH	12	1210	E
MCMAH	03	1801	N36 E54	MCMAH	08	1106	N14 E88	* CAPRI S	12	1213	E
MCMAH	03	1810	N10 E08	MCMAH	08	1131	N14 E88	* CAPRI S	12	1214	E
MCMAH	03	1827	E	MCMAH	08	1141	N14 E88	LOCARNO	12	1315	E
HAWAII	03	1844	N11 E08	MCMAH	08	1239	N14 W48	MCMAH	12	1316	E
MCMAH	03	1910	N10 E08	MCMAH	08	1315	N13 W57	MCMAH	12	1338	E
MCMAH	03	1918	N11 E19	MCMAH	08	1342	N18 W31	MCMAH	12	1419	E
LOCKHEED	03	1919	N12 E18	MCMAH	08	1411	N14 E86	MCMAH	12	1520	E
SAC PEAK	03	1922	E	MCMAH	08	1432	N13 W50	CLIMAX	12	1603	E
HAWAII	03	1930	E	MCMAH	08	1442	N14 E88	MCMAH	12	1628	E
MCMAH	03	2019	S15 W31	MCMAH	08	1457	N12 E29	MCMAH	12	1633	E
LOCKHEED	03	2047	S14 W34	MCMAH	08	1512	N13 W50	* CLIMAX	12	1633	E
MCMAH	03	2059	N09 E05	HUANCAYO	08	1534	E	WENDEL	12	1642	E
LOCKHEED	03	2122	N08 W48	MCMAH	08	1546	N15 E78	MCMAH	12	1700	E
LOCKHEED	03	2253	N11 E16	* SAC PEAK	08	1551	N16 E83	SAC PEAK	12	1742	E
LOCKHEED	03	2356	N11 E16	* SAC PEAK	08	1557	E	MCMAH	12	1743	E
				* LOCKHEED	08	1623	N18 E83	LOCKHEED	12	1747	E
LOCKHEED	04	0210	N14 E12	CLIMAX	08	1624	N11 E26	N05 E70			
* CAPRI G	04	0627	E	* SAC PEAK	08	1624	N16 E85	SAC PEAK	12	1800	E
ARCTETRI	04	0935	E	MCMAH	08	1624	N15 E55	LOCKHEED	12	1801	E
STOKHOLM	04	1111	E	LOCKHEED	08	1657	N10 W58	MCMAH	12	1828	E
CAPRI G	04	1142	E	LOCKHEED	08	1716	N10 W57	SAC PEAK	12	1838	E
MCMAH	04	1113	N08 E67	MCMAH	08	1747	N16 E86	LOCKHEED	12	1908	E
MCMAH	04	1246	N11 W44	LOCKHEED	08	1821	N14 W52	MCMAH	12	1917	E
SAC PEAK	04	1319	E	LOCKHEED	08	1836	N13 W54	SAC PEAK	12	1940	E
MCMAH	04	1350	N11 E08	MCMAH	08	1849	N17 E74	* LOCKHEED	12	2003	E
MCMAH	04	1435	N14 W44	MCMAH	08	1850	N16 E85	* SAC PEAK	12	2008	E
CAPRI S	04	1415	E	HAWAII	08	1906	E	* SAC PEAK	12	2044	E
LOCARNO	04	1425	E	MCMAH	08	1927	N16 E85	LOCKHEED	12	2059	E
MCMAH	04	1436	N09 W04	MCMAH	08	1928	N26 E07	* LOCKHEED	12	2247	E
* MCMAH	04	1539	S03 E87	MCMAH	08	1942	N13 W53	SAC PEAK	12	2310	E
* CAPRI S	04	1540	E	MCMAH	08	2003	E	SAC PEAK	12	2318	E
LOCARNO	04	1605	N12 E16	LOCKHEED	08	2024	N13 W56	LOCKHEED	12	2321	E
MCMAH	04	1609	N09 W05	LOCKHEED	08	2034	N19 E83	SAC PEAK	12	2322	E
LOCKHEED	04	1650	N26 W40	LOCKHEED	08	2121	N14 E83				
MCMAH	04	1727	E	MCMAH	08	2134	E	LOCKHEED	13	0000	E
LOCKHEED	04	1811	N08 E17	MCMAH	08	2134	E	CAPRI G	13	0522	E
HAWAII	04	1812	N12 E16	MCMAH	08	2151	N13 W56	CAPRI G	13	0601	E
SAC PEAK	04	1815	E	MCMAH	08	2232	E	WENDEL	13	0604	E
HAWAII	04	1824	N14 E10	MCMAH	08	2242	N13 W56	WENDEL	13	0609	E
MCMAH	04	1831	N08 W48	MCMAH	08	2245	N07 E11	LOCARNO	13	0738	E
MCMAH	04	2013	N14 E10	LOCKHEED	08	2248	N07 E11	ARCTETRI	13	0847	E
MCMAH	04	2017	N09 W06	LOCKHEED	08	2250	S13 E09	* CAPRI S	13	1000	E
MCMAH	04	2030	N09 W16	MCMAH	08	2251	S16 E54	* MCMAH	13	1050	E
HAWAII	04	2044	N09 W06	MCMAH	08	2251	N18 W41	MCMAH	13	1205	E
MCMAH	04	2058	N09 W16	LOCKHEED	08	2336	N16 W50	CAPRI G	13	1207	E
MCMAH	04	2111	N09 W09					* CAPRI S	13	1325	E
MCMAH	04	2126	N09 W07	LOCKHEED	09	0024	N16 E17	MCMAH	13	1440	E
MCMAH	04	2210	N09 W07	LOCKHEED	09	0048	N13 W55	MCMAH	13	1507	E
LOCKHEED	04	2234	N12 E13	HAWAII	09	0052	N13 W56	MCMAH	13	1535	E
MCMAH	04	2241	N11 E17	* CAPRI S	09	0056	N13 W56	MCMAH	13	1600	E
LOCKHEED	04	2249	N03 W19	WENDEL	09	0056	E	SAC PEAK	13	1610	E
LOCKHEED	04	2313	N15 W06	* CAPRI S	09	0704	E	LOCARNO	13	1617	E
				* SIMEIZ	09	0717	E	MCMAH	13	1725	E
HAWAII	05	0018	N09 W09	MCMAH	09	1101	E	SAC PEAK	13	1728	E
LOCKHEED	05	0018	N09 W09	* CLIMAX	09	1252	N22 W47	SAC PEAK	13	1742	E
HAWAII	05	0126	N09 W09	* STOKHOLM	09	1254	N22 W46	* SAC PEAK	13	1826	E
WENDEL	05	0508	E	WENDEL	09	1451	E	* LOCKHEED	13	1827	E

Noted as follows: Date-Universal Time-Coordinates

JULY 1959

MCMAH	13 2231	N16 E70	CAPRI	19 1341 L	N29 E29	JAC PEAK	27 1458	N25 E11
MCMAH	13 2245 E	N16 E56	MCMAH	19 2015	N20 W90	* HIANCAYO	27 1504 E	N10 E41
SAC PEAK	13 2304 E	N17 E56	SAC PEAK	19 2151	N18 W70	LOCARNO	27 1504 E	N26 E27
LOCKHEED	13 2337	N08 W07	LOCKHEED	19 2228 E	N12 W70	SAC PEAK	27 1602	N09 E56
SAC PEAK	13 2338	N08 W06	SAC PEAK	19 2250 U	N12 W70	MCMAH	27 1706	N23 E27
LOCKHEED	14 0002	N11 E79	LOCKHEED	20 0018	N11 E23	LOCKHEED	27 1728	N11 E66
MCMAH	14 0922 E	N12 E10	* LOCARNO	20 0800	N20 W90	LOCKHEED	27 1734	N15 W62
MCMAH	14 1056 E	N21 W03	* ARCTRI	20 0840	N15 W08	MCMAH	27 1740	N08 E47
* MCMAH	14 1140	N13 E05	* CAPRI G	20 0851 E	N16 W05	* LOCKHEED	27 1741	N10 E46
* CAPRI S	14 1144 E	N11 E05	SAC PEAK	20 1336	N13 W06	LOCKHEED	27 1859	N09 E46
* MCMAH	14 1249	N03 E22	* SAC PEAK	20 1348	N18 E67	SAC PEAK	27 1812 E	N09 E47
* MCMAH	14 1330	N15 W02	* SAC PEAK	20 1524	N13 W09	LOCKHEED	27 1815	N24 E73
SAC PEAK	14 1558	N16 W05	MCMAH	20 1528 E	N13 W09	MCMAH	27 1817	N24 E74
LOCKHEED	14 1600	N16 W05	* JAC PEAK	20 1536	N11 W80	LOCKHEED	27 1848	N08 E46
SAC PEAK	14 1614	N14 W90	* CLIMAX	20 1540	N12 W80	LOCKHEED	27 1905	N09 E45
MCMAH	14 1615	N14 W90	LOCKHEED	20 1851	N19 W37	LOCKHEED	27 1927	N12 E43
LOCKHEED	14 1617	N14 W90	LOCKHEED	20 1926	N15 W46	HIANCAYO	27 1930	N10 E41
LOCKHEED	14 1623	N18 E12	LOCKHEED	20 1935	N31 W17	* MCMAH	27 2007	N11 E68
SAC PEAK	14 1623	N18 E12	MCMAH	20 2052	N21 W17	HAWAII	28 0010	N14 E66
LOCKHEED	14 1629	N19 W12	LOCKHEED	20 2149	N14 E25	* LOCKHEED	28 0026	N10 E41
SAC PEAK	14 1633	N13 E11	LOCKHEED	20 2221	N22 W90	HAWAII	28 0028	N10 E40
* LOCKHEED	14 1733 E	N13 E71	LOCKHEED	20 2322	N22 W90	* CAPRI G	28 0031	N11 E64
LOCKHEED	14 1830	N19 W19	* CAPRI S	21 1025 E	S17 E50	* STOCKHOLM	28 0010	N31 E37
SAC PEAK	14 1950	N20 E18	SAC PEAK	21 1442	N20 W56	MCMAH	28 0121 E	N12 E32
MCMAH	14 1950	N20 E18	CAPRI G	21 1442 E	N20 W51	* MCMAH	28 0124	N23 E14
LOCKHEED	14 1952	N20 E18	LOCKHEED	21 2015	N14 W25	MCMAH	28 0131	N23 E14
MCMAH	14 2004	N12 W02	LOCKHEED	21 2024	S20 E90	* WENDEL	28 0131	N31 E32
LOCKHEED	14 2026	N08 E21	LOCKHEED	21 2025	S16 E90	MCMAH	28 0131	N31 E32
SAC PEAK	14 2028	N05 E20	LOCKHEED	21 2041	N14 W25	MCMAH	28 0131	N31 E32
SAC PEAK	14 2028	N14 E20	LOCKHEED	21 2053	N19 W13	* MCMAH	28 0131	N31 E32
MCMAH	14 2028	N12 W02	SAC PEAK	22 1518	S16 E80	* WENDEL	28 0131	N31 E32
LOCKHEED	14 2030	N12 W02	* SAC PEAK	22 1530	S15 E78	MCMAH	28 0131	N31 E32
LOCKHEED	14 2050	N14 W08	* CLIMAX	22 1533	S15 E79	MCMAH	28 0131	N31 E32
SAC PEAK	14 2052	N14 W07	LOCKHEED	22 1726	N12 E90	MCMAH	28 0131	N31 E32
MCMAH	14 2052	N17 W06	HAWAII	22 2018	S17 E36	SAC PEAK	28 0131	N31 E32
LOCKHEED	14 2127	N17 W06	LOCKHEED	22 2329	N31 W41	SAC PEAK	28 0131	N31 E32
MCMAH	14 2129	N14 W05	* LOCKHEED	22 2451	N15 W37	MCMAH	28 0131	N31 E32
SAC PEAK	14 2130	N15 W03	LOCKHEED	23 1646	N23 E79	SAC PEAK	28 0131	N31 E32
LOCKHEED	14 2324	N26 E58	LOCKHEED	23 1756	N23 E79	MCMAH	28 0131	N31 E32
* STOCKHOLM	15 1954 E	N15 W08	LOCKHEED	23 2118	N27 E17	CAPRI G	28 0131	N31 E32
* SAC PEAK	15 1610	N12 W11	HAWAII	23 2121	N27 E17	SAC PEAK	28 0131	N31 E32
JAC PEAK	15 1618	N18 W14	LOCKHEED	23 2230	S19 E21	LOCKHEED	28 0131	N31 E32
SAC PEAK	15 1708	N15 W16	APCTRI	24 0222 E	N11 W57	LOCKHEED	28 0131	N31 E32
JAC PEAK	15 1731	N16 W15	SAC PEAK	24 1341	N18 E54	LOCKHEED	28 0131	N31 E32
LOCKHEED	15 1750	N16 W15	LOCKHEED	24 1534	N31 E65	JAC PEAK	28 0131	N31 E32
LOCKHEED	15 1756	N18 W15	LOCKHEED	24 1538	N23 E69	LOCKHEED	28 0131	N31 E32
* SAC PEAK	15 1800	N20 W17	LOCKHEED	24 1625	N15 E70	HAWAII	28 0131	N31 E32
LOCKHEED	15 1802	N15 W12	LOCKHEED	24 1630	N26 E71	MCMAH	28 0131	N31 E32
* LOCKHEED	15 1825	N17 W11	SAC PEAK	24 1734	N12 E82	LOCKHEED	28 0131	N31 E32
* LOCKHEED	15 1911	S29 E21	LOCKHEED	24 1735	N11 E80	LOCKHEED	28 0131	N31 E32
LOCKHEED	15 2042	N20 W18	MCMAH	24 1735	N11 E80	LOCKHEED	28 0131	N31 E32
* LOCKHEED	15 2139	N20 W18	LOCKHEED	24 1736	N18 E23	LOCKHEED	28 0131	N31 E32
* LOCKHEED	15 2158	N11 W18	LOCKHEED	24 2012	N11 E85	LOCKHEED	28 0131	N31 E32
LOCKHEED	15 2211	N15 W20	LOCKHEED	24 2033	N09 E80	LOCKHEED	28 0131	N31 E32
SAC PEAK	15 2334 E	N07 E07	MCMAH	24 2042 E	N11 E90	LOCKHEED	28 0131	N31 E32
SAC PEAK	15 2336	S15 W47	CLIMAX	24 2052	N11 E90	LOCKHEED	28 0131	N31 E32
SAC PEAK	15 2336	S15 W47	SAC PEAK	24 2054	N11 E90	LOCKHEED	28 0131	N31 E32
* LOCKHEED	15 2346	N21 W19	LOCKHEED	24 2122	N11 E79	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 0021	N16 W22	LOCKHEED	24 2148	N12 E80	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 0024	N06 E04	LOCKHEED	24 2148	N12 E80	LOCKHEED	28 0131	N31 E32
HAWAII	16 0028	N13 W22	LOCKHEED	24 2148	N12 E80	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 0206	N15 W20	LOCKHEED	24 2212	N09 E78	LOCKHEED	28 0131	N31 E32
* ARCTRI	16 0206 E	N15 W20	LOCKHEED	24 2256	N14 E81	LOCKHEED	28 0131	N31 E32
STOCKHOLM	16 0944	N12 E21	LOCKHEED	24 2304	N12 E80	LOCKHEED	28 0131	N31 E32
ARCTRI	16 0947 E	N12 W22	LOCKHEED	24 2318	N12 E80	LOCKHEED	28 0131	N31 E32
MCMAH	16 1149	N15 W19	LOCKHEED	25 0002	N12 E78	LOCKHEED	28 0131	N31 E32
MCMAH	16 1215	S07 W65	LOCKHEED	25 0008	N12 E78	LOCKHEED	28 0131	N31 E32
MCMAH	16 1350	S07 W65	LOCKHEED	25 0010 E	N12 E79	LOCKHEED	28 0131	N31 E32
LOCARNO	16 1535	S12 W65	LOCKHEED	25 0051	N18 E41	LOCKHEED	28 0131	N31 E32
* SAC PEAK	16 1538	N13 W15	LOCKHEED	25 0112	N12 E88	LOCKHEED	28 0131	N31 E32
* MCMAH	16 1540 E	N15 W33	MCMAH	25 1210 E	N10 E65	LOCKHEED	28 0131	N31 E32
SAC PEAK	16 1631	N16 W11	MCMAH	25 1246	N35 E80	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1705	N20 E11	LOCKHEED	25 1511	N12 E70	LOCKHEED	28 0131	N31 E32
MCMAH	16 1718	N18 E18	LOCKHEED	25 1515 E	N10 E68	LOCKHEED	28 0131	N31 E32
* LOCKHEED	16 1721	N20 W28	LOCKHEED	25 1546	N25 E57	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1753	N21 E32	LOCKHEED	25 1719	N14 E71	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1834	N21 E32	LOCKHEED	25 1725 E	N22 E53	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1844	N14 W33	SAC PEAK	25 1726	N25 E55	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1908	N20 W31	SAC PEAK	25 1727	N24 E52	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1927	N15 W33	SAC PEAK	25 1731	N13 E71	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1929	N27 E08	SAC PEAK	25 1732	S17 E45	LOCKHEED	28 0131	N31 E32
LOCKHEED	16 1929	N25 E31	SAC PEAK	25 1734	S20 E46	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 0040	N18 W35	LOCKHEED	25 1735	N03 E68	LOCKHEED	28 0131	N31 E32
MCMAH	17 1138 E	N18 W40	LOCKHEED	25 1806	N11 E82	LOCKHEED	28 0131	N31 E32
* CAPRI S	17 1219	N23 W36	LOCKHEED	25 1812 E	N12 E76	LOCKHEED	28 0131	N31 E32
MCMAH	17 1239 E	N25 E25	MCMAH	25 1824	N11 E68	LOCKHEED	28 0131	N31 E32
* R U HERAT	17 1319	N12 E41	LOCKHEED	25 1843	N08 E72	LOCKHEED	28 0131	N31 E32
* SAC PEAK	17 1344 E	N11 W39	LOCKHEED	25 1910	N18 E45	LOCKHEED	28 0131	N31 E32
SAC PEAK	17 1430	N08 E31	LOCKHEED	25 1915	N14 E71	LOCKHEED	28 0131	N31 E32
LOCARNO	17 1618	N10 E28	LOCKHEED	25 1910	N10 E78	LOCKHEED	28 0131	N31 E32
* LOCKHEED	17 1703	N19 E28	LOCKHEED	25 1910	N10 E78	LOCKHEED	28 0131	N31 E32
* LOCKHEED	17 1833	N16 W46	LOCKHEED	25 1910	N10 E78	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 1842	N16 W45	LOCKHEED	25 1910	N10 E78	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 1903	N18 W36	LOCKHEED	25 1910	N10 E78	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 1922	N16 W46	LOCKHEED	25 1910	N10 E78	LOCKHEED	28 0131	N31 E32
* MCMAH	17 1945 E	N23 W43	LOCKHEED	25 2104	N11 E80	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 2019	N12 E34	LOCKHEED	25 2246	N12 E70	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 2136	N17 W47	LOCKHEED	25 2321	N10 E80	LOCKHEED	28 0131	N31 E32
LOCKHEED	17 2155	N21 W57	* LOCKHEED	26 0008	N25 E46	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 0111	N19 W61	ZUPICH	26 0816	N13 E58	LOCKHEED	28 0131	N31 E32
* SIMEIZ	18 0718	N15 E25	MCMAH	26 1006 E	S06 W25	LOCKHEED	28 0131	N31 E32
* SIMEIZ	18 0718	N22 W61	MCMAH	26 1321 E	S06 W25	LOCKHEED	28 0131	N31 E32
* SIMEIZ	18 0846	N13 W55	SAC PEAK	26 1401	N19 E74	LOCKHEED	28 0131	N31 E32
* ARCTRI	18 0901	N11 E21	SAC PEAK	26 1510	N11 E60	LOCKHEED	28 0131	N31 E32
* STOCKHOLM	18 1103	N21 W55	LOCKHEED	26 1513	N11 E60	LOCKHEED	28 0131	N31 E32
STOCKHOLM	18 1138	N21 W55	LOCKHEED	26 1529	N11 E63	LOCKHEED	28 0131	N31 E32
STOCKHOLM	18 1205	N08 E15	MCMAH	26 1610 F	S06 W25	LOCKHEED	28 0131	N31 E32
STOCKHOLM	18 1211	N15 E05	LOCKHEED	26 1617	N25 E46	LOCKHEED	28 0131	N31 E32
STOCKHOLM	18 1211	N14 W11	LOCKHEED	26 1630 E	N11 E62	LOCKHEED	28 0131	N31 E32
LOCARNO	18 1321	N21 W48	SAC PEAK	26 1637 E	N12 E62	LOCKHEED	28 0131	N31 E32
LOCARNO	18 1321	N21 W48	LOCKHEED	26 1705	N11 E55	LOCKHEED	28 0131	N31 E32
* SAC PEAK	18 1510	N19 E28	MCMAH	26 1709 E	N10 E56	LOCKHEED	28 0131	N31 E32
LOCARNO	18 1515	N20 W66	SAC PEAK	26 1710 E	N11 E55	LOCKHEED	28 0131	N31 E32
CAPRI S	18 1538 E	N19 W66	LOCKHEED	26 1738	N09 E62	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 1653	N15 E48	LOCKHEED	26 1811	N08 E73	LOCKHEED	28 0131	N31 E32
SAC PEAK	18 1718	N19 W70	LOCKHEED	26 1820	N35 E58	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 1719	N19 W70	MCMAH	26 1821 E	N36 E60	LOCKHEED	28 0131	N31 E32
* LOCKHEED	18 1754	N18 W59	LOCKHEED	26 2006	N09 E70	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 1809	N19 E20	LOCKHEED	26 2140	N12 E70	LOCKHEED	28 0131	N31 E32
HAWAII	18 1812	N17 E19	LOCKHEED	26 2155	N17 E56	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 1909	N14 W62	MCMAH	26 2155	N06 E58	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 1924	N13 W61	* LOCKHEED	27 0149	N27 E35	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 1941	N35 E14	* SIMEIZ	27 0725	N12 E91	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 2031	N14 W62	* ARCTRI	27 0835 E	N08 E58	LOCKHEED	28 0131	N31 E32
LOCKHEED	18 2034	N14 W63	* LOCARNO	27 0951	N09 E61	LOCKHEED	28 0131	N31 E32
HAWAII	18 2326	N13 W63	* STOCKHOLM	27 1030	N20 E31	LOCKHEED	28 0131	N31 E32
CAPRI G	19 0556 E	N22 W70	* MCMAH	27 1142	N36 E5			

SOLAR FLARES

MAY 1959

OBSERVATORY	DATE	OBSERVED UNIVERSAL TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	APPROX. LAT.	McMATH PLAGE REGION				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g		MAX. INT. %	
{ SYDNEY KRASNYA MEUDON VOROSHILOV	01	0231	0251	0237	U	N10 W39	5117	20	1	2	0237	2.00	2.50	83	slow S-SWF
	01	0735	E 0829	D 0748		N17 E07	5122	54	2	2	0748		5.40		
	01	0812	E 0835			N20 E10	5122	23	1				10.00		64
	01	2153	2154	2153		N25 W80	5110	1	1	1	2153		3.64		
LOCKHEED	02	2355	0042	0013		N16 W50	5117	47	1	1		2.30			
	03	0323	E 0353	0324		N15 W51	5120	30	2	2	0324		3.00	5.40	145
{ TASHKENT ONDREJOV ABASTUMANI ONDREJOV ONDREJOV SIMEIZ ABASTUMANI SIMEIZ KRASNYA ABASTUMANI MEUDON ONDREJOV	03	0453	E 0512			N15 W51	5120	19	1	1	0455		2.50		S-SWF
	03	0630	E 0740	D 0708	U	N17 W54	5120	70	1	2	0709		2.00	1.60	115
	03	0637	0651			S09 W22	5124	14	1	2	0640		2.10		
	03	0658	0707	0700		N15 W52	5120	9	1	3	0700		3.20		
{ SIMEIZ ABASTUMANI SIMEIZ KRASNYA ABASTUMANI MEUDON ONDREJOV	03	0701	E 0742	D 0707		N16 W55	5120	41	1	1	0701		2.00	2.00	124
	03	0759	E 0828	D 0803	U	S06 W25	5124	29	1	2	0803		4.80	1.80	96
	03	0803	E 0850	D 0806		S07 W24	5124	47	16	1	0804		4.50	2.90	120
	03	0800	0801	0800		N15 E85	5147	1	1	2	0800		4.50		58
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	03	0904	E 0930	D 0907	U	N18 W19	5122	26	1	2	0907		3.90	2.20	110
	03	0913	E 0954			N20 W20	5122	41	1				4.00		
	03	1500	E 1507			N15 W55	5120	7	1	3	1500		3.10		
	04	0347	0515	0402		N11 W70	5120	88	16	2	0402		20.00	5.30	90
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	04	0652	0716	0656		N14 W63	5120	24	1	3	0656		2.60		S-SWF
	04	0822	E 0832	D		N09 W80	5120	10	1	2					
	04	0859	E 1410			N14 W74	5120	7	1	3	0859	.82	4.70	2.10	
	04	1412	E 1427			N19 W40	5122	15	1	3	1414			2.60	
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	04	1418	E 1425			N19 W66	5120	7	1	3	1419			3.10	
	04	2320	E 2332	2323		N24 E90	5147	12	D	2	2323	1.00			Slow S-SWF
	04	2331	2349	2337		N16 W83	5120	18	D	2	2337	4.00			
	04	2332	2343	2337		N19 W83	5120	11	16	2	2337		4.45		140
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	04	2343	0040	2349		N24 E90	5147	57	D	2	2349	.75			
	05	0020	0024	0023		N18 W74	5120	4	1	2	0023		2.84		71
	05	0042	0046	0043		N15 E90	5147	4	D	2	0043	.50			
	05	0048	0130	0112		N23 E90	5147	42	1	2		2.10			
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	05	0053	0125	0103		N27 E89	5147	32	D	2	0103	.75			
	05	0111	0120	0114		N27 E89	5147	9	D	2	0114				
	05	0133	0147	0139		N16 W84	5120	14	D	2	0139	3.00			
	05	0152	0206	0157		N07 W89	5120	14	D	2	0157	.50			
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	05	0238	0241	0239		N27 E89	5147	3	D	2	0239				
	05	0312	0320	0313		N07 W90	5120	8	D	2	0313	.50			
	05	0346	0429	D 0404		N24 E88	5147	43	D	2	0404	.75			
	05	0350	0413	0355		N27 E88	5147	23	D	2	0355	1.00			
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	05	0442	0508	0450		S05 W90	5124	26	D	2	0450	.50			
	05	0455	0505	0458		N16 W85	5120	10	D	2	0458	2.00			
	05	0459	0505	0505		N18 W51	5122	9	1	2	0505	1.50	3.00		S-SWF
	05	0459	E 0725	D 0715	U	N19 W90	5120	22	D	1	0715		3.00	2.90	76
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	05	0818	E 0839	D		N15 W86	5120	21	D	1	0839	.20			
	05	0827	E 0842	D		N25 E90	5147	15	D	16	0827	.56			
	05	0902	0929			N17 W90	5120	27	D	3					
	05	0905	E 0912	D		N15 W86	5120	7	D	16					
{ TASHKENT ONDREJOV ARCETRI ARCETRI ONDREJOV ONDREJOV SYDNEY VOROSHILOV SYDNEY	05	0907	E 0912	D		N25 E90	5147	5	D	3					
	05	0907	E 0916	D		N17 W86	5120	9	D	3	0907	1.35	19.35		Slow S-SWF

SOLAR FLARES

MAY 1959

OBSERVATORY	DATE MAY 1959	OBSERVED UNIVERSAL TIME		MAX. PHASE	LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS		MAX. WIDTH H _g	MAX. INT. %	PROVISIONAL IONOSPHERIC EFFECT
		START	END		APPROX. LAT.	APPROX. MATH. PLAGE REGION				TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		
{ ARCETRI { GOOD HOPE MEUDON ARCETRI { GOOD HOPE KIEV GOOD HOPE VOROSHILOV VOROSHILOV	05	0909 E	0914 D	1018	N15 W48	5122	5 D	1	3	0909	1.70	2.60		
	05	1008	1052		N16 W85	5120	44	1		1018	.90			
	05	1014	1052		N17 W90	5120	38	1						
	05	1048 E	1142 D		S05 W55	5124	54 D	1	3					
	05	1235	1317 D	1237	N24 E90	5147	42 D	16		1237	1.10		81	S-SWF
	05	1235	1324	1238	N23 E90	5147	49	16		1237				
	05	1305	1317 D	1307	N16 W85	5120	12 D	1		1307	1.00			
	05	2227	2237	2228	N25 E85	5147	10	1	2	2228		4.24	72	
	05	2352	0003	2353	N24 E80	5147	11	2	2	2353		6.02	100	
	06	0008	0014	0009	N24 E80	5147	6	2	2	0009		5.30	89	S-SWF
{ VOROSHILOV VOROSHILOV VOROSHILOV VOROSHILOV TASHKENT { TASHKENT ONDERHOV TASHKENT SIMEIZ SIMEIZ ONDERHOV SIMEIZ { KRASNYA ONDERHOV SCHAUINS KRASNYA ONDERHOV MOSCOW G NEDERHORST MOSCOW G SCHAUINS NEDERHORST { ONDERHOV UCCLE UCCLE SCHAUINS VOROSHILOV	06	0023	0044	0026	S16 E51	5133	21	16		0026		3.44	80	S-SWF
	06	0052	0112	0104	N24 E85	5148	20	2	1	0104		5.28	97	
	06	0142	0200 D	0150	N26 E90	5147	18 D	16		0150				
	06	0350	0402	0357	N26 E79	5147	12	16	3	0359		10.00	95	
	06	0440	0558	0444	N26 E79	5147	78	16	3	0445		6.00	145	S-SWF
	06	0444	0458		N23 E72	5147	14	16	3	0447				
	06	0521	0539	0533	N26 E78	5147	18	16	3	0533		8.00	85	
	06	0651 E	0658 D	0652	N24 E72	5147	7 D	1	2	0652		4.00	68	
	06	0656	0725	0701	S08 W66	5124	29	1	2	0701		2.00	92	
	06	0700	0711	0701	N23 E71	5147	11	1	2	0701				
{ SIMEIZ ONDERHOV SCHAUINS KRASNYA ONDERHOV MOSCOW G NEDERHORST MOSCOW G SCHAUINS NEDERHORST { ONDERHOV UCCLE UCCLE SCHAUINS VOROSHILOV	06	0725 E	0735 D	0730	N24 E72	5147	10 D	16	2	0729		5.00	112	
	06	0726	0730 D	0729	N24 E72	5147	4 D	16	3	0729		3.00	84	
	06	0729 E	0740		N23 E70	5147	11 D	16	3	0729				
	06	0822 E	0922 D		N23 E73	5147	60 D	16	3					
	06	0905 E	1020 D		N24 E68	5147	75 D	16	3					
	06	0906	0921 D	0915	N24 E72	5147	15 D	1	2	0915		5.00	69	
	06	0907	0925	0911	N23 E69	5147	18	16	3	0911		2.50		
	06	0907 E	1010 D	0916	N26 E75	5147	63 D	2	1	0916		10.40	170	S-SWF
	06	1011	1016 D		N23 E69	5147	5 D	2	3					
	06	1026 E	1100 D		N30 E70	5147	34 D	16	3	1033		8.90	120	
{ ONDERHOV SCHAUINS NEDERHORST { ONDERHOV UCCLE UCCLE SCHAUINS VOROSHILOV	06	1030 E	1335 D		N27 E75	5147	8 D	2	1					
	06	1327 E	1339		N23 E66	5147	11	16	2	1331		7.50		
	06	1328 E	1339		N23 E67	5147	11	16	2					
	06	1343 E			N27 E80	5147	16	16	2					
	06	1559			N27 E87	5147	16	16	4					
	06	1710 E	1732 D		S16 E40	5133	22 D	16	1					
	06	2139	2149	2140	N34 E84	5147	10	1	3	2140		5.00	60	S-SWF
	07	1039 E	1044		S15 E30	5133	5 D	16	3	1040		3.08		
	07	1115 E			N25 E57	5147	1	16	3			2.40		
	07	1119	1125		N24 E55	5147	6	16	3	1121		3.50		
{ ONDERHOV VOROSHILOV VOROSHILOV SYDNEY SYDNEY SYDNEY SYDNEY SYDNEY SYDNEY SYDNEY	07	1327	1330	1328	N24 E54	5147	3	1	3	1328		2.60	60	
	07	2342	2359	2357	N23 E90	5148	17	1	2	2357				
	08	0027	0050	0035	N22 E90	5148	23	1	2	0035		1.00	74	
	08	0115 E	0135	0122	N23 E90	5148	20 D	16	2	0122		1.00		
	08	0115 E	0135	0122	N16 E88	5148	20 D	16	2	0122		1.00		
	08	0141	0214	0159	N24 E77	5148	33	16	2	0159		1.00		
	08	0210	0216 D	0215	N20 E86	5148	6 D	16	2	0215		1.00		
	08	0226 E	0238	0228	N12 E62	5148	12 D	16	2	0228		1.50		
	08	0226 E	0240	0229	N24 E77	5148	14 D	16	2	0226		.50		
	08	0226 E	0246	0235	N18 E86	5148	20 D	16	2	0235		1.50		

MAY 1959

COMMERCE - STANDARDS - BOULDER

SOLAR FLARES

MAY 1959

OBSERVATORY	DATE MAY 1959	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.	MC-MATH PLAGE REGION					MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	MAX. INT. %	
ONDREJOV	11	0900 E	0916	N27	E17	5147	16 D	1	3	0901			2.20		S-SWF
	11	1455	1500	N18	E42	5148	5	1	3	1458			2.10		
	11	1519	1526	N16	E39	5148	7	16	3	1520			2.70		
	11	1534 E	1541	S13	W31	5133	7 D	1	3	1534			2.10		
	11	1653 E	1700	N10	E43	5148	7 D	1	3	1655			2.10		
	11	2006	2130	N10	E42	5148	38	26	2		7.00				
	11	2037 E	2057 D	N14	E40	5148	20 D	2		2040	11.50				
SYDNEY	12	0412	0455 D	N22	E39	5148	43 D	1	1	0431	3.00	5.00	3.60		S-SWF
ONDREJOV	12	0703	0801	N10	W21	5146	58	2	3	0707			2.80		
ONDREJOV	12	0740 E	0748	N20	E20	5148	8 D	1	3	0741			2.40		S-SWF
ONDREJOV	12	0749 E	0806	N29	W11	5147	17 D	1	3	0750			2.60		
SCHAUINS	12	0809 E	0836	N10	W23	5146	27 D	2	2			7.00			
ONDREJOV	12	0845	0905	S16	W33	5133	20	1	3	0856			2.30		
ARCTRI	12	0853 E	0900 D	S17	W20	5144	7 D	1	3				2.00		
ONDREJOV	12	0911 E	0919	N11	W23	5146	8 D	1	3	0914			2.40		
ONDREJOV	12	0939	0952	N08	E34	5148	13	1	3	0946			2.20		
{KHARKOV	12	0941 E	0958	N07	E34	5148	17 K	1	2	0945			2.50		S-SWF
{GOOD HOPE	12	1009	1045 D	S16	W16	5144	36 D	1		1012	2.30		2.40		
MEUDON	12	1009	1100	S18	W17	5144	51	16	2	1022	2.00		3.50		
KHARKOV	12	1010	1056	S17	W17	5144	46	1	3	1012			2.40		
ARCTRI	12	1012 E		S17	W20	5144	34 D	2	3	1014			2.40		
ONDREJOV	12	1013 E	1047	S16	W20	5144	4 D	1	1				2.30		
SCHAUINS	12	1027 E	1031 D	S18	W15	5144	5 D	1	2				3.00		
ARCTRI	12	1044 E	1049 D	S17	W20	5144	5 D	1	1				2.70		Slow S-SWF
ONDREJOV	12	1255	1305 D	N09	E33	5148	10 D	1	3	1257			2.30		
ONDREJOV	12	1412	1437	N08	E32	5148	25	16	2	1423			3.00		
{UCCLE	12	1422 E	1425	N08	E31	5148	3 D	1	4						
ONDREJOV	12	1435 E	1447	S17	W34	5133	12 D	1	2	1437			2.70		
UCCLE	12	1450	1456	N10	W30	5146	6	1	4						
{ONDREJOV	13	0448	0459	S13	W48	5133	11	16	3	0451			3.10		S-SWF
{TASHKENT	13	0448	0505	S15	W48	5133	17	1	3	0452		3.00	3.20	85	
{TASHKENT	13	0457	0553	N22	E24	5148	56	26	3	0513		10.00	4.70	210	
ONDREJOV	13	0459 E	0508	N20	E21	5148	9 D	1	3	0500			2.90		
{ABASTUMANI	13	0503 E	0511 D	N20	E22	5148	8 D	1	2	0505			2.00	63	
ONDREJOV	13	0509	0542	N21	E24	5148	33	26	3	0515			4.90		
ABASTUMANI	13	0509	0551 D	N22	E25	5148	42 D	2	2	0513		12.20	4.00	110	
{KODAIKUN	13	0515 E		N20	E27	5148		2	1						Slow S-SWF
ABASTUMANI	13	0637 E	0649 D	S19	W24	5144	12 D	1	2	0641			2.30	73	
{ABASTUMANI	13	0639	0732 D	N07	E21	5148	53 D	16	2	0710			2.50	103	
ONDREJOV	13	0642	0730	N06	E24	5148	48	2	3	0706			3.50		
SCHAUINS	13	0643	0728	N09	E21	5148	45	16	2				3.10		
ONDREJOV	13	0654 E	0703	N20	E23	5148	9 D	1	3	0655			2.60		
{MOSCOW G	13	0702 E	0742 D	N09	E23	5148	40 D	1	1	0706			3.00	140	
{ABASTUMANI	13	0739 E	0758 D	N28	W16	5147	19 D	1	2						Slow S-SWF
MEUDON	13	0750 E	0805	N28	W12	5147	15 D	1	1				2.90		
KRASNYA	13	0835 E	0840 D	S17	W28	5144	5 D	1	1	0837			3.00	57	
{MEUDON	13	0855	1042	S10	E90	5156	107	2	3				2.60		
{KHARKOV	13	0858	1256	S13	E90	5156	238	3	2	0925			5.70		
KRASNYA	13	0859 E	0949	S11	E90	5156	50 D	16	1	0926			37.60	53	
ARCTRI	13	0859 E	0951 D	S04	E90	5156	52 D	16	3				9.00		
{UCCLE	13	1537	1655	S19	W47	5143	78	2	4						G-SWF

SOLAR FLARES

MAY 1959

OBSERVATORY	DATE	OBSERVED TIME		LOCATION		DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT		
		START	END	APPROX. LAT.	MATH- MER. DIST.				REGION	TIME — U T	MEAS. AREA Sq. Deg.	COOR. AREA Sq. Deg.		MAX. WIDTH H _g	MAX. INT. %
{ MEUDON { UCCLE { MEUDON { UCCLE	13	1538	1635 D	S15 W45	5143	57 D	16				8.00				
	13	1557	1645	N14 E16	5148	48	3	4							
	13	1600	1635	N14 E20	5148	35	2				12.00				
	13	1618	1635 D	S10 E90	5156	17 D	1								
	13	1635	1655	S12 W57	5133	20	16	4							
{ TASHKENT { SIMEIZ { ARCTRI { SIMEIZ { KRASNIA { MEUDON { MOSCOW G { ARCTRI { KRASNIA { ARCTRI { UCCLE { UCCLE { VOROSHILOV { VOROSHILOV	14	0549	0559	N12 E06	5148	10	1	3	0552		6.00	2.10	60		
	14	0652	E 0659 D	S13 W66	5133	7 D	1	1	0659		2.70		72		
	14	0812	E 0843 D	S12 W64	5133	31 D	16	1	0838	1.30	3.00				
	14	0825	E 0829 D	S13 W66	5133	4 D	1	1	0829		2.70		92		
	14	0827	E 0846	S12 W64	5133	19	1	2	0833		2.20		78		
	14	0830	E 0845	S15 W65	5133	15	1	2			2.00				
	14	0832	E 0844 D	S12 W63	5133	12 D	16	1	0833		9.10	2.20	100		
	14	0840	E 0859 D	N13 E14	5148	19 D	1	2			1.30		89		
	14	0902	E 0916 D	S12 W64	5133	14 D	1	2	0915						
	14	0939	E 1010 D	S15 W38	5145	31 D	1	2							
	14	1503	E		S12 W65	5133	1	3							
	14	1540	1603		S15 W70	5133	23	1	4						
{ SYDNEY { SYDNEY { GOOD HOPE { SIMEIZ { ARCTRI { GOOD HOPE { ONDREJOV { ARCTRI { KIEV { ONDREJOV	15	0120	0201	S14 W75	5133	41	1	2	0153	.75	2.00				
	15	0153	0209 D	S17 W53	5144	16	1	2	0159	1.50	2.00				
	15	0648	0700	S09 E69	5156	12	1	2	0652	1.50	4.40				
	15	0655	E 0705 D	S09 E71	5156	10 D	1	1	0655		3.50		80		
	15	0810	E 1002 D	S11 W78	5133	112 D	1	3	0839	.43	2.07				
	15	0827	0922	S13 W79	5133	55	1	3	0834	.50					
	15	0836	0846	S14 W75	5133	10	1	3	0838			2.30			
	15	0840	E 0850 D	N29 W39	5147	10 D	1	3	0839	1.40	2.10				
	15	1347	E 1402 D	N13		15 D	1	2	1354			2.60			
	15	1515	1524 D	S14 W78	5133	9 D	1	3	1518						
	{ ABASTUMANI { GOOD HOPE { KRASNIA { KRASNIA { GOOD HOPE { ARCTRI { GOOD HOPE { ARCTRI { GOOD HOPE { GOOD HOPE { KHARKOV { ARCTRI { MOSCOW G { GOOD HOPE	16	0650	E 0708 D	N21 W05	5148	18 D	1	1	0659	4.50	5.10			Slow S-SMF
		16	0650	0735	N24 W02	5148	45	16	1	0659		5.00		70	
16		0651	0737	N22 W03	5148	46	1	1	0653		2.10		80		
16		0708	0748	N29 W48	5147	40	16	1	0715		3.00			Slow S-SMF	
16		0708	0815	N30 W52	5147	67	2	2	0716	3.20	6.20				
16		0836	E 0847 D	S12 W90	5133	11 D	1	3							
16		0854	0925	N24 W04	5148	31	1	3	0912	2.90	3.20				
16		0859	E 0909 D	N22 W05	5148	10 D	1	3							
16		0919	0955	S08 E49	5156	36	2	2	0922	3.70	5.80				
16		0925	E 0948 D	S10 E55	5156	23 D	2	2	0926		13.70	2.00			
16		0940	E 0942 D	S10 E51	5156	2 D	1	3							
16		0942	E 0945	S08 E45	5156	1	3	1							
{ SYDNEY { TASHKENT { SYDNEY { TASHKENT { ONDREJOV	16	0943	1027	N23 W04	5148	44	1	1	0955	2.00	2.20				
	17	0102	0118	N20 E82	5158	16	2	2	0104	.75	2.00	4.10	115	S-SMF	
	17	0359	0423	N22 W28	5148	24	16	2	0402		3.00				
	17	0402	E 0406 D	N25 W26	5148	4 D	1	1	0403	2.00	3.00				
	17	0523	0600	N20 W31	5148	37	3	2	0528		4.00	10.50	240	S-SMF	
	17	0540	E 0542	N21 W29	5148	2 D	2	3	0540			2.20			

SOLAR FLARES

MAY 1959

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.					MC-MATH PLACE REGION	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.		MAX. WIDTH H _o	MAX. INT. %
{ ABASTUMANI { ONDREJOV { GOOD HOPE { ONDREJOV { SCHAUINS { GOOD HOPE	17	0700	0722	0707	N20	W31	5148	22	□	1		3.50	7.30	S-SWF		
	17	0706	0722	0708	N22	W30	5148	16 D	2	3	0708					
	17	0708	0722		N22	W30	5148	14 D	1		0708	2.60	3.30			
	17	0732	0745		N10	E10	5154	13	3	0735			2.70			
	17	0809	0814 D		N16	W29	5148	5 D	16	2		2.40	2.80		4.50	
	17	1141	1212	1145	N21	W21	5157	31	1	1145						
	18	0530	0555		N17	E40	5157	25 D	1	3	0533		2.30			
	18	0918	0927 D		N17	E34	5157	9 D	1	2			2.50			
	18	0918	0934 D	0919	N17	E36	5157	16 D	1	3	0919					
	18	0935	0951	0938	N20	E60	5158	16	1		0938	1.00	2.30			
{ KRASNYA { ARCETRI	18	0937	0946 D		N20	E60	5158	9 D	1	0937		3.80		Slow S-SWF		
	18	1558	1603 D		N23	W57	5148	5 D	1	2						
	19	0600	0610 D		N19	E52	5158	10 D	1	1	0600		3.00		1.70	
	19	0620	0720 D	0635	N25	W53	5148	60 D	16	1	0626		7.30		1.80	
{ ONDREJOV { KRASNYA { SIMEIZ { ONDREJOV { SIMEIZ { ONDREJOV { SIMEIZ	19	0621	0650		N21	W53	5148	29	16	3			2.30	80		
	19	0701	0727	0703	N28	W40	5148	26	1		0703		1.80			
	19	0740	0810 D	0744	N11	W22	5154	30 D	1	1	0744		2.00		1.60	
	19	0743	0755		N10	W20	5154	12 D	1	3	0749				1.80	
	19	0800	0815 D	0803	N19	W62	5148	15 D	1	1	0803		4.80			
	19	0803	0810		N14	W60	5148	7 D	1	3	0803				2.80	
	19	0809	0820 D	0809	N17	E23	5157	11 D	1	1	0809		2.00			
	20	0628	0736 D	0636	N28	E39	5158	68 D	1	2	0632		3.10		1.90	
	20	0749	0752 D		S25	W90	5162	3 D	1	3						72
	20	0821	0930 D		S25	W90	5162	69 D	1							
{ ARCETRI { KRASNYA { ARCETRI { ONDREJOV	20	0844	0855 D		S25	W90	5162	11 D	1	3	0848	4.40	4.30	96		
	20	0909	0929	0912	N22	W28	5155	20	16		0912					
	20	0913	0930 D		N23	W30	5155	17 D	1	3			2.30			
	20	1313	1320	1315	N12	W80	5148	7	1	3	1315					
{ SCHAUINS { GOOD HOPE { ARCETRI { ONDREJOV { KRASNYA	21	0608	0615 D		N16	W03	5157	7 D	1	2		3.00		48		
	21	0822	0905 D	0837	N28	E23	5158	43 D	1		0837	2.60	3.30			
	21	0828	0915 D		N30	E22	5158	47 D	1	3	0839	2.50	3.20			
	21	0845	0855 D		N17	E13	5158	10 D	16	3	0846		2.50			
{ SCHAUINS { SCHAUINS { UCCLE { GOOD HOPE { ONDREJOV	21	0927	0957		N08	W90	5148	30	2		0934	18.00		2.50		
	22	0529	0536 D		S16	E63	5167	7 D	1	2		2.00	2.50			
	22	0837	0838 D		S16	E62	5167	1 D	1	1		3.00				
	22	1131	1142		S17	E60	5167	11	1	4						
{ VOROSHILOV { SYDNEY { VOROSHILOV { SYDNEY { VOROSHILOV { ONDREJOV { ONDREJOV { ONDREJOV { ONDREJOV { ONDREJOV { ONDREJOV { ONDREJOV	22	1133	1144	1136	S15	E61	5167	11	1		1136	2.60	3.90	81		
	22	1328	1335	1330	S17	E57	5167	7	1	3	1330					
	23	0029	0102	0035	N14	E45	5165	33	16	1	0035		3.73			
	23	0037	0113		N14	E41	5165	36 D	1	2	0037	2.00	3.00			
	23	0056	0059	0057	N18	W28	5157	3	16	1	0057		3.81			
	23	0139	0229	0150	N25	W07	5158	50	2	2	0150	6.00	7.00			
	23	0143	0216	0155	N26	W03	5158	33	2	1	0155		7.56			
	23	0849	0902		N25	W34	5157	13 D	16	3	0850		5.00			
	23	1252	1302		N15	E39	5165	10 D	1	3	1253		3.10			
	23	1455	1503		N15	E38	5165	8 D	1	3	1456		2.30			
23	1617	1630		N18	E70	5170	13 D	1	3	1618		4.20				

SOLAR FLARES

MAY 1959

OBSERVATORY	DATE MAY 1959	OBSERVED UNIVERSAL TIME		LOCATION			DURA- TION — MINUTES	IM- POR- TANCE	OBS. COND.	MEASUREMENTS				PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MER. DIST.	MCNATH PLAGE REGION				TIME — U T	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _z	
VOROSHILOV	23	2314 E	2316 D	N24	W57	5157	2 D	1	2	2315		4.08		62
ONDREJOV	24	0656	0710	S10	E53	5167	14	1	3	0659			2.00	
ONDREJOV	24	1059	1109	N24	W48	5157	10	1	3	1100			2.10	
ONDREJOV	24	1153	1209	N26	W18	5158	16	16	3	1155			2.80	
VOROSHILOV	25	0059	0110	N24	W56	5157	11	1	2	0102		2.72		63
ONDREJOV	25	0531 E	0538	S18	E24	5167	7 D	1	3	0533			2.40	
ARCETRI	25	0848 E	0852 D	N15	W50	5157	4 D	1	2					
UCCLE	25	1106		S15	E17	5167		1	1					
ONDREJOV	25	1214 E	1228 D	N22	W36	5158	14 D	1	3	1222			2.50	
ONDREJOV	25	1503	1516	N20	W60	5157	13	1	3	1505			2.50	
OTTAWA	25	1532 E	1631 D	N02	E09	5166	59 D	2	3	1556	5.68	5.80		
MCNATH	25	1534	1711 D	N02	E07	5166	97 D	16	1	1555		3.10		
MEUDON	25	1535	1620	N05	E15	5166	45	16	1	1537		8.00		
ONDREJOV	25	1537 E	1612	N02	E07	5166	35 D	1	3				2.30	
SCHAUTINS	25	1538 E	1630	N02	E17	5166	52 D	2						
SYDNEY	26	0004	0023 D	N18	W55	5158	19 D	1	2	0006	1.50	3.00		70
VOROSHILOV	26	0005 E	0013	N22	W60	5157	8 D	1	2	0006		2.26	2.50	
ONDREJOV	26	0819	0846	S16	E09	5167	27	16	3	0824				
MEUDON	26	1456	1515	S18	E02	5167	19	1						
SYDNEY	26	2348	0020	N01	W13	5166	32	2	2	2352	12.00	12.00		S-SNF
SYDNEY	27	0010	0021	N14	W79	5157	11	□	2	0013	1.00			
SYDNEY	27	0148	0206	N21	W83	5157	18	□	2	0153				
SYDNEY	27	0210	0219 D	N23	W79	5157	9 D	□	2	0214				
SYDNEY	27	0300	0310	N23	W80	5157	10	□	2	0304				
SYDNEY	27	0334	0347	N14	W80	5157	13	□	2	0340				
TASKENT	27	0334	0358	N13	W88	5157	24	16	2	0337		9.00	5.30	90
ARCETRI	27	0825 E	0908 D	N15	W90	5157	43 D	1	3					
ARCETRI	27	0825 E	0908 D	N25	W90	5157	43 D	1	3					
SIMEIZ	27	0856 E	0901 D	N15	W90	5157	5 D	1	1	0901		5.00	2.40	52
ONDREJOV	27	1345	1359	S15	W08	5167	14	16	3	1350			3.00	
ONDREJOV	27	1429	1436 D	N16	W82	5157	7 D	1	3	1432				
SYDNEY	27	2358	0004	N14	W89	5157	6	□	2	2359	.50			
LOCKHEED	28	0216	0226	S17	W08	5167	10 D	1	1		2.20			
ONDREJOV	28	0723	0745	S16	W18	5167	22	1	3	0725			2.30	
ABASTUMANI	28	0758 E	0802 D	S16	W15	5167	4 D	□	1			1.80		
MCNATH	28	1348	1406	N24	W37	5164	18	1	1	1351		2.30		
MCNATH	28	1851 E	2151 D	S09	W68	5176	180	1	1	1909		2.35		
SIMEIZ	29	0655	0708	S18	W27	5167	13	1	2	0700		2.20	1.70	92
MCNATH	29	1425	1632	S14	E85	5179	127	1	1					
MCNATH	29	1607	1650	S17	W40	5167	43	1	1	1625		3.40		
MCNATH	29	1645	1707	S14	E85	5179		1	1					
ABASTUMANI	30	0532	0723	S13	E80	5179	111	16	3			5.50	2.00	68
SIMEIZ	30	0610	0635	S11	E81	5179	25	16	2	0610		7.00	1.90	64
SIMEIZ	30	0712 E	0726	S11	E81	5179	14 D	16	2	0717		6.00		
MCNATH	30	1813 E	1947	N03	E90	5180	94	1	1					
MCNATH	30	2013	2056 D	N03	E90	5180	43	1	1					

SOLAR FLARES
MAY 1959

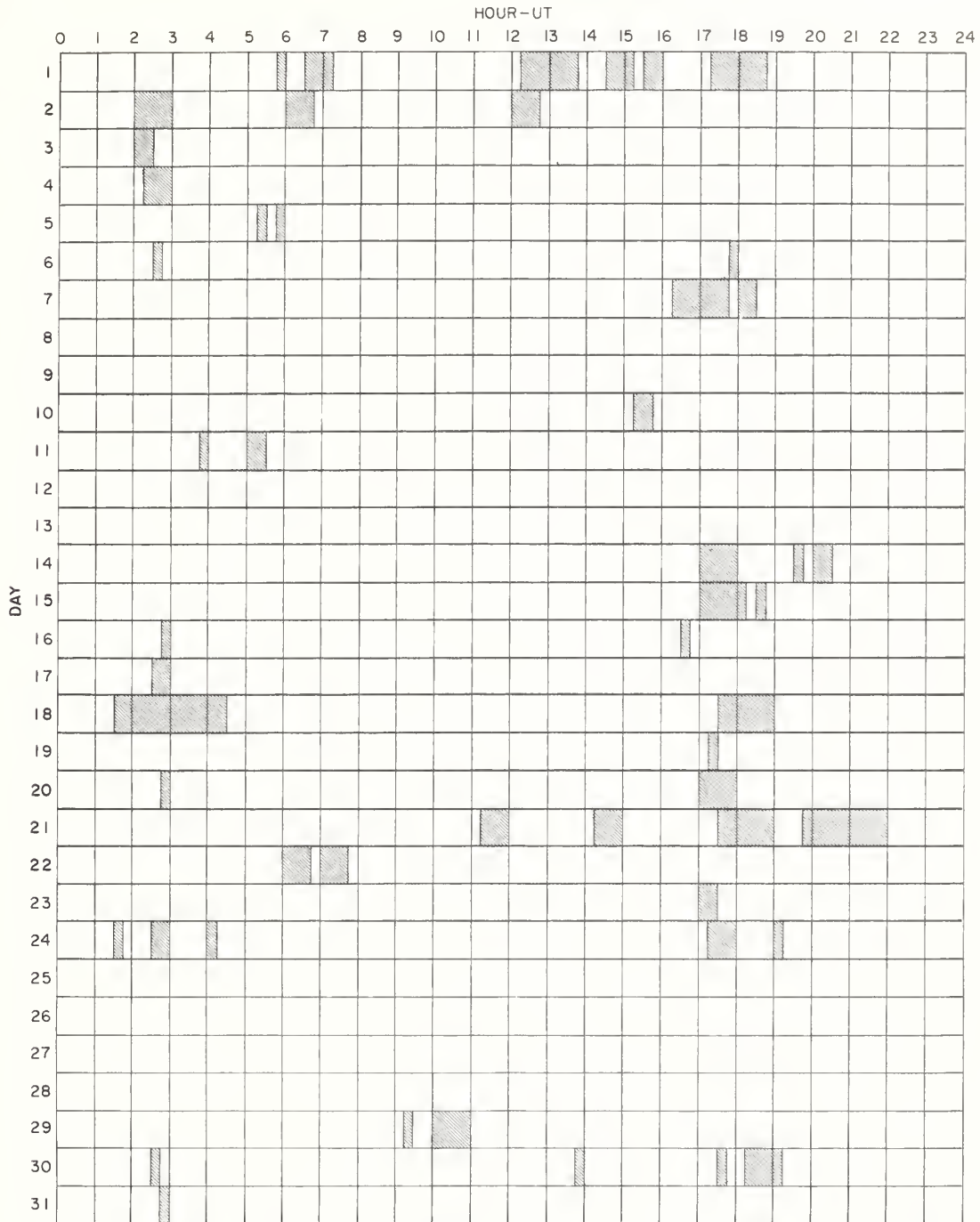
OBSERVATORY	DATE	OBSERVED		LOCATION		IM- POR- TANCE	OBS. COND.	MEASUREMENTS			PROVISIONAL IONOSPHERIC EFFECT
		START	END	APPROX. LAT.	MC-MATH PLAGE REGION			MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H _g	
ONDREJOV	MAY 1959	31 1345 E	1356 D	S14 W61	5167	110	3			2.30	

These flare reports are addenda to the May 1959 flares published in CRPL-F 178b, June 1959.

CAPRI G	ANACAPRI - GERMAN	MOSCOW-C	MOSCOW - GAISH	SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE
CAPRI S	ANACAPRI - SWEDISH	R O EDIN	ROYAL OBSERVATORY, EDINBURGH	ARBITRARY UNITS (0-40), NOT PERCENT
GOOD HOPE	ROYAL OBSERVATORY, CAPE OF GOOD HOPE	R O HERST	GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX	OF CONTINUOUS SPECTRUM.
KIEV*	KIEV UNIVERSITY	SAC PEAK	SACRAMENTO PEAK	E - LESS THAN
KODAIKANAL	KODAIKANAL	SCHAUVINS	SCHAUVINSLAND	D - GREATER THAN
KRASNYA	KRASNYA PAKHRA	USNRL	UNITED STATES NAVAL RESEARCH LABORATORY	U - APPROXIMATE <input type="checkbox"/> - NOT REPORTED
LOCKHEED	LOS ANGELES			

INTERVALS OF NO FLARE PATROL OBSERVATIONS

MAY 1959



Stations Include:

Abastumani
Alma Ata
Anacapri (Swedish)
Arcetri
Cape Town
Climax
Dunsink
Hawaii
Huancayo

Kharkov
Kiev GAO
Kodaikanal
Krasnaya Pakhra
Locarno
Lockheed
Mitaka
Meudon
Moscow University

Nederhorst
Nizamiyah
Ondrejov
Ottawa
Pirculi
Royal Greenwich Observatory
Herstmonceux
Sacramento Peak
Simeiz

Sydney
Tashkent
Uccle
Utrecht
Voroshilov
Zurich

SC-5044-103-10

IONOSPHERIC EFFECTS OF SOLAR FLARES

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

FEBRUARY 1959

Feb. 1959	CLASS			WIDE SPREAD INDEX	TIME (UNIVERSAL TIME)			PERCENT ABSORPTION SCNA	OBSERVATION STATIONS
	SCNA	SEA	Burst		BEGIN	MAX.	END		
1		1		5	1155	1210	1234		<u>DU</u> , NE, PA, PU
1	1			1	1717	1725	1739	20	<u>RE</u>
{ 2	3			5	1818	1825	1847U	57	<u>BO</u> , HA, MC, RE, SP
{ 2		2		5	1820	1833	1848U		<u>A3</u> , A5, A6, <u>BO</u> , HA, NE, PA
{ 2	3			5	1847	1857	1945	74	<u>BO</u> , HA, RE
{ 2		2		5	1848	1858	2000		A3, A5, A7, <u>BO</u> , HA
{ 2		2+		1	1908	1921	1958		<u>A3</u>
{ 2	1			1	1910	1918	1930	13	<u>HA</u>
3		□		3	1140	1144	1210		<u>DU</u> , <u>ED</u>
6		2+		2	1321	1330	1355		A1, <u>A5</u>
8		2		1	0922		0951		<u>NE</u>
{ 8	1			3	1344	1347	1404	15	<u>MC</u> , RE
{ 8		2		5	1344	1346	1430		A1, A3, DU, ED, <u>MC</u> , NE, PA
{ 8	2+			5	2035	2046	2130	66	<u>BO</u> , HA, MC, RE, SP
{ 8		3		5	2037	2050	2210		A1, A3, A5, A7, <u>BO</u> , HA, SP
{ 9	2+			1	0159	0208	0240		<u>HA</u>
{ 9		1		1	0201		0225		<u>HO</u>
9		3		5	0952	1011	1056		A3, DU, <u>ED</u> , NE
9		2		5	1316	1331	1430		A1, A3, DU, <u>ED</u> , NE
9		2		3	1619	1621	1631		<u>ED</u> , NE
{ 9		2		5	1636	1644	1710		A1, <u>ED</u> , MC, NE, PA
{ 9	3			3	1638	1646	1706	85	<u>MC</u> , <u>RE</u>
10	1			1	0218	0230	0248	27	<u>HA</u>
10		1		3	1214	1221	1316		<u>DU</u> , NE
10		2		5	1435	1441	1521		DU, <u>ED</u> , NE, PA
{ 10	1			5	1824	1826	1845	15	<u>BO</u> , HA, RE
{ 10		1		5	1824	1828	1950		A3, A7, <u>BO</u> , NE
{ 12	1			5	2305	2319	2350	7	<u>BO</u> , HA
{ 12		1		5	2310	2329	0015		<u>BO</u> , HA
{ 15	1			4	1628	1634	1655	15	<u>BO</u> , RE
{ 15		1		5	1629	1643	1730		<u>BO</u> , ED, NE
16		1+		5	0516		0545		<u>HO</u> , TO
16		2		1	0838		0912		<u>PU</u>
{ 16	1			5	2043	2100	2150		<u>BO</u> , <u>HA</u>
{ 16		1		5	2045	2054	2155		<u>BO</u> , <u>HA</u>
17		2		5	1033		1108		NE, <u>PA</u>
{ 17	1			1	1826	1846	1905	14	<u>BO</u>
{ 17		2		5	1840	1852	1915		A1, A2, A5, A7, <u>BO</u>
{ 17	1+			5	2219	2225	2245	40	<u>BO</u> , <u>HA</u>
{ 17		1		5	2224	2233	2324		A7, <u>BO</u> , <u>HA</u>
18		1		1	0506		0537		<u>HO</u>
{ 19	1			5	2036	2047	2110	20	<u>BO</u> , HA
{ 19		1		5	2037	2057	2140		A5, A7, <u>BO</u> , HA
{ 20	1+			1	2018	2027	2055	15	<u>BO</u>
{ 20		1		3	2019	2038	2120		A7, <u>BO</u>
25		1		1	1403		1415		<u>NE</u>
26		2		2	2150	2205	2240		A1, <u>A5</u>
{ 27	1			1	1800	1810			<u>MC</u>
{ 27		2		4	1800	1820	1845		<u>ED</u> , <u>MC</u>
28		1+		5	1857	1907	2000		A1, A5, <u>A7</u>

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIx

(SHORT-WAVE RADIO FADEOUTS)

JULY 1959

July 1959	Start UT	End UT	Type	Wide Spread Index	Importance	Observation Stations	Known Flare, UT CRPL-F 180
1	1752	1920	S-SWF	5	2+	BE, FM, HU, <u>MC</u> , PR, WS	
8	0821	0931	Slow S-SWF	5	2+	BR, NE, <u>OK</u>	0818
8	1848	1910	S-SWF	5	1	AN, BE, FM, <u>HU</u> , LA, MC, PR, WS	
9	0820	0857	C-SWF	5	1+	BR, <u>OK</u>	0804E
9	1812	1910	S-SWF	5	2	AD, <u>BE</u> , FM, HU, LA, MC, PR	1810
9	1943	2012	S-SWF	5	1+	BE, <u>FM</u> , HU, LA, MC, PR	1933
9	2040	2104	S-SWF	5	1+	BE, <u>FM</u> , HU, LA, MC, <u>PR</u> , WS	2024E
10	0200	0510	Slow S-SWF	5	3+	<u>AD</u> , CA, LA, NE, OK, TO, WS, RCA+, CW ⁺⁺	0210E
10	0605	0840	C-SWF	1	3+	<u>OK</u>	0539E
10	1827	1848	S-SWF	5	1	AN, BE, <u>HU</u> , MC, PR	
12	0420	0543	S-SWF	1	2+	<u>OK</u>	0512E
12	0630	0642	S-SWF	5	1+	JU, NE, <u>OK</u>	0623E
12	2220	0000	C-SWF	5	2-	AN, MC, <u>OK</u> , PR, WS	2152
13	0638	0740	Slow S-SWF	5	2	JU, <u>OK</u>	0626
13	1030	1055	Slow S-SWF	5	2-	<u>BR</u> , PR	1029
13	1940	2039	Slow S-SWF	5	2	AD, <u>BE</u> , FM, HU, LA, MC, PR, RCA+	1930
14	0328	0628	S-SWF	5	3+	AD, AN, KO, LI, NE, OK, <u>TO</u> , CW ⁺⁺	0325E
14	1355	1540	Slow S-SWF	4	2+	FM, MC, PR, <u>WS</u>	1400
14	1735	1750	S-SWF	4	1-	FM, <u>HU</u> , MC, PR	1730
15	1258	1323	S-SWF	5	2+	BR, FM, HU, NE, <u>PR</u>	1251
15	1922	1941	S-SWF	4	1+	LA, <u>PR</u> , WS	1923
16	0705	0750	C-SWF	1	2-	<u>OK</u>	0640E
16	1610	1638	S-SWF	5	2-	AN, FM, HU, LA, MC, PR, <u>WS</u> CW*	1604
16	2118	0015	S-SWF	5	3+	AD, <u>BE</u> , FM, MC, NE, OK, PR, TO, <u>WS</u> , RCA+, CW**	2114
21	0627	0640	S-SWF	4	1-	AN, <u>OK</u>	
21	0650	0730	Slow S-SWF	5	1+	KU, <u>OK</u>	0656E
25	0321	0342	S-SWF	5	1+	AD, AN, <u>OK</u>	0316E
25	1916	2052	S-SWF	5	2+	AN, <u>BE</u> , FM, HU, LA, MC, NE, PR, WS	
25	2202	2237	C-SWF	3	1	FM, MC, <u>WS</u>	
26	0402	0448	C-SWF	5	2	AD, AN, <u>OK</u>	*
26	0830	0900	C-SWF	1	1+	<u>OK</u>	0827
27	1228	1254	S-SWF	5	2+	<u>BE</u> , MC, NE, PA, PR, CW**	1222
27	2105	2128	Slow S-SWF	4	1+	AD, <u>BE</u> , HU, MC, PR, TO	2050
29	1158	1340	Slow S-SWF	5	2+	BE, <u>DA</u> , FM, JU, KU, MC, NE, <u>PR</u> , PU, WS, CW***	1205
29	2023	2105	Slow S-SWF	5	2-	AD, AN, FM, HU, <u>MC</u> , PR, WS	2020
29	2120	2205	S-SWF	5	2	AD, AN, <u>BE</u> , FM, HU, LA, MC, OK, PR, TO, WS	2117
30	0005	0048	C-SWF	5	2-	AD, CA, <u>OK</u>	0000
30	0337	0358	S-SWF	5	1	AD, CA, <u>OK</u>	0339E

COMMERCE - STANDARDS - BOULDER

* No known flare patrol

BR = Breisach, G.F.R.
 CA = Canberra, Australia
 DA = Darmstadt, C.F.R.
 JU = Juhlesruh, C.D.R.
 KO = Kodaikanal, India
 KU = Kuhlungsborn, G.D.R.
 LA = Los Angeles, Calif.
 LI = Lindau, C.F.R.
 NE = Nederhorst den Berg, Netherlands

PA = Paramaribo, Dutch Guiana
 PU = Prague, Czechoslovakia
 TO = Hiraio Radio Wave Observatory, Japan
 CW* = Cable and Wireless, Barbadoes
 CW** = Cable and Wireless, Somerton, England
 CW*** = Cable and Wireless, Brentwood, England
 CW+ = Cable and Wireless, Hong Kong
 CW++ = Cable and Wireless, Singapore
 CW+++ = RCA Communications, Inc., Pt. Reyes, Calif.

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST 1959

Ottawa

2800 Mc.

Aug. 1959	Type	Start UT	Duration Problems	Frequency		Remarks
				Time UT	Peak Flux	
1	8 Group (2)	1743	1.13			
	3 Simple 3	1743	30	1755	12	
	2 Simple 2	1817	4	1818.5	29	
	4 Post Increase		35		7	
1	2 Simple 2	2014	2	2014.5	19	
	4 Post Increase		7		5	
	1 Simple 1	1615.5	1.5	1616.2	5	
	2 Simple 1	1828.5	1.5	1829	6	
	3 Simple 1	1304	3	1305	5	
3	8 Group (3)	1500	29			
	2 Simple 2	1500	7	1502.5	15	
	1 Simple 1	1514.3	3	1515	4	
	3 Simple 3	1519	10	1520.5	7	
	2 Simple 2 f	2050	5	2051	23	
5	2 Simple 2	1627.5	2	1628	12	
	2 Simple 2	1323	5	1324.7	18	
	6 Complex	1500	2.5	1501.2	35	
	4 Post Increase A		30		9	
	2 Simple 2	1523.2	1	1523.4	40	
6	2 Simple 2	1752.5	3	1753.3	28	
	2 Simple 2	1833.7	0.5	1833.9	13	
	2 Simple 2	2002.5	4	2004	14	
	2 Simple 2	2201	6	2204	10	
	3 Simple 3 f	2309	20	2310	17	
7	2 Simple 2	1330	8	1331.5	9	
	2 Simple 2	1539	2	1539.5	8	
	2 Simple 2 f	1559.9	3.5	1600.5	68	
	4 Post Increase		40		8	
	2 Simple 2	1734	3	1734.8	42	
8	2 Simple 2	2149.2	1	2149.7	32	
	2 Simple 2	1230	7	1232	15	
	2 Simple 2	1205	2.5	1206	120	
	4 Post Increase		15		6	
	6 Complex f	1807.5	10	1809	18	
12	2 Simple 2 f	1949.3	1.7	1950.1	13	
	2 Simple 2	2157.5	1	2158	15	
	2 Simple 2	1221	1.5	1221.5	30	
	8 Group (2)	1458.5	7.5			
	2 Simple 2	1458.5	4.5	1459.5	50	
15	1 Simple 1	1503	3	1504.3	4	
15	1 Simple 1	1824.5	4	1826	7	
	3 Simple 3	1550	6 30	indet.	10	
	2 Simple 2 f	1218.5	7	1221	335	
	4 Post Increase		1 00		6	
17	2 Simple 2 f	2046.5	7	2048	90	
	4 Post Increase		10		4	
	Records incomplete A	1200	>1 30	indet.	*30	*maximum reached during this period
	6 Complex	1301.8	2.2	1302	22	
18	1 Simple 1	1403.5	1.5	1404	6	
	3 Simple 3 A	1619	3 00	1727	23	
	1 Simple 1	1621	1.3	1621.7	7	
	3 Simple 3	1655	10	1656.7	17	
	2 Simple 2	1717.3	1	1717.5	33	
18	2 Simple 2	2223.5	5	2224.7	18	
	6 Complex f	1745.5	7	1747.9	55	
	1 Simple 1	1420.5	1.5	1421	5	
	2 Simple 2	1632	9	1634.3	65	
	4 Post Increase		1 45		11	
22	6 Complex	1310	8	1311.5	20	
	4 Post Increase		20		8	
	1 Simple 1	1517	3	1518.5	4	
	6 Complex	1636	12	1637.7	25	
	1 Simple 1	1303.5	1	1303.9	7	
23	1 Simple 1	1458	3	1459	7	
	3 Group (2)	2202.5	>1 18.5		14	
	2 Simple 2	2302.5	5	2205	5	
	Post Increase		15		5	
	2 Simple 2 f	2234	7	indet.	>150	
24	4 Post Increase		> 40		15	
25	1 Simple 1	1251.5	1	1252	7	
	6 Complex	1239.5	6	1243.8	67	
	2 Simple 2	1826.8	1.2	1826.9	60	
	2 Simple 2	1343	5	1344.2	35	
	2 Simple 2	1645.5	3	1647	9	
29	8 Group (2)	1727	9			
	2 Simple 2	1727	4	1728	60	
	2 Simple 2	1734.7	1.3	1735	15	
	8 Group (2)	2231	23.5			
	2 Simple 2	2231	4	2232	15	
29	2 Simple 2	2243.5	11	2247	60	
30	3 Simple 3 A	1535	1 30	1550	18	
	2 Simple 2	1539	6	1542.3	32	
	2 Simple 2	1742.5	5	1743.3	36	
	1 Simple 1	1551.5	2	1552.5	6	
31	3 Simple 3 A	1847	2 00	indet.	15	
	8 Group (2)	1853	24.5			
	6 Complex f	1853	4.5	1855.8	28	
	2 Simple 2 f	1858.5	19	1906	270	
	2 Simple 2	2026	1	2026.3	18	
31	2 Simple 2	2151.3	2.5	2151.5	60	

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

IVb

AUGUST 1959

BOULDER

167 MC

Aug. 1959	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
1	6	1230 E		805 D	2
2	3	1308.2	1308.2	0.1	2 *
3	3	1210.5	1210.5	0.5	2 *
3	3	1215.8	1215.8	0.2	2 *
3	2	1331.7	1332.8	3.3	2
3	2	1410.0	1411.8	2.0	1
3	2	1415.0	1416.0	1.0	1
3	3	1421.9	1421.9	0.1	1
3	3	1423.5	1423.5	0.1	1
4	3	1546.8	1546.8	0.2	2
4	2	2204.2	2205.9	2.2	2 S
5	3	0037.0	0037.8	1.0	2
5	3	0139.2	0140.0	1.3	2 **
5	3	2040.5	2040.8	0.5	2
6	3	1328.0	1328.0	0.4	2
6	3	1425.2	1425.7	0.8	2
6	3	1517.6	1517.6	0.3	2
6	3	1525.2	1525.2	0.8	3
6	3	1537.9	1537.9	0.3	2
6	3	1602.0	1602.1	1.0	3
6	3	1730.0	1730.8	1.0	3
6	3	1829.0	1829.3	1.0	3
6	3	1831.0	1831.0	0.6	2
6	3	1832.2	1832.4	0.6	2
6	3	2137.0	2137.9	1.8	3
6	2	2140.0	2141.7	3.4	2
6	3	2147.5	2148.0	1.0	2
6	8	2337.0	2338.3	5.0	3
7	2	1333.9	1334.1	1.6	2
7	3	1458.0	1458.2	0.6	2
7	3	1504.0	1504.0	0.2	2
7	3	1529.2	1529.4	0.8	2
7	2	1531.5	1533.5	2.9	2
7	3	1618.0	1618.0	0.3	2
7	3	1708.5	1708.5	0.2	2
7	9 A	1733.0	1734.0	6.0	3
7	9 B	1739.0	1739.2	3.0	3
7	3	1906.7	1907.0	0.8	2
7	2	2108.9	2109.0	1.1	2
7	3	2202.4	2202.4	0.2	2
8	3	0028.2	0028.2	0.2	2
8	3	0140.2	0141.0	0.8	2 **
8	3	1424.8	1425.2	1.2	2
8	3	1558.8	1559.2	1.2	1
8	2	1617.0	1617.8	1.6	1
8	2	1717.0	1719.2	2.5	2
8	7	1730.		382.	2
8	3	2149.0	2150.0	1.8	3
9	3	0124.3	0126.2	3.4	2 **
9	3	1736.0	1736.0	0.5	1
10	3	0121.2	0121.2	0.2	2 S**
10	2	1810.2	1810.6	1.8	2
10	3	1856.2	1856.2	0.2	2
10	3	1859.3	1859.3	0.2	1
10	2	2158.2	2159.0	1.2	1
10	3	2307.5	2307.5	0.2	2
11	3	0016.0	0016.3	1.0	2
11	3	1212.0	1212.5	1.5	2 *
12	2	1258.1	1259.1	1.1	2 *
12	2	1359.0	1400.0	1.5	2
12	3	1440.0	1440.0	0.2	2
12	2	1450.8	1451.5	2.2	2
12	3	1453.8	1453.8	0.2	2
12	3	1809.5	1809.5	0.2	2
13	2	1404.0	1405.0	4.0	2
13	3	1419.0	1419.0	0.2	2
13	3	1449.3	1449.8	0.7	2
13	2	1455.0	1504.8	11.0	3
13	3	1855.6	1855.9	1.1	2 S
13	8	2355.0	2355.0	2.0	3

Aug. 1959	Type	Start UT	Time of Maximum UT	Duration Minutes	Intensity
14	8	1219.8	1221.5	2.5	3 *
14	3	1511.5	1511.6	1.0	2
14	2	1611.3	1611.4	1.3	2
14	3	1648.3	1648.3	0.5	2
14	2	1649.8	1650.0	0.9	2
15	3	1459.0	1459.4	1.0	3
15	8	1503.0	1503.3	3.0	3
15	3	1847.5	1848.1	1.5	2
15	3	2048.5	2048.5	0.2	2 S
16	2	1246.8	1247.8	1.5	3 *
16	3	1651.0	1651.0	0.2	2
16	3	1804.5	1805.0	0.5	1
16	3	1825.2	1825.2	0.2	1
17	9 A	1219.0	1220.8	5.4	3 *
17	9 B	1224.4	1226.3	4.6	3 *
17	3	1608.0	1608.0	0.2	2
17	3	1745.8	1745.8	0.2	2
17	2	1818.0	1818.1	1.0	2
17	3	1858.7	1858.7	0.2	2
17	3	2000.0	2000.5	2.0	2
17	9 A	2047.6	2048.2	4.2	3
17	9 B	2051.8	2055.0	53.2	2
17	3	2156.8	2156.8	0.2	2
18	2	0131.5	0133.0	4.3	2 **
18	3	1644.0	1644.0	0.2	2
18	3	1808.4	1808.4	0.2	1
18	3	1855.0	1855.0	0.2	2
18	3	1935.0	1935.0	0.2	1
18	3	2018.0	2018.0	0.2	2
18	8	2138.0	2139.0	8.5	2
18	8	2222.8	2224.0	3.2	2
19	3	1237.0	1237.0	0.2	2 *
19	3	1306.3	1306.3	0.2	2 *
19	2	1309.8	1310.4	1.0	1 *
19	2	1318.8	1318.8	5.0	2 *
19	8	1755.5	1756.5	3.1	3
19	8	1848.0	1850.0	3.0	3
20	3	1838.8	1838.8	0.2	1
20	2	1840.8	1841.0	1.0	2
20	3	1846.0	1846.0	0.2	2
20	3	1910.5	1910.5	0.2	3
20	2	1929.0	1929.0	1.0	2
20	2	1932.4	1933.5	2.6	3
20	3	1936.7	1936.7	0.2	2
20	3	2016.3	2017.0	0.7	2
21	3	0116.9	0116.9	0.2	2 *
21	3	0121.6	0121.6	0.2	2 *
21	2	0126.1	0126.6	0.9	2 *
21	2	0129.0	0129.5	1.5	2 *
21	2	1447.0	1448.6	4.0	2
21	3	1602.2	1602.2	0.2	2
21	3	1834.9	1835.5	0.9	2 S
21	2	1850.0	1851.0	1.8	2 S
21	3	1856.8	1856.8	0.2	2 S
21	2	2006.0	2006.5	0.8	1 S
23	6	1221 E		787 D	2
24	6	1221 E		788 D	2
25	6	1217 E		789 D	2
26	6	1219 E		788 D	2
27	6	1219 E		788 D	2
28	6	1320 E		722 D	2
29	6	1226 E		141 D	3
29	6	1530 E		591 D	3 I
30	6	1227 E		772 D	3
31	6	1227 E		771 D	2
31	8	1853.0	1917.5	39.0	2

* On sunrise pattern.

** On sunset pattern.

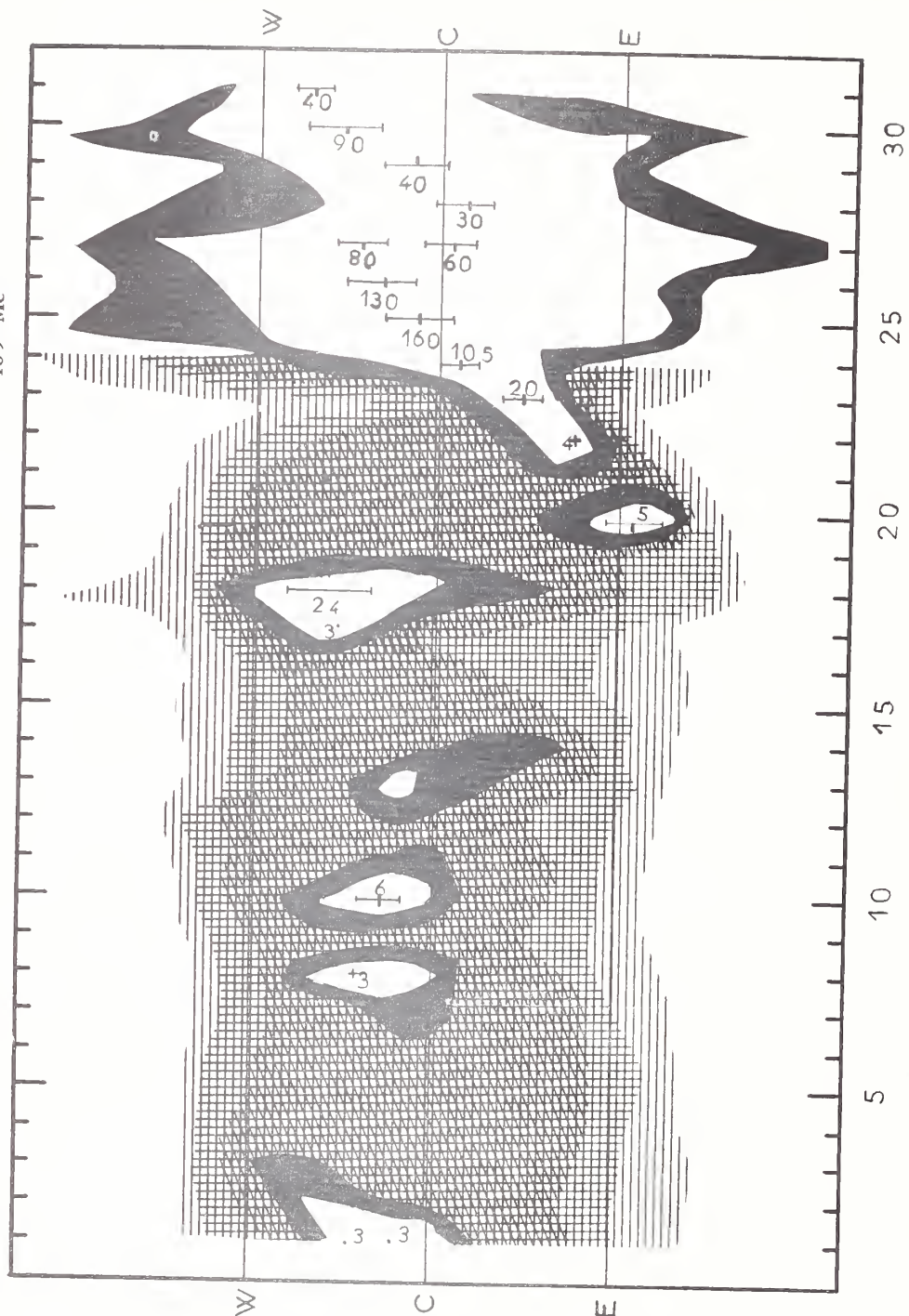
COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

AUGUST 1959

Nancay

169 Mc



AUGUST 1959

GEOMAGNETIC ACTIVITY INDICES

JULY 1959

July 1959	C	Values Kp								Sum	Ap	Final Selected Days	
		Three hour Gr. interval											
		1	2	3	4	5	6	7	8				
1	0.2	1+	1+	2-	1-	1o	1-	1o	2+	10o	5	Five Quiet	
2	0.8	3+	4+	4+	2+	2o	2o	1-	1-	20-	14		
3	0.1	2-	1+	2-	1o	1+	1o	1+	1o	10+	5		
4	0.8	1-	0+	1o	3o	3-	4o	4o	4o	20-	15		1
5	0.9	3+	4-	3+	3o	4-	2o	3o	2+	24+	16		3
												13	
6	0.6	2-	1+	2o	3-	3+	3-	3o	3-	19+	11	29	
7	0.8	3-	3+	3+	4-	3o	3+	2o	1+	23-	14	30	
8	0.8	2-	3-	3+	3o	4-	3+	3o	2o	23-	14		
9	0.9	2-	3+	4+	3-	3o	4-	3+	3+	25+	18		
10	0.8	4o	4-	3+	3-	1o	2-	2o	2-	20o	13		
11	1.4	4-	4o	3o	2-	3+	7-	5+	6+	34o	44	Five Disturbed	
12	1.1	6+	3-	3-	3-	4+	3o	1+	2+	25+	24		
13	0.6	2+	2+	3-	1+	3o	3-	2-	3+	19+	11		
14	0.9	3-	4-	4-	3o	4o	3-	2+	2-	24-	16		15
15	2.0	4+	5o	8o	9-	9-	9o	9-	9-	61o	236		16
												17	
16	1.4	7+	5+	4+	3o	4-	3+	4+	5o	36+	47	18	
17	1.9	3+	4+	3+	4-	3+	8+	9-	8+	43+	110	25	
18	2.0	8o	8-	8o	6-	5-	7o	5-	6o	52-	119		
19	1.2	5o	4+	3+	4o	4o	5o	4o	3+	33o	31		
20	1.0	3o	3-	3+	3+	3-	4-	3o	4+	26o	18		
21	0.9	4-	3o	3-	2+	4-	3o	3+	3o	25-	16	Ten Quiet	
22	0.8	3o	2o	3o	2o	3-	3-	2o	4+	22-	13		
23	0.7	4o	3+	3o	2+	3-	1o	2o	3-	21o	13		
24	1.2	3o	2-	3-	5o	3+	4-	5+	5o	30-	28		1
25	1.2	4+	4+	4+	5o	4-	5-	5+	5-	36+	38		2
												3	
26	1.1	4o	4+	4o	4o	4o	5-	5o	5-	35-	33	4	
27	1.1	5-	3+	4+	4-	3-	3o	4+	4o	30o	25	6	
28	0.7	4-	2+	2+	3-	3o	3-	2+	3o	22o	13	10	
29	0.5	2+	4-	3-	2o	2+	1+	2-	2-	18-	10	13	
30	0.1	2-	1o	0o	1-	1-	1-	2-	1o	7+	4	23	
31	0.9	2-	4-	3-	3+	3o	2o	3o	4o	23+	15	29	
												30	
Mean:	0.95									Mean:	32		

COMMERCE - STANDARDS - BOULDER

DAYS IN SOLAR ROTATION INTERVAL

ROT. =

NR

1722

Apr

1723

May

1724

Jun

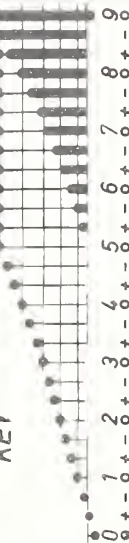
1725

Jul

1726

Aug

KEY



▲ = sudden commencement

PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp till 1959 July 31

(Ks from Wingst and Göttingen till 1959 Aug. 19)

J.B.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS
NORTH ATLANTIC
JULY 1959

July 1959	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		1-7 days Final	1-7 days Js	1-7 days SDW	1-7 days J	Half Day (1)	Day (2)
1	6o	6-	7-	7-	6	5	6	6	6+	7			7	2	1
2	6+	5-	7-	7o	6	6	6	7	6o	6			6	3	1
3	7-	7-	7o	7o	7	6	7	7	7-	6			6	1	2
4	7o	7-	7-	7o	7	7	7	7	7-	7			7	1	(4)
5	7-	4o	6o	7-	5	5	6	6	5+	7			7	3	3
6	7o	6o	6+	7-	6	6	6	7	7-	7			7	2	3
7	7-	6+	7-	7o	6	6	7	7	7-	7			7	(4)	2
8	7o	6-	7-	7-	7	6	7	7	6+	7			7	3	3
9	7o	6-	6+	7-	7	6	7	7	6+	6			6	3	3
10	7-	5o	5o	6-	7	4	6	6	6-	6			6	3	2
11	5+	4+	5+	4+	4	5	6	4	5-	3		3	7	3	(5)
12	4o	4-	5o	5+	3	3	5	5	(4+)	3		3	7	3	3
13	6+	6-	6-	6+	6	5	6	6	6o	5		5	7	3	3
14	7-	4+	4+	6-	7	6	6	6	5o	7			7	3	3
15	6o	2+	1+	1o	6	5	3	2	(2+)	7			7	(5)	(9)
16	1+	2o	4+	6-	1	2	3	5	(3o)	3			3	(4)	3
17	6o	3o	3+	2+	5	5	5	2	(3+)	4			4	3	(7)
18	1+	2-	3-	3o	2	2	2	3	(2+)	4		4	6	(7)	(5)
19	4+	3o	6-	6o	3	3	4	6	(4+)	3		3	6	(4)	(4)
20	6+	5-	6o	6+	5	6	6	6	6-	5		5	6	3	3
21	6+	6o	6-	6+	6	5	6	6	6o	6	6		7	3	3
22	7-	6+	6+	7-	7	6	6	6	6+	7	7		7	3	3
23	7o	5o	6+	6+	7	6	6	6	6o	6			6	3	2
24	7-	6-	7-	6+	6	6	6	6	6+	7			7	3	(4)
25	6-	5-	6+	6+	6	5	6	6	6-	7			7	(4)	(4)
26	6-	4+	6+	6+	6	4	6	6	5+	7			7	(4)	(4)
27	6-	5-	6o	7-	5	5	6	6	6-	7			7	(4)	(4)
28	6+	5+	7-	7-	5	5	7	7	6+	7			7	3	3
29	7-	6-	6o	7-	7	6	7	7	6+	7			7	3	2
30	7-	7o	7o	7o	7	6	7	7	7o	6			6	1	1
31	7o	7-	7-	7-	7	7	7	7	7-	6			6	3	3
Score: Quiet Periods					P	18	12	18	22				8		8
					S	8	9	7	5				13		13
					U	1	0	0	0				4		4
					F	0	0	1	0				0		0
Disturbed Periods					P	1	4	0	3				1		1
					S	3	3	2	1				3		1
					U	0	2	2	0				1		0
					F	0	1	1	0				1		4

() represent disturbed values.

CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

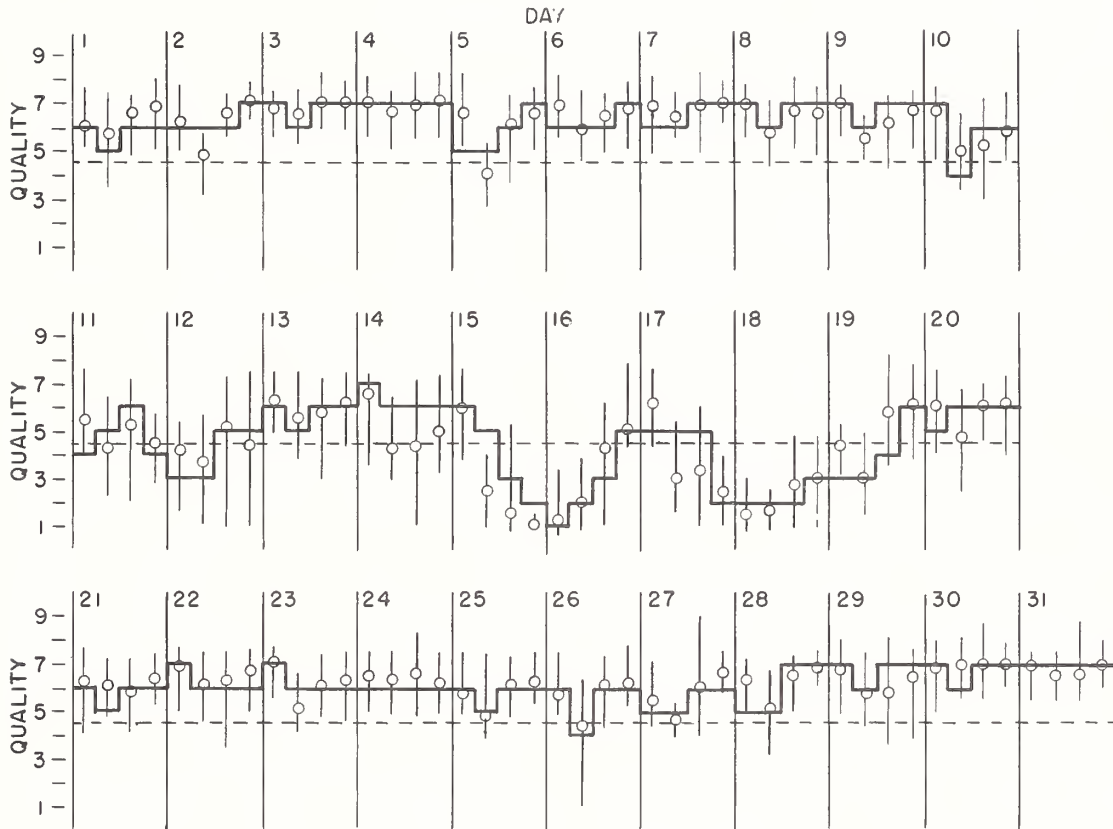
Vib

— Short-term forecast

JULY 1959

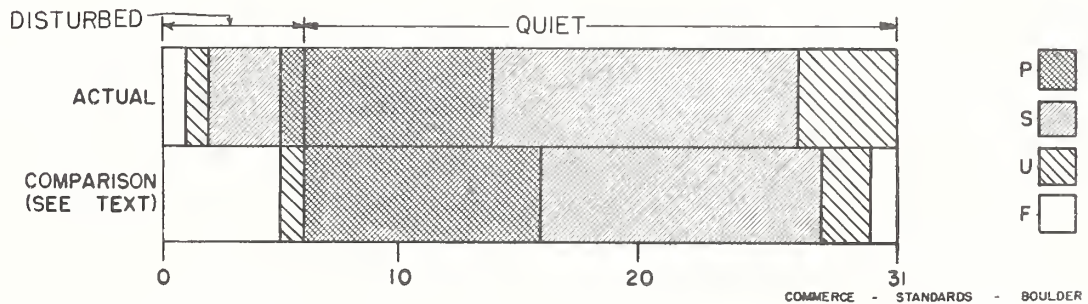
| Range of reports

o Quality figure

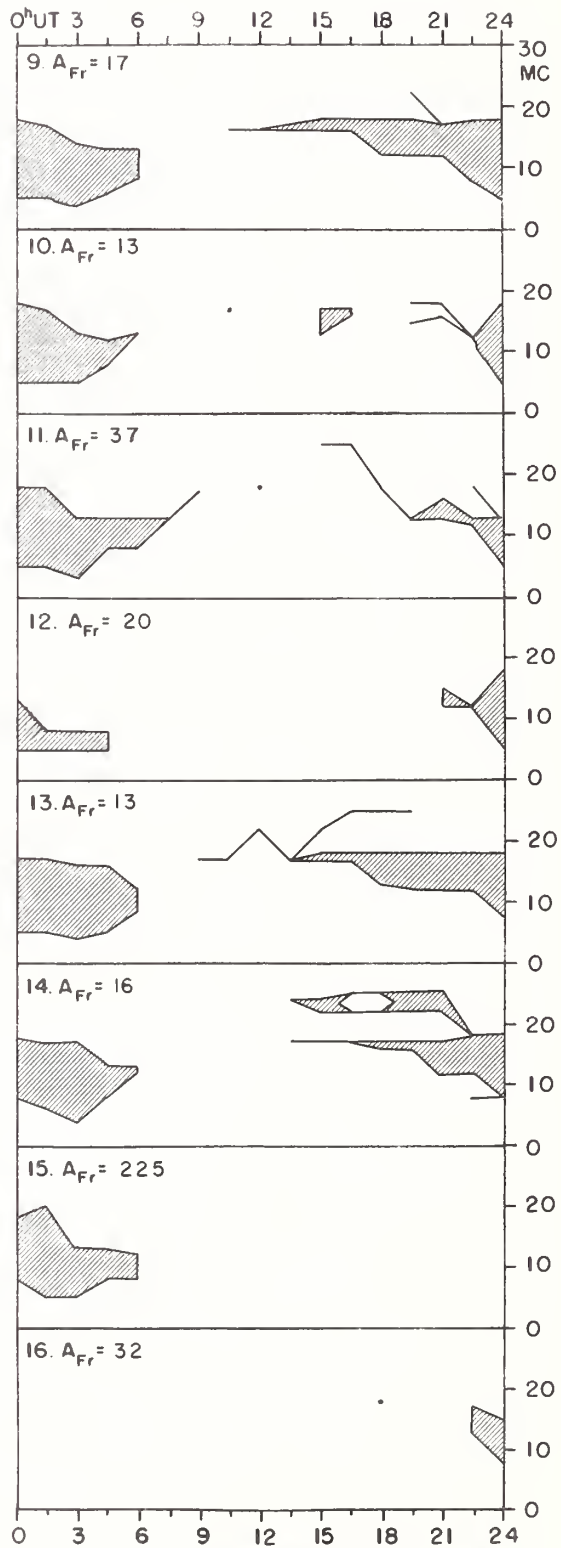
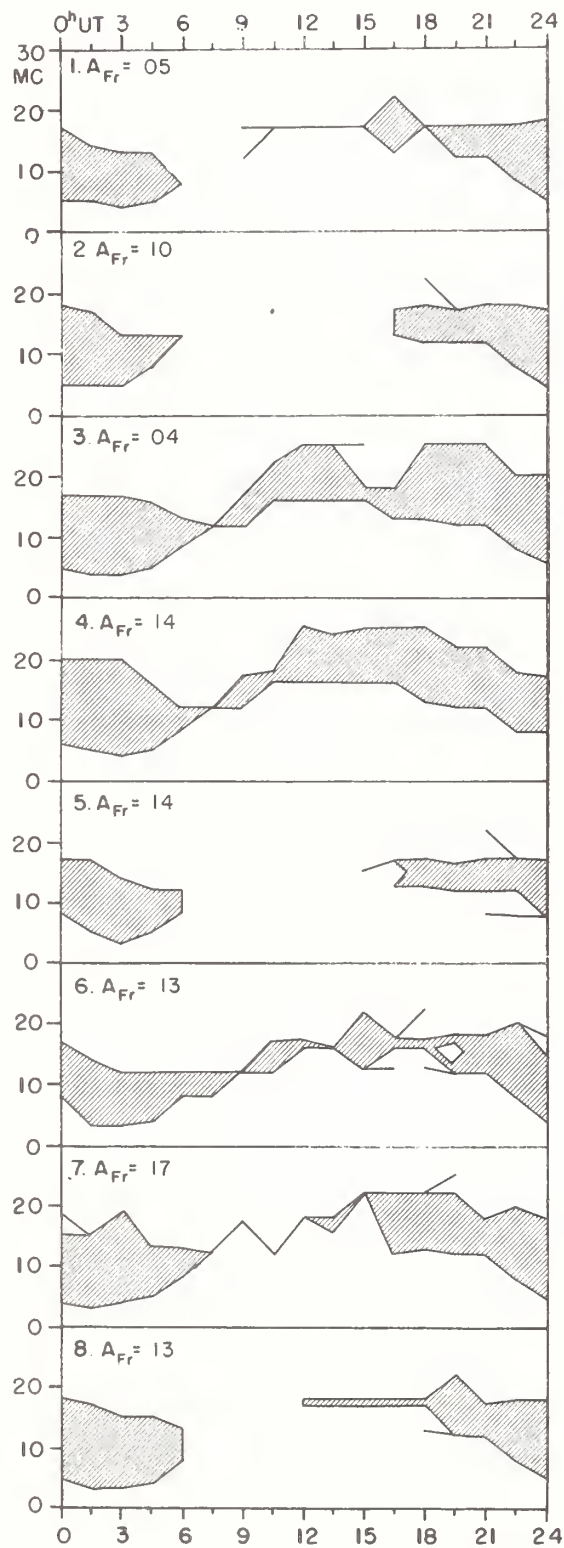


OUTCOME OF ADVANCED FORECASTS

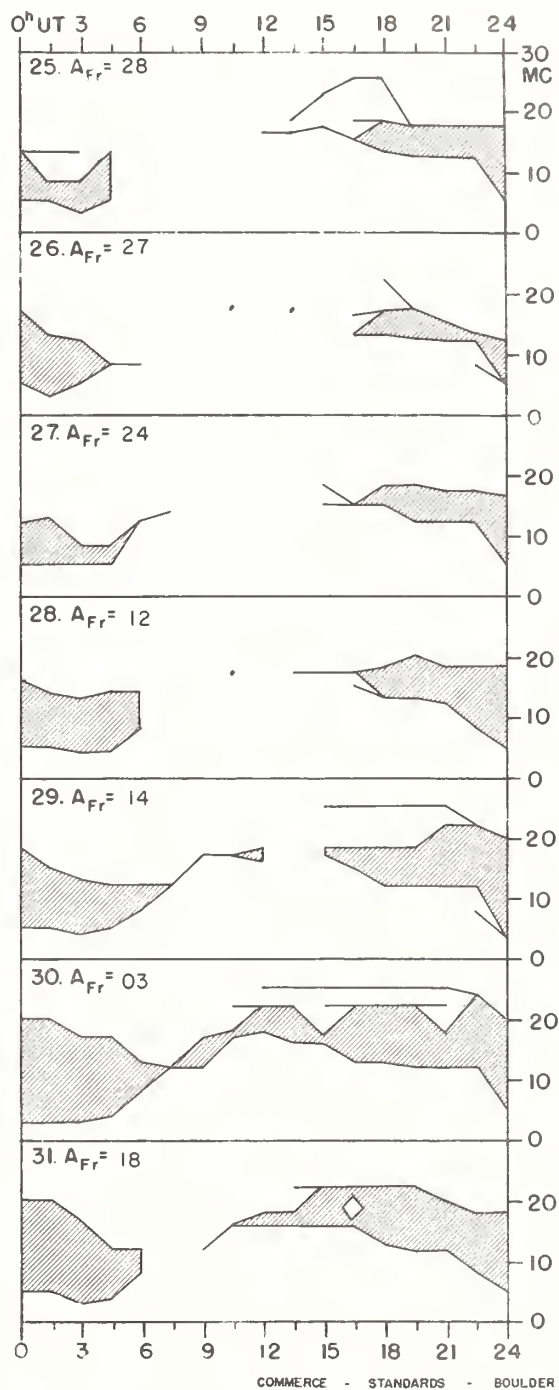
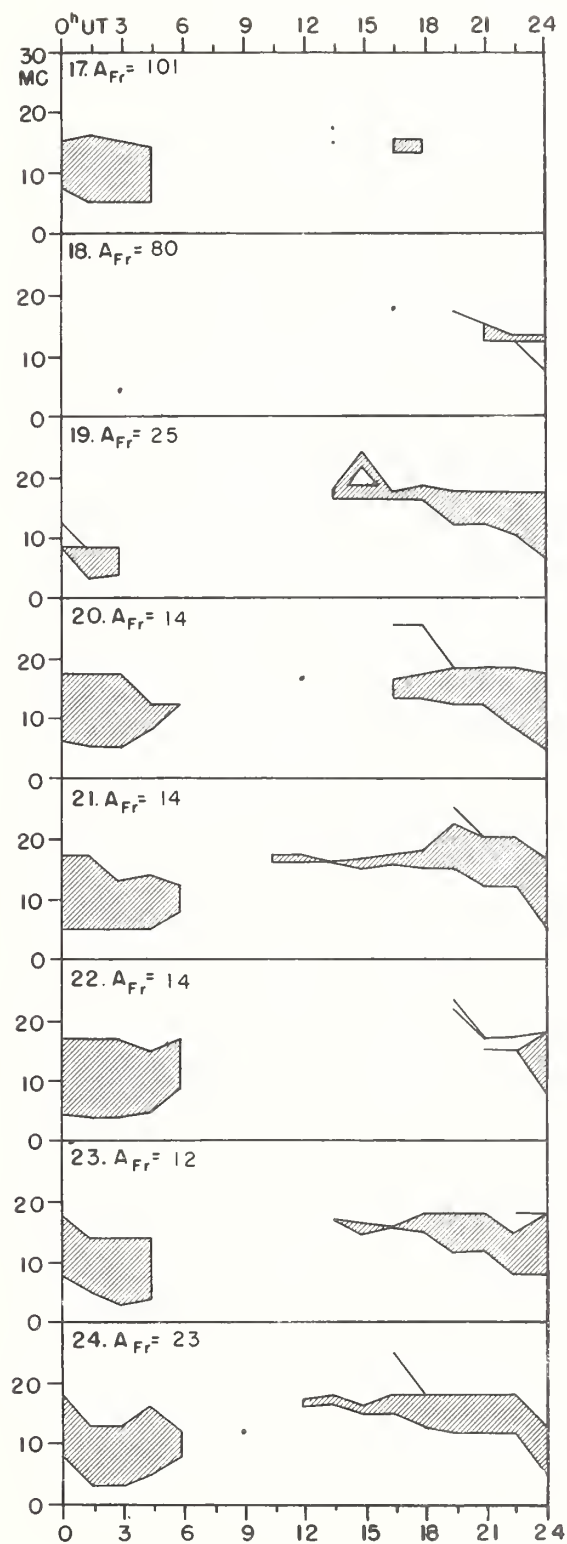
FINAL ESTIMATE



JULY 1959



JULY 1959



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

JULY 1959

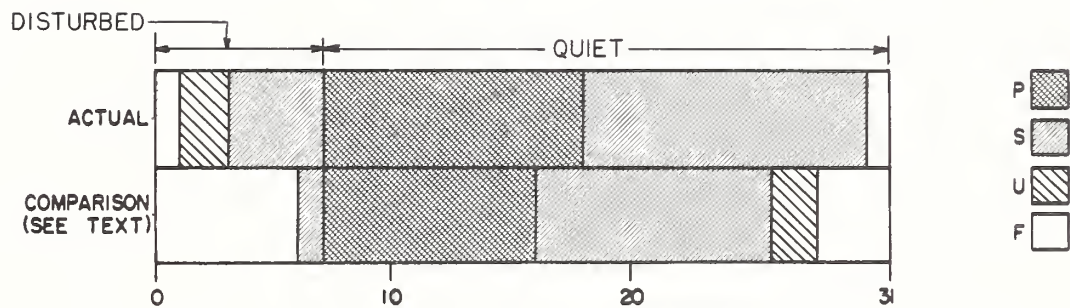
July 1959	North Pacific 12-hourly quality figures		Short-term forecasts issued at		Whole day index	Advance forecasts (Jp reports) for whole day; issued in advance by:				Geomagnetic K _{SI}	
	0700 to 1900	1900 to 0700	0600	1800		1-7 days Final	1-7 days Jps	1-7 days SDW	1-7 days Jp	Half Day (1)	Day (2)
1	6	5	5	5	5	6			6	2	2
2	5	5	4	6	5	5			5	(5)	2
3	5	5	6	6	5	6			6	2	1
4	5	6	6	6	5	6			6	2	3
5	5	6	4	6	6	6			6	(4)	3
6	6	5	5	6	6	6			6	3	3
7	6	6	6	6	6	6			6	(4)	2
8	6	6	6	6	6	6			6	3	2
9	6	5	6	5	6	5			5	(4)	(4)
10	5	5	5	5	5	5			5	3	2
11	5	2	4	3	(4)	3		3	6	3	(5)
12	4	6	2	5	(4)	2		2	6	3	3
13	6	6	6	6	6	4		4	6	3	3
14	5	3	5	5	5	6			6	(4)	3
15	1	2	4	2	(1)	6			6	(7)	(9)
16	4	2	3	5	(3)	2			2	(5)	(4)
17	3	1	3	2	(2)	3			3	(4)	(7)
18	2	3	2	3	(1)	3		3	4	(8)	(4)
19	4	5	3	4	(4)	3		3	5	(4)	(4)
20	5	6	5	5	5	5		5	6	(4)	3
21	6	6	5	6	6	5	5		6	3	3
22	6	6	6	6	6	5	5		6	2	3
23	6	6	5	6	6	5			5	(4)	2
24	6	6	6	6	6	5			5	3	(4)
25	6	6	5	6	6	5			5	(5)	3
26	6	6	5	5	6	6			6	(5)	3
27	7	6	5	6	6	6			6	(5)	3
28	6	6	6	6	6	6			6	3	2
29	6	7	6	6	6	6			6	3	2
30	6	6	6	6	7	6			6	1	1
31	7	6	6	6	7	6			6	(4)	3
Score:		Quiet Periods		P 12	17			11			
				S 12	8			12			
				U 1	0			0			
				F 0	0			1			
		Disturbed Periods		P 2	2			0			
				S 2	2			4			
				U 1	1			2			
				F 1	1			1			

() represent disturbed values.

NORTH PACIFIC
JULY 1959

OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE



COMMERCE - STANDARDS - BOULDER

ALERT PERIODS AND SPECIAL WORLD INTERVALS
INTERNATIONAL GEOPHYSICAL COOPERATION 1959
AUGUST 1959

Issued Day/Time UT Aug. 1959	Advance Geophysical Alert	No.	Worldwide Geophysical Alert	Special World Interval
16/0930	Ft. Belvoir Magnetic Storm 15/1400Z			
16/1600		22	Magnetic Storm 15/1400Z	
20/0700	Ft. Belvoir Magnetic Storm 20/0410Z			
20/1600		23	Magnetic Storm 20/0410Z	
24/1300	Hawaii Solar Flare 24/0126Z			
25/1330	Burbank Solar Flare 24/2233Z			

