Space Weather Highlights **SWPC PRF 2446**
11 July - 17 July 2022 **18 July 2022**

Solar activity reached high levels this period due to low level, impulsive M-class flare activity. On 11 Jul Region 3056 produced an M1.3 flare at 2343 UTC. On 14 July Region 3058 was responsible for an M1.2 flare at 0431 UTC and an M2.8 flare at 2148 UTC. A CME was associated with the M1.2 from 3058, but was not directed at Earth. Finally, on 16 July Regions 3057 and 3055 produced a M1.1 at 0629 UTC and a M1.4 at 1539 UTC respectively. A relatively narrow CME was observed emerging from the SW limb shortly after the aformentioned M1.4 flare from Region 3055, but modeling determined this event to be off the Sun-Earth line. Numerous C-class activity was noted from multiple regions over the course of the period.

Additional activity included the eruption of an approximately 37 degree long filament oriented in an east to west fashion and centered near N31W05 just after 1308 UTC on 15 July. The resultant slow moving, partial halo CME was modeled and determined to have an Earth-directed component with a likely arrival of 20 July.

The greater than 10 MeV proton flux at geosynchronous orbit began the period in a slightly enhanced state with a peak of flux of 1.68 pfu occuring at 11/0305 UTC. This slight enhancement was due to C-class flare activity from the western limb that had occurred during the previous period. The 10 MeV proton flux continued a downward trend to background levels over the course of 11 July and remained there for the duration of the period.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels in response to positive polarity CH HSS effects at approximately 16/1025 UTC with a peak flux of 5,270 pfu observed at 17/1830 UTC.

Geomagnetic field activity ranged from quiet to active with an isolated G1 (Minor) storming period. Quiet to active levels were observed 11 July with the likely arrival of trainsient- like influence. G1 (Minor) geomagnetic storming was observed on 12 July at approximately 1332 UTC due to likely trainsient influence paired with the onset of a positive polairty CH HSS. Mostly quiet levels returned 13 July, with a few isolated unsettled periods occurring 15-16 July.

Space Weather Outlook
18 July - 13 August 2022

Solar activity is expected to be at low levels 18-23 July and 31 Jul-13 Aug , with a chance for R1-R2 (Minor-Moderate) radio blackouts from active, complex regions. Mostly very low to low solar activity is anticipated for 24-30 July due to recurrence.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels

18-20 Jul, 24-30 Jul, and 12-13 Aug due to recurrent CH HSS.

Geomagnetic field activity is expected to be quiet to unsettled 18-19 Jul under waning CH HSS effects. Primarily unsettled to active levels are expected 20-25 July, with G1 (Minor) storming being likely on 21 July, due to the arrival of the slow CME produced by a large filament eruption that occurred on 15 July and recurrent CH HSS effects. Unsettled conditions are expected 03-04 Aug and 10-12 Aug due to recurrent CH HSS effects. Primarily quiet levels are expected 26 July through 02 Aug, 05-09 Aug and 13 Aug baring new solar activity.

Daily Solar Data

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10^{-6} hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
11 July	161	134	1820	C1.0	10	1	0	16	2	0	0	0
12 July	165	117	1580	C1.0	13	0	0	13	0	0	0	0
13 July	165	101	1520	B9.8	8	0	0	13	0	0	0	0
14 July	169	133	1810	C1.4	13	2	0	26	0	0	0	0
15 July	171	141	2110	C1.1	10	0	0	22	1	0	0	0
16 July	176	153	1510	C1.3	6	2	0	24	3	0	0	0
17 July	166	166	1660	C1.0	8	0	0	11	1	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm^2 -day -sr)		Electron Fluence (electrons/cm^2 -day -sr)
	>1 MeV	>10 MeV	>2MeV
11 July	7.6e+06	6.3e+04	2.1e+06
12 July	4.2e+06	4.4e+04	2.1e+06
13 July	1.4e+06	3.7e+04	4.3e+06
14 July	9.8e+04	3.4e+04	6.7e+06
15 July	1.2e+05	3.4e+04	1.1e+07
16 July	8.1e+04	3.4e+04	1.4e+08
17 July	7.9e+04	3.4e+04	2.6e+08

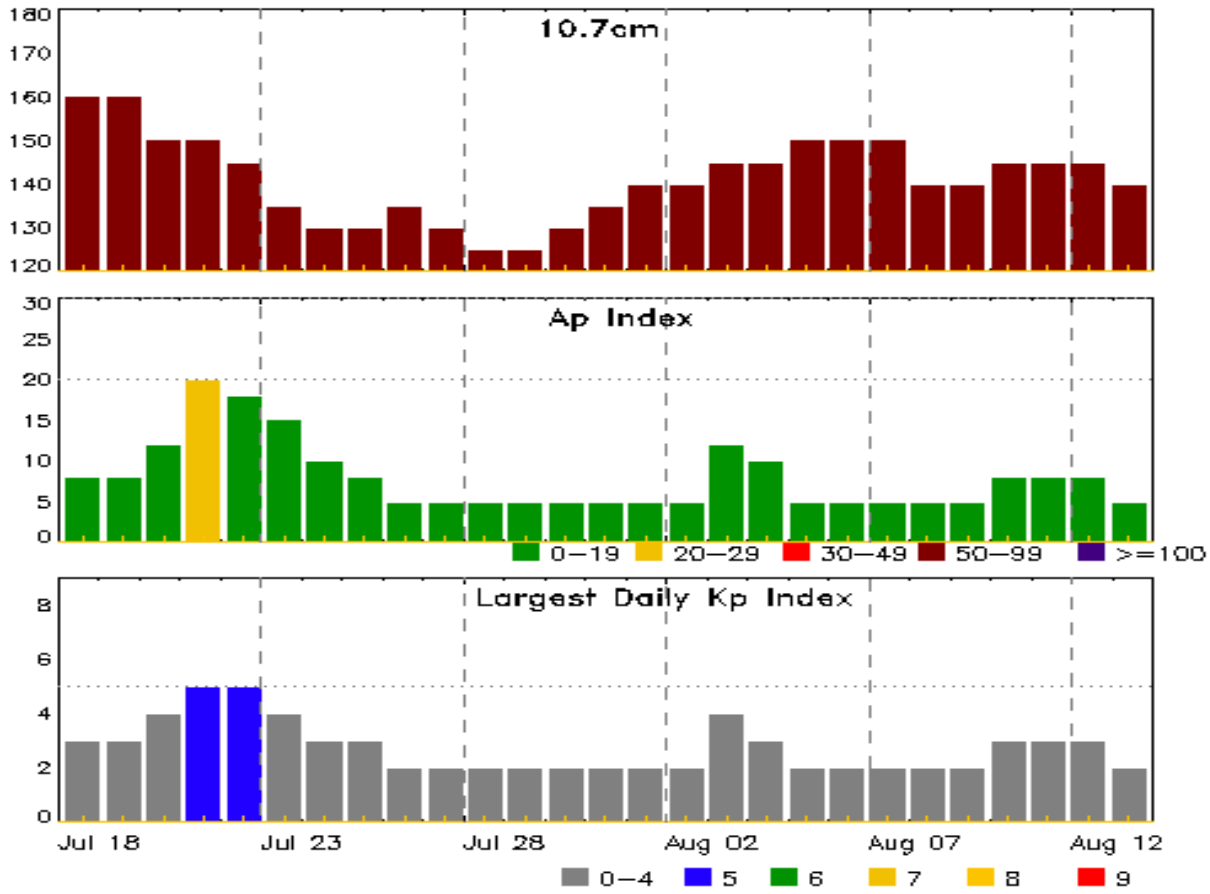
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
11 July	10	1-0-1-3-3-3-3-3	10	1-0-1-1-4-2-4-2	12	1-1-1-2-2-3-4-3
12 July	16	3-3-3-4-4-2-3-2	36	2-4-5-5-6-4-5-1	18	3-3-3-4-5-3-3-3
13 July	5	2-1-1-2-2-2-0-1	9	1-1-1-3-4-3-1-0	5	2-2-2-1-2-1-1-1
14 July	5	0-1-0-1-2-3-2-2	2	0-0-0-1-1-2-1-1	5	1-1-1-1-1-2-1-2
15 July	7	0-2-0-2-2-3-3-2	9	1-3-1-1-3-3-2-2	8	2-2-0-2-2-2-3-3
16 July	9	2-3-3-3-2-1-1-1	6	2-2-2-3-1-0-1-1	7	2-2-3-2-1-1-1-1
17 July	6	1-1-2-2-2-2-2-1	2	0-0-1-0-1-1-2-0	4	1-1-1-2-1-1-2-1

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
11 Jul 0934	WATCH: Geomagnetic Storm Category G1 predicted	
11 Jul 1917	WARNING: Geomagnetic K = 4	11/1915 - 12/0300
11 Jul 1928	ALERT: Geomagnetic K = 4	11/1928
12 Jul 0435	WARNING: Geomagnetic K = 4	12/0435 - 0900
12 Jul 0854	EXTENDED WARNING: Geomagnetic K = 4	12/0435 - 1500
12 Jul 1202	ALERT: Geomagnetic K = 4	12/1201
12 Jul 1335	WARNING: Geomagnetic K = 5	12/1334 - 2100
12 Jul 1338	ALERT: Geomagnetic K = 5	12/1332
12 Jul 1356	EXTENDED WARNING: Geomagnetic K = 4	12/0435 - 13/0600
16 Jul 1041	ALERT: Electron 2MeV Integral Flux >= 1000pfu	16/1025
17 Jul 0500	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	16/1025

Twenty-seven Day Outlook



Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index
18 Jul	160	8	3	01 Aug	140	5	2
19	160	8	3	02	140	5	2
20	150	12	4	03	145	12	4
21	150	20	5	04	145	10	3
22	145	18	5	05	150	5	2
23	135	15	4	06	150	5	2
24	130	10	3	07	150	5	2
25	130	8	3	08	140	5	2
26	135	5	2	09	140	5	2
27	130	5	2	10	145	8	3
28	125	5	2	11	145	8	3
29	125	5	2	12	145	8	3
30	130	5	2	13	140	5	2
31	135	5	2				

Energetic Events

	Time			X-ray		Optical Information			Peak Radio Flux		Sweep Freq Intensity	
Date	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat	CMD	Rgn #	245	2695	II	IV
11 Jul	0908	0919	0939	M1.1	0.014	1F	S18E62		3056	110		
14 Jul	0422	0431	0440	M1.2	0.008	SF	N14E86		3053			
14 Jul	2142	2148	2153	M2.8	0.010				3058	13000		
16 Jul	0616	0629	0634	M1.1	0.007	1N	N18E20		3057			
16 Jul	1533	1539	1544	M1.4	0.005	1B	S17W53		3055	250		

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
11 Jul	0038	0048	0058	C4.2			3053
11 Jul	0039	0152	0350		1N	S18E64	3056
11 Jul	0053	0054	0111		SF	N17E08	3053
11 Jul	0108	0112	0116	C3.5			3056
11 Jul	0144	0153	0206	C8.8			3056
11 Jul	0220	0221	0225		SF	S17E19	3055
11 Jul	0259	0300	0303		SF	S15E15	3055
11 Jul	0407	0416	0423	C1.7			3056
11 Jul	0508	0509	0512		SF	S18E65	3056
11 Jul	0538	0539	0541		SF	S15E14	3055
11 Jul	0545	0558	0609	C2.2	SF	S18E65	3056
11 Jul	0606	0607	0609		SF	N17E09	3053
11 Jul	0650	0650	0655		SF	S18E63	3056
11 Jul	0659	0717	0723	C5.1			3046
11 Jul	0706	0708	0711		SF	S18E63	3056
11 Jul	0714	0716	0729		SF	N18W57	3046
11 Jul	0809	0812	0815		SF	S18E65	3056
11 Jul	0832	0834	0838	C1.7	SF	S14E12	3055
11 Jul	0848	0850	0909		SF	N16E03	3053
11 Jul	0908	0919	0939	M1.1	1F	S18E62	3056
11 Jul	1426	U1428	A1437		SF	N18E01	3053
11 Jul	1509	1513	1532		SF	S19E58	3056
11 Jul	1728	1729	1733		SF	S17E59	3056
11 Jul	2029	2034	2041	C1.4			3055
11 Jul	2136	2142	2146	C1.5			3053
11 Jul	2258	2307	2323	C1.3			3053

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
12 Jul	0145	0147	0152	C1.6	SF	S19E55	3056
12 Jul	0221	0223	0227		SF	N13W04	3053
12 Jul	0236	0237	0240	C2.8	SF	N13W04	3053
12 Jul	0321	0328	0336	C7.6			3056
12 Jul	0351	0352	0400		SF	N13W04	3053
12 Jul	0423	0430	0438	C1.8	SF	S19E55	3056
12 Jul	0916	0916	0924		SF	N13W04	3053
12 Jul	0934	0942	0946	C2.9	SF	N15W12	3053
12 Jul	1147	1156	1202	C2.5	SF	N19E64	3057
12 Jul	1204	1232	1247	C4.0	SF	N17W11	3053
12 Jul	1339	1343	1348	C3.3	SF	N15W14	3053
12 Jul	1351	1354	1358	C7.5	SF	N21E63	3057
12 Jul	1456	1457	1459		SF	N18E61	3057
12 Jul	1553	1559	1604	C1.6	SF	N19E60	3057
12 Jul	1850	1855	1901	C1.8			3057
12 Jul	2234	2239	2246	C1.6			3055
12 Jul	2324	2335	2350	C2.3			3056
13 Jul	0027	0031	0035		SF	N13W18	3053
13 Jul	0136	0146	0150	C1.7	SF	N13W18	3053
13 Jul	0208	0209	0237		SF	S19E41	3056
13 Jul	0637	0638	0640		SF	S17E37	3056
13 Jul	0713	0715	0717	C1.9	SF	N15E52	3057
13 Jul	0953	0959	1006	C1.4	SF	S17E36	3056
13 Jul	1132	1139	1145		SF	N15W26	3053
13 Jul	1229	1232	1238		SF	S18E34	3056
13 Jul	1246	1248	1253		SF	S16E34	3056
13 Jul	1255	1258	1305		SF	N15W48	3052
13 Jul	1309	1310	1311		SF	N15W48	3052
13 Jul	1525	1533	1538	C1.7	SF	S17E33	3056
13 Jul	1612	1632	1709	C2.2	SF	S17W15	3055
13 Jul	1920	1933	2002	C3.2			3056
13 Jul	2044	2059	2115	C3.0			3053
13 Jul	2327	2339	2347	C1.9			3056
14 Jul	0041	0059	0111	C5.1	SF	S18E25	3056
14 Jul	0135	0136	0139		SF	S16W22	3055
14 Jul	0246	0254	0258	C4.2	SF	N19W32	3053
14 Jul	0410	0417	0421	C2.2			
14 Jul	0422	0431	0440	M1.2	SF	N14E86	3053

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
14 Jul	0455	0502	0511	C5.4	SF	S17E22	3056
14 Jul	B0512	0543	0627		SF	N19W35	3053
14 Jul	0535	0546	0557	C4.5	SF	S18E25	3056
14 Jul	0603	0604	0614		SF	S18E22	3056
14 Jul	0640	0649	0700	C2.6	SF	S15E21	3056
14 Jul	0716	0717	0718		SF	S18E22	3056
14 Jul	0720	0740	0759		SF	S18E21	3056
14 Jul	0809	0816	0825	C2.1	SF	N13E76	3053
14 Jul	0829	0831	0835		SF	S19E24	3056
14 Jul	0903	0906	0926		SF	S19E24	3056
14 Jul	0932	1008	1027	C3.0	SF	S19E21	3056
14 Jul	1032	1034	1036		SF	S19E21	3056
14 Jul	1131	1135	1145		SF	S19E21	3056
14 Jul	1154	1205	1210	C2.8	SF	N19W37	3053
14 Jul	1220	1225	1231	C2.9	SF	N19W37	3053
14 Jul	1315	1322	1324	C2.4	SF	S17E23	3056
14 Jul	1411	1413	1416		SF	S19E18	3056
14 Jul	1440	1443	1450		SF	N16W44	3053
14 Jul	1458	1459	1502		SF	S20E20	3056
14 Jul	1552	1554	1555		SF	S20E20	3056
14 Jul	1621	1638	1645	C3.6	SN	N19W40	3053
14 Jul	1706	1707	1709		SF	N20W40	3053
14 Jul	2142	2148	2153	M2.8			3058
14 Jul	2305	2316	2324	C4.0			3056
15 Jul	0033	0042	0050	C1.8			
15 Jul	0220	0221	0224		SF	N17W48	3053
15 Jul	0435	0446	0509		SF	S18E12	3056
15 Jul	0525	0531	0539	C2.3	SF	S18E12	3056
15 Jul	0546	0549	0603		SF	N12E64	3058
15 Jul	0616	0617	0623		SF	N13E68	3058
15 Jul	0730	0736	0740	C3.1	SF	S18E12	3056
15 Jul	0755	0759	0803	C5.5	SF	S19E11	3056
15 Jul	0912	0912	0915		SF	S18E09	3056
15 Jul	0929	0929	0936		SF	S16W32	3055
15 Jul	1156	1205	1211	C5.5	SN	N13E60	3058
15 Jul	1320	1324	1329		SF	S17W35	3055
15 Jul	1450	1451	1452		SF	N12E57	3058
15 Jul	1519	1520	1526		SF	S18E06	3056

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
15 Jul	1559	1607	1615	C2.3	SF	N12E58	3058
15 Jul	1713	1714	1728		SF	S17E02	3056
15 Jul	1729	1734	1742		SF	N12E55	3058
15 Jul	1810	1816	1821	C5.8	SN	N13E61	3058
15 Jul	1838	1844	1848	C2.7	SF	S16E03	3056
15 Jul	1957	1957	2007		SF	N14E55	3058
15 Jul	2056	2057	2058		SF	S17E05	3056
15 Jul	2131	2134	2143		SF	N14E55	3058
15 Jul	2203	2228	2250	C2.9	SF	N14E54	3058
15 Jul	2253	2309	2346	C3.7	1N	N19E21	3057
16 Jul	0002	0012	0022		SF	N14E61	3058
16 Jul	0003	0013	0019		SF	N14E54	3058
16 Jul	0240	0248	0256	C2.2	SF	S19E00	3056
16 Jul	0311	0313	0317		SF	N14E61	3058
16 Jul	0406	0407	0411		SF	N14E61	3058
16 Jul	0420	0424	0450		SF	S16W03	3056
16 Jul	0500	0507	0519	C2.5	SF	S19E00	3056
16 Jul	0616	0629	0634	M1.1	1N	N18E20	3057
16 Jul	0638	0639	0645		SF	S16W04	3056
16 Jul	0717	0717	0720		SF	S16W49	3055
16 Jul	0748	0802	0805		SF	S17W50	3055
16 Jul	0814	0815	0818		SF	N14E57	3058
16 Jul	0829	0831	0836		SF	N14E57	3058
16 Jul	0952	1000	1005	C2.0			3058
16 Jul	1217	1217	1222		SF	S08E65	3059
16 Jul	1304	1311	1323	C1.8	SF	S08E64	3059
16 Jul	1325	1325	1348	C2.9	SF	S06E64	3059
16 Jul	1403	1403	1406		SF	S16W07	3056
16 Jul	1414	1415	1417		SF	S15W07	3056
16 Jul	1422	1422	1431		SF	S16W07	3056
16 Jul	1442	1458	1510		SF	S18W69	
16 Jul	1533	1539	1544	M1.4	1B	S17W53	3055
16 Jul	1609	1630	A1747		1F	N20W60	3053
16 Jul	1651	1652	1658		SF	N14E45	3058
16 Jul	1949	1949	1952		SF	N19E12	3057
16 Jul	2020	2031	2038	C3.0	SF	N16W71	3053
16 Jul	2026	2027	2043		SF	S15W14	3056
16 Jul	2230	2231	2237		SF	S16W58	3055

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
17 Jul	B0000	0107	0110		SF	S14W19	3056
17 Jul	0003	0005	0010		SF	N12E39	3058
17 Jul	0012	0013	0018		SF	N18E10	3057
17 Jul	0128	0352	0434	C3.1			3053
17 Jul	0131	0132	0134		SF	S14W63	3055
17 Jul	0340	0346	0348		SF	S14W62	3055
17 Jul	0838	0840	0845		SF	S14W62	3055
17 Jul	0853	0859	0909		SF	N12E39	3058
17 Jul	0944	0951	0959	C1.9			3058
17 Jul	1042	1048	1101	C1.5			
17 Jul	1152	1202	1219	C1.9	SF	N23E02	3057
17 Jul	1220	1227	1234	C6.5	SF	N15E34	3058
17 Jul	1610	1616	1623	C2.1	SF	S15W26	3056
17 Jul	1720	1726	1731	C3.6	1F	S17W69	3055
17 Jul	2130	2139	2143	C4.8	SF	S16W26	3056

Region Summary

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3046												
01 Jul	N17E64	197	80	3	Hsx	1	A								
02 Jul	N17E49	198	130	2	Hsx	1	A								
03 Jul	N17E36	198	160	9	Dso	6	B				1				
04 Jul	N18E21	200	70	5	Hsx	1	A								
05 Jul	N18E09	199	70	2	Hsx	1	A								
06 Jul	N16W05	199	240	2	Hsx	2	A								
07 Jul	N16W18	199	90	2	Hax	2	A								
08 Jul	N17W31	199	60	2	Hsx	3	A								
09 Jul	N17W43	197	40	2	Hsx	2	A								
10 Jul	N18W56	197	30	2	Hrx	2	A								
11 Jul	N16W70	198	10		Hrx	1	A	1			1				
12 Jul	N16W84	199	plage												
								1	0	0	2	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 199

			Region 3048												
29 Jun	S08E78	212	plage								1				
02 Jul	S08E36	211	20	3	Bxo	3	B								
03 Jul	S08E22	212	plage												
04 Jul	S08E08	213	plage												
05 Jul	S08W06	214	plage												
06 Jul	S13W20	213	10		Axx	1	A								
07 Jul	S13W34	215	plage												
08 Jul	S13W48	216	plage												
09 Jul	S13W62	217	plage												
10 Jul	S13W76	218	plage												
11 Jul	S09W87	218	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 214

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3049												
03 Jul	S12E49	185	10	1	Axx	1	A								
04 Jul	S12E35	186	10	1	Axx	1	A								
05 Jul	S12E21	187	10	1	Axx	1	A								
06 Jul	S12E07	187	plage												
07 Jul	S12W07	188	plage												
08 Jul	S12W21	189	plage												
09 Jul	S12W35	190	plage												
10 Jul	S12W49	191	plage												
11 Jul	S12W63	191	plage												
12 Jul	S12W77	192	plage												
								0	0	0	0	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 187

			Region 3050												
04 Jul	N18E30	191	20	3	Bxo	4	B	2			1	1			
05 Jul	N18E16	192	plage					1			2				
06 Jul	N18E02	192	plage								1				
07 Jul	N18W12	193	plage												
08 Jul	N18W26	194	plage												
09 Jul	N18W40	195	plage												
10 Jul	N18W54	196	plage												
11 Jul	N18W68	196	plage												
12 Jul	N18W82	197	plage												
								3	0	0	4	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 192

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3051												
04 Jul	N27E24	197	30	4	Cro	3	B								
05 Jul	N27E13	195	30	5	Cro	3	B								
06 Jul	N27W00	194	30	6	Cro	4	B								
07 Jul	N28W13	194	30	6	Cro	3	B								
08 Jul	N28W26	194	80	6	Cao	5	B	1			1				
09 Jul	N28W39	193	100	6	Cao	6	B	3			2				
10 Jul	N28W50	191	60	4	Cro	5	B	3			1				
11 Jul	N26W62	190	10	1	Axx	2	A								
12 Jul	N28W75	189	plage												
13 Jul	N28W89	191	plage												
								7	0	0	4	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 194

			Region 3052												
05 Jul	N15E56	151	30	4	Cro	6	B				1				
06 Jul	N15E40	153	30	5	Cro	9	B								
07 Jul	N15E28	153	60	6	Cro	7	B								
08 Jul	N15E14	154	20	1	Hrx	2	A	1							
09 Jul	N15W01	155	20	1	Hrx	2	A	1							
10 Jul	N15W15	156	20	1	Hax	1	A								
11 Jul	N14W28	156	10	2	Hrx	1	A								
12 Jul	N15W43	157	10	1	Axx	1	A								
13 Jul	N15W56	157	plage								2				
14 Jul	N15W70	159	plage												
15 Jul	N15W84	159	plage												
								2	0	0	3	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 155

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3053												
05 Jul	N14E72	136	180	2	Hsx	1	A	5			4	1			
06 Jul	N15E59	134	240	8	Dso	5	B	2			1				
07 Jul	N14E47	134	680	12	Eko	11	B				2				
08 Jul	N15E35	133	700	12	Eko	13	B	2	1		1				
09 Jul	N15E20	134	650	13	Eki	18	B	1			4	1			
10 Jul	N15E07	134	420	14	Eki	18	B				2				
11 Jul	N16W06	134	410	14	Eki	24	B	3			4				
12 Jul	N15W19	133	250	13	Eki	23	B	4			7				
13 Jul	N15W34	135	280	14	Eko	19	B	2			3				
14 Jul	N16W48	136	270	12	Eki	14	B	5			9				
15 Jul	N17W61	136	300	14	Cki	13	B				1				
16 Jul	N15W77	138	110	6	Cai	5	B				1	1			
17 Jul	N17W90	137	60	4	Cao	3	B	1							
								25	1	0	39	3	0	0	0

Still on Disk.
Absolute heliographic longitude: 134

			Region 3054												
06 Jul	N21W27	221	10	2	Cso	2	B								
07 Jul	N21W40	221	10	1	Hrx	1	A								
08 Jul	N21W54	222	plage												
09 Jul	N21W68	223	plage												
10 Jul	N21W82	224	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 221

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3055												
07 Jul	S18E60	121	130	7	Dao	4	B	1			1				
08 Jul	S17E46	122	230	9	Dai	8	B	2							
09 Jul	S17E33	122	450	11	Eko	11	B	1			9				
10 Jul	S17E20	121	630	12	Ekc	22	B				10				
11 Jul	S16E05	122	960	12	Ekc	25	B	2			4				
12 Jul	S16W09	123	800	13	Eki	24	B	1							
13 Jul	S17W21	122	820	13	Eki	27	B	1			1				
14 Jul	S21W30	119	860	12	Eki	24	B				1				
15 Jul	S18W48	123	930	12	Eki	16	B				2				
16 Jul	S16W52	124	590	12	Eki	15	B		1		3	1			
17 Jul	S17W71	124	490	14	Ehi	10	B	1			3	1			
								9	1	0	34	2	0	0	0

Still on Disk.
Absolute heliographic longitude: 122

			Region 3056												
10 Jul	S15E65	76	60	4	Cro	5	B	13	1		5				
11 Jul	S17E54	74	200	8	Cao	9	B	4	1		7	2			
12 Jul	S16E37	76	140	7	Cao	9	B	4			2				
13 Jul	S17E23	78	170	4	Cao	7	B	4			6				
14 Jul	S17E12	75	130	9	Cai	28	B	7			16				
15 Jul	S18W01	76	250	11	Eai	28	B	4			9				
16 Jul	S17W16	78	200	12	Eai	31	BG	3			8				
17 Jul	S17W29	78	140	10	Dai	33	B	2			3				
								41	2	0	56	2	0	0	0

Still on Disk.
Absolute heliographic longitude: 76

			Region 3057												
11 Jul	N17E68	59	220	3	Dso	2	B								
12 Jul	N16E57	57	380	10	Dho	10	B	4			4				
13 Jul	N15E45	55	250	11	Eho	8	B	1			1				
14 Jul	N15E32	55	320	12	Eki	10	B								
15 Jul	N16E16	58	230	10	Cki	13	B	1				1			
16 Jul	N16E04	57	320	11	Ehi	16	B		1		1	1			
17 Jul	N15W09	56	360	11	Eki	19	B	1			2				
								7	1	0	8	2	0	0	0

Still on Disk.
Absolute heliographic longitude: 57

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3058												
14 Jul	N15E71	17	230	4	Dao	7	B		2						
15 Jul	N14E56	18	220	8	Dao	9	B	4			10				
16 Jul	N16E38	23	60	4	Dai	9	BGD	1			7				
17 Jul	N13E26	22	310	8	Dki	9	BGD	2			3				
								7	2	0	20	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 22

			Region 3059												
15 Jul	S07E71	4	180	3	Dao	2	B								
16 Jul	S10E55	6	180	7	Dso	5	B	2			3				
17 Jul	S10E41	8	200	9	Dso	5	B								
								2	0	0	3	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 8

			Region 3060												
16 Jul	N13E58	14	50	2	Hsx	2	A								
17 Jul	N10E33	15	60	4	Hax	3	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 15

			Region 3061												
17 Jul	N24W40	88	40	4	Cso	4	B								
								0	0	0	0	0	0	0	0

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Absolute heliographic longitude: 88

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Notice: The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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