Space Weather Highlights
19 June - 25 June 2023

SWPC PRF 2495
26 June 2023

Solar activity ranged from low to high levels. Low levels were observed on 23 and 25 Jun. Moderate levels were observed on 19, 21-22, and 24 Jun whereas high levels were observed on 20 Jun. Region 3341 (S16, L=207, class/area Cso/200 on 23 Jun) was responsible for the majority of the M-class activity along with an X1.1 Tenflare (480 sfu at 2695 MHz) at 20/1709 UTC which had associated Type II (1057 km/s) and Type IV radio sweeps along with a CME off the Eastern limb at 20/1712 UTC. WSA/ENLIL analysis indicated the potential for a grazing blow late on 23 Jun to early on 24 Jun. Region 3341 produced a total of four M1 flares and one X1 flare. Regions 3337 (N20, L=262, class/area Cso/120 on 21 Jun), 3340 (N23, L=233, class/area Ekc/300 on 25 Jun), and 3342 (S22, L=343, class/area Dao/070 on 20 Jun) also contributed to M-class flare activity. Region 3340 produced an M4 at 22/2344 UTC with associated Type II (534 km/s) and IV radio sweeps along with an associated CME off the SE limb at 23/0414 UTC. The CME was determined to not have an Earth-directed component. Region 3340 developed a Beta-Delta magnetic configuration on 25 Jun as moderate growth and consolidation was observed.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 19-20 and 22-24 Jun due to CH HSS influence. The peak flux was 2,550 pfu observed at 22/1540 UTC.

Geomagnetic field activity ranged from quiet to G1 (Minor) storm levels. Quiet to unsettled levels were observed from 19-23 Jun as solar wind parameters remained slightly enhanced between 390-485 km/s and total field ranged from 5-8 nT. On 24-25 Jun, solar wind parameters became enhanced, possibly due to the aforementioned CME from the X1 flare. Total field ranged from 5-12 nT while solar wind speed values increased to near 535 km/s. The geomagnetic field responded with active to G1 (Minor) storming late on 24 Jun through early on 25 Jun.

Space Weather Outlook
26 June - 22 July 2023

Solar activity is expected to be at low to moderate levels on 26 Jun-22 Jul.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 14-21 Jul due to CH HSS influence.

Geomagnetic field activity is expected to reach unsettled or active levels on 26 Jun-03 Jul, 8-9 Jul, and 12-22 Jul with G1 (Minor) storm levels likely on 12 Jul and G2 (Moderate) levels likely on 13 Jul due to recurrent CH HSS 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
19 June	169	181	850	C1.2	8	2	0	14	0	0	0	0
20 June	180	155	750	C1.8	11	1	1	17	6	0	0	0
21 June	176	190	1290	C1.6	5	2	0	19	1	0	0	0
22 June	173	176	920	C1.4	5	2	0	6	1	0	0	0
23 June	170	194	930	C1.0	8	0	0	11	0	0	0	0
24 June	161	200	890	C1.0	15	1	0	14	0	0	0	0
25 June	155	180	850	B9.1	15	0	0	15	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
19 June	3.4e+04	2.2e+04	5.6e+07
20 June	5.9e+04	2.2e+04	6.8e+07
21 June	3.0e+04	2.3e+04	3.6e+07
22 June	5.3e+04	2.3e+04	6.1e+07
23 June	5.1e+04	2.3e+04	3.0e+07
24 June	8.5e+04	2.2e+04	2.3e+07
25 June	7.5e+04	2.2e+04	1.2e+07

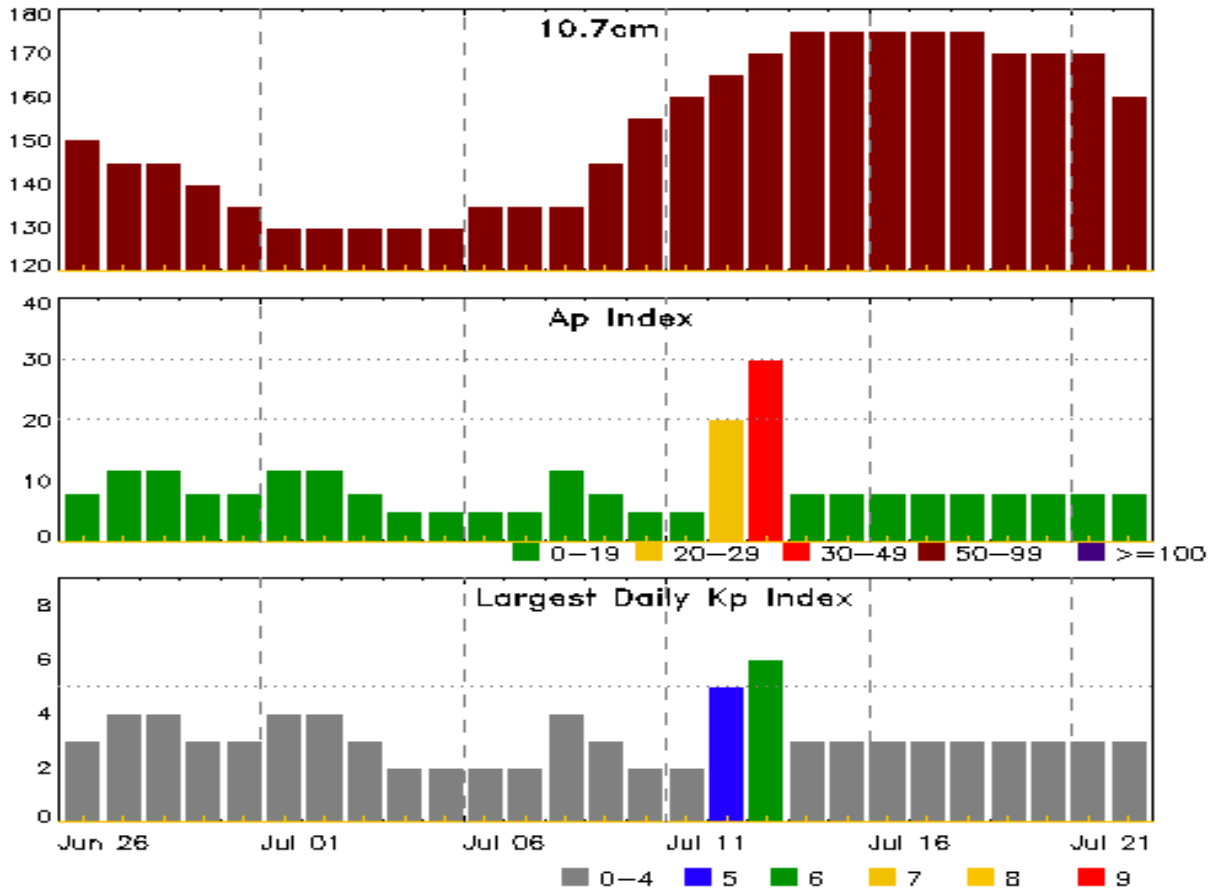
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
19 June	9	2-2-2-2-3-2-2-3	13	2-2-2-2-5-3-1-2	10	3-2-2-2-2-3-3-3
20 June	13	3-3-1-3-3-3-2-3	14	3-3-2-1-5-2-2-2	10	3-3-2-2-2-3-2-3
21 June	9	3-3-1-1-2-2-2-3	6	3-3-2-0-0-0-1-2	8	3-2-2-1-2-1-1-3
22 June	8	1-1-2-3-3-2-2-2	17	1-2-3-3-5-4-3-2	8	1-1-3-3-2-2-2-2
23 June	9	2-2-2-3-3-2-2-2	14	2-3-2-4-4-3-2-2	9	2-2-2-3-2-2-2-2
24 June	16	2-3-2-3-3-3-4-4	19	2-4-4-3-4-3-3-3	16	2-3-3-3-3-3-4-4
25 June	10	4-2-1-2-2-2-2-3	24	5-3-3-2-3-5-4-3	48	5-2-2-1-2-3-3-3

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
19 Jun 0437	ALERT: Type II Radio Emission	19/0342
19 Jun 1231	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	17/1400
19 Jun 1300	ALERT: Type II Radio Emission	19/1214
19 Jun 1522	WARNING: Geomagnetic K = 4	19/1521 - 2359
19 Jun 2354	EXTENDED WARNING: Geomagnetic K = 4	19/1521 - 20/0900
20 Jun 1242	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	17/1400
20 Jun 1706	ALERT: X-ray Flux exceeded M5	20/1654
20 Jun 1716	ALERT: Type II Radio Emission	20/1701
20 Jun 1720	ALERT: Type IV Radio Emission	20/1707
20 Jun 1727	SUMMARY: 10cm Radio Burst	20/1658 - 1714
20 Jun 1740	SUMMARY: X-ray Event exceeded X1	20/1642 - 1726
20 Jun 1949	SUMMARY: X-ray Event exceeded X1	20/1642 - 1726
21 Jun 1613	ALERT: Type II Radio Emission	21/1543
21 Jun 2345	WARNING: Geomagnetic K = 4	21/2344 - 22/0900
22 Jun 0347	ALERT: Type IV Radio Emission	22/0105
22 Jun 1350	ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1320
23 Jun 0028	ALERT: Type II Radio Emission	22/2345
23 Jun 0029	ALERT: Type IV Radio Emission	22/2350
23 Jun 1421	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1320
24 Jun 0707	WARNING: Geomagnetic K = 4	24/0706 - 1500
24 Jun 1452	EXTENDED WARNING: Geomagnetic K = 4	24/0706 - 2359
24 Jun 1452	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	22/1320
24 Jun 2044	ALERT: Geomagnetic K = 4	24/2044
24 Jun 2321	EXTENDED WARNING: Geomagnetic K = 4	24/0706 - 25/1200
25 Jun 0128	WARNING: Geomagnetic K = 5	25/0128 - 0900
25 Jun 0148	ALERT: Geomagnetic K = 5	25/0148
25 Jun 2349	ALERT: Type II Radio Emission	25/2105

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
26 Jun	150	8	3	10 Jul	155	5	2
27	145	12	4	11	160	5	2
28	145	12	4	12	165	20	5
29	140	8	3	13	170	30	6
30	135	8	3	14	175	8	3
01 Jul	130	12	4	15	175	8	3
02	130	12	4	16	175	8	3
03	130	8	3	17	175	8	3
04	130	5	2	18	175	8	3
05	130	5	2	19	170	8	3
06	135	5	2	20	170	8	3
07	135	5	2	21	170	8	3
08	135	12	4	22	160	8	3
09	145	8	3				

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
19 Jun	0337	0350	0358	M1.4	0.011			3341			2	
19 Jun	1206	1214	1218	M1.1	0.005	SF	S13E79	3341	190		2	
20 Jun	1627	1633	1642	M1.1	0.002	1N	S22W69	3342				
20 Jun	1642	1709	1726	X1.1	0.140			3341	200	480	2	1
21 Jun	1231	1244	1254	M1.1	0.010	1N	S14E59	3341				
21 Jun	1531	1538	1543	M1.0	0.004	SF	N19W06	3337				
22 Jun	1057	1121	1136	M1.1	0.017	1N	S12E44	3341				
22 Jun	2329	2344	2357	M4.8	0.045			3340	39	140	2	1
24 Jun	1211	1217	1224	M1.1	0.006	SN	N21W42	3337	310			

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
19 Jun	0146	0208	0238	C6.0			3338
19 Jun	0337	0350	0358	M1.4			3341
19 Jun	0408	0414	0426	C2.8			3335
19 Jun	0511	0513	0529		SF	S14E06	3335
19 Jun	0525	0528	0644		SF	N23E59	3340
19 Jun	0608	0608	0618		SF	S21W51	
19 Jun	0705	0714	0730	C1.9			3340
19 Jun	1135	1146	1202	C2.3	SF	N23E50	3340
19 Jun	1206	1214	1218	M1.1	SF	S13E79	3341
19 Jun	1224	1224	1231		SF	S10W75	3332
19 Jun	1420	1420	1429		SF	N20E53	3340
19 Jun	1503	1504	1510		SF	N20E53	3340
19 Jun	1615	1623	1631	C3.2	SF	S17E00	3335
19 Jun	1647	1647	1650		SF	S18W01	3335
19 Jun	1652	1659	1703	C2.4	SF	S22W60	3342
19 Jun	1709	1713	1725	C2.3	SF	S18W03	3335
19 Jun	1839	1846	1851	C2.1	SF	S15E00	3335
19 Jun	2031	2032	2038		SF	N16E49	3340
20 Jun	0017	0032	0048	C4.4	1F	S22W61	3342
20 Jun	0158	0158	A0203		SF	S11W30	3333
20 Jun	B0211	0214	A0239		1F	S22W61	3342
20 Jun	0249	0250	0252		SF	S13W34	3333

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
20 Jun	0250	0250	0253		SF	N23E47	3340
20 Jun	0325	0332	0350	C4.7			3333
20 Jun	0447	0454	0505	C5.9	SF	S22W66	3342
20 Jun	0455	0456	0540		SF	N23E45	3340
20 Jun	B0550	0827	0911		1F	S22W66	3342
20 Jun	0709	0709	0717		SF	N23E45	3340
20 Jun	0729	0729	0742		SF	S20E78	3341
20 Jun	0847	0848	0850		SF	S24W04	3336
20 Jun	0912	0914	0917		SF	S22W66	3342
20 Jun	1042	1101	1210		1N	S21W64	3342
20 Jun	1047	1106	1109	C8.6	SF	S20E75	3341
20 Jun	1140	1145	1156		SF	S17W12	3335
20 Jun	1211	1220	1228	C7.8	SF	S21W67	3342
20 Jun	1236	1240	1305		SF	S17W13	3335
20 Jun	1300	1309	1313	C5.7	1F	S21W69	3342
20 Jun	1331	1632	1653		1N	S22W69	3342
20 Jun	1342	1346	1349	C3.2			3342
20 Jun	1400	1407	1412	C7.8			3342
20 Jun	1436	1441	1447	C4.9	SF	S18E39	3339
20 Jun	1523	1534	1537	C6.9			3341
20 Jun	1537	1542	1544	C7.1	SF	S12E68	3341
20 Jun	1627	1633	1642	M1.1			3342
20 Jun	1642	1709	1726	X1.1			3341
20 Jun	1918	1922	1927		SF	S21W71	3342
20 Jun	1944	1953	2005		SF	S20W71	3342
21 Jun	0035	0036	0039		SF	S20W78	3342
21 Jun	0040	0047	0054	C2.5	SF	S20W78	3342
21 Jun	0115	0120	0128		SF	S20W78	3342
21 Jun	0155	0200	0221		SF	S20W78	3342
21 Jun	0231	0232	0234		SF	S20W78	3342
21 Jun	0300	0315	0328	C3.5	SF	S20W78	3342
21 Jun	0438	0440	0444		SF	S23W13	3336
21 Jun	0620	0620	0629		SF	S24W13	3336
21 Jun	0648	0649	0654		SF	S16E23	3339
21 Jun	0659	0701	0704		SF	N16E03	3337
21 Jun	0745	0745	0751		SF	N22E29	3340
21 Jun	0754	0756	0803		SF	S23W75	3342
21 Jun	0856	0857	0900		SF	N10E56	3345

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
21 Jun	0934	0939	0946		SF	S24W15	3336
21 Jun	1040	1049	1056	C5.1	SF	S22E64	3341
21 Jun	1120	1120	1126		SF	S13W27	3335
21 Jun	1231	1244	1254	M1.1	1N	S14E59	3341
21 Jun	1531	1538	1543	M1.0	SF	N19W06	3337
21 Jun	1648	1656	1704	C2.3			
21 Jun	1842	1845	1847		SF	S15E56	3341
21 Jun	1843	1843	1844		SF	S22W77	3342
21 Jun	2039	2048	2054	C5.5			3337
22 Jun	0102	0110	0115	C6.2	SN	N20W09	3337
22 Jun	0606	0614	0629		SF	N19W12	3337
22 Jun	0817	0824	0830	C4.1	SN	N19W12	3337
22 Jun	1043	1050	1056	C2.1			
22 Jun	1057	1121	1136	M1.1	1N	S12E44	3341
22 Jun	1319	1330	1341	C2.9	SF	S17E45	3341
22 Jun	1340	1346	1352	C3.3	SF	S09E43	3341
22 Jun	2329	2344	2357	M4.8			3340
22 Jun	2343	2347	2348		SF	N23E10	3340
23 Jun	0305	0306	0309		SF	S14W52	3335
23 Jun	0320	0332	0344	C4.6	SF	N20W26	3337
23 Jun	0505	0505	0508		SF	N23E07	3340
23 Jun	0658	0658	0707		SF	N22E07	3340
23 Jun	0732	0732	0735		SF	N20W24	3337
23 Jun	0834	0834	0837		SF	N13W32	3338
23 Jun	0958	1004	1011	C2.9	SF	S15W50	3335
23 Jun	1031	1034	1035		SF	N21W26	3337
23 Jun	1406	1413	1418	C1.8	SF	N13W28	3338
23 Jun	1635	1646	1656	C2.0			3337
23 Jun	1656	1700	1704	C1.9			3341
23 Jun	1837	1844	1849	C2.0			3334
23 Jun	2053	2102	2108	C2.7	SF	N22W32	3337
23 Jun	B2139	2139	2156		SF	S13E46	3350
23 Jun	2312	2318	2322	C1.6			3340
24 Jun	0012	0024	0036	C2.7	SN	N19W40	3337
24 Jun	0305	0312	0321	C1.5			3341
24 Jun	0431	0442	0514	C1.8			3340
24 Jun	0637	0646	0656	C1.6			3339
24 Jun	0713	0721	0733	C2.4	SF	S15E21	3341

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
24 Jun	0824	0832	0839	C1.7	SF	N21W40	3337
24 Jun	0911	0919	0924	C4.1	SF	N21W40	3337
24 Jun	0929	0931	0941		SF	S17W63	3335
24 Jun	1009	1014	1028		SF	N19W45	3337
24 Jun	1042	1044	1053		SF	N22W11	3340
24 Jun	1211	1217	1224	M1.1	SN	N21W42	3337
24 Jun	1227	1227	1236		SF	N22W10	3340
24 Jun	1600	1610	1620	C2.7	SF	S19W65	3335
24 Jun	1742	1751	1803	C3.0	SF	S12E11	3341
24 Jun	2013	2021	2035	C1.7			3335
24 Jun	2035	2039	2043	C1.5			3335
24 Jun	2105	2117	2127	C4.9	SF	S16W71	3335
24 Jun	2223	2223	2224		SF	S16W73	3335
24 Jun	2237	2247	2300	C1.4			3340
24 Jun	2300	2303	2307	C1.3			3338
24 Jun	2332	2339	2353	C1.7	SF	N22W16	3340
25 Jun	0137	0144	0149	C1.6			3340
25 Jun	0215	0219	0225	C2.3			3339
25 Jun	0412	0422	0430	C2.7			3335
25 Jun	0544	0605	0609		SF	N23W21	3340
25 Jun	0634	0650	0758		SF	N23W21	3340
25 Jun	0654	0708	0714	C6.0	SF	S16W77	3335
25 Jun	B1002	U1007	1424	C1.6	SF	N23W22	3340
25 Jun	1051	1108	1131	C1.9			3340
25 Jun	1203	1218	1230	C8.5	1N	S18E05	3341
25 Jun	1424	1443	A1446		SF	N23W22	3340
25 Jun	1716	1723	1728	C1.7	SF	N17W28	3340
25 Jun	1728	1739	1746	C2.1			3340
25 Jun	1746	1749	1753	C2.2			3340
25 Jun	1833	1835	1837		SF	S15W04	3341
25 Jun	1947	2002	2013	C1.9			3340
25 Jun	1949	1950	1953		SF	N20W67	3337
25 Jun	2002	2004	2019		SF	N23W29	3340
25 Jun	2019	2028	2034	C4.5	SF	N21W61	3337
25 Jun	2026	2030	2035		SF	N10W65	3338
25 Jun	2027	2029	2034		SF	N11W65	3352
25 Jun	2140	2142	2147		SF	S11W06	3341
25 Jun	2156	2202	2208	C6.8	SF	N21W63	3337

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
25 Jun	2258	2301	2306	C1.6			3340
25 Jun	2315	2317	2321	C1.7	SF	N11W65	3338

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 3331												
07 Jun	S22E62	18	140	12	Hax	2	A								
08 Jun	S22E48	18	170	10	Dso	3	B								
09 Jun	S22E37	17	180	11	Eso	3	B	1	1		1				
10 Jun	S22E25	16	170	12	Eao	2	B								
11 Jun	S22E13	15	170	12	Eao	7	B								
12 Jun	S23E03	12	150	12	Csi	18	BG	1			1				
13 Jun	S23W14	15	120	10	Dao	10	B								
14 Jun	S23W28	15	90	5	Cao	6	B				1				
15 Jun	S23W40	15	50	2	Hax	2	A								
16 Jun	S23W53	15	70	2	Hsx	2	A	1	1		1				
17 Jun	S23W66	14	60	2	Hsx	2	A								
18 Jun	S23W80	15	50	2	Hsx	2	A								
								3	2	0	4	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 12

			Region 3332												
08 Jun	S08E59	8	20	1	Hsx	1	A								
09 Jun	S08E45	9	10	1	Hrx	1	A								
10 Jun	S08E31	10	0		Axx	1	A								
11 Jun	S08E17	11	10	1	Axx	1	A								
12 Jun	S08E06	9	0		Axx	1	A								
13 Jun	S08W08	9	plage												
14 Jun	S10W17	6	plage												
15 Jun	S10W31	6	plage												
16 Jun	S10W45	7	plage												
17 Jun	S10W59	7	plage												
18 Jun	S10W71	6	10	1	Axx	2	A								
19 Jun	S09W83	5	10	1	Axx	1	A				1				
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 9

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 3333												
13 Jun	S12E50	311	70	6	Dao	10	B	1			1				
14 Jun	S11E36	311	140	7	Dai	16	B	1			6				
15 Jun	S11E22	313	130	9	Dai	7	B								
16 Jun	S11E10	312	220	10	Dai	16	B								
17 Jun	S11W05	313	240	11	Eai	18	B								
18 Jun	S11W19	314	200	11	Eai	13	BG								
19 Jun	S11W30	312	90	11	Eai	12	BG								
20 Jun	S12W44	312	60	11	Eai	11	BG	1			2				
21 Jun	S11W57	312	80	5	Cao	5	B								
22 Jun	S11W71	313	30	5	Cao	5	B								
23 Jun	S11W85	314	plage												
								3	0	0	9	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 313

			Region 3334												
13 Jun	N17E68	293	90	1	Hax	3	A	1							
14 Jun	N17E56	291	60	1	Hax	2	A				1				
15 Jun	N17E47	288	10	1	Axx	1	A								
16 Jun	N17E36	286	10	1	Axx	1	A								
17 Jun	N16E21	287	plage												
18 Jun	N16E07	288	plage					1							
19 Jun	N16W07	289	plage												
20 Jun	N16W21	290	plage												
21 Jun	N16W35	290	plage												
22 Jun	N17W40	282	20	4	Bxo	3	B								
23 Jun	N17W54	283	plage					1							
24 Jun	N17W68	284	plage												
25 Jun	N17W82	284	plage												
								3	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 288

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 3335												
14 Jun	S15E63	284	140	2	Dao	5	B	5			10	1			
15 Jun	S15E51	284	150	11	Eso	9	B	1			2				
16 Jun	S15E37	285	380	11	Ehi	18	BG	1							
17 Jun	S15E24	284	390	13	Eki	18	BG	1							
18 Jun	S15E10	285	360	13	Eki	18	BG	2			3				
19 Jun	S15W03	284	200	13	Eai	22	B	4			5				
20 Jun	S15W16	284	200	13	Eai	18	B				2				
21 Jun	S15W28	283	220	11	Eai	17	B				1				
22 Jun	S15W44	284	230	11	Esi	9	B								
23 Jun	S15W58	287	230	8	Dso	9	B	1			2				
24 Jun	S14W73	288	220	6	Cso	4	B	4			4				
25 Jun	S15W87	289	200	2	Hax	1	A	2			1				
								21	0	0	30	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 284

			Region 3336												
14 Jun	S20E66	281	160	6	Cso	5	B								
15 Jun	S21E54	281	130	9	Dao	9	B	2			2				
16 Jun	S21E44	278	80	6	Cao	8	B								
17 Jun	S21E31	277	30	3	Cro	5	B	1							
18 Jun	S22E17	278	30	4	Cro	5	B	2	2		1		1		
19 Jun	S23E03	279	20	9	Cro	7	B								
20 Jun	S22W11	282	plage								1				
21 Jun	S19W30	284	plage								3				
22 Jun	S19W44	286	plage												
23 Jun	S19W58	287	plage												
24 Jun	S19W72	288	plage												
25 Jun	S19W86	288	plage												
								5	2	0	7	0	1	0	0

Still on Disk.
Absolute heliographic longitude: 279

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 3337												
15 Jun	N17E69	266	10	1	Axx	1	A								
16 Jun	N17E59	263	10	1	Axx	1	A		1						
17 Jun	N17E45	263	plage												
18 Jun	N17E31	264	plage												
19 Jun	N17E18	264	10	1	Axx	1	A								
20 Jun	N16E04	264	plage												
21 Jun	N20W07	262	120	4	Cso	10	B	1	1		2				
22 Jun	N20W24	266	60	5	Dro	6	B	2			3				
23 Jun	N20W38	267	80	7	Dao	6	B	3			4				
24 Jun	N21W51	267	60	7	Cao	6	B	3	1		5				
25 Jun	N21W61	263	30	3	Hax	3	A	2			3				
								11	3	0	17	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 264

			Region 3338												
14 Jun	N11E83	265	plage					1							
15 Jun	N11E73	262	20	8	Cao	2	B	1			3				
16 Jun	N11E59	263	140	6	Cso	4	B	1	1		1				
17 Jun	N11E45	263	130	8	Cso	6	B				1				
18 Jun	N11E31	264	120	9	Cao	6	B								
19 Jun	N11E17	264	70	10	Dao	10	B	1							
20 Jun	N11E04	264	50	11	Eso	8	B								
21 Jun	N11W08	262	40	8	Cso	5	B								
22 Jun	N11W22	264	30	8	Cso	4	B								
23 Jun	N11W37	266	20	4	Cro	5	B	1			2				
24 Jun	N11W51	266	20	2	Hrx	4	A	1							
25 Jun	N11W64	266	20	2	Cro	3	B	1			2				
								7	1	0	9	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 264

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 3339												
17 Jun	S19E70	238	100	2	Hsx	1	A	2							
18 Jun	S19E56	239	120	2	Hsx	1	A								
19 Jun	S19E42	239	180	4	Hsx	1	A								
20 Jun	S18E28	240	140	4	Hax	2	A	1			1				
21 Jun	S18E15	239	140	5	Cao	5	B				1				
22 Jun	S20E03	239	140	6	Cao	9	B								
23 Jun	S20W11	240	110	8	Cao	9	B								
24 Jun	S20W23	239	110	5	Cso	7	B	1							
25 Jun	S20W37	239	90	4	Cso	6	B	1							
								5	0	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 239

			Region 3340												
18 Jun	N23E59	236	100	4	Cao	6	B	1			1				
19 Jun	N23E45	237	100	4	Dao	6	B	2			5				
20 Jun	N21E31	238	80	6	Cao	7	BG				3				
21 Jun	N21E19	235	120	8	Dai	12	BG				1				
22 Jun	N22E07	235	130	10	Dsi	12	B		1		1				
23 Jun	N22W07	236	160	11	Esi	13	B	1			2				
24 Jun	N22W19	235	200	11	Eai	18	B	3			3				
25 Jun	N23W31	233	300	11	Ekc	18	BD	8			6				
								15	1	0	22	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 235

			Region 3341												
19 Jun	S13E62	219	100	8	Cso	2	B		2		1				
20 Jun	S15E58	218	110	7	Dao	4	BG	3		1	3				
21 Jun	S15E48	211	190	6	Cso	7	B	1	1		2	1			
22 Jun	S16E35	207	180	6	Cso	7	B	2	1		2	1			
23 Jun	S16E22	207	200	5	Cso	5	B	1							
24 Jun	S16E09	207	140	4	Cao	4	B	3			2				
25 Jun	S16W05	207	130	4	Cao	5	B	1			2	1			
								11	4	1	12	3	0	0	0

Still on Disk.
Absolute heliographic longitude: 207

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 3342												
19 Jun	S22W60	342	60	5	Dao	5	B	1			1				
20 Jun	S22W74	343	70	8	Dao	8	BG	6	1		5	6			
21 Jun	S21W84	340	200	6	Dao	6	B	2			8				
								9	1	0	14	6	0	0	0
Crossed West Limb. Absolute heliographic longitude: 342															
			Region 3343												
19 Jun	N16W01	282	10	4	Bxo	4	B								
20 Jun	N16W14	282	plage												
21 Jun	N16W28	283	plage												
22 Jun	N16W42	284	plage												
23 Jun	N16W56	285	plage												
24 Jun	N16W70	286	plage												
25 Jun	N16W84	286	plage												
								0	0	0	0	0	0	0	0
Still on Disk. Absolute heliographic longitude: 282															
			Region 3344												
20 Jun	N22W47	315	10	3	Cao	4	B								
21 Jun	N22W59	313	80	6	Dao	3	B								
22 Jun	N23W73	315	40	9	Dao	2	B								
23 Jun	N24W85	314	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0
Crossed West Limb. Absolute heliographic longitude: 315															
			Region 3345												
20 Jun	N10E59	209	30	2	Dso	3	B								
21 Jun	N09E48	209	80	5	Cso	5	B				1				
22 Jun	N09E33	209	40	5	Cso	5	B								
23 Jun	N08E19	210	20	4	Cro	3	B								
24 Jun	N09E04	212	10	1	Hrx	1	A								
25 Jun	N09W09	211	10	1	Hrx	1	A								
								0	0	0	1	0	0	0	0
Still on Disk. Absolute heliographic longitude: 212															

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 3346												
21 Jun	N08E22	232	20	4	Cao	5	B								
22 Jun	N08E08	234	20	4	Bxo	4	B								
23 Jun	N08W06	235	plage												
24 Jun	N10W20	235	20	2	Bxo	2	B								
25 Jun	N08W33	235	10	4	Bxo	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 235

			Region 3347												
23 Jun	S17W26	255	30	6	Cro	5	B								
24 Jun	S18W38	254	10	3	Bxo	3	B								
25 Jun	S18W50	252	10	1	Axx	2	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 255

			Region 3348												
23 Jun	S31E46	183	20	5	Bxo	3	B								
24 Jun	S31E34	182	20	7	Bxo	2	B								
25 Jun	S31E20	182	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 182

			Region 3349												
23 Jun	N09E38	191	20	3	Bxo	3	B								
24 Jun	N09E24	192	20	5	Bxo	2	B								
25 Jun	N08E11	191	10	6	Bxo	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 191

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 3350												
23 Jun	S11E39	190	10	1	Axx	1	A				1				
24 Jun	S11E25	191	plage												
25 Jun	S11E11	191	plage												
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 191

			Region 3351												
23 Jun	N22E59	170	20	2	Hsx	1	A								
24 Jun	N22E46	170	30	1	Hsx	1	A								
25 Jun	N22E32	170	20	2	Hrx	3	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 170

			Region 3352												
24 Jun	N08W59	275	20	3	Cro	3	B								
25 Jun	N09W73	275	10	5	Bxo	3	B				1				
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 275

			Region 3353												
24 Jun	S18W12	228	10	3	Bxo	3	B								
25 Jun	S18W26	228	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 228

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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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