Space Weather Highlights **SWPC PRF 2501**
31 July - 06 August 2023 **07 August 2023**

Solar activity ranged from moderate to high levels. 20 events above the M-class threshold (R1-Minor) were observed during the summary period. High solar activity levels were observed on 01 Aug due to eight M-class (R1-Minor) events from Region 3380 (S10, L=125, class/area=Dkc/430 on 02 Aug) and again on 02 Aug due to four M-class (R1) flares from the same region and a fifth M-class flare from Region 3386 (N12, L=092, class/area=Dki/360 on 28 Jul). Region 3386 also caused high levels over 05 Aug, with an X1.6/2b flare (R3-Strong) at 05/2221 UTC, the strongest during the week, and an over 06 Aug with an M5.5/Sn flare (R2-Moderate) at 06/1840 UTC. Type II and Type IV radio sweeps were observed with CME activity on 02 Aug from flare activity from Region 3386. Additional Type II radio sweeps were produced by the same region twice on 05 Aug. Solar activity for the remainder of the summary period was at moderate levels.

Activity associated with Region 3386 produced significant eruptions that resulted in CMEs thought to contain Earth-directed components occurred over 01-02 Aug and 05-06 Aug. An M1.3/1f flare at 02/0812 UTC was associated with a CME first seen in SOHO/LASCO C2 imagery beginning 02/0936 UTC; an M1.6/1n flare at 05/0718 UTC, which also resulted in the elevation of high energy proton flux levels (>10 MeV) with CME first seen in C2 imagery at 05/0700 UTC, and an X1.6/2b flare at 05/2221 UTC, which produced an additional enhancements to high energy proton flux levels and associated CME first seen in C2 at 05/2236 UTC.

An S1 (Minor) proton event was observed over 05-06 Aug a long-duration M1.6/1n flare from Region 3386. The GOES-16 greater than 10 MeV proton flux exceeded S1 threshold at 05/115 UTC. The event reached peaked of 18.5 pfu at 05/1745 UTC. Flux levels dropped below the S1 threshold near the end of the 05 Aug UT day; however, an additional rise above the S1 threshold was observed following the X1.6/2b flare at 05/2221 UTC from Region 3386. The S1 then event continued until 06/0455 UTC.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels through the summary period.

Geomagnetic field activity ranged from quiet to G3 (Strong) geomagnetic storm conditions. Quiet conditions on 31 Jul increased to unsettled levels on 01 Aug and further to active levels on 02 Aug in response to transient influence from a CME that left the Sun on 28 Jul. Total magnetic field strength increased to a peak of 12 nT and the Bz component reached as far south as -9 nT. Solar wind speeds were ~400 km/s during the transient. Geomagnetic activity decreased to unsettled levels over 03 Aug before another increase to active levels was observed 04 Aug in response to the onset more transient influence from activity on the Sun over 01-02 Aug. A peak in geomagnetic activity of G3 conditions was observed on 07 Aug following an interplanetary shock, observed at L1 at 05/0207 UTC. Total magnetic field strength increased from 10 nT to 25 nT and Bz reached as far south as -21 nT. Geomagnetic activity decreased rapidly after 05/1200

UTC as the Bz component of the IMF rotated far north resulting in mostly quiet conditions through the remainder of the reporting period.

Space Weather Outlook
07 August - 02 September 2023

Solar activity is likely to reached moderate levels on 07 Aug, primarily due to the remaining flare potential of Region 3386 as it continues to rotate just beyond the W limb. Mostly low solar activity is expected for the rest of the outlook period, with a chance for M-class (R1-R2/Minor-Moderate) activity after 17 Aug as multiple active regions that have produced significant flare activity are expected to return to the visible disk from the Sun's farside.

There is a chance for proton events (S1-Minor) at geosynchronous orbit over the next three days due to potential activity from Region 3386 just beyond the Sun's W limb.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at mostly moderate levels with the exception of high levels on 27-28 Aug due to anticipated positive polarity CH HSS activity.

Geomagnetic field activity is expected to reach active levels on 07 Aug due to CME influence from activity on the Sun over 04 Aug. An increase to G1 (Minor) geomagnetic storm levels is likely on 08 Aug from eruptive activity on the Sun over 05 Aug. A decrease to active levels is expected on 09 Aug with waning transient influence transitioning to influence from a weak, positive polarity CH HSS. Active conditions are again likely on 26 Aug due to a recurrent CH HSS. The remainder of the outlook period is likely to be at mostly quiet levels.

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
31 July	177	197	1290	C1.5	7	1	0	18	1	1	0	0
01 August	175	160	550	C2.3	4	8	0	13	2	0	0	0
02 August	173	135	900	C2.2	6	5	0	13	3	0	0	0
03 August	163	124	1020	C1.5	18	1	0	15	1	0	0	0
04 August	171	122	1100	C1.5	6	1	0	12	2	0	0	0
05 August	176	100	880	C1.8	9	2	1	20	2	0	0	0
06 August	174	97	860	C1.3	2	1	0	13	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
31 July	4.9e+06	1.4e+05	2.2e+07
01 August	4.7e+06	4.2e+04	3.3e+07
02 August	9.9e+05	1.8e+04	1.3e+06
03 August	4.6e+05	1.8e+04	1.1e+06
04 August	3.5e+05	1.8e+04	1.4e+06
05 August	4.2e+06	6.8e+05	1.2e+06
06 August	6.4e+06	6.0e+05	1.5e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
31 July	8	2-1-3-1-3-2-2-2	12	2-2-3-3-3-4-1-1	6	2-1-2-2-2-2-1-2
01 August	9	2-1-1-2-4-2-2-2	10	1-2-1-1-4-4-2-1	9	2-2-1-2-3-3-2-2
02 August	10	2-2-2-3-3-3-2-1	22	2-2-2-3-5-6-2-1	12	2-2-2-3-4-4-2-1
03 August	0	2-2-1-3-3-3-1-0	0	2-2-1-4-4-2-1-0	6	2-2-1-3-2-2-1-0
04 August	0	0-0-0-0-0-0-0-0	0	0-0-0-0-0-0-0-0	13	0-1-2-2-3-4-4-4
05 August	24	0-6-4-4-3-2-2-2	34	0-6-5-6-3-1-2-1	36	5-7-5-5-3-2-2-1
06 August	4	2-1-1-1-1-2-1-0	2	1-1-1-0-0-1-1-1	4	1-1-1-1-0-1-1-1

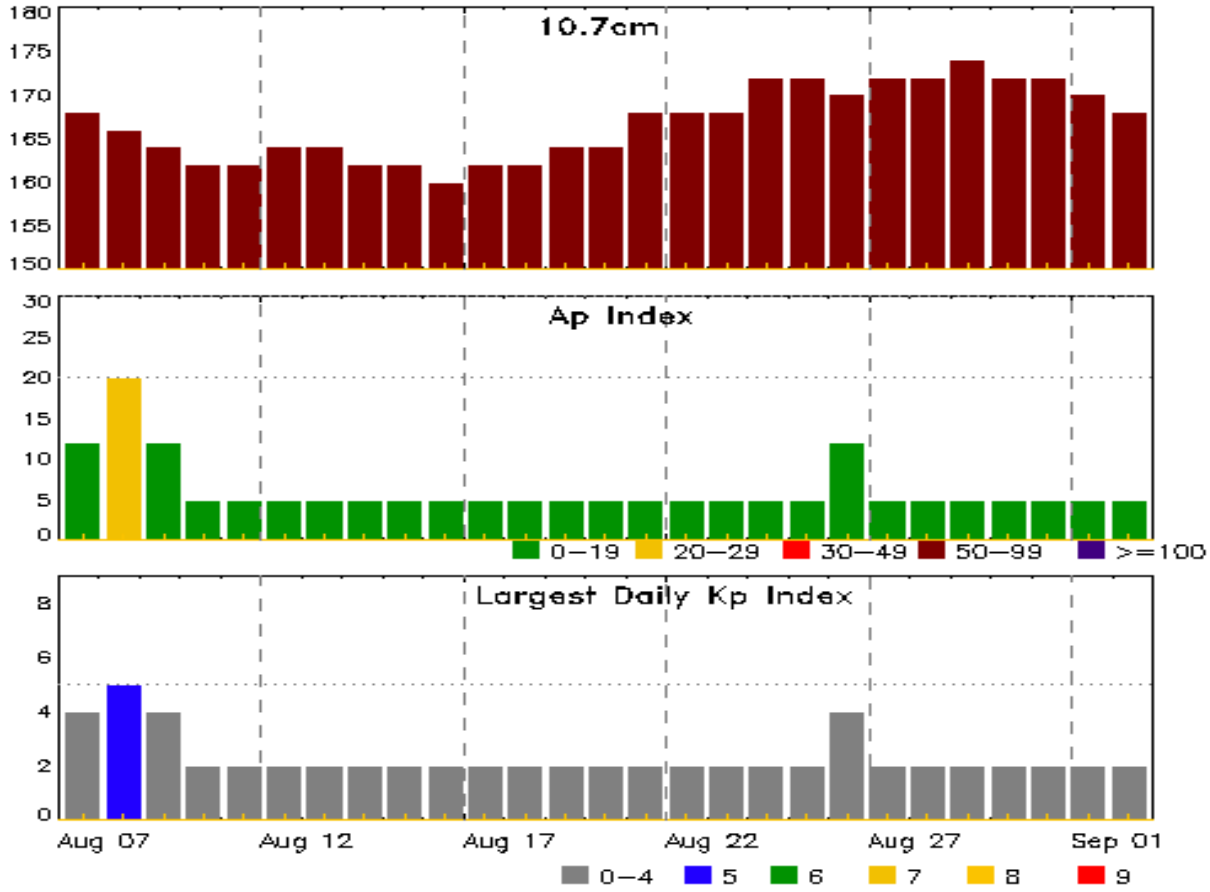
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
31 Jul 1810	ALERT: Electron 2MeV Integral Flux >= 1000pfu	31/1750
01 Aug 1409	WARNING: Geomagnetic K = 4	01/1410 - 2100
01 Aug 1416	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	31/1750
02 Aug 0837	ALERT: Type II Radio Emission	02/0758
02 Aug 0858	ALERT: Type IV Radio Emission	02/0814
02 Aug 1012	WARNING: Geomagnetic K = 4	02/1012 - 1800
02 Aug 1437	ALERT: Geomagnetic K = 4	02/1436
02 Aug 1442	EXTENDED WARNING: Geomagnetic K = 4	02/1012 - 03/0300
02 Aug 1442	WARNING: Geomagnetic K = 5	02/1440 - 2359
02 Aug 1712	WATCH: Geomagnetic Storm Category G1 predicted	
04 Aug 1737	WARNING: Geomagnetic K = 4	04/1737 - 05/0600
04 Aug 1805	ALERT: Geomagnetic K = 4	04/1759
04 Aug 2025	WARNING: Geomagnetic K = 5	04/2025 - 05/0600
05 Aug 0223	WARNING: Geomagnetic Sudden Impulse expected	05/0235 - 0335
05 Aug 0236	EXTENDED WARNING: Geomagnetic K = 4	04/1737 - 05/1800
05 Aug 0236	EXTENDED WARNING: Geomagnetic K = 5	04/2025 - 05/1500
05 Aug 0236	WARNING: Geomagnetic K = 6	05/0250 - 1200
05 Aug 0300	ALERT: Geomagnetic K = 5	05/0259
05 Aug 0311	SUMMARY: Geomagnetic Sudden Impulse	05/0253
05 Aug 0339	ALERT: Geomagnetic K = 5	05/0335
05 Aug 0423	ALERT: Geomagnetic K = 6	05/0420
05 Aug 0520	WARNING: Geomagnetic K>= 7	05/0520 - 1200
05 Aug 0600	ALERT: Geomagnetic K = 7	05/0559
05 Aug 0727	ALERT: Geomagnetic K = 5	05/0721
05 Aug 0751	ALERT: Type II Radio Emission	05/0703
05 Aug 1037	WARNING: Proton 10MeV Integral Flux > 10pfu	05/1035 - 2359
05 Aug 1100	ALERT: Geomagnetic K = 5	05/1050
05 Aug 1123	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	05/1115

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
05 Aug 2208	ALERT: X-ray Flux exceeded M5	05/2205
05 Aug 2233	ALERT: Type II Radio Emission	05/2215
05 Aug 2308	SUMMARY: X-ray Event exceeded X1	05/2145 - 2244
05 Aug 2331	WATCH: Geomagnetic Storm Category G1 predicted	
05 Aug 2341	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	05/1035 - 06/1200
06 Aug 1200	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	05/1115 - 06/0455
06 Aug 1838	ALERT: X-ray Flux exceeded M5	06/1837
06 Aug 1906	SUMMARY: X-ray Event exceeded M5	06/1820 - 1854

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
07 Aug	168	12	4	21 Aug	168	5	2
08	166	20	5	22	168	5	2
09	164	12	4	23	168	5	2
10	162	5	2	24	172	5	2
11	162	5	2	25	172	5	2
12	164	5	2	26	170	12	4
13	164	5	2	27	172	5	2
14	162	5	2	28	172	5	2
15	162	5	2	29	174	5	2
16	160	5	2	30	172	5	2
17	162	5	2	31	172	5	2
18	162	5	2	01 Sep	170	5	2
19	164	5	2	02	168	5	2
20	164	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
31 Jul	0842	0900	0913	M1.6	0.021	2F	S20E44	3390				
01 Aug	0138	0156	0158	M1.0	0.012	SF	S08W39	3380				
01 Aug	0158	0203	0207	M1.2	0.007			3380				
01 Aug	0427	0447	0507	M2.2	0.006	1N	S10W41	3380				
01 Aug	0530	0537	0543	M1.3	0.009			3380				
01 Aug	0628	0657	0719	M3.6	0.074			3380	110			
01 Aug	0903	0909	0916	M1.5	0.009	SF	N19E66	3380				
01 Aug	1403	1409	1427	M1.4	0.012	1N	S10W45	3380				
01 Aug	2139	2151	2158	M1.0	0.008			3880				
02 Aug	0803	0812	0821	M1.3	0.011	1F	N11W22	3386	710		2	2
02 Aug	1044	1050	1054	M1.2	0.003	1F	S10W61	3380				
02 Aug	1446	1452	1456	M1.7	0.005	SF	S11W58	3380				
02 Aug	1613	1622	1626	M1.3	0.005			3380				
02 Aug	1909	1914	1921	M1.1	0.008			3380				
03 Aug	1147	1155	1159	M2.0	0.006	SF	S13W75	3380				
04 Aug	0338	0424	0511	M1.9	0.079	1N	N11W43	3386	810	140		
05 Aug	0616	0718	0906	M1.6	0.110	1N	N10W63	3386			2	
05 Aug	0923	0936	0950	M2.1	0.027			3380				
05 Aug	2145	2221	2244	X1.6	0.300			3386	460		1	
06 Aug	1820	1840	1854	M5.5	0.060	SN	N07W86	3386	630			

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
31 Jul	0203	0203	0210		SF	N13E04	3386
31 Jul	0312	0317	0322	C1.8			3390
31 Jul	0408	0411	0506		SF	N24E33	3387
31 Jul	0433	0446	0453		SF	S17E39	3390
31 Jul	0434	0447	0500	C6.8			3390
31 Jul	0715	0723	0728	C4.6	SF	S10W26	3380
31 Jul	0759	0801	0812		SF	S10W28	3380
31 Jul	B0820	U0826	A0829		SF	S10W28	3380
31 Jul	B0830	U0840	A0907		SF	S10W28	3380
31 Jul	0842	0900	0913	M1.6	2F	S20E44	3390
31 Jul	0944	0950	0953		SF	S09W29	3380

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
31 Jul	B1009	U1009	A1013		SF	S20E44	3390
31 Jul	1136	1141	1147	C3.0	1F	N10W00	3386
31 Jul	1414	1417	1423		SF	N10W01	3386
31 Jul	1504	1513	1522	C2.7	SF	N10W01	3386
31 Jul	1555	1600	1605		SF	S11W36	3380
31 Jul	1558	1559	1602		SF	N10E55	3392
31 Jul	1616	1616	1621		SF	S11W36	3380
31 Jul	1634	1639	1642		SF	S11W36	3380
31 Jul	1634	1647	1702		SF	N11E58	3392
31 Jul	1646	1647	1653		SF	S19E39	3390
31 Jul	1703	1924	2013		SF	N11E56	3392
31 Jul	2235	2247	2252	C5.4			3380
31 Jul	2252	2301	2313	C5.7			3380
01 Aug	0120	0128	0135	C4.5			
01 Aug	0138	0156	0158	M1.0	SF	S08W39	3380
01 Aug	0158	0203	0207	M1.2			3380
01 Aug	0427	0447	0507	M2.2	1N	S10W41	3380
01 Aug	0530	0537	0543	M1.3			3380
01 Aug	0628	0657	0719	M3.6			3380
01 Aug	0903	0909	0916	M1.5	SF	N19E66	3380
01 Aug	1037	1057	1121	C6.4	SF	S12W46	3380
01 Aug	1130	1216	1418		SF	N11W11	3386
01 Aug	1239	1244	1248	C5.5	SF	S17W32	3384
01 Aug	1335	1342	1400		SF	N19E63	
01 Aug	1403	1405	1434	M1.4	1N	S10W45	3380
01 Aug	1500	1550	1625		SF	S10W47	3380
01 Aug	1515	1524	1540		SF	N19E63	
01 Aug	1639	1641	1644		SF	S10W47	3380
01 Aug	1827	1830	1833		SF	S16E23	3390
01 Aug	1909	1916	1924		SF	N18E60	
01 Aug	1948	2008	2043	C5.2	SN	N17E58	3390
01 Aug	1958	2002	2015		SF	S22E23	3390
01 Aug	2139	2151	2158	M1.0			3880
02 Aug	0013	0025	0043	C7.8			3380
02 Aug	0509	0513	0516	C4.2	SF	S10W54	3380
02 Aug	0553	0556	0558		SF	S10W54	3380
02 Aug	0559	0559	0601		SF	S10W56	3380
02 Aug	0617	0617	0624		SF	S10W56	3380

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
02 Aug	0644	0645	0646		SF	S10W56	3380
02 Aug	0713	U0713	0718		SF	N10W20	3386
02 Aug	B0713	U0715	0719		SF	S10W56	3380
02 Aug	B0713	U0713	0727		SF	S23E17	3390
02 Aug	0730	0732	0736		SF	S23E17	3390
02 Aug	0803	0812	0821	M1.3	1F	N11W22	3386
02 Aug	0940	0944	1150		1F	N11W22	3386
02 Aug	1040	1049	1057	M1.2	1F	S10W61	3380
02 Aug	1059	1116	1141	C9.4	SF	S11W58	3380
02 Aug	1446	1452	1456	M1.7	SF	S11W58	3380
02 Aug	1612	1615	1616		SF	S10W65	3380
02 Aug	1613	1622	1626	M1.3			3380
02 Aug	1843	1847	1850		SF	S10W67	3380
02 Aug	1909	1914	1921	M1.1			3380
02 Aug	2107	2120	2129	C7.9			3380
02 Aug	2209	2217	2224	C3.5			3380
02 Aug	2353	0000	0006	C3.0			
03 Aug	0128	0138	0145	C3.7			3380
03 Aug	0210	0214	0221	C4.1			3394
03 Aug	0246	0250	0257		SF	S11W65	3380
03 Aug	0324	0331	0336	C3.4	SF	S11W65	3380
03 Aug	0426	0434	0442	C2.9			3380
03 Aug	0457	0502	0506	C2.8	SF	S11W65	3380
03 Aug	B0511	0530	0532		SF	S12W71	3380
03 Aug	0545	0553	0559	C2.6	SF	S12W71	3380
03 Aug	0612	0621	0624	C3.0	1F	S10W64	3380
03 Aug	0624	0631	0636	C2.9	SF	S10W64	3380
03 Aug	0711	0717	0720		SF	S10W64	3380
03 Aug	0733	0733	0738		SF	S10W64	3380
03 Aug	0750	0751	0814		SF	S10W64	3380
03 Aug	0824	0824	0827		SF	S10W64	3380
03 Aug	0843	0850	0853	C3.6			3380
03 Aug	0853	0904	0917	C6.4			3380
03 Aug	1110	1114	1119	C2.3			3380
03 Aug	B1135	U1141	A1158		SF	N10E21	3392
03 Aug	1147	1155	1159	M2.0	SF	S13W75	3380
03 Aug	1327	1339	1346	C3.6			3380
03 Aug	1346	1349	1354	C3.7			3394

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
03 Aug	1513	1514	1520		SF	S09W72	3380
03 Aug	1547	1553	1601	C2.1	SF	S10W73	3380
03 Aug	1756	1803	1807	C3.3			3380
03 Aug	1837	1848	1903	C2.3			
03 Aug	B2004	2005	2057	C5.0	SF	N10E14	3392
03 Aug	2337	2349	2356	C7.9			
04 Aug	0021	0022	0025		SF	N24W21	3387
04 Aug	0049	0050	0058		SF	N12W49	3386
04 Aug	0059	0110	0114	C4.6	SF	N00E00	3380
04 Aug	0305	0315	0324	C3.0			3380
04 Aug	0338	0424	0511	M1.9	1N	N11W43	3386
04 Aug	0535	0536	0541		SF	S12W79	3380
04 Aug	0544	0546	0555		SF	S12W79	3380
04 Aug	0726	0728	0729		SF	S20E61	3394
04 Aug	B0940	U0948	1000		SF	N11W54	3386
04 Aug	1029	1034	1042		SF	N10E04	3392
04 Aug	1236	1248	1252	C2.6			3380
04 Aug	1252	1255	1259	C2.7			3995
04 Aug	1310	1310	1313		SF	S22E61	3394
04 Aug	1909	1916	1927		SF	S21E57	3394
04 Aug	1947	1957	2003	C5.2	1N	N20W36	3387
04 Aug	2013	2014	2031		SF	N09W58	3386
04 Aug	2058	2102	2106		SF	N10W60	3386
04 Aug	2306	2322	2331	C2.5			3394
05 Aug	0029	0035	0044	C2.6			3380
05 Aug	0210	0223	0228	C3.7	SF	N21W39	3387
05 Aug	0239	0254	0310	C9.7			3380
05 Aug	0508	0510	0521		SF	N22W42	3387
05 Aug	0521	0529	0536	C5.6	1F	N19W37	3387
05 Aug	0616	0718	0906	M1.6	1N	N10W63	3386
05 Aug	0657	0707	0733		SF	N09W04	3392
05 Aug	0923	0936	0950	M2.1			3380
05 Aug	B1046	U1103	1121		SF	N10W65	3386
05 Aug	1049	1049	1058		SF	N20W39	3387
05 Aug	1332	1338	1341		SF	N20W41	3387
05 Aug	1341	1342	1349		SF	N14E60	3395
05 Aug	1444	1449	1455	C3.1	SF	N20W41	3387
05 Aug	1616	1625	1633	C2.4	SF	N21W47	3387

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
05 Aug	1651	1658	1706	C2.8	SF	N07W73	3386
05 Aug	1707	1712	1715		SF	N09W10	3392
05 Aug	1715	1717	1720		SF	N19W43	3387
05 Aug	1754	1807	1819		SF	N10W09	3392
05 Aug	1857	1910	1924	C6.7	SN	N23W45	3387
05 Aug	1955	1956	1958		SF	S27E43	3394
05 Aug	2012	2013	2018		SF	N24W44	3387
05 Aug	2022	2027	2029		SF	N19W45	3387
05 Aug	2033	2039	2050	C3.0	SF	N22W46	3387
05 Aug	2043	2046	2053		SF	N09W15	3392
05 Aug	2145	2221	2244	X1.6			3386
05 Aug	2235	2240	2301		SN	N09W14	3392
06 Aug	B0000	0010	0023		SF	N10W77	3386
06 Aug	0015	0034	0103		SF	N19W48	3387
06 Aug	0107	0110	0115		SF	N22W48	3387
06 Aug	B0437	0441	0452		SF	N18W48	3387
06 Aug	0454	0454	0457		SF	N18W48	3387
06 Aug	0545	0550	0556	C2.8			3387
06 Aug	0653	0657	0702		SF	N21W55	3387
06 Aug	1045	1103	1115	C6.7	SF	N15W56	3387
06 Aug	1431	1606	1751		1N	N17W59	3387
06 Aug	B1620	U1637	1655		SF	N18W58	3387
06 Aug	1712	1712	1720		SF	S27E29	3394
06 Aug	1752	1758	1802		SF	N17W59	3387
06 Aug	1805	1806	1808		SF	N09W89	3386
06 Aug	1820	1840	1854	M5.5	SN	N07W86	3386
06 Aug	1940	2110	2118		SF	N16W61	3387

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 3379												
19 Jul	N16E70	175	180	10	Dso	3	B								
20 Jul	N16E63	169	260	16	Fho	6	B	1							
21 Jul	N16E48	170	270	17	Fho	8	B								
22 Jul	N16E35	170	260	17	Fho	7	B								
23 Jul	N16E23	169	280	17	Fho	10	BG	1			1				
24 Jul	N14E05	174	280	10	Dko	5	B	1			3		1		
25 Jul	N14W10	175	260	6	Dko	8	B								
26 Jul	N14W24	176	255	6	Cko	8	B				1				
27 Jul	N14W37	176	200	4	Cso	7	B								
28 Jul	N14W50	176	180	3	Hsx	1	A								
29 Jul	N14W63	176	180	3	Hsx	1	A	1			1				
30 Jul	N14W76	175	180	2	Hsx	1	A				2				
31 Jul	N13W89	174	100	3	Hsx	1	A								
								4	0	0	8	0	1	0	0

Crossed West Limb.
Absolute heliographic longitude: 174

			Region 3380												
23 Jul	S11E69	123	60	3	Cso	4	B	1			1				
24 Jul	S11E54	125	120	6	Cao	6	B	2			6				
25 Jul	S11E39	126	230	5	Cao	7	B	3	1		2	1			
26 Jul	S11E25	127	110	6	Cso	10	B	3			2	1	1		
27 Jul	S12E12	127	110	5	Cso	7	B	1			2				
28 Jul	S10E01	125	200	8	Cai	14	B	1			5				
29 Jul	S10W12	125	230	9	Dai	16	B	1	1		2	1			
30 Jul	S10W25	124	240	9	Dac	21	B	2			9				
31 Jul	S10W39	124	400	10	Dkc	20	BD	3			8				
01 Aug	S10W55	127	190	10	Dac	21	BD	1	7		4	2			
02 Aug	S10W66	125	430	9	Dkc	10	BG	5	5		10	1			
03 Aug	S11W80	126	330	12	Eki	10	B	13	1		13	1			
04 Aug	S11W93	126	250	12	Eki	5	B	3			3				
								39	15	0	67	7	1	0	0

Crossed West Limb.
Absolute heliographic longitude: 125

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 3382												
24 Jul	N19E10	169	10	2	Hsx	1	A								
25 Jul	N18W05	170	20	2	Hax	1	A								
26 Jul	N18W19	171	20	2	Hrx	1	A								
27 Jul	N19W32	171	10	1	Axx	1	A								
28 Jul	N19W46	172	plage												
29 Jul	N19W60	173	plage												
30 Jul	N19W74	173	plage					2			1	1			
31 Jul	N18W88	173	plage												
								2	0	0	1	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 170

			Region 3383												
24 Jul	N14E20	159	5	1	Axx	1	A								
25 Jul	N14E05	160	10	3	Bxo	3	B								
26 Jul	N14W09	161	10	3	Axx	1	A					1			
27 Jul	N15W22	161	plage												
28 Jul	N15W36	162	plage												
29 Jul	N15W50	163	plage												
30 Jul	N15W64	163	plage									1			
31 Jul	N15W78	164	plage												
								0	0	0	0	2	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 160

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 3384												
25 Jul	S14E54	111	10	6	Bxo	4	B								
26 Jul	S14E40	112	10	6	Bxo	4	B				1				
27 Jul	S15E29	110	20	7	Bxo	4	B								
28 Jul	S16E17	109	10	3	Axx	3	A								
29 Jul	S16E03	110	plage												
30 Jul	S16W11	110	plage												
31 Jul	S16W15	107	40	2	Cao	8	B								
01 Aug	S18W39	110	10	3	Cao	5	B	1			1				
02 Aug	S17W50	109	plage												
03 Aug	S17W64	110	plage												
04 Aug	S17W78	111	plage												
								1	0	0	2	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 110

			Region 3385												
26 Jul	S16W16	168	40	4	Cao	5	B								
27 Jul	S15W35	174	20	1	Hrx	1	A								
28 Jul	S15W50	176	20	1	Hrx	1	A								
29 Jul	S15W64	177	10	1	Axx	1	A								
30 Jul	S15W78	177	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 168

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 3386													
26 Jul	N11E60	92	110	4	Dao	7	B				2				
27 Jul	N12E47	92	180	7	Dsi	11	B				4				
28 Jul	N12E34	92	360	8	Dki	18	B	1			4				
29 Jul	N12E20	93	300	9	Dki	12	B	1			4				
30 Jul	N12E07	92	320	10	Dki	12	B				7				
31 Jul	N10W04	90	310	13	Eki	24	B	2			3	1			
01 Aug	N14W18	92	150	11	Eai	16	B				1				
02 Aug	N12W33	92	160	11	Eso	6	B				1	2			
03 Aug	N12W45	91	180	8	Dso	6	B								
04 Aug	N11W62	95	250	5	Dhi	5	B		1		4	1			
05 Aug	N11W76	96	250	4	Dki	5	BD	1	1	1	2	1			
06 Aug	N11W90	96	250	5	Dki	3	BD		1		3				
								5	3	1	35	5	0	0	0

Still on Disk.
Absolute heliographic longitude: 90

		Region 3387													
27 Jul	N20E66	73	60	3	Hax	2	A	2			1				
28 Jul	N20E54	72	120	3	Cao	4	B	1			1				
29 Jul	N20E42	71	120	3	Cao	5	B				1				
30 Jul	N21E29	70	120	3	Cso	5	B				1				
31 Jul	N23E16	69	110	8	Cso	9	B				1				
01 Aug	N22E03	69	50	3	Cso	6	B								
02 Aug	N20W10	69	60	6	Cso	4	B								
03 Aug	N22W21	67	50	5	Cso	5	B								
04 Aug	N22W35	68	50	5	Cso	3	B	1			1	1			
05 Aug	N22W49	69	80	3	Dso	4	B	6			11	1			
06 Aug	N20W62	69	140	6	Dsi	8	B	2			9	1			
								12	0	0	26	3	0	0	0

Still on Disk.
Absolute heliographic longitude: 69

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 3388												
27 Jul	S23E62	77	30	4	Cso	3	B		1		1				
28 Jul	S23E49	77	60	8	Cso	3	B								
29 Jul	S23E36	77	60	8	Cso	5	B								
30 Jul	S23E21	78	30	3	Hsx	2	A								
31 Jul	S23E07	79	40	2	Hsx	2	A								
01 Aug	S23W06	78	10	2	Cro	1	B								
02 Aug	S24W18	77	10	1	Axx	1	A								
03 Aug	S23W30	76	10	1	Axx	1	A								
04 Aug	S23W44	77	10	2	Axx	2	A								
05 Aug	S23W58	78	10	1	Axx	1	A								
06 Aug	S23W71	78	10	1	Axx	1	A								
								0	1	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 78

			Region 3389												
27 Jul	S09E72	67	20	2	Hsx	1	A								
28 Jul	S09E60	66	40	2	Hsx	1	A								
29 Jul	S09E47	66	40	2	Hsx	1	A	1			5				
30 Jul	S11E35	64	40	4	Hsx	3	A								
31 Jul	S09E22	64	30	2	Hsx	2	A								
01 Aug	S08E07	65	20	3	Hsx	2	A								
02 Aug	S09W05	63	20	4	Hsx	6	A								
03 Aug	S09W19	65	plage												
04 Aug	S09W33	66	plage												
05 Aug	S09W47	67	plage												
06 Aug	S09W61	68	plage												
								1	0	0	5	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 63

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 3390												
28 Jul	S18E70	56	20	2	Hrx	1	A	3			2				
29 Jul	S19E58	55	30	3	Cro	3	B	1			3				
30 Jul	S19E46	53	20	4	Cro	3	B		2		3	1			
31 Jul	S20E34	52	20	3	Dso	2	B	2	1		3		1		
01 Aug	S18E19	53	20	4	Dso	2	B				3				
02 Aug	S20E06	52	10	3	Bxo	2	B				2				
03 Aug	S20W08	54	plage												
04 Aug	S20W22	55	plage												
05 Aug	S20W36	56	plage												
06 Aug	S20W50	57	plage												
								6	3	0	16	1	1	0	0

Still on Disk.
Absolute heliographic longitude: 52

			Region 3391												
29 Jul	N25E75	38	30	1	Hsx	1	A								
30 Jul	N25E63	36	50	2	Hsx	1	A								
31 Jul	N23E49	37	130	4	Hsx	2	A								
01 Aug	N25E37	35	50	3	Hsx	1	A								
02 Aug	N23E25	33	80	3	Cso	2	B								
03 Aug	N23E13	33	90	2	Hsx	1	A								
04 Aug	N24E01	32	90	2	Hsx	2	A								
05 Aug	N23W14	34	80	2	Hsx	1	A								
06 Aug	N23W27	34	80	2	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 32

			Region 3392												
31 Jul	N09E50	36	40	3	Dai	3	B				3				
01 Aug	N09E36	37	40	3	Dao	3	B								
02 Aug	N09E23	35	120	10	Dao	13	B								
03 Aug	N10E10	36	160	11	Eso	7	B	1			2				
04 Aug	N10W05	38	200	8	Dao	8	BG				1				
05 Aug	N10W20	40	190	7	Cao	13	B				5				
06 Aug	N10W35	42	130	5	Cao	6	B								
								1	0	0	11	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 38

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 3393												
31 Jul	N16E26	59	60	3	Hsx	3	A								
01 Aug	N18E12	60	10	4	Cso	3	B								
02 Aug	N16W03	61	10	1	Axx	1	A								
03 Aug	N16W16	62	10	1	Axx	1	A								
04 Aug	N17W30	63	10	1	Axx	1	A								
05 Aug	N17W44	64	plage												
06 Aug	N17W58	65	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 61

			Region 3394												
03 Aug	S22E61	345	130	3	Hsx	2	A	2							
04 Aug	S22E50	343	160	4	Cso	4	B	1			3				
05 Aug	S22E36	344	150	4	Hsx	2	A				1				
06 Aug	S22E23	344	160	7	Cso	4	B				1				
								3	0	0	5	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 344

			Region 3395												
03 Aug	N15E75	331	60	2	Hsx	1	A								
04 Aug	N13E67	326	80	7	Dso	2	B								
05 Aug	N13E52	328	120	6	Dso	4	B				1				
06 Aug	N14E39	327	90	7	Cso	4	B								
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 327

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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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