

**Space Weather Highlights**  
**28 October - 03 November 2024**

**SWPC PRF 2566**  
**04 November 2024**

Solar activity ranged from low to high levels with R1 (Minor) radio blackouts observed on 28 Oct - 03 Nov, R2 (Moderate) radio blackouts observed on 30 Oct and R3 (Strong) radio blackouts observed on 31 Oct. Regions 3869 (S17, L=195, class/area Eki/460 on 24 Oct), 3876 (S05, L=207, class/area Ekc/340 on 30 Oct) and 3878 (N16, L=138, class/area Eki/400 on 31 Oct) produced a majority of the activity this period. Region 3878 produced an R2 (Moderate) M7.2 flare at 30 Oct/2054 UTC and produced the largest flare of the period, an R3 (Strong) X2.0/3b flare at 31 Oct/2120 UTC with an associated 910 sfu Tenflare. During the period, a total of 41 C-class, 20 M-class and 1 X-class flares were observed.

The greater than 10 MeV proton flux began the period at S1-S2 (Minor-Moderate) flux levels due to X-class activity on 24 and 26 Oct. The proton event began at 26 Oct/1919 UTC, reached a maximum at 28 Oct/1350 UTC with a peak of 364 pfu and ended at 01 Nov/0735 UTC.

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

Geomagnetic field activity ranged from quiet to active levels, with one (R1-Minor) minor storm period observed early on 28 Oct. Quiet to minor storm levels were observed on 28 Oct with quiet to active levels observed on 29-30 Oct. This activity was due to weak CME influence from significant flare activity observed on 24 and 26 Oct. Quiet to isolated active periods were observed on 31 Oct to 03 Nov. On 28 Oct, a Sudden Impulse was observed early on 28 Oct, due to CME arrival from 26 Oct activity. Total field increased to 24 nT and the Bz component dropped to -19 nT. Wind speeds increased to 616 km/s. By 29 Oct, solar wind parameters gradually declined to more nominal levels and remained mostly nominal for the remainder of the highlight period.

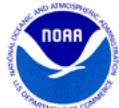
**Space Weather Outlook**  
**04 November - 30 November 2024**

Solar activity is expected to be at moderate levels (R1/R2-Minor/Moderate), with a chance for high levels (R3-Strong) from 04-30 Nov. The disk is expected to feature numerous complex regions throughout the outlook period.

No proton events are expected at geosynchronous orbit. However, there is a chance for proton activity following significant solar flare activity during the outlook period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels.

Geomagnetic field activity is expected to be at unsettled to active periods on 04-05 Nov due to weak CME influence, coupled with positive polarity CH HSS activity. Unsettled to active levels



are likely on 11-13 Nov, 15-16 Nov, 18 Nov, 20 Nov, 15-27 Nov and 30 Nov, all due to influence from recurrent CH HSSs. The remainder of the outlook period is expected 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					
28 October	255	288	1670	C2.7	12	3	0	12	1	0	0	0
29 October	266	220	2130	C2.2	4	1	0	1	1	0	0	0
30 October	270	200	2120	C2.8	5	1	0	10	1	1	0	0
31 October	270	187	2320	C3.0	9	7	1	21	3	1	1	0
01 November	256	210	2290	C2.9	5	4	0	27	3	0	0	0
02 November	251	242	2380	C2.9	1	2	0	19	0	0	0	0
03 November	241	220	2200	C3.3	6	4	0	18	2	0	0	0

### **Daily Particle Data**

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)		>2MeV	Electron Fluence (electrons/cm <sup>2</sup> -day -sr)	
	>1 MeV	>10 MeV		>2MeV	
28 October	1.1e+09	2.3e+07			1.7e+06
29 October	4.1e+08	1.1e+07			2.0e+06
30 October	1.3e+08	4.1e+06			4.7e+06
31 October	3.0e+07	1.8e+06			7.3e+06
01 November	2.4e+07	7.2e+05			4.7e+06
02 November	1.3e+07	3.1e+05			2.7e+06
03 November	6.1e+06	1.3e+05			1.2e+06

### **Daily Geomagnetic Data**

Date	Middle Latitude		High Latitude		Estimated	
	A	K-indices	A	K-indices	A	K-indices
28 October	11	2-4-3-2-3-2-1-2	30	2-3-5-4-6-5-2-2	17	3-5-4-3-3-3-2-2
29 October	10	2-1-2-2-3-3-3-2	14	3-2-4-3-3-2-3-2	12	3-2-2-2-2-3-4-3
30 October	10	3-2-3-3-3-2-1-1	18	3-3-3-4-5-3-2-1	15	4-3-3-4-3-2-2-1
31 October	8	1-1-1-1-3-2-3-3	4	1-0-1-1-1-1-2-2	9	1-1-1-2-2-2-3-4
01 November	6	2-1-1-1-3-2-2-0	14	2-1-1-5-5-0-1-0	7	3-1-1-2-3-1-1-0
02 November	9	0-1-1-3-3-3-3-2	22	0-0-2-5-5-2-3	13	1-1-2-4-4-3-3-3
03 November	8	2-0-1-1-2-3-3-3	6	2-1-0-0-0-2-3-3	12	3-1-1-1-1-3-3-4



## ***Alerts and Warnings Issued***

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
28 Oct 0424	WARNING: Geomagnetic Sudden Impulse expected	28/0440 - 0540
28 Oct 0428	WARNING: Geomagnetic K = 5	28/0430 - 1500
28 Oct 0428	EXTENDED WARNING: Geomagnetic K = 4	26/1538 - 28/2100
28 Oct 0441	WARNING: Geomagnetic K = 6	28/0440 - 1200
28 Oct 0501	SUMMARY: Geomagnetic Sudden Impulse	28/0446
28 Oct 0559	ALERT: Geomagnetic K = 5	
28 Oct 2230	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	26/1638 - 29/2359
29 Oct 2018	WARNING: Geomagnetic K = 4	29/2018 - 30/0300
29 Oct 2046	ALERT: Geomagnetic K = 4	
29 Oct 2142	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	26/1638 - 30/2359
29 Oct 2142	SUMMARY: Proton Event 10MeV Integral Flux >= 100pfu	27/0835 - 29/1510
30 Oct 0238	EXTENDED WARNING: Geomagnetic K = 4	29/2018 - 30/1200
30 Oct 1139	EXTENDED WARNING: Geomagnetic K = 4	29/2018 - 30/1800
30 Oct 2048	ALERT: X-ray Flux exceeded M5	30/2047
30 Oct 2118	SUMMARY: X-ray Event exceeded M5	30/2029 - 2114
31 Oct 0008	WARNING: Proton 10MeV Integral Flux > 10pfu	31/0000 - 2359
31 Oct 2116	ALERT: X-ray Flux exceeded M5	31/2115
31 Oct 2138	SUMMARY: X-ray Event exceeded X1	31/2112 - 2127
31 Oct 2201	WARNING: Geomagnetic K = 4	31/2200 - 01/0900
31 Oct 2212	SUMMARY: 10cm Radio Burst	31/2110 - 2124
31 Oct 2354	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	31/0000 - 01/2359
01 Nov 0006	ALERT: Geomagnetic K = 4	
01 Nov 1124	ALERT: Type IV Radio Emission	01/1034
01 Nov 1727	CANCELLATION: Proton 10MeV Integral Flux > 10pfu	
01 Nov 1727	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	26/1910 - 01/0735
02 Nov 1140	WARNING: Geomagnetic K = 4	02/1138 - 2359
02 Nov 1152	ALERT: Geomagnetic K = 4	

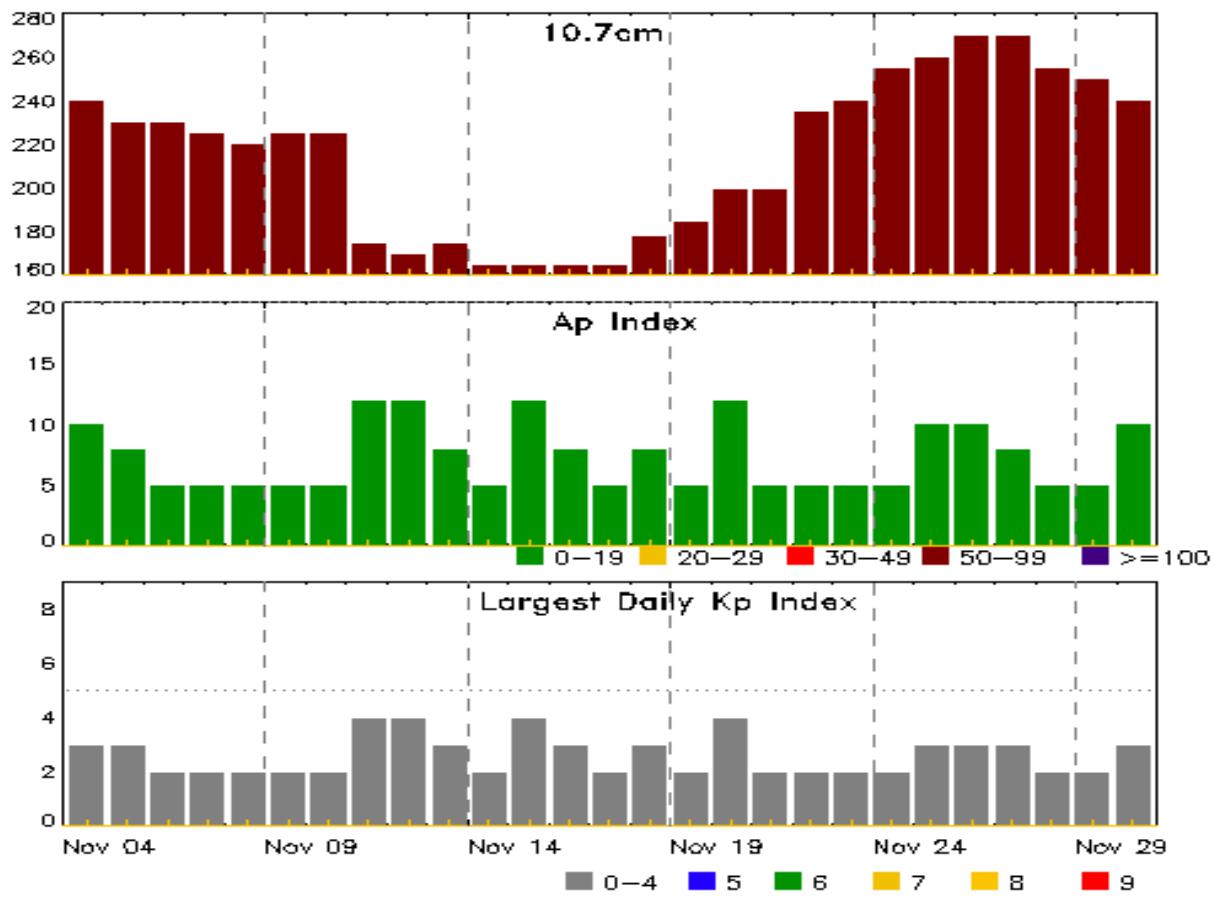


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
02 Nov 2306	EXTENDED WARNING: Geomagnetic K = 4	02/1138 - 03/0900
03 Nov 2132	WARNING: Geomagnetic K = 4	03/2130 - 04/0900
03 Nov 2152	ALERT: Geomagnetic K = 4	



## Twenty-seven Day Outlook



Date	Radio Flux	Planetary	Largest	Date	Radio Flux	Planetary	Largest
	10.7cm	A Index	Kp Index		10.7cm	A Index	Kp Index
04 Nov	240	10	3	18 Nov	178	8	3
05	230	8	3	19	185	5	2
06	230	5	2	20	200	12	4
07	225	5	2	21	200	5	2
08	220	5	2	22	235	5	2
09	225	5	2	23	240	5	2
10	225	5	2	24	255	5	2
11	175	12	4	25	260	10	3
12	170	12	4	26	270	10	3
13	175	8	3	27	270	8	3
14	165	5	2	28	255	5	2
15	165	12	4	29	250	5	2
16	165	8	3	30	240	10	3
17	165	5	2				

## ***Energetic Events***

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat	CMD #	Radio Flux 245	2695	II	IV
28 Oct	0359	0409	0416	M1.3	0.010				3878			
28 Oct	1441	1444	1448	M1.2	0.004				3869			
28 Oct	1613	1628	1644	M4.2	0.002	1F	N16E67		3878			
29 Oct	1621	1633	1641	M1.1	0.011	1F	S09E09		3873			
30 Oct	2029	2053	2114	M7.2	0.110				3878			
31 Oct	0216	0252	0323	M1.0	0.030	SF	N15E36		3878			
31 Oct	0323	0330	0337	M1.0	0.009	SF	N15E36		3878			
31 Oct	0922	0937	0956	M1.3	0.020	SF	N17E36		3878			
31 Oct	1241	1254	1303	M2.4	0.018	1N	N27W35		3875			
31 Oct	1346	1359	1411	M1.2	0.014	SF	S09W38		3876			
31 Oct	1857	1907	1918	M1.0	0.010	2N	S11W44		3876			
31 Oct	2103	2110	2112	M4.6	0.035				3878			
31 Oct	2112	2120	2127	X2.0	0.120	3B	N18E24		3878	100	910	
01 Nov	0205	0216	0220	M1.3	0.007	SF	N17E27		3878			
01 Nov	0946	1014	1108	M1.0	0.043				3876			
01 Nov	1239	1252	1300	M1.3	0.014				3876			
01 Nov	1418	1431	1442	M2.0	0.003	1N	N16E16		3878			
02 Nov	0727	0738	0753	M1.0	0.013	SN	S20W50		3869		120	
02 Nov	0813	0831	0845	M1.2	0.019	SF	S14W62		3876			
03 Nov	0302	0311	0316	M1.1	0.005	SF	S15W61		3869			
03 Nov	0839	0849	0911	M1.1	0.018	1F	N15W06		3878			
03 Nov	1511	1524	1529	M1.4	0.013				3869			
03 Nov	1738	1753	1758	M1.3	0.009				3883	1300		



## Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
28 Oct	0023	0030	0046	C5.0			3876
28 Oct	0256	0302	0315	C3.8			3878
28 Oct	0359	0409	0416	M1.3			3878
28 Oct	0611	0615	0619	C3.8			3869
28 Oct	0643	0701	0724	C8.0	SF	N16E75	3878
28 Oct	0809	0813	0817	C3.9			3878
28 Oct	0901	0913	0925	C7.1	SF	N24W12	3874
28 Oct	0906	U0909	0928		SF	N15E73	3878
28 Oct	B0957	U1000	1017		SF	S13W29	3866
28 Oct	1003	1007	1011	C4.5	SF	S07E02	3876
28 Oct	B1121	U1121	A1151		SF	N22W14	3874
28 Oct	B1213	U1300	A1325		SF	N22W14	3874
28 Oct	1441	1444	1448	M1.2			3869
28 Oct	1500	1508	1515	C9.4	SF	N16E69	3878
28 Oct	1522	1540	1612		SF	S07E00	3876
28 Oct	1613	1628	1644	M4.2	1F	N16E67	3878
28 Oct	1706	1707	1711		SF	N27W11	3874
28 Oct	1824	1832	1840	C7.3	SF	N16E68	3878
28 Oct	2137	2143	2152	C5.2			3878
28 Oct	2201	2207	2219	C7.6			3878
28 Oct	2219	2229	2234	C7.6	SF	N15E64	3878
29 Oct	0926	0939	0952	C3.9			3878
29 Oct	0952	0957	1001	C3.6			3878
29 Oct	1158	1204	1210	C4.0			3878
29 Oct	1258	1302	1309	C2.8			3878
29 Oct	1435	1437	1447		SF	N16E56	3878
29 Oct	1621	1633	1641	M1.1	1F	S09E09	3873
30 Oct	0045	0050	0054		SF	S17W03	3872
30 Oct	0047	0047	0052		SF	N15E52	3878
30 Oct	0416	0416	0418		SF	N15E49	3878
30 Oct	0746	U0746	0800		SF	N16E48	3878
30 Oct	0802	U0802	A0818		SF	N28W19	3875
30 Oct	0809	0813	0820		SF	N15E48	3878
30 Oct	0910	1017	1107	C7.1			3876
30 Oct	0937	0937	0940		SF	N28W21	3875
30 Oct	0940	U0943	A1033		SF	S10W21	3876
30 Oct	0945	U0955	A1000		1F	S01W24	3876
30 Oct	1157	1204	1215	C4.6			3876



## Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
30 Oct	1546	1550	1556	C5.0			3878
30 Oct	1852	1855	1911	C5.0	SF	S09W29	3876
30 Oct	2014	2022	2029	C5.4	2N	N16E37	3878
30 Oct	2029	2053	2114	M7.2			3878
30 Oct	2127	2130	2134		SF	S09W31	3876
31 Oct	0042	0051	0100	C9.3	SF	S09W31	3876
31 Oct	0216	0252	0323	M1.0	SF	N15E36	3878
31 Oct	0323	0330	0337	M1.0	SF	N15E36	3878
31 Oct	0503	0511	0518	C5.6			3876
31 Oct	B0747	U0811	A0815		SF	N27W32	3875
31 Oct	0824	0831	0837	C6.2			3876
31 Oct	0837	0845	0849	C5.5			3878
31 Oct	B0837	U0843	A0852		SF	N25W31	3875
31 Oct	B0839	U0941	A1149		1F	N18E37	3878
31 Oct	B0842	U0844	0852		SF	S15W12	3872
31 Oct	0856	0904	0912	C7.6			3876
31 Oct	0857	0859	0913		SF	S09W38	3876
31 Oct	B0858	U0859	A0925		SF	S06W20	3876
31 Oct	B0859	U0905	A0925		SF	N27W33	3875
31 Oct	0922	0937	0956	M1.3	SF	N17E36	3878
31 Oct	1019	1023	1054	C6.4			3878
31 Oct	B1240	U1303	1356	M2.4	1N	N27W35	3875
31 Oct	1346	1359	1411	M1.2	SF	S09W38	3876
31 Oct	1352	1352	1420		SF	S03W40	3876
31 Oct	1430	U1434	A1448		SF	S10W40	3876
31 Oct	B1434	U1434	A1450		SF	N27W35	3875
31 Oct	1600	1615	1615		SF	S09W42	3876
31 Oct	1714	1717	1725		SF	N19E33	3878
31 Oct	1758	1903	1933		2N	S11W44	3876
31 Oct	1821	1829	1831	C4.7			3876
31 Oct	1831	1836	1840	C4.8			3876
31 Oct	1857	1907	1918	M1.0			3876
31 Oct	1939	1940	1945		SF	N17E30	3878
31 Oct	2014	2025	2032	C6.3			3876
31 Oct	2103	2110	2112	M4.6			3878
31 Oct	B2109	2115	2259		3B	N18E24	3878
31 Oct	2110	2111	2124		SF	S05W45	3876
31 Oct	2112	2120	2127	X2.0			3878



## Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
31 Oct	2203	2207	2221		SF	S10W48	3876
31 Oct	2221	2221	2230		SF	N28W41	3875
31 Oct	2237	2248	A2346		1N	S08W49	3876
31 Oct	2241	2249	2324		SF	S08W46	3876
01 Nov	0205	0216	0220	M1.3	SF	N17E27	3878
01 Nov	0711	0713	0717		SF	S09W54	3876
01 Nov	0711	0715	0724		SF	N15E21	3878
01 Nov	0732	U0733	A0741		SF	N15E21	3878
01 Nov	0741	U0745	0748		SF	S09W54	3876
01 Nov	B0744	U0747	A0753		SF	N15E21	3878
01 Nov	0804	0810	0820	C5.4	SF	S09W51	3876
01 Nov	0902	0903	0904		SF	S09W53	3868
01 Nov	B0936	U0936	A0955		SF	N18E23	3878
01 Nov	0946	1014	1108	M1.0			3876
01 Nov	B0952	U0956	A1114		1F	S09W51	3876
01 Nov	B1003	U1009	A1013		SF	N27W47	3875
01 Nov	B1032	U1032	A1036		SF	N16E17	3878
01 Nov	B1101	U1102	A1111		SF	S12W28	3872
01 Nov	B1121	U1133	A1135		SF	S09W53	3876
01 Nov	1219	1227	1239	C8.4			3876
01 Nov	1239	1252	1300	M1.3			3876
01 Nov	B1242	U1321	A1348		SF	S09W55	3876
01 Nov	1418	1431	1442	M2.0	1N	N16E16	3878
01 Nov	1453	1455	1457		SF	N27W50	3875
01 Nov	1505	1635	1746		1F	S09W59	3876
01 Nov	1521	1529	1535		SF	N21E37	3879
01 Nov	1600	1606	1609		SF	N27W49	3875
01 Nov	1624	1633	1641	C6.3			3876
01 Nov	1719	1730	1738	C6.1			3877
01 Nov	1755	1802	1846		SF	S08W59	3876
01 Nov	1915	1915	1918		SF	N16E13	3878
01 Nov	1925	1928	1929		SF	S08W60	3876
01 Nov	1940	1940	1943		SF	S08W60	3876
01 Nov	1957	2011	2036	C4.6	SF	S08W60	3876
01 Nov	2042	2042	2110		SF	S08W60	3876
01 Nov	2119	2119	2121		SF	S10W56	3876
01 Nov	2200	2214	2236		SF	S09W60	3876
01 Nov	2242	2242	2249		SF	S09W61	3876



## Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
01 Nov	2313	2325	2334		SF	S09W61	3876
02 Nov	0114	0114	0115		SF	S18W56	3869
02 Nov	0141	0142	0147		SF	S08W62	3876
02 Nov	0151	0151	0153		SF	S08W64	3876
02 Nov	0203	0204	0209		SF	S15W51	3869
02 Nov	0229	0229	0231		SF	S08W64	3876
02 Nov	0250	0250	0252		SF	S08W64	3876
02 Nov	0337	0337	0341		SF	S08W64	3876
02 Nov	0727	0738	0753	M1.0	SN	S20W50	3869
02 Nov	0733	0748	0759		SF	N15E10	3878
02 Nov	0813	0831	0845	M1.2	SF	S14W62	3876
02 Nov	0902	0902	0907		SF	S09E22	3881
02 Nov	0928	0937	0940		SF	S09E21	3881
02 Nov	1028	1030	1039		SF	S06E68	
02 Nov	1222	U1226	1309		SF	N16E06	3878
02 Nov	1434	1434	1442		SF	S09W69	3876
02 Nov	1452	1452	1455		SF	S10W66	3876
02 Nov	1457	U1501	A1510		SF	S16W51	3872
02 Nov	1909	1916	1922	C5.1	SF	N16E04	3878
02 Nov	2324	2324	2329		SF	N29W69	3875
02 Nov	2334	2334	2340		SF	N29W66	3875
03 Nov	0302	0311	0316	M1.1	SF	S15W61	3869
03 Nov	0337	0346	0412	C7.2	SF	S09E10	3881
03 Nov	0403	0405	0405		SF	S07E58	3883
03 Nov	0406	0406	0409		SF	S07E58	3883
03 Nov	0613	0614	0619		SF	S09E10	3881
03 Nov	0625	0636	0651	C8.1	SF	S10E09	3881
03 Nov	0715	0734	0741		SF	N15W04	3878
03 Nov	0727	0731	0736		SF	S07E56	3883
03 Nov	0746	0746	0753		SF	N14W03	3878
03 Nov	0803	0803	0805		SF	N27W67	3875
03 Nov	0805	0810	0820	C5.3	SF	S09E10	3881
03 Nov	0839	0849	0911	M1.1	1F	N15W06	3878
03 Nov	B0947	U0957	A1032		1F	N15W05	3878
03 Nov	B1118	U1133	A1141		SF	S10W37	
03 Nov	1212	1216	1220	C5.8	SN	N16W03	3878
03 Nov	1239	U1246	A1254		SF	S10E04	3881
03 Nov	1246	U1247	A1257		SF	N13W07	3878



## ***Flare List***

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
03 Nov	B1310	U1329	A1402	C7.6	SN	S08E52	3883
03 Nov	B1401	U1403	A1406		SF	S09W80	3871
03 Nov	B1428	U1430	A1432		SF	S11W40	
03 Nov	1511	1524	1529	M1.4			3869
03 Nov	1738	1753	1758	M1.3			3883
03 Nov	2018	2030	2035	C6.8			3875

## Region Summary

Date	Lat	CMD	Location		Sunspot Characteristics				Flares							
			Helio	Lon	Area $10^{-6}$	Extent hemi.	Spot Class	Spot Count	Mag Class	X-ray			Optical			
										C	M	X	S	1	2	3
<b>Region 3862</b>																
18 Oct	S18E71		261		10		1	Axx	1	A						
19 Oct	S18E57		262		10		1	Axx	1	A						
20 Oct	S18E43		263		20		2	Hrx	1	A						
21 Oct	S16E24		269		10		1	Axx	2	A						
22 Oct	S15E11		268		10		1	Axx	1	A						
23 Oct	S15W03		269		plage											
24 Oct	S15W17		270		plage											
25 Oct	S15W31		271		plage											
26 Oct	S15W45		272		plage											
27 Oct	S15W59		272		plage											
28 Oct	S15W73		273		plage											
29 Oct	S15W87		274		plage											
										0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 269

## Region 3863

18 Oct	S02E69		263		60		1	Hsx	1	A						
19 Oct	S02E54		265		70		4	Cso	2	B	1					
20 Oct	S02E41		265		120		8	Csi	6	B	2					
21 Oct	S08E31		262		220		7	Dai	16	BD						2
22 Oct	S09E19		260		130		7	Dai	10	BG	1					1
23 Oct	S09E07		259		100		8	Dao	6	BG	1					1
24 Oct	S08W09		262		110		3	Dso	4	B						1
25 Oct	S08W23		263		90		3	Cso	4	B						
26 Oct	S08W37		263		120		5	Dai	11	B						
27 Oct	S08W49		262		80		5	Dso	5	B						
28 Oct	S08W63		263		60		5	Dso	7	B						
29 Oct	S08W77		264		10		4	Axx	3	A						
										5	0	0	4	1	0	0

Died on Disk.

Absolute heliographic longitude: 259



## ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics				Flares							
			Helio	Lon	Area $10^6$ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
										C	M	X	S	1	2	3
<b>Region 3864</b>																
20 Oct	N25E48		258		10		1	Axx	1	A						
21 Oct	N25E33		260		10		1	Axx	1	A						
22 Oct	N25E19		260		plage											
23 Oct	N25E05		261		plage											
24 Oct	N25W09		262		plage											
25 Oct	N25W23		263		plage											
26 Oct	N25W37		264		plage											
27 Oct	N25W51		264		plage											
28 Oct	N25W65		265		plage											
29 Oct	N25W79		266		plage											
										0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 261

Date	Lat	CMD	Location		Sunspot Characteristics				Flares							
			Helio	Lon	Area $10^6$ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
										C	M	X	S	1	2	3
<b>Region 3865</b>																
20 Oct	S22E62		244		30		2	Hsx	1	A						
21 Oct	S22E51		242		20		3	Cso	3	B						
22 Oct	S22E38		241		30		3	Cso	4	B						
23 Oct	S22E23		243		10		1	Hsx	1	A						
24 Oct	S22E11		242		20		1	Hax	1	A						
25 Oct	S22W02		242		20		1	Hrx	1	A						
26 Oct	S22W16		242		20		1	Hsx	1	A						
27 Oct	S22W30		243		plage											
28 Oct	S22W44		244		plage											
29 Oct	S22W58		245		plage											
30 Oct	S22W72		246		plage											
31 Oct	S22W86		247		plage											
										0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 242

## ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics					Flares										
			Helio	Lon	Area $10^6$	Extent hemi.	Spot Class	Spot Count	Mag Class	X-ray			Optical							
										C	M	X	S	1	2	3	4			
<b>Region 3866</b>																				
21 Oct	S12E58		235		30		5	Cai	6	B										
22 Oct	S12E45		234		40		6	Cao	11	B					1					
23 Oct	S12E32		234		20		7	Bxi	11	B		2			2					
24 Oct	S12E18		235		10		7	Bxo	7	B										
25 Oct	S12E06		234		10		5	Bxo	3	B		1								
26 Oct	S12W08		234		10		4	Bxo	2	B										
27 Oct	S12W22		235		10		2	Bxo	2	B										
28 Oct	S12W36		236		10		2	Bxo	4	B			1							
29 Oct	S12W50		237		plage															
30 Oct	S12W64		238		plage															
31 Oct	S12W78		239		plage															
													3	0	0	4	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 234

## ***Region 3867***

21 Oct	S23E32		261		10		3	Bxo	2	B									
22 Oct	S15E18		261		plage														
23 Oct	S15E04		262		plage														
24 Oct	S15W10		263		plage														
25 Oct	S15W24		264		plage														
26 Oct	S15W38		265		plage														
27 Oct	S15W52		265		plage														
28 Oct	S15W66		266		plage														
29 Oct	S15W80		267		plage								0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 262



## ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics					Flares						
			Helio	Lon	Area $10^{-6}$	Extent hemi.	Spot Class	Spot Count	Mag Class	X-ray			Optical			
										C	M	X	S	1	2	3
<b>Region 3868</b>																
21 Oct	S11E75	218	180	3	Hsx	1	A									
22 Oct	S12E61	218	180	3	Hsx	1	A									
23 Oct	S11E47	218	180	3	Hsx	2	A									
24 Oct	S11E33	220	150	3	Hsx	1	A									
25 Oct	S11E20	220	150	2	Hsx	1	A									
26 Oct	S11E06	220	150	2	Hsx	1	A									
27 Oct	S11W08	221	150	2	Hsx	1	A									
28 Oct	S11W22	222	150	3	Hsx	1	A									
29 Oct	S11W32	219	150	3	Hsx	1	A									
30 Oct	S11W46	220	150	2	Hsx	1	A									
31 Oct	S11W59	220	150	2	Hsx	1	A									
01 Nov	S11W73	220	120	2	Hsx	1	A							1	0	0
02 Nov	S11W86	220	110	2	Hsx	1	A							0	0	0
										0	0	0		1	0	0

Crossed West Limb.

Absolute heliographic longitude: 220

## **Region 3869**

23 Oct	S17E71	203	250	15	Ehi	9	BG	4						2		
24 Oct	S17E58	195	460	15	Eki	11	BG	1	1	1				4		
25 Oct	S17E43	197	410	10	Dki	8	BG	3						2		
26 Oct	S17E28	198	410	12	Eki	15	BG									
27 Oct	S16E14	199	350	12	Eki	15	BG	2						1	1	
28 Oct	S15W00	200	270	12	Eki	45	BGD	1	1							
29 Oct	S16W12	200	280	13	Ekc	27	BGD									
30 Oct	S16W26	200	290	11	Ekc	19	BGD									
31 Oct	S18W33	194	260	9	Dkc	12	BGD									
01 Nov	S18W45	192	260	12	Eki	14	BG									
02 Nov	S18W60	194	230	12	Eai	12	BGD		1					3		
03 Nov	S18W74	195	210	10	Dai	10	BG		2					1		
								11	5	1	13	1	0	0	0	

Still on Disk.

Absolute heliographic longitude: 200

## ***Region Summary - continued***

Date	Lat	CMD	Location					Sunspot Characteristics			Flares						
			Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical					
				$10^6$ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4	

### ***Region 3870***

24 Oct	S22W38	291	10	1	Axx	1	A										
25 Oct	S22W52	292	plage														
26 Oct	S22W66	292	40	7	Cao	5	B										1
27 Oct	S19W78	291	40	7	Dao	2	B										
28 Oct	S19W92	292	60	5	Cao	2	B					0	0	0	1	0	0
																	0

Crossed West Limb.

Absolute heliographic longitude: 291

### ***Region 3871***

24 Oct	S10E46	207	10	1	Hax	1	A										
25 Oct	S09E33	207	10	1	Axx	1	A										
26 Oct	S09E19	208	plage														
27 Oct	S09E05	208	plage														
28 Oct	S09W09	209	plage														
29 Oct	S09W23	210	plage														
30 Oct	S09W37	211	plage														
31 Oct	S09W51	212	plage														
01 Nov	S09W62	209	180	8	Dsi	10	B										
02 Nov	S09W76	210	180	9	Dao	8	BG										
03 Nov	S09W89	210	180	9	Dao	2	BG					0	0	0	1	0	0
																	0

Still on Disk.

Absolute heliographic longitude: 208



## ***Region Summary - continued***

Date	Location		Sunspot Characteristics					Flares							
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical			
			Lon	$10^6$ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3
<b>Region 3872</b>															
24 Oct	S15E58	195	280	9	Dhi	7	BG								
25 Oct	S15E44	196	280	9	Dki	10	BGD	1							
26 Oct	S18E40	186	280	9	Dki	10	BGD	1							
27 Oct	S17E28	185	300	9	Dki	12	BGD	1							4
28 Oct	S17E14	186	390	12	Eko	16	BGD								
29 Oct	S16E02	185	380	5	Dko	6	B								
30 Oct	S16W12	186	320	5	Dko	4	B								1
31 Oct	S17W24	185	270	6	Dko	6	B								1
01 Nov	S17W36	183	220	5	Hax	2	A								1
02 Nov	S17W51	185	180	3	Hax	5	A								
03 Nov	S16W62	183	130	3	Hax	4	A								
									3	0	0	7	0	0	0

Still on Disk.

Absolute heliographic longitude: 185

## **Region 3873**

24 Oct	S10E77	176	240	5	Dai	3	B								
25 Oct	S10E63	177	120	6	Dai	5	B	1	1	1	1				
26 Oct	S10E49	177	120	6	Dai	5	BG	1	1	1	1				1
27 Oct	S10E36	177	90	6	Cao	5	B								
28 Oct	S12E22	178	100	7	Cai	15	B								
29 Oct	S12E10	177	70	5	Hrx	10	A		1						1
30 Oct	S11W04	178	40	6	Hax	9	A								
31 Oct	S12W15	176	40	3	Cao	4	B								
01 Nov	S10W30	177	30	2	Hax	1	A								
02 Nov	S10W45	179	20	1	Hax	1	A								
03 Nov	S10W56	177	20	1	Hax	2	A		2	3	1	2	1	0	1
															0

Still on Disk.

Absolute heliographic longitude: 178

## ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics					Flares							
			Helio	Lon	Area $10^6$ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
										C	M	X	S	1	2	3	4
<b>Region 3874</b>																	
25 Oct	N27E20		220		20		3	Cro	6	B					1		
26 Oct	N27E06		220		30		4	Cao	10	B					1		
27 Oct	N27W06		219		70		7	Dai	10	B	1				2		
28 Oct	N24W20		220		160		9	Dai	25	BGD	1				4		
29 Oct	N27W31		218		190		10	Dac	25	BG							
30 Oct	N25W46		220		140		12	Eai	12	BG							
31 Oct	N25W60		221		200		11	Eai	7	B							
01 Nov	N25W72		219		180		11	Eao	7	B							
02 Nov	N26W86		220		140		11	Eao	5	B							
											2	0	0	8	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 220

## **Region 3875**

25 Oct	N29E31		209		10		3	Bxo	3	B							
26 Oct	N29E17		209		20		4	Cao	6	B							
27 Oct	N28E04		209		30		6	Cro	7	B							
28 Oct	N27W10		210		20		6	Cro	7	B							
29 Oct	N29W19		207		10		3	Bxo	3	B							
30 Oct	N28W29		203		30		5	Cri	13	B				2			
31 Oct	N28W41		202		150		7	Dai	15	B	1		5	1			
01 Nov	N28W53		200		170		9	Dai	13	BG				3			
02 Nov	N27W69		203		130		11	Dsi	12	B				2			
03 Nov	N28W85		206		110		11	Eso	6	B	1			1			
											1	1	0	13	1	0	0

Still on Disk.

Absolute heliographic longitude: 209



## ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics					Flares							
			Helio	Lon	Area $10^{-6}$ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
										C	M	X	S	1	2	3	4
<b>Region 3876</b>																	
25 Oct	S01E35		205		20	4	Cro	5	B								
26 Oct	S01E20		206		20	4	Dai	5	B								
27 Oct	S01E08		205		120	7	Dsi	14	B	1			3				
28 Oct	S05W06		206		240	9	Dai	30	BG	2			2				
29 Oct	S05W18		205		290	9	Dkc	25	BGD								
30 Oct	S05W33		207		340	11	Ekc	25	BG	3			3	1			
31 Oct	S06W46		207		260	10	Dki	18	BG	7	2		10	1	1		
01 Nov	S06W60		207		180	9	Dao	7	BG	4	2		14	2			
02 Nov	S05W75		209		130	9	Dao	5	B		1		8				
03 Nov	S04W90		211		120	9	Dao	2	B								
										17	5	0	40	4	1	0	0

Still on Disk.

Absolute heliographic longitude: 206

## **Region 3877**

27 Oct	S15E52		161		10	1	Axx	1	A							
28 Oct	S65E38		162		10	1	Axx	1	A							
29 Oct	S15E23		164		10	1	Axx	1	A							
30 Oct	S16E09		165		10	1	Axx	1	A							
31 Oct	S16W04		165		10	1	Axx	1	A							
01 Nov	S17W18		165		10	1	Axx	1	A	1						
02 Nov	S17W32		166		plage											
03 Nov	S17W46		167		plage											
										1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 165

## **Region 3878**

27 Oct	N18E72		141		80	3	Dso	4	B	2	1					
28 Oct	N17E58		142		200	13	Eai	15	BG	8	2		4	1		
29 Oct	N16E51		136		290	13	Eki	8	BG	4			1			
30 Oct	N16E37		137		350	12	Eki	15	BGD	2	1		4		1	
31 Oct	N16E23		138		400	11	Eki	11	BGD	2	4	1	5	1		1
01 Nov	N16E10		137		400	13	Eko	16	BG	2			7	1		
02 Nov	N16W03		137		400	13	Eko	15	BGD	1			3			
03 Nov	N16W16		137		320	12	Eko	18	BGD	1	1		4	2		
										20	11	1	28	5	1	1

Still on Disk.

Absolute heliographic longitude: 137



## ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics				Flares			
			Helio	Lon	Area $10^{-6}$ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray		Optical
			C	M	X	S	1	2	3	4		
<b>Region 3879</b>												
29 Oct	N14E74		113		450	5	Hkx	1	A			
30 Oct	N15E60		114		450	5	Hhx	1	A			
31 Oct	N15E50		111		570	4	Hhx	1	A			
01 Nov	N15E36		111		480	5	Hhx	1	A			1
02 Nov	N15E23		111		500	5	Hhx	1	A			
03 Nov	N15E10		111		500	6	Hhx	1	A			
										0	0	0
										1	0	0
										0	0	0
										0	0	0

Still on Disk.

Absolute heliographic longitude: 111

### **Region 3880**

31 Oct	S13E55		106		10	1	Axx	1	A			
01 Nov	S13E41		106		10	1	Axx	2	A			
02 Nov	S14E30		104		20	3	Bxo	4	B			
03 Nov	S14E16		105		plage					0	0	0
										0	0	0
										0	0	0
										0	0	0
										0	0	0

Still on Disk.

Absolute heliographic longitude: 105

### **Region 3881**

01 Nov	S09E26		121		50	4	Dai	5	B			
02 Nov	S09E12		122		200	7	Dao	12	B			2
03 Nov	S09W01		122		240	8	Dai	15	BG	3		5
										3	0	0
										7	0	0
										0	0	0

Still on Disk.

Absolute heliographic longitude: 122

### **Region 3882**

02 Nov	N23W55		189		20	2	Bxo	4	B			
03 Nov	N23W69		190		plage					0	0	0
										0	0	0
										0	0	0
										0	0	0

Still on Disk.

Absolute heliographic longitude: 189



### ***Region Summary - continued***

Date	Lat	CMD	Location		Sunspot Characteristics					Flares						
			Helio	Lon	Area $10^{-6}$ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
			C	M	X	S	1	2	3	4						

#### ***Region 3883***

02 Nov	S06E66	68	60	7	Cao	6	B								
03 Nov	S06E51	70	160	12	Eai	20	BGD	1	1	0	4	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 70

#### ***Region 3884***

02 Nov	S06E76	58	60	2	Hsx	1	A								
03 Nov	S06E65	56	70	3	Cso	2	B	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 56

#### ***Region 3885***

03 Nov	S10W43	169	50	5	Dro	6	B	0	0	0	0	0	0	0	0
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Still on Disk.

Absolute heliographic longitude: 169

#### ***Region 3886***

03 Nov	S05E76	45	90	6	Dao	2	B	0	0	0	0	0	0	0	0
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Still on Disk.

Absolute heliographic longitude: 45



## ***Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)***

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**Notice:** The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned.  
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