

Solar activity levels ranged from low to high. Low levels were observed on 10-14 November, moderate levels on 15 November and high levels on 16 November. Regions 2205 (N15, L=001, class/area Ekc/410 on 07 Nov), 2208 (S11, L=307, class/area Esc/160 on 12 Nov) and 2209 (S14, L=254, class/area Fkc/940 on 16 Nov) produced the majority of the activity. Region 2205 produced 19 C-class flares, the largest a C7/Sb on 10/0222 UTC. Region 2208 produced 8 low-level C-class flares while Region 2209 produced 13 C-class and 3 M-class flares.

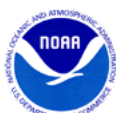
At 13/0607 UTC, Region 2209 produced a C8 x-ray event. Moderate level activity was observed on 15 November with a pair of M-class flares from Region 2209. The region produced an M3/Sb at 15/1203 UTC followed by an M3/In at 15/2050 UTC. Both events were associated with weak to moderate radio emissions including a pair of Tenflares (226 sfu and 240 sfu) respectively. The period ended at high levels on 16 November when Region 2209 produced an M5 x-ray event with an associated 300 sfu Tenflare.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal levels on 10-14 November, moderate levels on 15 November and high levels on 16 November.

Geomagnetic field activity was at predominately quiet to active levels with isolated minor storm intervals observed midday on 10 November and again late on 11 November. The period began on 10 November with mostly unsettled to active levels and an isolated minor storm period midday on the 10th. This activity was due to the arrival of the 07 November CME early on the 10th combined with effects from a weak, positive polarity coronal hole high speed stream (CH HSS). 11-14 November saw mostly quiet to unsettled conditions with isolated active to minor storm periods late on the 11th and early on the 12th. Extended periods of southward Bz, elevated wind speeds and a solar sector boundary crossing (SSBC) contributed to the activity during this time frame. Unsettled to active geomagnetic conditions were observed during 15-16 November due to effects from a co-rotating interaction region (CIR) in advance of a recurrent, positive polarity CH HSS.

Solar wind parameters reflected the geomagnetic activity described above. IMF total field (Bt) began the period at 22 nT before relaxing to a fairly steady 5-8 nT by 11 November. Bt remained at these levels through the balance of the period. The Bz component was highly variable between +20 nT to -10 nT through 11 November. As with the total field, Bz relaxed to not vary much beyond +/- 8 nT through the remainder of the period. Solar wind averaged about 500 km/s through late on 14 November when a gradual increase in speed was observed to peak at about 675 km/s on 16/0600 UTC. The period ended with wind speed near 500 km/s. Phi angle was in a predominately negative (towards) orientation through about 14/0530 UTC when a switch to a more positive (away) sector was observed.



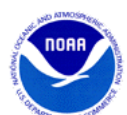
## **Space Weather Outlook 17 November - 13 December 2014**

Solar activity is expected to be at predominately low to moderate levels with isolated high activity from 17-25 November due to active Region 2209. The exit of Region 2209 will see a decrease in solar activity to mostly low levels from 26 November - 06 December. From 07-13 December, a return to predominately low to moderate levels with isolated high activity is forecated due to the return of old Region 2209.

A slight chance for a greater than 10 MeV proton event at geosynchronous orbit exists from 17-25 November and from 07-13 December due to potential significant flare activity from Region 2209 through 25 November, and again after 07 December upon the region's return.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be moderate to high levels from 17 November to 01 December, normal to moderate levels from 02-11 December, and moderate to high levels from 12-13 December.

Geomagnetic field activity is expected to be at unsettled to active levels on 17-24 November, 04-06 December and 11-13 December due to a combination of CIR/CH HSS and SSBC effects. Mostly quiet conditions are anticipated for the remainder of the outlook period.



### *Daily Solar Data*

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
10 November	136	63	410	B6.6	11	0	0	16	1	0	0	0
11 November	142	70	330	B9.4	5	0	0	15	2	0	0	0
12 November	153	89	370	B8.2	8	0	0	8	1	0	0	0
13 November	154	104	300	B9.3	5	0	0	11	0	0	0	0
14 November	161	117	960	B8.1	6	0	0	11	1	0	0	0
15 November	161	100	960	B7.2	2	2	0	8	1	0	0	0
16 November	172	91	1040	B9.5	7	1	0	14	0	0	0	0

### *Daily Particle Data*

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)			Electron Fluence (electrons/cm <sup>2</sup> -day -sr)		
	>1 MeV	>10 MeV	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	10 November	3.1e+05	1.2e+04	2.3e+03		2.5e+05
11 November	1.2e+05	1.1e+04	2.6e+03		7.6e+04	
12 November	1.5e+05	1.0e+04	2.6e+03		3.3e+05	
13 November	2.7e+05	1.1e+04	2.7e+03		6.9e+05	
14 November	1.5e+05	1.2e+04	3.0e+03		4.9e+05	
15 November	1.4e+05	1.1e+04	2.9e+03		5.7e+06	
16 November	9.4e+05	1.1e+04	2.8e+03		8.7e+07	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	10 November	16	4-3-2-4-3-3-3-2	41	3-2-2-7-5-6-4-2	23
11 November	9	2-2-2-1-2-2-2-4	8	2-2-0-2-3-2-1-3	12	3-2-2-2-2-2-2-5
12 November	6	3-2-2-1-1-1-1-2	5	2-2-2-3-0-0-1-1	8	4-2-2-2-1-1-1-2
13 November	4	1-2-0-1-2-2-1-1	2	1-0-0-1-1-0-1-0	5	1-2-1-2-2-1-1-1
14 November	9	3-2-3-1-2-2-2-2	9	1-2-2-2-4-2-2-2	12	3-3-3-2-2-2-3-3
15 November	13	2-3-2-3-3-2-2-4	28	2-3-5-6-5-1-2-3	17	3-3-3-3-3-2-2-4
16 November	18	4-4-3-3-4-3-2-2	48	3-4-5-7-6-5-3-2	22	4-4-4-3-4-4-3-3



### *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>
10 Nov 0153	ALERT: Geomagnetic K = 4	10/0145
10 Nov 0248	WARNING: Geomagnetic K = 5	10/0247 - 1900
10 Nov 1138	ALERT: Geomagnetic K = 5	10/1138
10 Nov 1304	EXTENDED WARNING: Geomagnetic K = 4	09/2305 - 10/2000
10 Nov 1640	CANCELLATION: Geomagnetic K = 5	
10 Nov 1954	EXTENDED WARNING: Geomagnetic K = 4	09/2305 - 11/0700
11 Nov 2241	WARNING: Geomagnetic K = 4	11/2240 - 12/0400
11 Nov 2246	ALERT: Geomagnetic K = 4	11/2242
11 Nov 2318	WARNING: Geomagnetic K = 5	11/2315 - 12/0400
11 Nov 2331	WATCH: Geomagnetic Storm Category G1 predicted	
12 Nov 0004	ALERT: Geomagnetic K = 5	11/2359
12 Nov 0356	EXTENDED WARNING: Geomagnetic K = 5	11/2315 - 12/1000
12 Nov 0357	EXTENDED WARNING: Geomagnetic K = 4	11/2240 - 12/1400
12 Nov 0951	EXTENDED WARNING: Geomagnetic K = 5	11/2315 - 12/1600
12 Nov 0951	EXTENDED WARNING: Geomagnetic K = 4	11/2240 - 12/1600
14 Nov 0207	WARNING: Geomagnetic K = 4	14/0215 - 0800
14 Nov 0755	EXTENDED WARNING: Geomagnetic K = 4	14/0215 - 1400
14 Nov 1355	EXTENDED WARNING: Geomagnetic K = 4	14/0215 - 0100
14 Nov 1908	WARNING: Geomagnetic K = 4	14/1906 - 15/0700
15 Nov 0650	EXTENDED WARNING: Geomagnetic K = 4	14/1906 - 15/1400
15 Nov 1113	ALERT: Geomagnetic K = 4	15/1113
15 Nov 1229	SUMMARY: 10cm Radio Burst	15/1155 - 1203
15 Nov 1355	EXTENDED WARNING: Geomagnetic K = 4	14/1906 - 15/2300
15 Nov 1448	WATCH: Geomagnetic Storm Category G1 predicted	
15 Nov 2056	SUMMARY: 10cm Radio Burst	15/2042 - 2044
15 Nov 2241	EXTENDED WARNING: Geomagnetic K = 4	14/1906 - 17/1400
15 Nov 2321	ALERT: Geomagnetic K = 4	15/2307
15 Nov 2326	WARNING: Geomagnetic K = 5	15/2325 - 16/1900

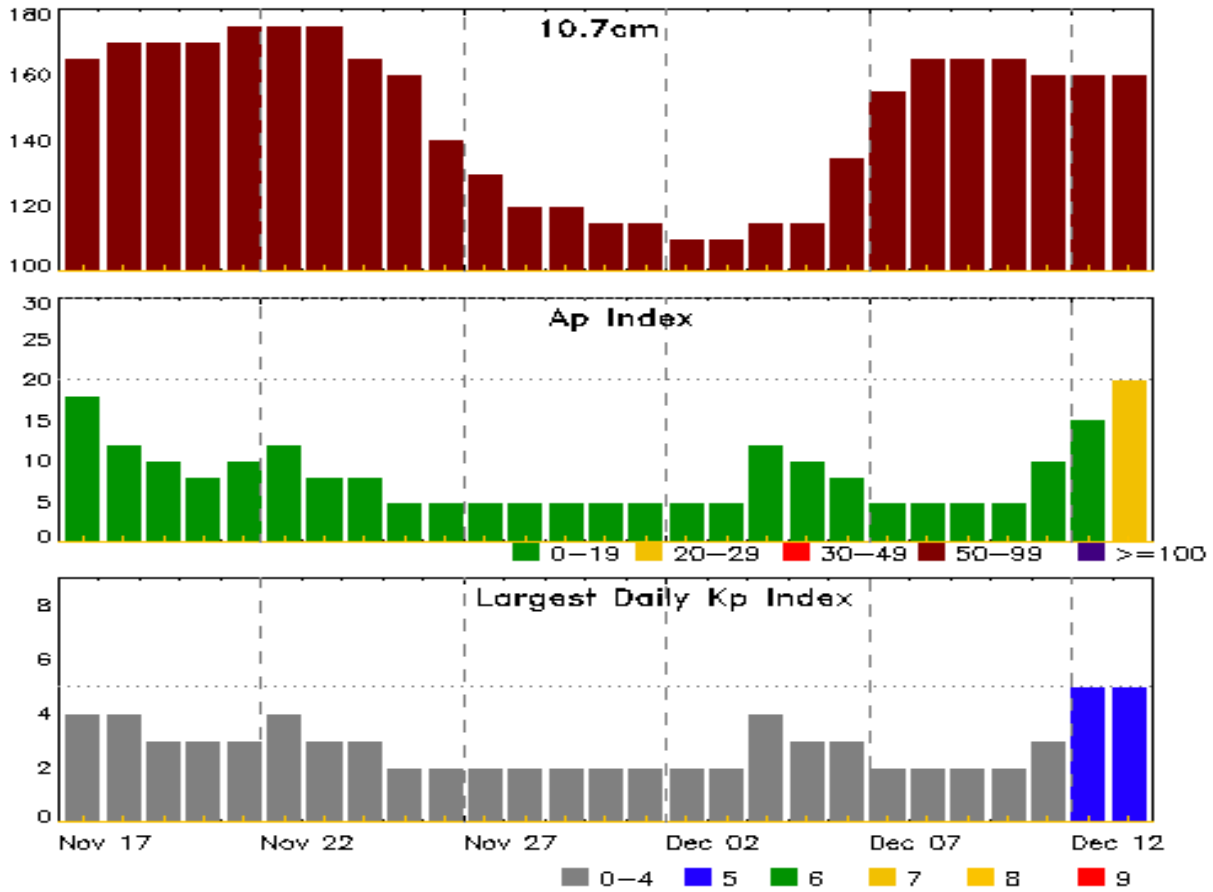


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
16 Nov 1332	ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	16/1315
16 Nov 1748	ALERT: X-ray Flux exceeded M5	16/1747
16 Nov 1802	SUMMARY: 10cm Radio Burst	16/1744 - 1745
16 Nov 1821	SUMMARY: X-ray Event exceeded M5	16/1735 - 1757
16 Nov 1858	EXTENDED WARNING: Geomagnetic K = 5	15/2325 - 17/0800
16 Nov 1859	WATCH: Geomagnetic Storm Category G1 predicted	



## 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
17 Nov	165	18	4	01 Dec	115	5	2
18	170	12	4	02	110	5	2
19	170	10	3	03	110	5	2
20	170	8	3	04	115	12	4
21	175	10	3	05	115	10	3
22	175	12	4	06	135	8	3
23	175	8	3	07	155	5	2
24	165	8	3	08	165	5	2
25	160	5	2	09	165	5	2
26	140	5	2	10	165	5	2
27	130	5	2	11	160	10	3
28	120	5	2	12	160	15	5
29	120	5	2	13	160	20	5
30	115	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	Rgn #	245	2695	II	IV
15 Nov	1140	1203	1210	M3.2	0.024	SB	S09E63	2209	3900	229		
15 Nov	2038	2046	2050	M3.7	0.013	1N	S13E63	2209	1600	240		
16 Nov	1735	1748	1757	M5.7	0.041			2209		300		

### *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
10 Nov	0026	0034	0039	C1.2			2203
10 Nov	0143	0146	0148	C1.0	SF	N15E05	2205
10 Nov	0218	0222	0225	C7.6	SB	N15E04	2205
10 Nov	B0609	0609	A0623		SF	N16E05	2205
10 Nov	0851	0852	0910		SF	N15W00	2205
10 Nov	1017	1021	1047	C2.1	SF	S14E70	2208
10 Nov	1214	1237	1248	C5.0	SF	N13W02	2205
10 Nov	1407	U1408	1411		SF	N13W03	2205
10 Nov	1438	1441	1450	C1.2	SF	N14W03	2205
10 Nov	1517	1521	1523	C1.9	SF	N16W04	2205
10 Nov	1557	1618	1633	C1.8	SF	N16W04	2205
10 Nov	1831	1835	1839	C1.3	SF	N14W05	2205
10 Nov	1843	1844	1847		SF	N15W06	2205
10 Nov	1852	1852	1857		SF	N15W06	2205
10 Nov	2114	2115	2123		SF	N15W06	2205
10 Nov	2242	2248	2303		SF	S09E60	2208
10 Nov	2307	2308	2322		SF	N15W06	2205
10 Nov	2326	2333	2338	C3.6	1F	N15W05	2205
10 Nov	2355	0001	0008	C5.4	1N	N17W05	2205
11 Nov	0016	0018	0052		SF	S12E59	2208
11 Nov	0102	0103	0149		SF	S11E57	2208
11 Nov	B0232	0236	0237		SF	N15W07	2205
11 Nov	B0422	0449	0606		1F	N16W11	2205
11 Nov	0441	0450	0456	C3.4	SF	S13E56	2208
11 Nov	0611	0613	0628		SF	N17W12	2205
11 Nov	0631	0638	0653	C3.1	SF	N17W12	2205
11 Nov	0659	0702	0707		SF	N17W10	2205
11 Nov	0757	0803	0811	C2.3	SF	N15W10	2205



## *Flare List*

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
11 Nov	0854	0859	0918		SF	N14W12	2205
11 Nov	0928	0933	0941		SF	S11E51	2208
11 Nov	0941	0944	0955		SF	N14W12	2205
11 Nov	1115	1122	1127	C6.7			
11 Nov	1400	1405	1423		SF	S10E51	2208
11 Nov	1636	1638	1711		SF	N15W05	2205
11 Nov	1715	1720	1723	C6.3	SF	N18W14	2205
11 Nov	1946	1949	2001		SF	N18W14	2205
12 Nov	0224	0318	0329	C4.8			2205
12 Nov	0237	0237	0243		SF	N14W20	2205
12 Nov	0251	0315	0349		1F	N14W20	2205
12 Nov	0427	0427	0454		SF	N14W20	2205
12 Nov	0804	0808	0814		SF	N17W26	2205
12 Nov	0845	0849	0853	C1.9	SF	N14W25	2205
12 Nov	0922	0925	0928	C1.4	SF	N14W25	2205
12 Nov	1027	1046	1058	C5.1			2205
12 Nov	1736	1739	1741	C1.1	SF	S12E35	2208
12 Nov	1831	1927	1952	C2.6			2210
12 Nov	2036	2043	2050	C3.7			2208
12 Nov	2310	2313	2320	C1.5	SF	S12E31	2208
12 Nov	2335	2339	2342		SF	S12E31	2208
13 Nov	0029	0030	0036		SF	S12E31	2208
13 Nov	0123	0123	0131		SF	N10W27	
13 Nov	0305	0307	0316		SF	S12E31	2208
13 Nov	0404	0404	0411		SF	S11E29	2208
13 Nov	0427	0429	0436		SF	S11E28	2208
13 Nov	0516	0525	0529	C1.1			2208
13 Nov	0530	0530	0538		SF	S11E28	2208
13 Nov	0539	0547	0624		SF	S11E28	2208
13 Nov	0558	0607	0613	C8.4			2209
13 Nov	0654	0710	0720	C2.2	SF	S07E33	2208
13 Nov	0835	0840	0851		SF	S11E26	2208
13 Nov	B1105	U1118	A1225		SF	S11E25	2208
13 Nov	1845	1848	1850	C2.7			2205
13 Nov	1917	1921	1923	C1.4			2209
13 Nov	2324	2324	2333		SF	N14W46	2205
14 Nov	0036	0045	0105		SF	S17W03	2207
14 Nov	0125	0127	0131		SF	S12E17	2208





## *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
14 Nov	0155	0159	0214		SF	S12E16		2208
14 Nov	0227	0232	0252		SF	N13W52		2205
14 Nov	0545	0552	0555	C3.2	SF	S12E16		2208
14 Nov	0558	0602	0607	C4.2				2208
14 Nov	0730	0733	0742		SF	S13E13		2208
14 Nov	0742	0748	0753	C5.4	SF	S13E80		2209
14 Nov	B1332	U1332	A1346		SF	S13E12		2208
14 Nov	1443	1458	1532	C3.1	SF	N19W58		2205
14 Nov	1448	1448	1450		SF	S13E09		2208
14 Nov	1714	1715	1719		SF	S08E45		2209
14 Nov	2003	2011	2021	C3.3				2208
14 Nov	2315	2339	2358	C2.0	1F	S12E71		2209
15 Nov	0026	0030	0031		SF	S13E03		2208
15 Nov	0245	0245	0252		SF	N20W63		2205
15 Nov	0250	0254	0257		SF	S12E68		2209
15 Nov	0611	0614	0618	C1.1				2209
15 Nov	1140	1203	1210	M3.2	SB	S09E63		2209
15 Nov	1921	1922	1929		SF	S13E57		2209
15 Nov	2038	2046	2050	M3.7	1N	S13E63		2209
15 Nov	2156	2156	2159		SF	S10E57		2209
15 Nov	2257	2303	2312		SF	S11E49		2209
15 Nov	2333	2336	2352	C2.7	SF	S09E47		2209
16 Nov	0111	0115	0121	C1.4	SF	S10E46		2209
16 Nov	0225	0226	0233		SF	S10E46		2209
16 Nov	0452	0510	0513		SF	S10E25		2213
16 Nov	0506	0509	0514		SF	N17E03		2212
16 Nov	0519	0519	0521		SF	N17E03		2212
16 Nov	0537	0537	0547		SF	S10E25		2213
16 Nov	0734	0743	0814	C3.9	SF	S12E51		2209
16 Nov	0814	0815	0829		SF	S11E51		2209
16 Nov	0907	0911	0921	C2.0	SF	S10E47		2209
16 Nov	0946	U1003	A1025	C2.4	SF	S10E47		2209
16 Nov	1043	U1048	A1100		SF	S08E42		2209
16 Nov	1340	1343	1346	C1.5				2209
16 Nov	1529	1532	1539		SF	S14E37		2209
16 Nov	1639	1647	1655	C3.9				2209
16 Nov	1735	1748	1757	M5.7				2209
16 Nov	2202	2206	2209	C2.4	SF	S12E43		2209



### *Flare List*

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
16 Nov	2256	2256	2304		SF	S12E45	2209



## Region Summary

Date	Location		Sunspot Characteristics				Flares													
	Lat CMD	Lon	Helio 10 <sup>-6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical								
									C	M	X	S	1	2	3	4				
<b>Region 2113</b>																				
06 Jul	N12E80	161	50	2	Hax	1	A													
07 Jul	N07E62	165	80	3	Cao	2	B													
08 Jul	N10E48	166	60	6	Csi	12	BG	2	1		10	1	1							
09 Jul	N09E35	167	60	8	Dai	17	BG	2	1		8	1								
10 Jul	N09E20	168	40	8	Cao	6	B	1			2									
11 Jul	N07E12	163	30	15	Cro	10	B	1			3									
12 Jul	N07W04	166	60	10	Cso	8	B				1									
13 Jul	N07W18	167	70	11	Eao	9	B	1			2									
14 Jul	N07W32	167	40	9	Dao	11	B													
15 Jul	N08W46	168	10	8	Bxo	4	B													
16 Jul	N12W59	168	10		Axx	1	A													
17 Jul	N12W73	169	plage																	
18 Jul	N12W87	169	plage																	
15 Nov	S09E24	274	plage																	
								7	2	0	26	2	1	0	0					

Died on Disk.

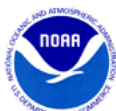
Absolute heliographic longitude: 166

### Region 2201

30 Oct	S05E65	84	30	1	Hax	1	A	4			1	2						
31 Oct	S05E51	85	50	1	Cao	3	B	2			2	1						
01 Nov	S05E37	85	50	2	Cai	5	B	4			8	1						
02 Nov	S05E23	86	50	4	Cai	7	B	2			8							
03 Nov	S05E10	86	30	7	Cao	7	B	3			3	1						
04 Nov	S05W06	88	30	4	Dai	8	B											
05 Nov	S05W19	88	70	7	Dai	9	B				2							
06 Nov	S04W33	89	70	8	Dai	10	B											
07 Nov	S04W48	91	70	8	Cao	10	B	1										
08 Nov	S05W62	92	20	4	Bxo	3	B	1			1							
09 Nov	S05W76	93	10	1	Axx	1	A											
								17	0	0	25	5	0	0	0			

Died on Disk.

Absolute heliographic longitude: 88



**Region Summary - continued**

Date	Location		Sunspot Characteristics				Flares													
	Lat CMD	Lon	Helio 10 <sup>-6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical								
									C	M	X	S	1	2	3	4				
<b>Region 2204</b>																				
01 Nov	N06E51	71	20	3	Cro	5	B													
02 Nov	N05E39	70	30	4	Cro	5	B													
03 Nov	N05E25	71	20	7	Cro	6	B													
04 Nov	N05E08	74	10	1	Axx	1	A													
05 Nov	N05W06	75	10	1	Axx	1	A													
06 Nov	N06W15	72	20	10	Cro	3	B					1								
07 Nov	N06W30	73	10	2	Bxo	5	B													
08 Nov	N06W45	75	10	3	Axx	2	A													
09 Nov	N06W59	76	plage																	
10 Nov	N06W74	78	plage																	
11 Nov	N06W89	80	plage																	
												0	0	0	1	0	0	0	0	

Crossed West Limb.  
Absolute heliographic longitude: 75

<b>Region 2205</b>																				
04 Nov	N15E66	15	100	11	Eac	1	B	2	2			13	1							
05 Nov	N16E56	14	250	14	Ekc	10	BGD	3	2			12	2							
06 Nov	N15E46	10	360	15	Ekc	24	BGD	3	3			8	2	1						
07 Nov	N15E32	11	410	14	Ekc	40	BGD	5	3	1		7		1	1					
08 Nov	N15E18	12	310	14	Ekc	35	BGD	4				8								
09 Nov	N15E05	12	350	14	Ekc	31	BGD	6	1			11	2							
10 Nov	N14W08	12	280	9	Dkc	23	BGD	9				14	1							
11 Nov	N15W22	12	230	9	Dac	28	BGD	3				10	2							
12 Nov	N15W35	13	150	9	Dac	23	BG	4				5	1							
13 Nov	N14W52	15	140	9	Dac	13	BG	1				1								
14 Nov	N14W64	15	120	10	Dai	12	B	1				2								
15 Nov	N14W78	16	70	4	Dao	5	B					1								
16 Nov	N15W92	17	30	3	Hsx	1	A													
								43	13	1		92	11	2	1	0				

Still on Disk.  
Absolute heliographic longitude: 12



### *Region Summary - continued*

Date	Location		Sunspot Characteristics					Flares							
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical			
			Lon	10 <sup>-6</sup> hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3

#### ***Region 2206***

05 Nov	S15E36	33	10	3	Bxo	2	B										
06 Nov	S15E25	31	10	2	Axx	2	A										
07 Nov	S15E11	32	plage														
08 Nov	S15W03	33	plage														
09 Nov	S15W17	34	plage														
10 Nov	S15W31	35	plage														
11 Nov	S15W45	36	plage														
12 Nov	S15W59	37	plage														
13 Nov	S15W73	37	plage														
14 Nov	S15W87	38	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 33

#### ***Region 2207***

08 Nov	S08E64	326	40	2	Hax	1	A										
09 Nov	S08E52	325	30	2	Hax	1	A										
10 Nov	S09E41	322	40	2	Hsx	1	A										
11 Nov	S09E26	324	30	2	Hsx	1	A										
12 Nov	S08E16	321	30	1	Hax	5	A										
13 Nov	S09E02	321	10	8	Hax	6	A										
14 Nov	S09W13	324	10	1	Axx	2	A					1					
15 Nov	S09W27	325	plage														
16 Nov	S09W41	326	plage														
									0	0	0	1	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 321



### *Region Summary - continued*

Date	Location		Sunspot Characteristics					Flares															
	Lat CMD	Lon	Helio 10 <sup>-6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical											
									C	M	X	S	1	2	3	4							
<b>Region 2208</b>																							
09 Nov	S12E71	306	30	5	Cao	5	B																
10 Nov	S11E58	305	90	6	Cai	9	B	1					2										
11 Nov	S12E43	307	70	6	Dso	11	B	1					5										
12 Nov	S11E29	307	160	13	Esc	20	B	3					3										
13 Nov	S12E15	308	100	8	Dsc	21	BG	2					9										
14 Nov	S12E03	308	120	13	Eac	29	BG	3					6										
15 Nov	S12W10	308	40	10	Cai	14	B						1										
16 Nov	S11W22	307	10	4	Bxo	4	B																
								10	0	0	26	0	0	0	0								

Still on Disk.

Absolute heliographic longitude: 308

<b>Region 2209</b>																							
12 Nov	S13E73	264	30	1	Hsx	1	A																
13 Nov	S15E62	262	30	1	Hax	1	A	2															
14 Nov	S15E56	255	680	24	Fkc	9	BG	2				2	1										
15 Nov	S15E45	253	800	23	Fkc	16	BGD	2	2			6	1										
16 Nov	S14E31	254	940	26	Fkc	23	BGD	7	1			10											
								13	3	0	18	2	0	0	0								

Still on Disk.

Absolute heliographic longitude: 254

<b>Region 2210</b>																							
12 Nov	N05E47	291	plage									1											
13 Nov	N05E32	291	10	1	Axx	1	A																
14 Nov	N05E18	293	plage																				
15 Nov	N05E03	295	plage																				
16 Nov	N05W12	297	plage																				
								1	0	0	0	0	0	0	0	0							

Still on Disk.

Absolute heliographic longitude: 295



**Region Summary - continued**

Date	Location		Sunspot Characteristics				Flares							
	Lat CMD	Lon	Helio 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
								C	M	X	S	1	2	3

**Region 2211**

13 Nov	N08W40		3	10	4	Bxo	2	B										
14 Nov	N08W54		5	20	4	Cro	3	B										
15 Nov	N08W70		8	10	1	Axx	1	A										
16 Nov	N08W84		9	plage														
									0	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 3

**Region 2212**

14 Nov	N16E16		295	10	1	Hrx	2	A										
15 Nov	N16E02		296	10	1	Axx	1	A										
16 Nov	N16W12		297	plage								2						
									0	0	0	2	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 296

**Region 2213**

15 Nov	S09E26		272	30	4	Cro	3	B										
16 Nov	S09E12		273	40	5	Dai	9	B				2						
									0	0	0	2	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 273

**Region 2214**

16 Nov	S13E59		226	20	4	Cro	4	B										
									0	0	0	0	0	0	0	0	0	0

Still on Disk.  
Absolute heliographic longitude: 226



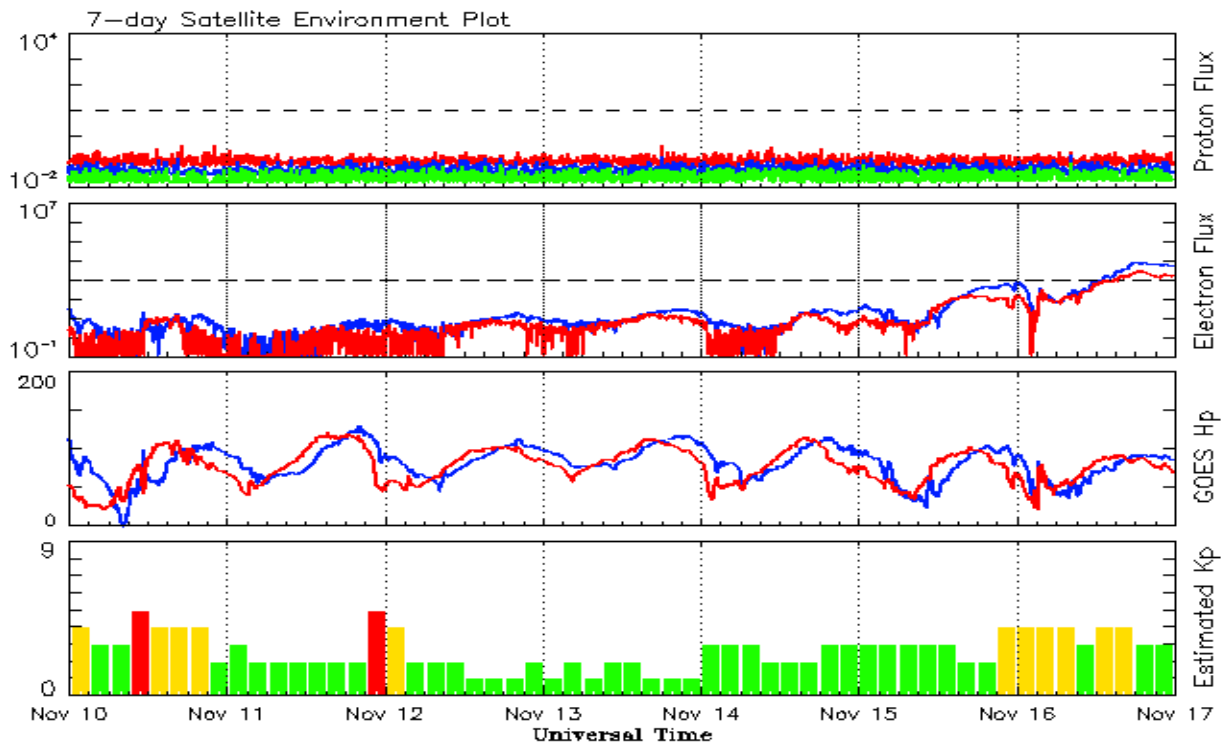
**Recent Solar Indices (preliminary)**  
**Observed monthly mean values**

Month	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		Penticton	Smooth	Planetary	Smooth
	SEC	RI	RI/SEC	SEC	RI	10.7 cm	Value	Ap	Value
<b>2012</b>									
November	89.2	61.8	0.69	87.3	59.7	120.9	120.1	6	7.3
December	60.4	40.8	0.68	88.0	59.6	108.4	120.1	3	7.5
<b>2013</b>									
January	99.8	62.9	0.63	87.1	58.7	127.1	118.9	4	7.5
February	60.0	38.1	0.63	86.7	58.4	104.4	118.0	5	7.4
March	81.0	57.9	0.71	85.7	57.6	111.2	117.1	9	7.4
April	112.8	72.4	0.64	86.7	57.9	125.0	116.6	5	7.2
May	125.5	78.7	0.63	90.5	59.9	131.3	118.1	10	7.0
June	80.1	52.5	0.66	94.4	62.6	110.2	120.9	13	7.1
July	86.1	57.0	0.66	97.9	65.5	115.6	123.9	9	7.3
August	90.2	66.0	0.73	103.7	68.9	114.7	127.9	9	7.6
September	55.0	37.0	0.67	111.0	73.0	102.7	132.3	5	7.8
October	127.1	85.6	0.67	114.3	74.9	132.3	134.7	7	7.8
November	125.7	77.6	0.62	114.6	75.3	148.4	135.4	5	7.9
December	118.2	90.3	0.76	115.4	75.9	147.7	135.9	5	7.5
<b>2014</b>									
January	125.9	81.8	0.65	117.7	77.3	158.6	137.3	6	7.1
February	174.6	102.3	0.59	119.5	78.4	170.3	138.6	12	6.9
March	141.1	91.9	0.65	123.2	80.8	149.9	140.8	6	7.2
April	130.5	84.7	0.65	124.8	81.9	144.3	143.5	9	7.5
May	116.8	75.2	0.64			130.0		7	
June	107.7	71.0	0.66			122.2		7	
July	113.6	72.5	0.64			137.3		5	
August	106.2	74.7	0.70			124.7		9	
September	127.4	87.6	0.69			146.1		11	
October	92.0	60.6	0.66			153.7		10	

**Note:** Values are final except for the most recent 6 months which are considered preliminary.  
Cycle 24 started in Dec 2008 with an RI=1.7.







*Weekly Geosynchronous Satellite Environment Summary  
Week Beginning 10 November 2014*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm<sup>2</sup>-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

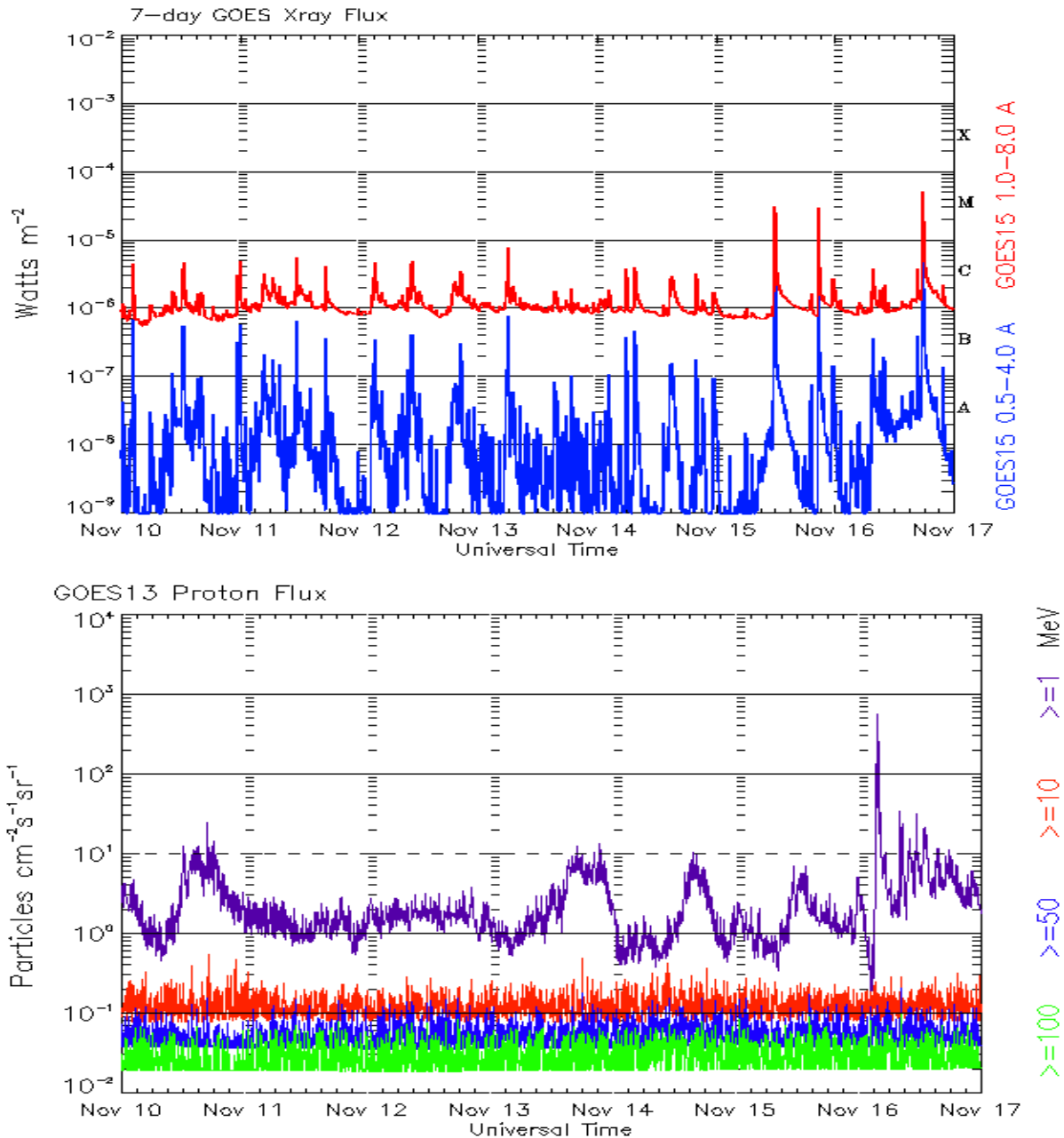
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

The Hp plot contains the five minute averaged Hp magnetic field component in nanoteslas (nT) as by the SWPC Primary GOES satellite. The Hp component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

The Estimated 3-hour Planetary Kp-index is derived at the NOAA Space Weather Prediction Center using data from the following ground-based magnetometers: Boulder, Colorado; Chambon la Foret, France; Fredericksburg, Virginia; Fresno, California; Hartland, UK; Newport, Washington; Sitka, Alaska. These data are made available thanks to the cooperative efforts between SWPC and data providers around the world, which currently includes the U.S. Geological Survey, the British Geological Survey, and the Institut de Physique du Globe de Paris.

The data included here are those now available in real time at the SWPC and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are 'global' parameters that are applicable to a first order approximation over large areas. H parallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.





*Weekly GOES Satellite X-ray and Proton Plots  
Week Beginning 10 November 2014*

The x-ray plots contains five-minute averages x-ray flux (Watt/m<sup>2</sup>) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/cm<sup>2</sup> -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1, >10, >30, and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



## ***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. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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