

Solar activity was at very low to moderate levels over the period. The period began at moderate levels with an M3/2b flare at 09/1312 UTC from Region 2449 (S12, L=207, class/area Dao/150 on 08 Nov). Associated with the flare were Type II (957 km/s) and Type IV radio sweeps, a 670 sfu Tenflare, and a partial halo coronal mass ejection (CME). Originally, the CME was thought to have a partial Earth-directed component; however, there was no arrival apparent in ACE/SWEPAM data. Low levels were observed on 10 and 13 November due to low level C-flare activity from Regions 2443 (N07, L=316, class/area Fkc/650 on 01 Nov) and 2452 (S08, L=169, class/area Axx/010 on 11 Nov). Late on 15 November, two filament eruptions occurred in the SW quadrant. The first was an approximate 21 degree filament eruption centered near S11W17 that was observed lifting off around 15/2114 UTC in SDO/AIA 304 imagery. The second was an approximate 19 degree filament eruption centered near S26W24 observed lifting off around 16/0114 UTC. Analysis was ongoing for these two events, however given their location and initial trajectory, an Earth-directed component is probable.

An enhancement (below S1-Minor threshold) of the greater than 10 MeV proton flux occurred at 09/2130 UTC associated with the M3 flare. Particle flux measurements reached a maximum of 3.7 pfu 10/0020 UTC before declining to background levels by early on 11 November.

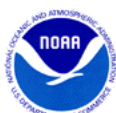
The greater than 2 MeV electron flux at geosynchronous orbit was at high to very high levels over the period. Very high levels occurred on 11 and 13 November with maximum flux levels of 59,508 pfu at 11/1915 UTC and 88,813 pfu at 13/1355 UTC, respectively.

Geomagnetic field activity ranged from quiet to major storm levels. The period began under the influence of a prolonged negative Bz component followed by a solar sector boundary crossing mid-day on 09 November. Shortly after, a co-rotating interaction region preceding a positive polarity coronal hole high speed stream (CH HSS) became geoeffective starting in the latter half of 09 November. Total field rose briefly to 12 nT with solar wind speeds increasing to the 650-750 km/s range. Solar wind continued to be enhanced through 12 November as CH HSS effects declined. The geomagnetic field responded with unsettled to (G1-minor) minor storm levels on 09 November, active to (G2-moderate) major storm levels on 10 November, and quiet to minor storm levels on 11 November. Quiet levels were observed on 12 November. By 13 November, another positive polarity CH HSS became geoeffective causing total field to initially rise to 10 nT with solar wind speeds in the upper 400 km/s range. Total field remained slightly agitated from 14-15 November with total field ranging from 5-9 nT. As a result, quiet to active levels were observed on 13 November, with quiet to unsettled levels on 14-15 November.

Space Weather Outlook

16 November - 12 December 2015

Solar activity is expected to be at very low to low levels with a chance for M-class (R1-R2, minor-moderate) flares from 22 November through 05 December with the return of old Region



2443 (N07, L=316).

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels from 16-18 November and again from 01-12 December due to recurrent CH HSS influence. Normal to moderate levels are expected from 19-30 November.

Geomagnetic field activity is expected to be at unsettled to active levels from 16-19 November due to prolonged southward Bz as well as a negative polarity CH HSS on 18-19 November. Multiple recurrent positive polarity CH HSSs are expected to influence the geomagnetic field from 30 November-02 December, 05-08 December, and 10-12 December causing unsettled to active levels with (G1-minor) storm periods likely on 30 November-01 December, and 06-08 December.

The eruptive filaments on 15-16 November are not in the present forecast as we are waiting on further imagery to model these events.



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
09 November	108	67	360	B3.1	1	1	0	1	1	1	0	0
10 November	105	65	250	B3.1	3	0	0	5	0	0	0	0
11 November	105	64	110	B3.2	0	0	0	1	0	0	0	0
12 November	104	29	40	B2.6	0	0	0	1	0	0	0	0
13 November	103	50	50	B2.4	1	0	0	2	0	0	0	0
14 November	106	48	60	B2.2	0	0	0	1	0	0	0	0
15 November	106	63	80	B2.3	0	0	0	0	0	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	09 November		1.5e+06	2.0e+04	3.1e+03	
10 November		8.3e+06	8.5e+04	2.9e+03		6.0e+08
11 November		3.1e+06	1.3e+04	2.6e+03		2.0e+09
12 November		9.1e+05	1.1e+04	2.6e+03		1.8e+09
13 November		2.1e+06	1.2e+04	2.9e+03		1.6e+09
14 November		2.4e+05	1.1e+04	2.7e+03		7.4e+07
15 November		2.1e+05	1.2e+04	2.8e+03		7.1e+07

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	09 November	22	3-3-5-4-3-3-3-4	62	3-4-6-7-5-7-3-4	26
10 November	32	4-3-4-5-6-4-3-3	61	4-4-5-7-7-5-4-4	38	4-4-5-5-6-4-4-4
11 November	17	4-3-3-3-3-4-3-1	33	3-2-6-5-5-5-3-1	23	5-3-4-3-3-5-3-2
12 November	4	1-0-1-2-2-2-1-1	8	0-0-2-5-1-1-0-0	5	2-1-2-2-1-1-1-1
13 November	12	1-2-1-2-4-3-3-3	23	1-0-0-5-5-5-4-2	14	2-2-1-2-3-4-3-4
14 November	10	3-3-2-2-3-2-1-2	22	3-3-4-6-4-2-0-1	10	3-3-2-2-2-2-1-2
15 November	7	2-2-2-2-2-1-1-3	13	1-1-3-5-3-2-1-2	9	2-3-2-2-1-1-2-3



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
09 Nov 0500	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	04/1405
09 Nov 0741	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 09/1600
09 Nov 0741	WARNING: Geomagnetic K = 5	09/0741 - 1500
09 Nov 1324	ALERT: Type IV Radio Emission	09/1305
09 Nov 1338	ALERT: Type II Radio Emission	09/1305
09 Nov 1341	SUMMARY: 10cm Radio Burst	09/1300 - 1311
09 Nov 1452	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 10/0700
09 Nov 1452	EXTENDED WARNING: Geomagnetic K = 5	09/0741 - 2300
09 Nov 1632	ALERT: Type IV Radio Emission	09/1459
09 Nov 2210	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 10/1500
09 Nov 2210	EXTENDED WARNING: Geomagnetic K = 5	09/0741 - 10/0600
09 Nov 2305	ALERT: Geomagnetic K = 5	09/2305
10 Nov 0547	EXTENDED WARNING: Geomagnetic K = 5	09/0741 - 10/1300
10 Nov 0646	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	04/1405
10 Nov 0730	ALERT: Geomagnetic K = 5	10/0730
10 Nov 1145	ALERT: Geomagnetic K = 5	10/1143
10 Nov 1148	WARNING: Geomagnetic K = 6	10/1150 - 1600
10 Nov 1220	WATCH: Geomagnetic Storm Category G1 predicted	
10 Nov 1249	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 11/0400
10 Nov 1249	EXTENDED WARNING: Geomagnetic K = 5	09/0741 - 10/2200
10 Nov 1309	ALERT: Geomagnetic K = 5	10/1308
10 Nov 1430	ALERT: Geomagnetic K = 6	10/1430
11 Nov 0124	WARNING: Geomagnetic K = 5	11/0122 - 0600
11 Nov 0125	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 11/0900
11 Nov 0132	ALERT: Geomagnetic K = 5	11/0131
11 Nov 0503	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	04/1405
11 Nov 0553	EXTENDED WARNING: Geomagnetic K = 5	11/0122 - 1400

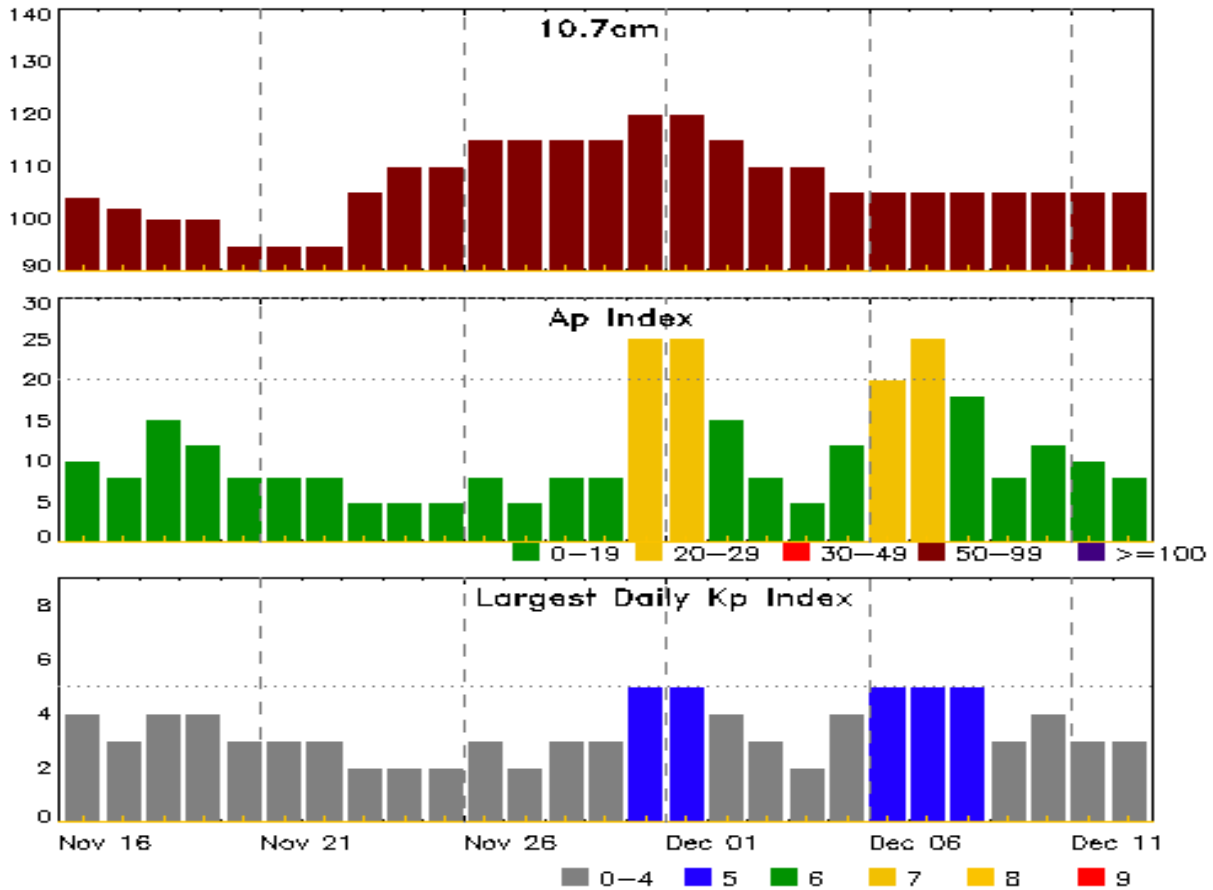


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
11 Nov 0553	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 11/1700
11 Nov 1659	EXTENDED WARNING: Geomagnetic K = 4	08/1230 - 12/1300
11 Nov 1704	WARNING: Geomagnetic K = 5	11/1700 - 12/0700
11 Nov 1713	ALERT: Geomagnetic K = 5	11/1715
12 Nov 0501	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	04/1405
12 Nov 0914	WATCH: Geomagnetic Storm Category G1 predicted	
13 Nov 0500	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	04/1405
13 Nov 1441	WARNING: Geomagnetic K = 4	13/1440 - 2300
13 Nov 1802	ALERT: Geomagnetic K = 4	13/1759
13 Nov 2233	EXTENDED WARNING: Geomagnetic K = 4	13/1440 - 14/0800
14 Nov 0745	EXTENDED WARNING: Geomagnetic K = 4	13/1440 - 14/1400
14 Nov 0747	CANCELLATION: Geomagnetic Storm Category G1 predicted	
14 Nov 1226	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	04/1405
15 Nov 1206	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	04/1405
15 Nov 2339	WARNING: Geomagnetic K = 4	15/2339 - 16/0900



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
16 Nov	104	10	4	30 Nov	120	25	5
17	102	8	3	01 Dec	120	25	5
18	100	15	4	02	115	15	4
19	100	12	4	03	110	8	3
20	95	8	3	04	110	5	2
21	95	8	3	05	105	12	4
22	95	8	3	06	105	20	5
23	105	5	2	07	105	25	5
24	110	5	2	08	105	18	5
25	110	5	2	09	105	8	3
26	115	8	3	10	105	12	4
27	115	5	2	11	105	10	3
28	115	8	3	12	105	8	3
29	115	8	3				

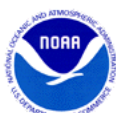


Energetic Events

Date	Time			X-ray	Optical Information				Peak		Sweep Freq	
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location	Rgn #	245	2695	II	IV
09 Nov	1249	1312	1328	M3.9	0.047	2B	S11E41	2449	1900	670	2	1

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location	Lat CMD	
09 Nov	0652	0653	0707		SF	S11E43		2449
09 Nov	1249	1312	1328	M3.9	2B	S11E41		2449
09 Nov	1346	1350	1538		1F	S12E39		2449
09 Nov	1630	1633	1635	C1.3				2443
10 Nov	0119	0125	0145	B6.8				
10 Nov	0154	0159	0202	C1.1				2443
10 Nov	0323	0328	0354	B6.7				2449
10 Nov	0326	0327	0331		SF	S14E31		2449
10 Nov	0345	0347	0353		SF	S14E32		2449
10 Nov	0733	0739	0742	B8.6				2443
10 Nov	1400	1411	1424	C3.7				2443
10 Nov	1608	1612	1616	B6.0				
10 Nov	1645	1654	1705	C2.7				
10 Nov	B2130	2130	A2132		SF	N06E54		2448
10 Nov	2255	2302	2307		SF	S13E19		2449
10 Nov	2259	2300	2306		SF	S12E39		2449
11 Nov	0730	0730	0734		SF	N07W03		2448
11 Nov	1153	1158	1206	B6.3				2443
12 Nov	0109	0124	0129	B8.9				
12 Nov	0328	0337	0342	B8.9				
12 Nov	1503	1513	1521	B4.3				
12 Nov	1920	1926	1931	B3.9	SF	S16E51		2452
13 Nov	0120	0128	0136	C1.2	SF	S17E48		2452
13 Nov	1600	1603	1608		SF	S16E39		
14 Nov	1127	1129	1138		SF	S13W23		2449
15 Nov	1419	1425	1431	B5.4				2449
15 Nov	2301	0008	0114	B7.8				



Region Summary

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	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 2443																	
29 Oct	N05E67	316	330	15	Ehc	9	B	10			11						
30 Oct	N06E56	315	560	15	Ekc	25	BGD	12			4	1					
31 Oct	N07E43	315	640	15	Ekc	28	BGD	14	1		10	1					
01 Nov	N07E29	316	650	18	Fkc	28	BG	14			19	2					
02 Nov	N06E16	314	590	17	Fkc	36	BD	1			5						
03 Nov	N06E03	314	560	17	Fkc	52	BD	2			8						
04 Nov	N06W09	314	370	18	Fkc	40	BD	3	1		3		1				
05 Nov	N07W23	315	280	17	Fhc	25	B				1						
06 Nov	N07W37	316	220	16	Fsc	21	B										
07 Nov	N06W52	318	190	12	Eso	9	B				1						
08 Nov	N06W69	322	120	7	Cso	4	B										
09 Nov	N05W82	321	130	6	Cso	3	B	1									
10 Nov	N07W95	321	60	1	Hsx	1	A	2									
								59	2	0	62	4	1	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 314

Region 2444																	
29 Oct	S04E61	323	10	2	Cro	3	B										
30 Oct	S04E46	325	10	4	Bxo	3	B										
31 Oct	S04E31	327	plage														
01 Nov	S04E16	329	plage														
02 Nov	S04E01	331	plage														
03 Nov	S04W14	333	plage														
04 Nov	S04W29	334	plage														
05 Nov	S04W44	336	plage														
06 Nov	S04W59	338	plage														
07 Nov	S04W74	340	plage														
08 Nov	S04W89	342	plage														
								0	0	0	0	0	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 331



Region Summary - continued

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

Region 2447

03 Nov	N03E23	295	20	2	Cro	3	B										
04 Nov	N03E10	295	10	4	Cro	4	B										
05 Nov	N03W02	294	10	6	Bxo	3	B										
06 Nov	N04W15	294	0	1	Axx	1	A										
07 Nov	N04W30	296	plage														
08 Nov	N04W45	298	plage														
09 Nov	N04W60	300	plage														
10 Nov	N04W75	301	plage														
11 Nov	N04W90	303	plage														
								0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 294

Region 2448

04 Nov	N06E72	233	60	5	Dso	3	B	1									
05 Nov	N06E59	233	110	10	Dai	6	B										
06 Nov	N06E45	234	140	8	Dao	5	B	1									
07 Nov	N05E37	229	80	6	Cao	7	B	1			2						
08 Nov	N05E25	228	60	4	Cao	4	B										
09 Nov	N06E12	226	80	4	Cao	9	B										
10 Nov	N06W00	224	60	4	Cao	8	B				1						
11 Nov	N04W15	227	30	4	Cao	7	B				1						
12 Nov	N07W26	225	10	3	Bxo	3	B										
13 Nov	N06W41	228	10	1	Axx	2	A										
14 Nov	N06W56	230	plage														
15 Nov	N06W71	231	plage														
								3	0	0	4	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 224



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares								
	Lat CMD	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 2449															
06 Nov	S12E72	207	30	4	Cro	4	B	3			3				
07 Nov	S12E57	209	150	8	Dao	6	B	2			3				
08 Nov	S12E46	207	150	8	Dao	8	B								
09 Nov	S11E32	206	140	9	Dai	13	B		1		1	1	1		
10 Nov	S13E18	206	120	9	Dai	14	B				4				
11 Nov	S12E05	206	60	10	Dai	14	B								
12 Nov	S13W09	208	30	9	Cao	6	B								
13 Nov	S11W23	210	20	5	Cro	2	B								
14 Nov	S11W36	210	10	4	Bxo	2	B				1				
15 Nov	S10W50	210	10	3	Bxo	2	B								
								5	1	0	12	1	1	0	0

Still on Disk.

Absolute heliographic longitude: 206

Region 2450															
07 Nov	S23E66	200	10	5	Bxo	3	B	1			1				
08 Nov	S23E50	203	10	5	Bxo	3	B								
09 Nov	S23E36	204	plage												
10 Nov	S23E22	204	plage												
11 Nov	S22E03	207	10	3	Bxo	2	B								
12 Nov	S22W10	210	plage												
13 Nov	S22W24	211	plage												
14 Nov	S22W38	212	plage												
15 Nov	S22W52	212	plage												
								1	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 207



Region Summary - continued

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

Region 2451

07 Nov	N03E24	242	30	2	Cro	4	B										
08 Nov	N03E11	242	20	1	Hrx	1	A										
09 Nov	N03W02	241	10	1	Axx	2	A										
10 Nov	N05W17	243	10	1	Axx	2	A										
11 Nov	N05W32	245	plage														
12 Nov	N05W47	247	plage														
13 Nov	N05W62	249	plage														
14 Nov	N05W77	251	plage														
									0	0	0	0	0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 241

Region 2452

11 Nov	S08E42	169	10		Axx	1	A										
12 Nov	S08E28	172	plage														
13 Nov	S08E14	173	plage					1									
14 Nov	S08W00	174	plage														
15 Nov	S08W14	174	plage														
									1	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 174

Region 2453

13 Nov	N06E05	182	10	3	Bxo	4	B										
14 Nov	N06W08	182	10	2	Bxo	2	B										
15 Nov	N06W21	181	20	4	Bxo	6	B										
									0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 182

Region 2454

13 Nov	N08E66	121	10	4	Bxo	2	B										
14 Nov	N08E52	122	20	3	Bxo	2	B										
15 Nov	N10E41	119	20	6	Bxo	8	B										
									0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 119



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares													
	Lat	CMD	Helio Lon	Area 10 ⁻⁶	Extent hemi.	Spot (helio) Class	Spot Count	Mag Class	X-ray			Optical								
									C	M	X	S	1	2	3	4				
Region 2455																				
14 Nov	N15E36		138	20	1	Bxo	2	B												
15 Nov	N15E22		138	30	5	Cro	7	B												
									0	0	0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 138

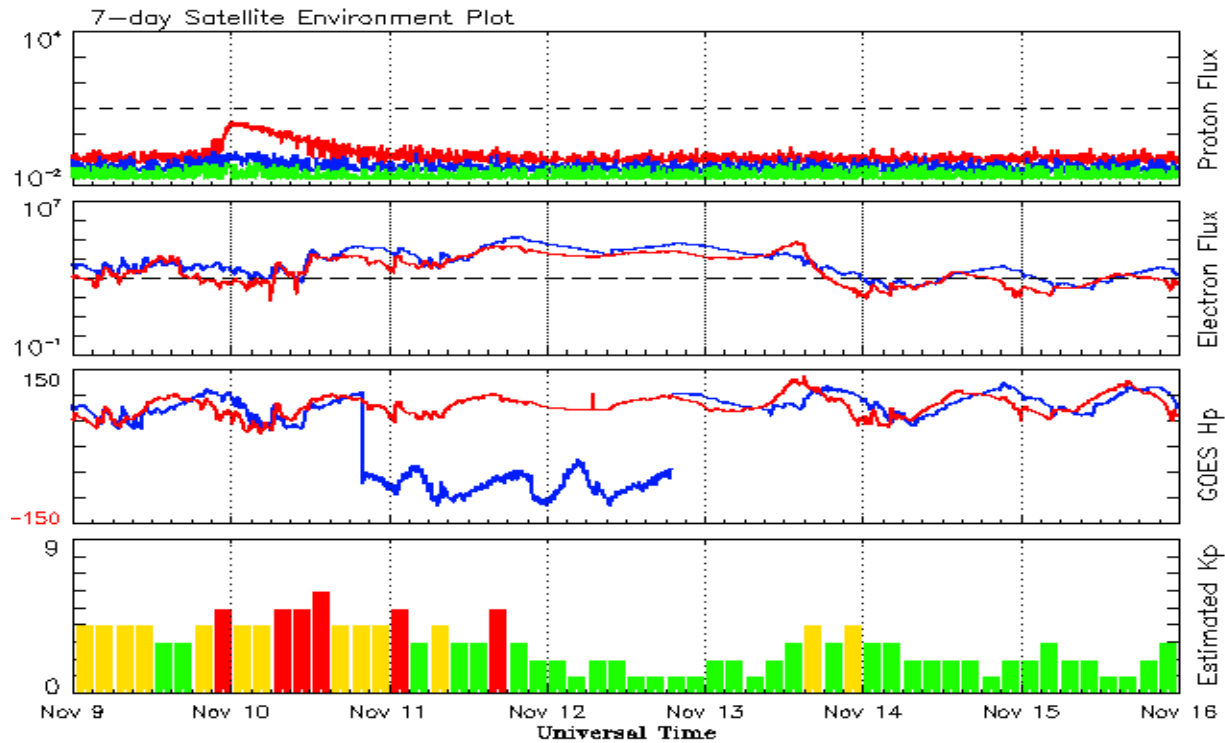


Recent Solar Indices (preliminary)
Observed monthly mean values

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	
2013										
November	125.7	77.6	0.62	114.6	114.6	75.3	148.4	135.4	5	7.9
December	118.2	90.3	0.76	115.4	115.4	75.9	147.7	135.9	5	7.5
2014										
January	125.9	81.8	0.65	117.7	117.7	77.3	158.6	137.3	6	7.1
February	174.6	102.3	0.59	119.5	119.5	78.3	170.3	138.6	12	6.9
March	141.1	91.9	0.65	123.2	123.2	80.8	149.9	140.8	6	7.2
April	130.5	67.5	0.65	124.8	124.8	69.8	144.3	143.5	9	7.5
May	116.8	67.5	0.64	122.3	122.3	69.0	130.0	144.7	7	7.9
June	107.7	61.7	0.66	121.4	121.4	68.5	122.2	145.5	7	8.4
July	113.6	60.1	0.64	120.4	120.4	67.6	137.3	145.2	5	8.8
August	106.2	64.1	0.70	115.1	115.1	65.0	124.7	142.8	9	8.9
September	127.4	78.0	0.69	107.4	107.4	61.1	146.1	140.1	11	9.3
October	92.0	54.0	0.66	101.7	101.7	58.4	153.7	138.4	10	9.9
November	101.8	62.2	0.69	97.9	97.9	56.8	155.3	137.4	10	10.1
December	120.0	67.7	0.65	95.2	95.2	55.3	158.7	137.0	12	10.5
2015										
January	101.2	55.8	0.66	92.1	92.1	53.6	141.7	135.8	10	11.0
February	70.6	40.0	0.63	88.3	88.3	51.7	128.8	133.8	10	11.5
March	61.7	32.7	0.62	84.2	84.2	49.3	126.0	131.2	17	12.0
April	72.5	45.2	0.75	80.5	80.5	47.3	129.2		12	12.4
May	83.0	53.3	0.71				120.1		9	
June	77.3	39.9	0.53				123.2		14	
July	68.4	39.8	0.58				107.0		10	
August	61.6	38.8	0.63				106.2		16	
September	72.5	46.9	0.65				102.1		16	
October	59.5	37.0	0.62						15	

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 09 November 2015*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-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.

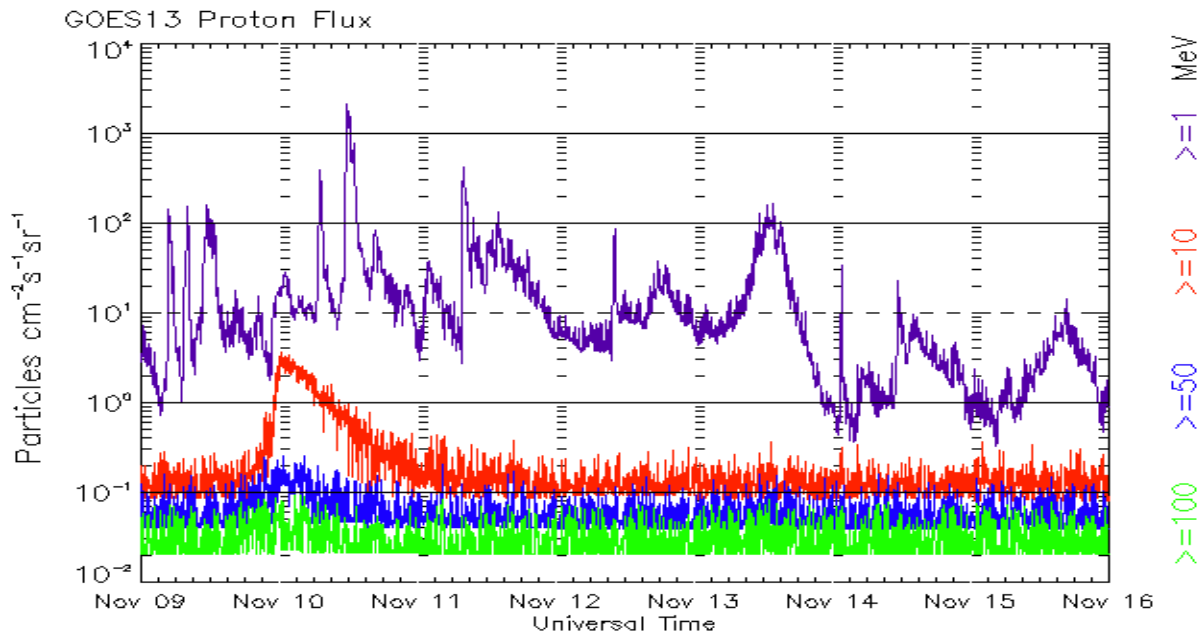
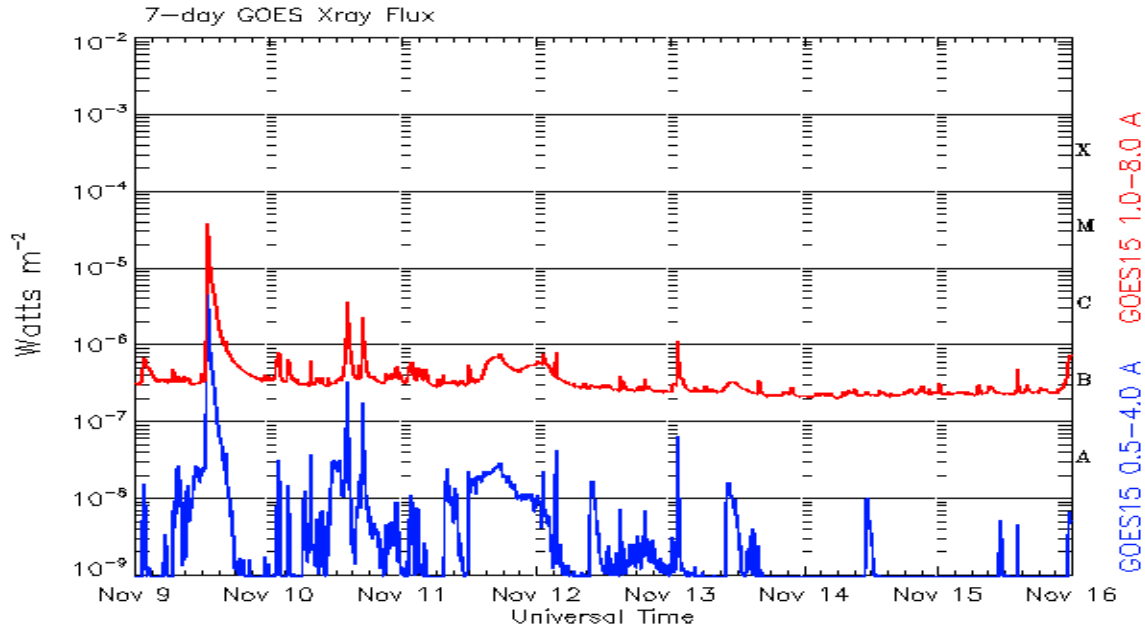
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 09 November 2015

The x-ray plots contains five-minute averages x-ray flux ($Watt/m^2$) 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^2 -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.



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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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