

Solar activity ranged from very low to moderate levels. On 05 November, low levels were observed due to a C2 X-ray flare from a unnumbered region around the southeast limb at 05/1839 UTC. Solar activity remained at very low levels until 08 November when a long duration M1 flare was observed at 08/0223 UTC from Region 1611 (N13, L=240, class/area Eso/270 on 09 November). Associated with this event was a Type II radio sweep (784 km/s) and a non-geoeffective coronal mass ejection (CME) off the East limb. Also on 08 November, a full halo backside CME was observed in SOHO/LASCO imagery from old Region 1598 (S12, L=111). By 09 November, solar activity returned to low levels with a single C1 flare from Region 1604 (N08, L=322, class/area Bx0/010 on 03 November) at 09/0151 UTC. Also on 09 November, a 12 degree long filament, centered near S16E03, erupted at approximately 09/1230 UTC which resulted in an Earth-directed CME first observed in SOHO/LASCO C2 imagery at 09/1524 UTC. By 10 November, multiple low level C-flares were observed including a long duration C2 flare from Region 1608 (S20, L=286, class/area Hrx/020 on 06 November) at 10/0504 UTC. An Earth-directed CME was observed in association with this C2 flare in STEREO A COR2 imagery at 10/0539 UTC and SOHO/LASCO C3 imagery at 10/1054 UTC. By 11 November, solar activity increased to moderate levels due to an M1 flare from Region 1614 (N15, L=193, class/area Dso/110 on 11 November) at 11/0233 UTC with an associated Type II radio sweep (659 km/s).

An enhancement of the greater than 10 MeV proton flux at geosynchronous orbit was observed beginning at approximately 08/1400 UTC likely associated with flare activity and the associated CME from old Region 1598. A peak enhancement of 2.4 pfu was observed at 09/0420 UTC and remained slightly enhanced through the end of the reporting period. No event thresholds were exceeded.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal background levels throughout the reporting period.

Geomagnetic field activity was at quiet levels until 07 November when a coronal hole high speed stream (CH HSS) moved into geoeffective position. At 06/2119 UTC, the phi component of the interplanetary magnetic field changed from positive to negative with corresponding increases in density, temperature, and speed in ACE spacecraft data indicating a solar sector boundary crossing followed by a co-rotating interaction region and CH HSS. Solar wind speed increased from approximately 300 km/s to a peak of near 525 km/s by 07/1538 UTC. Total field (Bt) reached a maximum of 14 nT at 07/0031 UTC with a maximum deflection of the Bz component southward to -12 nT at 07/0039 UTC. The geomagnetic field responded with quiet to active periods on 07 November. By 08 November, conditions returned to quiet levels and remained that way through the end of the reporting period.

Space Weather Outlook

12 November - 08 December 2012

Solar activity is expected to be low with a chance for M-class flares through 24 November when Region 1614 is due to rotate off the west limb. Very low to low conditions are expected from 12



November until 27 November. On 28 November, and through the end of the forecast period, very low to low conditions with a chance for M-class activity is expected with the return of old Region 1598.

There is a slight chance for a greater than 10 MeV proton event from 28 November through the end of the reporting period due possible flare activity from old Region 1598.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal levels on 12 November. Moderate to high levels are expected from 13-24 November due to CME activity and recurrence. Normal levels are expected from 25 November through 03 December. Moderate to high levels are expected from 04-06 December due to CH HSS activity. By 07 December through the end of the forecast period, normal levels are expected.

Geomagnetic field activity is expected to be unsettled to active with a chance for minor storm periods starting around mid-day on 12 November and continuing through 13 November as the 09 and 10 November CMEs are expected to become geoeffective. Unsettled levels are expected on 14 November as CME activity wanes. Mostly quiet conditions are expected from 15-18 November. Quiet to unsettled conditions are possible on 19 November due to a possible solar sector boundary crossing. From 20 November through 02 December, mostly quiet conditions are expected. On 03-04 December, a recurrent CH HSS is expected to become geoeffective causing quiet to unsettled with isolated active conditions. A return to mostly quiet conditions is expected from 05 December through the end of the forecast period.



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
05 November	97	47	40	B1.9	1	0	0	0	0	0	0	0
06 November	99	61	130	B2.1	0	0	0	0	0	0	0	0
07 November	102	77	280	B2.1	0	0	0	0	0	0	0	0
08 November	104	71	410	B2.2	0	1	0	0	1	0	0	0
09 November	115	65	410	B3.1	1	0	0	0	0	0	0	0
10 November	122	68	350	B4.3	8	0	0	0	0	0	0	0
11 November	133	106	620	B5.4	3	1	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
	05 November	4.8e+04	1.1e+04	2.7e+03		4.7e+06
06 November	9.4e+04	1.1e+04	2.6e+03		2.3e+06	
07 November	5.2e+05	1.1e+04	2.6e+03		1.8e+06	
08 November	2.9e+05	2.2e+04	3.5e+03		3.4e+06	
09 November	6.0e+05	1.1e+05	4.3e+03		3.8e+06	
10 November	7.3e+05	8.2e+04	3.3e+03		4.1e+06	
11 November	8.4e+05	3.8e+04	2.5e+03		2.3e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	05 November	2	0-0-1-1-2-1-1-0	2	0-0-1-1-1-2-0-0	2
06 November	4	0-0-1-1-2-2-1-2	7	0-0-1-3-3-3-1-1	4	0-0-1-1-1-2-1-1
07 November	10	2-3-1-2-3-2-3-2	10	0-1-1-1-4-3-3-3	10	2-3-1-1-2-3-4-2
08 November	2	0-0-0-1-2-1-1-1	2	1-0-0-2-1-0-0-0	3	1-0-0-1-1-1-0-1
09 November	1	0-0-0-0-1-1-1-0	0	0-0-0-0-1-0-0-0	2	0-0-0-0-1-1-0-0
10 November	1	0-0-0-0-1-0-1-1	0	0-0-0-0-0-0-0-0	2	0-0-0-0-1-0-1-2
11 November	2	1-1-0-1-2-0-0-1	2	0-0-0-1-2-1-0-0	3	1-1-0-1-1-1-0-1

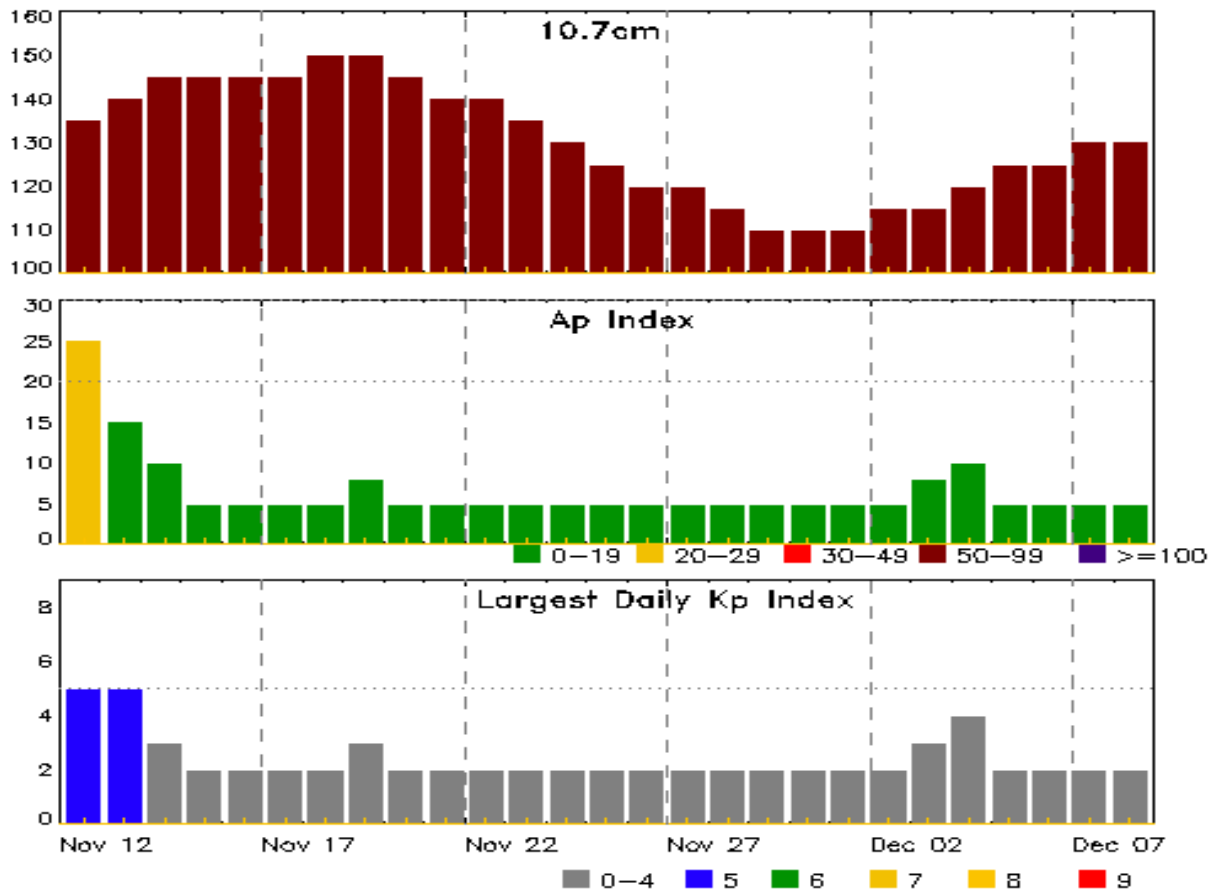


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
07 Nov 2030	WARNING: Geomagnetic K = 4	07/2030 - 08/0000
07 Nov 2101	ALERT: Geomagnetic K = 4	07/2100
08 Nov 0259	ALERT: Type II Radio Emission	08/0220
10 Nov 2015	WATCH: Geomagnetic Storm Category G1 predicted	
11 Nov 0302	ALERT: Type II Radio Emission	11/0228



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
12 Nov	135	25	5	26 Nov	120	5	2
13	140	15	5	27	120	5	2
14	145	10	3	28	115	5	2
15	145	5	2	29	110	5	2
16	145	5	2	30	110	5	2
17	145	5	2	01 Dec	110	5	2
18	150	5	2	02	115	5	2
19	150	8	3	03	115	8	3
20	145	5	2	04	120	10	4
21	140	5	2	05	125	5	2
22	140	5	2	06	125	5	2
23	135	5	2	07	130	5	2
24	130	5	2	08	130	5	2
25	125	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
08 Nov	0208	0223	0255	M1.7	0.030			1611	110		3	
11 Nov	0211	0233	0252	M1.0	0.017			1614			1	

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
05 Nov	1000	1006	1015	B4.0			
05 Nov	1156	1201	1209	B6.6			
05 Nov	1830	1839	1847	C2.3			
06 Nov	0017	0021	0028	B3.0			1606
06 Nov	0452	0459	0506	B7.6			
06 Nov	0507	0511	0521	B7.5			
07 Nov	1017	1027	1039	B6.2			
07 Nov	1229	1237	1247	B5.1			
07 Nov	1700	1705	1715	B3.6			
08 Nov	0208	0223	0255	M1.7			1611
08 Nov	2219	2238	2257	B6.6	1F	N15E65	1611
08 Nov	2334	2338	2340	B6.2			1610
09 Nov	0012	0151	0241	C1.0			1604
09 Nov	1041	1054	1101	B5.2			
09 Nov	1802	1818	1827	B7.6			1610
09 Nov	2315	2353	0016	B7.5			1610
10 Nov	0122	0132	0144	C1.0			
10 Nov	0422	0504	0547	C2.0			1608
10 Nov	1053	1103	1131	C1.3			1611
10 Nov	1615	1620	1625	C1.0			
10 Nov	1715	1724	1744	C1.0			
10 Nov	2013	2019	2025	C1.2			1607
10 Nov	2130	2133	2137	C1.5			1607
10 Nov	2315	2334	2351	C1.1			
11 Nov	0045	0054	0104	C1.3			1614
11 Nov	0211	0233	0252	M1.0			1614
11 Nov	0518	0530	0546	C1.6			
11 Nov	1902	1906	1909	C1.2			1610



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 1602

29 Oct	S17E65	12	20	1	Hrx	1	A										
30 Oct	S19E50	12	30	1	Hrx	1	A										
31 Oct	S19E37	12	30	1	Hax	1	A										
01 Nov	S19E27	10	80	3	Cao	3	B										
02 Nov	S19E13	11	60	3	Hax	2	A										
03 Nov	S19W01	12	20	1	Hrx	1	A										
04 Nov	S19W15	13	10	1	Axx	1	A										
05 Nov	S19W29	16	plage														
06 Nov	S19W43	16	plage														
07 Nov	S19W57	16	plage														
08 Nov	S19W71	16	plage														
09 Nov	S19W85	17	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 12

Region 1603

01 Nov	N08W18	55	10	2	Bxo	2	B										
02 Nov	N08W32	57	plage														
03 Nov	N08W46	57	plage														
04 Nov	N08W60	58	plage														
05 Nov	N08W74	61	plage														
06 Nov	N08W88	61	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 55



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 1604

03 Nov	N08E48	322	10	5	Bxo	2	B										
04 Nov	N07E33	324	plage														
05 Nov	N07E19	327	plage														
06 Nov	N07E05	327	plage														
07 Nov	N07W09	330	plage														
08 Nov	N07W24	329	plage														
09 Nov	N07W39	331	plage						1								
10 Nov	N07W54	333	plage														
11 Nov	N07W69	335	plage														
									1	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 327

Region 1605

04 Nov	N17E24	333	10	4	Bxo	2	B										
05 Nov	N17E10	336	10	1	Axx	2	A										
06 Nov	N18W04	339	10	1	Axx	1	A										
07 Nov	N18W18	340	10	1	Axx	1	A										
08 Nov	N18W32	337	plage														
09 Nov	N18W46	338	plage														
10 Nov	N18W60	339	plage														
11 Nov	N18W74	340	plage														
									0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 339

Region 1606

04 Nov	S16E45	310	20	2	Cro	2	B										
05 Nov	S16E31	313	10	1	Axx	1	A										
06 Nov	S15E18	316	10	1	Axx	1	A										
07 Nov	S15E04	318	10	4	Bxo	3	B										
08 Nov	S15W10	315	plage														
09 Nov	S15W24	316	plage														
10 Nov	S15W38	317	plage														
11 Nov	S15W52	318	plage														
									0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 318



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 1607

05 Nov	N12W47	35	10	3	Bxo	3	B											
06 Nov	N12W61	36	60	5	Cso	7	B											
07 Nov	N12W74	36	90	6	Cso	5	B											
08 Nov	N12W87	32	90	6	Dso	2	B											
									0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 35

Region 1608

05 Nov	S20E62	283	10	1	Hrx	1	A											
06 Nov	S20E48	286	20	1	Hrx	1	A											
07 Nov	S20E35	287	10	1	Axx	1	A											
08 Nov	S20E23	282	10	1	Hrx	1	A											
09 Nov	S21E10	282	10	1	Hrx	2	A											
10 Nov	S20W03	282	10	1	Hrx	1	A	1										
11 Nov	S20W17	283	plage															
									1	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 282

Region 1609

06 Nov	S14E71	260	30	1	Hrx	1	A											
07 Nov	S14E58	263	150	7	Cso	5	B											
08 Nov	S15E45	260	40	7	Cso	4	B											
09 Nov	S15E32	260	10	6	Cro	2	B											
10 Nov	S15E16	263	10	1	Hax	1	A											
11 Nov	S15E01	264	10	1	Hrx	1	A											
									0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 264



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

Region 1610

07 Nov	S22E55	267	10	6	Bxo	2	B										
08 Nov	S24E36	269	0	1	Axx	1	A										
09 Nov	S23E32	260	20	5	Dai	2	B										
10 Nov	S23E15	264	90	6	Dai	6	B										
11 Nov	S25E02	263	150	9	Dai	18	B	1									
								1	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 263

Region 1611

08 Nov	N12E66	239	200	8	Dso	2	B		1				1				
09 Nov	N13E52	240	270	10	Eso	8	BG										
10 Nov	N12E41	238	170	11	Eso	9	B	1									
11 Nov	N12E27	238	210	10	Dso	9	BG										
								1	1	0	0	1	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 238

Region 1612

08 Nov	N06E71	234	70	1	Hsx	1	A										
09 Nov	N07E59	233	100	2	Hsx	1	A										
10 Nov	N08E50	228	70	2	Hsx	1	A										
11 Nov	N05E36	229	60	2	Hsx	1	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 229

Region 1613

11 Nov	S21E57	207	70	2	Hsx	1	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

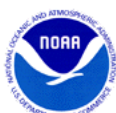
Absolute heliographic longitude: 207

Region 1614

11 Nov	N15E72	193	110	8	Dso	3	B	1	1								
								1	1	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 193



Region Summary - continued

Location		Sunspot Characteristics					Flares								
Date	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	4
<i>Region 1615</i>															
11 Nov	N09E61	205	10	5	Bxo	3	B	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 205

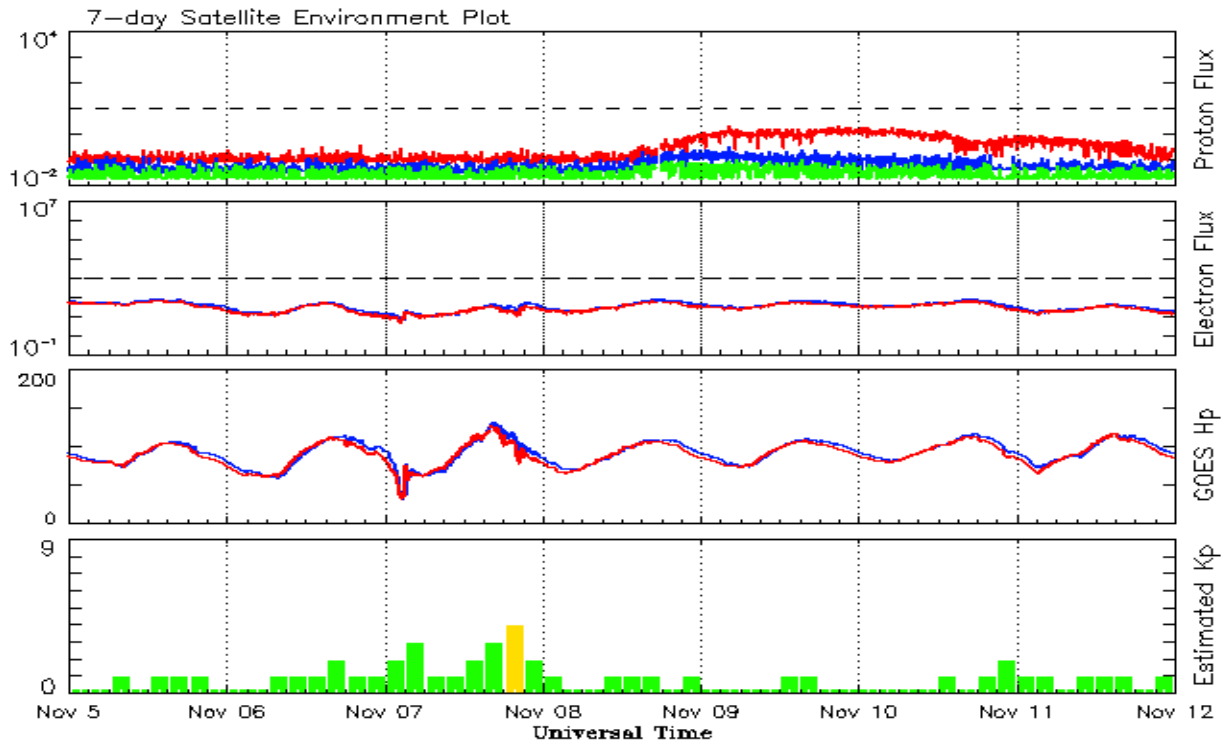


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2010									
November	36.1	21.5	0.60	40.5	26.5	82.5	87.7	5	6.4
December	22.0	14.4	0.66	43.8	28.8	84.3	89.6	4	6.5
2011									
January	32.1	18.8	0.59	47.2	30.9	83.7	91.2	6	6.7
February	53.2	29.6	0.55	50.6	33.4	94.5	92.7	6	6.8
March	81.0	55.8	0.69	55.2	36.9	115.3	95.8	7	7.2
April	81.7	54.4	0.67	61.5	41.8	112.6	100.4	9	7.5
May	61.4	41.6	0.68	69.0	47.6	95.9	105.6	9	7.5
June	55.5	37.0	0.67	76.5	53.2	95.8	110.9	8	7.4
July	67.0	43.8	0.66	82.5	57.3	94.2	115.4	9	7.3
August	66.1	50.6	0.77	84.9	59.0	101.7	117.9	8	7.4
September	106.4	78.0	0.73	84.6	59.5	134.5	118.4	13	7.7
October	116.8	88.0	0.75	84.6	59.9	137.2	118.4	7	8.0
November	133.1	96.7	0.73	86.3	61.1	153.1	119.5	3	8.0
December	106.3	73.0	0.69	89.2	63.4	141.2	121.6	3	8.0
2012									
January	91.3	58.3	0.64	92.0	65.5	133.1	124.4	6	8.3
February	50.1	32.9	0.66	94.2	66.9	106.7	126.7	7	8.4
March	77.9	64.3	0.82	94.1	66.8	115.1	126.8	14	8.1
April	84.4	55.2	0.65	91.3	64.6	113.1	125.8	9	8.0
May	99.5	69.0	0.69			121.5		8	
June	88.6	64.5	0.73			120.5		10	
July	99.6	66.5	0.67			135.6		13	
August	85.8	63.1	0.74			115.7		7	
September	84.0	61.5	0.73			123.2		8	
October	73.5	53.3	0.73			123.3		9	

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 05 November 2012*

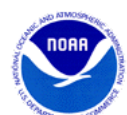
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

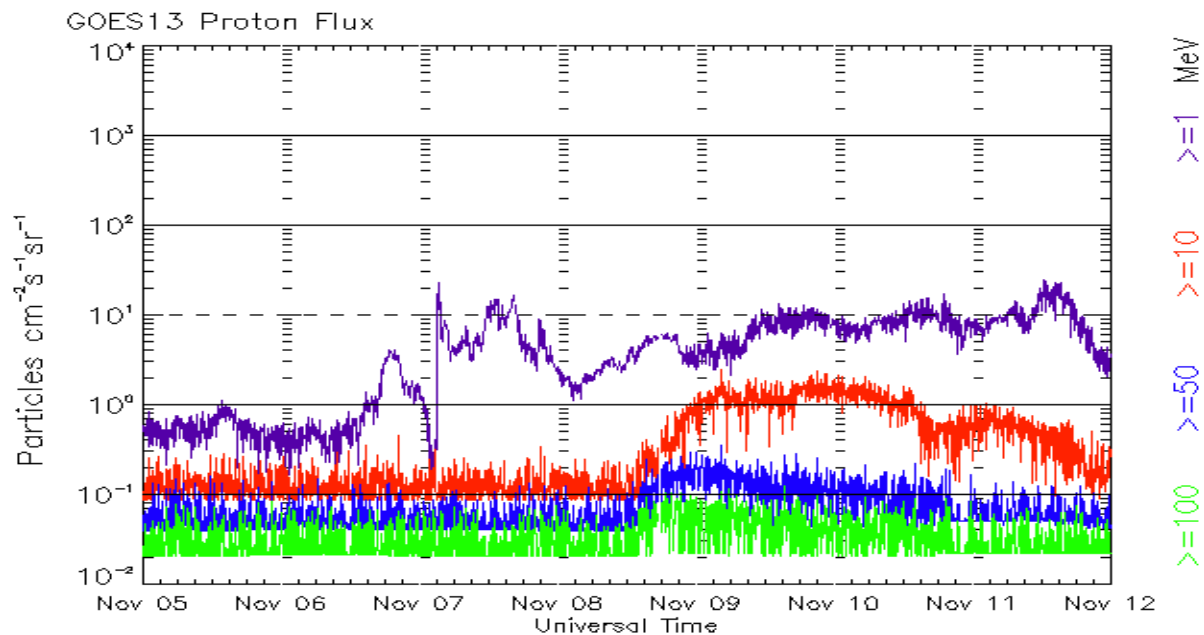
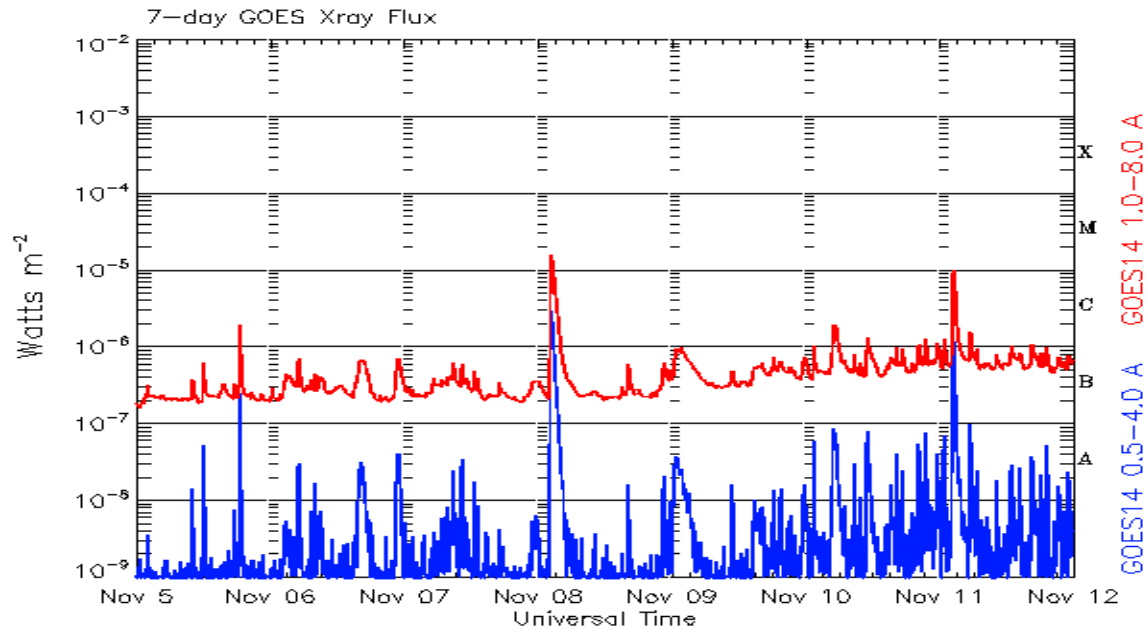
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 05 November 2012*

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.



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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<http://spaceweather.gov/weekly/> -- Current and previous year

<http://spaceweather.gov/ftpmenu/warehouse.html> -- Online archive from 1997

<http://spaceweather.gov/ftpmenu/> -- Some content as ascii text

<http://spaceweather.gov/SolarCycle/> -- Solar Cycle Progression web site

<http://spaceweather.gov/contacts.html> -- Contact and Copyright information

http://spaceweather.gov/weekly/Usr_guide.pdf -- User Guide

