

Solar activity was very low throughout the period under a spotless disk. The only activity was an eruptive filament observed in the NE quadrant beginning at 10/0630 UTC in SDO/AIA 304 imagery. An associated CME was observed off the eastern limb in SOHO/LASCO C2 imagery beginning at 10/0824 UTC, however subsequent analysis showed no Earth-directed component. No Earth-directed CMEs were observed.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal levels on 06-07 Nov and reached high levels on 08-12 Nov. The largest flux of the period was 25,349 pfu observed at 11/1435 UTC.

Geomagnetic field activity was at quiet to G2 (Moderate) storm levels over the period. The period began with solar wind speeds between 285-355 km/s and total field around 4 nT. At approximately 07/0300 UTC, phi angle switched from a negative solar sector to positive. Additionally, an increase in solar wind speed and total field was observed due to the arrival of a co-rotating interaction region preceding a positive polarity, polar connected, coronal hole high speed stream (CH HSS). Total field reached a maximum of 23 nT at 07/1545 UTC while the Bz component reached a maximum southward deflection of -15 nT at 07/1508 UTC. Solar wind speed reached double peaks of 699 km/s at 08/0004 UTC and 719 km/s at 10/1257 UTC before slowly receding to end of period values near 430 km/s. The geomagnetic field responded with quiet levels on 06 Nov, reached G1-G2 (Minor-Moderate) levels on 07-08 Nov, reached unsettled to active levels on 09-10 Nov, and calmed to mostly quiet conditions on 11-12 Nov.

Space Weather Outlook

13 November - 09 December 2017

Solar activity is expected to be at very low levels.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 13-14 Nov, 16-24 Nov, and 05-09 Dec due to recurrent CH HSS influence.

Geomagnetic field activity is expected to be at unsettled to active levels on 14-23 Nov, 29-30 Nov, and 04-08 Dec with G1 (Minor) levels likely on 20-22 Nov, 04-07 Dec and G2 (Moderate) levels likely on 04-05 Dec due to recurrent CH HSS effects.



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
06 November	69	0	0	A3.7	0	0	0	0	0	0	0	0
07 November	68	0	0	A3.4	0	0	0	0	0	0	0	0
08 November	68	0	0	A3.6	0	0	0	0	0	0	0	0
09 November	66	0	0	A3.9	0	0	0	0	0	0	0	0
10 November	69	0	0	A3.9	0	0	0	0	0	0	0	0
11 November	67	0	0	A4.1	0	0	0	0	0	0	0	0
12 November	69	0	0	A5.4	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
	06 November		9.5e+06	1.5e+04	3.6e+03	
07 November		1.8e+06	1.5e+04	3.5e+03		5.2e+05
08 November		3.9e+07	1.5e+04	3.2e+03		4.8e+07
09 November		3.3e+07	1.5e+04	3.5e+03		4.7e+08
10 November		2.6e+07	1.6e+04	3.3e+03		4.5e+08
11 November		2.1e+07	1.5e+04	3.4e+03		9.5e+08
12 November		2.6e+07	1.6e+04	3.5e+03		9.6e+08

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	06 November	0	0-0-0-0-0-0-1-0	0	0-0-0-0-0-0-0-0	2
07 November	26	1-3-4-4-3-3-4-6	42	0-2-5-6-4-5-6-5	36	1-3-4-5-4-4-6-6
08 November	39	6-5-3-5-5-4-3-4	82	5-6-6-7-7-7-3-3	47	6-6-3-5-5-5-3-5
09 November	11	3-3-2-2-2-3-2-3	45	3-3-6-6-6-5-4-3	20	4-4-3-3-3-4-3-4
10 November	13	3-3-3-2-3-3-2-3	53	3-3-6-7-6-6-2-2	21	3-4-4-4-4-4-3-3
11 November	7	3-2-3-2-1-1-1-1	16	3-2-3-5-4-2-1-1	8	3-2-2-2-2-1-1-1
12 November	4	0-2-1-1-1-1-1-2	4	1-1-0-3-2-0-0-1	5	1-2-1-1-1-1-2-2



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
06 Nov 1923	WATCH: Geomagnetic Storm Category G1 predicted	
07 Nov 0316	WARNING: Geomagnetic K = 4	07/0315 - 1500
07 Nov 0746	WARNING: Geomagnetic K = 5	07/0745 - 1500
07 Nov 0859	ALERT: Geomagnetic K = 4	07/0859
07 Nov 1154	EXTENDED WARNING: Geomagnetic K = 4	07/0315 - 2100
07 Nov 1155	ALERT: Geomagnetic K = 5	07/1155
07 Nov 1413	EXTENDED WARNING: Geomagnetic K = 4	07/0315 - 08/0700
07 Nov 1413	EXTENDED WARNING: Geomagnetic K = 5	07/0745 - 2200
07 Nov 1830	WARNING: Geomagnetic K = 6	07/1830 - 2100
07 Nov 1840	ALERT: Geomagnetic K = 5	07/1835
07 Nov 1924	ALERT: Geomagnetic K = 6	07/1921
07 Nov 2015	EXTENDED WARNING: Geomagnetic K = 5	07/0745 - 08/0300
07 Nov 2116	WATCH: Geomagnetic Storm Category G1 predicted	
07 Nov 2239	ALERT: Geomagnetic K = 5	07/2238
07 Nov 2304	WARNING: Geomagnetic K = 6	07/2305 - 08/0600
07 Nov 2304	EXTENDED WARNING: Geomagnetic K = 5	07/0745 - 1200
07 Nov 2316	EXTENDED WARNING: Geomagnetic K = 5	07/0745 - 08/1200
07 Nov 2317	ALERT: Geomagnetic K = 6	07/2317
07 Nov 2340	EXTENDED WARNING: Geomagnetic K = 4	07/0315 - 08/1500
08 Nov 0148	ALERT: Geomagnetic K = 5	08/0147
08 Nov 0231	ALERT: Geomagnetic K = 6	08/0230
08 Nov 0406	ALERT: Geomagnetic K = 5	08/0405
08 Nov 0430	ALERT: Geomagnetic K = 6	08/0429
08 Nov 1005	ALERT: Geomagnetic K = 5	08/1005
08 Nov 1010	EXTENDED WARNING: Geomagnetic K = 4	07/0315 - 08/2100
08 Nov 1010	EXTENDED WARNING: Geomagnetic K = 5	07/0745 - 08/1800
08 Nov 1118	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1100
08 Nov 1342	ALERT: Geomagnetic K = 5	08/1339
08 Nov 1740	EXTENDED WARNING: Geomagnetic K = 5	07/0745 - 09/0300

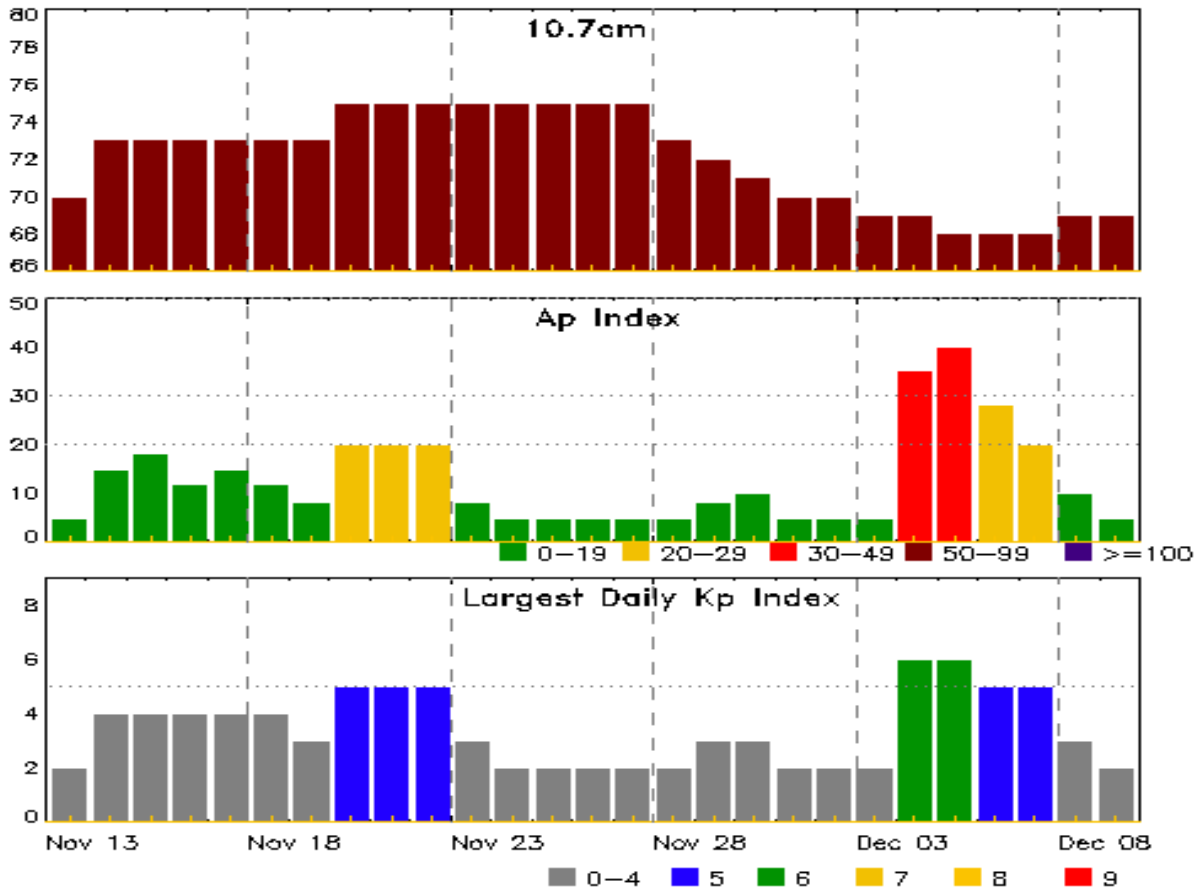


Alerts and Warnings Issued

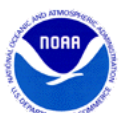
Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Nov 1740	EXTENDED WARNING: Geomagnetic K = 4	07/0315 - 09/0600
08 Nov 1802	ALERT: Geomagnetic K = 5	08/1758
08 Nov 2037	WATCH: Geomagnetic Storm Category G1 predicted	
08 Nov 2359	ALERT: Geomagnetic K = 5	08/2359
09 Nov 0555	EXTENDED WARNING: Geomagnetic K = 4	07/0315 - 09/1500
09 Nov 0755	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1100
09 Nov 1613	WARNING: Geomagnetic K = 4	09/1615 - 2359
09 Nov 1743	ALERT: Geomagnetic K = 4	09/1735
09 Nov 2328	EXTENDED WARNING: Geomagnetic K = 4	09/1615 - 10/1800
10 Nov 0500	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1100
10 Nov 1502	ALERT: Geomagnetic K = 4	10/1459
10 Nov 1650	EXTENDED WARNING: Geomagnetic K = 4	09/1615 - 11/1200
11 Nov 0501	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1100
11 Nov 1153	EXTENDED WARNING: Geomagnetic K = 4	09/1615 - 11/1800
11 Nov 1157	CANCELLATION: Geomagnetic Storm Category G1 predicted	
12 Nov 0501	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08/1100



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
13 Nov	70	5	2	27 Nov	75	5	2
14	73	15	4	28	73	5	2
15	73	18	4	29	72	8	3
16	73	12	4	30	71	10	3
17	73	15	4	01 Dec	70	5	2
18	73	12	4	02	70	5	2
19	73	8	3	03	69	5	2
20	75	20	5	04	69	35	6
21	75	20	5	05	68	40	6
22	75	20	5	06	68	28	5
23	75	8	3	07	68	20	5
24	75	5	2	08	69	10	3
25	75	5	2	09	69	5	2
26	75	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

No Events Observed

Flare List

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
12 Nov	2000	2020	2029	B1.8			
12 Nov	2256	2300	2303	B2.4			



Region Summary

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

No Active Regions

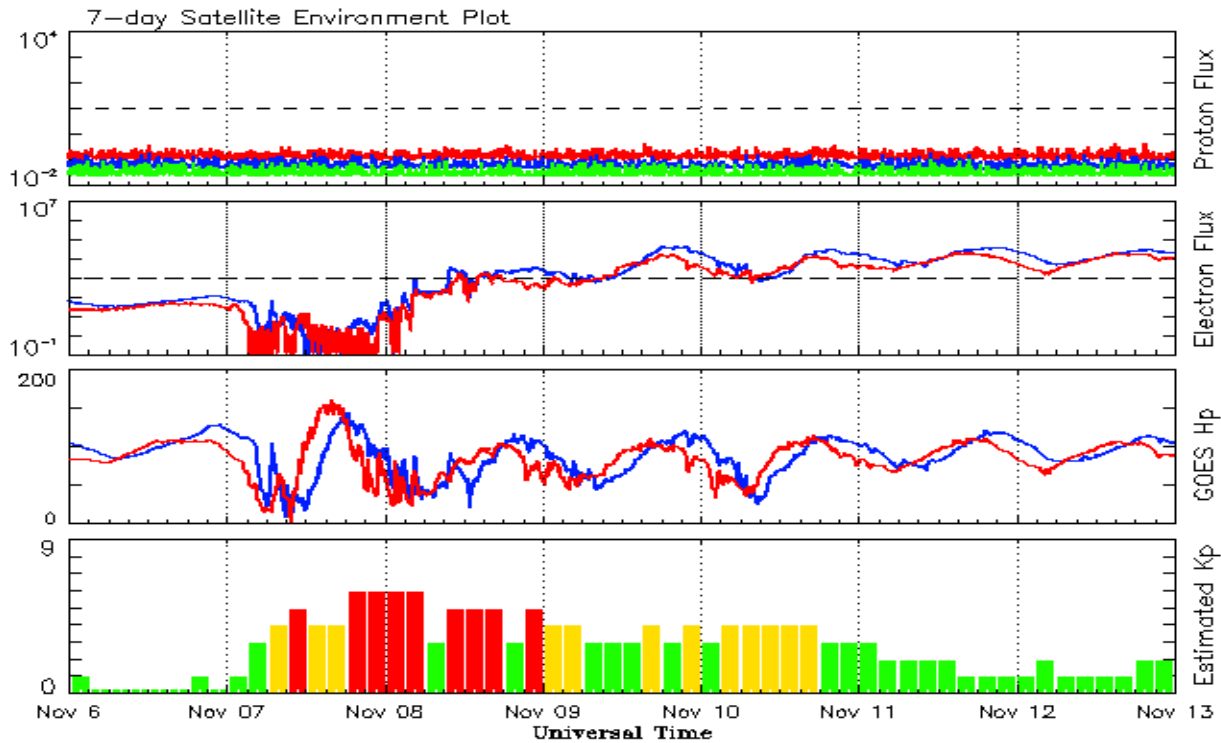


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2015									
November	61.8	37.3	0.61	59.0	36.7	109.6	105.3	13	12.5
December	54.1	34.8	0.64	55.1	34.7	112.8	102.5	15	12.5
2016									
January	50.4	34.2	0.67	51.4	32.6	103.5	99.9	10	12.3
February	56.0	33.8	0.61	49.6	31.5	103.5	98.1	10	12.0
March	40.9	32.5	0.80	47.7	30.2	91.6	96.6	11	11.8
April	39.2	22.7	0.58	45.0	28.7	93.4	95.3	10	11.8
May	48.9	30.9	0.64	42.1	26.9	93.1	93.2	12	11.7
June	19.3	12.3	0.65	39.0	24.9	81.9	90.4	9	11.4
July	36.8	19.4	0.53	36.5	23.1	85.9	87.7	10	11.2
August	50.4	30.1	0.60	34.2	21.6	85.0	85.5	10	11.2
September	37.4	26.8	0.72	32.1	19.9	87.8	83.7	16	11.3
October	30.0	20.0	0.67	31.1	18.9	86.1	82.5	16	11.6
November	22.4	12.8	0.57	29.4	17.9	78.7	81.1	10	11.6
December	17.6	11.1	0.64	28.1	17.1	75.1	80.0	10	11.4
2017									
January	28.1	15.7	0.55	27.3	16.7	77.4	79.4	10	11.3
February	22.0	15.8	0.71	25.5	15.9	76.9	78.7	10	11.3
March	25.4	10.6	0.42	24.6	15.5	74.6	78.6	15	11.5
April	30.4	19.4	0.64	24.3	14.9	80.9	78.4	13	11.5
May	18.1	11.3	0.62			73.5		9	
June	18.0	11.5	0.64			74.8		7	
July	18.8	11.0	0.59			77.7		9	
August	25.0	19.9	0.80			77.9		12	
September	42.2	26.2	0.62			92.0		19	
October	16.0	7.9	0.49			76.4		11	

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 06 November 2017*

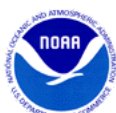
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

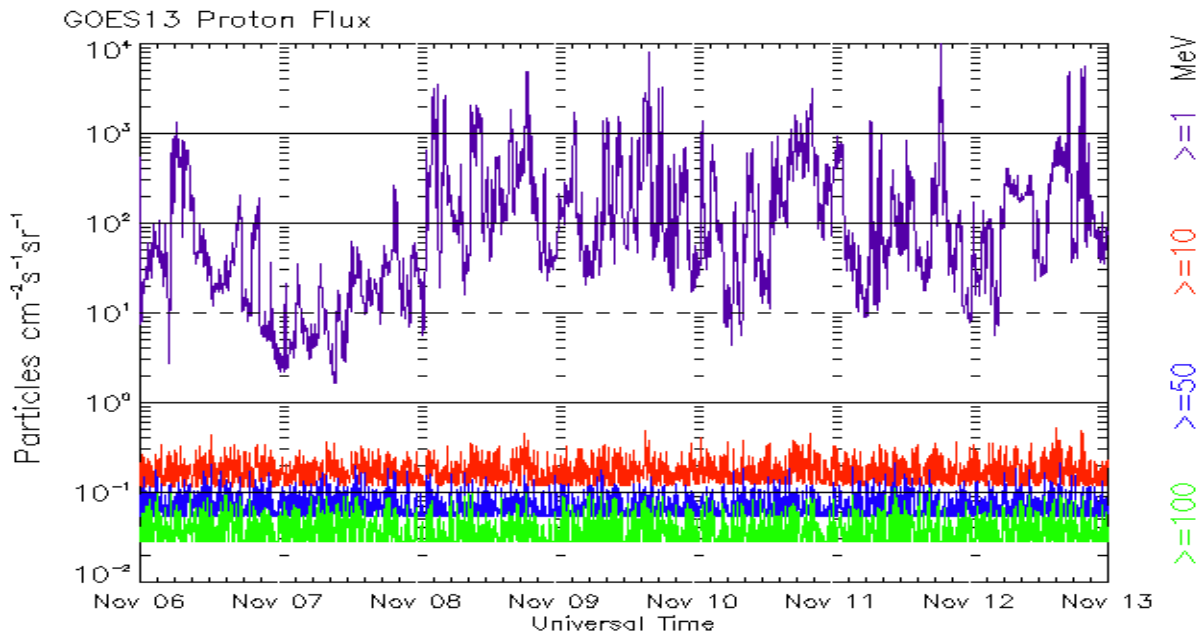
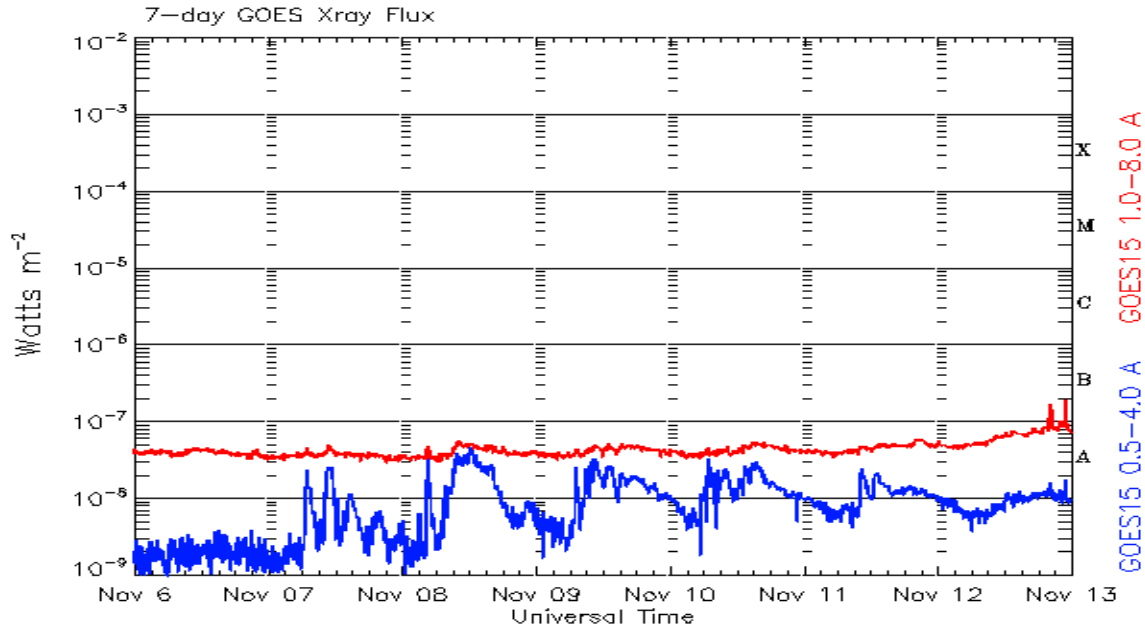
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 06 November 2017*

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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