

Solar activity was low. Isolated to occasional C-class flares occurred on each day of the period. Regions 1302 (N13, L=280, class/area Fkc/1070 on 28 September), 1305 (N12, L=248, class/area Chi/250 on 03 October), and 1313 (S15, L=117, class/area Dai/180 on 06 October) were the principal flare producers during the period. The largest flare of the period was a C9/Sf at 05/1242 UTC from Region 1313. No earth-directed CMEs were observed during the period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels during 03 - 05 October. Normal to moderate levels were observed during 06 - 09 October.

Geomagnetic field activity was at quiet to unsettled levels during 03 - 04 October. Activity increased to quiet to minor storm levels on 05 October following a geomagnetic sudden impulse at 05/0742 UTC (19 nT, Boulder USGS magnetometer), with major storm levels observed at high latitudes, due to multiple CME passages at Earth. Activity decreased to quiet to unsettled levels during 06 - 08 October. An increase to quiet to (briefly) active levels occurred on 09 October associated with a solar sector boundary change.

### **Space Weather Outlook** **12 October - 07 November 2011**

Solar activity is expected to be at very low to low levels during 12 - 17 October, with a slight chance for moderate levels. An increase to low levels is expected during 18 - 23 October, with a chance for moderate levels and a slight chance for high levels; due to the returns of old Regions 1302 and 1305 on 18 October and 20 October, respectively.

No proton events are expected at geosynchronous orbit. There will be a slight chance for a proton event at geosynchronous orbit during 18 - 31 October due to the return of old Region 1302.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels during 12 - 27 October. Flux levels are expected to increase to moderate to high levels during 28 October - 01 November in response to coronal hole high-speed stream (CH HSS) effects. Flux levels are expected to decrease to normal to moderate levels during 02 - 07 November.

Geomagnetic field activity is expected to be at quiet levels during most of the period. However, quiet to unsettled levels are expected during 15 - 17 October, 28 - 30 October, and 03 - 05 November due to CH HSS effects.



### *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
03 October	129	85	785	B3.9	2	0	0	3	0	1	0	0
04 October	130	126	1015	B4.3	1	0	0	1	0	0	0	0
05 October	127	100	850	B5.6	5	0	0	4	0	0	0	0
06 October	124	99	880	B4.4	3	0	0	6	0	0	0	0
07 October	122	88	790	B3.9	4	0	0	3	1	0	0	0
08 October	118	61	450	B3.3	1	0	0	0	0	0	0	0
09 October	121	71	600	B3.0	1	0	0	0	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
	03 October	4.5e+05	1.3e+04	3.2e+03		9.8e+07
04 October	4.9e+05	1.5e+04	3.4e+03		1.3e+08	
05 October	1.6e+06	1.6e+04	2.7e+03		4.0e+07	
06 October	1.2e+06	1.4e+04	2.8e+03		1.1e+07	
07 October	4.9e+05	1.3e+04	3.1e+03		4.0e+06	
08 October	1.6e+06	1.3e+04	3.2e+03		7.0e+06	
09 October	2.0e+05	1.2e+04	2.9e+03		1.0e+06	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	03 October	3	0-0-1-1-2-1-1-1	11	0-0-4-4-3-3-1-1	6
04 October	4	1-0-2-1-2-2-1-0	10	1-0-4-4-2-3-1-0	6	2-0-2-2-2-2-2-1
05 October	12	1-2-2-3-3-3-3-3	32	1-1-1-6-6-6-2-1	20	2-2-2-3-5-5-3-3
06 October	6	1-2-1-1-2-2-2-2	10	2-2-1-1-4-4-1-1	7	1-2-1-1-2-3-2-2
07 October	4	2-2-2-1-1-0-1-1	14	1-2-5-5-0-0-2-0	7	2-2-2-2-1-1-1-2
08 October	5	0-1-2-0-1-1-3-2	6	0-0-2-3-1-2-2-2	7	1-1-1-1-2-2-3-3
09 October	8	3-3-2-2-1-2-1-2	13	3-3-4-4-3-1-1-0	13	3-4-3-3-2-2-2-3

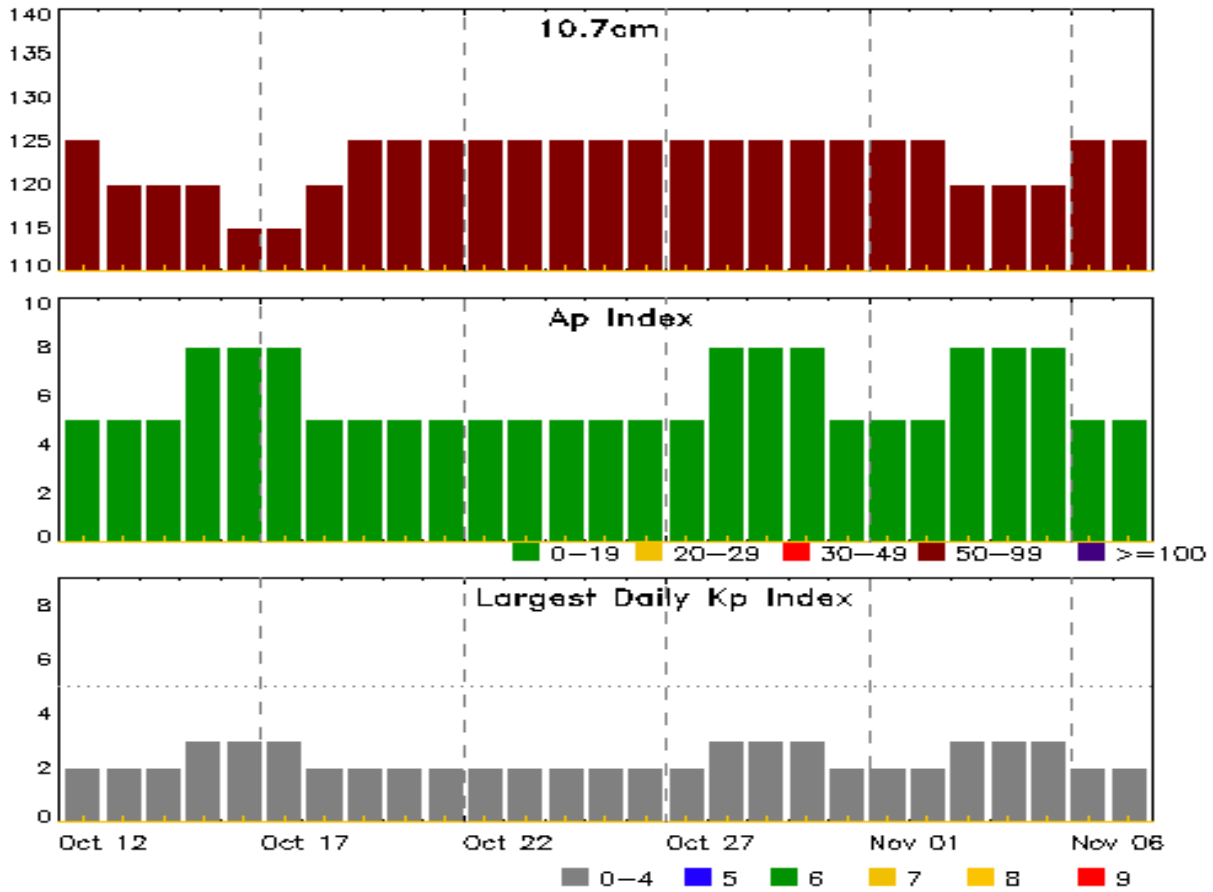


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
03 Oct 1101	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	02/1355
04 Oct 1106	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	02/1355
05 Oct 0800	SUMMARY: Geomagnetic Sudden Impulse	05/0742
05 Oct 0805	WARNING: Geomagnetic K = 4	05/0805 - 1500
05 Oct 1237	ALERT: Geomagnetic K = 4	05/1237
05 Oct 1311	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	02/1355
05 Oct 1315	WARNING: Geomagnetic K = 5	05/1315 - 2359
05 Oct 1316	EXTENDED WARNING: Geomagnetic K = 4	05/0805 - 2359
05 Oct 1703	ALERT: Geomagnetic K = 5	05/1702
05 Oct 2339	EXTENDED WARNING: Geomagnetic K = 4	05/0805 - 06/1200
08 Oct 2318	WARNING: Geomagnetic K = 4	08/2345 - 09/0600
09 Oct 0348	ALERT: Geomagnetic K = 4	09/0348
09 Oct 0400	WARNING: Geomagnetic K = 5	09/0415 - 0600
09 Oct 0458	EXTENDED WARNING: Geomagnetic K = 4	08/2345 - 09/0900
09 Oct 0856	EXTENDED WARNING: Geomagnetic K = 4	08/2345 - 1500



## 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 Oct	125	5	2	26 Oct	125	5	2
13	120	5	2	27	125	5	2
14	120	5	2	28	125	8	3
15	120	8	3	29	125	8	3
16	115	8	3	30	125	8	3
17	115	8	3	31	125	5	2
18	120	5	2	01 Nov	125	5	2
19	125	5	2	02	125	5	2
20	125	5	2	03	120	8	3
21	125	5	2	04	120	8	3
22	125	5	2	05	120	8	3
23	125	5	2	06	125	5	2
24	125	5	2	07	125	5	2
25	125	5	2				



## *Energetic Events*

Date	Time			X-ray	Optical Information			Peak		Sweep Freq		
	Begin	Max	Half	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
			Max						245	2695	II	IV

**No Events Observed**

## *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
03 Oct	0001	0026	0157	C7.6	2N	N14W55	1302
03 Oct	0234	0244	0253	C2.1	SF	N08W62	1302
03 Oct	0654	0655	0659		SF	N09W64	1302
03 Oct	2008	2015	A2031		SF	N15W67	1302
04 Oct	0856	0923	1002	C7.3	SF	N13W72	1302
05 Oct	0011	0025	0104	C2.3			1302
05 Oct	0350	0353	0359	C1.1			1313
05 Oct	0738	0743	0747	C2.3	SF	S11E79	1313
05 Oct	B1008	U1014	A1022		SF	S13E68	1313
05 Oct	1043	1122	1137	C6.1	SF	S13E68	1313
05 Oct	1236	1242	1256	C9.2	SF	S13E74	1313
05 Oct	2234	2237	2239	B8.7			
06 Oct	0411	0418	0425	C1.4			1313
06 Oct	0912	0944	1009	C1.9	SF	S13E34	
06 Oct	1350	1353	1357		SF	N09W75	1305
06 Oct	1624	1626	1628		SF	N10W77	1305
06 Oct	1722	1727	1731		SF	N11W78	1305
06 Oct	2119	2123	2125	B8.5			
06 Oct	2206	2210	2213	C1.2	SF	N10W82	1305
06 Oct	2312	2317	2319	B8.9			
06 Oct	2331	2337	2339	B8.7	SF	N11W80	1305
07 Oct	0042	0047	0049	C1.0	1F	N11W85	1305
07 Oct	0114	0121	0130	C1.2	SF	S15E55	1313
07 Oct	0355	0403	0410	C2.5			
07 Oct	0448	0450	0452		SF	N10W88	1305
07 Oct	0516	0636	0652	B8.3			
07 Oct	0824	0832	0848	B9.1			
07 Oct	0925	0926	0930		SF	N12W78	1305
07 Oct	1853	1857	1901	C2.6			
07 Oct	1953	1956	2000	B6.7			
08 Oct	0413	0420	0446	C1.1			1309



## *Flare List*

Date	Time			Optical			Rgn #
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	
08 Oct	0743	0819	0836	B9.8			1313
08 Oct	0913	0917	0924	B7.0			1313
09 Oct	0645	0651	0658	B7.5			1314
09 Oct	0746	0750	0817	B6.1			1314
09 Oct	1322	1327	1333	C1.7			1314
09 Oct	1944	1950	1953	B6.0			



## 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 1302</b>																								
22 Sep	N11E74	282	480	11	Eki	2	BG	1	1	1		1	1											
23 Sep	N13E59	283	840	15	Ekc	10	BG	2	1			6	1											
24 Sep	N12E47	282	1300	17	Fkc	12	BGD	1	5	1		3	1	1										
25 Sep	N12E36	279	980	16	Ekc	18	BGD	2	5			9	2	2										
26 Sep	N13E23	279	950	15	Ekc	25	BG	7	2			15	1	1										
27 Sep	N13E08	280	980	18	Fkc	26	BGD	4				9												
28 Sep	N13W04	280	1070	18	Fkc	37	BGD	3	1			3	2											
29 Sep	N13W16	279	750	18	Fkc	23	BGD	1				5												
30 Sep	N13W29	278	750	17	Fkc	25	BGD	2				4												
01 Oct	N16W41	277	700	16	Fkc	16	BGD	2				4												
02 Oct	N16W55	278	410	16	Fkc	14	BGD	4	1			10	1											
03 Oct	N13W69	280	320	19	Fko	10	B	2				3		1										
04 Oct	N13W83	281	240	8	Dso	7	B	1				1												
								32	17	2		72	9	6	0	0								

Crossed West Limb.

Absolute heliographic longitude: 280

### Region 1305

25 Sep	N12E70	246	60	2	Hsx	1	A					1											
26 Sep	N13E58	244	80	9	Cso	2	B																
27 Sep	N12E41	247	80	2	Hsx	1	A																
28 Sep	N12E28	248	60	2	Hsx	5	A					1											
29 Sep	N13E16	247	100	5	Cso	8	BG	1				2											
30 Sep	N12E01	248	130	5	Dso	9	BG	1	1			2	1										
01 Oct	N12W12	248	170	6	Dso	14	BG	1	1			1	1										
02 Oct	N12W26	249	190	6	Dsi	9	BG	1	1			1	2										
03 Oct	N11W36	247	250	9	Chi	7	B																
04 Oct	N11W50	248	250	9	Chi	7	B																
05 Oct	N10W66	250	250	3	Cho	1	B																
06 Oct	N12W80	250	220	3	Cso	3	B	1				5											
07 Oct	N11W91	248	180	3	Hsx	1	A	1				2	1										
								6	3	0		15	5	0	0	0							

Crossed West Limb.

Absolute heliographic longitude: 248



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
<b>Region 1306</b>																		
26 Sep	N13E74	250	plage															
27 Sep	N13E59	230	20	1	Hsx	1	A											
28 Sep	N13E46	230	60	1	Hsx	1	A											
29 Sep	N14E34	229	30	1	Hsx	1	A											
30 Sep	N13E20	229	40	1	Hsx	1	A											
01 Oct	N14E07	229	20	1	Hsx	1	A											
02 Oct	N15W06	229	20	1	Hsx	1	A											
03 Oct	N14W20	230	30	1	Hsx	1	A											
04 Oct	N14W34	232	30	1	Hsx	1	A											
05 Oct	N14W47	230	10	1	Hrx	1	A											
06 Oct	N14W59	229	10	4	Cro	3	B											
07 Oct	N15W73	230	10	6	Axx	3	A											
08 Oct	N15W87	232	plage															
									0	0	0	0	0	0	0	0	0	0

Crossed West Limb.  
 Absolute heliographic longitude: 229

<b>Region 1307</b>																		
28 Sep	N14E75	201	10	4	Bxo	2	B											
29 Sep	N16E65	198	10	11	Bxo	4	B											
30 Sep	N14E48	201	30	10	Cso	3	B	1										
01 Oct	N14E37	199	30	10	Dro	4	B				1							
02 Oct	N15E22	200	30	12	Ero	5	B											
03 Oct	N13E05	205	15	1	Hrx	1	A											
04 Oct	N15W01	198	10	7	Bxo	4	B											
05 Oct	N17W11	194	10	4	Bxo	3	B											
06 Oct	N17W25	196	plage															
07 Oct	N17W39	197	plage															
08 Oct	N17W53	198	plage															
09 Oct	N17W67	199	plage															
									1	0	0	1	0	0	0	0	0	0

Still on Disk.  
 Absolute heliographic longitude: 198





### *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

#### *Region 1308*

01 Oct	S25E55	181	30	1	Hsx	1	A										
02 Oct	S25E43	180	30	1	Hrx	1	A										
03 Oct	S25E29	182	plage														
04 Oct	S25E15	183	plage														
05 Oct	S25E01	184	plage														
06 Oct	S25W13	184	plage														
07 Oct	S25W27	185	plage														
08 Oct	S25W41	186	plage														
09 Oct	S25W55	187	plage														
										0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 184

#### *Region 1309*

02 Oct	N23E67	156	80	4	Dso	2	B										
03 Oct	N24E55	155	160	4	Dao	3	B										
04 Oct	N24E42	156	160	4	Dao	6	B										
05 Oct	N24E28	156	160	3	Dso	3	B										
06 Oct	N22E14	156	170	3	Cso	5	B										
07 Oct	N23E02	156	80	3	Dso	4	B										
08 Oct	N22W11	155	70	4	Dso	3	B	1									
09 Oct	N23W24	155	70	1	Hsx	1	A										
										1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 156

#### *Region 1310*

03 Oct	S33E16	194	10	2	Bxo	3	B										
04 Oct	S33E02	195	45	6	Dao	8	B										
05 Oct	S32W10	194	30	8	Dro	3	B										
06 Oct	S33W23	194	30	10	Cro	4	B										
07 Oct	S34W38	196	10	2	Hrx	1	A										
08 Oct	S34W51	196	10	1	Axx	1	A										
09 Oct	S33W66	197	10		Axx	1	A										
										0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 195



**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 1311</b>																	
04 Oct	S12E20	176	70	12	Dai	12	B										
05 Oct	S11E07	176	90	6	Dso	4	B										
06 Oct	S12W07	177	60	3	Cso	3	B										
07 Oct	S11W22	179	50	4	Cso	2	B										
08 Oct	S13W36	180	50	1	Hsx	1	A										
09 Oct	S11W50	180	40	1	Hsx	1	A										
								0	0	0	0	0	0	0	0	0	

Still on Disk.  
Absolute heliographic longitude: 176

<b>Region 1312</b>																	
04 Oct	N22E74	122	210	4	Hsx	1	A										
05 Oct	N23E60	123	210	2	Hsx	1	A										
06 Oct	N22E48	122	210	2	Hsx	1	A										
07 Oct	N22E35	123	320	3	Hhx	1	A										
08 Oct	N23E21	122	200	3	Hsx	1	A										
09 Oct	N23E10	121	210	3	Hsx	1	A										
								0	0	0	0	0	0	0	0	0	

Still on Disk.  
Absolute heliographic longitude: 121

<b>Region 1313</b>																	
05 Oct	S13E65	118	90	5	Dai	4	B	4				4					
06 Oct	S15E52	118	180	8	Dai	10	B	1									
07 Oct	S16E39	118	140	6	Dsi	6	B	1				1					
08 Oct	S15E28	116	120	10	Dso	5	B										
09 Oct	S15E13	117	90	9	Dso	6	B										
								6	0	0	5	0	0	0	0	0	

Still on Disk.  
Absolute heliographic longitude: 117

<b>Region 1314</b>																	
09 Oct	N26E72	58	180	6	Hsx	1	A	1									
								1	0	0	0	0	0	0	0	0	

Still on Disk.  
Absolute heliographic longitude: 58

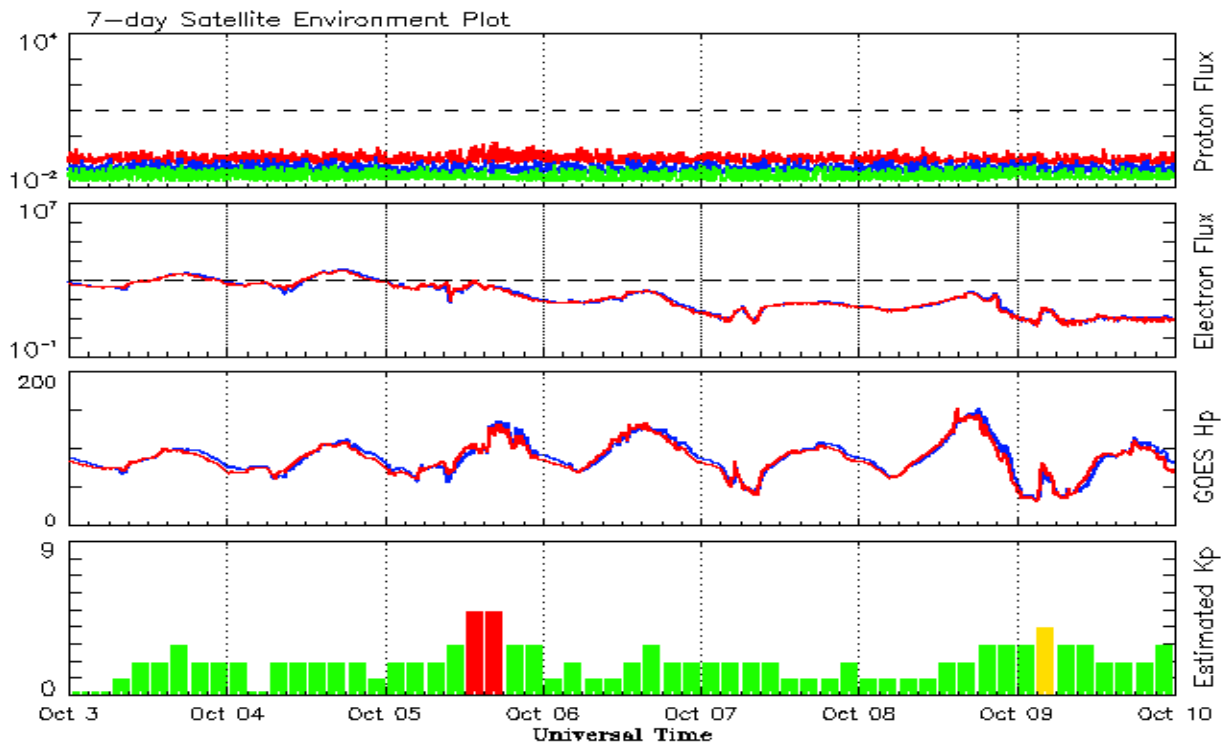


**Recent Solar Indices (preliminary)**  
**Observed monthly mean values**

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>2009</b>									
October	7.0	4.8	0.66	11.3	7.1	72.3	74.1	3	4.1
November	7.7	4.1	0.55	12.4	7.6	73.6	74.5	3	4.5
December	15.7	10.8	0.68	13.6	8.3	76.8	74.9	2	4.8
<b>2010</b>									
January	21.3	13.2	0.62	14.8	9.3	81.1	75.5	3	5.0
February	31.0	18.8	0.60	16.7	10.6	84.7	76.5	5	5.1
March	24.7	15.4	0.62	19.1	12.3	83.3	77.5	5	5.3
April	11.2	8.0	0.71	21.4	14.0	75.9	78.3	10	5.5
May	19.9	8.7	0.44	23.8	15.5	73.8	79.0	8	5.7
June	17.9	13.6	0.75	25.2	16.4	72.6	79.7	7	5.8
July	23.1	16.1	0.70	25.9	16.7	79.9	80.1	5	6.0
August	28.2	19.6	0.70	27.3	17.4	79.7	80.7	8	6.2
September	35.6	25.2	0.71	30.6	19.6	81.1	82.4	5	6.3
October	35.0	23.5	0.67	35.9	23.2	81.6	85.3	6	6.4
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
<b>2011</b>									
January	32.1	18.8	0.59	47.2	31.0	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			112.6		9	
May	61.4	41.6	0.68			95.9		9	
June	55.5	37.0	0.67			95.8		8	
July	67.0	43.9	0.66			94.2		9	
August	66.1	50.6	0.77			101.7		8	
September	106.4	78.0	0.73			134.5		13	

**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 03 October 2011*

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.

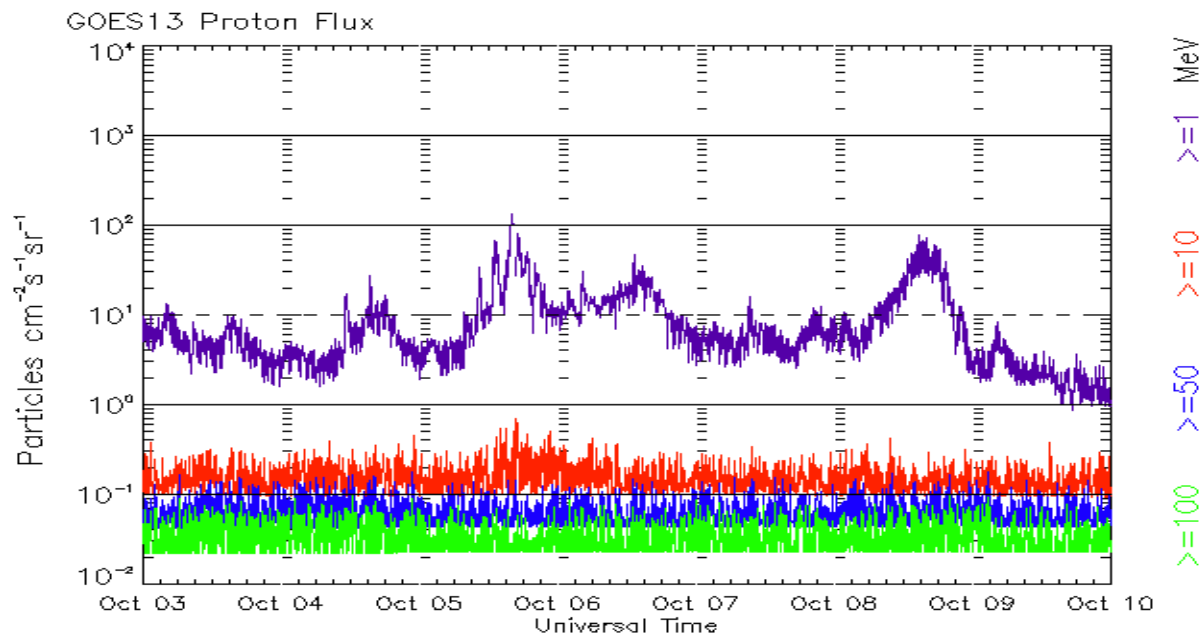
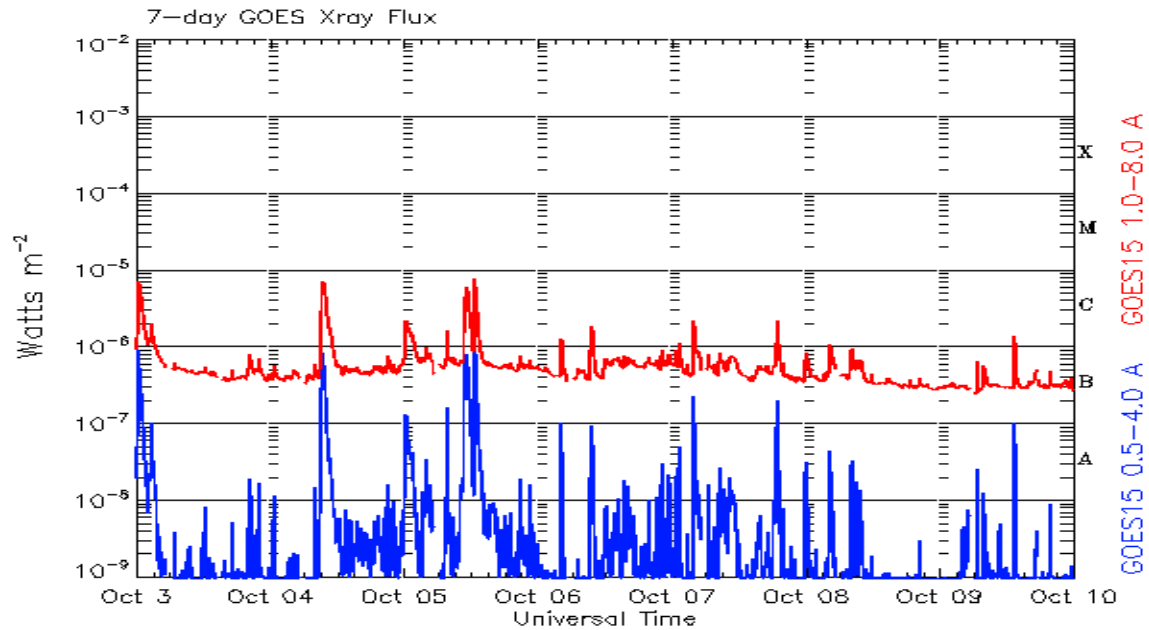
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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.

Kp plot contains the estimated planetary 3-hour K-index (derived by the Air Force Weather Agency) in real time from magnetometers at Meanook, Canada; Sitka, AK; Glenlea, Canada; St. Johns, Canada; Ottawa, Canada; Newport, WA; Fredericksburg, VA; Boulder, CO; Fresno, CA and Hartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC), British Geological Survey (BGS) and the US Geological Survey. These may differ from the final Kp values derived from a more extensive network of magnetometers.

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.

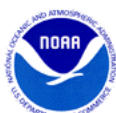




*Weekly GOES Satellite X-ray and Proton Plots  
Week Beginning 03 October 2011*

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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