

Solar activity was very low. A single B-class flare occurred on 05 October.

No proton events were observed at geosynchronous orbit.

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

The geomagnetic field was at quiet to unsettled levels during 01 – 02 October. Activity increased to unsettled to active levels during 03 – 04 October. Activity decreased to quiet to unsettled levels on 05 October. Activity decreased to quiet levels during the remainder of the period. ACE solar wind data indicated a recurrent coronal hole high-speed stream (HSS) was in progress at the start of the period (peak velocity 572.6 km/sec at 01/0152 UTC), but was gradually decreasing. Velocities continued to decrease through 02 October and eventually reached a minimum of 396.9 km/sec at 02/1959 UTC. Another recurrent coronal hole HSS began on 02 October and ended near the close of the period. The co-rotating interaction region (CIR) that preceded the HSS began late on 02 October and was associated with a gradual increase in velocities (peak 611.1 km/sec at 03/1555 UTC), a minor density increase (peak 8.6 p/cc at 02/2108 UTC); and a period of enhanced IMF Bt and Bz variability. CIR-related IMF changes included a period of increased Bt (peak 8.7 nT at 03/0130 UTC) and Bz fluctuations in the + 7.6 nT to - 6.7 nT range. The HSS began to subside on 04 October and velocities gradually decreased during the remainder of the period.

**Space Weather Outlook**  
**10 October – 05 November 2007**

Solar activity is expected to be very low.

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 10 October and again during 21 October – 05 November.

Geomagnetic activity is expected to be at quiet levels during through 16 October. An increase to quiet to unsettled levels is expected during 17 – 19 October. A further increase to unsettled to active levels is forecast for 20 October as a recurrent coronal hole high-speed stream affects the field. Activity is expected to decrease to quiet to unsettled levels during 21 – 24 October as the high-speed stream subsides. Activity is expected to increase to unsettled to minor storm levels during 25 – 26 October due to another recurrent coronal hole high-speed stream. Activity is expected to decrease to quiet to unsettled levels during the rest of the period.



### Daily Solar Data

Date	Radio Flux 10.7 cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background	Flares							
					X-ray Flux			Optical				
					C	M	X	S	1	2	3	4
01 October	68	12	20	<A1.0	0	0	0	0	0	0	0	0
02 October	66	0	0	<A1.0	0	0	0	0	0	0	0	0
03 October	67	0	0	<A1.0	0	0	0	0	0	0	0	0
04 October	67	0	0	<A1.0	0	0	0	0	0	0	0	0
05 October	68	0	0	<A1.0	0	0	0	0	0	0	0	0
06 October	69	15	60	<A1.0	0	0	0	0	0	0	0	0
07 October	68	13	20	<A1.0	0	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	>.6 MeV	>2MeV	>4 MeV
01 October	2.7E+6	1.7E+4	3.5E+3		1.5E+9	
02 October	1.7E+6	1.7E+4	4.0E+3		1.7E+9	
03 October	4.3E+6	1.7E+4	3.9E+3		2.2E+8	
04 October	1.8E+6	1.8E+4	3.9E+3		2.5E+8	
05 October	9.1E+5	1.7E+4	3.9E+3		2.9E+8	
06 October	6.9E+5	1.7E+4	4.1E+3		3.2E+8	
07 October	6.8E+5	1.8E+4	4.1E+3		3.5E+8	

### Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
01 October	7	2-2-2-2-1-1-3-1	14	1-2-3-5-4-2-0-1	8	2-2-3-2-2-2-1-2
02 October	5	2-2-2-1-0-0-1-3	4	1-1-2-3-0-0-0-1	9	2-2-2-1-2-3-2-3
03 October	9	2-3-2-2-3-2-2-2	30	2-4-5-5-6-3-2-2	18	3-4-3-3-4-3-3-3
04 October	8	4-2-2-2-1-2-2-0	18	3-3-2-5-4-3-2-2	10	4-3-2-2-2-2-1-1
05 October	5	2-3-2-1-1-0-1-0	10	1-4-4-1-3-1-0-0	7	2-3-2-1-1-2-2-2
06 October	3	1-0-1-1-1-1-2-1	7	0-0-1-3-4-2-1-0	5	1-0-1-2-2-2-1-2
07 October	1	1-0-0-0-1-0-0-0	2	1-0-1-1-2-0-0-0	4	1-0-0-1-2-2-1-1

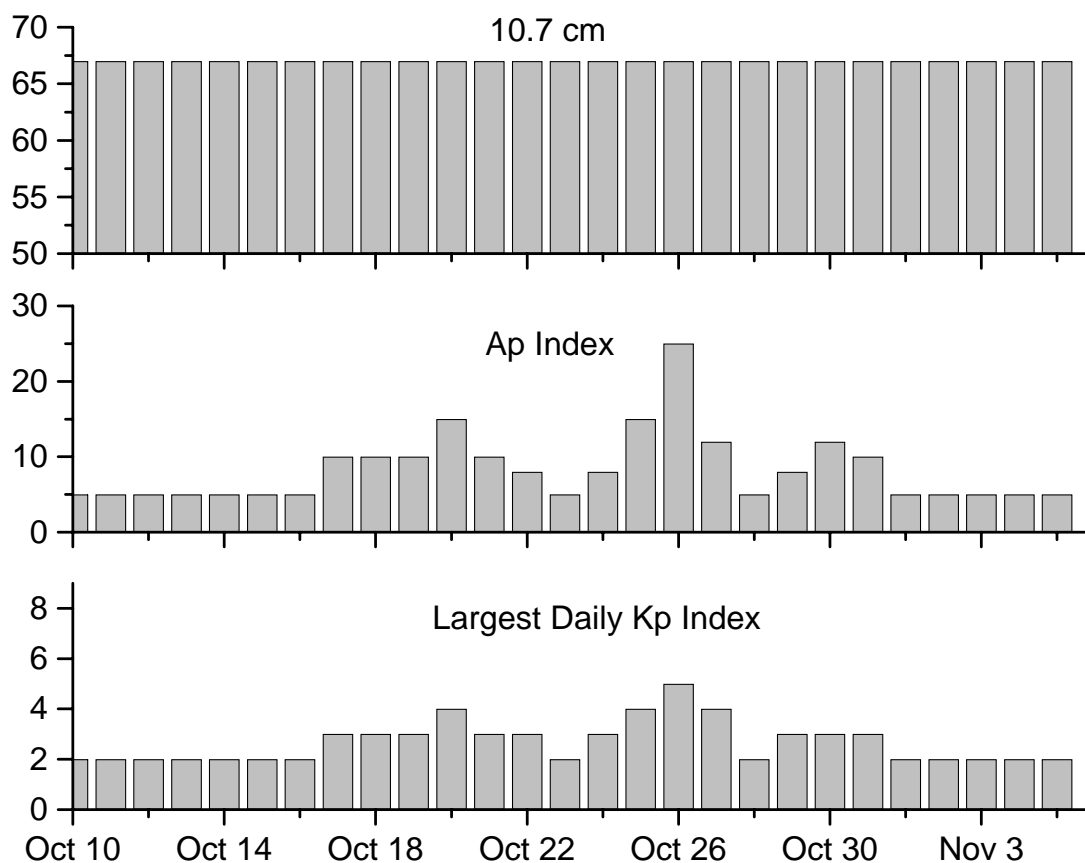


### *Alerts and Warnings Issued*

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
01 Oct 0501	ALERT: Electron 2MeV Integral Flux >1000pfu	01 Oct 0500
02 Oct 0500	ALERT: Electron 2MeV Integral Flux >1000pfu	02 Oct 0500
03 Oct 0501	ALERT: Electron 2MeV Integral Flux >1000pfu	03 Oct 0500
03 Oct 0530	WARNING: Geomagnetic K=4	03 Oct 0530 - 1600
03 Oct 0531	ALERT: Geomagnetic K=4	03 Oct 0532
03 Oct 1556	WARNING: Geomagnetic K=4	03 Oct 1600 - 04/1600
04 Oct 1127	ALERT: Electron 2MeV Integral Flux >1000pfu	04 Oct 1110
05 Oct 0509	ALERT: Electron 2MeV Integral Flux >1000pfu	05 Oct 0500
06 Oct 0502	ALERT: Electron 2MeV Integral Flux >1000pfu	06 Oct 0500
07 Oct 0504	ALERT: Electron 2MeV Integral Flux >1000pfu	07 Oct 0500



# *Twenty-seven Day Outlook*



Date	Radio Flux 10.7 cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7 cm	Planetary A Index	Largest Kp Index
10 Oct	67	5	2	24 Oct	67	8	3
11	67	5	2	25	67	15	4
12	67	5	2	26	67	25	5
13	67	5	2	27	67	12	4
14	67	5	2	28	67	5	2
15	67	5	2	29	67	8	3
16	67	5	2	30	67	12	3
17	67	10	3	31	67	10	3
18	67	10	3	01 Nov	67	5	2
19	67	10	3	02	67	5	2
20	67	15	4	03	67	5	2
21	67	10	3	04	67	5	2
22	67	8	3	05	67	5	2
23	67	5	2				



### ***Energetic Events***

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	$\frac{1}{2}$			Integ		Imp/		Rgn	Radio Flux		Intensity	
	Begin	Max	Max	Class	Flux	Brtns	Lat CMD		245	2695	II	IV

*No Events Observed*

### ***Flare List***

Date	Time			Optical X-ray Class.	Imp / Brtns	Location Lat CMD	Rgn
	Begin	Max	End				

01 October	No Flares Observed						
02 October	No Flares Observed						
03 October	No Flares Observed						
04 October	No Flares Observed						
05 October	2304	2307	2309	B1.2			
06 October	No Flares Observed						
07 October	No Flares Observed						

### ***Region Summary***

Location			Sunspot Characteristics													
Date	Helio		Flares					X-ray				Optical				
	° Lat	° CMD	Area	Extent	Spot	Spot	Mag									
	Lon		(10 <sup>-6</sup> hemi)	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4	

#### ***Region 971***

28 Sep	N03E07	113		0040	04	Cro	005	B								
29 Sep	N03W06	112		0050	04	Cro	006	B								
30 Sep	N02W19	112		0040	04	Bxo	007	B								
01 Oct	S01W32	112		0020	03	Bxo	002	B								
02 Oct	S01W45	112														
03 Oct	S01W58	112														
04 Oct	S01W71	112														

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 112

#### ***Region 972***

06 Oct	S05W06	020		0060	06	Cro	005	B								
07 Oct	S06W19	020		0020	06	Bxo	003	B								

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 020

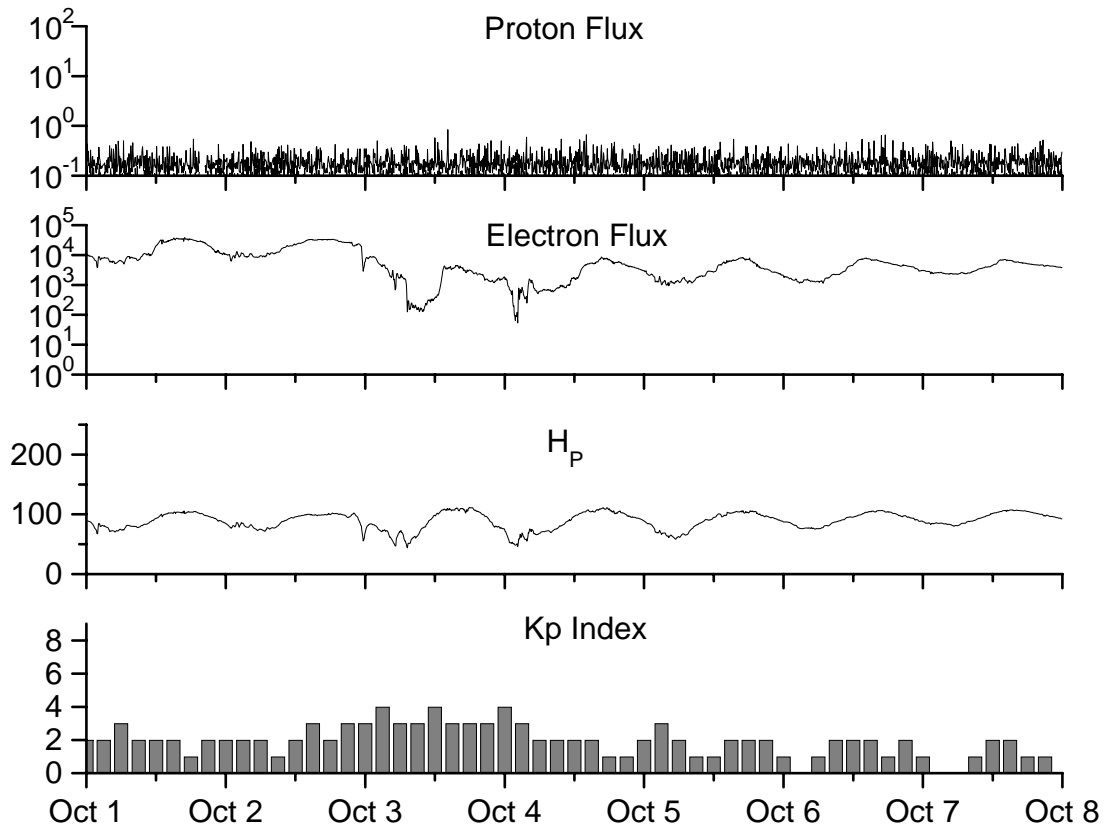


**Recent Solar Indices (preliminary)**  
**Of the observed monthly mean values**

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
2005									
October	13.0	8.5	0.65	42.6	25.5	76.7	87.4	7	11.6
November	32.2	18.0	0.56	42.1	24.9	86.3	86.7	8	11.1
December	62.6	41.2	0.66	40.1	23.0	90.8	85.4	7	10.4
2006									
January	28.0	15.4	0.55	37.2	20.8	83.8	84.0	6	9.9
February	5.3	4.7	0.89	33.4	18.7	76.6	82.6	6	9.2
March	21.3	10.8	0.51	31.0	17.4	75.5	81.6	8	8.4
April	55.2	30.2	0.55	30.6	17.1	89.0	80.9	11	7.9
May	39.6	22.2	0.56	30.7	17.3	81.0	80.8	8	7.9
June	37.7	13.9	0.37	28.9	16.3	80.1	80.6	9	8.3
July	22.6	12.2	0.54	27.2	15.3	75.8	80.3	7	8.7
August	22.8	12.9	0.57	27.6	15.6	79.0	80.3	9	8.7
September	25.2	14.5	0.58	27.7	15.6	77.8	80.2	8	8.7
October	15.7	10.4	0.66	25.2	14.2	74.3	79.4	8	8.6
November	31.5	21.5	0.68	22.3	12.7	86.4	78.5	9	8.5
December	22.2	13.6	0.61	20.7	12.1	84.3	77.9	15	8.5
2007									
January	26.6	16.9	0.64	19.7	12.0	83.5	77.5	6	8.4
February	17.2	10.6	0.62	18.9	11.6	77.8	76.9	6	8.4
March	9.7	4.8	0.49	17.5	10.8	72.3	76.0	8	8.4
April	6.9	3.7	0.54			72.4		9	
May	19.4	11.7	0.60			74.5		9	
June	20.0	12.0	0.60			73.7		7	
July	15.6	10.0	0.64			71.6		8	
August	9.9	6.2	0.63			69.2		7	
September	4.8	2.4	0.50			67.1		8	

**NOTE:** All smoothed values after September 2002 and monthly values after March 2003 are preliminary estimates. The lowest smoothed sunspot index number for Cycle 22, RI = 8.0, occurred in May 1996. The highest smoothed sunspot number for Cycle 23, RI= 120.8, occurred April 2000. \*After June 1991, the 10.7 cm radio flux data source is Penticton, B.C. Canada. Prior to that, it was Ottawa.





*Weekly Geosynchronous Satellite Environment Summary*  
*Week Beginning 01 October 2007*

Protons plot contains the five-minute averaged integral proton flux (protons/cm<sup>2</sup>-sec-sr) as measured by GOES-11 (W135) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

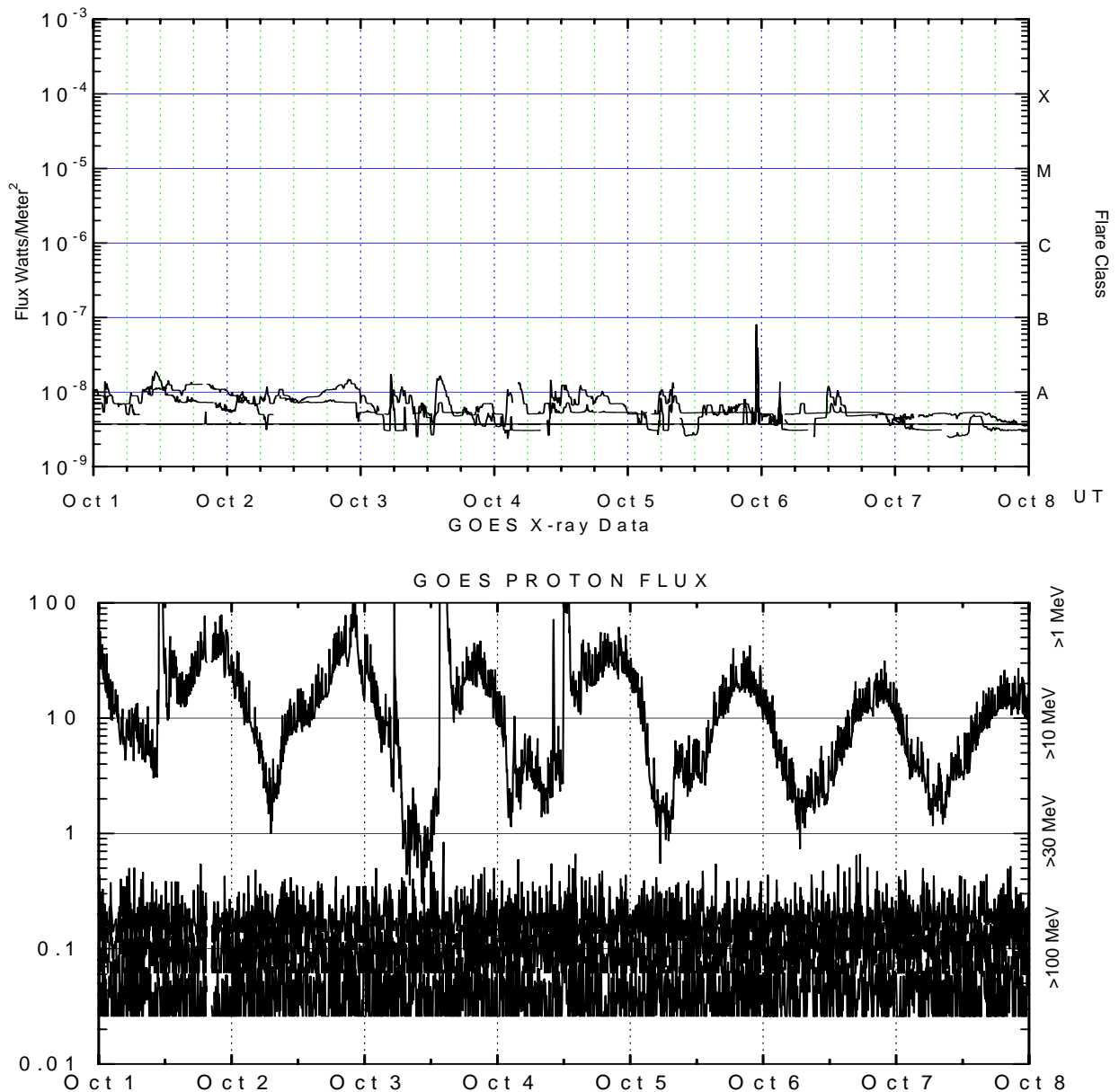
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-sec-sr) with energies greater than 2 MeV at GOES-12 (W075).

H<sub>p</sub> plot contains the five minute averaged magnetic field H - component in nanoteslas (nT) as measured by GOES-12. The H component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

K<sub>p</sub> plot contains the estimated planetary 3-hour K-index (derived by the Air Force Weather Agency) in real time from magnetometers at Meenook, 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 K<sub>p</sub> values derived from a more extensive network of magnetometers.

The data included here are those now available in real time at the SEC 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 K<sub>p</sub> 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*

X-ray plot contains five-minute averaged x-ray flux ( $\text{watts/m}^2$ ) as measured by GOES 10 (W060) and GOES 11 (W135) in two wavelength bands, .05 - .4 and .1 - .8 nm. The letters A, B, C, M and X refer to x-ray event levels for the .1 - .8 nm band.

Proton plot contains the five-minute averaged integral proton flux ( $\text{protons/cm}^2\text{-sec-sr}$ ) as measured by GOES-11 (W135) for each of the energy thresholds: >1, >10, >30 and >100 MeV. P10 event threshold is 10 pfu ( $\text{protons/cm}^2\text{-sec-sr}$ ) at greater than 10 MeV.

