

Space Weather Highlights
04 - 10 August 2008

SEC PRF 1719
12 August 2008

Solar activity was very low. No flares were detected. The visible disk was spotless.

No proton events were observed at geosynchronous orbit.

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

Geomagnetic field activity was at quiet levels through 07 August. Activity increased to unsettled levels late on 08 August. A further increase to minor storm levels occurred on 09 August. Activity decreased to active levels on 10 August with minor storm levels observed at high latitudes. ACE solar wind data indicated the increased activity during 09 - 10 August was due to a recurrent coronal hole high-speed stream (HSS). A co-rotating interaction region (CIR) occurred on 09 August.

Interplanetary magnetic field changes associated with the CIR included increased B_t (peak 20 nT at 09/0510 UTC) and intermittent periods of southward B_z (minimum -12 nT at 09/0411 UTC). The HSS began late on 09 August and continued through the rest of the period with a peak velocity

Space Weather Outlook
13 August - 08 September 2008

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 during 13 - 23 August and 07 - 08 September.

Geomagnetic field activity is expected to be at quiet levels during 13 - 15 August. Activity is expected to increase to unsettled to active levels during 16 - 20 August due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to quiet levels during 21 August - 03 September. Activity is expected to increase to unsettled levels on 04 September. A further increase to active to minor storm levels is expected on 05 September due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to quiet to unsettled levels during 06 - 08 September as the high-speed stream



Daily Solar Data

Date	Radio Flux 10.7 cm	Sun spot No.	Sunspot Area (10 ⁻⁶ hemi.)	X-ray Background	Flares							
					X-ray Flux			Optical				
					C	M	X	S	1	2	3	4
04 August	66	0	0	<A1.0	0	0	0	0	0	0	0	0
05 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
06 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
07 August	66	0	0	<A1.0	0	0	0	0	0	0	0	0
08 August	66	0	0	<A1.0	0	0	0	0	0	0	0	0
09 August	66	0	0	<A1.0	0	0	0	0	0	0	0	0
10 August	66	0	0	<A1.0	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	>.6 MeV	>2MeV	>4 MeV
04 August	1.4E+6	1.8E+4	4.2E+3		1.5E+7	
05 August	1.9E+6	1.9E+4	4.3E+3		1.7E+7	
06 August	1.5E+6	1.9E+4	4.2E+3		1.4E+7	
07 August	1.2E+6	1.9E+4	4.2E+3		1.2E+7	
08 August	1.6E+6	1.9E+4	4.3E+3		1.3E+7	
09 August	2.0E+6	1.8E+4	4.1E+3		2.3E+6	
10 August	1.3E+6	1.9E+4	3.9E+3		1.8E+7	

Daily Geomagnetic Data

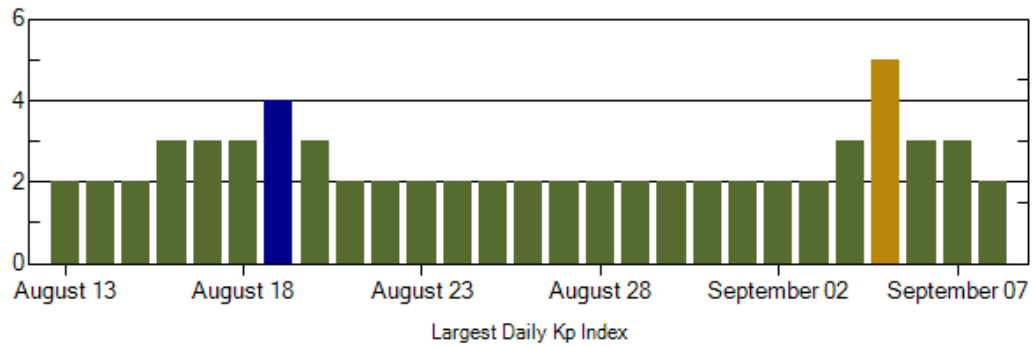
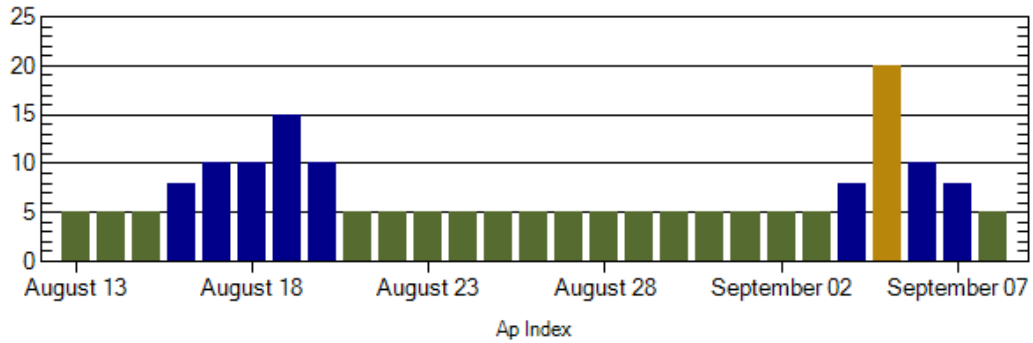
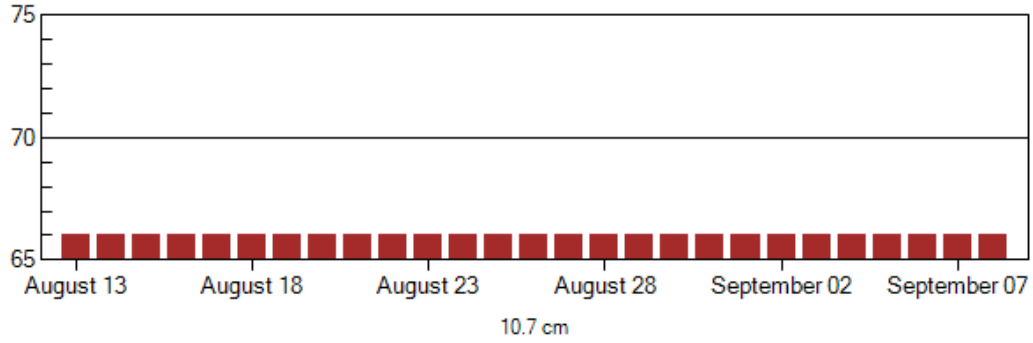
Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	04 August	3	1-1-0-1-1-1-1-1	2	1-1-0-1-0-0-0-1	4
05 August	3	1-1-1-2-1-0-1-1	3	0-1-1-2-2-0-0-0	3	1-1-1-2-1-0-0-1
06 August	5	1-1-1-1-2-1-2-2	2	0-1-1-2-0-0-1-1	4	1-1-1-1-1-1-1-2
07 August	3	0-1-0-0-1-0-2-2	2	1-0-0-0-0-1-1-1	4	1-1-0-0-1-1-1-2
08 August	3	0-0-0-0-1-1-1-3	1	0-1-0-0-0-0-0-1	4	1-1-0-0-0-2-1-3
09 August	16	2-3-3-1-2-3-3-5	18	1-3-2-3-4-5-3-3	18	3-3-2-2-2-4-5-4
10 August	9	3-3-2-2-1-2-2-2	19	4-5-2-3-3-4-2-2	13	4-4-3-1-2-2-2-2

Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
09 Aug 0548	WARNING: Geomagnetic K = 4	09 Aug 0548 - 1600
09 Aug 0553	ALERT: Geomagnetic K = 4	09 Aug 0552
09 Aug 1550	EXTENDED WARNING: Geomagnetic K = 4	09 Aug 0548 - 2359
09 Aug 2314	EXTENDED WARNING: Geomagnetic K = 4	09 Aug 0548 - 10/1600



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
13 August	66	5	2	27 August	66	5	2
14	66	5	2	28	66	5	2
15	66	5	2	29	66	5	2
16	66	8	3	30	66	5	2
17	66	10	3	31	66	5	2
18	66	10	3	01 Sept	66	5	2
19	66	15	4	02	66	5	2
20	66	10	3	03	66	5	2
21	66	5	2	04	66	8	3
22	66	5	2	05	66	20	5
23	66	5	2	06	66	10	3
24	66	5	2	07	66	8	3
25	66	5	2	08	66	5	2
26	66	5	2				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	1/2	Integ	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
								245	2695	II	IV

No Events Observed

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location Lat CMD		
04 Aug	<i>No Flares Observed</i>							
05 Aug	<i>No Flares Observed</i>							
06 Aug	<i>No Flares Observed</i>							
07 Aug	<i>No Flares Observed</i>							
08 Aug	<i>No Flares Observed</i>							
09 Aug	<i>No Flares Observed</i>							
10 Aug	<i>No Flares Observed</i>							

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

No active regions.



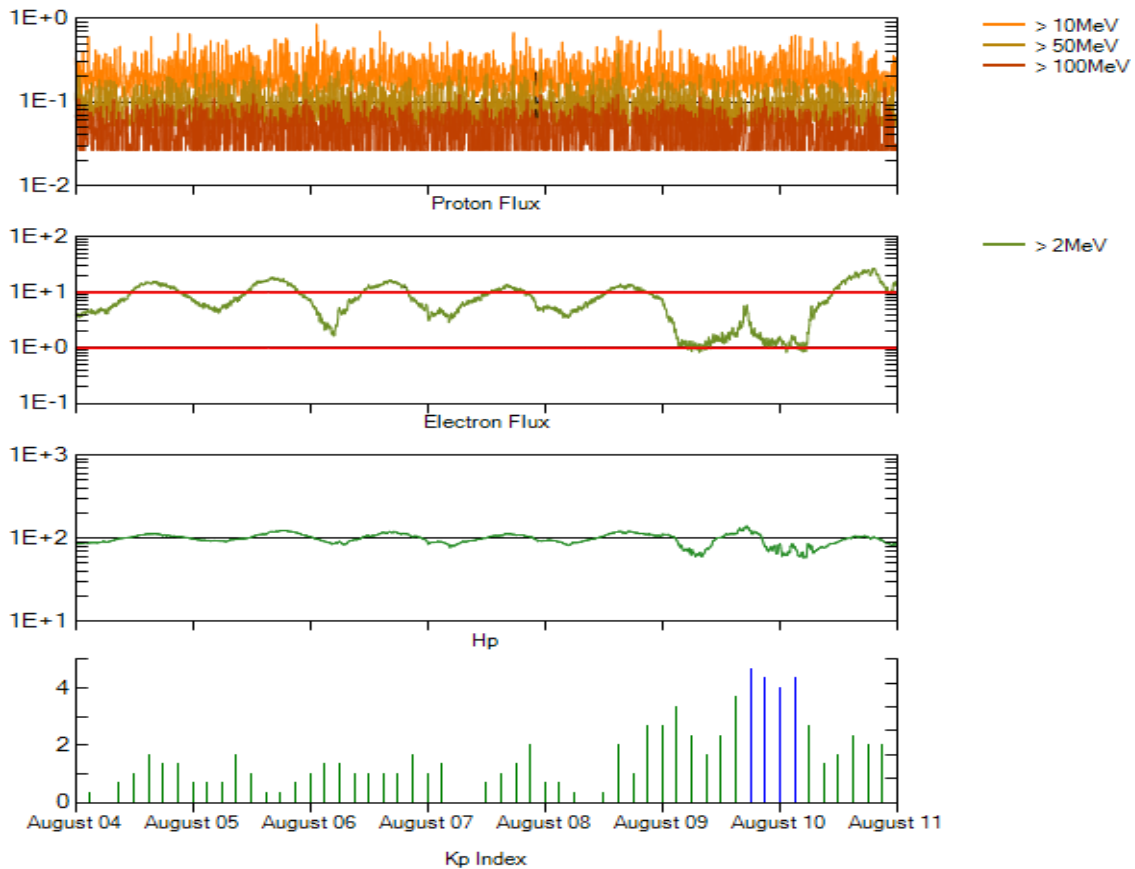
Recent Solar Indices (preliminary)
Of the observed monthly mean values

Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	Observed values SEC	Ratio RI	Ratio RI/SEC	Smooth values SEC	Smooth values RI	*Penticton 10.7 cm	Smooth Value	Planetary Ap	Smooth Value
2006									
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	16.0	9.9	72.4	75.2	9	8.5
May	19.4	11.7	0.60	14.2	8.7	74.5	74.2	9	8.4
June	20.0	12.0	0.60	12.8	7.7	73.7	73.2	7	7.8
July	15.6	10.0	0.64	11.6	7.0	71.6	72.5	8	7.4
August	9.9	6.2	0.63	10.2	6.1	69.2	71.8	7	7.6
September	4.8	2.4	0.50	9.9	5.9	67.1	71.5	9	7.8
October	1.3	0.9	0.70	10.0	6.1	65.5	71.5	9	7.9
November	2.5	1.7	0.68	9.4	5.7	69.7	71.1	5	7.8
December	16.2	10.1	0.62	8.1	5.0	78.6	70.5	4	7.8
2008									
January	5.1	3.4	0.67	6.9	4.2	72.1	70.0	6	7.7
February	3.8	2.1	0.55			71.2		9	
March	15.9	9.3	0.58			72.9		10	
April	4.9	2.9	0.59			70.3		9	
May	5.7	2.9	0.51			68.4		6	
June	4.2	3.1	0.74			65.9		7	
July	1.0	0.5	0.50			65.8		6	

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 04 August 2008*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by GOES-11 (W135) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

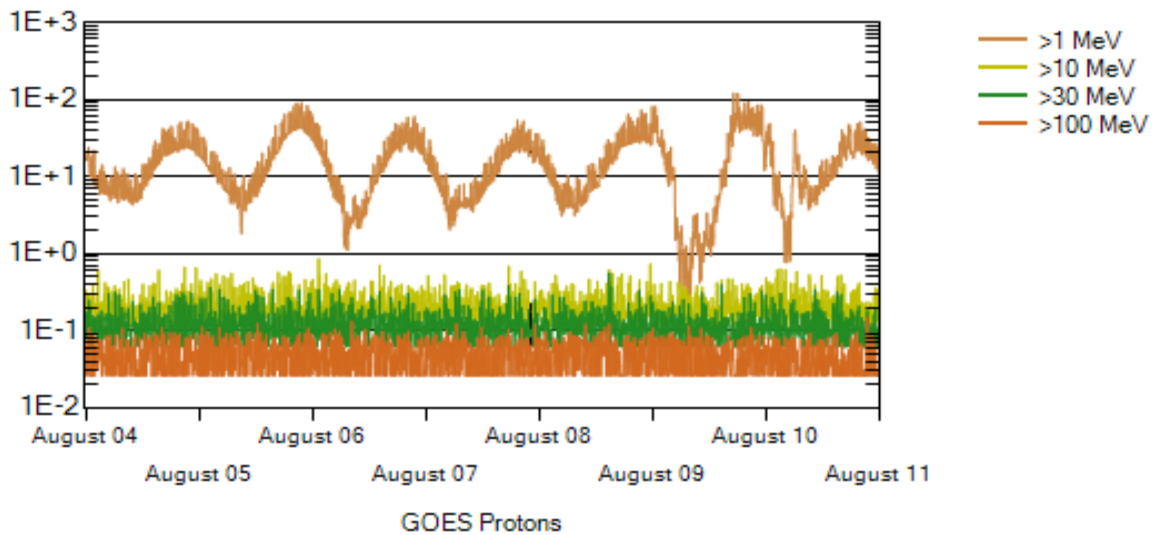
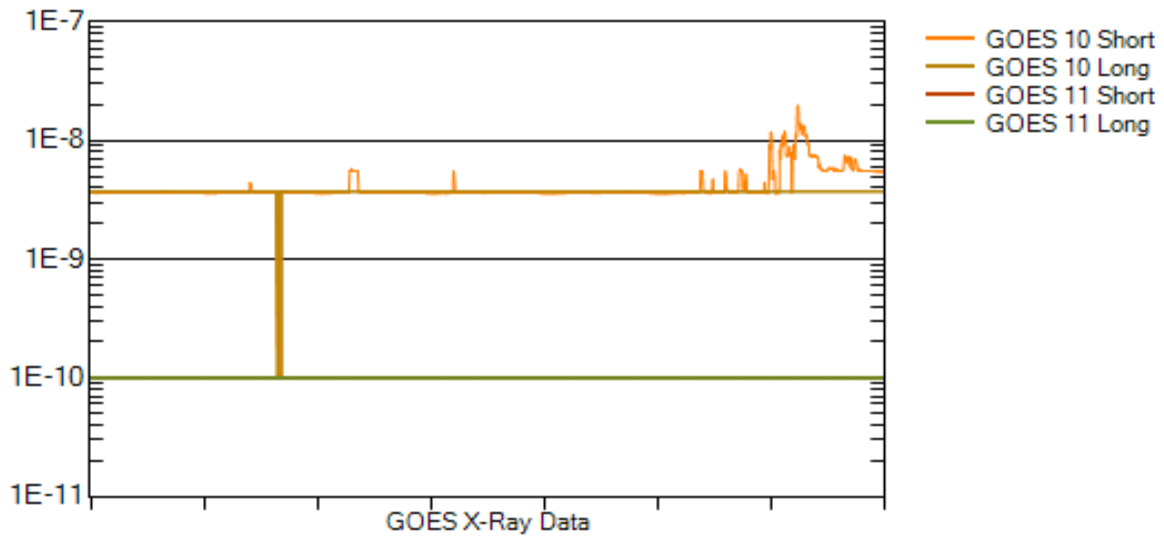
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W075).

Hp 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.

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 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 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

X-ray plot contains five-minute averaged x-ray flux (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.

