

Space Weather Highlights
02– 08 June 2008

SEC PRF 1710
10 June 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 mostly quiet levels during 02 - 05 June. Activity increased to quiet to unsettled levels for the rest of the period. ACE solar wind measurements indicated a gradually subsiding recurrent high-speed stream was in progress at the start of the period. A peak solar wind velocity of 615 km/sec was detected at the start of the period. Velocities gradually decreased during 02- 06 June with a low of 327 km/sec detected at 06/0213. A solar sector boundary crossing (away (+) to toward (-)) occurred at approximately 07/0900 UTC. The boundary crossing was associated with an increase in velocities (peak 551 km/sec at 07/1604 UTC), increased IMF Bt (peak 10 nT at 0856 UTC), and periods of mostly southward IMF Bz (minimum -7 nT at 07/0652 UTC). Velocities began to gradually decrease after 08/1400 UTC and reached a low of 302 km/sec by the close of the period.

Space Weather Outlook
11 June – 07 July 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 19 - 23 June.

Geomagnetic field activity is expected to be at quiet levels during 11 - 15 June. Activity is expected to increase to unsettled levels during 16 - 19 June due a recurrent coronal hole high-speed wind stream. Activity is expected to decrease to quiet levels during 20 - 24 June. Activity is expected to increase to unsettled levels during 25 - 28 June due to a recurrent coronal hole high-speed wind stream. Activity is expected to decrease to quiet levels during 29 June - 02 July. Activity is expected to increase to unsettled levels during 03 - 05 July due to recurrence. Activity is expected to decrease to quiet levels during the last two days of the period.



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
02 June	67	0	0	<A1.0	0	0	0	0	0	0	0	0
03 June	66	0	0	<A1.0	0	0	0	0	0	0	0	0
04 June	65	0	0	<A1.0	0	0	0	0	0	0	0	0
05 June	66	0	0	<A1.0	0	0	0	0	0	0	0	0
06 June	66	0	0	<A1.0	0	0	0	0	0	0	0	0
07 June	66	0	0	<A1.0	0	0	0	0	0	0	0	0
08 June	65	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
	02 June	2.1E+6	1.7E+4	3.6E+3		2.1E+7
03 June	2.7E+6	1.7E+4	3.7E+3		3.0E+7	
04 June	2.1E+6	1.7E+4	3.9E+3		2.7E+7	
05 June	2.0E+6	1.8E+4	4.1E+3		3.1E+7	
06 June	1.9E+6	1.8E+4	4.0E+3		1.1E+7	
07 June	1.3E+6	1.7E+4	4.1E+3		2.1E+6	
08 June	1.0E+6	1.7E+4	4.0E+3		6.7E+6	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	02 June	4	1-1-1-1-1-2-1-1	5	2-2-1-1-2-2-1-0	5
03 June	3	1-1-1-0-1-1-1-2	4	1-2-0-2-2-1-1-1	4	1-2-1-1-1-1-1-2
04 June	2	1-1-1-0-1-1-0-1	3	2-2-1-0-1-0-0-1	4	2-1-1-0-1-1-0-2
05 June	3	1-0-0-1-1-1-1-1	3	1-0-0-3-1-0-0-0	2	1-0-0-1-0-1-1-1
06 June	7	1-2-2-2-1-1-2-3	6	1-2-2-2-1-1-2-2	8	1-2-2-2-1-2-2-3
07 June	10	2-2-3-3-2-2-3-2	16	1-1-3-4-5-3-2-2	12	2-2-3-3-2-3-3-3
08 June	5	2-2-2-0-2-2-1-1	8	3-2-2-1-3-2-1-1	7	3-2-2-1-2-2-1-2

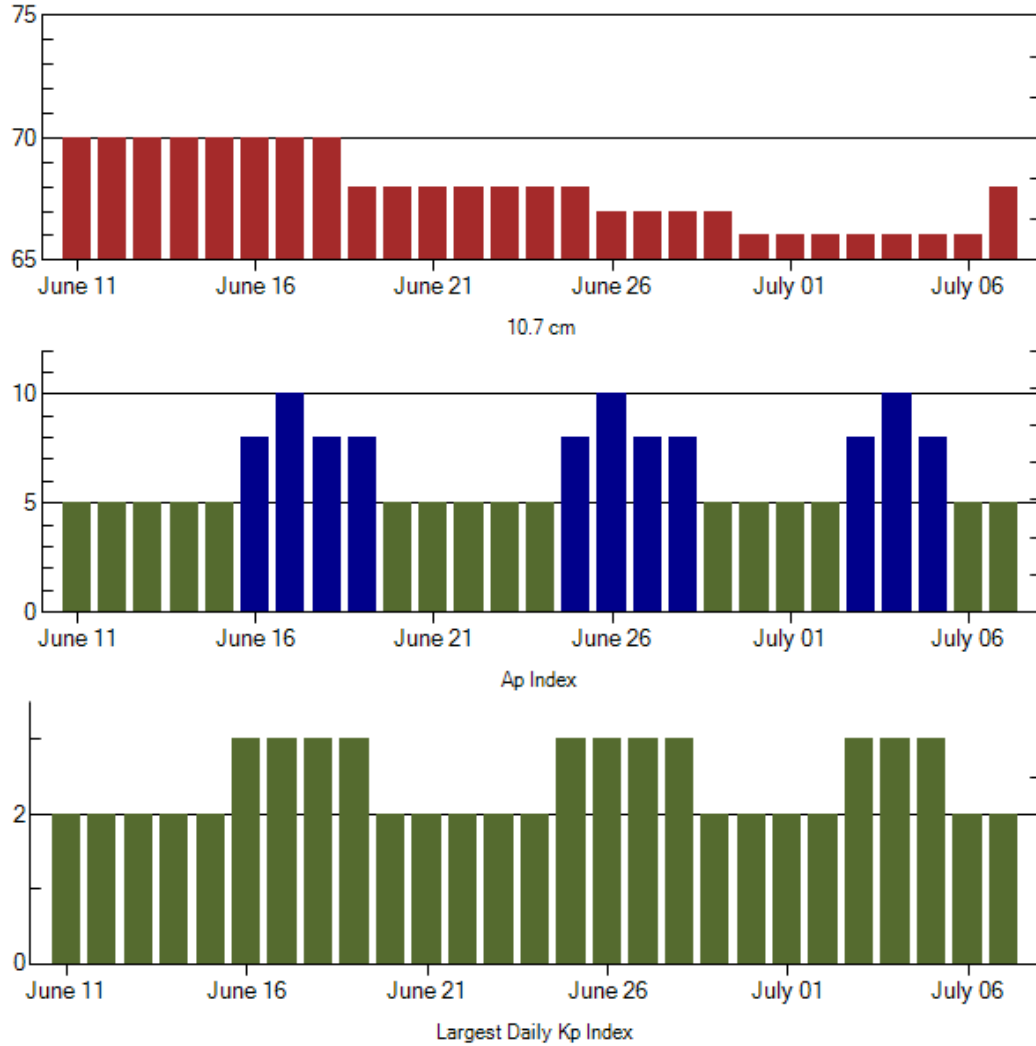
Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
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No Alerts Issued



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
11 June	70	5	2	25 June	68	5	3
12	70	5	2	26	67	10	3
13	70	5	2	27	67	8	3
14	70	5	2	28	67	8	3
15	70	5	2	29	67	5	2
16	70	8	3	30	66	5	2
17	70	10	3	01 July	66	5	2
18	70	8	3	02	66	5	2
19	68	8	3	03	66	8	3
20	68	5	2	04	66	10	3
21	68	5	2	05	66	8	3
22	68	5	2	06	66	5	2
23	68	5	2	07	68	5	2
24	68	5	2				



Energetic Events

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

No Events Observed

Flare List

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

Region Summary

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

Region 997

02 Jun S08W92 183

0 0 0 0 0 0 0 0

Absolute heliographic longitude:



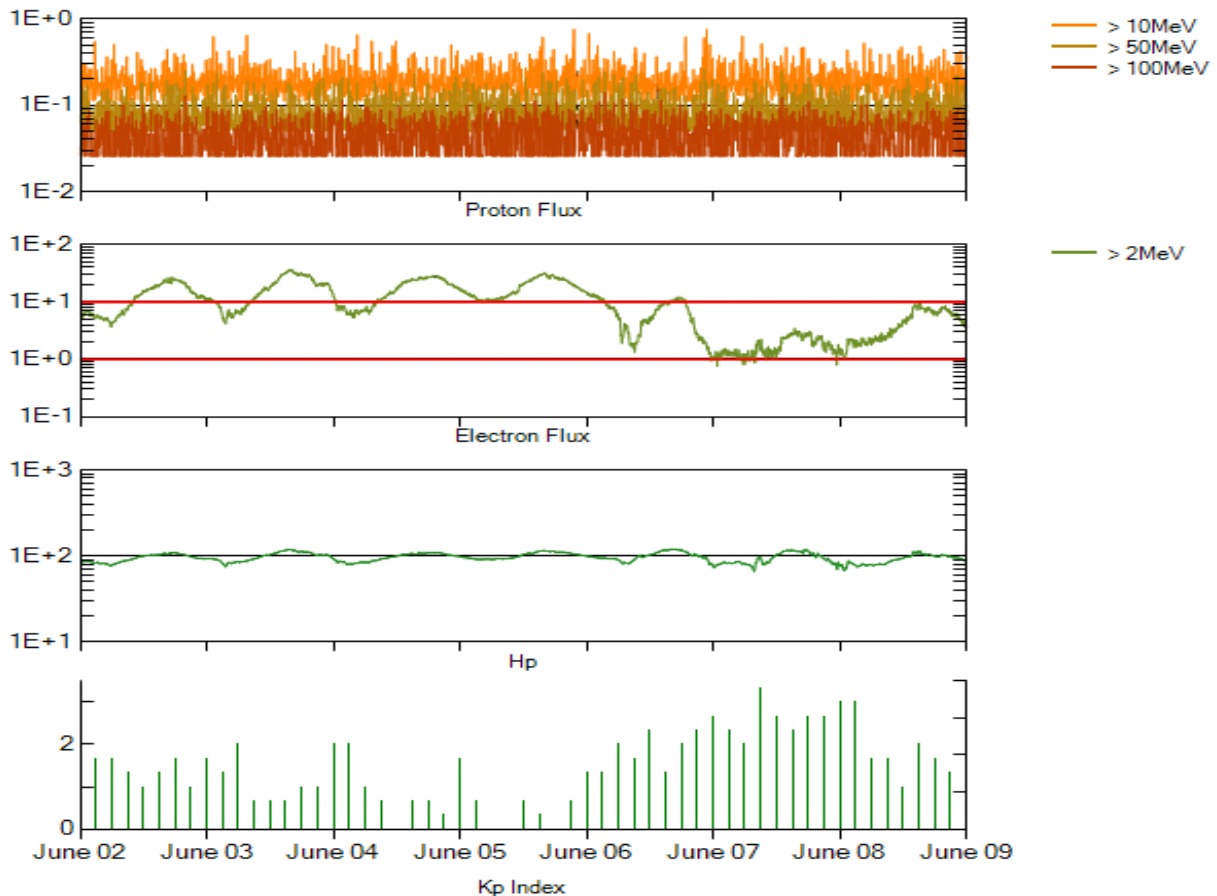
Recent Solar Indices (preliminary)
Of the observed monthly mean values

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									
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	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			78.6		4	
2008									
January	5.1	3.4	0.67			72.1		6	
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	

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 02 June 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.

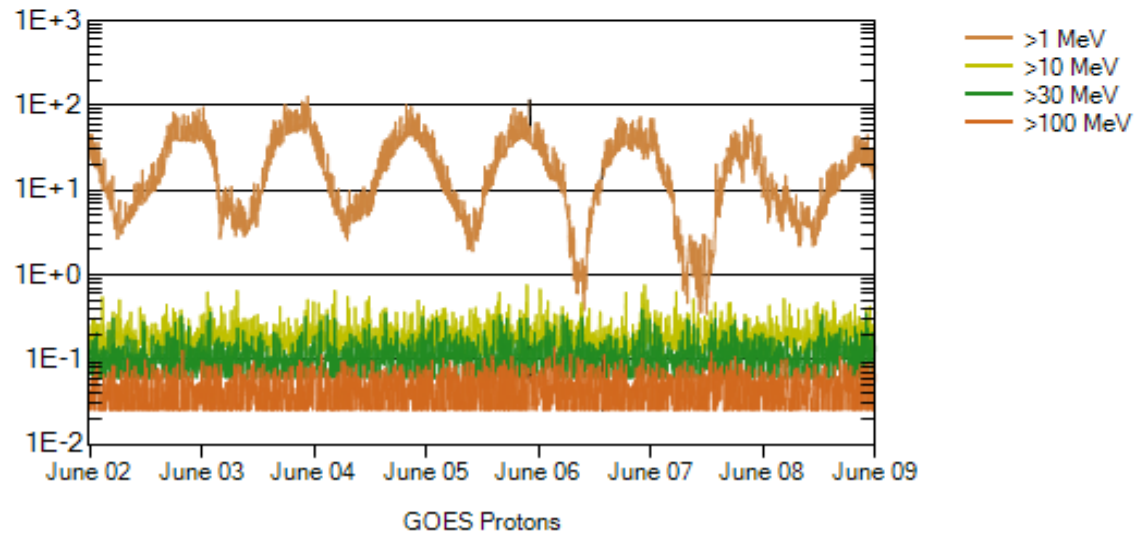
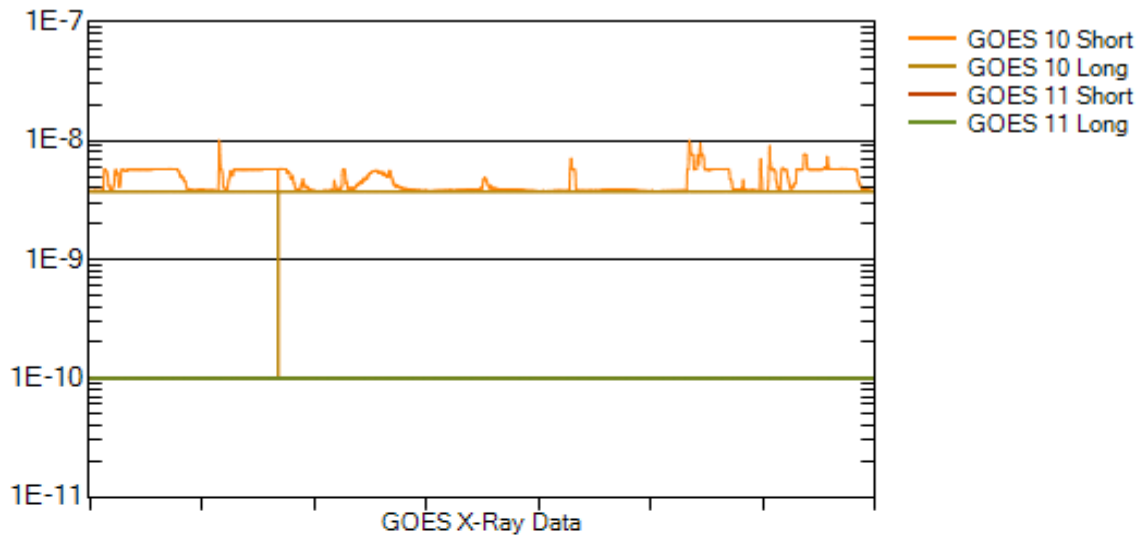
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W075).

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/m²) 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 (protons/cm²-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 (protons/cm²-sec-sr) at greater than 10 MeV.

