

Space Weather Highlights
05 – 11 May 2008

SEC PRF 1706
13 May 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 reached high levels during each day of the period.

Geomagnetic field activity was at quiet to unsettled levels on 05 May. Activity increased to active levels on 06 May. Activity decreased to quiet levels during 07 – 11 May. ACE solar wind measurements indicated a recurrent coronal hole high-speed stream was in progress at the start of the summary period. Solar wind velocities reached a peak of 670 km/sec at 05/2319 UTC, then gradually decreased during the rest of the period (minimum velocity 318 km/sec at 11/2355 UTC). IMF Bt increased to a maximum of 6 nT at 05/0135 UTC, then ranged from 01 – 05 nT during the rest of the period. IMF Bz was variable in the + 05 nT range.

Space Weather Outlook
14 May – 09 June 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 21 – 28 May and 01 – 09 June.

Geomagnetic field activity is expected to be at quiet levels during 14 – 19 May. Activity is expected to increase to minor storm levels on 20 May with major storm levels possible at high latitudes due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to active levels on 21 May as high-speed stream effects begin to subside. Quiet to unsettled levels are expected during 22 May – 02 June. Quiet conditions are expected during 03 – 09 June.



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	
05 May	68	15	20	<A1.0	0	0	0	0	0	0	0	0	0
06 May	67	0	0	<A1.0	0	0	0	0	0	0	0	0	0
07 May	67	0	0	<A1.0	0	0	0	0	0	0	0	0	0
08 May	66	0	0	<A1.0	0	0	0	0	0	0	0	0	0
09 May	67	0	0	<A1.0	0	0	0	0	0	0	0	0	0
10 May	67	0	0	<A1.0	0	0	0	0	0	0	0	0	0
11 May	68	0	0	<A1.0	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
	05 May	1.7E+6	1.7E+4	3.6E+3		4.2E+7
06 May	2.2E+6	1.7E+4	3.6E+3		1.5E+8	
07 May	2.2E+6	1.7E+4	3.5E+3		1.9E+8	
08 May	1.8E+6	1.7E+4	3.8E+3		1.9E+8	
09 May	2.3E+6	1.7E+4	3.8E+3		2.1E+8	
10 May	2.3E+6	1.8E+4	4.1E+3		1.9E+8	
11 May	1.9E+6	1.8E+4	4.1E+3		1.0E+8	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	05 May	8	2-2-3-0-2-2-3-2	12	3-2-3-1-3-4-2-2	11
06 May	9	4-2-3-2-1-1-1-1	8	2-2-3-4-2-0-0-1	10	4-3-3-2-1-1-1-1
07 May	5	2-1-0-0-1-2-3-2	3	3-1-1-0-0-0-1-1	4	2-1-0-0-1-2-2-2
08 May	3	1-1-2-1-1-0-1-0	4	2-1-2-2-1-0-1-0	4	2-1-2-2-1-0-1-1
09 May	3	1-1-1-1-1-0-1-1	1	1-0-1-1-0-0-0-0	3	1-1-1-1-1-1-0-1
10 May	4	1-2-1-1-1-0-1-2	4	1-1-2-2-0-0-1-2	5	1-2-1-1-1-1-1-2
11 May	3	1-1-1-1-1-0-2-0	2	1-1-0-1-0-0-1-0	3	2-1-0-0-1-1-2-1

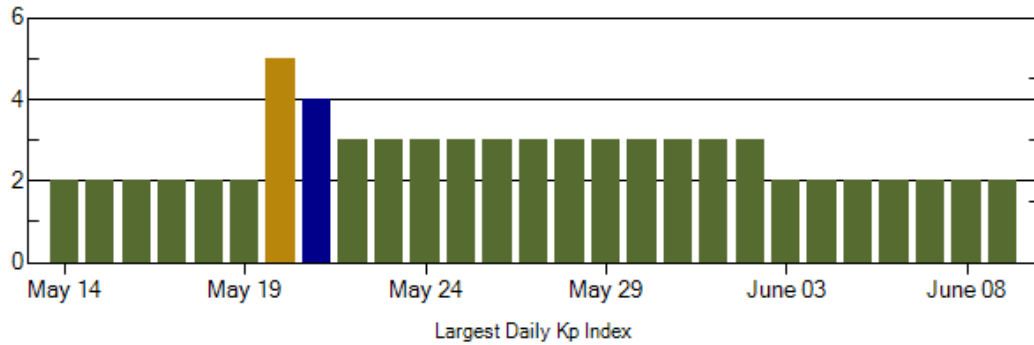
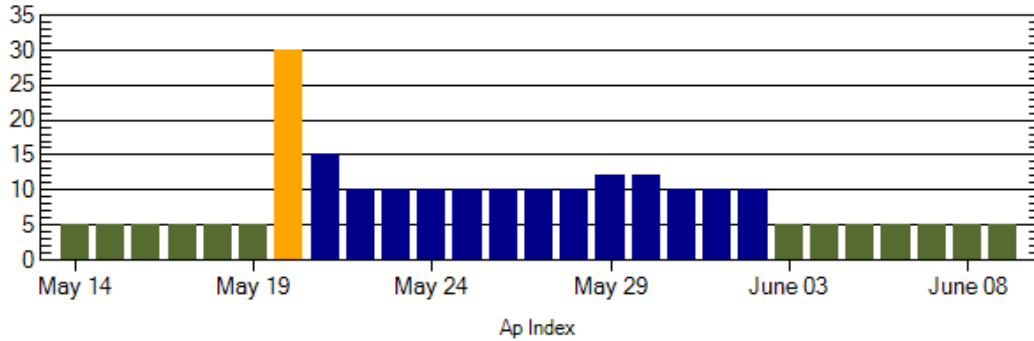
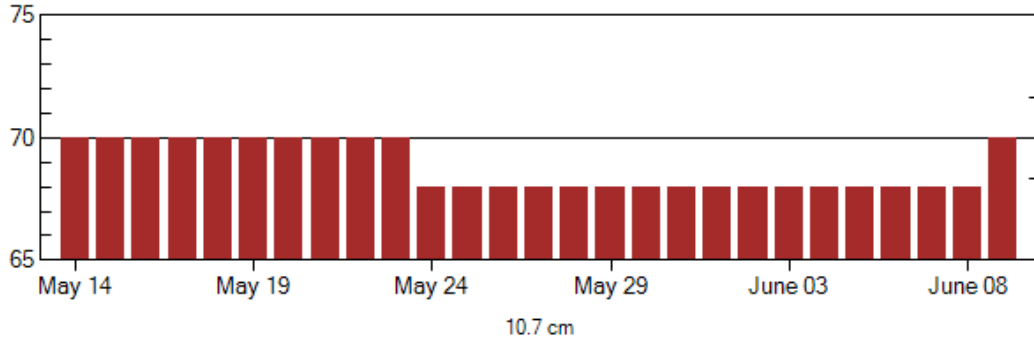


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
05 May 1529	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	05 May 1510
05 May 1634	WARNING: Geomagnetic K = 4	05 May 1635 – 2359
05 May 1656	ALERT: Geomagnetic K = 4	05 May 1655
06 May 0058	ALERT: Geomagnetic K = 4	06 May 0055
06 May 0756	ALERT: Geomagnetic K = 4	06 May 0755
06 May 0958	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	06 May 0940
07 May 0500	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	07 May 0500
08 May 0854	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	08 May 0835
09 May 0503	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	09 May 0500
10 May 0522	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	10 May 0505
11 May 1006	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	11 May 0945



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
14 May	70	5	2	28 May	68	10	3
15	70	5	2	29	68	12	3
16	70	5	2	30	68	12	3
17	70	5	2	31	68	10	3
18	70	5	2	01 June	68	10	3
19	70	5	2	02	68	10	3
20	70	30	5	03	68	5	2
21	70	15	4	04	68	5	2
22	70	10	3	05	68	5	2
23	70	10	3	06	68	5	2
24	68	10	3	07	68	5	2
25	68	10	3	08	68	5	2
26	68	10	3	09	70	5	2
27	68	10	3				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq
	Begin	Max	Max	Class	Flux	Imp/	Location	Radio Flux		Intensity
						Brtns	Lat CMD	245	2695	II
<i>No Events Observed</i>										

Flare List

Date	Time			Optical	Imp / Brtns	Location Lat CMD	Rgn
	Begin	Max	End	Class.			
05 May	<i>No Flares Observed</i>						
06 May	<i>No Flares Observed</i>						
07 May	<i>No Flares Observed</i>						
08 May	<i>No Flares Observed</i>						
09 May	<i>No Flares Observed</i>						
10 May	<i>No Flares Observed</i>						
11 May	<i>No Flares Observed</i>						

Region Summary

Date	Location		Sunspot Characteristics					Flares		X-ray		Optical			
	(° Lat ° CMD)	Helio Lon	Area (10 ⁶ hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	C	M	X	S	1	2		
														X-ray	
<i>Region 993</i>															
04 May	S29E27	086	0010	03	Bxo	003	B								
05 May	S31E14	085	0020	04	Bxo	005	B								
06 May	S31E01	085													
07 May	S31W12	085													
08 May	S31W25	085													
09 May	S31W38	085													
10 May	S31W51	085													
11 May	S31W64	085													
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 085



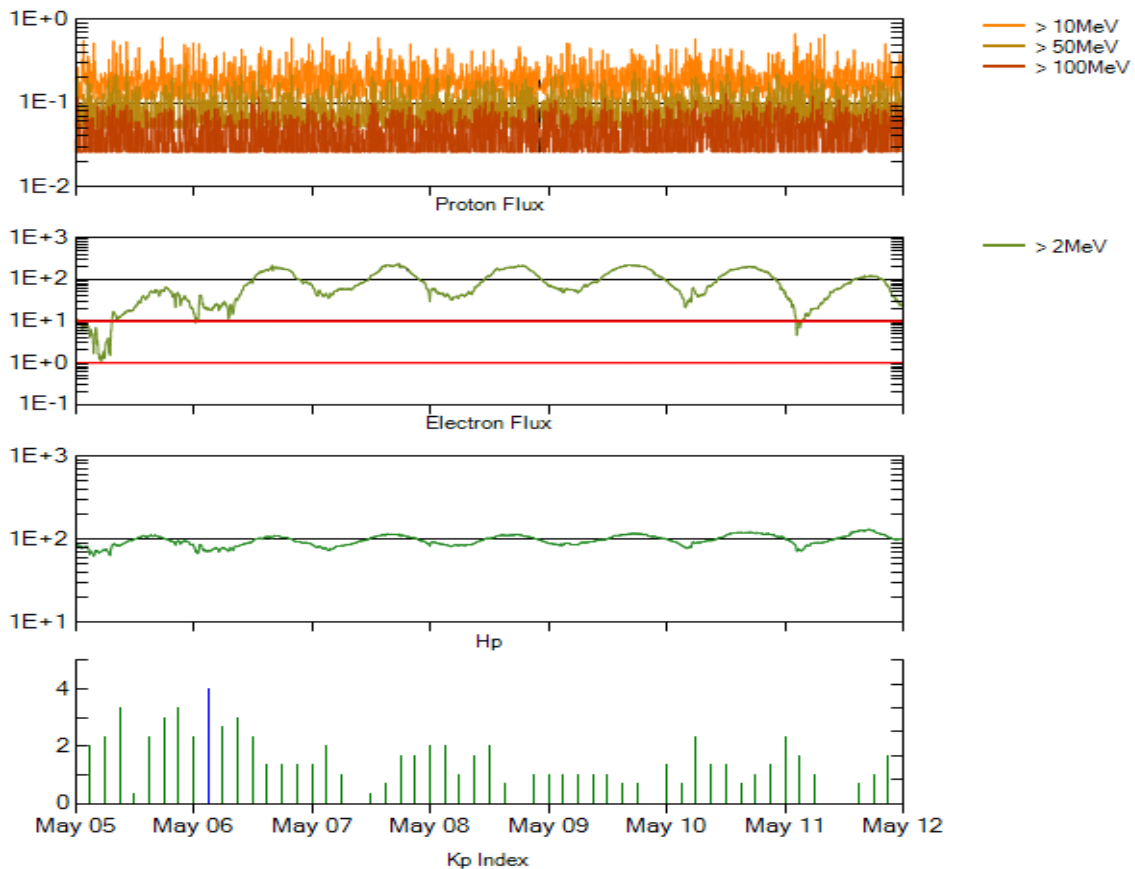
Recent Solar Indices (preliminary)
Of the observed monthly mean values

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									
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	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			69.7		5	
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	

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 05 May 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.

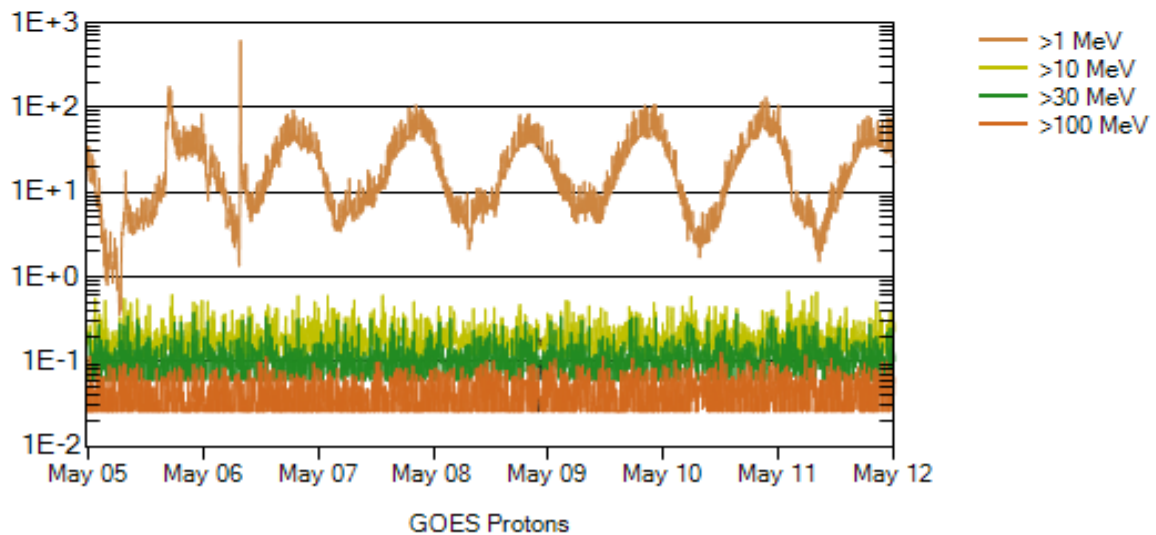
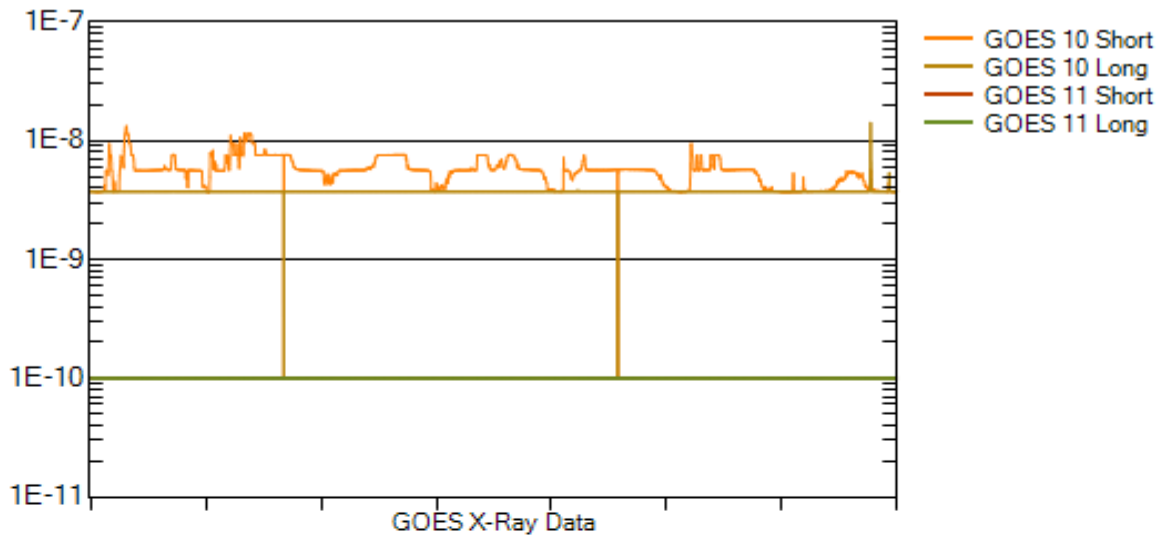
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W075).

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.

