

Solar activity was very low. No flares were observed during the summary period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels during 14 – 18 March.

A recurrent coronal hole high-speed stream disturbed the geomagnetic field during 12 – 17 March. Field activity ranged from quiet to minor storm levels during the disturbance with brief periods of major to severe storm detected at high latitudes during 12 – 13 March. ACE near-real-time solar wind data indicated the high-speed stream commenced on 11 March accompanied by a solar sector boundary shift (away to toward), increased velocities (peak 739 km/sec at 13/0404 UTC), increased proton densities (peak 49 p/cc at 11/1722 UTC), and increased IMF variability (peak total field intensity 11 nT at 11/1812 UTC; peak southward Bz -9 nT at 11/0913 UTC). Field activity decreased to quiet to unsettled levels during 17 – 18 March as the high-speed stream subsided.

Space Weather Outlook
21 March – 16 April 2007

Solar activity is expected to continue at very low levels.

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 – 22 March, 28 - 31 March, 03 – 07 April, and 10 – 16 April.

Geomagnetic field activity is expected to be at quiet to unsettled levels through 25 March. Activity is expected to increase to unsettled to active levels during 26 – 28 March with minor storm levels possible at high latitudes on 27 March due to a recurrent coronal hole high-speed stream. Quiet to unsettled conditions are expected during 29 March – 01 April. Activity is expected to increase to unsettled to minor storm levels during 02 – 03 April with major storm periods possible at high latitudes due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to quiet to unsettled levels during 04 – 07 April. Activity is expected to increase to unsettled to minor storm levels during 08 – 10 April with major storm periods possible at high latitudes due to a recurrent coronal hole high-speed stream. Quiet to unsettled conditions are expected for the remainder 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
12 March	71	11	20	<A1.0	0	0	0	0	0	0	0	0
13 March	71	0	0	<A1.0	0	0	0	0	0	0	0	0
14 March	70	0	0	<A1.0	0	0	0	0	0	0	0	0
15 March	69	0	0	<A1.0	0	0	0	0	0	0	0	0
16 March	69	0	0	<A1.0	0	0	0	0	0	0	0	0
17 March	69	0	0	<A1.0	0	0	0	0	0	0	0	0
18 March	71	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
12 March	9.7E+5	1.7E+4	3.6E+3		4.5E+6	
13 March	4.1E+6	1.7E+4	3.5E+3		2.2E+7	
14 March	2.7E+6	1.6E+4	3.5E+3		6.8E+7	
15 March	2.6E+6	1.6E+4	3.7E+3		1.0E+8	
16 March	1.4E+6	1.7E+4	3.6E+3		1.0E+8	
17 March	2.7E+6	1.7E+4	3.6E+3		1.8E+8	
18 March	2.2E+6	1.7E+4	3.8E+3		2.0E+8	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
12 March	7	1-2-1-2-3-2-2-2	17	1-0-0-3-6-4-2-2	9	1-1-0-2-4-2-3-3
13 March	18	4-5-3-3-3-2-2-2	50	3-5-6-7-5-5-3-2	26	5-5-4-3-3-3-3-3
14 March	9	3-2-1-3-3-2-2-1	21	3-2-4-5-5-3-1-1	8	3-2-1-2-3-2-2-1
15 March	5	1-1-2-2-1-1-1-2	14	1-1-4-5-3-1-2-2	8	1-2-3-2-2-2-2-3
16 March	11	4-4-1-1-1-1-2-3	10	3-2-0-2-4-1-1-3	10	3-4-1-1-2-1-1-3
17 March	8	3-3-2-2-2-1-2-0	9	2-1-3-4-3-1-1-0	8	3-3-2-2-2-1-1-1
18 March	1	0-0-0-0-1-1-1-0	2	0-0-0-1-2-1-0-0	3	1-0-0-0-1-1-1-1

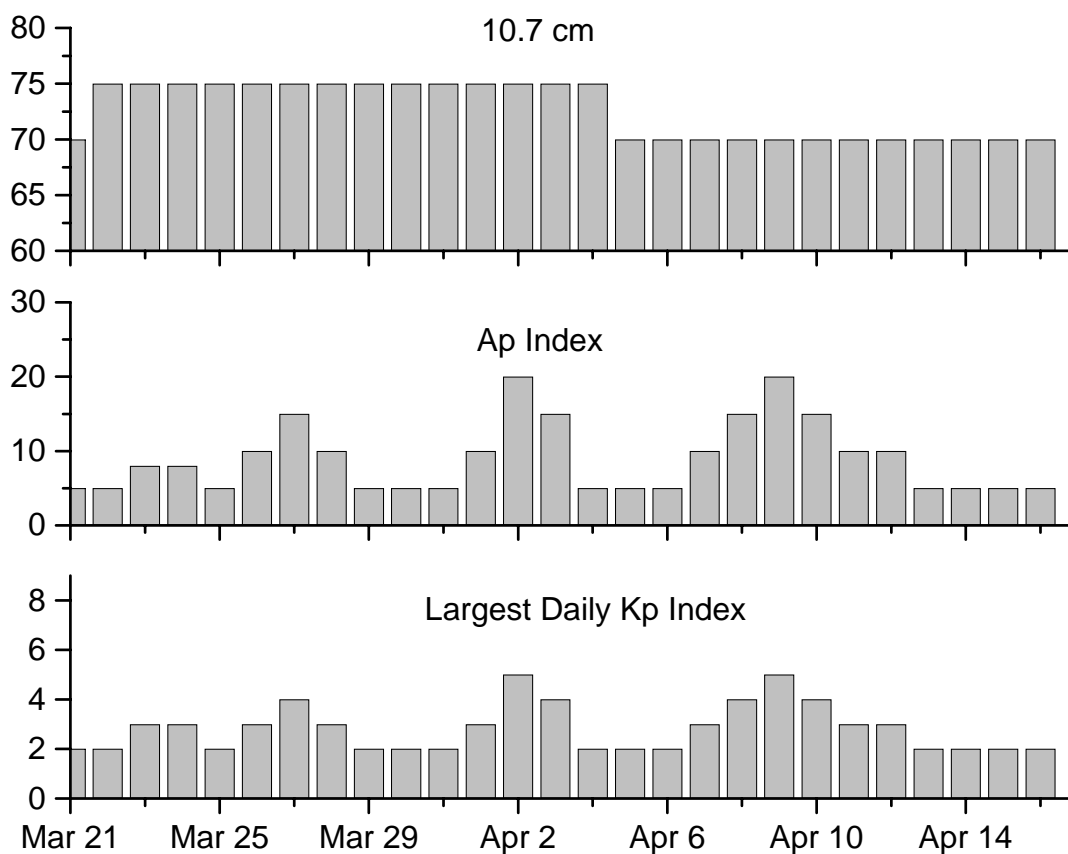


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
12 Mar 1222	WARNING: Geomagnetic K = 4	12 Mar 1230 – 1500
12 Mar 2355	WARNING: Geomagnetic K = 4	12 Mar 2357 – 13/1600
13 Mar 0104	ALERT: Geomagnetic K = 4	13 Mar 0102
13 Mar 0115	ALERT: Geomagnetic K = 5	13 Mar 0112
14 Mar 1531	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	14 Mar 1510
15 Mar 1055	WARNING: Geomagnetic K = 4	15 Mar 1100 – 1600
15 Mar 1108	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	15 Mar 1050
16 Mar 0406	WARNING: Geomagnetic K = 4	16 Mar 0407 – 1600
16 Mar 0408	ALERT: Geomagnetic K = 4	16 Mar 0408
16 Mar 1131	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	16 Mar 1115
17 Mar 1056	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	17 Mar 1040
18 Mar 501	ALERT: Electron 2MeV Integral Flux ≥ 1000 pfu	18 Mar 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
21 Mar	70	5	2	04 Apr	75	5	2
22	75	5	2	05	70	5	2
23	75	8	3	06	70	5	2
24	75	8	3	07	70	10	3
25	75	5	2	08	70	15	4
26	75	10	3	09	70	20	5
27	75	15	4	10	70	15	4
28	75	10	3	11	70	10	3
29	75	5	2	12	70	10	3
30	75	5	2	13	70	5	2
31	75	5	2	14	70	5	2
01 Apr	75	10	3	15	70	5	2
02	75	20	5	16	70	5	2
03	75	15	4				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq	
	$\frac{1}{2}$		Integ		Imp/	Location	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				
12 March	<i>No Flares Observed</i>						
13 March	<i>No Flares Observed</i>						
14 March	<i>No Flares Observed</i>						
15 March	<i>No Flares Observed</i>						
16 March	<i>No Flares Observed</i>						
17 March	<i>No Flares Observed</i>						
18 March	<i>No Flares Observed</i>						

Region Summary

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

Region 946

10 Mar	N10W46	315	0030	05	Bxo	006	B								
11 Mar	N10W59	315	0070	05	Dso	004	B								
12 Mar	N07W72	315	0020	02	Hsx	001	A								
13 Mar	N05W88	317													

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 315

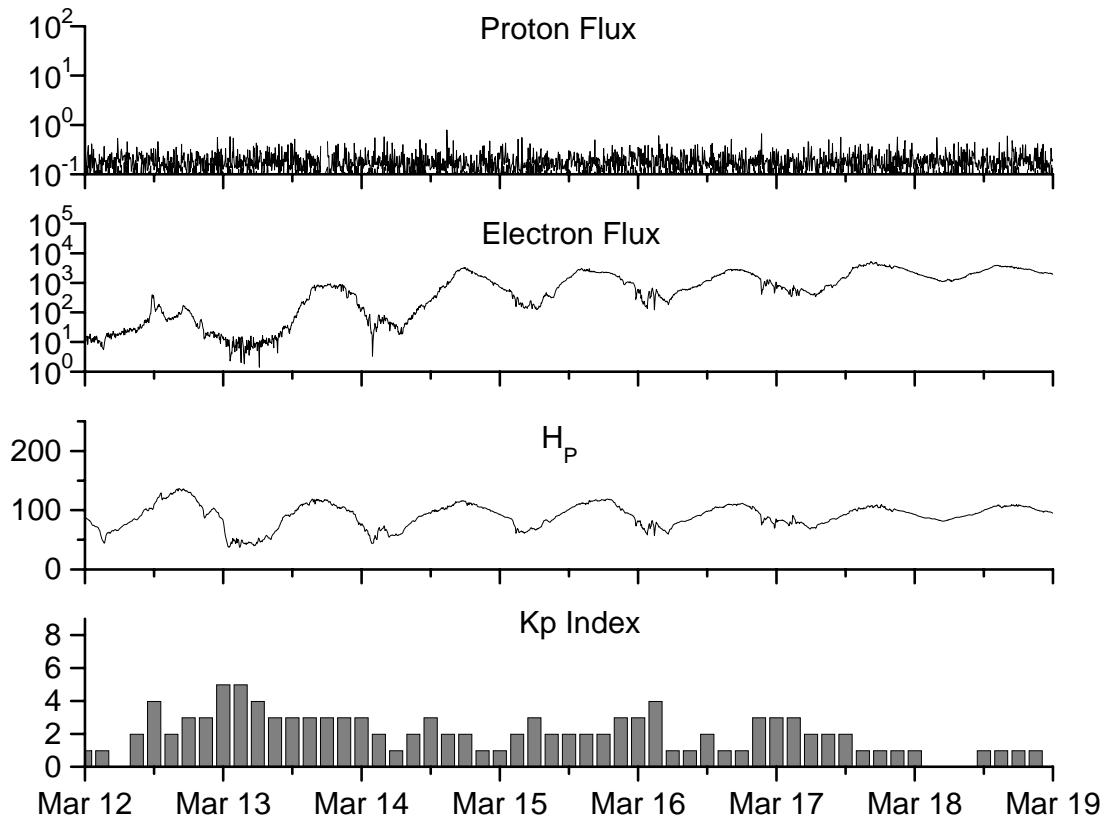


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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									
March	41.0	24.8	0.60	55.8	33.6	90.0	97.2	12	15.3
April	41.5	24.4	0.59	52.6	31.7	85.9	95.5	12	15.7
May	65.4	42.6	0.65	48.3	29.0	99.5	93.2	20	14.8
June	59.8	39.6	0.66	47.9	28.9	93.7	91.9	13	13.9
July	71.0	39.9	0.56	48.1	29.2	96.6	90.9	16	13.1
August	65.6	36.4	0.55	45.4	27.5	90.7	89.3	16	12.2
September	39.2	22.1	0.56	42.9	25.9	90.8	87.8	21	11.8
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			79.0		9	
September	25.2	14.5	0.58			77.8		8	
October	15.7	10.4	0.66			74.3		8	
November	31.5	21.5	0.68			86.4		9	
December	22.2	13.6	0.61			84.3		15	
2007									
January	26.6	16.9	0.64			83.5		6	
February	17.2	10.6	0.62			77.8		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 12 March 2007

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.

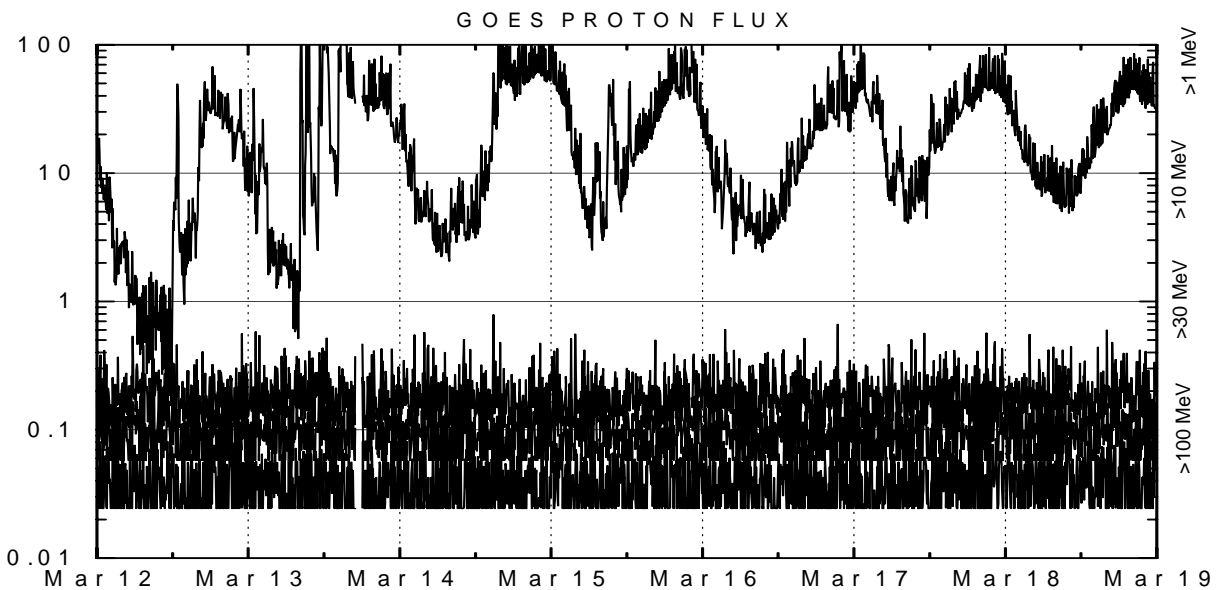
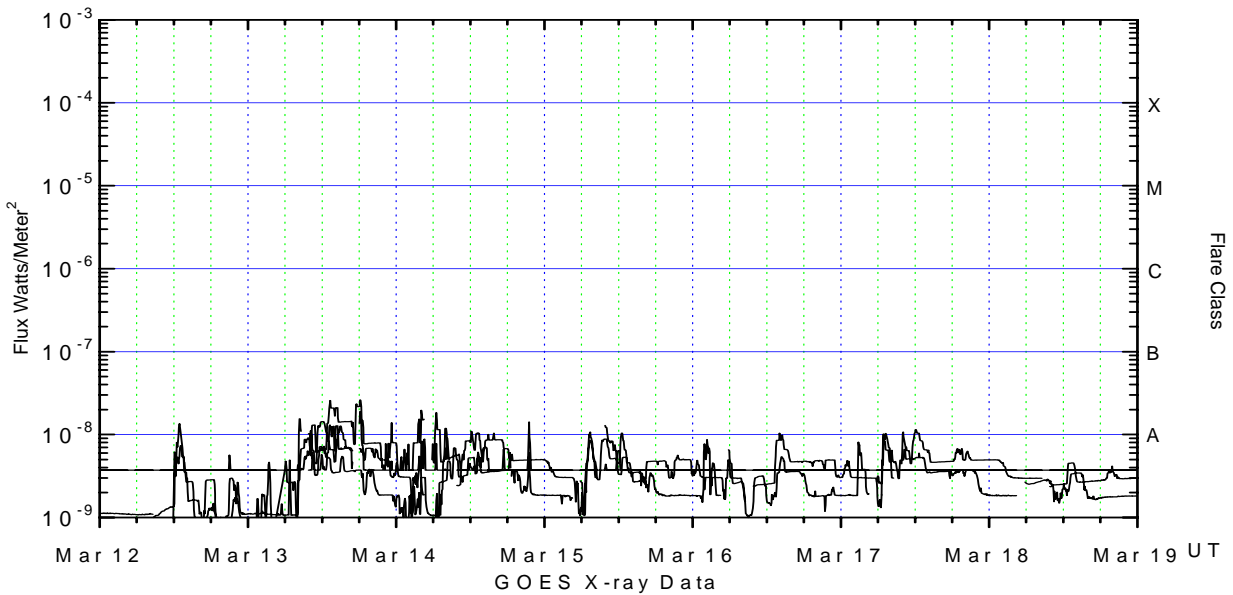
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec-sr) with energies greater than 2 MeV at GOES-12 (W075).

H_p 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_p 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 K_p 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_p 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 12 (W075) 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.

