

Solar activity ranged from very low to low levels. Very low levels occurred on 09 and 12 February, while low levels were observed on 07, 08, 10, 11, and 13 February. Though very active during its previous rotation as Region 720, activity from new Region 732 (N11, L=184, class/area, Eso/090 on 12 February) was restricted to mostly B-class flares and one C1.2 flare at 08/2144 UTC. Most solar activity this period originated from three active regions in the southeast quadrant of the disk. Region 734 (S04, L=137, class/area, Hsx/080 on 13 February) and Region 735 (S08, L=120, class/area, Dho/410 on 11 February) produced low level B and C-class activity since first rotating onto the disk on 09 and 10 February, respectively. The most significant activity occurred from new Region 733 (S08, L=149, class/area, Hhx/340 on 11 February) when at 13/1040 UTC, the region produced a C2.7 with a Type II (813 km/s) sweep and weak discrete radio signatures. A slow, faint, partial halo CME was first observed on LASCO imagery at 13/1130 UTC. Radial speed of the main component was 467 km/s. Two CME's were observed on LASCO imagery on 11 February on the SE limb, however, they were determined not to be geoeffective. All other regions on the disk were magnetically simple and stable.

Solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft during most of the summary period. The period began with the solar wind at near 400 km/s and the IMF Bz at +/- 10 nT. By midday on the 7th, a recurrent coronal hole high speed wind stream rotated into a geoeffective position. Solar wind speed increased from about 400 km/s to near 800 km/s late on 07 February and remained steady at near 750 km/s through midday on the 10th. Thereafter, and through the remainder of the period, solar wind speed gradually decayed, and ended the period at near 400 km/s. From midday on the 7th, for a period of about 12 hours, the IMF Bz oscillated north +15 nT and south -10 nT. For the remainder of the period, the IMF Bz did not vary much beyond +/- 5 nT.

No greater than 10 MeV proton events were observed this period.

The greater than 2 MeV electron flux at geosynchronous orbit was at high levels from 08 – 13 February.

The geomagnetic field ranged from quiet to major storm levels with isolated severe storming at high latitudes. The period began with quiet to unsettled conditions. Midday on 07 February, activity levels increased to active to major storming, with some isolated high latitude severe storming, as a recurrent coronal hole high speed wind stream rotated into a geoeffective position. Storm conditions persisted through midday on the 9th at the lower latitudes, and through midday on the 10th at the higher latitudes. By 11 February, and through to the end of the period, geomagnetic conditions were mostly quiet to unsettled with one isolated period of major storming observed at high latitudes midday on the 11th.

Space Weather Outlook **16 February – 14 March 2005**

Solar activity is expected to be at very low to low conditions the entire forecast period.

A greater than 10 MeV proton event is not expected.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 16 – 21 February, 25 February – 02 March, and 07 – 10 March.

The geomagnetic field is expected to range from quiet to minor storm levels. Coronal hole high speed wind streams are expected to produce unsettled to active levels with occasional minor storm periods on 17 - 19 February, 24 – 28 February, and 06 – 09 March. Otherwise, expect quiet to unsettled conditions.



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
07 February	103	62	360	B2.2	4	0	0	1	1	0	0	0
08 February	108	53	360	B2.0	2	0	0	0	0	0	0	0
09 February	109	60	490	B1.9	0	0	0	0	1	0	0	0
10 February	114	63	530	B2.1	1	0	0	3	0	0	0	0
11 February	114	73	900	B2.1	1	0	0	0	3	0	0	0
12 February	116	72	790	B1.8	0	0	0	4	0	0	0	0
13 February	116	73	720	B1.6	2	0	0	3	1	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ² -day-sr)			Electron Fluence (electrons/cm ² -day-sr)		
	>1MeV	>10MeV	>100MeV	>.6MeV	>2MeV	>4MeV
	07 February	1.5E+6	1.5E+4	2.8E+3		3.0E+6
08 February	4.7E+6	1.4E+4	2.8E+3		9.8E+7	
09 February	5.2E+6	1.4E+4	2.8E+3		3.4E+8	
10 February	6.3E+6	1.3E+4	2.6E+3		4.7E+8	
11 February	3.2E+6	1.3E+4	2.7E+3		6.3E+8	
12 February	1.2E+6	1.3E+4	2.8E+3		4.2E+8	
13 February	1.6E+6	1.4E+4	2.9E+3		7.8E+8	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	07 February	19	2-2-2-2-3-3-5-5	50	2-2-2-5-7-6-6-4	23
08 February	27	5-6-3-2-2-3-3-4	71	4-5-3-5-6-6-8-4	34	4-6-4-3-4-4-4-4
09 February	14	2-3-4-3-3-2-2-3	45	3-3-6-6-6-5-4-3	25	3-4-5-4-4-3-3-3
10 February	11	3-3-2-2-3-2-3-1	29	3-4-5-5-5-4-3-2	17	4-4-3-3-4-2-3-2
11 February	7	2-3-2-2-1-1-2-2	19	1-2-3-6-4-2-2-2	11	2-3-3-3-2-1-3-2
12 February	3	2-2-1-0-1-0-2-0	3	2-1-1-0-1-0-1-1	5	2-2-1-1-1-1-2-0
13 February	2	2-1-1-1-0-0-1-0	3	1-2-0-2-1-0-1-1	4	1-1-1-1-0-1-2-1

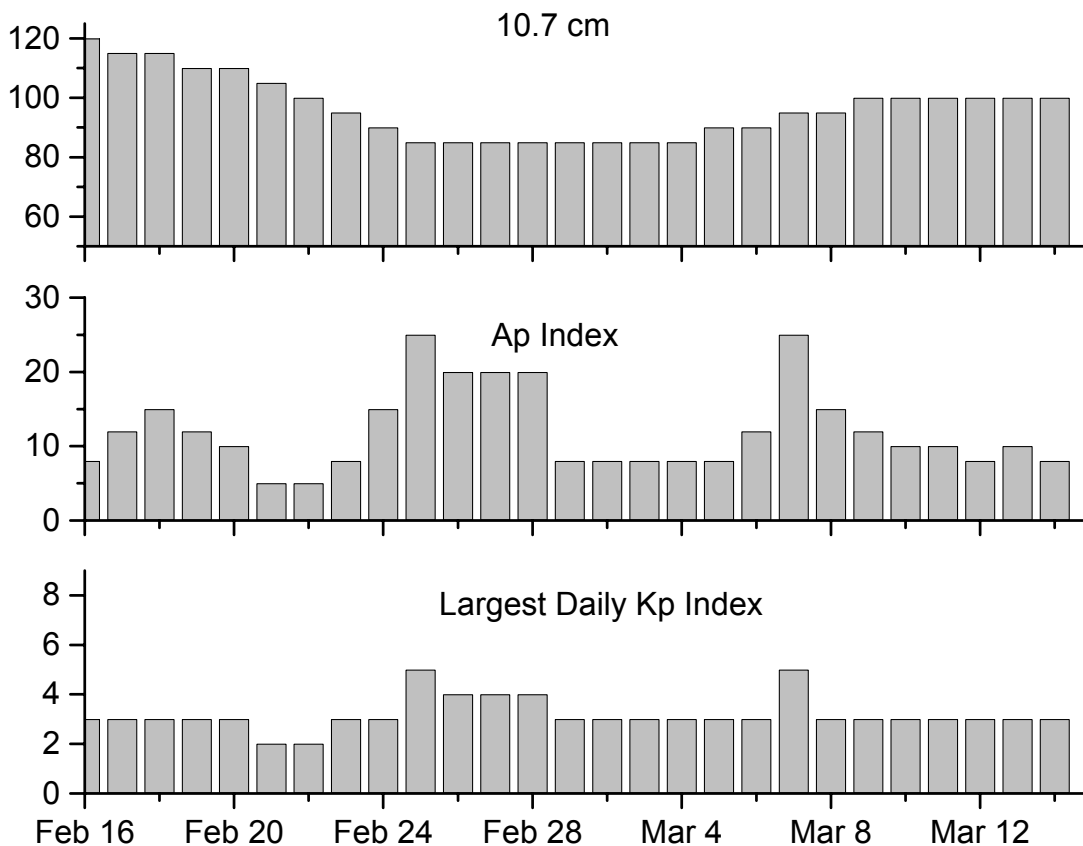


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
07 Feb 0007	245 MHz Radio Burst	06 Feb
07 Feb 1419	ALERT: K = 4	07 Feb 1405
07 Feb 1437	ALERT: K = 5	07 Feb 1430
07 Feb 1553	WARNING: K = 4	07 Feb 1555 – 08/1600
07 Feb 1619	ALERT: K = 4	07 Feb 1615
07 Feb 1639	WARNING: K = 5	07 Feb 1639 – 2359
07 Feb 1642	ALERT: K = 5	07 Feb 1640
07 Feb 2332	EXTENDED WARNING: K = 5	07 Feb 1639 – 08/1600
08 Feb 0344	ALERT: K = 6	08 Feb 0341
08 Feb 1421	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08 Feb 1400
08 Feb 1554	EXTENDED WARNING: K = 4	07 Feb 1555 – 08/2359
08 Feb 2302	EXTENDED WARNING: K = 4	07 Feb 1555 – 09/1600
09 Feb 0702	WARNING: K = 5	09 Feb 0702 – 1600
09 Feb 0707	ALERT: K = 5	09 Feb 0703
09 Feb 0825	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	09 Feb 0800
09 Feb 1556	EXTENDED WARNING: K = 4	07 Feb 1555 – 09/2359
09 Feb 2237	EXTENDED WARNING: K = 4	07 Feb 1555 – 10/1600
10 Feb 0537	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10 Feb 0520
11 Feb 0010	245 MHz Radio Burst	10 Feb
11 Feb 0629	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	11 Feb 0500
12 Feb 0012	245 MHz Radio Burst	11 Feb
12 Feb 0012	245 MHz Noise Storm	11 Feb
12 Feb 0525	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12 Feb 0500
13 Feb 0008	245 MHz Noise Storm	12 Feb
13 Feb 0536	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	13 Feb 0500
13 Feb 1124	ALERT: Type II Radio Emission	13 Feb 1041



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
16 Feb	120	8	3	02 Mar	85	8	3
17	115	12	3	03	85	8	3
18	115	15	3	04	85	8	3
19	110	12	3	05	90	8	3
20	110	10	3	06	90	12	3
21	105	5	2	07	95	25	5
22	100	5	2	08	95	15	3
23	95	8	3	09	100	12	3
24	90	15	3	10	100	10	3
25	85	25	5	11	100	10	3
26	85	20	4	12	100	8	3
27	85	20	4	13	100	10	3
28	85	20	4	14	100	8	3
01 Mar	85	8	3				



Energetic Events

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

No Events Observed

Flare List

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
07 February	0010	0013	0014	B2.8			
	0115	0118	0120	B2.9			
	0338	0348	0402	B7.3			732
	B0607	0610	0611	B6.1	Sf	N15E69	
	B0621	0644	A0644		1f	N15E69	
	0801	0820	0833	B5.9			
	0945	0951	0956	C1.8			733
	1306	1344	1406	B9.9			
	1659	1704	1715	C1.1			733
	1720	1730	1736	C1.8			733
	2053	2110	2116	B5.8			733
	2126	2130	2137	B5.1			733
	2236	2244	2253	C3.7			733
	08 February	0430	0439	0456	B3.8		
1519		1527	1533	C1.9			733
2134		2144	2153	C1.2			732
09 February	0121	0125	0130	B3.6			732
	0307	0312	0316	B5.0			733
	0610	0614	0616	B7.3			732
	0653	0658	0702	B5.1			732
	1209	1212	1219	B3.6			733
	1453	1457	1459	B4.7			733
	1506	1509	1511	B5.6			733
	2050	2055	2058	B4.1			734
	2135	2138	2140	B6.1			734
	2308	2311	2315	B6.5			734
10 February	B2333	2333	2337		1f	S04E55	
	0007	0010	0015	C1.7			734
	B0336	0336	0343		Sf	S04E53	
	B0405	0409	0411		Sf	S04E53	
	B0415	0416	0424		Sf	S04E52	
	0528	0532	0535	B5.2			734
	1025	1029	1035	B3.7			
11 February	1947	2014	2021	B7.0			735
	0954	1000	1005	C1.0			734
	1350	1353	1357	B6.3			735
	B2146	2157	2158		1f	S06E66	



Flare List - continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
11 February	B2200	2209	2212		1f	S06E66	
	B2321	2323	2333		1f	S05E66	
12 February	B0101	0105	0109		Sf	S06E65	
	0229	0235	0246	B5.3		S09E61	735
	B0338	0340	0349	B8.9	Sf	S06E63	735
	B0355	0402	0405		Sf	S06E63	735
	B0502	0505	0506		Sf	S06E62	735
	0513	0517	0522	B4.4			732
	1044	1049	1100	B3.6			732
	1112	1117	1121	B5.1			732
13 February	1248	1251	1253	B2.5			
	B0003	0010	0014		1f	S09E50	
	B0240	0240	0244		Sf	S08E48	
	1028	1040	1051	C2.7			733
	1209	1213	1218	B4.1			
	1454	1454	1503	C1.4	Sf	S05E23	734
	1724	1729	1733	B5.6			734
	B2223	2230	2236	B3.3	Sf	S10E37	

Region Summary

Date	Location		Sunspot Characteristics				Flares										
	(° Lat ° CMD)	Helio	Area (10 ⁻⁶ hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
		Lon						C	M	X	S	1	2	3	4		
<i>Region 729</i>																	
31 Jan	S10E18	306	0070	05	Dsi	011	B										
01 Feb	S08E06	305	0060	06	Cso	005	B										
02 Feb	S10W10	308	0060	07	Dao	007	B										
03 Feb	S11W25	310	0020	01	Hsx	002	A										
04 Feb	S11W39	312	0020	01	Hsx	001	A										
05 Feb	S11W52	312	0010	01	Axx	001	A										
06 Feb	S11W66	312	0020	01	Hsx	001	A										
07 Feb	S11W79	312	0020	01	Hax	001	A										
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude:305



Region Summary – continued.

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

Region 730

04 Feb	S20E73	200	0060	02	Hsx	001	A
05 Feb	S20E60	200	0030	01	Hsx	001	A
06 Feb	S20E46	200	0050	02	Hax	001	A
07 Feb	S20E33	200	0060	07	Cso	003	B
08 Feb	S20E20	200	0070	06	Dso	009	B
09 Feb	S21E09	198	0090	06	Cao	006	B
10 Feb	S20W05	199	0050	02	Hax	002	A
11 Feb	S20W19	199	0050	02	Hax	002	A
12 Feb	S20W32	199	0010	02	Axx	004	A
13 Feb	S19W44	198	0010	01	Axx	003	A

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude:199

Region 731

06 Feb	S02E27	219	0030	03	Dso	002	B
07 Feb	S02E14	217	0010	01	Hax	002	A
08 Feb	S02E01	217					

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude:217

Region 732

06 Feb	N09E70	176	0040	08	Dao	003	B
07 Feb	N09E57	176	0090	08	Dso	005	Bg
08 Feb	N12E37	183	0050	16	Fso	010	Bg
09 Feb	N14E28	179	0060	10	Fai	010	Bg
10 Feb	N17E17	177	0040	08	Dro	006	B
11 Feb	N11W04	184	0040	10	Dro	014	Bg
12 Feb	N11W17	184	0090	11	Eso	014	Bg
13 Feb	N12W30	184	0030	06	Dso	009	B

1 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude:184



Region Summary – continued.

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

Region 733

07 Feb	S09E78	155	0180	02	Hax	001	A	4									
08 Feb	S08E67	153	0240	03	Hkx	004	A	1									
09 Feb	S08E54	153	0280	04	Hsx	003	A										
10 Feb	S08E40	154	0310	03	Cho	003	B										
11 Feb	S08E31	149	0340	05	Hhx	003	A										
12 Feb	S08E14	153	0250	03	Hax	002	A										
13 Feb	S09E01	153	0230	03	Hax	002	A	1									
								6	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude:153

Region 734

09 Feb	S04E71	136	0060	02	Hax	001	A										
10 Feb	S04E57	137	0050	02	Hax	001	A	1									
11 Feb	S04E44	136	0060	02	Hsx	001	A	1									
12 Feb	S05E31	136	0060	02	Hsx	001	A										
13 Feb	S04E17	137	0080	02	Hsx	001	A	1			1						
								3	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude:137

Region 735

10 Feb	S08E74	120	0080	04	Hsx	001	A										
11 Feb	S08E60	120	0410	06	Dho	003	B										
12 Feb	S08E47	120	0380	04	Hhx	001	A				1						
13 Feb	S09E34	120	0370	07	Dho	008	B										
								0	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude:120

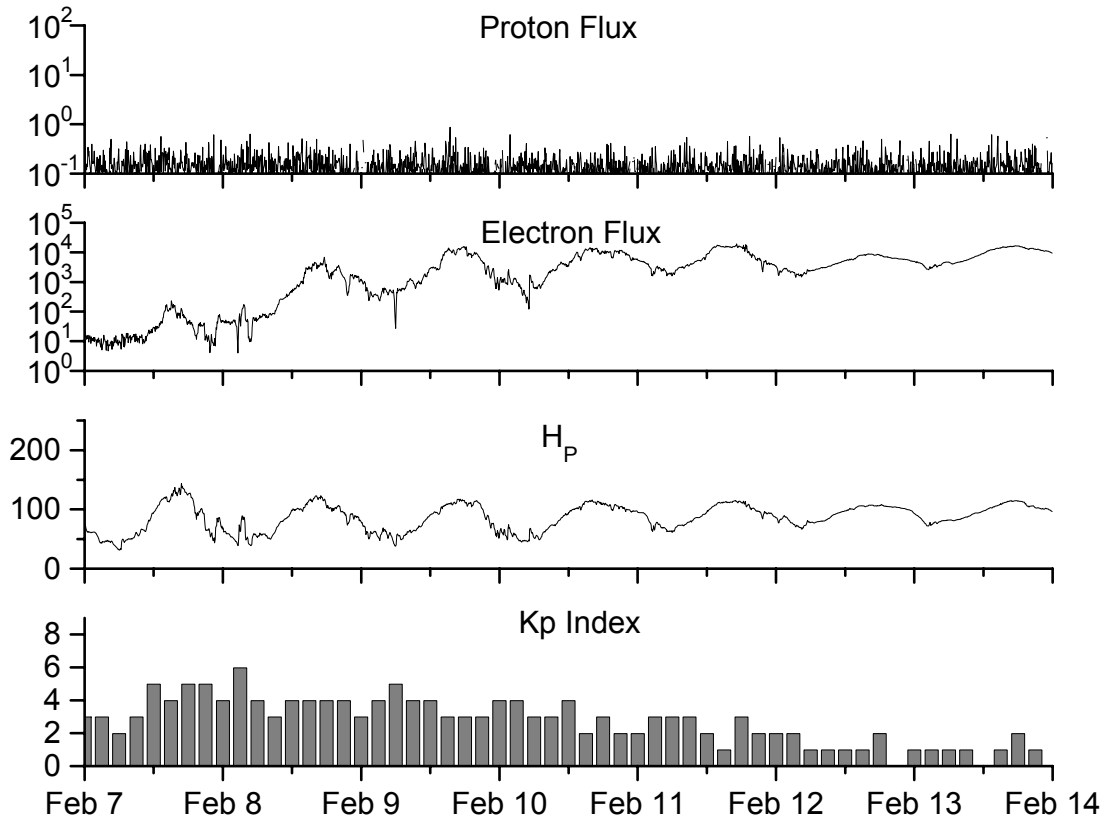


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	Observed SWO	values RI	Ratio RI/SWO	Smooth SWO	values RI	*Penticton 10.7 cm	Smooth Value	Planetary Ap	Smooth Value
2003									
February	87.0	46.0	0.53	136.4	78.5	124.5	144.7	17	18.9
March	119.7	61.1	0.51	128.1	74.2	132.2	139.5	21	19.4
April	119.7	60.0	0.50	121.5	70.3	126.3	135.0	20	20.1
May	89.6	55.2	0.62	118.3	67.8	129.3	133.1	26	21.0
June	118.4	77.4	0.65	113.6	65.2	129.4	130.2	24	21.5
July	132.8	85.0	0.64	106.9	62.0	127.8	127.2	19	22.0
August	114.3	72.7	0.64	102.8	60.3	122.1	125.2	23	22.2
September	82.6	48.8	0.59	100.7	59.8	112.3	123.7	18	21.8
October	118.9	65.5	0.55	96.6	58.4	153.1	121.8	35	21.1
November	118.9	67.3	0.57	93.6	57.0	153.1	120.1	28	20.0
December	75.4	46.5	0.62	91.4	55.0	115.1	118.0	16	18.6
2004									
January	62.3	37.7	0.61	87.9	52.0	114.1	116.3	22	18.1
February	75.6	45.8	0.61	84.2	49.4	107.0	115.5	13	17.7
March	81.0	49.1	0.61	80.9	47.2	112.2	114.6	14	16.9
April	59.3	39.3	0.66	77.9	45.6	101.2	112.3	11	15.5
May	77.3	41.5	0.54	74.1	43.9	99.8	109.2	8	14.3
June	78.9	43.2	0.55	70.4	41.7	97.4	107.2	8	14.0
July	87.8	51.0	0.58	68.3	40.2	118.5	105.9	23	13.8
August	69.5	40.9	0.59			110.1		11	
September	50.0	27.7	0.55			103.1		10	
October	77.9	48.4	0.62			105.7		9	
November	70.5	43.7	0.62			113.2		26	
December	34.7	17.9	0.52			94.6		11	
2005									
January	52.0	31.3	0.60			102.4		22	

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 07 February 2005*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec-sr) as measured by GOES-11 (W109) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

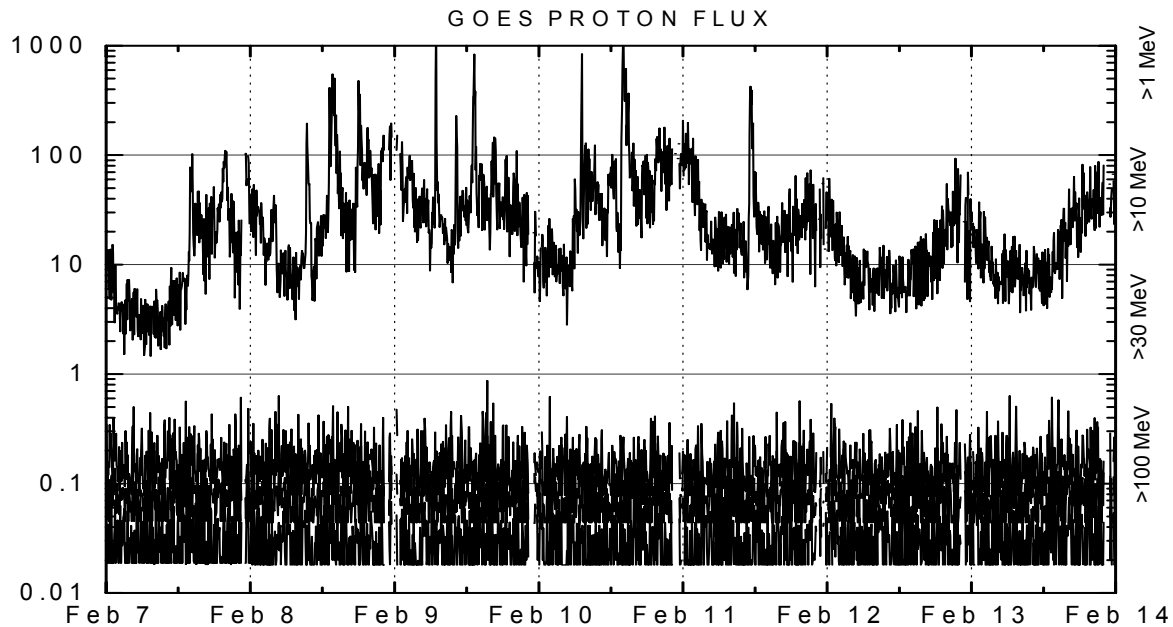
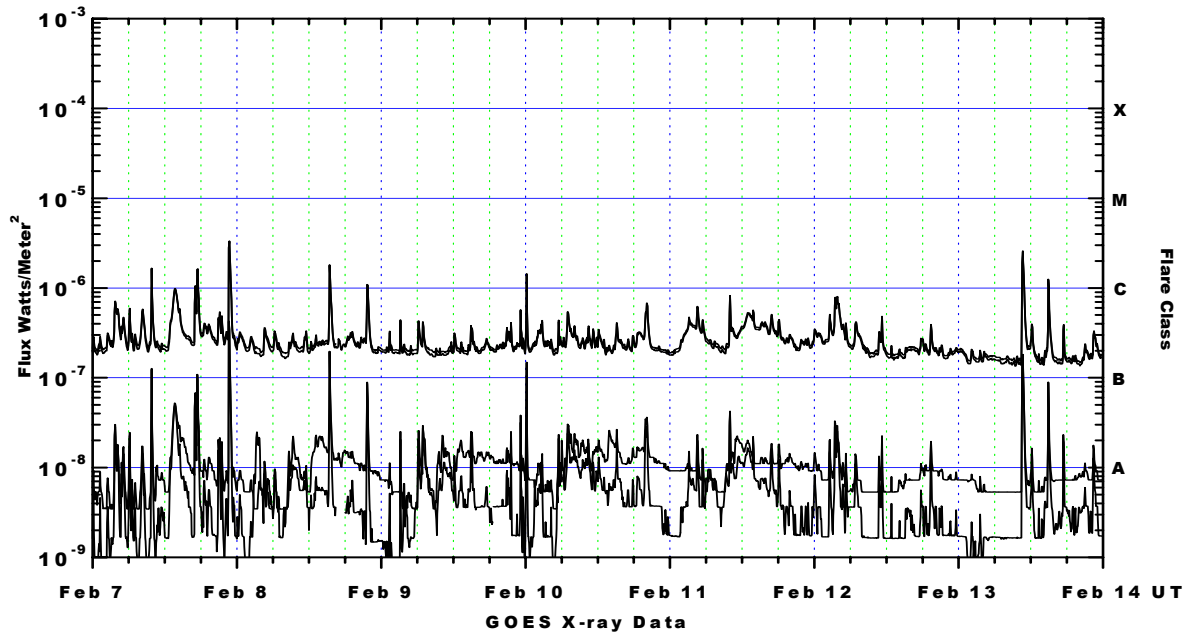
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec-sr) with energies greater than 2 MeV at GOES-12 (W75).

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 SWO 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 (W76) and GOES 10 (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 (W109) 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.

