

Space Weather Highlights
04 - 10 March 2002

SWO PRF 1384
12 March 2002

Solar activity ranged from very low to moderate levels during the period. Activity was mostly low during 04 – 08 March with isolated to occasional C-class flares. Region 9845 (N17, L = 013, class/area Fai/430 on 05 March) was a source for some of the C-class flares and was one of the regions of interest by virtue of its moderate size and magnetic complexity. It crossed the west limb on 07 March. Activity increased to moderate levels during 09 – 10 March due to three long-duration, low-level M-class flares (for flare specifics, please refer to the Energetic Events or Optical Flare lists). Region 9866 (S10, L = 190, class/area Eki/840 on 10 March) produced two of these as it rotated into view on 09 March (the third flare was optically unassociated). Region 9866 was large, magnetically complex, and in a gradual growth phase at the close of the period.

Solar wind data were available from NASA Advanced Composition Explorer (ACE) spacecraft for most of the summary period. A high-speed solar wind stream was observed during 04 – 07 March. This stream was likely associated with a recurrent positive-polarity coronal hole. Solar wind velocities gradually increased during 04 - 05 March and reached a peak wind speed of around 740 km/sec early on 05 March. The high-speed stream subsided early on 08 March. There were some periods of sustained southward IMF Bz detected on 10 March (roughly 10/0900 – 1300 UTC) with peak southward deflections to minus 06 nT (GSM).

There were no proton events at geo-synchronous orbit during the period.

The greater than 2 MeV electron fluxes at geo-synchronous orbit ranged from normal to high levels. High electron flux levels occurred on 07 March.

Geomagnetic field activity was at quiet to unsettled levels during 04 March. Activity increased to quiet to active levels during 05 – 07 due to recurrent coronal hole effects. Field activity decreased to quiet to unsettled levels during 08 – 09 March. Activity increased to quiet to active levels on 10 March associated with a period of sustained southward IMF Bz.

Space Weather Outlook
13 March - 08 April 2002

Solar activity is expected to be at low to moderate levels. Isolated, low-level M-class flares are possible throughout the forecast period.

Greater than 2 MeV electron fluxes are expected to be at normal to moderate levels during most of the period. However, high flux levels will be possible around 04 – 05 April.

There is a slight chance for a proton event during the period.

Geomagnetic field activity is expected to be at quiet to unsettled levels during most of the period. However, active conditions will be possible during 02 – 03 April.



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 March	175	197	1120	B7.3	3	0	0	2	0	0	0	0
05 March	172	168	900	B6.4	0	0	0	0	0	0	0	0
06 March	178	191	870	B9.9	1	0	0	0	0	0	0	0
07 March	180	152	630	B7.2	8	0	0	1	0	0	0	0
08 March	177	133	610	C1.0	8	0	0	2	0	0	0	0
09 March	184	107	900	C1.0	6	2	0	4	3	0	0	0
10 March	179	114	1210	C2.0	8	1	0	3	0	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
	04 March	4.4E+4	1.1E+4	2.6E+3		6.5E+4
05 March	3.9E+5	1.1E+4	2.6E+3		9.2E+4	
06 March	4.7E+5	1.3E+4	2.9E+3		1.1E+6	
07 March	8.9E+5	1.3E+4	2.7E+3		1.7E+7	
08 March	9.2E+5	1.4E+4	2.9E+3		1.2E+7	
09 March	6.3E+5	1.4E+4	2.8E+3		8.3E+6	
10 March	6.4E+5	1.3E+4	2.8E+3		2.3E+6	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	04 March	9	3-0-1-1-2-4-2-2	9	3-0-1-2-2-3-3-2	9
05 March	10	2-3-2-2-3-3-2-2	26	2-4-4-3-4-5-5-2	15	3-4-2-3-3-4-3-3
06 March	16	2-3-1-2-3-4-5-2	39	3-2-3-5-5-6-6-3	15	2-3-3-3-3-4-4-3
07 March	5	2-1-2-2-2-0-0-2	*	1-1-3-*. *-2-2-5	10	2-1-3-3-4-2-2-2
08 March	4	1-1-2-2-1-1-1-1	10	1-1-3-5-1-0-0-0	4	1-1-2-3-0-1-1-1
09 March	3	1-0-0-1-1-2-2-1	12	0-0-0-4-3-4-1-1	5	1-0-0-2-3-3-2-1
10 March	6	0-1-0-3-3-1-1-2	9	0-1-0-4-4-2-1-2	9	1-1-0-4-4-2-2-3

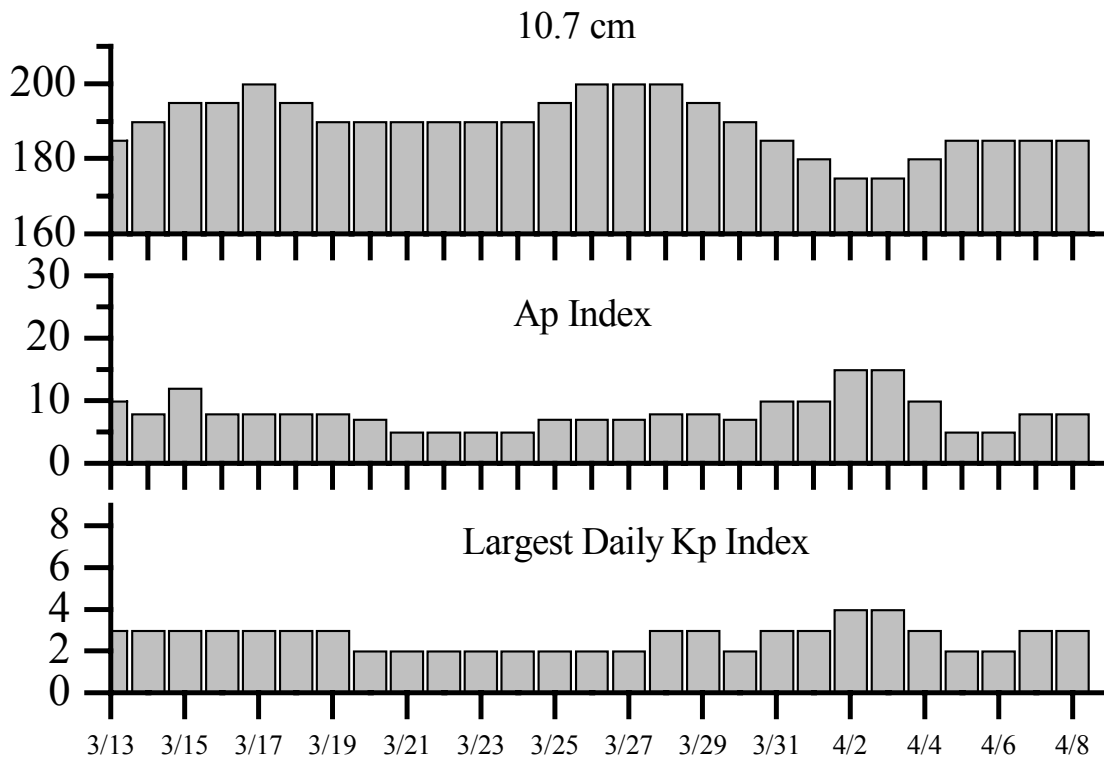


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
04 Mar 0002	K= 4 Observed	03 Mar 2100 - 2400
04 Mar 1327	Stratwarm Alert Exists Monday	
04 Mar 1619	EXTENDED K= 4 Warning	03 Mar 2350 - 06 Mar 1800
04 Mar 2155	A \geq 20 Watch	05 Mar
05 Mar 0025	2 - 245 MHz Radio Bursts	04 Mar
05 Mar 1402	Stratwarm Alert Exists Tuesday	
06 Mar 0034	2 - 245 MHz Radio Bursts	05 Mar
06 Mar 1325	Stratwarm Alert Exists Wednesday	
06 Mar 1758	EXTENDED K= 4 Warning	03 Mar 2350 - 07 Mar 1800
06 Mar 2105	A \geq 20 Observed	06 Mar 2100
07 Mar 0104	2 - 245 MHz Radio Bursts	06 Mar
07 Mar 0600	ENDED A \geq 20 Observed	06 Mar 2100
07 Mar 1243	Stratwarm Alert Exists Thursday	
08 Mar 0049	2 - 245 MHz Radio Bursts	07 Mar
09 Mar 2305	Type IV Radio Emission	09 Mar 2232
10 Mar 0208	10cm Radio Burst 190 F.U.	10 Mar 0134



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 Mar	185	10	3	27 Mar	200	7	2
14	190	8	3	28	200	8	3
15	195	12	3	29	195	8	3
16	195	8	3	30	190	7	2
17	200	8	3	31	185	10	3
18	195	8	3	01 Apr	180	10	3
19	190	8	3	02	175	15	4
20	190	7	2	03	175	15	4
21	190	5	2	04	180	10	3
22	190	5	2	05	185	5	2
23	190	5	2	06	185	5	2
24	190	5	2	07	185	8	3
25	195	7	2	08	185	8	3
26	200	7	2				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½ Max	Class	Integ Flux	Imp/Location		Rgn #	Radio Flux		Intensity	
						Brtns	Lat CMD		245	2695	II	IV
09 Mar	1831	1856	1939	M2.6	.075	1f	S09E79	9866				
09 Mar	2144	2210	2243	M1.3	.033	1f	S09E66	9866				1
10 Mar	2221	2325	0029	M2.3	.110							

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location Lat CMD		
04 March	0608	0609	0613	C1.4	Sf	N13W45	9845	
	0729	0733	0735	C3.2				
	1403	1406	1409	B9.5	Sf	N19W50	9845	
	2052	2055	2057	C1.4				
05 March	0531	0534	0540	B9.0				
06 March	0827	0839	0853	C1.3				
07 March	0807	0822	0838	C2.5				
	1113	1122	1135	C1.8				
	1250	1250	1254		Sf	N06W67	9862	
	1338	1359	1440	C2.7				
	1621	1625	1629	C1.8				
	1709	1714	1718	C1.6				
	1748	1755	1808	C2.5				
	2046	2104	2129	C6.3				
	2216	2240	2255	C7.8				
	08 March	0010	0017	0020	C3.5			
0141		0142	0144		Sf	S10E04	9859	
0222		0231	0245	C2.4				
0902		0907	0911	C4.3				
1103		1111	1117	C2.2				
1217		1217	1227	C1.9	Sf	S10E00	9859	
1451		1456	1501	C2.0				
1647		1653	1655	C8.6				
09 March	1753	1758	1803	C4.4				
	0100	0149	0203	C2.1				
	0503	0511	0537	C1.8	Sf	N23E52	9864	
	0908	0909	0914	C1.8	Sf	S06E82	9866	
	1050	1058	1106	C2.8				
	1401	1417	1439	C3.3	1f	N20E46	9864	
	1432	1434	1438		Sf	S09E80	9866	
	1616	1619	1627	C1.6	Sf	N18E44	9864	
	1837	1839	1905	M2.6	1f	S09E79	9866	
	2143	2206	2340	M1.3	1f	S09E66	9866	



Flare List - continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
10 March	0133	0136	0138	C5.1			
	0323	0329	0342		Sf	N23E35	9864
	0504	0504	0511	C6.0	Sf	S06E76	9866
	0938	0945	0954	C2.0			
		0959	1003	1005	C2.2		
	1057	1105	1108	C2.7			
	1158	1202	1204	C1.6			
	1225	1229	1235	C2.0			
	2159	2200	2205	C2.6	Sf	S08E58	9866
	2221	2325	0029	M2.3			

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 9837</i>																		
20 Feb	N07E69	059	0060	03	Hsx	001	A											
21 Feb	N08E57	058	0140	03	Hax	001	A											
22 Feb	N09E44	058	0120	04	Cao	006	B	1				2						
23 Feb	N09E32	056	0080	04	Dao	008	B											
24 Feb	N10E18	057	0080	05	Dao	008	B											
25 Feb	N09E03	059	0040	03	Dao	006	B											
26 Feb	N09W09	058	0020	04	Dso	004	B	1				1						
27 Feb	N10W23	059	0000	01	Axx	002	A											
28 Feb	N10W31	053	0010	02	Axx	002	A											
01 Mar	N10W44	053																
02 Mar	N10W57	053																
03 Mar	N10W70	053																
04 Mar	N10W83	053																
								2	0	0	3	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 059



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 9840

21 Feb	S12E72	043	0020	02	Axx	002	A											
22 Feb	S12E58	044	0020	04	Cso	002	B											
23 Feb	S11E46	042	0040	03	Cso	002	B											
24 Feb	S11E33	042	0020	01	Hsx	001	A											
25 Feb	S11E20	042	0010	01	Hsx	002	A											
26 Feb	S11E07	042																
27 Feb	S11W06	042																
28 Feb	S11W19	042																
01 Mar	S11W32	042																
02 Mar	S14W52	048	0000	01	Axx	001	A											
03 Mar	S16W64	047	0010	04	Bxo	004	B											
04 Mar	S19W77	047	0060	05	Cao	005	B											
05 Mar	S19W90	047																

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 042

Region 9843

22 Feb	S26E58	044	0020	02	Axx	003	A											
23 Feb	S26E46	042	0050	04	Cao	004	B											
24 Feb	S25E33	042	0020	06	Cro	002	B											
25 Feb	S26E18	044	0020	04	Cso	004	B											
26 Feb	S26E06	043	0030	05	Cso	007	B											
27 Feb	S26W08	044	0020	06	Dso	010	B											
28 Feb	S26W20	042	0060	08	Dso	012	B											
01 Mar	S26W33	042	0110	09	Dao	011	B											
02 Mar	S26W47	043	0100	09	Dao	012	B											
03 Mar	S25W60	043	0050	09	Dao	007	B											
04 Mar	S26W72	042	0070	02	Cso	001	B											
05 Mar	S26W84	040	0010	01	Axx	001	A											
06 Mar	S26W95	038																

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 043



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	4			
<i>Region 9844</i>																		
23 Feb	N22E33	055	0040	06	Cso	004	B											
24 Feb	N22E18	057	0100	07	Dso	010	B	2				6						
25 Feb	N22E05	057	0130	09	Dai	018	B					2						
26 Feb	N22W08	057	0120	08	Dai	020	B											
27 Feb	N22W21	057	0190	09	Dai	022	B					2						
28 Feb	N22W34	056	0230	10	Dai	024	B	1				3						
01 Mar	N22W48	057	0160	10	Dai	012	B											
02 Mar	N22W61	057	0130	10	Dao	010	B	1				1						
03 Mar	N23W76	059	0100	06	Cao	005	B											
04 Mar	N21W87	057	0080	03	Cao	004	B											
								4	0	0	14	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 057

<i>Region 9845</i>																		
23 Feb	N15E71	017	0080	02	Hax	002	A											
24 Feb	N15E58	017	0060	01	Hax	002	A					1						
25 Feb	N17E47	015	0080	07	Dao	004	B											
26 Feb	N17E35	014	0130	10	Dao	011	B	1				2						
27 Feb	N17E21	015	0160	11	Eai	022	B					1						
28 Feb	N18E08	014	0320	13	Eai	025	B											
01 Mar	N17W04	013	0390	13	Eki	020	B					1						
02 Mar	N18W18	014	0370	14	Eki	024	Bg	2				2						
03 Mar	N18W33	016	0390	16	Fki	026	Bg											
04 Mar	N17W46	016	0420	18	Fko	026	Bg	1				2						
05 Mar	N17W60	016	0430	20	Fai	019	Bg											
06 Mar	N17W73	016	0290	19	Fai	010	Bg											
07 Mar	N17W86	016	0080	10	Dso	005	B											
								4	0	0	9	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 013



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	4		
<i>Region 9847</i>																	
24 Feb	S14E50	025	0050	04	Cso	007	B										
25 Feb	S14E37	025	0060	07	Dao	006	B										
26 Feb	S14E24	025	0040	06	Cso	008	B										
27 Feb	S14E10	026	0010	04	Bxo	004	B										
28 Feb	S13W01	023	0010	01	Axx	002	A										
01 Mar	S14W15	024	0010	04	Bxo	004	B										
02 Mar	S13W30	026	0000	00	Axx	001	A	1				2					
03 Mar	S13W43	026															
04 Mar	S13W56	026															
05 Mar	S13W69	026															
06 Mar	S13W82	026															
07 Mar	S13W95	026															
																	1 0 0 2 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 023

<i>Region 9848</i>																	
25 Feb	S20E33	029	0020	04	Cso	004	B										
26 Feb	S20E20	029	0060	05	Dso	010	B										
27 Feb	S20E05	031	0050	05	Dao	008	B										
28 Feb	S20W07	029	0050	06	Dso	008	B	1				2					
01 Mar	S20W21	030	0030	07	Cao	004	B	1				1					
02 Mar	S19W34	030	0020	07	Bxo	005	B										
03 Mar	S19W45	028	0000	01	Axx	001	A										
04 Mar	S19W58	028															
05 Mar	S19W71	028															
06 Mar	S19W84	028															
07 Mar	S19W97	028															
																	2 0 0 3 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 031



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 9851

01 Mar S07E56	313	0050	06	Dso	005	B	2			2						
02 Mar S05E42	314	0040	08	Dso	008	B										
03 Mar S06E29	314	0040	08	Cao	007	B										
04 Mar S06E16	314	0070	10	Dai	014	B										
05 Mar S06E02	314	0070	10	Dai	019	B										
06 Mar S02W11	314	0120	13	Eai	021	B										
07 Mar S02W24	314	0130	13	Esi	025	B										
08 Mar S02W37	314	0090	10	Dao	013	B										
09 Mar S04W52	316	0060	08	Dso	009	B										
10 Mar S06W67	318	0060	07	Dao	004	B										
							2	0	0	2	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 314

Region 9852

01 Mar N16E66	303	0010	01	Axx	001	A										
02 Mar N15E52	304	0000	00	Axx	001	A										
03 Mar N15E39	304															
04 Mar N15E26	304															
05 Mar N15E13	304															
06 Mar N17W05	308	0010	02	Axx	003	A										
07 Mar N17W18	308															
							0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 308

Region 9853

02 Mar S24E69	287	0010	01	Hrx	001	A										
03 Mar S23E54	289	0050	02	Hax	003	A										
04 Mar S23E42	288	0080	07	Dao	007	B										
05 Mar S23E28	288	0080	07	Dao	010	B										
06 Mar S23E15	288	0070	07	Dao	010	B										
07 Mar S23E02	288	0070	07	Dao	009	B										
08 Mar S23W11	288	0040	08	Cao	008	B										
09 Mar S22W26	290	0020	04	Cso	003	B										
10 Mar S24W39	290	0020	03	Cro	002	B										
							0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 288



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 9854

03 Mar N11W09	352	0020	03	Cso	008	B
04 Mar N10W24	354	0030	03	Cro	005	B
05 Mar N10W37	354					
06 Mar N10W50	354					
07 Mar N10W63	354					
08 Mar N10W76	354					

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 352

Region 9855

03 Mar N12E24	319	0020	03	Cao	007	B
04 Mar N13E10	320	0030	04	Cao	005	B
05 Mar N13W03	320					
06 Mar N13W16	320					
07 Mar N13W29	320					
08 Mar N13W42	320					

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 320

Region 9856

03 Mar S06E74	269	0110	02	Hax	001	A
04 Mar S08E61	269	0220	06	Cso	003	B
05 Mar S06E48	268	0180	10	Cao	005	B
06 Mar S05E35	268	0210	03	Hkx	001	A
07 Mar S05E22	268	0200	03	Cso	002	B
08 Mar S05E07	268	0150	04	Cso	002	B
09 Mar S03W06	270	0160	03	Hsx	002	A
10 Mar S03W18	269	0150	06	Cso	005	B

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 270

Region 9857

04 Mar S04W58	028	0000	01	Axx	002	A
05 Mar S04W72	028	0030	04	Bxo	004	B
06 Mar S04W85	028	0050	06	Dso	002	B
07 Mar S04W96	026					

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 028



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 9858

04 Mar	S30E05	325	0030	03	Dao	003	B											
05 Mar	S30W08	324	0020	03	Dso	003	B											
06 Mar	S29W21	324	0010	01	Axx	001	A											
07 Mar	S29W34	324																
08 Mar	S29W47	324																
09 Mar	S29W60	324																
10 Mar	S29W73	324																

Still on Disk.

Absolute heliographic longitude: 325

Region 9859

04 Mar	S10E47	283	0030	02	Cso	002	B											
05 Mar	S10E34	282	0030	08	Cro	004	B											
06 Mar	S10E21	282	0030	08	Dso	009	B											
07 Mar	S10E08	282	0030	06	Cso	008	B											
08 Mar	S10W05	282	0070	09	Cso	013	B	1			2							
09 Mar	S10W20	284	0030	06	Dso	009	B											
10 Mar	S11W33	284	0030	06	Cro	007	B											

Still on Disk.

Absolute heliographic longitude: 282

Region 9860

05 Mar	S06E61	255	0020	02	Axx	002	A											
06 Mar	S06E48	255	0010	01	Axx	002	A											
07 Mar	S06E35	255																
08 Mar	S06E22	255																
09 Mar	S06E09	255																
10 Mar	S06W04	255																

Still on Disk.

Absolute heliographic longitude: 255



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 9861

05 Mar	N07E66	250	0030	01	Hsx	001	A											
06 Mar	N08E53	250	0010	01	Axx	001	A											
07 Mar	N08E40	250	0010	01	Hsx	001	A											
08 Mar	N08E27	250																
09 Mar	N08E14	250																
10 Mar	N08E01	250																
												0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 250

Region 9862

06 Mar	N06W58	001	0030	05	Cso	006	B											
07 Mar	N06W71	001	0050	06	Dso	006	B				1							
08 Mar	N06W84	001	0040	04	Cso	003	B											
												0	0	0	1	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 001

Region 9863

06 Mar	N18W37	340	0030	04	Dro	005	B											
07 Mar	N18W50	340	0010	04	Bxo	005	B											
08 Mar	N18W63	340	0010	01	Axx	001	A											
09 Mar	N19W75	339																
10 Mar	N19W88	339																
												0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 340

Region 9864

07 Mar	N18E69	221	0050	02	Hsx	001	A											
08 Mar	N18E56	221	0080	02	Hsx	001	A											
09 Mar	N19E43	221	0070	04	Cso	005	B	3			2	1						
10 Mar	N20E29	222	0090	05	Cao	006	B				1							
								3	0	0	3	1	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 222

Region 9865

08 Mar	N14E72	205	0010	01	Axx	001	A											
09 Mar	N14E58	206	0000	00	Axx	001	A											
10 Mar	N15E43	208	0020	01	Hrx	001	A											
												0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 208



Region Summary - continued.

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	4
<i>Region 9866</i>														
08 Mar	S10E80	197	0120	02	Hsx	001	A							
09 Mar	S10E73	191	0560	15	Eko	008	Bg	1	2		2	2		
10 Mar	S09E61	190	0840	14	Eki	019	Bg	2			2			
								3	2	0	4	2	0	0

Still on Disk.

Absolute heliographic longitude: 190

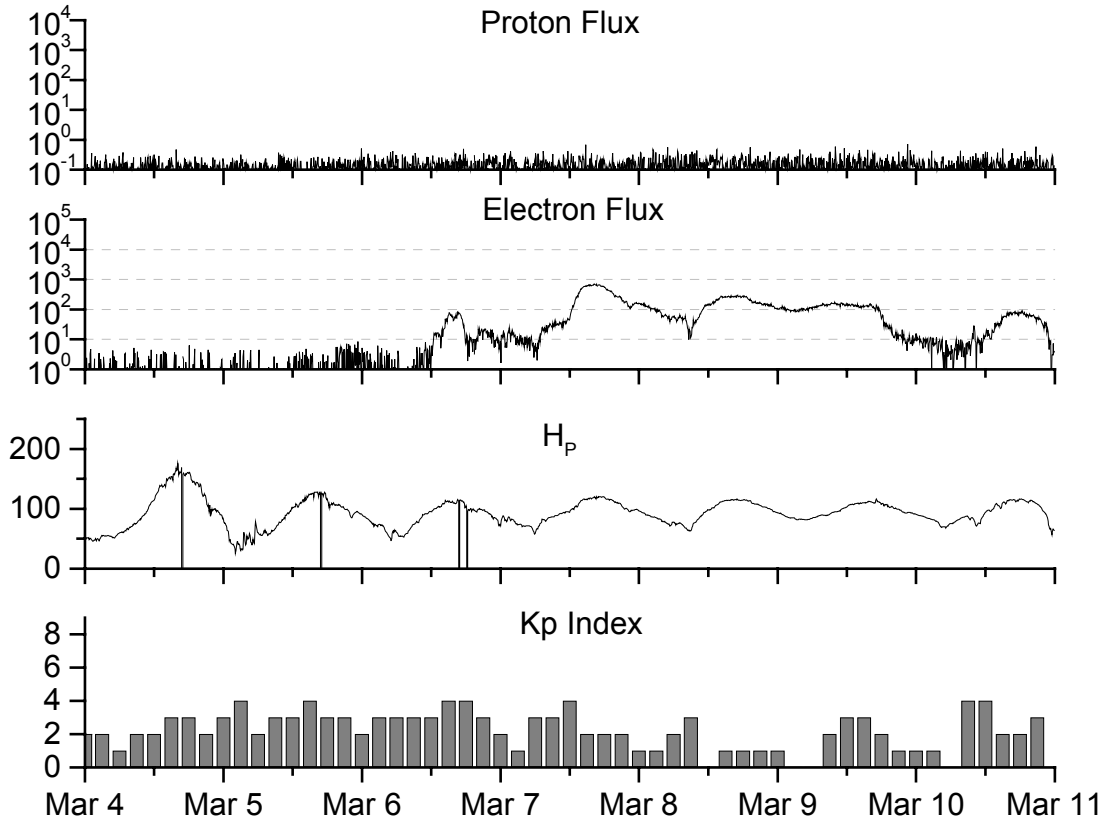


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	Observed values SWO	Ratio RI	Ratio RI/SWO	Smooth values SWO	Smooth values RI	*Penticton 10.7 cm	Smooth Value	Planetary Ap	Smooth Value
2000									
February	161.9	112.9	0.70	172.1	116.7	173.2	176.8	15	15.0
March	203.6	138.5	0.68	175.4	119.9	208.2	178.4	09	15.0
April	193.4	125.5	0.65	176.3	120.8	184.2	180.5	15	15.0
May	188.8	121.6	0.64	173.1	119.0	184.5	180.0	15	15.0
June	190.3	124.9	0.66	172.0	118.7	179.8	179.7	15	15.1
July	236.7	169.1	0.71	173.0	119.7	204.7	180.2	21	14.8
August	166.6	130.5	0.78	171.8	118.6	163.1	179.5	16	14.2
September	157.9	109.9	0.70	169.0	116.2	182.1	177.1	18	14.2
October	138.9	100.1	0.72	166.2	114.4	167.7	175.6	18	14.6
November	149.9	106.5	0.71	162.7	112.7	178.8	173.6	17	14.6
December	146.4	104.5	0.71	160.8	112.1	173.6	172.0	08	14.4
2001									
January	142.7	95.1	0.67	156.3	108.8	166.7	168.8	08	13.8
February	131.0	80.1	0.61	151.4	104.2	147.3	165.8	06	13.3
March	166.7	114.2	0.69	154.0	104.9	177.7	167.9	17	12.9
April	163.6	108.2	0.66	159.4	107.7	178.3	171.7	18	12.7
May	135.1	97.3	0.72	163.1	108.8	148.7	174.8	12	12.5
June	196.7	134.0	0.68	167.2	109.9	173.7	178.8	12	12.4
July	124.6	82.2	0.66	172.1	111.8	131.3	183.9	11	12.4
August	159.4	106.8	0.67	176.7	113.8	163.2	188.8	13	12.5
September	229.1	150.7	0.66			233.3		12	
October	197.4	125.6	0.64			208.2		18	
November	178.6	106.5	0.60			212.5		14	
December	217.5	131.8	0.61			236.6		08	
2002									
January	189.0	113.9	0.60			226.4		07	
February	194.5	108.0	0.56			205.1		09	

NOTE: All smoothed values after June 1999 and monthly values after December 2000 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 22, RI= 158.5, occurred July 1989. *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 March 2002

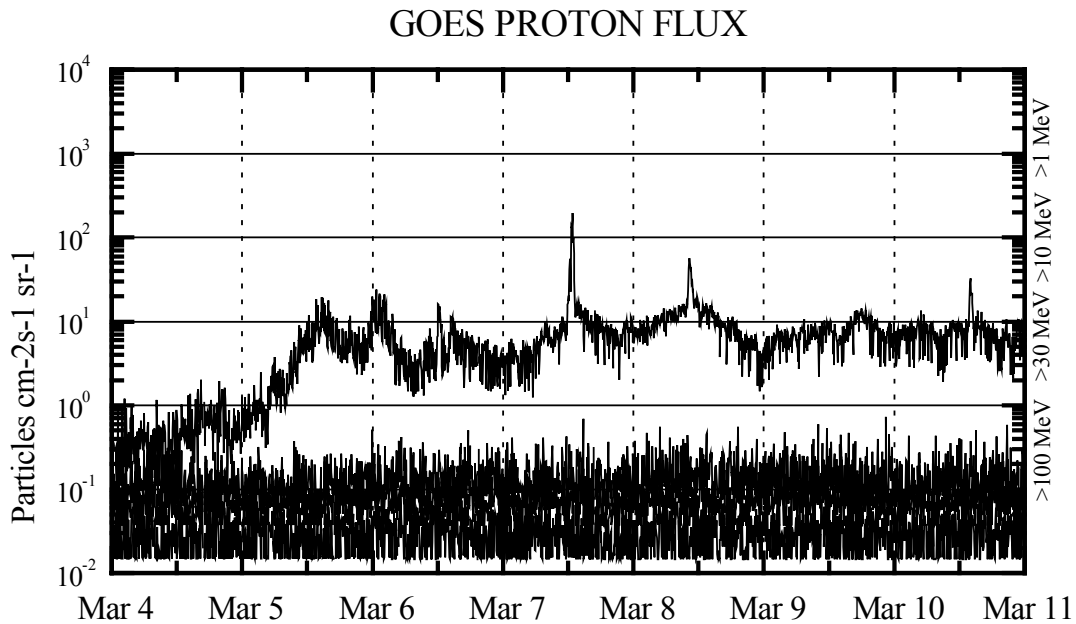
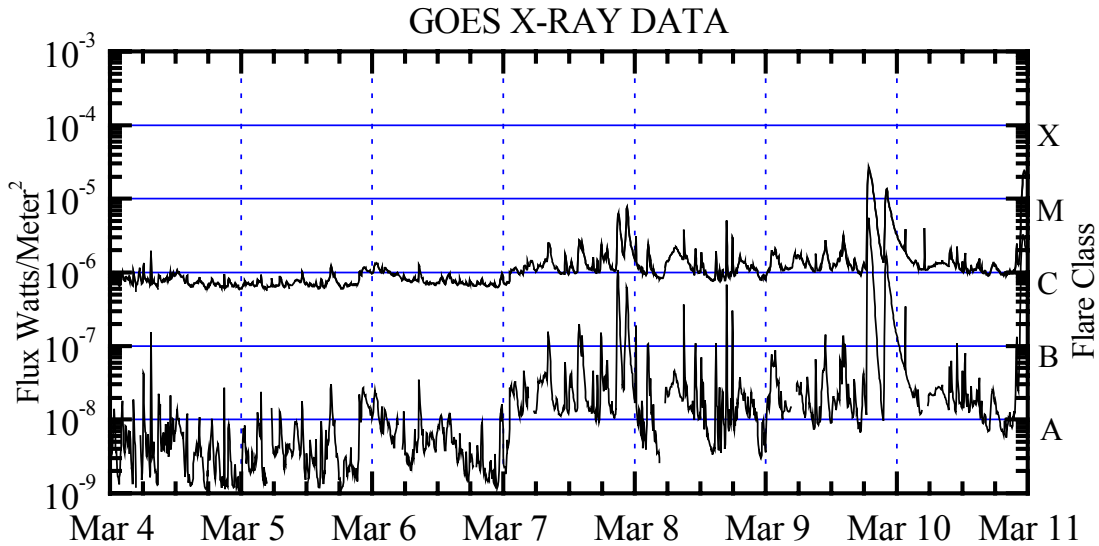
Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by GOES-8 (W75) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

H_p plot contains the five minute averaged magnetic field H - component in nanoteslas (nT) as measured by GOES-8. 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 Heartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC) 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_p 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 8 and 10 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-8 (W75) 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.

