

Space Weather Highlights

03 - 09 April 2000

SWO PRF 1284
11 April 2000

Solar activity ranged from low to moderate levels. The period began with activity at low levels on 03 April. Region 8948 (S15, L = 130, class/area Eai/160 on 09 April) produced isolated M-class flares which included an optically uncorrelated M1 flare on 04 April. The location was verified by using EIT images from the SOHO spacecraft. Region 8933 (N17, L = 267, class/area Eko/420 on 04 April) produced a C9/2F event on 04/1541UT. This event was accompanied by a Disappearing Solar Filament (DSF) and a Coronal Mass Ejection (CME) that produced geomagnetic storming later in the period. Solar activity was low on 05 April and moderate on 06 April due to an M1/2B event at 06/0229UT from Region 8948. Activity was low on 07 April and moderate for the last two days of the period. Region 8948 produced isolated M-class events during that time, an M2/1B on 08/0240UT, an M1/1N on 08/2046UT and an M1/1N on 09/0416UT. Region 8948 was by far the most active region during the period, becoming 52-spot Eai group with a Gamma-Delta magnetic classification on 09 April.

Real-time solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft for most of the period. Changes in the interplanetary field were observed on 04 April. IMF Bz began the day around -7 nT, turned positive (+10 nT) around 04/0200UT, and returned negative (-7 nT) after 04/1100UT. A shock was detected at 06/1600UT, at that time velocity jumped from 400 km/s to 560 to 580 km/s. An associated sudden impulse was detected at 06/1640 of 37 nT, as observed at San Juan. This disturbance was most likely the consequence of the halo CME associated with the C9/2F flare on 04 April. Solar wind speeds remained elevated for the remainder of the period, ranging from 510 to 620 km/s on 09 April.

The greater than 10 MeV protons at geosynchronous orbit reached the 10 PFU level at 04/2055UT. The greater than 10 MeV protons peaked at 55 PFU on 05/0653UT and the proton event ended at 06/0155UT. An associated Polar Cap Absorption (PCA) event began at 05/0653UT, reached a maximum of 2.2 db at 05/0950UT, and ended at 05/1807UT.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels.

The geomagnetic field began the period at quiet to unsettled levels. Major storming was observed on 04 April due to IMF Bz fluctuations described above. Unsettled to active conditions were observed on 05 April. Major storms occurred on 06 April and severe storms occurred on 07 April due to the halo CME observed on 04 April. Conditions were mostly quiet to unsettled for the remainder of the period with isolated active conditions reported at high latitudes on 08 April.

Space Weather Outlook

12 April - 08 May 2000

Solar activity is expected to vary between low and moderate levels with isolated low-level M-class flares likely. There will also be a slight chance for isolated major flare activity sometime during the period due to the return of previously active longitudes.

There will be a slight chance for a proton flux event at geosynchronous orbit sometime during the period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels during most of the period.

Barring an Earth-directed coronal mass ejection (CME), geomagnetic field activity is expected to be at quiet to unsettled levels for most of the period.



Daily Solar Data

Date	Radio Flux 10.7 cm	Sun spot No. (10 ⁶ hemi.)	Sunspot Area	X-ray Background	Flares							
					X-ray Flux			Optical				
					C	M	X	S	1	2	3	4
03 April	215	252	1100	C1.0	4	0	0	7	0	0	0	0
04 April	207	184	1180	C1.1	4	1	0	6	0	1	0	0
05 April	194	221	1040	C1.5	1	0	0	16	0	0	0	0
06 April	178	155	620	B9.6	2	1	0	4	1	1	0	0
07 April	175	172	730	B8.7	4	0	0	5	0	0	0	0
08 April	182	167	760	B7.6	9	2	0	15	2	0	0	0
09 April	176	160	630	C1.0	6	2	0	6	1	1	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
03 April	9.3E+4	1.2E+4	2.5E+3		1.9E+7	
04 April	3.2E+6	2.2E+5	2.6E+3		4.0E+6	
05 April	7.1E+7	2.3E+6	2.4E+3		6.9E+6	
06 April	5.9E+7	3.7E+5	2.4E+3		2.4E+6	
07 April	5.0E+6	3.2E+4	2.0E+3		9.7E+4	
08 April	6.7E+5	1.3E+4	2.2E+3		3.1E+6	
09 April	3.5E+5	1.1E+4	2.1E+3		2.2E+7	

Daily Geomagnetic Data

Date	Middle Latitude		High Latitude		Estimated	
	Fredericksburg		College		Planetary	
	A	K-indices	A	K-indices	A	K-indices
03 April	12	3-3-2-3-3-2-2	*	*-*-*-*-*	12	3-3-3-3-3-2-2
04 April	23	6-4-2-0-3-4-3-3	*	*-*-*-*5-5	21	5-4-2-1-4-3-4-4
05 April	14	5-5-1-1-0-1-1-2	*	*-0-0-0-2-1-1	12	3-4-2-2-3-3-3-3
06 April	34	3-3-3-3-2-6-5-6	2	3-*-*-*4-6-7	56	3-3-3-3-3-6-7-8
07 April	34	7-4-4-3-3-3-3-3	29	6-4-5-3-2-4-3-3	50	8-5-5-4-3-4-4-3
08 April	8	2-1-3-2-1-1-2-3	21	2-1-6-5-3-2-2-2	14	2-2-4-4-3-3-3-3
09 April	12	3-3-2-2-2-2-3-4		3-2-2-3-5-4-4*	13	3-3-2-2-3-3-3-4

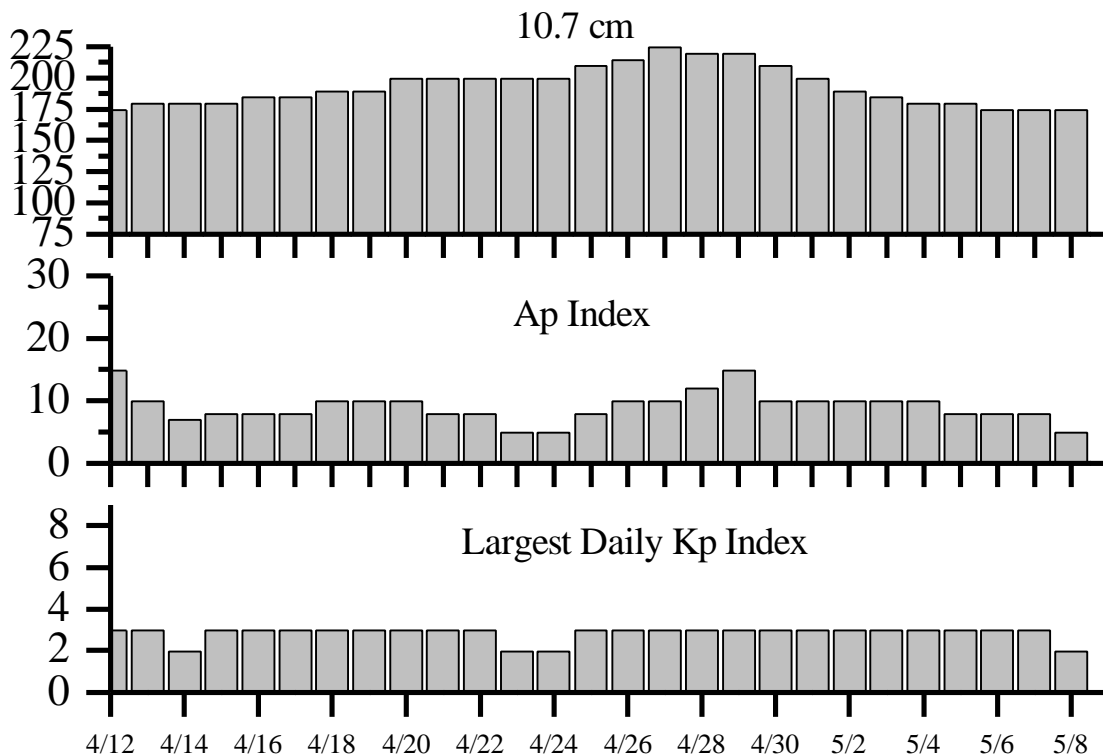


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event
03 Apr 0028	1 - 245 MHz Bursts	02 Apr
04 Apr 0014	1- 245 MHz Bursts	03 Apr
04 Apr 0304	A \geq 20 Observed	04 Apr 0300
04 Apr 0304	K= 6 Observed	04 Apr 00 - 03
04 Apr 0336	K= 4 Warning	04 Apr 0336 - 1500
04 Apr 1200	ENDED A \geq 20 Observed	04 Apr 0300
04 Apr 1400	CONTINUED K= 4 Warning	05 Apr 0000
04 Apr 1557	10cm Radio Burst 490 F.U.	04 Apr 1517
04 Apr 1801	A \geq 20 Observed	04 Apr 1800
04 Apr 2111	Proton Event >10 MeV \geq 10pfu	04 Apr 2055
05 Apr 0019	2 - 245 MHz Bursts	04 Apr
05 Apr 0100	CONTINUED Proton Event >10 MeV \geq 10pfu	04 Apr 2055
05 Apr 0300	ENDED A \geq 20 Observed	04 Apr 1800
05 Apr 0330	K= 4 Warning	05 Apr 03 - 15
05 Apr 0600	K= 4 Observed	05 Apr 03 - 06
05 Apr 2010	A \geq 20 Watch for	08 Apr
06 Apr 0015	2- 245 MHz Bursts	05 Apr
06 Apr 0015	245 MHz Noise Storms	05 Apr
06 Apr 0100	CONTINUED Proton Event >10 MeV \geq 10pfu	04 Apr 2055
06 Apr 0246	10cm Radio Burst 220 F.U.	06 Apr 0221
06 Apr 0308	Type II Radio Emission	06 Apr 0228
06 Apr 1135	ENDED Proton Event >10 MeV \geq 10pfu	04 Apr 2055
06 Apr 1645	K= 5 Warning	06 Apr 1645 - 07 Apr 0000
06 Apr 1801	K= 6 Observed	06 Apr 15 - 18
06 Apr 1826	Sudden Impulse observed at Boulder	06 Apr 1640
06 Apr 1919	K \geq 6 Warning	06 Apr 1920 - 07 Apr 1500
06 Apr 2032	CANCELLED A \geq 20 Watch	08 Apr
06 Apr 2034	A \geq 20 Watch	07 Apr
06 Apr 2100	A \geq 20 Observed	06 Apr 2100
06 Apr 2100	K= 5 Observed	06 Apr 18 - 21
06 Apr 2229	A \geq 30 Warning	06 Apr 2359 - 07 Apr 1500
07 Apr 0002	A \geq 30 Observed	06 Apr 2359
07 Apr 0002	K = 6 Observed	6 Apr 21- 24
07 Apr 0041	A \geq 50 Warning	07 Apr 0035 - 1500
07 Apr 0050	1- 245 MHz Bursts	06 Apr
07 Apr 0300	A \geq 50 Observed	07 Apr 0259
07 Apr 0300	K \geq 7 Observed	07 Apr 00 - 03
07 Apr 1718	K= 4 Warning	07 Apr 1730 - 2359
07 Apr 1803	K= 4 Observed	07 Apr 15 - 18
08 Apr 0050	1 - 245 MHz Bursts	07 Apr
08 Apr 0600	ENDED A \geq 50 Observed	07 Apr 0259
08 Apr 0600	ENDED A \geq 30 Observed	06 Apr 2359
08 Apr 0600	ENDED A \geq 20 Observed	06 Apr 2100
09 Apr 0040	4 - 245 MHz Bursts	08 Apr
09 Apr 0559	K= 4 Warning	09 Apr 06 - 18
09 Apr 1458	CANCELLED K= 4 Warning	09 Apr 06 - 18
09 Apr 2354	Type II Radio Emission	09 Apr 2338



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
12 Apr	175	15	3	26 Apr	215	10	3
13	180	10	3	27	225	10	3
14	180	7	2	28	220	12	3
15	180	8	3	29	220	15	3
16	185	8	3	30	210	10	3
17	185	8	3	01 May	200	10	3
18	190	10	3	02	190	10	3
19	190	10	3	03	185	10	3
20	200	10	3	04	180	10	3
21	200	8	3	05	180	8	3
22	200	8	3	06	175	8	3
23	200	5	2	07	175	8	3
24	200	5	2	08	175	5	2
25	210	8	3				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½ Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
									245	2695	II	IV
04 Apr	0118	0132	0144	M1.0	.011			8948				
06 Apr	0218	0229	0238	M1.8	.014	2B	S15E53	8948	42	220	2	
08 Apr	0234	0240	0250	M2.0	.012	1B	S15E26	8948	1200	160		
08 Apr	2040	2046	2049	M1.8	.006	1N	S14E19	8948				
09 Apr	0408	0416	0423	M1.1	.007	1N	S16E13	8948	42			
09 Apr	2326	2342	2355	M3.1	.032	2B	S14W01	8948	100	210	2	

Flare List

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
03 April	0700	0704	0708	C2.3			
	1103	1108	1113	C2.8			
	1702	1703	1712		SF	N16W56	8933
	1824	1826	1830		SF	S16E08	8936
	1848	1853	1905	C2.1	SF	N14W56	8933
	1939	1941	1947		SF	N22W19	8943
	2002	2006	2012		SF	N15W56	8933
	2026	2026	2037		SF	N15W57	8933
04 April	2101	2107	2113	C3.8			
	2326	2326	2332		SF	S19E05	8936
	0032	0036	0038		SF	N16W58	8933
	0118	0132	0144	M1.0			8948
	0514	0525	0539	C5.8			
	0645	0649	0653		SF	S12W41	8935
	B1032	U1036	A1054		SF	S16E00	8936
	1511	1534	1724	C9.7	2F	N16W66	8933
	1800	1803	1810	C1.9			
	2037	2037	2042		SF	S15W75	8925
05 April	2042	2050	2113	C2.5	SF	S06W10	8938
	2054	2054	2114		SF	S13W46	8932
	0025	0026	0041		SF	N16W73	8933
	0043	0043	0047		SF	S14E65	8948
	0104	0105	0114		SF	S17W11	8936
	0424	0428	0433	C1.6			
	0538	0545	0559		SF	N25W03	8939
	0549	0556	0603		SF	S08W50	8935
	0641	0642	0654		SF	N25W03	8939
	0648	0655	0703		SF	S17E62	8948
1641	1648	1655		SF	N15W62		
1724	1727	1734		SF	N21W08	8939	



Flare List-continued

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
05 April	1823	1827	1837		SF	S12E58	8948
	2013	2013	2024		SF	S14W58	8932
	2155	2156	2200		SF	N16W80	8933
	2239	2244	2248		SF	N16W66	8933
	2249	2250	2253		SF	N16W66	8933
	2255	2256	2259		SF	N17W83	8933
	2312	2312	2321		SF	N16W83	8933
06 April	0132	0133	0139		SF	N21W13	8939
	0221	0226	0324	M1.8	2B	S15E53	8948
	0555	0555	0604		SF	N16W88	8933
	B1007	U1010	1022	C2.5	SF	N13W17	8940
	1635	1635	1644		SF	S18W29	8936
07 April	1824	1845	1906	C2.3	1F	S13E43	8948
	0058	0100	0121	C2.2	SF	S16E38	8948
	0443	0449	0459	C2.4			
	0706	0708	0735		SF	S16E33	8948
	0834	0834	0841		SF	N09W03	8944
	1212	1217	1225	C1.7			
	1744	U1749	1810	C1.9	SF	S17E28	8948
08 April	2354	0016	0032		SF	S15E26	8948
	0129	0130	0138		SF	S16E27	8948
	0237	0241	0325	M2.0	1B	S15E26	8948
	0356	0357	0401		SF	N12E72	8951
	0412	0414	0422		SF	N10E68	8951
	0447	0447	0452		SF	S19E24	8948
	0659	0718	0731	C2.9	SF	S15E24	8948
	0738	0739	0743	C1.4	SF	S17E21	8948
	0918	0920	0924	C2.9	SF	S15E21	8948
	0935	0942	1005	C8.2	SF	S15E23	8948
	1403	1407	1410	C1.8	SF	S14E20	8948
	1411	1417	1422	C2.6	SF	S14E18	8948
	1427	1429	1438		SF	S15E18	8948
	1544	1654	1814	C1.9			
	1610	1610	1614		SF	S17E16	8948
	1840	1842	1851	C2.7	SF	S15E18	8948
	2041	2047	2142	M1.8	1N	S14E19	8948
B2056	U2056	A2114		SF	S14E18	8948	
2258	2301	2303	C2.1				
2343	2343	2349		SF	S21W72	8946	



Flare List-continued

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
09 April	0030	0036	0044	C2.2	SF	S16E15		8948
	0302	0311	0348		SF	S16E13		8948
	0407	0413	0442	M1.1	1N	S16E13		8948
	0516	0519	0525		SF	S13E13		8948
	0535	0536	0540		SF	S15E11		8948
	0741	0743	0809	C1.4	SF	N19W53		8939
	0950	0957	1005	C1.9				
	1358	1421	1438	C2.2				
	1529	1530	1539	C5.6	SF	S17E06		8948
	2122	2127	2132	C2.8				
	2329	U2336	A2356	M3.1	2B	S14W01		8948

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

Region 8924

23 Mar	N13E70	285	0110	11	CAO	004	B											
24 Mar	N12E55	287	0140	10	CSO	004	B											
25 Mar	N10E41	287	0120	07	DAO	012	B					2						
26 Mar	N10E27	288	0200	07	DAI	024	BG											
27 Mar	N10E13	289	0230	09	DAI	022	B					2						
28 Mar	N10W01	290	0290	08	DAI	028	B					2						
29 Mar	N10W14	290	0340	11	EKO	018	B											
30 Mar	N10W28	290	0300	09	DKO	016	BG											
31 Mar	N10W42	291	0290	09	DKI	019	BGD											
01 Apr	N10W55	291	0350	09	DSI	014	BG	1				2	1					
02 Apr	N11W69	292	0330	09	DAO	011	BG											
03 Apr	N12W82	292	0080	06	DAO	004	B											
								1	0	0	8	1	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 290



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 8925</i>																		
23 Mar	S17E76	279	0030	03	HAX	001	A											
24 Mar	S17E63	279	0090	07	CAO	002	B						1					
25 Mar	S18E50	278	0080	06	CSO	008	B						3					
26 Mar	S18E35	280	0170	07	DSI	017	BG						3					
27 Mar	S18E21	281	0270	10	DKI	020	B						1					
28 Mar	S17E08	281	0270	10	DKI	020	B						1					
29 Mar	S17W07	283	0180	11	EAI	027	B						2					
30 Mar	S18W20	282	0160	12	EAI	021	BG	3	1				7					
31 Mar	S18W33	282	0070	13	EAO	016	BG		1			1	1					
01 Apr	S18W44	280	0080	12	EAO	011	BG	1					2					
02 Apr	S18W56	279	0040	04	DAO	004	B	1					1					
03 Apr	S19W70	280	0010	01	AXX	001	A											
04 Apr	S19W83	280											1					
								5	2	0	23	1	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 283

Region 8928

24 Mar	N19E60	282	0060	09	CSO	002	B		1				2					
25 Mar	N19E45	283	0050	10	DAO	007	B	1					1					
26 Mar	N19E33	282	0060	11	CSO	008	B											
27 Mar	N18E16	286	0040	01	HSX	001	A											
28 Mar	N18E02	287	0040	01	HSX	001	A											
29 Mar	N19W12	288	0020	01	HSX	001	A											
30 Mar	N19W22	284	0020	01	HSX	001	A											
31 Mar	N19W39	288	0010	01	HSX	001	A											
01 Apr	N20W52	288	0010	01	HSX	001	A											
02 Apr	N21W64	287	0020	01	HSX	001	A											
03 Apr	N21W77	287																
								1	1	0	3	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 287



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 8933</i>																		
27 Mar	N16E33	269	0010	01	HRX	001	A											
28 Mar	N16E20	269	0020	11	ESO	007	B											
29 Mar	N16E07	269	0030	08	DSO	004	B											
30 Mar	N16W06	268	0020	08	CRO	005	B											
31 Mar	N15W17	266	0030	04	DAO	006	B											1
01 Apr	N16W30	266	0060	05	DSO	009	B											1
02 Apr	N17W44	267	0110	07	DSO	017	B											6
03 Apr	N18W58	268	0240	09	DSO	016	B	1										4
04 Apr	N17W70	267	0420	11	EKO	010	B	1										1
05 Apr	N18W84	267	0290	16	FAO	008	B											6
								2	0	0	0	19	0	1	0	0		

Crossed West Limb.

Absolute heliographic longitude: 268

Region 8934

27 Mar	N22E53	249	0010	02	BXO	003	B												1
28 Mar	N21E39	250	0020	04	CRO	004	B												
29 Mar	N22E25	251	0010	03	BXO	002	B												
30 Mar	N21E11	251	0010	00	AXX	001	A												
31 Mar	N21W02	251																	
01 Apr	N21W15	251																	
02 Apr	N21W28	251																	
03 Apr	N21W41	251																	
04 Apr	N21W54	251																	
07 Apr	N21W93	251																	
								0	0	0	0	1	0	0	0	0			

Crossed West Limb.

Absolute heliographic longitude: 251

Region 8935

29 Mar	S07E33	243	0030	05	CSO	011	B												
30 Mar	S07E20	242	0050	07	DAO	009	B	1											2
31 Mar	S08E06	243	0130	08	DAO	016	B												
01 Apr	S07W07	243	0170	06	DAO	013	B												
02 Apr	S07W20	243	0120	06	DAO	013	B												1
03 Apr	S07W34	244	0030	06	CAO	006	B												
04 Apr	S07W48	245	0020	01	HSX	001	A												1
05 Apr	S06W63	246	0010	01	HSX	001	A												1
06 Apr	S06W76	246	0000	01	AXX	001	A												
07 Apr	S06W89	246																	
								1	0	0	0	5	0	0	0	0			

Crossed West Limb.

Absolute heliographic longitude: 243



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 8936</i>																	
29 Mar	S16E71	205	0080	06	CSO	007	B	1			4						
30 Mar	S16E58	204	0140	07	DSO	010	B	4	3		13	1	1				
31 Mar	S15E47	202	0260	12	EAI	021	BD	4	1		9	1					
01 Apr	S15E33	203	0300	10	DKC	030	BG	1			5						
02 Apr	S15E21	202	0360	09	DAI	036	BG	1			4						
03 Apr	S14E06	204	0390	07	DAC	024	BD	1			2						
04 Apr	S16W07	204	0320	06	DAI	020	BG				1						
05 Apr	S15W21	204	0210	06	DAI	022	BG				1						
06 Apr	S15W34	204	0160	06	DAI	014	B				1						
07 Apr	S15W47	204	0130	05	CAO	012	BG										
08 Apr	S16W61	205	0070	04	CAO	005	B										
09 Apr	S15W74	205	0070	01	HAX	001	A										
								12	4	0	40	2	1	0	0		

Still on Disk.

Absolute heliographic longitude: 204

Region 8938

30 Mar	S07E56	206	0030	03	CSO	004	B				1						
31 Mar	S07E42	207	0010	02	CRO	002	B										
01 Apr	S06E30	206	0010	01	AXX	001	A										
02 Apr	S04E17	206	0020	01	AXX	003	A										
03 Apr	S04E04	206															
04 Apr	S04W09	206						1			1						
05 Apr	S04W22	206															
06 Apr	S04W35	206															
07 Apr	S08W47	204	0000	02	BXO	002	B										
08 Apr	S10W61	205	0000	01	BXO	002	B										
09 Apr	S10W74	205															
								1	0	0	2	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 206



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

Region 8939

30 Mar	N22E72	190	0030	03	HSX	001	A												2
31 Mar	N22E55	194	0030	03	CRO	003	B	1	4										8
01 Apr	N23E43	193	0130	05	DAO	008	B	2											5
02 Apr	N23E29	194	0120	06	DAO	009	B	1											8
03 Apr	N24E14	196	0080	05	DAO	011	B												
04 Apr	N23E01	196	0050	05	CSO	007	B												
05 Apr	N23W12	195	0060	05	CSO	008	B												3
06 Apr	N22W26	196	0080	04	CAO	006	B												1
07 Apr	N23W39	196	0060	04	CSO	005	B												
08 Apr	N22W53	197	0070	02	HSX	001	A												
09 Apr	N23W66	197	0060	02	HSX	001	A	1											1
								5	4	0	28	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 196

Region 8940

30 Mar	N13E65	197	0010	01	HRX	001	A												
31 Mar	N14E50	199	0020	00	HSX	001	A												
01 Apr	N14E38	198	0020	01	HRX	001	A												
02 Apr	N14E25	198	0020	01	HSX	001	A												
03 Apr	N14E12	198	0010	04	BXO	005	B												
04 Apr	N13E00	197	0010	02	HSX	002	A												
05 Apr	N12W12	195	0010	00	BXO	004	B												
06 Apr	N15W30	200	0000	00	AXX	001	A	1											1
07 Apr	N15W43	200																	
08 Apr	N15W56	200																	
09 Apr	N15W69	200																	
								1	0	0	1	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 197

Region 8942

31 Mar	S12E20	229	0010	04	BXO	004	B												
01 Apr	S12E06	230	0020	01	HRX	002	A												
02 Apr	S12W08	231	0050	06	CRO	010	B												
03 Apr	S10W25	235	0000	00	AXX	001	A												
04 Apr	S10W38	235	0010	00	HRX	001	A												
05 Apr	S10W53	236	0010	00	HRX	001	A												
06 Apr	S10W66	236																	
07 Apr	S10W79	236																	
								0	0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 230



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 8946

03 Apr	S24W10	220	0000	00	AXX	001	A											
04 Apr	S24W23	220																
05 Apr	S24W36	220																
06 Apr	S24W49	220																
07 Apr	S24W62	220																
08 Apr	S24W75	220											1					
09 Apr	S24W88	220																

Still on Disk.

Absolute heliographic longitude: 220

Region 8947

03 Apr	N23E02	208	0000	00	AXX	002	B											
04 Apr	N23W11	208																
05 Apr	N23W24	208																
06 Apr	N23W37	208																
07 Apr	N23W50	208																
08 Apr	N23W63	208																
09 Apr	N23W76	208																

Still on Disk.

Absolute heliographic longitude: 208

Region 8948

04 Apr	S15E70	127	0110	05	CSO	004	B		1									
05 Apr	S15E56	127	0110	05	DAO	007	B					3						
06 Apr	S15E42	128	0070	07	DSO	008	B	1	1				1	1				
07 Apr	S14E28	129	0110	11	ESI	021	BGD	2				4						
08 Apr	S15E14	130	0210	11	EAI	042	BGD	7	2			12	2					
09 Apr	S15E01	130	0160	12	EAI	052	GD	2	2			5	1	1				

Still on Disk.

Absolute heliographic longitude: 130



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 8949</i>														
05 Apr	S18E76	107	0050	02	HSX	002	A							
06 Apr	S19E68	102	0110	02	HSX	001	A							
07 Apr	S18E56	101	0190	11	CSO	004	B							
08 Apr	S19E43	101	0200	11	EAO	006	B							
09 Apr	S20E27	104	0150	08	CAO	006	B							
											0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 104														
<i>Region 8950</i>														
05 Apr	N18W64	247	0000	00	AXX	001	A							
06 Apr	N18W86	256	0000	06	BXO	002	B							
											0	0	0	0
Crossed West Limb.														
Absolute heliographic longitude: 247														
<i>Region 8951</i>														
07 Apr	N11E74	083	0060	02	HSX	001	A							
08 Apr	N13E64	080	0120	05	DSO	002	B				2			
09 Apr	N12E53	078	0130	05	CSO	003	B							
											0	0	0	2
Still on Disk.														
Absolute heliographic longitude: 78														
<i>Region 8952</i>														
07 Apr	S24E49	108	0010	03	BXO	002	B							
08 Apr	S23E36	108	0000	00	AXX	001	A							
09 Apr	S23E22	109	0000	00	AXX	001	A							
											0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 109														
<i>Region 8953</i>														
09 Apr	S14E72	059	0030	04	CSO	002	B							
											0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 059														

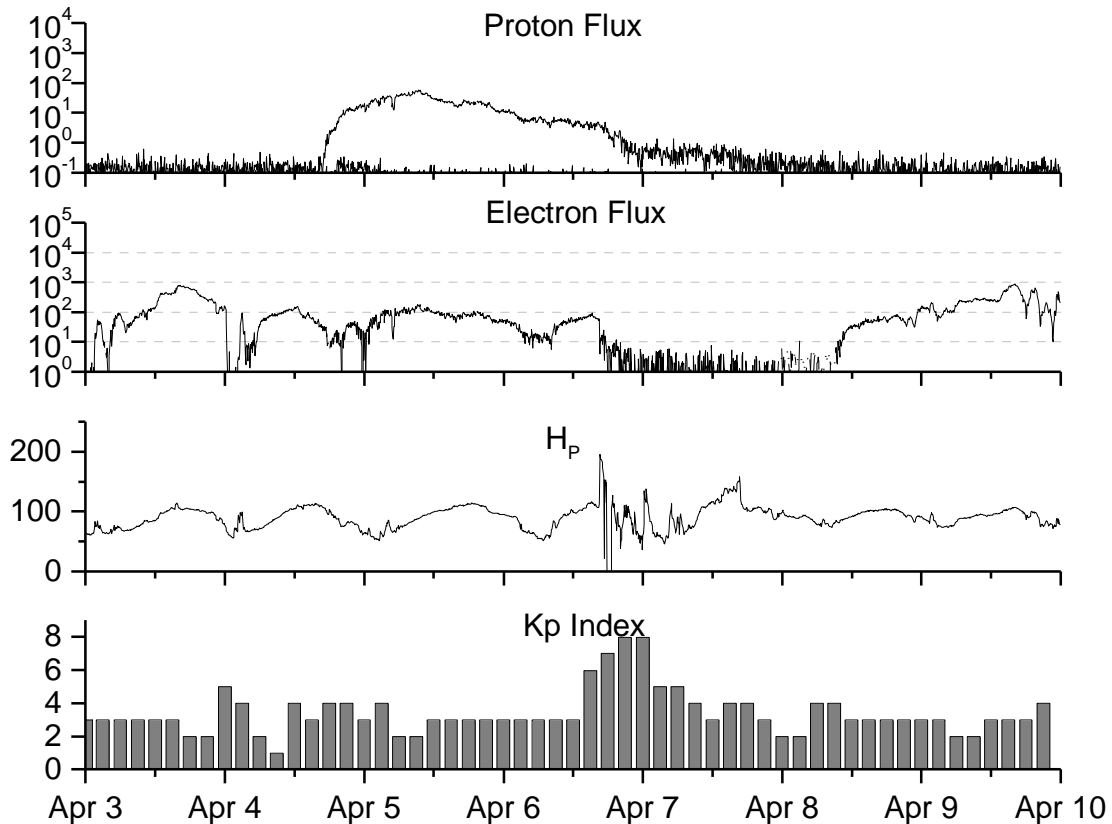


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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
1998									
April	73.6	53.4	0.73	77.7	56.5	108.3	108.9	10	11.3
May	74.3	56.3	0.76	81.4	59.4	106.7	112.0	18	11.6
June	93.6	70.7	0.76	85.9	62.5	108.4	115.8	10	11.9
July	98.3	66.6	0.68	90.3	65.5	114.0	120.3	11	12.2
August	118.6	92.2	0.78	93.7	67.8	136.0	124.1	18	12.4
September	119.0	92.9	0.78	96.1	69.5	138.3	126.8	13	12.6
October	77.0	55.5	0.72	97.7	70.5	117.3	127.9	13	12.8
November	99.5	74.0	0.74	101.3	73.0	140.2	130.0	16	12.4
December	120.8	81.9	0.68	108.8	77.9	150.1	134.3	08	11.9
1999									
January	94.3	62.0	0.66	116.5	82.6	142.6	139.0	10	11.7
February	93.4	66.3	0.71	120.2	84.6	142.0	142.6	12	11.6
March	100.5	68.8	0.68	120.5	83.8	126.3	144.0	14	11.7
April	92.9	63.7	0.69	123.8	85.4	117.2	145.8	12	12.2
May	140.5	106.3	0.76	131.7	90.4	148.6	150.0	08	12.4
June	208.3	137.4	0.66	136.0	93.0	169.8	152.9	07	12.4
July	169.2	113.5	0.67	138.0	94.4	165.6	154.4	10	12.3
August	136.1	93.7	0.69	142.8	97.5	170.8	156.4	15	12.2
September	107.4	70.9	0.66	150.0	102.3	135.7	161.1	19	12.0
October	167.7	116.4	0.69			164.9		19	
November	199.3	132.7	0.67			191.7		14	
December	123.5	86.4	0.70			169.8		10	
2000									
January	140.8	90.2	0.64			158.3		06	
February	161.9	112.3	0.69			173.7		13	
March	203.6	138.2	0.68			208.2		09	

NOTE: All smoothed values after November 1998 and monthly values after June 1999 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 03 Apr 2000*

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.

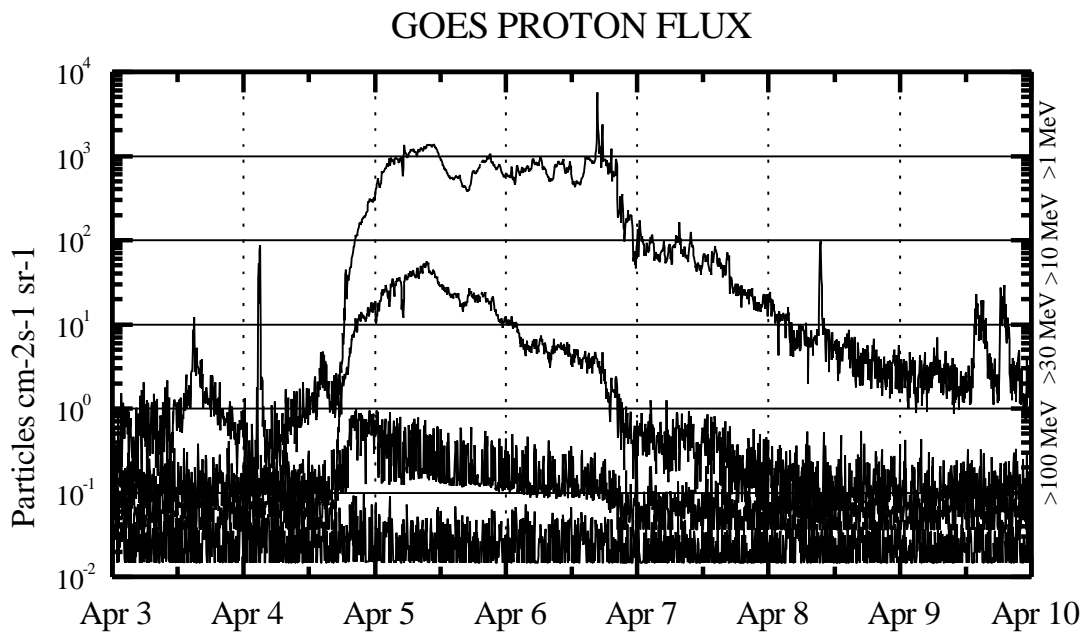
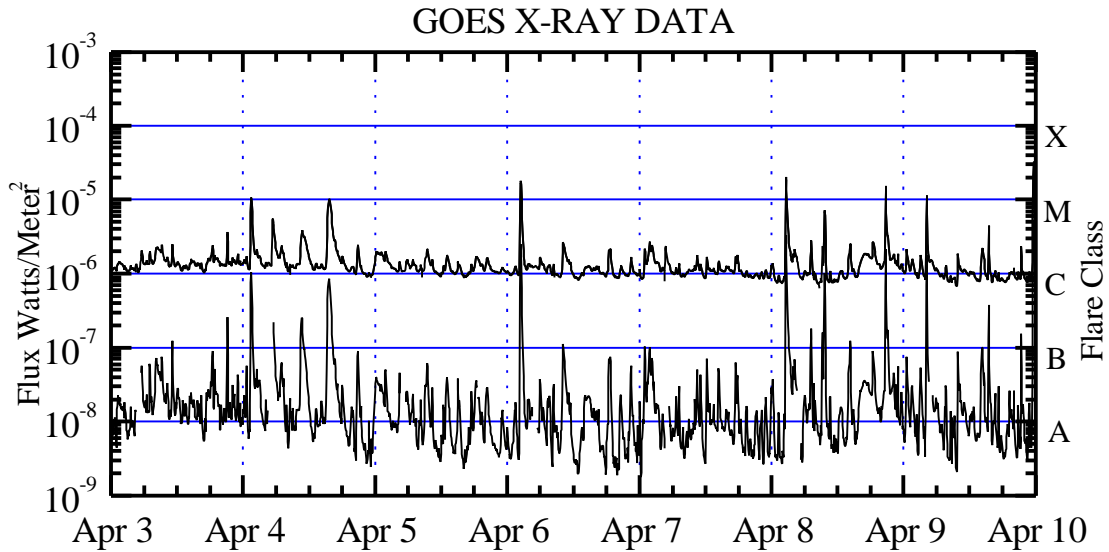
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

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 USAF 55th Space Weather Squadron) 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.

