

**Space Weather Highlights
05-11 April 1999**

Solar activity ranged from low to moderate levels. Activity briefly rose to moderate levels on 08 April due to an impulsive M1/SF flare from Region 8508 at 08/1613UT with minor radio emission. Region 8508 (N21, L = 283, class/area Dai/190 on 08 April), though relatively small, showed a moderately complex magnetic structure and was the most active region on the disk during the period. It also produced isolated C-class flares each day. Region 8506 (S26, L = 002, class/area Dao/290 on 05 April) developed a beta-gamma-delta magnetic structure early in the period and produced isolated B- and C-class subflares. However, it began to decay on 07 April, then ceased to be a significant flare producer.

Real-time solar wind data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. Coronal hole effects were evident during 05 - 06 and 10 - 11 April with elevated wind velocities and decreased densities. IMF Bz became more variable on 10 April with southerly excursions to minus 08 nT (GSM), but otherwise hovered about zero in the plus to minus 05 nT range. Solar sector orientation was variable on 05 April, then became mostly toward (negative polarity) during 06 - 08 April. Orientation shifted to away (positive polarity) on 09 April and remained so for the balance of the period.

There were no significant proton enhancements detected at geo-synchronous altitude.

The greater than 2 MeV electron flux at geo-synchronous altitude reached high levels during 05 - 08 April, then declined to normal to moderate levels for the rest of the period.

The geomagnetic field was at quiet to unsettled levels during most of the period. However, brief active to minor storm intervals occurred during 05 - 08 April, though the minor storm intervals were limited to the high latitudes.

**Space Weather Outlook
14 April -10 May 1999**

Solar activity is expected to be at low to moderate levels. Region 8508 may produce an isolated M-class flare before departing the visible disk on 16 April. Mostly low activity is expected during 17 - 29 April. An increasing trend is expected beginning 30 April with the return of historically active longitudes.

No significant proton enhancements are expected at geo-synchronous altitude.

The greater than 2 MeV electron flux at geo-synchronous altitude may reach high levels around 27 - 30 May. Otherwise, normal to moderate levels are expected.

Geomagnetic field activity may increase to active to minor storm levels during 25 - 28 April due to a recurrent coronal hole high-speed wind stream. Otherwise, quiet to unsettled levels are expected (barring any Earth-directed coronal mass ejections).



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
05 April	133	111	560	B6.8	3	0	0	6	0	0	0	0
06 April	137	119	540	B3.9	3	0	0	8	0	0	0	0
07 April	141	121	560	C1.0	3	0	0	10	0	0	0	0
08 April	139	125	510	B4.8	10	1	0	8	0	0	0	0
09 April	136	139	530	B3.3	2	0	0	6	0	0	0	0
10 April	136	129	550	B3.5	1	0	0	3	0	0	0	0
11 April	131	103	370	B2.6	1	0	0	4	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
05 April	3.8E+5	1.6E+4	3.9E+3		8.3E+7	
06 April	1.0E+5	1.5E+4	3.8E+3		1.2E+8	
07 April	6.9E+4	1.6E+4	4.0E+3		3.2E+7	
08 April	2.1E+5	1.7E+4	4.1E+3		3.5E+7	
09 April	1.8E+5	1.6E+4	4.0E+3		2.5E+7	
10 April	1.9E+5	1.6E+4	3.8E+3		1.2E+7	
11 April	2.0E+5	1.5E+4	3.3E+3		2.8E+7	

Daily Geomagnetic Data

Date	Middle Latitude		High Latitude		Estimated	
	Fredericksburg		College		Planetary	
	A	K-indices	A	K-indices	A	K-indices
05 April	9	2-2-4-3-2-2-1-0	18	2-2-4-5-4-3-2-1	11	2-2-4-4-3-2-1-1
06 April	6	3-2-2-0-1-1-2-1	8	2-2-3-1-3-2-1-1	9	3-4-2-1-1-2-2-2
07 April	10	4-3-2-2-2-1-2-2	*	*_*_*_*_*_*_*_*_*_*	9	3-3-2-2-2-2-2-2
08 April	10	1-2-2-2-2-4-3-2	*	*_*_*_*_*_*_*_*_*_*	9	1-1-2-2-2-4-3-2
09 April	6	2-2-1-2-2-2-2-0	*	*_*_*_*_*_*_*_*_*_*	5	2-2-1-1-2-2-1-1
10 April	9	2-2-3-1-2-3-2-3	*	*_*_*_*_*_*_*_*_*_*	11	2-2-3-2-3-3-3-3
11 April	10	3-3-3-3-2-2-1-1	*	*_*_*_*_*_*_*_*_*_*	9	3-3-3-3-2-2-2-1

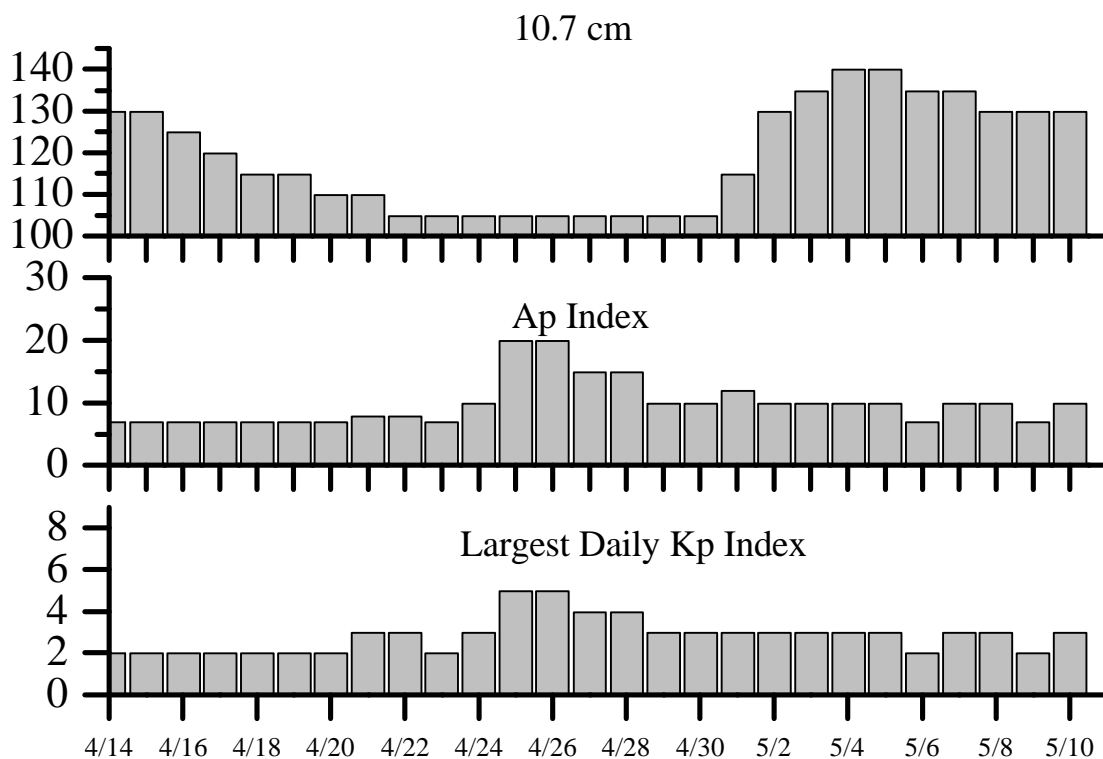


Alerts and Warnings Issued

Date and Time of Issue (UT)	Type of Alert or Warning	Date and Time of Event (UT)
05 Apr 0901	K= 4 Observed	05 Apr 06 - 09
05 Apr 1155	K= 4 Observed	05 Apr 09 - 12
05 Apr 1155	K= 4 Warning valid	05 Apr 1200 - 06 Apr 1200
05 Apr 1228	>2MeV Electron Event @ ≥ 1000 pfu BEG	05 Apr 1155
05 Apr 0222	8-245 MHz Radio Bursts	04 Apr
06 Apr 0039	2-245 MHz Radio Bursts	05 Apr
06 Apr 1200	>2MeV Electron Event @ ≥ 1000 pfu CONTINUED	05 Apr 1155
07 Apr 0109	1-245 MHz Radio Noise Storm	06 Apr
07 Apr 0301	K= 4 Observed	07 Apr 00 - 03
07 Apr 0301	K= 4 Warning valid	07 Apr 0300 - 08 Apr 0300
07 Apr 0347	K= 4 Observed	07 Apr 00 - 03
07 Apr 1200	>2MeV Electron Event @ ≥ 1000 pfu CONTINUED	05 Apr 1155
08 Apr 0038	1-245 MHz Radio Noise Storm	07 Apr
08 Apr 1209	>2MeV Electron Event @ ≥ 1000 pfu CONTINUED	05 Apr 1155
08 Apr 1759	K= 4 Observed	08 Apr 15 - 18
08 Apr 1759	K= 4 Warning valid	08 Apr 1800 - 09 Apr 1800
09 Apr 0159	4-245 MHz Radio Bursts	08 Apr
09 Apr 0159	1-245 MHz Radio Noise Storm	08 Apr
09 Apr 1205	>2MeV Electron Event @ ≥ 1000 pfu CONTINUED	05 Apr 1155
10 Apr 0033	2-245 MHz Radio Bursts	09 Apr



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 Apr	130	7	2	28 Apr	105	15	4
15	130	7	2	29	105	10	3
16	125	7	2	30	105	10	3
17	120	7	2	01 May	115	12	3
18	115	7	2	02	130	10	3
19	115	7	2	03	135	10	3
20	110	7	2	04	140	10	3
21	110	8	3	05	140	10	3
22	105	8	3	06	135	7	2
23	105	7	2	07	135	10	3
24	105	10	3	08	130	10	3
25	105	20	5	09	130	7	2
26	105	20	5	10	130	10	3
27	105	15	4				



Energetic Events

Date	Time (UT)			X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½	Class	Integ Flux	Imp Brtns	Location		Rgn #	Radio Flux		Intensity	
			Max				Lat	CMD		245	2695	II	IV
08 Apr 99	1607	1613	1617	M1.1	.004	SF	N23E18		8508				

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn #	
	Begin	Max	End			Location	Lat CMD		
05 April	0828	0829	0835	C1.2	SF	N17E57		8508	
	B1116	U1118	1120		SF	S17E80			
	1208	1211	1216		B8.0	SF	N16E53		8508
	1431	1431	1436		B6.9	SF	N18E52		8508
	1837	1845	1854		B8.0				
	1909	1912	1916		C2.6	SF	N18E52		8508
	1947	1951	1955		B8.5				
06 April	2305	2308	2320	C3.3	SF	S28W26	8506		
	0255	0259	0301	B5.8					
	0413	0417	0420	B7.7					
	0700	0704	0725	C3.5	SF	N22E47	8508		
	1008	1011	1019		SF	S34E57	8506		
	1009	1015	1037		SF	S24W36	8506		
	1050	1051	1056		SF	N10E24	8507		
	1219	1223	1238		SF	N10E24	8507		
	1354	1358	1408		SF	N10E23	8507		
	1450	1453	1517	C1.4	SF	N10E24	8507		
	2038	2039	2047	B7.5	SF	N11E18	8507		
	2257	2300	2303	B7.0					
	2335	0003	0115	C1.6					
07 April	0218	0222	0224		SF	N10E16	8507		
	0411	0411	0415		SF	N10E17	8507		
	0432	0435	0437	C1.1					
	0533	0536	0539	C1.2					
	0558	0601	0605		SF	N10E14	8507		
	0612	0613	0620		SF	N24E35	8508		
	0922	0923	0929	C1.3	SF	N20E34	8508		
	1234	1236	1246		SF	N14E37	8509		
	1238	1243	1247		SF	N21E31	8508		
	1325	1326	1330		SF	N20E30	8508		
	1411	1414	1428		SF	S20E52	8511		
2119	2121	2126		SF	S28W48	8506			



Flare List-continued

Date	Time			X-ray Class.	Optical		Rgn #	
	Begin	Max	End		Imp / Brtns	Location Lat CMD		
08 April	0035	0039	0046	B9.3				
	0140	0144	0148	B7.8				
	0201	0208	0219	B9.2				
	0515	0519	0532	C2.1	SF	N23E23	8508	
	0637	0638	0640		SF	N20E21	8508	
	0744	0748	0800	C2.2	SF	N23E22	8508	
	0813	0820	0828	C1.1	SF	N22E21	8508	
	0839	0843	0855	C6.9	SF	N22E21	8508	
	0855	0901	0921	C3.5	SF	N22E21	8508	
	1100	1103	1107	B8.4				
	1121	1125	1128	C1.8				
	1229	1233	1236	C1.1				
	1326	1333	1340	B9.1				
	1533	1538	1542	C1.0				
	1558	1611	1630	M1.1	SF	N23E18	8508	
	1717	1718	A1734	C3.4	SF	N23E15	8508	
	1826	1831	1835	C1.5				
	09 April	2155	2158	2200	B5.6			
		0001	0006	0011	B6.2			
0127		0130	0133	B5.5				
0412		0415	0418	B6.0				
0427		0427	0433	B9.1	SF	N24E11	8508	
0517		0517	0527	B7.6	SF	N22E09	8508	
1416		1429	1439	C1.7	SF	N22E03	8508	
1549		1553	1605	C1.2	SF	N20E03	8508	
1818		1818	1828	B9.6	SF	N23E01	8508	
2011		2014	2016	B6.1				
10 April	2012	2013	2018	B4.9	SF	N19E00	8508	
	0050	0053	0057	B5.1				
	0253	0300	0324	B8.1				
	0604	U0632	0703	C1.5	SF	N26E01	8508	
	1442	1444	1447		SF	N20W11	8508	
	1524	1524	1531		SF	N20W11	8508	
	1931	1934	1936	B4.2				
	11 April	0256	0259	0302	B3.9			
0337		0338	0344	C2.7	SF	N20W16	8508	
0831		0834	0837		SF	S19E37		
0926		U0928	A0948	B6.7	SF	N23W27	8508	
1737		1737	1746		SF	N22W26	8508	



Region Summary

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

Region 8498

23 Mar	N18E67	078	0050	02	HSX	001	A										
24 Mar	N17E54	078	0050	02	HSX	001	A										
25 Mar	N17E42	077	0060	02	HAX	003	A										
26 Mar	N18E29	077	0060	02	HSX	001	A										
27 Mar	N18E16	077	0050	02	HSX	001	A										
28 Mar	N18E03	076	0050	02	HSX	002	A										
29 Mar	N18W10	076	0040	02	HSX	001	A										
30 Mar	N18W22	075	0030	03	CSO	002	B										
31 Mar	N19W36	076	0020	01	HSX	001	A										
01 Apr	N18W48	075	0030	01	HSX	001	A										
02 Apr	N18W61	074	0040	01	HSX	001	A										
03 Apr	N18W74	074	0020	01	HSX	001	A										
04 Apr	N19W84	071	0000	00	AXX	001	A										
																	0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 76

Region 8501

27 Mar	N28E66	027	0010	02	BXO	002	B											1
28 Mar	N29E55	024	0040	08	CSO	004	B											
29 Mar	N28E42	024	0040	06	CSO	003	B											
30 Mar	N27E29	024	0020	01	HSX	002	A											
31 Mar	N25E16	024	0010	00	AXX	001	A											
01 Apr	N27E05	022	0010	05	BXO	002	B											
02 Apr	N27W08	022																
03 Apr	N27W21	022																1
04 Apr	N27W34	022																
05 Apr	N27W47	022																
																		0 0 0 2 0 0 0 0

Died on Disk.

Absolute heliographic longitude: 22



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 8502

28 Mar	S25E71	008	0000	00	AXX	001	A										
29 Mar	S27E65	001	0090	17	FAO	003	B	1				3					
30 Mar	S27E45	008	0030	04	CSO	003	B										
31 Mar	S27E30	010	0010	01	HSX	001	A										
01 Apr	S27E18	009	0000	00	AXX	001	A										
02 Apr	S27E05	008	0000	00	AXX	001	A										
03 Apr	S27W08	008															
04 Apr	S27W21	008															
05 Apr	S27W34	008															
06 Apr	S27W47	008															

1 0 0 3 0 0 0 0

Died on Disk.

Absolute heliographic longitude: 8

Region 8504

30 Mar	S28E61	352	0140	02	HSX	003	A										
31 Mar	S28E47	353	0090	06	CAO	004	B										
01 Apr	S28E36	351	0110	04	CAO	004	B										
02 Apr	S28E23	350	0070	05	CSO	007	B										
03 Apr	S28E11	349	0070	05	DSO	010	B					1					
04 Apr	S28W02	349	0050	04	DSO	010	B										
05 Apr	S28W15	349	0050	06	DSO	011	B										
06 Apr	S28W27	348	0020	04	BXO	006	B										
07 Apr	S27W40	348	0010	04	BXO	004	B										
08 Apr	S27W53	348															
09 Apr	S27W66	348															

0 0 0 1 0 0 0 0

Died on Disk.

Absolute heliographic longitude: 349



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 8506

03 Apr	S26W02	002	0010	04	BXO	008	B	4		8								
04 Apr	S26W15	002	0100	07	DAO	017	BG			3								
05 Apr	S26W28	002	0290	10	DAO	023	BGD	1		1								
06 Apr	S26W42	003	0260	11	EAO	021	BG			2								
07 Apr	S26W55	003	0210	12	EAO	014	B			1								
08 Apr	S26W68	002	0130	11	CAO	005	B											
09 Apr	S28W82	003	0130	08	CAO	003	B											
10 Apr	S26W96	004	0080	03	HAX	002	A											
											5	0	0	15	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 2

Region 8507

03 Apr	N12E58	302	0010	05	BXO	005	B	1		4								
04 Apr	N11E45	302	0010	07	BXO	006	B			1								
05 Apr	N12E32	302	0050	08	CSO	011	B											
06 Apr	N12E18	303	0030	07	CSO	011	B	1		5								
07 Apr	N11E05	303	0080	08	DAO	014	B			3								
08 Apr	N12W10	304	0070	07	DSO	011	B											
09 Apr	N11W23	304	0050	07	DSO	005	B											
10 Apr	N11W37	305	0020	07	DRO	006	B											
11 Apr	N11W49	304	0010	05	BXO	004	B											
											2	0	0	13	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 303

Region 8508

03 Apr	N19E77	283	0050	02	HSX	003	A		1	1	1							
04 Apr	N20E63	284	0090	08	CAO	006	B		1		2							
05 Apr	N21E49	285	0160	10	DAO	015	BG	2		4								
06 Apr	N21E36	285	0110	11	EAO	014	BG	1		1								
07 Apr	N22E24	284	0120	09	DAI	021	BG	1		4								
08 Apr	N22E12	282	0190	09	DAI	039	BG	6	1	8								
09 Apr	N23W02	283	0150	10	DAI	033	BG	2		6								
10 Apr	N22W16	284	0190	10	DAI	036	BG	1		3								
11 Apr	N21W28	283	0120	11	EAI	025	B	1		3								
											14	3	0	30	3	0	0	0

Still on Disk.

Absolute heliographic longitude: 283



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 8509

05 Apr	N11E51	283	0010	00	BXO	001	B											
06 Apr	N11E38	283																
07 Apr	N11E25	283											1					
08 Apr	N11E12	283																
09 Apr	N14E03	278	0010	03	BXO	003	B											
10 Apr	N15W07	275																
11 Apr	N15W20	275																
																		0 0 0 1 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 278

Region 8510

06 Apr	S34E53	268	0020	01	HSX	001	A											
07 Apr	S34E39	269	0010	08	BXO	003	B											
08 Apr	S35E24	270	0000	01	AXX	001	A											
09 Apr	S35E11	270	0010	03	BXO	002	B											
10 Apr	S35W02	270																
11 Apr	S35W15	270																
																		0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 270

Region 8511

06 Apr	S17E59	262	0100	06	DAO	006	B											
07 Apr	S17E46	262	0130	07	DAO	005	B						1					
08 Apr	S17E33	261	0110	07	DAO	005	B											
09 Apr	S17E21	260	0100	07	DSO	004	B											
10 Apr	S16E07	261	0110	08	DAO	006	B											
11 Apr	S17W05	260	0120	08	DAO	004	B											
																		0 0 0 1 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 260

Region 8512

08 Apr	S27E52	242	0010	05	BXO	004	B											
09 Apr	S28E38	243	0060	04	CSO	006	B											
10 Apr	S27E25	243	0060	06	DAO	007	B											
11 Apr	S27E12	243	0050	06	DAO	006	B											
																		0 0 0 0 0 0 0 0

Still on Disk.

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

Region 8513

09 Apr	S18E49	232	0020	09	BXO	003	B										
10 Apr	S18E35	233	0090	07	DAO	012	B										
11 Apr	S18E21	234	0070	07	DSO	014	B										
										0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 234



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

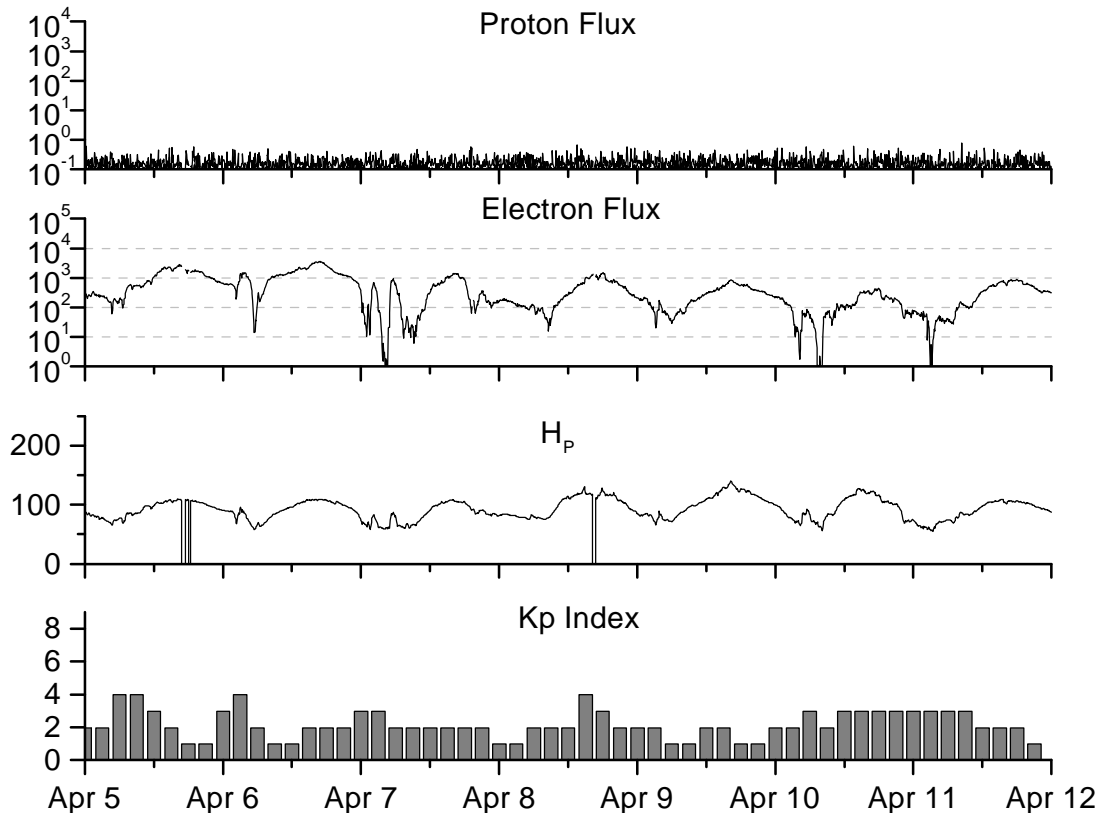
Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	Observed values SWO	Ratio RI	Ratio RI/SWO	Smooth values SWO	Smooth values RI	**Penticton 10.7 cm	Smooth Value	Planetary Ap	Smooth Value
1997									
April	24.5	15.5	0.63	24.0	16.5	74.5	76.8	10	08.6
May	28.6	18.5	0.65	26.4	18.3	74.6	78.4	08	08.6
June	22.1	12.7	0.57	29.0	20.3	71.7	80.1	07	08.6
July	17.0	10.4	0.61	32.4	22.6	71.1	81.8	06	08.5
August	36.7	24.4	0.66	35.9	25.0	79.0	83.4	07	08.3
September	52.8	51.3	0.88	40.5	28.3	96.2	85.7	10	08.4
October	33.6	22.8	0.68	45.4	31.8	84.9	88.6	11	08.6
November	53.5	39.0	0.73	49.3	35.0	99.5	91.3	11	09.0
December	57.9	41.2	0.71	54.2	39.0	98.8	94.2	05	09.5
1998									
January	51.8	31.9	0.62	60.6	43.7	93.4	97.5	08	09.9
February	54.4	40.3	0.74	67.4	48.8	93.4	101.7	08	10.5
March	81.8	54.8	0.67	73.3	53.4	109.1	105.8	13	11.1
April	73.6	53.4	0.73	77.7	56.5	108.3	109.1	10	11.3
May	74.3	56.3	0.76	81.4	59.3	106.7	112.4	18	11.6
June	93.6	70.7	0.76	85.9	62.4	108.4	116.2	10	11.9
July	98.3	66.2	0.67	90.3	65.4	114.0	120.3	11	12.2
August	118.6	91.7	0.77			136.0		18	12.4
September	119.0	92.9	0.78			138.4		14	12.5
October	77.0	55.6	0.72			121.9		13	
November	99.5	73.6	0.74			140.2		16	
December	120.8	81.6	0.68			150.1		08	
1999									
January	94.3	62.4	0.66			142.6		10	
February	93.4	66.1	0.70			142.0		11	
March	100.5	69.1	0.70			126.3		13	

NOTE: All smoothed values after January 1998 and monthly values after September 1998 are preliminary estimates.

The lowest smoothed sunspot indices 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 29 March 1999*

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.

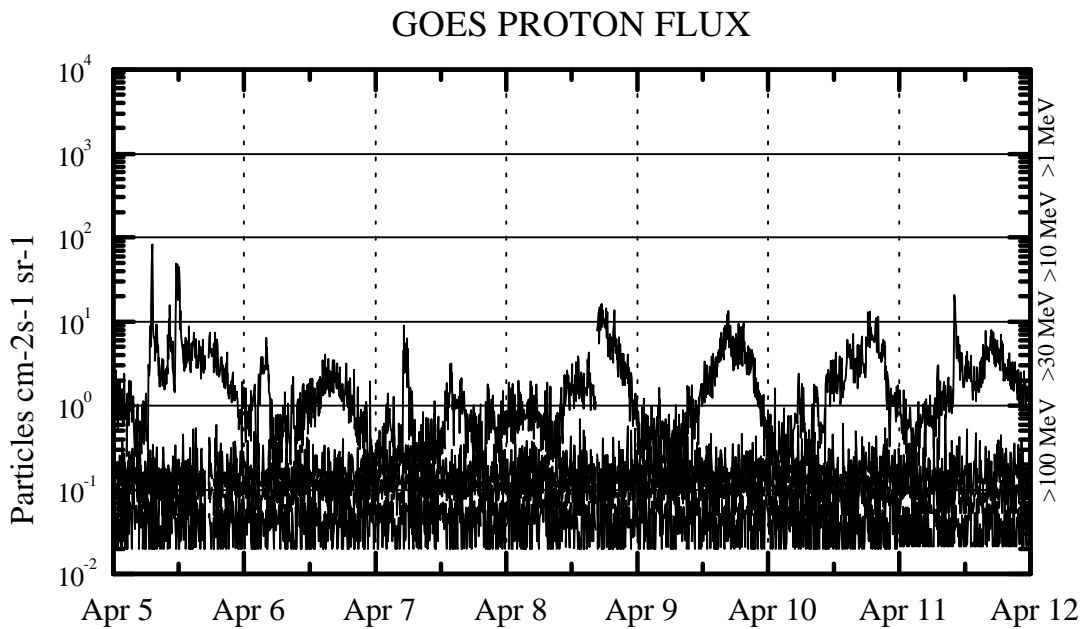
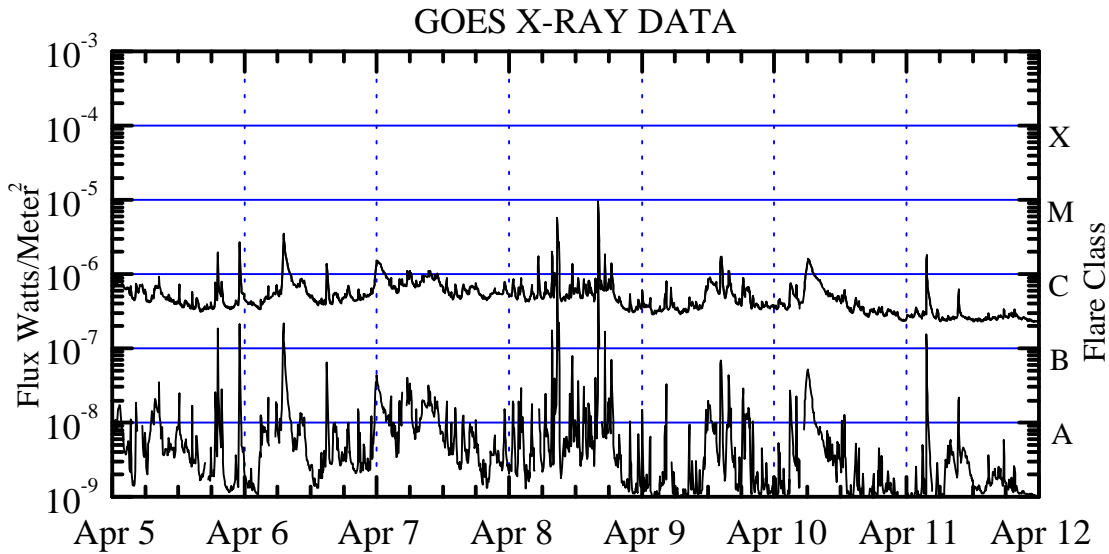
Electrons plot contains the five-minute averaged integral electron flux (electrons/ cm²-sec-sr) with energies greater than 2 MeV at GOES-8.

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_{parallel} is subject to a 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.

