

Space Weather Highlights
05 - 11 October 1998

Solar activity ranged from very low to moderate during the period. Region 8355 (S22, L = 123, class/area Dai/220 on 08 October) produced two low-level M-class flares on 07 October during a brief period of rapid development. The first was an M1/1N at 07/1247UT and the second was an M2/SF at 07/1712UT. Neither flare was impressive in radio aspects. Region 8355 stabilized as a small, simple bipole the following day, then produced isolated B- and C-class subflares during the rest of the period. Another flare of note was an optically uncorrelated C4 at 08/0837UT accompanied by a major Type II radio sweep and minor discrete radio emission.

Real-time solar wind data were available from the Advanced Composition Explorer (ACE) spacecraft during most of the period. Significant solar wind discontinuities were detected during the geomagnetic disturbance discussed below. Solar wind velocities increased from 340 - 620 km/sec on 07 October followed by a gradual decrease to 370 km/sec by the end of the period. Densities were in the 02 - 04 range during most of the period, but increased during 06 - 07 October with a peak of 40 p/cc detected on 06 October. Bz became mostly south during 07 - 09 October with maximum southerly deflections of minus 12 nT (GSM) on 07 October. Solar sector orientation was not discernible through 06 October, then became away (phi angle near 135 degrees) for the balance of the period. There were no significant proton enhancements detected at geosynchronous altitude. The greater than 2 MeV electron flux at geosynchronous altitude was at moderate to high levels during the entire period.

The geomagnetic field was quiet through 06 October. The field became intermittently disturbed during 07 - 09 October with active to minor storm levels at middle latitudes and active to major storm levels at high latitudes. The disturbance subsided during the latter half of 09 October and quiet to unsettled conditions prevailed for the balance of the period.

Space Weather Forecast
14 October 1998 - 09 November 1998

Solar activity is expected to be low to moderate. M-class flare probabilities are expected to increase beginning on 14 October with the return of old Regions 8340 (N19, L = 012) and 8344 (S22, L = 007).

No significant proton enhancements are expected at geosynchronous altitude.

The greater than 2 MeV electron flux at geosynchronous altitude is expected to be at moderate to high levels through 16 October, then decline to normal to moderate levels for the remainder of the period.

The geomagnetic field is expected to be at quiet to unsettled levels during 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
05 October	117	49	250	B2.2	0	0	0	1	0	0	0	0
06 October	117	68	330	B2.2	0	0	0	0	0	0	0	0
07 October	124	98	670	B2.2	9	2	0	17	2	0	0	0
08 October	124	146	450	B2.9	5	0	0	10	0	0	0	0
09 October	124	125	350	B2.4	3	0	0	9	0	0	0	0
10 October	121	94	340	B3.0	5	0	0	0	0	0	0	0
11 October	119	68	200	B4.2	5	0	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
05 October	1.7E+6	3.0E+4	7.5E+3		2.1E+8	
06 October	2.6E+6	2.4E+4	7.6E+3		2.7E+8	
07 October	1.3E+6	2.2E+4	7.9E+3		2.2E+7	
08 October	4.4E+5	2.1E+4	7.7E+3		5.8E+7	
09 October	8.2E+5	2.1E+4	7.4E+3		9.0E+7	
10 October	6.2E+5	2.1E+4	7.4E+3		8.9E+7	
11 October	3.8E+5	2.1E+4	7.4E+3		1.7E+8	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
05 October	2	1-0-0-1-0-1-1-1	2	1-0-0-1-1-0-1-0	7	1-0-0-1-2-3-3-3
06 October	2	1-0-0-0-0-2-1-1	2	0-0-0-0-0-2-1-1	6	0-0-0-1-2-3-3-3
07 October	16	3-2-3-2-4-3-4-3	43	2-2-4-3-6-6-6-5	20	3-2-3-3-4-5-5-3
08 October	14	5-2-3-2-3-1-2-2	28	3-2-5-6-5-3-2-2	17	4-3-3-4-3-3-3-3
09 October	10	3-3-3-2-2-2-1-2	34	2-3-6-6-5-4-2-2	16	3-4-4-3-3-3-2-2
10 October	11	3-3-2-2-3-3-2-1	10	2-4-2-2-3-1-1-2	10	2-4-2-2-2-2-3-3
11 October	7	3-1-1-1-3-2-1-1	4	3-2-0-0-2-0-1-1	8	3-2-1-0-3-3-3-3

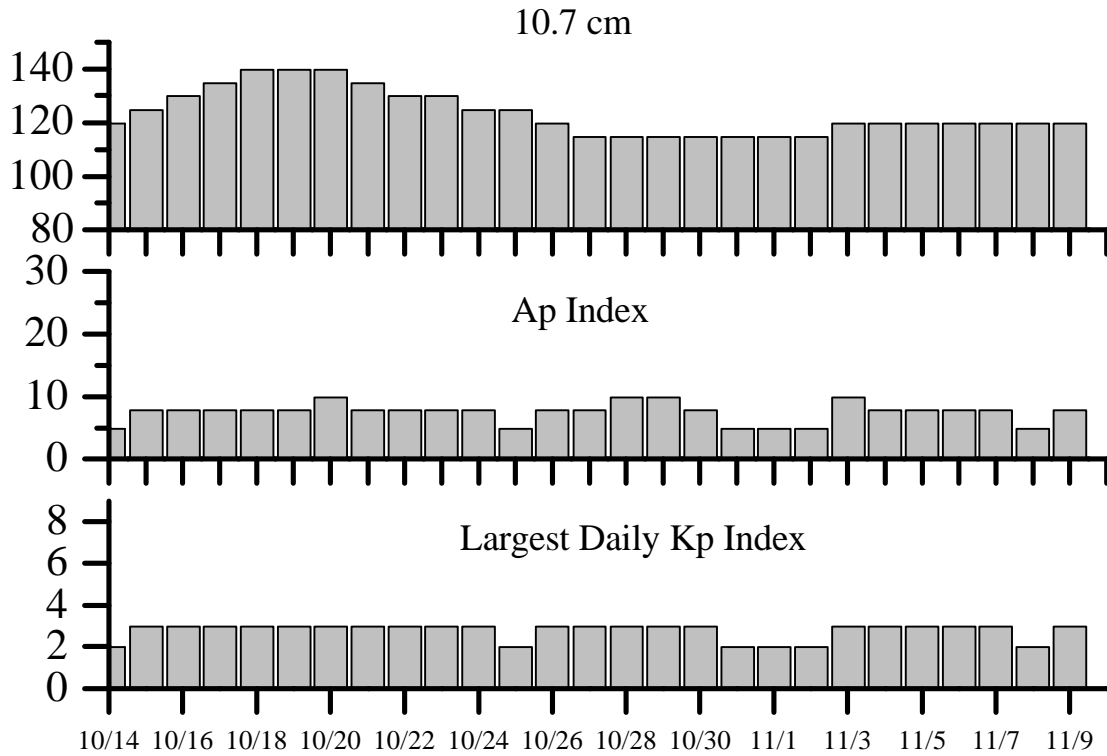


Alerts and Warnings Issued

Date and Time of Issue (UT)	Type of Alert or Warning	Date and Time of Event (UT)
05 Oct 1200	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455
06 Oct 1200	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455
07 Oct 0020	1-245 MHz Burst	06 Oct
07 Oct 1209	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455
07 Oct 1509	K= 4 Observed	07 Oct 12-15
07 Oct 1805	K= 5 Observed	07 Oct 15-18
08 Oct 0000	A ≥ 20 Observed	07 Oct 2359
08 Oct 0052	6-245 MHz Bursts	07 Oct
08 Oct 0300	K= 4 Observed	08 Oct 00- 03
08 Oct 0905	Type II Radio Emission	08 Oct 0840
08 Oct 1313	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455
09 Oct 0053	2-245 MHz Bursts	08 Oct
09 Oct 0601	K= 4 Observed	09 Oct 03-06
09 Oct 1201	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455
10 Oct 0104	1-245 MHz Bursts	09 Oct
10 Oct 0556	K= 4 Observed	10 Oct 03-06
10 Oct 1201	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455
11 Oct 1208	CONTINUED >2MeV Electron Event ≥ 1000 pfu	02 Oct 1455



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 Oct	120	5	2	27 Oct	115	8	3
15	125	8	3	28	115	10	3
16	130	8	3	29	115	10	3
17	135	8	3	30	115	8	3
18	140	8	3	31	115	5	2
19	140	8	3	01 Nov	115	5	2
20	140	10	3	02	115	5	2
21	135	8	3	03	120	10	3
22	130	8	3	04	120	8	3
23	130	8	3	05	120	8	3
24	125	8	3	06	120	8	3
25	125	5	2	07	120	8	3
26	120	8	3	08	120	5	2
				09	120	8	3



Energetic Events

Date	Time (UT)			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	½	Class	Integ	Imp Brtns	Location		Radio Flux		Intensity	
			Max		Flux		Lat	CMD	245	2695	II	IV
07 Oct	1242	1247	1253	M1.6	.006	1N	S22E68	8355	58			
07 Oct	1704	1712	1717	M2.3	.009	SF	S20E65	8355				

Flare List

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
05 October	0225	0228	0232	B3.1			
	0302	0307	0313	B3.8			
	1722	1723	1738	B8.2	SF	N21E30	8350
06 October	0432	0436	0441	B5.5			
	0535	0538	0540	B3.3			
	0732	0740	0742	B7.2			
	2232	2236	2242	B4.5			
07 October	2341	2345	2348	B4.2			
	0018	0022	0024	B5.4			
	0419	0430	0436	C1.7			
	0452	0458	0503	B6.7			
	0749	0757	0802	B6.1			
	0853	0919	0923	B9.7			
	1036	1044	1051	C3.2			
	1157	1159	1202	B7.8	SF	S21E69	8355
	1245	1250	1349	M1.6	1N	S22E68	8355
	1318	1321	1337		SF	N18E01	8350
	1514	1519	1528	C2.2	SF	S20E67	8355
	1519	1519	1531		SF	N19W01	8350
	1538	1541	1613	C3.1	1N	S21E68	8355
	1614	1618	1630	C4.2	SF	S22E68	8355
	1709	1715	1729	M2.3	SF	S20E65	8355
	1734	1741	1813	C3.5	SF	S22E67	8355
	1924	1925	1930	B5.6	SF	S22E67	8355
1944	1948	2006	C2.0	SF	S21E66	8355	
2016	2018	2027		SF	N20W04	8350	
2020	2020	2028	B6.9	SF	S22E66	8355	
2031	2034	2045	C1.2	SF	S20E65	8355	
2042	2053	2106		SF	N21W08	8350	
2104	2112	2155	C2.4	SF	S22E66	8355	
2215	2220	2244		SF	S21E65	8355	
2314	2321	2342		SF	S21E66	8355	
2332	2335	2338	B8.0				
2351	2355	2359		SF	S22E64	8355	



Flare List- continued.

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
08 October	0002	0006	0009	B5.3			
	0343	0347	0351	B4.8			
	0651	0712	0724	B9.6			
08 October	0821	0837	0841	C4.5			
	0939	0944	0949	B9.1			
	0959	1018	1036	C2.2			
	B1042	U1042	A1051		SF	S22E56	8355
	1213	1217	1219	B5.7			
	1248	1249	1258	C2.3	SF	S22E57	8355
	1320	1324	1327	B6.9			
	1335	1336	1355	B9.2	SF	S22E57	8355
	1407	1418	1441		SF	S23E57	8355
	1445	1455	1500	B5.7			
	1527	1528	1532		SF	N22E03	8356
	1548	1551	1600	B5.2			
	1621	1621	1625		SF	N22E03	8356
	1627	1633	1639	B5.9			
	1656	1659	1710	C3.3	SN	S23E56	8355
	1723	1724	1734	C1.2	SF	S23E54	8355
	1935	1945	1959	B7.3			
	2029	2032	2035	B5.2			
	2146	2147	2205		SF	S22E54	8355
	2233	2233	2246		SF	S21E53	8355
2305	2307	2336		SF	S22E53	8355	
09 October	0048	0049	0101	B6.6	SF	N19W12	8350
	0424	0429	0435	B5.5			
	0748	0754	0801	C1.3	SF	N20W07	8356
	1001	1005	1008	C1.6			
	1143	1144	1148		SF	S24W73	8349
	1318	1322	1325	B9.3			8355
	1321	1331	1335	C1.5	SF	S19E40	8355
	1545	1546	1556		SF	S24W76	8349
	1601	1610	1618	B4.4	SF	S25W76	8349
	1645	1648	1702		SF	S25W77	8349
	1709	1710	1712		SF	S25W77	8349
	2326	2327	2337		SF	S23E40	8355
10 October	0611	0619	0631	C1.4			
	0739	0744	0750	B6.6			
	0938	0944	0956	C1.8			
	1139	1146	1153	C2.4			



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 8349</i>																		
28 Sep	S26E65	240	0010	01	AXX	002	B											
29 Sep	S26E48	244	0000	00	AXX	001	A											
30 Sep	S26E35	244	0000	00		000												
01 Oct	S26E29	236	0010	01	AXX	002	A	1			2							
02 Oct	S27E18	234	0010	02	BXO	005	B											
03 Oct	S27E06	232	0010	03	BXO	004	B											
04 Oct	S27W07	232	0000	00		000												
05 Oct	S23W26	237	0000	00	AXX	001	A											
06 Oct	S24W38	236	0020	04	BXO	004	B											
07 Oct	S25W51	236	0020	05	BXO	004	B											
08 Oct	S25W69	241	0010	05	BXO	004	B											
09 Oct	S25W81	240	0010	05	BXO	002	B				5							
											1	0	0	7	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 232

Region 8350

01 Oct	N20E78	187	0100	04	HSX	001	A											
02 Oct	N20E66	186	0260	11	ESO	002	B											
03 Oct	N19E54	184	0260	10	DAO	003	B				2							
04 Oct	N20E41	184	0260	10	DSO	011	B				2							
05 Oct	N19E28	183	0240	10	DSO	017	B				1							
06 Oct	N19E14	184	0280	12	EAO	020	B											
07 Oct	N19E02	183	0240	12	EKO	014	B	1			4							
08 Oct	N18W12	184	0150	11	EAI	035	B											
09 Oct	N19W24	183	0120	13	ESO	019	B				1							
10 Oct	N19W38	184	0110	10	CSO	009	B											
11 Oct	N20W53	185	0080	02	HAX	002	A											
											1	0	0	10	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 183

Region 8351

05 Oct	S18W66	277	0010	00	AXX	001	A											
06 Oct	S18W79	277	0000	00		000												
											0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 277



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 8352

06 Oct	S12E30	168	0000	00	AXX	001	A											
07 Oct	S12E17	168																
08 Oct	S12E04	168																
09 Oct	S12W09	168																
10 Oct	S12W22	168																
11 Oct	S12W35	168																
												0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 168

Region 8353

06 Oct	N20E68	130	0030	05	BXO	003	B											
07 Oct	N21E54	131	0020	07	BXO	003	B											
08 Oct	N20E42	130	0010	07	BXO	003	B											
09 Oct	N19E25	134	0010	01	AXX	002	A											
10 Oct	N19E12	134																
11 Oct	N19W01	134																
												0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 134

Region 8354

07 Oct	S18E00	185	0050	05	DAO	008	B											
08 Oct	S18W14	186	0020	06	CRO	008	B											
09 Oct	S18W31	190	0000	01	AXX	001	A											
10 Oct	S18W46	192	0000	00	AXX	001	A											
11 Oct	S18W59	192	0000	00		000												
												0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 185

Region 8355

07 Oct	S21E64	121	0320	09	DAO	006	B	6	2	13	2							
08 Oct	S22E51	121	0220	07	DAI	010	BD	3		9								
09 Oct	S22E37	122	0160	07	DAI	013	B	1		2								
10 Oct	S22E23	123	0180	07	DAI	017	B											
11 Oct	S22E10	122	0110	07	DSO	016	B					1						
												10	2	0	25	2	0	0

Still on Disk.

Absolute heliographic longitude: 122



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 8356</i>																	
08 Oct	N21W04	176	0030	04	CRO	012	B					2					
09 Oct	N20W16	175	0040	05	CSO	016	B	1				1					
10 Oct	N21W30	176	0050	07	CRO	016	B										
11 Oct	N21W42	174	0010	04	BXO	009	B	2				2					
								3	0	0	0	5	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 176																	
<i>Region 8357</i>																	
10 Oct	S34E46	100	0000	00	AXX	001	A										
11 Oct	S34E33	099	0000	00	AXX	001	A										
								0	0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 099																	



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

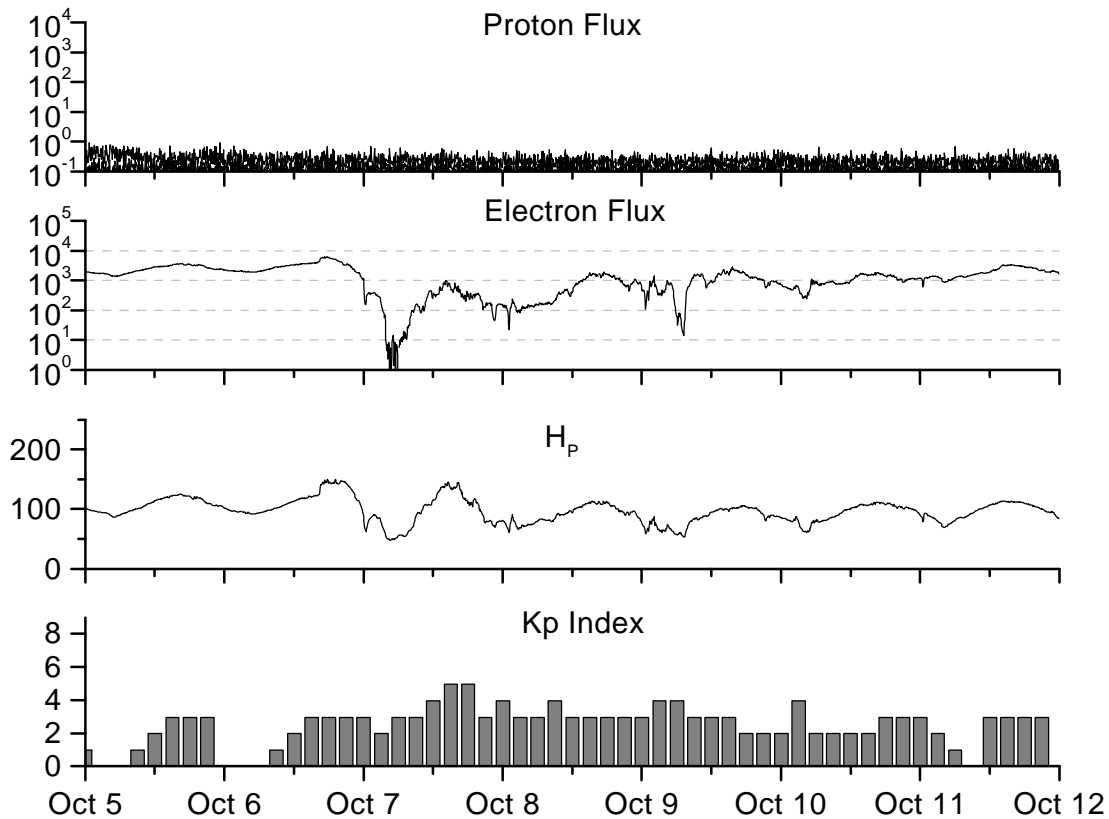
Month	Sunspot Numbers				Radio Flux		Geomagnetic		
	Observed values		Ratio	Smooth values		**Penticton	Smooth	Planetary	Smooth
	SWO	RI	RI/SWO	SWO	RI	10.7 cm	Value	Ap	Value
1996									
October	02.3	00.9	0.39	14.0	08.8	69.2	72.6	13	09.1
November	26.7	17.9	0.67	15.4	09.8	78.7	73.0	08	09.1
December	21.1	13.3	0.63	16.2	10.4	77.8	73.3	07	09.3
1997									
January	09.0	05.7	0.63	16.5	10.5	74.0	73.4	09	09.3
February	11.3	07.6	0.67	17.4	11.0	73.8	73.7	11	09.2
March	14.4	08.7	0.60	20.4	13.5	73.5	75.1	08	08.9
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	11.2*
April	73.6	53.4	0.73			108.3		10	
May	74.3	56.3	0.76			106.7		18	
June	93.6	70.7*	0.76*			108.4*		10	
July	98.3	66.2*	0.67*			114.0*		11*	
August	118.6	91.7*	0.77*			136.0*		18*	
September	119.0	92.9*	0.78*			138.4*		14*	

*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.

** From June 1991 onward, 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 05 October 1998

Protons plot contains the five-minute averaged integral proton flux (protons/ cm^2 -sec-sr) as measured by GOES-8 (W75) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

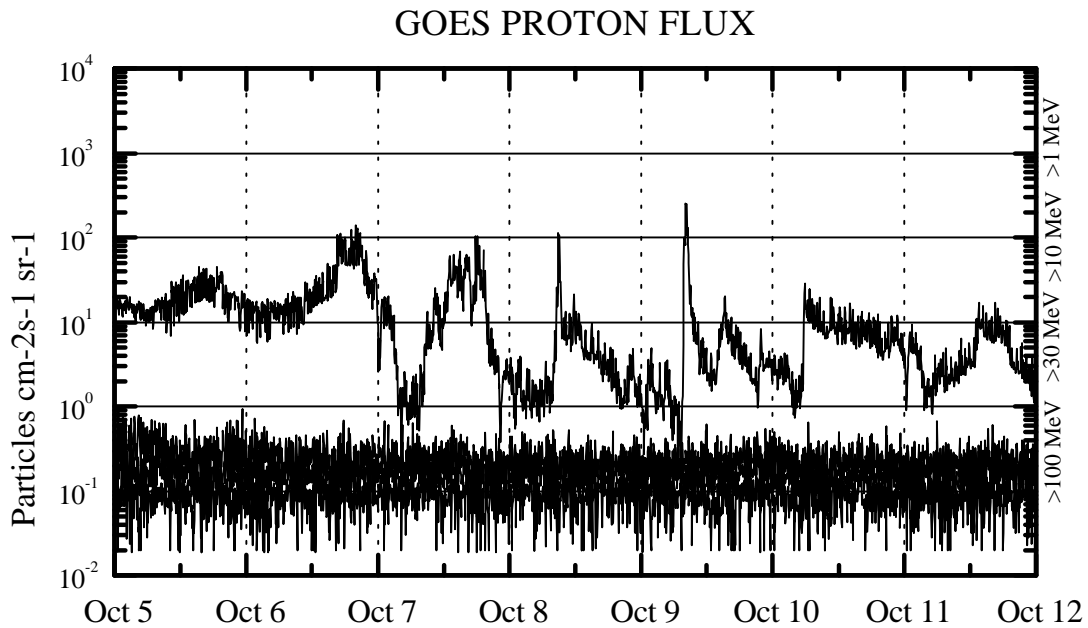
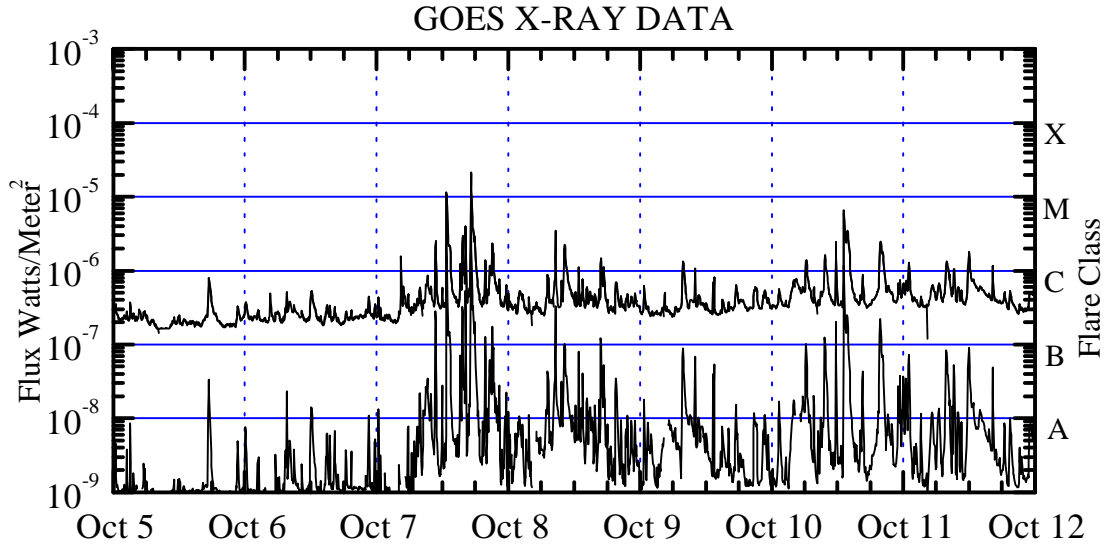
Electrons plot contains the five-minute averaged integral electron flux (electrons/ cm^2 -sec-sr) with energies greater than 2 MeV at GOES-8.

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 a more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.



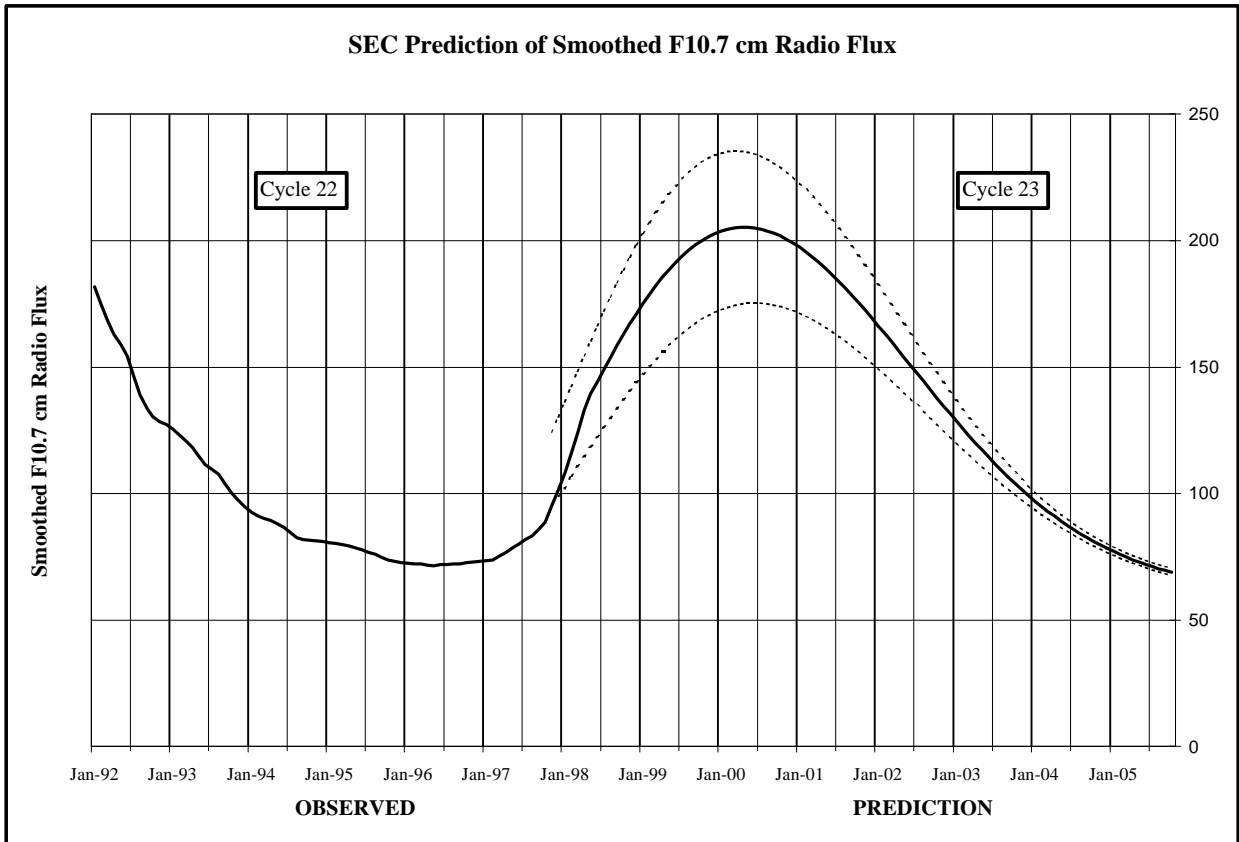


Weekly GOES Satellite X-ray and Proton Plots

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.

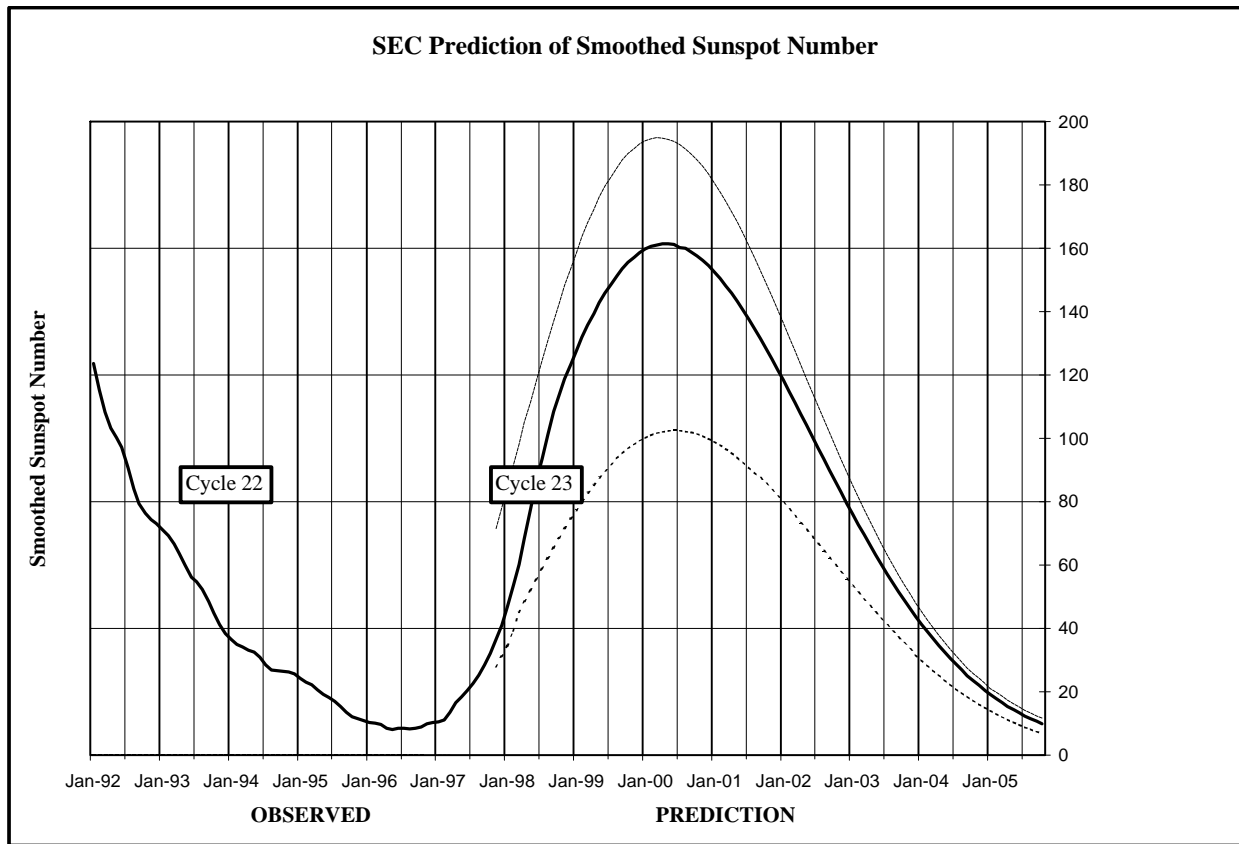




SEC Prediction of Smoothed F10.7cm Radio Flux

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1996	72 (***)	72 (***)	72 (***)	72 (***)	71 (***)	72 (***)	72 (***)	72 (***)	72 (***)	73 (***)	73 (***)	73 (***)
1997	73 (***)	74 (***)	75 (***)	77 (***)	78 (***)	80 (***)	82 (***)	83 (***)	86 (***)	89 (***)	91 (***)	94 (***)
1998	98 (***)	102 (***)	106 (***)	133 (20)	139 (21)	144 (21)	149 (22)	154 (22)	158 (23)	163 (23)	167 (23)	171 (24)
1999	175 (24)	179 (25)	182 (25)	186 (25)	189 (25)	191 (26)	194 (26)	196 (26)	198 (27)	200 (27)	202 (28)	203 (28)
2000	204 (30)	205 (30)	205 (30)	205 (30)	205 (30)	205 (28)	205 (27)	204 (27)	203 (26)	202 (26)	201 (26)	199 (26)
2001	197 (25)	195 (25)	193 (25)	191 (25)	189 (24)	186 (24)	184 (24)	181 (24)	178 (23)	175 (23)	173 (23)	170 (22)
2002	166 (22)	163 (22)	160 (21)	157 (21)	154 (21)	151 (21)	147 (20)	144 (20)	141 (19)	138 (19)	135 (18)	132 (18)
2003	129 (17)	126 (17)	123 (17)	120 (16)	117 (16)	114 (15)	112 (15)	109 (15)	106 (14)	104 (14)	102 (14)	99 (13)
2004	97 (13)	95 (13)	93 (12)	91 (12)	89 (11)	87 (10)	86 (9)	84 (9)	83 (8)	81 (7)	80 (9)	78 (9)
2005	77 (8)	76 (8)	75 (8)	74 (7)	73 (7)	72 (7)	71 (7)	70 (6)	70 (6)	69 (2)	68 (2)	68 (2)





SEC Prediction of Smoothed Sunspot Number

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1996	10 (***)	10 (***)	10 (***)	9 (***)	8 (***)	9 (***)	9 (***)	8 (***)	9 (***)	9 (***)	10 (***)	11 (***)
1997	11 (***)	11 (***)	14 (***)	17 (***)	18 (***)	20 (***)	23 (***)	25 (***)	29 (***)	32 (***)	35 (***)	34 (***)
1998	44 (***)	49 (***)	53 (***)	68 (23)	78 (24)	87 (24)	94 (25)	101 (25)	109 (26)	114 (26)	119 (27)	124 (27)
1999	128 (27)	132 (28)	136 (28)	139 (29)	143 (29)	146 (29)	149 (29)	151 (29)	154 (29)	156 (29)	157 (29)	159 (29)
2000	160 (30)	161 (30)	161 (30)	161 (30)	161 (29)	161 (29)	160 (29)	160 (29)	159 (29)	158 (29)	156 (29)	155 (28)
2001	153 (28)	151 (28)	148 (28)	146 (27)	143 (27)	141 (27)	138 (27)	135 (26)	132 (26)	128 (26)	125 (25)	122 (25)
2002	119 (24)	115 (24)	111 (24)	108 (23)	104 (23)	101 (22)	97 (22)	94 (21)	90 (21)	86 (21)	83 (20)	80 (20)
2003	76 (19)	73 (19)	70 (18)	66 (18)	63 (17)	60 (17)	57 (17)	54 (16)	52 (16)	49 (15)	46 (15)	44 (14)
2004	41 (14)	39 (14)	37 (13)	35 (13)	32 (12)	31 (12)	29 (11)	27 (11)	25 (11)	23 (10)	22 (10)	20 (9)
2005	19 (9)	18 (9)	17 (8)	15 (8)	14 (8)	13 (8)	12 (7)	11 (7)	11 (7)	10 (6)	9 (5)	8 (4)

