

Space Weather Highlights
23 - 29 November 1998

Solar activity ranged from low to high. High activity occurred during 23 - 24 November as Region 8384 (S27, L = 029, class/area Dkc/610 on 11 November) produced an X-class flare each day. The first flare was an X2 at 23/0642UT with a Type IV radio sweep and a loop prominence system. The second was an X1 at 24/0220UT accompanied by a Type II radio sweep and a 380 SFU Tenflare. These flares occurred as this region was crossing the southwest limb. Activity dropped to low levels during 25 - 26 November, once Region 8384 rotated beyond the limb. Activity increased to moderate levels on 27 November by virtue of an M1/2N parallel ribbon flare at 27/0743UT from Region 8392 (S23, L = 239, class/area Cao/040 on 23 November) with an associated Type II radio sweep and a 390 SFU Tenflare. Activity increased to high levels on 28 November when Region 8395 (N18, L = 186, class/area Fao/480 on 28 November) produced an X3/3N flare at 28/0552UT with associated Types II/IV radio sweeps, a 3600 SFU Tenflare, and a partial-halo CME. Region 8395 was the return of old Region 8375, which produced a major flare and a solar proton event during its previous rotation. Activity dropped to low levels on 29 November with occasional small flares from Region 8395.

Solar wind data were available from the Advanced Composition Explorer (ACE) spacecraft during most of the period. A few significant changes occurred on 23 November including a velocity increase from 300 - 540 km/sec, a brief particle density increase from 05 to 25 p/cc, increased Bz variability (plus 14 to minus 10 nT (GSM)), and a brief sector orientation shift to toward (ϕ angle near 315 degrees). No significant wind changes were observed during the remainder of the period.

A greater than 10 MeV solar proton enhancement at geosynchronous altitude was in progress at the start of the period, but dropped to background on 23 November. A greater than 10 MeV enhancement occurred in the wake of the X1 flare of 24 November, but returned to background levels that same day.

The greater than 2 MeV electron flux at geosynchronous altitude was at normal to moderate levels during the period.

The geomagnetic field was mildly disturbed during 24 - 26 November with brief active to minor storm periods detected (the minor storm periods were limited to the high latitudes). Quiet to unsettled conditions occurred during the rest of the period.

Space Weather Forecast
02 December - 28 December 1998

Solar activity is expected to be low to moderate. Region 8395 may produce M-class flares until it departs the disk on 09 December. Old Region 8384 is due to return to the visible disk on 06 December and may also cause an increase in M-class flare activity. There is also a small chance for isolated major flare activity during the period, given the flare histories of both regions.

There will be an increased chance for a solar proton event during the period, given the presence of Region 8395 and the possible active return of old Region 8384.

The greater than 2 MeV electron flux at geosynchronous altitude is expected to be at normal to moderate levels.

The geomagnetic field is expected to be at quiet to unsettled levels, barring any Earth-directed CMEs.



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
23 November	130	56	250	C1.5	4	1	1	3	1	0	0	0
24 November	140	74	520	C1.4	6	0	1	7	1	0	0	0
25 November	150	102	950	B8.4	8	0	0	11	0	0	0	0
26 November	156	132	940	B5.9	11	0	0	10	1	0	0	0
27 November	159	121	900	B6.8	10	1	0	6	0	1	0	0
28 November	165	110	880	C1.4	1	0	1	5	0	0	1	0
29 November	168	126	990	C1.2	6	0	0	9	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
23 November	1.0E+6	3.8E+4	4.0E+3		6.6E+6	
24 November	5.5E+5	7.2E+4	5.0E+3		2.6E+6	
25 November	5.4E+5	6.0E+4	3.8E+3		5.1E+6	
26 November	1.3E+6	5.2E+4	3.7E+3		4.8E+6	
27 November	1.6E+6	3.3E+4	3.1E+3		7.3E+6	
28 November	9.6E+5	2.6E+4	3.0E+3		8.0E+6	
29 November	1.1E+6	2.1E+4	3.0E+3		1.0E+7	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	23 November	8	2-2-2-1-3-1-2-3	11	0-1-3-3-4-3-2-2	10
24 November	11	2-2-1-2-3-4-3-2	25	4-2-2-4-5-4-5-2	12	2-3-2-2-3-4-4-3
25 November	9	1-2-2-2-2-4-2-2	18	1-3-1-3-5-5-2-2	9	0-3-2-2-2-3-3-3
26 November	10	1-1-3-4-2-3-2-1	16	1-1-4-4-4-4-2-1	11	2-2-4-4-2-3-2-2
27 November	8	3-2-2-2-3-1-1-1	16	2-3-1-5-4-4-0-0	8	3-2-2-2-3-3-2-1
28 November	3	1-2-0-0-0-2-1-1	3	0-1-0-0-1-3-1-1	5	2-2-1-0-1-2-2-2
29 November	7	2-2-1-2-2-0-3-2	3	0-1-0-1-2-0-2-1	6	2-2-1-1-1-1-3-2

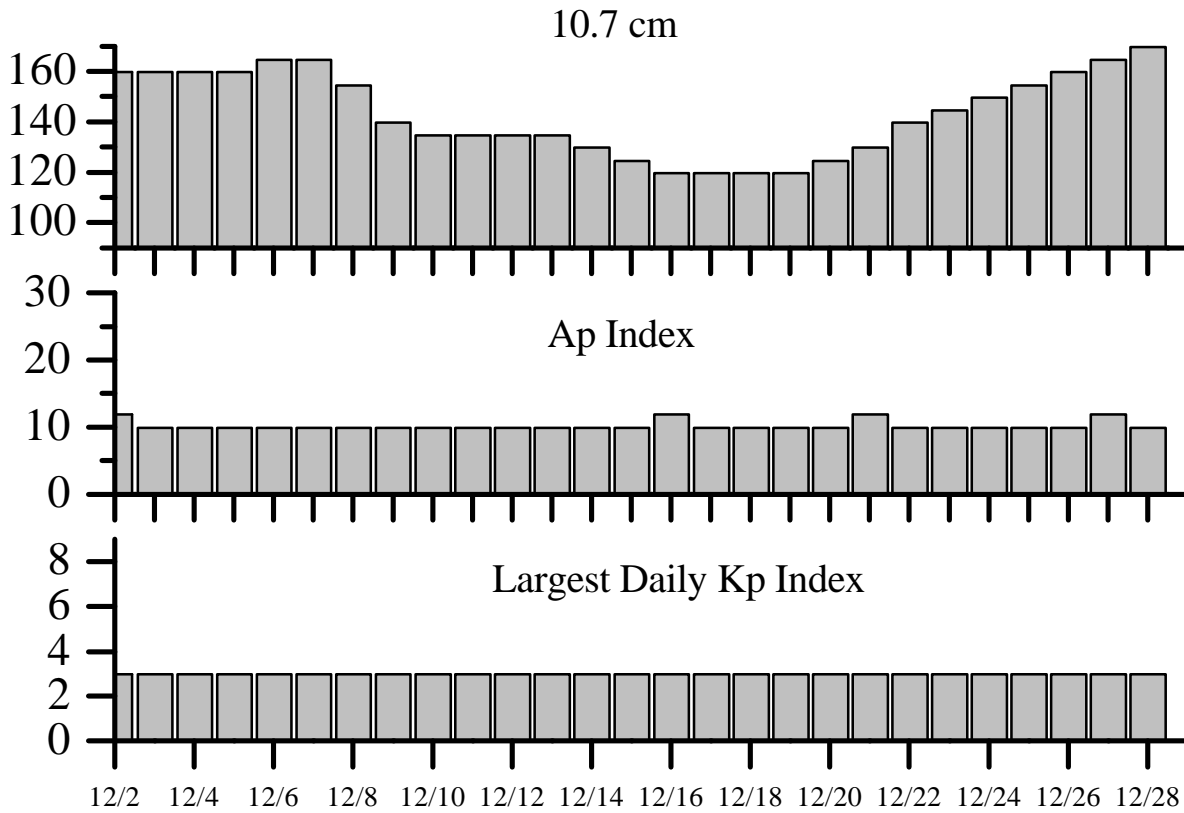


Alerts and Warnings Issued

<u>Date and Time of Issue (UT)</u>	<u>Type of Alert or Warning</u>	<u>Date and Time of Event (UT)</u>
23 Nov 0149	12-245 MHz Bursts	22 Nov
23 Nov 0149	2-245 MHz Radio Noise Storms	22 Nov
23 Nov 0707	10cm Radio Burst 130 F.U.	23 Nov 0634
23 Nov 0707	X-Ray event X2/0F/S28W89	23 Nov 0628
23 Nov 0725	Type IV Radio Emission	23 Nov 0659
23 Nov 1241	10cm Radio Burst 210 F.U.	23 Nov 1206
23 Nov 1241	Type II Radio Emission	23 Nov 1104
23 Nov 1241	Type IV Radio Emission	23 Nov 1117
23 Nov 1248	10cm Radio Burst 340 F.U.	23 Nov 1057
24 Nov 0037	3-245 MHz Bursts	23 Nov
24 Nov 0238	X-Ray event X1	24 Nov 0219
24 Nov 0253	10cm Radio Burst 470 F.U.	24 Nov 02:08
24 Nov 0309	Type II Radio Emission	24 Nov 0217
24 Nov 2104	K-Index of 4 Observed	24 Nov 18-21
24 Nov 2253	Type II Radio Emission	24 Nov 2216
25 Nov 1449	Type II Radio Emission	25 Nov 1408
26 Nov 0057	7-245 MHz Bursts	25 Nov
26 Nov 1200	K-Index of 4 Observed	26 Nov 09-12
26 Nov 1500	Stratwarm Alert Exists Stratwarm Thursday	
27 Nov 0107	3-245 MHz Bursts	26 Nov
27 Nov 0806	Type II Radio Emission	27 Nov 0732
27 Nov 0815	10cm Radio Burst 390 F.U.	27 Nov 0731
28 Nov 0048	2-245 MHz Bursts	27 Nov
28 Nov 0048	245 MHz Radio Noise Storm	27 Nov
28 Nov 0625	X-Ray event X3.3/3N/N19E32	28 Nov 0454
28 Nov 0644	Type II Radio Emission	28 Nov 0554
28 Nov 0704	Type IV Radio Emission	28 Nov 0624
28 Nov 0753	10cm Radio Burst 3600 F.U.	28 Nov 0531
28 Nov 1101	Type IV Radio Emission	28 Nov 0712



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
02 Dec	160	12	3	15 Dec	125	10	3
03	160	10	3	16	120	12	3
04	160	10	3	17	120	10	3
05	160	10	3	18	120	10	3
06	165	10	3	19	120	10	3
07	165	10	3	20	125	10	3
08	155	10	3	21	130	12	3
09	140	10	3	22	140	10	3
10	135	10	3	23	145	10	3
11	135	10	3	24	150	10	3
12	135	10	3	25	155	10	3
13	135	10	3	26	160	10	3
14	130	10	3	27	165	12	3
				28	170	10	3



Energetic Events

Date	Time (UT)			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	½	Class	Integ Flux	Imp Brtns	Location		Radio Flux		Intensity	
			Max				Lat	CMD	245	2695	II	IV
23 Nov	0628	0644	0658	X2.2	.240	SF	S28W89	8384	110			1
23 Nov	1059	1121	1140	M3.1	.052				52	120	3	2
24 Nov	0207	0220	0237	X1.0	.120				480	380	2	
27 Nov	0721	0743	0757	M1.6	.024	2N	S24E09	8392	400	390	2	
28 Nov	0454	0552	0613	X3.3	.500	3N	N17E32	8395	8	3600	1	

Flare List

Date	Time			X-ray Class	Imp / Brtns	Optical		Rgn #
	Begin	Max	End			Location	Lat CMD	
23 November	0022	0028	0035	C2.8				
	0357	0400	0402	C2.9				
	0556	0604	0613	C4.9				
	0650	0653	0702	X2.2	SF	S28W89	8384	
	1028	1040	1046	C3.8				
	1059	1121	1140	M3.1				
	B1151	U1153	1325		1N	S23E58	8392	
	1421	1424	1428		SF	S14W05	8391	
24 November	1426	1426	1436		SF	S20W74	8386	
	0207	0220	0237	X1.0				
	0256	0256	0259		SF	S30W81	8384	
	0413	0413	0418		SF	S18W89	8386	
	0541	0542	0545		SF	S18W89	8386	
	0848	0851	0855	C3.4				
	1026	1030	1035	C2.3				
	1233	1237	1242	C2.3				
	1627	1628	1632		SF	S16E62	8393	
	1652	1652	1656		SF	S17W47	8394	
	1653	1654	1700		SF	S19W89	8386	
	25 November	1907	1913	1922	C1.9			
2214		2215	2221	C8.4	1F	N17E72	8395	
2341		2342	2346	C2.9	SF	S16E57	8393	
0021		0025	0030	C1.3				
0125		0126	0128		SF	S17E54	8393	
0330		0335	0343	C2.0	SF	N17E74	8395	
0551		0556	0613	C2.7	SF	N18E72	8395	
0651		0652	0708		SF	S19E58	8393	
0944		0947	0953	C2.4	SF	S19E59	8393	
0955		1000	1005		SF	S16E51	8393	
1317		1323	1328	C4.5				
1358	1403	1408	C6.4					
1417	1420	1428		SF	N20E68	8395		
1454	1455	1501		SF	S19E51	8393		



Flare List-continued

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
25 November	1901	1908	1916		SF	S24E22	8392
	2008	2018	2037		SF	S24E21	8392
	2051	2107	2124	C2.9			
	2248	2251	2259	C1.1	SF	S23E20	8392
26 November	0021	0024	0030	C1.0	SF	S24E18	8392
	0149	0238	0313	C1.7			
	0436	0439	0456		SF	N19E61	8395
	0443	0443	0455	C1.8	SF	S24E16	8392
	0528	0529	0538	C1.2	SF	S20E42	8393
	0759	0805	0817	C2.0	SF	S23E14	8392
	0944	0947	0951		SF	S19E36	8393
	1028	1032	1051	C4.0	1F	N18E57	8395
	1136	1139	1141	C1.0			
	1259	1259	1306		SF	N27W38	
	1319	1328	1339	C1.6			
	1644	1644	1652	C1.7	SF	N15E57	8395
	1710	1730	1739	C1.2			
	1747	1747	1757		SF	N19E54	8395
	1813	1817	1821		SF	N25W42	8396
	2223	2259	2317	C1.5			
27 November	0302	0304	0310		SF	N19E47	8395
	0330	0348	0352	C1.1			
	0419	0425	0436	C1.2			
	0452	0453	0503		SF	S23E03	8392
	0715	0741	0851	M1.6	2N	S24E09	8392
	0852	0853	0905		SF	S22E08	8392
	1052	1055	1102	C2.6	SF	N21E51	8395
	1155	1205	1217	C1.6			
	1232	1237	1248	C2.2			
	1549	1552	1555	C1.2			
	1612	1625	1631	C1.2			
	1819	1820	1826	C2.4	SF	N19E53	8395
	1926	1927	1932	C1.4	SF	S21E25	8393
2137	2147	2159	C2.4				
28 November	B0605	U0609	0810	X3.3	3N	N17E32	8395
	1219	1225	1257		SF	N18E44	8395
	1258	1319	1328		SF	N22E41	8395
	1329	1338	1350		SF	N18E45	8395
	1723	1726	1730	C5.1			
	B1824	U1824	A1834		SF	N16E44	8395
	2258	2300	2309		SF	N27W67	8396



Flare List-continued

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
29 November	0156	0207	0242	C2.1			
	0626	0630	0633	C2.8			
	0640	0645	0654	C2.8			
	1040	1043	1046	C1.6			
	1124	1131	1138	C1.6			
	1410	1415	1442		SF	N17E17	8395
	1417	1418	1427		SF	N25E50	8397
	1425	1426	1430		SF	N14E87	8397
	1449	1453	1510		SF	N17E17	8395
	1516	1518	1522		SF	N26W72	8396
	1547	1547	1551		SF	N28W73	8396
	1553	1555	1558		SF	N28W74	8396
	1845	1855	1905		SF	N19E26	8395
	B2051	U2051	A2116	C2.1	SF	N23E34	8395

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

Region 8386

13 Nov	S20E57	000	0010	02	AXX	003	A														
14 Nov	S20E43	001	0040	03	BXO	004	B														
15 Nov	S21E31	000	0020	01	HSX	002	B														
16 Nov	S21E18	001												1							
17 Nov	S21E05	001																			
18 Nov	S19W15	007	0000	00	AXX	001	A														
19 Nov	S19W28	007																			
20 Nov	S19W41	007												2							
21 Nov	S19W54	007																			
22 Nov	S19W67	007												1							
23 Nov	S17W80	006	0010	05	BXO	002	B							1							
24 Nov	S17W93	006												3							
														0	0	0	8	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 001



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 8387

14 Nov	N22E46	358	0020	04	BXO	005	B										
15 Nov	N21E30	001	0030	06	CSO	004	B										
16 Nov	N19E15	004	0000	00	AXX	001	A										
17 Nov	N22E02	004	0010	07	BXO	006	B										
18 Nov	N22W11	004															
19 Nov	N22W24	004															
20 Nov	N22W37	004															
21 Nov	N22W50	004															
22 Nov	N22W63	004															
23 Nov	N22W76	004															
24 Nov	N22W91	004															

0 0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 004

Region 8388

14 Nov	N23E55	354	0020	04	BXO	004	B										
15 Nov	N22E43	348	0020	01	HSX	001	A										
16 Nov	N23E29	350	0020	03	CRO	004	B										
17 Nov	N24E17	349	0010	03	CRO	004	B										
18 Nov	N23E02	350	0000	00	AXX	001	A										
19 Nov	N24W10	349	0000	00	AXX	001	A										
20 Nov	N24W23	349															
21 Nov	N24W36	349															
22 Nov	N24W49	349															
23 Nov	N24W62	349															

0 0 0 0 0 0 0 0 0

Died on Disk.

Absolute heliographic longitude: 350



**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
1996									
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	77.7	56.5*	108.3	109.1*	10	11.4*
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*	
October	77.0	55.6*	0.72*			121.9*		13*	
November	99.5	73.6*	0.74*			140.2*		16*	

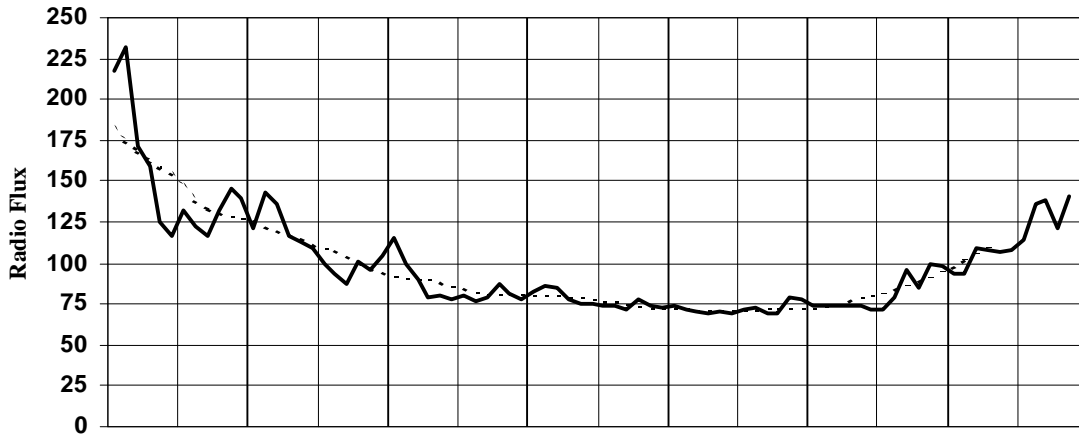
*Preliminary estimates.

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.

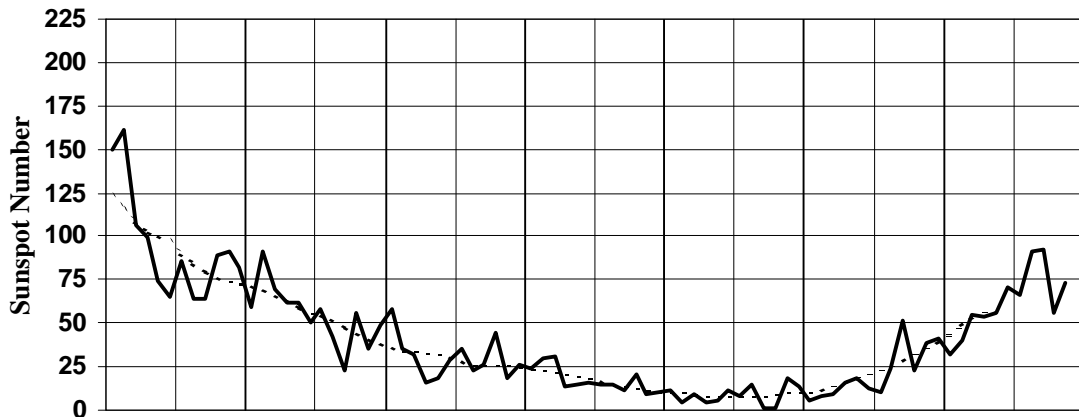
** From June 1991 onward, the 10.7-cm radio flux data source is Penticton, B.C. Canada. Prior to that, it was Ottawa.



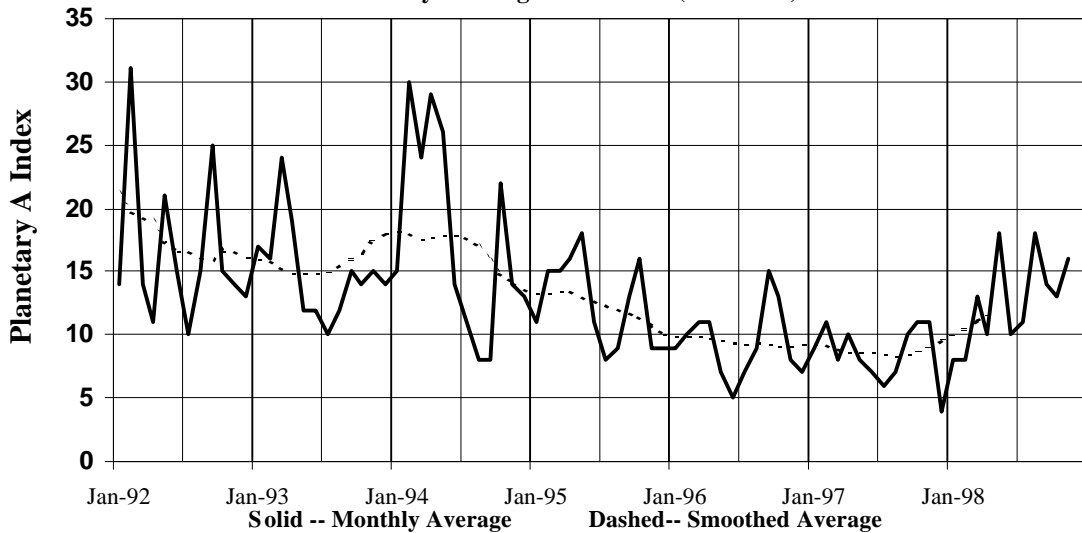
Penticton (DRAO) Radio Flux 2800MHz (10.7cm)
 (With data through 1 Dec 98 for all graphs)

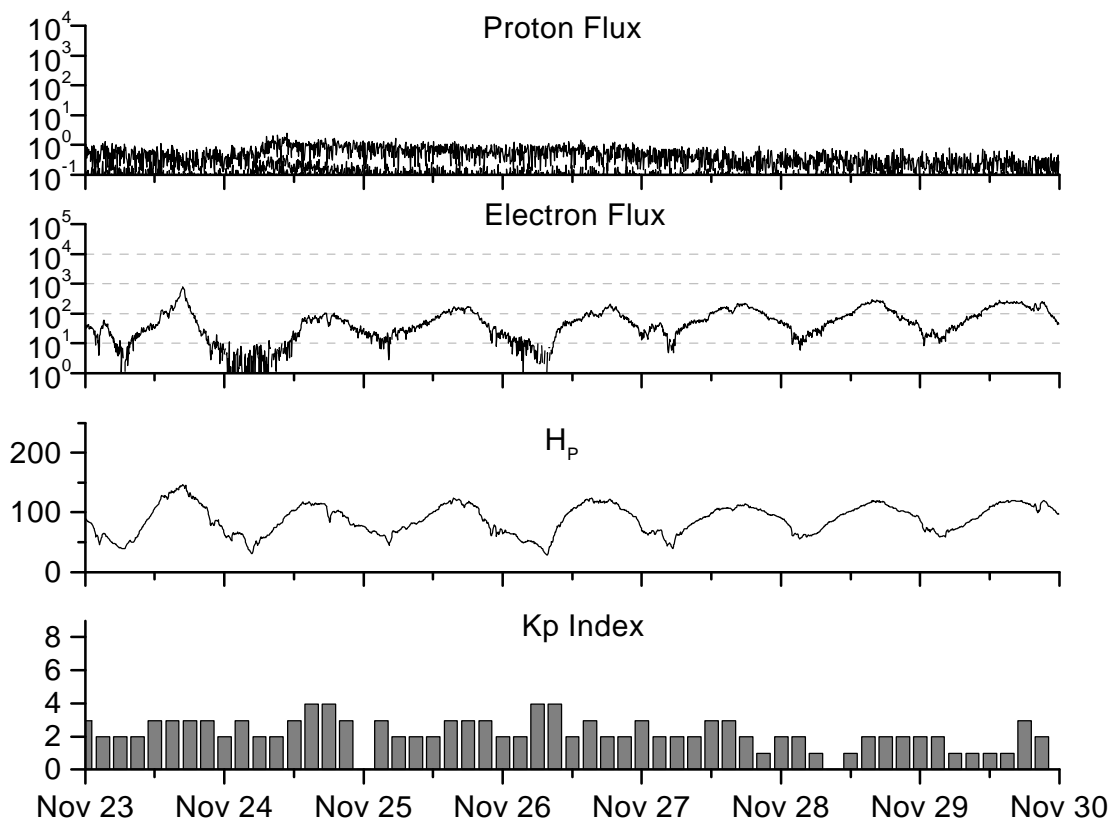


International Sunspot Number



Planetary Geomagnetic A Index (Estimated)





Weekly Geosynchronous Satellite Environment Summary
Week Beginning 23 November 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.

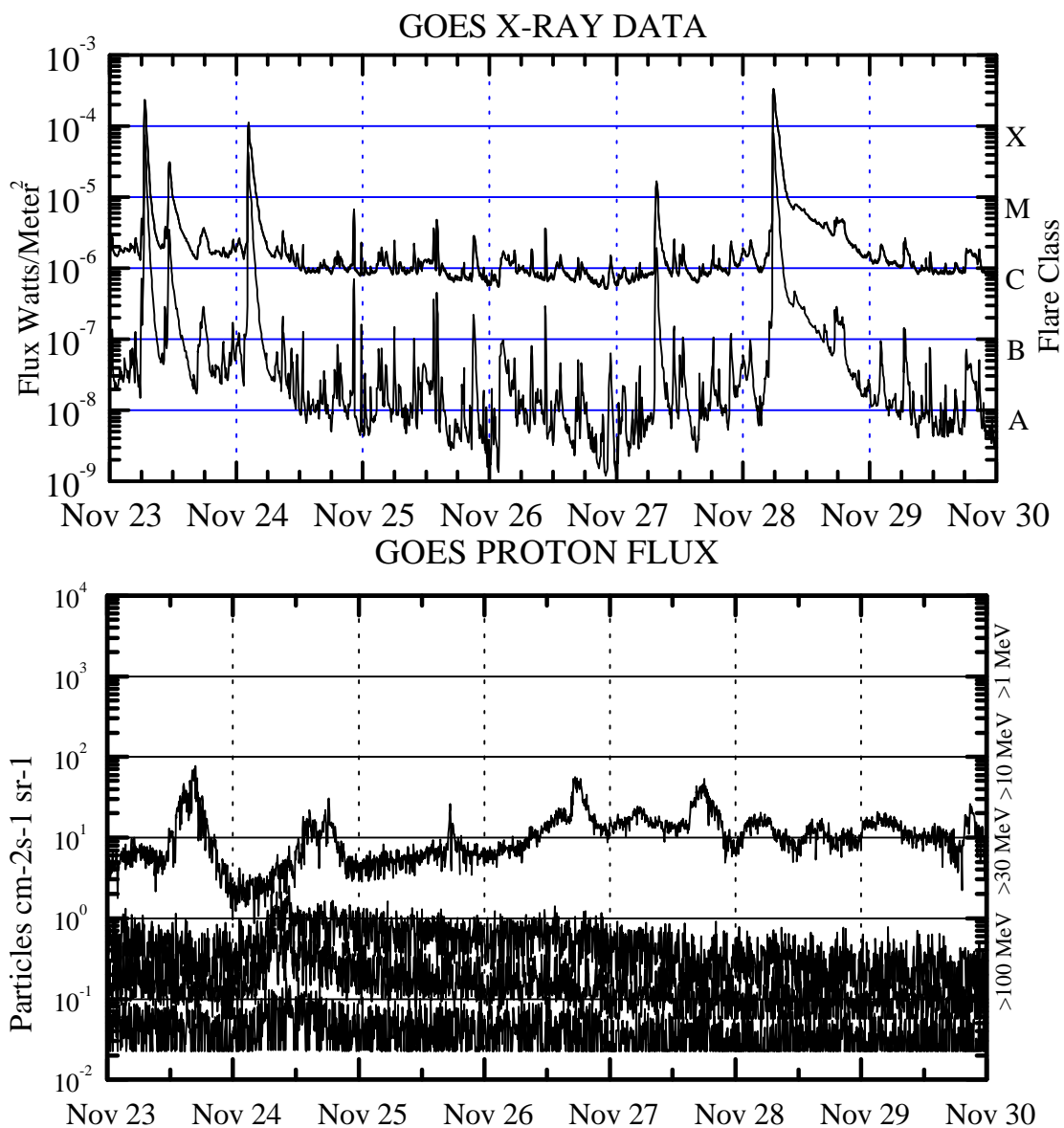
Electrons plot contains the five-minute averaged integral electron flux (electrons/ cm^2 -sec-sr) with energies greater than 2 MeV at GOES-8.

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.



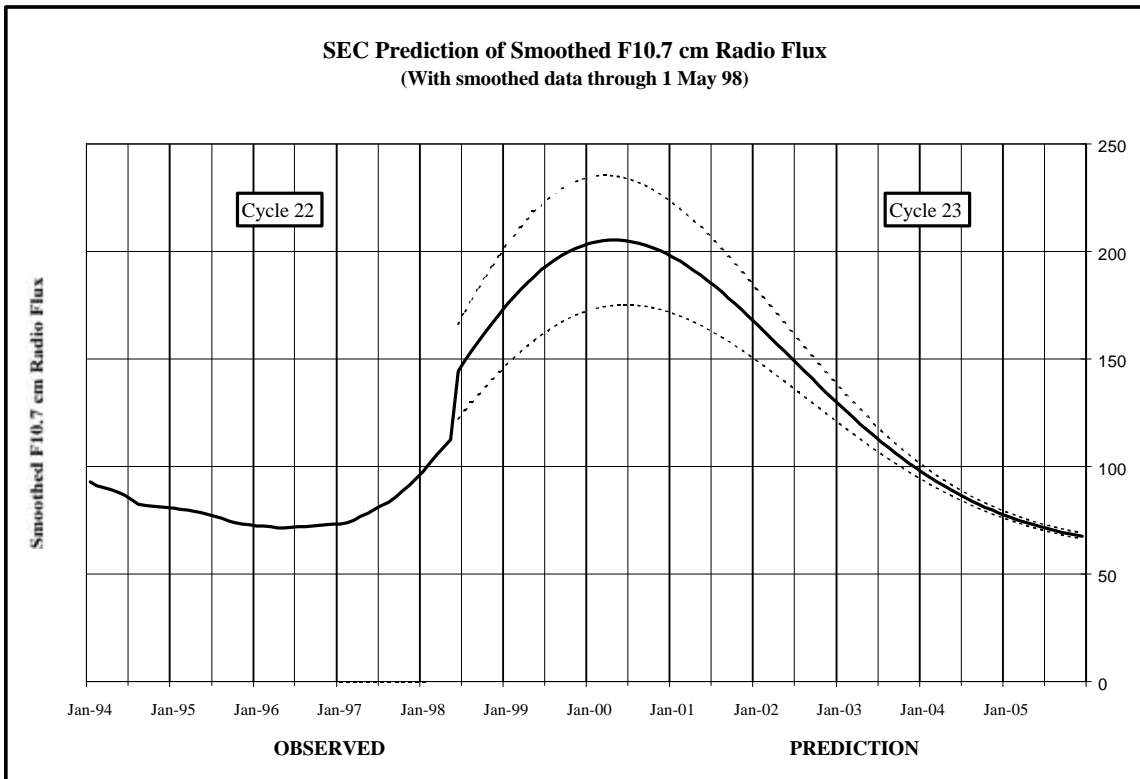


Weekly GOES Satellite X-ray and Proton Plots

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.

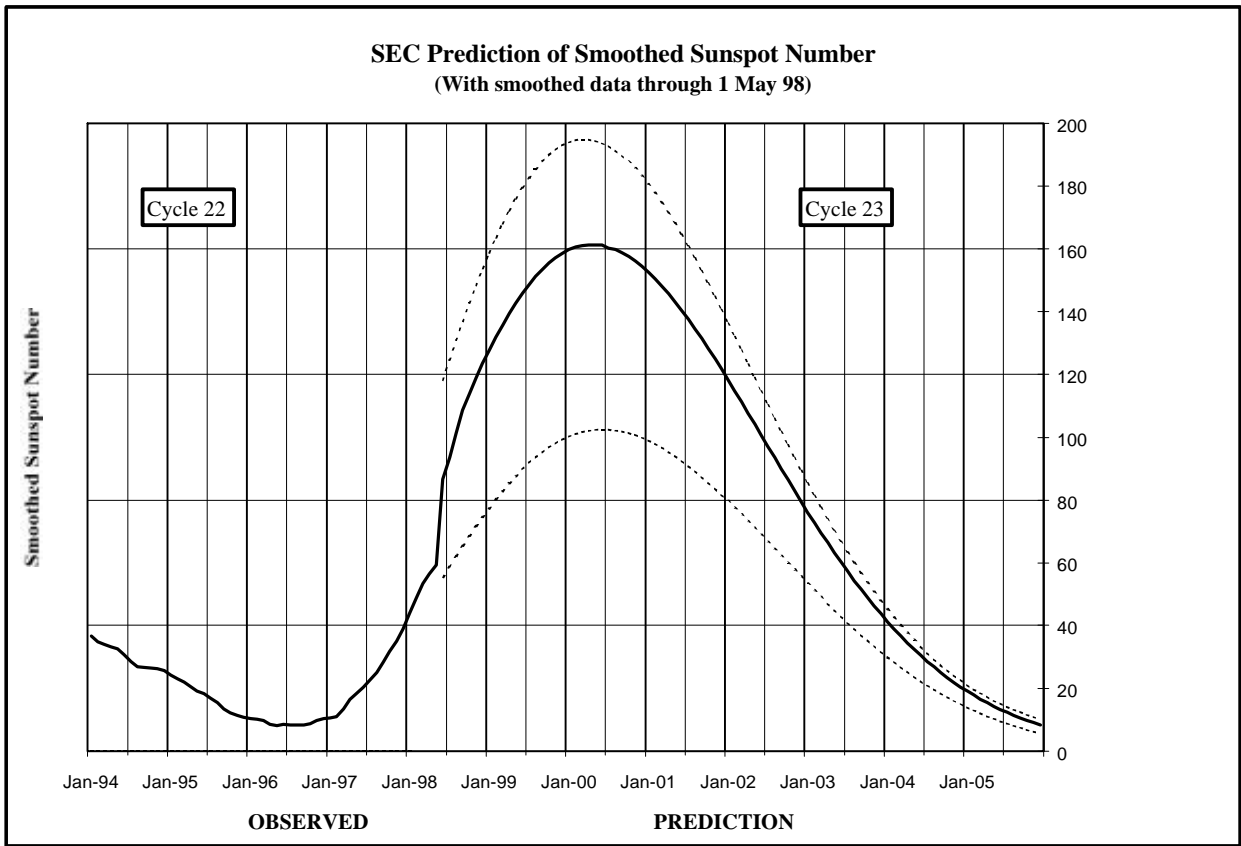




SEC Prediction of Smoothed F10.7cm Radio Flux

	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 (***)	109 (***)	112 (***)	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 (***)	57 (***)	59 (***)	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)

