

Solar activity ranged from very low to low this period. Region 709 (N05, L=324, class/area, Bxo/030 on 09 December) produced a C2.5/Sf long duration flare with a Type II (808 km/s) radio sweep at 08/1959 UTC. This flare was associated with a 14 degree filament eruption from a sigmoid region viewed on SXI imagery near N01W07. Limited LASCO imagery revealed what was likely a full halo CME first observed in C2 at 08/2026 UTC above the SE and NW limbs. Region 710 (S08, L=268, class/area, Bxo/010 on 10 December) produced two C-class flares; a C1.0 on 08/0414 UTC and a C1.0/Sf at 09/0012 UTC. By the end of the reporting period, Region 711 (N13, L=311, class/area Dao/100, on 12 December) was the only spotted region on the visible disk.

Solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft during most of the summary period. The period began with solar wind speed near 450 km/s. Solar wind speed was in a decline phase from a 05 December CME. By 0800 UTC on 06 December, solar wind speed began to increase as a geoeffective coronal hole wind stream rotated into position. Maximum speed of approximately 550 km/s was reached midday on 07 December. The coronal hole stream began to decline until late on 10 December, when an increase in speed, density, temperature was observed at about 1900 UTC. This increase preceded the shock from the 08 December CME. The shock hit ACE at 11/1257 UTC with a maximum wind speed of about 600 km/s. The Bz component of the IMF turned strongly northward to near 10 nT. By the end of the period, solar wind speed had declined to near 400 km/s while the IMF Bz rotated steeply southward to near -15 nT.

No greater than 10 MeV proton events were observed this period.

The greater than 2 MeV electron flux at geosynchronous orbit was at high levels on 07 – 12 December.

The geomagnetic field ranged from quiet to minor storming with isolated high latitude major to severe storming early and late in the summary period. The period began with mostly unsettled to active levels as the geomagnetic field was under the influence of a geoeffective, high speed coronal hole wind stream. One isolated period of minor storming was observed early on 07 December while isolated major storm periods were observed at high latitudes on 06 and 07 December. By 0900 UTC on the 7th, and through midday on the 11th, mostly quiet to unsettled levels were observed with isolated periods of minor storming at higher latitudes. Thereafter, and through to the end of the summary period, unsettled to minor storming was observed as effects from the 08 December CME arrived. At high latitudes, isolated major to severe storming was observed on 11 and 12 December.

Space Weather Outlook **15 December - 10 January 2005-**

Solar activity is expected to be very low to low through the forecast period.

A greater than 10 MeV proton event is not expected.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 18 – 20 December, 23 - 29 December, and 03 - 05 January.

The geomagnetic field is expected to range from mostly quiet to active levels with isolated minor storm periods. High speed coronal hole streams are expected to produce occasional storm periods on 17 – 18 December, 22 - 27 December, and 02 – 03 January.



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	
06 December	93	47	230	B1.3	0	0	0	0	0	0	0	0	0
07 December	90	26	100	B1.2	0	0	0	0	0	0	0	0	0
08 December	82	40	120	A9.2	2	0	0	1	0	0	0	0	0
09 December	87	39	100	A6.8	1	0	0	1	0	0	0	0	0
10 December	85	39	40	A5.2	0	0	0	0	0	0	0	0	0
11 December	90	16	50	A5.8	0	0	0	0	0	0	0	0	0
12 December	91	26	100	A8.5	0	0	0	0	0	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
	06 December	2.0E+7	1.8E+4	2.6E+3		7.5E+6
07 December	1.8E+6	1.3E+4	2.8E+3		9.3E+7	
08 December	1.1E+6	1.3E+4	2.9E+3		2.3E+8	
09 December	6.5E+5	1.3E+4	2.8E+3		2.0E+8	
10 December	5.4E+5	1.4E+4	3.0E+3		1.0E+8	
11 December	2.1E+6	1.3E+4	3.1E+3		7.6E+7	
12 December	4.2E+6	1.3E+4	3.0E+3		3.2E+7	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	06 December	11	2-2-3-3-2-3-2-3	35	1-2-6-5-4-6-4-2	19
07 December	9	2-3-2-2-2-2-3-1	25	3-3-3-5-5-4-4-2	15	2-5-2-3-3-3-3-2
08 December	9	3-3-3-1-2-1-1-2	18	1-2-4-4-5-3-2-2	10	3-2-3-2-2-2-3-2
09 December	7	3-0-1-3-2-1-2-1	13	2-1-1-5-4-2-2-1	8	2-1-1-4-2-2-2-1
10 December	8	2-2-2-2-1-2-2-3	20	1-1-2-5-4-5-2-3	10	1-2-2-3-3-2-3-3
11 December	11	1-0-3-2-3-3-2-4	23	1-0-3-3-6-4-4-3	15	1-1-3-2-4-3-4-4
12 December	24	5-4-4-4-2-4-3-3	48	4-3-5-6-5-7-3-2	36	5-4-5-5-4-5-3-3

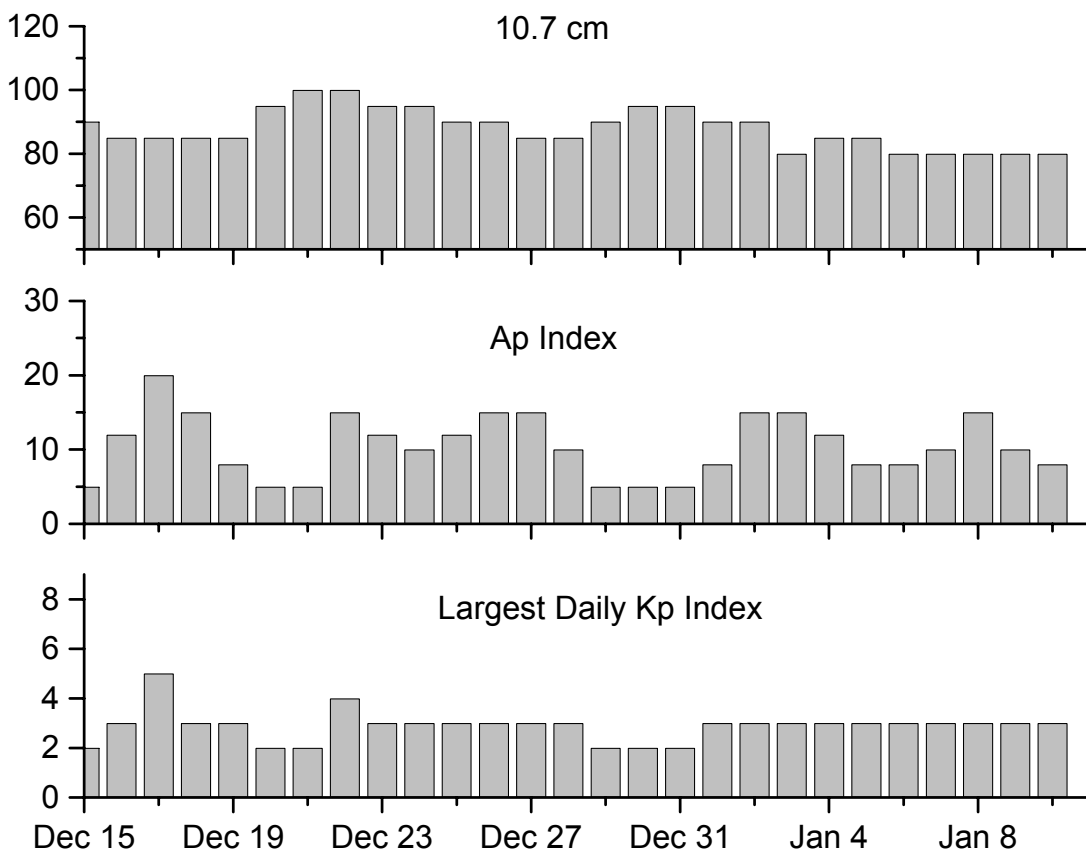


Alerts and Warnings Issued

<u>Date & Time of Issue</u>	<u>Type of Alert or Warning</u>	<u>Date & Time of Event UT</u>
06 Dec 0841	ALERT: Geomagnetic K = 4	06 Dec 0841
06 Dec 1128	ALERT: Geomagnetic K = 4	06 Dec 1127
06 Dec 1620	WARNING: Geomagnetic K = 4	06 Dec 1621 – 2359
06 Dec 1659	ALERT: Geomagnetic K = 4	06 Dec 1658
06 Dec 2259	EXT WARNING: Geomagnetic K = 4	06 Dec 1621 – 07 Dec 1600
07 Dec 1416	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	07 Dec 1415
08 Dec 0635	WARNING: Geomagnetic K = 4	08 Dec 0635 – 1600
08 Dec 0640	ALERT: Geomagnetic K = 4	08 Dec 0640
08 Dec 0715	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	08 Dec 0700
08 Dec 2018	ALERT: Type II Radio Emission	08 Dec 1945
09 Dec 0737	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	09 Dec 0720
09 Dec 1041	WARNING: Geomagnetic K = 4	09 Dec 1041 – 1500
09 Dec 1044	ALERT: Geomagnetic K = 4	09 Dec 1044
09 Dec 2214	WATCH: Geomagnetic A \geq 20	11 Dec
09 Dec 2215	WATCH: Geomagnetic A \geq 30	12 Dec
10 Dec 1132	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10 Dec 1110
11 Dec 0718	WARNING: Geomagnetic K = 4	11 Dec 0718 – 1500
11 Dec 0729	ALERT: Geomagnetic K = 4	11 Dec 0728
11 Dec 1337	WARNING: Geomagnetic Sudden Impulse	11 Dec 1340 – 1420
11 Dec 1401	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	11 Dec 1340
11 Dec 1453	EXT WARNING: Geomagnetic K = 4	11 Dec 0718 – 2359
11 Dec 1802	WARNING: Geomagnetic K = 5	11 Dec 1802 – 2359
11 Dec 2354	EXT WARNING: Geomagnetic K = 4	11 Dec 0718 – 12 Dec 1600
12 Dec 0230	ALERT: Geomagnetic K = 4	12 Dec 0230
12 Dec 0233	WARNING: Geomagnetic K = 5	12 Dec 0235 – 1600
12 Dec 0239	ALERT: Geomagnetic K = 5	12 Dec 0236
12 Dec 1458	EXT WARNING: Geomagnetic K = 4	11 Dec 0718 – 12 Dec 2359
12 Dec 1658	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12 Dec 1635
12 Dec 2354	EXT WARNING: Geomagnetic K = 4	11 Dec 0718 – 13 Dec 1600



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
15 Dec	90	5	2	29 Dec	90	5	2
16	85	12	3	30	95	5	2
17	85	20	5	31	95	5	2
18	85	15	3	01 Jan	90	8	3
19	85	8	3	02	90	15	3
20	95	5	2	03	80	15	3
21	100	5	2	04	85	12	3
22	100	15	4	05	85	8	3
23	95	12	3	06	80	8	3
24	95	10	3	07	80	10	3
25	90	12	3	08	80	15	3
26	90	15	3	09	80	10	3
27	85	15	3	10	80	8	3
28	85	10	3				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Max	Class	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
								245	2695	II	IV

No Events Observed

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location Lat CMD		
06 December	0558	0601	0607	B2.2				
	0758	0802	0807	B2.1				
07 December	No Flares Observed							
08 December	0354	0414	0431	C1.0				
	1942	1944	2010	C2.5	Sf	N05W03		709
09 December	0009	0010	0015	C1.1	Sf	S09E49		710
10 December	0742	0746	0752	B1.1				
	0945	0952	1004	B1.2				
11 December	0528	0533	0535	B1.3				711
	1805	1808	1810	B1.2				711
	2014	2122	2148	B5.8				711
	2347	0001	0007	B1.7				711
12 December	0535	0539	0543	B1.4				711
	1106	1110	1118	B1.8				
	1252	1259	1312	B3.2				710
	1430	1433	1436	B2.3				711
	2156	2205	2219	B2.6				711
	2233	2238	2243	B3.4				711
	2325	2329	2331	B2.4				711



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 706

24 Nov S08E71	070	0080	06	Dao	005	B	3			2							
25 Nov S08E56	072	0070	07	Dao	006	B											
26 Nov S07E44	071	0140	08	Dao	005	B											
27 Nov S07E31	070	0120	06	Cao	006	B											
28 Nov S07E19	069	0150	05	Cso	006	B											
29 Nov S08E05	070	0120	03	Hsx	001	A											
30 Nov S08W08	070	0110	02	Hsx	002	A											
01 Dec S07W21	070	0080	03	Hsx	002	A											
02 Dec S05W26	062	0090	07	Cso	003	B											
03 Dec S06W48	070	0080	04	Cao	003	B											
04 Dec S07W62	071	0080	03	Cao	004	B											
05 Dec S07W74	070	0070	02	Hsx	001	A											
06 Dec S07W87	070	0060	01	Hax	001	A											
							3	0	0	2	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 070

Region 707

24 Nov S16E68	073	0080	01	Hax	001	A											
25 Nov S15E57	071	0110	06	Cao	006	B											
26 Nov S16E42	073	0150	06	Dai	009	Bg											
27 Nov S16E27	074	0170	07	Dai	014	Bg											
28 Nov S15E14	074	0170	09	Cao	015	B											
29 Nov S14E02	073	0170	06	Cao	008	B	2			1							
30 Nov S14W12	074	0180	05	Dao	009	B	1			1							
01 Dec S17W24	073	0240	06	Dsc	016	Bg	5			5							
02 Dec S14W37	073	0230	07	Dac	019	B											
03 Dec S14W49	071	0190	04	Dao	009	B											
04 Dec S13W64	073	0110	05	Dao	003	B											
05 Dec S13W77	073	0080	05	Hax	001	A											
06 Dec S13W88	071	0060	01	Hax	001	A											
							8	0	0	7	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 073



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 708</i>																		
26 Nov	N08E	81	034	0120	03	Hax	001	A										
27 Nov	N10E	67	034	0100	02	Hsx	001	A										
28 Nov	N10E	56	032	0140	03	Cso	002	B										
29 Nov	N10E	40	035	0150	03	Hsx	001	A										
30 Nov	N11E	27	035	0130	03	Hsx	001	A	1			1						
01 Dec	N09E	14	035	0130	05	Cso	004	B		1		1						
02 Dec	N09E	01	035	0150	06	Dsi	010	B		1					1			
03 Dec	N08W	12	034	0160	08	Cso	005	B										
04 Dec	N09W	26	035	0090	02	Cao	006	B										
05 Dec	N09W	41	037	0070	03	Hsx	002	A										
06 Dec	N10W	53	036	0100	02	Hsx	001	A										
07 Dec	N10W	66	036	0080	02	Hax	001	A										
08 Dec	N09W	81	037	0080	02	Hax	001	A										
09 Dec	N09W	92	035	0060	02	Hsx	001	A										
										1	2	0	2	0	1	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 035

<i>Region 709</i>																		
03 Dec	N06E	61	321	0020	01	Axx	001	A										
04 Dec	N06E	48	321	0000	00		000											
05 Dec	N06E	31	325	0010	05	Axx	002	A										
06 Dec	N04E	20	323	0010	11	Bxo	004	B										
07 Dec	N04E	01	329	0020	04	Bxo	005	B										
08 Dec	N04W	11	327	0020	07	Bxo	007	B	1			1						
09 Dec	N05W	21	324	0030	07	Bxo	007	B										
10 Dec	N05W	38	328	0010	01	Axx	001	A										
11 Dec	N05W	51	328															
12 Dec	N05W	64	328															
										1	0	0	1	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 329



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 710

08 Dec	S08E47	269	0020	01	Axx	002	A											
09 Dec	S07E33	270	0010	01	Axx	001	A	1				1						
10 Dec	S08E22	268	0010	03	Bxo	004	B											
11 Dec	S08E09	268																
12 Dec	S08W04	268																
									1	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 268

Region 711

10 Dec	N13W20	310	0020	04	Dso	004	B											
11 Dec	N13W34	311	0050	04	Dao	006	B											
12 Dec	N13W47	311	0100	06	Dao	016	B											
									0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 310

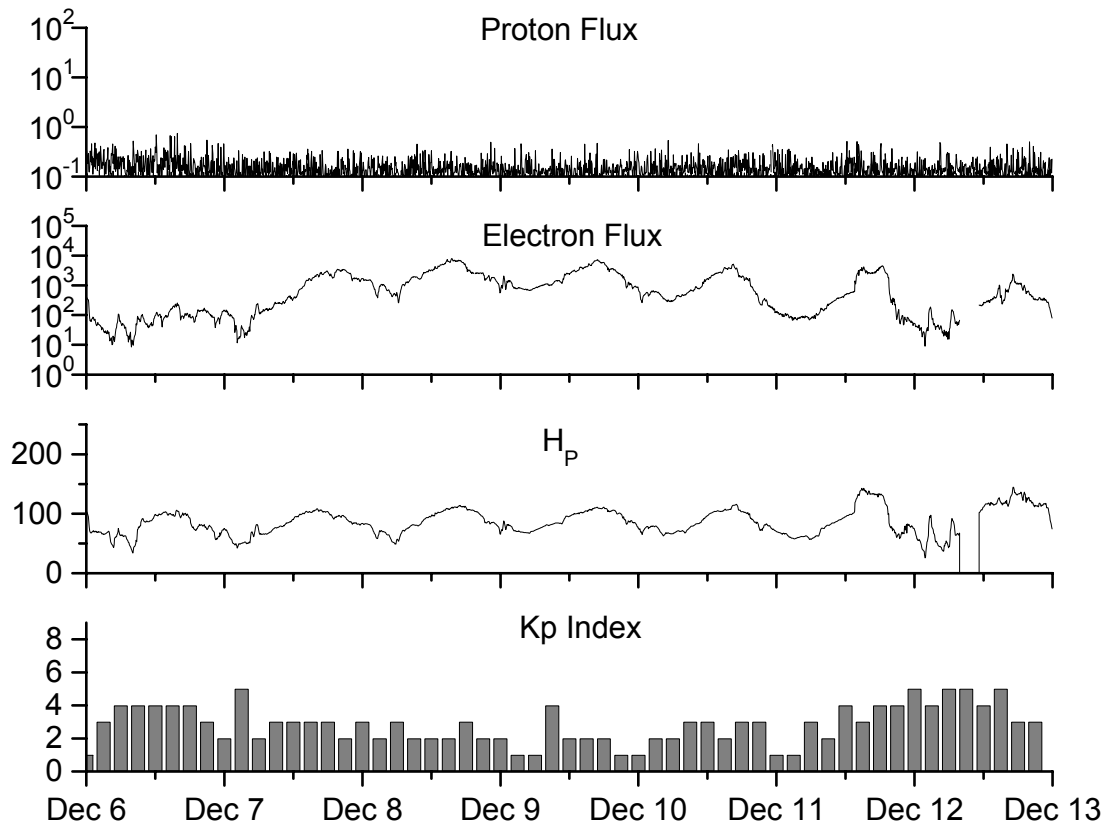


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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
2002									
December	147.9	80.8	0.55	144.6	82.1	158.6	150.9	13	17.0
2003									
January	149.3	79.7	0.53	141.7	81.0	144.0	149.2	13	18.2
February	87.0	46.0	0.53	136.4	78.5	124.5	144.7	17	18.9
March	119.7	61.1	0.51	128.1	74.2	132.2	139.5	21	19.4
April	119.7	60.0	0.50	121.5	70.3	126.3	135.0	20	20.1
May	89.6	55.2	0.62	118.3	67.8	129.3	133.1	26	21.0
June	118.4	77.4	0.65	113.6	65.2	129.4	130.2	24	21.5
July	132.8	85.0	0.64	106.9	62.0	127.8	127.2	19	22.0
August	114.3	72.7	0.64	102.8	60.3	122.1	125.2	23	22.2
September	82.6	48.8	0.59	100.7	59.8	112.3	123.7	18	21.8
October	118.9	65.5	0.55	96.6	58.4	153.1	121.8	35	21.1
November	118.9	67.3	0.57	93.6	57.0	153.1	120.1	28	20.0
December	75.4	46.5	0.62	91.4	55.0	115.1	118.0	16	18.6
2004									
January	62.3	37.7	0.61	87.9	52.0	114.1	116.3	22	18.1
February	75.6	45.8	0.61	84.2	49.4	107.0	115.5	13	17.7
March	81.0	49.1	0.61	80.9	47.2	112.2	114.6	14	16.9
April	59.3	39.3	0.66	77.9	45.6	101.2	112.3	11	15.5
May	77.3	41.5	0.54			99.8		8	
June	78.9	43.2	0.55			97.4		8	
July	87.8	51.0	0.58			118.5		23	
August	69.5	40.9	0.59			110.1		11	
September	50.0	27.7	0.55			103.1		10	
October	77.9	48.4	0.62			167.0		9	
November	70.5	43.7	0.62			113.2		26	

NOTE: All smoothed values after September 2002 and monthly values after March 2003 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 23, RI= 120.8, occurred April 2000. *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 06 December 2004*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by GOES-11 (W103) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

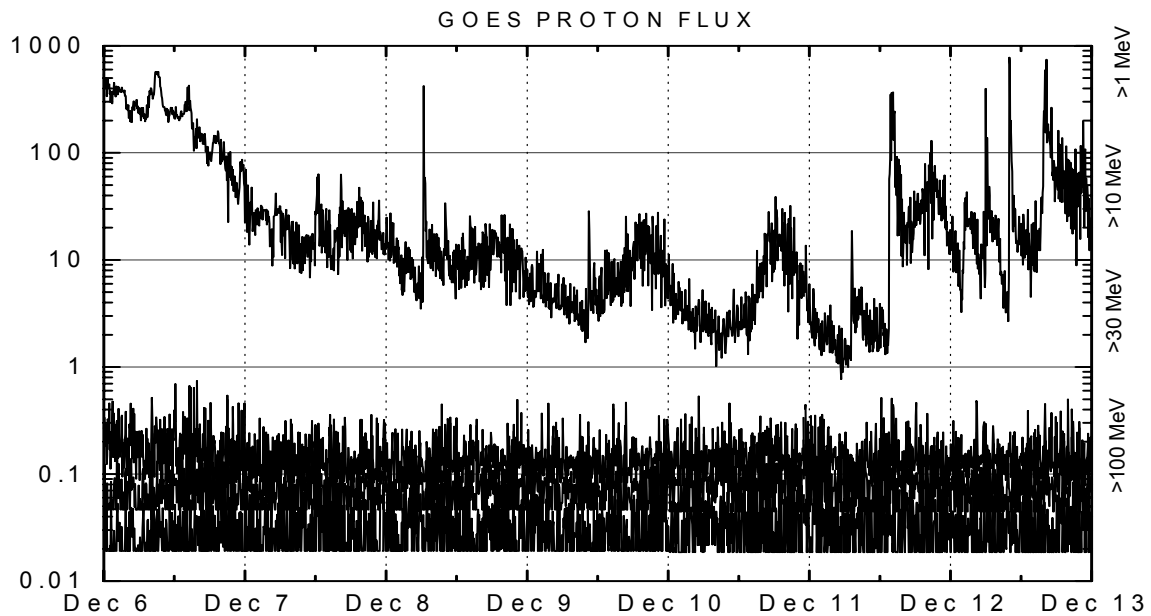
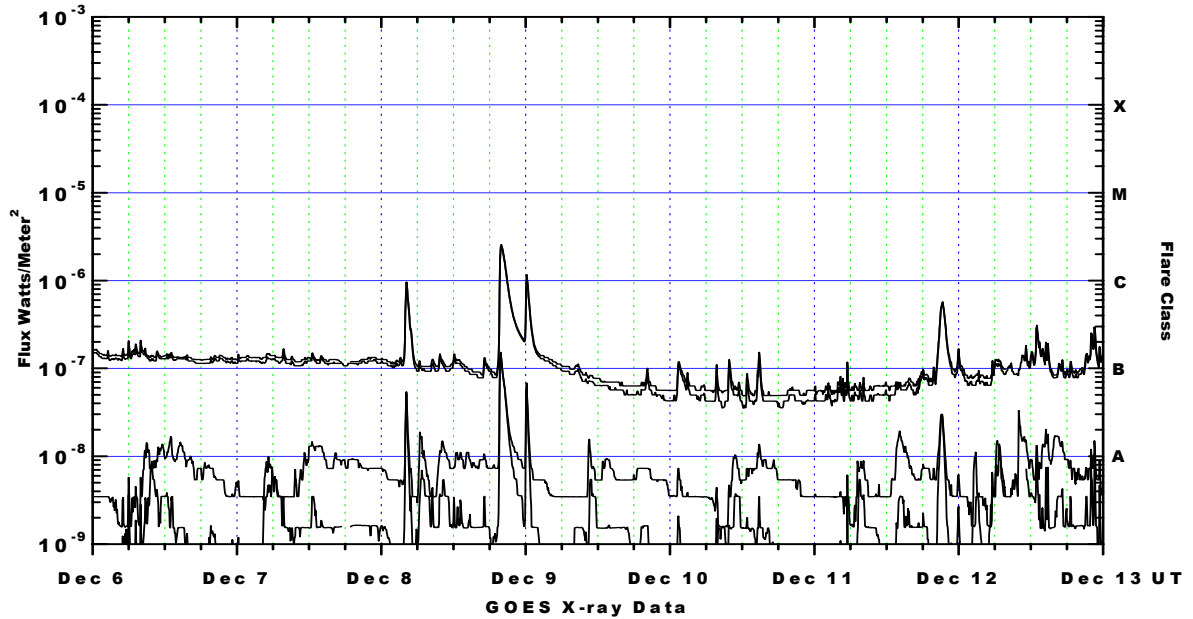
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W75).

H_p plot contains the five minute averaged magnetic field H - component in nanoteslas (nT) as measured by GOES-12. 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 Hartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC), British Geological Survey (BGS) 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

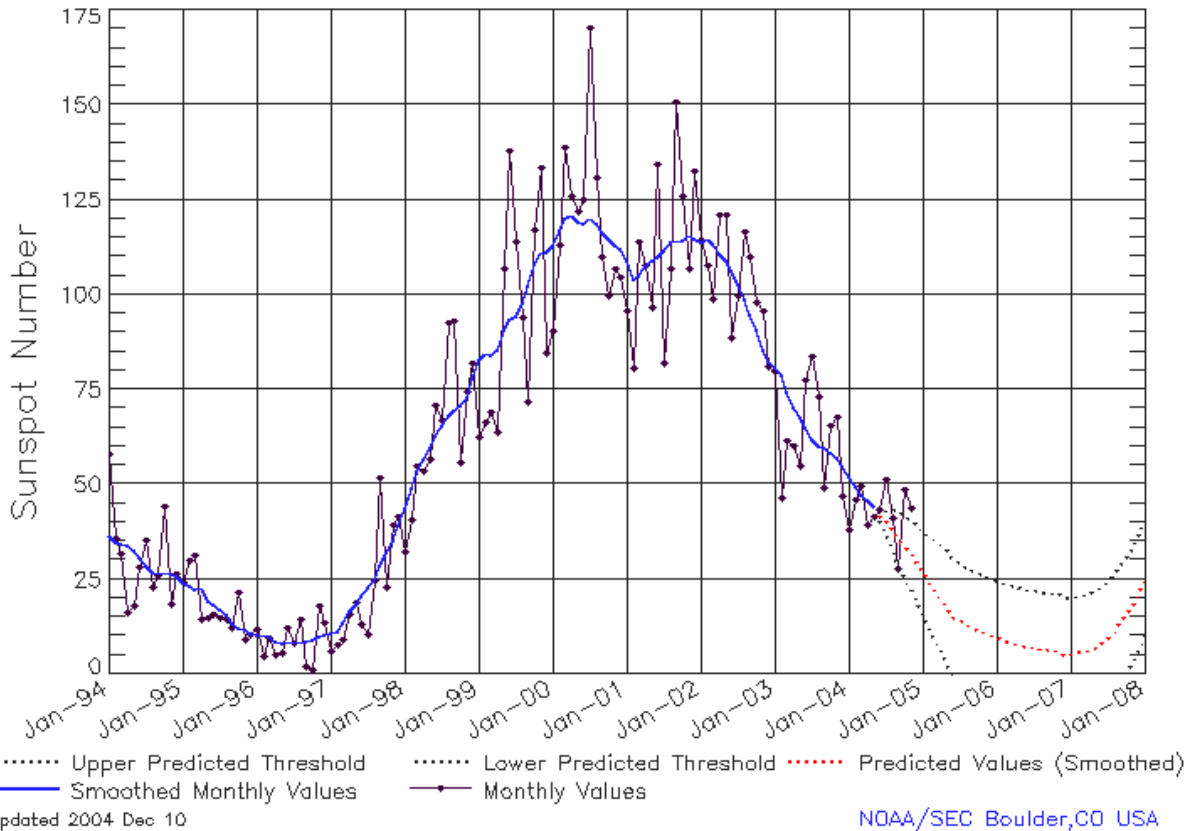
X-ray plot contains five-minute averaged x-ray flux (watts/m²) as measured by GOES 12 (W75) and GOES 10 (W135) in two wavelength bands, .05 - .4 and .1 - .8 nm. The letters A, B, C, M and X refer to x-ray event levels for the .1 - .8 nm band.

Proton plot contains the five-minute averaged integral proton flux (protons/cm²-sec-sr) as measured by GOES-11 (W103) 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.



ISES Solar Cycle Sunspot Number Progression

Data Through 30 Nov 04



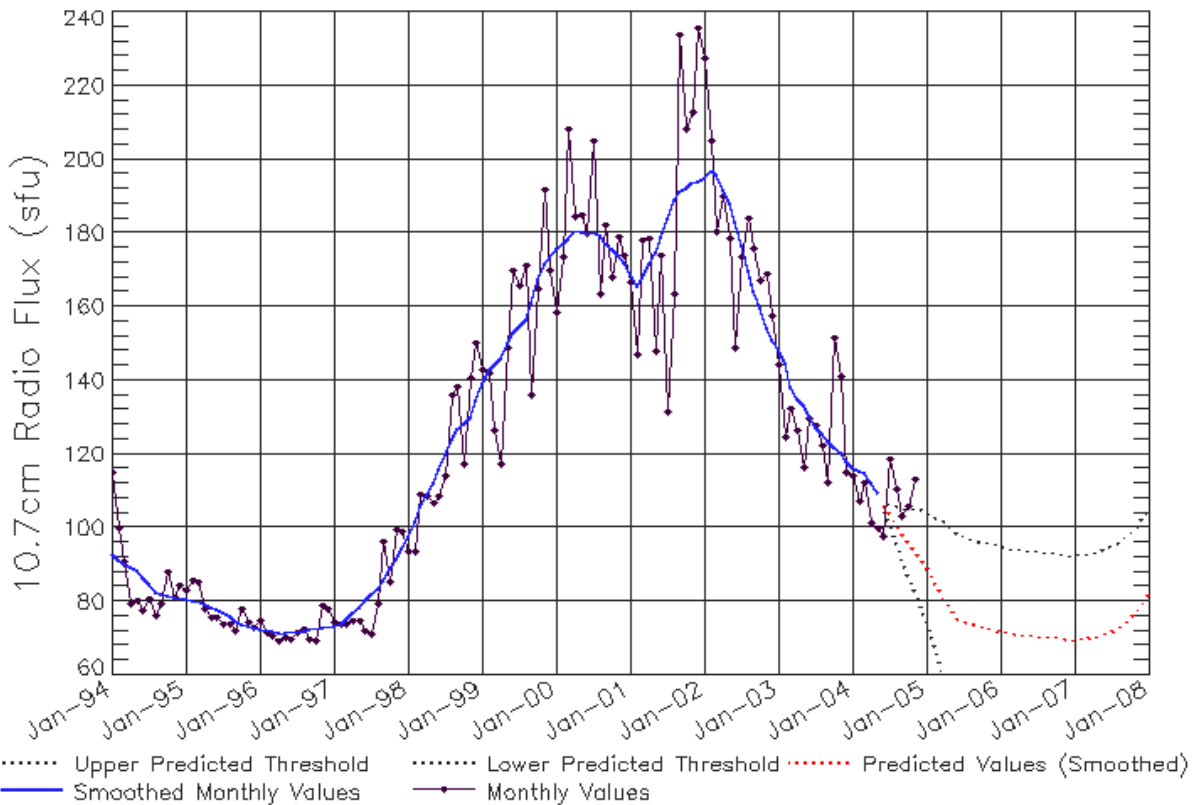
SEC Prediction of Smoothed Sunspot Number

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	44 (***)	49 (***)	53 (***)	57 (***)	59 (***)	63 (***)	66 (***)	68 (***)	70 (***)	71 (***)	73 (***)	78 (***)
1999	83 (***)	85 (***)	84 (***)	86 (***)	91 (***)	93 (***)	94 (***)	98 (***)	102 (***)	108 (***)	111 (***)	111 (***)
2000	113 (***)	117 (***)	120 (***)	121 (***)	119 (***)	119 (***)	120 (***)	119 (***)	116 (***)	115 (***)	113 (***)	112 (***)
2001	109 (***)	104 (***)	105 (***)	108 (***)	109 (***)	110 (***)	112 (***)	114 (***)	114 (***)	114 (***)	116 (***)	115 (***)
2002	114 (***)	115 (***)	113 (***)	111 (***)	109 (***)	106 (***)	103 (***)	99 (***)	95 (***)	91 (***)	85 (***)	82 (***)
2003	81 (***)	79 (***)	74 (***)	70 (***)	68 (***)	65 (***)	62 (***)	60 (***)	60 (***)	58 (***)	57 (***)	55 (***)
2004	52 (***)	49 (***)	47 (***)	46 (***)	44 (***)	42 (1)	40 (3)	38 (5)	36 (7)	34 (8)	32 (9)	30 (10)
2005	27 (11)	24 (12)	22 (13)	20 (14)	17 (15)	15 (15)	14 (15)	13 (15)	12 (15)	12 (15)	11 (15)	10 (15)
2006	10 (15)	9 (15)	8 (15)	8 (15)	8 (15)	7 (15)	7 (15)	7 (15)	7 (15)	6 (15)	6 (15)	5 (15)
2007	5 (15)	6 (15)	6 (15)	6 (15)	7 (15)	8 (15)	10 (15)	11 (15)	13 (15)	16 (15)	18 (15)	21 (15)



ISES Solar Cycle F10.7cm Radio Flux Progression

Data Through 30 Nov 04



Updated 2004 Dec 10

NOAA/SEC Boulder, CO USA

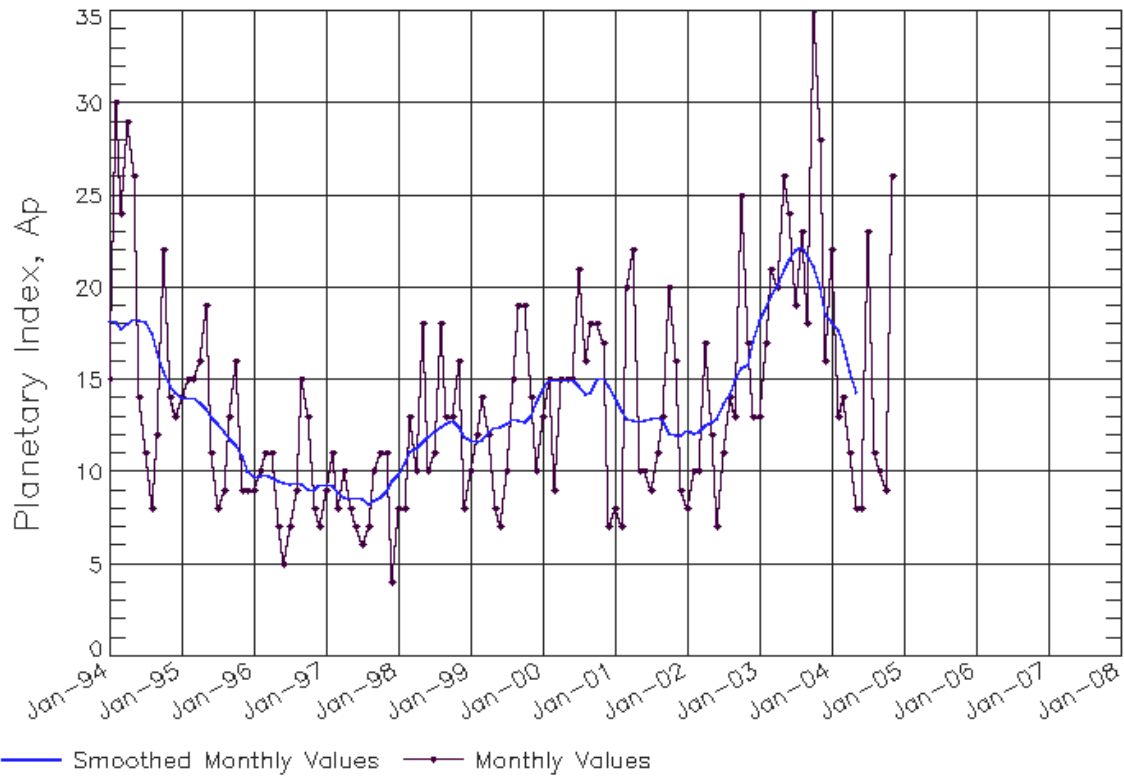
SEC Prediction of Smoothed F10.7cm Radio Flux

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	98 (***)	102 (***)	106 (***)	109 (***)	112 (***)	116 (***)	120 (***)	124 (***)	127 (***)	128 (***)	130 (***)	134 (***)
1999	139 (***)	143 (***)	144 (***)	146 (***)	150 (***)	153 (***)	154 (***)	156 (***)	161 (***)	167 (***)	172 (***)	173 (***)
2000	176 (***)	177 (***)	178 (***)	181 (***)	180 (***)	180 (***)	180 (***)	179 (***)	177 (***)	176 (***)	174 (***)	172 (***)
2001	169 (***)	166 (***)	168 (***)	172 (***)	175 (***)	179 (***)	184 (***)	189 (***)	191 (***)	192 (***)	194 (***)	194 (***)
2002	195 (***)	197 (***)	196 (***)	192 (***)	188 (***)	183 (***)	176 (***)	170 (***)	164 (***)	159 (***)	154 (***)	151 (***)
2003	148 (***)	145 (***)	138 (***)	135 (***)	133 (***)	130 (***)	127 (***)	125 (***)	124 (***)	122 (***)	120 (***)	118 (***)
2004	116 (***)	116 (***)	115 (***)	112 (***)	109 (***)	107 (1)	104 (3)	101 (5)	98 (7)	96 (9)	94 (11)	92 (13)
2005	89 (15)	86 (17)	83 (19)	81 (21)	78 (22)	75 (23)	75 (23)	74 (23)	74 (23)	73 (23)	73 (23)	73 (23)
2006	72 (23)	72 (23)	71 (23)	71 (23)	71 (23)	71 (23)	71 (23)	71 (23)	70 (23)	70 (23)	70 (23)	70 (23)
2007	70 (23)	70 (23)	70 (23)	70 (23)	71 (23)	71 (23)	72 (23)	73 (23)	74 (23)	76 (23)	77 (23)	79 (23)



ISES Solar Cycle Ap Progression

Data Through 30 Nov 04



Updated 2004 Dec 10

NOAA/SEC Boulder, CO USA

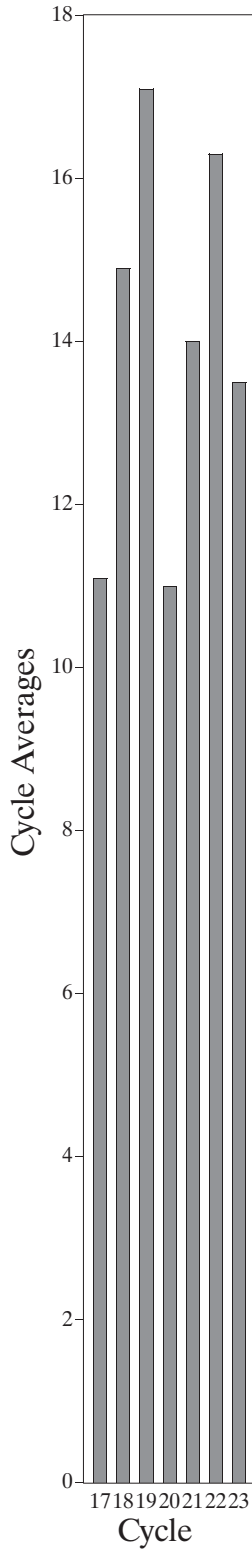


Geomagnetic Activity (A_p)



Space Environment Center

Comparison of Cycles at current month in cycle



November 2004
(Month 98)

█ Preliminary data

