

Space Weather Highlights
25 August - 31 August 2008

SEC PRF 1722
02 September 2008

Solar activity was very low. No flares were detected. The visible disk was spotless.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels during 25 - 26 August.

Geomagnetic field activity was at quiet levels at all latitudes during the period. ACE solar wind data indicated no significant changes during the period. Solar wind velocities ranged from 269 to 367 km/sec.

Space Weather Outlook
03 September - 29 September 2008

Solar activity is expected to be very low.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels during 07 - 12 September and 15 - 22 September.

Geomagnetic field activity is expected to be at quiet levels during 03 - 04 September. Activity is expected to increase to active levels on 05 September due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to quiet to unsettled levels during 06 - 07 September as the high-speed stream subsides. Quiet conditions are expected during 08 - 11 September. Activity is expected to increase to unsettled levels during 12 - 13 September. Activity is expected to increase to active to minor storm levels on 14 September due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to unsettled levels during 15 - 16 September as the high-speed stream subsides. Quiet conditions are expected during 17 - 29 September.



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
25 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
26 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
27 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
28 August	66	0	0	<A1.0	0	0	0	0	0	0	0	0
29 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
30 August	67	0	0	<A1.0	0	0	0	0	0	0	0	0
31 August	67	0	0	<A1.0	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)		
	>1 MeV	>10 MeV	>100 MeV	>.6 MeV	>2MeV	>4 MeV
25 August	9.8E+5	1.9E+4	4.5E+3		7.5E+7	
26 August	1.3E+6	1.9E+4	4.5E+3		7.7E+7	
27 August	1.0E+6	1.9E+4	4.5E+3		1.6E+7	
28 August	9.2E+5	1.9E+4	4.6E+3		1.3E+7	
29 August	9.4E+5	2.0E+4	4.5E+3		1.2E+7	
30 August	8.3E+5	2.0E+4	4.5E+3		1.3E+7	
31 August	9.3E+5	1.9E+4	4.4E+3		1.5E+7	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	25 August	1	0-0-0-0-1-1-0-0	0	0-0-0-0-0-0-0-0	2
26 August	1	0-0-0-0-1-1-0-0	0	0-0-0-0-0-0-1-0	3	1-0-0-0-2-1-1-2
27 August	2	1-2-0-1-1-0-1-0	1	1-1-0-0-0-0-0-0	3	1-2-0-0-1-1-0-1
28 August	2	0-1-0-0-1-0-1-1	1	1-1-0-0-0-0-0-0	2	1-1-0-0-0-1-1-1
29 August	2	0-1-1-1-1-1-0-1	2	1-0-0-0-0-1-1-1	3	1-1-0-0-1-1-1-1
30 August	2	1-0-0-1-1-1-0-0	0	0-0-0-1-0-0-0-0	3	1-0-0-1-1-1-1-2
31 August	2	0-0-1-1-1-1-1-1	0	0-0-0-0-0-0-1-0	3	1-0-0-0-1-2-1-2

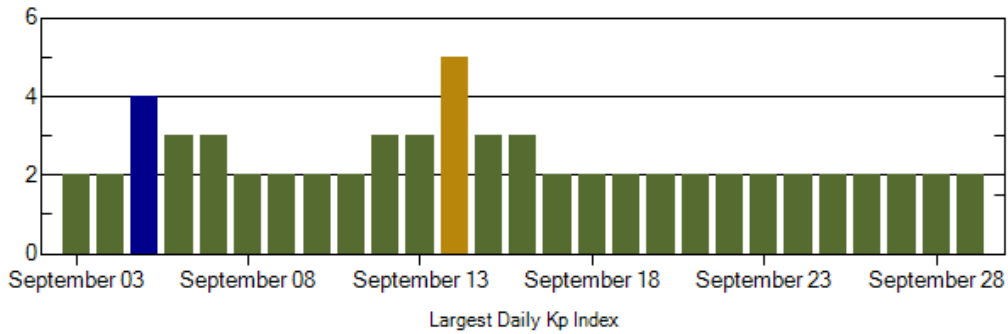
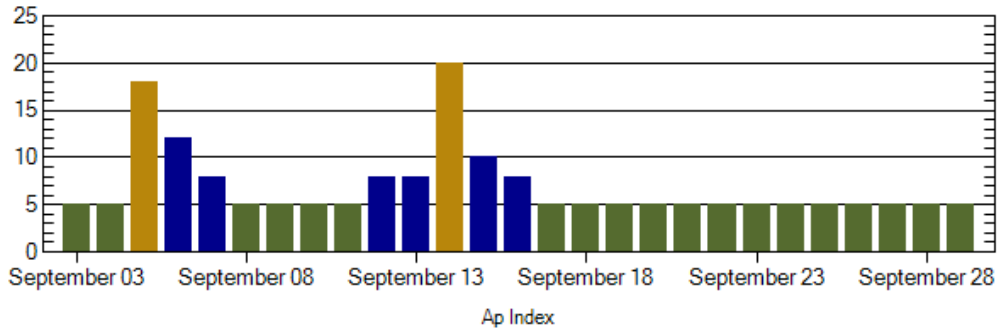
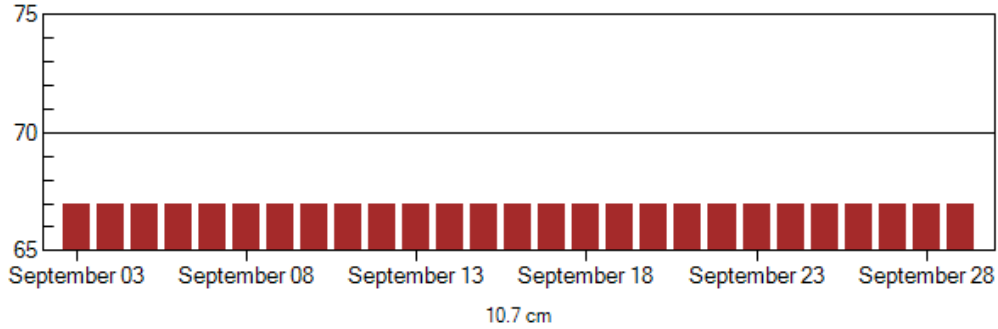


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
25 Aug 1146	ALERT: Electron 2MeV Integral Flux>1000pfu	25 Aug 1130
26 Aug 1215	ALERT: Electron 2MeV Integral Flux>1000pfu	26 Aug 1155



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
03 Sept	67	5	2	17 Sept	67	5	2
04	67	5	2	18	67	5	2
05	67	18	4	19	67	5	2
06	67	12	3	20	67	5	2
07	67	8	3	21	67	5	2
08	67	5	2	22	67	5	2
09	67	5	2	23	67	5	2
10	67	5	2	24	67	5	2
11	67	5	2	25	67	5	2
12	67	8	3	26	67	5	2
13	67	8	3	27	67	5	2
14	67	20	5	28	67	5	2
15	67	10	3	29	67	5	2
16	67	8	3				



Energetic Events

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

No Events Observed

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical	Rgn
	Begin	Max	End			Location Lat CMD	
25 Aug	<i>No Flares Observed</i>						
26 Aug	<i>No Flares Observed</i>						
27 Aug	<i>No Flares Observed</i>						
28 Aug	<i>No Flares Observed</i>						
29 Aug	<i>No Flares Observed</i>						
30 Aug	<i>No Flares Observed</i>						
31 Aug	<i>No Flares Observed</i>						

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

No active regions.



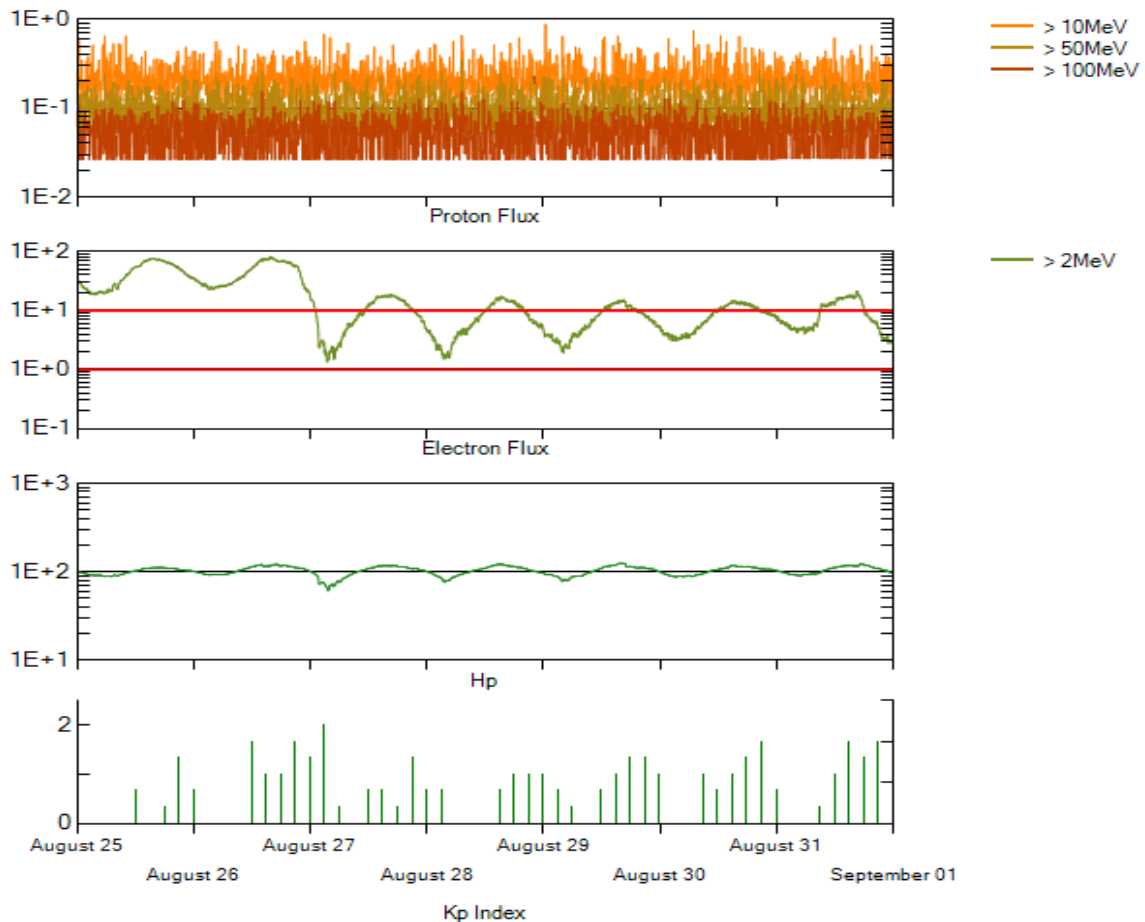
Recent Solar Indices (preliminary)
Of the observed monthly mean values

Month	Sunspot Numbers			Smooth values		Radio Flux		Geomagnetic	
	Observed SEC	values RI	Ratio RI/SEC	SEC	RI	*Penticton 10.7 cm	Smooth Value	Planetary Ap	Smooth Value
2006									
August	22.8	12.9	0.57	27.6	15.6	79.0	80.3	9	8.7
September	25.2	14.5	0.58	27.7	15.6	77.8	80.2	8	8.7
October	15.7	10.4	0.66	25.2	14.2	74.3	79.4	8	8.6
November	31.5	21.5	0.68	22.3	12.7	86.4	78.5	9	8.5
December	22.2	13.6	0.61	20.7	12.1	84.3	77.9	15	8.5
2007									
January	26.6	16.9	0.64	19.7	12.0	83.5	77.5	6	8.4
February	17.2	10.6	0.62	18.9	11.6	77.8	76.9	6	8.4
March	9.7	4.8	0.49	17.5	10.8	72.3	76.0	8	8.4
April	6.9	3.7	0.54	16.0	9.9	72.4	75.2	9	8.5
May	19.4	11.7	0.60	14.2	8.7	74.5	74.2	9	8.4
June	20.0	12.0	0.60	12.8	7.7	73.7	73.2	7	7.8
July	15.6	10.0	0.64	11.6	7.0	71.6	72.5	8	7.4
August	9.9	6.2	0.63	10.2	6.1	69.2	71.8	7	7.6
September	4.8	2.4	0.50	9.9	5.9	67.1	71.5	9	7.8
October	1.3	0.9	0.70	10.0	6.1	65.5	71.5	9	7.9
November	2.5	1.7	0.68	9.4	5.7	69.7	71.1	5	7.8
December	16.2	10.1	0.62	8.1	5.0	78.6	70.5	4	7.8
2008									
January	5.1	3.4	0.67	6.9	4.2	72.1	70.0	6	7.7
February	3.8	2.1	0.55			71.2		9	
March	15.9	9.3	0.58			72.9		10	
April	4.9	2.9	0.59			70.3		9	
May	5.7	2.9	0.51			68.4		6	
June	4.2	3.1	0.74			65.9		7	
July	1.0	0.5	0.50			65.8		6	

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 25 August 2008*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec-sr) as measured by GOES-11 (W135) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

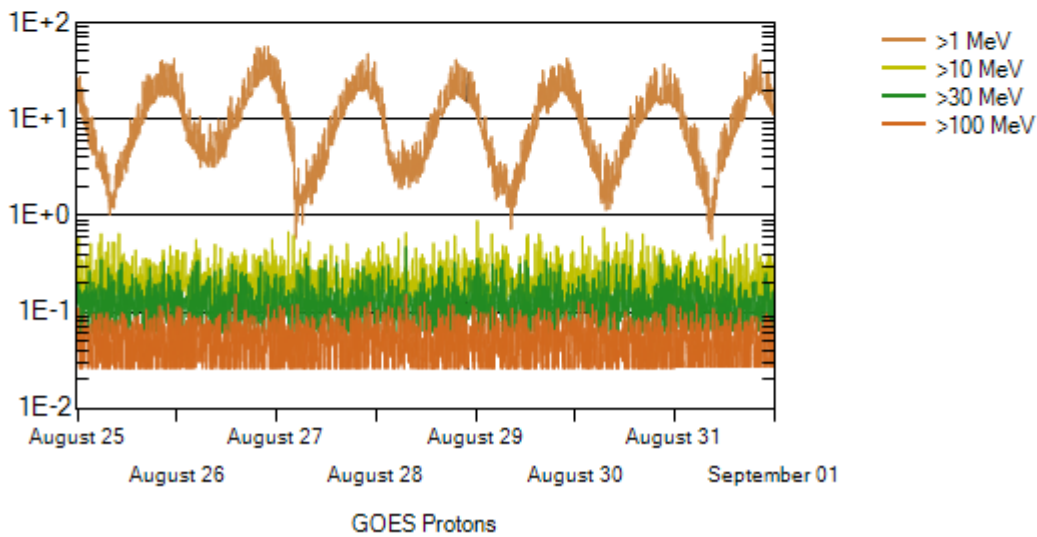
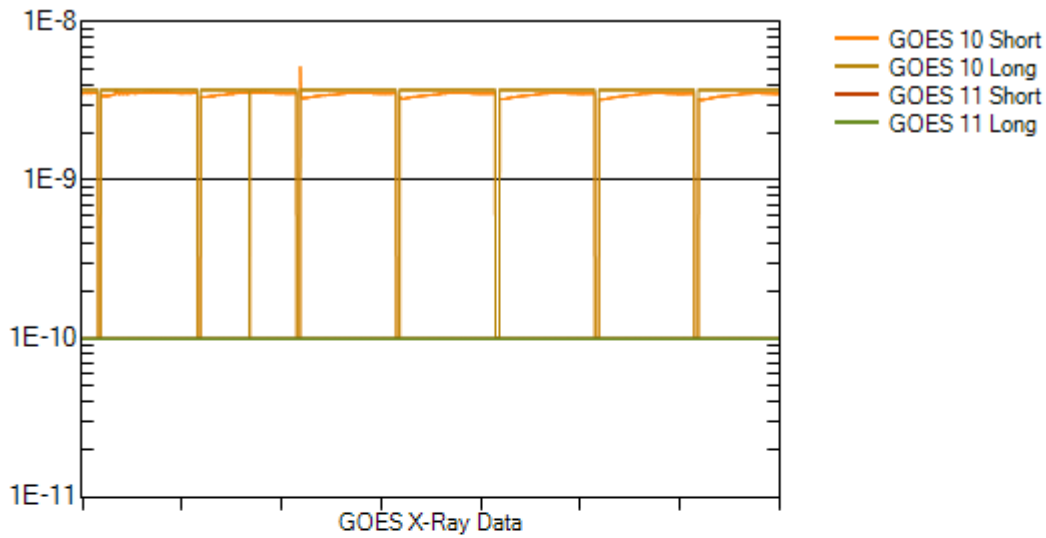
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec-sr) with energies greater than 2 MeV at GOES-12 (W075).

Hp 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.

Kp 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 Kp values derived from a more extensive network of magnetometers.

The data included here are those now available in real time at the SEC 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 Kp are "global" parameters that are applicable to a first order approximation over large areas. H parallel 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

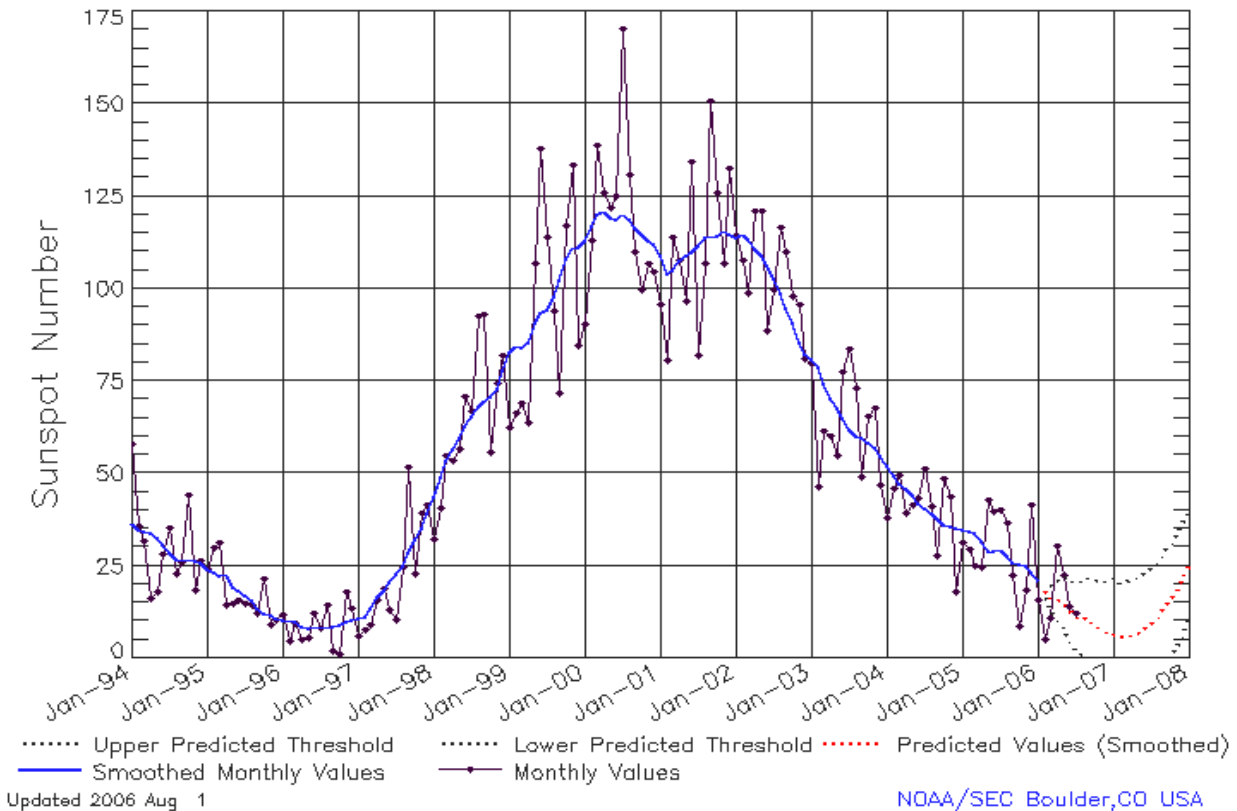
X-ray plot contains five-minute averaged x-ray flux (watts/m^2) as measured by GOES 10 (W060) and GOES 11 (W135) in two wavelength bands, .05 - .4 and .1 - .8 nm. The letters A, B, C, M and X refer to x-ray event levels for the .1 - .8 nm band.

Proton plot contains the five-minute averaged integral proton flux ($\text{protons/cm}^2\text{-sec-sr}$) as measured by GOES-11 (W135) for each of the energy thresholds: >1, >10, >30 and >100 MeV. P10 event threshold is 10 pfu ($\text{protons/cm}^2\text{-sec-sr}$) at greater than 10 MeV.



ISES Solar Cycle Sunspot Number Progression

Data Through 31 Jul 06



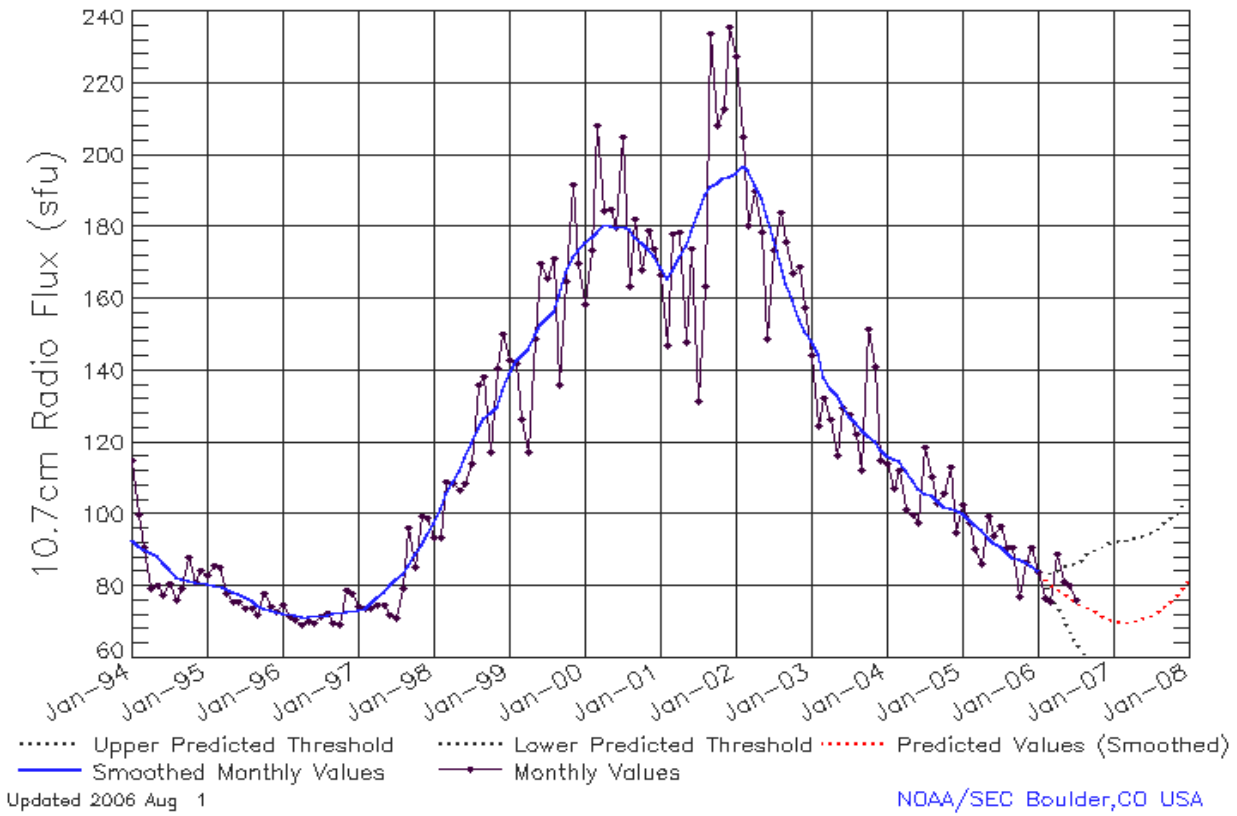
SEC Prediction of Smoothed Sunspot Number

	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 (***)	40 (***)	39 (***)	38 (***)	36 (***)	35 (***)	35 (***)
2005	35 (***)	34 (***)	34 (***)	32 (***)	29 (***)	29 (***)	29 (***)	28 (***)	26 (***)	26 (***)	25 (***)	23 (***)
2006	21 (***)	18 (1)	16 (3)	15 (5)	15 (7)	13 (8)	11 (9)	11 (10)	10 (11)	9 (12)	8 (13)	7 (14)
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 31 Jul 06



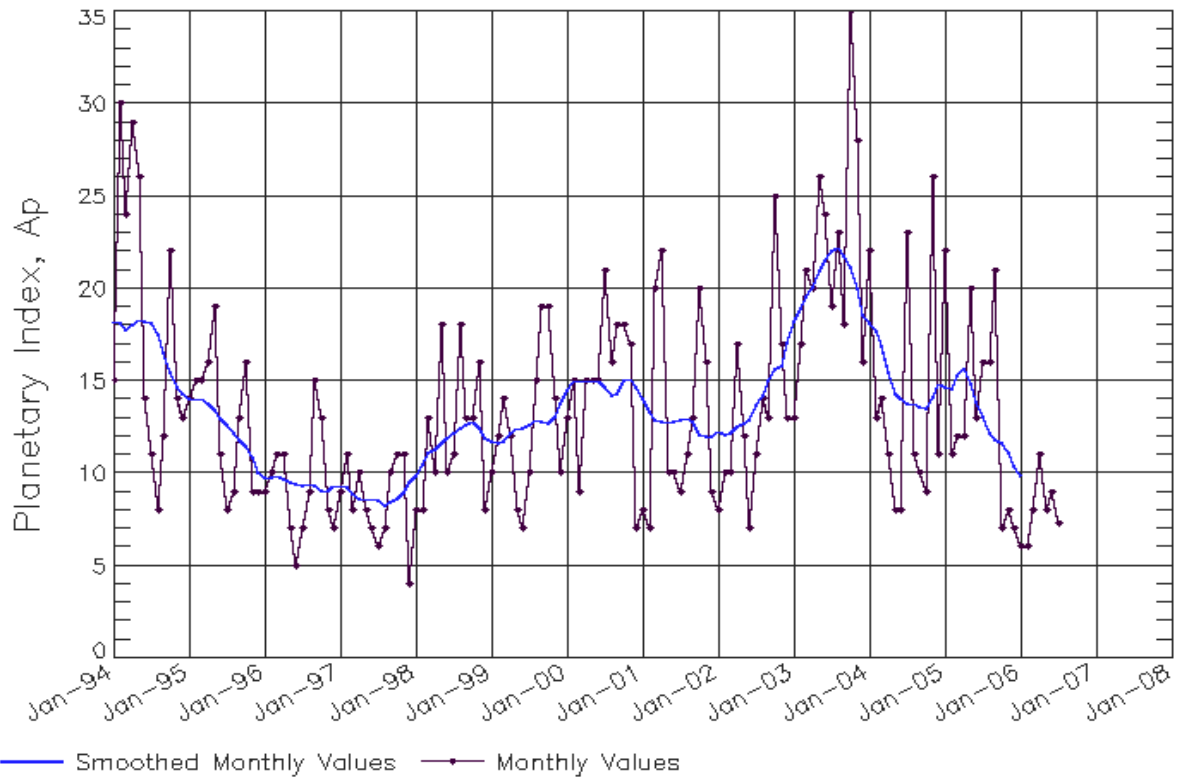
SEC Prediction of Smoothed F10.7cm Radio Flux

	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 (***)	106 (***)	105 (***)	104 (***)	102 (***)	102 (***)	101 (***)
2005	100 (***)	99 (***)	97 (***)	96 (***)	93 (***)	92 (***)	91 (***)	89 (***)	88 (***)	87 (***)	87 (***)	85 (***)
2006	84 (***)	82 (1)	80 (3)	79 (5)	78 (7)	77 (9)	75 (11)	74 (13)	74 (14)	73 (14)	72 (13)	71 (12)
2007	70 (11)	70 (10)	70 (10)	70 (10)	71 (10)	71 (10)	72 (10)	73 (11)	74 (11)	76 (12)	77 (13)	79 (14)



ISES Solar Cycle Ap Progression

Data Through 31 Jul 06



Updated 2006 Aug 1

[NOAA/SEC Boulder, CO USA](#)






Space Environment Center

Solar Terrestrial Indices

Cycle 23 Monthly Values

August 2008

Month 143

 Preliminary data

