

**Space Weather Highlights
09 - 15 Aug 1999**

Solar activity ranged from very low to low levels. Isolated C-class flares occurred through the period, most of which were produced by Region 8662 (S16, L=086, class/area Fai/290 on 10 August). This region was of moderate size and magnetic complexity and showed gradual development during 09 - 10 August, then slowly dissipated during the rest of the period.

Real-time solar wind data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. Coronal hole effects were evident on 15 August with increased velocities and increased IMF Bz variability with maximum southerly deflections to minus 14 nT (GSM).

No proton events were detected at geo-synchronous orbit during the period.

The greater than 2 MeV electron flux was at normal to moderate levels.

The geomagnetic field was mildly disturbed on 09 August with active periods at middle latitudes and brief minor to major storm levels at high latitudes. Another disturbance began during the latter half of 15 August with unsettled to active levels reported at all latitudes. This disturbance appeared to be in response to coronal hole effects.

**Space Weather Outlook
18 August - 13 September 1999**

Solar activity is expected to range from low to moderate levels. An overall increasing trend may commence around 19 August with the expected returns of old Regions 8645, 8647, and 8651, which produced moderate to high activity during their previous rotations. Chances for major flare activity should also increase beginning on 19 August.

There will be an increased chance for a proton event at geo-synchronous orbit beginning on 19 August.

The greater than 2 MeV electron flux at geo-synchronous altitude is expected to be at moderate to high levels during the first two days, then decrease to normal to moderate levels for the remainder of the period.

Geomagnetic field activity is likely to be at unsettled to minor storm levels during 18 August due to continued coronal hole effects. Quiet to unsettled levels are expected during the remainder of the period, 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	
09 August	138	118	550	B6.4	6	0	0	4	1	0	0	0
10 August	127	89	360	B5.3	9	0	0	12	1	0	0	0
11 August	128	76	400	B4.1	1	0	0	3	0	0	0	0
12 August	123	100	320	B8.2	3	0	0	1	0	0	0	0
13 August	127	82	440	B4.3	6	0	0	8	0	0	0	0
14 August	128	79	520	B3.7	9	0	0	4	1	0	0	0
15 August	131	87	530	B4.9	2	0	0	4	1	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
09 August	3.6E+5	1.6E+4	3.1E+3		7.8E+5	
10 August	3.2E+5	1.5E+4	3.4E+3		3.1E+6	
11 August	1.3E+5	1.5E+4	3.4E+3		1.9E+6	
12 August	1.5E+5	1.6E+4	3.7E+3		1.2E+6	
13 August	9.1E+4	1.6E+4	3.7E+3		4.1E+5	
14 August	7.7E+4	1.5E+4	3.7E+3		9.1E+5	
15 August	9.4E+4	1.6E+4	3.7E+3		3.9E+5	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	09 August	10	3-3-3-3-2-2-1-1	60	4-5-6-7-7-5-1-0	19
10 August	5	1-0-0-1-2-2-2-3	5	0-0-0-3-2-2-2-2	7	2-1-0-1-2-3-3-3
11 August	6	2-2-1-1-1-1-3-2	*	2-3-4-2-*-2-1	8	3-2-1-2-2-2-3-2
12 August	8	2-2-2-2-2-1-2-3	*	2-2-*-4-3-0-*-*	10	2-2-3-3-3-3-2-3
13 August	10	2-3-3-3-2-2-2-2	*	*-*-*-*-*-*-*	11	2-4-3-3-3-1-2-2
14 August	5	2-1-1-1-1-2-2-2	*	*-*-*-*-*-*-*	5	2-1-1-2-1-2-2-2
15 August	13	2-1-2-3-3-4-3-3	*	*-*-*-*-*-*-*	15	1-1-2-3-4-4-4-3

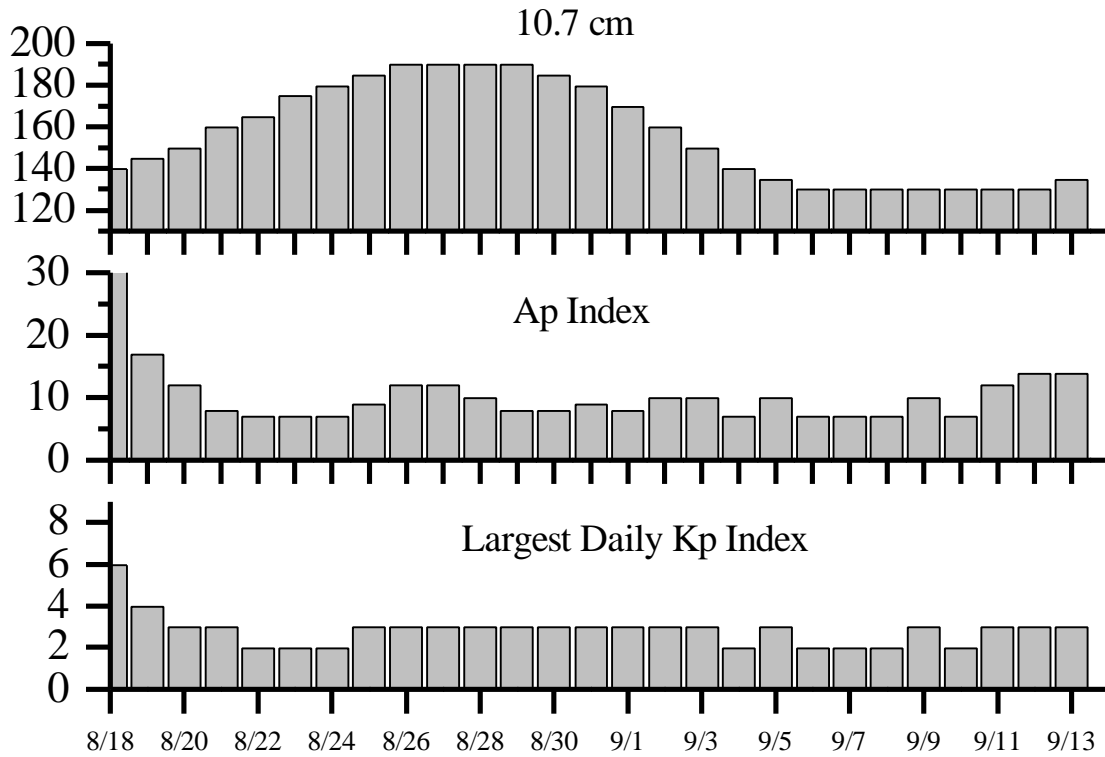


Alerts and Warnings Issued

Date and Time of Issue (UT)	Type of Alert or Warning	Date and Time of Event (UT)
09 Aug 0300	K = 4 Observed	09 Aug 00 - 03
10 Aug 0059	1-245 MHz Bursts	09 Aug
11 Aug 0030	4- 245 MHz Bursts	10 Aug
12 Aug 0028	1- 245 MHz Bursts	11 Aug
13 Aug 0016	1- 245 MHz Bursts	12 Aug
13 Aug 0600	K = 4 Observed	13 Aug 03 - 06
14 Aug 0027	2- 245 MHz Bursts	13 Aug
15 Aug 0048	2- 245 MHz Bursts	14 Aug
15 Aug 1811	K = 4 Observed	15 Aug 15 - 18



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
18 Aug	140	32	6	01 Sep	170	8	3
19	145	17	4	02	160	10	3
20	150	12	3	03	150	10	3
21	160	8	3	04	140	7	2
22	165	7	2	05	135	10	3
23	175	7	2	06	130	7	2
24	180	7	2	07	130	7	2
25	185	9	3	08	130	7	2
26	190	12	3	09	130	10	3
27	190	12	3	10	130	7	2
28	190	10	3	11	130	12	3
29	190	8	3	12	130	14	3
30	185	8	3	13	135	14	3
31	180	9	3				



Energetic Events

Date	Time (UT)		X-ray	Optical Information			Peak		Sweep Freq	
	Begin	Max	Integ	Imp/	Location	Rgn	Radio Flux		Intensity	
			Class	Flux	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	
09 August	0035	0036	0057	B9.6	SF	S14E33	8662
	0119	0134	0149	C1.0			
	0248	0259	0339	C4.3	1F	S29W11	8657
	B1133	U1133	A1141		SF	S15E26	8662
	1419	1435	1511	C1.1			
	1626	1846	1942	C2.1			
	1825	1827	1833		SF	S14E15	8662
	1842	1844	1918		SF	S29W18	8657
	2228	2233	2242	C1.4			
	2318	2337	2348	C4.5			
10 August	B0010	U0010	A0015		SF	S31W22	8657
	0130	0141	0148	C1.1			
	0604	0611	0619	C4.8	SF	N15W74	8656
	0751	0751	0754	C2.0	SF	N14W77	8656
	0955	0958	1009	C1.4	SF	S15E14	8662
	1156	1159	1204	B9.8	SF	N17W82	8656
	1218	1233	1240	C1.9			
	1331	1332	1343		SF	S17E13	8662
	1402	1405	1414	B8.7	SF	N17W76	8656
	1432	1437	1447	C1.2	SF	S30W29	8657
	1526	1533	1540	C1.0	SF	S16E10	8662
	1620	1624	1649	C4.6	1F	S15E15	8662
	1721	1734	1740	B9.0			
	1751	1756	1808		SF	S14E10	8662
	1822	1822	1827		SF	S30W31	8657
2205	2207	2228	C1.6	SF	S14E11	8662	
11 August	0307	0313	0321	B8.2			
	B1058	U1058	A1117		SF	S14E04	8662
	1322	1325	1333	B7.1	SF	S14E03	8662
	2149	2229	2304	C1.5			
	2331	2332	2340		SF	S16W04	8662
12 August	0000	0025	0115	C1.8			
	0252	0301	0305	C2.4			
	1012	1020	1033	C1.1			
	2041	2041	2044		SF	S14W14	8662



Flare List-continued

Date	Time			X-ray Class.	Optical		Rgn #
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
13 August	0603	0603	0607	B9.1	SF	S15W20	8662
	0749	0753	0804	C3.0	SF	S15W20	8662
	B1126	1127	1143	B6.6	SF	S15W21	8662
	1314	1330	1343	B8.0	SF	S16W24	8662
	1333	1333	1341		SF	S33W72	8657
	1502	1515	1529	C5.3			
	1550	1555	1616	C4.2	SF	S15W26	8662
	1658	1704	1711	C1.4			
	1930	1940	1958	C3.2	SF	S13W31	8662
	2107	2117	2127	C1.7			
	2141	2142	2146		SF	N21E74	8668
2331	2334	2336	B5.6				
14 August	0252	0300	0306	C1.6			
	0422	0440	0447	B9.0			
	0734	0742	0749	C2.0	SF	S16W38	8662
	0913	0918	0924	C1.3			
	0936	0940	0944	C1.5			
	1008	1011	1028		SF	S14W37	8662
	1206	1209	1219	C7.2	1F	N23E72	8668
	1322	1329	1338	C1.0			
	1429	1431	1433		SF	N21E64	8668
	1529	1531	1547	C1.5	SF	S15W43	8662
	1541	1550	1558	C2.1			
1927	1940	1948	C1.6				
15 August	0120	0121	0148	C4.6	1N	S15W45	8662
	0652	0657	0705	B6.3			
	0751	0815	0823	C1.3			
	1255	1257	1302	B7.2	SF	N23E62	8668
	1444	1444	1450		SF	N24E57	8668
	1451	1452	1456		SF	N25E57	8668
	1645	1655	1701		SF	N19E54	8668
	1821	1825	1833	B6.7			
	1941	1945	1950	B8.0			



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	4								
<i>Region 8650</i>																							
27 Jul	N17E75	204	0040	02	HAX	001	A																
28 Jul	N16E64	202	0070	02	HSX	001	A																
29 Jul	N17E50	203	0050	04	CSO	004	B																
30 Jul	N16E36	203	0050	02	HSX	001	A																
31 Jul	N18E23	203	0090	04	DSO	007	B															2	
01 Aug	N18E10	203	0050	07	CSO	012	B																
02 Aug	N18W04	204	0040	06	CSO	006	B															2	
03 Aug	N18W18	205	0040	05	CSO	005	B	1														2	
04 Aug	N18W30	204	0030	01	HSX	001	A																
05 Aug	N17W43	203	0040	01	HSX	001	A																
06 Aug	N17W56	203	0030	01	HSX	001	A																
07 Aug	N17W69	203	0030	01	HSX	001	A																
08 Aug	N17W83	203	0040	01	HSX	001	A																
09 Aug	N18W93	200	0000	00	AXX	001	A																
																							1 0 0 6 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 204

<i>Region 8651</i>																								
27 Jul	N24E73	206	0000	00	AXX	001	A																	
28 Jul	N24E65	201	0100	09	CAO	007	B	1															8	
29 Jul	N24E49	204	0210	10	DAI	025	B	3	1														6 5	
30 Jul	N24E36	203	0510	10	DAI	026	BG	11															20 2	
31 Jul	N25E23	203	0730	12	EKI	037	B	5															12	
01 Aug	N24E09	204	0870	14	EKC	058	BG	1															5	
02 Aug	N25W04	204	1370	16	FKI	043	BG	1															4	
03 Aug	N26W18	205	1080	17	FKC	049	BG	2															5	
04 Aug	N25W31	205	0950	18	FKC	041	BG	1															5	
05 Aug	N26W44	204	0780	19	FKI	039	BG	1															3	
06 Aug	N26W57	204	0720	19	FAI	032	B																1	
07 Aug	N26W70	204	0600	18	FAI	025	B																	
08 Aug	N26W82	202	0370	18	FAI	020	B																	
09 Aug	N26W91	198	0180	08	HSX	005	A																	
																								26 1 0 69 7 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 204



Region Summary-continued

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	4		
<i>Region 8655</i>																	
01 Aug	N25E38	175	0010	01	HSX	001	A										
02 Aug	N25E23	177	0000	00	AXX	001	A										
03 Aug	N25E10	177	0000	00		000											
04 Aug	N26E03	171	0000	00		000											
05 Aug	N23W11	171	0010	06	BXO	005	B										
06 Aug	N22W23	170	0010	03	AXX	002	A										
07 Aug	N22W36	170	0010	03	AXX	003	A										
08 Aug	N22W48	168	0010	01	AXX	002	A										
09 Aug	N22W61	168															
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 171

Region 8656

01 Aug	N18E34	179	0010	05	BXO	004	B										
02 Aug	N17E20	180	0020	07	BXO	008	B	1				3					
03 Aug	N19E06	181	0060	07	DAO	010	B	2				5					
04 Aug	N19W08	182	0130	07	DAO	015	B					2					
05 Aug	N19W20	180	0080	11	ESO	019	B					1					
06 Aug	N18W33	180	0030	11	CRO	014	B	1	1			4					
07 Aug	N18W46	180	0030	13	ERO	011	B	2	1			4					
08 Aug	N17W60	180	0040	08	CSO	007	B										
09 Aug	N16W72	179	0020	05	CRO	005	B										
10 Aug	N14W86	179	0010	08	BXO	003	B	2				4					
								8	2	0	23	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 181



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

Region 8663

07 Aug	N19E16	118	0020	03	BXO	004	B												
08 Aug	N19E03	117	0010	02	BXO	003	B												
09 Aug	N19W10	117																	
10 Aug	N19W23	117																	
11 Aug	N19W36	117																	
12 Aug	N19W49	117																	
13 Aug	N19W62	117																	
14 Aug	N19W75	117																	
15 Aug	N19W88	117																	

Still on Disk.

Absolute heliographic longitude: 117

Region 8664

08 Aug	N23E15	105	0010	03	BXO	002	B												
09 Aug	N23E02	105	0010	04	BXO	004	B												
10 Aug	N23W11	105																	
11 Aug	N23W24	105																	
12 Aug	N23W37	105																	
13 Aug	N23W50	105																	
14 Aug	N23W63	105																	
15 Aug	N23W76	105																	

Still on Disk.

Absolute heliographic longitude: 105

Region 8665

11 Aug	S26E66	014	0050	10	CRO	005	B												
12 Aug	S25E51	016	0030	07	CRO	006	B												
13 Aug	S26E38	016	0010	01	AXX	003	A												
14 Aug	S26E25	016																	
15 Aug	S26E12	016																	

Still on Disk.

Absolute heliographic longitude: 016

Region 8666

12 Aug	N14W59	126	0020	03	BXO	003	B												
13 Aug	N14W72	126																	
14 Aug	N14W85	126																	
15 Aug	N14W98	126																	

Still on Disk.

Absolute heliographic longitude: 126



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 8667</i>																	
12 Aug	N23E69	358	0030	03	CRO	003	B										
13 Aug	N22E55	359	0010	03	BXO	002	B										
14 Aug	N23E42	359	0010	03	BXO	003	B										
15 Aug	N23E28	000	0010	03	BXO	004	B										
										0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 000																	
<i>Region 8668</i>																	
13 Aug	N21E75	339	0180	03	HAX	001	A						1				
14 Aug	N22E67	334	0350	06	CKO	005	B	1				1	1				
15 Aug	N22E54	334	0380	07	CKO	008	B					4					
								1	0	0	0	6	1	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 334																	
<i>Region 8669</i>																	
14 Aug	S21E39	002	0010	04	BXO	005	B										
15 Aug	S20E27	001	0020	04	CRO	003	B										
										0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 001																	
<i>Region 8670</i>																	
15 Aug	S12W23	051	0010	01	AXX	001	A										
										0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 051																	
<i>Region 8671</i>																	
15 Aug	S09W13	041	0010	03	BXO	002	B										
										0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 041																	



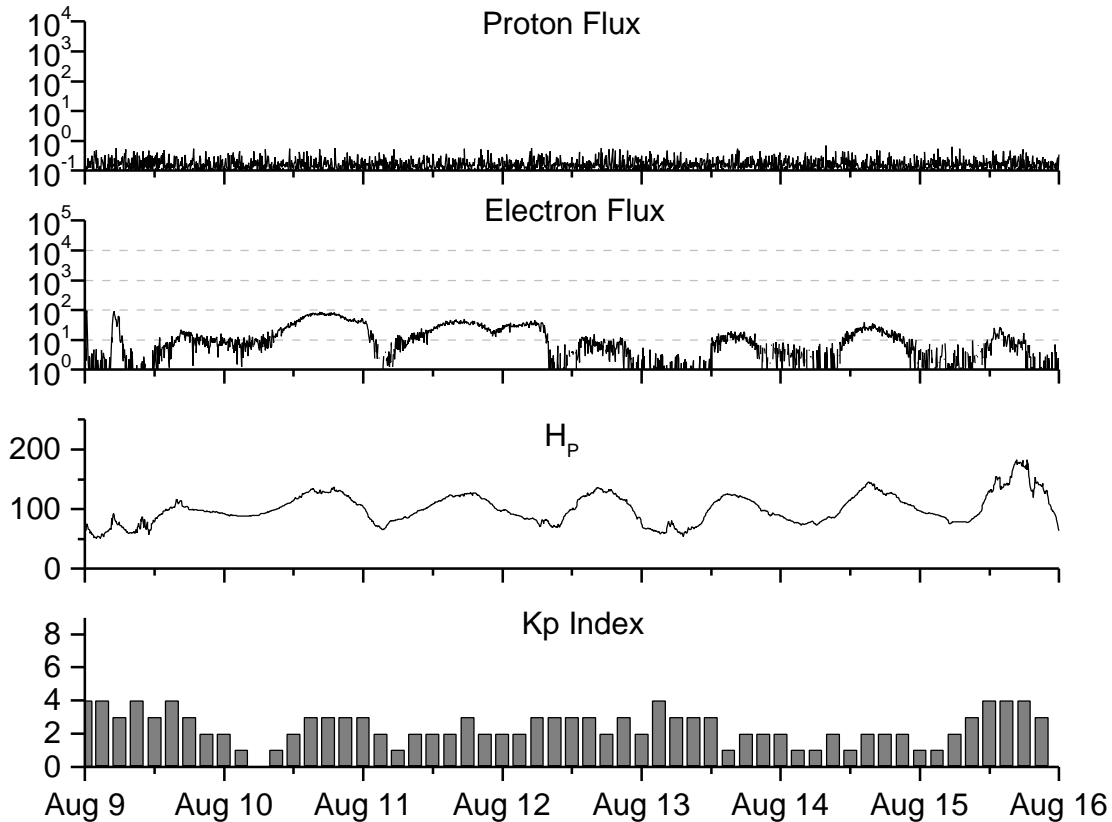
**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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									
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	93.7	67.8	136.0	124.1	18	12.4
September	119.0	92.9	0.78	96.1	69.4	138.4	126.8	13	12.5
October	77.0	55.5	0.72	97.7	70.5	117.3	127.9	13	12.5
November	99.5	74.0	0.74	101.3	73.0	140.2	130.0	16	12.3
December	120.8	81.9	0.69	108.8	77.9	150.1	134.3	08	11.9
1999									
January	94.3	62.4	0.66	116.5	82.5	142.6	139.0	10	11.8
February	93.4	66.1	0.70			142.0		11	
March	100.5	69.1	0.69			126.3		13	
April	92.9	63.9	0.69			117.3		12	
May	140.5	106.3	0.76			148.6		10	
June	208.3	137.4	0.66			170.0		08	
July	169.2	113.5	0.67			165.6		10	

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 09 August 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.

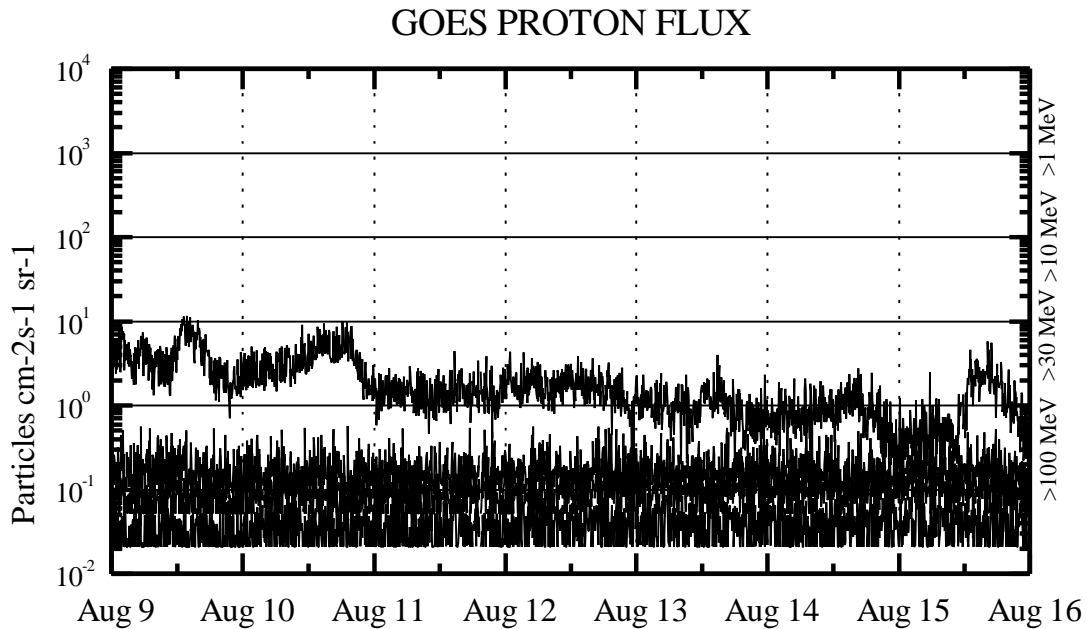
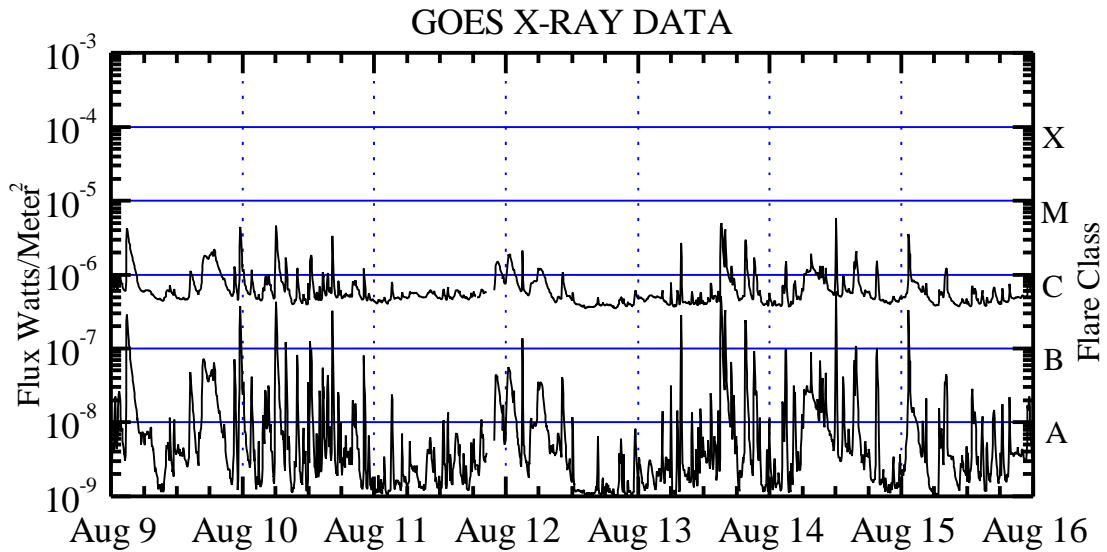
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm² -sec -sr) with energies greater than 2 MeV at GOES-8.

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



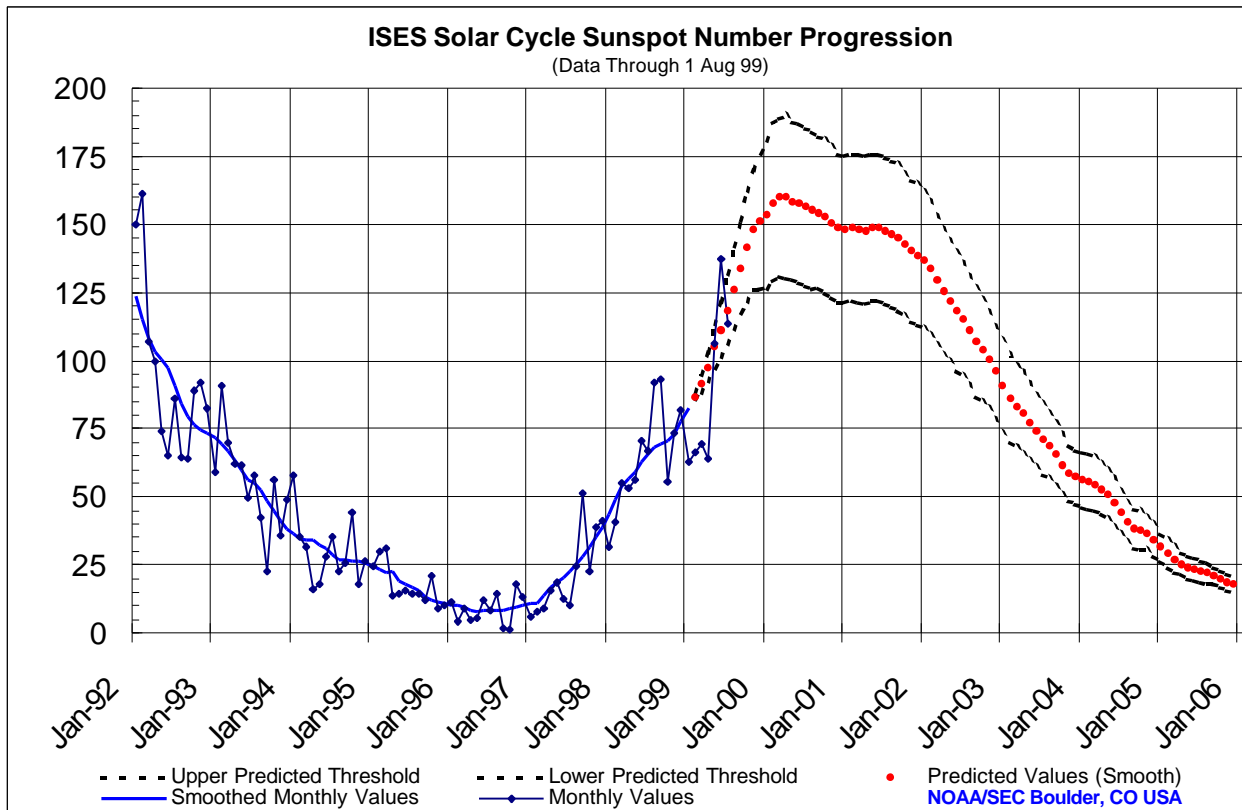


Weekly GOES Satellite X-ray and Proton Plots

X-ray plot contains five minute averaged x-ray flux (watts / m²) as measured by GOES 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.

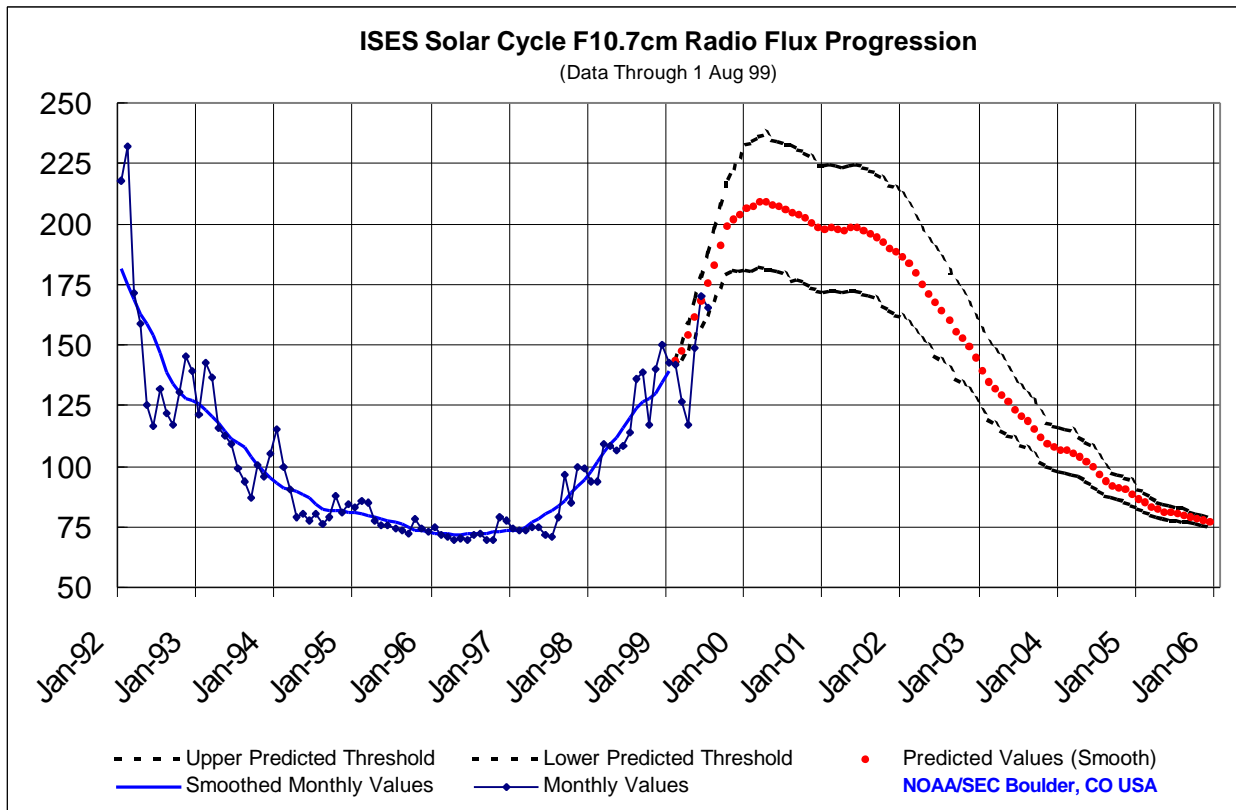




SEC Prediction of Smoothed Sunspot Number

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1996	10 (***)	10 (***)	10 (***)	8 (***)	8 (***)	9 (***)	8 (***)	8 (***)	8 (***)	9 (***)	10 (***)	10 (***)
1997	11 (***)	11 (***)	14 (***)	17 (***)	18 (***)	20 (***)	23 (***)	25 (***)	28 (***)	32 (***)	35 (***)	39 (***)
1998	44 (***)	49 (***)	53 (***)	57 (***)	59 (***)	62 (***)	65 (***)	68 (***)	69 (***)	71 (***)	73 (***)	78 (***)
1999	83 (***)	87 (1)	91 (3)	98 (5)	105 (8)	111 (10)	118 (13)	126 (15)	134 (17)	142 (20)	148 (22)	151 (25)
2000	153 (27)	158 (29)	160 (29)	160 (30)	159 (29)	158 (29)	156 (29)	155 (29)	154 (28)	153 (28)	151 (28)	148 (27)
2001	148 (27)	149 (27)	148 (27)	148 (27)	149 (27)	149 (27)	147 (27)	146 (27)	145 (27)	143 (26)	140 (26)	139 (26)
2002	137 (25)	134 (25)	130 (24)	125 (23)	122 (22)	118 (22)	115 (21)	111 (20)	107 (20)	104 (19)	100 (18)	96 (17)
2003	91 (17)	86 (16)	83 (15)	81 (15)	77 (14)	74 (13)	71 (13)	69 (12)	66 (12)	62 (11)	59 (10)	57 (10)
2004	56 (10)	56 (10)	55 (10)	53 (9)	51 (9)	48 (9)	44 (8)	41 (7)	38 (7)	38 (7)	36 (6)	34 (6)
2005	31 (5)	29 (5)	27 (5)	25 (4)	24 (4)	23 (4)	23 (4)	22 (4)	21 (3)	20 (3)	19 (3)	18 (3)





SEC Prediction of Smoothed F10.7cm Radio Flux

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1996	73 (***)	72 (***)	72 (***)	71 (***)	71 (***)	72 (***)	71 (***)	71 (***)	71 (***)	72 (***)	72 (***)	73 (***)
1997	73 (***)	74 (***)	75 (***)	77 (***)	78 (***)	80 (***)	82 (***)	83 (***)	86 (***)	88 (***)	91 (***)	94 (***)
1998	98 (***)	102 (***)	106 (***)	109 (***)	112 (***)	116 (***)	120 (***)	124 (***)	127 (***)	128 (***)	130 (***)	134 (***)
1999	139 (***)	143 (1)	148 (3)	154 (5)	161 (8)	168 (10)	175 (13)	183 (15)	191 (17)	199 (20)	202 (21)	204 (24)
2000	207 (26)	207 (27)	209 (27)	209 (28)	208 (27)	207 (27)	206 (27)	204 (28)	204 (27)	202 (27)	200 (27)	198 (26)
2001	198 (26)	198 (26)	198 (26)	197 (26)	198 (26)	198 (26)	197 (26)	196 (26)	195 (26)	192 (26)	190 (26)	188 (26)
2002	187 (25)	184 (25)	179 (24)	175 (23)	171 (22)	167 (22)	164 (21)	160 (20)	156 (20)	153 (19)	149 (18)	145 (17)
2003	140 (17)	135 (16)	132 (15)	130 (15)	126 (14)	123 (12)	120 (12)	118 (11)	115 (11)	112 (10)	110 (9)	10 (9)
2004	107 (9)	106 (9)	105 (9)	104 (8)	102 (8)	100 (8)	97 (7)	94 (6)	92 (5)	91 (5)	90 (5)	88 (5)
2005	87 (4)	85 (4)	83 (4)	82 (3)	81 (3)	81 (3)	80 (3)	80 (3)	79 (2)	78 (2)	78 (2)	77 (2)

