

Space Weather Highlights 06 - 12 August 2001

**SWO PRF 1354
14 August 2001**

Solar activity was low most of the period, but reached moderate levels on 07 August. Region 9557 (S20, L = 288, class/area Dki/600 on 07 August) produced the sole M-class flare of the period: an M1/Sf at 07/0737 UTC. Region 9557 was crossing the west limb and in a gradual growth phase at the time of the flare. Isolated C-class flares occurred during the rest of the period from a few regions of moderate size and magnetic complexity including Regions 9563 (N24, L = 241, class/area Eki/470 on 07 August), 9566 (N17, L = 225, class/area on 09 August), and 9570 (S11, L = 160, Cko/220 on 09 August). Perhaps the most significant event of the period was a long-duration C3 X-ray event during 09/1057 - 1215 UTC associated with a filament channel eruption just west of central meridian and a partial-halo coronal mass ejection (CME). Note: a full-halo CME occurred on 14 August following a filament disappearance near the north central portion of the disk. This CME is expected to impact Earth during 17 - 18 August.

Solar wind data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. A CME passage occurred on 12 August associated with the filament channel eruption of 09 August. The CME front passed the ACE spacecraft at 12/1050 UTC accompanied by sudden increases in velocity, density, total field intensity, and temperature. IMF Bz was variable following the passage, with a range of plus 14 to minus 13 nT (GSM). The passage was in progress as the period ended.

A proton event at greater than 10 MeV began at 10/1020 UTC, reached a peak of 17 pfu at 10/1155 UTC, and ended at 10/1440 UTC. This event was likely associated with the filament channel eruption described above.

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

The Geomagnetic field was at unsettled to minor storm levels on 06 - 07 August with isolated major storm intervals at high latitudes. Mostly quiet to unsettled conditions occurred during 08 - 11 August. A CME-related disturbance occurred on 12 August. The disturbance began with a sudden impulse at 12/1136 UTC (23 nT, Boulder USGS magnetometer) followed by an increase to unsettled to minor storm levels. This disturbance was in progress as the period ended.

Space Weather Outlook 15 August - 10 September 2001

Solar activity is expected to be at low to moderate levels. Isolated M-class flares are possible. There will be a slight chance for a major flare during the period.

There will be a slight chance for a solar proton event during the period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels during most of the period. However, high flux levels will be possible around 23 - 24 August and 03 - 04 September.

The geomagnetic field disturbance is expected to occur during 17 - 18 August due to an expected CME passage. Active to major storm conditions may occur during this disturbance. Active periods will be possible around 21 and 27 August, 01 - 02 and 09 - 10 September due to coronal hole effects.



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 August	164	182	1440	B6.4	10	0	0	12	0	0	0	0
07 August	166	177	1750	B8.9	23	1	0	21	2	0	0	0
08 August	167	191	1530	B8.7	12	0	0	12	0	0	0	0
09 August	163	157	1430	C1.3	12	0	0	9	1	0	0	0
10 August	160	119	1090	C1.0	13	0	0	5	0	0	0	0
11 August	165	151	1390	B6.9	12	0	0	5	0	0	0	0
12 August	160	196	1410	B6.9	7	0	0	1	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 August	1.2E+5	1.1E+4	2.1E+3		1.1E+6	
07 August	1.2E+5	1.1E+4	2.4E+3		2.4E+7	
08 August	6.7E+4	1.1E+4	2.4E+3		3.4E+7	
09 August	4.8E+5	2.0E+4	2.4E+3		3.3E+7	
10 August	3.9E+7	4.9E+5	2.6E+3		1.2E+7	
11 August	2.0E+7	6.0E+4	2.5E+3		5.4E+6	
12 August	9.5E+6	1.6E+4	2.5E+3		4.6E+6	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	06 August	14	3-3-3-2-3-3-3-3	29	3-3-3-6-5-5-2-2	21
07 August	8	3-3-1-2-2-1-2-1	15	2-2-2-5-4-1-3-1	13	3-3-2-3-3-3-3-3
08 August	7	2-1-1-2-2-1-3-2	10	2-0-2-4-4-1-2-1	9	2-2-3-2-3-3-3-2
09 August	8	1-3-1-2-2-2-2-3	15	1-3-1-4-5-1-2-3	10	1-3-2-2-3-3-3-3
10 August	6	3-2-2-1-1-0-2-2	*	3-*-2-*-0-1-1	11	3-2-2-2-3-3-4-3
11 August	2	2-1-0-0-0-1-0-1	*	2-0-0-*-0-0-0-1	6	3-0-1-2-2-2-2-2
12 August	11	1-2-1-3-2-2-3-4	10	1-1-1-2-1-2-2-5	14	2-2-2-3-3-4-3-4

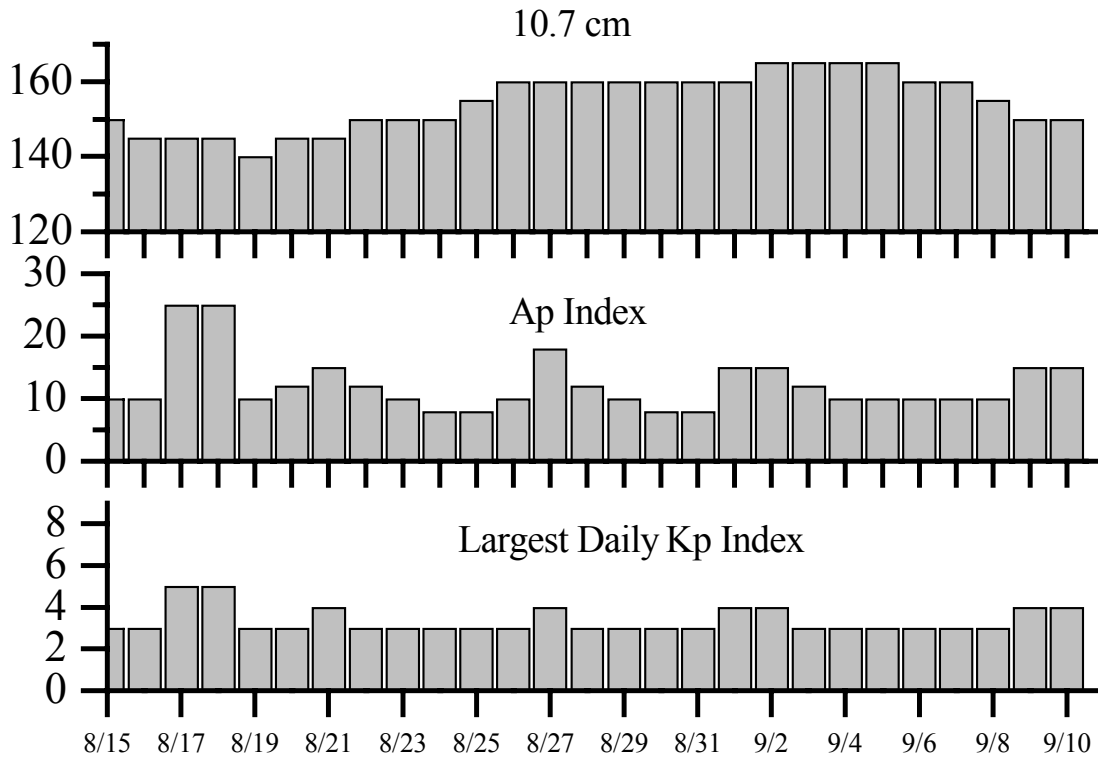


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
06 Aug 0007	4 - 245 MHz Bursts	05 Aug
06 Aug 0007	1 - 245 MHz Noise Storm	05 Aug
06 Aug 0209	EXTENDED K= 4 Warning	05/1120 - 06/1500 Aug
06 Aug 1455	EXTENDED K= 4 Warning	05/1120 - 06/2359 Aug
06 Aug 1506	K= 5 Observed	06 Aug 1200 - 1500
07 Aug 0005	ENDED A >= 20 Observed	05 Aug 1800
07 Aug 0023	4 - 245 MHz Bursts	06 Aug
07 Aug 0023	1 - 245 MHz Noise Storm	06 Aug
07 Aug 0525	K= 4 Warning	07 Aug 0530 -1500
07 Aug 0602	K= 4 Observed	07 Aug 0300 - 0600
07 Aug 0603	A >= 20 Observed	07 Aug 0600
07 Aug 1206	ENDED A >= 20 Observed	07 Aug 1200
07 Aug 1457	EXTENDED K= 4 Warning	07 Aug 0530 - 2359
08 Aug 0015	1 - 245 MHz Noise Storm	07 Aug
09 Aug 0029	1 - 245 MHz Burst	08 Aug
09 Aug 0449	K= 4 Warning	09 Aug 0455 - 1500
09 Aug 0559	K= 4 Observed	09 Aug 0300 - 0600
10 Aug 0036	1 - 245 MHz Burst	09 Aug
10 Aug 0157	Type II Radio Emission	10 Aug 0136
10 Aug 0932	Proton Event >10MeV >=10pfu Warning	10 /1000 - 11 /1500 Aug
10 Aug 1040	Protons Event >10 MeV >=10pfu	10 Aug 1020
10 Aug 2034	A >= 30 Watch	12 Aug
10 Aug 2039	A >= 30 Watch	13 Aug
11 Aug 0011	2 - 245 MHz Bursts	10 Aug
11 Aug 0106	CONTINUED Protons Event >10 MeV >=10pfu	10 Aug 1020
11 Aug 1216	ENDED Protons Event >10 MeV >=10pfu	10 Aug 1020
11 Aug 2006	A >= 50 Watch	12 Aug
12 Aug 0011	1 - 245 MHz Bursts	11 Aug
12 Aug 1147	Sudden Impulse observed at Boulder	12 Aug 1136
12 Aug 1546	K= 4 Warning	12/1546 - 13/1500 Aug
12 Aug 1704	K= 5 Warning	12/1705 - 13/1500 Aug
12 Aug 1800	K= 5 Observed	12 Aug 1500 -1800



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 Aug	150	10	3	29	160	10	3
16	145	10	3	30	160	8	3
17	145	25	5	31	160	8	3
18	140	25	5	01 Sep	160	15	4
19	145	10	3	02	165	15	4
20	145	12	3	03	165	12	3
21	145	15	4	04	165	10	3
22 Aug	150	12	3	05	165	10	3
23	150	10	3	06	160	10	3
24	150	8	3	07	160	10	3
25	155	8	3	08	155	10	3
26	160	10	3	09	150	15	4
27	160	18	4	10	150	15	4
28	160	12	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
07 Aug	0726	0737	0747	M1.1	.010	SF	S20W71	9557			

Flare List

Date	Time			X-ray Class	Imp / Brtns	Optical Location Lat CMD	Rgn
	Begin	Max	End				
06 August	0054	0058	0121	C1.4	SF	S20W54	9557
	0601	0601	0605	B8.6	SF	N23W12	9563
	0635	0636	0641	C1.1	SF	N17E01	9566
	0725	0731	0747	C5.5	SF	S18W54	9557
	0759	0803	0806	C2.0			
	0832	0834	0848	C1.7	SF	N18E03	9566
	0910	0912	0918	C1.1	SF	S12E67	9570
	1208	1216	1233	C1.7			
	1515	1515	1521		SF	N23W17	9563
	1523	1526	1539	C2.9	SF	S13E65	9570
	1903	1905	1913		SF	N17W02	9566
	2010	2010	2013	C1.4	SF	S19W66	9557
	2240	2245	2250	C1.7			
		B2302	U2304	A2319		SF	S20W60
07 August	2349	2352	2358		SF	S17W01	9569
	0012	0018	0023	C3.1	SF	S20W70	9557
	0113	0126	0146	C2.5	SF	S22W65	9557
	0202	0202	0206		SF	N26W20	9563
	0228	0231	0235	C1.3	SF	N17W08	9566
	0518	0520	0525	C1.2	SF	N17W09	9566
	0555	0641	0658	C1.3			
	0556	0557	0559		SF	N17W09	9566
	0603	0606	0609		SF	S17W08	9569
	0728	0729	0810	M1.1	SF	S20W71	9557
	0842	0843	0901	C1.89	SF	S19W76	9557
	B1045	U1054	1129		SF	S16W07	9569
	B1045	U1048	A1057	C2.7	1F	S20W73	9557
	1112	1113	1144	C2.2	SF	S20W62	9557
	1121	1125	1143	C3.1	SF	S24W70	9557
	1150	1154	1205		SF	S25W72	9557
	1218	1219	1221	C2.3	SF	S21W75	9557
	1232	1233	1240	C2.8	SF	S21W81	9557
	1238	1238	1246		SF	S18W08	9569
	1330	1335	1343	C3.5			
1440	1447	1458	C2.8				
1530	1535	1546	C2.7	1F	N26W27	9563	



Flare List- continued

Date	Begin	Time		X-ray Brtns	Optical		Rgn	
		Max	End		Class.	Imp / Lat CMD		Location
07 August	1558	1559	1600		SF	S17W09	9569	
	1627	1628	1636	C3.6	SF	S20W72	9557	
	1743	1745	1754	C1.2	SF	N26W27	9563	
	1753	1754	1805	C1.2	SF	S17W13	9569	
	1851	1855	1857	C3.5				
	1954	2000	2006	C1.9				
	2112	2133	2154	C4.1				
	2316	2319	2323	C1.7				
	2324	2328	2331	C3.8				
	2354	2355	2358	C1.8	SF	S18W83	9557	
	08 August	0058	0113	0119	C1.2			
		0101	0101	0104	C1.2	SF	S21W78	9557
		0208	0208	0213	C1.3	SF	S15W59	9567
0400		0401	0404	B8.9	SF	S10E89		
0628		0628	0632	C1.0	SF	S10E89		
0706		0711	0715	C3.9				
0724		0725	0730	C1.4	SF	N24W37	9563	
0802		0811	0815	C4.5	SF	S20W88	9557	
1029		1029	1031	C2.6	SF	N26W39	9563	
1343		1343	1347		SF	N17W26	9566	
1433		1433	1436		SF	S17W24	9569	
1511		1512	1514	C1.6	SF	N25W43	9563	
1650		1705	1730	C4.2				
1918		1918	1939	C2.0	SF	N15W31	9566	
09 August		1956	2000	2008	C4.0	SF	N18W29	9566
	0044	0048	0058	C6.0	SF	S16W30	9569	
	0244	0245	0248	C1.8	SF	N23W52	9563	
	0310	0318	0339	C4.2	SF	N18W33	9566	
	0436	0440	0449	C1.9	SF	N23W52	9563	
	0557	0558	0602		SF	N18W37	9566	
	0604	0608	0611	C2.2				
	0639	0655	0702	C3.8				
	0721	0724	0730	C3.1				
	0812	0814	0824	C2.6	SF	S13W76	9567	
	1057	1122	1215	C3.7				
	1133	1138	1150		SF	N11E54	9571	
	1417	1420	1422	B8.9	SF	N06W56	9562	
	1825	1829	1914	C7.8	1F	S17E19	9570	
	09 August	1914	1921	1927	C2.0	SF	N04W69	9565
2035		2038	2040	C1.4				



Flare List- continued

Date Begin	Time		Class.	X-ray Brtns Lat CMD	Optical		Rgn
	Max	End			Imp /	Location	
10 August	0041	0055	0106	C1.8			
	0133	0134	0144	C8.0	SF	N05W72	9562
	0352	0354	0357	C2.2	SF	N24W61	9563
	0552	0554	0602	C1.0	SF	N17W49	9566
	1540	1543	1548	C1.7			
	1623	1628	1633	C1.0			
	1902	1902	1911	C2.4	SF	N23W70	9563
	1903	1905	1910		SF	N20W53	9566
	1936	1938	1943	C1.3			
	2021	2029	2037	C1.6			
	2120	2127	2132	C1.7			
	2223	2235	2239	C1.55			
	2300	2307	2311	C1.9			
	2347	0000	0005	C1.8			
	11 August	0027	0033	0045	B8.1	SF	S04E03
0040		0042	0051	C1.6	SF	N18W61	9563
0049		0054	0058	C1.8			9563
0114		0121	0128	C5.2			9563
0135		0138	0143	C2.9			9563
0354		0355	0400	C1.0	SF	N21W59	9566
0417		0640	0809	C2.8			
0858		0904	0908	C1.7			9566
0949		0954	0958	C1.0			9574
1004		1009	1013	C1.1			9574
1135		U1148	1200	C1.2	SF	N21W81	9563
1223		1227	1233	C1.3			
1753		1754	1806		SF	S03W06	9574
2122		2128	2132	C2.2			
12 August		0005	0011	0013	C1.51		
	0441	0442	0446	C1.1	SF	S04W13	9574
	1709	1714	1716	C1.6			
	1921	1924	1927	C1.0			
	2018	2027	2030	C1.1			
	2052	2101	2109	C2.2			
	2252	2316	0020	C2.7			



Region Summary

Date	Location		Sunspot Characteristics					Flares															
	Helio		Area (10 ⁻⁶ hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical												
	(° Lat ° CMD)	Lon						C	M	X	S	1	2	3	4								
<i>Region 9557</i>																							
26 Jul	S18E72	292	0080	04	HSX	001	A																
27 Jul	S18E58	293	0070	02	HSX	001	A																
28 Jul	S20E48	290	0090	12	ESO	004	B																
29 Jul	S20E36	289	0130	16	FAO	009	B	1				1											
30 Jul	S19E22	290	0110	15	EAO	014	B																
31 Jul	S20E08	291	0120	14	EAI	015	B						2										
01 Aug	S19W03	288	0080	14	EAO	012	B																
02 Aug	S20W15	287	0090	14	ESO	015	B						1										
03 Aug	S21W26	285	0050	12	EAO	014	B	1					4										
04 Aug	S21W37	283	0280	07	DKI	019	B	1					2										
05 Aug	S21W51	284	0560	08	DKI	021	BG	5	2				9	1									
06 Aug	S20W64	282	0550	08	DKI	016	BG	3					4										
07 Aug	S20W78	283	0600	10	DKI	012	BD	10	1				11	1									
08 Aug	S21W93	285	0270	06	DAI	011	B	2					2										
								23	3	0	36	2	0	0	0	0							

Crossed West Limb.

Absolute heliographic longitude: 288

Region 9560

29 Jul	N18E46	279	0010	00	AXX	001	A
31 Jul	N18E20	279					
01 Aug	N18E07	279					
02 Aug	N18W06	279					
03 Aug	N18W19	279					
04 Aug	N18W32	279					
05 Aug	N18W45	279					
06 Aug	N18W58	279					
07 Aug	N18W71	279					

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 279



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 9561</i>																		
30 Jul	S13E63	249	0070	07	DAO	005	B											
31 Jul	S12E49	250	0100	10	DAO	011	B	2				2						
01 Aug	S12E37	248	0110	11	EAO	009	B	2				4						
02 Aug	S13E24	248	0100	11	ESO	013	B					1						
03 Aug	S13E10	249	0040	10	DSO	006	B	1				2						
04 Aug	S13W03	249	0040	11	CSO	008	B											
05 Aug	S13W19	252	0040	08	CSO	004	B											
06 Aug	S11W35	253	0020	02	HSX	001	A											
07 Aug	S11W48	253	0030	01	HSX	001	A											
08 Aug	S11W63	255	0020	01	HSX	001	A											
09 Aug	S10W76	255	0020	01	AXX	001	A											
								5	0	0	9	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 249

<i>Region 9562</i>																		
30 Jul	N05E70	242	0140	09	DAO	002	B											
31 Jul	N06E58	241	0210	11	EAO	006	B					1						
01 Aug	N05E44	241	0120	10	DAO	007	B											
02 Aug	N05E31	241	0110	08	DAO	006	B											
03 Aug	N04E16	243	0060	08	DSO	005	B											
04 Aug	N05E03	243	0040	07	DAO	005	B											
05 Aug	N05W11	244	0040	09	DSO	007	B											
06 Aug	N05W26	244	0020	06	CSO	005	B											
07 Aug	N05W39	244	0020	06	BXO	005	B											
08 Aug	N05W56	248	0020	01	AXX	002	A											
09 Aug	N05W69	248	0030	01	HSX	001	A					1						
10 Aug	N05W82	248	0000			1		1										
								1	0	0	3	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 243



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 9563</i>																		
31 Jul	N24E57	242	0010	01	AXX	001	A											
01 Aug	N24E44	241	0000	01	AXX	001	A											
02 Aug	N25E31	241	0050	05	CSO	008	B	5				7						
03 Aug	N24E18	241	0100	08	DAI	015	B	1	1			4						
04 Aug	N23E05	241	0210	09	DAI	025	B	4				5						
05 Aug	N23W07	240	0320	11	EAI	038	BG	2				3						
06 Aug	N23W21	239	0390	13	EKI	023	BG					2						
07 Aug	N24W34	239	0470	13	EKI	024	BG	2				2	1					
08 Aug	N24W48	240	0450	15	EAI	023	BG	3				3						
09 Aug	N24W61	240	0460	17	FKI	021	BG	2				2						
10 Aug	N25W74	240	0290	17	FSI	012	BG	2				2						
11 Aug	N26W83	235	0180	11	ESO	004	B	5				2						
12 Aug	N26W94	233	0120	06	DAO	003	B											
								26	1	0	0	32	1	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 241

<i>Region 9565</i>																		
01 Aug	N04E22	263	0010	03	BXO	003	B											
02 Aug	N04E09	263																
03 Aug	N04W04	263																
04 Aug	N03W19	265	0010	03	BXO	004	B											
05 Aug	N03W34	267	0000	00	AXX	001	A											
06 Aug	N03W47	267																
07 Aug	N03W60	267																
								0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 263



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 9566</i>																		
01 Aug	N17E63	222	0040	05	DSO	004	B											
02 Aug	N16E50	222	0050	06	CRO	005	B	1				1						
03 Aug	N18E34	225	0020	03	BXO	005	B	1				1						
04 Aug	N17E22	224	0070	08	DSO	016	B	1				3						
05 Aug	N17E08	225	0130	09	DAI	022	BG	6				9						
06 Aug	N17W08	226	0150	09	DAO	016	B	2				3						
07 Aug	N17W18	223	0150	08	DAO	012	B	2				3						
08 Aug	N17W33	225	0140	09	DAI	015	B	2				3						
09 Aug	N17W45	224	0230	10	DKI	016	BG	1				2						
10 Aug	N17W58	224	0190	08	DAO	009	BG	1				2						
11 Aug	N17W72	224	0220	08	DAO	011	BGD	2				1						
12 Aug	N17W84	223	0200	09	DAO	012	BG											
								19	0	0	0	28	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 225

<i>Region 9567</i>																		
03 Aug	S15W02	261	0050	04	DSO	007	B	1				1						
04 Aug	S15W16	262	0040	04	DAO	008	B											
05 Aug	S15W31	264	0060	06	DAO	014	B	3				3	1					
06 Aug	S14W44	262	0060	07	DSO	009	B											
07 Aug	S14W61	266	0040	06	BXO	006	B											
08 Aug	S14W70	262	0090	13	CSO	006	B	1				1						
09 Aug	S13W84	263	0070	08	DAO	006	B	1				1						
								6	0	0	0	6	1	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 261

<i>Region 9568</i>																		
03 Aug	S19W50	309	0020	01	AXX	001	A											
04 Aug	S18W61	307	0020	05	BXO	003	B					1						
05 Aug	S18W78	311	0030	08	BXO	003	B					3						
06 Aug	S20W89	307	0000	00	AXX	001	A											
								0	0	0	0	4	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 309



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 9569</i>																		
05 Aug	S18E10	223	0020	04	BXO	003	B											
06 Aug	S17W04	222	0050	05	DAO	009	B							1				
07 Aug	S18W15	220	0170	06	DAO	012	B	1						5				
08 Aug	S18W28	220	0220	07	DKI	014	B							1				
09 Aug	S17W41	220	0230	07	DKO	015	B	1						1				
10 Aug	S18W54	220	0190	07	DAO	008	B											
11 Aug	S18W68	220	0130	04	CAO	003	B											
12 Aug	S18W82	221	0080	05	CAO	006	B											
								2	0	0	0	8	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 222

<i>Region 9570</i>																		
05 Aug	S10E76	157	0100	03	HSX	001	A											
06 Aug	S10E61	157	0140	03	HSX	001	A	2					2					
07 Aug	S11E45	160	0190	05	CAO	003	B											
08 Aug	S10E31	161	0180	08	CAO	005	B											
09 Aug	S12E20	159	0220	04	CKO	004	B	1						1				
10 Aug	S11E06	160	0170	04	CSO	002	B											
11 Aug	S12W07	159	0170	04	CSO	006	B											
12 Aug	S12W20	159	0190	04	CSO	006	B											
								3	0	0	0	2	1	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 160

<i>Region 9571</i>																		
06 Aug	N05E78	140	0060	03	HAX	001	A											
07 Aug	N06E66	139	0060	02	HSX	001	A											
08 Aug	N06E52	140	0070	02	HAX	001	A											
09 Aug	N06E39	140	0060	02	HSX	001	A							1				
10 Aug	N07E25	141	0040	01	HSX	001	A											
11 Aug	N04E11	141	0130	02	HSX	001	A											
12 Aug	N06W02	141	0060	02	HAX	002	A											
								0	0	0	0	1	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 141



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 9572

07 Aug	N16E23	182	0020	01	HSX	001	A										
08 Aug	N16E08	184	0020	01	HSX	001	A										
09 Aug	N16W05	184															
10 Aug	N16W18	184															
11 Aug	N16W31	184															
12 Aug	N16W44	184															

0 0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 184

Region 9573

08 Aug	S08E70	122	0050	03	HAX	002	A										
09 Aug	S09E58	121	0110	04	CSO	002	B										
10 Aug	S09E46	120	0180	07	DAO	008	B										
11 Aug	S09E33	119	0140	07	DAO	016	B										
12 Aug	S10E20	119	0180	09	DAO	016	B										

0 0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 119

Region 9574

10 Aug	S03E04	162	0030	04	CRO	009	B										
11 Aug	S04W10	162	0320	07	DAI	017	B	2			2						
12 Aug	S04W24	163	0370	09	DAI	020	BG	1			1						

3 0 0 3 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 162

Region 9575

11 Aug	N11E73	079	0080	02	HSX	001	A										
12 Aug	N11E61	078	0130	10	CAO	008	B										

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 78

Region 9576

11 Aug	N12W53	205	0020	03	CSO	002	B										
12 Aug	N12W67	206	0030	05	CRO	002	B										

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 205



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 9577

12 Aug N16W15 154 0020 02 CRO 003 B
 0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 154

Region 9578

12 Aug S10W11 150 0030 05 CAO 008 B
 0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 150

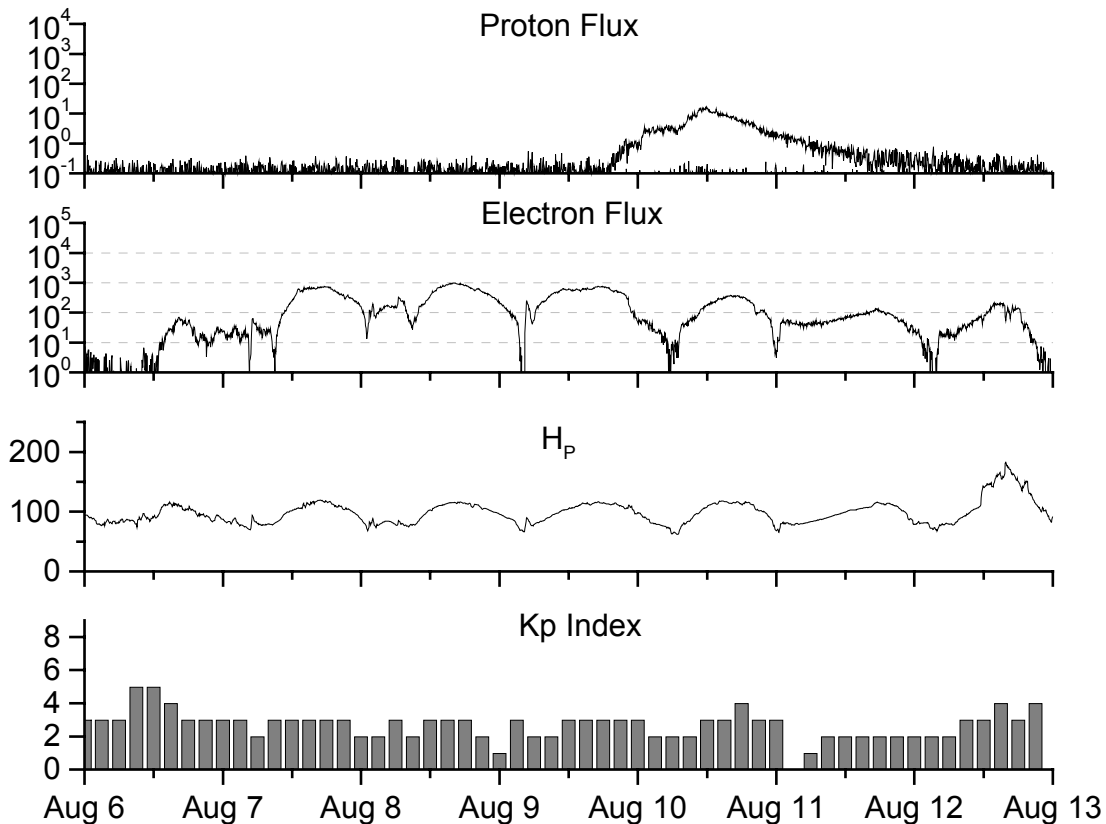


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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
1999									
August	136.1	93.7	0.69	142.8	97.5	170.8	156.3	15	12.9
September	107.4	71.5	0.67	150.0	102.3	135.7	161.0	19	12.8
October	167.7	116.7	0.70	158.5	107.8	164.8	167.2	19	12.7
November	199.3	133.2	0.67	164.7	110.0	191.5	171.5	14	13.1
December	123.5	86.4	0.69	165.9	111.1	169.8	173.4	10	13.8
2000									
January	140.8	90.1	0.64	168.0	112.9	158.1	175.5	13	14.5
February	161.9	112.9	0.70	172.1	116.7	173.2	176.8	15	15.0
March	203.6	138.5	0.68	175.4	119.9	208.2	178.4	09	15.0
April	193.4	125.5	0.65	176.3	120.8	184.2	180.5	15	15.0
May	188.8	121.6	0.64	173.1	119.0	184.5	180.0	15	15.0
June	190.3	124.9	0.66	172.0	118.7	179.8	179.7	15	15.1
July	236.7	169.1	0.71	173.0	119.7	204.7	180.2	21	14.8
August	166.6	130.5	0.78	171.8	118.6	163.1	179.5	16	14.2
September	157.9	109.9	0.70	169.0	116.2	182.1	177.1	18	14.2
October	138.9	100.1	0.72	166.2	114.4	167.7	175.6	18	14.6
November	149.9	106.5	0.71	162.7	112.7	178.8	173.6	17	14.6
December	146.4	104.5	0.71	160.8	112.1	173.6	172.0	08	14.4
2001									
January	142.7	95.1	0.67	156.3	108.8	166.7	168.8	08	13.8
February	131.0	80.1	0.61			147.3		06	
March	166.7	114.2	0.69			177.7		17	
April	163.6	108.2	0.66			178.3		18	
May	135.1	97.3	0.72			148.7		12	
June	196.7	134.0	0.68			173.7		12	
July	124.6	82.2	0.66			131.3		11	

NOTE: All smoothed values after June 1999 and monthly values after December 2000 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 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 06 August 2001*

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.

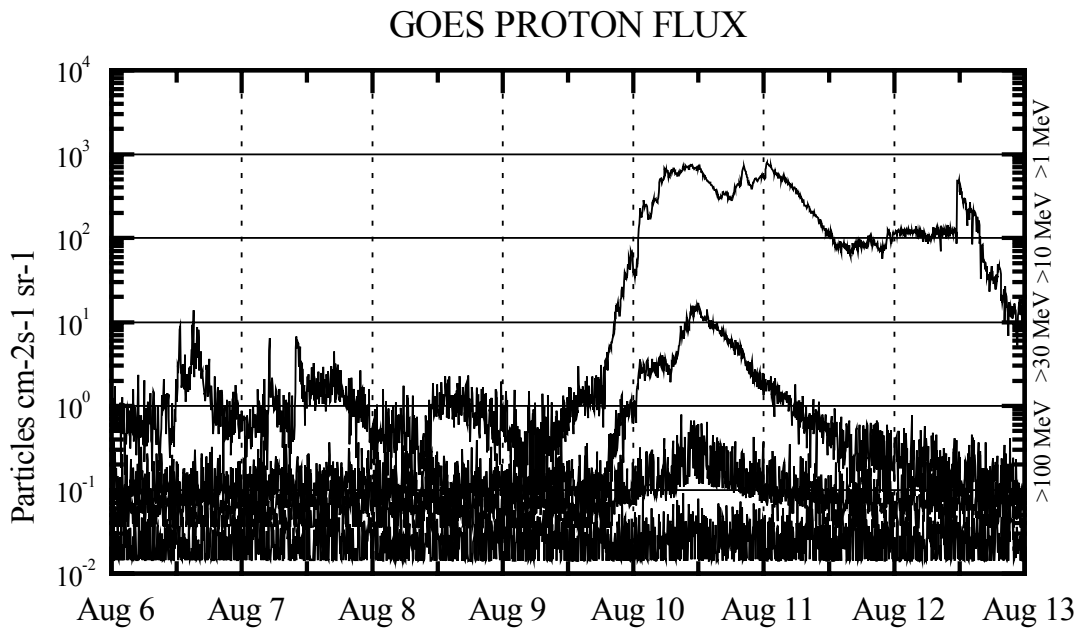
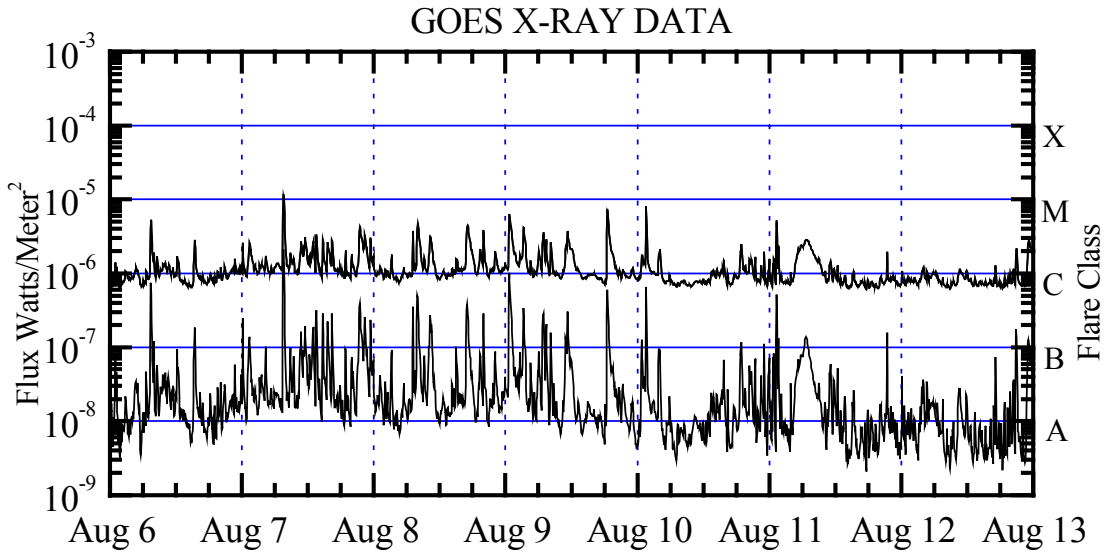
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

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 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 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.



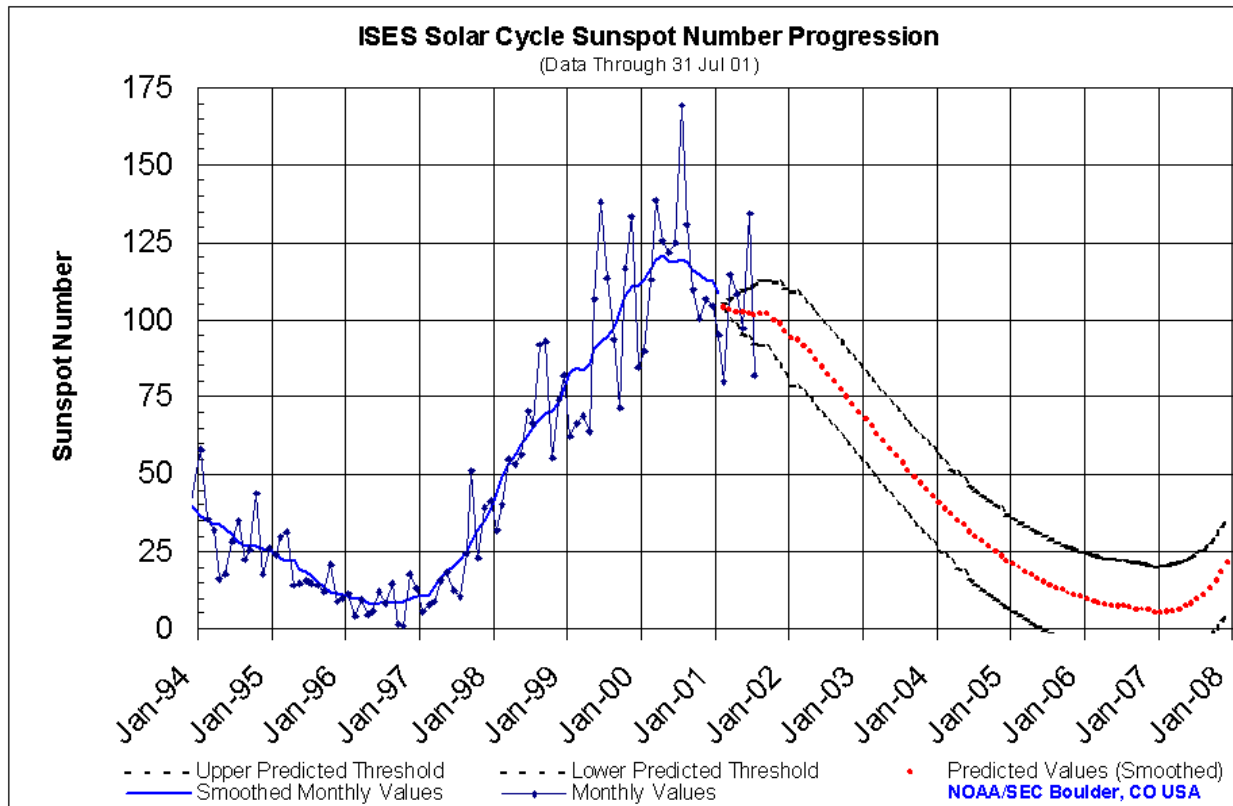


Weekly GOES Satellite X-ray and Proton Plots

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.

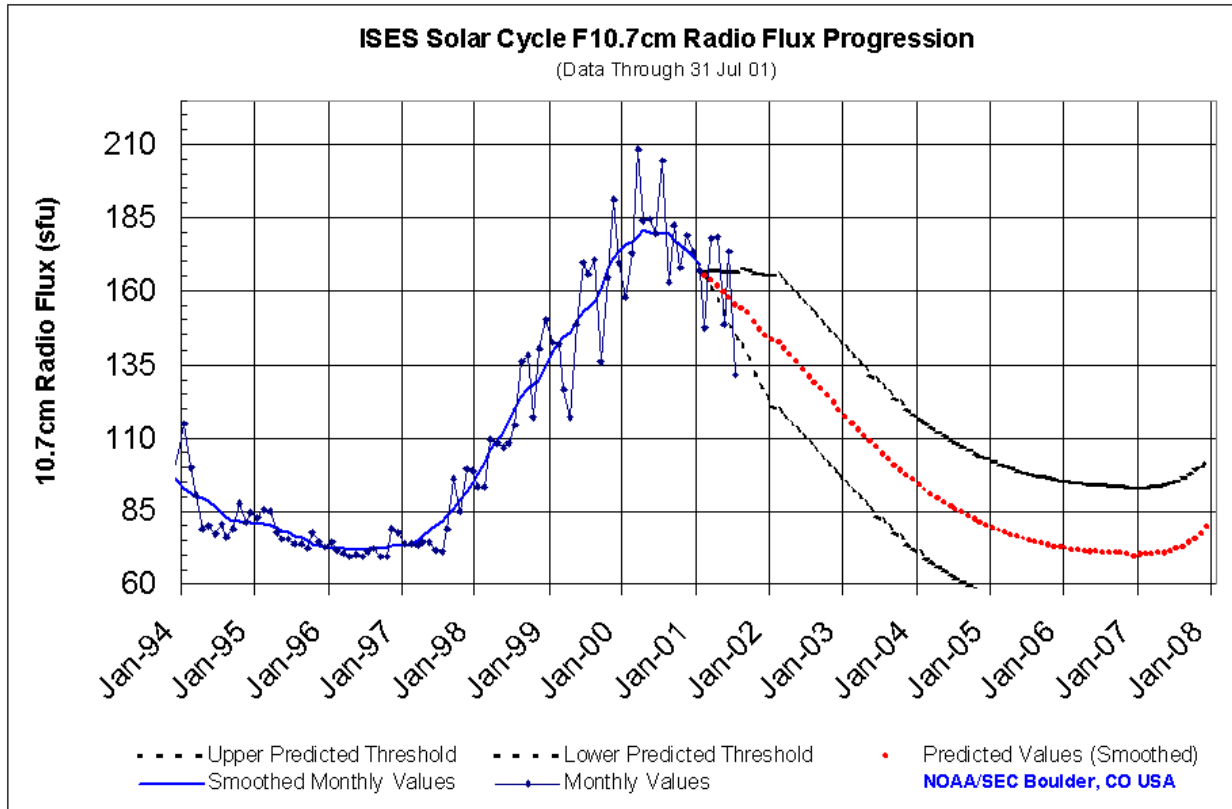




SEC Prediction of Smoothed Sunspot Number

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	44	49	53	57	59	63	66	68	70	71	73	78
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
1999	83	85	84	86	91	93	94	97	102	108	111	111
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2000	113	117	120	121	119	119	120	119	116	114	113	112
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2001	109	107	106	107	107	107	107	109	109	108	107	105
	(***)	(1)	(3)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2002	103	101	98	96	94	91	89	86	84	81	79	76
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2003	74	71	69	66	64	61	59	56	54	52	49	47
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2004	45	43	41	39	37	35	33	31	29	28	26	25
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2005	23	22	20	19	18	17	16	15	14	13	12	11
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2006	10	9	9	8	8	7	7	7	7	6	6	5
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2007	5	6	6	6	7	8	10	11	13	16	18	21
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)





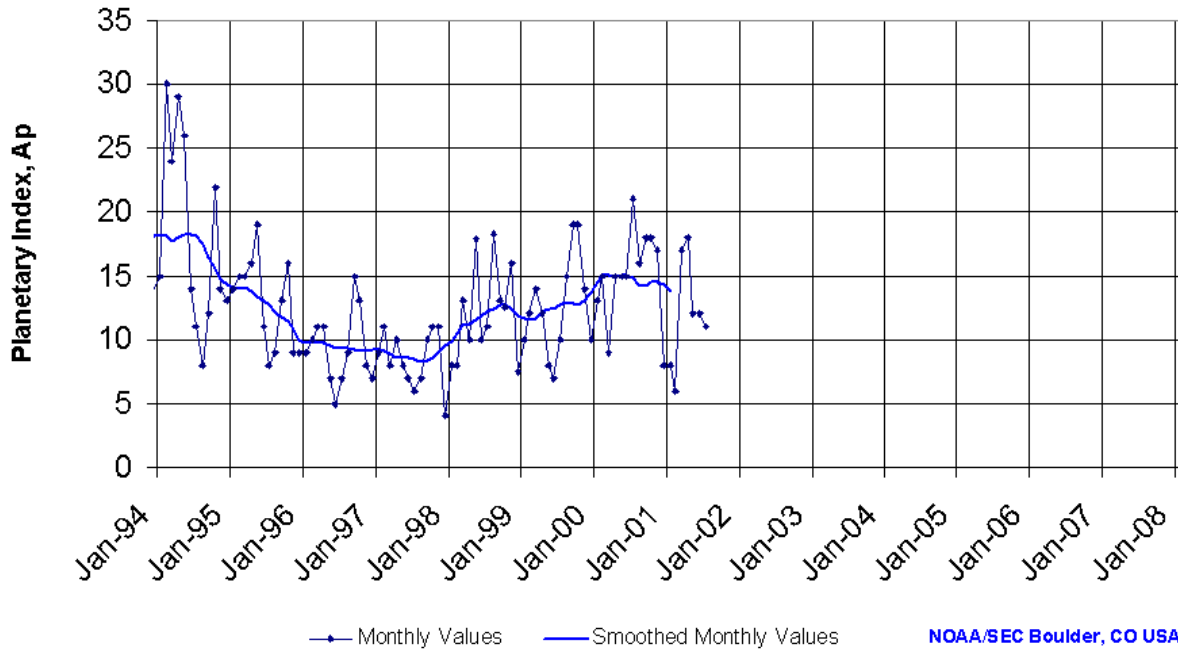
SEC Prediction of Smoothed F10.7cm Radio Flux

	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	175 (***)	176 (***)	178 (***)	181 (***)	180 (***)	180 (***)	180 (***)	180 (***)	177 (***)	176 (***)	174 (***)	172 (***)
2001	169 (***)	168 (1)	167 (3)	166 (5)	164 (7)	163 (9)	161 (11)	161 (13)	160 (15)	157 (17)	155 (19)	154 (21)
2002	152 (22)	149 (23)	147 (23)	145 (23)	143 (23)	140 (23)	138 (23)	135 (23)	133 (23)	130 (23)	128 (23)	125 (23)
2003	123 (23)	120 (23)	118 (23)	116 (23)	113 (23)	111 (23)	109 (23)	107 (23)	105 (23)	103 (23)	101 (23)	99 (23)
2004	97 (23)	95 (23)	94 (23)	92 (23)	90 (23)	89 (23)	88 (23)	86 (23)	85 (23)	84 (23)	83 (23)	82 (23)
2005	81 (23)	80 (23)	79 (23)	78 (23)	77 (23)	76 (23)	76 (23)	75 (23)	75 (23)	74 (23)	73 (23)	73 (23)
2006	72 (23)	72 (23)	72 (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)



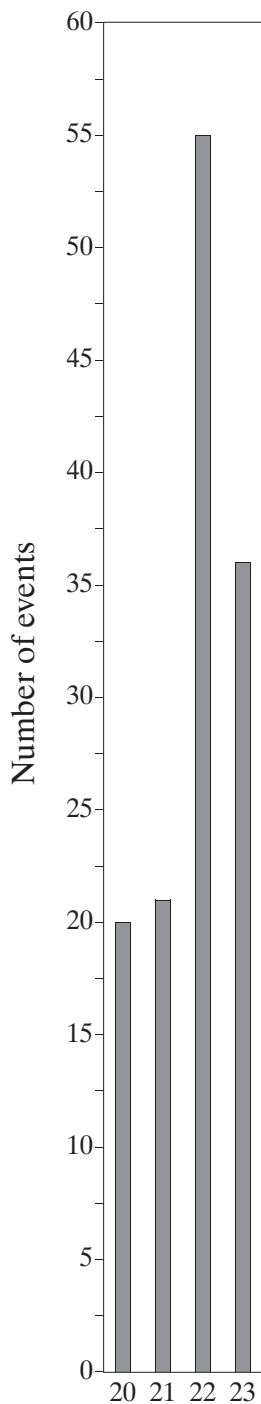
ISES Solar Cycle Ap Progression

(Data Through 31 Jul 01)



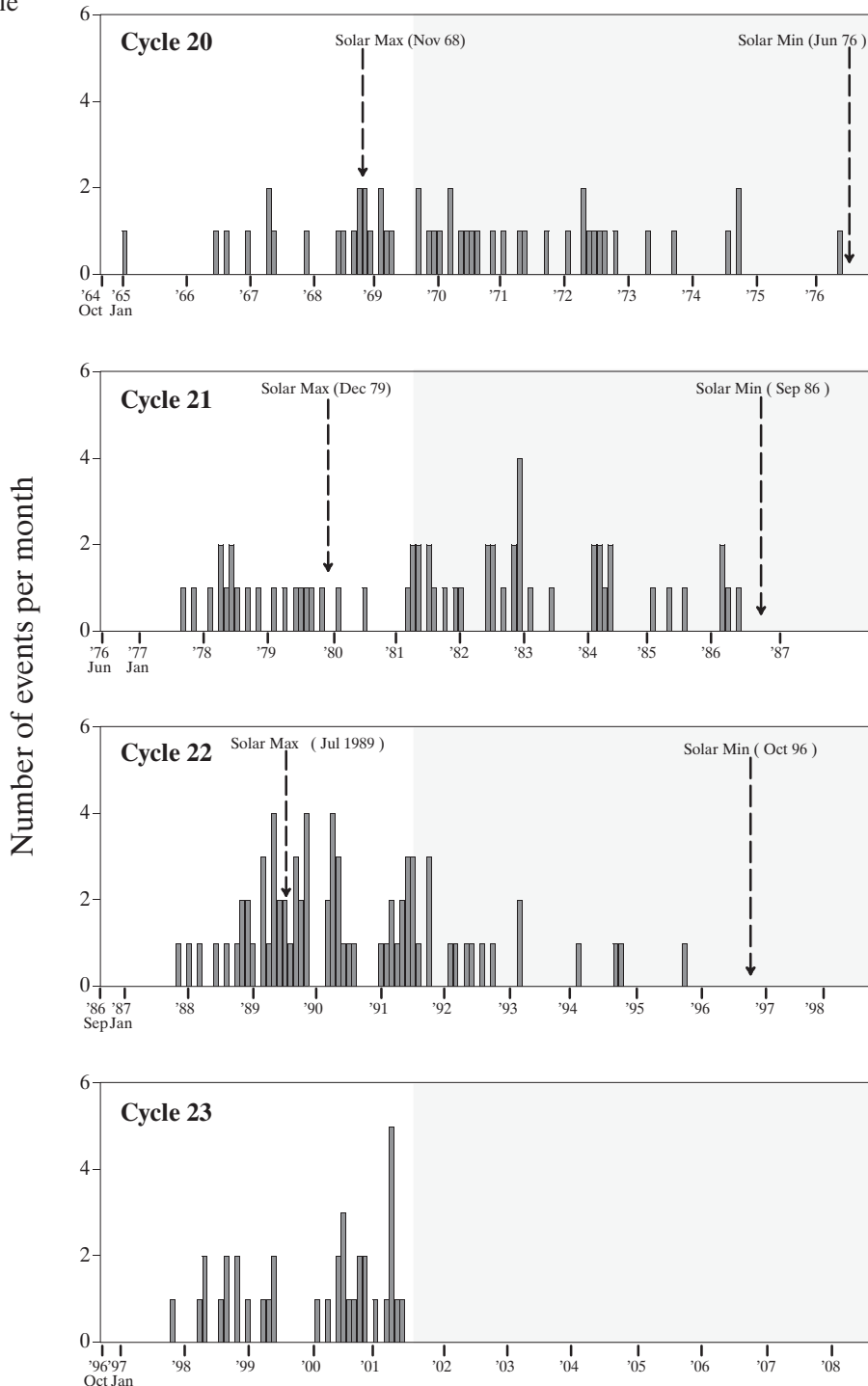
Proton Events

Comparison of Cycles at current month in cycle



July 2001 (Month 58)

█ Preliminary data



SESC defines Proton Events as periods (in excess of 15 minutes) when the geosynchronous >10MeV proton flux remains above 10 pfu (particle flux unit = 1p/cm²*cm²*s*sr). Events continue and are counted as a single event until fluxes remain below 10 pfu regardless of whether enhancements from new sources occur. Using different event criteria may result in different event totals.



Space Environment Center

N. Cohen

