Space Weather Highlights **SWO PRF 1461**
25 - 31 August 2003 **02 September 2003**

Solar activity was at low levels. Region 436 (N07, L=89, class/area Eac/230 on 22 August) was the most active region during the period and produced the largest flare, a C4/1n at 1559 UTC on 26 August. Region 436 was in gradual decay at the beginning of the period and rotated beyond the west limb on 29 August. On 28 August, a C1 flare occurred at 1335 UTC with an associated Type II radio sweep (800 km/s). There were two potential sources of the C1/Type II: one from a flare located in Region 445 (N03, L=016, class/area Dao/110 on 27 August) and the second from a flare on the southeast limb (S10). On 30 – 31 August, Region 442(S12, L=025 class/area Dso/160 on 23 August) produced two long duration C1 flares. The first one occurred at 0514 UTC on 30 August and the second occurred at 0622 UTC on 31 August. The second C1 was associated with a CME off the southwest limb, but did not have an Earth directed component.

Solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft for most of the summary period. The period began on 25 August with solar wind speed near 600 km/s due to a coronal hole high speed stream. By 26 August solar wind speed was in steady decline and reached 425 km/s on 28 August. Late on 29 August a transient pass the ACE spacecraft with solar wind speed increasing to 650 km/s and Bz dropping to near –10 nT for a two hour period. The transient effects began to diminish late on 30 August and solar wind speed was back down to 400 km/s by 31 August.

There were no greater than 10 MeV proton events at geosynchronous orbit during the period.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels everyday of the period (25 – 31 August).

Geomagnetic activity ranged from quiet to minor storm levels. Activity on 25 August was at unsettled to minor storm levels as the high speed stream began to diminished. Activity on 26 – 29 August was at quiet to active levels. On 30 August, activity was mostly at quiet to active levels with one period on isolated minor storm levels. The period ended on 31 August at quiet to unsettled levels.

Space Weather Outlook
03 September - 29 September 2003

Solar activity is expected to range from very low to low levels during the period. There is a slight chance of isolated moderate activity from old Region 431 (S13, L= 194) when it returns on 04 September.

No greater than 10 MeV proton events at geosynchronous orbit are expected during the period.

The greater than 2 MeV electron flux is expected to reach high levels on 05 – 07 September, 10 – 12 September and again on 20 – 22 September.

The geomagnetic field is expected to range from quiet to major storm levels. A coronal hole high speed stream is expected to produce active to minor storm conditions on 03 – 05 September. Minor storm levels are possible from a smaller high speed stream on 08 – 09 September. Later in the period a third coronal hole high speed stream is expected to return with active to major storm levels possible on 17 – 21 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	117	146	500	B2.5	1	0	0	0	1	0	0	0
26 August	121	124	440	B3.1	1	0	0	0	1	0	0	0
27 August	126	116	410	B3.8	4	0	0	3	0	0	0	0
28 August	119	146	470	B3.4	3	0	0	3	0	0	0	0
29 August	116	132	520	B2.8	1	0	0	0	0	0	0	0
30 August	114	120	480	B2.8	2	0	0	2	0	0	0	0
31 August	110	101	390	B2.4	1	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
25 August	1.7E+6	1.2E+4	2.5E+3		4.9E+8	
26 August	8.7E+5	1.2E+4	2.6E+3		8.2E+8	
27 August	5.4E+5	1.2E+4	2.6E+3		1.0E+9	
28 August	4.1E+5	1.1E+4	2.6E+3		1.0E+8	
29 August	6.5E+5	1.1E+4	2.7E+3		2.5E+8	
30 August	2.8E+5	1.1E+4	2.2E+3		7.2E+7	
31 August	5.0E+5	1.2E+4	2.6E+3		2.4E+8	

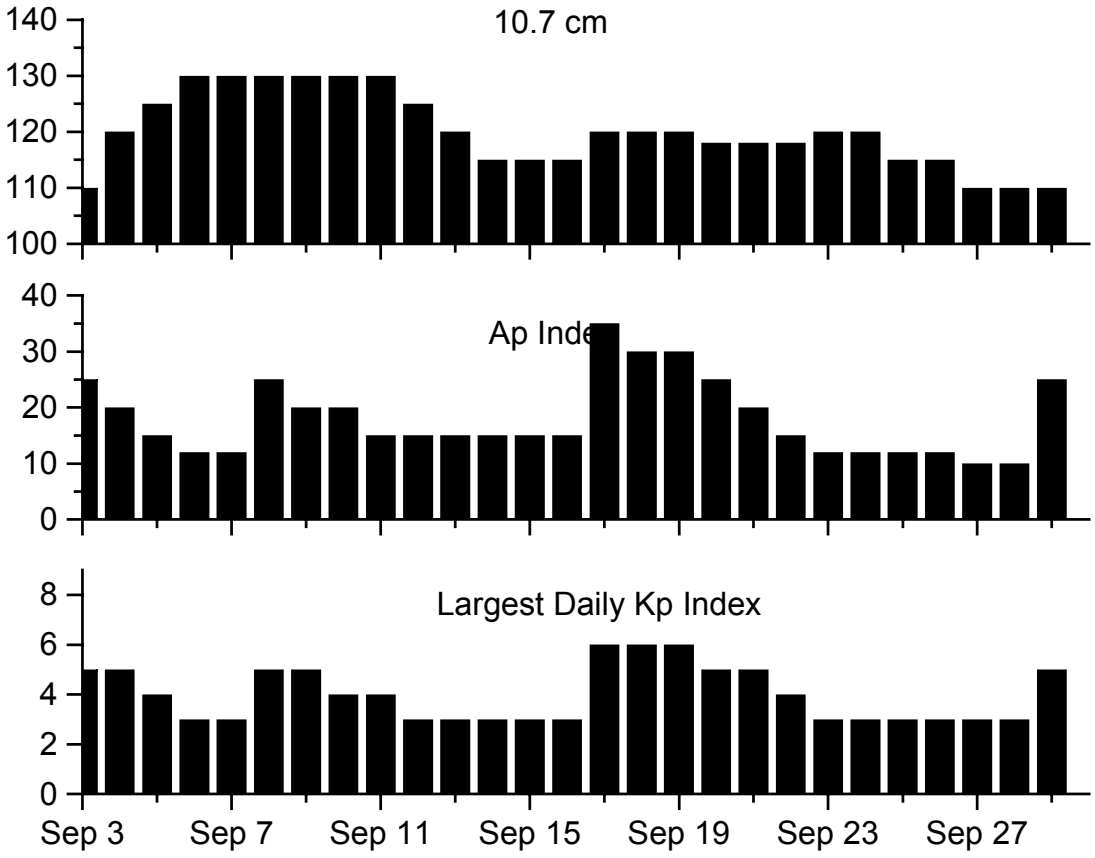
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
25 August	16	3-3-4-2-3-2-4-3	39	4-5-6-5-5-5-2-2	21	4-4-5-3-3-3-3-3
26 August	8	3-1-1-2-1-2-3-2	23	3-2-1-6-4-4-3-2	14	3-2-1-4-3-4-3-3
27 August	9	1-2-3-3-2-1-3-2	26	2-2-4-6-5-4-2-2	13	2-2-3-4-3-3-3-3
28 August	11	2-3-3-3-2-3-2-2	42	2-4-5-6-4-7-2-2	18	3-4-4-4-3-3-3-3
29 August	12	0-2-1-3-3-3-4-3	24	1-1-1-5-5-5-4-3	15	1-2-2-4-3-4-4-3
30 August	12	4-4-2-2-2-1-2-2	23	3-4-5-5-3-4-2-1	17	4-5-3-3-3-3-3-2
31 August	5	1-2-1-1-2-1-2-1	14	1-2-3-3-5-3-2-1	7	2-2-2-2-3-2-2-2

Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
25 Aug 0047	WARNING: Geomagnetic K= 5	25 Aug 0050 – 0600
25 Aug 0444	EXTENDED WARNING: Geomagnetic K= 5	25 Aug 0050 – 1500
25 Aug 0503	ALERT: Electron 2MeV Integral Flux > 1000pfu	25 Aug 0500
25 Aug 0727	ALERT: Geomagnetic K= 5	25 Aug 0727
25 Aug 1451	EXTENDED WARNING: Geomagnetic K= 4	24 Aug 1459 – 25/2359
25 Aug 2354	EXTENDED WARNING: Geomagnetic K= 4	24 Aug 1459 – 26/1500
26 Aug 0011	1 – 245 MHz Radio Burst	25 Aug
26 Aug 0501	ALERT: Electron 2MeV Integral Flux > 1000pfu	26 Aug 0500
26 Aug 1446	EXTENDED WARNING: Geomagnetic K= 4	24 Aug 1459 – 26/2359
26 Aug 1817	ALERT: Geomagnetic K= 5	26 Aug 1758
27 Aug 0013	2 – 245 MHz Radio Bursts	26 Aug
27 Aug 0500	ALERT: Electron 2MeV Integral Flux > 1000pfu	27 Aug 0500
27 Aug 0956	WARNING: Geomagnetic K= 4	27 Aug 0958 – 1500
27 Aug 1007	ALERT: Geomagnetic K= 4	27 Aug 1006
27 Aug 1457	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 2359
27 Aug 2353	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 28/1500
28 Aug 1208	ALERT: Electron 2MeV Integral Flux > 1000pfu	28 Aug 1145
28 Aug 1427	ALERT: Type II Radio Emission	28 Aug 1340
28 Aug 1457	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 28/2359
28 Aug 2354	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 29/1500
29 Aug 0926	ALERT: Electron 2MeV Integral Flux > 1000pfu	29 Aug 0905
29 Aug 1451	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 29/2359
29 Aug 1645	WARNING: Geomagnetic K= 5	29 Aug 1645 – 2359
29 Aug 2354	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 30/1500
30 Aug 0022	2 – 245 MHz Radio Bursts	29 Aug
30 Aug 0022	245 MHz Radio Noise Storm	29 Aug
30 Aug 0535	ALERT: Geomagnetic K= 5	30 Aug 0534
30 Aug 1326	ALERT: Electron 2MeV Integral Flux > 1000pfu	30 Aug 1305
30 Aug 1455	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 30/2359
30 Aug 2357	EXTENDED WARNING: Geomagnetic K= 4	27 Aug 0958 – 31/1500
31 Aug 0840	ALERT: Electron 2MeV Integral Flux > 1000pfu	31 Aug 0820
31 Aug 2105	WATCH: Geomagnetic A≥ 20	02 Sep
31 Aug 2107	WATCH: Geomagnetic A≥ 20	03 Sep

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 Sep	110	25	5	17 Sep	120	35	6
04	120	20	5	18	120	30	6
05	125	15	4	19	120	30	6
06	130	12	3	20	118	25	5
07	130	12	3	21	118	20	5
08	130	25	5	22	118	15	4
09	130	20	5	23	120	12	3
10	130	20	4	24	120	12	3
11	130	15	4	25	115	12	3
12	125	15	3	26	115	12	3
13	120	15	3	27	110	10	3
14	115	15	3	28	110	10	3
15	115	15	3	29	110	25	5
16	115	15	3				

Energetic Events

Date	Time			X-ray		Optical Information				Peak Radio Flux		Sweep Freq Intensity	
	Begin	Max	½ Max	Class	Integ Flux	Imp/ Brtns	Location Lat	CMD	Rgn #	245	2695	II	IV
No Events Observed													

Flare List

Date	Time			X-ray	Optical		Rgn
	Begin	Max	End	Class.	Imp / Brtns	Location Lat CMD	
25 August	0246	0250	0340	C3.6	1f	S11E41	442
	1509	1518	1525	B8.5			
	2133	2140	2147	B5.5			442
26 August	0545	0551	0556	B8.5			442
	0946	0949	0955	B4.2			436
	1208	1213	1215	B9.0			442
	1401	1405	1411	B6.5			436
	1552	1553	1623	C4.6	1n	N08W54	436
27 August	0013	0017	0022	B6.2			
	0050	0054	0100	B8.4			
	0219	0223	0226	B5.9			
	0244	0250	0255	C1.6			444
	B0334	U0338	0346		Sf	N08W56	436
	0500	0503	0512	C1.9	Sf	N08W56	436
	1052	1101	1107	B9.3			
	1436	1437	1454	B5.9	Sf	N18E52	0
	1609	1632	1639	C1.2			442
	2241	2245	2247	C1.1			436
28 August	0415	0418	0427	B9.6	Sf	N03E08	445
	0654	0658	0700	B9.6			449
	0842	0842	0846	C1.0	Sf	S16E68	0
	1324	1335	1340	C1.3			
	1720	1726	1730	C1.4			445
	1743	1744	1755		Sf	N04E02	445
	2318	2323	2325	B5.2			
29 August	1924	1959	2007	C1.0			450
30 August	0447	0450	0517	C1.4	Sf	S12W27	442
	1206	1213	1224	B6.9			444
	1756	1801	1809	C1.2	Sf	N09W30	444
31 August	0440	0444	0450	B5.4			
	0604	0617	0647	C1.3	Sf	S10W42	442

Region Summary

Date	Location (° Lat ° CMD)	Helio Lon	Area (10^{-6} hemi)	Extent (helio)	Sunspot Characteristics Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
					Region 432										
13 Aug	S05E71	140	0030	01	Hsx	001	A								
14 Aug	S05E57	140	0030	01	Hsx	001	A								
15 Aug	S04E43	141	0020	01	Hsx	001	A								
16 Aug	S04E29	142	0020	02	Hrx	001	A								
17 Aug	S04E18	140	0020	01	Hsx	001	A								
18 Aug	S02E03	142	0020	01	Hrx	001	A								
19 Aug	S03W12	143	0010	01	Hsx	001	A								
20 Aug	S03W25	143													
21 Aug	S03W38	143													
22 Aug	S03W51	143													
23 Aug	S03W64	143													
24 Aug	S03W77	143													
25 Aug	S03W90	143													
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 142

					Region 436										
17 Aug	N07E69	089	0110	11	Eso	003	B								
18 Aug	N08E57	088	0160	14	Eao	010	B								
19 Aug	N08E42	089	0160	14	Eao	012	B	1			1				
20 Aug	N07E29	089	0120	13	Eao	015	B								
21 Aug	N07E17	088	0170	13	Esi	021	B								
22 Aug	N07E03	089	0230	13	Eac	032	Bg	1			1				
23 Aug	N07W12	091	0210	13	Eac	023	B								
24 Aug	N08W26	091	0210	15	Eac	028	B	2				1			
25 Aug	N07W39	091	0180	15	Eac	023	B								
26 Aug	N08W51	090	0080	13	Eai	010	B	1				1			
27 Aug	N07W60	086	0040	08	Bxo	007	B	2			2				
28 Aug	N07W80	098	0060	06	Cro	004	B								
29 Aug	N07W98	098													
								7	0	0	4	2	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 089

Region Summary - continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	M	X	Optical S	1	2	3	4
			Region 438												
21 Aug	S31W31	136	0010	01	Axx	001	A								
22 Aug	S31W44	136													
23 Aug	S31W57	136													
24 Aug	S31W70	136													
25 Aug	S31W83	136													
								0	0	0	0	0	0	0	0
Crossed West Limb.															
Absolute heliographic longitude:		136													
			Region 439												
21 Aug	N08W23	128	0040	03	Dso	005	B								
22 Aug	N08W38	130	0040	04	Dso	005	B								
23 Aug	N07W51	130	0030	05	Dso	006	B								
24 Aug	N07W64	129	0040	03	Cso	003	B								
25 Aug	N07W80	132	0030	01	Hsx	001	A								
								0	0	0	0	0	0	0	0
Crossed West Limb.															
Absolute heliographic longitude:		128													
			Region 440												
21 Aug	S08E12	093	0020	03	Cso	005	B								
22 Aug	S07W06	098	0090	06	Dso	015	B								
23 Aug	S08W20	099	0090	07	Dso	012	B								
24 Aug	S08W33	098	0060	07	Dso	009	B								
25 Aug	S07W47	099	0030	06	Cso	004	B								
26 Aug	S07W64	103	0010	01	Axx	001	A								
27 Aug	S07W77	103	0020	02	Axx	001	A								
								0	0	0	0	0	0	0	0
Crossed West Limb.															
Absolute heliographic longitude:		098													

Region Summary - continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
			Region 441												
21 Aug	N12E48	057	0040	05	Dso	004	B								
22 Aug	N12E33	059	0030	06	Dso	007	B								
23 Aug	N11E19	060	0080	05	Dso	017	B				2				
24 Aug	N12E06	059	0100	07	Dao	024	B								
25 Aug	N12W07	059	0080	06	Dsi	023	B								
26 Aug	N12W20	059	0140	07	Dai	024	B								
27 Aug	N13W33	059	0100	07	Dao	013	B								
28 Aug	N14W47	060	0040	07	Dao	011	B								
29 Aug	N12W63	063	0020	01	Hrx	001	A								
30 Aug	N15W80	066	0020	01	Axx	001	A								
								0	0	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 059

			Region 442												
22 Aug	S12E65	027	0110	10	Dao	003	B								
23 Aug	S12E54	025	0160	08	Dso	004	B								
24 Aug	S12E43	022	0130	09	Dao	006	B								
25 Aug	S13E30	022	0120	08	Dao	004	B	1				1			
26 Aug	S13E16	023	0110	08	Dso	004	B								
27 Aug	S13E04	022	0090	09	Cso	005	B	1							
28 Aug	S13W06	019	0080	07	Cso	003	B								
29 Aug	S13W19	019	0090	03	Hsx	001	A								
30 Aug	S12W35	021	0080	05	Cso	002	B	1			1				
31 Aug	S13W47	020	0070	02	Cso	002	B	1			1				
								4	0	0	2	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 022

			Region 443												
22 Aug	N15E09	083	0010	02	Axx	004	A								
23 Aug	N15W04	083	0000	00		000									
24 Aug	N15W17	083	0000	00		000									
25 Aug	N14W30	082	0010	02	Cro	002	B								
26 Aug	N14W46	085	0010	01	Axx	001	A								
27 Aug	N14W59	085													
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 083

Region Summary - continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
			Region 444												
23 Aug	N09E60	019	0040	02	Hsx	003	B								
24 Aug	N09E44	021	0010	01	Axx	002	A								
25 Aug	N12E39	019	0020	03	Cso	005	B								
26 Aug	N10E22	017	0010	03	Bxo	002	B								
27 Aug	N10E08	018	0030	05	Cso	006	B	1							
28 Aug	N09W06	019	0060	06	Dso	010	B								
29 Aug	N09W20	020	0020	08	Dso	005	B								
30 Aug	N09W33	019	0040	09	Dso	006	B	1			1				
31 Aug	N08W47	020	0050	11	Cso	010	B								
								2	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 019

			Region 445												
25 Aug	N04E38	014	0030	04	Dso	004	B								
26 Aug	N03E24	015	0080	05	Dao	012	B								
27 Aug	N03E10	016	0110	07	Dao	012	B								
28 Aug	N03W04	017	0060	08	Dao	011	B	1			2				
29 Aug	N03W19	019	0070	08	Dao	006	B								
30 Aug	N03W32	018	0040	08	Dso	004	B								
31 Aug	N04W47	020	0030	06	Cso	004	B								
								1	0	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 017

			Region 446												
27 Aug	S22E36	350	0020	03	Cro	002	B								
28 Aug	S23E23	350	0020	02	Cro	002	B								
29 Aug	S23E10	350													
30 Aug	S23W03	350													
31 Aug	S23W16	350													
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 350

Region Summary - continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
			Region 447												
28 Aug	N16W05	018	0020	04	Cso	005	B								
29 Aug	N15W21	021	0010	04	Cso	004	B								
30 Aug	N15W37	023	0010	01	Hrx	002	A								
31 Aug	N14W50	023	0010	00	Axx	001	A								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		018													
			Region 448												
28 Aug	N19E34	339	0050	05	Cso	007	B								
29 Aug	N19E18	342	0080	05	Dao	008	B								
30 Aug	N20E06	340	0090	07	Dso	009	B								
31 Aug	N20W07	340	0070	06	Dao	010	B								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		340													
			Region 449												
28 Aug	S16E69	304	0080	04	Dao	003	B	1							
29 Aug	S15E53	307	0140	05	Dso	003	B								
30 Aug	S15E39	307	0130	04	Dao	004	B								
31 Aug	S16E27	306	0120	04	Dao	003	B								
								1	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		306													
			Region 450												
29 Aug	S18E66	294	0060	02	Hsx	001	A	1							
30 Aug	S18E52	294	0070	02	Hsx	001	A								
31 Aug	S18E39	294	0040	02	Hsx	001	A								
								1	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		294													
			Region 451												
29 Aug	S10W65	065	0020	03	Bxo	002	B								
30 Aug	S10W78	065													
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		065													

Region Summary - continued.

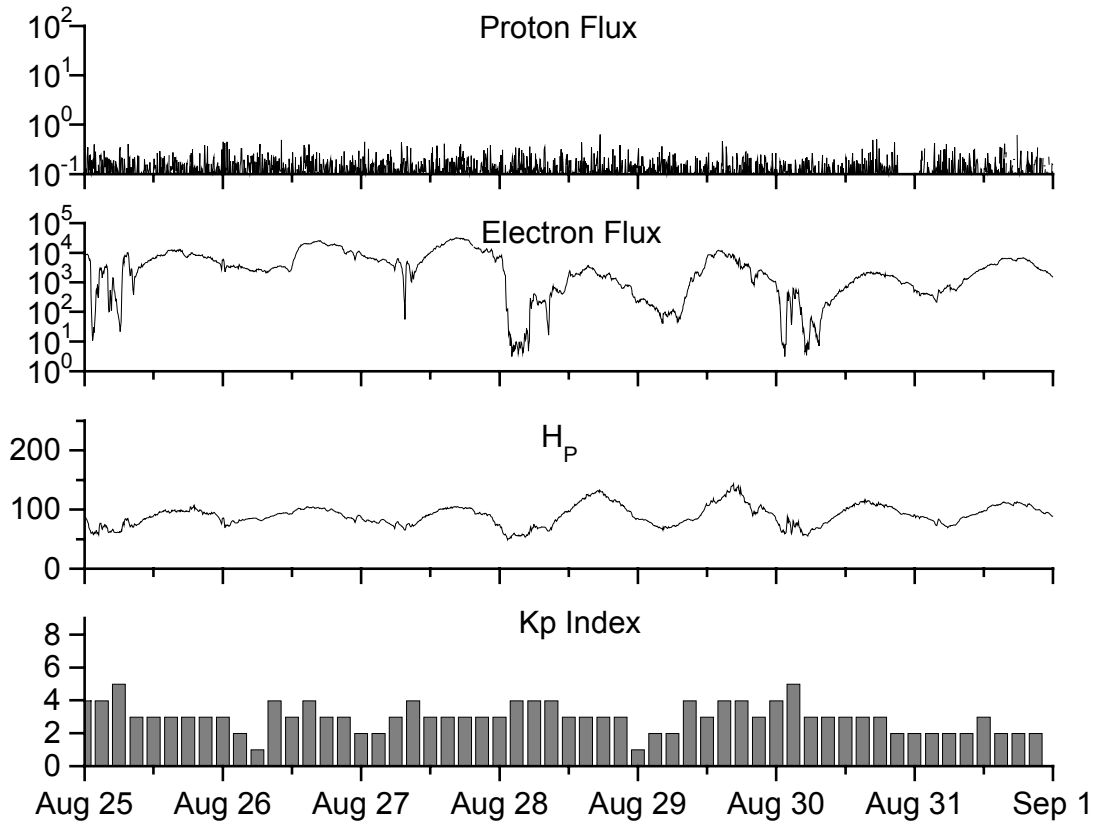
	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	(° Lat ° CMD)	Lon	(10^{-6} hemi)	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
	Region 452														
29 Aug	S09E05	355	0010	01	Axx	001	A								
30 Aug	S06W05	351	0000	01	Axx	001	A								
31 Aug	S06W18	351													
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 355

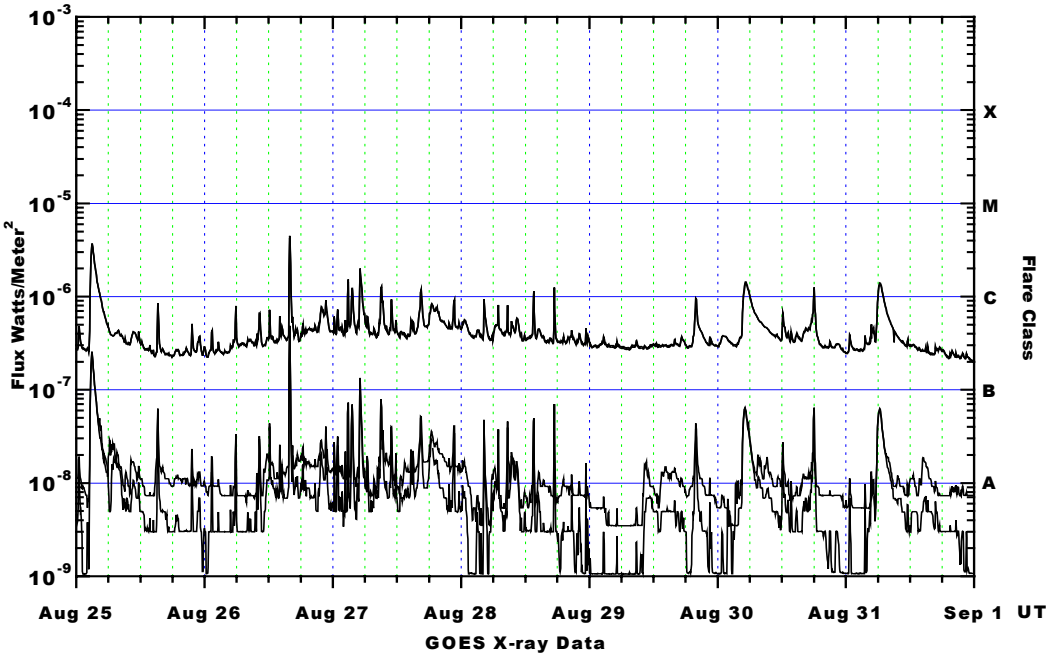
Recent Solar Indices (preliminary)
of the observed monthly mean values

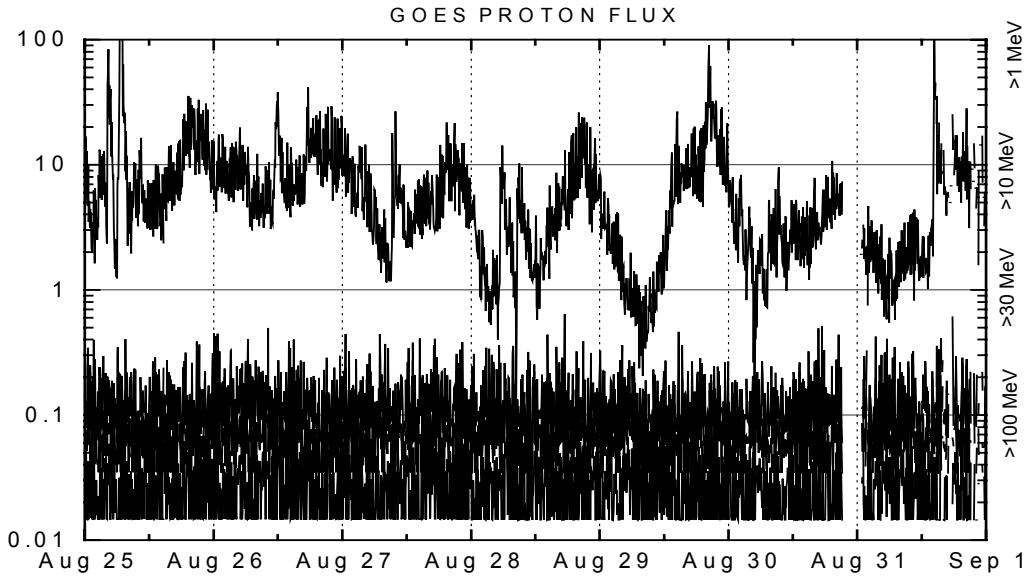
	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		*Penticton	Smooth	Planetary	Smooth
Month	SWO	RI	RI/SWO	SWO	RI	10.7 cm	Value	Ap	Value
					2001				
August	159.4	106.4	0.67	176.7	113.6	163.1	188.8	11	13.0
September	229.1	150.7	0.66	178.8	114.1	233.8	191.3	13	12.8
October	197.3	125.5	0.64	179.5	114.0	208.1	191.9	20	12.0
November	178.6	106.5	0.60	183.7	115.5	212.7	193.7	16	12.0
December	217.5	132.2	0.61	184.5	114.6	235.6	193.9	09	12.2
					2002				
January	189.0	114.1	0.60	184.8	113.5	227.3	194.6	08	12.4
February	194.5	107.4	0.55	188.6	114.7	205.0	197.2	10	12.8
March	153.1	98.4	0.64	188.9	113.4	180.3	195.7	10	13.0
April	194.9	120.7	0.62	186.2	110.5	189.8	191.5	15	13.2
May	204.1	120.8	0.59	183.6	108.9	178.4	188.0	15	13.3
June	146.0	88.3	0.60	179.9	106.3	148.7	183.0	11	13.5
July	183.5	99.9	0.54	175.4	102.7	173.5	173.5	13	13.9
August	191.0	116.4	0.61	169.3	98.7	183.9	169.5	16	14.3
September	206.4	109.6	0.53	163.4	94.6	175.8	164.2	14	14.9
October	153.9	97.5	0.63	158.7	90.5	167.0	159.5	23	15.5
November	159.8	95.5	0.60	150.5	85.3	168.7	154.3	16	16.1
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			124.5		17	
March	119.7	61.1	0.51			132.5		21	
April	119.7	60.0	0.50			126.3		20	
May	89.6	55.2	0.62			129.3		26	
June	118.4	77.4	0.65			129.4		24	
July	132.8	85.0	0.64			127.8		20	

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 2003
Protons plot contains the five-minute averaged integral proton flux (protons/cm^2 –sec –sr) as measured by GOES-11 (W113) 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-12.
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 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 Kp 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 Kp are " global " parameters that are applicable to a first order approximation over large areas. Hparallel 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 12 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/cm^2 –sec-sr) as measured by GOES-11 (W113) for each of the energy thresholds: >1, >10, >30 and >100 MeV. P10 event threshold is 10 pfu (protons/cm^2-sec-sr) at greater than 10 MeV.