

**Space Weather Highlights
03-09 Aug 1998**

Solar activity increased from very low to moderate during the period. Region 8293 (S22, L = 263, class/area Fac/580 on 09 August) grew steadily to become a moderate-sized, magnetically complex region with around 70 spots and a beta-gamma-delta magnetic structure. This region helped push the 10.7 cm radio flux to 154 on 09 August, the highest reading so far this cycle (the previous high was 141 on 08 April 1998). It produced several C-class flares during the period. Activity rose to moderate levels on 08 August due to an optically unassociated M3 at 08/0317UT with moderate discrete radio emissions and a Type II sweep. Region 8299 (N16, L = 191, class/area Eko/480 on 10 August) produced two M-class flares on 09 August: an M1/1B at 09/0847UT and an M3/2B at 09/1718UT. Minor discrete radio bursts accompanied both flares. There were two other events of interest. The first was a spray from the northeast limb at 06/1605UT accompanied by Types II and IV radio sweeps. The spray likely originated from Region 8299 as it rotated into view. The second event of note was a large filament disappearance early on 08 August. The filament, last seen near N18E03, was 32 degrees long, north-south aligned, and likely the source of a CME. We were unable to determine the degree to which the CME was Earth-directed, given the absence of coronagraph images due to the recent loss of the SOHO spacecraft.

Real-time solar wind data were available from the Advanced Composition Explorer (ACE) spacecraft during most of the period. A transient structure was seen to pass the ACE spacecraft beginning at approximately 06/0644UT and was the source of the disturbance mentioned in the geomagnetic field activity discussion below. The transient was characterized by a velocity increase from 350 - 540 km/sec, a density increase which peaked at 55 p/cc, and maximum southerly Bz variations of minus 20 nT (GSM). Solar sector orientation shifted from away (phi angle near 135 degrees) to toward (phi angle near 315 degrees) during 06 August, then shifted back to away conditions for the rest of the period.

There were no significant proton enhancements detected at geosynchronous altitude.

The greater than 2 MeV electron flux at geosynchronous altitude was at normal levels, then increased to moderate levels during 08 -09 August.

The geomagnetic field was quiet to unsettled during 03 - 05 August. A major geomagnetic storm began early on 06 August and continued through midday 07 August. Active to major storm levels were detected during the disturbance with brief severe storm periods at high latitudes. Field activity declined to quiet to unsettled levels during the latter half of 07 August and remained so for the balance of the period.

**Space Weather Forecast
12 August 1998 - 07 September 1998**

Solar activity is expected to be low to moderate. Regions 8293 and 8299 may produce isolated M-class flares. No proton enhancements are expected at geosynchronous altitude.

The greater than 2 MeV electron flux at geosynchronous altitude is expected to be at moderate to high levels during 14 - 16 and 21 - 23 August. Otherwise, normal to moderate levels are expected.

The geomagnetic field is expected to be at quiet to unsettled levels during most of the period. However, active to minor storm levels are expected during 12 -13 August in response to the filament disappearance of 08 August. Active levels are also expected during 19 - 20 August due to recurrent coronal hole effects.



Daily Solar Data

Date	Radio	Sun	Sunspot	X-ray	X-ray Flux			Flares				
	Flux 10.7 cm	spot No. (10^6 hemi.)	Area	Background	C	M	X	S	Optical			
									1	2	3	4
03 August	109	112	460	B3.7	0	0	0	0	0	0	0	0
04 August	116	80	370	B2.1	0	0	0	3	0	0	0	0
05 August	127	85	420	B3.1	1	0	0	2	0	0	0	0
06 August	138	122	810	B3.1	10	0	0	15	0	0	0	0
07 August	145	127	1060	B5.4	7	0	0	13	0	0	0	0
08 August	147	121	1300	B5.8	7	1	0	5	2	0	0	0
09 August	154	155	1670	B7.2	6	2	0	4	1	1	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
03 August	1.2E+5	1.7E+4	4.2E+3		1.1E+6	
04 August	9.6E+4	1.7E+4	3.9E+3		1.2E+6	
05 August	2.6E+5	1.6E+4	3.6E+3		2.9E+6	
06 August	5.0E+5	1.4E+4	3.3E+3		2.3E+5	
07 August	1.4E+5	1.5E+4	3.3E+3		9.5E+5	
08 August	3.5E+5	1.7E+4	3.4E+3		1.8E+7	
09 August	2.4E+5	1.6E+4	3.6E+3		4.2E+7	

Daily Geomagnetic Data

Date	Middle Latitude		High Latitude		Estimated	
	Fredericksburg		College		Planetary	
	A	K-indices	A	K-indices	A	K-indices
03 August	6	2-2-2-2-1-0-2-2	9	1-1-2-4-2-3-1-1	6	1-1-2-2-2-2-2-2
04 August	8	2-3-1-2-1-2-2-3	7	2-3-2-1-1-2-2-2	9	2-3-2-2-1-2-3-2
05 August	6	1-2-1-3-2-2-1-1	14	1-1-2-6-2-1-1-2	9	1-2-1-3-3-3-3-2
06 August	43	2-4-5-7-5-2-3-5	65	2-2-5-8-7-3-4-4	69	2-4-6-8-7-4-3-5
07 August	24	3-6-5-3-3-1-2-2	25	4-4-4-5-4-3-2-2	28	4-6-5-4-4-3-2-3
08 August	7	2-4-2-1-1-1-1-0	22	2-3-5-5-5-2-0-0	12	2-4-3-3-3-3-2-2
09 August	2	0-0-0-1-1-2-1-0	3	0-0-0-1-3-1-1-0	4	1-0-1-1-2-2-2-1

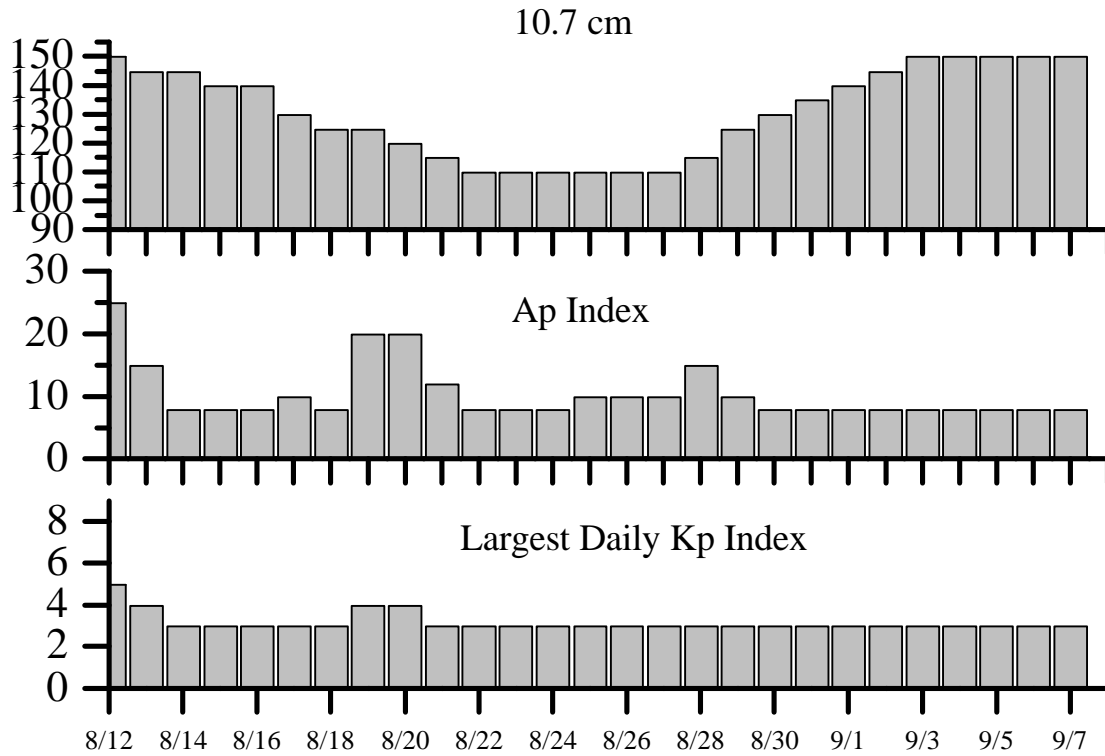


Alerts and Warnings Issued

<u>Date and Time of Issue (UT)</u>	<u>Type of Alert or Warning</u>	<u>Date and Time of Event (UT)</u>
04 Aug 0008	1-245 MHz Radio Burst	03 Aug
04 Aug 0008	245 MHz Radio Noise Storm	03 Aug
06 Aug 0601	K = 4 Observed	06 Aug 03-06
06 Aug 1156	A ≥ 20 Observed	06 Aug 1200
06 Aug 1156	K = 6 Observed	06 Aug 09-12
06 Aug 1502	A ≥ 30 Observed	06 Aug 1459
06 Aug 1646	Type II Radio Emission	06 Aug 1645
06 Aug 2023	Type IV Radio Emission	06 Aug 1613
07 Aug 0000	K = 5 Observed	06 Aug 21-24
07 Aug 0037	13-245 MHz Radio Bursts	06 Aug
07 Aug 0037	245 MHz Radio Noise Storm	06 Aug
07 Aug 1200	A ≥ 30 Observed CONTINUED	06 Aug 1459
07 Aug 1232	Type IV Radio Emission	07 Aug 1056
07 Aug 1517	Type II Radio Emission	07 Aug 1432
06 Aug 1502	Alert Condition ENDED	07 Aug 1200
08 Aug 0356	Type II Radio Emission	08 Aug 03:18
08 Aug 0603	K = 4 Observed	08 Aug 03-06
09 Aug 1601	>2MeV Electron Event ≥1000pfu	09 Aug 1455
09 Aug 2219	A ≥ 20 Watch	12 Aug



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
12 Aug	150	25	5	26 Aug	110	10	3
13	145	15	4	27	110	10	3
14	145	8	3	28	115	15	3
15	140	8	3	29	125	10	3
16	130	8	3	30	130	8	3
17	125	10	3	31	135	8	3
18	125	8	3	01 Sep	140	8	3
19	125	20	4	02	145	8	3
20	120	20	4	03	150	8	3
21	115	12	3	04	150	8	3
22	110	8	3	05	150	8	3
23	110	8	3	06	150	8	3
24	110	8	3	07	150	8	3
25	110	10	3				



Energetic Events

Date	Time (UT)			X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½ Max	Class	Integ Flux	Imp Brtns	Location		Rgn #	Radio Flux		Intensity	
							Lat	CMD		245	2695	II	IV
08 Aug	0312	0317	0320	M3.0	.007					35000	140	2	
09 Aug	0838	0847	0900	M1.0	.009	1B	N14E59		8299				
09 Aug	1709	1718	1723	M3.3	.014	2B	N15E55		8299	33	100		

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
03 August	0431	0437	0443	B5.7			
	1748	1755	1807	B4.0			
	1811	1815	1818	B5.5			
04 August	0202	0205	0209	B3.3			
	0621	0634	0641		SF	N13W03	8295
	1508	1508	1519		SF	S24E53	8293
05 August	1810	1816	1825	B4.5			
	1950	1951	2012		SF	N19W48	8286
	0841	0846	0852	B6.9			
06 August	1137	1143	1150		SF	S23E40	8293
	1605	1615	1627	C1.2			
	2008	2008	A2103		SF	S18E32	8293
06 August	2224	2230	2235	B9.0			
	0238	0351	0438	B8.3			
	0633	0643	0711	C1.0			
06 August	0941	0941	0946		SF	N13W31	8295
	1023	1025	1029	C1.0	SF	N27W50	8283
	1117	1125	1143	C1.0	SF	S23E29	8293
06 August	1156	1202	1256	C2.8	SF	S23E29	8293
	1221	1225	1234	C2.6			
	1332	1333	1342		SF	N29W51	8283
06 August	1425	1428	1437	C1.4	SF	S22E26	8293
	1442	1445	1447	B9.1			
	1556	1605	1612	C2.8			
06 August	1750	1750	1800		SF	N17E63	8296
	1801	1808	1815		SF	N18E64	8296
	1801	1802	1808	C1.4	SF	S20E16	8293
06 August	1831	1832	1838		SF	S23E24	8293
	1950	1955	2004	C1.4	SF	S20E14	8293
	2040	2045	2052	B9.2			
06 August	2059	2105	2113		SF	S22E23	8293
	2212	2213	2217		SF	S23E22	8293
	2233	2256	2304	C1.3	SF	S23E22	8293
06 August	2322	2323	2327		SF	S23E22	8293



Flare List – continued.

Date	Time			X-ray Class.	Optical		Rgn #	
	Begin	Max	End		Imp / Brtns	Location Lat CMD		
07 August	0005	0006	0012		SF	N18E60	8296	
	0318	0321	0323	B9.3				
	0642	0658	0719		SF	N14W44	8295	
07 August	0707	0721	0744		SF	N22E81	8297	
	0719	0720	0724	C4.8	SF	S18E13	8293	
	0831	0834	0845		SF	N20W20	8290	
	0854	0856	0914		SF	N19W20	8290	
	1221	1225	1227	C1.1				
	1416	1419	1450	C2.9	SF	N18E52	8296	
	1515	1516	1518		SF	S20E05	8293	
	1619	1620	1631	C1.2	SF	S21E11	8293	
	1634	1637	1639		SF	S22E10	8293	
	1758	1759	1802		SF	N14E82	8299	
	1843	1847	1850	C1.2				
	2116	2116	2124		SF	S22E08	8293	
	2227	2235	2241	C1.2				
	2337	2338	2356	C1.8	SF	S21E07	8293	
08 August	0026	0030	0032	C1.0				
	0212	0221	0236	C3.1				
	0312	0317	0320	M3.0				
	0817	0821	0826	C2.1	SF	N14E74	8299	
	1240	1248	1252	C4.2				
	1357	1406	1409		SF	N15E72	8299	
	1451	1452	1459	C4.0	SF	N14E71	8299	
	1535	1535	1540		SF	S22E00	8293	
	1832	1840	1856	C3.6	1F	N15E69	8299	
	2233	2234	2238		SF	N16E65	8299	
	2332	2338	A0010	C5.1	1F	N15E64	8299	
	09 August	0506	0517	0527	C2.2			
		B0725	U0736	0756		SF	N15E56	8299
B0841		0844	0925	M1.0	1B	N14E59	8299	
B0927		U0930	0938		SF	N19E63	8299	
1333		1339	1348	C1.0				
1415		1423	1430	C2.1				
1621		1627	1650	C3.4	SF	S23W15	8293	
1712		1716	1742	M3.3	2B	N15E55	8299	
1751		1755	1800		SF	N19E64	8299	
1941		1946	1952	C1.3				
2050		2055	2101	C2.0				



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	4			
<i>Region 8280</i>																		
21 Jul	S21E75	061	0130	04	HKX	001	A											
22 Jul	S21E63	060	0340	13	EKO	008	B	1										
23 Jul	S21E54	056	0470	12	EKI	013	B	1										
24 Jul	S23E40	057	0500	11	EHO	010	B	1										
25 Jul	S23E27	056	0430	10	DHO	013	B	1										
26 Jul	S24E14	056	0450	11	EHO	013	B											
27 Jul	S24E02	054	0380	10	DHO	010	B											
28 Jul	S23W11	054	0300	09	DHO	008	B											
29 Jul	S23W24	054	0340	09	CHO	008	B											
30 Jul	S22W41	058	0310	04	HHX	001	A											
31 Jul	S23W54	058	0340	04	HHX	001	A											
01 Aug	S25W68	058	0340	03	HHX	001	A											
02 Aug	S24W81	058	0220	04	HHX	001	A											
03 Aug	S20W97	061	0100	02	HSX	001	A											
								4	0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 054

<i>Region 8281</i>																		
21 Jul	N16E73	063	0000	00	AXX	001	A											
22 Jul	N17E59	064	0030	05	CRO	007	B											
23 Jul	N18E45	065	0020	07	BXO	005	B	1										
24 Jul	N17E34	063	0020	04	CSO	006	B											
25 Jul	N16E22	061	0010	03	BXO	003	B											
26 Jul	N16E08	062	0010	02	BXO	003	B											
27 Jul	N16W05	061																
28 Jul	N16W17	060	0010	02	BXO	002	B											
29 Jul	N17W33	063	0010	03	BXO	004	B											
30 Jul	N17W46	063																
31 Jul	N17W59	063																
01 Aug	N17W72	063																
02 Aug	N17W85	063																
								1	0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 061



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 8282</i>																					
22 Jul	N33E67	056	0010	06	BXO	003	B														
23 Jul	N33E56	054	0040	07	CRO	010	B														
24 Jul	N32E43	054	0220	07	DAI	014	B														
25 Jul	N31E31	052	0420	09	DAI	012	B														
26 Jul	N32E16	054	0560	08	DKI	019	BD														
27 Jul	N32E04	052	0530	07	DKI	016	BD														
28 Jul	N31W09	052	0390	08	DKI	014	BD														
29 Jul	N32W27	057	0320	06	DKI	018	B														
30 Jul	N31W34	051	0280	06	DKO	012	B														
31 Jul	N31W48	052	0260	05	CAO	010	B														
01 Aug	N30W60	050	0160	04	CAO	004	B														
02 Aug	N30W72	049	0130	04	CAO	004	B														
03 Aug	N30W83	047	0090	02	HSX	001	A														
04 Aug	N30W96	047	0000	00		000															

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 052

Region 8283

27 Jul	N27E68	348	0040	02	HSX	001	A													
28 Jul	N27E55	348	0050	02	HSX	001	A													
29 Jul	N28E43	347	0050	02	HSX	002	A													
30 Jul	N27E30	347	0040	02	CSO	002	B													
31 Jul	N27E16	348	0030	01	HSX	001	A	1												1
01 Aug	N27E04	346	0030	01	HSX	001	A													
02 Aug	N24W10	347	0040	05	HSX	001	A													
03 Aug	N26W22	346	0030	01	HSX	001	A													
04 Aug	N26W34	345	0040	02	HSX	001	A													
05 Aug	N27W44	342	0040	10	CSO	011	B	1												
06 Aug	N27W57	342	0080	09	DSO	008	B	1												
07 Aug	N28W68	339	0110	09	DAO	009	B													
08 Aug	N27W83	341	0060	01	HSX	001	A													

3 0 0 0 0 1 0 0

Crossed West Limb.

Absolute heliographic longitude: 346



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 8285</i>																					
27 Jul	S23E18	038	0000	00	AXX	001	A														
28 Jul	S22E04	039	0000	00	AXX	001	A														
29 Jul	S22W09	039																			
30 Jul	S22W22	039																			
31 Jul	S22W35	039																			
01 Aug	S22W48	039																			
02 Aug	S22W61	039																			
03 Aug	S22W74	039																			
04 Aug	S22W87	039																			

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 039

<i>Region 8286</i>																					
27 Jul	N18E54	002	0000	03	BXO	003	B														
28 Jul	N17E40	003	0000	00	AXX	001	A														
29 Jul	N17E27	003																			
30 Jul	N17E14	003																			
31 Jul	N17E01	003																			
01 Aug	N17W12	003																			
02 Aug	N18W23	360	0010	00	BXO	003	B														
03 Aug	N19W35	359	0020	03	CRO	002	B														
04 Aug	N20W49	360	0010	05	BXO	003	B														
05 Aug	N20W62	360																			
06 Aug	N20W75	360																			
07 Aug	N20W88	360																			

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 003



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 8288</i>																		
30 Jul	S26E62	315	0010	00	HRX	001	A											
31 Jul	S27E48	316	0000	00	AXX	001	A											1
01 Aug	S27E35	315	0020	01	HAX	001	A											1
02 Aug	S28E22	315	0010	01	AXX	002	A											
03 Aug	S28E11	313	0000	00	AXX	001	A											
04 Aug	S28W02	313																
05 Aug	S28W15	313																
06 Aug	S28W25	310	0000	01	AXX	002	A											
07 Aug	S28W38	310																
08 Aug	S28W51	310																
09 Aug	S28W64	310																
								0	0	0	0	0	2	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 313																		
<i>Region 8290</i>																		
31 Jul	N16E63	301	0010	00	AXX	002	A											
01 Aug	N16E49	301	0010	01	AXX	002	A											
02 Aug	N16E36	301	0010	01	AXX	002	A											
03 Aug	N16E24	300	0000	01	AXX	001	A											
04 Aug	N16E11	300																
05 Aug	N16W02	300																
06 Aug	N16W15	300																
07 Aug	N16W28	300																
08 Aug	N16W41	300																
09 Aug	N16W54	300																
								0	0	0	0	0	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 300																		
<i>Region 8291</i>																		
31 Jul	S23E09	355	0030	03	BXO	008	B											
01 Aug	S24W03	353	0010	04	BXO	005	B											
02 Aug	S22W20	357	0000	00	AXX	001	A											
03 Aug	S22W33	357																
04 Aug	S22W46	357																
05 Aug	S22W59	357																
06 Aug	S22W72	357																
07 Aug	S22W85	357																
								0	0	0	0	0	0	0	0	0	0	
Crossed West Limb.																		
Absolute heliographic longitude: 353																		



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</i>	8292															
02 Aug	N25E03	334	0010	04	BXO	003	B											
03 Aug	N25W10	334																
04 Aug	N25W23	334																
05 Aug	N25W36	334																
06 Aug	N25W49	334																
07 Aug	N25W62	334																
08 Aug	N25W75	334																
09 Aug	N25W88	334																

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 334

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</i>	8293															
02 Aug	S20E69	268	0080	04	HSX	001	A											
03 Aug	S20E60	264	0200	16	FSO	006	B											
04 Aug	S22E48	263	0250	16	FAO	010	B											
05 Aug	S22E39	259	0330	17	FAC	026	BG	5										
06 Aug	S22E22	263	0470	17	FKC	028	BGD	3										
07 Aug	S22E09	262	0470	18	FKC	034	BG	3										
08 Aug	S22W05	263	0500	18	FKC	037	BG	1										
09 Aug	S23W18	262	0580	20	FAC	062	BG	1										

13 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 263

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</i>	8294															
02 Aug	N18E16	321	0010	00	BXO	003	B											
03 Aug	N17E03	321	0020	05	BXO	007	B											
04 Aug	N17W12	323	0030	06	CRO	008	B											
05 Aug	N17W25	323																
06 Aug	N16W37	322	0010	05	BXO	003	B											
07 Aug	N16W50	321																
08 Aug	N16W63	321																
09 Aug	N16W76	321																

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 321



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	4
<i>Region 8295</i>														
03 Aug	N13E01	323	0000	02	BXO	002	B							
04 Aug	N13W13	324	0040	05	DAO	008	B							
05 Aug	N14W26	324	0030	06	CSO	007	B							
06 Aug	N13W39	324	0010	05	BXO	009	B		1					
07 Aug	N13W52	323	0010	06	BXO	005	B		1					
08 Aug	N13W66	324	0010	07	BXO	004	B							
09 Aug	N13W79	324												
									2	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 323														
<i>Region 8296</i>														
05 Aug	N16E70	228	0020	01	HSX	001	A		1					
06 Aug	N17E58	227	0020	01	HRX	001	A		1					
07 Aug	N16E44	227	0010	03	BXO	002	B		1					
08 Aug	N16E31	227												
09 Aug	N16E18	227												
									3	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 227														
<i>Region 8297</i>														
06 Aug	N30E73	212	0220	04	HSX	001	A							
07 Aug	N30E59	212	0330	04	HHX	002	A							
08 Aug	N29E49	209	0400	13	CKO	005	B							
09 Aug	N30E35	209	0470	06	CKO	006	B							
									0	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 209														
<i>Region 8298</i>														
07 Aug	N19E16	255	0000	03	BXO	002	B							
08 Aug	N18E03	255	0010	04	BXO	004	B							
09 Aug	N18W11	255	0030	05	CSO	009	B							
									0	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 255														



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 8299</i>																					
07 Aug	N17E74	197	0130	02	HAX	003	A	1													
08 Aug	N16E64	194	0320	08	CKO	010	B	4	2			1	1								
09 Aug	N15E52	192	0460	11	CKO	013	B		2			1	1								
								5	4	0	0	0	2	2	0	0					
Still on Disk.																					
Absolute heliographic longitude: 192																					
<i>Region 8300</i>																					
09 Aug	S29W01	245	0010	05	BXO	004	B														
								0	0	0	0	0	0	0	0	0	0	0	0	0	
Still on Disk.																					
Absolute heliographic longitude: 245																					
<i>Region 8301</i>																					
09 Aug	S20E71	173	0120	03	HSX	001	A														
								0	0	0	0	0	0	0	0	0	0	0	0	0	
Still on Disk.																					
Absolute heliographic longitude: 173																					



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

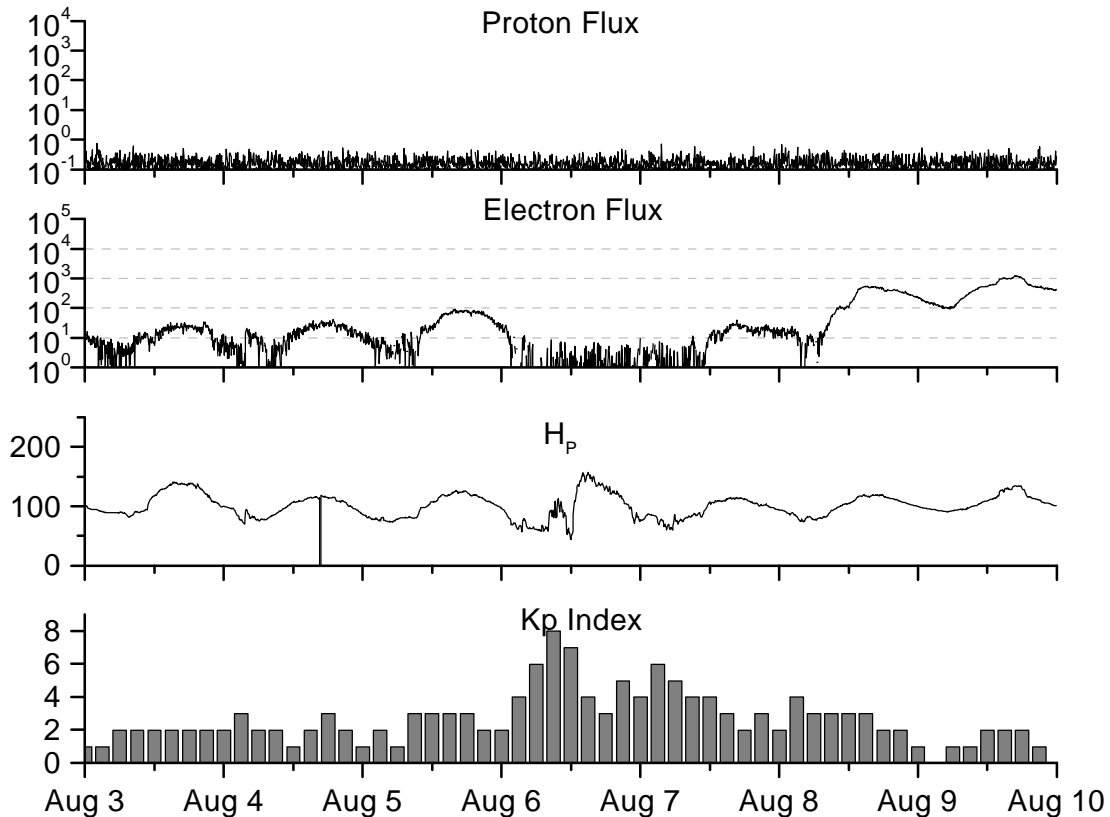
Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	Observed values SWO	Ratio RI	Ratio RI/SWO	Smooth values SWO	Smooth values RI	**Penticton 10.7 cm	Smooth Value	Planetary Ap	Smooth Value
1996									
August	20.5	14.4	0.70	13.1	08.3	72.4	72.1	09	09.4
September	02.9	01.6	0.55	13.3	08.4	69.4	72.3	15	09.3
October	02.3	00.9	0.39	14.0	08.8	69.2	72.6	13	09.1
November	26.7	17.9	0.67	15.4	09.8	78.7	73.0	08	09.1
December	21.1	13.3	0.63	16.2	10.4	77.8	73.3	07	09.3
1997									
January	09.0	05.7	0.63	16.5	10.5	74.0	73.4	09	09.3
February	11.3	07.6	0.67	17.4	11.0	73.8	73.7	11	09.2
March	14.4	08.7	0.60	20.4	13.5	73.5	75.1	08	08.9
April	24.5	15.5	0.63	24.0	16.5	74.5	76.8	10	08.6
May	28.6	18.5	0.65	26.4	18.3	74.6	78.4	08	08.6
June	22.1	12.7	0.57	29.0	20.3	71.7	80.1	07	08.6
July	17.0	10.4	0.61	32.4	22.6*	71.1	81.8*	06	08.5
August	36.7	24.4	0.66	35.9	25.1*	79.0	83.4*	07	08.3
September	52.8	51.3	0.88	40.5	28.4*	96.2	85.7*	10	08.4
October	33.6	22.8	0.68	45.4	31.9*	84.9	88.6*	11	08.6
November	53.5	39.0	0.73	49.3	35.1*	99.5	91.4*	11	09.0
December	57.9	41.2	0.71	54.2	39.1*	98.8	94.2*	05	09.6*
1998									
January	51.8	32.3*	0.62*	60.6	43.8*	93.5*	97.6*	07	10.0*
February	54.4	40.7*	0.75*			93.6*		07	
March	81.8	54.8*	0.67*			109.4*		11	
April	73.6	53.3*	0.72*			108.3*		10	
May	74.3	56.9*	0.77*			106.6*		18	
June	93.6	70.5*	0.75*			108.4*		11*	
July	98.3	66.2*	0.67*			114.0*		12*	

*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.

** From June 1991 onward, 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 03 August 1998

Protons plot contains the five-minute averaged integral proton flux (protons/ cm^2 -sec-sr) as measured by GOES-8 (W75) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

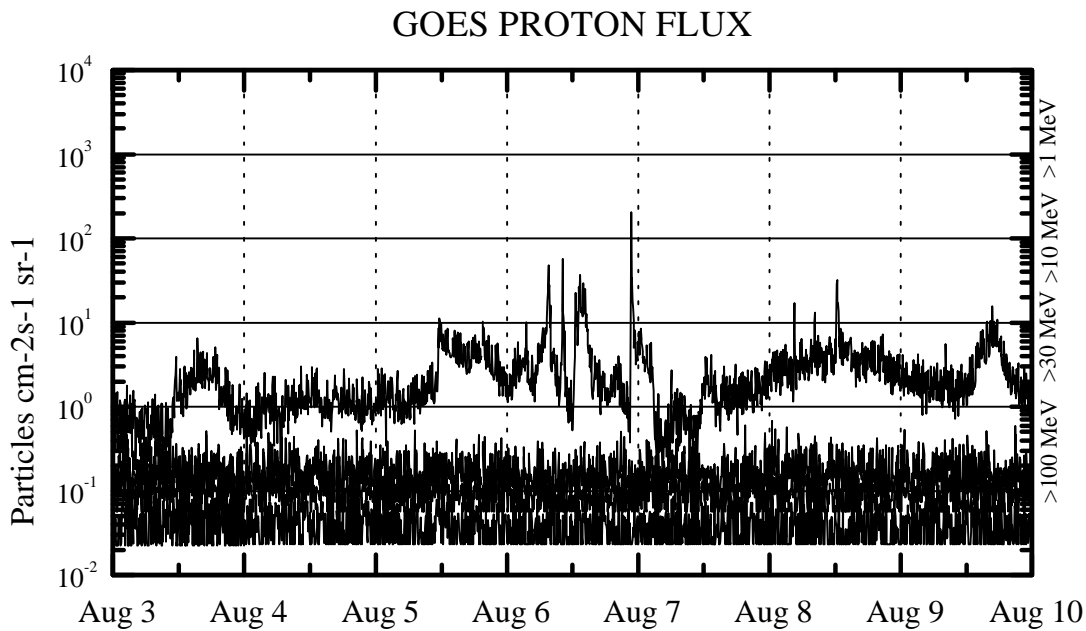
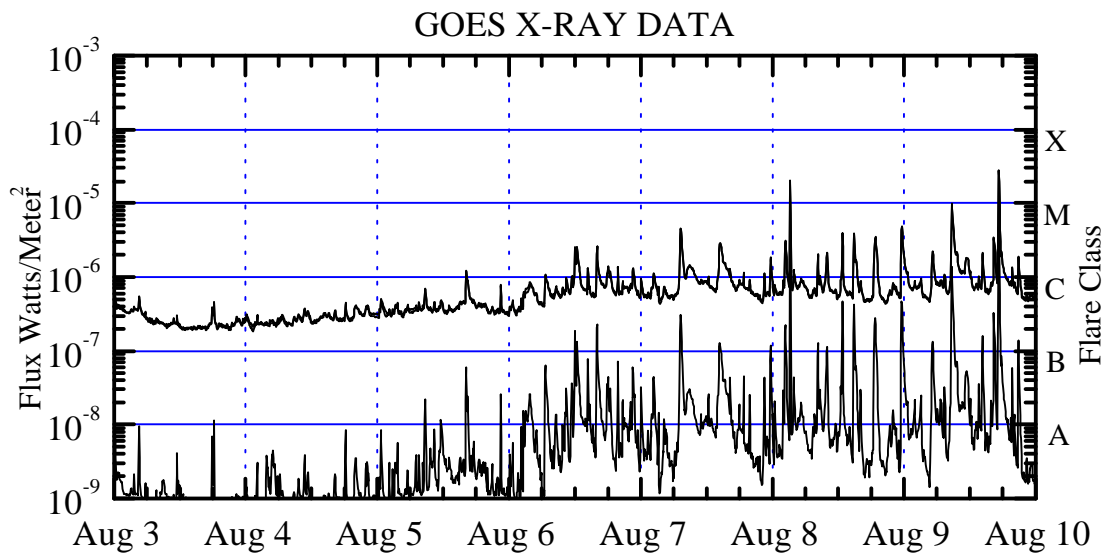
Electrons plot contains the five-minute averaged integral electron flux (electrons/ cm^2 -sec-sr) with energies greater than 2 MeV at GOES-8.

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 a 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.

