

Space Weather Highlights
21 – 27 August 2000

SWO PRF 1304
29 August 2000

Solar activity was at low to moderate levels. Isolated to occasional C-class subflares occurred during much of the period from a number of mostly small, simply-structured sunspot groups. Activity increased to moderate levels on 25 August due to an isolated M1/1N flare at 25/1435UTC with associated Type II and IV radio sweeps from Region 9143 (S19, L = 046, class/area Eao/290 on 27 August), which had just rotated into view at the time of the flare. Region 9143 also produced a long-duration C1/SF flare at 25/0746UTC with an associated Type II radio sweep. This region was growing at a moderate pace at the end of the period.

Data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. Minor discontinuities were observed in the solar wind flow on 21, 23, and 24 August associated with increased proton densities and periods of southward IMF Bz in the minus 8 to minus 10 nT (GSM) range. Nominal solar wind conditions were observed during the rest of the period.

There were no proton events detected at geosynchronous orbit during the period.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal levels throughout the period.

The geomagnetic field was at quiet to unsettled levels during most of the period. However, brief active periods occurred on 21, 23, and 24 August associated with the solar wind discontinuities described above.

Space Weather Outlook
30 August - 25 September 2000

Solar activity is expected to be at low to moderate levels. Isolated M-class flares will be possible sometime during the period.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels during 30 August - 01 September. Otherwise, normal to moderate levels are expected.

Geomagnetic field activity is expected to be at unsettled to active levels during 30 - 31 August due to coronal hole effects. Quiet to unsettled levels are expected during the remainder of the period, barring an Earth-directed CME.



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
21 August	151	132	570	B6.8	10	0	0	9	1	0	0	0
22 August	144	84	480	B5.5	8	0	0	5	0	0	0	0
23 August	137	84	450	B4.5	2	0	0	5	0	0	0	0
24 August	131	92	560	B4.5	3	0	0	3	0	0	0	0
25 August	133	101	630	B3.8	1	1	0	9	1	0	0	0
26 August	137	104	550	B4.3	5	0	0	5	1	0	0	0
27 August	150	124	790	B5.8	8	0	0	13	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
21 August	9.0E+4	1.1E+4	2.8E+3		1.2E+6	
22 August	1.5E+5	1.1E+4	2.7E+3		3.0E+6	
23 August	7.2E+4	1.1E+4	3.0E+3		1.1E+6	
24 August	2.8E+4	1.1E+4	2.8E+3		8.9E+4	
25 August	2.7E+4	1.1E+4	2.6E+3		1.6E+5	
26 August	3.5E+4	1.2E+4	2.9E+3		1.2E+5	
27 August	4.4E+4	1.1E+4	2.8E+3		2.2E+5	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	21 August	9	1-3-2-3-1-1-2-3	18	1-4-4-5-3-3-2-1	12
22 August	3	2-2-1-1-1-0-0-1	3	3-2-0-0-0-0-0-1	5	2-2-1-1-1-2-2-2
23 August	5	0-0-1-3-2-2-1-2	9	0-0-1-4-4-3-1-0	11	1-1-2-4-4-4-2-2
24 August	7	3-3-2-1-2-1-1-1	8	2-3-2-1-3-1-1-1	10	3-3-2-2-2-2-2-2
25 August	3	0-1-0-1-1-1-2-1	2	0-1-0-0-0-1-1-1	7	1-1-1-2-2-2-2-2
26 August	4	0-1-2-2-2-1-1-1	8	1-1-3-3-3-1-1-1	9	1-2-3-2-3-3-3-1
27 August	7	1-1-1-1-3-1-2-3	10	1-1-1-1-4-4-2-1	9	2-2-1-1-3-3-2-3

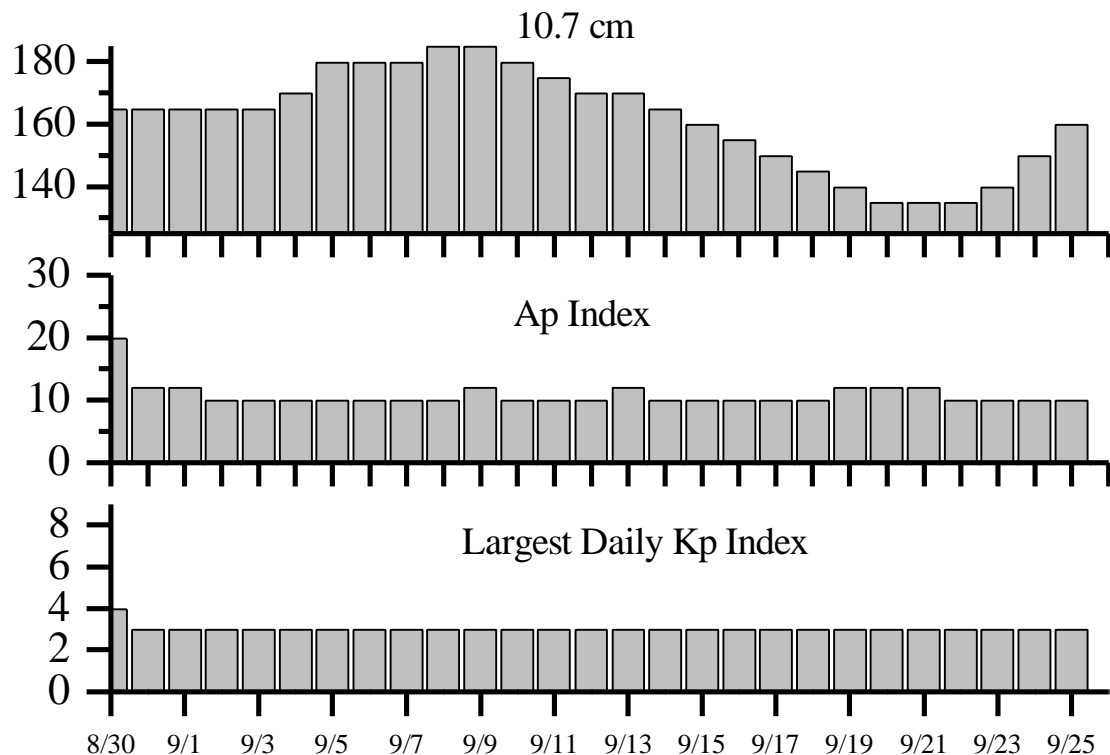


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
21 Aug 1158	K= 4 Observed	21 Aug 09 - 12
23 Aug 1755	K= 4 Warning	23/1755 - 24/1500 Aug
23 August 0036	2 - 245 MHz Bursts	22 Aug
23 Aug 1801	K= 4 Observed	23 Aug 15 - 18
24 August 0020	2 - 245 MHz Bursts	23 Aug
25 August 0005	245 MHz Noise Storm	24 Aug
25 Aug 0819	Type II Radio Emission	25 Aug 0750
25 Aug 1527	Type II Radio Emission	25 Aug 1435
25 Aug 2034	Type IV Radio Emission	25 Aug 1452



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
30 Aug	165	20	4	13 Sept	170	12	3
31	165	12	3	14	165	10	3
01 Sept	165	12	3	15	160	10	3
02	165	10	3	16	155	10	3
03	165	10	3	17	150	10	3
04	170	10	3	18	145	10	3
05	180	10	3	19	140	12	3
06	180	10	3	20	135	12	3
07	180	10	3	21	135	12	3
08	185	10	3	22	135	10	3
09	185	12	3	23	140	10	3
10	180	10	3	24	150	10	3
11	175	10	3	25	160	10	3
12	170	10	3				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½ Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
									245	2695	II	IV
25 Aug	1421	1435	1446	M1.4	.012	1N	S15E67	9143	210	130	3	1

Flare List

Date	Time			X-ray Class.	Optical Imp / Brtns	Location Lat CMD	Rgn
	Begin	Max	End				
21 August	0015	0017	0031	C2.0	SF	N21W61	9125
	0307	0312	0321	C1.9	SF	N28W63	9125
	0532	0540	0600	C4.1	1F	N22W67	9125
	0741	0744	0809	C2.8	SF	N23W67	9125
	0859	0906	0913	B9.9			
	1115	1122	1128	C1.4			
	1203	1207	1218	C1.1			
	1250	1301	1318	C2.3	SF	N24W69	9125
	1338	1338	1348	C1.7	SF	N24W70	9125
	1443	1448	1456	B9.5			
	1736	1737	1743		SF	S06W46	9129
	1918	1919	1923	C1.0	SF	N21W75	9125
	2134	2135	2146	C2.8	SF	N21W76	9125
	2146	2146	2154		SF	S16W71	9135
22 August	0008	0021	0040	C2.5			
	0216	0233	0241	C1.2			
	0516	0516	0526	C1.1	SF	N15W34	9131
	0601	0602	0610	C1.3	SF	S06W48	9129
	0829	0843	0939	C2.3			
	0941	0944	0951	C2.7	SF	N16W36	9131
	1734	1734	1738	C1.5	SF	S09E00	9139
	1811	1823	1848	C2.9			
2154	2159	2214	B9.8	SF	N14W46	9131	
23 August	0102	0115	0125	C1.3			
	0411	0415	0420	C1.7			
	0448	0452	0502		SF	N16W50	9131
	1334	1336	1338		SF	N13W56	9131
	1339	1345	1353		SF	N13W55	9131
	1420	1420	1432		SF	N13W57	9131
24 August	1654	1654	1700	B7.9	SF	S09W12	9139
	0255	0303	0313	B9.7			
	0550	0550	0552	B6.1	SF	S19E88	9143
	0626	0642	0656	C1.7			
	0845	0917	0933	C6.2			
	1351	1352	1417	C1.2	SF	S19E79	9143
	1442	1445	1454		SF	N18E77	9142
25 August	0352	0357	0403	B8.1	SF	N07E36	9140



Flare List – continued.

Date	Begin	Time		Class.	X-ray Brtns	Optical		Rgn	
		Max	End			Imp / Lat CMD	Location		
25 August		0735	0736	0741	C1.7	SF	S17E69	9143	
		0935	0938	0940	B9.1				
		1149	1159	1205	B6.0				
		1340	1342	1350		SF	N26E20	9144	
		1424	1433	1502	M1.4	1N	S15E67	9143	
		1722	1724	1732		SF		9143	
		1812	1813	1818		SF		9144	
		2035	2035	2041		SF		9144	
		2049	2052	2054		SF		9144	
		2138	2140	2148	B8.1	SF		9143	
		2353	2358	0001		SF		9144	
	26 August		0004	0020	0038		SF		9144
			0040	0050	0102		SF		9144
		0152	0156	0158	B8.4				
		0423	0424	0429	C1.1	SF		9144	
		0943	0946	0948	B5.9				
		1209	1212	1216	B9.2				
		1236	1239	1246	B7.7				
		B1414	U1414	A1425	B8.6	SF	N25E07	9144	
		1547	1604	1622	C1.0				
		1648	1653	1658	C1.0				
		B2202	2215	2232	C3.8	1N	N26E02	9144	
		2210	2216	2221	C3.9				
27 August			2244	2047	2050		SF	S18E50	9143
		2257	2259	2302		SF	S09E76	9143	
		0032	0032	0041	C1.1	SF		9144	
		0155	0159	0204	B9.9				
		0232	0238	0242	C1.8				
		0412	0416	0419	C1.1				
		1101	1102	1108	C1.1	SF	S18E43	9143	
		1239	1239	1246	C1.0	SF	N08E06	9140	
		1602	1605	1619		SF	S18E38	9143	
		1658	1703	1741		SF	N09E05	9140	
		1714	1714	1719		SF	N29W04	9144	
		1723	1736	1806		SF	S16E40	9143	
		1727	1738	1809	C6.9	SF	S17E40	9143	
27 August		1853	1856	1918		SF	S17E39	9143	
		1925	1930	2000		SF	S18E38	9143	
		2001	2018	2135	C2.9	SF	S18E39	9143	
		2136	2202	2227		SF	S16E37	9143	
		2208	2212	2217	C1.5				
		2231	2257	0011		SF	S18E37	9143	



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 9124</i>																		
10 Aug	S13E64	239	0030	07	CRO	003	B											
11 Aug	S14E52	238	0040	08	CRO	003	B	1				3						
12 Aug	S12E37	240	0020	09	CSO	006	B	2				4						
13 Aug	S12E25	238	0000	08	BXO	003	B	1				2						
14 Aug	S12E20	230	0020	13	BXO	008	B											
15 Aug	S12E07	230	0050	10	CSO	011	B											
16 Aug	S11W09	233	0040	08	DRO	018	B											
17 Aug	S12W24	235	0030	08	CSO	018	B					1						
18 Aug	S13W36	233	0020	05	BXO	013	B											
19 Aug	S12W49	233	0050	05	CRO	011	B					2						
20 Aug	S13W62	233	0000	00	AXX	001	A					1						
21 Aug	S12W72	230	0020	04	CRO	003	B											
22 Aug	S12W85	230																
								4	0	0	13	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 230

<i>Region 9125</i>																		
10 Aug	N26E69	234	0040	04	CRO	003	B											
11 Aug	N25E55	235	0050	07	DAO	004	B	1				3						
12 Aug	N25E42	235	0090	10	DAI	025	B	4				11						
13 Aug	N25E29	234	0130	10	DAI	026	B	3				12						
14 Aug	N25E15	235	0260	10	DAI	044	BG	1				5						
15 Aug	N25E02	235	0320	10	DAI	034	BG	5				11						
16 Aug	N25W11	235	0280	12	EAI	037	BG											
17 Aug	N26W22	233	0200	12	EAI	035	BG	1				2						
18 Aug	N26W36	233	0180	12	EAI	034	BG	2				6						
19 Aug	N27W49	233	0130	11	EAI	028	BG	2				6	1					
20 Aug	N28W61	232	0090	11	ESO	012	B	3				14	1					
21 Aug	N26W76	234	0100	08	DAO	006	B	8				7	1					
22 Aug	N25W87	232	0050	06	CRO	004	B											
								30	0	0	77	3	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 235



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 9131</i>																		
13 Aug	N13E71	192	0070	03	HSX	001	A											
14 Aug	N13E58	192	0090	02	HSX	001	A											
15 Aug	N13E45	192	0070	02	HSX	001	A											
16 Aug	N13E33	191	0070	04	DSO	005	B	1				2						
17 Aug	N14E21	190	0090	04	CSO	005	B	1				1	1					
18 Aug	N14E07	190	0100	05	CSO	005	B											
19 Aug	N15W07	191	0110	06	CSO	004	B											
20 Aug	N16W21	192	0080	06	CSO	003	B											
21 Aug	N14W32	190	0060	03	CSO	002	B											
22 Aug	N14W45	190	0060	04	CAO	005	B	2				3						
23 Aug	N15W60	192	0090	05	DAO	008	B					4						
24 Aug	N14W72	190	0210	06	DAO	005	B											
25 Aug	N15W87	192	0230	09	DAO	005	B											
								4	0	0	0	10	1	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 190

<i>Region 9132</i>																		
14 Aug	N23E52	198	0020	04	BXO	004	B											
15 Aug	N21E39	198	0030	06	CSO	005	B											
16 Aug	N21E26	198	0030	05	CSO	006	B											
17 Aug	N21E14	197	0010	07	BXO	005	B											
18 Aug	N21E01	197	0090	02	HSX	001	A											
19 Aug	N20W13	197										3						
20 Aug	N20W26	197										1						
21 Aug	N20W39	197																
22 Aug	N20W52	197																
23 Aug	N20W65	197																
24 Aug	N20W78	197																
								0	0	0	0	4	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 190



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 9133

14 Aug	S09E03	247	0010	05	BXO	004	B												
15 Aug	S09W10	247	0000	00		000													
16 Aug	S09W23	247	0010	04	BXO	003	B												
17 Aug	S08W40	251	0000	00	AXX	003	A												
18 Aug	S10W50	247	0000	02	BXO	003	B												
19 Aug	S10W64	248	0000	03	BXO	003	B												1
20 Aug	S10W77	248																	
21 Aug	S10W90	248																	
																			0 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 247

Region 9134

14 Aug	N06E65	185	0010	00	HRX	001	A												
15 Aug	N06E53	184	0010	01	HRX	001	A												
16 Aug	N07E40	184	0010	01	HRX	001	A												
17 Aug	N06E29	182	0000	00	AXX	005	A												
18 Aug	N08E15	182	0010	03	BXO	004	B												
19 Aug	N09E02	182	0010	02	AXX	004	A												
20 Aug	N08W12	183	0010	02	BXO	004	B												
21 Aug	N08W25	183	0010	02	BXO	004	B												
																			0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 182

Region 9135

15 Aug	S15E14	223	0050	05	DSO	012	B												
16 Aug	S13E01	223	0060	07	DAO	014	B												
17 Aug	S12W13	224	0120	09	DAO	023	B												
18 Aug	S12W26	223	0110	10	DAO	017	B												
19 Aug	S12W41	225	0050	05	CSO	009	B												
20 Aug	S11W54	225	0040	09	CRO	007	B												
21 Aug	S13W73	231	0010	07	BXO	002	B												1
																			0 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 223



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 9136

17 Aug	N07W06	217	0020	05	CSO	009	B	2			2						
18 Aug	N07W20	217	0060	05	DAO	009	B										
19 Aug	N06W33	217	0070	06	DAO	011	B										
20 Aug	N08W48	219	0040	01	HRX	001	A										
21 Aug	N09W63	221	0010	07	BXO	003	B										
22 Aug	N09W76	221															
								2	0	0	2	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 217

Region 9137

19 Aug	N23E45	139	0010	01	BXO	002	B										
20 Aug	N24E33	138	0010	01	BXO	002	B										
21 Aug	N24E20	138															
22 Aug	N24E07	138															
23 Aug	N24W06	138															
24 Aug	N24W19	138															
25 Aug	N24W32	138															
26 Aug	N24W45	138															
27 Aug	N24W58	138															
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 138

Region 9138

19 Aug	S32E64	120	0030	01	HRX	001	A										
20 Aug	S31E51	120	0040	02	HSX	001	A										
21 Aug	S32E38	120	0040	01	HSX	001	A										
22 Aug	S32E26	119	0050	01	HSX	001	A										
23 Aug	S31E14	118	0060	01	HSX	001	A										
24 Aug	S32E01	117	0030	01	HSX	001	A										
25 Aug	S31W11	116	0040	01	HSX	001	A										
26 Aug	S30W24	116	0040	02	HSX	001	A										
27 Aug	S29W37	116	0040	02	HSX	001	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 117



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 9139

20 Aug S11E23	148	0070	04	DSO	005	B												
21 Aug S10E09	149	0170	06	DAO	007	B												
22 Aug S10W04	149	0190	07	DAO	010	B	1				1							
23 Aug S10W17	149	0210	07	DSO	009	B					1							
24 Aug S10W31	149	0150	07	DAO	006	B												
25 Aug S08W44	149	0130	07	CAO	003	B												
26 Aug S09W59	151	0110	07	CAO	004	B												
27 Aug S09W73	152	0100	02	HSX	001	A												
											1	0	0	2	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 149

Region 9140

22 Aug N08E69	076	0000	00	AXX	001	A												
23 Aug N08E53	079	0010	00	HRX	001	A												
24 Aug N09E41	077	0030	10	CRO	006	B												
25 Aug N09E27	078	0030	07	CRO	008	B							1					
26 Aug N09E12	080	0030	07	CRO	009	B												
27 Aug N09W01	080	0060	07	DSO	009	B	1				2							
											1	0	0	3	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 080

Region 9141

23 Aug N16W08	140	0010	02	CRO	002	B												
24 Aug N16W21	140																	
25 Aug N16W34	140																	
26 Aug N16W47	140																	
27 Aug N16W60	140																	
											0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 140

Region 9142

24 Aug N16E71	047	0030	01	HSX	001	A						1						
25 Aug N15E59	046	0030	01	HSX	001	A												
26 Aug N15E47	045	0050	02	HSX	001	A												
27 Aug N15E33	046	0040	01	HSX	001	A												
											0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 046



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 9143</i>																						
24 Aug	S18E70	048	0060	05	CSO	002	B	1				2										
25 Aug	S19E59	046	0160	08	DAO	004	B	1	1			3	1									
26 Aug	S19E46	046	0180	09	DSO	009	B					2										
27 Aug	S20E33	046	0290	11	EAO	012	B	3				9										
								5	1	0	16	1	0	0	0	0						
Still on Disk.																						
Absolute heliographic longitude: 046																						
<i>Region 9144</i>																						
25 Aug	N25E14	091	0010	05	BXO	009	B					5										
26 Aug	N25E02	090	0140	07	DAI	020	B	2				4	1									
27 Aug	N22W12	091	0210	09	DAI	015	B	1				2										
								3	0	0	11	1	0	0	0	0						
Still on Disk.																						
Absolute heliographic longitude: 090																						
<i>Region 9145</i>																						
27 Aug	S10E60	019	0040	03	CRO	003	B															
								0	0	0	0	0	0	0	0	0						
Still on Disk.																						
Absolute heliographic longitude: 019																						
<i>Region 9146</i>																						
27 Aug	S26E51	028	0010	04	BXO	002	B															
								0	0	0	0	0	0	0	0	0						
Still on Disk.																						
Absolute heliographic longitude: 028																						

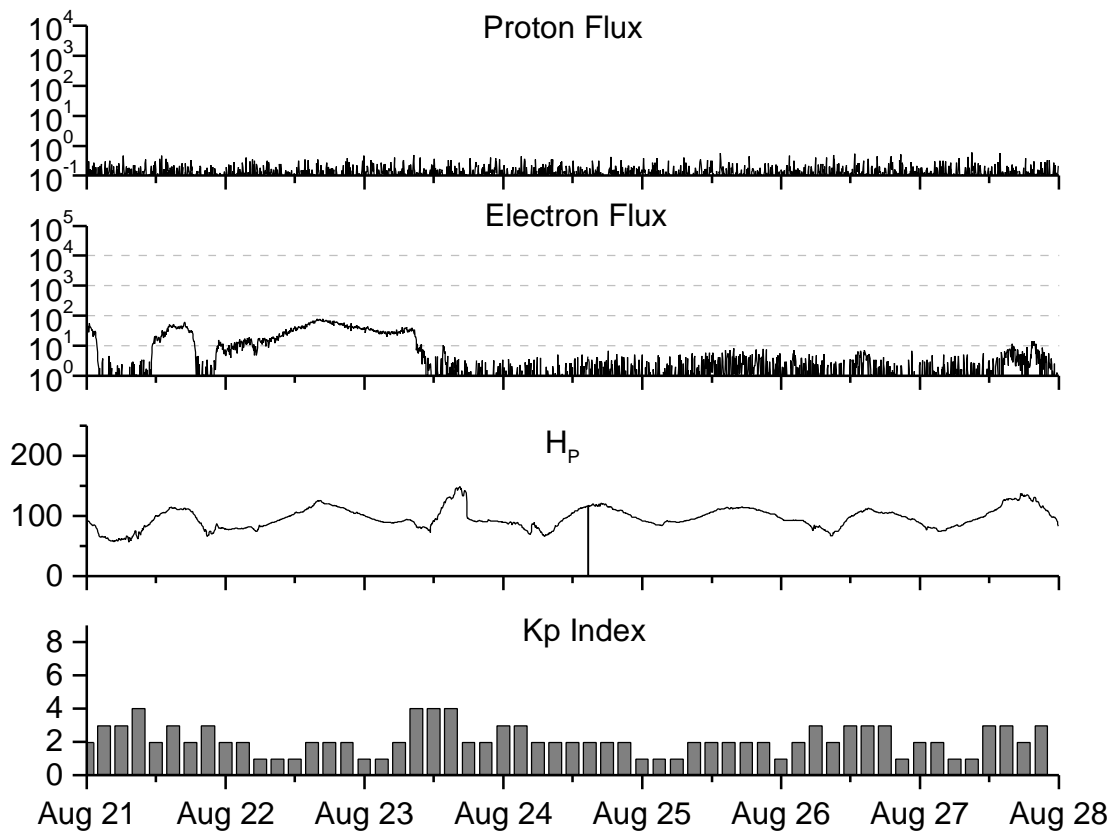


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

Month	Sunspot Numbers				Radio Flux		Geomagnetic		
	Observed values		Ratio	Smooth values		*Penticton	Smooth	Planetary	Smooth
	SWO	RI	RI/SWO	SWO	RI	10.7 cm	Value	Ap	Value
1998									
July	98.3	66.6	0.68	90.3	65.5	114.0	120.3	11	12.2
August	118.6	92.2	0.78	93.7	67.8	136.0	124.1	18	12.4
September	119.0	92.9	0.78	96.1	69.5	138.3	126.8	13	12.6
October	77.0	55.5	0.72	97.7	70.5	117.3	127.9	13	12.8
November	99.5	74.0	0.74	101.3	73.0	140.2	130.0	16	12.4
December	120.8	81.9	0.68	108.8	77.9	150.1	134.3	08	11.9
1999									
January	94.3	62.0	0.66	116.5	82.6	142.6	139.0	10	11.7
February	93.4	66.3	0.71	120.2	84.6	142.0	142.6	12	11.6
March	100.5	68.8	0.68	120.5	83.8	126.3	144.0	14	11.7
April	92.9	63.7	0.69	123.8	85.5	117.2	145.8	12	12.2
May	140.5	106.4	0.76	131.7	90.5	148.6	149.9	08	12.4
June	208.3	137.7	0.66	136.0	93.1	169.8	152.9	07	12.4
July	169.2	113.5	0.67	138.0	94.4	165.6	154.4	10	12.6
August	136.1	93.7	0.69	142.8	97.5	170.8	156.3	15	12.9
September	107.4	71.5	0.66	150.0	102.3	135.7	161.0	19	12.8
October	167.7	116.7	0.69	158.5	107.7	164.8	167.2	19	12.7
November	199.3	133.2	0.67	164.7	110.9	191.5	171.5	14	13.2
December	123.5	86.4	0.70	165.9	110.9	169.8	173.4	10	13.9
2000									
January	140.8	90.2	0.64			158.1		13	
February	161.9	112.3	0.69			173.2		15	
March	203.6	138.2	0.68			208.2		09	
April	193.4	125.3	0.65			184.2		15	
May	188.8	120.8	0.64			184.5		16	
June	190.3	124.9	0.66			178.8		16	
July	236.7	169.1	0.71			200.0		21	

NOTE: All smoothed values after June 1999 and monthly values after December 1999 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 21 August 2000*

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.

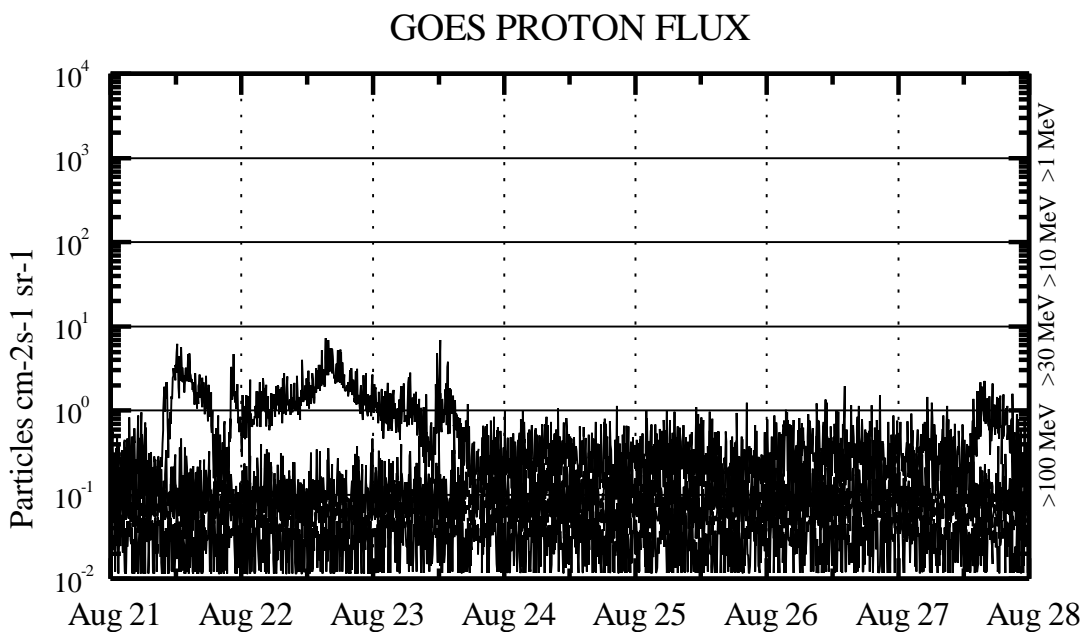
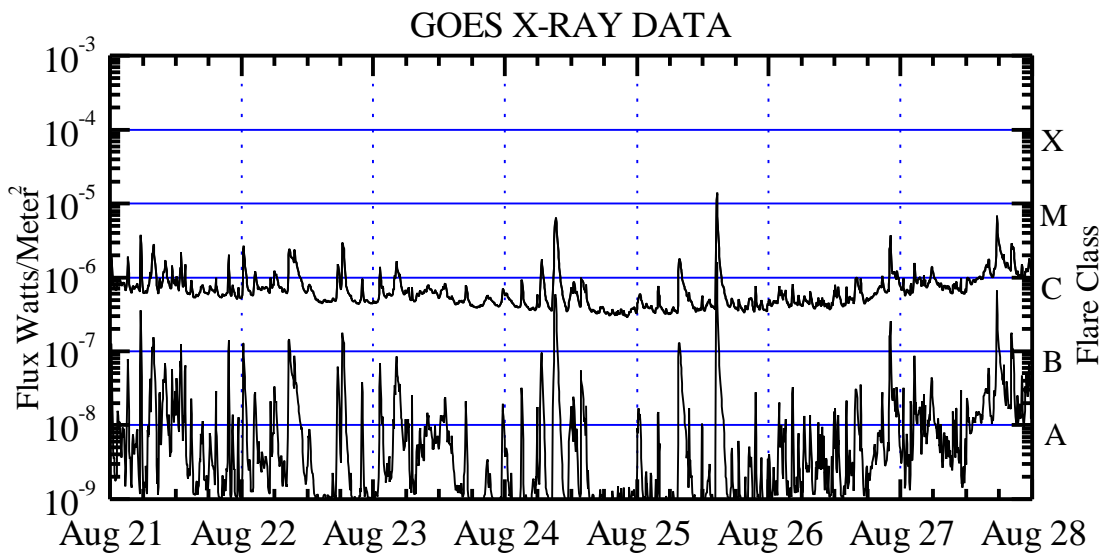
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec-sr) with energies greater than 2 MeV at GOES-8.

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.

