

Solar activity varied from low to moderate levels. Region 9154 (S19, L = 326, class/area Eki/570 on 08 September) produced an M1/1N flare at 04/0109 UTC during a period of rapid growth. Region 9154 continued to develop at a slower pace through 07 September and produced isolated C-class subflares, then began to gradually simplify on 08 September. A 31-degree filament, last seen centered at N13W38, disappeared during 04/0500 - 0600 UTC. SOHO/LASCO images showed a partial-halo CME following the filament disappearance. Activity decreased to low levels during 05 - 08 September with isolated C-class subflares from Regions 9149 (N13, L = 353, class/area Eki/380 on 1 September), 9151 (N10, L = 340, class/area Dso/110 on 08 September), and 9154. One significant event during this low activity interval was a C7/SF flare at 07/2055 UTC associated with a Type II sweep and a partial-halo CME. Activity returned to moderate levels on 09 September with an M1/1N flare at 09/0849 UTC from Region 9151. This flare was associated with a Type II radio sweep and a partial-halo CME. Activity returned to low levels on the last day of the period with most sunspot groups either stable or decaying.

Data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. A CME-related interplanetary shock passed the ACE spacecraft at 06/1614 UTC. The shock passage was accompanied by strong IMF Bz variations (plus 16 to minus 19 nT (GSM)), a sudden velocity increase from 380 to 525 km/sec, and a brief increase in densities (with peaks to 28 p/cc). IMF Bz became consistently southward early on 07 September and remained so until late on 08 September with a range of minus 2 to minus 11 nT (GSM). The source for the CME was likely the 31-degree filament disappearance of 04 September.

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 to moderate levels.

The geomagnetic field was at quiet to active levels during 04 - 05 September. Activity increased to unsettled to active levels late on 6 September associated with the CME passage described above. Activity remained at unsettled to active levels during 07 - 08 September with brief storm periods at higher latitudes. Field activity decreased to quiet to unsettled levels during the last two days of the period.

### **Space Weather Outlook** **13 September - 09 October 2000**

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

A proton event is expected at geosynchronous orbit early in the period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels during 26 - 30 September. Normal to moderate levels are expected for the rest of the period.

On 12 September a large filament near central meridian erupted and produced a full halo CME. Major to possibly severe storming is expected on 15 September. Unsettled to active levels are expected during 24-29 September due to coronal hole effects. Quiet to unsettled levels are expected during the remainder of the period.



### Daily Solar Data

Date	Radio Flux 10.7 cm	Sun spot No.	Sunspot Area (10 <sup>6</sup> hemi.)	X-ray Background	Flares							
					X-ray Flux			Optical				
					C	M	X	S	1	2	3	4
04 September	171	169	540	B7.5	15	1	0	18	1	0	0	0
05 September	180	144	770	C1.1	11	0	0	6	0	0	0	0
06 September	179	150	990	B8.2	7	0	0	9	0	0	0	0
07 September	173	160	1030	B5.5	5	0	0	6	0	0	0	0
08 September	163	115	1110	B6.8	2	0	0	3	0	0	0	0
09 September	151	116	890	B5.1	3	1	0	2	1	0	0	0
10 September	141	69	250	B8.6	1	0	0	0	0	0	0	0

### Daily Particle Data

Date	Proton Fluence (protons/cm <sup>2</sup> -day-sr)			Electron Fluence (electrons/cm <sup>2</sup> -day-sr)		
	>1MeV	>10MeV	>100MeV	>.6MeV	>2MeV	>4MeV
04 September	3.4E+5	1.1E+4	2.2E+3		2.2E+7	
05 September	3.8E+6	1.4E+4	2.3E+3		6.2E+6	
06 September	2.4E+6	1.1E+4	2.1E+3		1.3E+7	
07 September	2.4E+5	9.9E+3	2.1E+3		9.5E+6	
08 September	4.9E+5	1.6E+4	2.1E+3		1.1E+7	
09 September	4.8E+5	2.1E+4	2.0E+3		8.6E+6	
10 September	3.7E+5	1.2E+4	2.1E+3		1.7E+7	

### Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	04 September	11	1-1-2-1-2-2-4-4	10	2-1-2-3-2-2-4-2	14
05 September	8	1-1-1-1-2-4-2-2	6	2-1-1-0-2-3-2-1	8	2-2-2-2-2-3-3-3
06 September	11	2-0-0-2-2-3-4-4	8	2-0-1-0-2-3-3-3	11	2-1-2-1-2-3-3-4
07 September	12	3-3-3-2-3-2-2-3	25	3-2-4-6-4-4-2-2	16	3-3-4-3-3-3-3-3
08 September	14	3-2-3-3-4-3-2-3	27	2-0-4-4-6-4-4-3	21	3-3-3-5-4-4-3-3
09 September	6	3-2-2-2-2-1-0-0	4	3-2-1-1-1-1-0-0	7	3-2-2-2-2-2-1-2
10 September	2	0-0-1-1-1-1-1-1	4	0-1-0-3-2-1-1-1	5	1-1-1-2-2-2-2-2

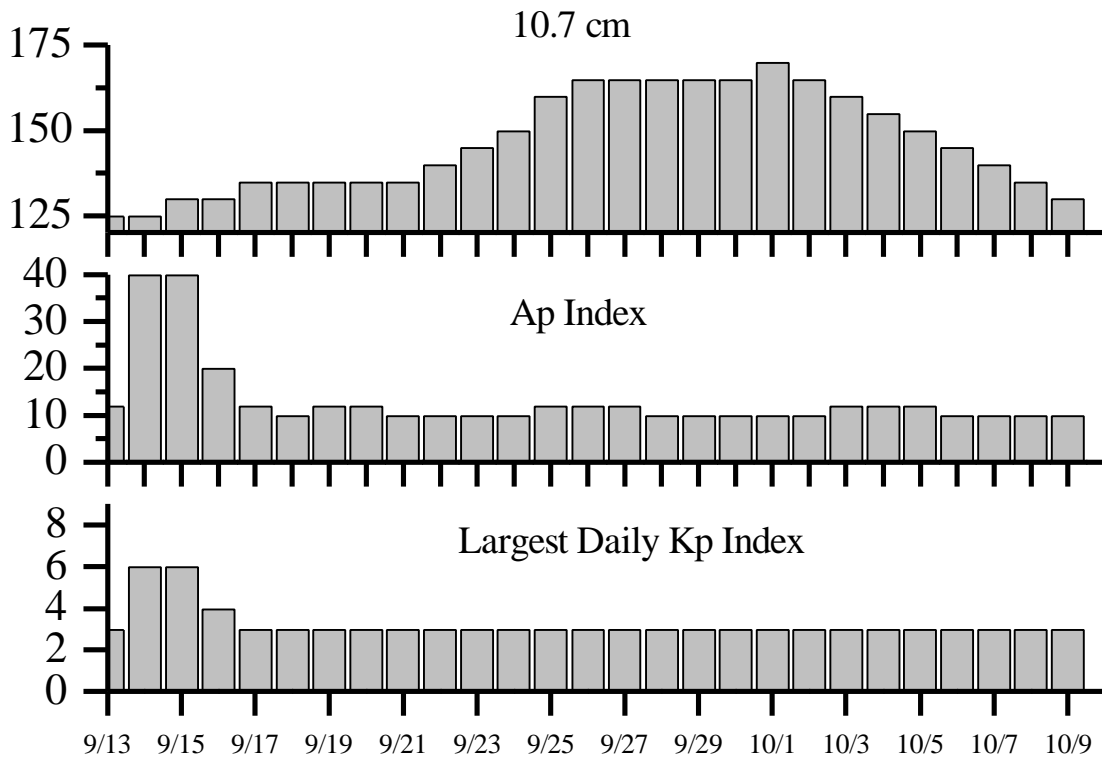


*Alerts and Warnings Issued*

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
04 Sep 0036	245 MHz Radio Burst	03 Sept
04 Sep 0036	245 MHz Noise Storm	03 Sept
04 Sep 1723	K = 4 Warning	04 Sept 1730 - 2100
04 Sep 2049	EXTENDED K = 4 Warning	04/1730 - 05/0600 Sep
04 Sep 2121	A = 20 Watch	07 Sept
05 Sep 0102	245 MHz Radio Burst	04 Sept
05 Sep 1641	A = 30 Watch	07 Sept
05 Sep 1642	A = 30 Watch	08 Sept
06 Sep 0021	2 – 245 MHz Radio Bursts	05 Sept
06 Sep 1713	Sudden Impulse observed at Boulder	06 Sept 1706
06 Sep 1714	K = 5 Warning	06/1715 – 07/0600 Sep
07 Sep 2129	Type II Radio Emission	07 Sept 2053
08 Sep 1205	K = 4 Observed	08 Sept 09 - 12
08 Sep 1804	K = 4 Observed	08 Sept 15 - 18
09 Sep 002	K = 4 Observed	08 Sept 21 - 24
09 Sep 932	Type II Radio Emission	09 Sept 0840
09 Sep 2154	A = 20 Watch	11 Sept
10 Sep 0044	2 – 245 MHz Radio Bursts	09 Sept
10 Sep 2010	A = 20 Watch	12 Sept



### 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
13 Sep	125	12	3	27 Sep	165	12	3
14	125	40	6	28	165	10	3
15	130	40	6	29	165	10	3
16	130	20	4	30	165	10	3
17	135	12	3	01 Oct	170	10	3
18	135	10	3	02	165	10	3
19	135	12	3	03	160	12	3
20	135	12	3	04	155	12	3
21	135	10	3	05	150	12	3
22	140	10	3	06	145	10	3
23	145	10	3	07	140	10	3
24	150	10	3	08	135	10	3
25	160	12	3	09	130	10	3
26	165	12	3				



***Energetic Events***

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½	Integ	Imp/ Brtns	Location		Rgn #	Radio Flux		Intensity	
			Max	Class		Flux	Lat		CMD	245	2695	II
04 Sept	0103	0109	0113	M1.3	.004	1N	S21E17	9154				
09 Sept	0828	0849	0905	M1.6	.023	1N	N07W67	9151	530	33	2	

***Flare List***

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location	Lat CMD	
04 Sept	B0106	U0109	A0202	M1.3	1N	S21E17		9154
	B0456	U0456	A0540		SF	S20E15		9154
	0651	0653	0655	C1.5	SF	S20E17		9154
	1057	1101	1110	C1.2				
	1137	1137	1142	C1.6	SF	N13W19		9149
	1251	1252	1300	C1.3	SF	N14W20		9149
	1417	1419	1423	C2.2	SF	S20E10		9154
	1444	1449	1455		SF	S18E12		9154
	1454	1454	1506	C2.9	SF	N13W21		9149
	1528	1528	1531		SF	S20E09		9154
	1534	1537	1540	C1.3				
	1635	1637	1645	C2.7	SF	N14W22		9149
	1639	1647	1704		SF	S19E10		9154
	1723	1726	1729	C1.7				
	1747	1750	1756	C3.3	SF	N13W22		9149
	1807	1809	1816		SF	S18E11		9154
	1901	1909	1915	C4.1				
	1950	1955	1958	C3.3				
	2017	2021	2026	C2.0	SF	S19E08		9154
	2036	2044	2053	C2.1	SF	S20E08		9154
2130	2134	2154	C4.9	SF	S19E07		9154	
2155	2158	2207		SF	S19E08		9154	
2224	2226	2232		SF	S19E07		9154	
2248	2249	2251		SF	S19E07		9154	
05 Sept	0006	0008	0022	C6.3	SF	S19E06		9154
	0159	0203	0206	C3.7				
	0225	0229	0231	C2.1				
	0504	0508	0510	C3.0				
	0709	0710	0714		SF	N13W30		9149
	B0829	U0829	A0835	C2.2	SF	S22W01		9154
	1010	1015	1019	C2.7				
	1039	1042	1044	C1.6				
	1905	1910	1926	C2.6	SF	N12W38		9149
	2124	2125	2130	C1.6	SF	S19W04		9154
	2149	2150	2155	C1.6	SF	S17W07		9154
	2212	2224	2237	C2.1				



*Flare List – continued.*

Date	Begin	Time		Class.	X-ray Brtns	Optical		Rgn
		Max	End			Imp / Lat CMD	Location	
06 Sept	0024	0025	0035		C1.5	SF	N12W36	9149
	0136	0143	0150		C2.7	SF	S17W11	9154
	0148	0152	A0217			SF	N13W40	9149
	0341	0357	0401		C1.7	SF	S22W14	9154
	1338	1342	1348		C2.2	SF	S18W15	9154
	1357	1357	1402			SF	S18W15	9154
	1403	1403	1406			SF	S18W15	9154
	1516	1539	1545		C2.2	SF	S20W19	9154
	1844	1850	1857		C1.2			
	2244	2245	2252		C2.3	SF	N28E78	
07 Sept	1058	1103	1142		C4.4	SF	N08W43	9151
	1149	1149	1154			SF	N12W36	9150
	1303	1306	1331		C2.7	SF	N08W45	9151
	1854	1855	1902		C1.6	SF	N12W58	9149
	1957	2001	2003		C2.2			
	2035	2037	2141		C7.2	SF	N06W47	9151
	B2121	U2122	2126			SF	N12W55	9149
08 Sept	0027	0040	0050		C1.1			
	0402	0403	0423		C1.0	SF	N07W53	9151
	1733	1733	1736			SF	S20W38	9154
	1912	1916	1919			SF	N09W57	9151
09 Sept	0519	0520	0525		C1.0	SF	S19W52	9154
	0830	0836	0921		M1.6	1N	N07W67	9151
	1704	1723	1732		C1.1			
	2359	0006	0046		C1.8	SF	N23E37	9158
10 Sept	1451	1455	1459		B6.3			
	2222	2249	2313		C1.4			



### Region Summary

Date	Location		Sunspot Characteristics				Flares							
	° Lat ° CMD	Helio	Area (10 <sup>6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
		Lon						C	M	X	S	1	2	3

#### 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													
28 Aug N16E21	045	0020	01	HSX	001	A													
29 Aug N15E09	043	0020	02	HSX	001	A													
30 Aug N16W05	043	0020	01	HSX	001	A													
31 Aug N16W18	043	0020	01	HSX	001	A													
01 Sep N16W32	044	0020	01	HSX	001	A													
02 Sep N16W45	044	0010	01	HSX	001	A													
03 Sep N16W63	049	0020	10	BXO	002	B													
04 Sep N16W76	049																		
05 Sep N16W89	049																		
																			0 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 043

#### Region 9143

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													1
27 Aug S20E33	046	0290	11	EAO	012	B	3												9
28 Aug S19E20	046	0310	12	EAO	016	B	4												11 1
29 Aug S19E08	044	0290	12	EAI	021	B	1												3
30 Aug S18W07	045	0190	11	EAI	020	B													1
31 Aug S18W20	045	0120	11	EAO	014	B	1												4
01 Sep S18W32	044	0080	09	DSO	009	B	1												2
02 Sep S19W47	046	0050	04	DSO	002	B													
03 Sep S19W62	048	0020	04	BXO	002	B													
04 Sep S19W75	047	0000	00	AXX	001	A													
05 Sep S19W88	047																		
																			12 1 0 36 2 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 045



***Region Summary – continued.***

Date	Location		Sunspot Characteristics				Flares							
	( ° Lat ° CMD)	Helio	Area (10 <sup>6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
		Lon						C	M	X	S	1	2	3

*Region 9145*

27 Aug	S10E60	019	0040	03	CRO	003	B											
28 Aug	S10E47	019	0060	07	DAO	005	B											
29 Aug	S10E34	018	0050	06	DAO	005	B											
30 Aug	S11E20	018	0080	06	CAO	005	B											
31 Aug	S10E07	018	0050	07	CSO	005	B											
01 Sep	S09W08	020	0040	04	CSO	006	B											
02 Sep	S10W21	020	0040	05	CAO	007	B											
03 Sep	S09W35	021	0070	02	HAX	004	A											
04 Sep	S08W50	022	0030	02	HSX	001	A											
05 Sep	S10W63	022	0030	01	HAX	001	A											
06 Sep	S08W76	022	0060	02	HAX	001	A											
07 Sep	S07W90	023	0030	01	AXX	001	A											

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 018

*Region 9146*

27 Aug	S26E51	028	0010	04	BXO	002	B											
28 Aug	S26E38	028	0000	00		000		1				1						
29 Aug	S28E26	026	0010	05	BXO	002	B											
30 Aug	S28E13	026	0000	00		000												
31 Aug	S28E00	026	0000	00		000												
01 Sep	S28W13	026	0000	00		000												
02 Sep	S24W31	030	0010	01	AXX	001	A											
03 Sep	S23W45	031	0010	01	HRX	001	A											
04 Sep	S23W58	031																
05 Sep	S23W71	031																
06 Sep	S23W84	030																

1 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 026





***Region Summary – continued.***

Date	Location		Sunspot Characteristics				Flares											
	( ° Lat ° CMD)	Helio	Area (10 <sup>6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
		Lon						C	M	X	S	1	2	3	4			
<i>Region 9147</i>																		
28 Aug	N04E67	359	0080	02	HAX	002	A											
29 Aug	N04E53	359	0090	02	HAX	003	A	1				1						
30 Aug	N05E39	359	0110	02	HSX	002	A											
31 Aug	N05E26	359	0110	03	CSO	005	B											
01 Sep	N05E14	358	0100	03	CSO	005	B											
02 Sep	N05E01	358	0090	04	CSO	003	B											
03 Sep	N07W12	358	0100	05	CAO	008	B											
04 Sep	N08W22	355	0060	04	CAO	004	B											
05 Sep	N06W40	359	0040	02	HSX	002	A											
06 Sep	N06W53	359	0070	02	HSX	002	A											
07 Sep	N07W67	360	0050	02	HSX	001	A											
08 Sep	N08W80	360	0080	02	HSX	001	A						1					
09 Sep	N07W91	357	0120	02	HSX	001	A											
								1	0	0	2	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 358

<i>Region 9148</i>																		
28 Aug	S20E47	019	0010	01	BXO	002	B											
29 Aug	S19E32	020	0020	01	HSX	001	A											
30 Aug	S19E19	019	0000	00	AXX	001	A											
31 Aug	S18E06	019	0000	00	AXX	002	A											
01 Sep	S18W07	019																
02 Sep	S18W20	019																
03 Sep	S18W33	019																
04 Sep	S18W46	019																
05 Sep	S18W59	019																
06 Sep	S18W72	018																
07 Sep	S18W85	018																
								0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 019



**Region Summary – continued.**

Date	Location		Sunspot Characteristics				Flares											
	(° Lat ° CMD)	Helio	Area (10 <sup>6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
		Lon						C	M	X	S	1	2	3	4			
<i>Region 9149</i>																		
28 Aug	N10E70	356	0110	07	CAO	004	B											
29 Aug	N10E57	355	0280	12	EAI	012	B											2
30 Aug	N11E44	354	0330	11	EAI	019	B											
31 Aug	N12E32	353	0310	11	EAI	022	BG											
01 Sep	N12E18	354	0380	12	EKI	027	BG											
02 Sep	N12E06	353	0350	12	EKI	025	B											
03 Sep	N14W10	356	0240	13	EAI	028	B											
04 Sep	N14W22	354	0220	14	EAI	027	B	5					5					
05 Sep	N13W35	354	0230	12	EAI	024	B	1					2					
06 Sep	N13W49	355	0270	14	EAI	019	BG	1					2					
07 Sep	N15W62	355	0240	12	EAI	014	BG	1					2					
08 Sep	N14W78	358	0250	11	EAO	005	B											
09 Sep	N14W92	358	0210	03	DAI	003	B											
								8	0	0	0	13	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 353

<i>Region 9150</i>																		
30 Aug	N11E64	334	0000	01	AXX	001	A											
31 Aug	N11E51	334	0010	01	HRX	001	A											
01 Sep	N11E38	334	0000	00	AXX	001	A											
02 Sep	N12E25	334	0000	00	AXX	001	A											
03 Sep	N12E12	334																
04 Sep	N12W01	334																
05 Sep	N12W14	334																
06 Sep	N12W27	333																
07 Sep	N12W40	338											1					
08 Sep	N12W53	333																
09 Sep	N12W66	332																
10 Sep	N12W79	334																
								0	0	0	0	1	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 334



***Region Summary – continued.***

Date	Location		Sunspot Characteristics				Flares											
	° Lat ° CMD	Helio	Area (10 <sup>6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
		Lon						C	M	X	S	1	2	3	4			
<i>Region 9151</i>																		
31 Aug	N05E42	343	0020	02	CRO	004	B											
01 Sep	N05E28	344	0020	04	CAO	006	B											
02 Sep	N06E15	344	0010	04	BXO	004	B											
03 Sep	N09E06	340	0010	03	BXO	004	B											
04 Sep	N09W09	341	0010	03	BXO	003	B											
05 Sep	N09W21	340	0050	06	DAO	012	B											
06 Sep	N10W32	338	0060	06	CAO	009	B											
07 Sep	N12W47	340	0080	09	DSO	012	B	3				3						
08 Sep	N13W61	341	0110	10	DSO	009	B	1				2						
09 Sep	N13W74	340	0040	09	DSO	005	B		1				1					
10 Sep	N10W87	340	0010	03	BXO	002	B											
								4	1	0	5	1	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 340

<i>Region 9152</i>																		
31 Aug	N17E75	310	0020	02	HRX	001	A											
01 Sep	N17E61	311	0040	02	HSX	001	A											
02 Sep	N18E47	312	0040	01	HSX	001	A											
03 Sep	N18E34	312	0040	01	HSX	002	A											
04 Sep	N18E22	310	0020	01	HSX	001	A											
05 Sep	N18E09	310	0020	01	HAX	002	A											
06 Sep	N17W07	313	0010	07	BXO	004	B											
07 Sep	N19W18	311	0010	00	AXX	001	A											
08 Sep	N19W29	309	0010	02	BXO	002	B											
09 Sep	N19W42	308	0010	02	BXO	002	B											
10 Sep	N19W55	308	0000	00		000												
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 313





**Region Summary – continued.**

Date	Location		Sunspot Characteristics				Flares							
	( ° Lat ° CMD)	Helio Lon	Area (10 <sup>6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
							C	M	X	S	1	2	3	4
<i>Region 9156</i>														
06 Sep	S27E49	257	0000	01	AXX	001	A							
07 Sep	S28E36	257	0000	00	AXX	001	A							
08 Sep	S28E23	257												
09 Sep	S28E10	256												
10 Sep	S28W03	257												
							0	0	0	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 257														
<i>Region 9157</i>														
06 Sep	N21E63	243	0010	12	BXO	004	B							
07 Sep	N23E50	243	0030	09	CRO	003	B							
08 Sep	N22E38	242	0010	01	HSX	001	A							
09 Sep	N23E25	241	0020	02	BXO	003	B							
10 Sep	N22E12	241	0010	02	BXO	003	B							
							0	0	0	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 241														
<i>Region 9158</i>														
07 Sep	N30E70	223	0050	02	HSX	001	A							
08 Sep	N30E56	224	0070	02	HSX	001	A							
09 Sep	N29E44	222	0060	03	HSX	004	A	1		1				
10 Sep	N29E32	221	0020	03	HRX	003	A							
							1	0	0	1	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 221														
<i>Region 9159</i>														
07 Sep	S19E31	262	0010	04	BXO	002	B							
08 Sep	S19E15	265	0010	05	AXX	002	A							
							0	0	0	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 265														
<i>Region 9160</i>														
09 Sep	S12E05	261	0010	00	AXX	001	A							
10 Sep	S12W08	261	0000	00	AXX	001	A							
							0	0	0	0	0	0	0	0
Still on Disk.														
Absolute heliographic longitude: 261														

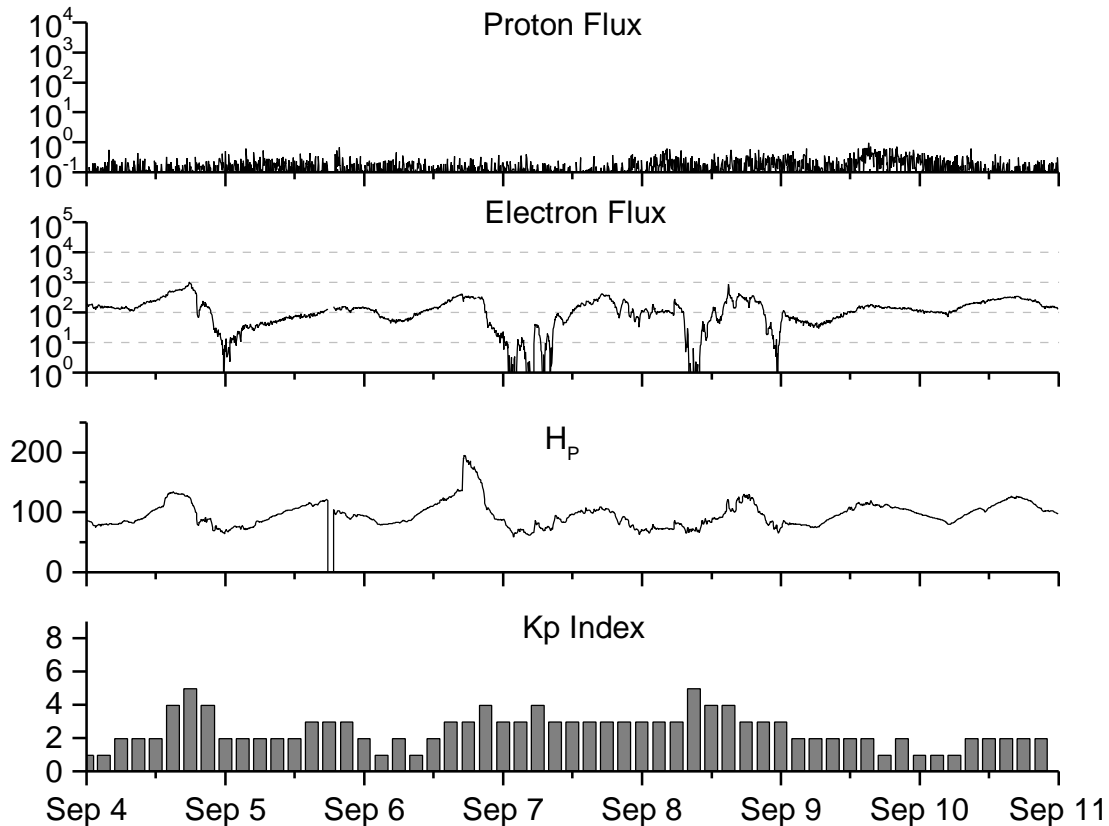


**Recent Solar Indices (preliminary)  
of the observed monthly mean values**

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
<b>1998</b>									
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
<b>1999</b>									
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
<b>2000</b>									
January	140.8	90.2	0.64	168.0	112.7	158.1	175.2	13	14.7
February	161.9	112.3	0.69	172.1	116.6	173.2	176.3	15	15.3
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	
August	166.6	130.5	0.78			163.1		18	

**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 04 September 2000*

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

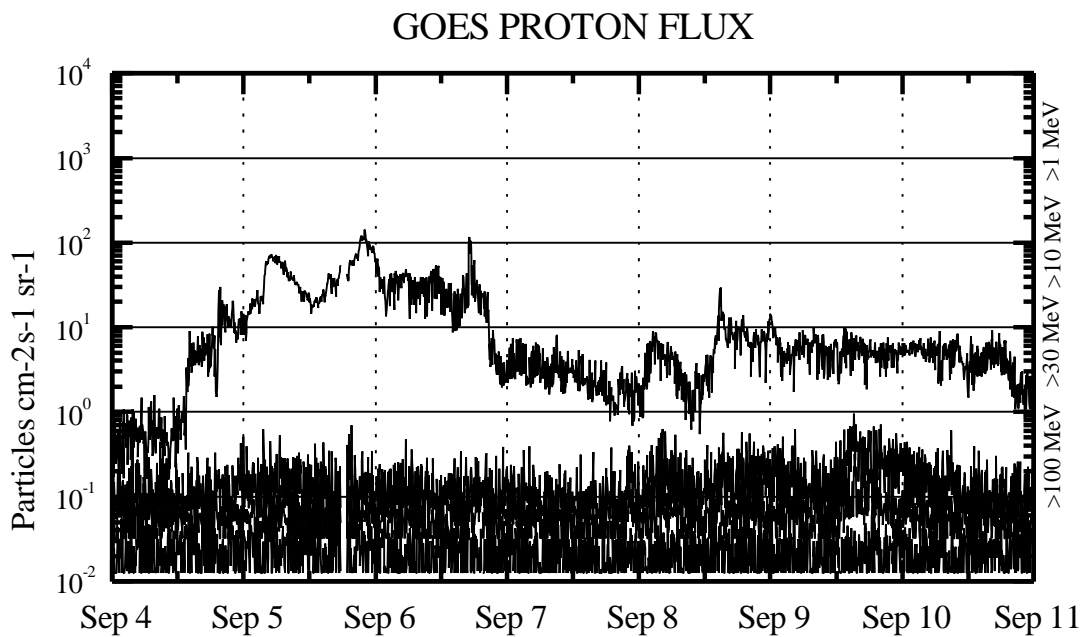
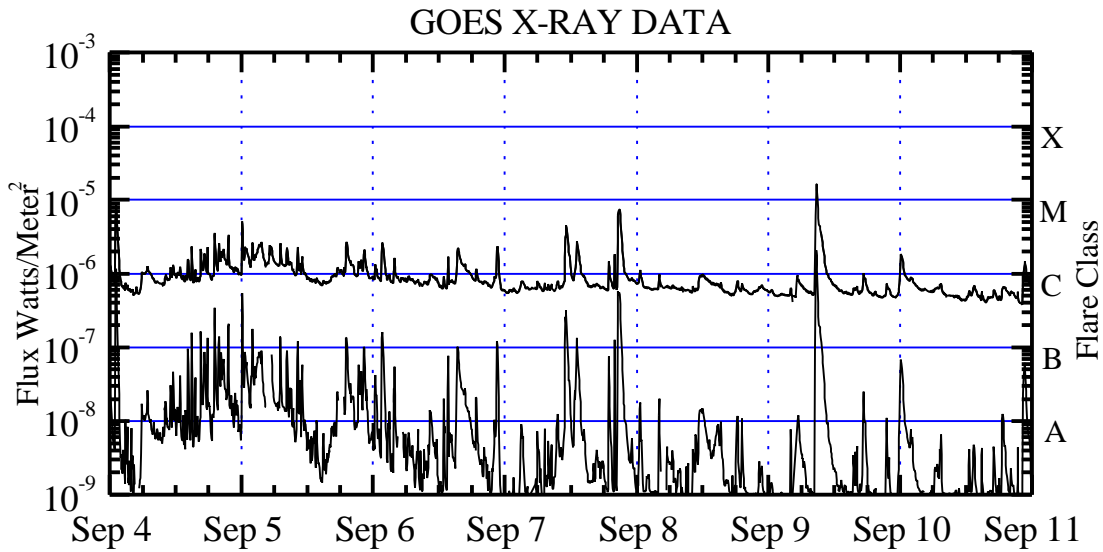
*Electrons* plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-sec -sr) with energies greater than 2 MeV at GOES-8.

*H<sub>p</sub>* 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<sub>p</sub>* plot contains the estimated planetary 3-hour K-index (derived by the USAF 55<sup>th</sup> 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<sub>p</sub> 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<sub>p</sub> are "global" parameters that are applicable to a first order approximation over large areas. H<sub>p</sub> 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 ( $\text{watts/m}^2$ ) 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 ( $\text{protons/cm}^2 \text{-sec-sr}$ ) as measured by GOES-8 (W75) for each of the energy thresholds:  $>1$ ,  $>10$ ,  $>30$  and  $>100$  MeV. P10 event threshold is 10 pfu ( $\text{protons/cm}^2\text{-sec-sr}$ ) at greater than 10 MeV.





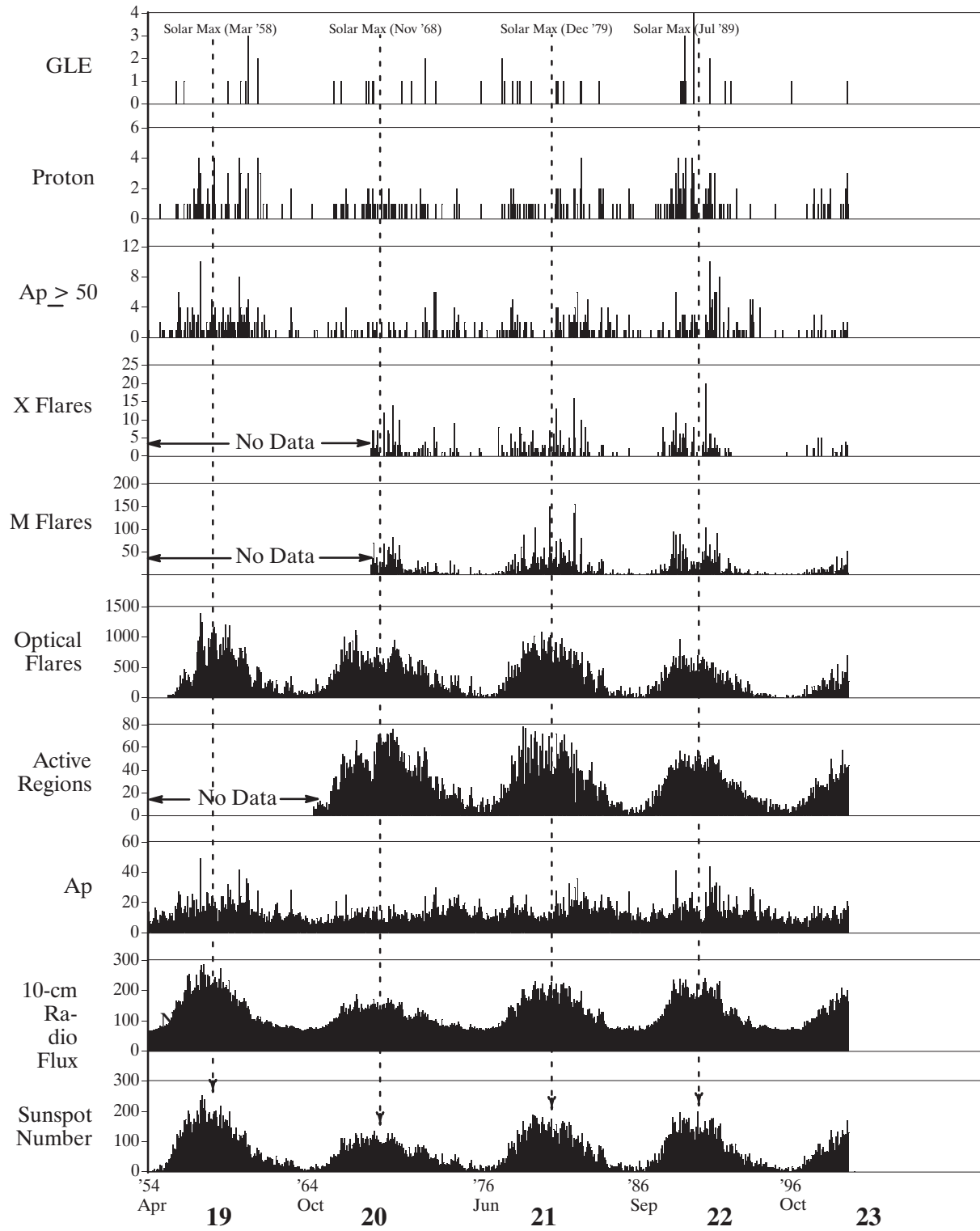


Space  
Environment  
Center

# Solar-Terrestrial Indices

## Monthly Values

August 2000 Month 47



Solar Cycle