

Space Weather Highlights 18 - 24 September 2000

**SWO PRF 1308
26 September 2000**

Solar activity varied from low to high levels. Activity increased from low to high levels on 19 September due to an M5/1n flare at 19/0826 UTC from Region 9165 (N14, L = 186, class/area Dkc/400 on 15 September). The M5 flare, which was associated with a Type II radio sweep and a 360 sfu Tenflare, occurred as Region 9165 gradually decayed. Region 9169 (N10, L = 078, class/area Fkc/2140 on 19 September) rotated into view on 18 September as a very large, magnetically complex sunspot group. At 2140 millionths areal coverage, Region 9169 was one of the largest sunspot groups observed this cycle. Despite its size and complexity, it produced only isolated C-class subflares to date. Activity was at low levels during most of the rest of the period due to isolated C-class subflares. However, activity rose to moderate levels on 24 September due to an M4/2n flare at 24/0338 UTC from Region 9166 (S13, L = 123, class/area Eko/760 on 21 September), which had been slowly decaying at the time of the flare.

Data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. A high-speed coronal hole wind stream was in progress at the start of the period with velocities as high as 900 km/sec detected on 18 September. Velocities gradually decreased during 19 - 20 September as coronal hole effects subsided. Another high speed stream began midday on 24 September and was in progress as the period ended.

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

The greater than 2 MeV electron flux at geosynchronous orbit was at moderate to high levels during 21 - 24 September.

Geomagnetic field activity was at active to minor storm levels on 18 September due to coronal hole effects with major to severe storm periods detected at high latitudes. Activity gradually declined during 19 - 20 September as coronal hole effects subsided. Quiet to unsettled levels prevailed during 20/1500 - 24/1200 UTC. Activity increased to unsettled to active levels after 24/1200 UTC due to coronal hole effects.

Space Weather Outlook 27 September - 23 October 2000

Solar activity is expected to be at low to moderate levels. Isolated M-class flares are expected sometime during the period. There will also be a chance for an isolated major flare from Region 9169 until it crosses the west limb on 1 October.

A proton event is possible at geosynchronous orbit until 1 October.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels through 28 September. Moderate to high fluxes are also possible during 15 - 17 October. Normal to moderate fluxes are expected for the rest of the period.

Geomagnetic field activity is expected to be at unsettled to active levels during 27 September. Active to minor storm levels are possible during 14 - 16 October. Quiet to unsettled conditions are expected for the rest 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
18 September	204	154	2040	C1.3	9	0	0	15	3	0	0	0
19 September	207	140	3310	C1.6	6	1	0	16	2	0	0	0
20 September	211	171	2800	C1.0	6	0	0	9	0	0	0	0
21 September	225	198	2900	C1.1	6	0	0	5	0	0	0	0
22 September	232	248	2770	C1.1	11	0	0	18	1	0	0	0
23 September	225	216	2680	C2.3	13	0	0	15	1	0	0	0
24 September	225	255	2610	C1.3	9	1	0	16	0	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
	18 September	3.2E+6	2.1E+4	1.6E+3		6.2E+4
19 September	2.4E+6	2.7E+4	1.7E+3		3.0E+5	
20 September	1.0E+6	3.0E+4	1.8E+3		3.9E+6	
21 September	7.3E+5	1.3E+4	1.8E+3		5.0E+7	
22 September	3.3E+5	1.1E+4	2.3E+3		6.7E+7	
23 September	4.4E+5	1.0E+4	2.4E+3		8.6E+7	
24 September	1.3E+6	1.1E+4	2.7E+3		7.6E+7	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	18 September	28	5-4-4-4-4-5-2-3	41	6-4-3-4-4-7-2-2	45
19 September	15	3-2-2-3-5-2-2-3	43	3-5-3-6-6-4-5-4	27	3-3-3-5-6-4-3-4
20 September	12	4-4-0-2-3-1-2-2	20	3-4-1-3-6-2-2-2	13	4-4-1-2-3-2-3-2
21 September	7	2-2-1-2-3-1-2-2	19	2-3-5-5-3-2-2-1	9	2-2-2-3-3-3-2-2
22 September	6	2-2-2-1-2-1-2-1	10	2-4-2-3-3-1-1-1	7	3-2-2-2-3-2-2-2
23 September	6	2-3-2-1-1-2-2-1	*	*-*-*-*-*-*-*	7	2-3-1-1-2-2-2-2
24 September	9	1-1-1-1-2-3-4-3	*	*-*-*-*-*-*-*	10	1-0-1-2-3-3-3-3

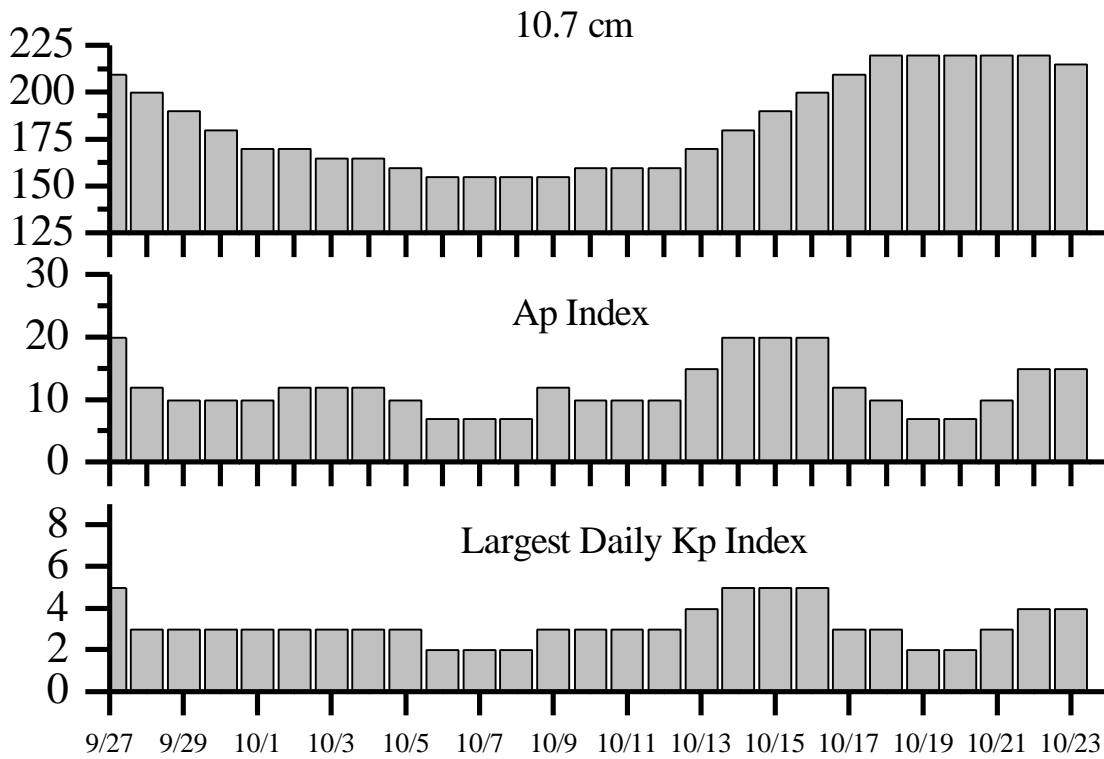


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
18 Sep 0003	K= 6 Observed	17 Sep 21 - 24
18 Sep 0005	A = 30 Warning	18 Sep 0015 - 1500
18 Sep 0102	4 – 245 MHz Radio Bursts	17 Sep
18 Sep 0300	A = 30 Observed	18 Sep 0300
18 Sep 1455	EXTENDED K = 5 Warning	18/1455 - 20/1500 Sep
18 Sep 1513	Sudden Impulse observed at Boulder	18 Sep 1445
18 Sep 2143	A = 20 Watch	21 Sep
19 Sep 0300	ENDED A = 30 Observed	18 Sep 0300
19 Sep 0847	X-Ray event M5.1	19 Sep 0806
19 Sep 0849	10cm Radio Burst 360 F.U.	19 Sep 0808
19 Sep 0850	Type II Radio Emission	19 Sep 0818
19 Sep 0919	Type II Radio Emission	19 Sep 0824
19 Sep 1804	ENDED A = 20 Observed	17 Sep 1507
19 Sep 1808	CANCELLED A = 30 Watch	20 Sep
19 Sep 1809	A = 20 Watch	20 Sep
20 Sep 0019	2 - 245 MHz Bursts	19 Sep
20 Sep 0600	A = 20 Observed	20 Sep 0600
20 Sep 0900	ENDED A = 20 Observed	20 Sep 0600
21 Sep 0032	245 MHz Noise Storm	20 Sep
21 Sep 1326	Electron Event >2MeV =1000pfu	21 Sep 1310
22 Sep 0107	3 – 245 MHz Bursts	21 Sep
22 Sep 0107	245 MHz Noise Storm	21 Sep
22 Sep 1345	Electron Event >2MeV =1000pfu	22 Sep 1305
23 Sep 0024	5 – 245 MHz Bursts	22 Sep
23 Sep 0024	245 MHz Noise Storm	22 Sep
23 Sep 0048	CONTINUED Electron Event >2MeV =1000pfu	22 Sep 1305
24 Sep 0053	8 - 245 MHz Bursts	23 Sep
24 Sep 0053	245 MHz Noise Storm	23 Sep
24 Sep 0100	CONTINUED Electron Event >2MeV = 1000pfu	22 Sep 1305
24 Sep 2049	K= 5 Warning	24/2055 - 25/1500 Sep
24 Sep 2101	K= 4 Observed	24 Sep 18 - 21



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
27 Sep	210	20	5	11 Oct	160	10	3
28	200	12	3	12	160	10	3
29	190	10	3	13	170	15	4
30	180	10	3	14	180	20	5
01 Oct	170	10	3	15	190	20	5
02	170	12	3	16	200	20	5
03	165	12	3	17	210	12	3
04	165	12	3	18	220	10	3
05	160	10	3	19	220	7	2
06	155	7	2	20	220	7	2
07	155	7	2	21	220	10	3
08	155	7	2	22	220	15	4
09	155	12	3	23	215	15	4
10	160	10	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	IV
19 Sep	0806	0826	0842	M5.1	.071	1N	N14W46		9165	120	360	1	
24 Sep	0328	0338	0347	M4.3	.030	2N	S15W45		9166				

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location	Lat CMD	
18 September	0113	0133	0137	C3.0				
	0247	0249	0253	C2.3	SF	N12E69	9167	
	0334	0336	0345	C3.2	SF	N15W33	9165	
	0519	0530	0535	C3.2	SF	S10E35	9166	
	0700	0701	0708		SF	N11E68	9167	
	0759	0806	0820	C1.9				
	0900	0901	0908		SF	S12E30	9166	
	1227	1230	1244	C3.3	SF	N12E63	9167	
	1342	1344	1349		SF	N13E64	9167	
	1352	1352	1356		SF	N14E65	9167	
	1444	1449	1545		SF	S13E31	9166	
	1513	1514	1522		SF	N11E63	9167	
	1854	1857	1915		SF	S10E26	9166	
	2018	2107	2200	C5.7	1F	S14E27	9166	
	2030	2034	2105		SF	N15E61	9167	
	2215	2222	2242	C4.3	SF	S11E24	9166	
	2330	2332	2343		SF	N14E59	9167	
	2343	2353	2357		SF	N14E59	9167	
	2348	2353	0005		1F	N15W38	9165	
	2350	2351	0029	C8.6	1F	S14E25	9166	
19 September	0014	0028	0031		SF	N14E57	9167	
	0143	0144	0154	C2.6	SF	S14E25	9166	
	0158	0159	0212		SF	N14E65	9169	
	0227	0228	0237		SF	S15E25	9166	
	0330	0332	0343	C4.9	SF	S15E23	9166	
	0409	0409	0416		SF	S10E21	9166	
	0513	0518	0535	C2.9				
	0614	0616	0618		SF	N09E64	9169	
	0647	0651	0702		SF	N09E64	9169	
	0809	U0812	A0930	M5.1	1N	N14W46	9165	
	1433	1434	1449	C2.0	SF	N10E66	9169	
	1516	1517	1538	C3.0	1F	S08E12	9166	
	1638	1638	1656		SF	N10E63	9169	
	1744	1744	1816		SF	S14E16	9166	
	1956	2001	2008		SF	N14E45	9167	
	2043	2043	2053		SF	S13E14	9166	
2156	2203	2209	C2.0					



Flare List – continued.

Date	Begin	Time		Class.	X-ray Brtns	Optical		Rgn
		Max	End			Imp / Lat CMD	Location	
19 September		2235	2237	2241		SF	S12E12	9166
		2240	2241	2252		SF	N12W55	9165
		2244	2245	2309		SF	S13E13	9166
20 September		0024	0024	0040	C2.1	SF	N13E44	9167
		0107	0110	0114	C4.1			
		0346	0346	0350		SF	S12E08	9166
		0556	0600	0618		SF	N13W59	9165
		0801	0809	0816		SF	N16W55	9165
		1051	1056	1100	C2.8			
		1152	1156	1210	C3.4	SF	N05E52	9169
		1233	1247	1301	C2.8			
		1442	1442	1448		SF	N06E51	9169
		1514	1521	1545	C3.1	SF	N09E41	9169
		1842	1843	1848		SF	N13E40	9169
		1908	1909	1913		SF	N10E40	9169
	21 September		0122	0134	0140	C2.1		
		B0155	U0159	A0225	C3.0	SF	N12E45	9169
		0345	0353	0407	C2.9			
		0908	0928	0957	C4.1			
		0916	U0917	A0925		SF	N15W72	9165
		1255	1255	1258		SF	S11W13	9166
		1344	1403	1416	C2.5			
		1557	1613	1628	C2.9			
		2309	2317	2328		SF	N09E24	9169
		2337	2338	2343		SF	N08E28	9169
22 September		0416	0416	0426	C1.7	SF	N07E21	9169
		0434	0436	0447	C2.6	SF	N15W87	9165
		B0947	0951	1017	C4.4	SF	N08E17	9169
		1255	1304	1338	C5.5	SF	N07E23	9169
		1420	1422	1427		SF	N07E20	9169
		1607	1611	1635	C3.6	SF	N08E24	9169
		1635	1636	1641		SF	S12W27	9166
		1729	1730	1745		SF	N08E19	9169
		1745	1747	1753		SF	N08E18	9169
		1804	1805	1807		SF	N09E14	9169
		1838	1839	1849	C2.1	SF	N11E13	9169
		1855	U1904	1921	C4.4	SF	N09E23	9169
		2011	2012	2014		SF	N14E18	9169
		2044	2045	2054		SF	N13E26	9169
		2100	2101	2113	C5.3	SF	N12E15	9169
	2103	2107	2145	C4.2	1F	S14W26	9166	
	2142	2142	2148		SF	N08E17	9169	



Flare List – continued.

Date	Begin	Time		Class.	X-ray Brtns	Optical		Rgn
		Max	End			Imp / Lat CMD	Location	
22 September		2145	2147	2149		SF	S12W30	9166
		2149	2151	2156	C2.6	SF	N14E18	9169
		2342	2350	0000	C8.5			
23 September	0018	U0020	A0048			SF	N09E14	9169
	0152	0155	0230	C4.2	SF	S13W31	9166	
	0223	0236	0250	C5.6	SF	N11E09	9169	
	0402	0402	0418	C2.2	SF	S10W34	9166	
	0428	0431	0434		SF	N11E08	9169	
	0453	0455	0515	C2.2	SF	N11E06	9169	
	0551	0556	0605	C2.7	SF	N17W04	9167	
	0606	0611	0624		SF	N12E06	9169	
	0628	0630	0637		SF	N11E06	9169	
	0706	0718	0738	C5.4	SF	N05E11	9169	
	1145	1146	1150	C2.1	SF	N12E08	9169	
	1539	1541	1543		SF	N09E03	9169	
	1713	1716	1718	C1.7				
	1844	1852	1910	C3.8				
	1952	1956	1958	C1.9				
	2011	2014	2018	C2.7				
	2039	2039	2049	C2.6	SF	S14W44	9166	
	B2158	U2158	A2202	C8.6	1F	N09E02	9169	
	2227	U2228	A2308		SF	N09E01	9169	
	2307	U2309	2334		SF	S11W45	9166	
24 September	0255	0258	0307		SF	S18W43	9166	
	0311	0337	0423	M4.3	2N	S15W45	9166	
	0652	0703	0728	C3.0	SF	S11W50	9166	
	0721	0721	0726		SF	N13E05	9169	
	0903	0903	0922		SF	S09W50	9166	
	1127	1129	1145		SF	S08W51	9166	
	1158	1321	1341		SF	S08W53	9166	
	1240	1242	1245		SF	N14W09	9169	
	1315	1316	1324	C1.8	SF	N11W11	9169	
	1321	1321	1325	C2.2	SF	S10W51	9166	
	1405	1405	1430	C3.6	SF	S10W53	9166	
	1517	1532	1547		SF	S09W52	9166	
	1623	1624	1633		SF	N16W04	9169	
	1626	1627	1631		SF	S12W51	9166	
	1732	1734	1739		SF	S11W53	9166	
	1831	1837	1844	C2.4				
	1922	1930	1938	C1.9				
2141	2141	2149	C5.0	SF	S14W55	9166		
2258	2311	2330	C4.4	SF	S11W56	9166		
2346	2351	2356	C5.6					



Region Summary

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 9161</i>																		
11 Sep	N05E52	188	0010	01	CRO	002	B						1					
12 Sep	N05E38	189	0000	01	AXX	001	A											
13 Sep	N05E23	191	0000	00	AXX	001	A											
14 Sep	N05E10	191	0000	00		000												
15 Sep	N06E00	187	0040	04	CSO	006	B											
16 Sep	N06W15	189	0070	06	DAO	013	B						1					
17 Sep	N06W28	189	0070	06	DAO	009	B											
18 Sep	N06W41	189	0040	07	DAO	007	B											
19 Sep	N06W58	193	0010	01	AXX	001	A											
20 Sep	N07W71	192	0000	00	AXX	001	A											
21 Sep	N08W84	192																
								0	0	0	2	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 187

<i>Region 9165</i>																		
13 Sep	N12E30	184	0010	04	BXO	003	B											
14 Sep	N13E14	187	0140	06	DAI	020	BG	2			4							
15 Sep	N14E01	186	0400	08	DKC	028	BD	5	2		9	1						
16 Sep	N13W14	188	0310	08	DAC	045	BG	7	2		11	1	2					
17 Sep	N14W26	187	0230	08	DAI	032	BG	5			7							
18 Sep	N14W40	188	0200	08	DAI	029	BG	1			1	1						
19 Sep	N15W54	189	0130	08	DAO	015	BG		1		1	1						
20 Sep	N16W66	187	0060	07	CSO	008	B				2							
21 Sep	N16W80	188	0030	03	HRX	003	A				1							
22 Sep	N15W93	188	0000	00	AXX	001	A	1			1							
								21	5	0	37	4	2	0	0			

Crossed West Limb.

Absolute heliographic longitude: 186



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 9166</i>																	
14 Sep	S13E71	130	0070	04	DSO	003	B	2			4						
15 Sep	S14E60	127	0270	10	DSI	010	B	3			5						
16 Sep	S14E50	124	0290	11	EAI	020	B	1			8						
17 Sep	S14E37	124	0340	11	EAI	032	B	1			4						
18 Sep	S14E24	124	0570	11	EAI	034	BG	4			5	2					
19 Sep	S13E11	124	0670	10	DKC	033	B	3			8	1					
20 Sep	S13W02	123	0590	13	EKI	050	BG				1						
21 Sep	S12W16	124	0760	12	EKO	049	BG				1						
22 Sep	S12W30	125	0610	11	EKI	048	B	1			2	1					
23 Sep	S11W44	126	0450	12	EAI	042	B	3			4						
24 Sep	S11W56	125	0340	11	EAI	038	BG	5	1		12	1					
								23	1	0	54	4	1	0	0		

Still on Disk.

Absolute heliographic longitude: 123

Region 9167

16 Sep	N12E80	094	0060	03	HSX	001	A										
17 Sep	N11E69	092	0170	08	DSO	005	B	3			3	1					
18 Sep	N12E57	091	0320	10	DAO	012	BG	2			9						
19 Sep	N12E41	094	0360	12	EAO	013	B				2						
20 Sep	N12E30	091	0210	14	EAO	016	B	1			1						
21 Sep	N12E17	091	0160	13	ESO	020	B										
22 Sep	N13E03	092	0170	14	CSO	018	B										
23 Sep	N14W11	093	0140	10	CSO	011	B	1			1						
24 Sep	N15W28	097	0080	03	CSO	006	B										
								7	0	0	16	1	0	0	0		

Still on Disk.

Absolute heliographic longitude: 092

Region 9168

17 Sep	N09E06	155	0010	03	CSO	003	B										
18 Sep	N09W07	155	0040	03	DSO	003	B										
19 Sep	N09W20	155															
20 Sep	N09W33	155															
21 Sep	N09W46	155															
22 Sep	N09W59	155															
23 Sep	N09W72	155															
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 155



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 9169</i>																		
18 Sep	N08E70	077	0870	14	EKI	009	B											
19 Sep	N09E60	075	2140	17	FKC	028	BGD	1				5						
20 Sep	N10E46	075	1940	19	FKC	046	BGD	2				5						
21 Sep	N09E32	076	1910	19	FKC	068	BGD	1				3						
22 Sep	N10E19	076	1880	18	FKC	102	BGD	8				15						
23 Sep	N11E04	078	1970	21	FKC	090	BGD	5				10	1					
24 Sep	N11W09	078	1930	22	FKC	119	BGD	1				4						
								18	0	0	0	42	1	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 078																		
<i>Region 9170</i>																		
21 Sep	S07E28	080	0040	05	CAO	008	B											
22 Sep	S07E15	080	0070	07	DSO	018	B											
23 Sep	S06E01	081	0070	08	DAO	020	B											
24 Sep	S05W14	083	0100	09	DAO	017	B											
								0	0	0	0	0	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 081																		
<i>Region 9171</i>																		
22 Sep	S15E70	025	0040	01	HRX	001	A											
23 Sep	S15E59	023	0050	07	CSO	003	B											
24 Sep	S15E47	022	0080	07	DSO	003	B											
								0	0	0	0	0	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 022																		
<i>Region 9172</i>																		
24 Sep	N12E70	359	0050	02	HSX	001	A											
								0	0	0	0	0	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 359																		
<i>Region 9173</i>																		
24 Sep	S14E72	357	0030	01	HSX	001	A											
								0	0	0	0	0	0	0	0	0	0	
Still on Disk.																		
Absolute heliographic longitude: 357																		

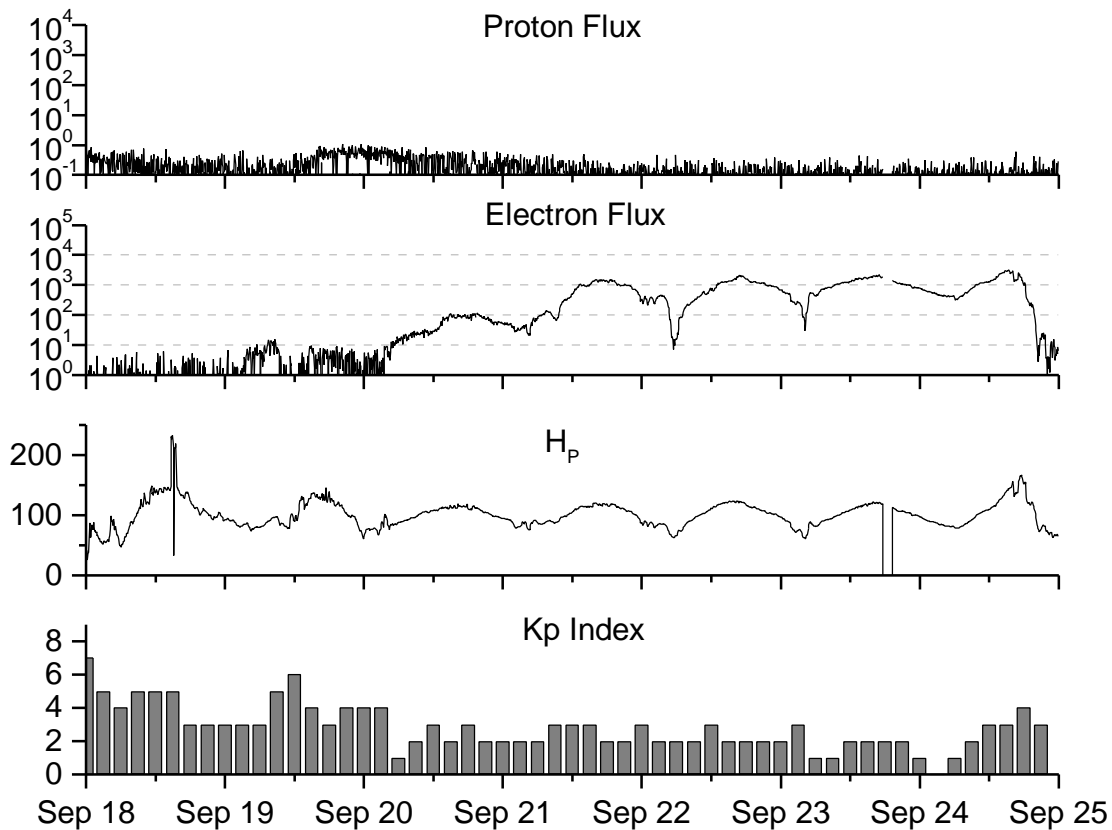


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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
1998									
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	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 18 September 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.

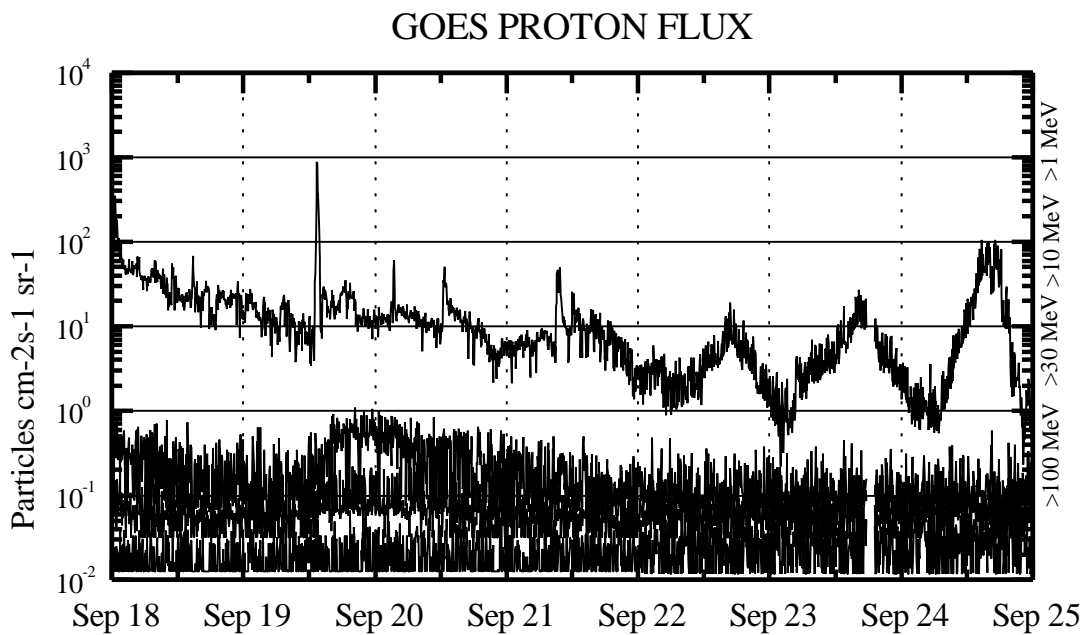
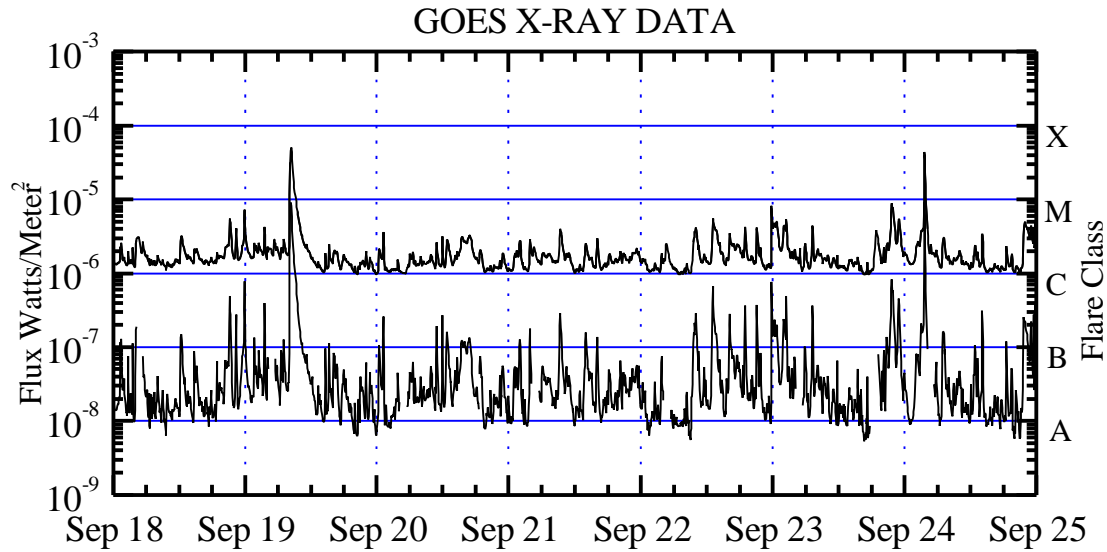
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

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.

