Space Weather Highlights **SWO PRF 1310**
02 - 08 October 2000 **10 October 2000**

Solar activity varied from low to moderate levels. Activity reached moderate levels on 02 October due to an optically uncorrelated M1 X-ray flare at 02/0013 UTC and an M1/1n flare from Region 9177 (N29, L = 028, class/area Cao/150 on 02 October). Region 9177 was in a gradual growth phase at the time of the flare. Activity dropped to low levels on 03 October due to occasional low-level C-class subflares including a C1/Sf at 03/0746 UTC from Region 9177 with an associated Type II radio sweep. Activity continued at low levels for the rest of the period with isolated B- and C-class subflares from a few unremarkable sunspot regions.

Data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. Two transients passed the spacecraft during the period. The first passed the ACE spacecraft early on 03 October accompanied by increased velocities (390 to 480 km/sec) and densities, and southward IMF Bz readings to minus 14 nT (GSM). IMF Bz turned northward during the latter half of 03 October, then turned southward for most of 04 October with maximum deflections to minus 17 nT. The second transient passage was detected at 05/0241 UTC associated with a velocity increase from 360 to 550 km/sec, increased densities (peak 39 p/cc), and variable IMF Bz in the plus 23 to minus 28 nT range. The solar wind began a gradual return to nominal conditions on 06 October.

There were no proton events 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 disturbed during 03 - 05 October. An 11 nT sudden impulse (SI) was detected by the Boulder USGS magnetometer at 03/0057 UTC. Activity increased to active to minor storm levels following the SI with major to severe storm periods detected at high latitudes. Activity increased to minor to severe storm levels on 05 October following an interplanetary shock passage at the ACE spacecraft at 05/0241 UTC. Activity decreased to unsettled to active levels after 05/1800 UTC. Activity decreased to quiet to unsettled levels during 06 - 08 October.

Space Weather Outlook
11 October - 06 November 2000

Solar activity is expected to be at low to moderate levels. Isolated M-class flares are expected sometime during the period. Chances for major flare activity are expected to increase during 14 - 27 October with the return of old Region 9169 (N11, L = 078).

There will be an increased chance for a proton event at geosynchronous orbit during 14 - 27 October with the expected return of old Region 9169.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels around 13 - 14 and 18 - 19 October. Otherwise, normal to moderate fluxes are expected.

The geomagnetic field is expected to be disturbed during 12 - 13 October due to an expected CME passage (source: C6/1f LDE at 09/2343 UTC with associated halo CME). Active to major storm levels will be possible during the disturbance. The disturbance is expected to end by 14 October. Active periods will be possible during 17 - 18 and 23 October. Quiet to unsettled levels 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 C	M	X	Flares: Optical S	1	2	3	4
02 October	203	190	1260	C1.3	9	2	0	10	4	0	0	0
03 October	192	196	1210	B7.7	8	0	0	4	0	0	0	0
04 October	184	216	1240	B7.0	4	0	0	5	0	0	0	0
05 October	174	145	960	B6.1	3	0	0	2	1	0	0	0
06 October	158	127	820	B5.3	1	0	0	2	0	0	0	0
07 October	156	94	530	B5.3	4	0	0	1	1	0	0	0
08 October	149	128	690	B7.4	2	0	0	6	0	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ^{2}-day-sr) >1MeV	>10MeV	>100MeV	Electron Fluence (electrons/cm^2-day-sr) >.6MeV	>2MeV	>4MeV
02 October	2.0E+5	1.0E+4	2.4E+3		1.5E+7	
03 October	3.7E+5	1.0E+4	2.4E+3		4.8E+6	
04 October	2.6E+5	9.4E+3	2.2E+3		1.6E+6	
05 October	2.0E+5	9.6E+3	2.2E+3		3.9E+5	
06 October	1.8E+5	9.8E+3	2.2E+3		1.5E+6	
07 October	1.7E+5	9.4E+3	2.1E+3		4.8E+6	
08 October	3.6E+5	9.7E+3	2.3E+3		9.5E+6	

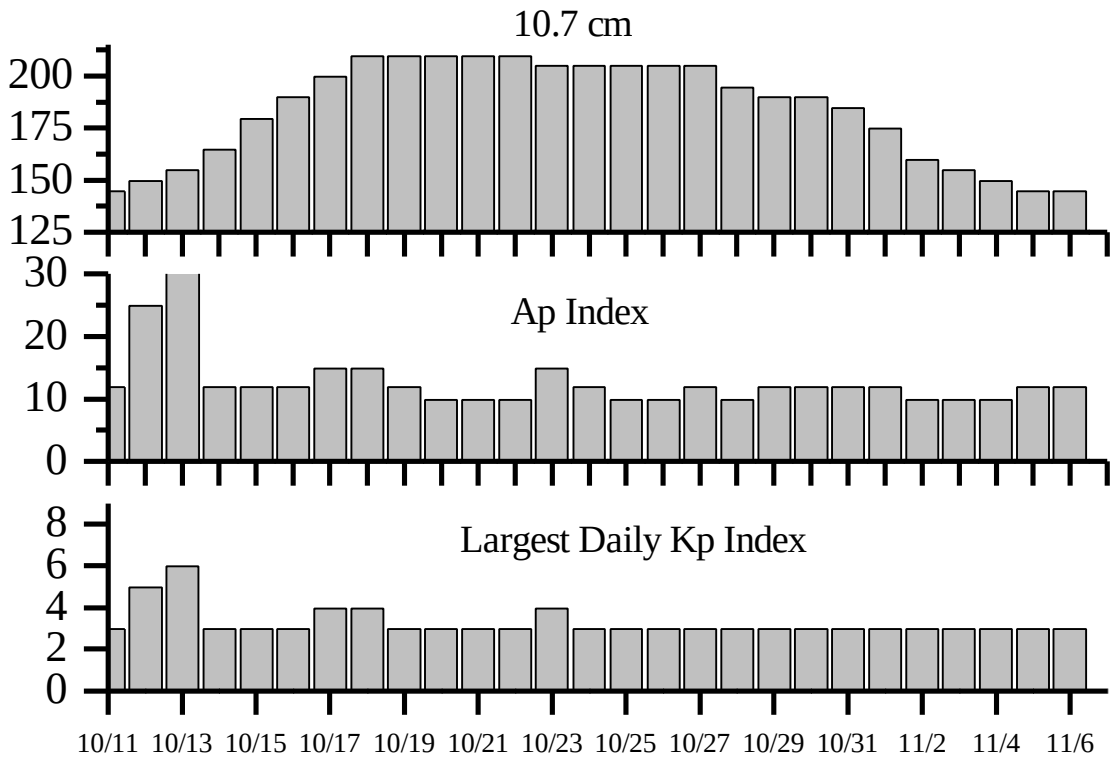
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg A	K-indices	High Latitude College A	K-indices	Estimated Planetary A	K-indices
02 October	6	1-1-1-1-2-3-2-2	20	1-1-2-4-3-6-3-2	11	1-2-2-2-3-4-3-3
03 October	19	4-4-4-3-4-3-1-2	51	4-6-6-6-6-5-2-2	37	4-5-5-5-6-4-1-3
04 October	25	2-3-5-5-4-3-3-4	78	2-2-6-6-7-7-7-4	45	1-3-5-5-6-5-4-5
05 October	58	5-6-7-6-5-5-2-3	105	4-5-5-8-8-7-5-5	96	5-7-7-7-7-6-4-4
06 October	3	1-1-0-0-1-1-2-1	5	3-1-2-2-2-0-1-0	6	2-1-1-2-2-3-2-2
07 October	6	1-2-2-2-3-1-1-0	9	0-1-3-4-3-2-1-0	7	2-1-1-2-2-3-2-2
08 October	1	0-1-0-0-0-0-0-2	0	0-0-0-0-0-0-0-0	5	1-1-1-1-2-2-2-3

Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
02 Oct 0015	4-245 MHz Bursts	01 Oct
02 Oct 0015	245 MHz Noise Storms	01 Oct
02 Oct 1802	K= 4 Observed	02 Oct 15 - 18
03 Oct 0016	7- 245 MHz Bursts	02 Oct
03 Oct 0016	245 MHz Noise Storms	02 Oct
03 Oct 0106	Sudden Impulse observed at Boulder	03 Oct 0057
03 Oct 0300	K= 4 Observed	03 Oct 00 - 03
03 Oct 0309	K= 4 Warning	03 Oct 0315 - 1500
03 Oct 0345	K= 5 Warning	03 Oct 0355 - 1200
03 Oct 0600	K= 5 Observed	03 Oct 03 - 06
03 Oct 0601	A >=20 Observed	03 Oct 0600
03 Oct 0837	Type II Radio Emission	03 Oct 0748
03 Oct 1455	EXTENDED K-Index of 4 Warning	03/0315 -03/2100 Oct
03 Oct 2142	A >=20 Watch	05 Oct
04 Oct 0010	1- 245 MHz Bursts	03 Oct
04 Oct 0600	ENDED A >= 20 Observed	03 Oct 0600
04 Oct 0633	K= 4 Warning	04 Oct 0640 - 1500
04 Oct 0724	K= 5 Warning	04 Oct 0730 - 1200
04 Oct 0900	K= 5 Observed	04 Oct 06 - 09
04 Oct 0900	A >= 20 Observed	04 Oct 0900
04 Oct 1224	K= 5 Warning	04 Oct 1230 - 1500
04 Oct 1236	Type II Radio Emission	03 Oct 1442
04 Oct 1425	EXTENDED K= 5 Warning	04/1230 - 04/2100 Oct
04 Oct 1503	K= 5 Observed	04 Oct 12 - 15
04 Oct 1940	A >=30 Warning	04/1940 - 05/1500 Oct
04 Oct 2056	EXTENDED K= 5 Warning	04/1230 - 05/1500 Oct
04 Oct 2107	A >=30 Observed	04 Oct 2100
05 Oct 0030	2 - 245 MHz Bursts	04 Oct
05 Oct 0545	K >= 6 Warning	05 Oct 0550 - 1500
05 Oct 0557	K= 6 Observed	05 Oct 03 - 06
05 Oct 0638	A >= 50 Warning	05 Oct 09 - 21
05 Oct 0903	K >= 7 Observed	05 Oct 06 - 09
05 Oct 0904	A >= 50 Observed	05 Oct 0900
05 Oct 1157	K= 6 Observed	05 Oct 09 -12
05 Oct 1438	EXTENDED K= 5 Warning	04/1230 -06/0300
05 Oct 1508	K= 6 Observed	05 Oct 12 - 15
05 Oct 1804	K= 6 Observed	05 Oct 15 - 18
05 Oct 2235	A >= 20 Watch	06 Oct
06 Oct 0900	ENDED A >= 50 Observed	05 Oct 0900
06 Oct 1200	ENDED A >= 30 Observed	04 Oct 2100
06 Oct 1500	ENDED A >= 20 Observed	04 Oct 0900
07 Oct 0029	1 - 245 MHz Bursts	06 Oct
07 Oct 1743	A >= 20 Watch	10 Oct
08 Oct 0019	4 - 245 MHz Bursts	07 Oct

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
11 Oct	145	12	3	25 Oct	205	10	3
12	150	25	5	26	205	10	3
13	155	35	6	27	205	12	3
14	165	12	3	28	195	10	3
15	180	12	3	29	190	12	3
16	190	12	3	30	190	12	3
17	200	15	4	31	185	12	3
18	210	15	4	01 Nov	175	12	3
19	210	12	3	02	160	10	3
20	210	10	3	03	155	10	3
21	210	10	3	04	150	10	3
22	210	10	3	05	145	12	3
23	205	15	4	06	145	12	3
24	205	12	3				

Energetic Events

Date	Time			X-ray		Optical Information				Peak Radio Flux		Sweep Freq Intensity	
	Begin	Max	½ Max	Class	Integ Flux	Imp/ Brtns	Location Lat	CMD	Rgn #	245	2695	II	IV
02 Oct	0001	0013	0028	M1.0	.012								
02 Oct	1753	1801	1808	M1.4	.007	1N	N27	W51	9177				

Flare List

Date	Time			X-ray	Optical		Rgn
	Begin	Max	End	Class.	Imp / Brtns	Location Lat CMD	
02 October	0001	0013	0028	M1.0			
	0215	0222	0234	C5.0			
	0247	0249	0331	C4.1	SF	S09E07	9176
	0525	0525	0531		SF	S10W13	9173
	0533	0536	0554	C4.4	1F	N28W45	9177
	0800	0801	0806		SF	S22E17	9178
	1114	1114	1119	C4.5	SF	S08E13	9176
	1114	1114	1126		1F	N30W50	9177
	1251	1256	1304	C2.5			
	1401	1405	1408	C1.5			
	1511	1513	1519		SF	N29W51	9177
	1542	1554	1617		SF	N28W51	9177
	1604	1604	1612	C3.6	SF	S22E15	9178
	1756	1801	1830	M1.4	1N	N27W51	9177
	1811	1813	1847		SF	S14W26	9173
	1859	1859	1903		SF	S21E15	9178
	1957	2004	2010	C8.4			
	1959	2003	2024		1F	S09E00	9176
	2117	2126	2137	C4.8	SF	N01E80	9182
03 October	0326	0340	0349	C1.9	SF	S01E78	9182
	0612	0615	0626	C1.7	SF	N29W66	9177
	0704	0712	0725	C1.6			
	0732	0736	0803	C1.5	SF	N27W59	9177
	0946	0950	0953	C1.7			
	1429	1442	1449	C2.2			
	1939	1949	2000		SF	N01E70	9182
	2055	2101	2104	C1.8			
	2314	2318	2330	C1.4			
04 October	B0027	U0029	0041	C2.1	SF	S22W04	9178
	B0056	U0056	0059		SF	S02E58	9182
	0508	0531	0542	C2.6	SF	S27E52	9181
	1509	1511	1526	C3.4	SF	S29E48	9181
	1735	1735	1748	C1.2	SF	S23W12	9178

Flare List – continued.

Date	Time Begin	Time Max	Time End	X-ray Class.	Optical Imp / Brtns	Optical Location Lat CMD	Rgn
05 October	0601	0609	0701	C2.1	1F	N14W61	9172
	0744	0748	0752	C1.0			
	1306	1312	1318	C1.3			
	2156	2158	2205	B9.7	SF	S26E32	9181
	2315	2316	2320		SF	N02E38	9182
06 October	0746	0747	0757	B8.7	SF	S10W42	9176
	1005	1011	1016	C2.4			
	1905	1909	1916		SF	S03E21	9182
07 October	0459	0501	0505	C1.1	SF	S23W42	9178
	0628	0641	0717	C1.7			
	1730	1735	1740	C1.4			
	2338	2340	2354	C3.9	1F	S27E02	9181
08 October	0111	0118	0126	C2.0			
	0441	0447	0452	C1.6			
	0551	0553	0602		SF	S09W65	9176
	B0612	U0613	0621		SF	N23E65	9189
	0647	0649	0651		SF	S11W67	9176
	0850	0850	0855		SF	S11W69	9176
	1111	1116	1119		SF	S09W72	9176
	2340	2344	2353		SF	S27W11	9181

Region Summary

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	M	X	Optical S	1	2	3	4
	Region 9171														
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								
25 Sep	S15E33	022	0080	07	CSO	003	B								
26 Sep	S14E19	023	0070	04	CSO	004	B								
27 Sep	S13E04	025	0050	02	HAX	003	A								
28 Sep	S13W09	025	0050	04	CSO	004	B								
29 Sep	S13W22	025	0040	06	CSO	004	B								
30 Sep	S13W38	028	0020	02	HSX	002	A								
01 Oct	S12W51	027	0020	01	HSX	001	A								
02 Oct	S10W63	026	0010	01	HRX	001	A								
03 Oct	S13W77	027	0000	00	AXX	001	A								
04 Oct	S13W90	027													
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 025

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	M	X	Optical S	1	2	3	4
	Region 9172														
24 Sep	N12E70	359	0050	02	HSX	001	A								
25 Sep	N12E58	357	0100	06	DAO	006	B								
26 Sep	N12E46	356	0080	07	DSO	009	B								
27 Sep	N12E32	357	0080	05	HSX	006	A								
28 Sep	N12E18	358	0050	04	CSO	003	B				1				
29 Sep	N12E08	355	0050	06	CSO	005	B								
30 Sep	N13W07	357	0040	06	CSO	003	B								
01 Oct	N14W21	357	0040	01	HSX	001	A								
02 Oct	N15W34	357	0030	01	HSX	001	A								
03 Oct	N14W48	358	0030	02	HSX	001	A								
04 Oct	N13W62	359	0030	01	HSX	001	A								
05 Oct	N12W76	360	0030	01	HSX	001	A	1				1			
06 Oct	N15W87	357	0050	02	HAX	001	A								
								1	0	0	1	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 357

Region Summary – continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics: Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares: X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
	Region 9173														
24 Sep	S14E72	357	0030	01	HSX	001	A								
25 Sep	S13E60	355	0070	03	HAX	001	A				1				
26 Sep	S13E51	351	0120	12	EAO	010	B	2			2				
27 Sep	S13E38	351	0110	11	EAO	017	B	2			6				
28 Sep	S12E25	351	0130	11	EAO	025	B	2			2	1			
29 Sep	S12E13	350	0220	12	EAI	025	B	4			4	1			
30 Sep	S11W02	352	0260	14	EAI	023	B	3			4				
01 Oct	S11W15	351	0260	14	EAI	021	B				2				
02 Oct	S11W28	351	0310	15	EKI	020	BG				2				
03 Oct	S11W41	351	0290	15	ESI	016	BG								
04 Oct	S12W53	350	0300	15	EAI	020	BG								
05 Oct	S13W68	352	0200	14	ESO	011	B								
06 Oct	S11W80	350	0150	13	EAO	007	B								
07 Oct	S12W88	345	0020	00	HRX	001	A								
								13	0	0	23	2	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 352

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics: Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares: X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
	Region 9175														
26 Sep	N21E67	335	0030	05	CRO	002	B				1				
27 Sep	N22E55	334	0020	03	BXO	002	B								
28 Sep	N22E44	332	0010	03	BXO	003	B								
29 Sep	N22E32	331	0000	02	AXX	002	A								
30 Sep	N22E19	331													
01 Oct	N22E06	331													
02 Oct	N22W07	331													
03 Oct	N22W20	331													
04 Oct	N22W33	331													
05 Oct	N22W46	331													
06 Oct	N22W59	331													
07 Oct	N22W72	331													
08 Oct	N22W85	331													
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 331

Region Summary – continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
			Region 9176												
27 Sep	S10E68	321	0140	02	HSX	001	A	1			5				
28 Sep	S09E57	319	0250	10	DAO	009	B				1				
29 Sep	S09E45	318	0410	12	EAO	016	B	1			1				
30 Sep	S09E31	319	0310	13	EKI	024	BG				2				
01 Oct	S09E18	318	0300	13	EKI	026	BG	2			1	2			
02 Oct	S09E04	319	0270	16	FHI	026	BG	2			2	1			
03 Oct	S08W10	320	0210	13	CAO	018	B								
04 Oct	S09W22	319	0190	14	CSO	015	B								
05 Oct	S09W37	321	0170	12	CSO	007	B								
06 Oct	S10W53	323	0130	10	CSO	005	B				1				
07 Oct	S08W66	323	0170	08	DSO	009	B								
08 Oct	S06W79	323	0220	08	DAO	006	B				4				
								6	0	0	17	3	0	0	0

Still on Disk.
Absolute heliographic longitude: 319

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
			Region 9177												
27 Sep	N28E01	028	0000	03	BXO	003	B								
28 Sep	N29W11	027	0000	01	AXX	002	A								
29 Sep	N30W23	026	0010	03	BXO	003	B								
30 Sep	N32W33	023	0020	05	BXO	003	B								
01 Oct	N29W43	019	0070	05	CAO	009	B				2				
02 Oct	N31W54	017	0150	06	CAO	009	B	1	1		2	3			
03 Oct	N29W68	018	0110	07	CSO	005	B	2			2				
04 Oct	N28W80	017	0100	08	CAO	002	B								
								3	1	0	6	3	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 028

Region Summary – continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
	Region 9178														
28 Sep	S23E63	313	0030	02	CRO	002	B								
29 Sep	S22E49	314	0050	06	CAO	005	B	1			2				
30 Sep	S23E38	312	0120	06	DAO	011	B	5	2		10				
01 Oct	S22E24	312	0160	09	DAI	015	B	1	1		11				
02 Oct	S22E09	314	0230	10	DAI	018	BG	1			3				
03 Oct	S22W04	314	0260	10	DAI	017	BG								
04 Oct	S22W16	313	0250	11	EAI	021	BG	2			2				
05 Oct	S23W30	314	0190	13	EAI	020	B								
06 Oct	S22W43	313	0150	10	CAO	011	B								
07 Oct	S20W59	316	0100	06	CSO	005	B	1			1				
08 Oct	S18W73	317	0080	07	CSO	004	B								
								11	3	0	29	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 314

	Region 9179														
30 Sep	N35E07	343	0010	07	BXO	004	B								
01 Oct	N34W06	342	0010	01	AXX	001	A								
02 Oct	N36W17	340	0030	05	CRO	005	B								
03 Oct	N35W30	340	0000	00	AXX	001	A								
04 Oct	N36W42	339	0010	02	BXO	003	B								
05 Oct	N36W55	339													
06 Oct	N36W68	339													
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 342

	Region 9180														
01 Oct	S34W21	357	0020	05	BXO	003	B								
02 Oct	S32W35	358	0020	01	HSX	001	A								
03 Oct	S32W50	360	0000	02	AXX	002	A								
04 Oct	S32W63	360													
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 357

Region Summary – continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
	Region 9181														
02 Oct	S32E65	258	0150	06	DAO	006	B								
03 Oct	S29E53	257	0150	06	DAI	007	B								
04 Oct	S27E41	256	0130	06	DAI	011	B	2			2				
05 Oct	S28E30	254	0140	07	DSI	011	B				1				
06 Oct	S28E16	254	0070	06	DAO	014	B								
07 Oct	S29E01	256	0060	06	DSO	010	B	1				1			
08 Oct	S30W12	256	0100	07	DSO	007	B				1				
								3	0	0	4	1	0	0	0
Still on Disk.															
Absolute heliographic longitude:		256													
	Region 9182														
02 Oct	S02E73	250	0060	02	CAO	003	B	1			1				
03 Oct	S02E63	247	0140	10	DAO	004	B	1			2				
04 Oct	N01E51	246	0160	12	EAO	008	B				1				
05 Oct	N03E39	245	0150	13	ESO	008	B				1				
06 Oct	N00E25	245	0140	14	ESO	013	B				1				
07 Oct	N01E10	247	0110	11	ESO	006	B								
08 Oct	N02W02	246	0090	12	ESO	007	B								
								2	0	0	6	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		246													
	Region 9183														
03 Oct	S32W30	340	0020	04	CRO	003	B								
04 Oct	S32W43	340	0010	00	HSX	002	B								
05 Oct	S32W56	340													
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		340													
	Region 9184														
03 Oct	S14E61	249	0000	00	AXX	001	A								
04 Oct	S13E53	244	0020	08	CSO	003	B								
05 Oct	S14E37	247	0010	00	AXX	001	A								
06 Oct	S14E24	247													
07 Oct	S14E11	247													
08 Oct	S14W02	247													
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		247													

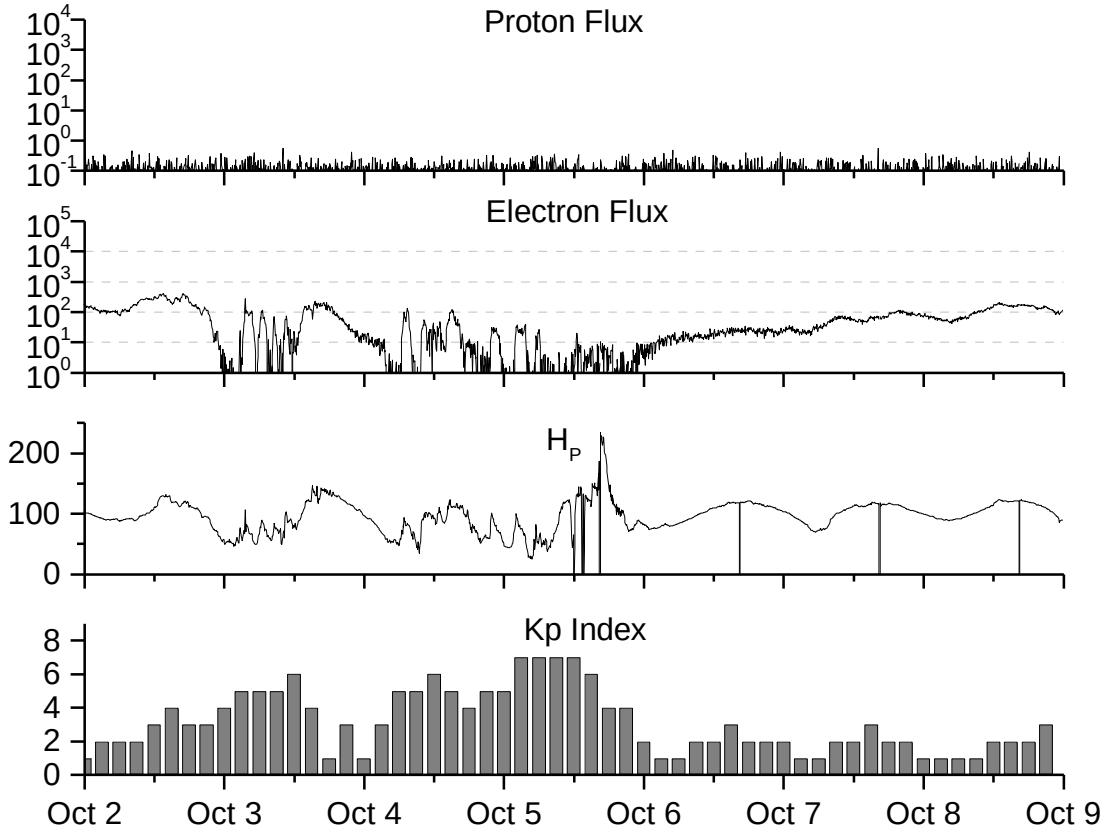
Region Summary – continued.

Date	Location (° Lat ° CMD)	Helio Lon	Sunspot Characteristics Area (10^{-6} hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	Flares X-ray C	X-ray M	X-ray X	Optical S	Optical 1	Optical 2	Optical 3	Optical 4
	Region 9185														
04 Oct	S18W49	346	0000	00	AXX	001	A								
05 Oct	S18W62	346													
								0	0	0	0	0	0	0	0
Crossed West Limb.															
Absolute heliographic longitude:		346													
	Region 9186														
04 Oct	N14W41	338	0040	05	DAO	009	B								
05 Oct	N13W55	339	0070	08	CSO	006	B								
06 Oct	N12W68	338	0130	08	DAO	006	B								
07 Oct	N15W82	339	0070	08	DSO	003	B								
08 Oct	N17W93	337	0090	09	DSO	002	B								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		338													
	Region 9187														
08 Oct	N21W07	251	0010	01	CSO	003	B								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		251													
	Region 9188														
08 Oct	S12E32	212	0010	01	CSO	002	B								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		212													
	Region 9189														
08 Oct	N19E54	190	0030	02	CSO	005	B				1				
								0	0	0	1	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		190													
	Region 9190														
08 Oct	S20E74	170	0060	03	DSO	002	B								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude:		170													

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

	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		*Penticton	Smooth	Planetary	Smooth
Month	SWO	RI	RI/SWO	SWO	RI	10.7 cm	Value	Ap	Value
					1998				
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	175.4	119.7	208.2	177.9	09	15.3
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	
September	157.9	109.9	0.70			182.1		16	

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 02 October 2000

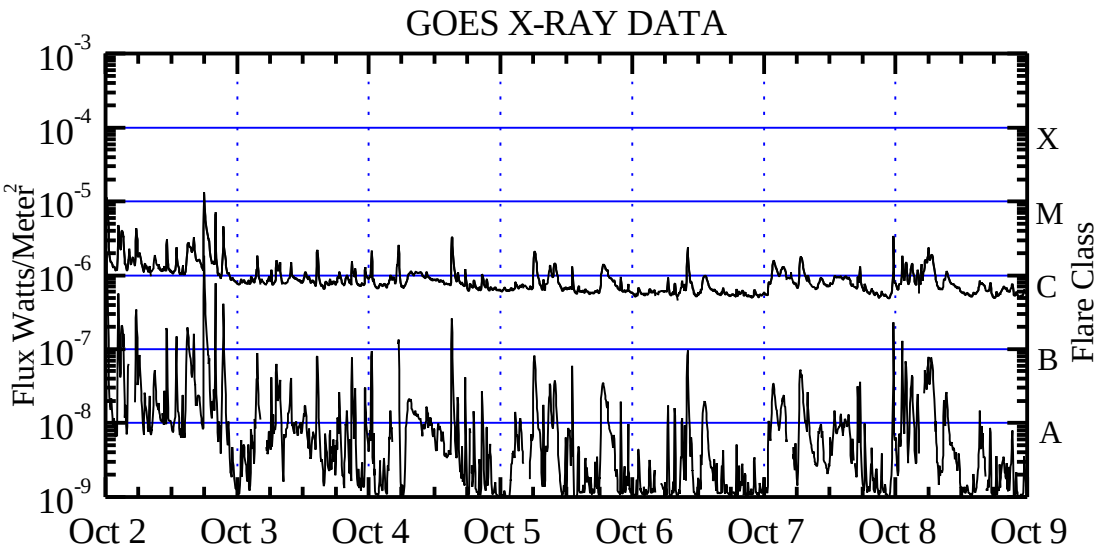
Protons plot contains the five-mine averaged integral proton flux (protons/cm^2 –sec –sr) as measured by GOES-8 (W75) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

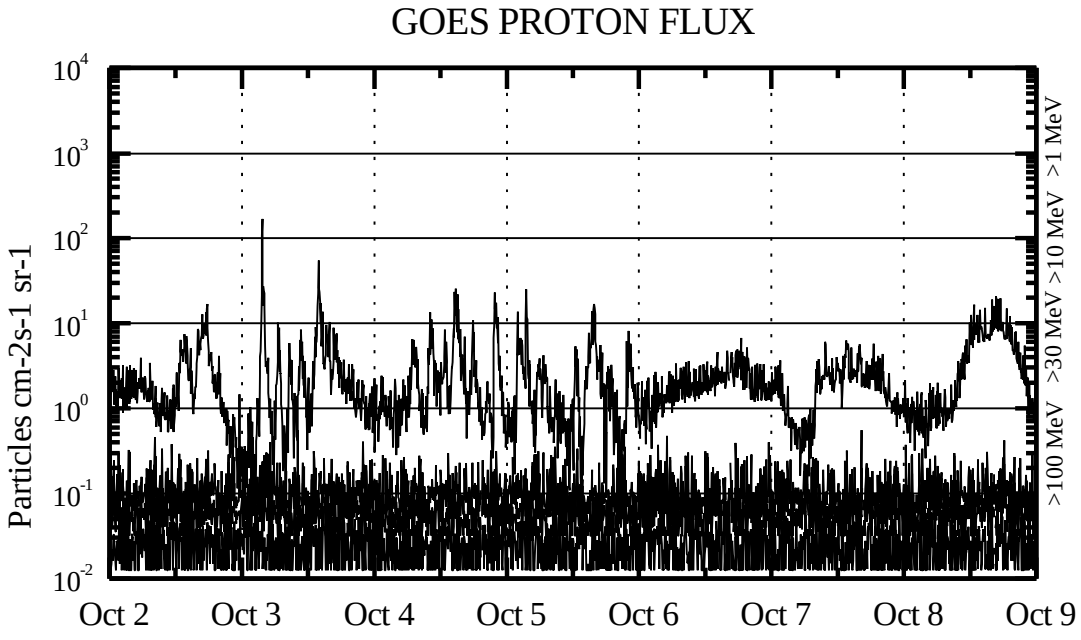
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm^2 –sec –sr) with energies greater than 2 MeV at GOES-8.

Hp plot contains the five mine 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.

Kp 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 Kp values derived from a more extensive network of magnetometers.

The data included here are those now available in real time at the SWO and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are " global " parameters that are applicable to a first order approximation over large areas. Hparallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.





W*eekly GOES Satellite X-ray and Proton Plots*

X-ray plot contains five mine averaged x-ray flux (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 mine averaged integral proton flux (protons/cm^2 –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/cm^2-sec-sr) at greater than 10 MeV.