

Solar activity was at moderate levels due to a single M-class event during the period. Region 9653 (S22, L = 083, class/area Dkc/220 on 09 October) produced an M1/2f event at 09/1113 UTC. This event had associated Type II (velocity est. 504 km/s) and Type IV radio sweeps. A full-halo coronal mass ejection (CME) also accompanied this event, as seen by LASCO imagery. The only other region of note during the period, was Region 9661 (N15, L = 358, class/area Dko/670 on 14 October). This sunspot group was the largest and most active region during the period, with the exception of the above mentioned M1/2f event. Region 9661 maintained a relatively large and moderately complex magnetic classification (Beta-delta) since its arrival on the disc on 10 October. During the majority of the period, only isolated small C-class events were reported (for flare times and magnitudes, please refer to the Energetic Events and Optical Flares lists).

Solar Wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft for most of the period. A CME passage, from the 09/1113 UTC M1/2f event, occurred on 11 October. The initial shock created an increase in solar wind speed of approximately 150 km/sec. Velocities as high as 600 km/sec were reported along with a short period of southward IMF Bz with maximum deflections to minus 20 nT (GSM). CME effects subsided during the latter half of 12 October.

The greater than 10 MeV proton flux was enhanced from 08 to 11 October. This was due to the residual effects of a greater than 10 MeV proton event that ended on 05 October.

The proton flux was at background levels for the rest of the period.

The greater than 2 MeV electron flux at geosynchronous orbit ranged from normal to moderate levels.

The geomagnetic field was slightly disturbed during 08 - 09 October due to high speed solar wind stream effects. Unsettled to minor storm levels occurred on 11 October due to the arrival of the CME created during the M1/2f event of 09 October. The CME arrival produced an 11 nT sudden impulse, as measured by the USGS Boulder magnetometer, at approximately 11/1700 UTC. The geomagnetic disturbance continued into 12 October, creating unsettled to major storming. Field activity declined to mostly quiet to active levels after 12/1800 UTC. The geomagnetic field closed out the period on 14 October with quiet to unsettled conditions.

### **Space Weather Outlook** **17 October - 12 November 2001**

Solar activity is expected to range from low to moderate levels. Isolated M-class flares are expected. There will be an increased chance for isolated major flare activity during 15 - 30 October with the return of old Regions 9628 (S18, L = 292, class/area Fkc/880 on 24 September) and 9632 (S19, L = 272, class/area Dki/790 on 24 September). Both regions had a history of isolated major flare production.

There will be a slight chance for a proton event during 15 - 30 October with the return of old Regions 9628 and 9632.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels during most of the period. However, high flux levels will be possible around 28 October.

The geomagnetic field is expected to be at mostly quiet to unsettled conditions, barring an earth-directed CME. Active conditions will be possible during 26 - 27 October due to coronal hole effects.



### *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
08 October	171	130	610	B8.4	4	0	0	1	0	0	0	0
09 October	176	99	590	B9.1	4	1	0	7	0	1	0	0
10 October	179	133	560	B9.0	7	0	0	7	0	0	0	0
11 October	175	174	1050	B9.3	6	0	0	4	0	0	0	0
12 October	179	179	1350	B8.0	11	0	0	10	0	0	0	0
13 October	180	166	1140	B6.5	6	0	0	5	0	0	0	0
14 October	192	178	1150	B8.9	8	0	0	5	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
	08 October	3.7E+6	3.6E+5	2.6E+3		2.5E+6
09 October	3.1E+6	1.7E+5	2.3E+3		2.0E+6	
10 October	1.3E+7	2.6E+5	2.8E+3		7.7E+5	
11 October	1.9E+7	1.0E+5	3.0E+3		1.3E+6	
12 October	7.6E+6	3.0E+4	2.1E+3		3.9E+5	
13 October	1.9E+6	1.9E+4	2.3E+3		4.7E+6	
14 October	5.2E+5	1.5E+4	2.4E+3		1.2E+7	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	08 October	11	2-2-3-2-3-3-2-3	*	2-1-3-3-5-4-2-*	15
09 October	16	4-3-2-3-4-4-2-2	*	3-2-*-5-3-2	15	3-2-3-4-4-4-2-2
10 October	6	1-2-2-2-2-2-1-1	20	1-1-3-3-6-4-3-1	8	1-3-2-2-3-2-2-1
11 October	13	2-3-1-1-1-4-4-3	55	4-4-4-3-5-7-7-3	17	2-3-2-1-3-5-5-4
12 October	18	4-5-3-3-3-2-2-2	39	4-5-3-6-6-4-4-2	27	5-6-3-4-4-3-3-3
13 October	9	3-3-2-2-2-2-2-1	19	3-3-5-5-3-2-1-1	10	3-3-3-3-2-2-2-1
14 October	6	1-1-2-2-2-2-2-2	12	1-1-4-4-3-2-2-2	9	1-2-3-2-2-2-3-3

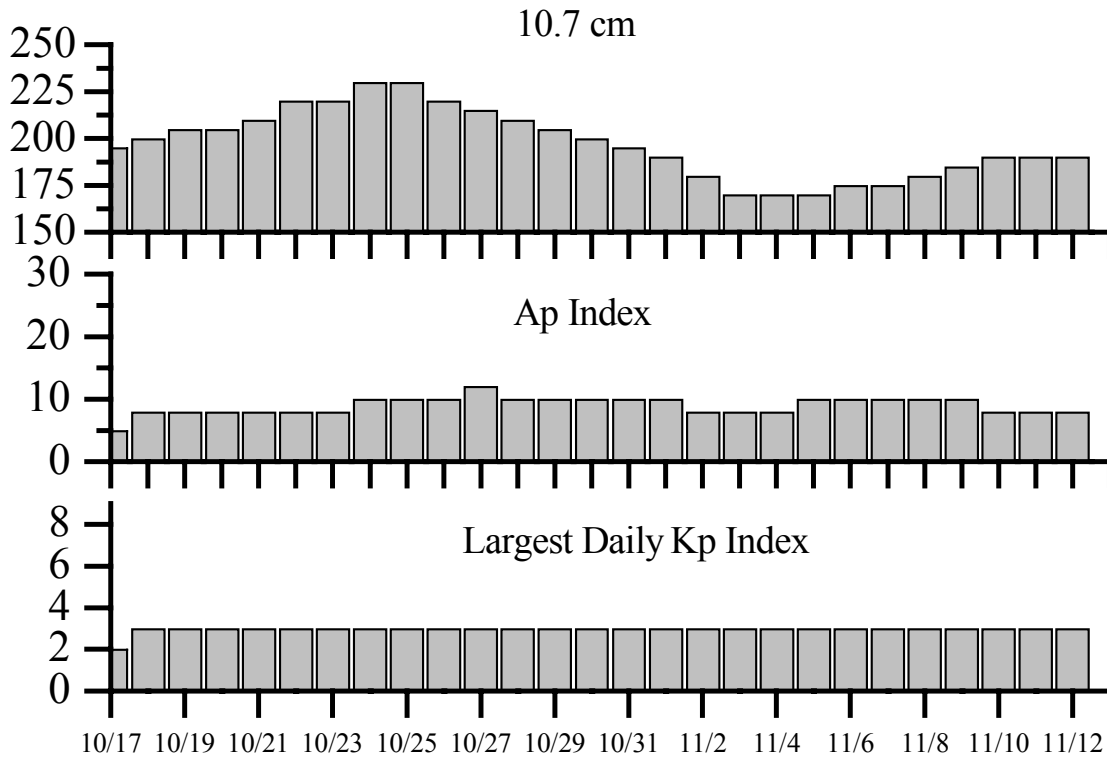


*Alerts and Warnings Issued*

<u>Date &amp; Time of Issue</u>	<u>Type of Alert or Warning</u>	<u>Date &amp; Time of Event UT</u>
08 Oct 1243	Type II Radio Emission	08 Oct 0815
08 Oct 1804	K= 4 Observed	08 Oct 1500 - 1800
09 Oct 0002	K= 4 Observed	08 Oct 2100 - 0000
09 Oct 0029	1 - 245 MHz Burst	08 Oct
09 Oct 0046	K= 4 Warning	09 Oct 0050 - 1500
09 Oct 0300	K= 4 Observed	09 Oct 0000 - 0300
09 Oct 0830	Type II Radio Emission	09 Oct 0737
09 Oct 1248	Type II Radio Emission	09 Oct 1131
09 Oct 1646	K= 4 Warning	09/1650 - 10/1500 Oct
09 Oct 1754	Type IV Radio Emission	09 Oct 1103
09 Oct 1806	K= 4 Observed	09 Oct 1500 - 1800
09 Oct 2153	A >=20 Watch	12 Oct
10 Oct 0010	245 Radio Noise Storm	09 Oct
11 Oct 0613	Type II Radio Emission	11 Oct 0428 UT
11 Oct 1618	K= 5 Warning	11 /1630 - 12 /1800 Oct
11 Oct 1646	K >= 6 Warning	11/1646 - 12/1800 Oct
11 Oct 1705	A >=30 Warning	11/1800 - 12/1800 Oct
11 Oct 1713	Sudden Impulse observed at Boulder	11 Oct 1700
11 Oct 1804	K= 5 Observed	11 Oct 1500 - 1800
12 Oct 0300	A >=20 Observed	12 Oct 0300
12 Oct 1159	A >=30 Observed	12 Oct 1200
12 Oct 1817	K= 4 Warning	12 / 1818 - 13 / 1500
12 Oct 2110	ENDED A >=30 Observed	12 Oct
13 Oct 0011	1 - 245 MHz Burst	12 Oct
13 Oct 0641	Type II Radio Emission	13 Oct 0531
13 Oct 0902	ENDED A >=20 Observed	13 Oct 0900
14 Oct 0052	1 - 245 MHz Burst	13 Oct
14 Oct 0501	K= 4 Warning	14 Oct 0501 -1500



## 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
17 Oct	195	5	2	31 Oct	195	10	3
18	200	8	3	01 Nov	190	10	3
19	205	8	3	02	180	8	3
20	205	8	3	03	170	8	3
21	210	8	3	04	170	8	3
22	220	8	3	05	170	10	3
23	220	8	3	06	175	10	3
24	230	10	3	07	175	10	3
25	230	10	3	08	180	10	3
26	220	10	3	09	185	10	3
27	215	12	3	10	190	8	3
28	210	10	3	11	190	8	3
29	205	10	3	12	190	8	3
30	200	10	3				



### *Energetic Events*

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½	Class	Integ Flux	Imp/Location		Rgn #	Radio Flux		Intensity	
			Max			Brtns	Lat		CMD	245	2695	II
09 Oct	1046	1113	1149	M1.4	.040	2F	S28E08	9653	25	130	2	2

### *Flare List*

Date	Time			X-ray Class.	Imp / Brtns	Optical Location		Rgn
	Begin	Max	End			Lat	CMD	
08 October	0104	0131	0221	C1.6				
	0527	0534	0548	C1.3				
	0809	0819	0838	C4.3				
	1514	1514	1520		SF	N08W29	9654	
	1738	1819	1945	C1.8				
09 October	0727	0728	0736	C7.0	SF	N19E67	9657	
	1059	1100	A1204	M1.4	2F	S28E08	9653	
	1414	1414	1420	C2.8	SF	S11E72		
	1606	1618	1627	C2.0				
	1826	1828	1832		SF	N22E59	9657	
	1939	1944	1947		SF	N21E58	9657	
	1955	1957	1959		SF	N22E58	9657	
	2130	2205	2217	C2.4	SF	N23E63	9657	
10 October	2319	2323	2327		SF	N21E56	9657	
	0222	0225	0227	C1.5				
	0457	0506	0509		SF	N19E53	9657	
	0819	0820	0824	C3.4	SF	S16E64	9658	
	0917	0917	0929	C1.7	SF	S16E66	9658	
	B1057	U1102	1114	C2.1	SF	S12E63	9658	
	B1339	1339	1344		SF	N23E53	9657	
	1421	1425	1431		SF	S22E08	9653	
	1921	1928	1954	C2.2	SF	N22E49	9657	
	1946	1951	1956	C2.4				
	2123	0023	2321	C2.8				
11 October	0418	0425	0438	C4.6	SF	N22E47	9657	
	0532	0729	0759	C4.1				
	1109	1134	1139	C2.6				
	1741	1744	1747	C2.1	SF	N15E77	9661	
	2207	2208	2215	C1.1	SF	S17E46	9658	
	2244	2245	2248	C1.3	SF	S14E65	9663	
12 October	B0010	0013	A0027	C1.9	SF	S17E46	9658	
	0132	0137	0140	C1.6				
	0325	0325	0331	C7.6	SF	N12E69	9661	
	0420	0421	0428	C2.0	SF	N22E32	9657	
	0558	0602	0610	C2.0				
	0918	0938	0947	C2.3				
	1057	1058	1100		SF	N17E61	9661	



*Flare List - continued.*

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
12 October	1104	1104	1112	C3.0	SF	S15E36	9658
	1137	1137	1141		SF	S19E38	9658
	1154	1157	1212	C4.1	SF	S18E08	9661
	1456	1500	1504	C1.7			
	1716	1723	1733	C1.5	SF	N15E59	9661
	2216	2217	2221		SF	N09E30	9662
	2232	2233	2240	C2.0	SF	S18E31	9658
	13 October	0048	0052	0057	C1.0		
0522		0522	0531	C5.3	SF	S19E34	9658
0903		0904	0909	C1.2	SF	S06W61	9648
0947		0956	1002	C1.9			
1228		1228	1241	C2.6	SF	N15E47	9661
1312		1314	1317		SF	S15E23	9658
1836		1839	1842	C1.6			
2339		2344	2359		SF	S14E17	9658
14 October	1350	1406	1430	C2.2	SF	N16E38	9661
	1421	1423	1425		SF	N24E83	
	1450	1458	1515	C3.0			
	1522	1523	1540		SF	S20E11	9658
	1547	1550	1600	C2.6	SF	N16E38	9661
	1652	1710	1740	C2.9			
	1923	1926	1928	C2.0			
	1949	1956	2003	C2.7	SF	N14E33	9661
	2017	2026	2030	C4.0			
2042	2048	2058	C8.0				



### Region Summary

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

#### Region 9640

27 Sep	N10E67	185	0040	04	CSO	004	B											
28 Sep	N10E56	183	0020	01	BXO	002	B											
29 Sep	N10E41	184	0030	02	HSX	003	A											
30 Sep	N10E26	186	0020	03	CSO	002	B											
01 Oct	N11E12	187	0040	03	CAO	003	B											
02 Oct	N10E00	186	0020	05	CAO	010	B											
03 Oct	N10W13	186	0010	04	BXO	006	B											
04 Oct	N11W27	187	0020	04	BXO	005	B											
05 Oct	N11W40	187																
06 Oct	N11W53	187																
07 Oct	N11W66	187																
08 Oct	N11W79	187																
09 Oct	N11W92	187																
										0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 186

#### Region 9641

27 Sep	S14E77	175	0060	02	HSX	001	A											
28 Sep	S14E61	178	0070	03	HAX	001	A											
29 Sep	S14E47	178	0090	04	CSO	002	B											
30 Sep	S15E38	174	0150	12	CSO	005	B											
01 Oct	S13E23	176	0220	11	EAO	009	B											
02 Oct	S14E08	178	0250	09	DAO	011	B		1		1							
03 Oct	S14W06	179	0180	08	CAO	010	B											
04 Oct	S13W19	179	0140	06	CSO	007	B	1			1							
05 Oct	S13W34	180	0130	04	CAO	003	B	2			1	1						
06 Oct	S13W48	181	0100	03	HAX	003	A											
07 Oct	S13W61	181	0100	03	HAX	003	A											
08 Oct	S13W76	183	0050	01	HAX	001	A											
09 Oct	S12W89	183	0060	02	HSX	001	A											
										3	1	0	3	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 179



**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

*Region 9642*

29 Sep	N03E71	154	0030	01	HSX	001	A										
30 Sep	N04E56	156	0020	01	HSX	001	A										
01 Oct	N06E43	156	0060	04	HAX	002	A										
02 Oct	N05E28	158	0040	01	HSX	001	A										
03 Oct	N05E15	158	0020	02	HAX	001	A										
04 Oct	N05E02	158	0030	02	HSX	001	A										
05 Oct	N05W12	158	0020	02	HSX	001	A										
06 Oct	N05W27	160	0010	01	HSX	001	A										
07 Oct	N04W40	160	0010	01	HSX	001	A										
08 Oct	N05W53	160	0010	00	AXX	001	A										
09 Oct	N05W66	160															
10 Oct	N05W79	160															

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 158

*Region 9644*

01 Oct	N20W04	203	0030	03	CSO	004	B										
02 Oct	N19W17	203	0030	04	CSO	007	B										
03 Oct	N19W31	204	0010	01	HSX	001	A										1
04 Oct	N20W42	202	0010	01	AXX	001	A			1							1
05 Oct	N20W55	202															
06 Oct	N20W68	202															
07 Oct	N20W81	202															
08 Oct	N20W94	202															

1 0 0 2 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 203

*Region 9645*

01 Oct	S18E03	196	0060	06	DAO	012	B										
02 Oct	S18W12	198	0030	09	DSO	010	B										3
03 Oct	S18W27	200	0100	08	DAO	008	B			2							2
04 Oct	S17W41	201	0150	09	DSO	009	B			2							2
05 Oct	S18W55	201	0120	08	DAO	008	B										
06 Oct	S18W68	201	0180	14	EAO	010	B										
07 Oct	S18W81	201	0150	13	EAO	004	B										
08 Oct	S19W90	197	0060	02	HAX	002	A										

4 0 0 7 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 196





**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 9646*

01 Oct	N12E42	157	0030	05	CAO	003	B												
02 Oct	N12E28	158	0010	07	BXO	002	B												
03 Oct	N12E12	161	0010	01	HRX	001	A												
04 Oct	N13W02	162	0010	03	BXO	003	B												
05 Oct	N13W15	162																	
06 Oct	N13W28	162																	
07 Oct	N13W41	162																	
08 Oct	N13W54	162																	
09 Oct	N13W67	162																	
10 Oct	N13W80	162																	

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 162

*Region 9647*

02 Oct	S16E31	155	0000	00	AXX	001	A												
03 Oct	S16E18	159																	
04 Oct	S16E05	159																	
05 Oct	S18W08	154	0010	01	AXX	002	B												
06 Oct	S18W21	154																	
07 Oct	S18W34	154																	
08 Oct	S18W47	154																	
09 Oct	S18W60	154																	
10 Oct	S18W73	154																	
11 Oct	S18W86	154																	

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 159



**Region Summary - continued.**

Date	Location		Sunspot Characteristics				Flares										
	Helio		Area (10 <sup>-6</sup> hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
	(° Lat ° CMD)	Lon						C	M	X	S	1	2	3	4		
<i>Region 9648</i>																	
02 Oct	S04E78	108	0050	02	HSX	001	A										
03 Oct	S05E64	109	0080	02	HSX	001	A	1				1					
04 Oct	S06E49	111	0110	02	HSX	001	A										
05 Oct	S06E38	108	0110	01	DSO	003	A										
06 Oct	S07E22	111	0080	06	CAO	005	B	1					1				
07 Oct	S07E08	112	0070	05	CAO	005	B										
08 Oct	S07W06	113	0030	04	CSO	004	B										
09 Oct	S07W20	114	0030	03	CSO	002	B										
10 Oct	S07W34	114	0020	01	HSX	001	A										
11 Oct	S07W48	115	0010	01	HSX	001	A										
12 Oct	S06W60	114	0010	00	AXX	001	A										
13 Oct	S06W73	114										1		1			
								3	0	0	2	1	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 113

<i>Region 9650</i>																	
03 Oct	S12E72	101	0070	10	CAO	003	B										
04 Oct	S15E54	106	0040	07	CSO	007	B					1					
05 Oct	S14E44	102	0080	09	DSO	010	B	1				1					
06 Oct	S15E31	102	0130	10	DAO	018	B	1				1					
07 Oct	S14E18	102	0100	09	DAO	019	B	3				3					
08 Oct	S14E04	103	0060	10	DSO	017	B										
09 Oct	S16W07	101	0030	09	CSO	010	B										
10 Oct	S15W21	101	0020	06	CRO	007	B										
11 Oct	S16W34	101	0020	07	BXO	004	B										
12 Oct	S12W46	100	0010	03	BXO	002	B										
13 Oct	S17W56	097	0010	03	BXO	002	B										
14 Oct	S17W69	097															
								5	0	0	6	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 103



**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 9651*

04 Oct	S22W12	172	0030	04	CSO	005	B
05 Oct	S23W26	172	0030	06	DSO	005	B
06 Oct	S24W39	172	0010	05	BXO	005	B
07 Oct	S25W55	175	0000	00	AXX	001	A
08 Oct	S25W68	175					
09 Oct	S25W81	175					
10 Oct	S25W94	175					

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 172

*Region 9652*

04 Oct	N22E14	146	0010	03	BXO	002	B
05 Oct	N22E01	145	0010	01	AXX	001	A
06 Oct	N21W13	146	0020	03	BXO	007	B
07 Oct	N21W26	146	0010	03	CRO	003	B
08 Oct	N21W39	146	0000	00		000	
09 Oct	N21W52	146					
10 Oct	N21W65	146					
11 Oct	N21W78	146					

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 145

*Region 9653*

04 Oct	S23E76	084	0060	05	HAX	001	A
05 Oct	S22E62	082	0220	09	DKO	004	B
06 Oct	S22E50	083	0270	05	DKO	005	B
07 Oct	S22E37	083	0280	07	DKO	008	B
08 Oct	S22E24	083	0220	07	DKC	006	B
09 Oct	S22E11	083	0190	07	DAO	008	B
10 Oct	S21W02	082	0160	07	DAI	013	B
11 Oct	S22W14	081	0150	07	DAO	015	B
12 Oct	S22W27	081	0130	07	DAO	013	B
13 Oct	S22W40	081	0060	04	DAO	007	B
14 Oct	S22W54	082	0030	03	CSO	003	B

1 1 0 2 0 1 0 0

Still on Disk.

Absolute heliographic longitude: 082



**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 9654*

05 Oct	N07E06	140	0010	01	AXX	001	A											
06 Oct	N07W06	139	0010	03	BXO	003	B											
07 Oct	N07W19	139																
08 Oct	N07W32	139										1						
09 Oct	N07W45	139																
10 Oct	N07W58	139																
11 Oct	N07W71	139																

0 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 140

*Region 9655*

06 Oct	S22E64	069	0180	04	HKX	002	A											
07 Oct	S21E52	068	0180	04	DAO	006	B											
08 Oct	S21E38	069	0130	05	DAO	006	B											
09 Oct	S22E26	068	0090	05	DAO	004	B											
10 Oct	S21E12	068	0070	05	CAO	003	B											
11 Oct	S22E00	067	0090	04	CSO	005	B											
12 Oct	S21W14	068	0060	04	CSO	005	B											
13 Oct	S22W26	067	0030	04	CSO	004	B											
14 Oct	S22W37	065	0020	03	CRO	004	B											

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 067

*Region 9656*

07 Oct	S21W13	133	0020	04	BXO	004	B											
08 Oct	S21W28	135	0010	03	BXO	002	B											
09 Oct	S21W41	135																
10 Oct	S21W54	135																
11 Oct	S21W67	135																
12 Oct	S21W80	135																

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 133



**Region Summary - continued.**

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

*Region 9657*

08 Oct	N23E70	037	0040	01	HSX	001	A										
09 Oct	N23E58	036	0040	05	CSO	003	B	2			6						
10 Oct	N23E44	036	0030	05	CSO	006	B	1			3						
11 Oct	N19E23	044	0030	05	DSO	007	B	1			1						
12 Oct	N23E18	036	0030	05	DSO	004	B	1			1						
13 Oct	N22E04	037	0010	01	HSX	001	A										
14 Oct	N22W10	038	0010	01	AXX	001	A										
								5	0	0	11	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 37

*Region 9658*

09 Oct	S14E68	026	0150	03	HAX	001	A										
10 Oct	S14E55	025	0180	16	FAO	007	B	3			3						
11 Oct	S15E44	023	0190	16	FAI	009	B	1			1						
12 Oct	S14E29	025	0190	22	FSI	017	B	3			4						
13 Oct	S15E18	023	0190	17	FSI	016	B	1			3						
14 Oct	S15E04	024	0170	20	FAO	016	B				1						
								8	0	0	12	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 024

*Region 9659*

10 Oct	N04E19	061	0010	03	BXO	003	B										
11 Oct	N03E04	063	0010	03	BXO	002	B										
12 Oct	N03W09	063															
13 Oct	N03W22	063															
14 Oct	N04W36	064	0010	03	BXO	003	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 063

*Region 9660*

10 Oct	N12E20	060	0010	01	AXX	002	A										
11 Oct	N12E08	052	0030	06	DAO	010	B										
12 Oct	N13W06	060	0050	07	DSO	008	B										
13 Oct	N13W21	062	0020	06	CSO	005	B										
14 Oct	N13W36	064	0030	01	HSX	002	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 060



**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 9661</i>																		
10 Oct	N12E76	004	0060	01	HAX	001	A											
11 Oct	N16E69	358	0480	13	EKO	005	BD	1				1						
12 Oct	N14E55	359	0760	12	EKO	008	BD	3				4						
13 Oct	N15E42	359	0720	11	EKI	016	BD	1				1						
14 Oct	N15E30	358	0670	10	DKO	018	BD	3				3						
								8	0	0	0	9	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 358

<i>Region 9662</i>																		
11 Oct	N09E42	025	0020	04	BXO	005	B											
12 Oct	N08E29	025	0070	06	DSO	009	B					1						
13 Oct	N09E15	026	0070	06	DAO	011	B											
14 Oct	N08E03	025	0140	08	DSO	014	B											
								0	0	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 025

<i>Region 9663</i>																		
11 Oct	S13E67	000	0020	01	HRX	001	A	1				1						
12 Oct	S14E52	002	0030	01	HSX	001	A											
13 Oct	S15E37	004	0020	01	HSX	001	A											
14 Oct	S14E25	003	0030	10	CSO	004	B											
								1	0	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 003

<i>Region 9664</i>																		
12 Oct	N07E16	038	0010	01	HRX	001	A											
13 Oct	N07E03	038																
14 Oct	N07W10	038																
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 038

<i>Region 9665</i>																		
13 Oct	S26W57	098	0010	04	BXO	003	B											
14 Oct	S26W70	098																
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 098



***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 9666*

14 Oct S12E31    357   0010    03 BXO   002    B  
0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 357

*Region 9667*

14 Oct N24E73    315   0030    01 HSX   001    A  
0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 315



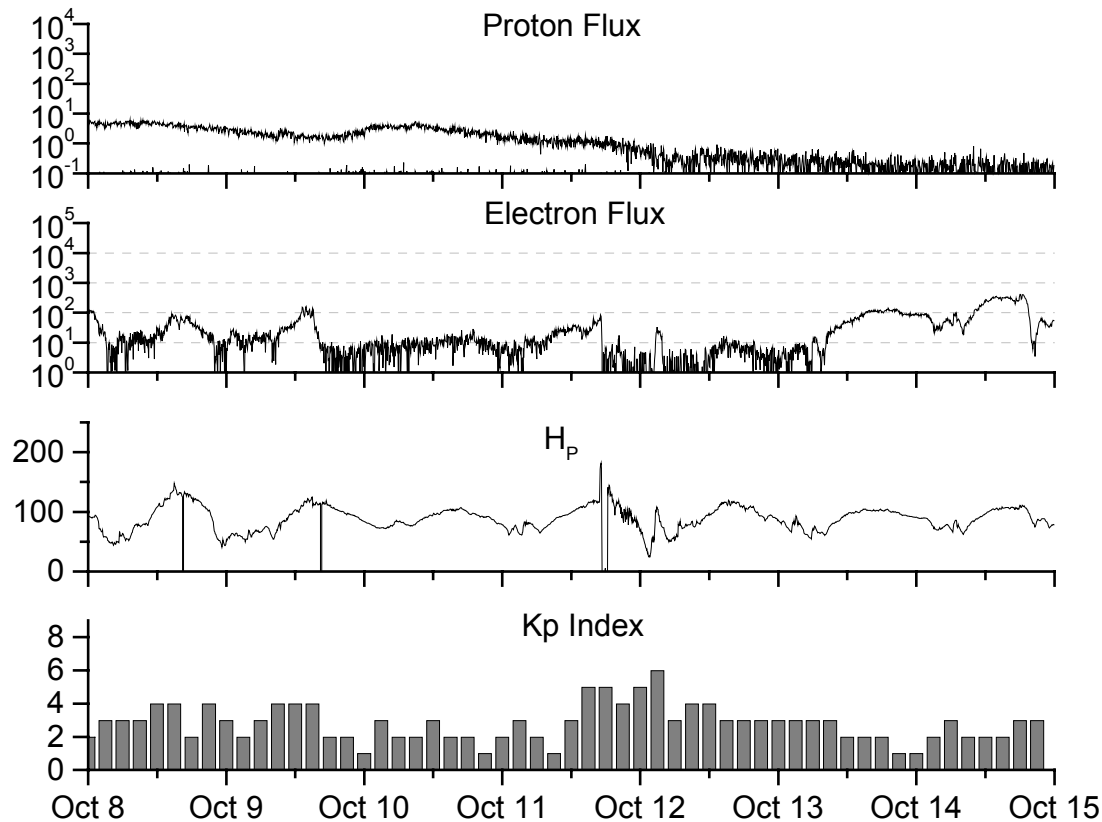
**Recent Solar Indices (preliminary)  
of the observed monthly mean values**

Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	Observed values SWO	RI	Ratio RI/SWO	Smooth values SWO	RI	*Penticton 10.7 cm Value	Smooth Value	Planetary Ap	Smooth Value
<b>1999</b>									
October	167.7	116.7	0.70	158.5	107.8	164.8	167.2	19	12.7
November	199.3	133.2	0.67	164.7	110.0	191.5	171.5	14	13.1
December	123.5	86.4	0.69	165.9	111.1	169.8	173.4	10	13.8
<b>2000</b>									
January	140.8	90.1	0.64	168.0	112.9	158.1	175.5	13	14.5
February	161.9	112.9	0.70	172.1	116.7	173.2	176.8	15	15.0
March	203.6	138.5	0.68	175.4	119.9	208.2	178.4	09	15.0
April	193.4	125.5	0.65	176.3	120.8	184.2	180.5	15	15.0
May	188.8	121.6	0.64	173.1	119.0	184.5	180.0	15	15.0
June	190.3	124.9	0.66	172.0	118.7	179.8	179.7	15	15.1
July	236.7	169.1	0.71	173.0	119.7	204.7	180.2	21	14.8
August	166.6	130.5	0.78	171.8	118.6	163.1	179.5	16	14.2
September	157.9	109.9	0.70	169.0	116.2	182.1	177.1	18	14.2
October	138.9	100.1	0.72	166.2	114.4	167.7	175.6	18	14.6
November	149.9	106.5	0.71	162.7	112.7	178.8	173.6	17	14.6
December	146.4	104.5	0.71	160.8	112.1	173.6	172.0	08	14.4
<b>2001</b>									
January	142.7	95.1	0.67	156.3	108.8	166.7	168.8	08	13.8
February	131.0	80.1	0.61	151.4	104.2	147.3	165.8	06	13.3
March	166.7	114.2	0.69	154.0	104.9	177.7	167.9	17	12.9
April	163.6	108.2	0.66			178.3		18	
May	135.1	97.3	0.72			148.7		12	
June	196.7	134.0	0.68			173.7		12	
July	124.6	82.2	0.66			131.3		11	
August	159.4	106.8	0.67			163.2		13	
September	229.1	150.7	0.66			233.3		12	

**NOTE:** All smoothed values after June 1999 and monthly values after December 2000 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 08 October 2001*

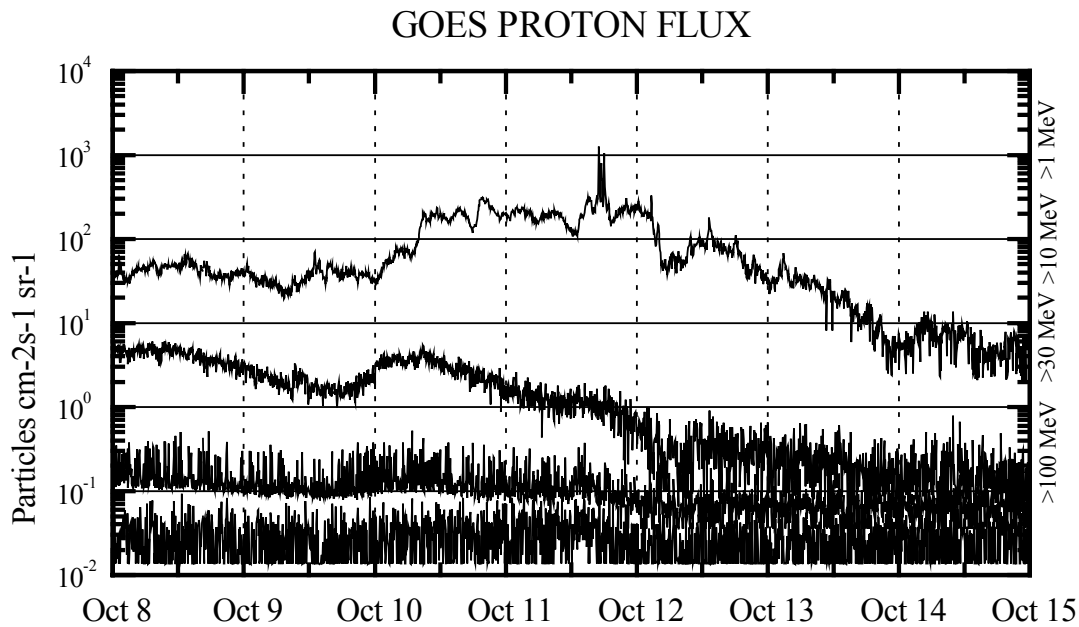
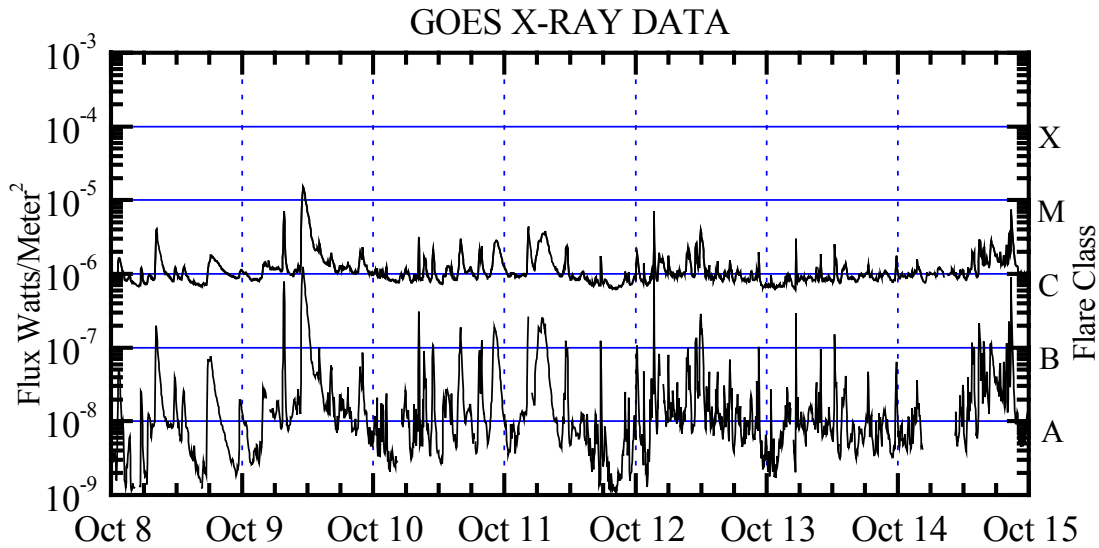
*Protons* plot contains the five-minute averaged integral proton flux (protons/cm<sup>2</sup>-sec -sr) as measured by GOES-8 (W75) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

*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 Air Force Weather Agency) 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 (watts/m<sup>2</sup>) 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/cm<sup>2</sup>-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<sup>2</sup>-sec-sr) at greater than 10 MeV.

