

Space Weather Highlights

08 – 14 May 2000

SWO PRF 1289
16 May 2000

Solar activity ranged from low to moderate levels. Activity was low during 08-11 May. However, there were a few interesting events during this interval including a few large filament disappearances on May 08 from the south-central portion of the disk, one of which was associated with a partial-halo CME; and a long-duration C8/2N flare at 10/1941UT with associated Type II and IV radio sweeps from Region 8990 (N14, L = 062, class/area Eki/360 on 13 May). Activity increased to moderate levels during 12 - 14 May due to isolated low-level M-class flares (see the Energetic Event Summary for flare times). A 33-degree filament disappeared from the northeast quadrant on 13 May. There were two large, moderately-complex sunspot groups present on the disk at the end of the period including Region 8996 (S21, L = 343, class/area Eki/1210 on 13 May) and Region 9002 (N18, L = 304, class/area Ehi/940 on 15 May).

Real-time solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft for most of the period. A transient passed the spacecraft during 12 - 13 May, possibly due to the partial-halo CME observed on 08 May. The transient passage was accompanied by increased velocities (peaks to 620 km/sec on 13 May), increased densities (peak to 25 p/cc on 12 May), a shift from a toward (negative polarity) to an away (positive polarity) solar sector, and increased IMF Bz variability with southward deflections to minus 13 nT (GSM).

There were no proton events detected at geosynchronous orbit.

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

Geomagnetic field activity was at mostly quiet to unsettled levels through 11 May. Activity increased during 12 - 14 May with intermittent active to minor storm levels detected globally.

Space Weather Outlook

17 May -12 June 2000

Solar activity is expected to vary between low and moderate levels. Isolated M-class flares are likely during the period. There will also be a slight chance for a major flare sometime during the period.

There will be a slight chance for a greater than 10 MeV proton event a geosynchronous orbit sometime during the period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels during most of the period.

A geomagnetic field disturbance is expected during 18 - 19 May due to a halo CME observed on 15 May. Active to minor storm levels are expected during this disturbance. 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. (10 ⁶ hemi.)	Sunspot Area	X-ray Background	Flares							
					X-ray Flux			Optical				
					C	M	X	S	1	2	3	4
08 May	137	131	200	B2.9	5	0	0	10	0	0	0	0
09 May	150	149	390	B3.9	8	0	0	16	0	0	0	0
10 May	179	174	620	B7.4	4	0	0	8	0	1	0	0
11 May	178	213	980	C1.0	7	0	0	7	0	0	0	0
12 May	190	211	1500	C1.2	8	1	0	4	2	0	0	0
13 May	217	260	2570	C2.6	9	1	0	49	2	0	0	0
14 May	233	263	2710	C4.1	10	1	0	27	0	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ² -day-sr)			Electron Fluence (electrons/cm ² -day-sr)		
	>1MeV	>10MeV	>100MeV	>.6MeV	>2MeV	>4MeV
08 May	4.7E+5	1.9E+4	2.2E+3		3.8E+7	
09 May	2.9E+5	1.4E+4	2.1E+3		6.6E+6	
10 May	1.3E+5	1.2E+4	2.2E+3		1.7E+6	
11 May	1.3E+5	1.3E+4	2.4E+3		2.0E+6	
12 May	4.1E+5	1.3E+4	2.3E+3		1.7E+5	
13 May	1.4E+5	1.3E+4	2.3E+3		2.1E+5	
14 May	1.6E+5	1.2E+4	2.2E+3		4.3E+5	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	08 May	6	2-0-2-1-1-3-1-3	10	2-2-3-3-3-3-2-1	6
09 May	7	2-3-1-2-2-1-2-2	10	2-2-3-3-3-3-2-1	11	2-3-2-3-3-3-3-3
10 May	5	3-2-0-0-1-1-2-1	14	1-2-1-2-5-3-1-4	7	3-2-1-2-2-2-2-2
11 May	4	1-1-2-0-2-0-2-2		2-2-2-1-3-3-1-*	6	2-2-3-1-2-2-2-2
12 May	19	2-3-4-4-3-3-3-4		*-*-*-*-*-*-*3	22	3-4-5-4-3-2-4-4
13 May	15	4-3-2-3-3-3-3-2	12	4-2-2-2-2-3-3-2	15	4-3-2-3-3-3-3-2
14 May	11	4-4-1-1-2-1-2-2	12	3-2-1-2-5-1-2-2	12	4-4-2-2-3-2-3-3

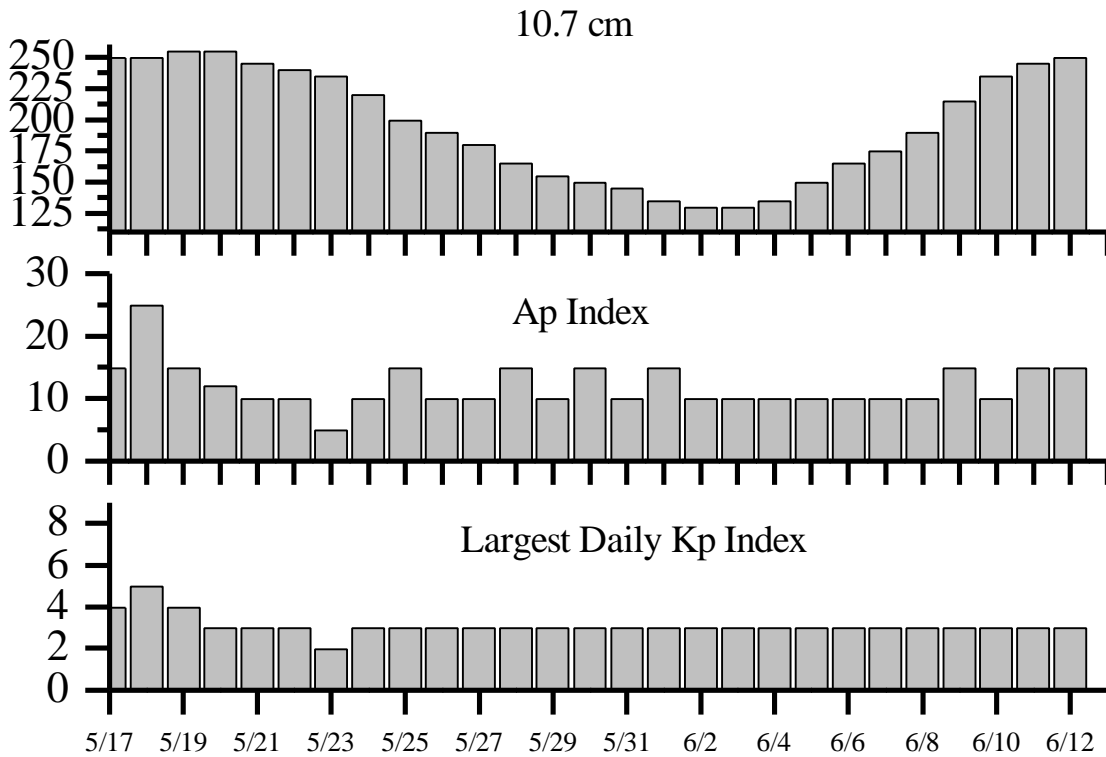


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
08 May 2018	A = 30 Watch	12 May
10 May 2057	Type II Radio Emission	10 May 19:38
11 May 2121	CANCELLED A = 30 Watch	12 May
11 May 2126	A = 20 Watch	12 May
11 May 2137	A = 20 Watch	13 May
12 May 601	K= 4 Warning	12 May 06 - 21
12 May 602	K= 4 Observed	12 May 03 - 06
12 May 901	K= 5 Observed	12 May 06 - 09
12 May 2245	K= 4 Warning	12 /2245 –13/1800 May
12 May 2359	K= 4 Observed	12 May 21- 24
13 May 109	Type II Radio Emission	12 May 23:16
13 May 300	A = 20 Observed	13 May 03:00
13 May 0604	ENDED A = 20 Observed	13 May 03:00
14 May 233	K= 4 Warning	14 May 0240 -1200
14 May 248	K= 5 Warning	14 May 02:50 - 09:00
14 May 302	K= 5 Observed	14 May 00-03



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 May	250	15	4	31 May	145	10	3
18	250	25	5	01 Jun	135	15	3
19	255	15	4	02	130	10	3
20	255	12	3	03	130	10	3
21	245	10	3	04	135	10	3
22	240	10	3	05	150	10	3
23	235	5	2	06	165	10	3
24	220	10	3	07	175	10	3
25	200	15	3	08	190	10	3
26	190	10	3	09	215	15	3
27	180	10	3	10	235	10	3
28	165	15	3	11	245	15	3
29	155	10	3	12	250	15	3
30	150	15	3				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½ Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
									245	2695	II	IV
12 May	2323	2329	2337	M1.0	.007	1F	S14E78	8998	53			
13 May	0121	0144	0240	M1.1	.040							
14 May	0759	0805	0810	M1.0	.005	SF	S23W52	8993	200			

Flare List

Date	Time			X-ray Class.	Optical Imp / Brtns	Location Lat CMD	Rgn
	Begin	Max	End				
08 May	0016	0021	0029		SF	N16E61	8990
	0300	0317	0330	B5.5			
	0501	0623	0741	B6.8			
	0655	0659	0709	C1.2	SF	N14E55	8990
	1047	1048	1103	C4.2	SF	N14E53	8990
	1338	1346	1354	C2.3			
	1403	1404	1412		SF	N15E53	8990
	1529	1529	1545		SF	N14E53	8990
	1535	1535	1540		SF	N16E30	8989
	1659	1724	1732	C1.3	SF	N14E51	8990
	1802	1802	1804		SF	N14E52	8990
	2220	2223	2225	B6.1			
	2255	2259	2303		SF	N16E74	8991
2349	2353	0002	C1.3	SF	N15E49	8990	
09 May	0303	0306	0313	C1.8	SF	N14E46	8990
	0411	0419	0432	C1.1			
	0724	0733	0747	B7.4			
	1209	1212	1222	C2.0	SF	N26W04	8983
	1318	1319	1332		SF	N25W04	8983
	1426	1426	1429		SF	N15E64	8991
	1542	1547	1552		SF	N16E65	8991
	1605	1607	1611		SF	N16E64	8991
	1635	1639	1647	B9.2	SF	N15E64	8991
	1730	1739	1750	C9.2	SN	N17E17	8989
	1831	1832	1853	C1.8	SF	N15E65	8991
	1917	1926	1951	C2.2	SF	N16E13	8989
	1952	1954	2001		SF	N11E14	8989
	2036	2042	2114	C1.6	SF	N17E16	8989
	2123	2138	2142	C3.7			
2126	2126	2134		SF	N27W07	8983	
2129	2134	2153		SF	N11E14	8989	
2337	2337	2344		SF	S24W59	8982	
2356	0000	0013		SF	N15E13	8989	



Flare List – continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
10 May	0003	0004	0009		SF	N15E62	8991
	0012	0015	0021		SF	S22W72	8982
	0136	0140	0143	C1.1			
	0207	0209	0224	C1.3	SF	N17E12	8989
10 May	0549	0550	0554		SF	S17W76	8980
	0817	0818	0842	C1.3	SF	N10E06	8989
	1220	1221	1226	B9.8	SF	N10E04	
	1527	1528	1542		SF	N25W18	8983
	1932	1937	2100	C8.7	2N	N14E20	8990
11 May	2315	2340	0002		SF	N15E50	8991
	0022	0023	0030		SF	N17E00	8989
	0047	0048	0108	C3.3	SF	S23W08	8993
	B0500	U0507	A0520		SF	S21W09	8993
	0812	0819	0831	C4.5			
	1003	1011	1016	C7.8			
	1112	1133	1140	C2.1			
	1311	1317	1322	C2.5			
	1401	1404	1409	C1.7			
	2151	2152	2158		SF	S25W12	8993
	2221	2224	2227	C3.6			
	2346	2347	2356		SF	S11E87	8996
	2351	2353	2355		SF	S26W14	8993
2357	0004	0010		SF	S26W13	8993	
12 May	0430	0434	0438	C4.7			
	0838	0846	0853	C8.1			
	0921	0926	0934	C5.4			
	1204	1212	1217	C3.8			
	1350	1356	1400	C5.0			
	2009	2009	2016		SF	S19W33	8993
	2040	2052	2055	C2.8			
	2134	2135	2217	C9.8	SF	S15E81	8998
	2211	2304	0008		1F	N14W24	8989
	2243	2244	2251	C6.6	SF	S21E74	8996
	2314	2320	2349		SF	S23W31	8993
13 May	2321	2327	0021	M1.0	1F	S14E78	8998
	0015	0017	0036		SF	S21E65	8996
	0121	0144	0240	M1.1			
	0320	0323	0346	C7.6	SF	S21E69	8996
	0431	0434	0447	C4.0	SF	S21E70	8996
	0451	0501	0513		1F	S13E74	8998



Flare List – continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
13 May	0452	0501	0505		SF	S21E70	8996
	0619	0619	0623		SF	N20E75	8999
	0726	0732	0741	C6.7	1F	S21E67	8996
	0848	0858	0914		SF	S21W38	8993
	0916	0919	0925		SF	S20W40	8993
	0935	1001	1010		SF	S21W40	8993
	1059	1059	1111	C3.8	SF	S22W38	8993
	1124	1126	1128		SF	S22W40	8993
	1155	1157	1203	C2.8	SF	N16W14	8990
	1200	1201	1203		SF	S22W39	8993
	1207	1210	1212		SF	S22W40	8993
	1214	1216	1219	C3.7	SF	S22E65	8996
	1323	1325	1329		SF	N13W12	8990
	1324	1330	1332		SF	S22W42	8993
	1352	1354	1356		SF	S22W42	8993
	1353	1353	1359		SF	S14E68	8998
	1358	1407	1413		SF	S23E64	8996
	1401	1404	1408		SF	S22W42	8993
	1407	1408	1411		SF	S21E58	8996
	1424	1424	1427		SF	N20E70	8999
	1433	1433	1437		SF	S22W42	8993
	1433	1433	1452		SF	S24E63	8996
	1437	1437	1443		SF	N15W16	8990
	1511	1511	1517		SF	S12E77	8998
	1523	1523	1531		SF	S22W43	8993
	1531	1536	1538		SF	S22W43	8993
	1539	1543	1549		SF	S22W43	8993
	1554	1601	1612		SF	S22W43	8993
	1622	1624	1629		SF	S22W43	8993
	1635	1638	1651		SF	S13E72	8998
	1652	1656	1703		SF	S15E73	8998
	1708	1708	1712		SF	S14E62	8998
	1711	1711	1713		SF	S22W43	8993
	1711	1713	1716		SF	N11W19	8990
	1724	1725	1731		SN	S21W44	8993
	1738	1741	1812	C4.5	SF	N23E67	8999
	1740	1740	1743		SF	S22W41	8993
	1751	1759	1810		SF	N15W19	8990
	1820	1824	1827		SF	S15E66	8998
	1832	1835	1838		SF	S22W44	8993



Flare List – continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
13 May	1840	1841	1844		SF	S17E70	8998
	1859	1859	1904		SF	N16W34	8989
	2018	2018	2030		SF	S23W44	8993
	2051	2100	2115	C2.9	SF	S21W46	8993
	2139	2140	2144		SF	S24W42	8993
	2156	2156	2202		SF	N12W39	8989
	2301	2334	0020	C7.4			
	2321	2322	2326		SF	S20W49	8993
14 May	0107	0107	0112		SF	S21W50	8993
	0400	0405	0412	C5.2	SF	S23W51	8993
	0503	0511	0521	C4.4			
	0558	0558	0601		SF	S10E69	8998
	0757	0804	0839	M1.0	SF	S23W52	8993
	0904	0906	0919	C7.5	SF	S20E52	8996
	B1032	U1034	A1037		SF	S22W52	8993
	1035	1037	1042	C7.3	SF	S22E52	8996
	1210	1217	1227		SF	N20W48	8989
	1412	1414	1427	C4.8	SF	N14W48	8989
	1422	1452	1513		SF	S19W59	8993
	1441	1441	1449		SF	S14E52	8998
	1541	1541	1546		SF	S21W57	8993
	1553	1557	1620		SF	N16W46	8989
	1638	1638	1643		SF	N22E56	8999
	1647	1648	1655	C6.6	SF	S15E60	8998
	1657	1703	1711		SF	S15E58	8998
	1731	1732	1734		SF	N21E57	8999
	1812	1816	1823	C2.1			
	1836	1837	1845		SF	S22W54	8993
	1901	1909	1918		SF	S16E58	8998
	1903	1904	1907		SF	S19W59	8993
	1945	1946	1959	C5.1	SF	S20W59	8993
	2006	2007	2010		SF	S23W57	8993
	B2218	U2218	A2239	C3.6	SF	S11E60	8998
	B2218	U2252	2256	C2.9	SF	S23W57	8993
	2335	2335	2344		SF	S22W59	8993
2343	2344	2358		SF	S14E53	8998	
2356	0028	0030		SF	N11W56	8989	



Region Summary

Date	Location		Sunspot Characteristics				Flares															
	(° Lat ° CMD)	Helio	Area (10 ⁶ hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical											
		Lon						C	M	X	S	1	2	3	4							
<i>Region 8980</i>																						
28 Apr	S16E71	168	0000	00	AXX	001	A															
29 Apr	S16E58	168	0010	01	HSX	001	A															
30 Apr	S17E44	169	0020	01	HRX	001	A															
01 May	S16E31	169	0010	02	HSX	001	A															
02 May	S16E18	168	0020	01	HSX	001	A															
03 May	S16E05	168	0020	04	BXO	006	B															
04 May	S15W08	168	0010	01	AXX	002	A															
05 May	S16W20	167	0010	03	BXO	004	B													1		
06 May	S17W34	168	0020	04	CRO	007	B															
07 May	S16W48	168	0020	04	BXO	005	B															
08 May	S15W61	167	0010	05	BXO	005	B															
09 May	S15W76	169	0010	00	AXX	001	A															
10 May	S20W88	168	0040	00	AXX	002	A													1		
												0	0	0	2	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 168

Region 8981

01 May	S23E30	170	0020	02	CSO	005	B															
02 May	S23E17	169	0030	05	CRO	005	B															
03 May	S22E03	170	0030	07	CSO	010	B															
04 May	S22W10	170	0030	08	CRO	012	B															
05 May	S22W25	172	0020	09	CSO	004	B															
06 May	S23W35	169	0010	08	CRO	003	B															
07 May	S22W43	163	0010	01	AXX	002	A															
08 May	S22W56	163																				
09 May	S22W69	163																				
10 May	S22W82	163																				
												0	0	0	0	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 170



Region Summary-continued

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

Region 8982

03 May	S20E19	154	0000	03	BXO	004	B											
04 May	S20E07	153	0020	05	BXO	010	B	1				1						
05 May	S19W05	152	0010	03	CSO	003	B	1				2						
06 May	S19W19	153	0010	03	CRO	003	B											
07 May	S19W32	153	0000	00		000												
08 May	S19W45	153	0000	00		000												
09 May	S20W60	153	0020	05	CSO	004	B					1						
10 May	S23W73	153	0030	07	DSO	006	B					1						
11 May	S24W84	151	0010	04	BXO	003	B											
								2	0	0	5	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 152

Region 8983

04 May	N25E58	102	0050	05	CAO	003	B											
05 May	N24E44	103	0030	05	CSO	004	B					1						
06 May	N25E34	100	0030	03	CSO	004	B											
07 May	N26E19	101	0030	06	BXO	010	B					2						
08 May	N25E06	100	0020	06	BXO	008	B											
09 May	N27W07	100	0010	03	BXO	006	B	1				3						
10 May	N26W21	101	0010	03	BXO	003	B					1						
11 May	N25W34	101	0000	00	AXX	001	A											
12 May	N26W48	102	0000	01	AXX	002	A											
13 May	N26W67	107	0000	00	AXX	001	A											
14 May	N26W80	107	0000	00		000												
								1	0	0	7	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 100

Region 8984

05 May	S16E13	134	0010	08	BXO	005	B											
06 May	S14W04	138	0010	04	BXO	003	B											
07 May	S13W14	134	0010	03	BXO	004	B											
08 May	S13W28	134	0000	02	BXO	004	B											
09 May	S13W41	134	0000	00		000												
								0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 138



Region Summary-continued

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

Region 8985

05 May	N13E51	096	0010	03	BXO	003	B											
06 May	N12E38	096	0020	03	BXO	004	B											
07 May	N12E25	096	0000	00		000												
08 May	N12E12	096	0000	00		000												
										0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 096

Region 8986

05 May	S19E45	102	0010	03	BXO	004	B											
06 May	S19E32	102	0010	05	BXO	005	B											
07 May	S16E17	103	0010	03	BXO	003	B											
08 May	S23E21	085	0020	04	BXO	011	B											
09 May	S24E07	086	0010	04	BXO	008	B											
										0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 086

Region 8987

07 May	N12E10	110	0010	02	AXX	006	A											
08 May	N12W03	109	0010	04	BXO	004	B											
09 May	N12W17	110	0010	04	BXO	006	B											
10 May	N10W34	111	0010	00	HRX	001	A											
11 May	N10W45	112	0000	01	AXX	002	A											
12 May	N11W62	116	0000	00	AXX	001	A											
13 May	N09W75	115	0000	00	AXX	002	A											
14 May	N09W88	115	0000	00		000												
										0	0	0	2	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 109

Region 8988

07 May	N08W04	124	0010	03	BXO	003	B											
08 May	N08W17	124	0000	00		000												
										0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 124



Region Summary-continued

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

Region 8989

07 May N17E38	082	0020	04	BXO	005	B					1					
08 May N16E25	081	0070	04	DAO	009	B					1					
09 May N17E12	081	0160	05	DAO	014	B	3				6					
10 May N16W01	081	0180	06	DAO	019	B	2				2					
11 May N16W15	082	0230	05	DAI	014	B					1					
12 May N17W28	082	0340	06	DKI	017	B						1				
13 May N17W40	080	0400	07	DKI	022	B					2					
14 May N16W54	081	0320	07	DKI	016	B	1				4					
							6	0	0	0	17	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 081

Region 8990

07 May N14E63	057	0010	02	AXX	002	A					8	1				
08 May N14E48	058	0050	06	DSO	008	B	4				8					
09 May N14E33	060	0040	07	CSO	014	B	1				1					
10 May N14E20	060	0070	09	CAO	016	B	1						1			
11 May N14E05	062	0240	10	DAI	025	B										
12 May N15W08	062	0300	10	DAO	032	B										
13 May N13W21	061	0360	11	EKI	034	B	1				5					
14 May N14W35	062	0230	10	DAI	028	B										
							7	0	0	0	22	1	1	0	0	0

Still on Disk.

Absolute heliographic longitude: 062

Region 8991

08 May N16E71	035	0020	01	AXX	002	A					1					
09 May N15E59	034	0080	06	CSO	005	B	1				5					
10 May N15E46	034	0110	07	CSO	008	B					2					
11 May N16E33	034	0100	07	CAO	010	B										
12 May N15E20	034	0060	07	CAO	009	B										
13 May N15E07	033	0040	07	CSO	009	B										
14 May N16W09	036	0020	04	CSO	005	B										
							1	0	0	0	8	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 033



Region Summary-continued

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

Region 8992

09 May	N09E72	021	0050	01	HAX	001	A										
10 May	N09E60	020	0090	02	HSX	001	A										
11 May	N11E47	020	0050	02	HSX	002	A										
12 May	N10E34	020	0040	02	HSX	003	A										
13 May	N10E22	018	0030	07	CAO	003	B										
14 May	N11E09	018	0020	04	CSO	004	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 018

Region 8993

10 May	S23W06	086	0050	05	DAO	012	B										
11 May	S24W18	085	0160	08	DSI	022	B	1			5						
12 May	S23W31	085	0160	08	DSI	022	B				2						
13 May	S23W45	085	0200	10	DAI	023	B	3			24						
14 May	S23W58	085	0290	11	EKO	015	B	3	1		12						
								7	1	0	43	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 086

Region 8994

10 May	N11W01	081	0030	04	CRO	006	B										
11 May	N09W15	082	0010	05	BXO	007	B										
12 May	N08W30	084	0000	03	BXO	002	B										
13 May	N08W43	084	0000	00		000											
14 May	N11W55	082	0000	03	BXO	002	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 081

Region 8995

11 May	S19E00	067	0000	02	BXO	003	B										
12 May	S19W13	067	0000	00		000											
13 May	S19W26	067	0000	00		000											
14 May	S19W39	067	0000	00		000											
								0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 067



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 8996</i>																	
11 May	S18E77	350	0150	10	DAO	003	B					1					
12 May	S21E67	347	0520	10	DKI	010	B	1				1					
13 May	S22E57	343	1210	12	EKI	016	B	4				8	1				
14 May	S21E44	343	1140	12	EKC	026	B	2				2					
								7	0	0	0	12	1	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 343																	
<i>Region 8997</i>																	
11 May	S14E64	003	0030	01	HSX	001	A										
12 May	S17E50	004	0020	01	HSX	001	A										
13 May	S16E37	003	0020	01	HSX	002	A										
14 May	S16E22	005	0010	04	BXO	003	B										
									0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 005																	
<i>Region 8998</i>																	
12 May	S14E73	341	0060	08	CSO	002	B	1	1			1	1				
13 May	S13E66	334	0260	14	EAO	008	B					7	1				
14 May	S13E54	333	0410	18	FAI	019	B	2				7					
								3	1	0	0	15	2	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 333																	
<i>Region 8999</i>																	
13 May	N21E67	333	0040	06	BXO	005	B	1				3					
14 May	N20E55	332	0060	08	CSO	005	B					2					
								1	0	0	0	5	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 332																	
<i>Region 9000</i>																	
13 May	N10E14	026	0010	03	BXO	004	B										
14 May	N08E00	027	0010	06	BXO	004	B										
									0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 027																	
<i>Region 9001</i>																	
13 May	N16W05	045	0000	00	AXX	001	A										
14 May	N16W18	045	0000	00		000											
									0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 045																	



Region Summary-continued

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

Region 9002

14 May N18E76 311 0190 04 HHX 001 A
0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 311

Region 9003

14 May S18W26 053 0010 03 BXO 005 B
0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 053

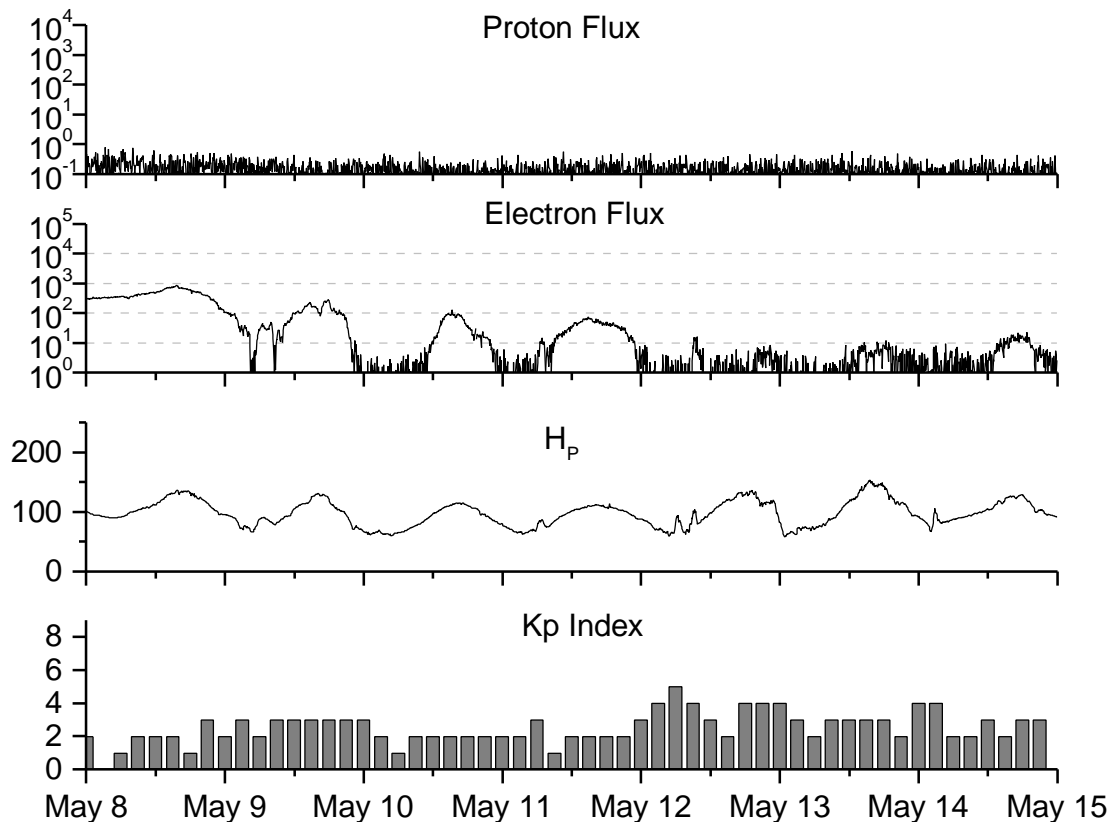


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

Month	Sunspot Numbers				Radio Flux		Geomagnetic		
	Observed values		Ratio	Smooth values		*Penticton	Smooth	Planetary	Smooth
	SWO	RI	RI/SWO	SWO	RI	10.7 cm	Value	Ap	Value
1998									
May	74.3	56.3	0.76	81.4	59.4	106.7	112.0	18	11.6
June	93.6	70.7	0.76	85.9	62.5	108.4	115.8	10	11.9
July	98.3	66.6	0.68	90.3	65.5	114.0	120.3	11	12.2
August	118.6	92.2	0.78	93.7	67.8	136.0	124.1	18	12.4
September	119.0	92.9	0.78	96.1	69.5	138.3	126.8	13	12.6
October	77.0	55.5	0.72	97.7	70.5	117.3	127.9	13	12.8
November	99.5	74.0	0.74	101.3	73.0	140.2	130.0	16	12.4
December	120.8	81.9	0.68	108.8	77.9	150.1	134.3	08	11.9
1999									
January	94.3	62.0	0.66	116.5	82.6	142.6	139.0	10	11.7
February	93.4	66.3	0.71	120.2	84.6	142.0	142.6	12	11.6
March	100.5	68.8	0.68	120.5	83.8	126.3	144.0	14	11.7
April	92.9	63.7	0.69	123.8	85.4	117.2	145.8	12	12.2
May	140.5	106.3	0.76	131.7	90.4	148.6	150.0	08	12.4
June	208.3	137.4	0.66	136.0	93.0	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	156.4	15	12.8
September	107.4	70.9	0.66	150.0	102.3	135.7	161.1	19	12.6
October	167.7	116.4	0.69	158.5	107.7	164.9	167.3	19	12.5
November	199.3	132.7	0.67			191.7		14	
December	123.5	86.4	0.70			169.8		10	
2000									
January	140.8	90.2	0.64			158.3		13	
February	161.9	112.3	0.69			173.7		13	
March	203.6	138.2	0.68			208.2		09	
April	193.4	125.3	0.65			184.2		15	

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 08 May 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.

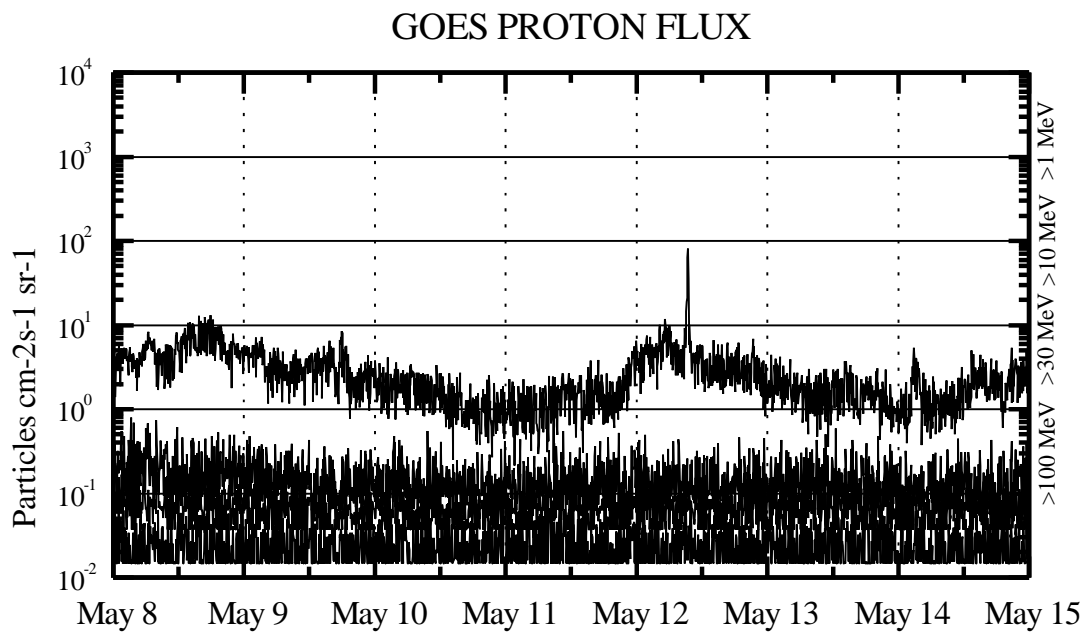
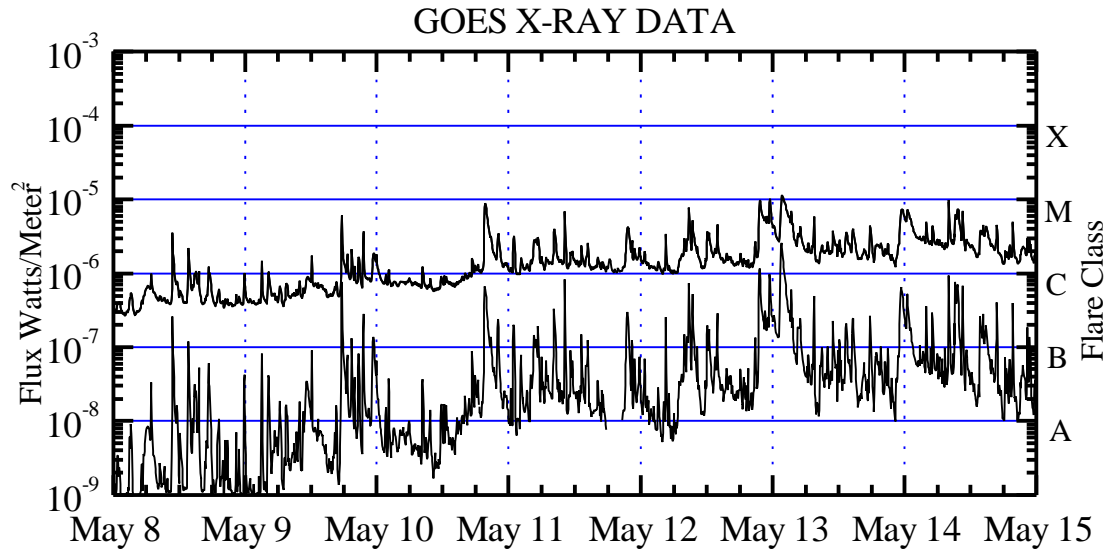
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

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_{parallel} 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.

