

Space Weather Highlights
22 – 28 May 2000

SWO PRF 1291
29 May 2000

Solar activity was at low to moderate levels. Low activity prevailed most of the period, but rose to moderate levels on 24 May due to an M1/SF flare at 24/0546UT from Region 8996 (S21, L = 345, class/area Ekc/1280 on 15 May) and an optically uncorrelated M1 at 24/1152UT. Region 8996 was gradually decaying at the time of the flare. Occasional C-class subflares occurred during the rest of the period.

Real-time solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft for most of the period. A coronal mass ejection (CME) signature was observed during 23 - 25 May. The CME shock front passed the ACE spacecraft at 23/1625UT followed by increased velocities, densities, and IMF Bz variability. Early on 24 May velocities peaked at 730 km/sec and densities peaked at 51 p/cc, followed by a gradual decline. IMF Bz became strongly southward early on 24 May with maximum deflections to minus 36 nT (GSM). Bz remained mostly southward through midday on 26 May with a range of minus 01 to 05 nT. Nominal solar wind conditions were observed beginning midday on 26 May.

There were no proton events detected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit increased to moderate to high levels during 25 - 28 May.

Geomagnetic storm conditions were observed during 23 - 26 May due to a CME passage at Earth. The storm began late on 23 May, then intensified early on 24 May with minor to severe storm levels detected at all latitudes. The severe storm levels occurred during 24/0000 - 0600UT. Minor to major storm periods occurred during 25 - 26 May as the disturbance gradually subsided. Field activity declined to mostly quiet to unsettled levels after 26/1200UT. The source for this disturbance may have been a long-duration C7/1N flare at 20/0535UT with an associated partial-halo CME.

Space Weather Outlook
31 May - 26 June 2000

Solar activity is expected to vary between low and moderate levels. Isolated M-class flares will be most likely during 07 - 23 June.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels through 02 June. Normal to moderate levels are expected for the rest of the period.

Active periods are expected during 31 May, 12 - 13 June and 25 - 26 June due to coronal hole effects. Quiet to unsettled levels are expected during the remainder 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
22 May	215	207	2150	C1.6	11	0	0	12	0	0	0	0
23 May	204	150	1540	B9.6	13	0	0	19	3	0	0	0
24 May	189	185	1910	C2.4	9	2	0	15	0	0	0	0
25 May	173	125	1450	C1.9	6	0	0	9	0	0	0	0
26 May	168	155	1310	B7.9	8	0	0	13	1	0	0	0
27 May	162	161	1040	B6.2	2	0	0	8	0	0	0	0
28 May	156	176	1150	B8.7	5	0	0	9	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
22 May	1.4E+6	1.4E+4	2.0E+3		8.6E+5	
23 May	1.6E+6	1.3E+4	1.8E+3		1.8E+6	
24 May	8.4E+5	1.1E+4	1.7E+3		1.2E+5	
25 May	6.1E+5	9.9E+3	2.0E+3		3.2E+7	
26 May	4.6E+5	1.0E+4	2.2E+3		1.0E+8	
27 May	1.1E+5	1.0E+4	2.4E+3		1.3E+8	
28 May	1.2E+5	1.1E+4	2.7E+3		7.8E+7	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	22 May	8	2-2-1-3-2-2-2-2	12	1-2-2-5-3-1-1-2	9
23 May	19	2-3-2-2-2-3-5-5	16	2-3-2-2-2-2-5-4	22	2-3-3-3-2-3-5-6
24 May	46	7-6-5-4-3-3-3-4	64	6-6-6-6-3-6-6-3	73	7-7-6-6-4-4-5-4
25 May	23	5-5-4-3-3-2-3-2	38	4-5-6-5-4-5-3-2	31	5-5-5-5-3-4-3-3
26 May	19	3-4-3-4-4-4-2-2	*	3-5-*.*.*.*.0	23	3-4-5-5-3-3-3-2
27 May	8	2-2-1-2-2-2-2-3	16	2-2-3-5-2-4-2-2	12	3-3-2-2-3-3-3-3
28 May	10	1-3-2-2-2-2-4-2	28	3-3-4-5-6-3-3-2	12	2-3-3-2-3-3-3-3

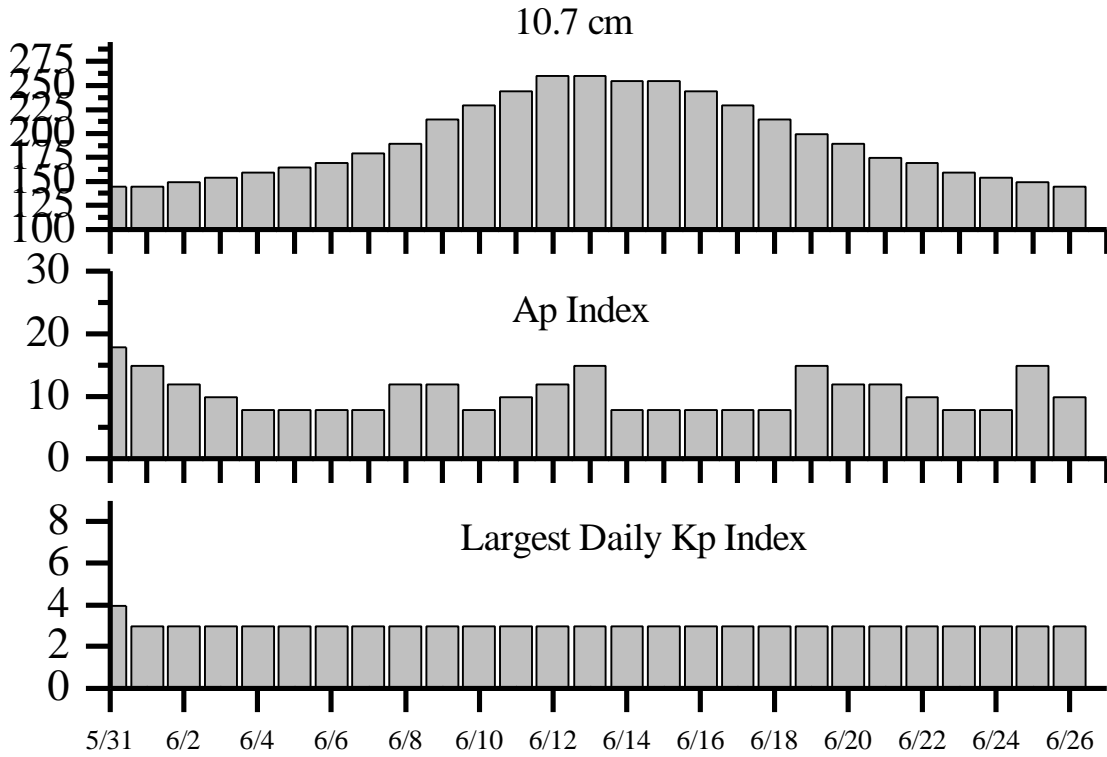


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
22 May 1202	K-Index = 4 Observed	22 May 09 -12
23 May 1809	K= 4 Observed	23 May 15 -18
23 May 1809	K= 4 Warning	23/1810 - 24/1500 May
23 May 1845	K= 5 Warning	23/1900 - 24/1500 May
24 May 007	K= 5 Observed	23 May 21 - 24
24 May 044	A>=30 Warning	24 May 0040 -1500
24 May 044	K>= 6 Warning	24 May 0040 -1200
24 May 219	A>=50 Warning	24 May 0220 - 1500
24 May 300	A>=20 Observed	24 May 03
24 May 300	K= 6 Observed	24 May 00 - 03
24 May 600	A >=30 Observed	24 May 0600
24 May 600	K >= 7 Observed	24 May 03 - 06
24 May 1200	A >=50 Observed	24 May 1200
24 May 1825	K = 4 Warning	24/1830 – 25/1500 May
24 May 2027	K= 5 Warning	24/2030 – 25/1500 May
24 May 2112	K = 5 Observed	24 May 18 - 21
25 May 302	ENDED A>=50 Observed	24 May 1200
25 May 1202	ENDED A = 30 Observed	24 May 0600
25 May 1432	Electron Event >2MeV =1000pfu	25 May 1355
25 May 1708	K = 4 Warning	25/1730 - 26/1500 May
26 May 008	CONTINUED Electron Event>2MeV=1000pfu	25 May 1355
26 May 245	CANCELLED K = 4 Warning	25/1730 - 26/1500 May
26 May 422	K = 4 Warning	26 May 0430 - 0600
26 May 557	K = 4 Observed	26 May 03 - 06
26 May 558	ENDED A = 20 Observed	24 May 03
26 May 903	K = 5 Observed	26 May 06 - 09
26 May 906	A = 20 Observed	26 May 09
26 May 1203	K = 5 Observed	26 May 09 - 12
27 May 038	CONTINUED Electron Event >2MeV =1000pfu	25 May 1355
28 May 034	CONTINUED Electron Event >2MeV =1000pfu	25 May 1355



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
31 May	145	18	4	14 June	255	8	3
01 June	145	15	3	15	255	8	3
02	150	12	3	16	245	8	3
03	155	10	3	17	230	8	3
04	160	8	3	18	215	8	3
05	165	8	3	19	200	15	3
06	170	8	3	20	190	12	3
07	180	8	3	21	175	12	3
08	190	12	3	22	170	10	3
09	215	12	3	23	160	8	3
10	230	8	3	24	155	8	3
11	245	10	3	25	150	15	3
12	260	12	3	26	145	10	3
13	260	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
24 May	0530	0546	0600	M1.3	.020	SF	S27W85	8996				
24 May	1140	1152	1221	M1.1	.021							

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location Lat CMD		
22 May	0006	0007	0041		SF	S20W46		8996
	0120	0201	0254	C6.3				
	0352	0356	0401	C5.1				
	0816	0816	A0819	C2.3	SF	S21W59		8996
	B1031	U1031	A1050	C2.7	SF	S36E54		8996
	1156	1200	1205	C1.3				
	1401	1407	1414	C1.8				
	1623	1627	1631	C1.2				
	1644	1647	1658	C2.4	SF	S21W64		8996
	1725	1752	1803	C2.6	SF	S19W66		8996
	1734	1737	1744		SF	S27W61		9012
	1814	1817	1824		SF	S15W59		8996
	1943	1952	2007		SF	N12W33		9004
	2053	2054	2113	C2.2	SF	S21W65		8996
	2100	2100	A2127		SF	S18W68		8996
	2135	2137	2146	C1.7	SF	S20W66		8996
	2252	2253	2309		SF	N24W29		9002
23 May	0019	0022	0025	C1.6				
	0041	0042	0051	C1.8	SF	S22W63		8996
	0603	0609	0616	C1.5				
	0823	0826	A0830	C2.2	1F	S17W59		8996
	1102	1106	1133	C5.6	1N	N10W45		9004
	1250	1257	1303	C3.0	SF	N22W37		9002
	1320	1321	1326	C1.7	SF	N10W42		9004
	1412	1416	1422	C1.8				
	1639	1639	1648		SF	N22W38		9002
	1720	1722	1740	C1.8	SF	N14W47		9004
	1745	1752	1800	C4.3	SF	S22W80		8996
	1810	1814	1851		SF	S14W62		8998
	1853	1854	1908		SF	N11W49		9004
	1923	1933	2010		SF	N20W35		9002
	1931	1944	2003	C5.4	SF	N11W50		9004
	1954	1955	2002		SF	S13W58		8998
	2021	2022	2026		SF	N11W44		9004
2024	2026	2042	C3.0	SF	N22W32		9002	
2046	2059	2118	C9.5	1F	N22W43		9002	
2051	2052	2056		SF	S16W59		8998	



Flare List – continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
23 May	B2104	U2104	A2107		SF	N23W41	9002
	2136	2214	2356		SF	N11W47	9004
	2220	2243	2304		SF	S13W65	8998
	2350	0029	0048		SF	S12W64	8998
	2357	0014	0118	C6.8	SF	N11W48	9004
24 May	0113	0120	0125		SF	N18E01	9010
	0125	0126	0131		SF	S13W63	8998
	0309	0315	0325	C7.0			
	0454	0502	0515	C7.3			
	0529	0529	0535		SF	S13W66	8998
	B0556	U0556	A0605	M1.3	SF	S27W85	8996
	0645	0647	0655	C5.6	SF	N10W52	9004
	0908	0911	0916	C3.4			
	1140	1152	1221	M1.1			
	1619	1631	1640	C4.2	SF	N24W50	9002
	1800	1804	1809	C2.7	SF	S12E79	
	1816	1817	1821		SF	S13E80	
	1822	1824	1826		SF	S13E83	
	1835	1842	1846		SF	S19W75	8996
	1931	1932	1937	C2.6	SF	S17E84	9017
	1940	1943	1948		SF	N11W63	9004
	2100	2108	2125	C9.7	SN	N14W60	9004
	2120	2123	2132		SF	S16E78	9017
	2121	2124	2130		SF	N19W75	8999
	25 May	0016	0018	0024		SF	S14E81
0032		0034	0044		SF	S14E81	9017
0207		0211	0215	C3.6			
0623		0623	0629		SF	S14E77	9017
0729		0735	0743	C3.6	SN	S14E81	9017
0743		0748	0801	C3.3	SF	N19W57	9002
0818		0818	0825		SF	N12W67	9004
0833		0837	0842		SF	S14E78	9017
1134		1137	1140	C1.3	SF	S16E76	9017
1610		1612	A1648	C2.7	SF	S17E74	9017
2016	2020	2025	C1.6				
26 May	0126	0129	0154	C3.4	1F	N21W66	9002
	0400	0401	0414	C1.0	SF	S15E70	9017



Flare List – continued.

Date	Time			X-ray Class.	Optical		Rgn
	Begin	Max	End		Imp / Brtns	Location Lat CMD	
26 May	0749	0750	0801		SF	S15E67	9017
	0758	0801	0807		SF	N12W79	9004
	0758	0807	0819	C2.2	SF	N21W69	9002
	0813	0814	0816		SF	N12W80	9004
	0830	0830	0837		SF	S11E65	9017
	0914	0917	0922	C1.1			
	0935	0943	1001	C1.5			
	1127	1135	1208	C6.1			
	1219	1219	1228		SF	S17E64	9017
	1456	1457	1501		SF	S21W09	9018
	1518	1529	1544	C3.3	SF	N19W73	9002
	1535	1535	1541		SF	S18E62	9017
	1612	1616	1618		SF	S20W10	9018
	1626	1626	1629		SF	N20W72	9002
	27 May	1805	1806	1809	C2.9	SF	N14W85
0037		0039	0042		SF	S21W14	9018
0836		0843	0846	C2.4			
1024		1038	1055	C1.1			
1353		1403	1425		SF	S20W23	9018
1417		1417	1421		SF	N21W44	9010
1549		1550	1600		SF	S12E43	9017
1627		1629	1636	B8.1	SF	S16E43	9017
2320		2328	2345		SF	S21W27	9018
2332		2335	2338		SF	S36W53	9019
B2358		U0007	A0020		SF	S36W50	9019
28 May	0019	0031	0043	C2.3			
	0537	0542	0548	B9.8			
	0719	0725	0728	C1.5			
	0954	1018	1040	C8.6			
	1358	1358	1403		SF	S13E37	9017
	1402	1405	1407		SF	S33W61	9019
	1419	1421	1426	C1.1	SF	S14E37	9017
	1608	1614	1629	C1.8	SF	S10E30	9017
	1620	1620	1630		SF	S35W61	9019
	1845	1846	1850		SF	S21E70	9022
	2134	2139	2151	B8.9	SF	S21E68	9022
	2152	2153	2156		SF	S21E68	9022
2157	2157	2202		SF	S21E68	9022	



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 8996</i>																							
11 May	S18E77	350	0150	10	DAO	003	B						1										
12	S21E67	347	0520	10	DKI	010	B	1					1										
13	S22E57	343	1210	12	EKI	016	B	4					8	1									
14	S21E44	343	1140	12	EKC	026	B	2					2										
15	S21E31	343	1280	13	EKC	045	BG																
16	S20E18	343	1240	13	EKC	041	BG						4										
17	S21E03	345	1280	13	EKC	053	BG	7					12										
18	S21W09	343	1230	14	EKC	053	BG	1					7										
19	S21W22	343	0950	13	EKC	042	BG						5										
20	S21W35	343	0870	13	EKC	044	B	2					5										
21	S21W49	344	0810	11	EKC	039	B	2					8										
22	S20W63	345	0460	12	EKC	022	B	6					9										
23	S20W77	346	0300	11	EH1	012	B	3					2	1									
24	S22W89	344	0260	09	DSI	007	B		1				2										
								28	1	0	66	2	0	0	0	0							

Crossed West Limb.

Absolute heliographic longitude: 345

<i>Region 8997</i>																					
11 May	S14E64	003	0030	01	HSX	001	A														
12	S17E50	004	0020	01	HSX	001	A														
13	S16E37	003	0020	01	HSX	002	A														
14	S16E22	005	0010	04	BXO	003	B														
15	S16E11	003	0020	06	BXO	005	B														
16	S15W03	004	0010	02	BXO	003	B														
17	S17W16	004	0000	06	BXO	002	B														
18	S17W29	004																			
19	S17W42	004																			
20	S17W55	004											1								
21	S17W68	004																			
22	S17W81	004																			
								0	0	0	1	0	0	0	0	0					

Crossed West Limb.

Absolute heliographic longitude: 004



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 8998</i>																	
12 May	S14E73	341	0060	08	CSO	002	B	1	1		1	1					
13	S13E66	334	0260	14	EAO	008	B				7	1					
14	S13E54	333	0410	18	FAI	019	B	2			7						
15	S14E41	333	0470	17	FKI	029	BG	3	1		8	1					
16	S13E28	333	0570	19	FKC	042	BG	4			5						
17	S13E16	332	0510	15	EKC	040	BG	2			5						
18	S13E04	330	0580	10	DKC	039	BG	3			7	1					
19	S12W09	330	0490	12	EAC	031	BG	2			10						
20	S12W22	330	0420	12	EAC	032	BG	3			5	2					
21	S12W33	328	0450	12	EAC	037	BGD	1			4						
22	S12W50	332	0330	08	DAC	028	B										
23	S11W63	332	0210	08	DAI	015	B	1			5						
24	S12W77	332	0260	05	DAI	014	B				2						
25	S08W93	335	0010	05	BXO	002	B										
								22	2	0	66	6	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 330

<i>Region 8999</i>																	
13 May	N21E67	333	0040	06	BXO	005	B	1			3						
14	N20E55	332	0060	08	CSO	005	B				2						
15	N19E42	332	0040	07	CRO	005	B				1						
16	N20E29	332	0020	07	BXO	005	B										
17	N20E17	331	0010	06	BXO	005	B				2						
18	N20E05	329	0010	02	BXO	003	B										
19	N19W09	330	0000	03	BXO	002	B				1						
20	N19W22	330	0020	05	BXO	009	B	1			3	1					
21	N20W36	331	0030	06	CRO	009	B				1						
22	N20W48	330	0000	03	BXO	002	B										
23	N20W61	330	0000	00		000											
24	N20W74	330	0000	00		000					1						
								2	0	0	14	1	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 329



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 9002</i>																							
14 May	N18E76	311	0190	04	HHX	001	A																
15	N18E70	304	0940	14	EH1	011	BG	1	2			7	1										
16	N18E57	304	0860	15	EH1	013	BG	1	1			3											
17	N18E42	306	0820	14	EH1	029	BG	3				6											
18	N18E31	303	0780	17	FKI	045	BG	7	1			10	2	1									
19	N18E18	303	0730	20	FKC	041	BG	3				3		1									
20	N19E04	304	0720	16	FKI	049	BG	1				3											
21	N19W10	305	0730	16	FKI	058	B					3											
22	N20W23	305	0610	13	EKI	027	B					1											
23	N20W37	306	0510	13	EKO	017	BG	3				5	1										
24	N19W51	306	0570	12	EKO	020	B	1				1											
25	N21W63	305	0380	11	EKO	006	B	1				1											
26	N20W79	308	0360	12	EAO	005	B	3				3	1										
27	N20W88	304	0170	09	DSO	003	B																
												24	4	0	46	5	2	0	0				

Crossed West Limb.

Absolute heliographic longitude: 304

<i>Region 9004</i>																							
15 May	N10E61	313	0020	07	BXO	004	B																
16	N11E48	313	0060	07	CAO	009	B																
17	N11E34	314	0100	07	DSO	014	B																
18	N11E21	313	0090	06	DSO	016	B					1											
19	N12E06	315	0130	07	DAC	017	B																
20	N12W06	314	0520	07	DKC	014	BD	1				4											
21	N12W21	316	0530	07	DKC	013	BD	1				1											
22	N12W34	316	0440	09	DKI	015	B					1											
23	N12W48	317	0310	07	DAC	019	BG	3				7	1										
24	N12W61	316	0350	08	DAI	019	BG	3				3											
25	N14W75	317	0250	08	DAO	008	B					1											
26	N15W87	316	0110	08	DSO	004	B	1				3											
												9	0	0	24	1	0	0	0				

Crossed West Limb.

Absolute heliographic longitude: 315



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 9007

17 May	S42E12	336	0010	02	BXO	002	B												
18	S42W01	335	0010	03	BXO	003	B												
19	S42W14	335	0000	00		000													
20	S42W27	335																	
21	S42W40	335																	
22	S42W53	335																	
23	S42W66	335																	
24	S42W79	335																	

Crossed West Limb.

Absolute heliographic longitude: 335

Region 9008

17 May	S31E50	298	0010	00	AXX	001	A												
18	S30E38	296	0010	00	AXX	001	A												
19	S30E25	296																	
20	S30E12	296																	
21	S30W01	296																	
22	S30W14	296																	
23	S30W27	296																	
24	S30W40	296																	
25	S30W53	296																	
26	S30W66	296																	
27	S30W79	296																	

Still on Disk.

Absolute heliographic longitude: 296

Region 9009

18 May	S15E68	266	0050	01	HSX	001	A												
19	S13E55	266	0040	01	HSX	001	A												
20	S14E42	266	0030	01	HSX	002	A												
21	S15E29	266	0040	10	CSO	005	B												
22	S15E15	267	0030	06	CSO	002	B												
23	S15E03	266	0020	05	CSO	004	B												
24	S13W10	265	0020	01	HSX	001	A												
25	S13W24	266	0010	01	HSX	001	A												
26	S13W36	265	0000	00	AXX	001	A												
27	S16W55	271	0000	00	AXX	001	A												
28	S18W68	271	0000	00	AXX	001	A												

Still on Disk.

Absolute heliographic longitude: 266



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 9013

20 May	S06W61	009	0000	03	BXO	004	B										
21	S06W74	009															
22	S04W89	011	0040	03	CSO	002	B										
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 009

Region 9014

20 May	S43E21	287	0000	00	AXX	001	A										
21	S43E08	287															
22	S43W05	287															
23	S43W18	287															
24	S42W30	286															
25	S42W43	286															
26	S42W56	286															
27	S42W69	286															
									0	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 287

Region 9015

24 May	N13W08	263	0000	03	BXO	002	B										
25	N13W22	264															
26	N13W35	264															
27	N13W48	264															
28	N13W61	264															
									0	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 263

Region 9016

24 May	N26E46	209	0020	01	HRX	001	A										
25	N25E35	207	0000	00	AXX	001	A										
26	N26E21	208	0000	00	AXX	001	A										
27	N26E06	210	0000	00	AXX	001	A										
28	N26W05	208	0000	00	AXX	001	A										
									0	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 208



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 9017</i>																	
24 May	S14E76	179	0170	03	HSX	001	A	1				2						
25	S15E68	174	0560	13	EHO	007	B	3				7						
26	S14E55	174	0610	13	EKO	010	B	1				5						
27	S13E42	174	0520	15	EKO	020	B					2						
28	S13E28	175	0710	15	EKO	026	BG	2				3						
								7	0	0	0	19	0	0	0	0	0	0
Still on Disk.																		
Absolute heliographic longitude: 175																		
	<i>Region 9018</i>																	
26	S20W11	240	0020	06	BXO	010	B					2						
27	S21W24	240	0080	08	DSO	011	B					3						
28	S21W38	241	0090	08	DAO	012	B											
									0	0	0	5	0	0	0	0	0	0
Still on Disk.																		
Absolute heliographic longitude: 240																		
	<i>Region 9019</i>																	
26 May	S34W38	267	0020	04	BXO	007	B											
27	S34W46	262	0050	07	DSO	011	B					2						
28	S35W61	264	0140	11	EAO	010	B					2						
									0	0	0	4	0	0	0	0	0	0
Still on Disk.																		
Absolute heliographic longitude: 267																		
	<i>Region 9020</i>																	
27 May	N03E06	210	0010	04	BXO	003	B											
28	N03W08	211	0020	04	CSO	008	B											
									0	0	0	0	0	0	0	0	0	0
Still on Disk.																		
Absolute heliographic longitude: 210																		
	<i>Region 9021</i>																	
28 May	N03E17	186	0010	03	BXO	005	B											
									0	0	0	0	0	0	0	0	0	0
Still on Disk.																		
Absolute heliographic longitude: 186																		
	<i>Region 9022</i>																	
28 May	S22E66	137	0020	01	BXO	003	B					4						
									0	0	0	4	0	0	0	0	0	0
Still on Disk.																		
Absolute heliographic longitude: 137																		

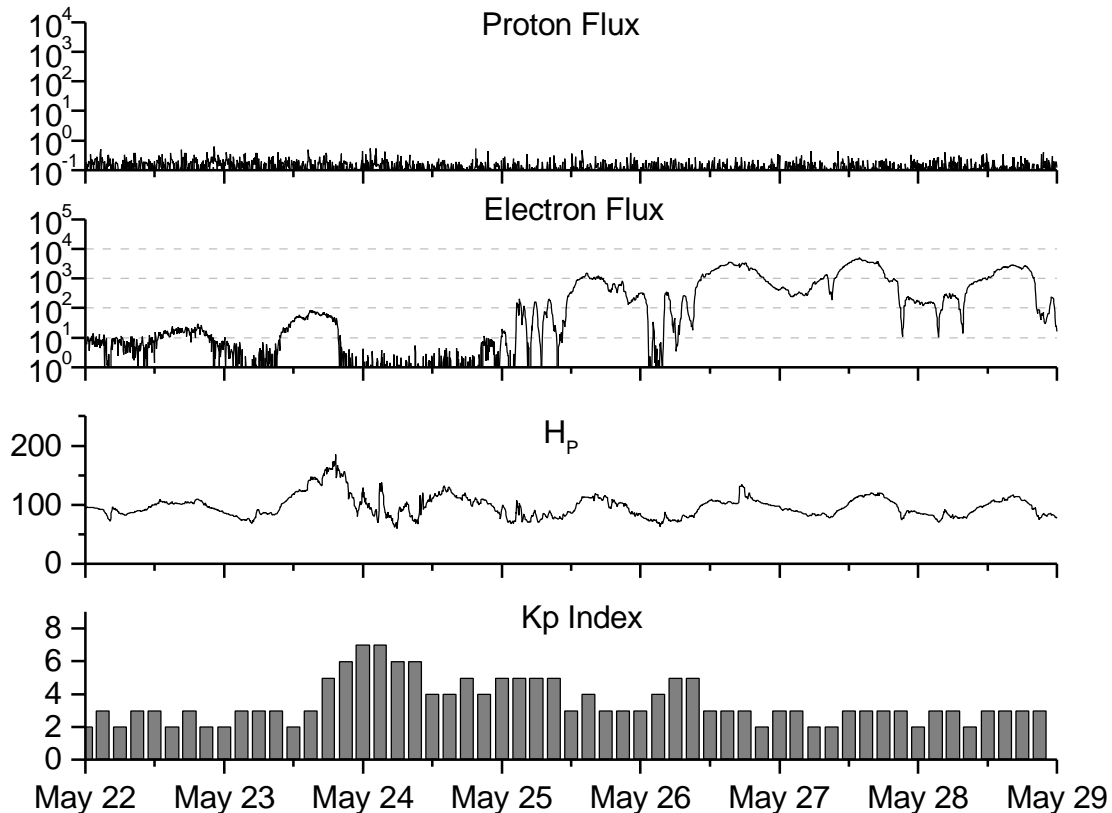


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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									
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 22 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.

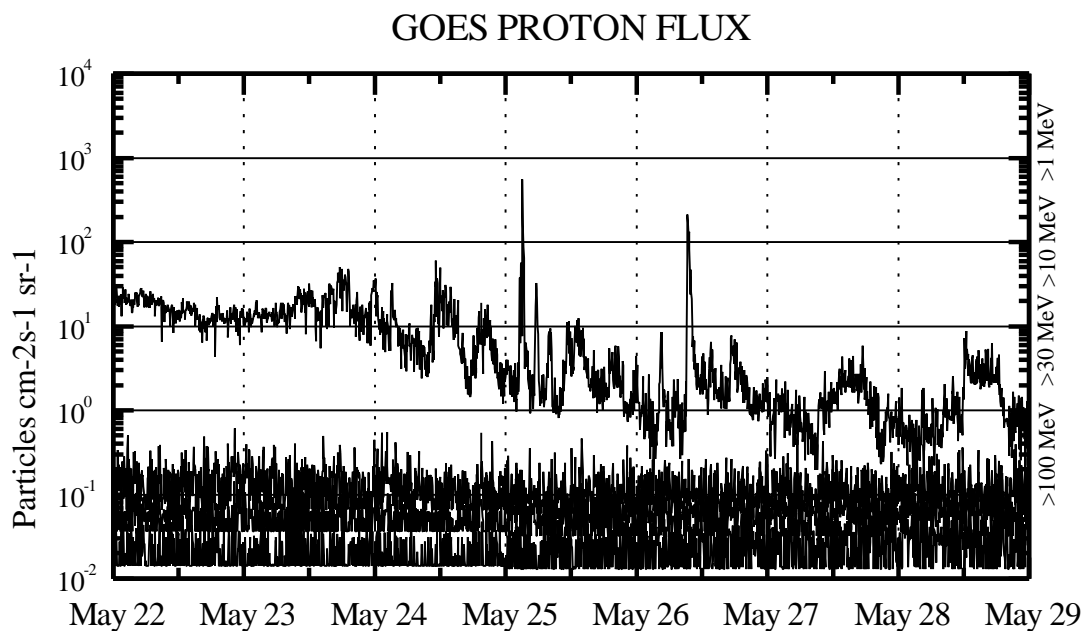
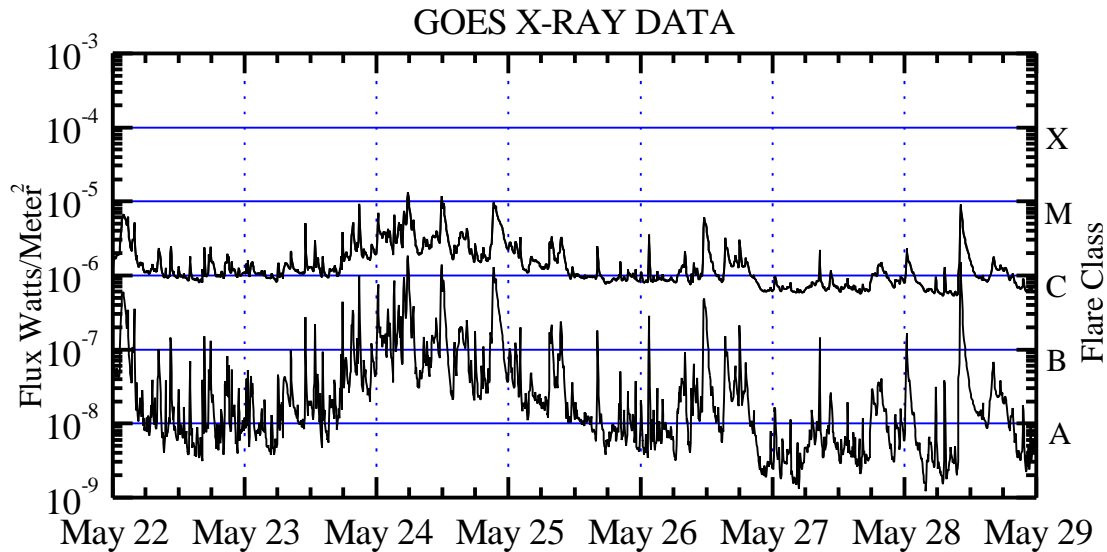
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

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_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.

