

Space Weather Highlights
17 - 23 Jan 2000

Solar activity fluctuated between low and moderate levels. Region 8831 (S18, L = 130, class/area Eao/270 on 17 January) showed gradual growth during 17 - 18 January and produced a long-duration M3/1N parallel-ribbon flare at 18/1727UT with associated Types II and IV radio sweeps and a halo-CME. This region also produced an M1/SF flare at 22/1801UT during a period of gradual decay that began on 19 January. Region 8824 (S13, L = 173, class/area Fki/430 on 13 January) produced an M1/SF flare at 18/1008UT although it gradually decayed until it crossed the west limb on 21 January. An optically uncorrelated M1 X-ray flare occurred at 21/0648UT. Activity dropped to low levels on the last day of the period with the disk populated by ten mostly small regions, all of which were either stable or decaying.

Real-time solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft for most of the period. Two transient signatures were observed during the period. The first occurred on 20 January with minor increases in velocity and density, a shift to a positive-polarity solar sector, and periods of southward IMF Bz with deflections to minus 13 nT (GSM). The second occurred during 22 - 23 January and was characterized by a minor velocity increase, increased densities (peaks to 37 p/cc), variable solar sector orientation, and sustained southward IMF BZ with deflections to minus 18 nT. Solar wind conditions were nominal during the rest of the period.

There was a minor greater than 10 MeV proton enhancement at geosynchronous orbit during 18 - 20 January in the wake of the M3/1N flare of 18 January.

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

The geomagnetic field was mostly quiet during 17 - 19 January. A minor disturbance occurred during 20 January with unsettled to (brief) active periods detected at all latitudes. Activity dropped to quiet levels during 21 January. Another disturbance occurred during 22 - 23 January with unsettled to minor storm levels, though most minor storm levels were limited to high latitudes. Both disturbances were due to coronal transients (see the solar wind discussion above).

Space Weather Outlook
26 January - 21 February 2000

Solar activity is expected to range from low to moderate levels during the period. Occasional C-class flares are likely throughout the period. An increasing trend is expected to begin on 05 February with isolated M-class flares possible through the remainder of the period due to the anticipated return of previously active regions.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels through 27 January. High flux levels will be possible during 28 January - 06 February. Normal to moderate fluxes are expected for the rest of the period.

Geomagnetic field activity is expected to be at quiet to unsettled levels on 26 January. Active to minor storm levels will be possible during 27 January - 01 February due to recurrent coronal hole effects. Active levels will also be possible during 07 February due to coronal hole effects. Quiet to unsettled levels are expected for the balance 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
17 January	196	227	1030	C1.1	6	0	0	6	0	0	0	0
18 January	195	185	840	C1.0	4	2	0	10	1	0	0	0
19 January	179	196	770	B8.8	5	0	0	3	0	0	0	0
20 January	171	119	770	B6.5	4	0	0	5	0	0	0	0
21 January	159	144	1140	C1.3	5	1	0	2	0	0	0	0
22 January	151	126	830	B5.8	2	1	0	1	0	0	0	0
23 January	141	135	640	B4.7	0	0	0	0	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
17 January	1.4E+5	1.3E+4	2.9E+3		1.6E+7	
18 January	3.2E+5	1.9E+4	3.3E+3		1.5E+7	
19 January	9.4E+5	3.3E+4	3.4E+3		1.0E+7	
20 January	7.6E+5	5.0E+4	3.1E+3		6.1E+5	
21 January	4.4E+5	2.8E+4	2.9E+3		1.0E+6	
22 January	1.4E+6	1.7E+4	2.7E+3		1.0E+6	
23 January	1.8E+5	1.3E+4	2.3E+3		3.5E+5	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	17 January	4	1-2-1-0-1-3-0-0	2	1-0-2-1-0-0-0-0	3
18 January	3	0-1-0-1-2-1-2-0	1	0-0-1-1-1-0-0-0	4	0-0-0-1-1-3-2-2
19 January	3	0-0-0-0-0-2-2-2	1	0-0-0-0-0-0-1-1	4	0-0-0-0-0-2-2-3
20 January	13	2-1-3-4-3-3-3-2		2-1-2-6-**-**-4	12	2-1-3-3-3-3-3-2
21 January	0	0-0-0-0-0-0-0-0	6	0-0-0-1-5-0-0-0	3	1-0-0-0-1-1-1-1
22 January	11	1-2-2-2-2-3-3-4	28	0-2-3-4-5-5-5-4	19	2-2-2-4-4-4-5-4
23 January	12	5-3-1-2-3-2-1-0	27	4-4-2-5-6-4-0-0	25	5-5-2-4-4-3-2-2

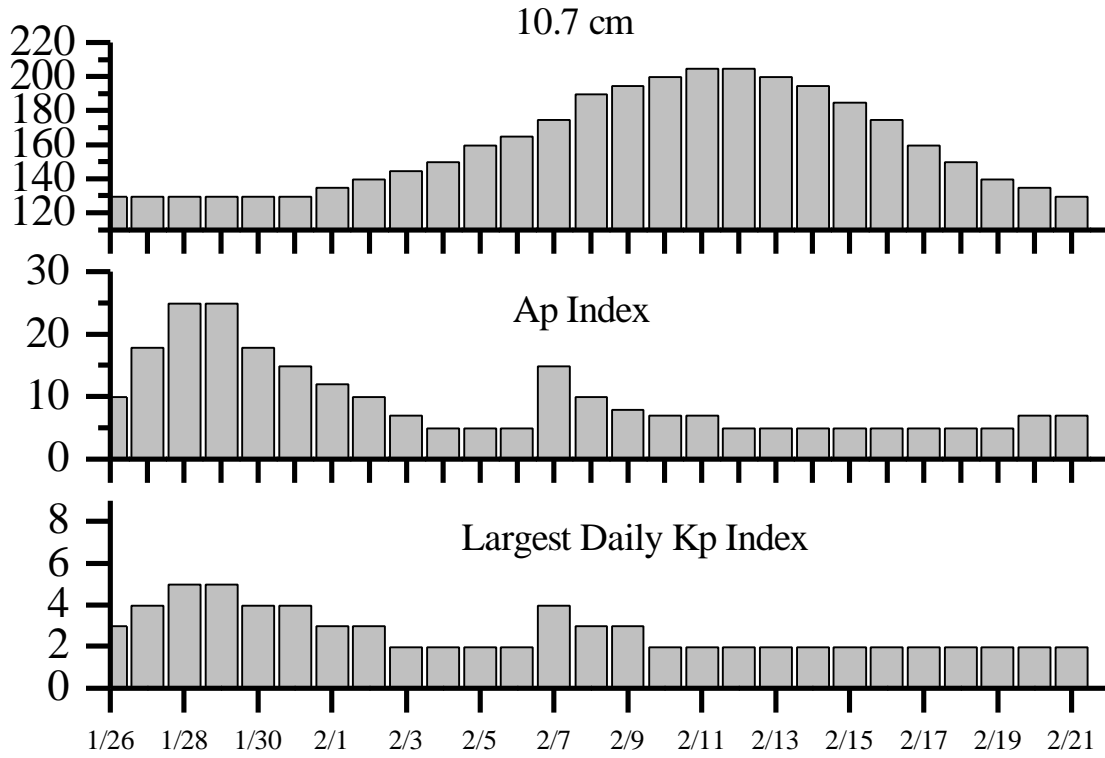


Alerts and Warnings Issued

Date & Time of Issue (UT)	Type of Alert or Warning	Date & Time of Event (UT)
18 Jan 0006	1 – 245 MHz Burst	17 Jan
18 Jan 1020	Type II Radio Emission	18 Jan 0836
18 Jan 1913	Type II Radio Emission	18 Jan 1719
18 Jan 1937	Proton Event ≥ 10 pfu @ >10 MeV Warning	19/0600 – 20/2100 Jan
19 Jan 0010	1 – 245 MHz Burst	18 Jan
20 Jan 0014	2 – 245 MHz Bursts	19 Jan
20 Jan 0014	245 MHz Noise Storm	19 Jan
20 Jan 1203	K= 4 Warning valid	20 Jan 12- 15
20 Jan 1204	K= 4 Observed	20 Jan 09-12
20 Jan 2023	A ≥ 20 Watch	22 Jan 2000
21 Jan 0050	2 – 245 MHz Bursts	20 Jan
21 Jan 0050	245 MHz Noise Storm	20 Jan
22 Jan 0018	4 - 245 MHz Bursts	21 Jan
22 Jan 0018	245 MHz Noise Storm	21 Jan
22 Jan 0111	K= 4 Warning	22 Jan 0111 - 1200
22 Jan 1158	CONTINUED K= 4 Warning	22/0111 – 23/1200 Jan
22 Jan 1158	K= 4 Observed	22 Jan 09 - 12
22 Jan 1817	10cm Radio Burst 250 s.f.u.	22 Jan 1758
23 Jan 0047	1 – 245 MHz Burst	22 Jan
23 Jan 0059	A ≥ 20 Watch	23 Jan
23 Jan 0308	A ≥ 20 Observed	23 Jan 0307
23 Jan 0420	K= 5 Warning	23 Jan 03 - 06
23 Jan 0603	K= 5 Observed	23 Jan 03- 06
23 Jan 1409	K= 4 Warning	23 Jan 15- 21
23 Jan 1510	K= 4 Observed	23 Jan 12- 15



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
26 Jan	130	10	3	09 Feb	195	8	3
27	130	18	4	10	200	7	2
28	130	25	5	11	205	7	2
29	130	25	5	12	205	5	2
30	130	18	4	13	200	5	2
31	130	15	4	14	195	5	2
01 Feb	135	12	3	15	185	5	2
02	140	10	3	16	175	5	2
03	145	7	2	17	160	5	2
04	150	5	2	18	150	5	2
05	160	5	2	19	140	5	2
06	165	5	2	20	135	7	2
07	175	15	4	21	130	7	2
08	190	10	3				



Energetic Events

Date	Time (UT)			X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	½	Class	Flux	Imp/ Brtns	Location		Rgn #	Radio Flux		Intensity	
			Max				Lat	CMD		245	2695	II	IV
18 Jan	0936	1008	1048	M1.2	.040	SF	S14W38		8824	25			
18 Jan	1707	1727	1744	M3.9	.057	1N	S19E11		8831		2	2	
21 Jan	0634	0648	0658	M1.4	.014					58			
22 Jan	1755	1801	1807	M1.0	.004	SF	S23W50		8831	2300 250			

Flare List

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn #
	Begin	Max	End			Location	Lat CMD	
17 January	0021	0028	0038	C7.1				
	0453	0457	0501		SF	S18W46		8832
	0543	0555	0604	C3.3				
	0615	0617	0629	C3.1	SF	S34W41		8823
	0705	0708	0711	C2.7				
	0919	0924	0927	C2.9				
	0948	0949	0955		SF	S18E15		8831
	1833	1837	1841		SF	S13W29		8824
	2144	2147	2151	C1.7	SF	N16W06		8829
	2148	2148	2152		SF	S14W48		8830
18 January	0218	0227	0239	C2.2				
	0330	0330	0333		SF	S12E37		8836
	0817	0820	0827	C2.1	SF	S14W54		8830
	0826	0839	0908	C1.7				
	0949	0950	0956	M1.2	SF	S14W38		8824
	1539	1540	1549		SF	S08W23		8837
	1559	1606	1615		SF	S08W23		8837
	1710	1713	1859	M3.9	1N	S19E11		8831
	1818	1818	1822		SF	S14W45		8824
	1904	1916	1921		SF	S17E11		8831
	1915	1918	1921		SF	S08W25		8837
	1925	1927	1936		SF	S07W26		8837
	1925	1925	1934		SF	S16E10		8831
19 January	2202	2208	2210	C4.3				
	0109	0139	0152	C1.4				
	1034	1034	1039	C1.4	SF	N18E12		8833
	B1124	U1124	1129	C1.3	SF	N14W24		8829
	1757	1758	1805	C2.4	SF	S16W55		8824
20 January	2213	2221	2224	C2.4				
	0221	0226	0230	C4.1				
	0359	0404	0408	C1.8				
	0750	0750	0753		SF	S08W48		8837
	0822	U0824	A0849		SF	S08W47		8837
	0931	U0931	0946		SF	S08W48		8837
	1053	1055	1102		SF	S08W50		8837



Flare List-continued

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
20 January	2003	2003	2009		SF	S10W52	8837	
	2059	2102	2107	C1.6				
	2216	2220	2222	C2.6				
21 January	0137	0141	0145	C5.8				
	0502	0510	0515	C6.7				
	0634	0648	0658	M1.4				
	0811	0845	0854	C3.5				
	B1137	U1147	1218	C5.1	SF	S06W64	8837	
	1820	1825	1832	C2.8				
22 January	2006	2007	2015		SF	S08W67	8837	
	0822	0827	0834	C1.2				
	0846	0858	0908	C1.2				
	1640	1653	1711	B9.8				
23 January	1759	1759	1837	M1.0	SF	S23W50	8831	
	No Flares Observed							

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

Region 8820

06 Jan	S16E71	218	0050	02	HAX	001	A											
07 Jan	S15E59	217	0060	07	CAO	006	B											
08 Jan	S15E46	217	0060	01	HSX	001	A											
09 Jan	S16E33	216	0050	05	CSO	003	B											
10 Jan	S15E19	217	0030	02	HSX	003	A											
11 Jan	S13E05	218	0020	03	DSO	004	B											
12 Jan	S14W08	218	0010	03	BXO	003	B											
13 Jan	S15W20	217	0010	03	BXO	002	B											
14 Jan	S15W33	217																
15 Jan	S15W46	217																
16 Jan	S15W59	217																
17 Jan	S15W72	217																
18 Jan	S15W85	217																

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 218



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 8824</i>																	
09 Jan	S13E75	174	0120	11	EAO	007	B					1					
10 Jan	S13E62	174	0230	13	EAO	009	B	4	1			4			1		
11 Jan	S13E47	176	0250	15	EAI	021	BG	7				9					
12 Jan	S13E32	178	0350	15	EKC	031	BGD	4	1			7	1				
13 Jan	S12E20	177	0430	16	FKI	041	BGD	1				1					
14 Jan	S13E08	176	0410	10	DKI	048	BGD					1					
15 Jan	S14W03	173	0380	12	EAC	070	BG	1				2					
16 Jan	S13W17	174	0380	12	EAC	053	BG					2					
17 Jan	S13W30	174	0270	10	DAC	037	B					1					
18 Jan	S12W43	174	0150	10	DAI	020	B		1			2					
19 Jan	S13W57	175	0070	11	CSO	012	B	1				1					
20 Jan	S13W72	176	0020	13	CRO	005	B										
								18	3	0	31	1	1	0	0		

Crossed West Limb.

Absolute heliographic longitude: 173

Region 8825

10 Jan	N11E58	178	0010	04	BXO	003	B										
11 Jan	N11E45	178	0000	03	BXO	002	B										
12 Jan	N11E32	178	0000	03	BXO	002	B										
13 Jan	N11E19	178															
14 Jan	N10E06	178	0000	03	BXO	003	B										
15 Jan	N10W07	178															
16 Jan	N11W16	173	0000	00	AXX	002	A										
17 Jan	N11W30	174	0030	03	CRO	006	B										
18 Jan	N11W43	174															
19 Jan	N11W56	174															
20 Jan	N11W69	174															
21 Jan	N11W82	174															
								0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 178



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 8828

11 Jan S19E58	165	0000	01	AXX	001	A											
12 Jan S20E44	166	0010	04	BXO	005	B	1				1						
13 Jan S21E31	166	0030	06	CSO	008	B											
14 Jan S21E18	166	0020	07	BXO	010	B											
15 Jan S22E06	164	0120	07	DAO	016	B											
16 Jan S22W09	166	0100	08	DAO	018	B											
17 Jan S23W21	165	0070	07	DAO	010	B											
18 Jan S23W34	165	0040	06	DSO	006	B											
19 Jan S23W47	165	0010	06	BXO	005	B											
20 Jan S23W60	165																
21 Jan S23W73	165																
22 Jan S23W86	165																

1 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 164

Region 8829

11 Jan N16E78	145	0110	04	CAO	002	B	1				1						
12 Jan N16E66	144	0170	10	DAO	007	B	1	2			5						
13 Jan N15E52	145	0170	11	ESO	009	B	2				1	1					
14 Jan N17E40	144	0140	12	CSO	014	B											
15 Jan N15E24	146	0120	13	ESO	018	B	1				1						
16 Jan N16E10	147	0110	11	ESO	012	B	1				2						
17 Jan N15W04	148	0120	06	DSO	008	B	1				1						
18 Jan N15W19	150	0100	04	CSO	005	B											
19 Jan N16W32	150	0060	05	CSO	004	B	1				1						
20 Jan N17W45	149	0070	02	HSX	001	A											
21 Jan N16W59	150	0060	02	HSX	002	A											
22 Jan N16W72	150	0060	02	HSX	001	A											
23 Jan N17W86	151	0050	02	HSX	001	A											

8 2 0 12 1 0 0 0

Still on Disk.

Absolute heliographic longitude: 148



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</i>	<i>8830</i>																	
12 Jan	S09E11	199	0010	03	CRO	003	B												
13 Jan	S10W02	199	0020	03	CSO	003	B												
14 Jan	S10W16	200	0000	00	AXX	001	A												
15 Jan	S10W29	200																	
16 Jan	S10W42	200																	
17 Jan	S14W49	193	0010	03	BXO	003	B						1						
18 Jan	S15W64	195	0000	00	AXX	001	A	1					1						
19 Jan	S15W73	191	0010	06	BXO	003	B												
										1	0	0	2	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 199

Region 8831

12 Jan	S15E78	132	0020	02	HSX	001	A												
13 Jan	S17E66	131	0070	09	CSO	005	B												
14 Jan	S17E53	131	0080	08	CSO	006	B												
15 Jan	S18E40	130	0100	09	DAO	018	B												
16 Jan	S17E27	130	0160	08	DAO	023	B						1						
17 Jan	S18E14	130	0270	11	EAO	023	B						1						
18 Jan	S18E01	130	0220	11	EAI	017	B	1					2	1					
19 Jan	S18W12	130	0200	11	EAO	023	B												
20 Jan	S18W25	129	0210	12	EAO	018	B												
21 Jan	S18W38	129	0180	13	EAO	011	B												
22 Jan	S17W53	131	0110	06	DSO	004	B	1					1						
23 Jan	S17W67	132	0090	07	CSO	004	B												
										0	2	0	5	1	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 130

Region 8832

13 Jan	S16W03	200	0020	04	BXO	006	B												
14 Jan	S17W16	200	0020	06	CSO	007	B												
15 Jan	S16W28	198	0050	09	CSO	009	B												
16 Jan	S16W39	196	0010	04	BXO	005	B						1						
17 Jan	S18W54	198	0030	04	CRO	005	B						1						
18 Jan	S14W63	194	0010	00	AXX	001	A												
19 Jan	S15W81	199	0000	00	AXX	001	A												
										0	0	0	2	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 200



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 8833

13 Jan	N19E78	119	0080	02	HSX	001	A										
14 Jan	N18E66	118	0130	02	HSX	001	A										
15 Jan	N18E54	116	0140	02	HAX	001	A										
16 Jan	N19E39	118	0180	02	HSX	001	A										
17 Jan	N17E26	118	0120	03	CSO	005	B										
18 Jan	N17E14	117	0150	06	CSO	007	B										
19 Jan	N17E02	116	0160	05	CSO	008	B	1				1					
20 Jan	N17W11	115	0170	05	CSO	009	B										
21 Jan	N18W24	115	0180	07	CSO	006	B										
22 Jan	N18W38	116	0130	02	HSX	001	A										
23 Jan	N18W51	116	0110	02	HSX	001	A										
										1	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 116

Region 8834

15 Jan	S16W60	230	0030	05	CRO	005	B										
16 Jan	S16W73	230	0030	05	CRO	002	B										
17 Jan	S15W87	231	0030	03	CRO	002	B										
										0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 230

Region 8835

15 Jan	N08E57	113	0000	05	BXO	004	B										
16 Jan	N09E42	115	0010	03	BXO	002	B										
17 Jan	N09E30	114	0000	03	BXO	002	B										
18 Jan	N09E17	114															
19 Jan	N08E02	116	0010	01	AXX	001	A										
20 Jan	N08W11	116															
21 Jan	N08W24	116															
22 Jan	N11W38	116	0000	00	AXX	001	A										
23 Jan	N11W51	116															
										0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 116



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 8836</i>																								
16 Jan	S12E49	108	0010	06	BXO	002	B																	
17 Jan	S12E37	107	0010	04	BXO	004	B																	
18 Jan	S12E24	107	0010	03	BXO	005	B						1											
19 Jan	S13E12	106	0000	01	AXX	002	A																	
20 Jan	S13W01	106																						
21 Jan	S13W15	106	0000	01	AXX	002	A																	
22 Jan	S13W28	106																						
23 Jan	S13W41	106																						
													0	0	0	1	0	0	0	0	0	0		
Still on Disk.																								
Absolute heliographic longitude: 106																								
<i>Region 8837</i>																								
18 Jan	S08W27	158	0030	07	DSO	009	B							4										
19 Jan	S09W42	160	0100	07	DSO	010	B																	
20 Jan	S08W55	159	0220	09	DSO	009	B							5										
21 Jan	S07W69	160	0580	12	EKO	006	B	1					2											
22 Jan	S07W82	160	0370	13	EKO	004	B																	
23 Jan	S08W91	156	0190	03	HRX	001	A																	
													1	0	0	11	0	0	0	0	0	0		
Still on Disk.																								
Absolute heliographic longitude: 158																								
<i>Region 8838</i>																								
18 Jan	N12E66	065	0050	08	CAO	003	B																	
19 Jan	N12E53	065	0080	06	CAO	006	B																	
20 Jan	N12E40	064	0070	06	CAO	005	B																	
21 Jan	N13E27	064	0050	06	DAO	009	B																	
22 Jan	N12E14	064	0030	05	CAO	006	B																	
23 Jan	N12E00	065	0020	04	CSO	004	B																	
														0	0	0	0	0	0	0	0	0		
Still on Disk.																								
Absolute heliographic longitude: 065																								
<i>Region 8839</i>																								
20 Jan	N11E06	098	0010	03	BXO	002	B																	
21 Jan	N12W07	098	0060	06	DAO	011	B																	
22 Jan	N12W20	098	0060	07	DRO	011	B																	
23 Jan	N11W34	099	0060	07	DSO	011	B																	
														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 ⁶ hemi)	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
		Lon						C	M	X	S	1	2	3	4		
<i>Region 8840</i>																	
21 Jan	S24E22	069	0000	04	BXO	004	B										
22 Jan	S24E09	069	0010	04	BXO	003	B										
23 Jan	S24W06	071	0020	04	DSO	003	B										
								0	0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 071																	
<i>Region 8841</i>																	
21 Jan	S28E70	021	0030	08	CAO	003	B										
22 Jan	S30E57	021	0060	08	CAO	005	B										
23 Jan	S29E43	022	0080	09	CSO	004	B										
								0	0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 022																	
<i>Region 8842</i>																	
23 Jan	S17W10	075	0010	04	BXO	003	B										
								0	0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 075																	
<i>Region 8843</i>																	
23 Jan	N14E14	051	0010	03	BXO	003	B										
								0	0	0	0	0	0	0	0	0	0
Still on Disk.																	
Absolute heliographic longitude: 051																	

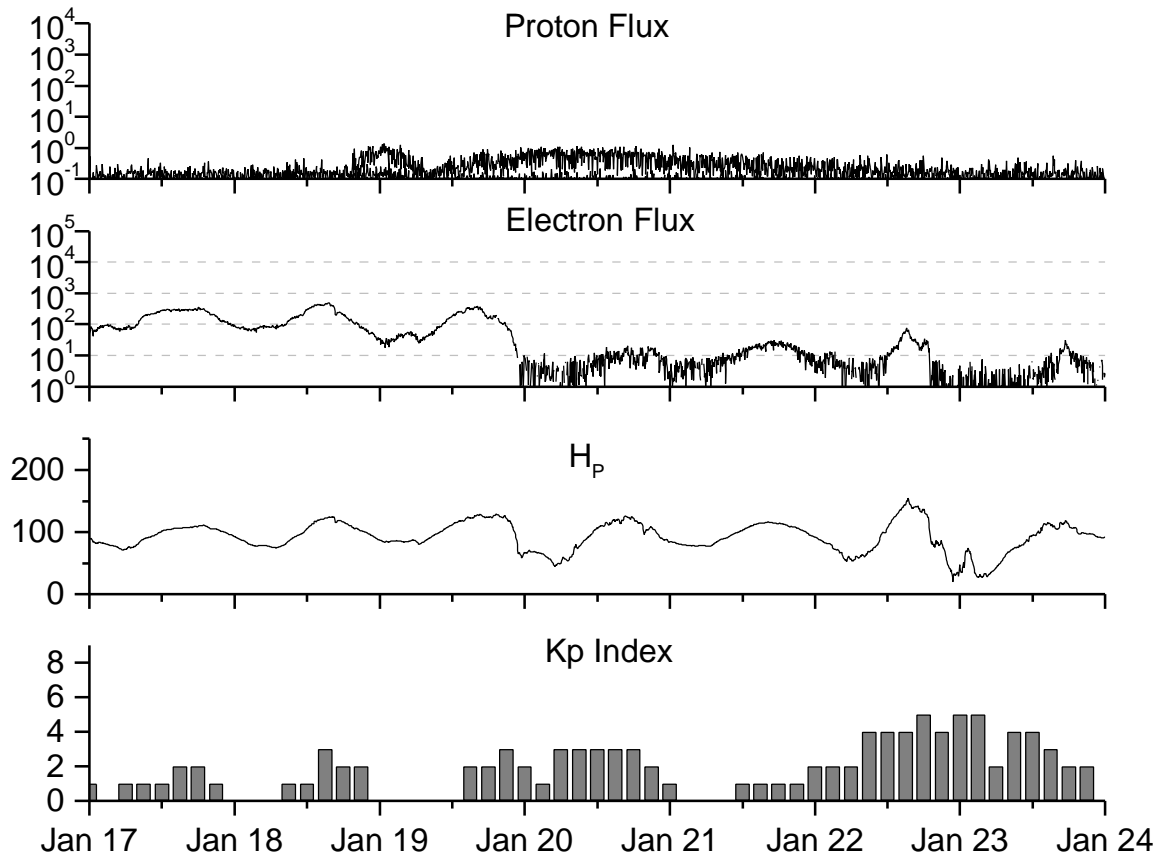


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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									
January	51.8	31.9	0.62	60.6	43.7	93.4	97.5	08	09.9
February	54.4	40.3	0.74	67.4	48.8	93.4	101.7	08	10.5
March	81.8	54.8	0.67	73.3	53.4	109.1	105.8	13	11.1
April	73.6	53.4	0.73	77.7	56.5	108.3	109.1	10	11.3
May	74.3	56.3	0.76	81.4	59.3	106.7	112.4	18	11.6
June	93.6	70.7	0.76	85.9	62.4	108.4	116.2	10	11.9
July	98.3	66.2	0.67	90.3	65.4	114.0	120.3	11	12.2
August	118.6	91.7	0.77	93.7	67.8	136.0	124.1	18	12.4
September	119.0	92.9	0.78	96.1	69.4	138.4	126.8	13	12.5
October	77.0	55.5	0.72	97.7	70.5	117.3	127.9	13	12.5
November	99.5	74.0	0.74	101.3	73.0	140.2	130.0	16	12.3
December	120.8	81.9	0.69	108.8	77.9	150.1	134.3	08	11.9
1999									
January	94.3	62.4	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	11.6
April	092.9	063.9	0.69	123.8	85.4	117.2	145.8	12	12.1
May	140.5	106.3	0.76	131.7	90.4	148.6	150.0	08	12.1
June	208.3	137.4	0.66	136.0	93.0	169.8	152.9	07	12.0
July	169.2	113.5	0.67			165.6		10	
August	136.1	93.7	0.69			170.8		15	
September	107.4	70.9	0.66			135.7		18	
October	167.7	116.4	0.69			164.9		18	
November	199.3	132.7	0.67			191.7		12	
December	123.5	86.4	0.70			169.8		09	

NOTE: All smoothed values after January 1998 and monthly values after September 1998 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 17 January 1999

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.

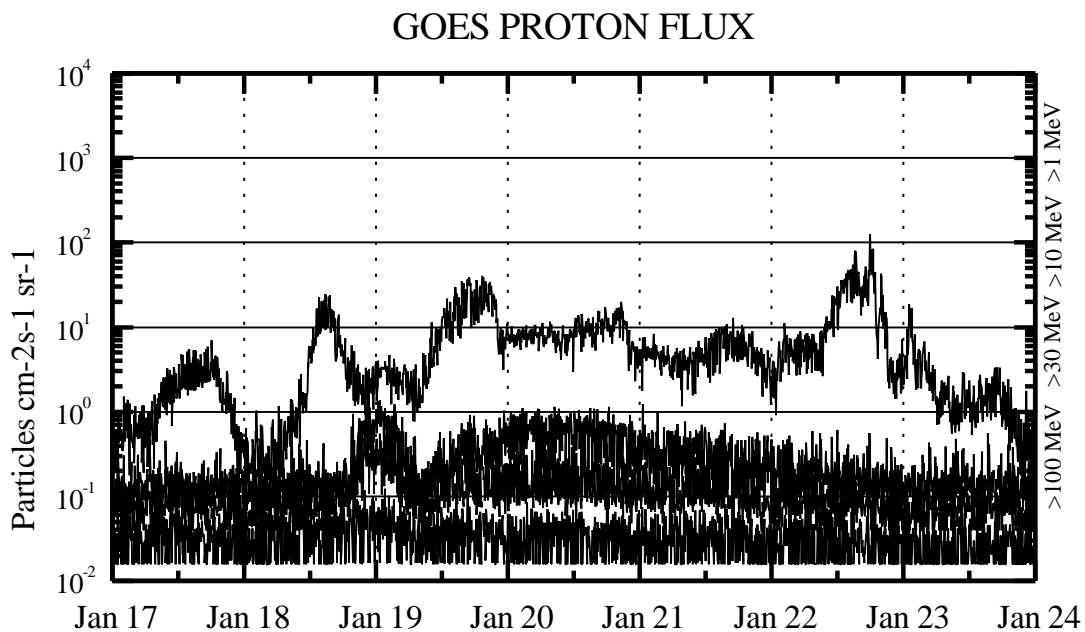
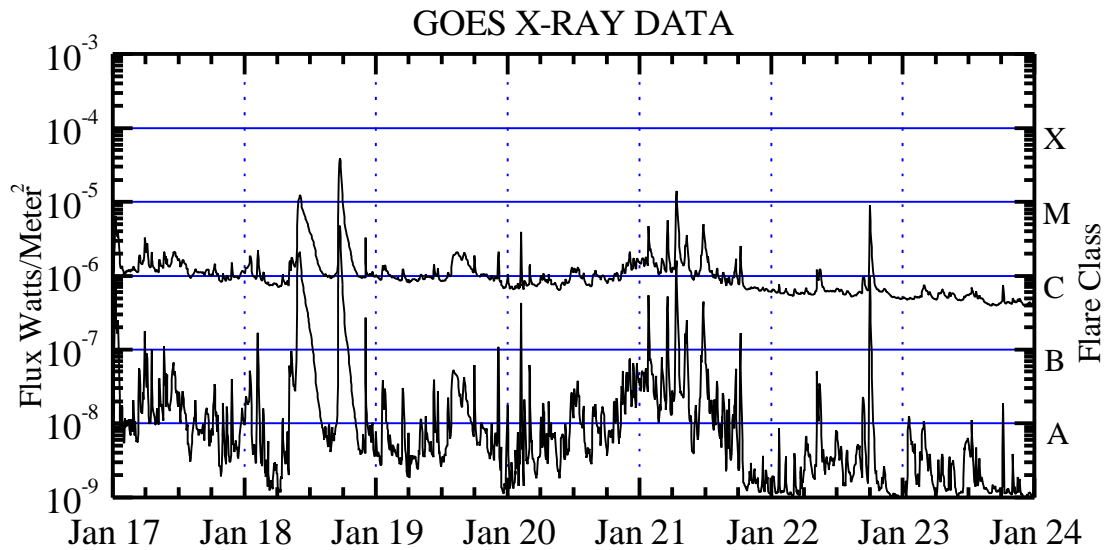
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-8.

Hp 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.

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.





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.

