

Space Weather Highlights
25 June – 01 July 2001

SWO PRF 1348
03 July 2001

Solar activity was low during most of the period, briefly dipping to very low levels on 30 June. Isolated C-class subflares occurred. The active regions were largely unremarkable and a trend of decreasing activity occurred during the latter half of the period. At the close of the period, the disk was populated by small, simple sunspot groups; all of which were stable.

Data were available from the Advanced Composition Explorer (ACE) spacecraft for most of the period. A relatively weak high speed stream was observed during 26 - 27 June associated with a negative-polarity coronal hole. Velocities began to gradually increase around midday on 26 June, and reached a peak near 530 km/sec early on 27 June followed by a gradual decrease during the rest of the day. IMF Bz varied from plus 06 to minus 08 nT (GSM) during this stream. There were no significant disturbances detected during the rest of the period.

There were no proton events during the period.

The greater than 2 MeV electron flux at geosynchronous orbit was at moderate to high levels during 25 - 26 June, then decreased to normal to moderate levels for the remainder of the period.

Geomagnetic field activity was at unsettled to active levels during 26/1800 - 27/0600 UTC due to coronal hole effects. Unsettled to active levels also occurred during 30/0900 - 1500 UTC associated with a period of sustained southward IMF Bz. Quiet to unsettled conditions occurred during the rest of the period.

Space Weather Outlook
04 - 30 July 2001

Solar activity is expected to range from low to moderate levels. Isolated M-class flares will be possible during the period. There will be a slight chance for a major flare during the period.

There will be a slight chance for a proton event 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. However, there will be a chance for high levels around 17 - 18 July.

The geomagnetic field is expected to be at quiet to unsettled levels during most of the period, barring an Earth-directed CME. However, active periods will be possible during 16 – 17 July.



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
25 June	182	220	1320	C1.0	8	0	0	6	1	0	0	0
26 June	168	177	990	C1.0	3	0	0	6	0	0	0	0
27 June	148	185	820	B8.8	6	0	0	9	0	0	0	0
28 June	140	143	460	B6.5	3	0	0	5	0	0	0	0
29 June	140	98	340	B4.0	3	0	0	1	0	0	0	0
30 June	137	115	400	B4.0	0	0	0	0	0	0	0	0
01 July	135	108	460	B3.8	1	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
25 June	7.5E+4	1.2E+4	2.5E+3		1.0E+8	
26 June	6.5E+4	1.1E+4	2.4E+3		5.4E+7	
27 June	5.3E+4	1.2E+4	2.7E+3		5.6E+6	
28 June	7.5E+4	1.2E+4	2.5E+3		1.9E+7	
29 June	2.5E+5	1.1E+4	2.4E+3		2.4E+7	
30 June	7.9E+4	1.1E+4	2.5E+3		5.2E+6	
01 July	3.9E+4	1.1E+4	2.3E+3		2.0E+6	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	25 June	7	2-3-2-2-1-2-2-2	*	*-*-*-*-1-1-2	8
26 June	11	1-1-2-2-2-3-3-4	13	3-2-2-2-3-3-4-2	13	1-2-2-3-3-4-3-3
27 June	5	3-3-1-0-1-1-1-0	11	4-4-2-1-3-1-1-1	10	4-4-2-1-2-2-2-2
28 June	2	0-0-0-1-1-1-2-1	*	0-0-0-0-1-*-2-1	5	0-0-1-2-2-3-2-2
29 June	2	0-0-1-1-1-0-1-2	1	0-0-0-1-0-1-1-0	7	1-1-1-2-2-3-2-3
30 June	9	0-2-1-3-4-0-2-3	10	1-1-1-4-4-1-1-2	10	1-2-2-3-3-3-3-3
01 July	8	2-2-1-1-1-2-3-3	7	3-3-1-1-0-1-2-2	12	3-3-1-2-3-3-3-3

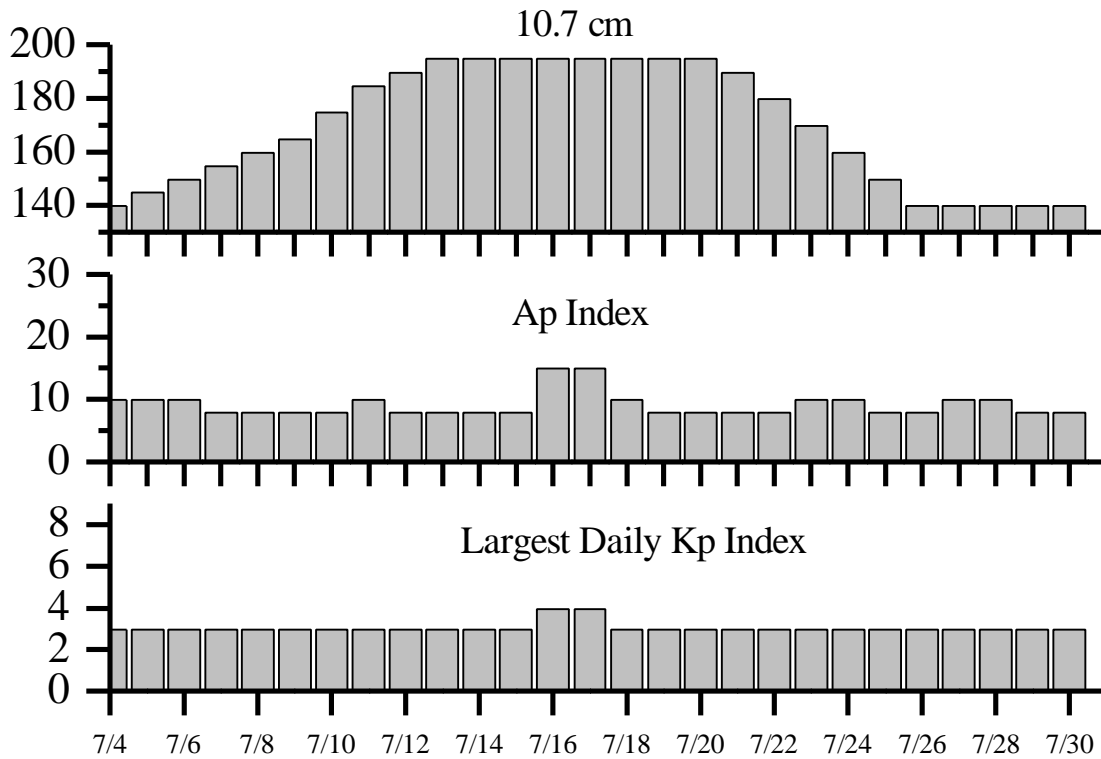


Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UT
25 Jun 0105	9 - 245 MHz Bursts	24 Jun
25 Jun 0106	CONTINUED Electron Event >2MeV >=1000pfu	21 Jun 1310
26 Jun 0008	1 - 245 MHz Bursts	25 Jun
26 Jun 0100	CONTINUED Electron Event >2MeV >=1000pfu	21 Jun 1310
27 Jun 0011	1 - 245 MHz Bursts	26 Jun
27 Jun 0100	CONTINUED Electron Event >2MeV >=1000pfu	21 Jun 1310
27 Jun 0113	K= 4 Warning	27 Jun 0115 - 1500
27 Jun 0600	K= 4 Observed	27 Jun 0300- 0600
28 Jun 0021	2 - 245 MHz Bursts	27 Jun
29 Jun 0031	2 - 245 MHz Bursts	28 Jun



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
04 July	140	10	3	18 July	195	10	3
05	145	10	3	19	195	8	3
06	150	10	3	20	195	8	3
07	155	8	3	21	190	8	3
08	160	8	3	22	180	8	3
09	165	8	3	23	170	10	3
10	175	8	3	24	160	10	3
11	185	10	3	25	150	8	3
12	190	8	3	26	140	8	3
13	195	8	3	27	140	10	3
14	195	8	3	28	140	10	3
15	195	8	3	29	140	8	3
16	195	15	4	30	140	8	3
17	195	15	4				



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

No Events Observed

Flare List

Date	Time			X-ray Class.	Optical Imp / Brtns	Optical Location Lat CMD	Rgn	
	Begin	Max	End					
25 June	0026	0027	0032	C3.1	SF	N17W75	9503	
	0103	0120	0129	C1.9				
	0242	0250	0319	C1.6				
	0413	0418	0426	C2.7				
	0439	0441	0445	C2.1				
	0802	0803	0808		SF	N18W50	9506	
	0816	0817	0826		SF	N18W53	9506	
	0856	U0000	A0908	C1.6	SF	S15W49	9517	
	1218	1219	1225	C1.9	SF	S13W54	9517	
	1230	1234	1239		1F	N20W80	9503	
	1449	1449	1453		SF	S15W53	9517	
	2306	2323	2350	C3.5				
	26 June	0441	0442	0444		SF	N16W84	9503
		0536	0539	0542	C1.2	SF	N24E33	9513
0613		0615	0618		SF	N15W85	9503	
0905		0907	0911		SF	N18E22	9514	
1100		1100	1105	C1.2	SF	N18E20	9514	
1150		1312	1402	C7.1				
27 June	1436	1438	1444		SF	N19E26	9513	
	0114	0116	0125		SF	S48E58	9518	
	0151	0158	0203	C2.1				
	0350	0351	0407	C1.5	SF	S20W41	9512	
	0709	0711	0719		SF	S48E50	9518	
	0733	0743	0804	C1.8	SF	S48E52	9518	
	0823	0823	0831		SF	S49E54	9518	
	0846	0848	0902		SF	S47E49	9518	
	1016	1034	1039	C1.6				
	1250	1254	1258		SF	S22W45	9512	
	2018	2021	2024	C1.8				
	2247	2247	2303	C2.2	SF	S21W48	9512	
	2309	2309	2316		SF	S21W49	9512	
28 June	0003	0004	0012	C1.8	SF	N12W42	9511	
	0331	0343	0405	C1.5	SF	S21W52	9512	
	2003	2003	2009	B7.7	SF	S28W62	9512	
	2023	2024	2038	C1.0	SF	N02W52	9511	
	2104	2106	2110	B8.9	SF	N01W52	9511	
29 June	0104	0110	0118	C1.5				



Flare List – continued.

Date	Time			X-ray Class.	Imp / Brtns	Optical		Rgn
	Begin	Max	End			Location Lat CMD		
29 June	0301	0305	0312	B7.0				
	0511	0521	0538	C1.4				
	0920	0932	0934	C1.0				
	1600	1601	1603	B9.5	SF	S50E39	9523	
	2346	2349	2353	B7.3				
30 June	0102	0110	0112	B5.7				
	0612	0714	0731	B8.7				
01 July	1927	1935	1941	C1.4				

Region Summary

Date	Location		Sunspot Characteristics				Flares											
	Helio		Area (10 ⁶ 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 9503</i>																		
13 Jun	N13E68	144	0160	07	CSO	004	B											
14 Jun	N15E59	140	0250	15	EAO	014	B											
15 Jun	N15E46	140	0290	14	EAI	024	B											
16 Jun	N13E33	140	0420	16	FKC	035	BG											
17 Jun	N14E20	140	0520	15	EKI	039	BG	1				1						
18 Jun	N14E07	139	0470	15	EKI	042	BG	1				7						
19 Jun	N16W06	139	0550	16	FAI	056	BG											
20 Jun	N16W20	140	0510	17	FAI	049	BG	1						1				
21 Jun	N16W33	140	0460	17	FKI	040	BGD	1				1						
22 Jun	N17W46	140	0380	18	FAI	029	BG	1	1			3	1					
23 Jun	N16W61	142	0310	18	FAO	020	BG					5						
24 Jun	N15W75	142	0250	14	EAO	017	BG	1				1						
25 Jun	N16W86	140	0140	10	DSO	007	BG	1				1	1					
								7	1	0	19	3	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 139



Region Summary - continued.

Date	Location		Sunspot Characteristics				Flares											
	° Lat	° CMD	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 9504</i>																		
13 Jun	N06E76	136	0140	05	HSX	001	A											
14 Jun	N07E63	136	0320	06	CKO	007	B											
15 Jun	N07E51	135	0290	05	CKO	005	B											
16 Jun	N07E37	136	0410	04	CKO	007	B											
17 Jun	N08E24	136	0370	04	CKO	005	B						1					
18 Jun	N08E11	135	0320	05	CKO	005	B											
19 Jun	N08W02	135	0390	05	CKO	008	B	1					1					
20 Jun	N09W17	137	0360	05	CKO	005	B	1					1					
21 Jun	N08W28	135	0330	05	CKO	010	B	3					3					
22 Jun	N09W42	136	0260	05	DKO	004	B						1					
23 Jun	N08W56	137	0260	05	CKO	005	B											
24 Jun	N07W70	137	0250	04	DSO	004	B											
25 Jun	N08W83	137	0220	04	HSX	001	A											
26 Jun	N08W98	139	0120	03	HSX	001	A											
								5	0	0	7	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 135

<i>Region 9506</i>																		
14 Jun	N17E79	120	0050	02	HSX	001	A											
15 Jun	N17E67	119	0180	07	CAO	006	B	1					1					
16 Jun	N17E61	112	0720	22	FKI	017	BG						1					
17 Jun	N17E48	112	0460	22	FKI	024	B											
18 Jun	N17E34	112	0330	22	FAI	030	B	2	1				2				2	
19 Jun	N19E21	112	0360	24	FAO	035	BG											
20 Jun	N19E08	112	0250	22	FAO	027	BG											
21 Jun	N19W04	111	0240	24	FSO	027	BG	1					1					
22 Jun	N19W18	112	0280	24	FSI	015	B											
23 Jun	N18W34	115	0270	22	FAO	013	B											
24 Jun	N17W46	113	0220	17	FSO	009	B	1					1					
25 Jun	N17W61	115	0180	12	CAO	006	B						2					
26 Jun	N18W75	116	0170	23	CSO	002	B											
27 Jun	N18W87	115	0120	21	CSO	002	B											
								5	1	0	7	1	2	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 111



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 9509</i>																	
19 Jun	S11W04	137	0030	04	DSO	008	B										
20 Jun	S10W18	138	0050	06	DAO	015	B										
21 Jun	S11W31	138	0060	07	DAO	015	B										
22 Jun	S10W45	139	0070	08	DSO	012	B	2			2	1					
23 Jun	S09W60	141	0060	07	CSO	005	B				1						
24 Jun	S10W76	143	0050	05	CSO	003	B										
25 Jun	S10W89	143															
								2	0	0	3	1	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 137

<i>Region 9511</i>																	
20 Jun	N11E53	067	0010	01	AXX	001	A										
21 Jun	N10E39	068	0000	01	AXX	001	A										
22 Jun	N10E25	069	0040	05	DSO	008	BG	2	2		3	1					
23 Jun	N10E13	068	0110	07	DAO	022	BGD	7	2	1	16	4					
24 Jun	N10E00	067	0100	08	DAI	021	B	2			2						
25 Jun	N09W14	068	0100	09	DAO	021	B										
26 Jun	N10W27	068	0070	08	DAO	014	B										
27 Jun	N10W37	069	0060	07	DSO	010	B	1									
28 Jun	N10W54	069	0030	05	DSO	006	B	1			3						
29 Jun	N11W67	068	0010	01	HSX	001	A										
30 Jun	N11W81	069	0010	00	AXX	001	A										
								13	4	1	24	5	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 067

<i>Region 9512</i>																	
21 Jun	S23E31	076	0030	04	DAO	006	B										
22 Jun	S22E17	077	0110	08	DAO	013	B										
23 Jun	S22E05	076	0130	11	EAO	017	B										
24 Jun	S22W09	076	0220	12	EAI	024	B										
25 Jun	S24W23	077	0190	13	EAI	031	BG										
26 Jun	S22W36	077	0150	13	EAI	023	BG										
27 Jun	S23W50	078	0150	13	EAI	018	BG	2			4						
28 Jun	S22W68	083	0060	05	CAO	005	B	1			2						
29 Jun	S22W83	084	0040	01	HSX	001	A										
								3	0	0	6	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 076



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 9513

21 Jun	N21E76	031	0040	02	HSX	001	A										
22 Jun	N22E66	028	0120	10	DAO	004	B										
23 Jun	N23E56	025	0160	16	FAO	013	B										
24 Jun	N23E44	023	0200	14	EAO	019	B										
25 Jun	N22E31	023	0200	16	FAI	031	B										
26 Jun	N22E17	024	0180	16	FSO	022	B	1				2					
27 Jun	N22E05	023	0150	16	FSO	024	B										
28 Jun	N22W10	025	0090	10	DAO	009	B										
29 Jun	N21W25	026	0060	14	CSO	006	B										
30 Jun	N22W40	028	0040	09	CAO	005	B										
01 Jul	N22W52	027	0040	08	CSO	003	B										
										1	0	0	2	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 023

Region 9514

22 Jun	N17E65	029	0040	02	HSX	001	A										
23 Jun	N17E54	027	0040	02	HSX	003	A										
24 Jun	N17E41	026	0050	02	HAX	001	A										
25 Jun	N17E28	026	0030	02	HSX	001	A										
26 Jun	N16E14	027	0080	04	CAO	008	B	1				2					
27 Jun	N16E00	028	0040	04	CSO	006	B										
28 Jun	N17W14	029	0010	02	BXO	003	B										
										1	0	0	2	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 028

Region 9515

23 Jun	S06E46	035	0070	04	CAO	005	B					1					
24 Jun	S06E32	035	0140	06	DAO	012	B										
25 Jun	S07E19	035	0130	07	DAO	017	B										
26 Jun	S06E05	036	0070	07	DAO	012	B										
27 Jun	S07W09	037	0090	07	DSO	012	B										
28 Jun	S05W23	038	0060	05	CSO	006	B										
29 Jun	S06W38	039	0050	02	HSX	001	A										
30 Jun	S06W52	040	0040	03	CAO	002	B										
01 Jul	S07W66	041	0040	01	HSX	001	A										
										0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 036



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 9516

23 Jun	N12E70	011	0090	05	HAX	001	A
24 Jun	N11E55	012	0090	03	HSX	002	A
25 Jun	N12E42	012	0100	05	CSO	002	B
26 Jun	N11E27	014	0120	02	HSX	001	A
27 Jun	N11E14	014	0120	04	CSO	003	B
28 Jun	N12E01	014	0120	05	CSO	003	B
29 Jun	N12W14	015	0110	03	CSO	002	B
30 Jun	N12W26	014	0090	05	CAO	004	B
01 Jul	N12W39	014	0080	02	HSX	001	A

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 014

Region 9517

25 Jun	S15W59	113	0030	03	BXO	003	B
26 Jun	S14W72	113	0030	03	CRO	004	B
27 Jun	S14W85	113					

2 0 0 3 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 113

Region 9518

27 Jun	S48E45	343	0070	08	DSO	005	B
28 Jun	S47E34	341	0030	07	DSO	003	B
29 Jun	S47E22	339	0010	05	DSO	002	B
30 Jun	S47E12	336	0010	01	AXX	001	A
01 Jul	S46W04	339	0010	01	AXX	001	A

1 0 0 5 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 339

Region 9519

27 Jun	N17E23	005	0020	03	BXO	004	B
28 Jun	N18E11	004	0020	03	BXO	005	B
29 Jun	N18W02	004					
30 Jun	N18W15	004					
01 Jul	N18W28	004					

0 0 0 0 0 0 0 0

Still on Disk.

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

Region 9520

27 Jun S10E25 003 0000 01 AXX 001 A
 28 Jun S10E12 003

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 003

Region 9521

28 Jun S06E48 327 0010 02 AXX 002 A
 29 Jun S06E35 327
 30 Jun S06E22 327
 01 Jul S06E09 327

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 327

Region 9522

28 Jun S08E66 309 0030 02 HSX 001 A
 29 Jun S08E52 309 0030 01 HSX 001 A
 30 Jun S08E38 310 0030 01 HAX 001 A
 01 Jul S08E24 311 0020 01 HSX 001 A

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 311

Region 9523

29 Jun S48E35 326 0030 04 CSO 004 B
 30 Jun S49E23 325 0130 06 DAO 009 B
 01 Jul S49E11 324 0110 07 DAO 005 B

0 0 0 1 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 324

Region 9524

30 Jun N15E41 307 0010 00 AXX 001 A
 01 Jul N15E28 307

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 307

Region 9525

30 Jun N19E72 276 0040 02 HSX 001 A
 01 Jul N19E60 275 0050 03 CAO 002 B

0 0 0 0 0 0 0 0

Still on Disk.

Absolute heliographic longitude: 275



Region Summary - continued.

Location		Sunspot Characteristics					Flares							
Date	(° 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

Region 9526

01 Jul	N09E64	271	0040	01	HSX	002	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 271

Region 9527

01 Jul	S16E74	261	0070	02	HAX	002	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 261

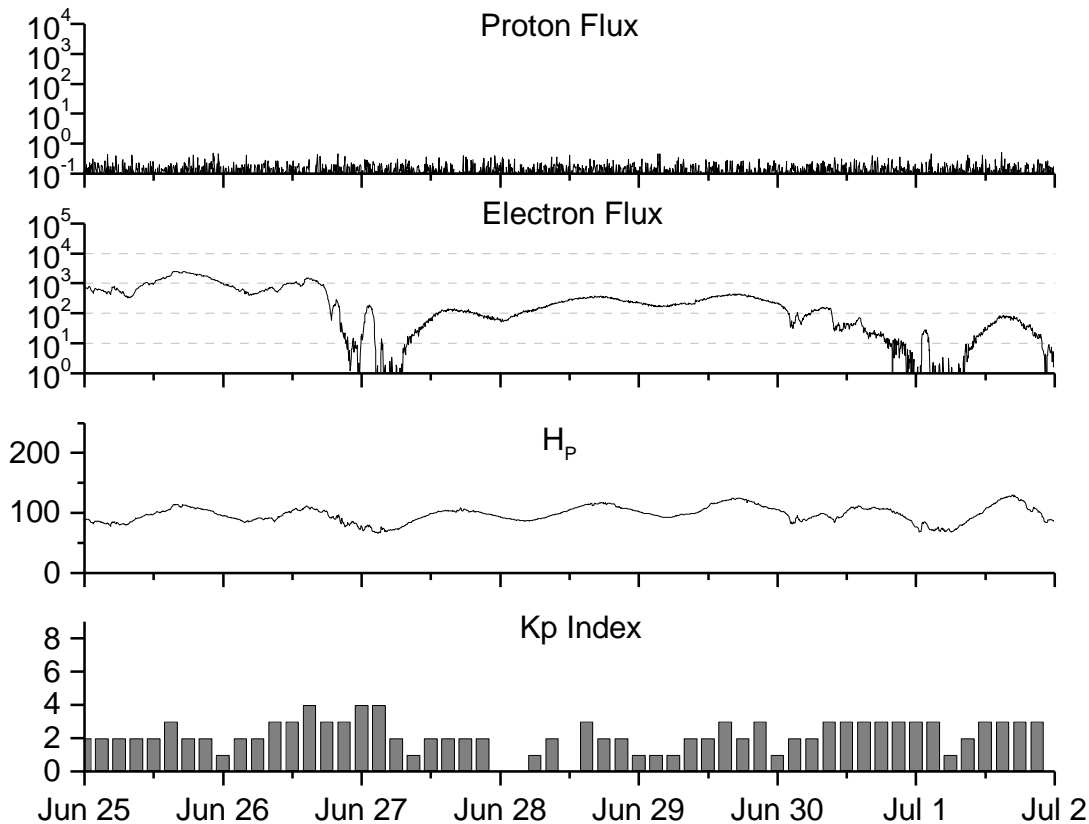


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

Month	Sunspot Numbers			Radio Flux		Geomagnetic			
	<u>Observed values</u> SWO	<u>RI</u>	<u>Ratio</u> RI/SWO	<u>Smooth values</u> SWO	<u>RI</u>	<u>*Penticton</u> 10.7 cm	<u>Smooth</u> Value	<u>Planetary</u> Ap	<u>Smooth</u> Value
1999									
July	169.2	113.5	0.67	138.0	94.3	165.6	154.4	10	12.6
August	136.1	93.7	0.69	142.8	97.5	170.8	156.3	15	12.9
September	107.4	71.5	0.67	150.0	102.3	135.7	161.0	19	12.8
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
2000									
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
2001									
January	142.7	95.1	0.67			166.7		08	
February	131.0	80.1	0.61			147.3		06	
March	166.7	114.2	0.69			177.7		17	
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	

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 25 June 2001*

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.

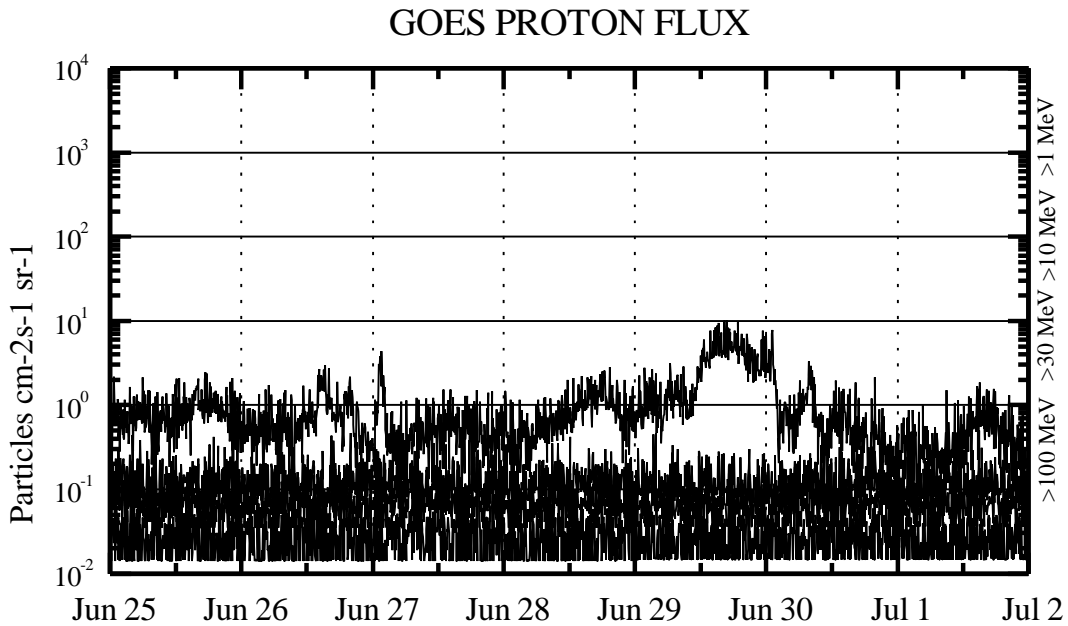
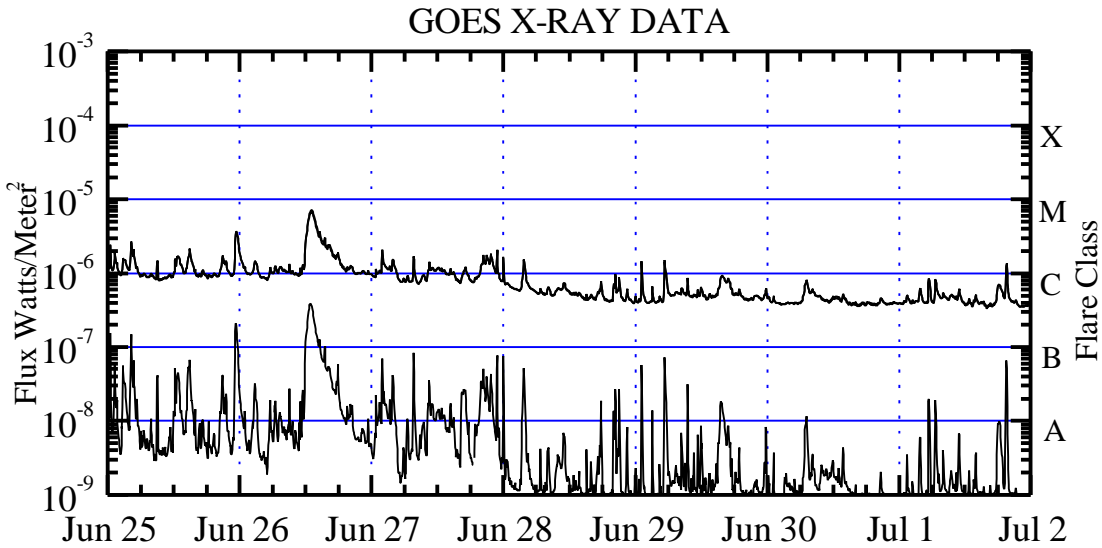
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm² -sec -sr) with energies greater than 2 MeV at GOES-8.

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 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_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.



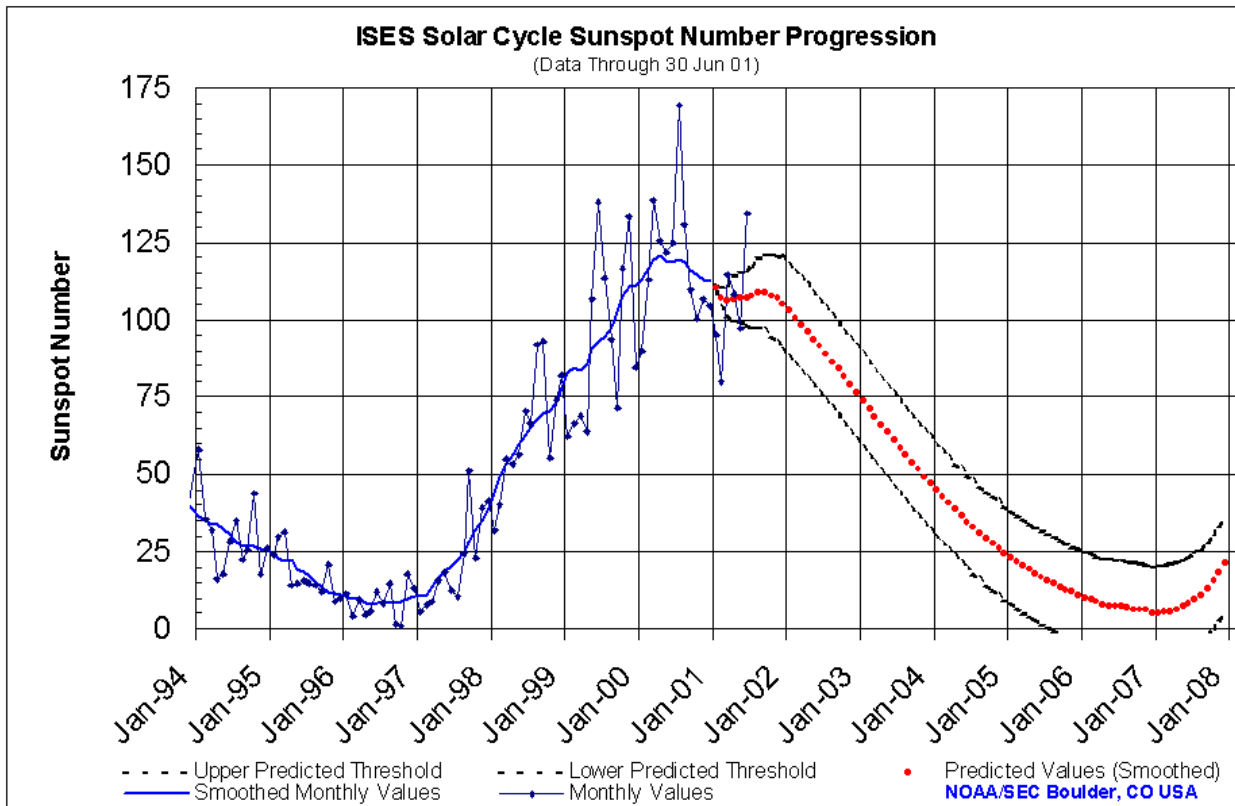


Weekly GOES Satellite X-ray and Proton Plots

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.

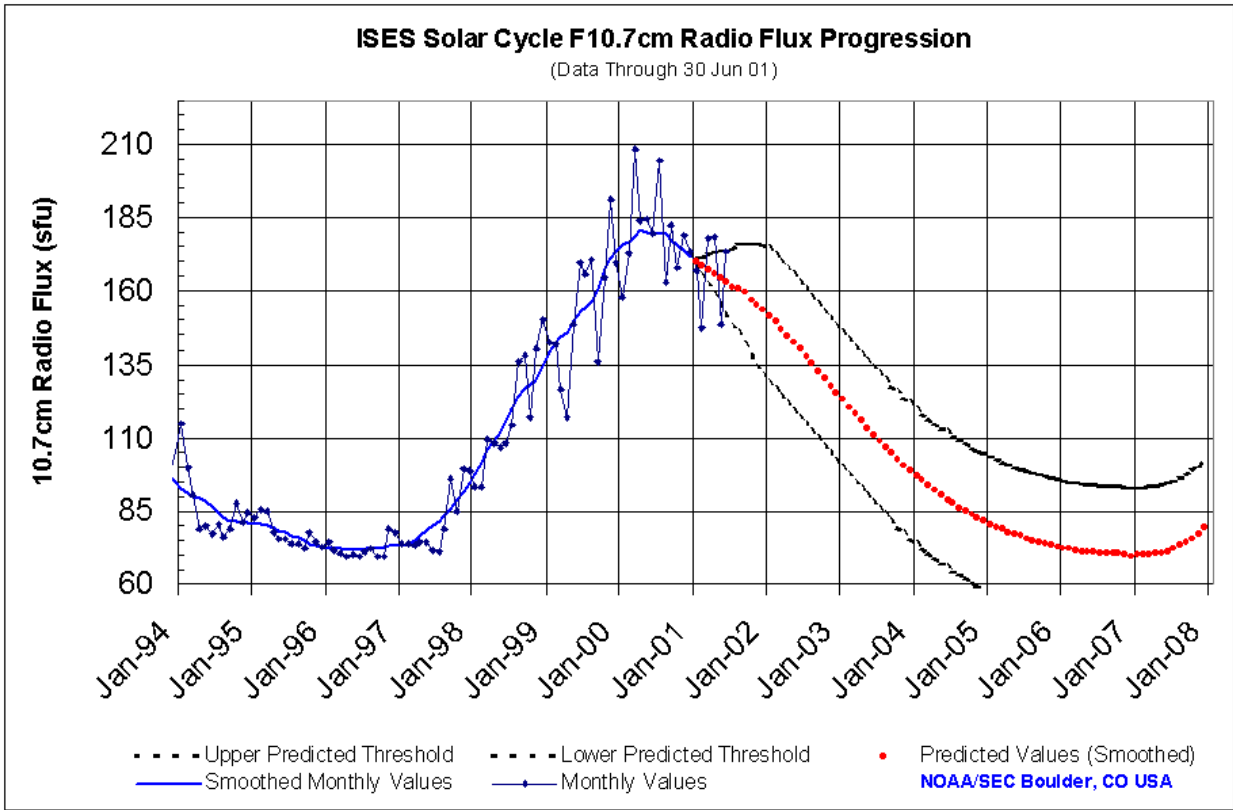




SEC Prediction of Smoothed Sunspot Number

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	44	49	53	57	59	63	66	68	70	71	73	78
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
1999	83	85	84	86	91	93	94	97	102	108	111	111
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2000	113	117	120	121	119	119	120	119	116	114	113	112
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2001	110	107	106	107	107	107	107	109	109	108	107	105
	(1)	(3)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
2002	103	101	98	96	94	91	89	86	84	81	79	76
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2003	74	71	69	66	64	61	59	56	54	52	49	47
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2004	45	43	41	39	37	35	33	31	29	28	26	25
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2005	23	22	20	19	18	17	16	15	14	13	12	11
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2006	10	9	9	8	8	7	7	7	7	6	6	5
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
2007	5	6	6	6	7	8	10	11	13	16	18	21
	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)

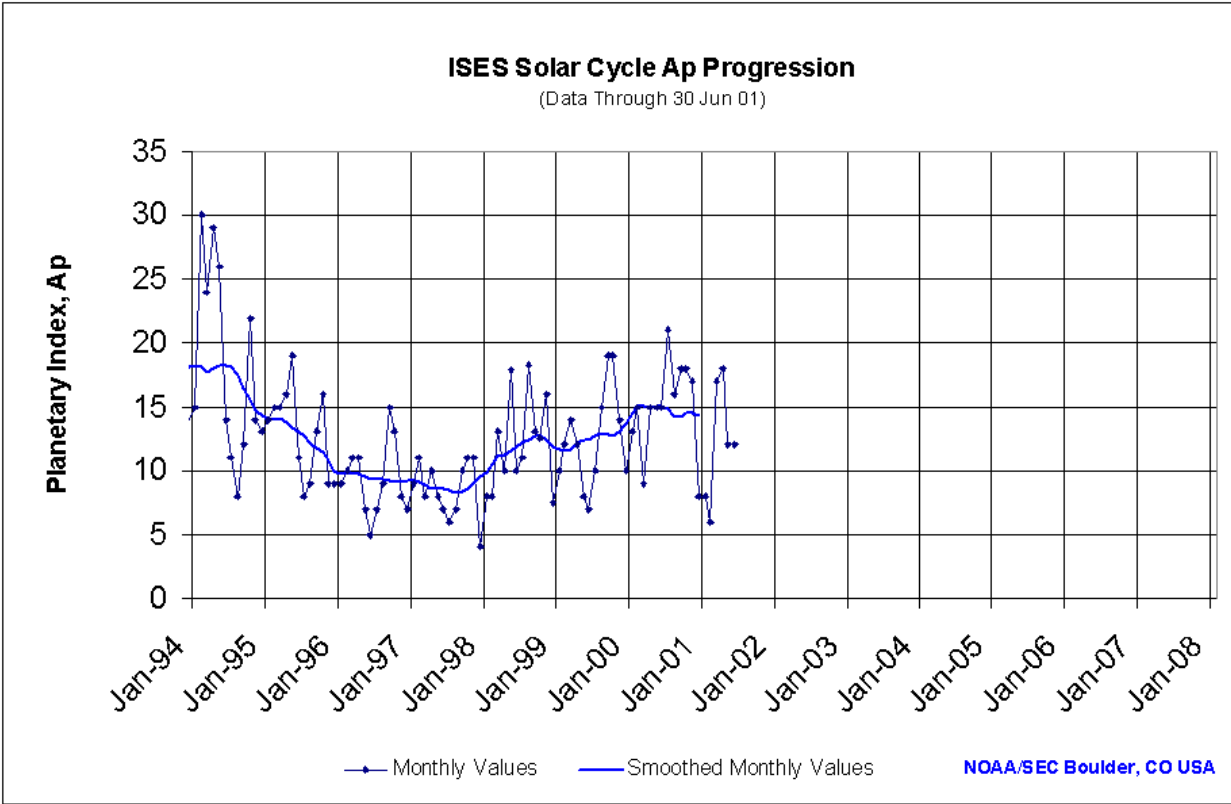




SEC Prediction of Smoothed F10.7cm Radio Flux

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1998	98	102	106	109	112	116	120	124	127	128	130	134
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
1999	139	143	144	146	150	153	154	156	161	167	172	173
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2000	175	176	178	181	180	180	180	180	177	176	174	172
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2001	170	168	167	166	164	163	161	161	160	157	155	154
	(1)	(3)	(5)	(7)	(9)	(11)	(13)	(15)	(17)	(19)	(21)	(22)
2002	152	149	147	145	143	140	138	135	133	130	128	125
	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)
2003	123	120	118	116	113	111	109	107	105	103	101	99
	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)
2004	97	95	94	92	90	89	88	86	85	84	83	82
	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)
2005	81	80	79	78	77	76	76	75	75	74	73	73
	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)
2006	72	72	72	71	71	71	71	71	70	70	70	70
	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)
2007	70	70	70	70	71	71	72	73	74	76	77	79
	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)





M5 or Greater X-Ray Flares



Space Environment Center

June 2001
(Month 57)

Preliminary data

Comparison of Cycles at current month in cycle

