

Solar activity ranged from very low to moderate. The period began with very low conditions on the first day, but quickly rose to low to moderate as new Region 772 (S18, L=133, class/area, Dac/130 on 01 June) developed into an active flare producer. On 01 June, the region produced an M1.7/1b at 0243 UTC with an associated Type II sweep. The region generated numerous C-class events during the day as well. At 03/0411 UTC, Region 772 produced a M1.3/1b flare with an associated Type II sweep (571 km/s) and Tenflare (150 sfu). Associated with this event was a weak, Earth-directed, full halo CME. Later on the 3rd at 1226 UTC, an impressive M1.0 flare was observed on the east limb near N15 with an associated Type II sweep (1050 km/s) and Tenflare (150 sfu). A powerful CME with a speed of near 1660 km/s, along with a strong post-eruption loop system, was observed in association with the flare, but was not geoeffective. This activity indicated the return of old Region 759 which was an active M-class flare producer on its last rotation. This region was numbered 775 (N12, L=055, class/area, Hsx/160 on 04 June). Late in the summary period, Region 772 produced a C6.2/Sn at 03/2353 UTC with associated Type II (499 km/s), and Type IV sweeps and an associated weak, Earth-directed CME. On 05 June new Region 776 (S05, L=045, class/area, Dao/230 on 05 June) rotated into view and was the most active late in the period with several B-flares and one low level C-flare. The remainder of the disk and limb were quiet and stable.

Solar wind speed ranged from a low of 390 km/s midday on 02 June to a high of near 700 km/s late on 05 June. The period began with solar wind around 500 km/s while the IMF Bz ranged between +12 and -18 nT with an extended period of sustained southward Bz from 30/0000 UTC through 30/1900 UTC. The IMF Bz was responding to a coronal hole high speed stream (HSS) combined with CME activity of 26 May. After this period, the IMF Bz became weak, not varying much beyond +/- 4 nT, while solar wind speed varied between 400 and 500 km/s. At about 04/1200 UTC, ACE measurements indicated an increase in solar wind speed, temperature, and density, all indicative of a co-rotating interactive region in advance of a recurrent coronal hole high speed stream. By late on the 4th, wind speed had increased to near 550 km/s, while the IMF Bz fluctuated between +/- 10 nT. Solar wind speed had increased to approximately 700 km/s by midday on 05 June and ended the period at around 600 km/s.

No greater than 10 MeV proton events were observed this period.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels repeatedly during the interval from 31 May - 04 June.

The geomagnetic field ranged from quiet to severe storm levels. On 30 May, unsettled to severe storm conditions were observed. Heightened activity on this day was due to the combined effects of a geoeffective coronal hole high speed stream and CME activity from 26 May. From approximately midday on 31 May until midday on 04 June, conditions were mostly quiet to unsettled.

Approximately midday on 04 June, activity levels increased to unsettled to active with sustained minor storm periods at high latitudes late on the 4th and early on the 5th. This activity was due to the effects of another coronal hole HSS. By the end of the day on 05 June, conditions quieted down to mostly unsettled.



Space Weather Outlook

08 June – 04 July 2005

Solar activity is expected to be at very low to low levels for most of the forecast period. Isolated M-class activity is possible from Regions 772 and 776.

There is a slight chance for a greater than 10 MeV proton event.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 08 – 15 June, 18 – 24 June, 27 June – 01 July, and 03 – 04 July.

The geomagnetic field is expected to range from quiet to minor storm levels. Recurrent coronal hole high speed wind streams are expected to produce active conditions on 08 June and active to minor storm levels on 25 – 27 June, and again on 02 – 04 July. Otherwise, expect quiet to unsettled conditions.



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
30 May	95	76	360	B1.2	0	0	0	0	0	0	0	0
31 May	96	79	270	B1.6	1	0	0	1	0	0	0	0
01 June	94	95	500	B1.7	8	1	0	6	1	0	0	0
02 June	93	69	270	B1.8	1	0	0	1	0	0	0	0
03 June	95	55	260	B2.0	2	2	0	2	1	0	0	0
04 June	97	74	520	B1.7	8	0	0	5	0	0	0	0
05 June	105	77	630	B2.7	2	0	0	3	0	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ² -day-sr)			Electron Fluence (electrons/cm ² -day-sr)		
	>1 MeV	>10 MeV	>100 MeV	>.6 MeV	>2MeV	>4 MeV
	30 May	3.7E+6	1.3E+4	3.2E+3		6.8E+6
31 May	1.1E+6	1.4E+4	3.2E+3		6.2E+7	
01 June	3.8E+5	1.4E+4	3.5E+3		1.2E+8	
02 June	5.8E+5	1.5E+4	3.7E+3		2.9E+8	
03 June	5.0E+5	1.4E+4	3.8E+3		1.6E+8	
04 June	7.9E+5	1.5E+4	4.2E+3		8.4E+7	
05 June	7.8E+5	1.7E+4	4.0E+3		3.2E+7	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	30 May	32	3-3-5-5-5-4-4-4	80	4-3-7-6-6-7-7-3	67
31 May	10	3-3-2-2-3-2-2-2	27	4-4-6-3-5-2-2-1	17	4-4-3-3-3-3-3-3
01 June	5	2-3-1-1-1-0-1-1	8	3-3-2-2-2-2-2-0	8	3-3-1-2-1-2-2-1
02 June	7	2-1-1-2-2-1-2-3	4	1-1-0-2-1-1-2-2	7	2-2-2-2-1-2-2-3
03 June	10	4-3-3-1-2-1-1-2	6	2-2-2-2-2-1-1-1	8	2-3-3-2-2-2-2-2
04 June	12	1-1-2-2-3-3-4-3	15	2-2-2-3-3-5-3-2	18	2-1-3-2-3-4-5-4
05 June	14	3-2-4-2-2-3-3-3	31	5-5-5-5-3-3-3-2	20	4-3-5-3-2-3-3-3

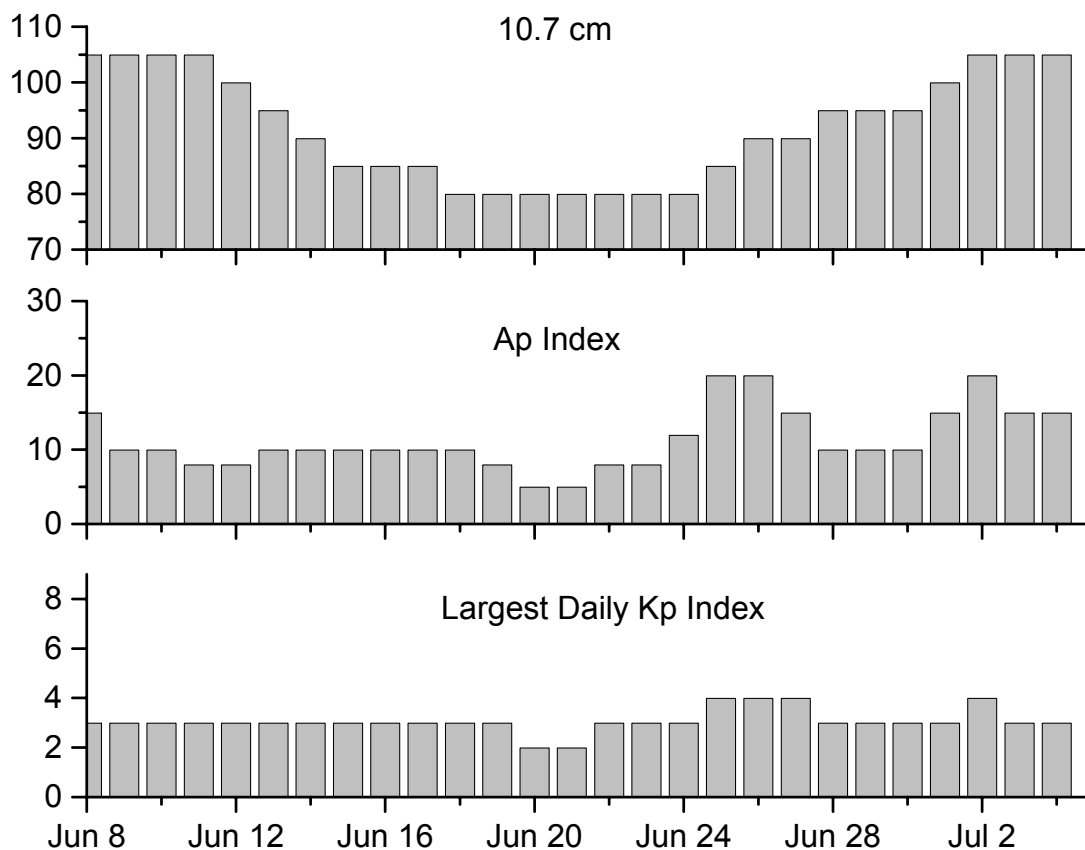


Alerts and Warnings Issued

<u>Date & Time of Issue</u>	<u>Type of Alert or Warning</u>	<u>Date & Time of Event UTC</u>
30 May 0603	EXTENDED WARNING: Geomagnetic K= 4	28 May 1630 – 31/1500
30 May 0725	WARNING: Geomagnetic K= 5	30 May 0757 – 0900
30 May 0825	ALERT: Geomagnetic K-index of 5	30 May 0825
30 May 0938	WARNING: Geomagnetic K= 5	30 May 0939 – 1200
30 May 0943	ALERT: Geomagnetic K= 5	30 May 0941
30 May 1128	EXTENDED WARNING: Geomagnetic K= 5	30 May 0939 – 1500
30 May 1144	WARNING: Geomagnetic K= 6	30 May 1144 – 1500
30 May 1151	ALERT: Geomagnetic K= 6	30 May 1150
30 May 1230	ALERT: Geomagnetic K= 6	30 May 1230
30 May 1455	EXTENDED WARNING: Geomagnetic K= 5	30 May 0939 – 2359
30 May 2320	EXTENDED WARNING: Geomagnetic K= 5	30 May 0939 – 31/0600
31 May 0503	EXTENDED WARNING: Geomagnetic K= 4	28 May 1630 – 31/1500
31 May 1443	ALERT: Electron 2MeV Integral Flux > 1000pfu	31 May 1425
31 May 1515	ALERT: Type II Radio Emission	31 May 1445
01 Jun 0316	ALERT: Type II Radio Emission	01 Jun 0247
01 Jun 0959	ALERT: Electron 2MeV Integral Flux > 1000pfu	01 Jun 0935
01 Jun 2226	SUMMARY: 10cm Radio Burst	01 Jun 2209
02 Jun 0007	7 – 245 MHz Radio Bursts	01 Jun
02 Jun 0521	ALERT: Electron 2MeV Integral Flux > 1000pfu	02 Jun 0500
03 Jun 0426	SUMMARY: 10cm Radio Burst	03 Jun 0409
03 Jun 0445	ALERT: Type II Radio Emission	03 Jun 0415
03 Jun 0535	ALERT: Electron 2MeV Integral Flux > 1000pfu	03 Jun 0500
03 Jun 1320	ALERT: Type II Radio Emission	03 Jun 1205
03 Jun 1326	SUMMARY: 10cm Radio Burst	03 Jun 1205
04 Jun 0011	ALERT: Type II Radio Emission	03 Jun 2351
04 Jun 0030	6 – 245 MHz Radio Bursts	03 Jun
04 Jun 0054	ALERT: Type IV Radio Emission	04 Jun 0015
04 Jun 0921	ALERT: Electron 2MeV Integral Flux > 1000pfu	04 Jun 0905
04 Jun 1353	WARNING: Geomagnetic K= 4	04 Jun 1354 – 2359
04 Jun 1402	ALERT: Geomagnetic K= 4	04 Jun 1403
04 Jun 1712	WARNING: Geomagnetic K= 5	04 Jun 1713 – 2359
04 Jun 1721	ALERT: Geomagnetic K=5	04 Jun 1721
04 Jun 2342	EXTENDED WARNING: Geomagnetic K= 4	04 Jun 1354 – 05/1600
05 Jun 0026	2 – 245 MHz Radio Bursts	04 Jun
05 Jun 0704	WARNING: Geomagnetic K= 5	05 Jun 0706 – 05/1600
05 Jun 0837	ALERT: Geomagnetic K= 5	05 Jun 0837



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
08 Jun	105	15	3	22 Jun	80	8	3
09	105	10	3	23	80	8	3
10	105	10	3	24	80	12	3
11	105	8	3	25	85	20	4
12	100	8	3	26	90	20	4
13	95	10	3	27	90	15	4
14	95	10	3	28	95	10	3
15	85	10	3	29	95	10	3
16	85	10	3	30	95	10	3
17	85	10	3	01 Jul	100	15	3
18	80	10	3	02	105	20	4
19	80	8	3	03	105	15	3
20	80	5	2	04	105	15	3
21	80	5	2				



Energetic Events

Date	Time		X-ray		Optical Information			Peak		Sweep Freq		
	Begin	Max	Max	Class	Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
									245	2695	II	IV
01 Jun 05	0236	0243	0246	M1.7	.005	1b	S18E49	772	400	61	3	
03 Jun 05	0403	0411	0416	M1.3	.005	1b	S18E21	772	5700	150	1	
03 Jun 05	1151	1226	1245	M1.0	.018				120	150	2	

Flare List

Date	Time			Optical X-ray Class.	Imp/ Brtns	Location Lat CMD	Rgn
	Begin	Max	End				
30 May	0606	0611	0616	B1.9			769
	1000	1004	1007	B3.3			767
	1227	1231	1233	B4.4			767
	1607	1637	1645	B2.6			
31 May	0300	0303	0306	B2.3			
	1439	1443	1503	C2.4	Sf	N12W22	770
01 June	0019	0024	0029	B5.5			767
	0136	0140	0145	B3.9			772
	B0239	0245	0307	M1.7	1b	S18E49	772
	B0351	0358	0429		Sf	S17E47	
	B0436	0441	0445	C1.2	Sf	S17E48	772
	0549	0557	0601	B4.7			772
	0657	0704	0709	C2.0			772
	0833	0840	0844	B6.0			772
	0936	0942	0948	B4.7			772
	1041	1051	1057	C2.3			772
	1143	1149	1155	C1.0			772
	1245	1245	1248	C1.0	Sf	S17E45	772
	1626	1629	1637	B3.2			772
	1753	1754	1802	C3.1	Sf	S17E42	772
	1803	1816	1827	C5.9	Sf	S16E40	772
	1948	1951	1953	B2.8			772
	2151	2155	2200	B3.4			766
	2213	2216	2224	C7.2	Sf	S16E38	772
	02 June	0154	0156	0200	B7.3	Sf	S17E34
0601		0609	0611	B4.2			772
1201		1210	1223	B8.7			772
1437		1445	1500	B6.2			772
1804		1825	1842	B4.8			
1951		2023	2105	B8.3			
2137		2155	2217	B4.6			
2228		2234	2242	B5.8			772
2257		2305	2314	C1.3			772
03 June		0210	0227	0255	C3.1	Sf	S18E20
	0407	0410	0445	M1.3	1b	S18E21	772



Flare List – continued.

Date	Begin	Time		Class.	Optical	Imp / Lat CMD	Location	Rgn
		Max	End		X-ray Brtns			
03 June		1151	1226	1245	M1.0			
		1554	1557	1559	B8.9			772
		1652	1655	1703	B6.8			772
		1909	1913	1917	B4.2			772
		1952	1955	1957	B4.8			772
		2021	2024	2026	B7.4			772
		2351	2353	0034	C6.2	Sn	S17E09	772
04 June		0037	0040	0050	C2.0	Sf	S18E08	772
		0053	0101	0115	C4.9	Sf	S19E08	772
		B0148	0149	0155	C2.0	Sf	S18E08	772
		0434	0434	0443	B6.2	Sf	S20E06	772
		0637	0643	0647	C2.2			772
		0840	0848	0854	C1.1			772
		1129	1140	1154	C1.3			772
		1654	1655	1704	C1.3	Sf	S17W01	772
		1946	1949	1951	B3.5			773
		2102	2105	2107	B4.1			
		2217	2225	2249	C2.8			
		2336	2339	2341	B5.2			
	05 June		0327	0330	0341	C1.2	Sf	S17W06
		B0418	0423	0424		Sf	S05E80	
		0624	0628	0631	B6.2			776
		0717	0720	0725	B5.6			776
		0840	0843	0845	B4.9			776
		0949	0952	0954	B7.3			776
		1152	1156	1200	B9.6			776
		1304	1350	1408	C3.5			776
		1823	1827	1830	B8.0			776
		1919	1933	1944	B5.8			776
	B2158	2206	2207		Sf	S04E70	776	
	2244	0014	0021	B7.1			772	



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 765

19 May	N09E65	276	0030	01	Hsx	001	A										
20 May	N09E51	276	0020	01	Hsx	001	A										
21 May	N08E36	278	0010	01	Axx	001	A										
22 May	N08E23	278	0010	01	Axx	001	A										
23 May	N08E10	278															
24 May	N08W03	278															
25 May	N08W16	278															
26 May	N08W29	278															
27 May	N08W42	278															
28 May	N08W55	278															
29 May	N08W68	278															
30 May	N08W81	278															

0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 278

Region 766

21 May	N15E75	239	0060	02	Hax	005	A										
22 May	N15E62	239	0090	07	Dao	007	B										
23 May	N15E49	239	0050	10	Dso	008	B										
24 May	N13E37	238	0040	08	Cso	008	B					1					
25 May	N14E23	238	0040	06	Dao	006	B										
26 May	N14E08	240	0030	05	Dro	007	B										
27 May	N13W06	241	0010	00	Hrx	001	A										
28 May	N13W19	241	0020	02	Axx	003	A										
29 May	N13W32	241															
30 May	N13W45	241															
31 May	N13W58	241															
01 Jun	N13W71	241															
02 Jun	N13W84	241															
03 Jun	N13W97	241															

0 0 0 1 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 241



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 767</i>																		
21 May	S07E80	234	0060	02	Hax	001	A											
22 May	S07E67	234	0100	07	Dso	004	B											
23 May	S07E54	234	0100	07	Dao	008	Bg											
24 May	S08E40	235	0130	09	Dso	012	B					2						
25 May	S07E26	235	0140	11	Eso	019	Bg											
26 May	S08E12	236	0140	10	Dac	031	Bg	1					1					
27 May	S08W02	237	0240	11	Eki	017	Bg	3	1			4	1	1				
28 May	S08W16	238	0300	10	Dao	025	Bg	2				1						
29 May	S09W31	240	0200	10	Dai	020	Bg											
30 May	S09W44	240	0240	12	Eac	022	Bg											
31 May	S09W59	241	0170	13	Eao	012	B											
01 Jun	S08W72	241	0200	15	Eao	010	B											
02 Jun	S09W85	241	0000	02	Axx	001	A											
03 Jun	S09W98	241																
								6	1	0	7	2	1	0	0			

Crossed West Limb.

Absolute heliographic longitude:237

<i>Region 769</i>																		
28 May	S07E69	153	0050	01	Hsx	001	A											
29 May	S08E59	150	0010	01	Axx	001	A											
30 May	S08E49	147	0020	04	Bxo	004	B											
31 May	S11E43	139	0010	01	Axx	002	A											
01 Jun	S10E30	139	0020	02	Hax	001	A											
02 Jun	S10E15	141	0010	01	Axx	001	A											
03 Jun	S06E09	134	0000	01	Axx	001	A											
04 Jun	S06W04	134																
05 Jun	S06W17	134																
								0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude:134



Region Summary – continued.

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

Region 770

29 May	N12E00	209	0020	04	Cso	004	B										
30 May	N12W14	210	0060	04	Dao	007	B										
31 May	N12W27	209	0010	04	Bxo	005	B	1			1						
01 Jun	N12W39	208	0000	02	Axx	002	A										
02 Jun	N12W52	208															
03 Jun	N12W65	208															
04 Jun	N12W78	208															
								1	0	0	1	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude:209

Region 771

30 May	N24W33	229	0040	03	Bxo	003	B										
31 May	N24W47	229	0030	05	Cso	004	B										
01 Jun	N25W58	227	0040	01	Hsx	001	A										
02 Jun	N23W72	228	0010	01	Axx	001	A										
03 Jun	N23W85	228															
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude:229

Region 772

31 May	S18E50	132	0050	05	Cao	006	B										
01 Jun	S18E36	133	0130	07	Dac	017	Bg	8	1		5	1					
02 Jun	S17E23	133	0110	08	Dai	013	Bg	1			1						
03 Jun	S17E09	134	0120	06	Dai	018	B	2	1		2	1					
04 Jun	S17W06	136	0160	10	Dac	020	B	7			5						
05 Jun	S18W18	134	0110	10	Dso	015	B	1			1						
								19	2	0	14	2	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 136

Region 773

01 Jun	S12E76	093	0110	08	Dso	004	B										
02 Jun	S12E63	093	0140	09	Dao	003	B										
03 Jun	S13E50	093	0140	08	Dao	006	B										
04 Jun	S13E36	094	0190	11	Eso	008	B										
05 Jun	S13E23	093	0120	09	Dao	006	B										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 093



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 774</i>																						
04 Jun	N05W06	136	0010	04	Cso	004	B															
05 Jun	N04W21	137	0010	01	Hrx	002	A															
									0	0	0	0	0	0	0	0	0	0	0	0	0	
Still on Disk.																						
Absolute heliographic longitude: 136																						
<i>Region 775</i>																						
04 Jun	N12E75	055	0160	03	Hsx	002	A															
05 Jun	N12E61	055	0160	04	Hsx	001	A															
									0	0	0	0	0	0	0	0	0	0	0	0	0	
Still on Disk.																						
Absolute heliographic longitude: 055																						
<i>Region 776</i>																						
05 Jun	S05E71	045	0230	07	Dao	003	B	1				1										
								1	0	0	1	0	0	0	0	0	0	0	0	0	0	
Still on Disk.																						
Absolute heliographic longitude: 045																						

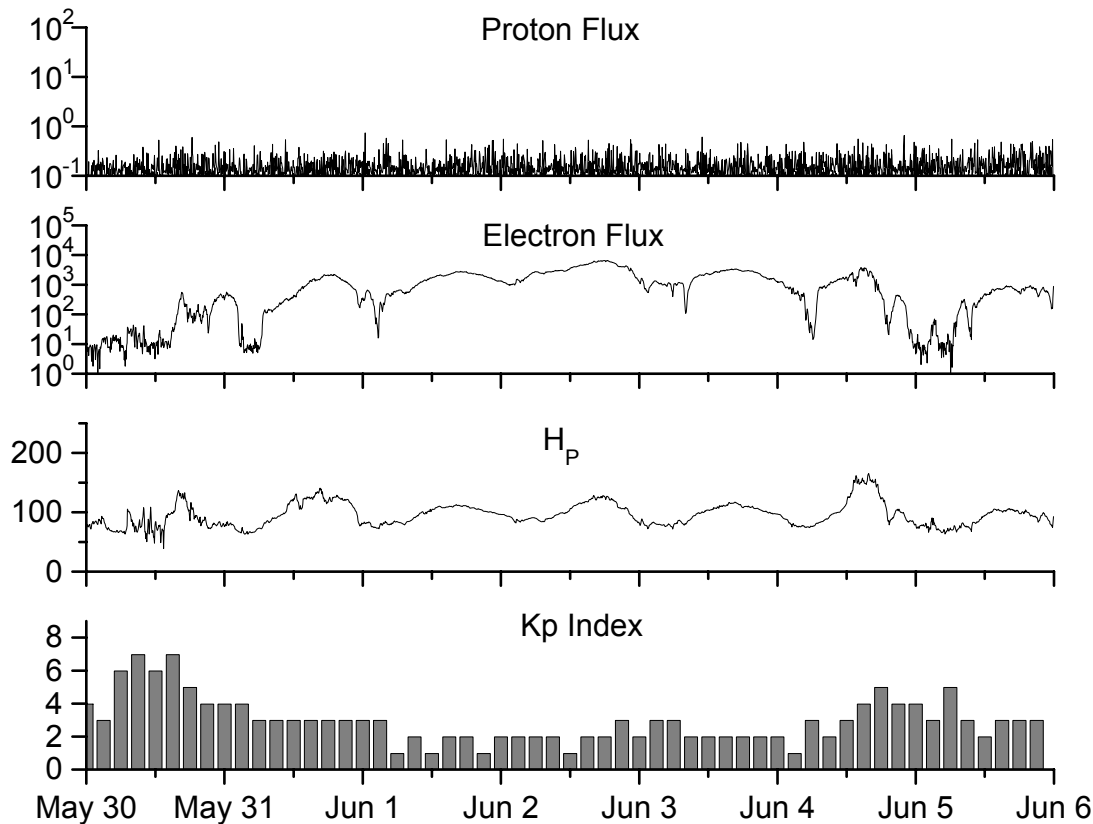


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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
2003									
May	89.6	55.2	0.62	118.3	67.8	129.3	133.1	26	21.0
June	118.4	77.4	0.65	113.6	65.2	129.4	130.2	24	21.5
July	132.8	85.0	0.64	106.9	62.0	127.8	127.2	19	22.0
August	114.3	72.7	0.64	102.8	60.3	122.1	125.2	23	22.2
September	82.6	48.8	0.59	100.7	59.8	112.3	123.7	18	21.8
October	118.9	65.5	0.55	96.6	58.4	153.1	121.8	35	21.1
November	118.9	67.3	0.57	93.6	57.0	153.1	120.1	28	20.0
December	75.4	46.5	0.62	91.4	55.0	115.1	118.0	16	18.6
2004									
January	62.3	37.7	0.61	87.9	52.0	114.1	116.3	22	18.1
February	75.6	45.8	0.61	84.2	49.4	107.0	115.5	13	17.7
March	81.0	49.1	0.61	80.9	47.2	112.2	114.6	14	16.9
April	59.3	39.3	0.66	77.9	45.6	101.2	112.3	11	15.5
May	77.3	41.5	0.54	74.1	43.9	99.8	109.2	8	14.3
June	78.9	43.2	0.55	70.4	41.7	97.4	107.2	8	14.0
July	87.8	51.0	0.58	68.3	40.2	118.5	105.9	23	13.8
August	69.5	40.9	0.59	66.6	39.3	110.1	105.0	11	13.8
September	50.0	27.7	0.55	63.7	37.6	103.1	103.7	10	13.6
October	77.9	48.4	0.62	61.3	35.9	105.7	102.1	9	13.5
November	70.5	43.7	0.62			113.2		26	
December	34.7	17.9	0.52			94.6		11	
2005									
January	52.0	31.3	0.60			102.4		22	
February	45.4	29.1	0.64			97.3		11	
March	41.0	24.8	0.60			90.0		12	
April	41.5	24.4	0.59			85.9		12	

NOTE: All smoothed values after September 2002 and monthly values after March 2003 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 23, RI= 120.8, occurred April 2000. *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 30 May 2005*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec-sr) as measured by GOES-11 (W114) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

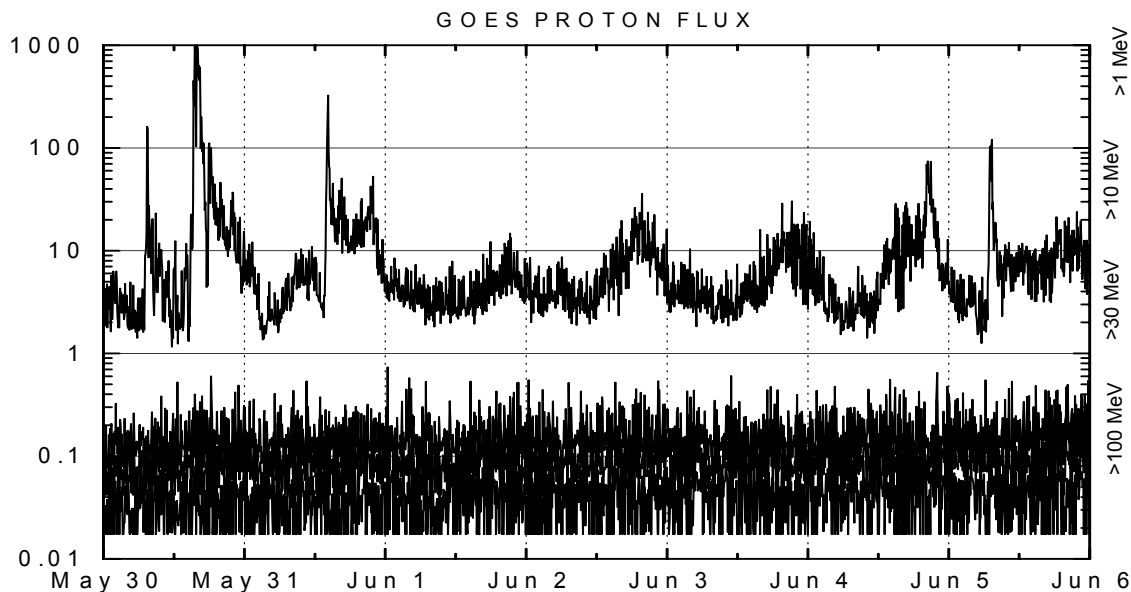
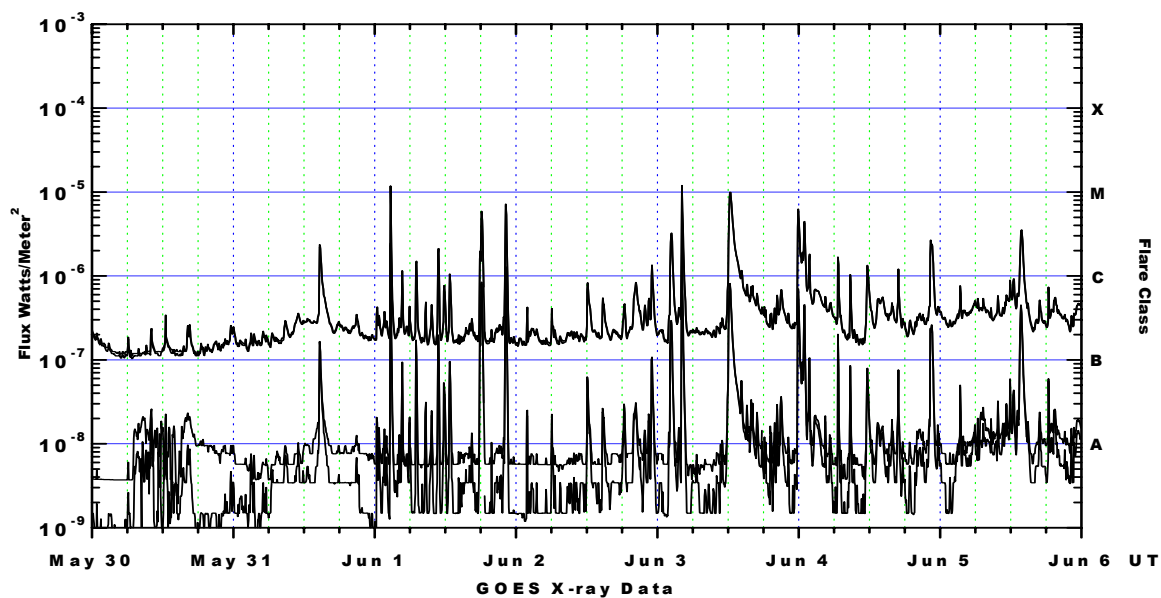
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec-sr) with energies greater than 2 MeV at GOES-12 (W75).

H_p plot contains the five minute averaged magnetic field H - component in nanoteslas (nT) as measured by GOES-12. 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 Hartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC), British Geological Survey (BGS) 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

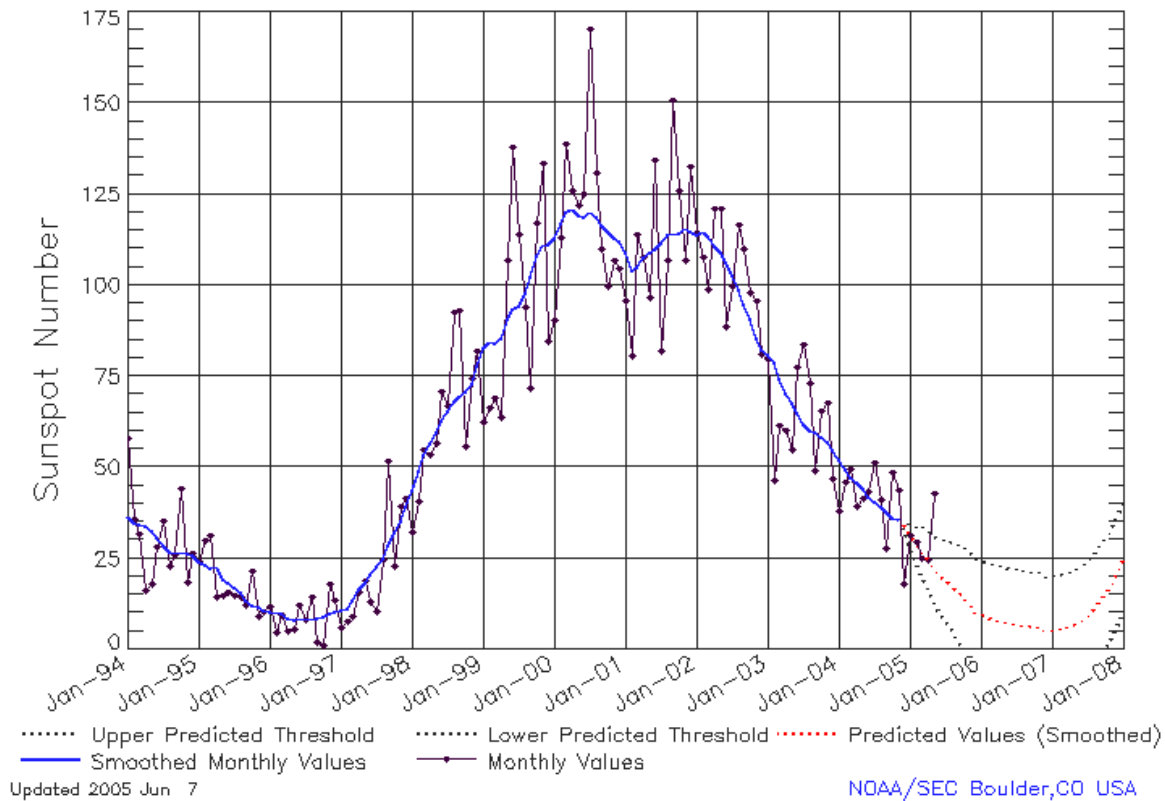
X-ray plot contains five-minute averaged x-ray flux (watts/m²) as measured by GOES 12 (W75) and GOES 10 (W135) in two wavelength bands, .05 - .4 and .1 - .8 nm. The letters A, B, C, M and X refer to x-ray event levels for the .1 - .8 nm band.

Proton plot contains the five-minute averaged integral proton flux (protons/cm²-sec-sr) as measured by GOES-11 (W114) 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.



ISES Solar Cycle Sunspot Number Progression

Data Through 31 May 05



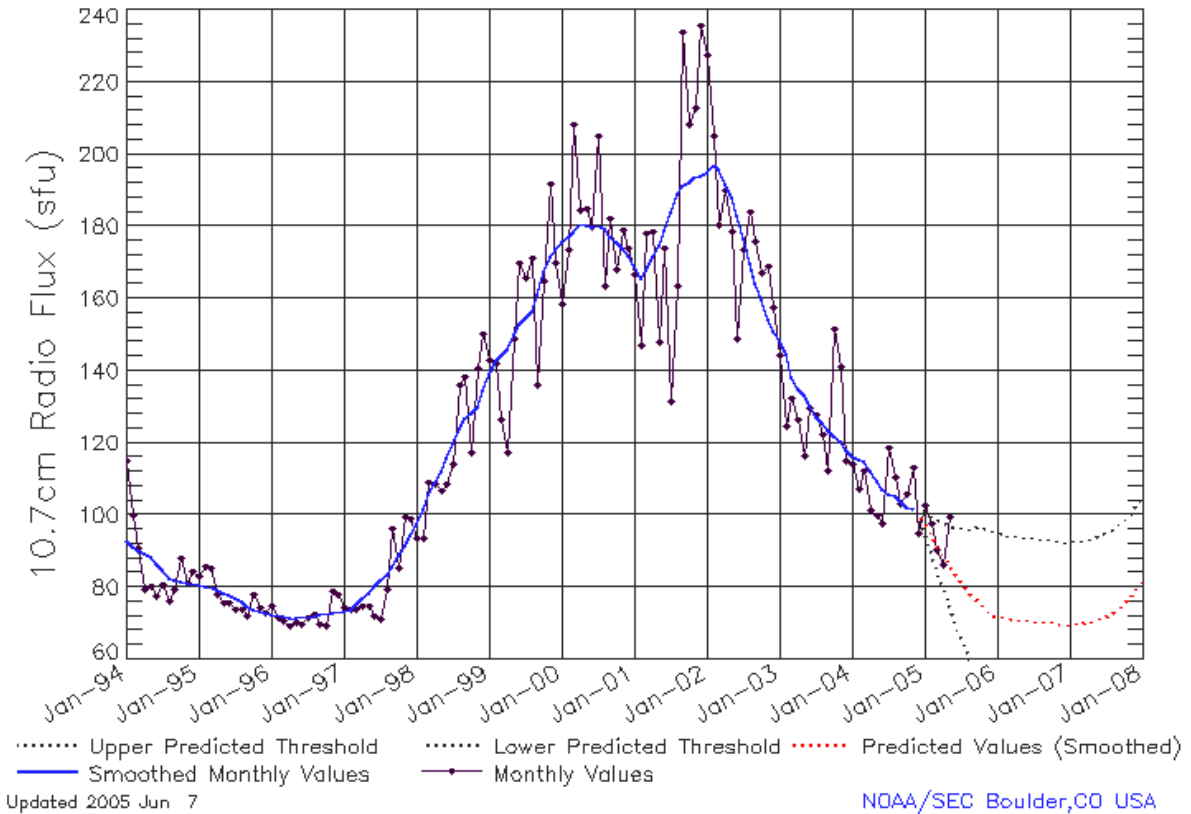
SEC Prediction of Smoothed Sunspot Number

	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	98	102	108	111	111
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2000	113	117	120	121	119	119	120	119	116	115	113	112
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2001	109	104	105	108	109	110	112	114	114	114	116	115
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2002	114	115	113	111	109	106	103	99	95	91	85	82
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2003	81	79	74	70	68	65	62	60	60	58	57	55
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)
2004	52	49	47	46	44	42	40	39	38	36	35	34
	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(***)	(1)
2005	32	29	27	25	22	20	19	17	16	15	12	10
	(3)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(15)
2006	10	9	8	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)



ISES Solar Cycle F10.7cm Radio Flux Progression

Data Through 31 May 05



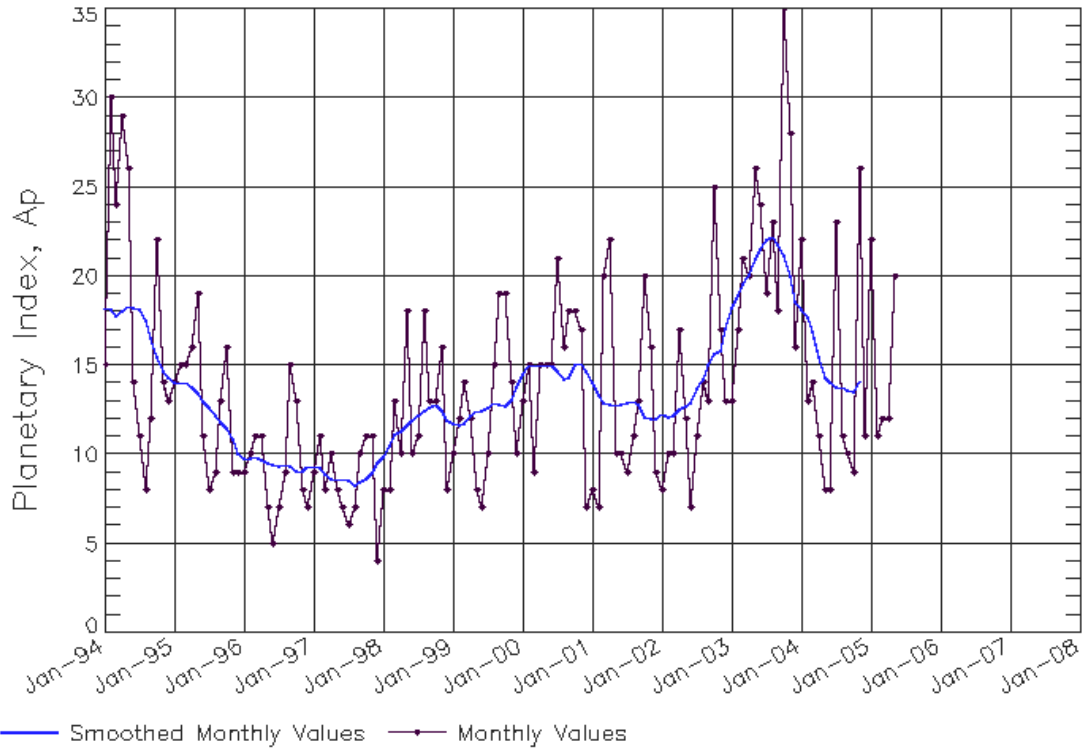
SEC Prediction of Smoothed F10.7cm Radio Flux

	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	176 (***)	177 (***)	178 (***)	181 (***)	180 (***)	180 (***)	180 (***)	179 (***)	177 (***)	176 (***)	174 (***)	172 (***)
2001	169 (***)	166 (***)	168 (***)	172 (***)	175 (***)	179 (***)	184 (***)	189 (***)	191 (***)	192 (***)	194 (***)	194 (***)
2002	195 (***)	197 (***)	196 (***)	192 (***)	188 (***)	183 (***)	176 (***)	170 (***)	164 (***)	159 (***)	154 (***)	151 (***)
2003	148 (***)	145 (***)	138 (***)	135 (***)	133 (***)	130 (***)	127 (***)	125 (***)	124 (***)	122 (***)	120 (***)	118 (***)
2004	116 (***)	116 (***)	115 (***)	112 (***)	109 (***)	107 (***)	106 (***)	105 (***)	104 (***)	102 (***)	102 (***)	101
2005	98 (3)	95 (5)	92 (7)	89 (9)	86 (11)	84 (13)	81 (15)	79 (17)	77 (19)	76 (21)	74 (22)	73 (23)
2006	72 (23)	72 (23)	71 (23)	71 (23)	71 (23)	71 (23)	71 (23)	71 (23)	70 (23)	70 (23)	70 (23)	70 (23)
2007	70 (23)	70 (23)	70 (23)	70 (23)	71 (23)	71 (23)	72 (23)	73 (23)	74 (23)	76 (23)	77 (23)	79 (23)



ISES Solar Cycle Ap Progression

Data Through 31 May 05



Updated 2005 Jun 7

NOAA/SEC Boulder, CO USA

