

Solar activity ranged from low to high. Low levels occurred on 11, 15, and 17 July; moderate levels were observed on 12 and 16 July; while high levels occurred on 13 and 14 July. Region 786 (N12, L=056, class/area, Dhi/420 on 07 July) was the largest and most active region on the visible disk producing 24 C-class, 12 M-class, and 1 X-class flares. The summary period was highlighted by numerous significant events from this region. The first of these occurred on 12 July when the region produced a C8.3 at 12/0802 UTC with an associated faint, partial halo CME. Later in the day, the first of two M1 flares was observed at 12/1306 UTC. Weak radio emissions and another faint, partial halo CME were associated with this event. A more complex and long duration M1.5 flare occurred at 12/1624 UTC. Radio emissions included a 750 sfu Tenflare and Type IV radio sweep. A bright, full halo CME was observed on LASCO imagery. Although most of the ejecta was westward directed, faint extensions of this CME were visible over the north pole and over the east limb. At 13/1449 UTC, Region 786 produced an M5.0 long duration event. Moderate to strong centimetric radio bursts accompanied this event including a 2000 sfu Tenflare. A bright, fast, predominately westward directed, full halo CME (1360 km/s) was also observed. Earlier in the day, a long duration M1.1 x-ray event and Tenflare (250 sfu) occurred at 13/0316 UTC. A full halo CME was also observed on LASCO imagery following this event. The region continued its active ways on 14 July as it rotated around the west limb by producing two major events. The first was an M9.1 x-ray event with a 220 sfu Tenflare at 14/0725 UTC with an associated CME observed on LASCO imagery. A considerably more powerful, long duration X1.2 proton flare occurred at 14/1055 UTC. Strong radio emissions accompanied this flare including a 3400 sfu Tenflare, a 120,000 sfu burst at 610 MHz, and a Type IV radio sweep. A very bright and fast (approximately 1430 km/s) full halo CME was observed on LASCO imagery. Even though Region 786 had rotated around the west limb late on 14 July, it was responsible for a long duration C2.3 flare between 15/0943 – 1715 UTC. An associated partial halo CME was observed off the NW limb on LASCO imagery. Finally, a back-sided, full halo CME was observed on LASCO imagery at about 17/1130 UTC, and was believed to be from old Region 786 (N12, L=056). Other regions of interest include Region 790 (S10, L=013, class/area, Doa/190 on 16 July). Since first appearing on the disk on 13 July, the region showed steady growth in sunspot area and magnetic complexity before rotating off the west limb on 17 July. At 16/0338 UTC, this region produced an impulsive M1.0 x-ray flare. It was also the source of a very long duration C7.3 flare that occurred between 15/2010 UTC – 16/0005 UTC. The remainder of the disk and limb was quiet and stable.

Solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft during most of the summary period. The period began with wind speed near 425 km/s, while the IMF Bz was generally south at about -4 to -10 nT, as effects from the CME activity that occurred on 07 July were still geoeffective. These conditions were maintained through early on 12 July. At about 12/0600 UTC, a discontinuity in the solar wind parameters indicated the arrival of a shock from the CME activity that occurred late on 09 July. Wind speed gradually increased to near 550 km/s through 12 July, while the IMF Bz fluctuated north and south through +10 to -15 nT for about ten hours. Thereafter, through early on 13 July, the IMF Bz remained north near +5 nT. Early on 13 July, solar wind parameters indicated the arrival of new CME material from activity that occurred on 10 July. Extended periods of southward IMF Bz to -10 nT, along with solar wind speeds exceeding 600 km/s were observed. Through early on 16 July, wind speeds gradually decayed to near 400 km/s, while the IMF Bz did not vary much beyond +/- 5 nT. At about 16/0100 UTC, and again at about 16/1600 UTC, weak transient signatures were observed at ACE. These signatures were most likely related to CME activity from early on 14 July. Finally, at about 17/0030 UTC, a weak signature was detected at ACE that was most likely from the X1 related CME activity observed midday on 14 July. Wind speeds increased to near 525 km/s for about 6 hours, and gradually decayed to near 450 km/s by the end of the summary period. The Bz component of the IMF fluctuated between +/- 10 nT for about 15 hours, and ended the period southward at -5 to -10 nT.

A slow, gradual rise in the greater than 10 MeV protons began soon after the M5 event that occurred late on 13 July. A second, larger influx of high energy protons followed the X1 event that occurred midday on 14 July. 10 MeV protons eventually crossed event threshold at 14/0245 UTC and had a peak flux of 134 pfu at 15/0345 UTC. Thereafter, flux levels steadily decayed, and briefly fell below event threshold until a further influx of high energy protons occurred near 17/1500 UTC. A second, smaller peak of 22 pfu occurred at 17/2240 UTC, and the event ended at 18/1015 UTC.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 11 - 16 July.



The geomagnetic field ranged from quiet to severe storm levels. The period began with quiet to active conditions at the middle latitudes, while unsettled to major storm periods were observed at the higher latitudes, as effects from CME activity that occurred on 07 July were still geoeffective. By early on 12 July, unsettled to active conditions at middle latitudes, while active to severe storm conditions occurred at high latitudes, as CME activity from late on 09 July became geoeffective. Activity levels were further enhanced due to the arrival of new CME material from activity that occurred on 10 July. These conditions were maintained through late on 14 July. From late on 14 July, through midday on 17 July, quiet to unsettled conditions were observed at the middle latitudes, while an isolated period of minor storm conditions was observed at high latitudes early on 16 July. By midday on 17 July, unsettled to active levels were observed at middle latitudes, while minor to severe storm conditions were observed at the higher latitudes through late on the 17th, as effects from the X1 related CME activity arrived at Earth. By the end of the summary period, geomagnetic conditions were unsettled to active at all latitudes.

Space Weather Outlook

20 July – 15 August 2005

Solar activity is expected be very low to low through 28 July. Isolated M-class activity is possible after from 28 July through 11 August due to the return of old Region 786 (N10, L=055). Thereafter, and through the end of the forecast period, very low to low levels are expected.

A greater than 10 MeV proton event is possible with significant flare activity after the return of old Region 786 on 28 July.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 23 – 27 July, 31 July – 02 August, and 07 – 12 August.

The geomagnetic field is expected to range from quiet to major storm levels. A recurrent coronal hole high speed wind stream is expected to produce active to major storm levels on 20 – 22 July, while a smaller coronal hole wind stream is expected to produce unsettled to active conditions on 28 – 29 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
11 July	93	68	490	B3.2	4	0	0	3	0	0	0	0
12 July	96	52	370	B7.8	11	3	0	7	0	0	0	0
13 July	92	55	440	B5.8	6	5	0	10	1	0	0	0
14 July	90	61	400	C1.0	3	4	1	1	1	0	0	0
15 July	87	38	130	B5.9	6	0	0	2	0	0	0	0
16 July	76	16	190	B1.0	4	1	0	2	0	0	0	0
17 July	74	12	60	A5.4	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)		
	>1 MeV	>10 MeV	>100 MeV	>.6 MeV	>2MeV	>4 MeV
11 July	3.6E+6	2.6E+4	2.6E+3	2.6E+7		
12 July	5.1E+6	1.5E+4	2.6E+3	2.2E+8		
13 July	2.5E+6	5.0E+4	2.4E+3	1.2E+8		
14 July	1.4E+7	2.0E+6	3.3E+3	2.4E+8		
15 July	2.7E+7	7.2E+6	5.7E+3	4.0E+8		
16 July	2.8E+7	2.0E+6	3.0E+3	5.9E+7		
17 July	1.5E+7	6.5E+5	2.5E+3	1.1E+7		

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	11 July	14	3-3-4-2-2-2-4-2	29	3-3-4-4-6-3-5-2	23
12 July	17	3-4-3-4-4-2-2-2	71	4-4-7-7-7-6-2-1	48	5-6-5-6-6-5-3-2
13 July	20	3-4-4-3-4-3-3-3	47	2-4-5-6-7-5-3-2	30	3-4-5-5-5-4-3-4
14 July	7	1-3-3-2-1-1-1-1	20	2-4-3-3-5-5-0-0	11	2-4-3-3-2-2-1-1
15 July	4	0-1-1-1-1-1-2-2	*	1-1-1-1-2-1-**-*	6	1-2-2-1-1-2-2-2
16 July	10	3-2-3-0-2-2-3-3	*	*-3-5-1-2-2-2-2	9	2-2-2-1-1-3-3-3
17 July	15	3-2-2-4-3-2-3-4	41	3-2-5-7-5-5-2-3	22	3-2-3-5-3-3-3-5



Alerts and Warnings Issued

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
11 Jul 0012	3 – 245 MHz Radio Bursts	10 Jul
11 Jul 1509	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	11 Jul 1455
11 Jul 1526	SUMMARY: 10 cm Radio Burst	11 Jul 1505
11 Jul 1754	WARNING: Geomagnetic K=4	11 Jul 1755 – 2359
11 Jul 2012	ALERT: Geomagnetic K=4	11 Jul 2014
11 Jul 2351	EXTENDED WARNING: Geomagnetic K=4	11 Jul 1755 – 12/1500
12 Jul 0003	245 MHz Radio Burst	11 Jul
12 Jul 0311	WARNING: Geomagnetic K=5	12 Jul 0312 – 1500
12 Jul 0322	ALERT: Geomagnetic K=5	12 Jul 0320
12 Jul 1138	WARNING: Geomagnetic K=6	12 Jul 1130 – 1600
12 Jul 1357	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12 Jul 1335
12 Jul 1557	WARNING: Geomagnetic K=4	12 Jul 1600 – 2359
12 Jul 1720	SUMMARY: 10 cm Radio Burst	12 Jul 1647
12 Jul 1723	ALERT: Type IV Radio Emission	12 Jul 1650
12 Jul 2354	EXTENDED WARNING: Geomagnetic K=4	12 Jul 1600 – 13/1500
13 Jul 0011	3 – 245 MHz Radio Bursts	12 Jul
13 Jul 0011	245 MHz Noise Storm	12 Jul
13 Jul 0343	SUMMARY: 10 cm Radio Burst	13 Jul 0239
13 Jul 0515	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	13 Jul 0500
13 Jul 0843	WARNING: Geomagnetic K=5	13 Jul 0845 – 1500
13 Jul 1254	ALERT: Geomagnetic K-index of 5	13 Jul 1253
13 Jul 1445	ALERT: X-ray Event \geq M5	13 Jul 1444
13 Jul 1449	EXTENDED WARNING: Geomagnetic K=5	13 Jul 0845 – 2359
13 Jul 1518	SUMMARY: 10 cm Radio Burst	13 Jul 1401
13 Jul 1541	SUMMARY: X-ray Event \geq M5	13 Jul 1538
13 Jul 2115	WATCH: Geomagnetic A \geq 20	15 Jul
13 Jul 2118	WATCH: Geomagnetic A \geq 20	16 Jul
13 Jul 2224	SUMMARY: 10 cm Radio Burst	13 Jul 2152
14 Jul 0010	11 – 245 MHz Radio Bursts	13 Jul
14 Jul 0010	2 – 245 MHz Noise Storms	13 Jul
14 Jul 0143	WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 1500
14 Jul 0306	ALERT: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0245
14 Jul 0541	WARNING: Geomagnetic K=4	14 Jul 0541 – 1500
14 Jul 0552	ALERT: Geomagnetic K=4	14 Jul 0552
14 Jul 0725	ALERT: X-ray Event \geq M5	14 Jul 0723
14 Jul 0731	ALERT: Type IV Radio Emission	14 Jul 0610
14 Jul 0739	SUMMARY: X-ray Event \geq M5	14 Jul 0729
14 Jul 0748	SUMMARY: 10 cm Radio Burst	14 Jul 0722
14 Jul 0951	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	14 Jul 0930
14 Jul 1029	ALERT: X-ray Event \geq M5	14 Jul 1029
14 Jul 1053	ALERT: Type IV Radio Emission	14 Jul 1025
14 Jul 1147	SUMMARY: X-ray Event \geq X1	14 Jul 1129
14 Jul 1245	SUMMARY: 10 cm Radio Burst	14 Jul 1021
14 Jul 1358	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10pfu	14 Jul 0230 – 2359
14 Jul 2126	WATCH: Geomagnetic A \geq 20	15 Jul
14 Jul 2134	WATCH: Geomagnetic A \geq 20	16 Jul
14 Jul 2229	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 15/1500

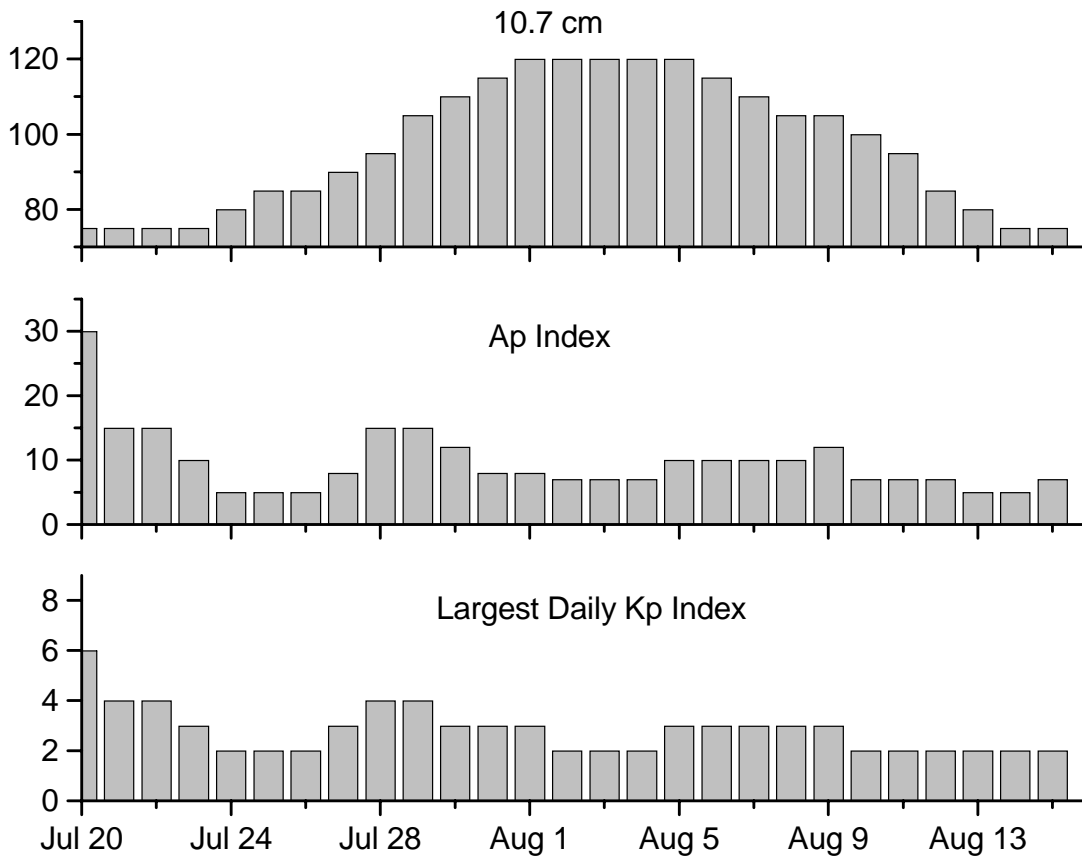


Alerts and Warnings Issued – continued.

Date & Time of Issue	Type of Alert or Warning	Date & Time of Event UTC
14 Jul 2330	SUMMARY: 10 cm Radio Burst	14 Jul 2254
15 Jul 0000	ALERT: Proton 10MeV Integral Flux \geq 100 pfu	14 Jul 2345
15 Jul 0049	6 – 245 MHz Radio Bursts	14 Jul
15 Jul 0516	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	15 Jul 0500
15 Jul 1500	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10pfu	14 Jul 0230 – 15/2359
15 Jul 2112	SUMMARY: 10 cm Radio Burst	15 Jul 2051
15 Jul 2356	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 16/1600
16 Jul 0008	245 MHz Radio Burst	15 Jul
16 Jul 0123	CONTINUED ALERT: Proton 10MeV Integral Flux \geq 100 pfu	14 Jul 2345
16 Jul 0809	WARNING: Geomagnetic K=4	16 Jul 0809 – 1600
16 Jul 0905	ALERT: Geomagnetic K=4	16 Jul 0845
16 Jul 0913	ALERT: Type II Radio Emission	16 Jul 0713
16 Jul 1427	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	16 Jul 1405
16 Jul 1602	CONTINUED ALERT: Proton 10MeV Integral Flux \geq 100 pfu	14 Jul 2345
16 Jul 1625	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 16/2359
16 Jul 1631	SUMMARY: Proton 10MeV Integral Flux \geq 100 pfu	15 Jul 1005
16 Jul 2354	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 17/1600
17 Jul 0054	CONTINUED ALERT: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0245
17 Jul 0122	WARNING: Geomagnetic Sudden Impulse	17 Jul 0130 – 0210
17 Jul 0146	SUMMARY: Geomagnetic Sudden Impulse	17 Jul 0143
17 Jul 1046	WARNING: Geomagnetic K=4	17 Jul 1045 – 1600
17 Jul 1059	ALERT: Geomagnetic K=4	17 Jul 1059
17 Jul 1556	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 17/2359
17 Jul 2105	WATCH: Geomagnetic A \geq 20	20 Jul
17 Jul 2258	ALERT: Geomagnetic K=4	17 Jul 2255
17 Jul 2306	WARNING: Geomagnetic K=4	17 Jul 2310 – 18/1600
17 Jul 2345	ALERT: Geomagnetic K=5	17 Jul 2340
17 Jul 2352	WARNING: Geomagnetic K=5	17 Jul 2355 – 18/1600
17 Jul 2357	EXTENDED WARNING: Proton 10MeV Integral Flux \geq 10 pfu	14 Jul 0230 – 18/1600
18 Jul 0011	245 MHz Radio Burst	17 Jul



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
20 Jul	75	30	6	03 Aug	120	7	2
21	75	15	4	04	120	7	2
22	75	15	4	05	120	10	3
23	75	10	3	06	115	10	3
24	80	5	2	07	110	10	3
25	85	5	2	08	105	10	3
26	85	5	2	09	105	12	3
27	90	8	3	10	100	7	2
28	95	15	4	11	95	7	2
29	105	15	4	12	85	7	2
30	110	12	3	13	80	5	2
31	115	8	3	14	75	5	2
01 Aug	120	8	3	15	75	7	2
02	120	7	2				



Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Max	Class	Flux	Imp/ Brtns	Location		Radio Flux		Intensity	
							Lat	CMD	245	2695	II	IV
12 Jul 05	1247	1306	1325	M1.0	.014				786	21	65	
12 Jul 05	1547	1624	1807	M1.5	.025	Sf	N11W64		786	210	100	2
12 Jul 05	2235	2252	2302	M1.3	.015	Sf	N08W72		786	54		
13 Jul 05	0235	0316	0347	M1.1	.035	Sf	N13W71		786		250	
13 Jul 05	1203	1219	1224	M3.2	.013				786	150	67	
13 Jul 05	1401	1449	1538	M5.0	.200				786	6600	2000	
13 Jul 05	1902	1909	1913	M1.2	.006	lf	N13W82		786	75		
13 Jul 05	2149	2154	2158	M1.2	.004				786	1200	250	
14 Jul 05	0302	0323	0328	M1.0	.009	Sf	N13W86		786			
14 Jul 05	0557	0725	0743	M9.1	.084				786	59	81	
14 Jul 05	1016	1055	1129	X1.2	.390				786	5400	3400	2
14 Jul 05	1716	1725	1728	M1.3	.007				786	820		
14 Jul 05	2250	2257	2302	M1.1	.005				786	94	100	
16 Jul 05	0327	0338	0345	M1.0	.007				790			

Flare List

Date	Time			Optical X-ray Class.	Imp/ Brtns	Location Lat CMD	Rgn
	Begin	Max	End				
11 July	0043	0046	0048	B9.7			786
	0605	0616	0646	C2.4			786
	0811	0814	0821	B6.8			786
	1505	1508	1542	C8.4	Sf	N08W48	786
	1716	1732	1741	C3.3	Sf	N15W56	786
	2059	2059	2103	B7.6	Sf	N12W53	786
	2107	2112	2119	B6.2			
	2250	2255	2300	C1.4			786
	2351	2355	2357	B7.0			786
12 July	0043	0047	0049	B5.3			786
	0052	0055	0058	B6.8	Sf	N13W57	786
	0147	0210	0222	C4.2			786
	0522	0525	0527	C2.4			786
	0612	0631	0636	C1.5			786
	0652	0700	0710	C3.0			786
	0757	0803	0822	C8.3			786
	0957	1003	1009	C2.3			786
	1116	1127	1138	C3.1			786
	1209	1213	1218	C1.5			786
	1247	1306	1325	M1.0			786
	1330	1330	A1528		Sf	N11W64	786
	1533	1537	1540	C2.3			786
	B1550	U1550	A1726	M1.5	Sf	N11W64	786
2022	2022	2025		Sf	N07W74	786	



Flare List - continued.

Date	Time			Optical X-ray Class.	Imp/ Brtns	Location Lat CMD	Rgn
	Begin	Max	End				
12 July	2129	U2131	2149	C4.2	Sf	N10W70	786
	2240	2252	2304	M1.3	Sf	N08W72	786
	2336	2339	2344	C4.0	Sf	N09W67	786
13 July	0127	0138	0146	C4.2			786
	0157	0159	0203		Sf	N14W70	786
	0319	0319	0323	M1.1	Sf	N13W71	786
	0544	0547	0620		Sf	N12W74	786
	0638	0638	0654	C4.7	Sf	N13W81	786
	0736	0739	0745	C2.1			786
	0814	0822	0829	C2.7			786
	0915	0915	0920	C3.9	Sf	N11W74	786
	1005	1014	1019	C1.6			786
	1203	1219	1224	M3.2			786
	1254	1258	1300		Sf	N09W75	786
	1303	1308	1311		Sf	N10W76	786
	1401	1449	1538	M5.0			786
	1422	1437	1458		Sf	N10W80	786
	1624	1625	1628		Sf	N08W78	786
	1857	1858	1900		Sf	N08W80	786
1905	1908	1918	M1.2	1f	N13W82	786	
2149	2154	2158	M1.2			786	
14 July	0148	0153	0157	C3.8			786
	0320	0323	0329	M1.0	Sf	N13W86	786
	0523	0528	0531	C2.2			786
	0557	0725	0743	M9.1			786
	0723	0724	0732		1n	N11W73	786
	1016	1055	1129	X1.2			786
	1629	1634	1639	C7.3			786
	1716	1725	1728	M1.3			786
15 July	2250	2257	2302	M1.1			786
	0155	0200	0203	C1.6			
	0246	0304	0327	C1.6			
	0943	1445	1715	C2.3			786
	1139	1146	1150	C4.0			790
	1946	1948	1953	C1.8	Sf	S10W66	790
	2010	2325	0005	C7.3			
	2325	2333	2338		Sf	S11W69	790
16 July	0248	0252	0255	C1.3			790
	0327	0338	0345	M1.0			790
	0540	0549	0555	B6.2			790
	0629	0630	0635	C1.8	Sf	S10W74	790
	0707	0714	0724	C2.2			790



Flare List - continued.

Date	Time			Optical X-ray Class.	Imp / Brtns	Location Lat CMD	Rgn
	Begin	Max	End				
16 July	0819	0822	0824	B2.6			
	1116	1119	1124	C4.8	Sf	S08W75	790
	1307	1315	1345	B2.2			
	1802	1807	1810	B2.8			790
	1917	1928	1942	B4.9			790
	2152	2155	2158	B1.5			790
	2215	2220	2222	B2.6			790
	2227	2232	2235	B2.0			790
	2356	2359	0005	B1.1			790
	17 July	0032	0035	0037	B1.8		
0427		0431	0434	B6.1			790
0507		0511	0516	B2.3			790
0614		0629	0632	C4.3			790
1025		1032	1045	B1.1			789
1228		1232	1234	B1.1			789
1257		1302	1308	B3.0			
1429		1433	1442	B4.3			789
1715		1720	1723	B1.2			
2320		2326	2333	B1.4			



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

Region 781

27 Jun	N16E76	108	0060	01	Hsx	001	A											
28 Jun	N15E65	106	0090	11	Eao	010	B											
29 Jun	N15E53	105	0080	08	Cao	005	B											
30 Jun	N14E37	108	0050	02	Hrx	004	A											
01 Jul	N14E24	108	0030	02	Hsx	002	A											
02 Jul	N13E10	108	0050	01	Hsx	001	A											
03 Jul	N13W03	108	0030	02	Hsx	002	A											
04 Jul	N13W15	106	0020	04	Cso	004	B											
05 Jul	N14W26	104	0030	08	Dso	007	B											
06 Jul	N14W39	104	0020	07	Cso	005	B											
07 Jul	N14W51	104	0010	02	Bxo	003	B											
08 Jul	N18W58	097																
09 Jul	N18W71	097																
10 Jul	N18W84	097																
11 Jul	N18W97	097																

0 0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 108

Region 784

29 Jun	N16E70	088	0050	05	Bxo	005	B											
30 Jun	N16E57	088	0070	07	Dso	006	B											
01 Jul	N16E44	088	0050	09	Dso	004	B	1										
02 Jul	N18E30	088	0040	08	Cso	005	B											
03 Jul	N16E14	091	0020	04	Cso	004	B											
04 Jul	N14E00	091	0010	00	Hax	001	A											
05 Jul	N15W13	091	0020	01	Axx	001	A											
06 Jul	N15W26	091	0010	01	Hsx	001	A											
07 Jul	N16W38	090	0010	03	Bxo	004	B											
08 Jul	N16W51	090																
09 Jul	N16W64	090																
10 Jul	N16W77	090																
11 Jul	N16W90	090																

1 0 0 0 0 0 0 0 0

Crossed West Limb.

Absolute heliographic longitude: 091



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 786</i>																		
01 Jul	N13E76	056	0120	08	Cso	005	B	1										
02 Jul	N12E62	056	0370	08	Dao	011	Bg	1				3						
03 Jul	N12E48	057	0310	07	Dai	026	Bg											
04 Jul	N12E35	056	0350	08	Dac	034	Bgd											
05 Jul	N12E23	055	0360	09	Dac	027	Bg	1				3						
06 Jul	N11E10	055	0370	09	Dkc	025	Bgd	9				10						
07 Jul	N12W04	056	0420	09	Dhi	040	Bgd	2	1			3						
08 Jul	N12W17	055	0410	09	Dkc	034	Bgd	1										
09 Jul	N11W31	056	0310	08	Dkc	045	Bgd	1	1					1				
10 Jul	N10W43	055	0330	09	Dac	027	Bg	1				2						
11 Jul	N09W57	056	0350	07	Dkc	024	Bgd	4				3						
12 Jul	N11W70	056	0270	08	Dac	015	Bgd	11	3			7						
13 Jul	N11W84	056	0370	09	Dkc	008	Bgd	6	5			10	1					
14 Jul	N12W97	056	0300	10	Dko	004	Bg	3	4	1	1	1						
								41	14	1	42	3	0	0	0			

Crossed West Limb.

Absolute heliographic longitude: 056

Region 788

02 Jul	S06E70	048	0120	01	Hax	001	A											
03 Jul	S05E58	047	0100	09	Cao	003	B											
04 Jul	S06E47	044	0100	09	Cso	004	B											
05 Jul	S06E32	046	0090	02	Hsx	001	A	1				2						
06 Jul	S07E17	048	0070	02	Hsx	001	A											
07 Jul	S06E03	049	0080	03	Hsx	002	A											
08 Jul	S05W11	049	0120	03	Hsx	001	A											
09 Jul	S06W23	048	0100	02	Hsx	002	A											
10 Jul	S05W37	049	0070	03	Hsx	007	A											
11 Jul	S07W50	049	0070	02	Hax	003	A											
12 Jul	S04W64	050	0030	02	Hax	001	A											
13 Jul	S05W76	048	0040	01	Hsx	001	A											
14 Jul	S04W91	050	0030	02	Hsx	001	A											
								1	0	0	2	0	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude:049



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 789</i>																		
04 Jul	N18E74	017	0030	01	Hsx	001	A											
05 Jul	N16E66	014	0140	10	Dso	006	B											
06 Jul	N17E53	012	0130	11	Eao	005	B											1
07 Jul	N17E40	012	0200	10	Dso	010	B	3										2
08 Jul	N17E26	012	0190	11	Esi	012	B											1
09 Jul	N18E15	010	0170	14	Esi	026	B	1										2
10 Jul	N17E01	011	0150	11	Eai	014	B											
11 Jul	N16W12	011	0070	11	Eao	011	B											
12 Jul	N17W23	009	0070	11	Eao	006	B											
13 Jul	N17W38	010	0020	10	Dro	002	B											
14 Jul	N17W49	008	0030	11	Cso	005	B											
15 Jul	N17W59	005	0020	01	Hsx	001	A											
16 Jul	N17W73	006																
17 Jul	N17W86	006																
								4	0	0	6	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 011

<i>Region 790</i>																		
13 Jul	S10W35	007	0010	04	Bxo	004	B											
14 Jul	S10W54	013	0040	08	Csi	011	B											
15 Jul	S10W67	013	0110	10	Dsi	017	Bg	2										2
16 Jul	S10W80	013	0190	10	Dao	006	Bg	4	1									2
17 Jul	S10W93	013	0060	02	Hax	002	A	1										
								7	1	0	4	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 007

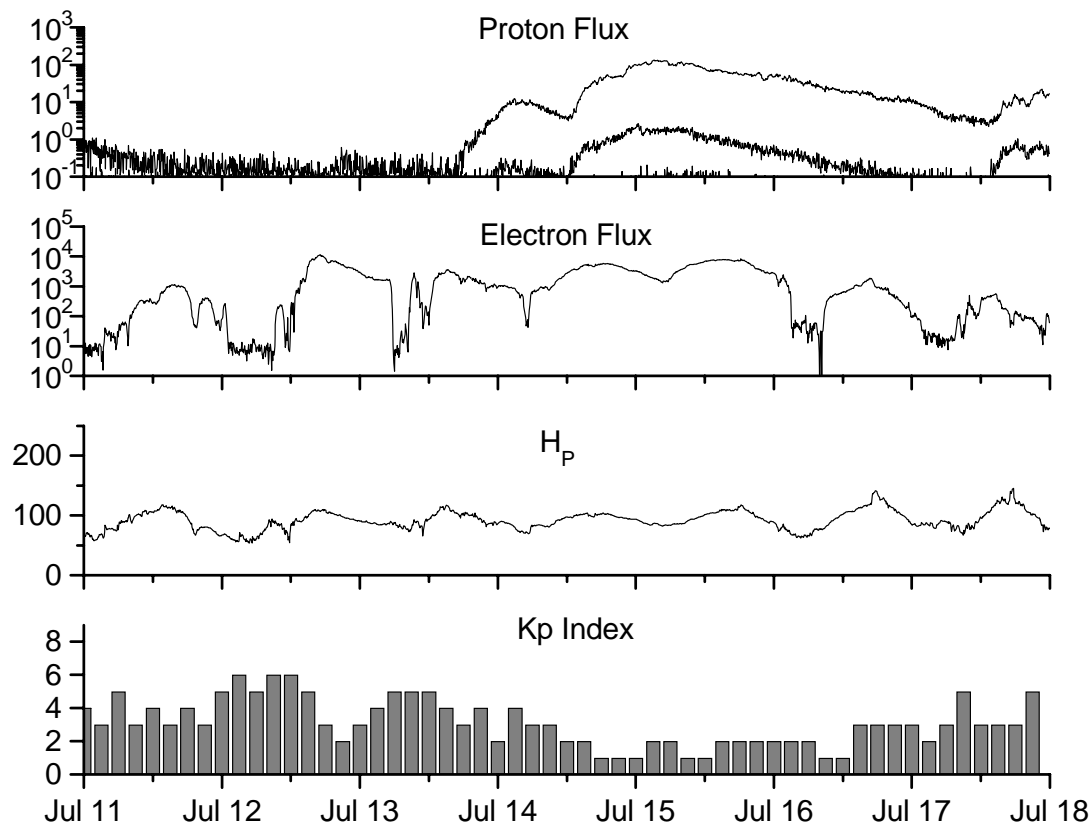


**Recent Solar Indices (preliminary)
of the observed monthly mean values**

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									
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	60.0	35.4	113.2	101.5	26	14.1
December	34.7	17.9	0.52	58.8	35.3	94.6	101.3	11	14.8
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	
May	65.4	42.6	0.65			99.5		20	
June	59.8	39.6	0.66			93.7		13	

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 11 July 2005*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by GOES-11 (W115) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

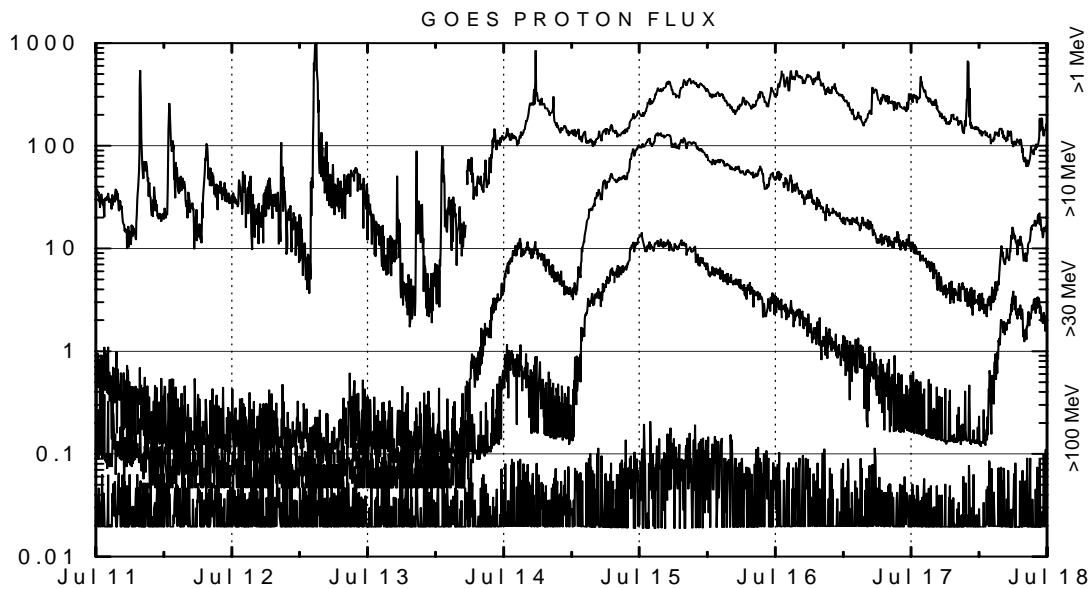
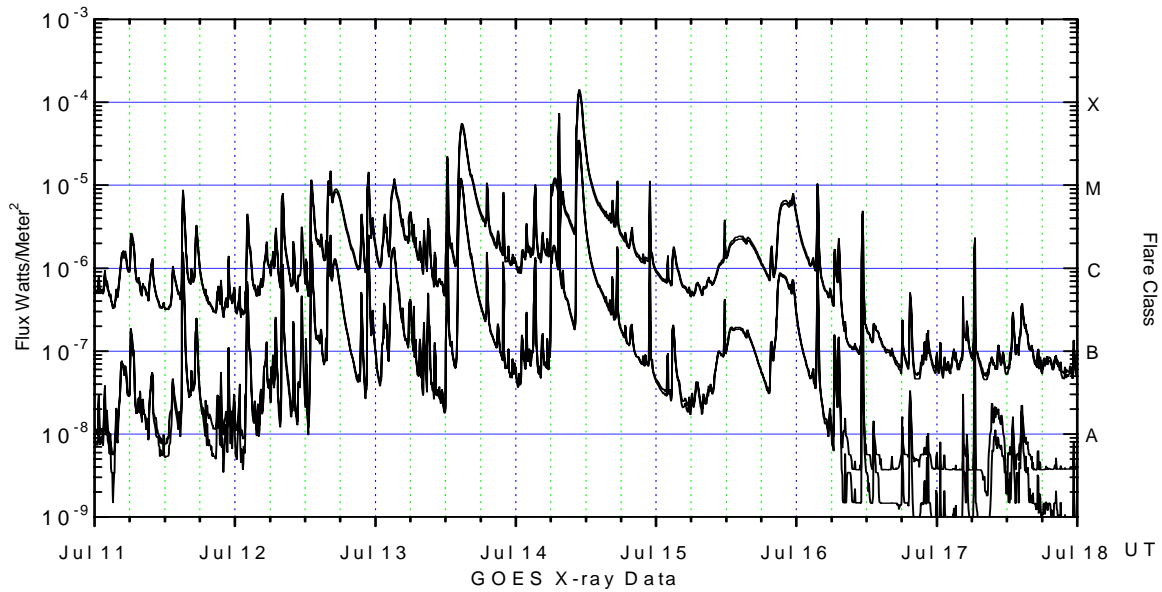
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W75).

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/m^2) 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 ($\text{protons/cm}^2\text{-sec-sr}$) as measured by GOES-11 (W115) for each of the energy thresholds: >1, >10, >30 and >100 MeV. P10 event threshold is 10 pfu ($\text{protons/cm}^2\text{-sec-sr}$) at greater than 10 MeV.

