

Solar activity was low. The largest flare of the period was a C9/Sf at 08/0122 UTC from Region 1785 (S09, L=7, class/area=Ekc/570 on 08 July). This region was responsible for the majority of the C-class flares during the period. Region 1787 (S15, L=348, class/area=Eai/230 on 09 July) was the second most prolific flare producer and is credited with a C4/1n flare at 10/0643 UTC. The remaining regions were relatively small and inactive. A 12-degree filament occurred at 09/1400 UTC resulting in an Earth-directed coronal mass ejection (CME) with an estimated speed of 400 km/s. Another slow-moving CME with a potential Earth-directed component was observed at 12/1824 UTC, however, the quality of available coronagraph imagery prevented meaningful analysis. The remainder of the week was devoid of potentially geoeffective events.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 10 - 14 July and was at moderate levels before that. A peak flux value of 22,500 pfu was reported on 12 July at 1850 UTC.

Geomagnetic field activity ranged from quiet to minor (NOAA Scale G1) geomagnetic storm conditions during the week. An Earth-directed CME which left the Sun on 06 July arrived at the ACE spacecraft at approximately 09/1958 UTC. A 25 nT sudden impulse was subsequently recorded at the Fredericksburg magnetometer at 09/2049 UTC. By 09/2359 UTC, the geomagnetic field had reached active levels, and by 10/0257 UTC, minor (NOAA Scale G1) geomagnetic storm conditions were observed. Minor (G1) storm conditions prevailed for two periods, after which, active to unsettled conditions were observed. The College magnetometer (high latitude) reported major (NOAA Scale G2) geomagnetic storm levels. The following day, there was an isolated minor (G1) storm period nestled among otherwise quiet to active conditions. By 12 July, the field had returned to mostly quiet levels when a co-rotating interaction region (CIR) ahead of a small negative polarity coronal hole high speed stream (CH HSS) arrived. By 13 July, the diffuse remnants of the CME from 09 July had arrived, bringing Bt values at the ACE spacecraft to 17 nT. Bz remained positive for the majority of 13 July, so, with the exception of a single active period, the geomagnetic field was at quiet to unsettled levels. Active conditions returned on 14 July, after an extended period of southward Bz, reaching about -10 nT. Minor (G1) to Major (G2) storm levels were observed at high latitude.

Space Weather Outlook **15 July - 10 August 2013**

Solar activity is expected to remain low with a slight chance for isolated low (R1) radio blackouts throughout the period.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels



from 20 July through the end of the month due to a coronal hole high speed stream (CH HSS).

Geomagnetic field activity is expected to be at active to minor (G1) storm conditions early on 15 July due to transient passage, decreasing back to quiet to unsettled levels with a chance for active conditions for the remainder of 25 July. Generally quiet to unsettled conditions are expected to persist until 17 - 21 July, when a recurrent CH HSS is expected to bring unsettled to active conditions with a chance for minor (G1) storm conditions. Generally quiet to unsettled conditions are once again expected until 25 - 27 July, when another recurrent CH HSS is expected to bring active to minor (G1) storm conditions with a chance for major (G2) storm conditions.



Daily Solar Data

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 ⁻⁶ hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
08 July	119	143	790	B4.0	2	0	0	1	0	0	0	0
09 July	120	98	720	B3.5	4	0	0	3	1	0	0	0
10 July	118	76	440	B3.9	3	0	0	7	1	0	0	0
11 July	113	85	350	B4.0	4	0	0	1	0	0	0	0
12 July	118	87	230	B4.1	2	0	0	3	0	0	0	0
13 July	114	66	260	B3.8	1	0	0	3	0	0	0	0
14 July	113	88	310	B4.0	1	0	0	2	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	>0.6 MeV	>2MeV	>4 MeV
08 July	1.1e+05	1.0e+04	2.6e+03		9.7e+06	
09 July	1.6e+05	9.8e+03	2.4e+03		1.1e+07	
10 July	2.0e+05	9.6e+03	2.3e+03		3.3e+07	
11 July	5.3e+05	9.6e+03	2.4e+03		1.1e+08	
12 July	2.5e+05	1.0e+04	2.5e+03		6.9e+08	
13 July	7.2e+04	9.3e+03	2.2e+03		2.6e+08	
14 July	3.0e+05	1.0e+04	2.5e+03		6.3e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
08 July	7	1-2-3-1-2-3-1-1	8	2-2-4-2-2-1-1-1	6	1-2-2-1-1-2-1-1
09 July	8	0-0-1-2-2-3-3-3	9	0-1-2-3-2-4-2-2	9	0-1-1-1-2-3-3-4
10 July	20	4-4-3-4-3-3-3-3	47	5-4-4-6-5-6-5-3	25	5-5-3-4-3-3-4-3
11 July	15	2-3-4-3-3-3-3-2	63	2-4-8-5-6-6-3-2	18	2-3-5-3-3-3-4-2
12 July	9	2-2-2-2-3-2-2-3	12	3-3-3-3-2-2-2-3	9	2-3-2-2-2-2-2-3
13 July	8	3-3-2-1-2-1-2-2	9	3-3-3-1-1-2-2-2	10	4-3-2-1-1-2-2-2
14 July	15	0-3-3-3-3-3-3-4	58	4-4-5-6-6-7-5-3	20	3-3-3-3-4-4-4-4



Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
09 Jul 2008	WARNING: Geomagnetic Sudden Impulse expected	09/2045 - 2115
09 Jul 2120	SUMMARY: Geomagnetic Sudden Impulse	09/2049
09 Jul 2211	WARNING: Geomagnetic K = 4	09/2211 - 10/0400
09 Jul 2358	ALERT: Geomagnetic K = 4	09/2359
10 Jul 0257	WARNING: Geomagnetic K = 5	10/0250 - 0600
10 Jul 0301	ALERT: Geomagnetic K = 5	10/0257
10 Jul 0335	EXTENDED WARNING: Geomagnetic K = 4	09/2211 - 10/0900
10 Jul 0509	EXTENDED WARNING: Geomagnetic K = 4	09/2211 - 1200
10 Jul 0511	EXTENDED WARNING: Geomagnetic K = 4	09/2211 - 10/1200
10 Jul 0512	EXTENDED WARNING: Geomagnetic K = 5	10/0250 - 0900
10 Jul 1116	EXTENDED WARNING: Geomagnetic K = 4	09/2211 - 10/1800
10 Jul 1153	WARNING: Geomagnetic K = 5	10/1154 - 1800
10 Jul 1720	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10/1655
10 Jul 1835	WARNING: Geomagnetic K = 4	10/1840 - 11/0000
10 Jul 2033	ALERT: Geomagnetic K = 4	10/2029
10 Jul 2336	EXTENDED WARNING: Geomagnetic K = 4	10/1840 - 11/0600
11 Jul 0555	EXTENDED WARNING: Geomagnetic K = 4	10/1840 - 11/1200
11 Jul 0839	WARNING: Geomagnetic K = 5	11/0840 - 1100
11 Jul 0856	ALERT: Geomagnetic K = 5	11/0853
11 Jul 0937	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10/1655
11 Jul 1634	WATCH: Geomagnetic Storm Category G1 predicted	
11 Jul 2013	WARNING: Geomagnetic K = 4	11/2012 - 12/0700
11 Jul 2014	ALERT: Geomagnetic K = 4	11/2012
12 Jul 0513	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10/1655
13 Jul 0207	WARNING: Geomagnetic K = 4	13/0208 - 0800
13 Jul 0215	ALERT: Geomagnetic K = 4	13/0215
13 Jul 0906	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10/1655

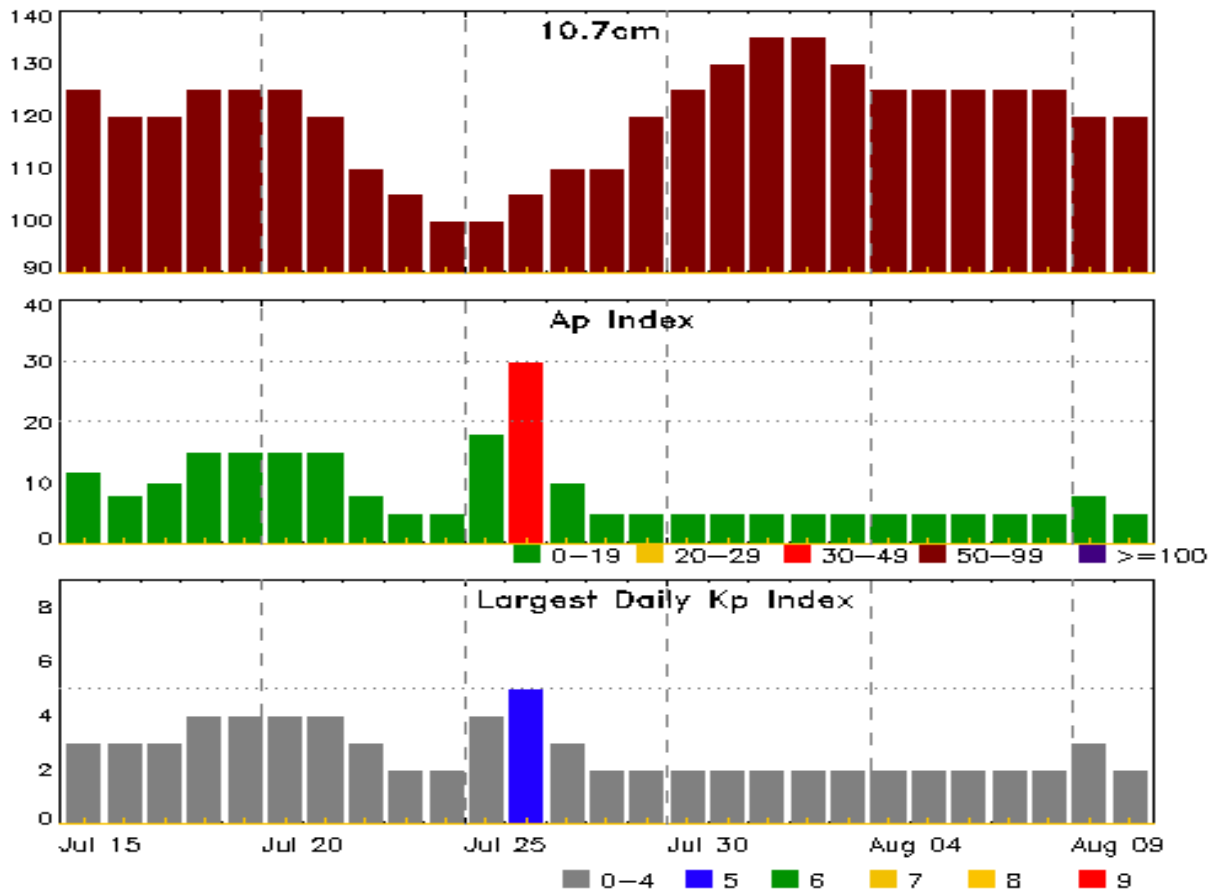


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
14 Jul 0211	WARNING: Geomagnetic K = 4	14/0215 - 1000
14 Jul 0930	EXTENDED WARNING: Geomagnetic K = 4	14/0215 - 1900
14 Jul 1221	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	10/1655
14 Jul 1321	ALERT: Geomagnetic K = 4	14/1320
14 Jul 1806	EXTENDED WARNING: Geomagnetic K = 4	14/0215 - 15/0400



Twenty-seven Day Outlook



Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index
15 Jul	125	12	3	29 Jul	120	5	2
16	120	8	3	30	125	5	2
17	120	10	3	31	130	5	2
18	125	15	4	01 Aug	135	5	2
19	125	15	4	02	135	5	2
20	125	15	4	03	130	5	2
21	120	15	4	04	125	5	2
22	110	8	3	05	125	5	2
23	105	5	2	06	125	5	2
24	100	5	2	07	125	5	2
25	100	18	4	08	125	5	2
26	105	30	5	09	120	8	3
27	110	10	3	10	120	5	2
28	110	5	2				

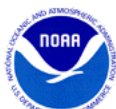
Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half 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	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
08 Jul	0113	0122	0123	C9.7	SF	S07W03		1785
08 Jul	1527	1628	1644	B9.5				1785
08 Jul	2057	2102	2112	B8.5				
08 Jul	2212	2219	2229	C4.5				1785
08 Jul	2249	2252	2256	B9.2				1787
09 Jul	0238	0244	0253	C2.8				1785
09 Jul	0320	0329	0341	B9.4				1787
09 Jul	0700	0735	0757	C2.0	SF	S12W16		1785
09 Jul	1325	1332	1336	C2.3	1N	S12W21		1785
09 Jul	1403	1524	1556	B7.6				
09 Jul	2128	2145	2217	C1.1	SF	S12W08		1787
09 Jul	2310	2311	2314		SF	S13W11		1787
09 Jul	2319	2325	2332	B8.2				
10 Jul	0046	0128	0143	C1.3	SF	S13W12		1787
10 Jul	0355	0356	0358		SF	S12W13		1787
10 Jul	0546	0549	0557	B7.3				
10 Jul	0621	0643	0725	C4.9	1N	S15W13		1787
10 Jul	1519	1519	1521		SF	S11W35		1785
10 Jul	1529	1531	1535		SF	S13W34		1785
10 Jul	1602	1604	1611		SF	S13W35		1785
10 Jul	1643	1643	1651		SF	S13W35		1785
10 Jul	1916	1918	1921		SF	S26W14		1789
10 Jul	2242	2246	2255	B8.1				1785
10 Jul	2350	0006	0018	C2.0				1785
11 Jul	0806	0810	0814	B7.7				
11 Jul	0904	0909	0912	C1.0	SF	S16W51		1788
11 Jul	1705	1715	1724	C1.4				1785
11 Jul	1749	1757	1813	C2.6				1785
11 Jul	1957	2037	2107	B8.1				1788
11 Jul	2355	0001	0004	C1.3				1785
12 Jul	0919	0922	0931		SF	S11E56		1791



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
12 Jul	1513	1515	1523		SF	S09W46	1787
12 Jul	1716	1733	1755	C3.5	SF	S17W72	1785
12 Jul	2229	2233	2237	C1.6			1787
13 Jul	0536	0544	0553	C1.4	SF	S11E46	1791
13 Jul	1211	1211	1220		SF	S17W78	1788
13 Jul	1339	1341	1346		SF	S14E43	1791
14 Jul	1410	1414	1425		SF	N13W52	
14 Jul	1613	1613	1616		SF	S13E28	1791
14 Jul	1651	1700	1708	C1.8			1785
14 Jul	1956	2001	2014	B7.7			1793



Region Summary

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

Region 1782

28 Jun	S14E48	75	10	1	Hrx	2	A								
29 Jun	S14E34	77	10	2	Hrx	2	A								
30 Jun	S15E18	80	10	1	Axx	1	A								
01 Jul	S15E05	80	plage												
02 Jul	S15W09	81	plage												
03 Jul	S15W23	82	plage												
04 Jul	S15W37	82	plage												
05 Jul	S15W51	83	plage												
06 Jul	S15W65	84	plage												
07 Jul	S15W79	85	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 80

Region 1783

30 Jun	N04E58	38	10	4	Bxo	2	B								
01 Jul	N05E45	40	10	4	Bxo	2	B								
02 Jul	N07E33	37	10		Hrx	1	A								
03 Jul	N07E18	40	plage												
04 Jul	N07E03	42	plage												
05 Jul	N07W12	44	plage												
06 Jul	N07W27	46	plage												
07 Jul	N07W42	48	plage												
08 Jul	N07W57	49	plage												
09 Jul	N07W72	51	plage												
10 Jul	N07W87	53	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 42



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
Region 1784															
01 Jul	S15E32	53	10	2	Bxo	3	B								
02 Jul	S14E17	54	40	4	Cso	5	B								
03 Jul	S15E06	52	20	4	Cso	4	B								
04 Jul	S15W09	55	70	5	Dsi	13	B								
05 Jul	S16W23	55	70	7	Dai	15	B					1			
06 Jul	S15W36	55	80	9	Cai	13	B	1				1			
07 Jul	S15W49	55	80	8	Dao	10	B								
08 Jul	S15W62	54	10	5	Bxo	7	B								
09 Jul	S16W76	55	10	5	Axx	3	A								
10 Jul	S16W90	56	plage												
								1	0	0	2	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 52

Region 1785

01 Jul	S09E76	9	110	2	Hax	1	A	3							
02 Jul	S11E62	8	300	19	Fho	8	B	1			3	1			
03 Jul	S11E49	8	570	16	Fkc	20	BG	3			10				
04 Jul	S12E36	9	630	16	Fkc	43	BGD	5			6				
05 Jul	S11E24	8	720	15	Ekc	42	BGD	4			15				
06 Jul	S11E12	7	650	14	Ekc	43	BGD	4			11				
07 Jul	S10W02	8	610	13	Ekc	29	BGD	6			7	1			
08 Jul	S09W16	7	570	14	Ekc	59	BGD	2			1				
09 Jul	S12W31	9	480	13	Ekc	42	BGD	3			1	1			
10 Jul	S13W43	8	320	12	Ekc	39	BGD	1			4				
11 Jul	S13W57	9	240	11	Eai	39	BG	3							
12 Jul	S11W68	7	80	11	Eso	12	BG	1			1				
13 Jul	S11W83	9	30	6	Cao	6	BG								
								36	0	0	59	3	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 8



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
Region 1786															
02 Jul	S31E18	54	30	2	Cro	2	B								
03 Jul	S31E03	55	10	1	Hsx	1	A								
04 Jul	S31W11	56	plage												
05 Jul	S31W25	57	plage												
06 Jul	S31W39	58	plage												
07 Jul	S31W53	59	plage												
08 Jul	S31W67	59	plage												
09 Jul	S31W81	60	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 55

Region 1787															
03 Jul	S14E70	348	60	7	Dso	3	B	4	1		6				
04 Jul	S14E56	349	160	9	Dao	12	BG	5			5	2			
05 Jul	S15E43	349	170	11	Eai	14	BG	9			19	3			
06 Jul	S14E31	348	140	10	Dao	17	BG				5				
07 Jul	S14E17	349	140	11	Eai	19	BG								
08 Jul	S14E03	348	200	11	Eac	34	BGD								
09 Jul	S15W09	348	230	11	Eai	23	BG	1			2				
10 Jul	S12W24	350	120	11	Eai	17	BG	2			2	1			
11 Jul	S15W36	348	100	11	Esi	14	BG								
12 Jul	S13W49	348	90	11	Eao	14	BG	1			1				
13 Jul	S14W63	349	90	11	Eao	10	BG								
14 Jul	S13W75	348	20	1	Hax	1	A								
								23	1	0	40	6	0	0	0

Still on Disk.

Absolute heliographic longitude: 348



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
Region 1788															
05 Jul	S15E18	14	10	5	Bxo	2	B								
06 Jul	S15E04	15	0	2	Axx	2	A								
07 Jul	S15W10	16	plage								1				
08 Jul	S15W24	16	plage												
09 Jul	S15W38	17	plage												
10 Jul	S15W52	18	plage												
11 Jul	S15W66	19	plage					1			1				
12 Jul	S15W80	19	plage												
								1	0	0	2	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 15

Region 1789															
07 Jul	S24E22	344	10	3	Bxo	2	B								
08 Jul	S25E09	342	10	6	Bxo	3	B								
09 Jul	S23W05	343	plage												
10 Jul	S23W19	345	plage								1				
11 Jul	S28W24	337	10	1	Axx	2	A								
12 Jul	S27W37	336	0		Axx	1	A								
13 Jul	S27W51	337	plage												
14 Jul	S27W65	338	plage												
								0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 343

Region 1790															
07 Jul	S15E45	321	10	2	Axx	2	A								
08 Jul	S15E30	322	plage												
09 Jul	S15E16	323	plage												
10 Jul	S15E02	324	plage												
11 Jul	S15W12	325	plage												
12 Jul	S15W26	325	plage												
13 Jul	S15W40	326	plage												
14 Jul	S15W54	327	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 324



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

Region 1791

12 Jul	S15E47	252	50	5	Dso	7	B				1				
13 Jul	S14E32	254	130	6	Dao	7	B	1			2				
14 Jul	S15E17	256	110	7	Dai	15	B				1				
								1	0	0	4	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 256

Region 1792

12 Jul	N05E55	243	10	4	Bxo	3	B								
13 Jul	N05E43	243	10	2	Bxo	3	B								
14 Jul	N04E29	244	10	2	Bxo	5	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 244

Region 1793

14 Jul	N19E74	206	150	6	Dho	3	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 206

Region 1794

14 Jul	N13W57	330	10	4	Bxo	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 330

Region 1795

14 Jul	S06E64	209	10	3	Bxo	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 209

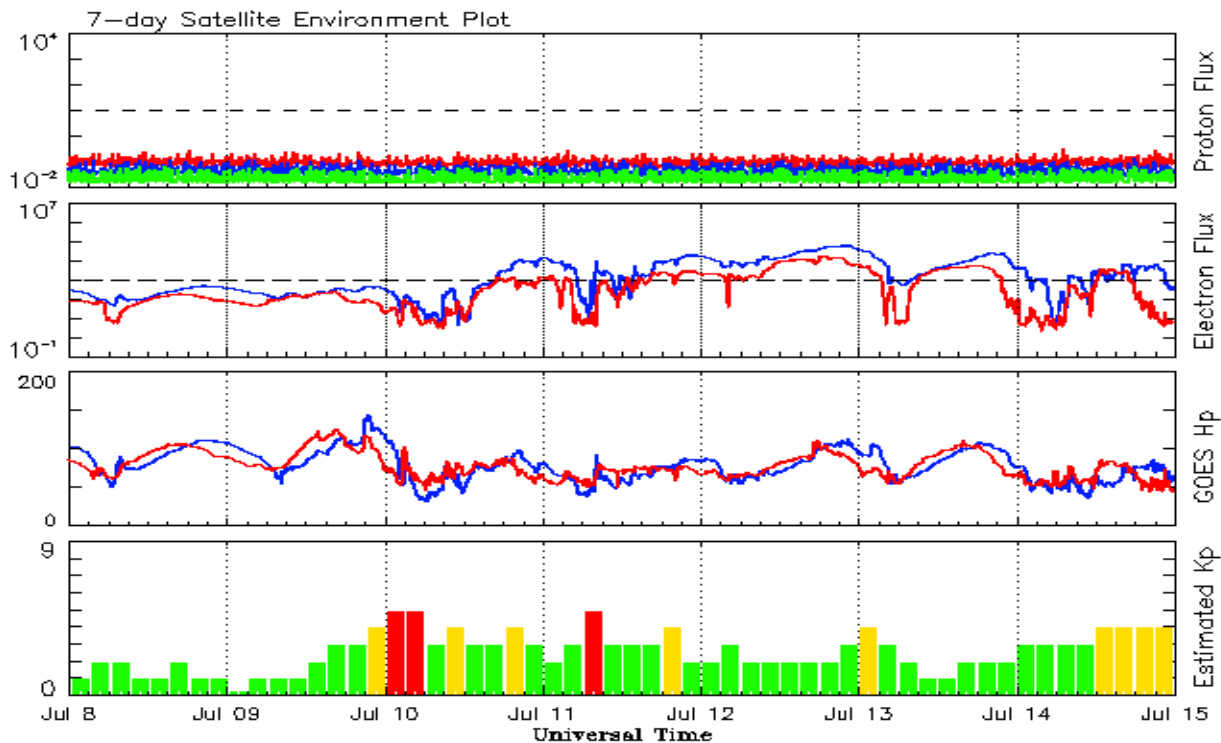


Recent Solar Indices (preliminary)
Observed monthly mean values

Month	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		Penticton	Smooth	Planetary	Smooth
	SEC	RI	RI/SEC	SEC	RI	10.7 cm	Value	Ap	Value
2011									
July	67.0	43.8	0.66	82.5	57.3	94.2	115.4	9	7.3
August	66.1	50.6	0.77	84.9	59.0	101.7	117.9	8	7.4
September	106.4	78.0	0.73	84.6	59.5	134.5	118.4	13	7.7
October	116.8	88.0	0.75	84.6	59.9	137.2	118.4	7	8.0
November	133.1	96.7	0.73	86.3	61.1	153.1	119.5	3	8.0
December	106.3	73.0	0.69	89.2	63.4	141.2	121.6	3	8.0
2012									
January	91.3	58.3	0.64	92.0	65.5	133.1	124.4	6	8.3
February	50.1	32.9	0.66	94.2	66.9	106.7	126.7	7	8.4
March	77.9	64.3	0.82	94.1	66.8	115.1	126.8	14	8.1
April	84.4	55.2	0.65	91.3	64.6	113.1	125.8	9	8.0
May	99.5	69.0	0.69	87.7	61.7	121.5	123.8	8	8.2
June	88.6	64.5	0.73	83.9	58.9	120.5	121.1	10	8.3
July	99.6	66.5	0.67	82.4	57.8	135.6	119.5	13	8.3
August	85.8	63.0	0.74	83.1	58.2	115.7	119.2	7	8.1
September	84.0	61.4	0.73	83.7	58.1	123.2	118.9	8	7.8
October	73.5	53.3	0.73	85.0	58.6	123.3	119.2	9	7.4
November	89.2	61.8	0.69	87.3	59.7	120.9	120.1	6	7.3
December	60.4	40.8	0.68	88.0	59.6	108.4	120.1	3	7.5
2013									
January	99.8	62.9	0.63			127.1		4	
February	60.0	38.0	0.63			104.4		5	
March	81.0	57.9	0.71			111.2		9	
April	112.8	72.4	0.64			125.0		5	
May	125.5	78.7	0.63			131.3		10	
June	80.1	52.5	0.66			110.2		13	

Note: Values are final except for the most recent 6 months which are considered preliminary.
Cycle 24 started in Dec 2008 with an RI=1.7.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 08 July 2013*

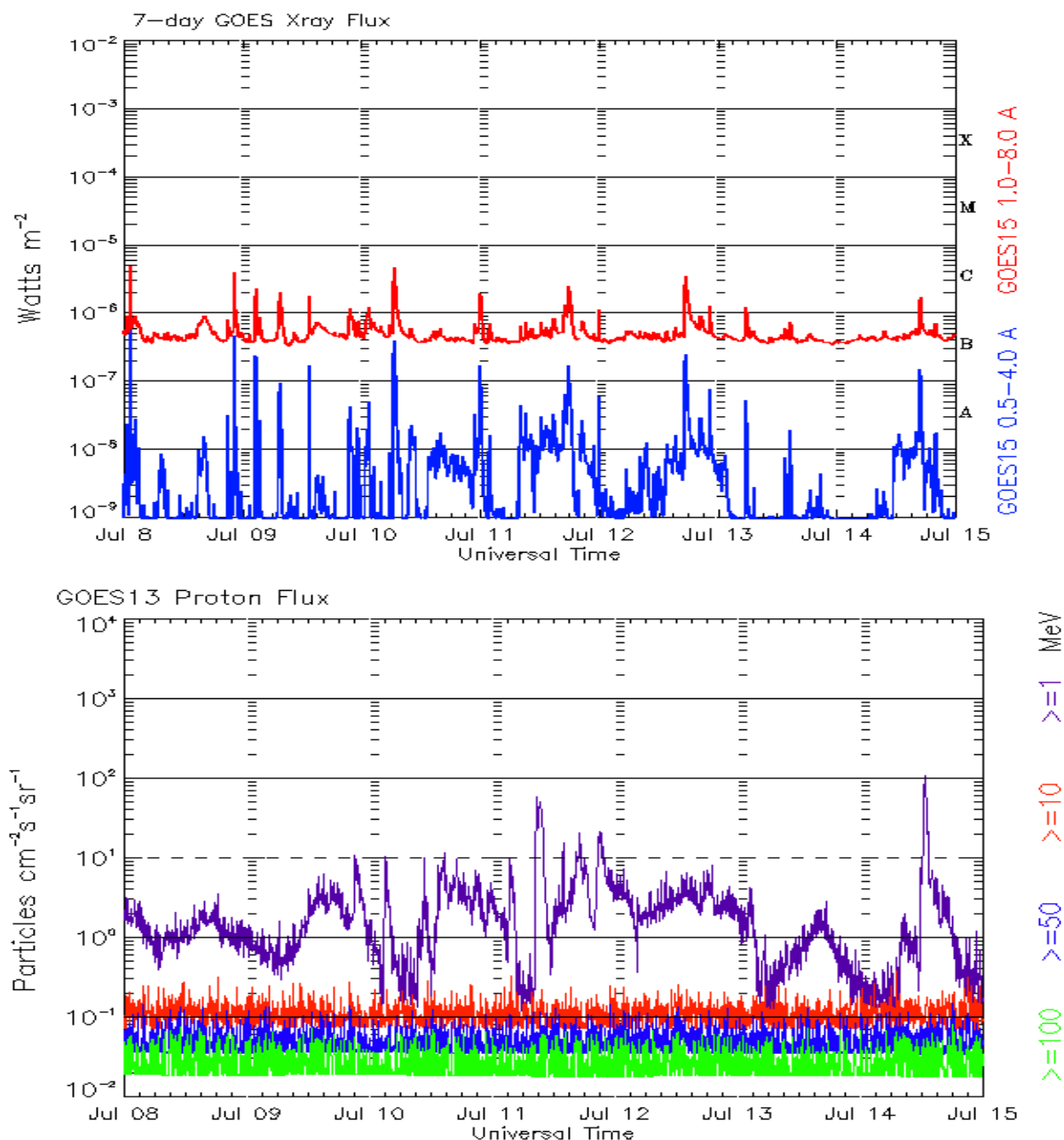
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

The Hp plot contains the five minute averaged Hp magnetic field component in nanoteslas (nT) as by the SWPC Primary GOES satellite. The Hp component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

The Estimated 3-hour Planetary Kp-index is derived at the NOAA Space Weather Prediction Center using data from the following ground-based magnetometers: Boulder, Colorado; Chambon la Foret, France; Fredericksburg, Virginia; Fresno, California; Hartland, UK; Newport, Washington; Sitka, Alaska. These data are made available thanks to the cooperative efforts between SWPC and data providers around the world, which currently includes the U.S. Geological Survey, the British Geological Survey, and the Institut de Physique du Globe de Paris.

The data included here are those now available in real time at the SWPC 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. 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
Week Beginning 08 July 2013*

The x-ray plots contains five-minute averages x-ray flux (Watt/m^2) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged integral flux units (pfu = protons/ cm^2 -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1 , >10 , >30 , and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.

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Notice: The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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