Space Weather Highlights
12 August - 18 August 2013

SWPC PRF 1981
19 August 2013

Solar activity was moderate. The week began at moderate levels with Region 1817 (S21, L=241 class/area Ekc/260 on 15 Aug) producing an M1/Sn event at 12/1041 UTC. Activity was at low levels from 13 - 16 Aug with the largest event being a C4 at 14/0031 UTC from Region 1809 (N13, L=339). A Type II radio sweep (est. speed 1019 km/s) was observed on 15 Aug associated with a C2/Sf at 15/2216 UTC from Region 1817. There was an associated coronal mass ejection (CME) but it was determined to be directed well south of the ecliptic plane. Acitivty increased to moderate levels on 17 Aug with a pair of M flares from Region 1818 (S07, L=216 class/area Dki/330 on 16 Aug). The first event was an impulsive M3/2b at 17/1824 UTC with associated weak, multi-frequency radio emissions. Immediately following the M3, Region 1818 produced an M1 x-ray event at 17/1933 UTC, again associated with weak, multi-frequency radio emissions including a 150 sfu Tenflare, a Type II radio sweep (est. speed 1399 km/s) observed in the lower spectral range and a broader spectral range Type IV radio sweep. An associated partial-halo CME was observed off the southwest limb and is expected to be a glancing blow at Earth on 21 Aug.

The greater than 10 MeV proton flux at geosynchronous orbit was slightly elevated following the M-flare activity on 17 Aug but remained well below alert threshold.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels from 12 - 15 Aug followed by an increase to moderate to high levels from 16 - 18 Aug due to effects from a coronal hole high speed stream (CH HSS).

Geomagnetic field activity was at mostly quiet levels to begin the period on 12 Aug. Activity increased to unsettled to active conditions on 13 Aug due to the onset of a geoeffective CH HSS. Although the CH HSS was still apparent on 14 Aug, quiet to unsettled conditions were predominate. A return to unsettled to active conditions returned on 15 - 16 Aug due to continued CH HSS effects, with an isolated minor storm period observed during the 0300 - 0600 UTC synoptic period due to nighttime sub-storming. Mostly quiet conditions were observed on 17 - 18 Aug as CH HSS effects subsided.

Space Weather Outlook
19 August - 14 September 2013

Solar activity is expected to be at low levels with a chance for M-class activity from 19 - 21 Aug, mainly from Region 1818. Predominately low levels are expected from 22 Aug until the return of Regions 1817 and 1818 around 02 Sep, at which time the chance for M-class activity will return for the remainder of 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 moderate to high levels from 19 - 28 Aug due to CH HSS effects. A decrease to normal to moderate levels is

expected from 29 Aug - 02 Sep as CH HSS effects subside followed by an increase to moderate to high levels from 03 - 08 Sep due to the effects of another CH HSS. Normal to moderate levels are expected from 09 - 12 Sep. Moderate to high levels are expected to prevail for the remainder of the period following the arrival of another recurrent CH HSS.

Geomagnetic field activity is expected to be quiet to unsettled from 19 Aug until late 20 Aug followed by unsettled to active conditions as a recurrent, equatorial, positive CH HSS moves into a geoeffective position. Unsettled to active conditions with a slight chance for isolated minor storm periods are expected on 21 Aug due to continued CH HSS effects coupled with possible CME effects from the 17 Aug event. Quiet to unsettled conditions are expected on 22 Aug as CH HSS and CME effects wane. Predominately quiet conditions are expected from 23 - 30 Aug. A second CH HSS is expected to become geoeffective on 31 Aug, bringing activity up to quiet to unsettled levels until 02 Sep. Quiet conditions are expected to return 03 - 04 Sep followed by another small CH HSS that is expected to generate some isolated unsettled periods from 05 - 06 Sep. Quiet to active levels with a chance for isolated minor storm periods are expected for the remainder of the period due to the arrival of another recurrent CH HSS with a history of more intense geomagnetic effects.

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
12 August	114	85	330	B3.2	1	1	0	8	0	0	0	0
13 August	122	98	670	B4.8	7	0	0	3	0	0	0	0
14 August	125	105	550	B4.2	7	0	0	6	1	0	0	0
15 August	123	129	770	B4.1	4	0	0	4	0	0	0	0
16 August	120	104	650	B3.6	2	0	0	6	0	0	0	0
17 August	125	96	630	B3.9	2	2	0	3	0	1	0	0
18 August	126	134	840	B5.4	1	0	0	4	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
12 August	3.0e+05	9.8e+03	2.4e+03		3.4e+07	
13 August	2.4e+05	1.0e+04	2.7e+03		6.7e+06	
14 August	1.1e+05	1.0e+04	2.6e+03		2.4e+06	
15 August	1.0e+05	1.1e+04	2.6e+03		1.6e+06	
16 August	2.0e+06	1.0e+04	2.4e+03		2.2e+07	
17 August	5.6e+05	1.1e+04	2.7e+03		1.8e+08	
18 August	1.9e+06	2.3e+04	2.7e+03		2.1e+08	

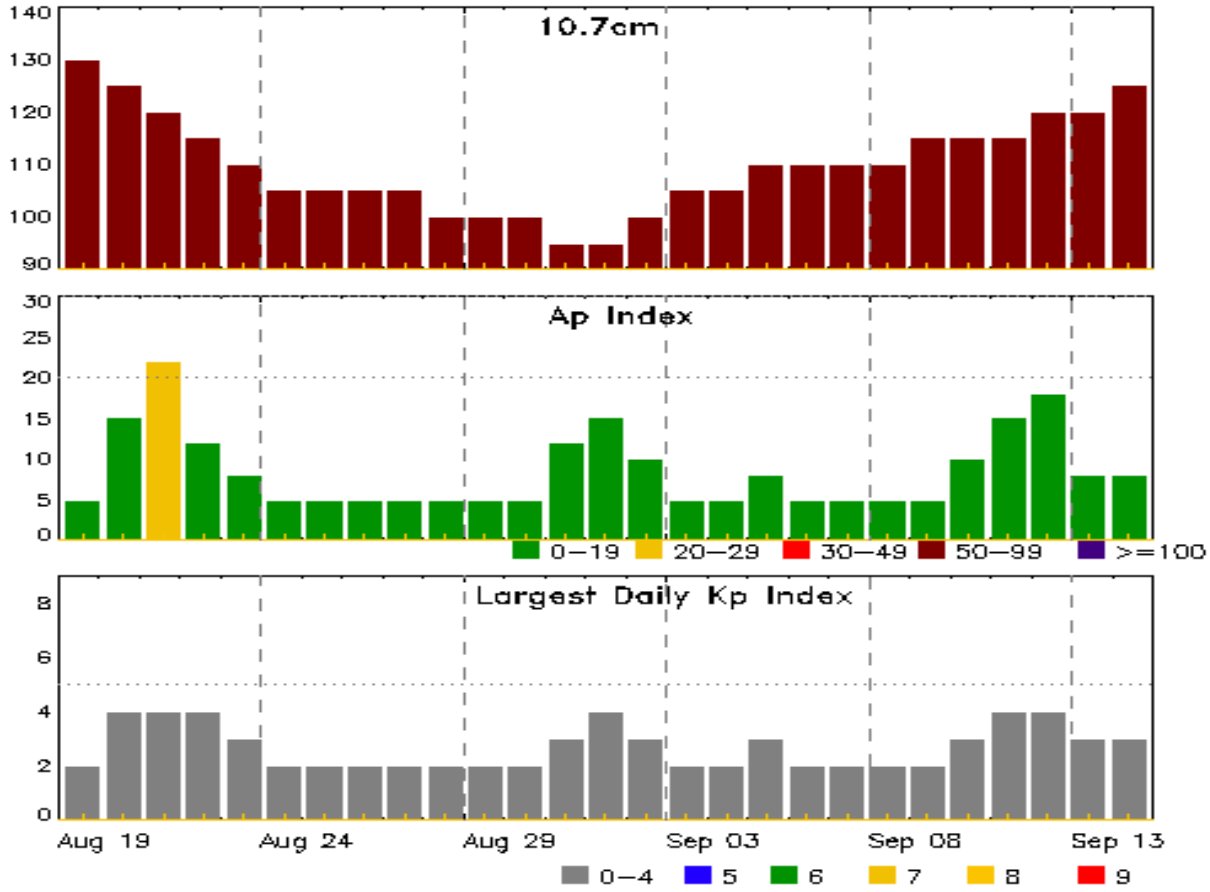
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
12 August	6	1-1-1-1-2-1-2-3	2	1-0-0-0-0-0-1-2	6	2-1-0-1-1-1-2-3
13 August	9	2-0-1-3-3-3-2-2	8	2-0-0-3-2-4-2-1	9	2-0-1-2-1-4-3-3
14 August	9	3-3-1-1-3-1-2-2	10	3-4-3-0-1-2-1-2	10	3-3-2-1-1-2-2-3
15 August	15	4-2-2-2-3-4-3-3	23	3-3-4-5-3-5-2-2	15	4-2-2-3-3-4-2-3
16 August	27	4-6-4-2-4-3-3-3	37	4-6-4-5-5-5-2-2	23	4-5-4-2-3-4-4-3
17 August	9	3-2-3-2-2-2-2-2	12	3-3-4-2-3-2-2-1	7	3-2-2-1-2-2-1-2
18 August	8	1-1-3-2-3-2-2-1	10	1-2-4-4-1-2-1-1	6	2-1-2-2-2-2-2-1

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
13 Aug 1727	WARNING: Geomagnetic K = 4	13/1730 - 14/0000
13 Aug 1739	ALERT: Geomagnetic K = 4	13/1735
13 Aug 1956	WATCH: Geomagnetic Storm Category G1 predicted	
13 Aug 2355	EXTENDED WARNING: Geomagnetic K = 4	13/1730 - 14/1200
14 Aug 1156	EXTENDED WARNING: Geomagnetic K = 4	13/1730 - 14/1900
14 Aug 1318	CANCELLATION: Geomagnetic K = 4	
15 Aug 0232	WARNING: Geomagnetic K = 4	15/0230 - 1200
15 Aug 0301	ALERT: Geomagnetic K = 4	15/0300
15 Aug 0306	CANCELLATION: Geomagnetic K = 4	
15 Aug 0308	ALERT: Geomagnetic K = 4	15/0300
15 Aug 1156	EXTENDED WARNING: Geomagnetic K = 4	15/0230 - 2300
15 Aug 2248	EXTENDED WARNING: Geomagnetic K = 4	15/0230 - 16/0500
15 Aug 2316	ALERT: Type II Radio Emission	15/2217
16 Aug 0337	EXTENDED WARNING: Geomagnetic K = 4	15/0230 - 16/1100
16 Aug 0337	WARNING: Geomagnetic K = 5	16/0336 - 0800
16 Aug 0344	ALERT: Geomagnetic K = 5	16/0344
16 Aug 1250	WARNING: Geomagnetic K = 4	16/1251 - 17/1300
16 Aug 1804	ALERT: Geomagnetic K = 4	16/1759
16 Aug 1816	ALERT: Electron 2MeV Integral Flux >= 1000pfu	16/1800
17 Aug 0843	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	16/1800
17 Aug 1932	ALERT: Type II Radio Emission	17/1856
17 Aug 1932	ALERT: Type IV Radio Emission	17/1909
17 Aug 1947	SUMMARY: 10cm Radio Burst	17/1908 - 1933
18 Aug 0541	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	16/1800

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
19 Aug	130	5	2	02 Sep	100	10	3
20	125	15	4	03	105	5	2
21	120	22	4	04	105	5	2
22	115	12	4	05	110	8	3
23	110	8	3	06	110	5	2
24	105	5	2	07	110	5	2
25	105	5	2	08	110	5	2
26	105	5	2	09	115	5	2
27	105	5	2	10	115	10	3
28	100	5	2	11	115	15	4
29	100	5	2	12	120	18	4
30	100	5	2	13	120	8	3
31	95	12	3	14	125	8	3
01 Sep	95	15	4				

Energetic Events

	Time			X-ray		Optical Information			Peak Radio Flux		Sweep Freq Intensity	
Date	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	245	2695	II	IV
17 Aug	1816	1824	1835	M3.3	0.021	2B	S07W30	1818		110		
17 Aug	1849	1933	1954	M1.4	0.046			1818	260	150	2	1
12 Aug	1021	1041	1047	M1.5	0.010	SN	S17E19	1817				

Flare List

	Time			X-ray	Optical		
Date	Begin	Max	End	Class	Imp/ Brtns	Location Lat CMD	Rgn #
12 Aug	0010	0015	0020	C1.0			
12 Aug	0329	0332	0336	B6.1			
12 Aug	0722	0724	0731		SF	S00E42	1818
12 Aug	0822	0823	0826		SF	S17E20	1817
12 Aug	0949	0949	0956		SF	S17E20	1817
12 Aug	1021	1041	1047	M1.5	SN	S17E19	1817
12 Aug	1357	1400	1406		SF	N10W88	1809
12 Aug	1627	1629	1636		SF	N10W83	1809
12 Aug	1753	1757	1805	B6.6			1817
12 Aug	2030	2039	2041		SF	N09W88	1809
12 Aug	2227	2227	2233		SF	N09W88	1809
13 Aug	0504	0517	0521	C1.1			1809
13 Aug	0526	0532	0552		SF	S22E10	1817
13 Aug	1135	1146	1152	C2.8			1809
13 Aug	1540	1549	1553	C1.5	SF	S05E25	1818
13 Aug	1640	1643	1646	B9.6			1809
13 Aug	1649	1701	1706	C1.8			1809
13 Aug	1846	1850	1852	C4.6			1809
13 Aug	2131	2138	2143	C4.4			1809
13 Aug	2311	2314	2316	C1.0	SF	S05E20	1818
14 Aug	0022	0031	0035	C4.9			1809
14 Aug	0203	0209	0217	C1.5			1809
14 Aug	B0524	0537	0625		SF	S06E18	1818
14 Aug	0633	0641	0646		SF	S06E18	1818
14 Aug	0900	0900	0923		SF	S20E08	1819
14 Aug	1019	1037	1139	C1.5	SF	S22W07	1817
14 Aug	1332	1333	1339		SF	S22W10	1817
14 Aug	1650	1655	1711	C3.6	1F	S23W12	1817

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
14 Aug	1747	1753	1758	C1.5			1817
14 Aug	1900	1950	2013	C1.0			1817
14 Aug	2011	2012	2017		SF	S06E11	1818
14 Aug	2249	2255	2302	C1.6			1817
15 Aug	0044	0047	0050	B6.3			1818
15 Aug	1705	1715	1726	C1.0	SF	S06W01	1818
15 Aug	1748	1756	1804	C2.1	SF	S06W02	1818
15 Aug	1827	1835	1841	C1.2	SF	S21W25	1817
15 Aug	2208	2216	2222	C2.9	SF	S21W37	1817
16 Aug	0754	0756	0800		SF	S07W08	1818
16 Aug	0808	0811	0814		SF	S07W09	1818
16 Aug	0828	U0831	0835		SF	S19W27	1817
16 Aug	1229	1246	1257	C1.3	SF	S06W13	1818
16 Aug	1311	1318	1322	C2.6	SF	S06W12	1818
16 Aug	1435	1438	1441	B9.0	SF	S07W14	1818
17 Aug	0259	0304	0310	B6.7			1818
17 Aug	0325	0330	0336	C1.3	SF	S07W20	1818
17 Aug	1011	1018	1040	B8.9	SF	S08W24	1818
17 Aug	1052	1057	1110	B8.7	SF	S07W25	1818
17 Aug	1227	1230	1244	B6.3			1817
17 Aug	1327	1349	1424	C1.8			
17 Aug	1816	1824	2141	M3.3	2B	S07W30	1818
17 Aug	1849	1933	1954	M1.4			1818
18 Aug	1124	1131	1143	C1.6			
18 Aug	1318	1321	1323	B8.6			
18 Aug	1509	1515	1543		SF	S24W68	1817
18 Aug	1603	1609	1627		SF	S24W68	1817
18 Aug	1618	1623	1627		SF	S21W70	1816
18 Aug	1658	1704	1709	B9.5			
18 Aug	2235	2237	2241		SF	N16W11	1825

Region Summary

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
		Region 1809													
30 Jul	N14E79	342	60	4	Hsx	1	A	1							
31 Jul	N12E65	343	120	3	Cso	4	B	1							
01 Aug	N12E52	343	160	5	Dso	3	B				2				
02 Aug	N13E40	342	160	5	Cao	8	B				3				
03 Aug	N13E27	341	110	9	Cao	13	B								
04 Aug	N12E14	341	80	7	Cao	10	B								
05 Aug	N12E02	339	80	9	Cso	9	B								
06 Aug	N13W09	337	60	10	Cso	11	B				1				
07 Aug	N13W21	335	60	15	Cso	10	B								
08 Aug	N11W40	341	30	4	Hsx	3	A								
09 Aug	N11W53	341	30	3	Hax	1	A								
10 Aug	N10W67	342	20	2	Hrx	2	A								
11 Aug	N11W82	344	10	1	Hrx	1	A								
12 Aug	N14W95	344	10	1	Axx	1	A				4				
								2	0	0	10	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 339

		Region 1810													
31 Jul	S26E74	334	30	2	Hax	1	A								
01 Aug	S26E59	336	40	2	Hsx	1	A								
02 Aug	S26E45	337	40	2	Hsx	1	A								
03 Aug	S25E32	336	40	2	Hsx	1	A				1				
04 Aug	S26E20	335	30	2	Hsx	2	A								
05 Aug	S26E06	335	40	4	Cso	5	B								
06 Aug	S26W06	334	50	4	Cao	8	B								
07 Aug	S25W19	334	30	5	Cao	8	B				1				
08 Aug	S25W33	335	20	4	Dro	4	B								
09 Aug	S24W48	336	plage								1				
10 Aug	S24W62	338	plage												
11 Aug	S24W76	339	plage												
12 Aug	S24W90	339	plage												
								0	0	0	3	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 335

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 1813												
07 Aug	S13W06	321	20	3	Cro	5	B								
08 Aug	S13W21	322	40	4	Dao	7	BG				1				
09 Aug	S13W33	321	70	4	Cao	8	B								
10 Aug	S14W47	322	30	5	Cro	8	B								
11 Aug	S14W60	322	20	4	Bxo	5	B								
12 Aug	S14W74	323	plage												
13 Aug	S14W88	324	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 321

			Region 1814												
07 Aug	S27E64	251	30	1	Hsx	1	A								
08 Aug	S26E50	252	40	3	Hsx	1	A								
09 Aug	S26E36	252	20	1	Hax	1	A								
10 Aug	S26E22	253	20	1	Hax	1	A								
11 Aug	S27E09	254	30	1	Hax	1	A								
12 Aug	S27W04	253	10	1	Hax	1	A								
13 Aug	S27W18	254	10	1	Hrx	1	A								
14 Aug	S27W32	255	plage												
15 Aug	S27W46	256	plage												
16 Aug	S27W60	257	plage												
17 Aug	S27W74	257	plage												
18 Aug	S27W88	258	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 253

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 1816												
07 Aug	S19E62	253	10	1	Axx	1	A								
08 Aug	S20E47	254	10		Hrx	1	A								
09 Aug	S21E33	256	10		Hrx	1	A								
10 Aug	S22E20	255	plage												
11 Aug	S22E07	256	plage												
12 Aug	S22W07	256	plage												
13 Aug	S22W21	257	plage												
14 Aug	S22W35	258	plage												
15 Aug	S22W49	259	plage												
16 Aug	S22W63	260	plage												
17 Aug	S22W77	260	plage												
								0	0	0	0	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 256

			Region 1817												
10 Aug	S22E34	242	10	3	Cro	3	B	1							
11 Aug	S22E22	241	50	7	Dao	12	B	6			5				
12 Aug	S23E07	241	180	9	Dac	23	BGD		1		3				
13 Aug	S21W04	240	240	12	Esc	22	BG				1				
14 Aug	S21W17	239	220	11	Esc	22	B	5			2	1			
15 Aug	S21W31	241	260	12	Ekc	22	BGD	2			1				
16 Aug	S21W44	241	140	12	Eai	13	BGD				1				
17 Aug	S21W57	240	150	12	Eso	8	BD								
18 Aug	S21W70	240	140	12	Cao	6	B				2				
								14	1	0	15	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 240

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 1818												
09 Aug	S07E72	217	plage					1							
10 Aug	S07E58	218	20	1	Hrx	1	A								
11 Aug	S08E47	216	60	6	Dao	9	BG				6				
12 Aug	S07E34	214	120	6	Dsi	8	BG				1				
13 Aug	S07E21	214	340	9	Dhc	17	BG	2			2				
14 Aug	S07E07	214	270	8	Dhc	15	B				3				
15 Aug	S07W07	217	300	8	Dki	15	B	2			2				
16 Aug	S07W19	216	330	8	Dki	16	BGD	2			5				
17 Aug	S07W33	216	300	7	Dko	13	BGD	1	2		3		1		
18 Aug	S06W47	217	260	6	Cko	7	BD								
								8	2	0	22	0	1	0	0

Still on Disk.
Absolute heliographic longitude: 214

			Region 1819												
10 Aug	S20E49	227	10		Axx	1	A								
11 Aug	S20E37	226	10	3	Bxo	2	B	1							
12 Aug	S20E21	227	10	6	Hrx	2	A								
13 Aug	S17E07	228	20	5	Cro	4	B								
14 Aug	S18W05	227	30	6	Dso	8	B				1				
15 Aug	S17W19	229	20	5	Cao	6	B								
16 Aug	S16W32	229	10	3	Bxo	4	B								
17 Aug	S16W46	229	plage												
18 Aug	S16W60	230	plage												
								1	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 227

			Region 1820												
13 Aug	S13E59	176	60	10	Cso	4	B								
14 Aug	S12E45	177	20	11	Cro	6	B								
15 Aug	S13E31	179	30	11	Cro	7	B								
16 Aug	S13E25	172	20	3	Cro	7	B								
17 Aug	S13E10	173	10	3	Bxo	5	B								
18 Aug	S13W03	173	10	3	Bxo	5	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 173

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 1821												
14 Aug	N01W22	244	10	3	Bxo	4	B								
15 Aug	N01W35	245	10	3	Bxo	3	B								
16 Aug	N01W50	247	plage												
17 Aug	N01W65	248	plage												
18 Aug	N01W78	248	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 244

			Region 1822												
15 Aug	S08E57	153	30	7	Dao	5	B								
16 Aug	S08E44	153	20	4	Cro	3	B								
17 Aug	S08E30	153	10	4	Bxo	3	B								
18 Aug	S08E15	155	10	3	Bxo	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 155

			Region 1823												
15 Aug	S07E72	138	120	2	Hsx	1	A								
16 Aug	S07E57	140	130	3	Hsx	1	A								
17 Aug	S07E43	140	120	2	Hsx	1	A								
18 Aug	S07E29	141	120	3	Cso	5	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 141

			Region 1824												
17 Aug	S14W13	196	40	4	Dao	6	B								
18 Aug	S14W26	196	100	6	Dao	9	BG								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 196

			Region 1825												
18 Aug	N16W12	182	10	4	Bxo	6	B				1				
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 182

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
		Region 1826													
18 Aug	N08E21	149	10	1	Axx	1	A	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 149

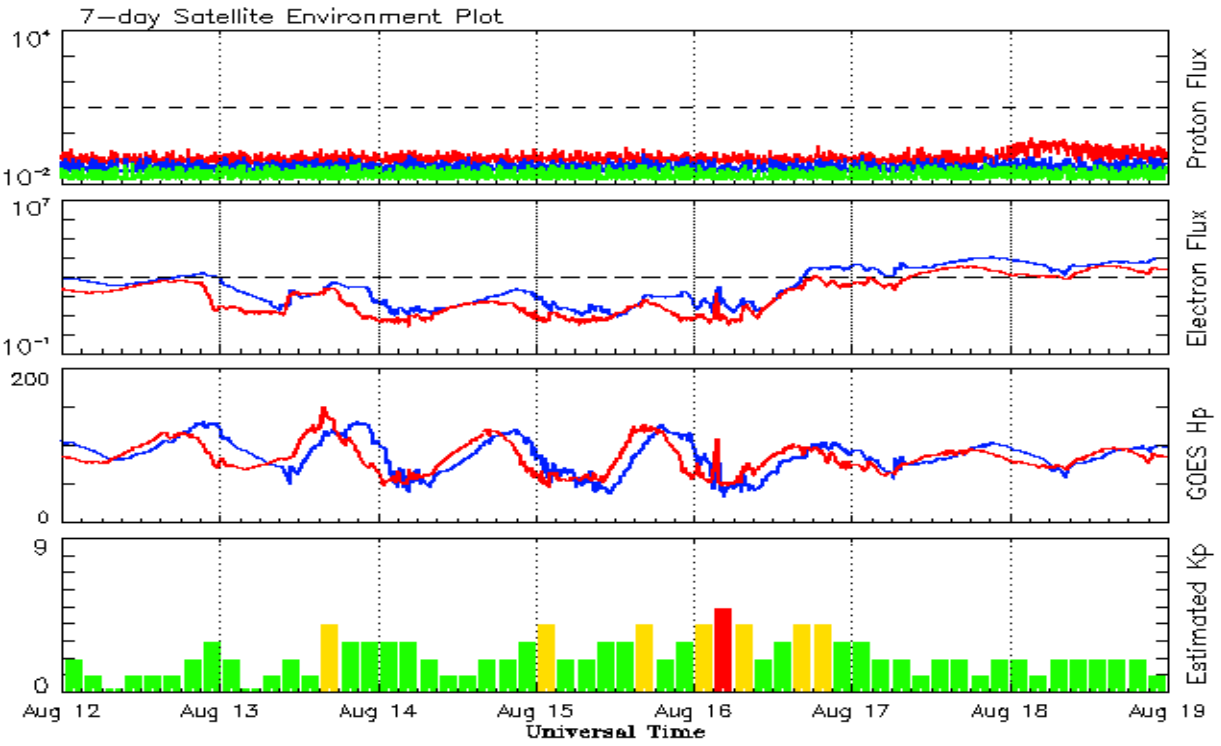
		Region 1827													
18 Aug	S17E70	100	180	6	Dso	3	B	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 100

Recent Solar Indices (preliminary)
Observed monthly mean values

	Sunspot Numbers					Radio Flux		Geomagnetic	
	Observed values		Ratio	Smooth values		Penticton	Smooth	Planetary	Smooth
Month	SEC	RI	RI/SEC	SEC	RI	10.7 cm	Value	Ap	Value
				2011					
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	87.1	58.7	127.1	118.9	4	7.5
February	60.0	38.1	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	
July	86.1	57.0	0.66			115.6		9	

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 12 August 2013

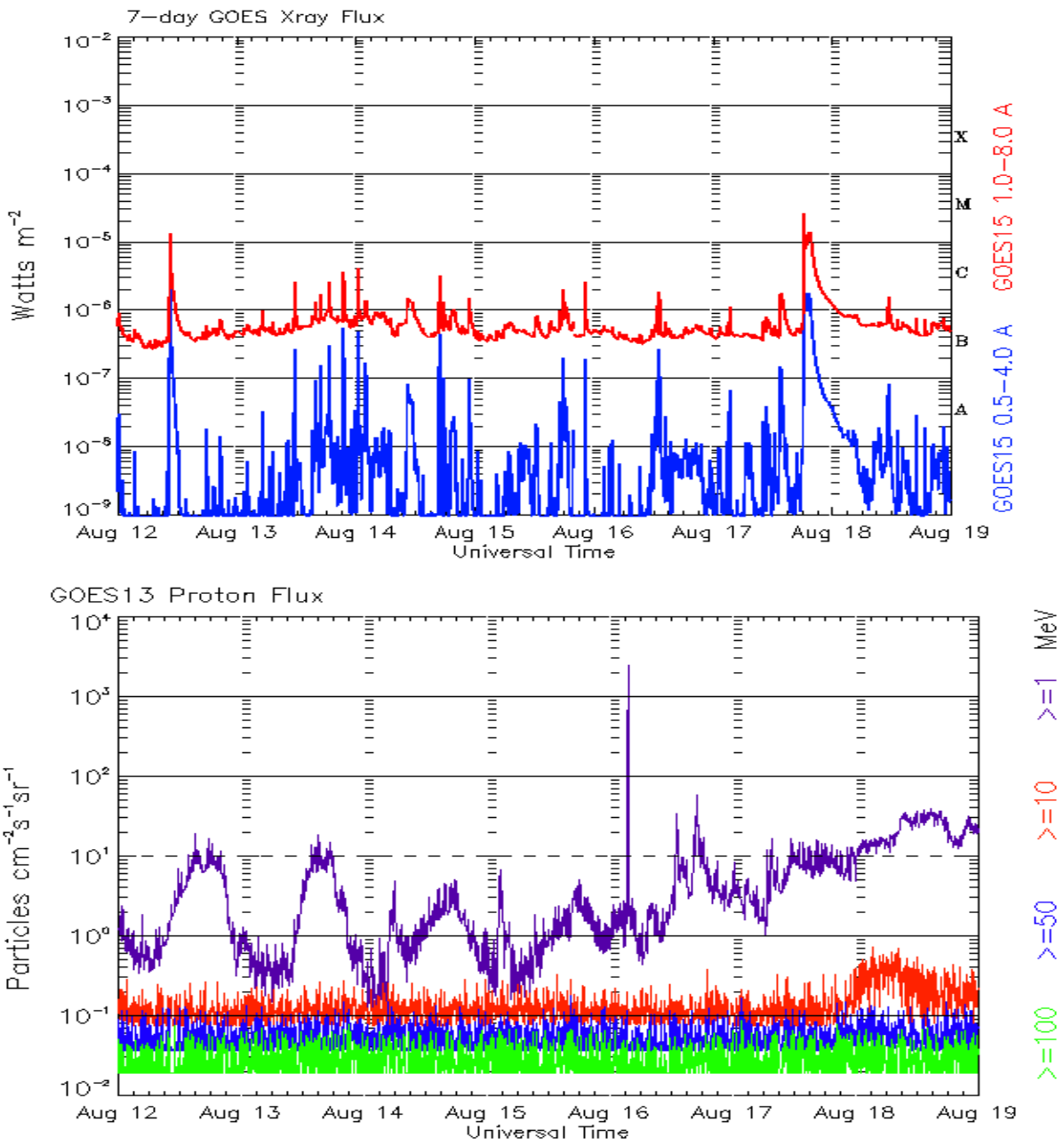
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm^2-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm^2-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 12 August 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 intergral 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

The Weekly has been published continuously since 1951 and is available online since 1997.

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