

Solar activity was low. The largest flare of the week was a C3/Sf from Region 1800 (S08, L=162, class/area=Dao/220) at 28/1223 UTC. Region 1800 was the largest, most magnetically complex (beta-gamma), and most productive region on the visible disk this week. The remaining regions were generally small and docile in comparison. While a few coronal mass ejections (CMEs) were observed throughout the week, analysis suggested none were Earth-directed.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels from 22-25 July and again on 27 July. Remarkably, 25 July marked the last day of a 16 day streak of high electron flux levels which began on 10 July.

Geomagnetic field activity was at quiet to unsettled levels throughout most of the week, with the exception of 25-26 July. On those two days, planetary conditions reached active levels with a single period of minor storm conditions at high latitudes. The increased activity came in response to the onset of a recurrent, positive-polarity, coronal hole high speed stream. Quiet to unsettled levels returned on 27 July and lasted through the end of the period.

### **Space Weather Outlook** **29 July - 24 August 2013**

Solar activity is expected to be low with a chance for M-class (R1 radio blackouts) flares through 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 through 02 August, and again after 22 August in response to recurrent coronal hole high speed streams.

Geomagnetic field activity is expected to be at quiet to unsettled levels throughout the forecast period, barring any geoeffective transient features. There is a chance for active levels on 03-04 August and again on 21-23 August in response to recurrent coronal hole high speed streams.



### ***Daily Solar Data***

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
22 July	110	53	240	B2.8	0	0	0	0	0	0	0	0
23 July	107	84	250	B2.5	0	0	0	0	0	0	0	0
24 July	108	65	320	B2.8	2	0	0	6	0	0	0	0
25 July	107	71	340	B2.9	2	0	0	4	0	0	0	0
26 July	110	58	330	B3.3	3	0	0	3	0	0	0	0
27 July	108	64	340	B3.7	1	0	0	2	0	0	0	0
28 July	109	68	470	B3.8	7	0	0	14	0	0	0	0

### ***Daily Particle Data***

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)			Electron Fluence (electrons/cm <sup>2</sup> -day -sr)		
	>1 MeV	>10 MeV	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
22 July	2.0e+06	1.2e+04	2.7e+03		1.7e+08	
23 July	5.1e+05	1.2e+04	2.5e+03		6.6e+07	
24 July	4.5e+05	1.1e+04	2.8e+03		8.7e+07	
25 July	6.7e+05	1.1e+04	2.7e+03		7.3e+07	
26 July	1.5e+05	1.1e+04	2.6e+03		8.8e+06	
27 July	1.3e+05	1.1e+04	2.4e+03		2.8e+07	
28 July	6.3e+04	1.0e+04	2.5e+03		1.3e+07	

### ***Daily Geomagnetic Data***

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
22 July	6	1-0-1-1-2-2-2-3	1	0-0-0-0-0-1-1-1	6	1-1-1-1-1-2-1-3
23 July	5	2-2-1-1-2-1-1-2	3	2-2-1-0-1-0-1-1	5	2-2-1-1-1-2-1-2
24 July	6	2-1-0-2-3-1-2-1	2	1-1-1-0-1-0-1-0	5	2-1-1-1-2-2-1-1
25 July	10	0-2-1-2-2-1-4-4	6	0-1-1-1-0-2-3-3	11	1-2-1-1-2-3-4-4
26 July	23	4-5-5-3-3-3-2-2	20	4-4-2-4-5-2-2-2	14	4-4-2-3-2-2-2-2
27 July	10	3-1-1-3-3-2-3-1	13	2-2-2-4-4-3-2-1	11	3-2-1-3-3-3-3-2
28 July	8	2-2-2-2-2-2-2-3	8	2-3-2-3-1-1-1-2	7	2-2-2-2-1-1-2-3

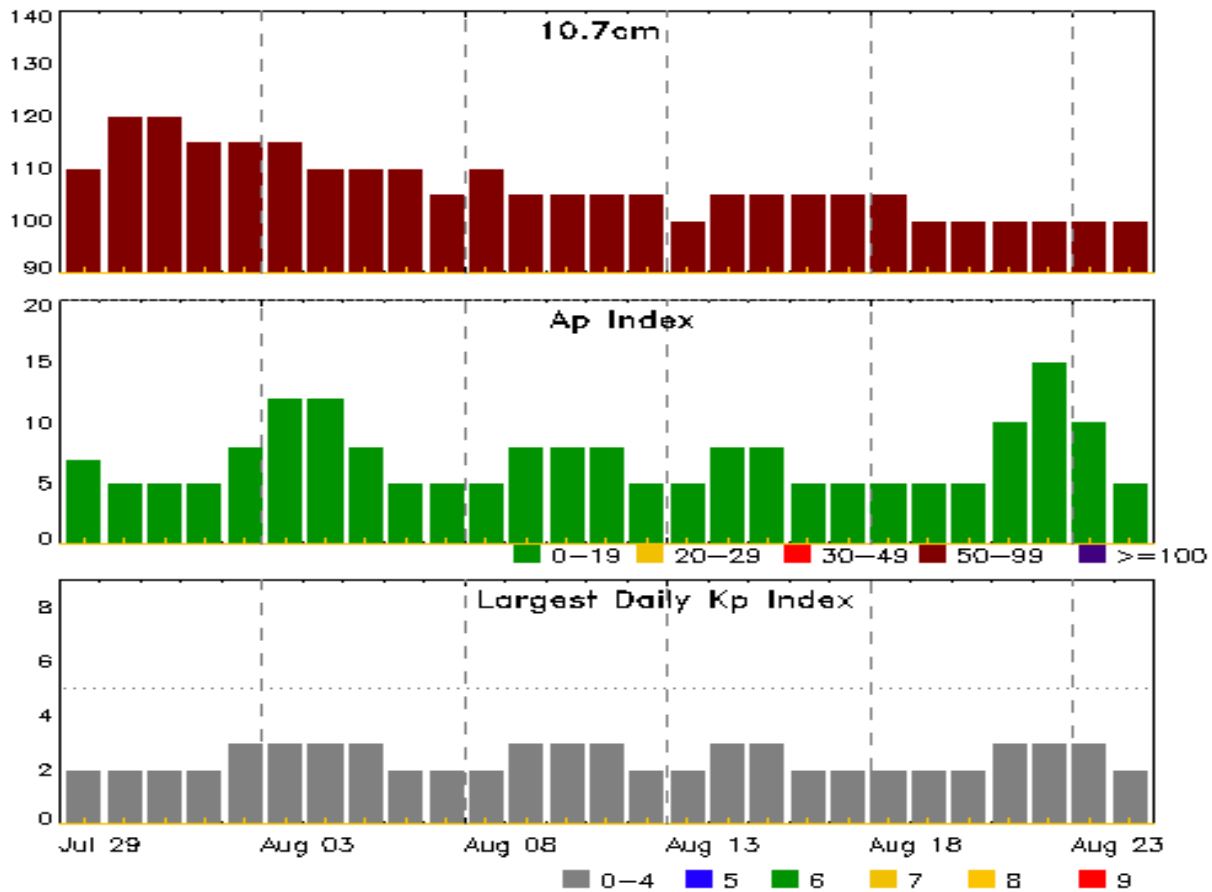


### *Alerts and Warnings Issued*

<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
22 Jul 0534	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	10/1655
23 Jul 1226	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	10/1655
24 Jul 1046	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	10/1655
24 Jul 1606	WATCH: Geomagnetic Storm Category G1 predicted	
25 Jul 1217	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	10/1655
25 Jul 1707	WARNING: Geomagnetic K = 4	25/1710 - 26/1200
25 Jul 1721	CANCELLATION: Geomagnetic Storm Category G1 predicted	
25 Jul 1723	WATCH: Geomagnetic Storm Category G1 predicted	
25 Jul 2026	ALERT: Geomagnetic K = 4	25/2023
26 Jul 0317	WARNING: Geomagnetic K = 5	26/0320 - 1000
26 Jul 0925	EXTENDED WARNING: Geomagnetic K = 4	25/1710 - 26/1900
26 Jul 0925	EXTENDED WARNING: Geomagnetic K = 5	26/0320 - 1300
27 Jul 1600	ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	27/1545



## 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
29 Jul	110	7	2	12 Aug	105	5	2
30	120	5	2	13	100	5	2
31	120	5	2	14	105	8	3
01 Aug	115	5	2	15	105	8	3
02	115	8	3	16	105	5	2
03	115	12	3	17	105	5	2
04	110	12	3	18	105	5	2
05	110	8	3	19	100	5	2
06	110	5	2	20	100	5	2
07	105	5	2	21	100	10	3
08	110	5	2	22	100	15	3
09	105	8	3	23	100	10	3
10	105	8	3	24	100	5	2
11	105	8	3				

## ***Energetic Events***

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
			Max						245	2695	II	IV

**No Events Observed**

## ***Flare List***

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
22 Jul	1033	1038	1045	B4.6			1801
23 Jul	0239	0244	0253	B6.3			1801
23 Jul	0315	0322	0335	B5.3			1801
23 Jul	2308	2311	2317	B4.0			
23 Jul	2326	2329	2331	B3.9			
24 Jul	0115	0124	0142	B4.9			1793
24 Jul	0301	0306	0314	B4.3			1803
24 Jul	0525	0529	0532		SF	S21W59	1804
24 Jul	1351	1352	1359		SF	S23W68	1804
24 Jul	1440	1452	1453		SF	S17W67	1797
24 Jul	1523	1523	1531		SF	S23W68	1804
24 Jul	1738	1752	1758		SF	S21W69	1797
24 Jul	1813	1819	1823	C1.0	SF	S06W13	1800
24 Jul	2043	2054	2104	B5.8			1800
24 Jul	2134	2143	2156	C1.8			1800
25 Jul	0128	0132	0136	B5.0			1793
25 Jul	0515	0519	0521	B4.4			
25 Jul	0602	0608	0613	C1.6	SF	S08W22	1800
25 Jul	1636	1636	1642		SF	S08W26	1800
25 Jul	1657	1659	1710		SF	S08W26	1800
25 Jul	2237	2244	2256	C2.1	SF	S08W30	1800
26 Jul	0431	0437	0442	B7.1			1800
26 Jul	0508	0508	0515		SF	S08W33	1800
26 Jul	1444	1447	1451	B6.5	SF	S07W40	1800
26 Jul	1641	1645	1649	B5.3	SF	S08W40	1800
26 Jul	1818	1928	2032	C1.5			
26 Jul	2127	2149	2200	C1.8			1800
26 Jul	2218	2222	2226	C1.3			1800
26 Jul	2359	0002	0004	B8.3			1800
27 Jul	1228	1239	1256	C1.0	SF	S10W51	1800
27 Jul	1450	1451	1455		SF	S08W51	1800



## *Flare List*

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
28 Jul	0237	0310	0330	C1.7			1800
28 Jul	0244	0244	0251		SF	S07W60	1800
28 Jul	0400	0405	0410	B8.9			
28 Jul	0535	0618	0658	C2.3	SF	S10W63	1800
28 Jul	0609	0610	0613		SF	S06W63	1800
28 Jul	1059	1105	1112	B7.0	SF	S10W37	1805
28 Jul	1205	1223	1300	C3.2	SF	S13W60	1800
28 Jul	1434	1435	1437		SF	S11W65	1800
28 Jul	1527	1553	1602		SF	S13E55	1806
28 Jul	1556	1601	1611	C1.4	SF	S09W40	1805
28 Jul	1622	1627	1631	C1.5	SF	S10W68	1800
28 Jul	1653	1658	1711		SF	S12W67	1800
28 Jul	1714	1715	1718		SF	S12W67	1800
28 Jul	1745	1745	1749		SF	S09W68	1800
28 Jul	1813	1821	1827	B9.6			
28 Jul	1924	1929	1933		SF	S08W69	1800
28 Jul	1957	2003	2007	C1.6	SF	S08W66	1800
28 Jul	2107	2111	2116	C1.0			



## Region Summary

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10 <sup>-6</sup> hemi.	(helio)	Class	Count	Class	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				
15 Jul	S14E04	255	110	7	Dso	13	BGD	3			8				
16 Jul	S14W08	255	110	7	Dao	14	BD	2			3				
17 Jul	S14W21	254	90	6	Dao	15	BG	1			4				
18 Jul	S14W34	253	30	7	Cao	10	B								
19 Jul	S13W46	253	0	1	Axx	1	A				1				
20 Jul	S13W60	254	plage												
21 Jul	S13W74	254	plage												
22 Jul	S13W88	255	plage												
								7	0	0	20	0	0	0	0

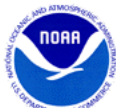
Crossed West Limb.

Absolute heliographic longitude: 255

<b>Region 1792</b>															
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								
15 Jul	N03E13	246	10	1	Axx	2	A	1							
16 Jul	N02E02	244	plage												
17 Jul	N02W13	246	plage												
18 Jul	N02W28	248	plage												
19 Jul	N02W43	250	plage												
20 Jul	N02W58	252	plage												
21 Jul	N02W73	253	plage												
22 Jul	N02W88	255	plage												
								1	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 244



### *Region Summary - continued*

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10 <sup>-6</sup> hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 1793															
14 Jul	N19E74	206	150	6	Dho	3	B								
15 Jul	N21E62	198	210	11	Esi	6	BG	1							
16 Jul	N21E51	195	310	12	Esi	14	BG								
17 Jul	N21E37	196	310	14	Eho	11	BG				1				
18 Jul	N20E24	195	310	14	Eho	18	BG								
19 Jul	N21E12	195	280	13	Eho	17	BG								
20 Jul	N21W01	195	230	15	Eao	24	BG	1			3				
21 Jul	N21W15	195	240	16	Fso	18	BG				4				
22 Jul	N21W27	194	170	16	Fso	14	B								
23 Jul	N20W40	193	110	13	Eso	5	B								
24 Jul	N19W52	192	100	12	Eso	2	B								
25 Jul	N20W66	193	100	12	Eso	2	B								
26 Jul	N21W81	195	70	11	Cso	2	B								
27 Jul	N21W94	195	plage												
								2	0	0	8	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 195

<b>Region 1795</b>															
14 Jul	S06E64	209	10	3	Bxo	2	B								
15 Jul	S05E49	209	0	1	Axx	1	A								
16 Jul	S06E34	213	plage												
17 Jul	S06E19	214	plage												
18 Jul	S06E04	216	plage												
19 Jul	S06W10	217	plage												
20 Jul	S06W25	219	plage												
21 Jul	S06W40	220	plage												
22 Jul	S06W55	222	plage												
23 Jul	S06W69	223	plage												
24 Jul	S06W84	225	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 216





### *Region Summary - continued*

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 1797															
17 Jul	S19E11	222	20	4	Cro	4	B								
18 Jul	S19W02	221	10	6	Bxo	4	B								
19 Jul	S19W14	221	10	5	Bxo	2	B								
20 Jul	S19W26	220	plage												
21 Jul	S19W40	220	plage												
22 Jul	S19W54	221	plage												
23 Jul	S19W68	222	plage												
24 Jul	S19W82	223	plage								2				
								0	0	0	2	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 221

<b>Region 1798</b>															
18 Jul	S12E42	177	10	1	Bxo	2	B								
19 Jul	S12E28	179	10	1	Axx	1	A								
20 Jul	S12E14	180	10	1	Axx	1	A								
21 Jul	S12W00	180	plage												
22 Jul	S12W14	181	plage												
23 Jul	S12W28	182	plage												
24 Jul	S12W42	183	plage												
25 Jul	S12W56	183	plage												
26 Jul	S12W70	184	plage												
27 Jul	S12W84	185	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 180

### *Region Summary - continued*

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 1799															
18 Jul	S18E58	161	10	1	Axx	1	A								
19 Jul	S17E48	159	0	1	Axx	1	A								
20 Jul	S17E34	160	plage												
21 Jul	S17E20	160	plage												
22 Jul	S15E08	158	10	1	Axx	1	A								
23 Jul	S16W04	157	10	1	Axx	1	A								
24 Jul	S16W18	159	plage												
25 Jul	S16W32	159	plage												
26 Jul	S16W46	160	plage												
27 Jul	S16W60	161	plage												
28 Jul	S16W74	162	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 157

### **Region 1800**

18 Jul	S10E63	156	30		Hax	1	A	2							
19 Jul	S10E51	156	20	1	Hrx	1	A								
20 Jul	S09E37	157	20	3	Cro	2	B	1							
21 Jul	S08E22	158	80	5	Dao	11	B	2			4	1			
22 Jul	S08E08	158	60	6	Dao	8	B								
23 Jul	S07W03	156	50	7	Dso	9	BG								
24 Jul	S09W18	158	120	7	Dso	18	BG	2			1				
25 Jul	S09W32	159	120	7	Dao	14	BG	2			4				
26 Jul	S08W46	160	160	8	Dai	12	BG	2			3				
27 Jul	S08W60	161	210	7	Dao	17	BG	1			2				
28 Jul	S08W74	162	220	9	Dao	14	BG	5			11				
								17	0	0	25	1	0	0	0

Still on Disk.

Absolute heliographic longitude: 156



### ***Region Summary - continued***

Date	Location		Sunspot Characteristics					Flares							
	Lat CMD	Helio Lon	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
								C	M	X	S	1	2	3	4

#### ***Region 1801***

23 Jul	N20E66	86	60	2	Hsx	1	A								
24 Jul	N21E57	83	90	2	Hsx	1	A								
25 Jul	N20E44	83	70	2	Hsx	1	A								
26 Jul	N20E30	84	80	2	Hsx	1	A								
27 Jul	N20E16	85	90	2	Hsx	1	A								
28 Jul	N19E04	84	90	2	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 84

#### ***Region 1802***

23 Jul	N14W47	200	10	2	Bxo	2	B								
24 Jul	N14W61	202	plage												
25 Jul	N14W75	202	plage												
26 Jul	N14W89	203	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 200

#### ***Region 1803***

23 Jul	S09E11	143	10	6	Bxo	6	B								
24 Jul	S09W03	144	plage												
25 Jul	S09W17	144	plage												
26 Jul	S09W31	145	plage												
27 Jul	S09W45	146	plage												
28 Jul	S09W59	147	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

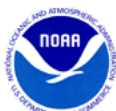
Absolute heliographic longitude: 144

#### ***Region 1804***

24 Jul	S21W71	211	10	5	Bxo	4	B				3				
25 Jul	S23W85	212	30	2	Hsx	1	A								
								0	0	0	3	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 211



### *Region Summary - continued*

Date	Location		Sunspot Characteristics					Flares							
	Lat CMD	Helio Lon	Area 10 <sup>-6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
								C	M	X	S	1	2	3	4
Region 1805															
25 Jul	S07W01	128	20	4	Cso	3	B								
26 Jul	S07W16	130	20	5	Cso	3	B								
27 Jul	S06W30	131	30	5	Cso	4	B								
28 Jul	S07W44	132	120	7	Dao	9	B	1				2			
								1	0	0		2	0	0	0

Still on Disk.

Absolute heliographic longitude: 128

### **Region 1806**

27 Jul	S16E57	44	10	1	Axx	2	A								
28 Jul	S15E47	41	40	8	Dso	4	B				1				
								0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 41

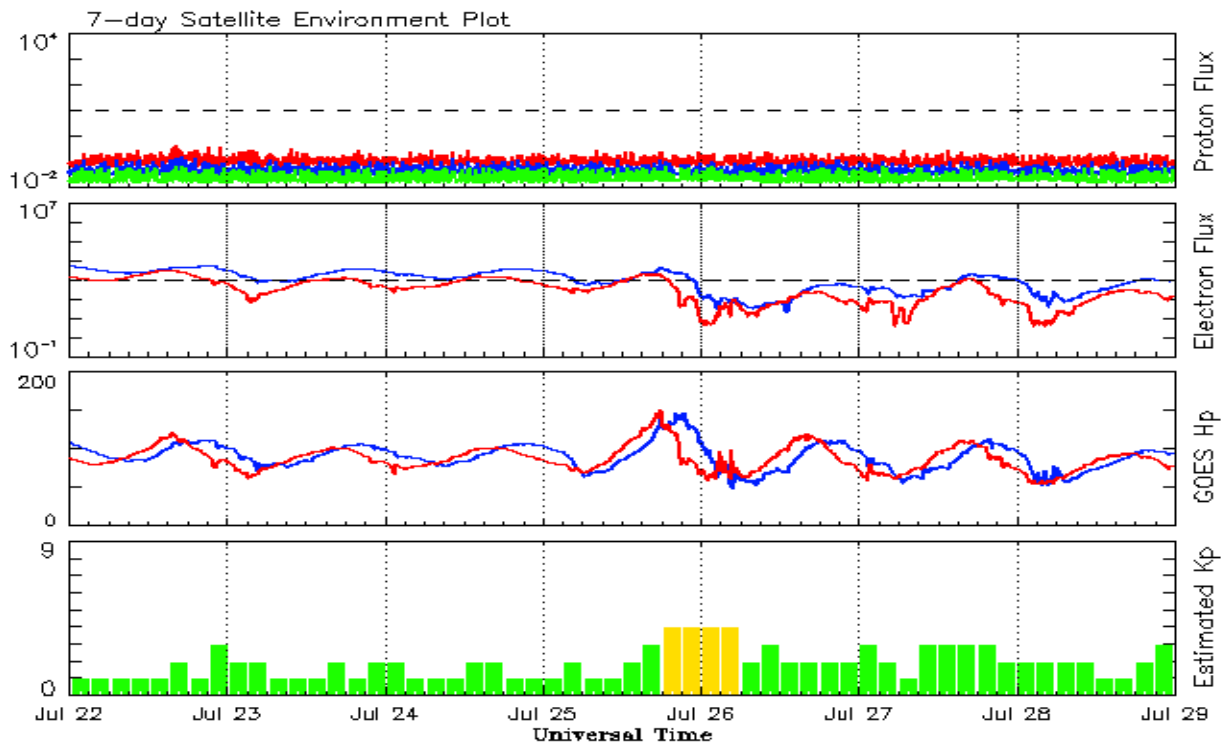


**Recent Solar Indices (preliminary)**  
**Observed monthly mean values**

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
<b>2011</b>									
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
<b>2012</b>									
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
<b>2013</b>									
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 22 July 2013*

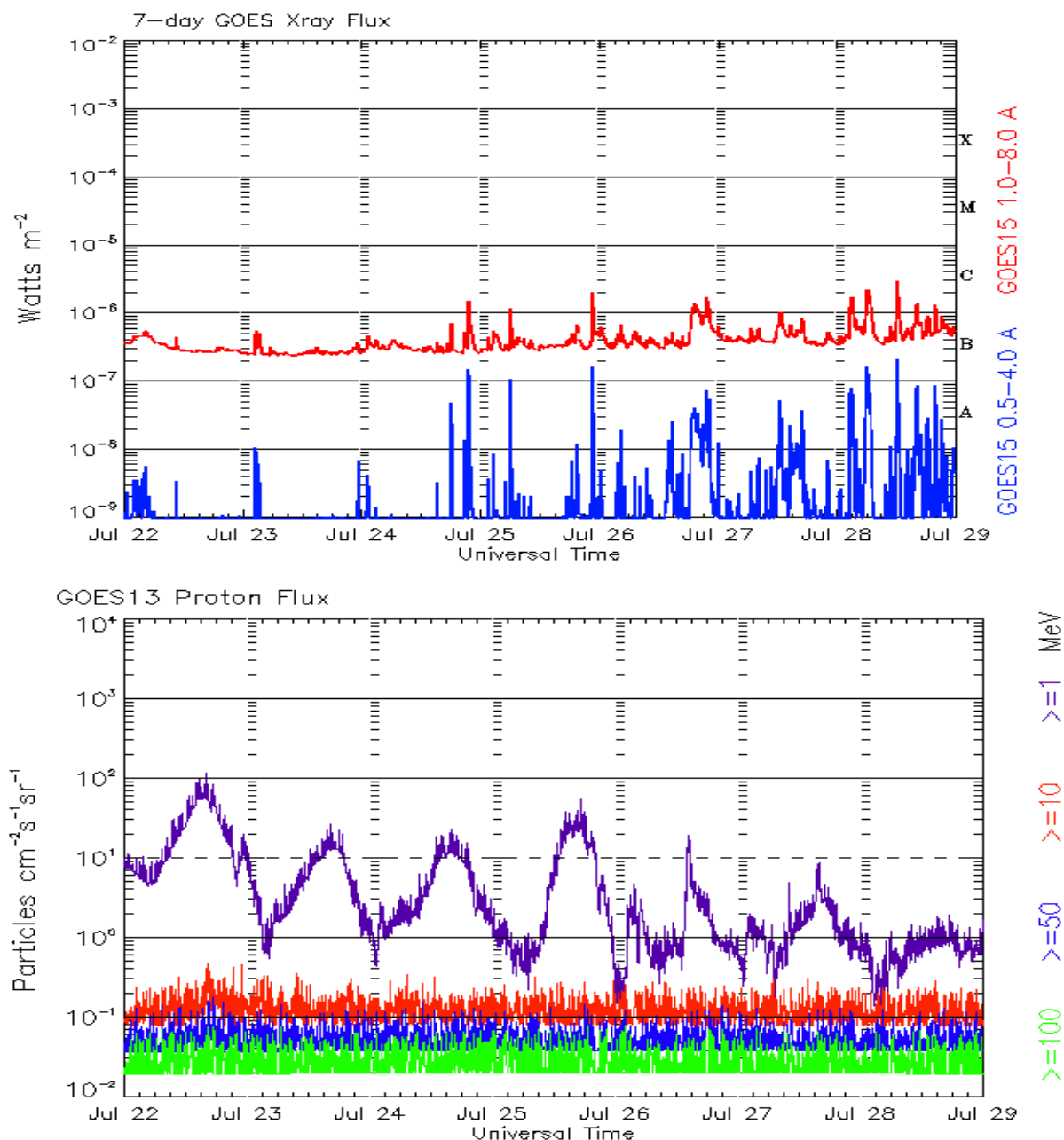
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm<sup>2</sup>-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm<sup>2</sup>-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 22 July 2013*

The x-ray plots contains five-minute averages x-ray flux ( $\text{Watt/m}^2$ ) 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/ $\text{cm}^2$  -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.



## ***Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)***

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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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