

Space Weather Highlights
12 September - 18 September 2011

SWPC PRF 1881
20 September 2011

Although by September 15th there were 11 numbered regions on the visible solar disk, solar activity was low. Region 1289 (N23, L=129, class/area, Dho/450 on 10 September) was the largest region but only managed to produce low level C-flare activity. Region 1297 (S18, L=151, class/area, Dao/60 on 16 September), numbered on the 14 September, was the most active region during the period. The region produced 12 flares, including a C9/1F on 14 September at 2051 UTC, before decaying to plage late on the 17 September. Regions 1295 (N22, L=060, class/area, Dhc/300 on 18 September) and 1290 (S15, L=139, class/area, Dsi/070 on 12 September) also produced C9 flares; a long duration C9 at 12/2054 UTC and a C9/Sf at 16/1136 UTC respectively. The remaining regions produced only low to mid level C-class activity.

The only earth-directed coronal mass ejection (CME) of the week was linked to an eruption on the 13 September in the vicinity of Region 1289 (N24W25). The full halo CME was observed in SOHO / LASCO C2 imagery at 14/0000Z with an estimated plane-of-sky speed of 428 km/s which was later refined to approximately 600 km/s using STEREO COR2 imagery.

No proton events were observed at geosynchronous orbit.

The geomagnetic field ranged from quiet to active levels at mid latitudes and briefly reached severe storm levels at high latitudes. The week began with unsettled to active levels at middle latitudes with active to major storm conditions at higher latitudes as the geomagnetic field continued to be influenced by a geoeffective coronal hole high speed stream (CH HSS). Disturbed conditions continued until mid day on the 13 September. By 14 September, the geomagnetic field had returned to quiet levels as the effects of the high speed stream waned. Quiet conditions persisted until 17 September when the CME from 13 September arrived at earth. The CME passage was first observed at the ACE spacecraft at 17/0256 UTC followed by a 21 nT sudden impulse at the Boulder magnetometer. The geomagnetic field reacted with unsettled to active conditions at mid latitudes and periods of major to severe storm levels at high latitudes. Mostly quiet conditions returned by 18 September with two active periods observed mid-day at high latitudes.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels 12-17 September.

Space Weather Outlook
21 September - 17 October 2011

Solar activity is expected to be at low to moderate levels from 21 - 23 September. On 24 September - 08 October, activity is expected to increase to moderate levels with a slight chance for major flare activity as old Region 1283 (N14, L=226) rotates onto the visible disk. Solar activity is expected to return to predominantly low to moderate levels for the remainder of the period.

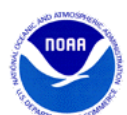
No proton events are expected at geosynchronous orbit until 23 September. There is a slight chance for a proton enhancement from 24 September until 08 October as old Region 1283



returns to the visible disk. No proton events are expected from 09 October until the end of the period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at mostly normal to moderate levels. High levels are expected on 26 - 28 September and again on 02-03, 11-13 October due to influences from coronal hole high speed streams.

Geomagnetic field activity is expected to be mostly from 21 - 25 of September. Unsettled conditions are expected on 25 and 27 September due to CH HSS activity. On 30 September to October 01, a recurrent CH-HSS is expected to bring unsettled to occasionally active periods of geomagnetic activity. Mostly quiet conditions are expected again until 08 October when another recurrent CH HSS is expected to become geoeffective. Unsettled to Active conditions are expected with minor storm periods possible at high latitudes until 11 October. Mostly quiet conditions are expected from 12 October through the end of the period.



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 September	124	97	490	B6.0	4	0	0	0	0	0	0	0
13 September	129	118	660	B5.3	3	0	0	3	0	0	0	0
14 September	143	144	890	B5.6	8	0	0	13	1	0	0	0
15 September	141	167	810	B6.0	11	0	0	8	0	0	0	0
16 September	143	173	990	B8.0	14	0	0	19	3	0	0	0
17 September	145	138	910	B8.2	2	0	0	2	0	0	0	0
18 September	150	144	1000	B9.2	6	0	0	6	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 September	8.5e+05	1.2e+04	3.0e+03		8.7e+07
13 September	5.8e+05	1.2e+04	2.8e+03		1.0e+08	
14 September	1.9e+05	1.2e+04	3.0e+03		1.9e+08	
15 September	1.6e+05	1.2e+04	3.0e+03		3.2e+08	
16 September	1.7e+05	1.3e+04	3.1e+03		3.2e+08	
17 September	2.2e+05	1.2e+04	2.7e+03		6.0e+07	
18 September	1.5e+05	1.1e+04	2.7e+03		6.6e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	12 September	17	4-3-3-3-3-3-3-3	34	3-4-3-6-5-5-4-3	27
13 September	11	3-4-3-2-2-1-1-2	28	4-5-6-4-4-1-2-2	17	4-4-4-3-2-1-1-3
14 September	5	3-0-1-2-1-1-1-1	6	2-2-2-2-2-1-1-1	4	2-1-1-1-1-1-1-2
15 September	4	1-1-1-1-1-1-2-2	4	1-1-2-1-1-1-1-1	5	1-2-1-1-1-1-2-2
16 September	2	0-0-0-1-1-1-1-0	1	1-0-0-0-0-1-0-0	2	1-0-0-0-1-1-0-1
17 September	14	0-3-3-3-4-3-3-2	57	1-2-4-6-7-7-5-2	32	0-3-3-4-6-6-4-3
18 September	5	2-1-0-2-2-1-1-2	10	2-2-0-4-4-1-0-2	5	2-1-0-1-2-1-1-3

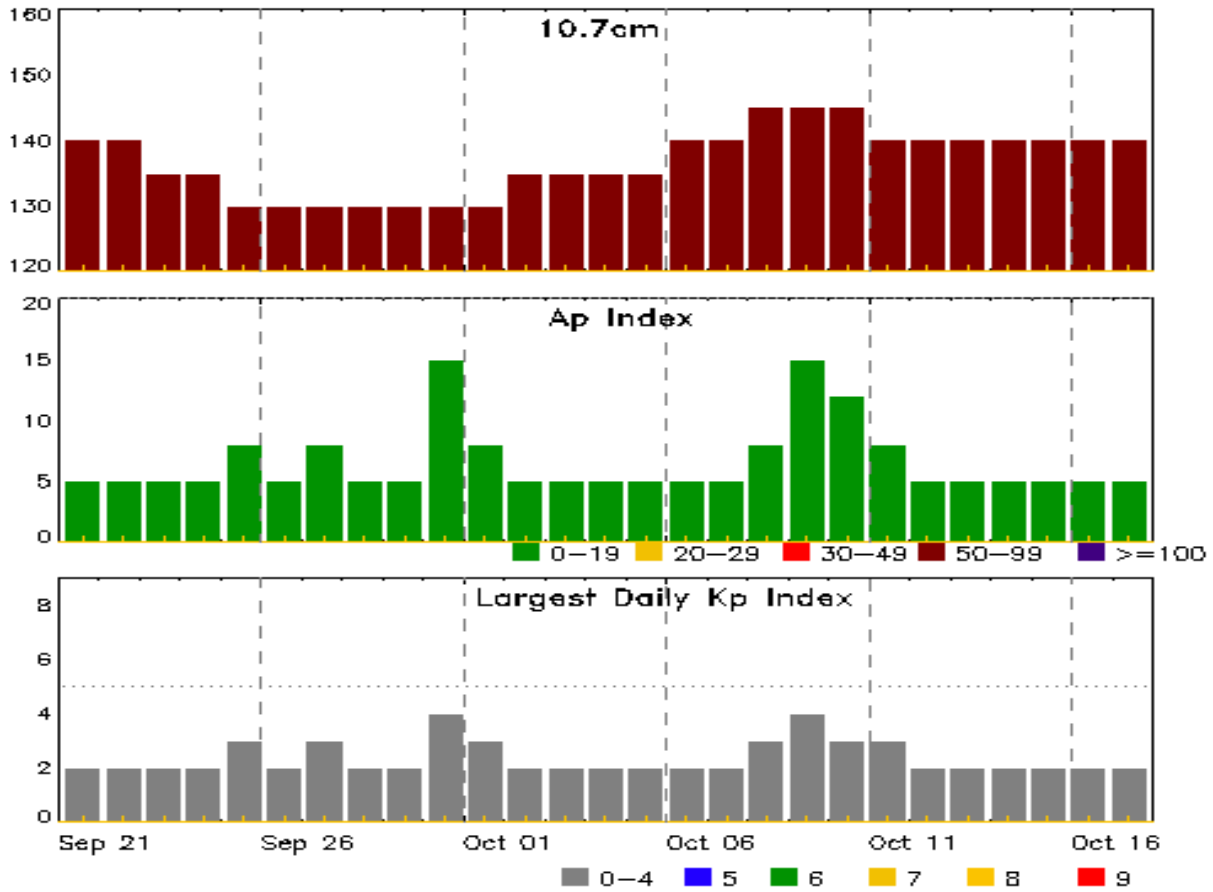


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
12 Sep 0145	WARNING: Geomagnetic K = 4	12/0145 - 1600
12 Sep 0200	ALERT: Geomagnetic K = 4	12/0200
12 Sep 1232	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12/1210
12 Sep 1402	EXTENDED WARNING: Geomagnetic K = 4	12/0145 - 2359
12 Sep 2300	EXTENDED WARNING: Geomagnetic K = 4	12/0145 - 13/1600
13 Sep 1026	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12/1210
14 Sep 1031	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12/1210
15 Sep 0505	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12/1210
16 Sep 0503	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12/1210
17 Sep 0312	WARNING: Geomagnetic Sudden Impulse expected	17/0340 - 0400
17 Sep 0354	SUMMARY: Geomagnetic Sudden Impulse	17/0345
17 Sep 0515	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	12/1210
17 Sep 0758	WARNING: Geomagnetic K = 4	17/0830 - 1500
17 Sep 0814	ALERT: Geomagnetic K = 4	17/0815
17 Sep 1323	EXTENDED WARNING: Geomagnetic K = 4	17/0830 - 2359
17 Sep 1403	WARNING: Geomagnetic K = 5	17/1404 - 1800
17 Sep 1630	ALERT: Geomagnetic K = 5	17/1629
17 Sep 1754	EXTENDED WARNING: Geomagnetic K = 5	17/1404 - 2200
17 Sep 2257	EXTENDED WARNING: Geomagnetic K = 4	17/0830 - 18/1300



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
21 Sep	140	5	2	05 Oct	135	5	2
22	140	5	2	06	140	5	2
23	135	5	2	07	140	5	2
24	135	5	2	08	145	8	3
25	130	8	3	09	145	15	4
26	130	5	2	10	145	12	3
27	130	8	3	11	140	8	3
28	130	5	2	12	140	5	2
29	130	5	2	13	140	5	2
30	130	15	4	14	140	5	2
01 Oct	130	8	3	15	140	5	2
02	135	5	2	16	140	5	2
03	135	5	2	17	140	5	2
04	135	5	2				



Energetic Events

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

No Events Observed

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location	Rgn #
	Begin	Max	End				
12 Sep	0222	0226	0230	C1.7			1292
12 Sep	0324	0329	0333	C2.0			1292
12 Sep	1215	1229	1240	C2.9			1295
12 Sep	2030	2054	2151	C9.9			1295
13 Sep	0412	0419	0432	C1.1			
13 Sep	1727	1801	1821	C1.5			
13 Sep	2118	2118	2122		SF	S27W62	1287
13 Sep	2331	2336	2350	C2.9			1295
13 Sep	2332	2333	2346		SF	N23W03	1289
13 Sep	2333	2333	2338		SF	N22E62	1295
14 Sep	0411	0418	0428	C1.8	SF	N21E61	1295
14 Sep	0829	0836	0842	C1.9			1297
14 Sep	1117	1126	1133	C2.2			1297
14 Sep	1150	1153	1156	C1.4			1296
14 Sep	1208	1211	1214		SF	S18W42	1297
14 Sep	1426	1433	1439		SF	S18W44	1297
14 Sep	1441	1442	1449		SF	S18W44	1297
14 Sep	1500	1504	1507	B9.6			1296
14 Sep	1557	1606	1614	C1.8			1297
14 Sep	1616	1626	1648	C4.2			1297
14 Sep	1804	1812	1834		SF	S18W46	1297
14 Sep	1855	1855	1858		SF	S17W48	1297
14 Sep	1857	1857	1900		SF	N17E56	1298
14 Sep	1924	1955	2028		SF	S17W49	1297
14 Sep	2000	2008	2013		SF	N27E60	1296
14 Sep	2030	2030	2038		SF	S17W49	1297
14 Sep	2042	2051	2054	C9.2	1F	S18W48	1297
14 Sep	2112	2113	2127		SF	N26E61	1296
14 Sep	2321	2347	0001		SF	N25E60	1296
14 Sep	2329	2337	2341	C3.1	SF	N22E42	1295
15 Sep	0024	0029	0032	C4.6	SF	S18W50	1297



Flare List

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
15 Sep	0159	0208	0220	C1.5			
15 Sep	0241	0246	0250	C2.3	SF	S18W49	1297
15 Sep	0304	0308	0311	C1.9			
15 Sep	0428	0432	0435	C1.3			
15 Sep	1055	1059	1102	C1.4			
15 Sep	1232	1254	1300		SF	N24W59	1291
15 Sep	1618	1626	1641	C3.0			
15 Sep	1827	1832	1838	C1.0	SF	N26E50	1296
15 Sep	1959	2004	2009		SF	S19E30	
15 Sep	2027	2035	2057		SF	N26E50	1296
15 Sep	2032	2038	2043	C1.3			
15 Sep	2059	2109	2118		SF	N26E47	1296
15 Sep	2109	2114	2119	C2.6	SF	S18W61	1297
15 Sep	2246	2253	2259	C1.7			
16 Sep	0003	0019	0027	C7.8	1F	S16W64	1297
16 Sep	0240	0257	0308	C4.5			1295
16 Sep	0247	0247	0259		SF	S16W64	1297
16 Sep	0253	0259	0311		SF	N24E44	1295
16 Sep	0411	0413	0419		SF	S18W65	1297
16 Sep	0432	0439	0508	C4.7	1F	S18W65	1297
16 Sep	0516	0524	0525		SF	S18W65	1297
16 Sep	0553	0555	0603		SF	S12W54	1290
16 Sep	0807	0810	0812	C1.8	SF	S19E24	
16 Sep	0842	0846	0849	C2.2	SF	S16W66	1297
16 Sep	1023	1028	1033		SF	N23E31	1295
16 Sep	1130	1136	1139	C9.3	SF	S12W59	1290
16 Sep	1308	1309	1312		SF	S18W69	1297
16 Sep	1448	1451	1457		SF	S12W61	1297
16 Sep	1505	1508	1512	C2.0	1F	S13W62	1290
16 Sep	1528	1531	1534	C2.0			
16 Sep	1709	1721	1727	C2.2	SF	N25E36	1296
16 Sep	1730	1731	1827	C1.4	SF	S14W60	1290
16 Sep	1840	1844	1847	C2.2			
16 Sep	1926	1931	1933	C1.5	SF	S19W73	1297
16 Sep	2112	2112	2121		SF	S14W67	1290
16 Sep	2135	2136	2141		SF	S19W75	1297
16 Sep	2209	2213	2245	C1.4	SF	S13W68	1290
16 Sep	2254	2255	2307		SF	N23E28	1295



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/Brtns	Location Lat CMD	Rgn #
16 Sep	2302	2302	2308		SF	S14W69	1290
16 Sep	2309	2351	0044	C2.6			1289
17 Sep	0603	0606	0617		SF	S20E11	1299
17 Sep	0805	0808	0810	C1.4			1290
17 Sep	1047	1050	1052	C1.1			
17 Sep	1516	1518	1525		SF	N25E20	1295
18 Sep	0126	0130	0132	C1.6			
18 Sep	0359	0402	0405	C1.2			
18 Sep	0732	0735	0737	C2.9			1301
18 Sep	0948	1057	1137	C3.8			1295
18 Sep	1023	1100	1107		SF	N22W00	1295
18 Sep	1256	1258	1305		SF	N21E87	
18 Sep	1347	1352	1356		SF	N23W03	1295
18 Sep	1548	1552	1558	C2.0	SF	N23W03	1295
18 Sep	2133	2135	2137		SF	N22W08	1295
18 Sep	2223	2227	2229	C1.6			1295
18 Sep	2235	2237	2250		SF	N23E03	1296



Region Summary

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
									C	M	X	S	1	2	3	4		
Region 1287																		
03 Sep	S30E64	183	30	3	Cao	3	B	1										
04 Sep	S32E51	183	80	9	Cso	3	B					1						
05 Sep	S31E38	183	80	9	Cso	5	B											
06 Sep	S31E25	181	100	8	Cso	5	B											
07 Sep	S30E09	185	100	2	Hsx	1	A											
08 Sep	S30W05	186	60	2	Hsx	1	A											
09 Sep	S29W16	183	60	2	Hsx	2	A					1						
10 Sep	S29W28	183	70	1	Hsx	2	A											
11 Sep	S28W42	183	60	1	Hsx	2	A											
12 Sep	S29W53	181	50	3	Cso	2	B											
13 Sep	S27W68	182	80	8	Dso	3	B					1						
14 Sep	S27W78	179	170	8	Dso	4	B											
15 Sep	S28W83	176	10	3	Hsx	1	A											
								1	0	0	3	0	0	0	0	0		

Crossed West Limb.
Absolute heliographic longitude: 186

Region 1288																		
05 Sep	N18E34	185	10	3	Bxo	3	B											
06 Sep	N19E20	186	0		Axx	1	A											
07 Sep	N19E06	188	plage															
08 Sep	N19W08	189	plage															
09 Sep	N19W22	190	plage															
10 Sep	N19W36	191	plage															
11 Sep	N19W50	191	plage															
12 Sep	N19W64	192	plage															
13 Sep	N19W78	193	plage															
								0	0	0	0	0	0	0	0	0		

Crossed West Limb.
Absolute heliographic longitude: 188



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 1289																		
06 Sep	N24E78	129	190	3	Hsx	1	A											
07 Sep	N23E66	128	280	6	Cho	3	B											
08 Sep	N21E51	129	370	6	Cho	4	B	1				1						
09 Sep	N22E37	130	380	5	Dho	6	B					1						
10 Sep	N23E24	129	450	6	Dho	11	B	1										
11 Sep	N22E12	128	430	6	Dko	16	B											
12 Sep	N22W00	128	300	5	Cko	6	B											
13 Sep	N23W08	126	350	7	Cko	10	B					1						
14 Sep	N24W25	126	400	6	Cho	9	B											
15 Sep	N22W39	128	300	5	Cho	5	B											
16 Sep	N22W51	126	310	7	Cko	5	B	1										
17 Sep	N22W67	128	380	4	Hhx	5	A											
18 Sep	N23W79	127	310	4	Hhx	4	A											
								3	0	0	3	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 128

Region 1290																		
09 Sep	S15E29	137	30	3	Cro	5	B											
10 Sep	S15E16	137	50	5	Dro	5	B											
11 Sep	S15E03	138	70	7	Dso	10	B											
12 Sep	S15W11	139	70	7	Dsi	10	B											
13 Sep	S14W25	139	70	8	Dao	8	B											
14 Sep	S13W38	139	30	8	Cro	4	B											
15 Sep	S13W55	143	10	3	Axx	2	A											
16 Sep	S13W69	143	10	2	Bxo	3	B	4				6	1					
17 Sep	S13W84	145	10	9	Bxo	4	B	1										
								5	0	0	6	1	0	0	0	0		

Crossed West Limb.

Absolute heliographic longitude: 138



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares																
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical											
									C	M	X	S	1	2	3	4							
Region 1291																							
10 Sep	N23W03	156	10	3	Dro	2	B																
11 Sep	N23W15	156	10	4	Bxo	2	B																
12 Sep	N23W29	157	plage																				
13 Sep	N23W43	158	plage																				
14 Sep	N23W57	159	plage																				
15 Sep	N22W69	157	50	5	Cro	3	B					1											
16 Sep	N24W82	157	90	9	Dao	3	B																
17 Sep	N21W93	154	10	1	Bxo	2	B																
												0	0	0	1	0	0	0	0	0	0		

Crossed West Limb.
Absolute heliographic longitude: 156

Region 1292																							
11 Sep	N08E66	74	40	4	Bxo	2	B																
12 Sep	N08E52	76	10	4	Bxo	3	B	2															
13 Sep	N09E38	76	50	6	Cao	5	B																
14 Sep	N08E24	77	30	4	Cro	2	B																
15 Sep	N10E08	79	20	1	Hrx	1	A																
16 Sep	N09W04	78	20	1	Hrx	1	A																
17 Sep	N10W17	78	20	1	Hrx	1	A																
18 Sep	N10W31	80	plage																				
												2	0	0	0	0	0	0	0	0	0		

Still on Disk.
Absolute heliographic longitude: 78

Region 1293																							
12 Sep	N17W11	139	20	3	Dso	3	B																
13 Sep	N17W25	140	10	3	Bxo	3	B																
14 Sep	N18W38	139	20	3	Cso	3	B																
15 Sep	N17W51	139	50	4	Dao	5	B																
16 Sep	N17W65	139	10	3	Bxo	2	B																
17 Sep	N17W79	141	plage																				
												0	0	0	0	0	0	0	0	0	0		

Crossed West Limb.
Absolute heliographic longitude: 139



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares														
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical									
									C	M	X	S	1	2	3	4					
Region 1294																					
12 Sep	S18E27	101	10	4	Bxo	2	B														
13 Sep	S18E13	102	20	5	Cso	5	B														
14 Sep	S17W02	103	50	6	Cso	7	B														
15 Sep	S17W14	102	20	6	Cro	7	B														
16 Sep	S16W31	105	20	5	Cro	1	B														
17 Sep	S16W45	106	10	1	Hrx	1	A														
18 Sep	S16W59	108	plage																		
										0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 103

Region 1295																					
12 Sep	N21E72	56	30	1	Hsx	1	A	2													
13 Sep	N21E58	57	30	1	Cso	2	B	1				1									
14 Sep	N20E51	57	50	4	Cso	4	B	2				2									
15 Sep	N22E30	57	130	6	Dai	16	B														
16 Sep	N22E17	57	240	8	Dai	23	BG	1				3									
17 Sep	N22E04	57	210	10	Dai	17	B					1									
18 Sep	N22W12	60	300	8	Dhc	26	BG	3				4									
								9	0	0	0	11	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 57

Region 1296																					
13 Sep	N27E70	44	50	8	Dso	2	B														
14 Sep	N26E55	45	60	9	Dso	3	B	1				3									
15 Sep	N27E40	45	130	7	Dai	8	B	1				3									
16 Sep	N26E31	43	130	7	Dao	8	B	1				1									
17 Sep	N25E19	41	130	7	Cao	9	B														
18 Sep	N25E06	41	100	5	Dso	11	B					1									
								3	0	0	0	8	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 41



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical					
									C	M	X	S	1	2	3	4	
Region 1297																	
14 Sep	S16W52	153	40	4	Dao	4	B	5				7	1				
15 Sep	S18W64	152	50	5	Dao	4	B	3				3					
16 Sep	S18W77	151	60	9	Dao	2	B	4				8	2				
17 Sep	S18W90	151	plage														
								12	0	0	18	3	0	0	0	0	

Crossed West Limb.
Absolute heliographic longitude: 153

Region 1298																	
14 Sep	N16E52	49	40	4	Cso	4	B					1					
15 Sep	N16E38	50	40	7	Dso	5	B										
16 Sep	N15E23	50	70	9	Dso	7	B										
17 Sep	N15E09	51	100	8	Dso	3	B										
18 Sep	N15W06	54	30	7	Cro	7	B										
								0	0	0	1	0	0	0	0	0	

Still on Disk.
Absolute heliographic longitude: 54

Region 1299																	
16 Sep	S21E11	62	30	7	Cro	8	B										
17 Sep	S20W02	63	40	6	Dso	6	B					1					
18 Sep	S20W15	60	110	8	Dai	17	B										
								0	0	0	1	0	0	0	0	0	

Still on Disk.
Absolute heliographic longitude: 63

Region 1300																	
18 Sep	N24W45	93	90	5	Cso	7	B										
								0	0	0	0	0	0	0	0	0	

Still on Disk.
Absolute heliographic longitude: 93

Region 1301																	
18 Sep	N21E77	331	60	3	Dso	2	B	1									
								1	0	0	0	0	0	0	0	0	

Still on Disk.
Absolute heliographic longitude: 331

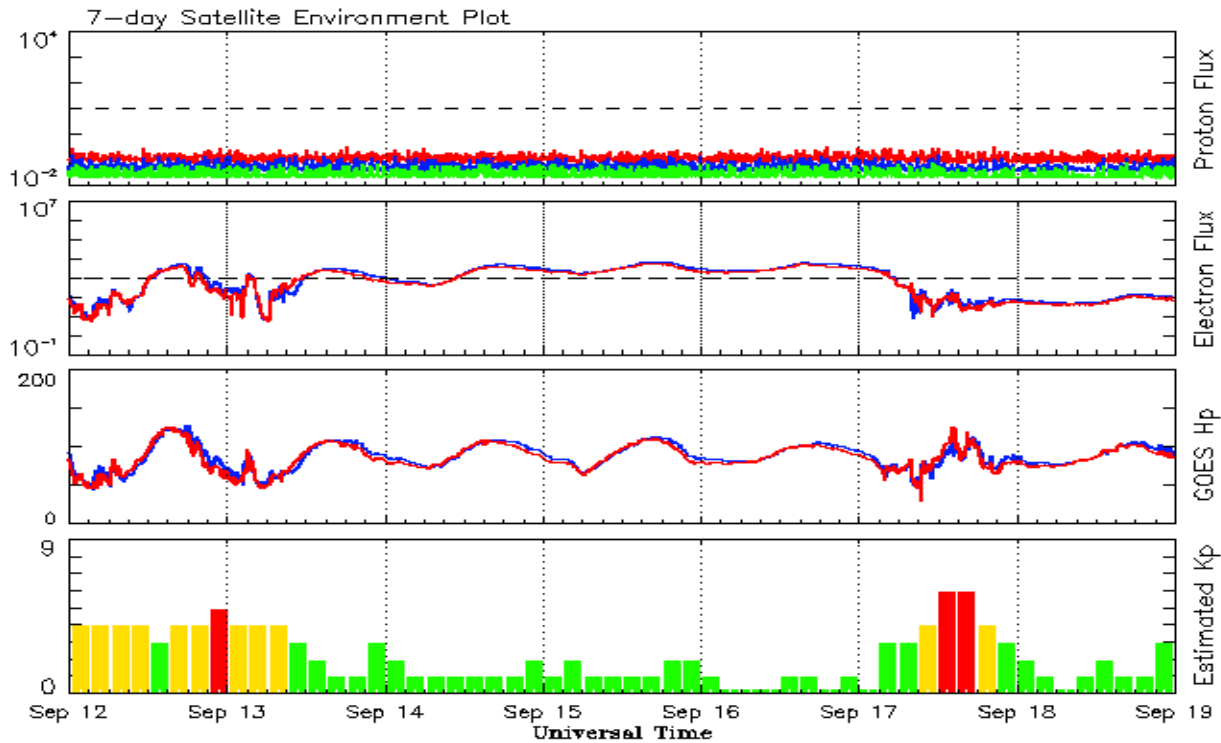


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2009									
September	6.6	4.3	0.64	9.9	6.2	70.5	73.3	4	3.8
October	7.0	4.8	0.66	11.3	7.1	72.3	74.1	3	4.1
November	7.7	4.1	0.55	12.4	7.6	73.6	74.5	3	4.5
December	15.7	10.8	0.68	13.6	8.3	76.8	74.9	2	4.8
2010									
January	21.3	13.2	0.62	14.8	9.3	81.1	75.5	3	5.0
February	31.0	18.8	0.60	16.7	10.6	84.7	76.5	5	5.1
March	24.7	15.4	0.62	19.1	12.3	83.3	77.5	5	5.3
April	11.2	8.0	0.71	21.4	14.0	75.9	78.3	10	5.5
May	19.9	8.7	0.44	23.8	15.5	73.8	79.0	8	5.7
June	17.9	13.6	0.75	25.2	16.4	72.6	79.7	7	5.8
July	23.1	16.1	0.70	25.9	16.7	79.9	80.1	5	6.0
August	28.2	19.6	0.70	27.3	17.4	79.7	80.7	8	6.2
September	35.6	25.2	0.71	30.6	19.6	81.1	82.4	5	6.3
October	35.0	23.5	0.67	35.9	23.2	81.6	85.3	6	6.4
November	36.1	21.5	0.60	40.5	26.5	82.5	87.7	5	6.4
December	22.0	14.4	0.66	43.8	28.8	84.3	89.6	4	6.5
2011									
January	32.1	18.8	0.59	47.2	31.0	83.7	91.2	6	6.7
February	53.2	29.6	0.55	50.6	33.4	94.5	92.7	6	6.8
March	81.0	55.8	0.69			115.3		7	
April	81.7	54.4	0.67			112.6		9	
May	61.4	41.6	0.68			95.9		9	
June	55.5	37.0	0.67			95.8		8	
July	67.0	43.9	0.66			94.2		9	
August	66.1	50.6	0.77			101.7		8	

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 September 2011*

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.

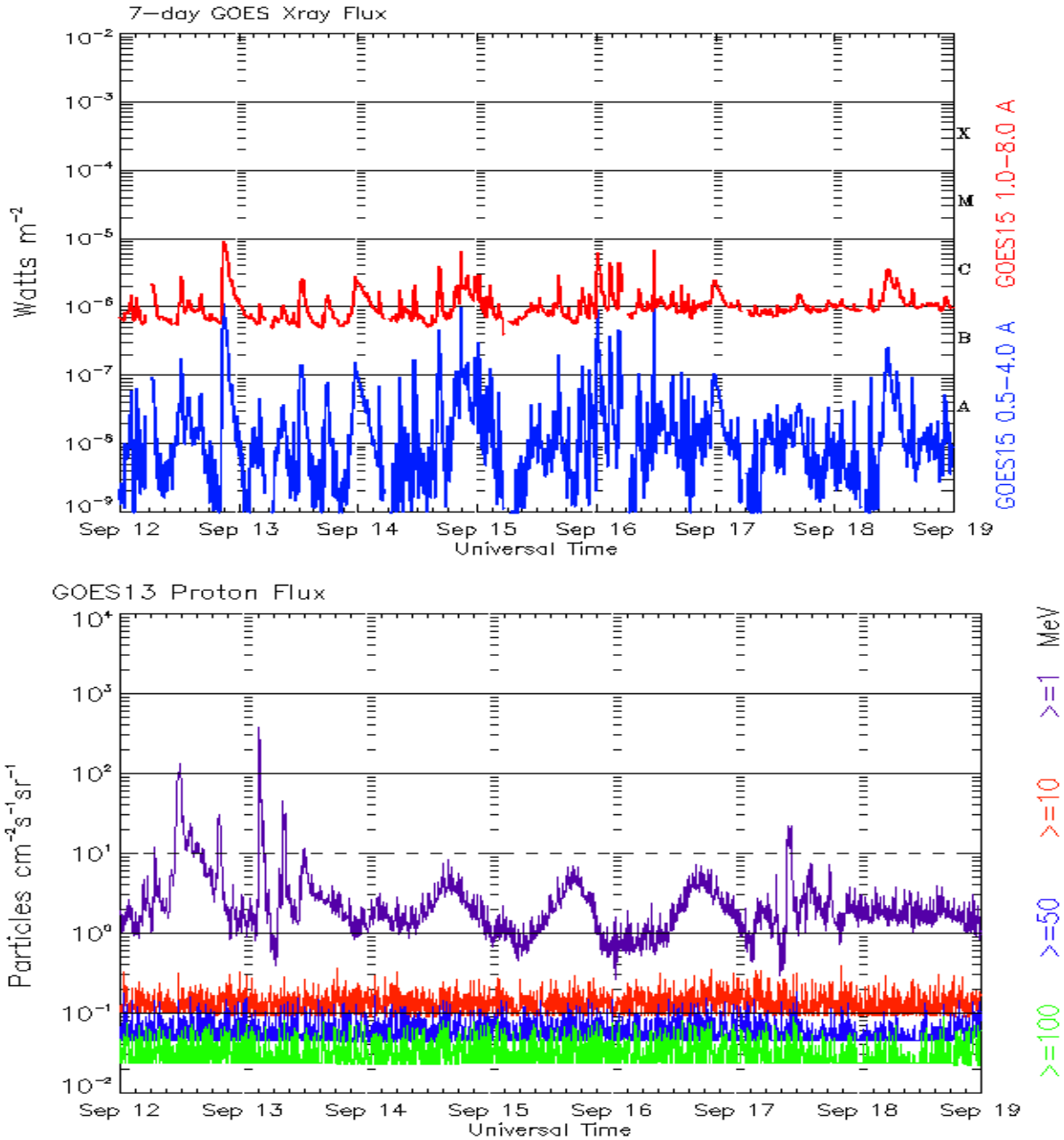
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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.

Kp 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 Kp values derived from a more extensive network of magnetometers.

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 September 2011*

The x-ray plots contains five-minute averages x-ray flux (Watt/m²) 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/cm² -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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