

Solar activity increased to high levels this week with an M5/2b flare at 28/0258 UTC from Region 2173 (S17, L=250, class/area=Dac/160 on 28 Sep). Dimming was evident in SDO/AIA 193 imagery across the disk to the SW in conjunction with the flare. Associated with the event were weak multi-spectral radio emissions including a 10cm Burst (220 sfu), a Type II Sweep (638 km/s shock velocity) and a weak, short-lived Type IV Sweep. Limited LASCO depicted a narrow coronal mass ejection (CME) lifting off the SSW limb, not judged to be Earth-directed. An M1/Sf flare was also observed at 28/1733 UTC from Region 2173, accompanied by weak multi-spectral radio emissions.

Region 2173 was part of a large group of complex active regions in the southern hemisphere, including Regions 2172 (S11, L=239, class/area=Ekc/570 on 23 Sep) and 2171 (S10, L=264, class/area=Eai/160 on 21 Sep). Both Region 2173 and 2172 had developed beta-gamma magnetic configurations by the end of the week. Region 2172 produced an M2/2b flare on 23/2316 UTC and several C-class flares throughout the period. The M-flare was associated with 250 sfu Tenflare along with Type II (est. speed 652 km/s) and Type IV radio sweeps. A CME was subsequently observed at 23/2348 UTC on the east limb in Lasco C2 imagery. The next day, the same region produced a C7/1n flare 24/1750 UTC with an associated 190 sfu Tenflare and a Type IV radio sweep. No CME was correlated with this event. Activity from Region 2171 was limited to a single C-class flare on 25 Sep.

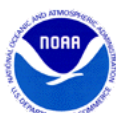
Complex regions were present in the Northern Hemisphere as well. Region 2175 (N16, L=262, class/area=Dkc/390 on 28 Sep) emerged on the disk on 25 Sep and had developed a beta-gamma-delta magnetic configuration by the 26th. It continued to grow rapidly through the remainder of the week while maintaining its complex magnetic characteristics. The region, however, was only responsible for C-class activity. Region 2177 (N12, L=168, class/area=Eai/120 on 28 Sep) developed a beta-gamma configuration on 28 Sep, but only produced a few C-class flares.

The remaining M-class flare (M1) occurred on 27/0837 as Region 2178 (S03, L=151, class/area=Cao/50) rounded the east limb. The remaining regions on the disk were generally stable and no significant filament eruptions were observed.

No proton events meeting alert criteria were observed at geosynchronous orbit, however, there was a slight elevation in 10 MeV protons on 22 Sep, reaching a peak flux of 2 pfu at 1300 UTC.

The greater than 2 MeV electron flux at geosynchronous orbit reached moderate levels on 22-25 Sep, and high levels on 26-28 Sep.

The geomagnetic field activity ranged from quiet to active levels, with minor to severe storm periods observed at high latitudes. The week began with a solar sector boundary crossing (negative to positive) early on 22 Sep. This heralded the arrival of a positive polarity coronal hole high speed stream and disturbed geomagnetic conditions. Solar wind speed was predominantly in the 400 km/s to 470 km/s range with total field ranging from 3 nT to 8 nT.



From 22-23 September, quiet to unsettled conditions were observed. By 24 September, Bz had become mostly negative and the day was characterized by predominantly active conditions. Minor to major storm periods were observed at high latitudes, and a single severe storm period was recorded. The agitated conditions relented somewhat on 25-26 September, when mostly quiet to unsettled conditions were observed. However, Major storm periods were still being recorded at high latitudes on the 26th. September 27th began with active conditions, but eventually subsided to quiet to unsettled levels by the 28th as the solar wind speed slackened slightly and the magnetic field relaxed.

Space Weather Outlook 29 September - 25 October 2014

Solar activity is expected to be at low to moderate levels (R1-R2, Minor-Moderate) with a slight chance for X-class flaring (R3-Strong or greater) for the forecast period (29 Sep-25 Oct) due to potential significant flare activity from Regions 2172, 2173, and 2175 as well as the return of old Regions 2157 (S15, L=099) and 2158 (N16, L=089) on 29 and 30 Sep, respectively.

A slight chance for a greater than 10 MeV proton event (S1-Minor and above) exists for the forecast period (29 Sep-25 Oct) due to potential significant flare activity from Regions 2172, 2173, and 2175 as well as the return of old Regions 2157 and 2158.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels with high levels possible from 29 Sep-02 Oct and again on 22-25 Oct due to coronal hole high speed stream (CH HSS) influence.

Geomagnetic field activity is expected to be at quiet to unsettled levels from 29 Sep-02 Oct, 15, 17,19-20 and 25 Oct. Unsettled to active levels are expected on 16 and 21-24 Oct due to CH HSS activity.



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
22 September	130	87	670	B4.7	1	0	0	2	0	0	0	0
23 September	138	90	830	B5.7	1	1	0	4	0	1	0	0
24 September	145	76	590	B6.1	3	0	0	5	1	0	0	0
25 September	158	139	690	C1.0	3	0	0	25	0	0	0	0
26 September	170	203	1020	C1.1	7	0	0	22	2	0	0	0
27 September	181	159	1180	C1.0	4	1	0	12	0	0	0	0
28 September	181	200	1370	C1.3	4	2	0	18	1	1	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
	22 September	6.2e+05	5.4e+04	3.3e+03		4.1e+06
23 September	3.2e+05	1.9e+04	2.9e+03		4.4e+06	
24 September	3.5e+05	1.1e+04	2.7e+03		7.4e+06	
25 September	2.1e+05	1.5e+04	3.9e+03		2.3e+07	
26 September	2.4e+05	1.4e+04	3.0e+03		1.9e+07	
27 September	1.5e+05	1.2e+04	2.4e+03		3.0e+07	
28 September	1.1e+05	1.3e+04	2.6e+03		3.4e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	22 September	9	1-3-2-2-3-2-2-2	16	1-2-3-4-5-3-2-2	9
23 September	9	3-1-2-2-2-2-2-3	18	1-1-3-5-5-3-2-2	11	3-2-2-2-3-3-3-3
24 September	19	3-4-2-4-4-2-3-4	57	4-5-6-7-6-5-3-3	25	4-4-3-4-4-3-3-4
25 September	13	4-2-3-2-3-2-2-3	18	3-3-3-5-4-2-2-2	13	4-3-3-3-2-2-2-3
26 September	12	2-3-3-2-3-3-2-3	37	3-2-3-6-6-6-3-2	14	3-3-3-2-3-3-2-3
27 September	12	4-3-3-2-3-2-2-1	32	3-5-6-5-4-4-2-2	15	4-4-3-3-3-2-2-1
28 September	6	1-2-2-2-3-2-1-0	13	2-1-2-4-4-4-1-1	8	2-2-2-3-3-2-2-1

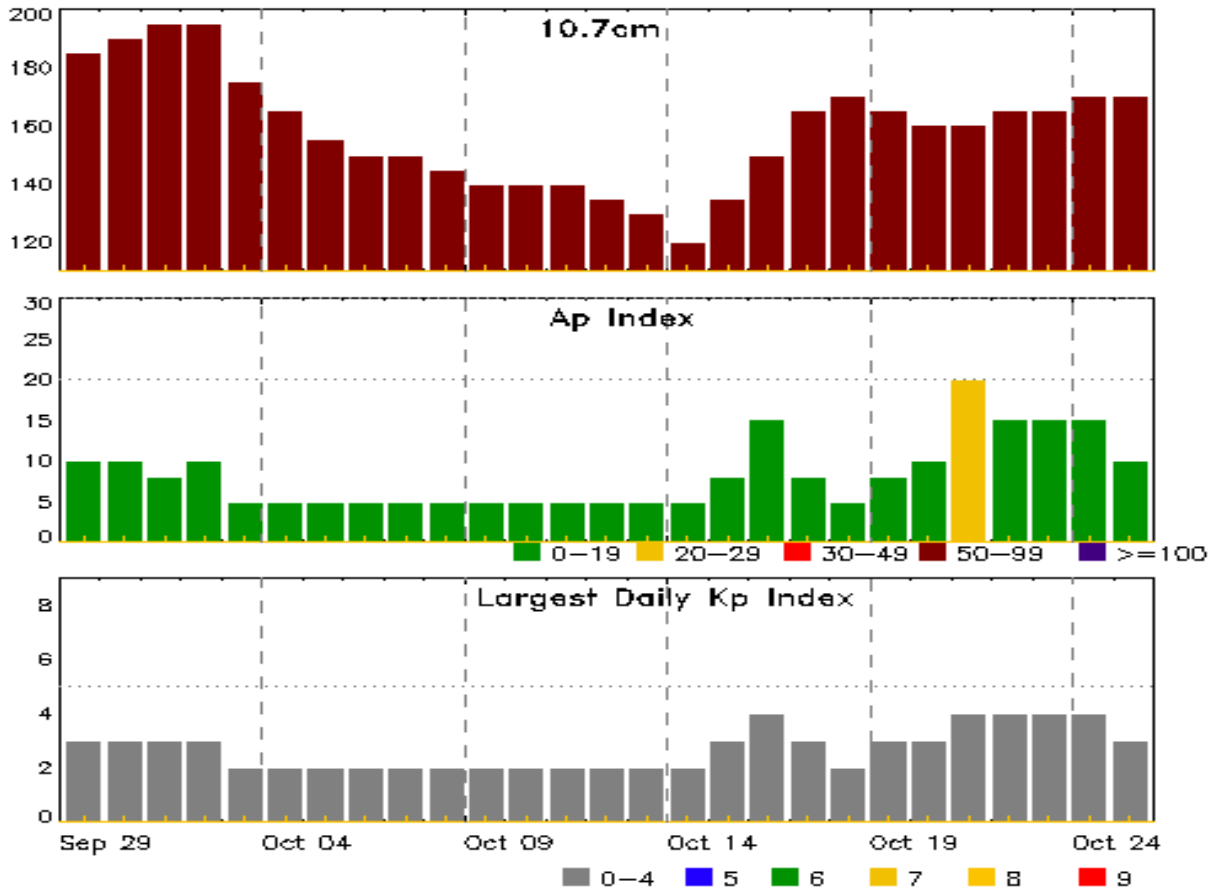


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
23 Sep 2349	ALERT: Type II Radio Emission	23/2314
23 Sep 2350	SUMMARY: 10cm Radio Burst	23/2307 - 2312
23 Sep 2359	ALERT: Type IV Radio Emission	23/2340
24 Sep 0030	WARNING: Geomagnetic K = 4	24/0030 - 1000
24 Sep 0230	ALERT: Geomagnetic K = 4	24/0228
24 Sep 0327	WARNING: Geomagnetic K = 5	24/0330 - 1000
24 Sep 0949	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 1400
24 Sep 1104	WARNING: Geomagnetic K = 5	24/1105 - 1400
24 Sep 1322	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 25/0700
24 Sep 1344	EXTENDED WARNING: Geomagnetic K = 5	24/1105 - 1900
25 Sep 0002	ALERT: Type IV Radio Emission	24/1749
25 Sep 0004	SUMMARY: 10cm Radio Burst	24/1749 - 1749
25 Sep 0654	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 25/1400
25 Sep 1344	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 26/1600
26 Sep 1421	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	26/1355
26 Sep 1555	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 27/1600
27 Sep 0302	WARNING: Geomagnetic K = 5	27/0300 - 1600
27 Sep 1555	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 28/1600
27 Sep 1623	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	26/1355
28 Sep 0300	ALERT: X-ray Flux exceeded M5	28/0258
28 Sep 0316	SUMMARY: 10cm Radio Burst	28/0243 - 0248
28 Sep 0316	ALERT: Type II Radio Emission	28/0245
28 Sep 0351	SUMMARY: X-ray Event exceeded M5	28/0239 - 0319
28 Sep 0356	ALERT: Type IV Radio Emission	28/0311
28 Sep 1428	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	26/1355
28 Sep 1558	EXTENDED WARNING: Geomagnetic K = 4	24/0030 - 29/0100



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 Sep	185	10	3	13 Oct	130	5	2
30	190	10	3	14	120	5	2
01 Oct	195	8	3	15	135	8	3
02	195	10	3	16	150	15	4
03	175	5	2	17	165	8	3
04	165	5	2	18	170	5	2
05	155	5	2	19	165	8	3
06	150	5	2	20	160	10	3
07	150	5	2	21	160	20	4
08	145	5	2	22	165	15	4
09	140	5	2	23	165	15	4
10	140	5	2	24	170	15	4
11	140	5	2	25	170	10	3
12	135	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 245	Radio Flux 2695	Intensity II	Intensity IV
23 Sep	2303	2316	2328	M2.3	0.022	2B	S13E33	2172	380	250	2	1
27 Sep	0832	0837	0840	M1.0	0.003			2178				
28 Sep	0239	0258	0319	M5.1	0.079	2B	S13W23	2173	160	220	1	1
28 Sep	1634	1733	1800	M1.0	0.029	SF	S15W30	2173		19		

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
22 Sep	0849	0850	0853		SF	S10E37	2171
22 Sep	1044	1045	1046		SF	N12W74	
22 Sep	1912	1951	2008	C1.6			2172
23 Sep	1528	1536	1539	C1.1	SF	S12E48	2172
23 Sep	1813	1813	1821		SF	S09E41	2172
23 Sep	1841	1844	1852		SF	S09E41	2172
23 Sep	2044	2058	2110	B9.6			
23 Sep	2248	2251	2258		SF	S11E39	2172
23 Sep	2301	2309	0010	M2.3	2B	S13E33	2172
24 Sep	0210	0210	0222		SF	S10E38	2172
24 Sep	0542	0542	0545		SF	S09E36	2172
24 Sep	1338	1339	1342		SF	S10E31	2172
24 Sep	1601	1611	1614	C1.8	SF	S12E25	2172
24 Sep	1745	1750	1752	C7.0	1N	S13E24	2172
24 Sep	1917	1921	1929		SF	N13E05	
24 Sep	2336	2342	2354	C4.8			2177
25 Sep	0226	0230	0231		SF	N16E00	
25 Sep	0240	0242	0245		SF	N16E00	
25 Sep	0358	0358	0402		SF	N14W00	
25 Sep	0405	0429	0525		SF	N14W00	2167
25 Sep	0406	0408	0411		SF	N11W89	2167
25 Sep	0810	0810	0820		SF	N13W04	
25 Sep	0944	0945	0948		SF	S14E12	2172
25 Sep	1347	1353	1356	C2.5			2175
25 Sep	1457	1502	1515		SF	N14W04	2175
25 Sep	1528	1528	1533		SF	N13W06	2175
25 Sep	1609	1611	1615		SF	N14W04	2175



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
25 Sep	1639	1640	1655		SF	N14W04	2175
25 Sep	1716	1726	1759		SF	N15W06	2175
25 Sep	1842	1844	1847		SF	N13W08	2175
25 Sep	1912	2032	2147	C3.2			2171
25 Sep	1936	1938	1941		SF	S13E17	2172
25 Sep	1938	1940	1943		SF	N14W06	2175
25 Sep	1945	2031	2057		SF	S15E19	2172
25 Sep	1946	1953	1959		SF	N14W06	2175
25 Sep	2051	2052	2101		SF	N14W07	2175
25 Sep	2102	2105	2108		SF	S12E15	2172
25 Sep	2149	2209	2231	C5.6	SF	N13W10	2175
25 Sep	2216	2218	2224		SF	S09E16	2172
25 Sep	2226	2227	2229		SF	S09E16	2172
25 Sep	B2230	2246	2250		SF	N15W10	2175
25 Sep	2321	2329	2338		SF	S09E16	2172
25 Sep	2325	2326	2332		SF	N14W08	2175
26 Sep	0041	0046	0053	C1.6	SF	S15E01	2172
26 Sep	0321	0324	0327		SF	N16W12	2175
26 Sep	0327	0331	0334		SF	N16W12	2175
26 Sep	0419	0544	0659	C8.6			2175
26 Sep	0421	0423	0445		SF	S09E11	2172
26 Sep	0422	0430	0446		SF	N16W13	2175
26 Sep	0451	0509	0556		1F	S07W17	2171
26 Sep	0542	0544	0546		SF	N18W12	2175
26 Sep	0559	0614	0653		SF	N18W12	2175
26 Sep	0617	0623	0659		SF	S14W01	2172
26 Sep	0706	0710	0723		SF	N18W12	2175
26 Sep	0912	0912	0915		SF	S09E10	2172
26 Sep	B1217	U1218	A1223		SF	S12E09	2172
26 Sep	1236	1255	1258	C3.7			2177
26 Sep	B1239	U1241	A1304		SF	N15W17	2175
26 Sep	B1250	U1255	A1304		SF	N15E74	2177
26 Sep	1322	U1323	1326		SF	N15W18	2175
26 Sep	1340	1342	1343		SF	N15W18	2175
26 Sep	1350	1354	1356	C4.2	1N	S11E04	2172
26 Sep	B1425	U1425	A1433		SF	S14E07	2172
26 Sep	1613	1618	1625	C7.9	SF	N13E75	2177
26 Sep	1633	1700	1717		SF	N15W21	2175



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
26 Sep	1738	1749	1757		SF	N15W22	2175
26 Sep	1809	1811	1817		SF	N15W21	2175
26 Sep	1934	1938	1941	C1.6			
26 Sep	2209	2212	2220		SF	S11W01	2172
26 Sep	2228	2228	2233		SF	N14E72	2177
26 Sep	2306	2310	2314	C3.5			
27 Sep	0010	0014	0024	C2.2	SF	S15W10	2173
27 Sep	0645	0650	0655	C2.4	SF	S18W15	2173
27 Sep	0735	0741	0742		SF	S18W15	2173
27 Sep	0832	0837	0840	M1.0			2178
27 Sep	B0905	U0906	A0913		SF	S18W18	2173
27 Sep	0917	0919	0924		SF	N13W27	2175
27 Sep	1315	1316	1325		SF	S18W18	2173
27 Sep	1328	1333	1353		SF	S16W17	2173
27 Sep	1427	1427	1428		SF	S16W20	2173
27 Sep	1532	1551	1613	C2.3			2172
27 Sep	1533	1536	1551		SF	S17W20	2173
27 Sep	1545	1547	1610		SF	S10W09	2172
27 Sep	1919	1951	2001	C2.7	SF	S13W11	2172
27 Sep	2329	2332	2349		SF	S12W14	2172
28 Sep	0109	0116	0128	C3.4	SF	S10W16	2172
28 Sep	0147	0151	0202		SF	S10W16	2172
28 Sep	0228	0233	0241		SF	N16W38	2175
28 Sep	0239	0258	0319	M5.1	2B	S13W23	2173
28 Sep	0250	0253	0258		SF	N16W38	2175
28 Sep	0507	0511	0513		SF	S10W17	2172
28 Sep	0553	0553	0555		SF	N16W40	2175
28 Sep	0659	0704	0729	C6.3	SF	S17W29	2173
28 Sep	0704	0713	0724		SF	N16W40	2175
28 Sep	0901	0903	0916		1F	S11W17	2172
28 Sep	0912	0914	0925		SF	S17W31	2173
28 Sep	0918	0922	0929		SF	S11W17	2172
28 Sep	1055	1059	1102	C2.9	SF	S12W22	2172
28 Sep	1303	1306	1311		SF	S15W26	2173
28 Sep	1617	1624	1630		SF	S00E66	2178
28 Sep	1634	1733	1800	M1.0	SF	S15W30	2173
28 Sep	1724	1734	1758		SF	S15W27	2172
28 Sep	1733	1736	1741		SF	N12W50	2175



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
28 Sep	1800	1809	1814		SF	S15W27	2172
28 Sep	2027	2035	2055	C4.0	SF	S17W37	2173



Region Summary

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
								C	M	X	S	1	2	3	4		
Region 2165																	
11 Sep	S08E63	12	20	4	Cao	3	B										
12 Sep	S08E49	13	20	9	Cro	4	B										
13 Sep	S08E37	12	10	9	Bxo	2	B										
14 Sep	S08E19	12	plage														
15 Sep	S08E05	15	plage														
16 Sep	S08W03	12	10	2	Bxo	3	B										
17 Sep	S08W16	11	10	4	Bxo	2	B										
18 Sep	S08W30	13	plage														
19 Sep	S08W44	14	plage														
20 Sep	S08W58	15	plage														
21 Sep	S08W72	15	plage														
22 Sep	S08W86	16	plage														
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 12

Region 2166																	
11 Sep	N12E80	356	plage							2							
12 Sep	N12E66	356	30	1	Axx	2	A										
13 Sep	N13E61	348	30	11	Cro	5	B	1									
14 Sep	N13E44	352	60	10	Dao	11	B				2						
15 Sep	N12E28	355	40	7	Cao	7	B	1			2						
16 Sep	N12E13	356	30	3	Cao	7	BG										
17 Sep	N12W00	355	30	3	Cao	7	B										
18 Sep	N13W14	356	30	5	Cao	9	B										
19 Sep	N11W27	355	20	2	Dso	4	B	1			1						
20 Sep	N11W41	358	plage														
21 Sep	N11W55	358	plage					1					1				
22 Sep	N11W69	359	plage														
23 Sep	N11W83	359	plage														
								4	2	0	5	1	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 355



Region Summary - continued

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
								C	M	X	S	1	2	3	4		
Region 2167																	
14 Sep	N07E50	346	10		Axx	1	A										
15 Sep	N08E39	344	0	1	Axx	1	A										
16 Sep	N08E25	344	plage														
17 Sep	N08E11	345	plage														
18 Sep	N08W03	346	plage														
19 Sep	N09W15	343	10	1	Axx	2	A										
20 Sep	N09W28	345	plage														
21 Sep	N09W42	345	plage														
22 Sep	N09W56	346	plage														
23 Sep	N09W70	347	plage														
24 Sep	N09W84	348	plage														
								0	0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 346

Region 2168																	
17 Sep	S22E44	311	10	1	Bxo	1	B										
18 Sep	S21E30	313	20	5	Cao	5	B	1									
19 Sep	S22E17	313	20	4	Cso	7	B										
20 Sep	S22E04	313	10	1	Axx	2	A										
21 Sep	S22W10	313	plage														
22 Sep	S22W24	314	plage														
23 Sep	S22W38	315	plage														
24 Sep	S22W52	316	plage														
25 Sep	S22W66	317	plage														
26 Sep	S22W80	317	plage														
								1	0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 313



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 2169																		
17 Sep	N05E66	290	60	2	Cso	1	B											
18 Sep	N05E53	289	50	6	Cao	2	B	2	1			3						
19 Sep	N05E42	288	30	8	Cso	2	B											
20 Sep	N05E26	291	30	2	Hax	2	A											
21 Sep	N05E14	289	40	7	Cao	2	B											
22 Sep	N05W02	291	30	1	Hsx	2	A											
23 Sep	N05W15	292	20	1	Hsx	2	A											
24 Sep	N05W28	292	10	1	Axx	1	A											
25 Sep	N06W43	294	10	1	Axx	1	A											
26 Sep	N07W56	293	0	1	Axx	1	A											
27 Sep	N07W71	295	plage															
28 Sep	N07W86	297	plage															
								2	1	0	3	0	0	0	0	0		

Still on Disk.
 Absolute heliographic longitude: 291

Region 2170																		
17 Sep	N07E64	290	60	3	Hsx	2	A											
18 Sep	N10E51	291	40	1	Hax	1	A											
19 Sep	N09E40	290	30	2	Hax	1	A											
20 Sep	N11E27	290	50	2	Hax	2	A											
21 Sep	N11E13	290	50	2	Hax	1	A											
22 Sep	N11W01	290	40	1	Hax	1	A											
23 Sep	N11W13	290	50	2	Hax	2	A											
24 Sep	N11W26	290	30	2	Hax	2	A											
25 Sep	N11W40	291	10	1	Axx	1	A											
26 Sep	N12W52	289	10	2	Axx	2	A											
27 Sep	N12W66	290	plage															
28 Sep	N12W80	291	plage															
								0	0	0	0	0	0	0	0	0		

Still on Disk.
 Absolute heliographic longitude: 290



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 2171																		
19 Sep	S09E65	263	80	6	Dso	2	B	1										
20 Sep	S10E53	264	160	8	Dao	7	B	1										
21 Sep	S10E39	264	160	11	Eai	8	BG											
22 Sep	S10E25	264	150	11	Eao	11	B					1						
23 Sep	S10E11	264	150	12	Eac	7	B											
24 Sep	S11W01	264	80	13	Eso	6	B											
25 Sep	S12W15	266	100	13	Eao	11	B	1										
26 Sep	S11W28	265	130	15	Eao	10	B						1					
27 Sep	S10W41	265	90	15	Eso	9	B											
28 Sep	S11W54	265	100	14	Cao	12	B											
								3	0	0	1	1	0	0	0			

Still on Disk.

Absolute heliographic longitude: 264

Region 2172																		
20 Sep	S09E75	242	30	1	Hrx	1	A	1										
21 Sep	S11E63	240	320	11	Ekc	10	BD	2										
22 Sep	S11E50	239	430	11	Ekc	11	B	1										
23 Sep	S11E36	239	570	12	Ekc	17	BG	1	1		4			1				
24 Sep	S10E24	239	440	12	Ekc	16	BG	2			4		1					
25 Sep	S11E09	242	450	13	Ekc	29	BG				7							
26 Sep	S11W05	242	500	15	Ekc	55	BG	2			7		1					
27 Sep	S11W17	241	460	15	Ekc	40	BG	2			3							
28 Sep	S12W31	242	490	17	Fkc	56	BG	2			7		1					
								13	1	0	32	3	1	0	0			

Still on Disk.

Absolute heliographic longitude: 242



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 2173																		
20 Sep	S15E65	252	20	1	Hrx	1	A											
21 Sep	S15E51	252	20	1	Hrx	1	A											
22 Sep	S15E37	252	10	1	Hrx	1	A											
23 Sep	S15E24	251	10		Hrx	1	A											
24 Sep	S15E10	254	plage															
25 Sep	S15W00	250	plage															
26 Sep	S17W10	247	50	7	Cao	16	B											
27 Sep	S17W26	250	130	8	Dac	23	B	2			8							
28 Sep	S17W39	250	160	8	Dac	22	BG	2	2		5		1					
								4	2	0	13	0	1	0	0			

Still on Disk.

Absolute heliographic longitude: 250

Region 2174

22 Sep	N15W79	8	10		Axx	1	A											
23 Sep	N15W92	8	30	1	Hsx	1	A											
24 Sep	N15W95	10	30	1	Hsx	1	A											
								0	0	0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 8

Region 2175

25 Sep	N15W12	263	80	8	Cai	25	BG	2			12							
26 Sep	N16W25	262	240	9	Dac	30	BGD	1			12							
27 Sep	N15W38	262	360	10	Dkc	19	BGD				1							
28 Sep	N16W51	262	390	10	Dkc	23	BGD				5							
								3	0	0	30	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 263

Region 2176

25 Sep	N06E41	210	10	1	Axx	1	A											
26 Sep	N07E28	209	10	5	Bxo	4	B											
27 Sep	N07E13	211	plage															
28 Sep	N07W02	213	plage															
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 213



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 2177																							
24 Sep	N12E89		176	plage								1											
25 Sep	N12E75		176	30	1	Hsx	1	A															
26 Sep	N12E67		170	80	5	Dao	5	B	2				3										
27 Sep	N11E56		168	110	15	Eai	7	B															
28 Sep	N12E43		168	120	11	Eai	12	BG															
									3	0	0		3	0	0	0	0	0					

Still on Disk.

Absolute heliographic longitude: 168

Region 2178

27 Sep	S01E75		149	30	5	Hsx	1	A		1											
28 Sep	S03E60		151	50	2	Cao	4	B					1								
									0	1	0		1	0	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 151

Region 2179

28 Sep	S11E71		140	60	2	Hsx	1	A													
									0	0	0		0	0	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 140

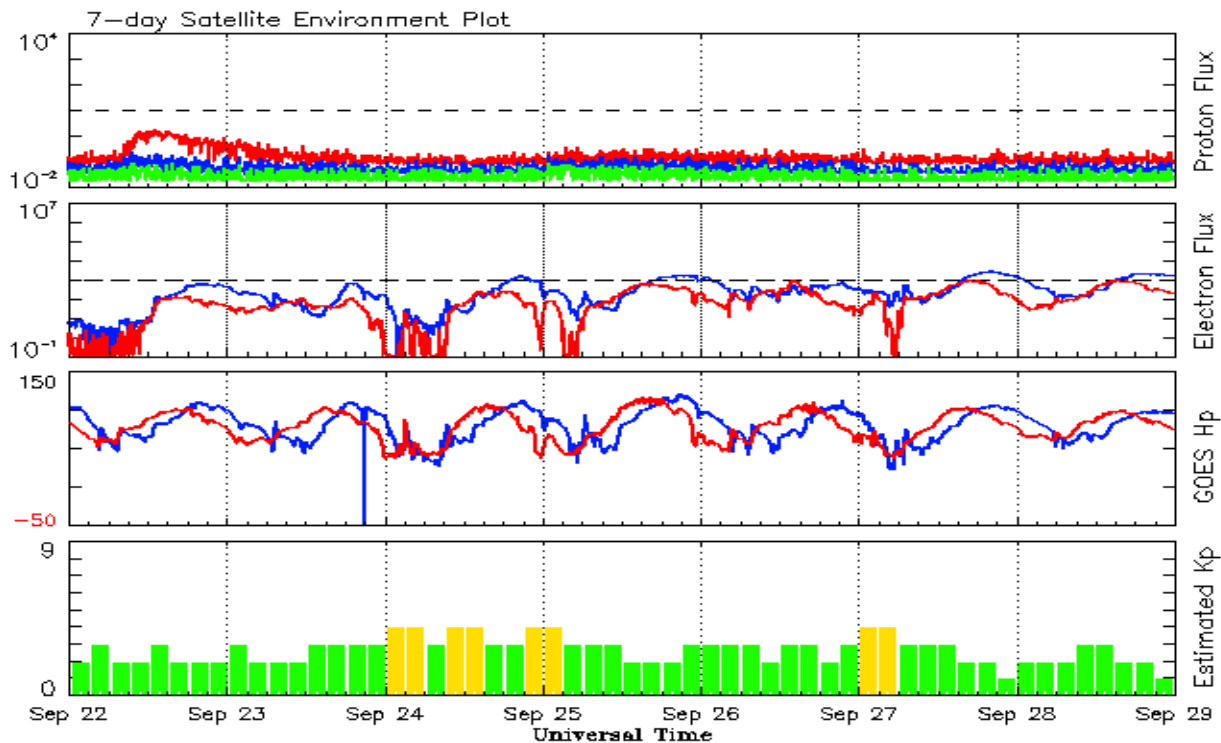


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2012									
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	86.7	58.4	104.4	118.0	5	7.4
March	81.0	57.9	0.71	85.7	57.6	111.2	117.1	9	7.4
April	112.8	72.4	0.64	86.7	57.9	125.0	116.6	5	7.2
May	125.5	78.7	0.63	90.5	59.9	131.3	118.1	10	7.0
June	80.1	52.5	0.66	94.4	62.6	110.2	120.9	13	7.1
July	86.1	57.0	0.66	97.9	65.5	115.6	123.9	9	7.3
August	90.2	66.0	0.73	103.7	68.9	114.7	127.9	9	7.6
September	55.0	37.0	0.67	111.0	73.0	102.7	132.3	5	7.8
October	127.1	85.6	0.67	114.3	74.9	132.3	134.7	7	7.8
November	125.7	77.6	0.62	114.6	75.3	148.4	135.4	5	7.9
December	118.2	90.3	0.76	115.4	75.9	147.7	135.9	5	7.5
2014									
January	125.9	81.8	0.65	117.7	77.3	158.6	137.3	6	7.1
February	174.6	102.3	0.59	119.5	78.4	170.3	138.6	12	6.9
March	141.1	91.9	0.65			149.9		6	
April	130.5	84.7	0.65			144.3		9	
May	116.8	75.2	0.64			130.0		7	
June	107.7	71.0	0.66			122.2		7	
July	113.6	72.5	0.64			137.3		5	
August	106.2	74.7	0.70			124.7		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 22 September 2014*

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.

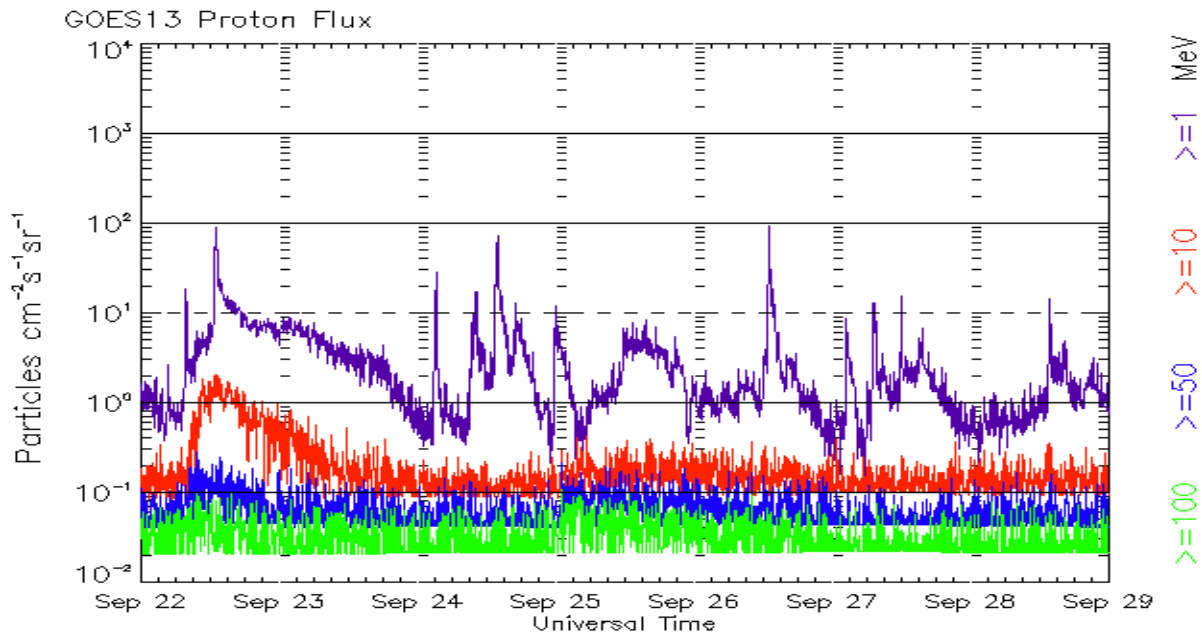
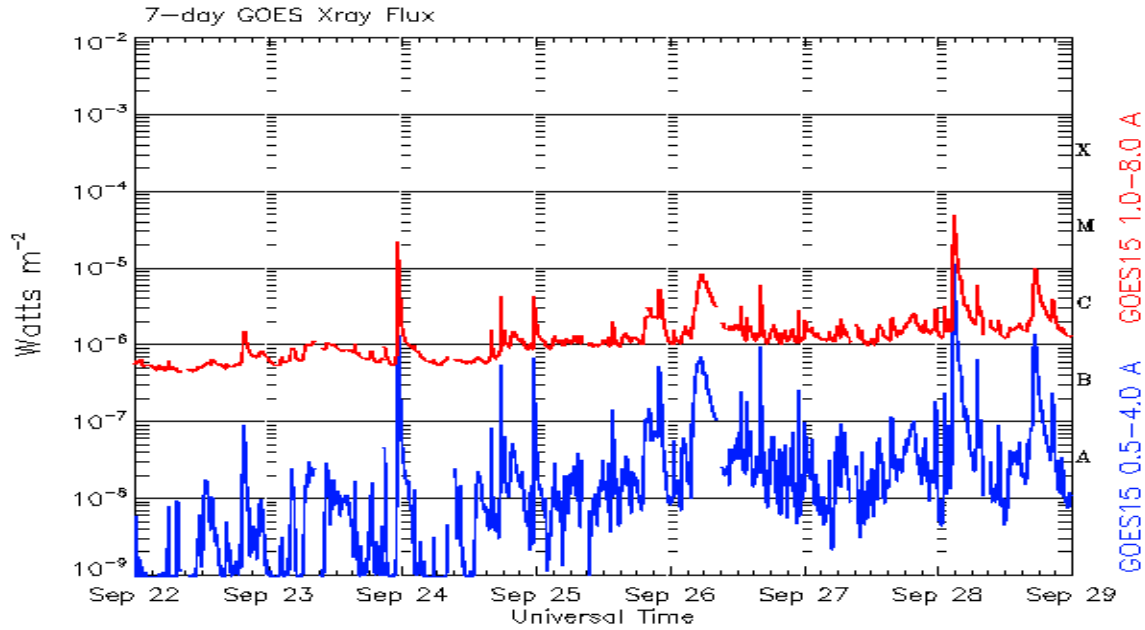
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 22 September 2014

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.



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

Published every Monday by the Space Weather Prediction Center.

U.S. Department of Commerce
NOAA / National Weather Service
Space Weather Prediction Center
325 Broadway, Boulder CO 80305

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.

<http://spaceweather.gov/weekly/> -- Current and previous year

<http://spaceweather.gov/ftpmenu/warehouse.html> -- Online archive from 1997

<http://spaceweather.gov/ftpmenu/> -- Some content as ascii text

<http://spaceweather.gov/SolarCycle/> -- Solar Cycle Progression web site

<http://spaceweather.gov/contacts.html> -- Contact and Copyright information

http://spaceweather.gov/weekly/Usr_guide.pdf -- User Guide

