

Space Weather Highlights
21 September - 27 September 2015

SWPC PRF 2091
28 September 2015

Solar activity began the week at low levels but reached moderate levels at the end of the period. Region 2420 (N10, L=102, class/area Ekc/290 on 21 Sep) produced a C8/Sn flare at 21/0518 UTC on 21 Sep and several B-class events on 22 Sep. Region 2422 (S20, L=102, class/area Ekc/650 on 27 Sep) produced the majority of the activity for the rest of the week with several C-class flares from 23-27 Sep as well as two M-class flares on 27 Sep. The first M-class flare was an M1/1f at 27/1040 UTC and the second reached M1/1n at 27/2100 UTC. It also produced a C9/1n flare at 27/1958 UTC that was accompanied by a 130 sfu Tenflare.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels.

Geomagnetic field activity was at quiet to unsettled levels from 21-22 Sep due to waning coronal hole high speed stream (CH HSS) effects. Quiet to unsettled levels were observed on 23 Sep with an isolated active period from 23/1500-1800 UTC due to a prolonged period of negative Bz. Quiet to unsettled levels returned on 24 Sep followed by quiet conditions for the remainder of the period.

Space Weather Outlook
28 September - 24 October 2015

Solar activity is expected to be at low to moderate levels from 28 Sep - 03 Oct due to flare potential from Regions 2420, 2421 (N17, L=120, class/area Dac/110 on 26 Sep), and 2422. Very low to low levels are expected from 04-14 Oct. A chance for moderate levels returns from 15-24 Oct as Region 2420 is anticipated to rotate back onto the visible disk.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels with high levels possible on 03 and 06 Oct, 09-15 Oct and 18-24 Oct following recurrent CH HSS events.

Geomagnetic field activity is expected to be at mostly quiet to unsettled levels. Active periods are likely on 01-02 Oct, 04-05 Oct, 07-09 Oct, and 16-17 Oct due to recurrent coronal hole high speed streams.



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
21 September	103	68	650	B2.9	4	0	0	3	0	0	0	0
22 September	107	79	630	B2.6	0	0	0	6	0	0	0	0
23 September	111	95	500	B3.1	7	0	0	7	0	0	0	0
24 September	107	86	550	B2.8	2	0	0	9	0	0	0	0
25 September	120	145	640	B3.6	1	0	0	7	0	0	0	0
26 September	120	138	720	B4.0	3	0	0	15	0	0	0	0
27 September	128	154	1010	B6.3	13	2	0	46	4	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
	21 September		3.1e+06	3.6e+04	2.8e+03	
22 September		1.4e+06	1.2e+04	2.6e+03		3.2e+07
23 September		4.2e+05	1.1e+04	2.6e+03		1.6e+07
24 September		2.1e+05	1.1e+04	2.7e+03		2.0e+07
25 September		5.7e+05	1.1e+04	2.8e+03		2.0e+07
26 September		4.8e+05	1.1e+04	2.8e+03		3.1e+07
27 September		3.6e+05	1.1e+04	2.8e+03		2.2e+07

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	21 September	9	3-3-2-2-2-2-1-2	6	3-2-2-2-1-1-1-0	9
22 September	8	2-2-3-1-3-2-2-1	16	2-2-5-3-4-3-1-1	10	3-3-3-2-3-2-2-2
23 September	13	1-2-3-4-3-3-3-2	29	1-1-5-5-5-5-4-1	14	2-2-3-3-3-4-3-2
24 September	8	3-3-2-1-2-1-1-2	5	2-2-1-2-1-1-1-1	8	3-3-2-1-1-1-2-2
25 September	6	2-1-1-2-3-1-1-1	18	2-1-1-6-5-1-0-1	7	2-2-1-2-3-1-1-1
26 September	4	1-0-1-1-2-1-2-1	2	1-0-0-0-0-2-1-0	4	2-1-0-1-1-1-2-1
27 September	4	0-1-1-1-2-2-2-1	2	1-1-1-0-0-0-1-1	4	1-1-1-1-1-1-2-2

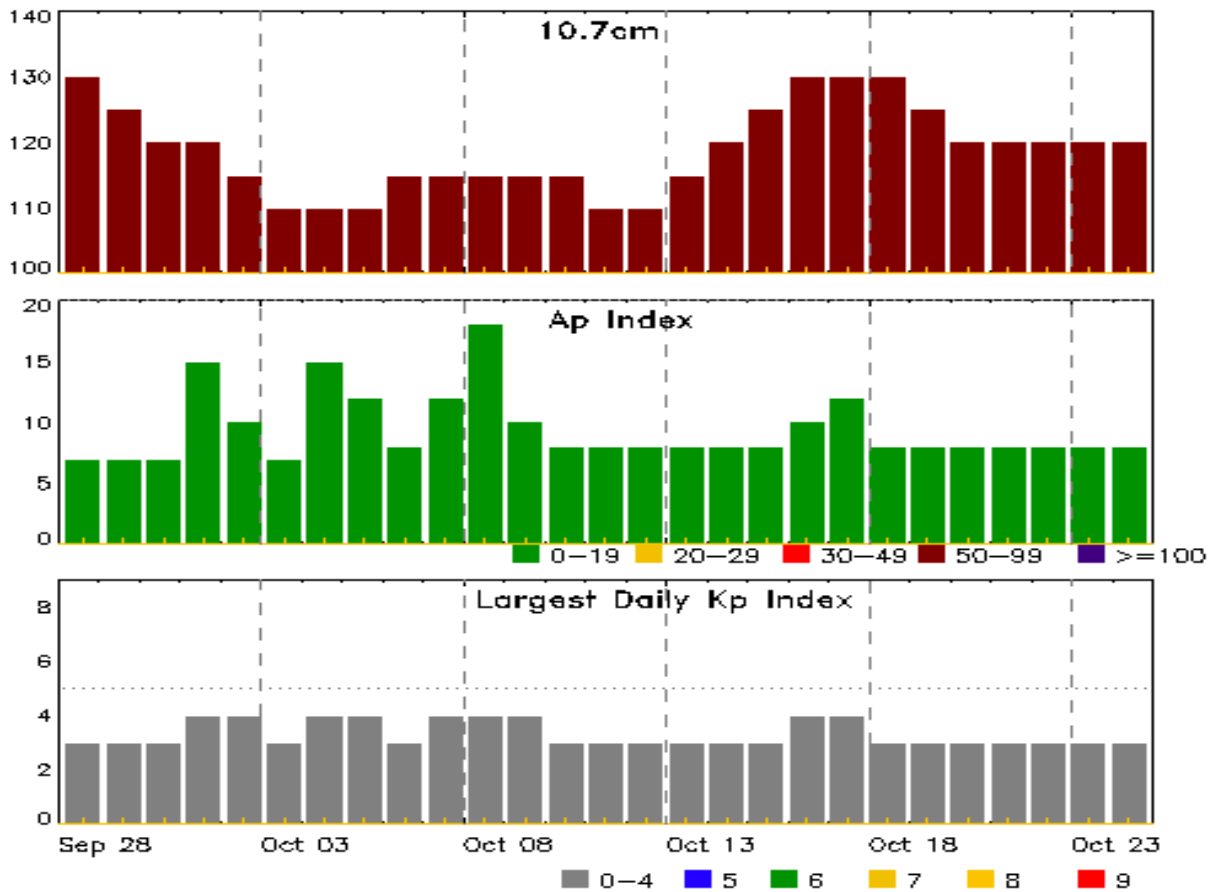


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
21 Sep 0532	SUMMARY: 10cm Radio Burst	21/0516 - 0517
22 Sep 0802	WARNING: Geomagnetic K = 4	22/0800 - 1400
23 Sep 0904	WARNING: Geomagnetic K = 4	23/0905 - 1600
23 Sep 1536	EXTENDED WARNING: Geomagnetic K = 4	23/0905 - 2300
23 Sep 1742	ALERT: Geomagnetic K = 4	23/1740
27 Sep 2019	SUMMARY: 10cm Radio Burst	27/1956 - 1956



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
28 Sep	130	7	3	12 Oct	110	8	3
29	125	7	3	13	115	8	3
30	120	7	3	14	120	8	3
01 Oct	120	15	4	15	125	8	3
02	115	10	4	16	130	10	4
03	110	7	3	17	130	12	4
04	110	15	4	18	130	8	3
05	110	12	4	19	125	8	3
06	115	8	3	20	120	8	3
07	115	12	4	21	120	8	3
08	115	18	4	22	120	8	3
09	115	10	4	23	120	8	3
10	115	8	3	24	120	8	3
11	110	8	3				

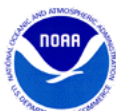


Energetic Events

Date	Time			X-ray	Optical Information			Peak		Sweep Freq		
	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
									245	2695	II	IV
27 Sep	1020	1040	1046	M1.9	0.010	1F	S22W08		2422			
27 Sep	2054	2100	2115	M1.0	0.008	1N	S21W16		2422			

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
21 Sep	0010	0021	0029	C2.8	SF	N09E79	2420
21 Sep	0157	0204	0208	C4.2	SF	N08E83	2420
21 Sep	0329	0333	0337	B6.3			2420
21 Sep	0354	0400	0405	C1.5			2420
21 Sep	0511	0518	0522	C8.8	SN	N08E79	2420
21 Sep	1447	1450	1454	B5.3			2415
21 Sep	1852	1853	1854	B5.4			2420
22 Sep	B0923	U0951	A1017		SF	N12E57	2420
22 Sep	B1020	U1021	A1024		SF	N10E55	2420
22 Sep	1046	1048	1055		SF	N10E55	2420
22 Sep	1308	1312	1318		SF	N10E53	2420
22 Sep	1343	1343	1348		SF	N14E58	2420
22 Sep	1457	1501	1506	B4.5			2420
22 Sep	1540	1544	1551	B4.7			2420
22 Sep	1713	1713	1719		SF	S16W41	2418
23 Sep	0308	0312	0315	B5.6			
23 Sep	0507	0519	0523	C1.6			
23 Sep	0555	0609	0616		SF	S18E48	2422
23 Sep	0630	0630	0636		SF	S18E48	2422
23 Sep	0723	0730	0734	C2.9			2415
23 Sep	0757	0759	0801		SF	N13E48	2420
23 Sep	0847	0850	0900		SF	S19E49	2422
23 Sep	0954	1002	1006	C1.8			2415
23 Sep	1134	1138	1141	C1.2			2422
23 Sep	1252	1257	1313	B6.9	SF	S19E47	2422
23 Sep	1441	1448	1454	C1.5			2422
23 Sep	1539	1543	1552	B5.4			2422
23 Sep	1735	1742	1748	B8.8	SF	S20E42	2422
23 Sep	1854	1857	1901	C3.2			2422



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
23 Sep	1934	1948	2001	C1.1			2422
23 Sep	2227	2232	2235	B6.3	SF	S21E41	2422
24 Sep	0302	0314	0337	B6.4			2422
24 Sep	0447	0451	0458	B6.6	SF	N17E17	2421
24 Sep	0758	0801	0808	B5.1			2421
24 Sep	1131	1135	1139	B6.1			2421
24 Sep	1436	1437	1443		SF	N20E68	
24 Sep	1452	1502	1514		SF	N20E68	
24 Sep	1659	1713	1718		SF	N17E11	2421
24 Sep	1849	1851	1900	B5.9	SF	N17E09	2421
24 Sep	2140	2146	2150	C1.8	SF	S19E27	2422
24 Sep	2254	2306	2324	B5.4	SF	S19E27	2422
24 Sep	2341	2347	0007	C3.3	SF	S16W78	2418
24 Sep	2347	2354	A2359		SF	N15E04	2421
25 Sep	0217	0223	0231	B9.6	SF	S21E26	2422
25 Sep	0527	0532	0545		SF	N18E03	2421
25 Sep	0535	0536	0539		SF	S20E23	2422
25 Sep	B1458	1524	1605		SF	S23E24	2422
25 Sep	1658	1701	1704	B9.8	SF	S20E08	2422
25 Sep	2013	2020	2026	C1.1	SF	S19E13	2422
25 Sep	2230	2238	2241	B8.4	SF	S17E16	2422
26 Sep	0017	0031	0057		SF	S22E13	2422
26 Sep	0124	0129	0133	C1.5	SF	S22E09	2422
26 Sep	0224	0224	0226		SF	S23E15	2422
26 Sep	0258	0300	0301		SF	S23E15	2422
26 Sep	0312	0315	0316		SF	S20E11	2422
26 Sep	0414	0421	0431	C1.0	SF	S21E11	2422
26 Sep	0611	0614	0617	B6.3	SF	S23E13	2422
26 Sep	0633	0638	0643	B8.6	SF	S22E10	2422
26 Sep	B0739	U0739	A0742		SF	S20E06	2422
26 Sep	0743	0745	0759		SF	S21E06	2422
26 Sep	B0941	U0941	A0946		SF	S20E08	2422
26 Sep	1251	1255	1259	C1.1			2422
26 Sep	1335	1335	1348		SF	S17E16	2422
26 Sep	1341	1344	1351		SF	N10E06	2420
26 Sep	1456	1456	1500		SF	S17E16	2422
26 Sep	2030	2034	2036	B7.4			2422
26 Sep	2352	2352	2356		SF	S23E03	2422



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
27 Sep	0014	0015	0021		SF	S21W06	2422
27 Sep	0140	0140	0146		SF	S17E03	2422
27 Sep	0556	0602	0607	C1.9	SF	S22W04	2422
27 Sep	0702	0703	0704		SF	S22W06	2422
27 Sep	0728	0732	0738		SF	N16W24	2421
27 Sep	0736	0758	0806	C2.1	SF	S21W07	2422
27 Sep	B0909	U0909	A0914		SF	S22W04	2422
27 Sep	1020	1040	1046	M1.9	1F	S22W08	2422
27 Sep	B1036	U1036	A1036		SF	S09W54	2423
27 Sep	1220	1226	1229	C2.4	SF	S21W08	2422
27 Sep	1247	1251	1312	C2.4	SF	S20W12	2422
27 Sep	1251	U1251	1258		SF	S11W58	2423
27 Sep	1304	1309	1312		SF	N20E57	
27 Sep	1320	1320	1325		SF	S08W58	2423
27 Sep	1327	U1328	A1333		SF	N20E57	2423
27 Sep	1329	1330	1334		SF	S09W59	2423
27 Sep	B1329	U1334	A1347		SF	N15W29	2421
27 Sep	1330	1334	1338	C1.4			2423
27 Sep	1330	1333	1357		SF	N17W29	2421
27 Sep	1341	1346	1351	C2.2			2422
27 Sep	1341	1344	1418		SF	S21W08	2422
27 Sep	1341	1344	1351		SF	N10E06	2420
27 Sep	B1343	U1344	A1418		SF	S22W06	2422
27 Sep	B1343	U1355	A1401		SF	S12W58	2423
27 Sep	1349	1355	1410		SF	S09W61	2423
27 Sep	B1349	U1350	A1405		SF	N16E56	2420
27 Sep	1423	1426	1429		SF	S12W59	2423
27 Sep	1443	1443	1453		SF	S21W10	2422
27 Sep	1450	1453	1458		SF	N18E58	2426
27 Sep	1451	1451	1457		SF	N19E24	2426
27 Sep	1504	1505	1508		SF	S21W08	2422
27 Sep	1514	1516	1517		SF	S12W61	2423
27 Sep	1530	1538	1543	C5.4	SN	S20W16	2422
27 Sep	1612	1616	1628	C2.0			2422
27 Sep	1639	1649	1655	C4.3	SF	S21W11	2422
27 Sep	1741	1746	1750	C4.2	SF	S21W11	2422
27 Sep	1810	1816	1818		SF	S21W11	2422
27 Sep	1814	1815	1819		SF	S09W61	2423



Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD		
27 Sep	1835	1853	1902	C4.1	1F	S09W64		2423
27 Sep	1842	1842	1849		SF	N17W32		2421
27 Sep	1858	1858	1901		SF	S21W11		2422
27 Sep	1917	1918	1921		SF	S21W11		2422
27 Sep	1942	1957	2018	C9.3	1N	S20W18		2422
27 Sep	1952	1952	2000		SF	N17W33		2421
27 Sep	2017	2021	2023		SF	S09W66		2423
27 Sep	2026	2046	2137		SF	S09W66		2423
27 Sep	2054	2100	2115	M1.0	1N	S21W16		2422
27 Sep	2145	2153	2201		SF	S10W69		2423
27 Sep	2217	2225	2230		SF	S10W69		2423
27 Sep	2240	2247	2251		SF	S10W69		2423
27 Sep	2256	2302	2305		SF	S10W69		2423
27 Sep	2313	2329	2337	C7.9	SF	S21W14		2422
27 Sep	2329	2329	2334		SF	S20W21		2422



Region Summary

Date	Location		Sunspot Characteristics				Flares											
	Lat CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical							
								C	M	X	S	1	2	3	4			
Region 2415																		
11 Sep	S21E68	230	100	5	Dao	7	B											
12 Sep	S21E53	232	130	8	Dai	7	B					5						
13 Sep	S22E41	231	170	10	Dai	11	BG					1						
14 Sep	S22E28	230	150	9	Cai	16	BG					5						
15 Sep	S22E14	231	150	9	Cai	16	BG	6				12						
16 Sep	S20W02	234	190	10	Dac	20	BG	8				6						
17 Sep	S20W16	235	230	11	Eac	30	BG	11	1			17	2					
18 Sep	S19W29	235	190	12	Eac	19	BG	4				7						
19 Sep	S19W41	233	240	12	Eac	19	BG	1				1						
20 Sep	S19W56	235	240	13	Eac	12	BG	2	1			1		1				
21 Sep	S18W69	235	160	13	Eao	4	BG											
22 Sep	S18W81	233	160	9	Dso	3	B											
23 Sep	S19W94	234	10	1	Bxo	1	B	2										
								34	2	0	55	2	1	0	0			

Crossed West Limb.
 Absolute heliographic longitude: 234

Region 2418																		
13 Sep	S15E69	203	120	3	Hsx	1	A											
14 Sep	S15E56	202	200	3	Hsx	1	A											
15 Sep	S15E42	203	200	3	Hsx	1	A											
16 Sep	S16E30	202	250	3	Hhx	1	A											
17 Sep	S14E19	200	210	7	Cso	4	B											
18 Sep	S14E05	201	230	6	Cho	5	B					2						
19 Sep	S14W07	199	230	7	Cho	6	B											
20 Sep	S15W21	200	210	6	Cao	5	B											
21 Sep	S15W35	201	180	6	Cao	4	B											
22 Sep	S15W49	201	170	5	Cao	3	B					1						
23 Sep	S15W62	202	140	3	Hax	3	A											
24 Sep	S16W77	202	140	3	Hax	2	A					1						
25 Sep	S15W88	201	60	3	Hax	2	A											
								0	0	0	4	0	0	0	0	0		

Crossed West Limb.
 Absolute heliographic longitude: 201



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 2419																							
15 Sep	N13E47		197	10	3	Bxo	5	B															
16 Sep	N12E35		197	120	5	Dao	5	B													2		
17 Sep	N12E21		198	100	6	Cao	8	B													1		
18 Sep	N12E08		198	70	6	Cai	8	B													2		
19 Sep	N13W04		196	50	7	Cai	6	B	1														
20 Sep	N12W19		198	30	8	Cao	5	B													1		
21 Sep	N13W32		198	20	4	Cro	4	B															
22 Sep	N13W46		199	plage																			
23 Sep	N13W60		200	plage																			
24 Sep	N13W74		200	plage																			
25 Sep	N13W88		201	plage																			
									1	0	0	6	0	0	0	0	0						

Crossed West Limb.
Absolute heliographic longitude: 196

Region 2420																							
20 Sep	N09E71		108	270	12	Ekc	12	BG		1													
21 Sep	N10E64		102	290	13	Ekc	16	BG	4												3		
22 Sep	N10E50		102	280	13	Ekc	13	BG													5		
23 Sep	N10E34		104	200	15	Eai	13	BG													1		
24 Sep	N09E22		103	200	14	Eai	19	BG															
25 Sep	N10E09		102	150	16	Fai	17	B															
26 Sep	N10W04		103	140	16	Fai	15	BG													1		
27 Sep	N11W17		103	110	16	Fai	11	B													2		
									4	1	0	12	0	0	0	0	0						

Still on Disk.
Absolute heliographic longitude: 103

Region 2421																							
22 Sep	N15E32		120	10	4	Bxo	7	B															
23 Sep	N16E19		121	50	5	Cao	5	B															
24 Sep	N15E05		120	50	5	Cai	5	B	1												4		
25 Sep	N17W09		122	70	5	Dac	17	B													1		
26 Sep	N17W21		120	110	5	Dac	12	B															
27 Sep	N16W35		121	100	6	Dai	11	B													5		
									1	0	0	10	0	0	0	0	0						

Still on Disk.
Absolute heliographic longitude: 120



Region Summary - continued

Date	Location		Sunspot Characteristics					Flares									
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical					
			Lon	10 ⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4	
Region 2422																	
22 Sep	S20E49		103	10	4	Bxo	3	B									
23 Sep	S20E36		104	90	5	Dao	11	B	4				6				
24 Sep	S20E24		101	150	8	Dai	9	B	1				2				
25 Sep	S20E10		102	310	11	Eko	17	BG	1				6				
26 Sep	S20W03		102	410	13	Ekc	28	BGD	3				14				
27 Sep	S20W16		102	650	14	Ekc	25	BGD	11	2			20	3			
									20	2	0		48	3	0	0	0

Still on Disk.
 Absolute heliographic longitude: 102

Region 2423																	
23 Sep	S09W09		149	10	3	Bxo	2	B									
24 Sep	S08W24		150	10	1	Cro	1	B									
25 Sep	S08W37		149	10	6	Bxo	4	B									
26 Sep	S09W51		150	20	6	Cri	5	B									
27 Sep	S09W65		152	100	6	Dai	14	BG	2				16	1			
									2	0	0		16	1	0	0	0

Still on Disk.
 Absolute heliographic longitude: 149

Region 2424																	
25 Sep	N12W30		142	20	3	Cro	3	B									
26 Sep	N12W44		143	20	3	Dro	3	B									
27 Sep	N12W58		144	10	1	Axx	1	A									
									0	0	0		0	0	0	0	0

Still on Disk.
 Absolute heliographic longitude: 142

Region 2425																	
25 Sep	S06W01		114	10	3	Bxi	2	B									
26 Sep	S05W15		114	10	5	Bxo	3	B									
27 Sep	S05W27		114	0		Axx	1	A									
									0	0	0		0	0	0	0	0

Still on Disk.
 Absolute heliographic longitude: 114



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

Region 2426

25 Sep	N16E48	64	10	4	Bxo	3	B											
26 Sep	N16E34	66	10	4	Cro	2	B											
27 Sep	N16E22	65	10	1	Axx	1	A					2						
								0	0	0	2	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 65

Region 2427

27 Sep	N18E49	37	30	4	Cro	10	B											
								0	0	0	0	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 37

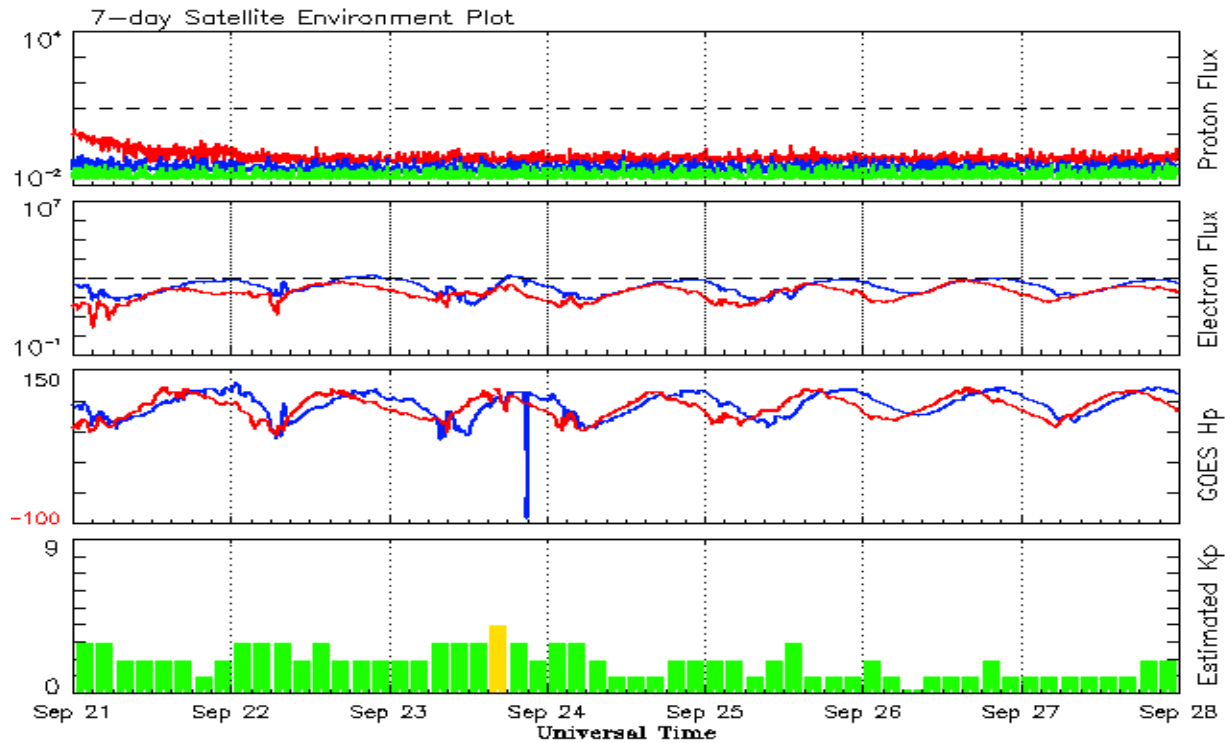


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2013									
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	78.3	170.3	138.6	12	6.9
March	141.1	91.9	0.65	123.2	80.8	149.9	140.8	6	7.2
April	130.5	84.7	0.65	124.8	81.9	144.3	143.5	9	7.5
May	116.8	75.2	0.64	122.3	80.5	130.0	144.7	7	7.9
June	107.7	71.0	0.66	121.4	79.7	122.2	145.5	7	8.4
July	113.6	72.4	0.64	120.4	78.5	137.3	145.2	5	8.8
August	106.2	74.6	0.70	115.1	75.5	124.7	142.8	9	8.9
September	127.4	87.6	0.69	107.4	70.8	146.1	140.1	11	9.3
October	92.0	60.6	0.66	101.7	67.3	153.7	138.4	10	9.9
November	101.8	70.2	0.69	97.9	65.4	155.3	137.4	10	10.1
December	120.0	76.7	0.65	95.2	56.0	158.7	137.0	12	10.5
2015									
January	101.2	67.0	0.66	92.1	53.9	141.7	135.8	10	11.0
February	70.6	44.8	0.63	88.3	52.0	128.8	133.8	10	11.5
March	61.7	38.4	0.62			126.0		17	
April	72.5	54.4	0.75			129.2		12	
May	83.0	58.8	0.71			120.1		9	
June	77.3	41.0	0.53			123.2		14	
July	68.4	39.8	0.58			107.0		10	
August	61.6	38.8	0.63			106.2		16	

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 21 September 2015*

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.

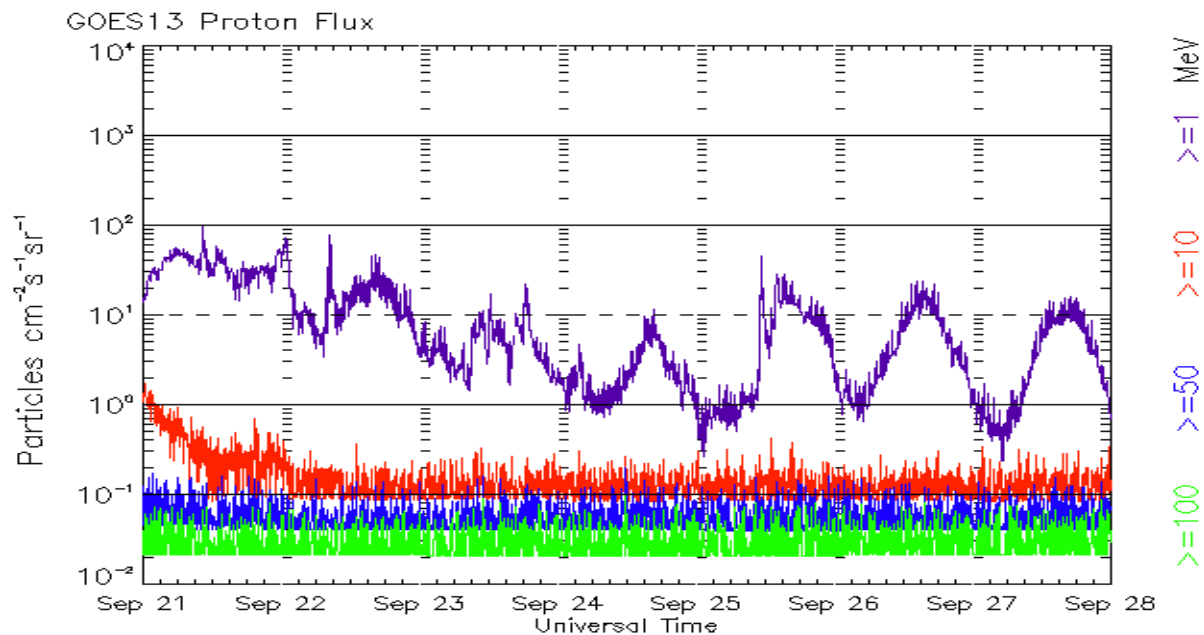
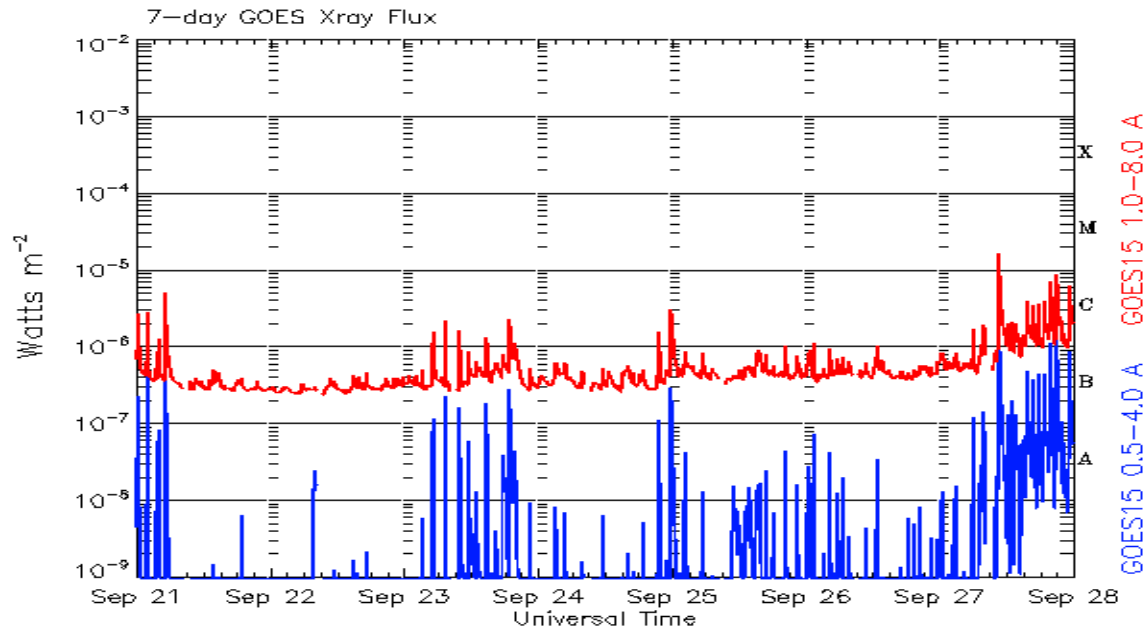
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 21 September 2015

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

