Space Weather Highlights **SWPC PRF 2611**
08 September - 14 September 2025 **15 September 2025**

Solar activity was at low levels with only C-Class flares observed. The largest flare of the period was a C7.6 from Region 4207 (N28, L=48, class/area=Cso/80 on 11 Sep) at 11/1521 UTC. No significant CME activity was observed.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 09, 13, and 14 Sep due to influences from multiple coronal hole high speed streams (CH HSS). Normal to moderate levels were observed on 08, 10, 11, and 12 Sep.

Geomagnetic field activity reached G2 (Moderate) storm levels on 09 Sep due to sustained period of southward Bz. G1 (Minor) storm levels were observed on 14 Sep due to influences from a negative polarity CH HSS. Quiet to active levels were observed on the remaining days of the highlight period.

Space Weather Outlook
15 September - 11 October 2025

Solar activity is expected to be at low levels with a chance for isolated M-class flares throughout the outlook period.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 18-21 Sep and 06-11 Oct due to recurrent CH HSS influences. Normal to moderate levels are expected for the remainder of the outlook period.

Geomagnetic field activity is expected to be at G2 (Moderate) storm levels on 15 Sep due to influences from negative polarity CH HSS. Active to G1 (Minor) storm levels are expected on 16 Sep, 28-29 Sep, 03-07 Oct, and 11 Oct all due to recurrent CH HSS influences. Quiet to unsettled levels are expected for the remaining days in the outlook 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
08 September	124	93	570	B5.9	8	0	0	5	0	0	0	0
09 September	121	99	555	B5.3	2	0	0	1	0	0	0	0
10 September	119	94	490	B5.8	2	0	0	2	0	0	0	0
11 September	115	92	540	B6.1	8	0	0	2	0	0	0	0
12 September	114	67	480	B5.3	2	0	0	0	0	0	0	0
13 September	118	43	370	B7.1	5	0	0	0	0	0	0	0
14 September	122	75	470	B8.9	9	0	0	3	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	>2MeV
08 September	1.1e+05	1.6e+04	2.0e+07
09 September	2.3e+05	1.6e+04	4.5e+07
10 September	2.1e+05	1.6e+04	4.4e+07
11 September	3.9e+04	1.6e+04	1.6e+07
12 September	4.3e+04	1.6e+04	3.2e+07
13 September	8.0e+04	1.6e+04	4.4e+07
14 September	4.7e+05	1.5e+04	3.1e+07

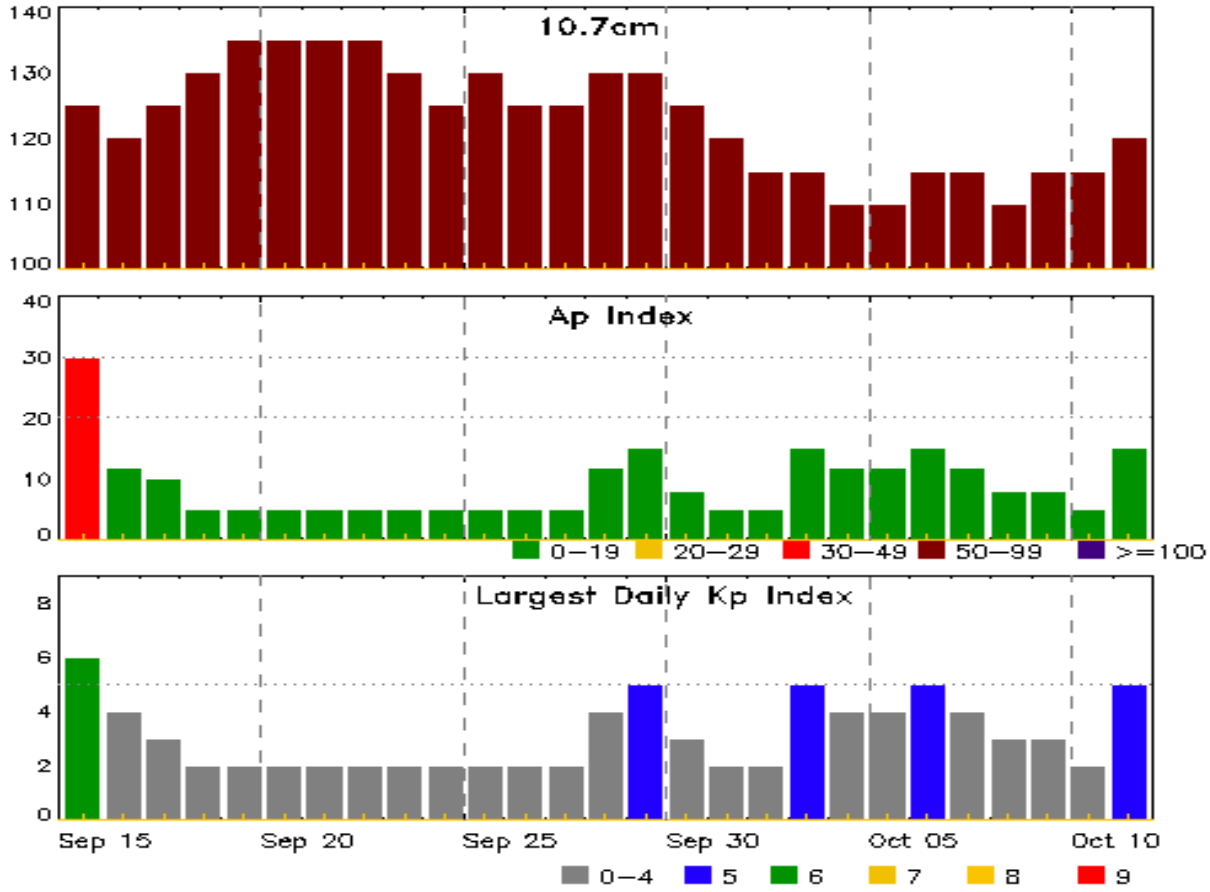
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
08 September	10	3-3-2-3-2-2-2-2	24	3-3-5-5-4-4-2-2	13	3-4-3-3-2-2-3-2
09 September	15	3-2-3-2-3-2-2-5	23	3-2-3-5-4-3-2-5	19	3-2-3-3-3-2-3-6
10 September	12	4-4-1-2-3-2-1-2	18	5-5-2-3-2-3-1-1	13	4-4-1-2-2-2-1-2
11 September	10	3-2-3-2-3-2-1-2	14	3-4-4-3-3-2-1-1	10	4-3-3-2-2-2-1-2
12 September	9	1-3-3-3-2-2-2-1	21	0-2-4-6-4-3-2-1	9	1-3-3-3-2-2-2-1
13 September	7	1-2-3-2-2-2-1-1	14	1-3-4-5-3-1-0-0	6	2-3-3-2-1-1-0-1
14 September	12	2-2-2-3-2-2-3-4	12	1-1-3-4-3-2-2-3	7	2-2-3-2-2-2-3-5

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Sep 0129	WARNING: Geomagnetic K = 4	08/0130 - 2359
08 Sep 0508	ALERT: Geomagnetic K = 4	
09 Sep 0210	WARNING: Geomagnetic K = 4	09/0210 - 0900
09 Sep 0855	EXTENDED WARNING: Geomagnetic K = 4	09/0210 - 1500
09 Sep 1431	ALERT: Electron 2MeV Integral Flux >= 1000pfu	09/1420
09 Sep 2201	WARNING: Geomagnetic K = 4	09/2100 - 10/1200
09 Sep 2202	ALERT: Geomagnetic K = 4	
09 Sep 2240	WARNING: Geomagnetic K = 5	09/2240 - 10/0600
09 Sep 2318	ALERT: Geomagnetic K = 5	
09 Sep 2318	WARNING: Geomagnetic K = 6	09/2318 - 10/0600
09 Sep 2328	ALERT: Geomagnetic K = 6	
10 Sep 0546	EXTENDED WARNING: Geomagnetic K = 4	09/2100 - 10/1800
10 Sep 0546	EXTENDED WARNING: Geomagnetic K = 5	09/2240 - 10/1500
10 Sep 0906	CANCELLATION: Geomagnetic K = 5	
10 Sep 0908	WARNING: Geomagnetic K = 5	10/0908 - 1500
11 Sep 0108	WARNING: Geomagnetic K = 4	11/0108 - 0900
11 Sep 0251	ALERT: Geomagnetic K = 4	
13 Sep 1442	WATCH: Geomagnetic Storm Category G1 predicted	
13 Sep 1902	ALERT: Electron 2MeV Integral Flux >= 1000pfu	13/1820
14 Sep 1846	WATCH: Geomagnetic Storm Category G1 predicted	
14 Sep 1851	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	13/1820
14 Sep 2017	WARNING: Geomagnetic K = 4	14/2015 - 15/1200
14 Sep 2322	ALERT: Geomagnetic K = 4	
14 Sep 2329	WARNING: Geomagnetic K = 5	14/2330 - 15/0900
14 Sep 2347	ALERT: Geomagnetic K = 5	

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
15 Sep	125	30	6	29 Sep	130	15	5
16	120	12	4	30	125	8	3
17	125	10	3	01 Oct	120	5	2
18	130	5	2	02	115	5	2
19	135	5	2	03	115	15	5
20	135	5	2	04	110	12	4
21	135	5	2	05	110	12	4
22	135	5	2	06	115	15	5
23	130	5	2	07	115	12	4
24	125	5	2	08	110	8	3
25	130	5	2	09	115	8	3
26	125	5	2	10	115	5	2
27	125	5	2	11	120	15	5
28	130	12	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

No Events Observed

Flare List

	Time				Optical		
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
08 Sep	0216	0249	0306	C1.2			4212
08 Sep	0327	0356	0421	C1.2			4212
08 Sep	0433	0447	0524	C1.0			4211
08 Sep	B1212	U1216	A1233	C1.0	SF	S11E08	4213
08 Sep	1253	1301	1307	C1.1	SF	S11E08	4213
08 Sep	1342	1351	1408		SF	S11E08	4213
08 Sep	1436	1445	1454	C1.0			
08 Sep	1604	1604	1607		SF	S11E07	4213
08 Sep	1622	1630	1633	C1.2	SF	S11E06	4213
08 Sep	1914	1921	1926	C1.1			4207
08 Sep	2356	0003	0006	B7.6			4207
09 Sep	0317	0323	0326	C1.5			4207
09 Sep	1347	1355	1400	C1.6	SF	N10W34	4210
10 Sep	0921	0925	0930	C1.3			4207
10 Sep	1544	1552	1559	C1.0			4206
10 Sep	1741	1742	1823		SF	N26W69	4207
10 Sep	2007	2012	2014		SF	N25W26	4215
10 Sep	2101	2107	2112	B9.4			4207
11 Sep	0317	0327	0404	C1.1			4207
11 Sep	0404	0409	0411	C1.0			4207
11 Sep	0941	0947	0951	B9.8			4207
11 Sep	1509	1521	1533	C7.6	SF	N27W76	4207
11 Sep	1703	1707	1710	C1.9			4207
11 Sep	1858	1903	1907	C1.2			4207
11 Sep	1916	1924	1928	C1.0	SF	S17W39	4213
11 Sep	1937	1948	2003	C1.8			4216
11 Sep	2216	2229	2253	C1.0			4216
12 Sep	2249	2300	2312	C1.4			4207
12 Sep	2338	2344	0017	C1.1			4213
13 Sep	0503	0509	0519	C1.1			4207
13 Sep	0733	0814	0844	C1.5			4207

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
13 Sep	1857	1905	1912	C1.2			
13 Sep	2147	2206	2223	C1.2			
13 Sep	2232	2243	2315	C1.1			4211
14 Sep	0524	0527	0538	C1.1			4216
14 Sep	0548	0554	0556	C1.3	SF	N08E46	4216
14 Sep	0602	0611	0616	C1.7			4217
14 Sep	0641	0650	0652	C2.2			4216
14 Sep	0757	0804	0810	C1.4			4217
14 Sep	0927	0932	0940	C3.5			4217
14 Sep	1510	1514	1517	C2.6	SF	S15E79	4217
14 Sep	1518	1523	1525	C3.7			4217
14 Sep	1518	1518	1549		SF	S15E79	4217
14 Sep	1819	1823	1834	C2.0			

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 4205												
29 Aug	N18E67	67	40	2	Hax	1	A								
30 Aug	N18E54	67	60	2	Hax	1	A								
31 Aug	N17E40	68	60	2	Hsx	1	A								
01 Sep	N18E26	69	60	2	Hsx	1	A								
02 Sep	N18E12	70	60	2	Hax	1	A								
03 Sep	N18W03	71	40	2	Hax	2	A								
04 Sep	N17W15	70	10	1	Axx	1	A								
05 Sep	N17W27	69	plage								1				
06 Sep	N17W41	70	plage												
07 Sep	N17W55	71	plage												
08 Sep	N17W69	71	plage												
09 Sep	N17W83	72	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 71

			Region 4206												
29 Aug	N09E70	64	50	2	Hsx	1	A								
30 Aug	N09E58	63	80	2	Hsx	1	A								
31 Aug	N09E44	64	80	2	Hsx	1	A								
01 Sep	N09E30	65	100	2	Hsx	1	A								
02 Sep	N09E16	66	140	3	Hsx	1	A								
03 Sep	N08E01	67	80	2	Hsx	1	A								
04 Sep	N08W12	67	100	3	Hsx	1	A								
05 Sep	N08W24	66	120	2	Hsx	1	A								
06 Sep	N09W37	66	100	2	Hsx	1	A								
07 Sep	N09W50	66	80	2	Hsx	1	A								
08 Sep	N08W64	66	50	1	Hsx	1	A								
09 Sep	N08W78	67	50	1	Hsx	1	A								
10 Sep	N08W92	68	30	1	Hsx	1	A	1							
								1	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 67

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 4207												
30 Aug	N30E69	52	120	4	Hax	2	A								
31 Aug	N30E58	50	160	12	Eao	6	B								
01 Sep	N30E38	44	210	14	Eao	6	B	1							
02 Sep	N30E39	43	250	16	Fko	10	B								
03 Sep	N30E24	44	300	17	Fho	6	B	1			2				
04 Sep	N29E10	45	390	19	Fhi	17	B	2	1		7	1			
05 Sep	N29W03	45	360	22	Fki	17	BG	1	1			1			
06 Sep	N29W21	50	300	8	Dki	12	BG	4	1		4				
07 Sep	N28W33	49	200	8	Dai	8	B	6			8				
08 Sep	N27W44	46	150	10	Dai	10	B	1							
09 Sep	N27W58	47	110	10	Cao	6	B	1							
10 Sep	N29W72	48	70	10	Cso	3	B	1			1				
11 Sep	N28W86	49	80	7	Cso	3	B	5			1				
								23	3	0	23	2	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 45

			Region 4210												
02 Sep	N09E54	28	30	4	Cro	2	B								
03 Sep	N08E41	27	140	8	Dso	5	B	3			4				
04 Sep	N08E27	28	140	7	Dso	6	B	1			1				
05 Sep	N08E14	28	140	6	Dsi	8	B								
06 Sep	N08W01	30	70	7	Dso	7	B								
07 Sep	N08W14	30	50	6	Cso	3	B								
08 Sep	N07W28	30	20	4	Cso	2	B								
09 Sep	N07W41	30	30	5	Cao	2	B	1			1				
10 Sep	N07W56	32	10	2	Bxo	2	B								
11 Sep	N07W68	31	10	1	Axx	1	A								
12 Sep	N07W83	33	plage												
								5	0	0	6	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 30

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 4211												
02 Sep	S13E71	11	70	3	Hsx	1	A								
03 Sep	S14E56	12	210	2	Hsx	1	A	3			2				
04 Sep	S13E43	12	150	3	Hsx	1	A	1							
05 Sep	S14E30	12	160	2	Hsx	1	A								
06 Sep	S14E17	12	160	3	Hsx	1	A								
07 Sep	S14E03	13	160	2	Hsx	1	A				1				
08 Sep	S14W08	10	110	3	Hsx	1	A	1							
09 Sep	S14W22	11	110	3	Hsx	1	A								
10 Sep	S14W36	12	110	3	Hsx	1	A								
11 Sep	S14W50	13	110	3	Hsx	1	A								
12 Sep	S14W64	14	120	3	Hsx	1	A								
13 Sep	S14W77	13	90	2	Hsx	1	A	1							
14 Sep	S14W90	13	80	2	Hsx	1	A								
								6	0	0	3	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 13

			Region 4212												
04 Sep	N11E07	48	15	3	Bxo	3	B								
05 Sep	N11W06	48	10	1	Axx	1	A								
06 Sep	N11W20	49	plage												
07 Sep	N09W34	50	10	2	Axx	2	A	1			5				
08 Sep	N09W48	50	30	5	Cro	5	B	2							
09 Sep	N09W62	51	10	5	Bxo	4	B								
10 Sep	N09W76	52	plage												
11 Sep	N09W90	53	plage												
								3	0	0	5	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 48

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 4213												
06 Sep	S13E28	1	20	4	Cro	4	B				2				
07 Sep	S13E15	1	220	7	Dao	8	B	4			8	1			
08 Sep	S14E02	360	210	8	Dai	14	BG	3			5				
09 Sep	S14W12	1	220	9	Dai	10	BG								
10 Sep	S14W27	3	230	10	Dai	13	BG								
11 Sep	S15W39	2	200	10	Dao	6	B	1			1				
12 Sep	S15W53	3	150	10	Dao	5	B	1							
13 Sep	S14W66	2	100	7	Dao	7	B								
14 Sep	S14W79	2	90	8	Dao	6	B								
								9	0	0	16	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 360

			Region 4214												
09 Sep	N06W38	27	25	4	Cao	5	BG								
10 Sep	N06W52	28	30	4	Dro	3	B								
11 Sep	N05W67	30	30	4	Cro	5	B								
12 Sep	N05W82	32	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 27

			Region 4215												
10 Sep	N23W29	4	10	1	Hrx	1	A				1				
11 Sep	N24W41	4	10	2	Bxo	3	B								
12 Sep	N24W55	5	10	2	Bxo	2	B								
13 Sep	N24W69	5	plage												
14 Sep	N24W83	6	plage												
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 4

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 4216												
11 Sep	N09E77	246	100	8	Dso	3	B	2							
12 Sep	N10E63	247	190	9	Dsc	8	B								
13 Sep	N10E52	244	180	6	Dai	5	B								
14 Sep	N10E35	248	180	6	Dai	10	B	3			1				
								5	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 248

			Region 4217												
14 Sep	S15E70	213	90	5	Hsx	1	A	5			2				
								5	0	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 213

			Region 4218												
14 Sep	N15W73	356	30	7	Cao	7	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 356

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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