

Space Weather Highlights
14 September - 20 September 2026

SWPC PRF 2664
21 September 2026

Solar activity was at very low levels on 14-18 Sep and increased to low levels on 19-20 Sep. Region 4535 (N12, L=353, class/area Hrx/020 on 20 Sep) produced a C1.1 flare at 20/0518 UTC, while Region 4534 (N11, L=074, class/area Dro/030 on 20 Sep) produced a C3.7/1f flare at 20/2234 UTC, the largest of the period. No Earth-directed CMEs were detected during the highlight period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at high levels on 14 Sep when a maximum flux of 4,650 pfu was observed at 14/1315 UTC. Low to moderate levels were observed on 15-20 Sep.

Geomagnetic field activity reached unsettled levels on 14-17 Sep, with isolated active levels observed on 14 and 16 Sep. Unsettled to active levels were observed on 14 Sep due to a southern hemisphere filament eruption coupled with a SSBC. Unsettled levels were observed on 15-17 Sep, with an isolated active period early on 16 Sep, all due to negative polarity CH HSS effects. Quiet to isolated unsettled levels were observed on 18-20 Sep.

Space Weather Outlook
21 September - 17 October 2026

Solar activity is expected to be at low levels, with a slight chance for moderate to high levels throughout the forecast 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 on 26-30 Sep, 01-03 Oct, and 05-11 Oct. Low to moderate levels are expected on 21-25 Sep, 04 Oct, and 12-17 Oct.

Geomagnetic field activity is expected to reach active to G1 storm levels on 24-25 Sep due to positive polarity CH HSS effects. Unsettled to active levels are expected on 26-27 Sep and 04-08 Oct due to positive polarity CH HSS effects. Quiet to unsettled levels are expected on 11-14 Oct due to negative polarity CH HSS effects. Largely quiet levels are anticipated for all remaining dates in the forecast 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
14 September	104	51	320	B2.7	0	0	0	1	0	0	0	0
15 September	107	23	270	B2.4	0	0	0	0	0	0	0	0
16 September	100	23	250	B2.3	0	0	0	0	0	0	0	0
17 September	97	11	120	B2.0	0	0	0	0	0	0	0	0
18 September	96	0	0	B2.2	0	0	0	0	0	0	0	0
19 September	97	11	10	B2.6	1	0	0	0	0	0	0	0
20 September	101	54	90	B2.8	2	0	0	4	1	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	
14 September	9.3e+06	1.9e+05	1.1e+08	
15 September	6.6e+06	4.2e+04	1.8e+07	
16 September	7.5e+05	2.0e+04	1.9e+07	
17 September	2.9e+05	2.0e+04	2.3e+07	
18 September	4.6e+05	2.0e+04	3.8e+07	
19 September	2.4e+05	2.0e+04	3.1e+07	
20 September	3.6e+05	2.0e+04	2.9e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
14 September	8	1-2-1-2-2-3-2-3	15	1-2-1-4-5-3-2-2	11	1-2-1-2-3-4-3-3
15 September	7	3-2-0-1-3-0-2-2	7	2-2-0-0-2-0-2-4	8	3-2-0-1-2-1-2-3
16 September	7	3-2-2-2-2-1-1-1	14	4-2-2-3-5-1-0-1	9	4-3-2-2-2-1-1-1
17 September	7	2-1-2-1-3-2-2-2	14	2-1-2-2-6-1-1-1	9	3-2-2-2-3-2-2-2
18 September	6	1-2-2-2-2-2-1-1	3	1-1-2-2-1-0-0-0	5	2-2-2-2-1-1-1-2
19 September	6	2-2-2-1-2-1-2-1	4	1-2-0-0-2-3-0-1	7	2-3-2-1-2-2-2-2
20 September	6	2-3-2-1-2-1-1-0	4	1-3-3-0-0-0-0-0	9	2-3-2-1-1-0-0-1

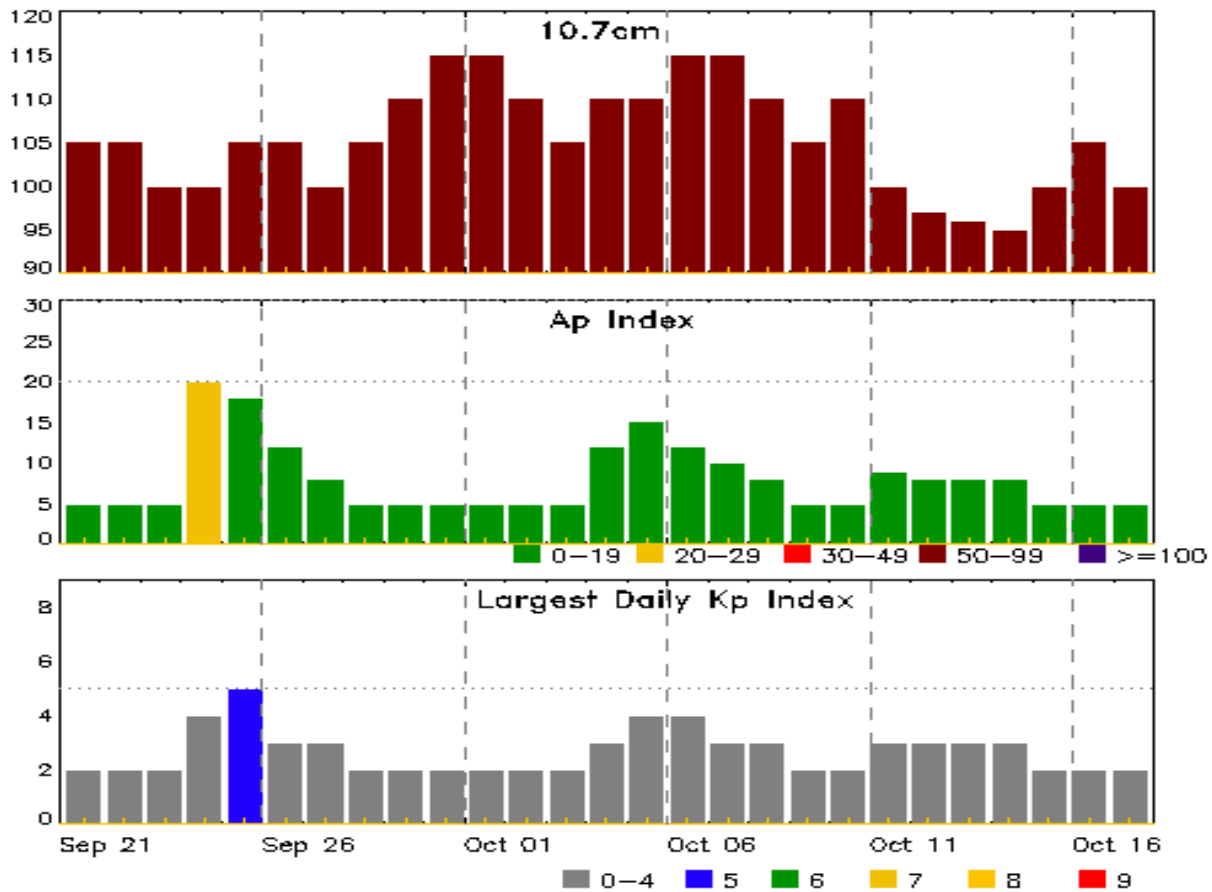


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
14 Sep 1103	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	10/1304
14 Sep 1547	WATCH: Geomagnetic Storm Category G1 predicted	
14 Sep 1654	WARNING: Geomagnetic K = 4	14/1653 - 2349
14 Sep 1802	ALERT: Geomagnetic K = 4	14/1743
15 Sep 1737	WATCH: Geomagnetic Storm Category G1 predicted	
15 Sep 1850	WARNING: Geomagnetic K = 4	15/1849 - 16/0600
15 Sep 1856	WARNING: Geomagnetic K = 5	15/1855 - 16/0600
16 Sep 0034	ALERT: Geomagnetic K = 4	16/0030
16 Sep 0538	EXTENDED WARNING: Geomagnetic K = 4	15/1849 - 16/1800



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	105	5	2	05 Oct	110	15	4
22	105	5	2	06	115	12	4
23	100	5	2	07	115	10	3
24	100	20	4	08	110	8	3
25	105	18	5	09	105	5	2
26	105	12	3	10	110	5	2
27	100	8	3	11	100	9	3
28	105	5	2	12	97	8	3
29	110	5	2	13	96	8	3
30	115	5	2	14	95	8	3
01 Oct	115	5	2	15	100	5	2
02	110	5	2	16	105	5	2
03	105	5	2	17	100	5	2
04	110	12	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		II	IV
									245	2695		

No Events Observed

Flare List

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
14 Sep	0826	0834	0844	B4.5			
14 Sep	1016	1108	1404	B8.7			4528
14 Sep	1429	1433	1436	B9.9			
14 Sep	1448	1448	1449		SF	N12W37	4529
15 Sep	1457	1509	1523	B5.4			
16 Sep	0808	0814	1053	B3.6			
16 Sep	1053	1102	1113	B3.8			
16 Sep	1146	1153	1203	B3.4			
16 Sep	2210	2345	0054	B7.9			
17 Sep	1208	1216	1224	B3.2			
19 Sep	0109	0127	0148	B9.5			
19 Sep	0218	0227	0229	B8.1			
19 Sep	0308	0315	0317	B6.1			
19 Sep	0326	0333	0337	B5.0			
19 Sep	0351	0400	0402	B7.1			
19 Sep	0418	0424	0426	B5.7			
19 Sep	0434	0438	0441	B4.1			
19 Sep	0456	0503	0508	B3.7			
19 Sep	0508	0536	0606	B5.5			
19 Sep	0811	0819	0821	B8.4			
19 Sep	1719	1726	1731	B5.3			
19 Sep	1757	1817	1832	C3.3			
20 Sep	0300	0310	0312	B4.0			
20 Sep	0312	0319	0321	B4.2			
20 Sep	0447	0457	0502	B9.2			4535
20 Sep	0452	0518	0539	C1.1			4535
20 Sep	0635	0638	0641	B4.2			4535
20 Sep	1721	1729	1732	B4.9			
20 Sep	1756	1802	1805	B4.6			4534
20 Sep	1805	1810	1812	B8.0			
20 Sep	1810	1812	1814		SF	N11W05	4534



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
20 Sep	1819	1825	1829	B5.8	SF	N11W05	4534
20 Sep	2105	2109	2123		SF	N11W05	4534
20 Sep	2126	2127	2148		SF	N11W05	4534
20 Sep	2224	2233	2301	C3.7	1F	N11W08	4534



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 4524															
02 Sep	N12E78	226	30	1	Hax	1	A	3	1						
03 Sep	N12E66	225	60	2	Hax	1	A	1			2				
04 Sep	N12E53	225	80	4	Dso	3	B	2	1		2	1			
05 Sep	N12E40	224	100	4	Cso	3	B	3				1	1		
06 Sep	N12E26	225	100	3	Cao	4	BG	1			1	1			
07 Sep	N12E13	225	70	3	Hax	3	A	1			3				
08 Sep	N13W00	225	50	3	Hsx	2	A								
09 Sep	N12W13	225	25	2	Hsx	3	A	1				1			
10 Sep	N12W27	225	40	1	Hsx	1	A	2			1				
11 Sep	N12W40	225	20	1	Hsx	1	A								
12 Sep	N12W54	226	20	1	Hrx	1	A								
13 Sep	N12W68	225	20	1	Hrx	1	A								
14 Sep	N12W82	227	10	1	Axx	1	A								
								14	2	0	9	4	1	0	0

Crossed West Limb.

Absolute heliographic longitude: 225

Region 4525															
04 Sep	N11E66	212	10	3	Bxo	3	B								
05 Sep	N11E52	212	10	1	Axx	1	A				1				
06 Sep	N11E38	213	plage												
07 Sep	N10E27	211	10	1	Axx	2	A								
08 Sep	N11E16	209	10	5	Axx	4	A								
09 Sep	N11E04	208	20	5	Cro	6	B								
10 Sep	N11W10	208	20	6	Cri	5	B								
11 Sep	N11W24	209	10	4	Cro	4	B								
12 Sep	N11W38	210	10	1	Axx	1	A								
13 Sep	N11W52	211	10	5	Bxo	2	B								
14 Sep	N11W66	212	plage												
15 Sep	N11W80	212	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 208



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 4526

04 Sep	S02E69	209	10	2	Bxo	2	B	1							
05 Sep	S02E55	209	10	1	Axx	1	A								
06 Sep	S02E42	209	10	7	Bxo	2	B								
07 Sep	S02E28	210	plage												
08 Sep	S02E14	211	plage												
09 Sep	S02W01	213	plage												
10 Sep	S02W16	214	plage												
11 Sep	S02W31	216	plage												
12 Sep	S02W46	218	plage												
13 Sep	S02W61	220	plage												
14 Sep	S02W76	222	plage												
								1	0	0	0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 213

Region 4527

04 Sep	N03E71	207	60	8	Hsx	1	A	2			1				
05 Sep	N04E57	207	160	3	Hsx	1	A								
06 Sep	N04E44	207	180	3	Hsx	2	A								
07 Sep	N03E33	205	210	3	Hsx	2	A								
08 Sep	N03E21	203	180	3	Hsx	4	A								
09 Sep	N04E09	202	190	5	Hsx	4	A								
10 Sep	N04W03	201	180	5	Hsx	3	A								
11 Sep	N04W18	203	180	5	Hsx	3	A								
12 Sep	N04W33	205	200	5	Hsx	3	A								
13 Sep	N04W48	207	200	5	Hax	3	A								
14 Sep	N05W61	205	180	3	Hax	3	A								
15 Sep	N05W74	205	150	3	Hax	2	A								
16 Sep	N03W85	204	130	3	Hax	2	A								
								2	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 201

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 4528															
06 Sep	S11E64	187	80	2	Hsx	1	A	1							
07 Sep	S11E51	187	100	2	Hsx	1	A	1			1				
08 Sep	S11E38	187	120	2	Hsx	1	A	2			3				
09 Sep	S11E25	187	120	2	Hsx	1	A	1			1				
10 Sep	S11E11	187	120	3	Hsx	1	A								
11 Sep	S11W03	188	100	3	Hsx	1	A								
12 Sep	S11W17	189	100	3	Hsx	1	A								
13 Sep	S11W31	190	100	3	Hsx	1	A	1							
14 Sep	S11W44	189	120	3	Hsx	1	A								
15 Sep	S11W57	189	120	2	Hsx	1	A								
16 Sep	S11W70	189	120	2	Hsx	1	A								
17 Sep	S11W83	189	120	2	Hsx	1	A								
								6	0	0	5	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 188

<i>Region 4529</i>															
06 Sep	N13E63	188	100	2	Hsx	1	A								
07 Sep	N12E50	188	90	2	Hax	1	A								
08 Sep	N12E37	187	85	2	Hsx	1	A								
09 Sep	N12E24	187	70	2	Hsx	3	A								
10 Sep	N12E10	188	80	2	Hax	1	A								
11 Sep	N12W04	189	80	2	Hax	1	A								
12 Sep	N12W18	190	60	3	Cao	3	B								
13 Sep	N12W32	191	60	3	Cao	3	B								
14 Sep	N12W45	190	10	2	Bxo	6	B				1				
15 Sep	N14W42	189	plage												
16 Sep	N14W56	190	plage												
17 Sep	N14W70	187	plage												
18 Sep	N14W84	187	plage												
19 Sep	N14W98	187	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 189



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 4530

07 Sep	N19E19	219	30	5	Dri	6	B								
08 Sep	N19E06	219	40	6	Dao	6	B								
09 Sep	N19W07	219	30	7	Dro	6	B								
10 Sep	N19W21	219	30	7	Dri	8	B				1				
11 Sep	N19W35	220	30	7	Dao	7	B								
12 Sep	N19W49	221	30	7	Dao	7	B				2				
13 Sep	N19W63	222	30	7	Cao	7	B								
14 Sep	N19W77	223	plage												
								0	0	0	3	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 219

Region 4531

15 Sep	S08W09	141	plage												
16 Sep	S08W23	142	plage												
17 Sep	S08W37	143	plage												
18 Sep	S08W51	144	plage												
19 Sep	S08W65	144	plage												
20 Sep	S08W79	145	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 141

Region 4532

19 Sep	S06W39	119	10	1	Axx	1	A								
20 Sep	S06W54	120	10	4	Bxo	4	B								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 119

Region 4533

20 Sep	S14E64	2	30	2	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 2



Region Summary - continued

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

Region 4534

20 Sep	N11W08	74	30	5	Dro	8	B	1			4	1			
								1	0	0	4	1	0	0	0

Still on Disk.

Absolute heliographic longitude: 74

Region 4535

20 Sep	N12E73	353	20	1	Hrx	1	A	1							
								1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 353

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

The Weekly has been published continuously since 1951 and is available online since 1997.

<https://www.swpc.noaa.gov/products/weekly-highlights-and-27-day-forecast> --

Current

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