

Space Weather Highlights
18 May - 24 May 2026

SWPC PRF 2647
25 May 2026

Solar activity ranged from low to moderate levels. The largest flare was an M2.3 (R1-Minor) at 22/1029 UTC from Region 4436 (N18, L=333, class/area Dai/200 on 13 May). The region was also responsible for a C8.3 and C9.5 flares on 21/1814 UTC and 21/1825 UTC, respectively. This region was responsible for the majority of the C-class activity until its rotation off the W limb on 21 May. On 23-24 May, the majority of the C-class activity occurred from Region 4446 (S13, L=141, class/area Dko/280 on 24 May). No Earth-directed CMEs were observed during the period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 18-24 May due to CH HSS influences. The highest flux observed was 6,667 pfu at 18/1435 UTC.

Geomagnetic field activity ranged from quiet to active levels. Solar wind parameters began the period in a slow decline from 560 km/s as negative polarity CH HSS effects gradually diminished. At 19/0630 UTC, a small shock was observed increasing total field to 7-8 nT while solar wind speed increased to near 625 km/s before beginning to decline once again. This was likely the glancing effects from a CME that left the Sun on 16 May. Solar wind speed continued to decrease to nominal levels through 22 May. The geomagnetic field reacted with quiet to active levels on 19 May. Quiet to unsettled levels were observed on 18 May and 20-22 May. Quiet conditions occurred on 23-24 May.

Space Weather Outlook
25 May - 20 June 2026

Solar activity is expected to be at low to moderate levels (R1-R2, Minor-Moderate) on 25 May through 07 Jun with the return of old Region 4432 (N14, L=081). Mostly low levels with a chance for M-class flares is expected from 08-20 Jun.

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 25-27 May and 12-20 Jun due to CH HSS influences.

Geomagnetic field activity is expected to be at unsettled to active levels on 27-29 May, 04 Jun, 09 Jun, and 11-15 Jun due to recurrent CH HSS activity. G2 (Moderate) storm conditions are likely on 11 Jun and G1 (Minor) storming on 12 Jun due to CIR/CH HSS onset.



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
18 May	105	77	230	B3.5	1	0	0	0	1	0	0	0
19 May	106	72	245	B3.3	5	0	0	7	0	0	0	0
20 May	114	67	250	B4.9	2	0	0	1	0	0	0	0
21 May	118	76	350	B5.8	6	0	0	0	0	0	0	0
22 May	124	67	300	B7.3	10	1	0	0	0	0	0	0
23 May	137	86	660	B8.3	15	0	0	1	0	0	0	0
24 May	133	86	710	B7.4	4	0	0	2	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	
	18 May	3.5e+06	2.0e+04	3.0e+08
19 May	2.0e+06	1.8e+04	1.2e+08	
20 May	5.0e+05	1.9e+04	7.8e+07	
21 May	1.2e+06	1.9e+04	1.3e+08	
22 May	8.0e+05	1.9e+04	1.7e+08	
23 May	1.6e+06	2.0e+04	2.2e+08	
24 May	3.5e+06	1.9e+04	2.0e+08	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	18 May	8	2-2-2-2-3-1-2-2	19	2-3-3-4-5-4-2-2	9
19 May	18	1-3-3-3-5-4-3-2	47	3-3-6-6-6-6-3-2	19	2-3-4-4-4-4-3-3
20 May	8	3-3-2-1-2-1-1-2	11	4-4-2-1-1-1-2-2	8	3-3-2-1-2-1-1-2
21 May	6	2-2-1-1-2-1-2-2	10	3-3-2-2-4-1-1-1	7	3-2-1-1-2-1-2-2
22 May	5	1-2-1-2-2-1-1-2	9	2-2-2-5-0-0-1-1	6	1-2-2-2-1-1-1-3
23 May	4	0-1-1-1-2-2-2-1	2	1-2-1-0-0-0-0-0	3	1-1-1-1-1-0-0-1
24 May	7	1-1-1-2-3-2-2-2	3	1-1-1-1-2-0-1-1	4	1-1-1-1-2-1-2-2

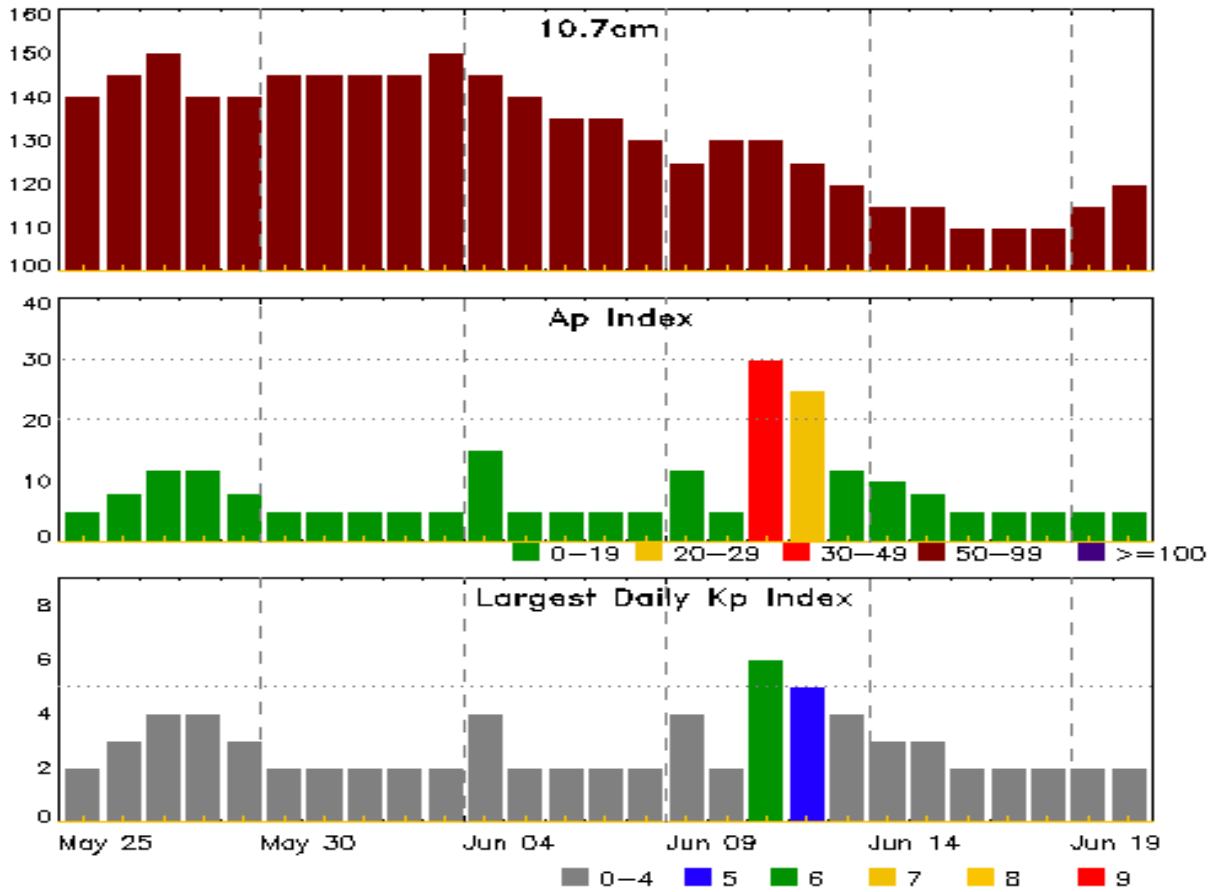


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
19 May 0514	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	16/1740
19 May 0703	WARNING: Geomagnetic K = 4	19/0701 - 1800
19 May 0855	ALERT: Geomagnetic K = 4	19/0828
23 May 2000	ALERT: Type II Radio Emission	23/1941
24 May 1211	ALERT: Type II Radio Emission	24/0850



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
25 May	140	5	2	08 Jun	130	5	2
26	145	8	3	09	125	12	4
27	150	12	4	10	130	5	2
28	140	12	4	11	130	30	6
29	140	8	3	12	125	25	5
30	145	5	2	13	120	12	4
31	145	5	2	14	115	10	3
01 Jun	145	5	2	15	115	8	3
02	145	5	2	16	110	5	2
03	150	5	2	17	110	5	2
04	145	15	4	18	110	5	2
05	140	5	2	19	115	5	2
06	135	5	2	20	120	5	2
07	135	5	2				



Energetic Events

Date	Time		Half Max	X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max		Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
								245	2695	II	IV	
22 May	1003	1029	1101	M2.3	0.053			4436				

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
18 May	0319	0329	0334	B8.3			4436
18 May	1810	1828	1845	C1.9	1F	N15W48	4436
18 May	1948	2000	2007	B6.6			4436
19 May	0309	0315	0318	B5.0			4436
19 May	0537	0543	0547	B4.7			4436
19 May	0729	0740	0744	C2.1	SF	N20W50	4436
19 May	1016	1026	1031	B8.2			4440
19 May	1124	1132	1141	B4.7	SF	N19W57	4436
19 May	1404	1408	1418	B6.3	SF	N18W58	4436
19 May	1642	1651	1705	C1.1	SF	N17W58	4436
19 May	1823	1824	1828		SF	N23W56	4436
19 May	1944	2000	2009	C2.1	SF	N18W61	4436
19 May	2111	2125	2140	C1.0	SF	N18W62	4436
19 May	2158	2203	2207	C1.4			4436
20 May	0235	0245	0253	B8.7			4439
20 May	0325	0332	0337	B8.7			4436
20 May	0412	0443	0513	C1.0			
20 May	0959	1009	1017	C1.0	SF	N06E27	4439
21 May	1309	1321	1324	C5.5			4436
21 May	1629	1637	1640	C1.0			
21 May	1804	1814	1819	C8.3			4436
21 May	1819	1825	1830	C9.5			4436
21 May	1941	1958	2035	C1.2			4443
21 May	2304	2310	2315	C1.3			4436
22 May	0022	0032	0048	C2.8			4436
22 May	0254	0302	0318	B9.0			4436
22 May	0323	0334	0349	C1.9			4436
22 May	0452	0459	0505	C1.9			4436
22 May	0640	0652	0703	C2.1			4436
22 May	0731	0736	0740	B9.4			



Flare List

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
22 May	0949	1001	1003	C1.4			4436
22 May	1003	1029	1101	M2.3			4436
22 May	1255	1301	1305	C1.5			4441
22 May	2011	2018	2035	C1.1			
22 May	2125	2133	2138	C1.5			
22 May	2252	2255	2258	C1.3			4444
22 May	2333	2350	2358	C1.6			
23 May	0217	0224	0229	C1.6			
23 May	0322	0327	0332	C1.3			
23 May	0346	0350	0353	C1.4			
23 May	0535	0548	0553	C3.6			
23 May	0711	0717	0721	C2.1			
23 May	0910	0913	0916	C1.9			
23 May	0959	1001	1002		SF	S16E46	4444
23 May	1135	1144	1147	C2.9			
23 May	1402	1411	1415	C2.3			
23 May	1647	1656	1704	C1.6			4446
23 May	1708	1714	1719	C1.8			4446
23 May	1734	1746	1755	C2.0			4446
23 May	1907	1932	1945	C2.8			4446
23 May	2100	2105	2112	C2.9			4446
23 May	2157	2204	2207	C5.5			4446
23 May	2223	2232	2253	C2.5			4446
23 May	2343	2359	0011	C4.7			4446
24 May	0048	0104	0108	C3.5			4446
24 May	0111	0116	0117		SF	S06E82	
24 May	0218	0225	0230	C3.4			4446
24 May	0233	0237	0240	C3.7			4446
24 May	1828	1837	1845	C1.2	SF	S19E33	4447



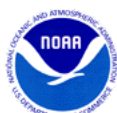
Region Summary

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 4409																							
30 Mar	N02E54	153	10	2	Bxo	2	B																
31 Mar	N02E39	154	20	4	Dro	4	B																
01 Apr	N02E24	156	30	4	Dri	8	B	7															
02 Apr	N02E13	155	40	9	Dai	15	BG	6				4											
03 Apr	N02W01	155	140	11	Eai	16	BG	12	1			11	1										
04 Apr	N02W15	156	170	11	Eai	26	BG	13	4			6	1										
05 Apr	N02W28	156	170	11	Eac	26	B	12				1											
06 Apr	N02W43	157	190	11	Eai	25	B	1															
07 Apr	N02W57	158	190	12	Eai	15	BG	5				1											
08 Apr	N01W71	159	180	11	Esi	20	BD	1															
09 Apr	N01W85	160	170	11	Esi	20	BD	4	1			1											
								61	6	0		24	2	0	0	0							

Crossed West Limb.
 Absolute heliographic longitude: 155

Region 4436																							
09 May	N18E69	330	200	5	Dso	3	B																
10 May	N19E55	330	200	6	Dao	4	B	2	1			1		1									
11 May	N19E41	330	200	8	Dao	5	BG																
12 May	N18E27	332	170	5	Cao	4	B	3				4											
13 May	N18E13	333	200	5	Dai	9	B	3				1											
14 May	N18E02	331	180	4	Cao	7	B	1				1											
15 May	N19W13	332	180	4	Cao	7	B	1				1											
16 May	N19W26	332	70	4	Hsx	6	A	1	2			2			1								
17 May	N18W40	332	80	3	Hsx	4	A	2				2			1								
18 May	N19W52	331	70	3	Hsx	3	A	1						1									
19 May	N18W64	330	85	5	Cso	6	B	5				7											
20 May	N18W78	331	100	4	Csi	7	B																
21 May	N18W90	330	100	6	Csi	3	B	4															
								23	3	0		19	1	3	0	0							

Crossed West Limb.
 Absolute heliographic longitude: 331



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 4438																							
13 May	N19W30		16	10	3	Bxo	3	B															
14 May	N20W44		16	50	6	Dao	5	B	3														
15 May	N20W57		16	60	5	Dao	4	B	1														
16 May	N20W70		16	60	8	Dao	5	B				2											
17 May	N20W85		17	10	10	Dao	2	B	1														
									5	0	0	2	0	0	0	0	0	0	0				

Crossed West Limb.
Absolute heliographic longitude: 16

Region 4439																							
16 May	N06E68		238	50	2	Dao	2	B	1														
17 May	N06E52		240	50	2	Dao	2	B	1														
18 May	N06E42		237	50	8	Dao	2	B															
19 May	N06E30		236	50	9	Cao	5	B															
20 May	N06E15		238	20	7	Hrx	5	A	1			1											
21 May	N07W02		241	30	3	Cao	2	B															
22 May	N06W17		242	10	2	Cro	2	B															
23 May	N06W29		242	10	1	Hrx	1	A															
24 May	N06W44		244	plage																			
									3	0	0	1	0	0	0	0	0	0					

Still on Disk.
Absolute heliographic longitude: 241

Region 4440																							
16 May	N17E71		235	20	2	Cao	2	B															
17 May	N17E54		238	30	2	Hax	1	A															
18 May	N17E42		237	30	2	Hrx	2	A															
19 May	N17E29		237	20	2	Hrx	2	A															
20 May	N17E15		238	plage																			
21 May	N17E01		240	plage																			
22 May	N17W13		239	plage																			
23 May	N17W27		240	plage																			
24 May	N17W41		241	plage																			
									0	0	0	0	0	0	0	0	0	0					

Still on Disk.
Absolute heliographic longitude: 240



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 4441																		
16 May	N08E28	278	10	3	Dro	3	B											
17 May	N18E13	279	50	4	Dao	3	B											
18 May	N08W01	280	60	6	Dao	6	B											
19 May	N07W15	281	85	10	Dao	8	B											
20 May	N07W30	283	120	11	Eai	14	B											
21 May	N08W45	285	150	11	Eai	13	BG											
22 May	N08W58	283	130	12	Eai	15	BG	1										
23 May	N09W71	284	280	14	Ehi	9	B											
24 May	N08W85	285	140	11	Eao	3	B											
								1	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 280

Region 4442																		
17 May	S16E44	249	20	3	Cro	2	B											
18 May	S15E28	251	10	2	Bxo	2	B											
19 May	S15E14	252	plage															
20 May	S15W00	253	plage															
21 May	S15W14	254	plage															
22 May	S15W28	255	plage															
23 May	S15W42	255	plage															
24 May	S15W56	256	plage															
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 253

Region 4443																		
17 May	S15E60	233	10	2	Bxo	2	B											
18 May	S16E47	232	10	3	Bxo	2	B											
19 May	S16E37	229	5	1	Axx	1	A											
20 May	S16E23	230	10	1	Axx	1	A											
21 May	S16E10	230	10	3	Dao	7	B	1										
22 May	S16W05	231	40	6	Dso	6	B											
23 May	S16W18	231	50	7	Dso	8	B											
24 May	S16W31	231	50	6	Dso	4	B											
								1	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 231



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 4444

21 May	S21E65	175	60	3	Hsx	1	A											
22 May	S20E53	173	120	3	Cso	4	B	1										
23 May	S19E38	175	130	6	Dso	5	B				1							
24 May	S21E29	171	100	3	Hsx	1	A											
								1	0	0	1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 171

Region 4445

23 May	N07E48	164	20	1	Hrx	1	A											
24 May	N07E37	163	20	1	Hsx	1	A											
								0	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 163

Region 4446

23 May	S13E75	138	170	9	Dao	2	B	7										
24 May	S13E59	141	280	9	Dko	3	B	3										
								10	0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 141

Region 4447

24 May	S17E23	177	120	6	Dao	14	B	1			1							
								1	0	0	1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 177



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

Current

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