

Solar activity was at very low to low levels throughout the summary period. Region 4535 (N11, L=351, class/area Dao/060 on 30 Sep) produced the strongest flare of the period; an impulsive C8.6/1f event at 30/0246 UTC. This event also produced a 523 km/s Type II and a Type IV Sweep. All other regions remained simple and absent of any significant activity. No Earth-directed CMEs were observed in available coronagraph imagery.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 28-30 Sep and 01 Oct with a peak of 5,620 pfu observed at 29/1620 UTC. Moderate levels were observed on 02-04 Oct.

Geomagnetic field activity was at quiet levels on 28-30 Sep and 01-03 Oct with some isolated unsettled periods observed early on 03 Oct. On 04 Oct, solar wind parameters became enhanced due to the influence of a positive polarity CH HSS. Total magnetic field strength increased to a peak of 22 nT and Bz observed several southward deflections, the maximum being -20 nT early on 04 Oct. Solar wind speeds steadily increased from about 300 km/s to a peak of 644 km/s later on 04 Oct. The phi angle was predominately positive.

Space Weather Outlook **05 October - 31 October 2026**

Solar activity is likely to continue at very low to low levels 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 be at high levels on 06-11 Oct, 14-17 Oct, and 23-28 Oct due to anticipated influence from multiple, recurrent CH HSSs.

Geomagnetic field activity is expected to reach G1 (Minor) geomagnetic storm levels on 22 and 31 Oct. Active levels are likely on 06, 21, and 23 Oct. Unsettled levels are likely on 07, 11-14, and 24 Oct. All increases in geomagnetic activity are associated with anticipated influence from multiple, recurrent, coronal hole HSSs. The remainder of the outlook period is likely to be at mostly quiet levels.



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
28 September	95	46	150	B2.6	2	0	0	0	0	0	0	0
29 September	92	28	90	B3.0	2	0	0	0	0	0	0	0
30 September	93	29	90	B2.5	1	0	0	0	1	0	0	0
01 October	92	38	70	B2.2	1	0	0	0	0	0	0	0
02 October	92	37	70	B1.9	0	0	0	0	0	0	0	0
03 October	93	53	80	B1.7	0	0	0	1	0	0	0	0
04 October	92	55	110	B1.4	0	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	
28 September	4.4e+05	2.2e+04	1.9e+08	
29 September	6.9e+05	2.3e+04	2.2e+08	
30 September	5.9e+05	2.2e+04	1.2e+08	
01 October	5.3e+05	2.2e+04	6.2e+07	
02 October	3.3e+05	2.2e+04	3.4e+07	
03 October	3.1e+05	2.1e+04	2.1e+07	
04 October	1.2e+06	2.1e+04	1.3e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
28 September	3	0-2-1-1-2-1-1-0	2	0-1-0-2-1-0-1-0	4	1-2-1-1-1-1-1-1
29 September	3	1-0-0-1-1-2-1-1	2	1-0-0-2-1-0-1-0	4	2-0-1-1-1-1-1-1
30 September	3	1-1-0-1-2-2-1-0	0	0-0-0-1-0-0-0-0	3	1-1-0-1-1-0-1-1
01 October	3	0-1-1-1-1-1-1-2	1	0-0-0-0-0-1-0-1	4	0-0-1-1-1-1-1-2
02 October	2	0-1-0-0-1-1-1-1	0	0-0-0-0-0-0-0-0	3	1-1-0-1-1-0-1-1
03 October	8	2-3-3-2-2-1-1-1	8	1-3-4-3-2-0-0-0	7	2-3-3-2-2-1-0-1
04 October	21	3-3-3-4-4-3-4-4	46	2-2-5-6-6-6-5-3	15	3-3-4-5-5-4-6-5

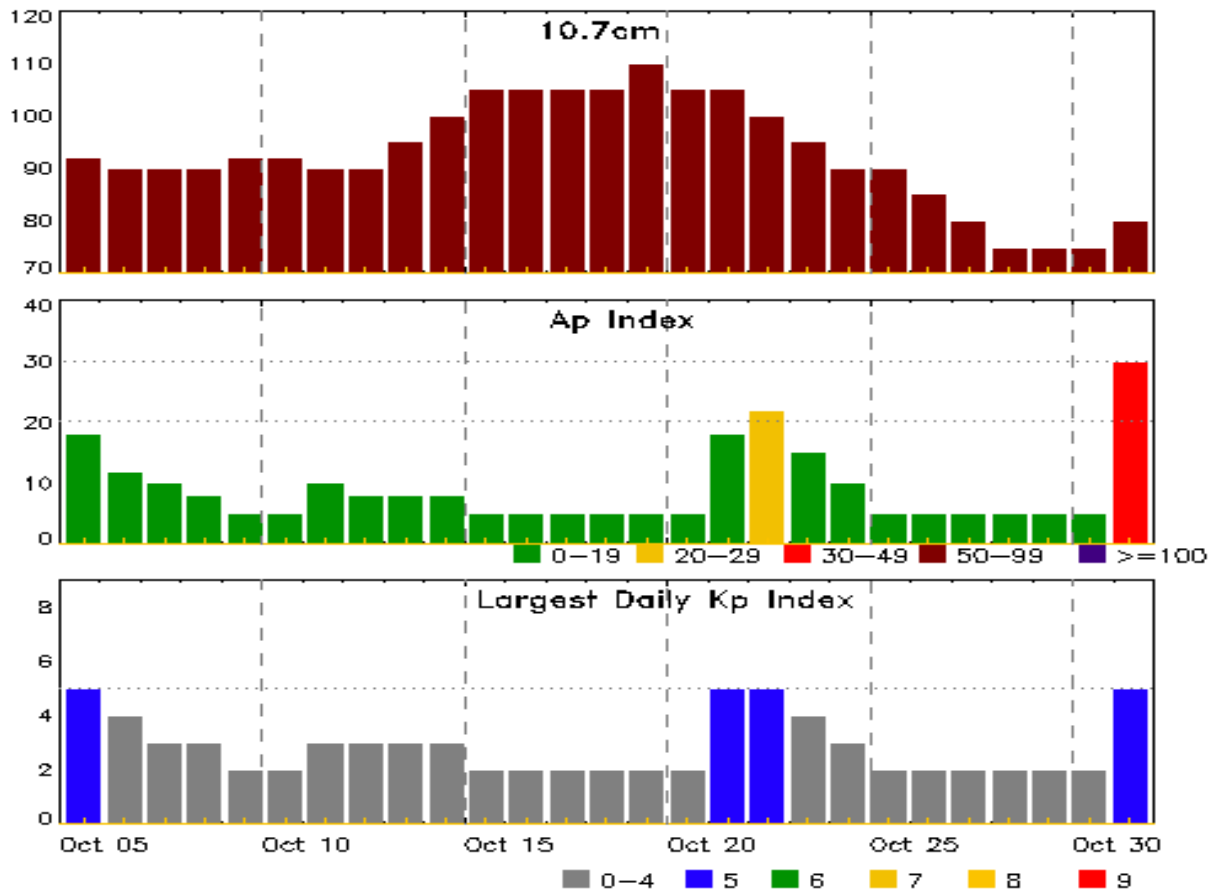


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
28 Sep 0500	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	26/1535
29 Sep 0502	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	26/1535
29 Sep 1301	WATCH: Geomagnetic Storm Category G1 predicted	
30 Sep 0338	ALERT: Type II Radio Emission	30/0252
30 Sep 0339	ALERT: Type IV Radio Emission	30/0256
30 Sep 1004	ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	30/0945
01 Oct 1428	WATCH: Geomagnetic Storm Category G1 predicted	
01 Oct 1430	CONTINUED ALERT: Electron 2MeV Integral Flux $\geq$ 1000pfu	30/0945
04 Oct 0613	WARNING: Geomagnetic K = 4	04/0615 - 2359
04 Oct 0801	ALERT: Geomagnetic K = 4	04/0757
04 Oct 1107	WARNING: Geomagnetic K = 5	04/1110 - 2100
04 Oct 1123	ALERT: Geomagnetic K = 5	04/1122
04 Oct 1403	ALERT: Geomagnetic K = 5	04/1402
04 Oct 1840	ALERT: Geomagnetic K = 5	04/1839
04 Oct 1847	WARNING: Geomagnetic K = 6	04/1847 - 2359
04 Oct 1850	EXTENDED WARNING: Geomagnetic K = 5	04/1110 - 05/0300
04 Oct 1901	EXTENDED WARNING: Geomagnetic K = 4	04/0615 - 05/0300
04 Oct 2058	ALERT: Geomagnetic K = 6	04/2057
04 Oct 2357	ALERT: Geomagnetic K = 5	04/2357



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
05 Oct	92	18	5	19 Oct	110	5	2
06	90	12	4	20	105	5	2
07	90	10	3	21	105	18	5
08	90	8	3	22	100	22	5
09	92	5	2	23	95	15	4
10	92	5	2	24	90	10	3
11	90	10	3	25	90	5	2
12	90	8	3	26	85	5	2
13	95	8	3	27	80	5	2
14	100	8	3	28	75	5	2
15	105	5	2	29	75	5	2
16	105	5	2	30	75	5	2
17	105	5	2	31	80	30	5
18	105	5	2				

Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	Radio Flux		Intensity	
			Max						245	2695	II	IV

No Events Observed

Flare List

Date	Time			X-ray Class	Optical			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		
28 Sep	0020	0030	0040	B6.2				
28 Sep	0114	0129	0140	B8.0				4539
28 Sep	0436	0451	0509	B6.7				4538
28 Sep	0707	0713	0717	B5.0				
28 Sep	1429	1437	1440	B5.9				
28 Sep	1505	1519	1531	C2.5				
28 Sep	2108	2144	2158	C1.1				
29 Sep	0038	0048	0053	B6.0				4535
29 Sep	0616	0624	0635	B4.6				
29 Sep	0757	0817	0832	B9.6				
29 Sep	1257	1311	1317	C1.1				
29 Sep	1428	1447	1456	B5.9				4545
29 Sep	2125	2130	2137	B5.1				
29 Sep	2137	2146	2152	C1.5				
30 Sep	0230	0246	0305	C8.6				4535
30 Sep	B0251	0251	0318		1F	N11W45		4535
01 Oct	1125	1137	1145	B5.0				4435
01 Oct	1241	1255	1308	B7.8				4435
01 Oct	1754	1802	1808	B3.6				
01 Oct	2121	2137	2158	C1.4				4545
02 Oct	1728	1737	1743	B3.3				4535
02 Oct	2231	2237	2240	B2.9				
03 Oct	1431	1437	1442	B3.4				4545
03 Oct	1459	1507	1511	B5.0				4545
03 Oct	1612	1618	1627	B4.5				4545
03 Oct	1723	1725	1726		SF	N15W15		4547
04 Oct	0613	0619	0621	B3.2				
04 Oct	0621	0630	0639	B9.3	SF	S18W62		4546
04 Oct	1749	1757	1801	B4.3				4547
04 Oct	1941	1954	2006		SF	N11E30		
04 Oct	2248	2252	2255	B4.0				4545



Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
04 Oct	2333	2340	2345	B2.9			4545



Region Summary

Date	Location	Sunspot Characteristics						Flares							
	Lat CMD	Helio	Area 10 ⁻⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical				
		Lon						C	M	X	S	1	2	3	4
Region 4533															
20 Sep	S14E64	2	30	2	Hsx	1	A								
21 Sep	S13E50	3	40	1	Hsx	1	A								
22 Sep	S13E36	4	50	2	Hsx	1	A								
23 Sep	S13E23	4	40	2	Hsx	2	A								
24 Sep	S14E09	4	30	2	Hrx	2	A								
25 Sep	S13W03	3	10	3	Bxo	2	B								
26 Sep	S13W17	4	10	2	Bxo	2	B								
27 Sep	S13W31	5	plage												
28 Sep	S13W45	5	plage												
29 Sep	S13W59	7	plage												
30 Sep	S13W73	7	plage												
01 Oct	S13W87	8	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 3

Region 4535															
20 Sep	N12E73	353	20	1	Hrx	1	A	1							
21 Sep	N12E58	355	30	2	Hrx	1	A								
22 Sep	N12E44	356	30	3	Hsx	2	A								
23 Sep	N12E34	353	20	6	Dro	2	B	1			1				
24 Sep	N12E21	351	40	7	Dso	5	B								
25 Sep	N12E10	350	20	8	Cro	3	B								
26 Sep	N11W06	353	20	5	Cro	3	B								
27 Sep	N11W19	353	50	7	Dri	18	B	2			3				
28 Sep	N11W32	352	40	7	Csi	12	BG								
29 Sep	N11W46	354	50	6	Cso	6	BG								
30 Sep	N11W57	351	60	6	Dao	6	BG	1			1				
01 Oct	N11W72	353	50	5	Dso	4	B								
02 Oct	N12W83	351	30	2	Hsx	1	A								
								5	0	0	4	1	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 353



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 4536															
21 Sep	N03E01	52	20	4	Cri	7	B								
22 Sep	N03W13	53	60	5	Dsi	10	B	2							
23 Sep	N03W26	53	50	6	Dsi	10	B								
24 Sep	N03W39	53	120	7	Dsi	10	B	1							
25 Sep	N02W53	53	150	9	Dsi	7	B	1							
26 Sep	N02W67	54	130	9	Dso	3	B				1				
27 Sep	N02W81	55	100	7	Cso	3	B	2							
28 Sep	N02W94	55	100	7	Cso	3	B								
								6	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 52

Region 4537															
21 Sep	N07W11	63	10	64	Bxo	3	B								
22 Sep	N08W26	66	30	3	Dri	5	BD								
23 Sep	N07W40	67	20	3	Dri	6	B	1			1				
24 Sep	N07W53	68	80	5	Dao	5	B								
25 Sep	N07W70	70	60	4	Cro	5	B								
26 Sep	N07W81	68	10	1	Axx	1	A								
27 Sep	N07W95	68	plage												
								1	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 63

Region 4538															
21 Sep	N11W09	62	10	3	Bxo	3	B								
22 Sep	N11W23	63	20	3	Cri	7	B								
23 Sep	N11W36	63	20	4	Dri	11	B	1			1				
24 Sep	N11W49	64	60	5	Dsi	11	B								
25 Sep	N12W66	66	30	4	Bxo	3	B								
26 Sep	N12W82	69	10	1	Axx	1	A								
27 Sep	N11W95	69	plage												
								1	0	0	1	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 62



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 4539

22 Sep	S09E26	14	20	4	Cro	5	B								
23 Sep	S09E13	14	30	4	Dso	6	B								
24 Sep	S09W01	14	10	1	Axx	1	A								
25 Sep	S10W12	12	10	1	Axx	1	A								
26 Sep	S10W26	13	plage												
27 Sep	S10W40	13	plage												
28 Sep	S10W54	14	plage												
29 Sep	S10W68	16	plage												
30 Sep	S10W82	16	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 14

Region 4542

24 Sep	S18E22	351	10	3	Bxo	2	B								
25 Sep	S18E06	354	20	1	Hrx	1	A								
26 Sep	S19W07	354	20	4	Bxo	4	B								
27 Sep	S19W21	355	10	2	Bxo	3	B								
28 Sep	S19W35	356	10	1	Axx	1	A								
29 Sep	S19W49	357	plage												
30 Sep	S19W63	357	plage												
01 Oct	S19W77	358	plage												
								0	0	0	0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 354

Region 4543

27 Sep	S09W75	49	10	2	Bxo	3	B								
28 Sep	S08W89	50	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 49



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 4544

29 Sep	S09W15	321	40	4	Cso	2	B								
30 Sep	S09W29	323	30	4	Dro	3	B								
01 Oct	S09W43	324	10	1	Axx	1	A								
02 Oct	S09W57	325	plage												
03 Oct	S09W71	326	plage												
04 Oct	S09W85	327	plage												
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 321

Region 4545

01 Oct	N20E61	220	10	4	Bxo	3	B	1							
02 Oct	N20E46	222	20	6	Cro	2	B								
03 Oct	N20E33	222	20	6	Dao	5	B								
04 Oct	N20E20	221	20	8	Cro	6	B								
								1	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 221

Region 4546

02 Oct	S19W45	313	20	2	Cso	4	B								
03 Oct	S18W59	314	10	2	Cro	3	B								
04 Oct	S19W74	315	10	1	Hrx	1	A				1				
								0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 313

Region 4547

03 Oct	N15W20	275	20	3	Bxo	4	B				1				
04 Oct	N15W33	274	20	6	Cro	7	B								
								0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 275

Region Summary - continued

Region 4548															
Location			Sunspot Characteristics					Flares							
Date	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 4548															
03 Oct	S11E64	191	30	1	Hsx	1	A								
04 Oct	S11E51	190	60	2	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 190

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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