

Space Weather Highlights
28 September - 04 October 2020

SWPC PRF 2353
05 October 2020

Solar activity was very low throughout the period. No active regions with sunspots were observed and no Earth-directed CMEs were detected.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 28 Sep-04 Oct.

Geomagnetic field activity reached active to G1 (Minor) geomagnetic storm levels on 28 Sep, with quiet to active levels observed on 29 Sep-01 Oct, due to positive polarity CH HSS influences. Quiet and quiet to unsettled conditions were observed throughout the remainder of the period under a nominal solar wind regime.

Space Weather Outlook
05 October - 31 October 2020

Solar activity is expected to be very low 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 05-10 Oct, and 21-31 Oct. Normal to moderate levels are expected on 11-20 Oct.

Geomagnetic field activity is likely to reach G2 (Moderate) geomagnetic storm levels on 25 Oct, with G1 (Minor) geomagnetic storms likely on 21-24 Oct, due to the anticipated influences of recurrent, positive polarity CH HSSs. Active conditions are expected on 20, 26-28 Oct. Quiet and quiet to unsettled conditions are expected to prevail throughout the remainder of 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
28 September	74	0	0	A2.4	0	0	0	1	0	0	0	0
29 September	73	0	0	A2.7	0	0	0	0	0	0	0	0
30 September	73	0	0	A3.3	0	0	0	0	0	0	0	0
01 October	73	0	0	A4.1	0	0	0	0	0	0	0	0
02 October	72	0	0	A3.8	0	0	0	0	0	0	0	0
03 October	72	0	0	A3.7	0	0	0	0	0	0	0	0
04 October	71	0	0	A3.9	0	0	0	0	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	9.6e+05	4.4e+04	2.7e+08
29 September	1.2e+05	4.5e+04	5.2e+08	
30 September	2.1e+05	4.5e+04	1.1e+09	
01 October	1.8e+05	4.6e+04	1.3e+09	
02 October	9.1e+04	4.6e+04	1.5e+09	
03 October	5.7e+04	4.6e+04	1.1e+09	
04 October	6.6e+04	4.7e+04	1.4e+09	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	28 September	21	4-4-4-3-3-3-3-4	47	4-5-5-6-5-6-4-3	33
29 September	14	4-3-3-0-3-2-2-3	31	3-3-4-5-6-5-2-2	16	4-3-3-3-3-2-3-3
30 September	12	4-3-3-2-2-2-2-2	27	3-4-0-6-4-4-2-2	15	4-4-3-3-2-2-3-3
01 October	11	3-1-2-4-3-2-2-2	21	1-1-2-6-5-3-2-1	11	3-2-2-4-3-3-2-2
02 October	6	2-2-2-2-2-2-1-1	19	2-2-2-6-4-3-2-1	9	2-3-2-3-3-2-2-2
03 October	5	1-2-2-3-1-2-0-0	5	1-1-2-3-1-0-1-1	6	2-2-2-2-1-1-1-1
04 October	3	0-2-0-1-1-1-1-1	4	0-1-0-2-3-1-0-0	5	1-2-1-1-1-1-0-1

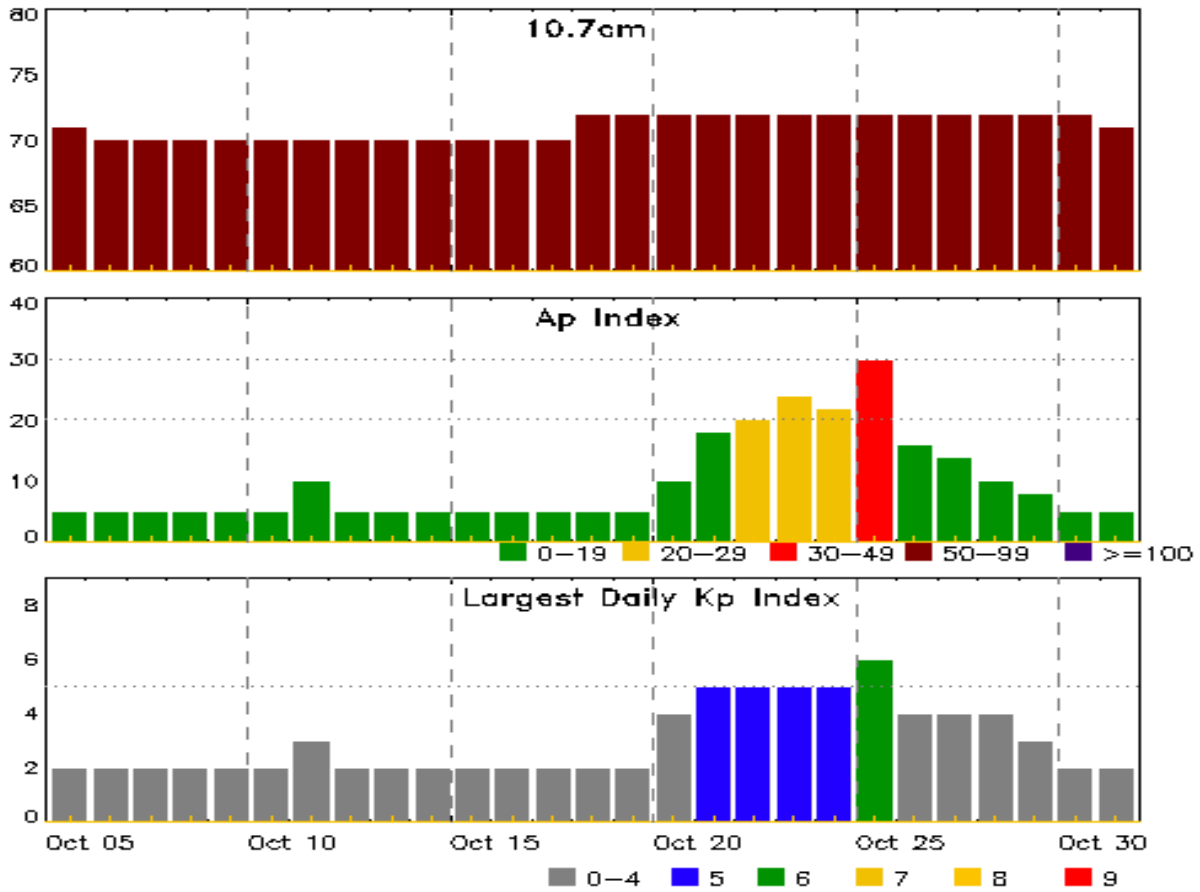


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
28 Sep 0001	ALERT: Geomagnetic K = 6	27/2359
28 Sep 0549	ALERT: Geomagnetic K = 5	28/0548
28 Sep 0801	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540
28 Sep 0807	EXTENDED WARNING: Geomagnetic K = 4	27/1920 - 28/2359
28 Sep 0807	EXTENDED WARNING: Geomagnetic K = 5	27/1935 - 28/2359
28 Sep 2224	ALERT: Geomagnetic K = 5	28/2223
28 Sep 2354	EXTENDED WARNING: Geomagnetic K = 4	27/1920 - 29/1200
28 Sep 2354	EXTENDED WARNING: Geomagnetic K = 5	27/1935 - 29/0600
29 Sep 0459	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540
29 Sep 1153	EXTENDED WARNING: Geomagnetic K = 4	27/1920 - 29/2100
29 Sep 1556	WATCH: Geomagnetic Storm Category G1 predicted	
30 Sep 0058	WARNING: Geomagnetic K = 4	30/0058 - 0900
30 Sep 0122	ALERT: Geomagnetic K = 4	30/0122
30 Sep 0459	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540
30 Sep 0850	EXTENDED WARNING: Geomagnetic K = 4	30/0058 - 1800
01 Oct 0500	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540
01 Oct 1031	WARNING: Geomagnetic K = 4	01/1031 - 1500
01 Oct 1154	ALERT: Geomagnetic K = 4	01/1146
01 Oct 1413	EXTENDED WARNING: Geomagnetic K = 4	01/1031 - 2359
02 Oct 1253	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540
03 Oct 0527	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540
04 Oct 0527	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	24/1540



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	71	5	2	19 Oct	72	5	2
06	70	5	2	20	72	10	4
07	70	5	2	21	72	18	5
08	70	5	2	22	72	20	5
09	70	5	2	23	72	24	5
10	70	5	2	24	72	22	5
11	70	10	3	25	72	30	6
12	70	5	2	26	72	16	4
13	70	5	2	27	72	14	4
14	70	5	2	28	72	10	4
15	70	5	2	29	72	8	3
16	70	5	2	30	72	5	2
17	70	5	2	31	71	5	2
18	72	5	2				



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 245	Radio Flux 2695	Intensity II

No Events Observed

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD	Rgn #	
28 Sep	1022	1023	1025		SF	S21W02		2773



Region Summary

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 2773																				
23 Sep	N28E62		83	10	4	Bxo	3	B												
24 Sep	N28E48		84	plage																
25 Sep	N27E32		87	10		Axx	1	A	1											
26 Sep	N27E18		88	plage																
27 Sep	N27E04		89	plage																
28 Sep	N27W10		89	plage								1								
29 Sep	N27W24		90	plage																
30 Sep	N27W38		91	plage																
01 Oct	N27W52		92	plage																
02 Oct	N27W66		93	plage																
03 Oct	N27W80		93	plage																
04 Oct	N27W94		94	plage																
										1	0	0	1	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 89



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.

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