

Space Weather Highlights
12 October - 18 October 2020

SWPC PRF 2355
19 October 2020

Solar activity was low. Region 2774 (S25, L=308, class/area Axx/010 on 09 Oct) was responsible for the largest event of the period, a C3 flare at 16/1511 UTC. Region 2774 also produced a C1 flare at 16/1257 UTC. Associated CMEs were observed from both events, however, due to the location of the source region around the southwest limb, neither contained a geoeffective component. No Earth-directed CMEs were observed during the reporting period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached moderate levels throughout the period.

Geomagnetic field activity was quiet throughout the period, under a nominal solar wind regime.

Space Weather Outlook
19 October - 14 November 2020

Solar activity is expected to be very low with a slight chance for C-class flare activity 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 21-31 Oct and 01 Nov due to influence from recurrent CH HSS effects. Normal to moderate levels are expected during the remainder of the outlook period.

Geomagnetic field activity is likely to reach G1 (Minor) geomagnetic storm levels on 22-25 Oct, with active levels likely on 21, 26 Oct due to recurrent CH HSS influence. Quiet to unsettled conditions are expected 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	
12 October	74	15	30	A1.2	0	0	0	0	0	0	0	0	0
13 October	72	0	0	A1.5	0	0	0	0	0	0	0	0	0
14 October	75	12	10	A2.6	0	0	0	0	0	0	0	0	0
15 October	74	14	30	A2.3	0	0	0	0	0	0	0	0	0
16 October	75	14	60	A2.4	2	0	0	0	0	0	0	0	0
17 October	73	15	80	A2.3	0	0	0	0	0	0	0	0	0
18 October	76	28	110	A3.4	0	0	0	7	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	
	12 October	2.6e+05	4.6e+04	4.5e+06
13 October	2.0e+05	4.6e+04	1.8e+06	
14 October	1.3e+05	4.6e+04	2.2e+06	
15 October	1.5e+05	4.6e+04	2.0e+06	
16 October	1.4e+05	4.6e+04	3.1e+06	
17 October	3.7e+05	4.7e+04	5.4e+06	
18 October	2.1e+05	4.6e+04	4.8e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	12 October	3	1-0-0-1-2-1-1-1	0	0-0-0-0-0-0-0-1	4
13 October	3	1-1-0-1-1-1-2-0	0	1-0-0-0-0-0-0-0	3	1-1-1-1-0-1-1-1
14 October	0	0-0-0-0-0-1-0-0	0	0-0-0-0-0-0-0-0	2	0-0-0-0-0-0-0-0
15 October	2	0-0-0-0-1-2-1-1	0	0-0-0-0-0-0-0-0	3	0-0-0-0-0-1-1-1
16 October	4	1-1-1-1-1-2-1-1	0	1-0-0-0-0-0-0-0	4	1-1-1-1-0-1-1-1
17 October	5	0-2-2-1-2-1-2-1	7	0-2-4-3-1-0-1-0	5	1-2-2-1-1-0-1-2
18 October	3	1-1-0-0-1-2-1-1	0	0-0-0-0-0-0-0-0	4	1-0-0-0-0-0-1-1

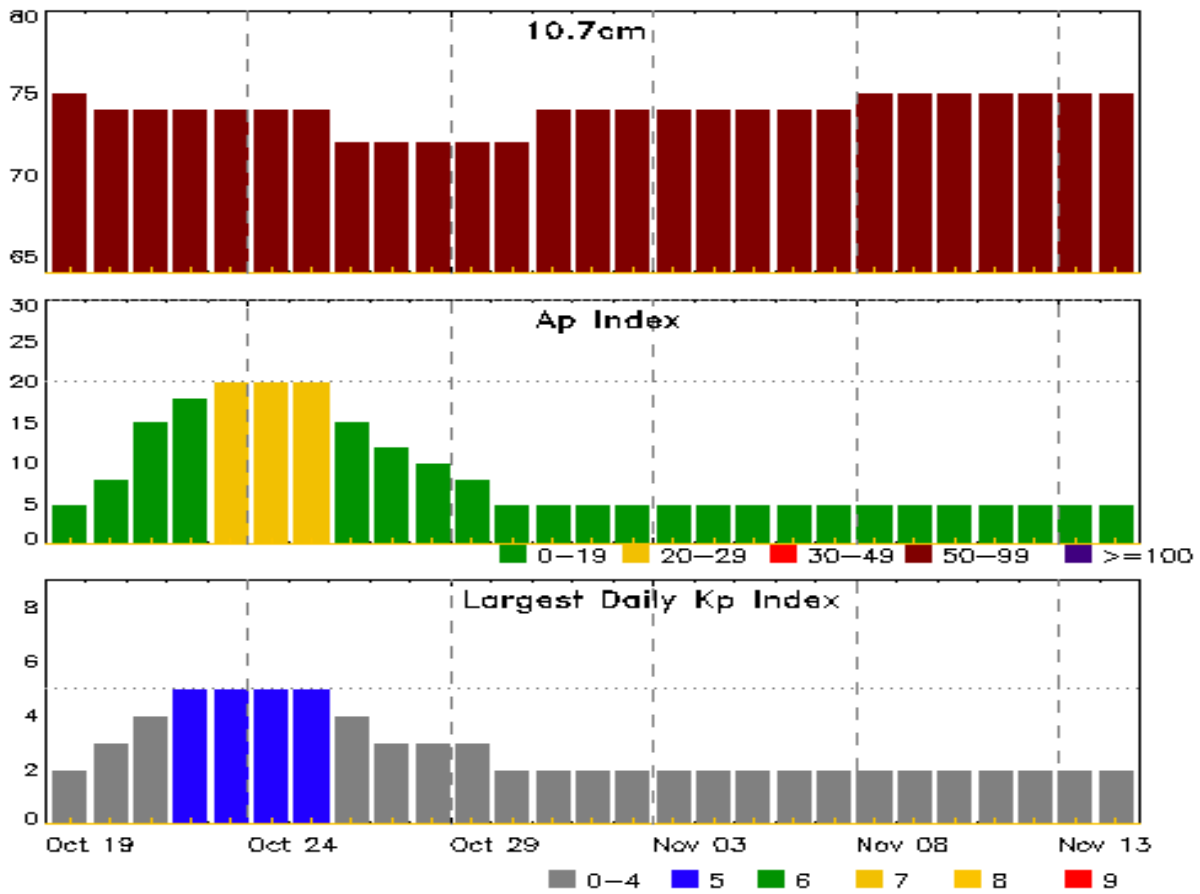


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
	No Alerts or Warnings Issued	



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
19 Oct	75	5	2	02 Nov	74	5	2
20	74	8	3	03	74	5	2
21	74	15	4	04	74	5	2
22	74	18	5	05	74	5	2
23	74	20	5	06	74	5	2
24	74	20	5	07	74	5	2
25	74	20	5	08	75	5	2
26	72	15	4	09	75	5	2
27	72	12	3	10	75	5	2
28	72	10	3	11	75	5	2
29	72	8	3	12	75	5	2
30	72	5	2	13	75	5	2
31	74	5	2	14	75	5	2
01 Nov	74	5	2				



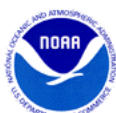
Energetic Events

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 Location Lat CMD	Optical Rgn #
	Begin	Max	End				
12 Oct	1306	1307	1308	A3.0			
13 Oct	1105	1112	1120	B1.4			
14 Oct	0915	0922	0935	B1.0			2776
14 Oct	0935	0939	0944	B1.4			2776
14 Oct	1127	1131	1135	B1.1			2776
14 Oct	1137	1146	1158	B1.5			2776
14 Oct	1218	1228	1240	B1.2			2776
14 Oct	1346	1354	1405	B1.7			2776
14 Oct	1500	1504	1511	B1.6			2776
15 Oct	0359	0407	0412	B1.1			2776
15 Oct	0515	0522	0529	B1.4			2776
16 Oct	1014	1020	1024	B1.5			2774
16 Oct	1246	1257	1303	C1.5			2774
16 Oct	1457	1511	1516	C3.5			2774
16 Oct	2025	2033	2039	B1.5			2774
16 Oct	2141	2148	2152	B3.7			2774
17 Oct	0046	0051	0102	B1.3			2774
18 Oct	0248	0252	0256	B1.8	SF	S15E22	2776
18 Oct	0551	0558	0604	B1.0			
18 Oct	1313	1321	1326	B1.0			
18 Oct	1420	1429	1437	B4.0	SF	S14E16	2776
18 Oct	1612	1642	1654	B1.7	SF	S22W71	2777
18 Oct	1658	1700	1737		SF	S22W72	2777
18 Oct	1738	1745	1833		SF	S22W72	2777
18 Oct	1834	1853	1900	B1.2	SF	S22W75	2777
18 Oct	2004	2004	2010		SF	S23W76	2777



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

Region 2774

09 Oct	S25W15	308	10	2	Axx	2	A										
10 Oct	S24W29	310	10	1	Axx	1	A										
11 Oct	S24W43	310	plage														
12 Oct	S24W56	311	plage														
13 Oct	S24W71	312	plage														
14 Oct	S24W85	313	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 308

Region 2775

09 Oct	S23E24	269	10	3	Bxo	2	B										
10 Oct	S24E09	272	50	6	Cro	5	B										
11 Oct	S23W04	272	30	8	Bxo	5	B										
12 Oct	S23W18	273	30	8	Bxo	5	B										
13 Oct	S23W32	273	plage														
14 Oct	S23W46	274	plage														
15 Oct	S23W60	275	plage														
16 Oct	S23W74	276	plage														
17 Oct	S23W88	277	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 272

Region 2776

14 Oct	S13E68	160	10	1	Axx	2	A										
15 Oct	S12E54	160	30	6	Cro	4	B										
16 Oct	S14E40	162	60	5	Cao	4	B										
17 Oct	S13E28	161	80	9	Cao	5	B										
18 Oct	S14E13	162	100	7	Cso	6	B				2						
									0	0	0	2	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 162

Region 2777

18 Oct	S24W77	252	10	2	Bxo	2	B				5						
									0	0	0	5	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 252



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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