

Space Weather Highlights
08 March - 14 March 2021

SWPC PRF 2376
15 March 2021

Solar activity was very low on 08 and 10-14 Mar. Low levels of solar activity were observed on 09 Mar due to a C1 flare at 09/1235 UTC, from Region 2808 (S19, L=035, class/area, Cao/30 on 12 Mar). No Earth-directed CMEs were observed in available imagery.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 08-12 and 14 Mar, with moderate levels observed on 13 Mar.

Geomagnetic field activity reached G1 (Minor) geomagnetic storm levels on 14 Mar, with active levels on 13 Mar due to recurrent, negative-polarity CH HSS influence. Quiet to unsettled conditions were observed for the remainder of the reporting period (08-12 Mar).

Space Weather Outlook
15 March - 10 April 2021

Solar activity is expected to be very low, with a slight chance for C-class flare events, 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 15-16, 20-27, 30-31 Mar and 01-10 Apr. Moderate levels are expected during the remainder of the outlook period (17-19, 28-29 Mar).

Geomagnetic field activity is likely to reach G1 (Minor) geomagnetic storm levels on 28-30 Mar and 10 Apr, with active conditions likely on 15, 19-21 Mar and 09 Apr due to recurrent CH HSS activity. Quiet to unsettled levels are anticipated 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
08 March	80	12	20	A5.5	0	0	0	0	0	0	0	0
09 March	84	23	30	A6.3	1	0	0	0	0	0	0	0
10 March	79	11	20	A5.1	0	0	0	0	0	0	0	0
11 March	78	23	60	A3.6	0	0	0	0	0	0	0	0
12 March	77	15	30	A2.7	0	0	0	0	0	0	0	0
13 March	81	12	10	A2.1	0	0	0	0	0	0	0	0
14 March	78	24	30	A2.9	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	
	08 March	2.2e+05	4.4e+04	5.6e+07
09 March	1.3e+05	4.5e+04	5.9e+07	
10 March	5.5e+05	4.5e+04	6.4e+07	
11 March	7.2e+05	4.5e+04	7.5e+07	
12 March	1.5e+05	4.4e+04	3.2e+07	
13 March	1.8e+05	4.3e+04	1.8e+06	
14 March	2.3e+05	4.3e+04	5.5e+07	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	08 March	5	1-1-1-0-2-1-3-2	4	0-0-0-0-3-1-2-1	6
09 March	2	1-1-1-0-1-1-1-0	1	1-0-0-1-1-0-0-0	3	2-0-1-1-1-1-1-0
10 March	2	0-0-0-0-1-1-2-1	0	0-0-0-0-0-0-1-0	2	0-0-0-0-0-0-2-1
11 March	3	0-1-0-1-1-2-1-2	0	0-0-0-0-0-0-0-1	4	0-1-1-1-0-1-1-3
12 March	9	2-2-3-1-2-2-2-3	20	1-1-5-5-4-3-3-1	12	3-2-3-2-2-3-3-3
13 March	13	3-3-3-3-2-2-3-3	22	3-5-4-5-2-2-3-2	17	3-4-3-3-2-3-3-4
14 March	17	3-4-4-3-3-2-3-3	37	4-5-5-5-5-5-3-3	27	4-5-4-4-3-3-3-4

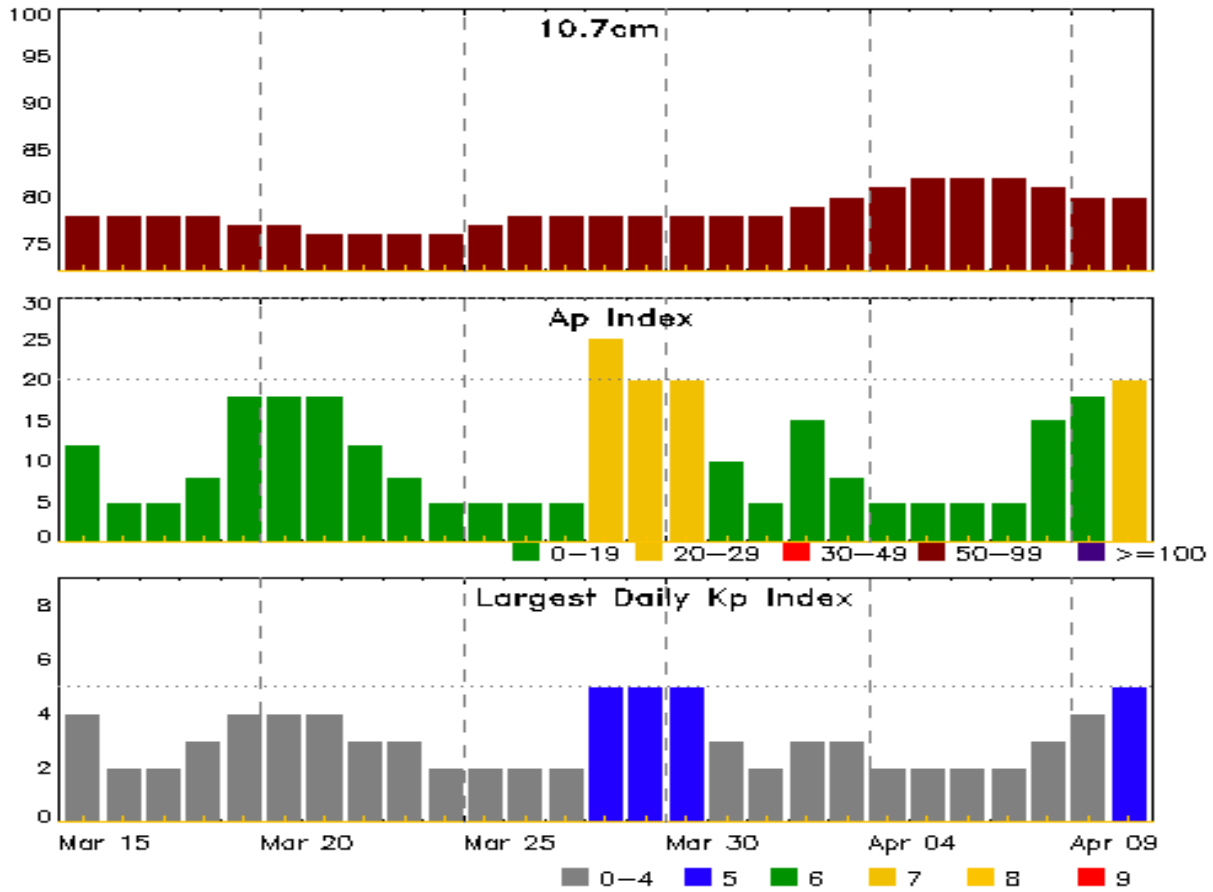


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Mar 1337	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	03/0745
09 Mar 1501	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	03/0745
10 Mar 1322	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	03/0745
11 Mar 1317	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	03/0745
11 Mar 1707	WATCH: Geomagnetic Storm Category G1 predicted	
12 Mar 0720	WARNING: Geomagnetic K = 4	12/0720 - 1200
12 Mar 1702	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	03/0745
12 Mar 1909	WARNING: Geomagnetic K = 4	12/1918 - 13/0900
13 Mar 0549	ALERT: Geomagnetic K = 4	13/0545
13 Mar 0550	WARNING: Geomagnetic K = 5	13/0550 - 1200
13 Mar 0554	EXTENDED WARNING: Geomagnetic K = 4	12/1918 - 13/1500
13 Mar 2233	WARNING: Geomagnetic K = 4	13/2230 - 14/0600
14 Mar 0001	ALERT: Geomagnetic K = 4	13/2359
14 Mar 0430	WARNING: Geomagnetic K = 5	14/0430 - 1200
14 Mar 0430	EXTENDED WARNING: Geomagnetic K = 4	13/2230 - 14/1500
14 Mar 0553	ALERT: Geomagnetic K = 5	14/0550
14 Mar 1537	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	14/1520
14 Mar 1926	WARNING: Geomagnetic K = 4	14/1925 - 2359
14 Mar 2253	EXTENDED WARNING: Geomagnetic K = 4	14/1925 - 15/0600
14 Mar 2302	ALERT: Geomagnetic K = 4	14/2301



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
15 Mar	78	12	4	29 Mar	78	20	5
16	78	5	2	30	78	20	5
17	78	5	2	31	78	10	3
18	78	8	3	01 Apr	78	5	2
19	77	18	4	02	79	15	3
20	77	18	4	03	80	8	3
21	76	18	4	04	81	5	2
22	76	12	3	05	82	5	2
23	76	8	3	06	82	5	2
24	76	5	2	07	82	5	2
25	77	5	2	08	81	15	3
26	78	5	2	09	80	18	4
27	78	5	2	10	80	20	5
28	78	25	5				



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	Optical			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		
08 Mar	0303	0311	0320	B1.3			2806	
09 Mar	0424	0430	0832	B1.0			2806	
09 Mar	0832	0837	0843	B1.1			2808	
09 Mar	1215	1235	1242	C1.6			2808	
09 Mar	1623	1626	1630	B2.2			2807	
09 Mar	1726	1729	1733	B1.7			2807	
10 Mar	0212	0217	0227	B1.0			2808	
11 Mar	1133	1137	1141	B1.4			2808	
12 Mar	1856	1904	1913	B2.5			2808	



Region Summary

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 2806																	
02 Mar	S31W01	198	10	4	Bxo	4	B										
03 Mar	S31W14	198	30	4	Cro	6	B										
04 Mar	S31W27	197	10	5	Bxo	6	B										
05 Mar	S32W41	198	plage														
06 Mar	S31W55	199	10		Axx	1	A										
07 Mar	S30W64	196	10	5	Bxo	4	B				1						
08 Mar	S31W77	195	20	7	Cro	2	B										
								0	0	0	1	0	0	0	0	0	

Died on Disk.

Absolute heliographic longitude: 198

Region 2807																	
02 Mar	S17E43	154	20	3	Bxo	4	B	1									
03 Mar	S18E29	155	30	5	Cro	4	B					1					
04 Mar	S18E16	154	30	5	Cro	6	B										
05 Mar	S18E03	153	10	3	Bxo	4	B										
06 Mar	S18W08	151	10	2	Axx	2	A										
08 Mar	S18W36	154	plage														
09 Mar	S18W50	155	10	2	Bxo	2	B										
10 Mar	S18W64	156	plage														
11 Mar	S18W78	156	plage														
								1	0	0	1	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 153

Region 2808																	
09 Mar	N19E68	37	20	1	Hsx	1	A	1									
10 Mar	N19E55	37	20	1	Hsx	1	A										
11 Mar	N19E42	36	50	2	Hsx	1	A										
12 Mar	N19E32	33	30	8	Cao	5	B										
13 Mar	N19E18	34	10	6	Hax	2	A										
14 Mar	N19E04	35	10	1	Axx	1	A										
								1	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 35



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 2809																				
11 Mar	S21E13		65	10	3	Bxo	2	B												
12 Mar	S21W01		66	plage																
13 Mar	S21W15		67	plage																
14 Mar	S22W26		65	20	3	Cso	3	B												
									0	0	0	0	0	0	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 66



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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Current

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