Space Weather Highlights
01 March - 07 March 2021

SWPC PRF 2375
08 March 2021

Solar activity was very low on 01 and 03-07 Mar. Low levels of solar activity were observed on 02 Mar due to a C1/Sf flare at 02/0003 UTC from Region 2807 (S18, L=154, class/area=Cro/30 on 04 Mar). No Earth-directed CMEs were observed.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was moderate on 01-02 Mar, with high levels observed on 03-07 Mar.

Geomagnetic field activity reached G2 (Moderate) geomagnetic storm conditions on 01 Mar, and G1 (Minor) storm conditions on 02-03 Mar, due to negative polarity CH HSS influence. Active conditions were observed on 04, and 06-07 Mar due to CH HSS influence. Quiet conditions prevailed on 05 Mar.

Space Weather Outlook
08 March - 03 April 2021

Solar activity is expected to be very low-to-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 08, 20-27 Mar, and 30 Mar- 03 Apr. Moderate flux levels are expected throughout the remainder of the outlook period.

Geomagnetic field activity is likely to reach G1 (Minor) geomagnetic storms on 18-19 Mar, with active conditions likely on 12-13, 15, 20-21, and 29-30 Mar, due to the influence of multiple CH HSSs.

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
01 March	71	0	0	A3.9	0	0	0	0	0	0	0	0
02 March	75	28	30	A2.3	1	0	0	0	0	0	0	0
03 March	74	30	60	A3.9	0	0	0	1	0	0	0	0
04 March	81	32	40	A2.0	0	0	0	0	0	0	0	0
05 March	73	14	10	A2.8	0	0	0	0	0	0	0	0
06 March	77	23	20	A2.1	0	0	0	0	0	0	0	0
07 March	78	14	10	A4.2	0	0	0	1	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
01 March	2.7e+05	4.4e+04	2.3e+06
02 March	3.7e+05	4.4e+04	5.8e+06
03 March	1.7e+05	4.4e+04	1.4e+08
04 March	6.2e+04	4.5e+04	2.3e+08
05 March	5.6e+04	4.5e+04	2.3e+08
06 March	1.8e+05	4.4e+04	4.8e+07
07 March	6.8e+04	4.4e+04	3.4e+07

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
01 March	16	3-5-4-3-2-2-2-1	34	1-6-5-6-4-3-3-1	26	3-6-5-4-2-2-3-2
02 March	14	2-3-2-2-3-3-4-3	24	1-2-4-3-5-5-4-3	20	2-3-3-2-3-4-5-4
03 March	15	4-4-4-3-2-1-2-2	36	4-6-6-5-4-3-2-2	23	5-5-5-3-3-2-2-3
04 March	11	4-3-1-1-3-1-2-3	12	3-2-0-1-4-4-2-2	11	4-3-1-1-2-2-2-3
05 March	5	2-1-2-2-1-1-1-1	5	1-0-3-3-1-0-1-0	5	2-2-2-2-1-0-2-2
06 March	11	4-3-3-2-2-1-2-2	27	2-3-5-6-5-2-2-1	16	4-4-3-3-3-1-2-2
07 March	7	2-2-0-2-1-3-1-3	7	2-1-0-3-1-3-1-2	12	3-2-1-2-0-3-1-4

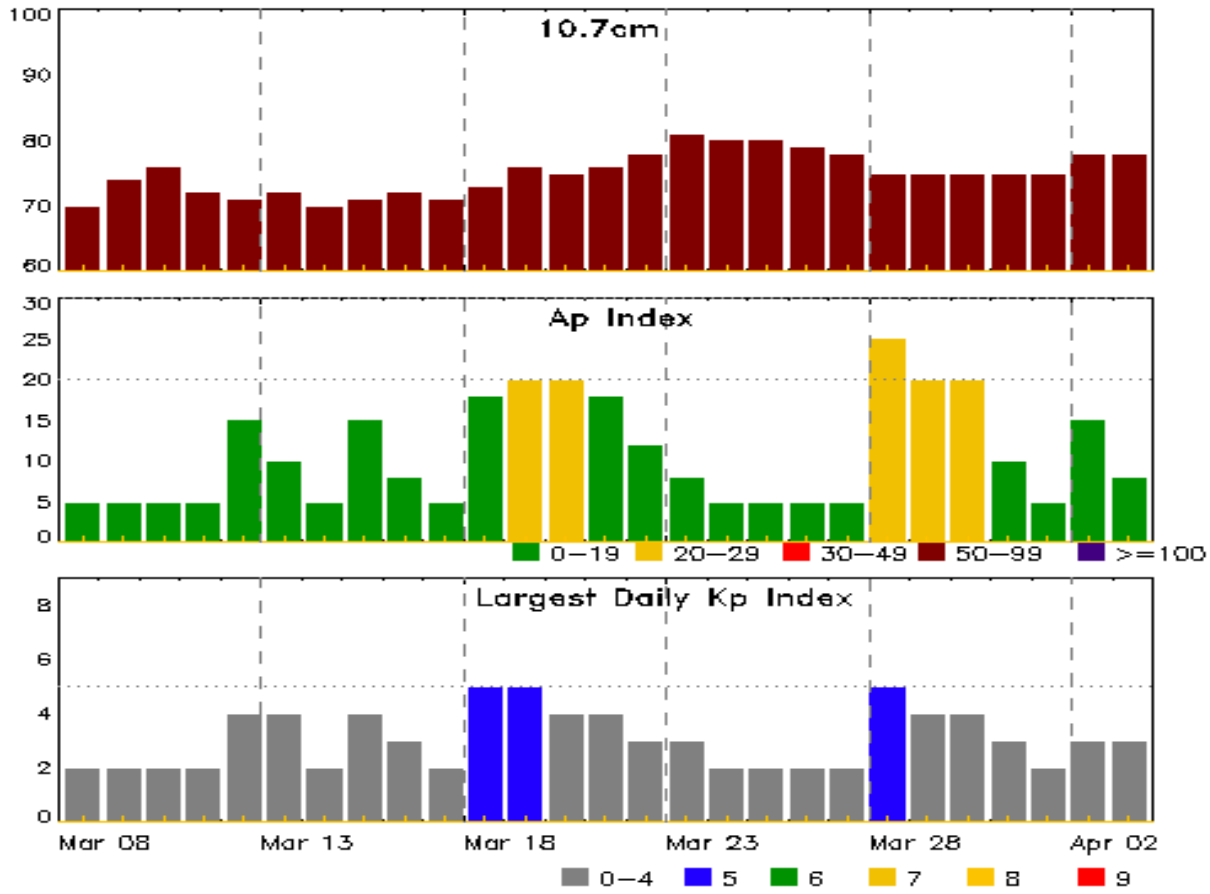
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
01 Mar 0256	WARNING: Geomagnetic K = 4	01/0300 - 1500
01 Mar 0346	ALERT: Geomagnetic K = 4	01/0345
01 Mar 0349	WARNING: Geomagnetic K = 5	01/0350 - 0900
01 Mar 0401	ALERT: Geomagnetic K = 5	01/0359
01 Mar 0411	WARNING: Geomagnetic K = 6	01/0410 - 0900
01 Mar 0421	ALERT: Geomagnetic K = 6	01/0420
01 Mar 0723	ALERT: Geomagnetic K = 5	01/0721
01 Mar 0851	EXTENDED WARNING: Geomagnetic K = 5	01/0350 - 2100
01 Mar 1030	EXTENDED WARNING: Geomagnetic K = 4	01/0300 - 02/0600
02 Mar 0827	WARNING: Geomagnetic K = 4	02/0830 - 1500
02 Mar 1453	EXTENDED WARNING: Geomagnetic K = 4	02/0830 - 2100
02 Mar 1801	ALERT: Geomagnetic K = 4	02/1759
02 Mar 2035	WARNING: Geomagnetic K = 5	02/2035 - 03/0600
02 Mar 2039	EXTENDED WARNING: Geomagnetic K = 4	02/0830 - 03/1200
02 Mar 2046	ALERT: Geomagnetic K = 5	02/2046
03 Mar 0303	ALERT: Geomagnetic K = 5	03/0300
03 Mar 0503	EXTENDED WARNING: Geomagnetic K = 4	02/0830 - 03/1800
03 Mar 0503	EXTENDED WARNING: Geomagnetic K = 5	02/2035 - 03/1200
03 Mar 0503	ALERT: Geomagnetic K = 5	03/0500
03 Mar 0805	ALERT: Electron 2MeV Integral Flux >= 1000pfu	03/0745
03 Mar 0900	ALERT: Geomagnetic K = 5	03/0859
03 Mar 1756	EXTENDED WARNING: Geomagnetic K = 4	02/0830 - 03/2359
03 Mar 2107	WATCH: Geomagnetic Storm Category G1 predicted	
03 Mar 2354	EXTENDED WARNING: Geomagnetic K = 4	02/0830 - 04/0600
04 Mar 0501	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	03/0745
04 Mar 0554	EXTENDED WARNING: Geomagnetic K = 4	02/0830 - 04/1200
05 Mar 0718	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	03/0745
06 Mar 0228	WARNING: Geomagnetic K = 4	06/0230 - 1500

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
06 Mar 0258	ALERT: Geomagnetic K = 4	06/0257
06 Mar 0308	EXTENDED WARNING: Geomagnetic K = 4	06/0230 - 1800
06 Mar 0308	WARNING: Geomagnetic K = 5	06/0310 - 1500
06 Mar 1257	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	03/0745
06 Mar 1757	EXTENDED WARNING: Geomagnetic K = 4	06/0230 - 07/0600
07 Mar 1709	CONTINUED ALERT: Electron 2MeV Integral Flux >= 1000pfu	03/0745
07 Mar 2219	WARNING: Geomagnetic K = 4	07/2215 - 08/0300
07 Mar 2221	ALERT: Geomagnetic K = 4	07/2219

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
08 Mar	70	5	2	22 Mar	78	12	3
09	74	5	2	23	81	8	3
10	76	5	2	24	80	5	2
11	72	5	2	25	80	5	2
12	71	15	4	26	79	5	2
13	72	10	4	27	78	5	2
14	70	5	2	28	75	25	5
15	71	15	4	29	75	20	4
16	72	8	3	30	75	20	4
17	71	5	2	31	75	10	3
18	73	18	5	01 Apr	75	5	2
19	76	20	5	02	78	15	3
20	75	20	4	03	78	8	3
21	76	18	4				

Energetic Events

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

No Events Observed

Flare List

	Time				Optical		
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
01 Mar	0011	0015	0019	B1.1			
01 Mar	0100	0109	0113	B2.0			
01 Mar	0237	0246	0251	B1.7			
01 Mar	0501	0511	0515	B2.0			
01 Mar	0639	0643	0647	B1.9			2804
01 Mar	0802	0809	0814	B2.2			2804
01 Mar	1307	1339	1415	B1.5			2804
02 Mar	1618	1627	1636	B1.9			
02 Mar	1819	1822	1826	B1.3			2807
02 Mar	2353	0003	0007	C1.2	SF	S16E43	2807
03 Mar	0056	0101	0105	B1.4			2807
03 Mar	0129	0134	0138	B1.6			2807
03 Mar	0150	0153	0157	B5.1			2807
03 Mar	0220	0222	0229	B1.2			2807
03 Mar	0252	0302	0311	B1.3			2807
03 Mar	0340	0343	0347	B3.0			2807
03 Mar	1310	1320	1326	B1.4			2807
05 Mar	1003	1010	1014	B1.8			
05 Mar	1425	1433	1437	B1.7			
05 Mar	1614	1622	1628	B1.7			
06 Mar	1923	1933	1940	B1.6			
06 Mar	2150	2158	2204	B1.0			
07 Mar	0117	0133	0205	B3.2			2806
07 Mar	0315	0328	0339	B2.0			
07 Mar	0705	0712	0723	B1.1	SF	S32W57	2806
07 Mar	0731	0738	0742	B1.9			2806
07 Mar	1710	1719	1724	B1.4			2806

Region Summary

	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 2803												
19 Feb	N21E62	280	30	1	Axx	2	A								
20 Feb	N21E49	280	10	2	Axx	2	A								
21 Feb	N20E38	277	10	1	Axx	1	A								
22 Feb	N20E25	277	plage												
23 Feb	N20E11	278	plage												
24 Feb	N20W03	279	plage												
25 Feb	N20W17	280	plage												
26 Feb	N20W31	281	plage												
27 Feb	N20W45	281	plage												
28 Feb	N20W59	282	plage												
01 Mar	N20W73	283	plage												
02 Mar	N20W87	284	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 279

			Region 2804												
22 Feb	N18W08	310	30	4	Cro	3	B				3				
23 Feb	N19W20	309	50	6	Cso	5	B				1				
24 Feb	N19W33	309	120	7	Dai	10	B				2				
25 Feb	N18W46	309	190	10	Dsi	10	B				1				
26 Feb	N18W58	307	170	8	Dsi	6	B				1				
27 Feb	N21W74	309	190	8	Dso	4	B	1			1				
28 Feb	N18W87	309	120	9	Dso	3	B	1			1				
								2	0	0	10	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 310

			Region 2805												
22 Feb	S23W02	304	10	3	Bxo	3	B								
23 Feb	S22W14	303	50	4	Cao	6	B								
24 Feb	S22W28	304	30	5	Cso	3	B								
25 Feb	S22W41	304	10	1	Axx	1	A								
26 Feb	S22W55	305	plage								1				
27 Feb	S22W69	305	plage												
28 Feb	S22W83	306	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 304

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 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				
								0	0	0	1	0	0	0	0

Still 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								
								1	0	0	1	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 153

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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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