

Space Weather Highlights
01 February - 07 February 2021

SWPC PRF 2371
08 February 2021

Solar activity was at very low levels under a mostly spotless disk. 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 was at normal to moderate levels on 02-05 and 07 Feb. High levels occurred on 01 and 06 Feb with a maximum flux of 1,920 pfu observed at 01/1655 UTC.

Geomagnetic field activity ranged from quiet to G1 (Minor) storm levels. Quiet activity was observed on 01 Feb, but increased to quiet to active levels on 02-05 Feb due to negative polarity CH HSS influence. Quiet to G1 (Minor) storm levels were observed on 06-07 Feb due to positive polarity CH HSS influence. A maximum wind speed of 610 km/s was observed on 03/0540 UTC associated with the negative polarity CH HSS.

Space Weather Outlook
08 February - 06 March 2021

Solar activity is expected to be at very 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 08-14 Feb, 22 Feb - 01 Mar and 05-06 Mar, all due to HSS effects. Normal to moderate levels are expected on 15-21 Feb and 02-04 Mar.

Geomagnetic field activity is expected to be at unsettled to active levels on 08-10 Feb, 21-23 Feb, 01-02 Mar and 05-06 Mar. G1 (Minor) storm conditions are likely on 21 Feb and 06 Mar. Predominately quiet conditions are expected on 11-20 Feb, 24-28 Feb and 03-04 Mar.



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 February	74	0	0	A1.0	0	0	0	0	0	0	0	0	0
02 February	73	12	10	A1.2	0	0	0	0	0	0	0	0	0
03 February	74	11	0	A1.0	0	0	0	0	0	0	0	0	0
04 February	74	0	0	A0.0	0	0	0	0	0	0	0	0	0
05 February	73	0	0	A0.0	0	0	0	0	0	0	0	0	0
06 February	73	0	0	A0.0	0	0	0	0	0	0	0	0	0
07 February	73	0	0	A0.0	0	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	
	01 February	4.8e+05	4.5e+04	4.8e+07
02 February	8.5e+05	4.5e+04	3.7e+06	
03 February	4.5e+05	4.5e+04	8.9e+06	
04 February	5.3e+04	4.5e+04	6.7e+06	
05 February	5.2e+04	4.5e+04	1.1e+07	
06 February	3.2e+05	4.4e+04	2.7e+07	
07 February	2.5e+05	4.3e+04	5.4e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	01 February	4	1-1-0-0-2-2-1-2	3	0-1-0-0-2-2-1-0	5
02 February	11	3-3-3-2-3-2-2-1	37	3-3-6-6-5-5-1-1	17	4-4-4-3-4-3-2-2
03 February	10	2-3-2-2-1-2-4-2	10	1-2-3-1-1-3-3-3	14	3-3-2-2-1-3-4-3
04 February	7	2-2-3-2-2-1-1-1	15	2-3-4-3-5-1-1-0	7	2-3-3-2-2-0-1-2
05 February	3	2-1-1-1-1-0-1-1	5	0-2-2-2-3-1-0-0	6	3-2-2-2-1-1-1-1
06 February	4	0-0-0-0-1-2-3-2	11	0-0-0-0-3-5-3-2	7	1-0-0-0-2-3-4-2
07 February	18	5-4-3-4-3-1-1-1	31	3-4-6-6-4-2-2-1	39	5-5-4-4-3-2-2-2

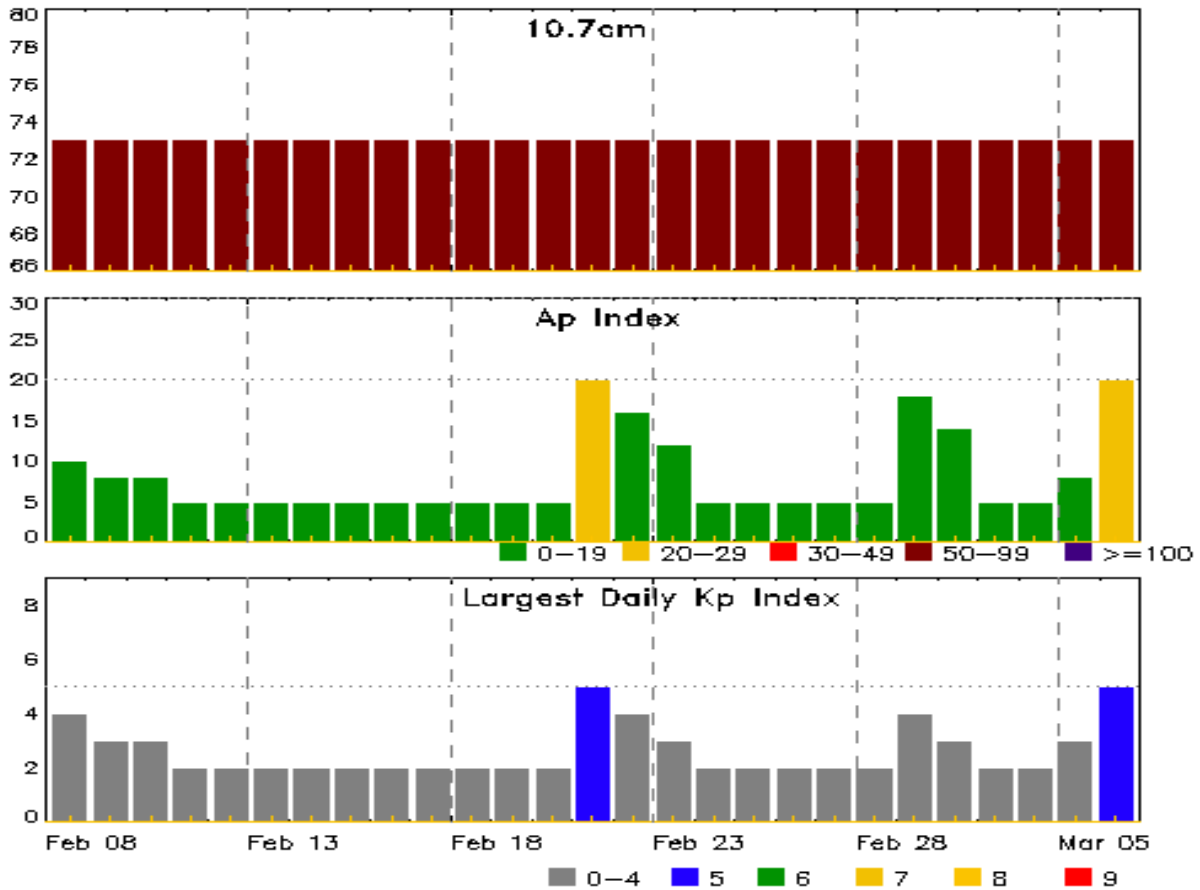


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
01 Feb 1532	CONTINUED ALERT: Electron 2MeV Integral Flux \geq 1000pfu	27/1220
01 Feb 1939	WATCH: Geomagnetic Storm Category G1 predicted	
02 Feb 0133	WARNING: Geomagnetic K = 4	02/0132 - 0900
02 Feb 0141	ALERT: Geomagnetic K = 4	02/0133
02 Feb 0855	EXTENDED WARNING: Geomagnetic K = 4	02/0132 - 1800
02 Feb 1745	EXTENDED WARNING: Geomagnetic K = 4	02/0132 - 03/0300
03 Feb 0241	EXTENDED WARNING: Geomagnetic K = 4	02/0132 - 03/0600
03 Feb 1933	WARNING: Geomagnetic K = 4	03/1935 - 2359
03 Feb 1938	ALERT: Geomagnetic K = 4	03/1938
03 Feb 1944	WARNING: Geomagnetic K = 5	03/1945 - 2100
06 Feb 1512	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	06/1455
06 Feb 2001	WARNING: Geomagnetic K = 4	06/2000 - 07/0900
06 Feb 2101	ALERT: Geomagnetic K = 4	06/2059
07 Feb 0228	WARNING: Geomagnetic K = 5	07/0230 - 0900
07 Feb 0228	WARNING: Geomagnetic K = 5	06/0230 - 0900
07 Feb 0243	ALERT: Geomagnetic K = 5	06/0238
07 Feb 0243	ALERT: Geomagnetic K = 5	07/0238
07 Feb 0243	ALERT: Geomagnetic K = 5	07/0238
07 Feb 0324	CANCELLATION: Geomagnetic K = 5	
07 Feb 0325	WARNING: Geomagnetic K = 5	07/0230 - 0900
07 Feb 0553	ALERT: Geomagnetic K = 5	07/0543
07 Feb 0747	EXTENDED WARNING: Geomagnetic K = 4	06/2000 - 07/1500
07 Feb 1453	EXTENDED WARNING: Geomagnetic K = 4	06/2000 - 07/2359



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 Feb	73	10	4	22 Feb	73	16	4
09	73	8	3	23	73	12	3
10	73	8	3	24	73	5	2
11	73	5	2	25	73	5	2
12	73	5	2	26	73	5	2
13	73	5	2	27	73	5	2
14	73	5	2	28	73	5	2
15	73	5	2	01 Mar	73	18	4
16	73	5	2	02	73	14	3
17	73	5	2	03	73	5	2
18	73	5	2	04	73	5	2
19	73	5	2	05	73	8	3
20	73	5	2	06	73	20	5
21	73	20	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		
02 Feb	1346	1353	1400	B1.0				2801



Region Summary

Date	Location		Sunspot Characteristics				Flares									
	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 2800																
27 Jan	N19W20	305	10	3	Bxo	4	B									
28 Jan	N18W35	306	plage									1				
29 Jan	N18W48	306	plage													
30 Jan	N18W61	306	plage													
31 Jan	N18W74	306	plage													
01 Feb	N18W88	307	plage													
									0	0	0	1	0	0	0	0

Crossed West Limb.
 Absolute heliographic longitude: 305

Region 2801																
02 Feb	N31W43	249	10	2	Bxo	2	B									
03 Feb	N30W59	250	0	1	Axx	1	A									
04 Feb	N30W72	251	plage													
05 Feb	N30W85	251	plage													
06 Feb	N30W98	251	plage													
									0	0	0	0	0	0	0	0

Crossed West Limb.
 Absolute heliographic longitude: 249



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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