

Space Weather Highlights
20 January - 26 January 2020

SWPC PRF 2317
27 January 2020

Solar activity was very low. Region 2757 (N04, L=089, class/area Cao/060 on 26 Jan) produced a single low level B-class flare on 25/0714 UTC. 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 at moderate levels throughout the reporting period.

Geomagnetic field activity reached unsettled levels on 21-23 Jan and quiet levels throughout the remainder of the period, under a nominal solar wind regime.

Space Weather Outlook
27 January - 22 February 2020

Solar activity is expected to be very low with a slight chance for C-class flare activity from Region 2757.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to remain at moderate levels throughout the outlook period.

Geomagnetic field activity is expected to reach unsettled levels on 29-30 Jan and 03-05 Feb in response to CH HSS influence.



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	
20 January	71	0	0	A7.8	0	0	0	0	0	0	0	0	0
21 January	71	0	0	A7.8	0	0	0	0	0	0	0	0	0
22 January	72	0	0	A8.1	0	0	0	0	0	0	0	0	0
23 January	71	0	0	A7.6	0	0	0	0	0	0	0	0	0
24 January	71	12	10	A7.5	0	0	0	0	0	0	0	0	0
25 January	73	14	20	A7.5	0	0	0	1	0	0	0	0	0
26 January	75	18	60	A8.0	0	0	0	1	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	20 January	3.7e+05	2.2e+04	3.9e+03	2.4e+06	
21 January	6.4e+05	2.2e+04	4.1e+03	1.8e+06		
22 January	3.9e+05	2.2e+04	3.4e+03	1.6e+05		
23 January	3.1e+05	2.2e+04	3.9e+03	1.4e+05		
24 January	2.9e+05	2.2e+04	3.9e+03	1.6e+05		
25 January	3.5e+05	2.1e+04	3.5e+03	1.9e+05		
26 January	4.8e+05	2.2e+04	4.0e+03	2.3e+05		

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	20 January	2	0-1-0-0-1-1-1-0	0	0-0-1-0-0-0-0-0	2
21 January	4	0-0-0-1-2-2-2-2	7	0-0-2-2-2-4-1-1	6	0-0-1-1-1-2-3-2
22 January	4	1-2-1-1-1-1-1-2	7	0-1-2-4-3-1-0-1	6	2-2-1-1-1-0-1-3
23 January	3	2-3-0-0-0-1-0-0	2	1-1-0-2-0-0-0-0	5	2-3-1-0-0-0-1-1
24 January	1	1-0-0-0-0-1-1-0	1	0-0-1-0-1-0-0-0	3	1-0-0-0-1-1-1-0
25 January	3	0-2-0-0-2-1-1-1	1	0-1-0-1-0-0-0-0	3	0-2-1-0-1-0-1-0
26 January	2	1-0-0-0-1-2-1-1	1	0-0-0-0-1-1-1-0	6	2-1-1-0-1-2-1-0

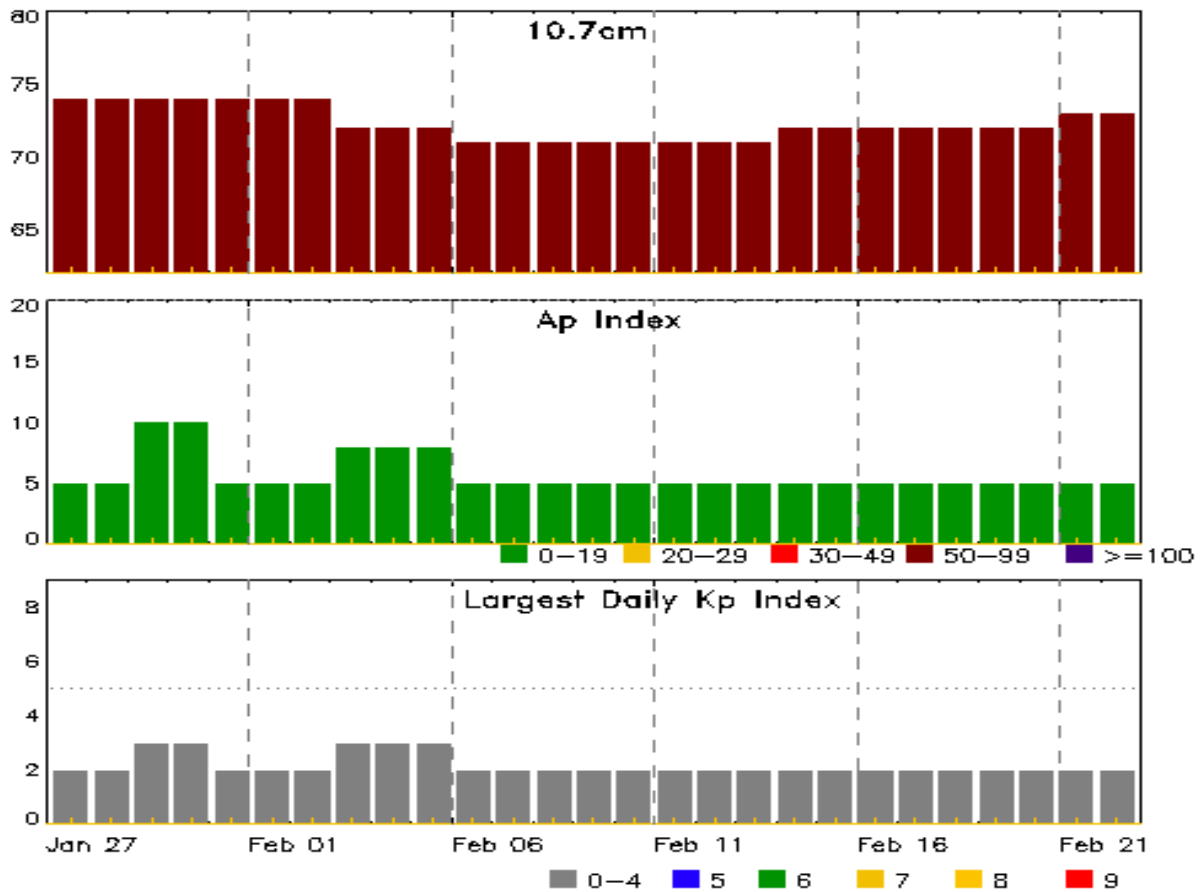


Alerts and Warnings Issued

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
27 Jan	74	5	2	10 Feb	71	5	2
28	74	5	2	11	71	5	2
29	74	10	3	12	71	5	2
30	74	10	3	13	71	5	2
31	74	5	2	14	72	5	2
01 Feb	74	5	2	15	72	5	2
02	74	5	2	16	72	5	2
03	72	8	3	17	72	5	2
04	72	8	3	18	72	5	2
05	72	8	3	19	72	5	2
06	71	5	2	20	72	5	2
07	71	5	2	21	73	5	2
08	71	5	2	22	73	5	2
09	71	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 #	245	2695	II	IV

No Events Observed

Flare List

Date	Time			X-ray Class	Imp/ Brtns	Optical		Rgn #
	Begin	Max	End			Location Lat CMD	Rgn #	
24 Jan	1947	1951	1953	B1.3				
25 Jan	0711	0714	0718	B1.1				2757
25 Jan	1737	1737	1741		SF	N05E19		2757
26 Jan	0836	0836	0836		SF	N02E08		2757



Region Summary

Date	Location		Sunspot Characteristics				Flares															
	Lat CMD	Lon	Heli 10 ⁻⁶ hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical										
									C	M	X	S	1	2	3	4						
<i>Region 2757</i>																						
24 Jan	N04E30		85	10	3	Bxo	2	B														
25 Jan	N03E14		87	20	3	Bxo	4	B						1								
26 Jan	N04W01		89	60	5	Cao	8	B						1								
									0	0	0	2	0	0	0	0	0	0				

Still on Disk.

Absolute heliographic longitude: 89



Recent Solar Indices (preliminary)
Observed monthly mean values

Month	Sunspot Numbers					Radio Flux		Geomagnetic		
	Observed values		Ratio	Smooth values		Penticton	Smooth	Planetary	Smooth	
	SEC	RI	RI/SEC	SEC	RI	10.7 cm	Value	Ap	Value	
2018										
January	7.8	4.1	0.51	15.0	8.5	70.0	74.0	6	9.3	
February	16.0	6.4	0.40	13.7	7.6	72.0	73.3	7	9.1	
March	6.0	1.5	0.25	11.5	5.9	68.4	71.9	8	8.6	
April	7.0	5.3	0.76	9.6	4.7	70.0	70.6	7	8.0	
May	15.0	7.9	0.53	9.2	4.5	70.9	70.2	8	7.6	
June	19.7	9.4	0.48	9.1	4.3	72.5	70.0	7	7.4	
July	1.3	1.0	0.77	9.4	4.2	69.7	70.0	6	7.3	
August	10.0	5.2	0.53	9.0	4.0	69.1	70.0	10	7.3	
September	5.7	2.0	0.35	8.7	3.9	68.3	70.1	9	7.3	
October	6.9	2.9	0.42	9.2	4.1	69.5	70.3	7	7.1	
November	7.3	2.9	0.48	9.5	4.0	68.9	70.4	6	7.0	
December	5.6	1.9	0.34	9.3	3.6	70.0	70.3	7	6.9	
2019										
January	16.0	4.6	0.29	9.0	3.2	71.6	70.0	6	6.8	
February		0.5		8.7	3.0	70.6	69.8	7	6.7	
March	14.8	5.6	0.39	8.3	2.8	71.5	69.7	6	6.6	
April	11.5	5.5	0.48	7.9	2.6	72.4	69.6	6	6.7	
May	18.1	5.9	0.34	7.4	2.3	71.3	69.6	7	6.7	
June	11.6	0.7	0.06	7.3	2.2	68.1	69.6	5	6.5	
July	1.6	0.5	0.31			67.1		6		
August	2.5	0.3	0.16			67.0		7		
September	2.6	0.7	0.27			68.1		10		
October	1.8	0.2	0.11			67.4		8		
November	1.1	0.3	0.27			70.2		4		
December	7.2	1.0	0.14			70.9		4		

Note: Values are final except for the most recent 6 months which are considered preliminary. Cycle 24 started in Dec 2008 with an RI=1.7.



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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