

Space Weather Highlights
13 January - 19 January 2020

SWPC PRF 2316
20 January 2020

Solar activity was very low. The solar disk was spotless. 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 was quiet with an isolated period of unsettled conditions on 16 Jan under a nominal solar wind regime.

Space Weather Outlook
20 January - 15 February 2020

Solar activity is expected to remain at very low levels.

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 21-22 Jan due to recurrent CH HSS influence. Moderate levels are anticipated for the remainder of the outlook period.

Geomagnetic field activity is expected to reach active levels on 20-21 Jan with unsettled conditions forecasted on 22 Jan and 01-05 Feb due to recurrent CH HSS activity.



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
13 January	72	0	0	A8.2	0	0	0	0	0	0	0	0
14 January	72	0	0	A8.2	0	0	0	0	0	0	0	0
15 January	71	0	0	A8.1	0	0	0	0	0	0	0	0
16 January	72	0	0	A8.0	0	0	0	0	0	0	0	0
17 January	70	0	0	A8.0	0	0	0	0	0	0	0	0
18 January	71	0	0	A8.0	0	0	0	0	0	0	0	0
19 January	72	0	0	A7.9	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
	13 January	3.5e+05	2.1e+04	4.1e+03	5.4e+07	
14 January	2.8e+05	2.1e+04	3.9e+03	3.4e+07		
15 January	5.8e+05	2.1e+04	3.8e+03	2.6e+07		
16 January	3.9e+05	2.2e+04	4.2e+03	4.7e+06		
17 January	6.3e+05	2.2e+04	4.0e+03	4.7e+06		
18 January	4.7e+05	2.2e+04	4.1e+03	2.9e+06		
19 January	3.9e+05	2.2e+04	3.8e+03	2.4e+06		

Daily Geomagnetic Data

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

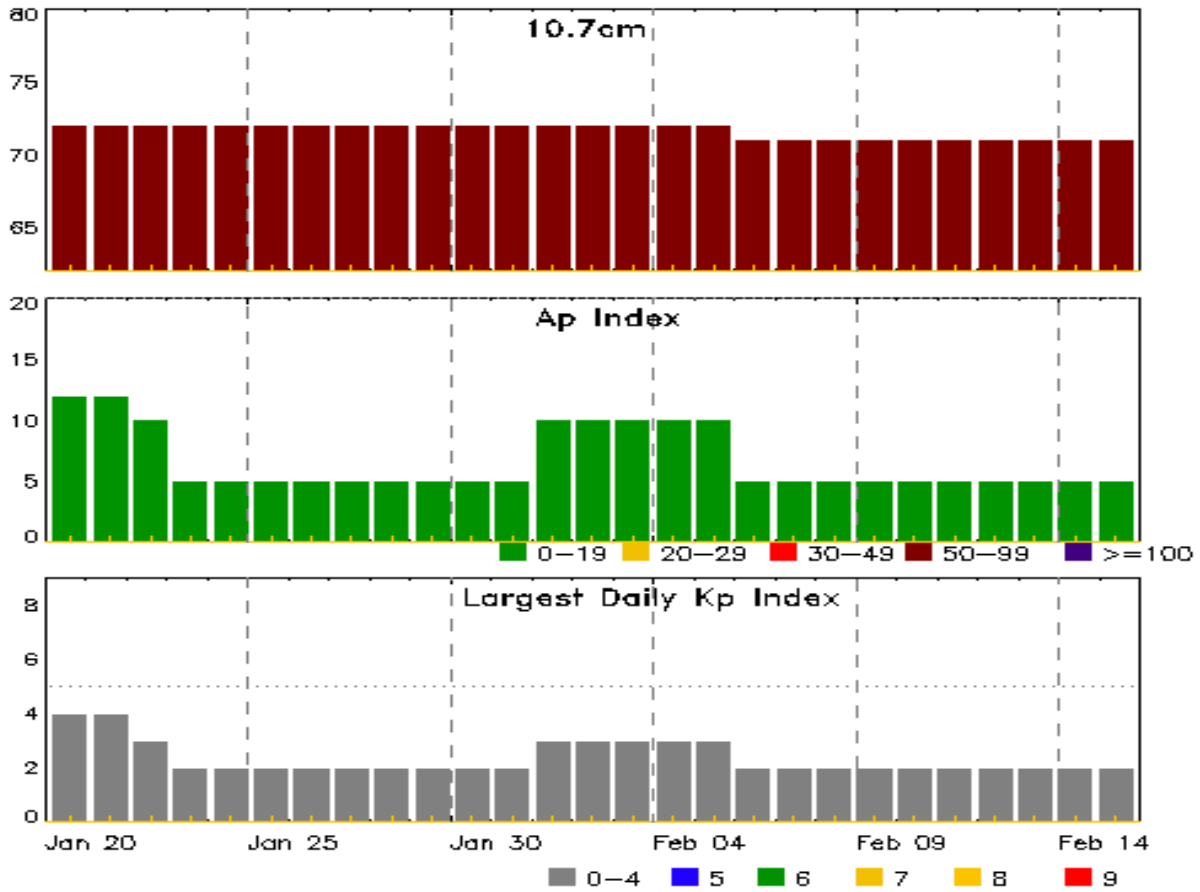


Alerts and Warnings Issued

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
20 Jan	72	12	4	03 Feb	72	10	3
21	72	12	4	04	72	10	3
22	72	10	3	05	72	10	3
23	72	5	2	06	71	5	2
24	72	5	2	07	71	5	2
25	72	5	2	08	71	5	2
26	72	5	2	09	71	5	2
27	72	5	2	10	71	5	2
28	72	5	2	11	71	5	2
29	72	5	2	12	71	5	2
30	72	5	2	13	71	5	2
31	72	5	2	14	71	5	2
01 Feb	72	10	3	15	71	5	2
02	72	10	3				



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		Rgn #
	Begin	Max	End			Location Lat CMD	Rgn #	
16 Jan	0148	0151	0152	A7.8				
19 Jan	1833	1835	1841	B1.0	SF	N22E30		



Region Summary

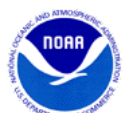
Date	Location		Sunspot Characteristics				Flares								
	Lat	CMD	Helio Lon	Area 10 ⁶ hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical			
									C	M	X	S	1	2	3

Region 2755

02 Jan	S35E51	353	20	3	Bxo	3	B											
03 Jan	S34E36	355	20	4	Bxo	3	B											
04 Jan	S35E21	357	10		Axx	1	A											
05 Jan	S35E09	355	10		Axx	1	A											
06 Jan	S35W03	354	10		Axx	1	A											
07 Jan	S36W13	352	plage															
08 Jan	S36W27	353	plage															
09 Jan	S36W41	353	plage															
10 Jan	S36W55	354	plage															
11 Jan	S36W69	355	plage															
12 Jan	S36W83	356	plage															
										0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 354



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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U.S. Department of Commerce
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Space Weather Prediction Center
325 Broadway, Boulder CO 80305

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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