

Space Weather Highlights
06 April - 12 April 2020

SWPC PRF 2328
13 April 2020

Solar activity was very low through the reporting period. 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 throughout the reporting period. A maximum flux of 606 pfu was observed on 07/1935 UTC.

Geomagnetic field activity ranged from quiet to unsettled. Unsettled levels were observed on 08 Apr and 11-12 Apr in response to weak coronal hole influence. The remainder of the reporting period was at quiet levels.

Space Weather Outlook
13 April - 09 May 2020

Solar activity is expected to be at very low levels over 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 29-30 Apr. The remainder of the outlook period is expected to reach moderate levels.

Geomagnetic field activity is expected to range from quiet to active levels. Active conditions are likely on 29-27 Apr and 05 May. Unsettled levels are likely on 30 Apr. All enhancements in geomagnetic activity are in anticipation of multiple, recurrent CH HSSs. The remainder of the outlook period is expected to be at quiet levels.



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
06 April	70	0	0	A1.0	0	0	0	1	0	0	0	0
07 April	70	0	0	A0.0	0	0	0	1	0	0	0	0
08 April	70	0	0	A0.0	0	0	0	0	0	0	0	0
09 April	70	0	0	A1.0	0	0	0	1	0	0	0	0
10 April	69	0	0	A0.0	0	0	0	0	0	0	0	0
11 April	71	0	0	A0.0	0	0	0	0	0	0	0	0
12 April	71	0	0	A0.0	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
	06 April	5.9e+04	4.6e+04
07 April	8.0e+04	4.7e+04	1.8e+07
08 April	2.7e+05	4.5e+04	1.7e+06
09 April	5.4e+04	4.6e+04	2.0e+06
10 April	6.2e+04	4.7e+04	3.8e+06
11 April	1.2e+05	4.7e+04	2.2e+06
12 April	6.6e+04	4.6e+04	1.1e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	06 April	2	1-1-1-1-1-1-0-0	2	1-0-1-1-1-0-0-0	3
07 April	3	0-0-0-1-1-1-2-2	1	0-1-0-0-0-0-0-1	4	0-0-0-1-1-0-2-2
08 April	10	2-2-3-2-3-2-2-3	17	1-1-3-4-5-4-1-2	13	2-3-3-2-3-3-2-3
09 April	5	2-1-1-1-2-2-1-1	4	1-0-2-1-3-1-0-0	5	2-1-1-1-2-1-1-1
10 April	4	0-1-1-2-2-2-1-1	1	0-0-0-2-0-1-0-0	5	0-1-1-2-1-2-1-1
11 April	4	1-1-1-1-2-2-1-1	15	1-0-1-2-5-5-2-1	6	1-1-1-1-2-3-2-2
12 April	5	0-2-2-1-2-2-2-1	16	1-2-2-4-5-4-2-1	5	1-2-2-1-3-2-2-1

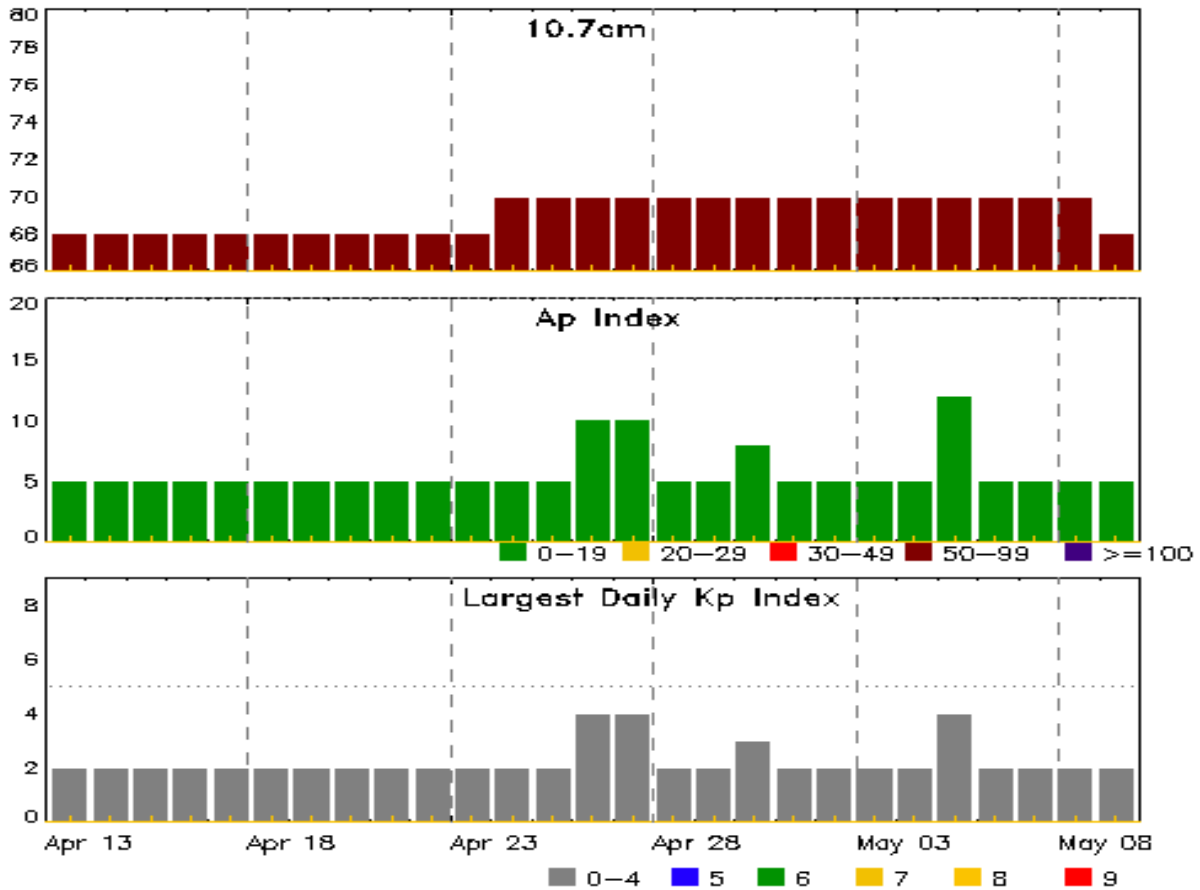


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
08 Apr 1659	WARNING: Geomagnetic K = 4	08/1700 - 2359
08 Apr 2354	EXTENDED WARNING: Geomagnetic K = 4	08/1700 - 09/0600



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
13 Apr	68	5	2	27 Apr	70	10	4
14	68	5	2	28	70	5	2
15	68	5	2	29	70	5	2
16	68	5	2	30	70	8	3
17	68	5	2	01 May	70	5	2
18	68	5	2	02	70	5	2
19	68	5	2	03	70	5	2
20	68	5	2	04	70	5	2
21	68	5	2	05	70	12	4
22	68	5	2	06	70	5	2
23	68	5	2	07	70	5	2
24	70	5	2	08	70	5	2
25	70	5	2	09	68	5	2
26	70	10	4				



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 #	
06 Apr	0535	0548	0558	B2.5	SF	N28W14		2759
06 Apr	0822	0831	0838	B1.8				2759
07 Apr	0146	0159	0026	B4.5	SF	N28W24		2759
09 Apr	0091	0932	0918	B1.6	SF	N28W58		2759



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	4		
Region 2759																	
31 Mar	N28E51	261	10	2	Axx	2	A										
01 Apr	N28E38	261	20	2	Hrx	3	A										
02 Apr	N28E22	263	30	2	Hrx	2	A										
03 Apr	N27E10	262	30	1	Hrx	3	A										
04 Apr	N28W01	260	10	2	Axx	1	A										
05 Apr	N28W15	261	plage														
06 Apr	N28W29	262	plage									1					
07 Apr	N28W43	263	plage									1					
08 Apr	N28W57	264	plage														
09 Apr	N28W71	264	plage									1					
10 Apr	N28W85	265	plage														
11 Apr	N28W99	266	plage														
								0	0	0	3	0	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 260



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										
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	7.0	2.1	67.1	69.7	6	6.3	
August	2.5	0.3	0.16	7.0	2.1	67.0	69.8	7	6.2	
September	2.6	0.7	0.27	6.8	1.9	68.1	69.7	10	6.2	
October	1.8	0.2	0.11			67.4		8		
November	1.1	0.3	0.27			70.2		4		
December	7.2	0.9	0.14			70.9		4		
2020										
January	9.2	3.8	0.41			72.3		5		
February	5.5	0.2	0.04			71.0		6		
March	3.0	0.9	0.30			70.1		6		

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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Current

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