

Space Weather Highlights
20 April - 26 April 2020

SWPC PRF 2330
27 April 2020

Solar activity was very low throughout the period. Region 2760 (S07, L=305, class/area=Bxo/10 on 26 Apr) developed late in the week but remained quiet. No flare activity or earth-directed CMEs were observed this period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal and normal to moderate levels this period.

Geomagnetic field activity reached active to G1 (Minor) geomagnetic storm levels on 20 Apr, with isolated active conditions observed on 21 Apr, due to the influence of a recurrent, negative polarity CH HSS. Generally quiet and quiet to unsettled conditions were registered throughout the remainder of the week.

Space Weather Outlook
27 April - 23 May 2020

Solar activity is expected to be very 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 persist at normal and normal to moderate levels throughout the outlook period.

Geomagnetic field activity is expected to reach active levels on 05 May in response to recurrent CH HSS influences. Generally quiet and quiet to unsettled conditions are expected to prevail throughout the remainder of the period.



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 April	68	0	0	A0.0	0	0	0	0	0	0	0	0
21 April	69	0	0	A0.0	0	0	0	0	0	0	0	0
22 April	71	0	0	A0.0	0	0	0	0	0	0	0	0
23 April	69	0	0	A0.0	0	0	0	0	0	0	0	0
24 April	71	0	0	A0.0	0	0	0	0	0	0	0	0
25 April	69	11	10	A0.0	0	0	0	0	0	0	0	0
26 April	69	14	10	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
	20 April	1.4e+05	4.6e+04
21 April	9.2e+04	4.6e+04	1.2e+06
22 April	6.0e+04	4.6e+04	2.9e+06
23 April	7.2e+04	4.7e+04	9.1e+06
24 April	1.4e+05	4.7e+04	5.4e+06
25 April	6.0e+04	4.7e+04	2.7e+06
26 April	9.1e+04	4.6e+04	3.2e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	20 April	16	2-3-3-5-4-2-2-1	39	2-2-5-7-6-4-1-0	18
21 April	8	2-2-1-2-2-3-2-2	13	1-1-1-4-4-4-2-2	9	2-2-1-2-2-4-2-3
22 April	10	3-3-2-2-2-2-3-1	6	2-1-1-2-3-2-0-1	8	3-3-2-1-2-1-1-2
23 April	4	0-2-1-1-2-1-1-1	1	0-1-0-0-0-0-0-2	4	1-2-1-1-1-0-0-2
24 April	6	2-0-1-1-2-2-2-3	4	2-1-0-1-1-1-1-2	8	3-1-1-1-1-2-2-3
25 April	5	2-2-2-1-2-2-1-0	4	3-2-2-0-0-0-0-0	5	3-2-2-1-1-1-0-0
26 April	5	0-2-1-2-2-2-1-2	7	1-1-0-3-3-2-1-2	4	1-2-1-2-2-2-2-2

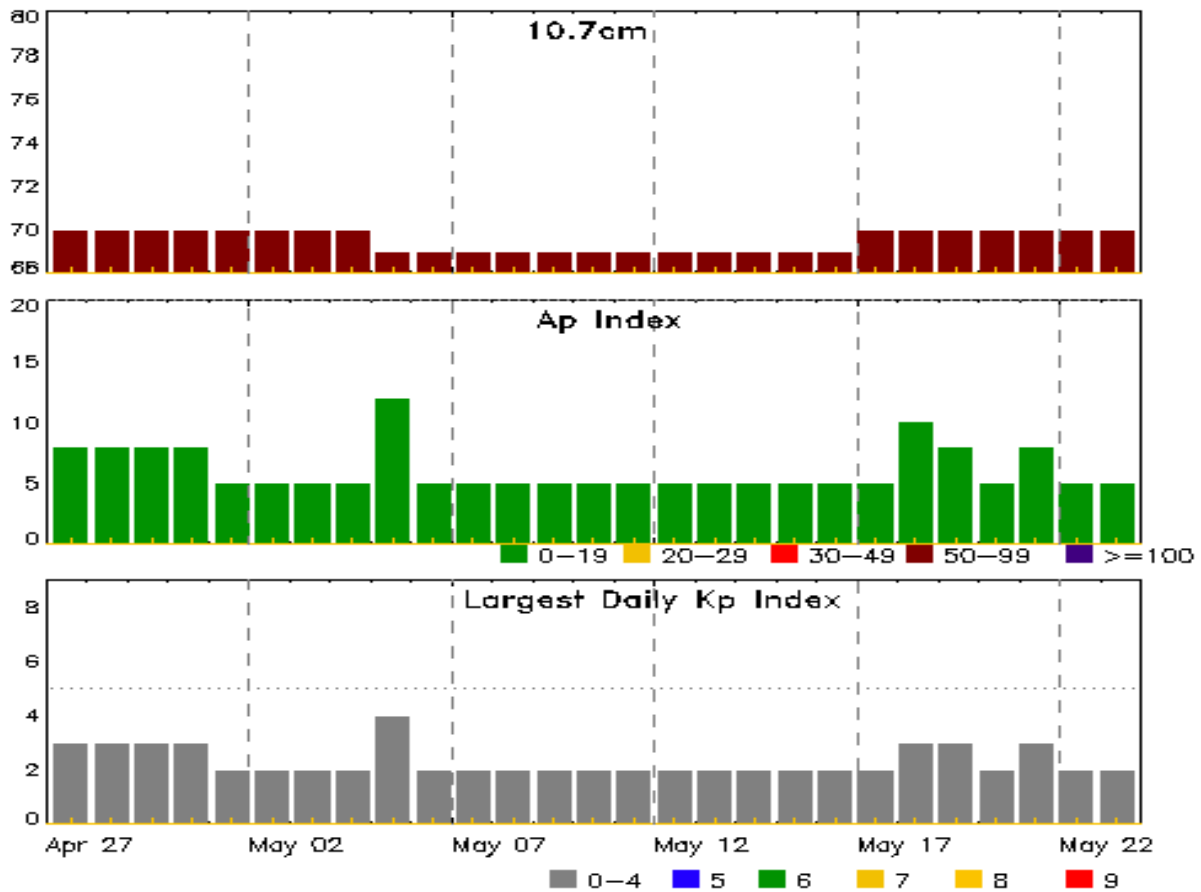


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
20 Apr 0527	WARNING: Geomagnetic K = 4	20/0526 - 1500
20 Apr 0857	ALERT: Geomagnetic K = 4	20/0855
20 Apr 1010	WARNING: Geomagnetic K = 5	20/1010 - 1500
20 Apr 1045	ALERT: Geomagnetic K = 5	20/1044
20 Apr 1420	EXTENDED WARNING: Geomagnetic K = 5	20/1010 - 1800
20 Apr 1420	ALERT: Geomagnetic K = 5	20/1418
20 Apr 1420	EXTENDED WARNING: Geomagnetic K = 4	20/0526 - 2359
20 Apr 2354	EXTENDED WARNING: Geomagnetic K = 4	20/0526 - 21/0600
21 Apr 1754	WARNING: Geomagnetic K = 4	21/1752 - 2359
21 Apr 1800	ALERT: Geomagnetic K = 4	21/1759
21 Apr 2356	EXTENDED WARNING: Geomagnetic K = 4	21/1752 - 22/0600



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
27 Apr	70	8	3	11 May	69	5	2
28	70	8	3	12	69	5	2
29	70	8	3	13	69	5	2
30	70	8	3	14	69	5	2
01 May	70	5	2	15	69	5	2
02	70	5	2	16	69	5	2
03	70	5	2	17	70	5	2
04	70	5	2	18	70	10	3
05	69	12	4	19	70	8	3
06	69	5	2	20	70	5	2
07	69	5	2	21	70	8	3
08	69	5	2	22	70	5	2
09	69	5	2	23	70	5	2
10	69	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	Optical			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		
23 Apr	1540	1545	1550	A6.7				
23 Apr	1710	1713	1721	A7.2				



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							
<i>Region 2760</i>																							
25 Apr	S07E37		305	10	1	Axx	1	A															
26 Apr	S07E24		305	10	3	Bxo	4	B															
									0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 305



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

The Weekly has been published continuously since 1951 and is available online since 1997.

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Current

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