

Space Weather Highlights
04 May - 10 May 2020

SWPC PRF 2332
11 May 2020

Solar activity was very low. Regions 2760 (S06, L=306, class/area Cro/020 on 29 Apr) and 2763 (N32, L=260, class/area Bxo/010 on 30 Apr) were both plage regions as they rotated off the west limb on 05 May and 08 May, respectively. 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 normal to moderate levels. The peak flux was 240 pfu observed at 09/0420 UTC.

Geomagnetic field activity was mostly quiet with isolated unsettled periods observed on 06 and 10 May. Solar wind parameters were at nominal levels with solar wind speed ranging from 285-360 km/s. Total field ranged from 1-8 nT while the Bz component was between +6/-7 nT.

Space Weather Outlook
11 May - 06 June 2020

Solar activity is expected to be at very low levels on 11 May - 06 Jun.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels.

Geomagnetic field activity is expected to be mostly quiet. Unsettled levels are expected on 13-14 May and 18-19 May due to coronal hole high speed stream 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	4	
04 May	69	0	0	A0.0	0	0	0	0	0	0	0	0	0
05 May	69	0	0	A0.0	0	0	0	0	0	0	0	0	0
06 May	70	0	0	A0.0	0	0	0	0	0	0	0	0	0
07 May	69	0	0	A0.0	0	0	0	0	0	0	0	0	0
08 May	68	0	0	A0.0	0	0	0	0	0	0	0	0	0
09 May	71	0	0	A0.0	0	0	0	0	0	0	0	0	0
10 May	68	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
	04 May	5.9e+04	4.5e+04
05 May	7.7e+04	4.6e+04	1.2e+06
06 May	5.4e+04	4.6e+04	1.5e+06
07 May	6.6e+04	4.6e+04	1.6e+06
08 May	8.1e+04	4.6e+04	1.6e+06
09 May	7.6e+04	4.6e+04	1.9e+06
10 May	2.6e+05	4.6e+04	1.7e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	04 May	8	2-2-1-1-4-1-1-2	4	2-1-0-1-3-1-0-0	6
05 May	7	2-2-1-1-3-1-2-2	3	0-1-1-2-0-1-1-1	6	1-2-1-1-1-2-1-2
06 May	6	3-2-1-1-2-1-2-0	3	3-2-0-0-1-0-0-0	6	3-2-1-0-1-1-1-1
07 May	5	0-1-2-1-3-1-1-1	9	1-2-3-4-3-1-0-1	4	1-1-2-1-1-0-0-1
08 May	4	1-0-1-1-3-0-1-1	2	1-1-0-2-0-0-0-0	4	1-1-1-1-1-0-1-1
09 May	3	1-0-0-1-2-2-1-1	0	0-0-0-0-0-0-0-0	3	1-0-0-1-1-1-1-0
10 May	5	1-0-1-1-2-1-2-3	1	0-0-0-0-0-0-1-1	2	0-0-1-1-1-1-2-3

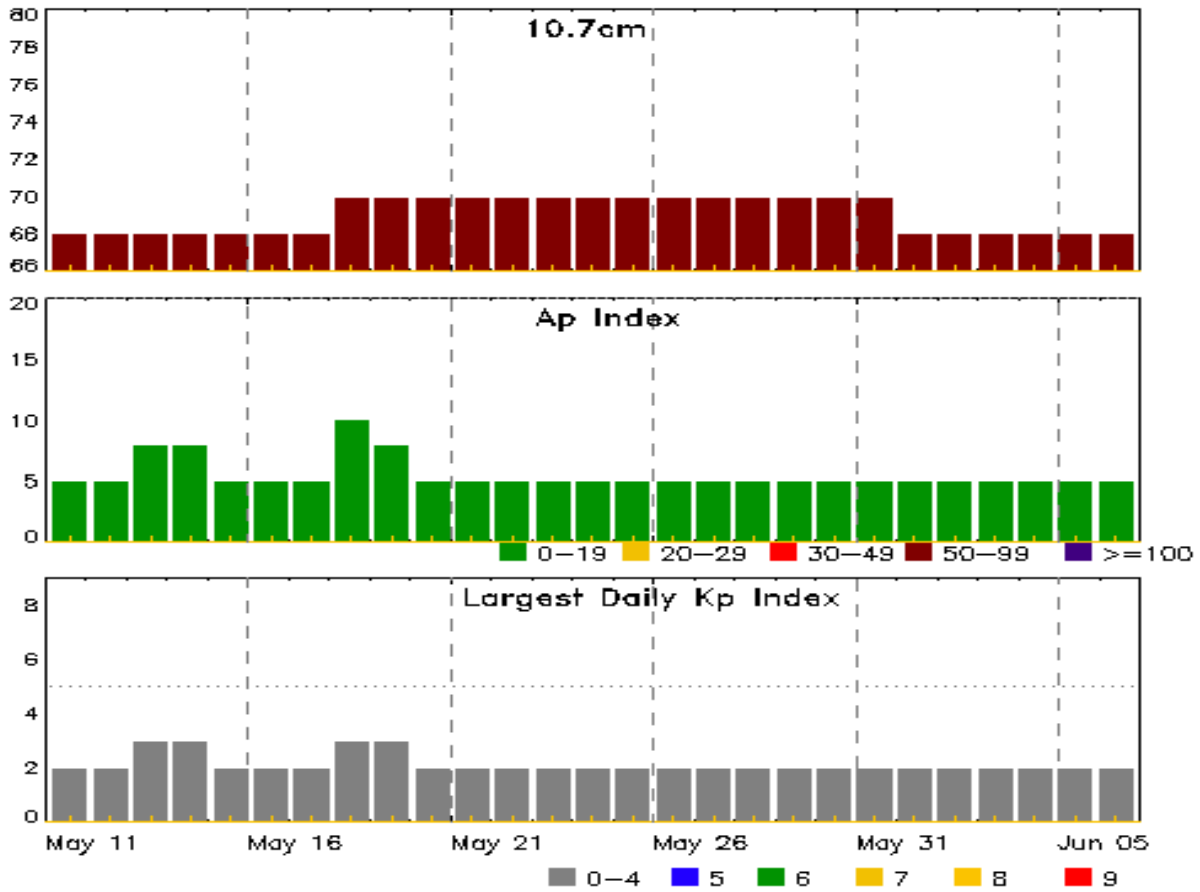


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
06 May 0246	WARNING: Geomagnetic K = 4	06/0245 - 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
11 May	68	5	2	25 May	70	5	2
12	68	5	2	26	70	5	2
13	68	8	3	27	70	5	2
14	68	8	3	28	70	5	2
15	68	5	2	29	70	5	2
16	68	5	2	30	70	5	2
17	68	5	2	31	70	5	2
18	70	10	3	01 Jun	68	5	2
19	70	8	3	02	68	5	2
20	70	5	2	03	68	5	2
21	70	5	2	04	68	5	2
22	70	5	2	05	68	5	2
23	70	5	2	06	68	5	2
24	70	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 #	Radio Flux 245	Radio Flux 2695	Intensity II

No Events Observed

Flare List

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
08 May	2000	2001	2002	A1.1			



Region Summary

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

Region 2760

25 Apr	S07E37	305	10	1	Axx	1	A										
26 Apr	S07E24	305	10	3	Bxo	4	B										
27 Apr	S07E10	304	10	5	Axx	2	A										
28 Apr	S06W03	305	plage														
29 Apr	S06W17	306	20	2	Cro	2	B										
30 Apr	S07W31	307	20	3	Cro	2	B										
01 May	S07W44	307	plage														
02 May	S07W57	307	plage														
03 May	S07W71	307	plage														
04 May	S07W86	309	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

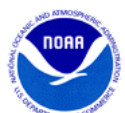
Absolute heliographic longitude: 305

Region 2763

30 Apr	N32E16	260	10	2	Bxo	2	B										
01 May	N32E02	261	plage														
02 May	N32W11	261	plage														
03 May	N32W25	261	plage														
04 May	N32W39	262	plage														
05 May	N32W53	263	plage														
06 May	N32W67	264	plage														
07 May	N32W81	265	plage														
08 May	N32W95	265	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 261



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										
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	6.2	1.6	67.4	69.5	8	6.2	
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		
April	8.5	3.2	0.38			69.5		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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