

Space Weather Highlights
08 June - 14 June 2020

SWPC PRF 2337
15 June 2020

Solar activity was at very low levels throughout the period. Region 2765 (S24, L=116, class/area Cao/130 on 05 Jun) produced a B1 flare at 09/0311 UTC but was otherwise stable and unremarkable. No Earth-directed CMEs were observed in available imagery.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached moderate levels throughout the reporting period.

Geomagnetic field activity was at mostly quiet levels with isolated unsettled intervals on 09-10 June due to CH HSS influence.

Space Weather Outlook
15 June - 11 July 2020

Solar activity is expected to be 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 be at normal to moderate levels.

Geomagnetic field activity is expected to be at quiet levels with unsettled conditions likely on 16-18 June and 04, 06-07 July due to recurrent 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	
08 June	71	17	100	A3.4	0	0	0	0	0	0	0	0	0
09 June	72	14	70	A2.9	0	0	0	0	0	0	0	0	0
10 June	71	11	50	A2.3	0	0	0	0	0	0	0	0	0
11 June	72	11	50	A1.9	0	0	0	0	0	0	0	0	0
12 June	71	11	50	A1.7	0	0	0	0	0	0	0	0	0
13 June	69	11	60	A1.5	0	0	0	0	0	0	0	0	0
14 June	70	11	20	A1.3	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	
	08 June	5.7e+04	4.7e+04	1.4e+06
09 June	7.1e+04	4.8e+04	1.3e+06	
10 June	6.1e+04	4.7e+04	1.1e+06	
11 June	5.5e+04	4.8e+04	1.5e+06	
12 June	6.3e+04	4.9e+04	1.6e+06	
13 June	7.5e+04	4.8e+04	1.5e+06	
14 June	1.2e+05	4.8e+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
	08 June	6	2-3-1-2-1-2-1-0	3	2-2-0-0-1-1-1-0	4
09 June	5	1-0-0-2-2-2-2-2	1	1-0-0-0-0-0-1-1	5	1-1-0-1-1-1-2-3
10 June	11	2-3-3-4-1-2-2-1	11	2-3-4-4-1-1-1-0	7	2-2-2-3-1-1-1-1
11 June	4	1-2-0-1-2-1-1-1	2	1-2-1-0-1-0-0-0	4	1-2-1-1-1-1-0-0
12 June	6	1-2-0-2-2-3-2-1	2	1-1-1-1-0-0-0-0	4	1-1-1-1-1-1-1-1
13 June	4	0-0-0-1-3-2-1-0	0	0-0-0-0-0-0-0-0	3	0-1-1-0-1-1-0-0
14 June	3	0-0-1-1-2-1-2-1	0	0-0-0-0-0-0-1-0	2	0-0-0-0-0-0-1-1

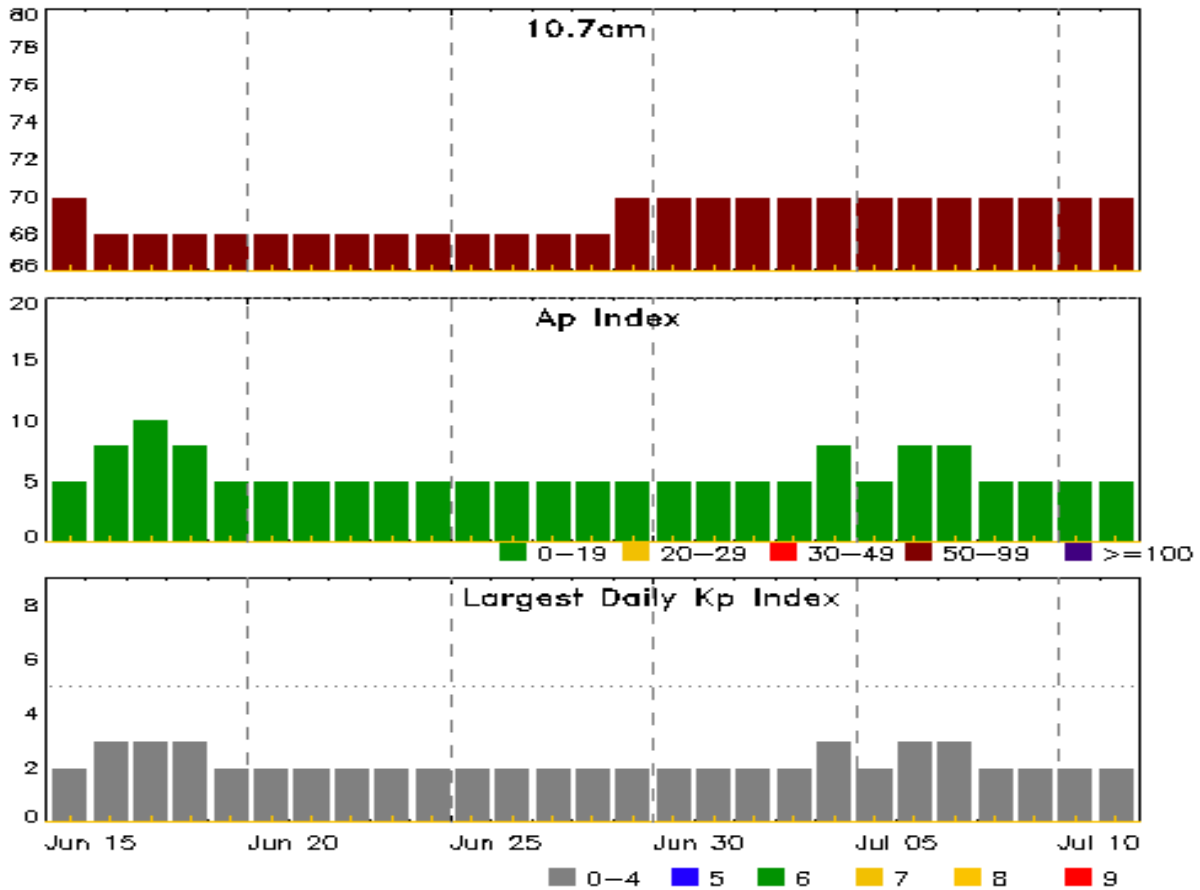


Alerts and Warnings Issued

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
15 Jun	70	5	2	29 Jun	70	5	2
16	68	8	3	30	70	5	2
17	68	10	3	01 Jul	70	5	2
18	68	8	3	02	70	5	2
19	68	5	2	03	70	5	2
20	68	5	2	04	70	8	3
21	68	5	2	05	70	5	2
22	68	5	2	06	70	8	3
23	68	5	2	07	70	8	3
24	68	5	2	08	70	5	2
25	68	5	2	09	70	5	2
26	68	5	2	10	70	5	2
27	68	5	2	11	70	5	2
28	68	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

No Events Observed

Flare List

Date	Time			X-ray Class	Optical			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		
09 Jun	0031	0311	0318	B1.5				2765



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 2764

29 May	N35E88	165	plage							2	1						
01 Jun	N35E47	165	0			Axx	1	A									
02 Jun	N34E35	165	plage														
03 Jun	N34E21	165	plage														
04 Jun	N34E07	166	plage														
05 Jun	N34W07	167	plage														
06 Jun	N34W21	168	plage														
07 Jun	N34W35	168	plage														
08 Jun	N34W49	169	plage														
09 Jun	N34W63	170	plage														
10 Jun	N34W77	171	plage														
										2	1	0	0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 166

Region 2765

03 Jun	S24E71	115	70	3	Hsx	2	A										
04 Jun	S24E58	115	100	3	Hsx	2	A										
05 Jun	S24E44	116	130	5	Cao	3	B										
06 Jun	S22E33	114	110	5	Dso	5	B										
07 Jun	S23E20	113	100	4	Cao	6	B					1					
08 Jun	S24E07	113	100	4	Cso	7	B										
09 Jun	S24W06	113	70	4	Cso	4	B										
10 Jun	S24W21	114	50	1	Hsx	1	A										
11 Jun	S22W35	115	50	1	Hsx	1	A										
12 Jun	S26W46	113	50	1	Hsx	1	A										
13 Jun	S25W60	114	60	1	Hsx	1	A										
14 Jun	S25W73	114	20	1	Hsx	1	A										
										0	0	0	1	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 113



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										
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	5.3	1.3	70.2	69.3	4	6.0
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	
May		0.0	0.1				69.2		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)

Published every Monday by the Space Weather Prediction Center.

U.S. Department of Commerce
NOAA / National Weather Service
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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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