

Space Weather Highlights
22 June - 28 June 2020

SWPC PRF 2339
29 June 2020

Solar activity was very low over the reporting period. Several areas of plage with intermittent spots/pores were observed but none persisted long enough to be assigned an active region number. 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 background to moderate levels.

Geomagnetic field activity ranged from quiet to unsettled. On Jun 26-27, isolated periods of unsettled levels were observed around a shift in phi angle, which suggested influence of a SSBC. The remainder of the reporting period was quiet under ambient solar wind conditions.

Space Weather Outlook
29 June - 25 July 2020

Solar activity is expected to be very low 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 normal background levels.

Geomagnetic field activity is expected to be quiet to unsettled. Unsettled conditions are likely on 30 Jun - 01 Jul and 06-07 Jul in response to multiple, recurrent CH HSSs. The remainder of the outlook period is likely to observe quiet conditions.



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
22 June	68	0	0	A0.0	0	0	0	0	0	0	0	0
23 June	67	0	0	A0.0	0	0	0	0	0	0	0	0
24 June	67	0	0	A0.0	0	0	0	0	0	0	0	0
25 June	69	0	0	A0.0	0	0	0	0	0	0	0	0
26 June	68	0	0	A0.0	0	0	0	0	0	0	0	0
27 June	69	0	0	A0.0	0	0	0	0	0	0	0	0
28 June	69	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
	22 June	6.6e+04	4.7e+04
23 June	9.2e+04	4.7e+04	1.2e+06
24 June	7.6e+04	4.7e+04	1.2e+06
25 June	1.2e+05	4.7e+04	1.4e+06
26 June	9.2e+04	4.7e+04	1.3e+06
27 June	6.8e+04	4.7e+04	1.3e+06
28 June	5.6e+04	4.7e+04	1.3e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	22 June	3	0-0-0-2-2-1-1-1	0	0-0-0-1-0-0-0-0	4
23 June	6	0-1-1-2-1-3-2-2	1	0-1-1-0-0-0-0-1	4	1-1-1-1-1-1-1-2
24 June	7	2-2-1-2-2-2-2-2	3	1-1-1-1-0-2-1-0	5	2-2-1-1-1-1-1-1
25 June	2	1-0-0-0-1-1-1-2	0	0-0-0-0-0-0-0-0	3	1-1-1-0-1-1-0-2
26 June	6	2-0-1-0-2-2-2-3	4	1-0-0-1-3-1-1-2	6	2-0-1-1-1-1-2-3
27 June	6	2-1-2-2-2-2-1-2	7	3-2-2-3-2-0-1-1	7	2-1-2-2-3-1-1-2
28 June	4	2-2-0-1-2-1-1-1	2	2-1-0-2-0-0-0-0	6	2-1-1-1-1-1-1-1

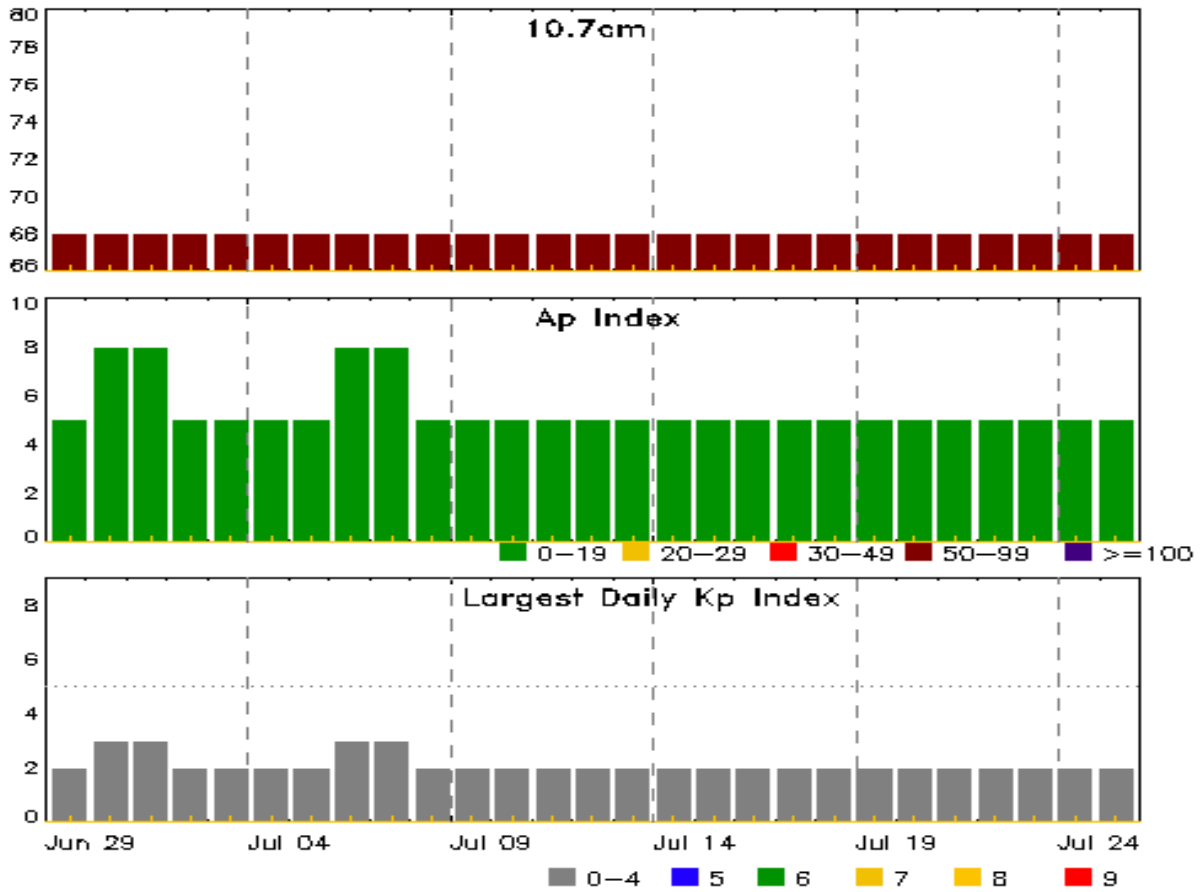


Alerts and Warnings Issued

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
29 Jun	68	5	2	13 Jul	68	5	2
30	68	8	3	14	68	5	2
01 Jul	68	8	3	15	68	5	2
02	68	5	2	16	68	5	2
03	68	5	2	17	68	5	2
04	68	5	2	18	68	5	2
05	68	5	2	19	68	5	2
06	68	8	3	20	68	5	2
07	68	8	3	21	68	5	2
08	68	5	2	22	68	5	2
09	68	5	2	23	68	5	2
10	68	5	2	24	68	5	2
11	68	5	2	25	68	5	2
12	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 #	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 #
27 Jun	0918	0919	0920	A1.3			



Region Summary

Location		Sunspot Characteristics					Flares							
Date	Lat CMD	Helio Lon	Area 10 ⁻⁶	Extent hemi.	Spot (helio) Class	Spot Count	Mag Class	X-ray			Optical			
							C	M	X	S	1	2	3	4

No Active Regions



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)

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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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