

Space Weather Highlights
19 August - 25 August 2019

SWPC PRF 2295
26 August 2019

Solar activity was very low. The visible disk was spotless with no Earth-directed CMEs observed.

No proton events were observed at geosynchronous orbit.

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

Geomagnetic field activity was at quiet levels under nominal solar wind conditions throughout the forecast period.

Space Weather Outlook
26 August - 21 September 2019

Solar activity is expected to remain 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 reach high levels on 02-13 Sep due to recurrent CH HSS influence. Moderate levels are expected throughout the remainder of the period.

Geomagnetic field activity is likely to reach G2 (Moderate) geomagnetic storm levels on 01 Sep, active levels on 26-27 Aug, 02 Sep, with unsettled levels on 28 Aug, 03, 06-07 Sep due to recurrent CH HSS effects.



Daily Solar Data

Date	Radio	Sun	Sunspot	X-ray		Flares							
	Flux	spot	Area	Background		X-ray			Optical				
	10.7cm	No.	(10 ⁻⁶ hemi.)	Flux		C	M	X	S	1	2	3	4
19 August	68	0	0	A6.0	0	0	0	0	0	0	0	0	0
20 August	67	0	0	A6.1	0	0	0	0	0	0	0	0	0
21 August	67	0	0	A5.8	0	0	0	0	0	0	0	0	0
22 August	66	0	0	A5.7	0	0	0	0	0	0	0	0	0
23 August	67	0	0	A5.9	0	0	0	0	0	0	0	0	0
24 August	66	0	0	A6.0	0	0	0	0	0	0	0	0	0
25 August	66	0	0	A6.0	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	>100 MeV	>0.6 MeV	>2MeV	>4 MeV
19 August	5.0e+05	2.2e+04	4.2e+03	2.8e+07		
20 August	5.8e+05	2.1e+04	3.6e+03	2.5e+07		
21 August	6.4e+05	2.2e+04	4.1e+03	3.0e+07		
22 August	8.4e+05	2.1e+04	3.9e+03	2.9e+07		
23 August	7.0e+05	2.1e+04	3.7e+03	1.4e+07		
24 August	6.5e+05	2.1e+04	4.0e+03	2.4e+07		
25 August	8.1e+05	2.2e+04	3.8e+03	2.0e+07		

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
19 August	4	1-2-1-1-2-1-1-1	2	1-2-0-1-0-0-0-1	4	1-2-1-1-1-1-0-1
20 August	7	2-2-1-2-3-1-1-2	3	1-2-1-0-1-1-0-1	4	2-2-1-1-2-1-0-1
21 August	5	1-2-2-1-2-2-1-1	2	1-1-0-0-1-1-0-1	4	1-2-1-1-1-1-1-0
22 August	7	1-1-1-2-2-3-2-2	6	3-2-2-2-1-0-2-1	6	2-1-2-2-1-1-2-2
23 August	4	1-3-1-1-1-1-1-0	3	1-2-1-2-0-0-1-0	4	1-2-2-1-0-0-1-1
24 August	5	2-2-1-2-2-1-1-0	4	2-1-0-3-0-1-0-0	5	2-2-1-2-1-1-1-0
25 August	5	1-2-2-1-2-1-1-1	2	0-0-3-0-0-0-0-0	5	1-1-2-1-1-1-0-2

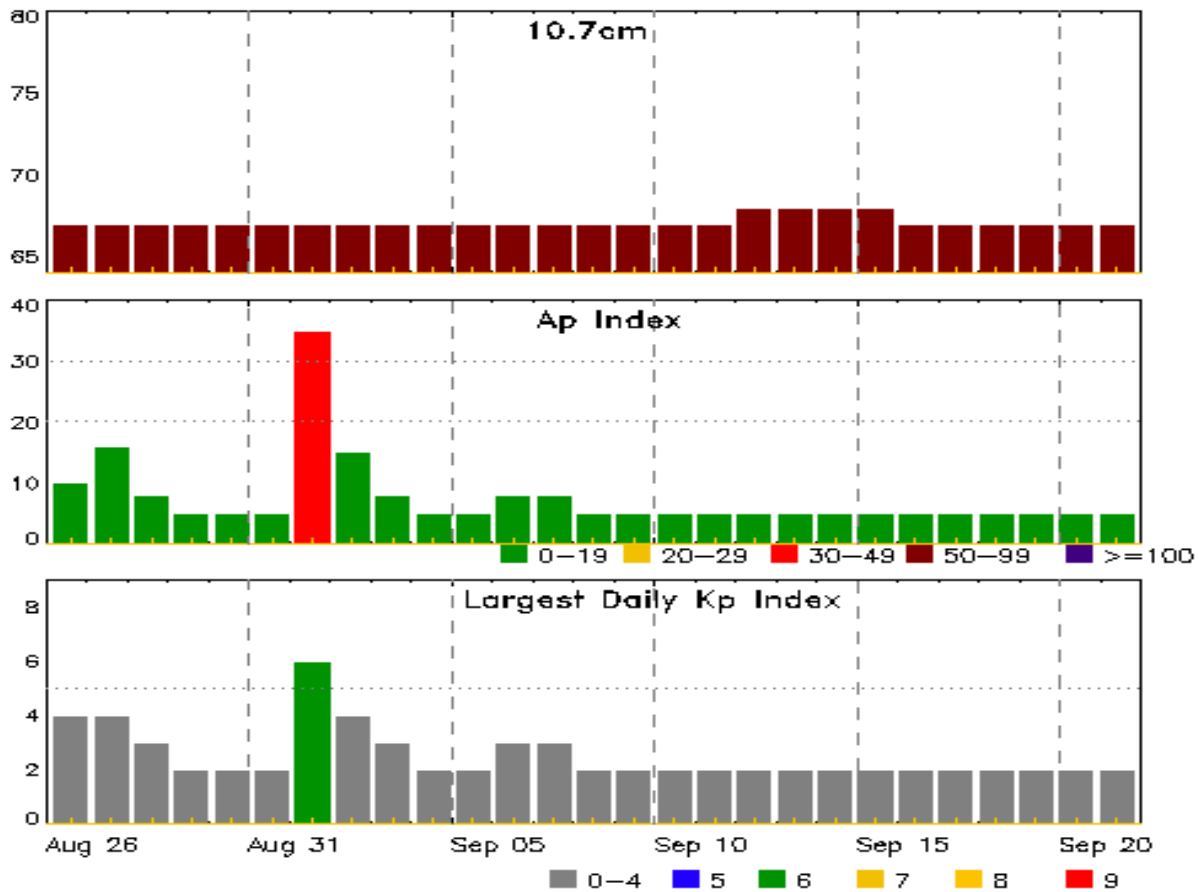


Alerts and Warnings Issued

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
26 Aug	67	10	4	09 Sep	67	5	2
27	67	16	4	10	67	5	2
28	67	8	3	11	67	5	2
29	67	5	2	12	68	5	2
30	67	5	2	13	68	5	2
31	67	5	2	14	68	5	2
01 Sep	67	35	6	15	68	5	2
02	67	15	4	16	67	5	2
03	67	8	3	17	67	5	2
04	67	5	2	18	67	5	2
05	67	5	2	19	67	5	2
06	67	8	3	20	67	5	2
07	67	8	3	21	67	5	2
08	67	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		Intensity	
									245	2695	II	IV

No Events Observed

Flare List

Date				Optical			
	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
No Flares Observed							



Region Summary

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

No Active Regions

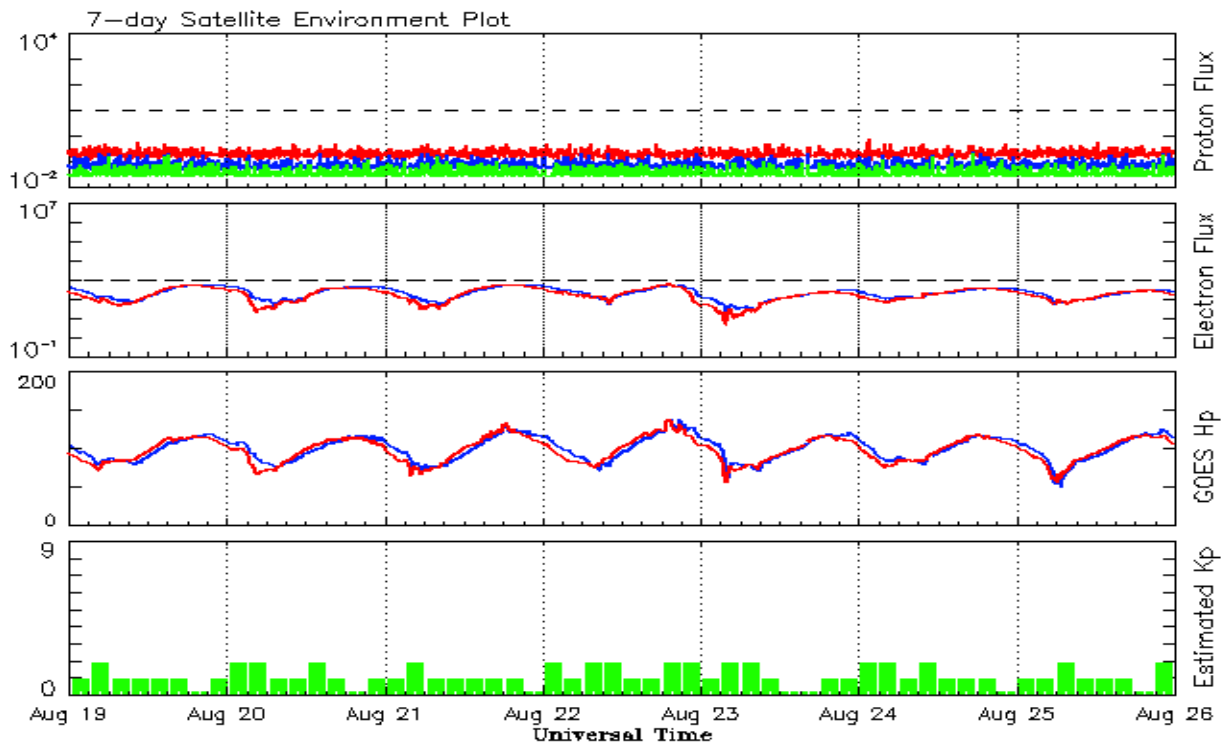


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2017									
August	25.0	19.6	0.80	19.7	11.8	77.9	76.3	12	10.7
September	42.2	26.2	0.62	18.6	11.0	92.0	75.9	19	10.3
October	16.0	7.9	0.49	16.8	10.0	76.4	75.1	11	9.8
November	7.7	3.4	0.44	15.7	9.2	72.1	74.6	11	9.5
December	7.6	4.9	0.64	15.7	9.1	71.5	74.4	8	9.4
2018									
January	7.8	4.1	0.51	15.0	8.5	70.0	74.0	6	9.3
February	16.0	6.4	0.40	13.7	7.6	72.0	73.3	7	9.1
March	6.0	1.5	0.25	11.5	5.9	68.4	71.9	8	8.6
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				70.6		7	
March	14.8	5.6	0.39			71.5		6	
April	11.5	5.5	0.48			72.4		6	
May	18.1	6.1	0.34			71.3		7	
June	11.6	0.7	0.06			68.1		5	
July	1.6	0.5	0.31			67.1		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.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 19 August 2019*

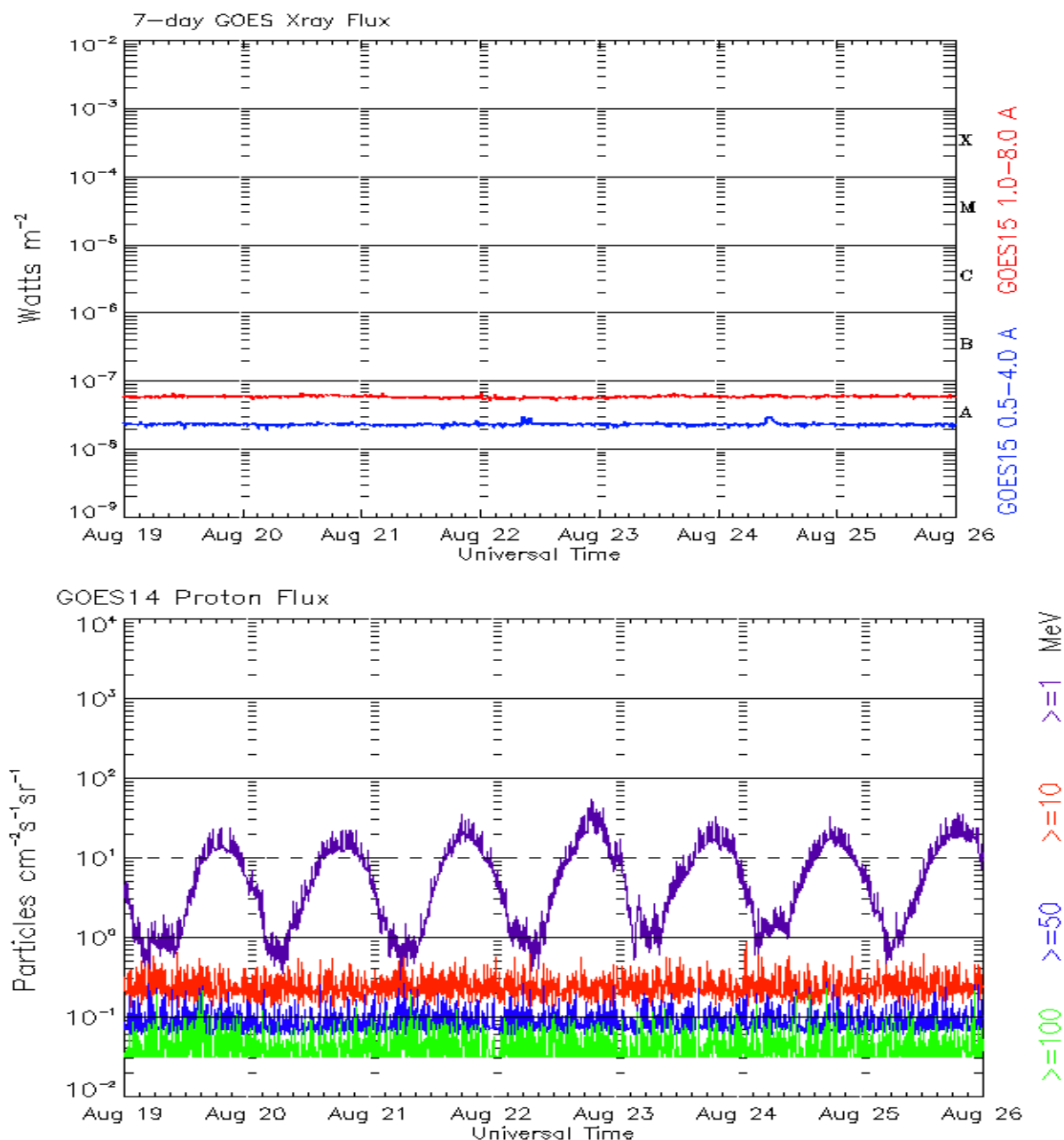
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

The Hp plot contains the five minute averaged Hp magnetic field component in nanoteslas (nT) as by the SWPC Primary GOES satellite. The Hp component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

The Estimated 3-hour Planetary Kp-index is derived at the NOAA Space Weather Prediction Center using data from the following ground-based magnetometers: Boulder, Colorado; Chambon la Foret, France; Fredericksburg, Virginia; Fresno, California; Hartland, UK; Newport, Washington; Sitka, Alaska. These data are made available thanks to the cooperative efforts between SWPC and data providers around the world, which currently includes the U.S. Geological Survey, the British Geological Survey, and the Institut de Physique du Globe de Paris.

The data included here are those now available in real time at the SWPC and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are 'global' parameters that are applicable to a first order approximation over large areas. H parallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.



*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 19 August 2019*

The x-ray plots contains five-minute averages x-ray flux (Watt/m^2) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged integral flux units (pfu = protons/ cm^2 -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1 , >10 , >30 , and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



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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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