

Solar activity was very low throughout the reporting period. The visible disk produced several plage regions but no visible spots 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. Moderate levels were reached on 09-11 Jul and 13-17 Jul.

Geomagnetic field activity was mostly quiet with several periods of unsettled observed on 11-12 Jul. A slow-moving transient signature was observed in the solar wind midday on 10 Jul from a CME first observed in STEREO AHEAD COR 2 imagery early on 05 Jul. A decrease in solar wind speeds was observed, after the onset, which lowered winds from near 385 km/s to 309 km/s at its slowest point on 11 Jul. Total magnetic field strength peaked at arrival with 13 nT. Bz was mostly oriented either near neutral or northward which produced a quiet to unsettled geomagnetic response throughout the duration of the transient.

Space Weather Outlook **16 July - 11 August 2018**

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 range from moderate to high levels. Moderate to high level are expected over 21-31 Jul and normal to moderate levels are expected through the remainder of the outlook period. All enhancements in the greater than 2 MeV electron flux are due to the anticipated influence of multiple, recurrent CH HSSs.

Geomagnetic field activity is expected to range from quiet to G1 (Minor) geomagnetic storm levels. Unsettled levels are expected on 16 Jul, 21 Jul and 24 Jul; active levels are expected on 20 Jul and 22 Jul; G1 (Minor) geomagnetic storm levels are expected on 23 Jul. All increases in geomagnetic activity are in anticipation of multiple, recurrent CH HSSs.



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
09 July	73	0	0	A3.2	0	0	0	0	0	0	0	0
10 July	72	0	0	A2.7	0	0	0	0	0	0	0	0
11 July	73	0	0	A2.9	0	0	0	0	0	0	0	0
12 July	72	0	0	A2.2	0	0	0	0	0	0	0	0
13 July	73	0	0	A3.1	0	0	0	0	0	0	0	0
14 July	72	0	0	A3.2	0	0	0	0	0	0	0	0
15 July	72	0	0	A2.9	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
09 July	8.4e+05	1.8e+04	3.7e+03		1.7e+07	
10 July	7.9e+05	2.0e+04	3.7e+03		5.5e+06	
11 July	8.3e+05	1.9e+04	3.5e+03		2.3e+06	
12 July	6.7e+05	1.8e+04	3.7e+03		2.2e+06	
13 July	6.4e+05	1.8e+04	3.6e+03		3.6e+06	
14 July	4.5e+05	1.9e+04	3.9e+03		4.5e+06	
15 July	5.8e+05	1.9e+04	4.0e+03		5.9e+06	

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
09 July	5	1-1-1-1-0-2-2-2	1	1-1-0-0-0-0-0-0	3	1-1-0-1-0-0-0-1
10 July	11	2-3-3-2-3-2-3-1	6	2-2-2-3-2-1-0-0	7	2-2-2-2-2-1-1-1
11 July	8	0-2-2-2-3-3-2-2	12	0-1-2-5-4-1-1-1	8	0-2-3-3-3-2-2-2
12 July	8	1-2-3-2-2-2-2-2	10	1-1-4-3-3-1-1-2	8	1-3-3-2-2-2-2-2
13 July	6	2-2-2-2-1-2-1-1	4	2-2-1-1-2-1-1-0	6	2-2-2-1-1-2-1-1
14 July	4	1-1-1-2-2-1-1-1	4	1-1-1-3-2-0-0-0	5	1-2-2-2-2-1-1-0
15 July	4	1-1-1-2-2-1-1-1	2	1-0-1-1-1-0-0-0	4	1-1-1-1-1-0-1-1

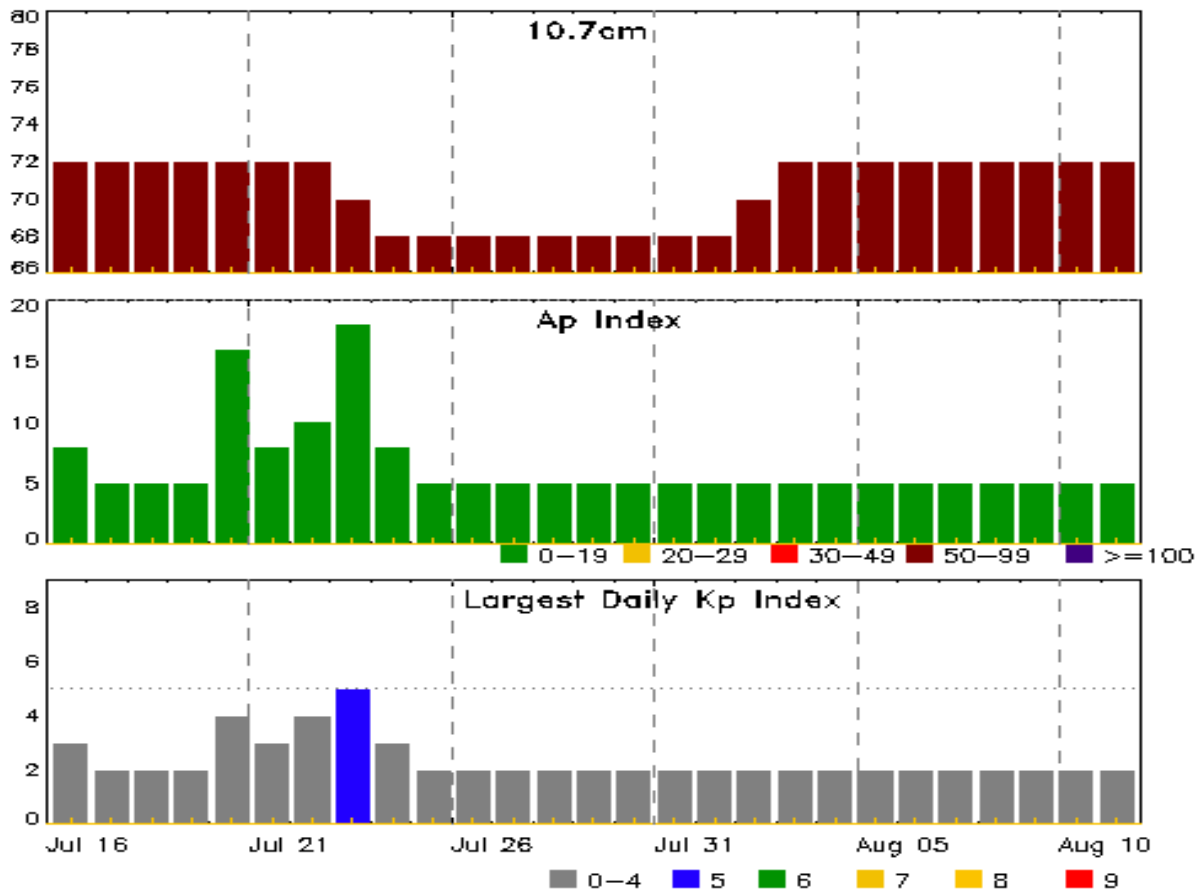


Alerts and Warnings Issued

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
16 Jul	72	8	3	30 Jul	68	5	2
17	72	5	2	31	68	5	2
18	72	5	2	01 Aug	68	5	2
19	72	5	2	02	70	5	2
20	72	16	4	03	72	5	2
21	72	8	3	04	72	5	2
22	72	10	4	05	72	5	2
23	70	18	5	06	72	5	2
24	68	8	3	07	72	5	2
25	68	5	2	08	72	5	2
26	68	5	2	09	72	5	2
27	68	5	2	10	72	5	2
28	68	5	2	11	72	5	2
29	68	5	2				

Energetic Events

Date	Time			X-ray		Optical Information			Peak		Sweep Freq	
	Begin	Max	Half	Class	Flux	Imp/	Location	Rgn	Radio Flux		Intensity	
			Max			Brtns			245	2695	II	IV

No Events Observed

Flare List

Date	Time			X-ray	Optical		
	Begin	Max	End		Class	Imp/ Brtns	Location Lat CMD
15 Jul	0839	0847	0854		B1.5		
15 Jul	1058	1104	1115		B1.3		



Region Summary

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

No Active Regions

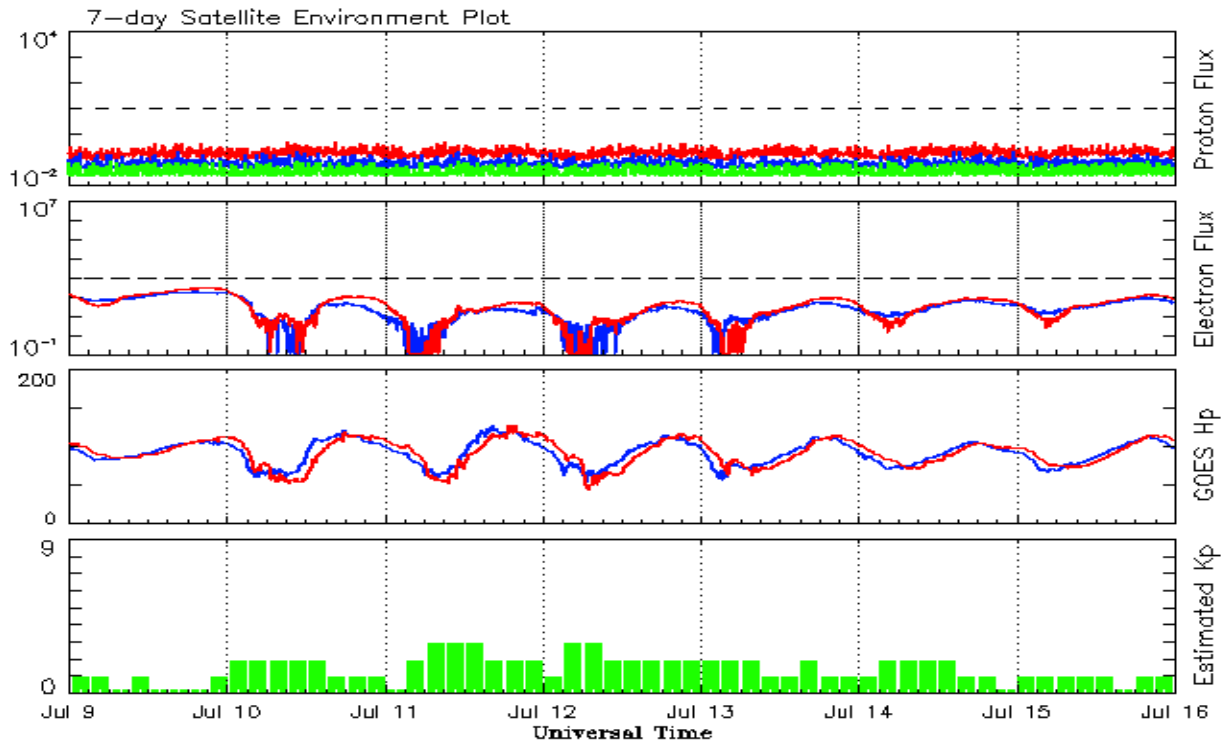


Recent Solar Indices (preliminary)
Observed monthly mean values

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
2016									
July	36.8	19.4	0.53	36.5	23.1	85.9	87.7	10	11.2
August	50.4	30.1	0.60	34.2	21.6	85.0	85.5	10	11.2
September	37.4	26.8	0.72	32.1	19.9	87.8	83.7	16	11.3
October	30.0	20.0	0.67	31.1	18.9	86.1	82.5	16	11.6
November	22.4	12.8	0.57	29.4	17.9	78.7	81.1	10	11.6
December	17.6	11.1	0.64	28.1	17.1	75.1	80.0	10	11.4
2017									
January	28.1	15.7	0.55	27.3	16.7	77.4	79.4	10	11.3
February	22.0	15.8	0.71	25.5	15.9	76.9	78.7	10	11.3
March	25.4	10.6	0.42	24.6	15.4	74.6	78.6	15	11.5
April	30.4	19.4	0.64	24.3	14.9	80.9	78.4	13	11.5
May	18.1	11.3	0.62	23.1	14.0	73.5	77.7	9	11.3
June	18.0	11.5	0.64	22.0	13.3	74.8	77.3	7	11.3
July	18.8	10.7	0.59	20.8	12.6	77.7	76.8	9	11.0
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			70.0		6	
February	16.0	6.4	0.40			72.0		7	
March	6.0	1.5	0.25			68.4		8	
April	7.0	5.3	0.76			70.0		7	
May	15.0	7.9	0.53			70.9		8	
June	19.7	9.5	0.48			72.5		7	

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 09 July 2018*

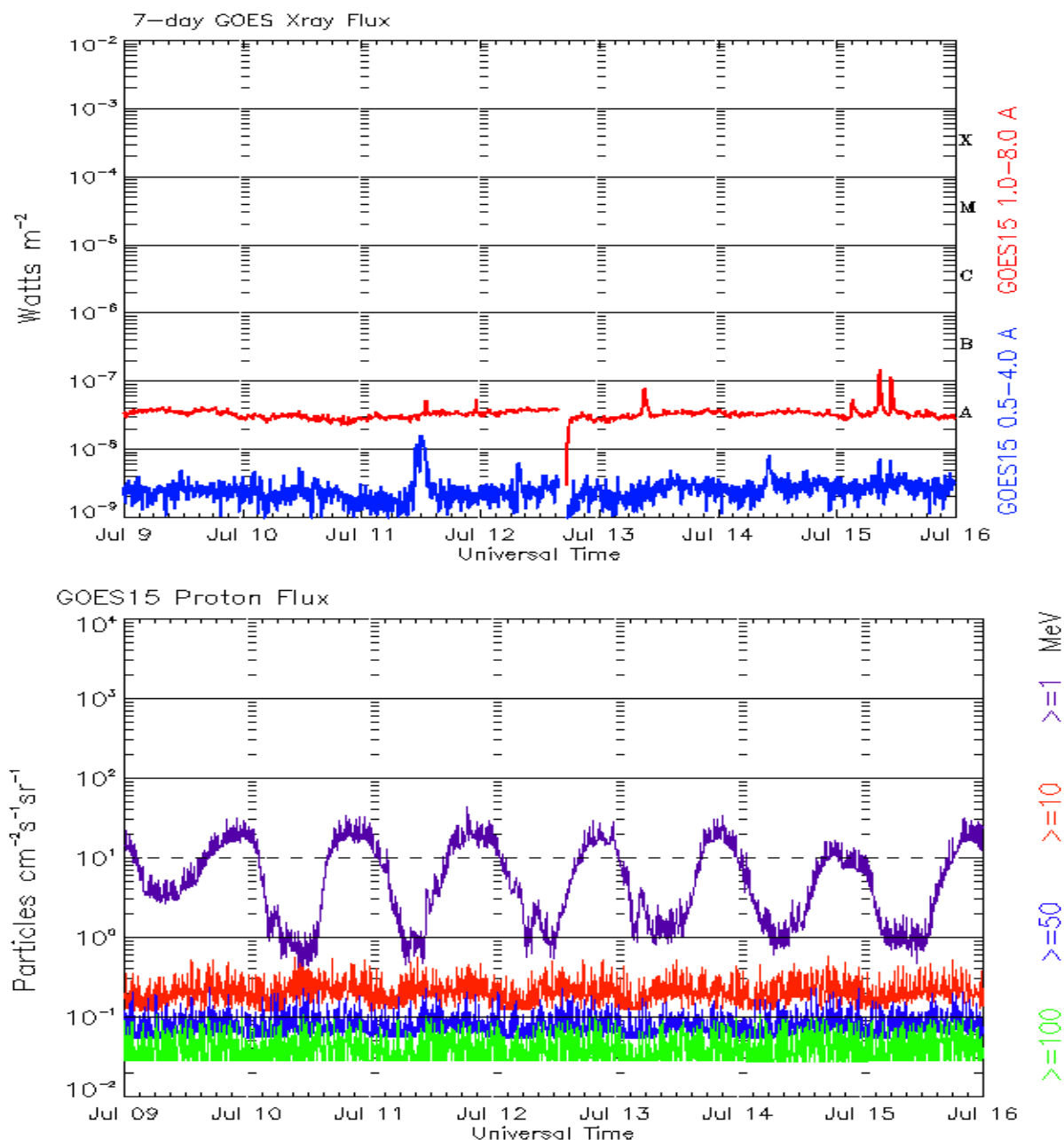
The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

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 09 July 2018*

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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