

**Space Weather Highlights**  
**14 September - 20 September 2020**

**SWPC PRF 2351**  
**21 September 2020**

Solar activity was very low throughout the reporting period. No spotted regions were observed on the visible disk. 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 to moderate levels over the reporting period. The peak flux, as measured by GOES-16, was 289 pfu at 18/1905 UTC.

Geomagnetic field activity ranged from quiet to unsettled. Unsettled conditions were observed on 14-15 Sep in response to weak enhancements from positive polarity CH HSS influence. Another isolated period of unsettled was observed on 18 Sep in response to a possible weak transient. The remainder of the reporting period was quiet under nominal solar wind conditions.

**Space Weather Outlook**  
**21 September - 17 October 2020**

Solar activity is expected to be at very low levels 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 normal to high levels. High levels are anticipated from 26 Sep - 10 Oct in response to an influence from positive polarity CH HSSs. The remainder of the outlook period is expected to be at normal to moderate levels.

Geomagnetic field activity is expected to range from quiet to G1 (Minor) geomagnetic storm levels. G1 conditions are likely on 27 Sep; active conditions are likely on 24-25 Sep and 28 Sep; unsettled conditions are likely on 23 Sep, 26 Sep, 29 Sep and 11 Oct. All enhancements in geomagnetic activity are due to multiple, positive polarity CH HSSs. The remainder of the outlook period is expected to be at quiet levels.



### *Daily Solar Data*

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 <sup>-6</sup> hemi.)	X-ray Background Flux	Flares								
					X-ray			Optical					
					C	M	X	S	1	2	3	4	
14 September	69	0	0	A0.0	0	0	0	0	0	0	0	0	0
15 September	69	0	0	A0.0	0	0	0	0	0	0	0	0	0
16 September	70	0	0	A0.0	0	0	0	0	0	0	0	0	0
17 September	70	0	0	A0.0	0	0	0	0	0	0	0	0	0
18 September	70	0	0	A0.0	0	0	0	0	0	0	0	0	0
19 September	71	0	0	A0.0	0	0	0	0	0	0	0	0	0
20 September	70	0	0	A1.6	0	0	0	0	0	0	0	0	0

### *Daily Particle Data*

Date	Proton Fluence (protons/cm <sup>2</sup> -day -sr)		Electron Fluence (electrons/cm <sup>2</sup> -day -sr)	
	>1 MeV	>10 MeV	>2MeV	
	14 September	8.0e+04	4.6e+04	1.8e+06
15 September	5.6e+04	4.6e+04	1.5e+06	
16 September	5.8e+04	4.7e+04	1.5e+06	
17 September	6.2e+04	4.6e+04	1.7e+06	
18 September	1.2e+05	4.6e+04	3.2e+06	
19 September	7.2e+04	4.6e+04	2.0e+06	
20 September	8.9e+04	4.7e+04	2.1e+06	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	14 September	10	3-3-3-2-2-2-1-2	25	2-3-3-6-6-0-1-0	11
15 September	8	2-3-2-3-2-2-1-1	6	1-1-2-4-2-1-0-0	7	3-3-2-2-1-1-1-1
16 September	3	0-0-2-1-1-2-1-0	1	0-0-2-0-0-0-0-0	3	0-1-1-1-0-1-1-0
17 September	5	1-1-2-1-2-2-1-1	5	0-0-2-4-1-0-0-0	4	1-1-2-1-1-0-0-1
18 September	4	1-0-0-2-2-2-2-0	1	0-0-0-1-1-0-1-0	5	1-0-0-1-2-3-1-0
19 September	4	0-2-0-1-1-3-1-0	1	0-0-1-1-0-0-0-0	3	0-2-1-0-0-1-1-0
20 September	4	0-0-0-2-2-2-1-2	1	0-0-0-1-1-0-0-0	2	0-0-0-2-2-1-1-2



*Alerts and Warnings Issued*

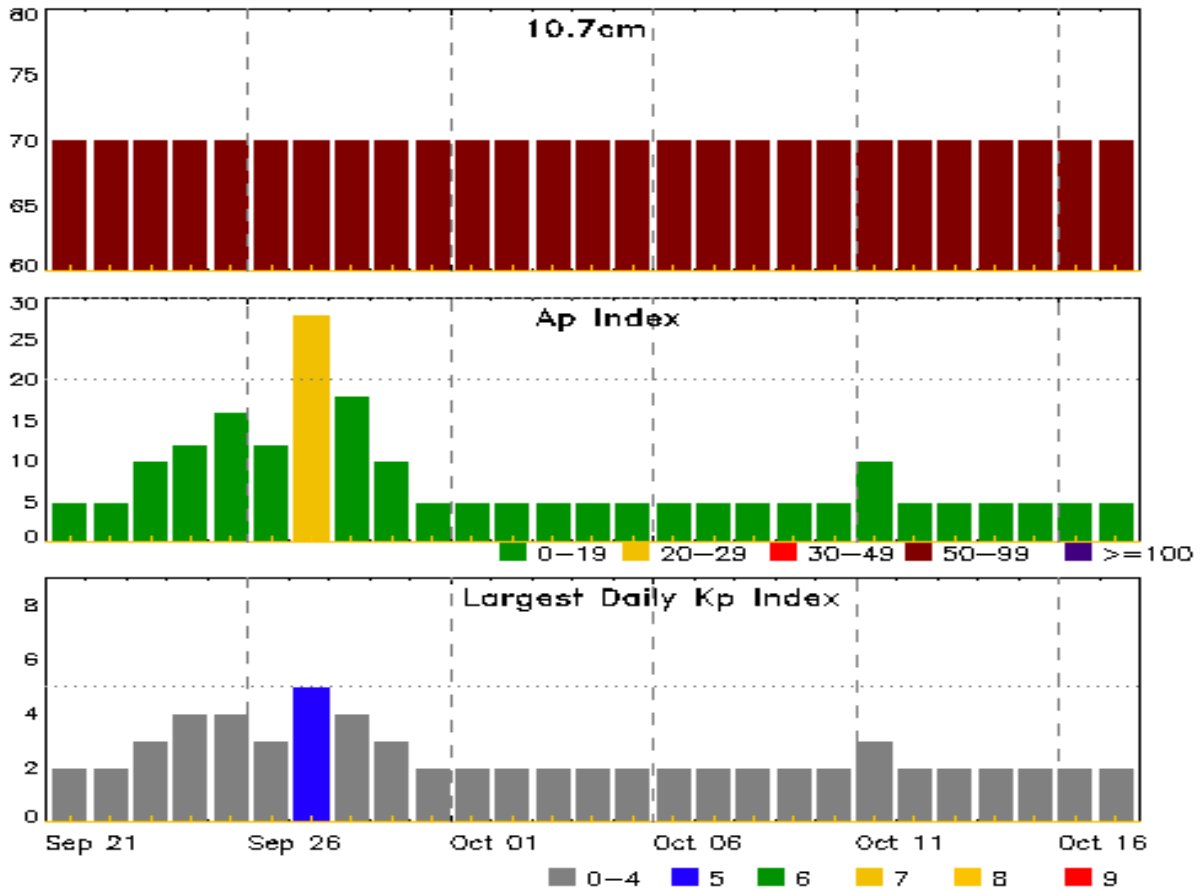
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<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
	No Alerts or Warnings Issued	

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## 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
21 Sep	70	5	2	05 Oct	70	5	2
22	70	5	2	06	70	5	2
23	70	10	3	07	70	5	2
24	70	12	4	08	70	5	2
25	70	16	4	09	70	5	2
26	70	12	3	10	70	5	2
27	70	28	5	11	70	10	3
28	70	18	4	12	70	5	2
29	70	10	3	13	70	5	2
30	70	5	2	14	70	5	2
01 Oct	70	5	2	15	70	5	2
02	70	5	2	16	70	5	2
03	70	5	2	17	70	5	2
04	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			Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD		

No Flares Observed



### *Region Summary*

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

No Active Regions



## ***Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)***

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325 Broadway, Boulder CO 80305

**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.

<https://www.swpc.noaa.gov/products/weekly-highlights-and-27-day-forecast> --

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