

Solar activity was very low under a mostly spotless disk. No Earth-directed CMEs 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 with a peak flux of 779 pfu observed at 30/1600 UTC.

Geomagnetic field activity ranged from quiet to active levels. The period began with nominal solar wind parameters on 26 Jul through late on 27 Jul. At approximately 27/1830 UTC, total field began to increase to a peak of 18 nT at 28/1038 UTC followed by an increase in solar wind speed to near 545 km/s as a positive polarity coronal hole high speed stream (CH HSS) became geoeffective. Solar wind speed slowly diminished to nominal levels through 01 Aug. The geomagnetic field responded with quiet to unsettled levels on 27 and 29 Jul and quiet to active levels on 28 Jul. The rest of the period was at quiet levels.

**Space Weather Outlook**  
**02 August - 28 August 2021**

Solar activity is expected to be at very low levels with a chance for low levels on 05-18 Aug with the return of old Regions 2842 (N25, L=200) and 2845 (S15, L=195).

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 on 02-28 Aug.

Geomagnetic field activity is expected to reach unsettled levels on 05-06, 10-11, 16-18, 23-25 Aug and active levels on 10, 24 Aug due to CH HSS activity.



### *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
26 July	81	25	20	A8.4	0	0	0	0	0	0	0	0
27 July	80	25	0	A7.1	0	0	0	1	0	0	0	0
28 July	79	0	0	A5.8	0	0	0	2	0	0	0	0
29 July	76	0	0	A4.7	0	0	0	0	0	0	0	0
30 July	76	0	0	A3.9	0	0	0	0	0	0	0	0
31 July	76	0	0	A3.8	0	0	0	0	0	0	0	0
01 August	75	0	0	A3.7	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	
	26 July	8.1e+04	4.5e+04	1.2e+07
27 July	1.5e+05	4.5e+04	1.2e+07	
28 July	1.3e+05	4.3e+04	1.5e+06	
29 July	6.2e+04	4.3e+04	6.9e+06	
30 July	1.8e+05	4.4e+04	1.9e+07	
31 July	9.6e+04	4.4e+04	9.5e+06	
01 August	9.7e+04	4.4e+04	1.2e+07	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	26 July	4	1-1-1-1-2-1-1-1	2	1-0-1-0-0-0-1-1	4
27 July	6	1-0-1-2-2-1-2-3	1	0-0-0-1-0-0-0-2	6	1-1-1-2-1-1-1-3
28 July	13	3-3-2-3-3-3-3-1	13	3-3-4-2-2-3-2-2	13	4-3-3-3-2-3-3-2
29 July	12	2-3-3-3-3-2-2-3	12	1-3-3-3-3-4-1-1	8	2-3-2-2-2-1-1-2
30 July	6	1-1-2-2-2-1-2-2	7	1-1-3-4-1-0-1-1	6	1-2-2-2-2-1-1-2
31 July	6	3-1-1-1-2-1-2-1	7	2-2-1-3-3-1-1-0	6	2-2-2-2-2-1-2-1
01 August	4	2-0-0-1-2-1-2-1	2	1-0-0-0-1-1-1-0	6	2-1-0-1-1-1-1-1



### *Alerts and Warnings Issued*

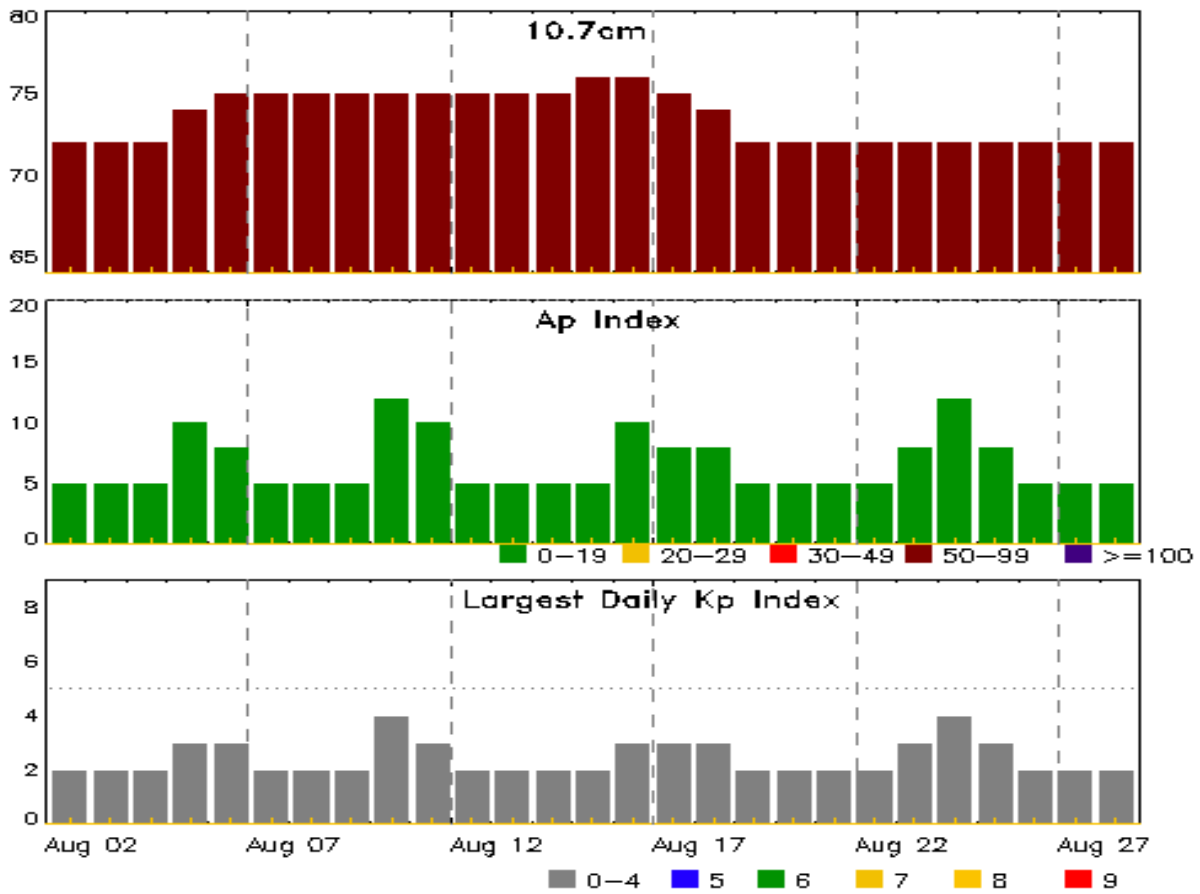
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<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
28 Jul 0118	WARNING: Geomagnetic K = 4	28/0117 - 0900
28 Jul 0219	ALERT: Geomagnetic K = 4	28/0218
28 Jul 1922	WARNING: Geomagnetic K = 4	28/1922 - 29/0300

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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
02 Aug	72	5	2	16 Aug	76	10	3
03	72	5	2	17	75	8	3
04	72	5	2	18	74	8	3
05	74	10	3	19	72	5	2
06	75	8	3	20	72	5	2
07	75	5	2	21	72	5	2
08	75	5	2	22	72	5	2
09	75	5	2	23	72	8	3
10	75	12	4	24	72	12	4
11	75	10	3	25	72	8	3
12	75	5	2	26	72	5	2
13	75	5	2	27	72	5	2
14	75	5	2	28	72	5	2
15	76	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	Imp/ Brtns	Optical Location Lat CMD	Rgn #
	Begin	Max	End				
27 Jul	0200	0213	0234	B1.9			
27 Jul	1915	1923	1929	B5.2	SF	N25W28	2846
27 Jul	2144	2150	2157	B5.2			2846
27 Jul	2208	2226	2240	B9.7			2849
28 Jul	0206	0213	0218	B1.0			2846
28 Jul	0505	0511	0515	B1.0			2846
28 Jul	0518	0526	0532	B1.4			2846
28 Jul	0539	0544	0550	B1.0			2846
28 Jul	0725	0738	0743	B6.9	SF	N26W34	2846
28 Jul	1353	1400	1405	B2.9	SF	N26W37	2846
28 Jul	1624	1630	1635	B1.1			
28 Jul	2109	2114	2120	B1.6			2846
28 Jul	2308	2312	2320	B1.2			2846
29 Jul	1925	1934	1943	B1.1			2849
31 Jul	1605	1748	1941	B2.4			2849



## Region Summary

Date	Location		Sunspot Characteristics				Flares										
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical						
								C	M	X	S	1	2	3	4		
<b>Region 2844</b>																	
16 Jul	S43E59	140	20	1	Axx	1	A										
17 Jul	S43E49	137	10	1	Axx	1	A										
18 Jul	S43E35	138	10	1	Axx	1	A										
19 Jul	S43E22	138	plage														
20 Jul	S43E09	138	plage														
21 Jul	S43W04	137	plage														
22 Jul	S43W17	137	plage														
23 Jul	S43W30	137	plage														
24 Jul	S43W43	137	plage														
25 Jul	S43W56	137	plage														
26 Jul	S43W69	136	plage														
27 Jul	S43W82	136	plage														
							0	0	0	0	0	0	0	0	0	0	0

Crossed West Limb.  
Absolute heliographic longitude: 137

<b>Region 2846</b>																	
19 Jul	N25E76	84	30	1	Hsx	1	A										
20 Jul	N25E63	84	90	7	Cso	5	B										
21 Jul	N25E49	85	90	10	Cso	7	B										
22 Jul	N26E35	85	100	10	Cro	4	B										
23 Jul	N22E21	84	40	3	Cro	3	B										
24 Jul	N25E07	85	30	4	Cro	3	B										
25 Jul	N25W05	85	30	2	Cro	3	B										
26 Jul	N24W20	87	10	4	Bxo	4	B										
27 Jul	N24W33	87	0	5	Bxo	4	B										1
28 Jul	N24W47	88	plage														2
29 Jul	N24W61	89	plage														
30 Jul	N24W75	89	plage														
31 Jul	N24W88	89	plage														
							0	0	0	3	0	0	0	0	0	0	0

Crossed West Limb.  
Absolute heliographic longitude: 85



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares																
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical											
									C	M	X	S	1	2	3	4							
<b>Region 2847</b>																							
20 Jul	S29E74		73	20	2	Cro	3	B															
21 Jul	S28E61		73	20	10	Cro	3	B															
22 Jul	S28E47		73	40	2	Hrx	1	A															
23 Jul	S38E28		78	20	1	Hrx	1	A					1										
24 Jul	S27E24		77	10	1	Hrx	1	A															
25 Jul	S27E13		67	0		Axx	1	A															
26 Jul	S28W00		66	10		Axx	1	A															
27 Jul	S28W14		68	0		Axx	1	A															
28 Jul	S28W28		69	plage																			
29 Jul	S28W42		70	plage																			
30 Jul	S28W56		70	plage																			
31 Jul	S28W70		71	plage																			
01 Aug	S28W84		72	plage																			
													0	0	0	1	0	0	0	0	0	0	

Still on Disk.

Absolute heliographic longitude: 66

<b>Region 2848</b>																							
21 Jul	N20E16		118	10	3	Bxo	4	B															
22 Jul	N21E02		118	10	4	Bxo	2	B															
23 Jul	N21W10		116	10	1	Axx	1	A															
24 Jul	N21W25		118	plage			1																
25 Jul	N21W39		120	plage																			
26 Jul	N21W53		120	plage																			
27 Jul	N21W67		121	plage																			
28 Jul	N21W81		122	plage																			
													0	0	0	0	0	0	0	0	0	0	

Crossed West Limb.

Absolute heliographic longitude: 118



### *Region Summary - continued*

Date	Location		Sunspot Characteristics				Flares													
	Lat CMD	Lon	Helio 10 <sup>6</sup> hemi.	Area	Extent (helio)	Spot Class	Spot Count	Mag Class	X-ray			Optical								
									C	M	X	S	1	2	3	4				
<b>Region 2849</b>																				
21 Jul	S18E75		58	0		Axx	1	A	1											
22 Jul	S18E61		58	20	1	Axx	2	A												
23 Jul	S20E46		59	10		Axx	1	A	1				1							
24 Jul	S27E25		68	plage					1											
25 Jul	S27E11		70	plage																
26 Jul	S27W03		70	plage																
27 Jul	S27W17		71	plage																
28 Jul	S27W31		72	plage																
29 Jul	S27W45		73	plage																
30 Jul	S27W59		73	plage																
31 Jul	S27W73		74	plage																
01 Aug	S17W87		75	plage																
									3	0	0	1	0	0	0	0	0			

Still on Disk.

Absolute heliographic longitude: 70





## ***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.

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

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