

Solar activity was at very low to low levels. Region 2840 (N27, L=034, class/area Bxo/010 on 08 Jul) produced the strongest event of the period, a C7 flare at 09/1050 UTC. A Type II radio sweep, and several other C-class X-ray events, were produced by the region while it was just past the W limb. Region 2835 (S18, L=052, class/area Ekc/770 on 01 Jul) was the largest region of the period, but only produced some low-level C-class activity as it rotated around the SW limb after 06 Jul. The remaining numbered regions on the visible disk were relatively simple and quiet. Of the multiple coronal mass ejections observed during the period, none were determined to have an Earth-directed component.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels.

Geomagnetic field activity was quiet to unsettled. Some extended periods of southward Bz were followed by a few isolated unsettled periods on 05-06 Jul. Another period of unsettled was observed on 10 Jul which may have been caused by weak influence from a positive polarity coronal hole that rapidly decayed as it crossed the central meridian of the Sun. The remainder of the reporting period was quiet.

**Space Weather Outlook**  
**12 July - 07 August 2021**

Solar activity is expected to be at very low levels throughout the outlook period. There is a chance for elevated activity from old Region 2838 (N24, L=088), Region 2835 (S18, L=068) and Region 2840 (N27, L=045) as they are expected to rotate back onto the visible disk on 16 Jul, 20 Jul, and 21 Jul, respectively.

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 12 Jul and from 19 Jul - 07 Aug. High levels, caused by interaction with a negative polarity CH HSS, is likely for 13-18 Jul.

Geomagnetic field activity is expected to be at quiet to active levels. A negative polarity CH HSS, that is connected to the southern crown coronal hole, is expected to elevate geomagnetic activity to active levels on 12-14 Jul and unsettled levels on 15-16 Jul. A small, positive polarity CH HSS is likely to cause unsettled conditions on 02 Aug. 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
05 July	89	43	530	B1.7	2	0	0	2	0	0	0	0
06 July	83	52	330	B1.7	2	0	0	0	0	0	0	0
07 July	76	25	20	B1.5	0	0	0	0	0	0	0	0
08 July	73	23	20	A8.7	0	0	0	0	0	0	0	0
09 July	74	23	30	A7.6	3	0	0	0	0	0	0	0
10 July	74	24	80	A4.9	0	0	0	0	0	0	0	0
11 July	74	23	70	A3.4	0	0	0	1	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	
	05 July	8.0e+04	4.5e+04	1.9e+06
06 July	7.1e+04	4.5e+04	1.6e+06	
07 July	5.4e+04	4.5e+04	1.6e+06	
08 July	5.3e+04	4.5e+04	1.9e+06	
09 July	5.8e+04	4.7e+04	1.8e+06	
10 July	4.3e+05	4.8e+04	1.4e+06	
11 July	1.3e+05	4.6e+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
	05 July	9	2-1-2-2-3-2-2-3	4	2-1-1-1-1-1-2-1	7
06 July	8	2-2-3-2-3-1-2-1	8	2-2-3-1-4-1-1-0	8	2-2-3-2-3-1-2-1
07 July	6	1-1-2-2-2-1-1-3	6	2-2-3-2-1-1-1-1	6	1-1-2-2-1-1-1-2
08 July	5	2-1-2-1-2-1-1-1	2	1-1-1-0-0-0-1-0	5	2-1-2-1-1-1-1-1
09 July	7	2-3-1-2-2-2-1-2	3	1-2-1-2-0-0-0-0	5	2-2-2-1-1-1-0-2
10 July	8	3-2-2-2-2-2-2-2	4	2-3-1-0-0-1-1-1	6	3-2-1-1-1-1-2-2
11 July	4	1-0-0-1-2-2-2-2	0	0-0-0-0-0-0-0-1	4	1-0-0-1-1-1-1-1



### *Alerts and Warnings Issued*

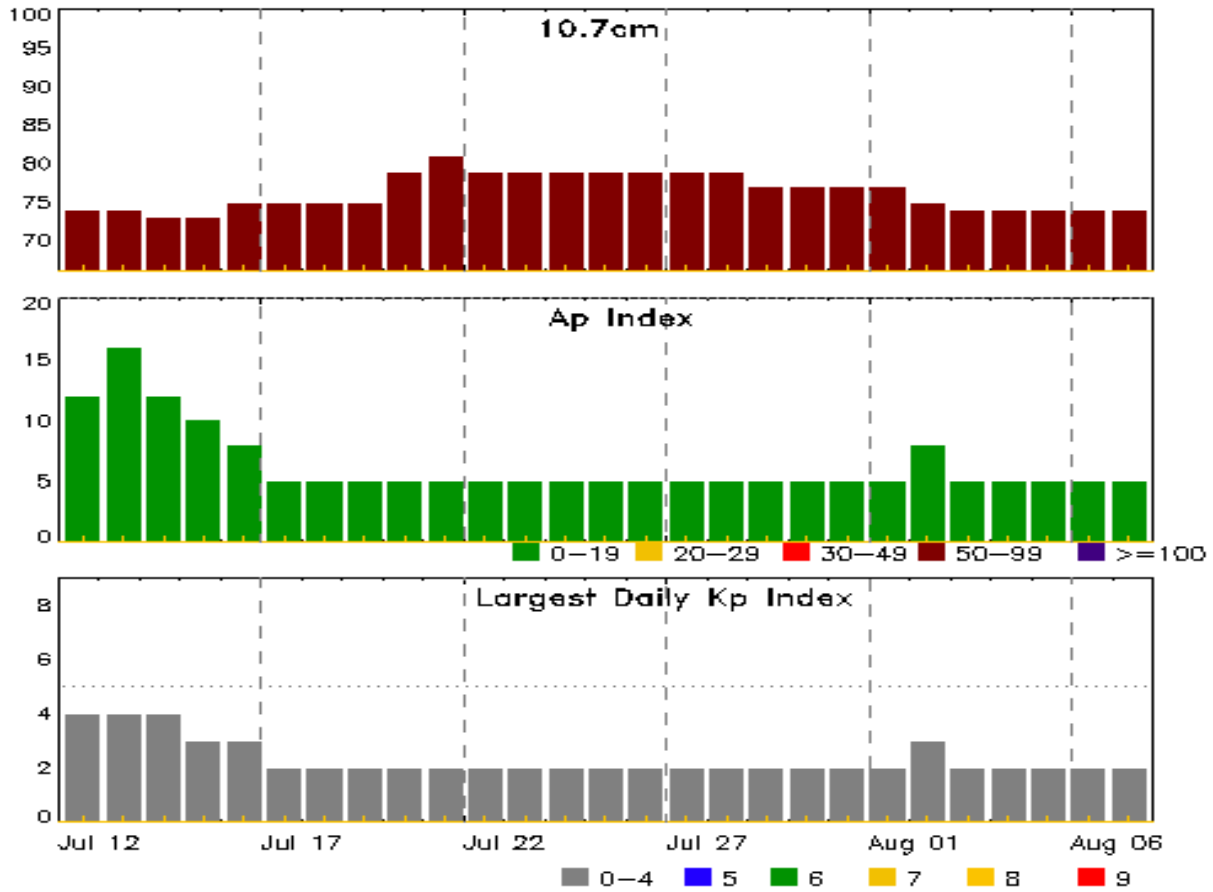
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<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
09 Jul 1203	ALERT: Type II Radio Emission	09/1048

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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
12 Jul	74	12	4	26 Jul	79	5	2
13	74	16	4	27	79	5	2
14	73	12	4	28	79	5	2
15	73	10	3	29	77	5	2
16	75	8	3	30	77	5	2
17	75	5	2	31	77	5	2
18	75	5	2	01 Aug	77	5	2
19	75	5	2	02	75	8	3
20	79	5	2	03	74	5	2
21	81	5	2	04	74	5	2
22	79	5	2	05	74	5	2
23	79	5	2	06	74	5	2
24	79	5	2	07	74	5	2
25	79	5	2				



## *Energetic Events*

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

**No Events Observed**

## *Flare List*

Date	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
05 Jul	0419	0431	0450	B4.7	SF	N19E36	2839
05 Jul	0452	0509	0530	B5.1			2835
05 Jul	0952	1007	1028	B2.9			2838
05 Jul	1445	1503	1533	B3.3			2838
05 Jul	1615	1622	1628	B3.3			2836
05 Jul	1636	1650	1705	B5.3			2838
05 Jul	1809	1824	1833	C1.1			2835
05 Jul	1837	1843	1853	C1.7	SF	S27W70	2836
06 Jul	1123	1128	1138	B2.5			2835
06 Jul	1424	1433	1438	B4.3			2835
06 Jul	1906	1915	1920	C1.2			2835
06 Jul	2053	2101	2106	B5.2			2835
06 Jul	2144	2150	2154	C1.1			2835
06 Jul	2337	2350	2352	B3.2			2835
06 Jul	2352	0001	0019	B4.6			2835
07 Jul	0324	0331	0335	B3.4			2835
07 Jul	0712	0716	0720	B2.7			2835
07 Jul	1126	1134	1138	B5.5			2835
07 Jul	1329	1338	1343	B3.0			2835
07 Jul	1516	1546	1617	B6.8			2837
08 Jul	0409	0416	0429	B2.5			2835
08 Jul	1428	1438	1445	B1.6			2840
08 Jul	1712	1719	1723	B1.7			2837
08 Jul	1733	1745	1753	B2.8			2840
08 Jul	1909	1914	1919	B1.4			2840
08 Jul	1926	1933	1937	B2.6			2840
08 Jul	1946	1953	1959	B1.2			2840
08 Jul	2157	2201	2207	B2.3			2840
08 Jul	2213	2219	2225	B3.3			2840
08 Jul	2323	2336	2350	B1.3			2840
09 Jul	0017	0022	0026	B1.9			2840



## *Flare List*

Date	Time			X-ray Class	Optical		Rgn #
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	
09 Jul	0153	0158	0202	B1.2			2840
09 Jul	0229	0234	0240	B1.1			2840
09 Jul	0240	0244	0249	B1.8			2840
09 Jul	0436	0440	0443	B1.5			2840
09 Jul	0443	0449	0457	B2.1			2840
09 Jul	0708	0716	0730	B2.1			2840
09 Jul	0730	0755	0803	C6.0			2840
09 Jul	1031	1050	1058	C7.0			2840
09 Jul	1146	1158	1207	B1.3			2840
09 Jul	1207	1215	1221	B1.3			2840
09 Jul	1308	1319	1332	B1.2			2840
09 Jul	1332	1341	1349	B1.2			2840
09 Jul	1420	1438	1447	B3.9			2840
09 Jul	1447	1457	1503	B8.3			2840
09 Jul	1715	1725	1730	C4.7			2840
09 Jul	2005	2012	2018	B1.2			2840
09 Jul	2036	2041	2045	B5.1			2841
09 Jul	2219	2226	2230	B1.5			2840
09 Jul	2301	2317	2327	B1.5			2841
10 Jul	0156	0206	0210	B2.9			2840
10 Jul	1011	1026	1040	B1.6			2840
11 Jul	0125	0132	0137	B7.1	SF	S18E43	2841
11 Jul	1037	1050	1058	B3.2			2841
11 Jul	2041	2047	2056	B2.0			2841



## Region Summary

Date	Location		Sunspot Characteristics				Flares																
	Lat CMD	Helio 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								
<b>Region 2835</b>																							
25 Jun	S18E65	52	150	5	Dso	4	B																
26 Jun	S18E51	53	130	9	Dso	6	B							2									
27 Jun	S18E38	53	230	10	Dso	7	B																
28 Jun	S18E26	52	240	10	Dsi	12	BG	1						2									
29 Jun	S18E13	52	370	11	Eki	16	BGD							1									
30 Jun	S18W01	52	500	12	Eki	18	BGD	2						3									
01 Jul	S18W16	53	770	11	Ekc	20	BG							1									
02 Jul	S18W29	54	560	9	Dkc	31	BD																
03 Jul	S18W43	55	620	10	Dkc	33	BD														4		
04 Jul	S18W56	54	540	8	Dkc	17	B	1						1									
05 Jul	S18W68	53	470	7	Cko	7	B	1															
06 Jul	S18W82	54	300	5	Hkx	3	A	2															
								7	0	0	14	0	0	0	0	0							

Crossed West Limb.  
Absolute heliographic longitude: 52

<b>Region 2836</b>																							
27 Jun	S27E34	57	20	4	Cro	5	B																
28 Jun	S28E21	57	20	6	Cro	7	B	1						1									
29 Jun	S28E07	58	20	7	Cro	8	B																
30 Jun	S27W06	57	20	6	Cro	3	B																
01 Jul	S26W22	59	20	3	Hsx	1	A																
02 Jul	S26W36	61	10	1	Axx	2	A																
03 Jul	S26W50	62	10	1	Axx	1	A																
04 Jul	S26W64	62	plage																				
05 Jul	S26W78	63	plage					1						1									
								2	0	0	2	0	0	0	0	0							

Crossed West Limb.  
Absolute heliographic longitude: 57



### *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

#### ***Region 2837***

28 Jun	N17E69	9	20	1	Hsx	1	A										
29 Jun	N17E56	9	20	1	Hrx	2	A										
30 Jun	N17E42	9	20	1	Hrx	2	A										
01 Jul	N17E29	8	20	3	Bxo	5	B										
02 Jul	N17E15	10	30	5	Dro	9	B										
03 Jul	N17E01	11	20	6	Bxo	4	B										
04 Jul	N17W12	10	20	7	Bxo	9	B										
05 Jul	N17W24	9	10	1	Axx	1	A										
06 Jul	N17W36	8	0		Axx	1	A										
07 Jul	N17W50	9	plage														
08 Jul	N17W64	9	plage														
09 Jul	N17W77	9	plage														
									0	0	0	0	0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 11

#### ***Region 2839***

04 Jul	N19E37	321	30	5	Cro	4	B	1				3					
05 Jul	N19E23	321	50	5	Cao	5	B					1					
06 Jul	N19E10	322	20	6	Cro	6	B										
07 Jul	N19W03	322	10	6	Axx	1	A										
08 Jul	N19W14	319	10	1	Axx	1	A										
09 Jul	N19W28	320	10	1	Axx	1	A										
10 Jul	N19W41	320	plage														
11 Jul	N19W54	320	plage														
									1	0	0	4	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 322

#### ***Region 2840***

06 Jul	N27W63	34	10	2	Bxo	2	B										
07 Jul	N27W76	35	10	5	Bxo	4	B										
08 Jul	N27W90	35	10	5	Bxo	2	B										
									0	0	0	0	0	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 34





**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

**Region 2841**

09 Jul	S18E61	231	20	3	Bxo	2	B										
10 Jul	S18E45	234	20	2	Bxo	3	B										
11 Jul	S18E30	236	10	3	Bxo	2	B					1					
								0	0	0	1	0	0	0	0		

Still on Disk.

Absolute heliographic longitude: 236

**Region 2842**

10 Jul	N24E79	200	60	2	Hsx	1	A										
11 Jul	N24E64	202	60	2	Hsx	1	A										
								0	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 202



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

Published every Monday by the Space Weather Prediction Center.

U.S. Department of Commerce  
NOAA / National Weather Service  
Space Weather Prediction Center  
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> --

Current

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