

Solar activity was at low levels due to multiple C-class flares from an unnumbered region beyond the east limb. The largest C-class flare was a C3.7 at 09/0907 UTC from Region 2831 (N24, L=79, class/area Hrx/10 on 07 June). No Earth-directed CMEs were observed in coronagraph imagery. However, on 11-13 June coronagraph imagery was not available due to site maintenance at NASA. Availability of LASCO coronagraph imagery expected to resume on 15 June.

No proton events were observed at geosynchronous orbit.

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

Geomagnetic field activity was at quiet to unsettled levels on 08-11, and 13 June. Unsettled to active levels were reached on 07 June due to influences from the arrival of a recurrent coronal hole high speed stream (CH HSS). Unsettled to active levels were reached on 13 June due to the combination of the likely arrival of a slow moving CME from 06 June and CH HSS influences.

**Space Weather Outlook**  
**14 June - 10 July 2021**

Solar activity is expected to be at very low to low levels with Region 2831 due to return to the visible disk from 21 June-05 July.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at moderate to high levels on 20-22 June due to recurrent CH HSS influences. Normal to moderate levels are expected for the remainder of the outlook period.

Geomagnetic field activity is expected to reach G1 (Minor) storm levels on 17 June due to recurrent CH HSS influences. Unsettled to active levels are expected on 15, 16 and 18 June also due to recurrent CH HSS influences. Quiet to unsettled levels are expected for the remainder of the outlook period.



### *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
07 June	81	53	170	B1.0	0	0	0	2	0	0	0	0
08 June	80	34	90	B1.3	3	0	0	0	0	0	0	0
09 June	79	27	30	B2.4	1	0	0	0	0	0	0	0
10 June	73	29	20	B1.1	1	0	0	0	0	0	0	0
11 June	77	13	10	A8.4	0	0	0	0	0	0	0	0
12 June	78	0	0	A7.7	0	0	0	0	0	0	0	0
13 June	69	22	140	A6.3	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	
	07 June	1.7e+05	4.4e+04	1.3e+06
08 June	5.0e+04	4.3e+04	1.2e+06	
09 June	5.9e+04	5.1e+04	1.6e+06	
10 June	1.1e+05	5.4e+04	1.3e+06	
11 June	8.7e+04	4.5e+04	1.3e+06	
12 June	6.1e+04	4.4e+04	1.5e+06	
13 June	5.1e+04	4.4e+04	1.4e+06	

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	07 June	15	2-2-3-3-3-3-3-4	16	1-2-3-3-5-2-3-3	12
08 June	7	2-3-2-1-2-2-2-1	5	2-2-2-2-2-0-1-1	5	2-2-2-1-1-1-1-1
09 June	4	1-2-1-1-2-1-1-0	1	1-1-1-0-0-0-0-0	4	1-2-2-1-1-1-1-0
10 June	5	1-0-0-2-3-1-1-2	2	1-1-0-0-0-0-1-1	5	1-1-0-1-1-2-2-2
11 June	11	3-3-2-2-3-3-2-2	23	2-3-4-4-5-5-1-2	10	3-3-2-2-3-2-2-2
12 June	8	2-3-2-2-2-2-1-2	12	4-4-2-1-3-1-2-1	10	3-4-2-2-2-2-1-2
13 June	7	3-3-1-2-2-1-1-0	5	3-3-1-0-0-1-0-0	18	3-3-1-1-1-1-1-1



### *Alerts and Warnings Issued*

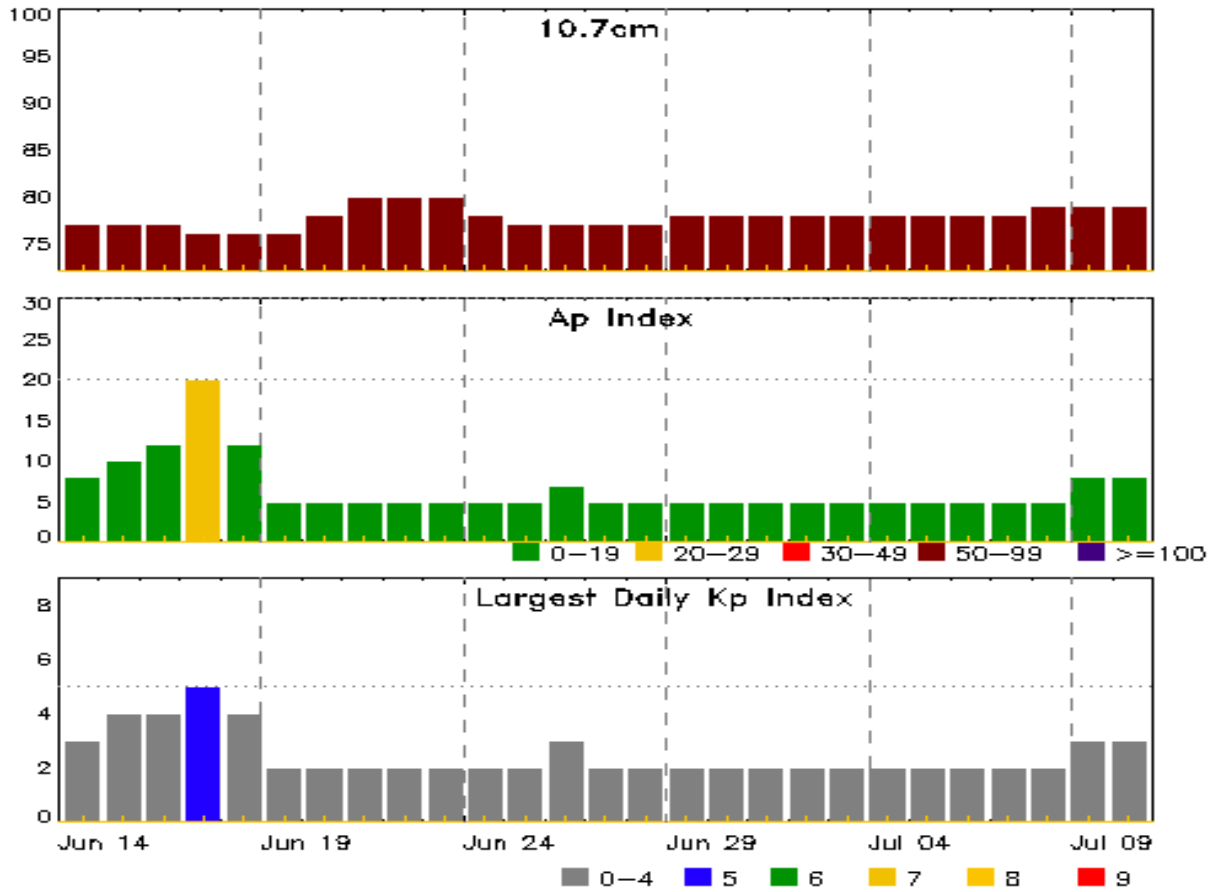
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<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
07 Jun 1922	WARNING: Geomagnetic K = 4	07/1922 - 2300
07 Jun 2341	WARNING: Geomagnetic K = 4	07/2340 - 08/0600
08 Jun 0006	ALERT: Geomagnetic K = 4	07/2359
09 Jun 1221	ALERT: Type II Radio Emission	09/1201
12 Jun 0400	WARNING: Geomagnetic K = 4	12/0400 - 1200
12 Jun 0452	ALERT: Geomagnetic K = 4	12/0452
13 Jun 0121	WARNING: Geomagnetic K = 4	13/0121 - 0600

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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
14 Jun	77	8	3	28 Jun	77	5	2
15	77	10	4	29	78	5	2
16	77	12	4	30	78	5	2
17	76	20	5	01 Jul	78	5	2
18	76	12	4	02	78	5	2
19	76	5	2	03	78	5	2
20	78	5	2	04	78	5	2
21	80	5	2	05	78	5	2
22	80	5	2	06	78	5	2
23	80	5	2	07	78	5	2
24	78	5	2	08	79	5	2
25	77	5	2	09	79	8	3
26	77	7	3	10	79	8	3
27	77	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	Time			X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
	Begin	Max	End				
07 Jun	0120	0127	0132	B2.0			2829
07 Jun	0327	0330	0343	B1.4			2830
07 Jun	0410	0418	0433	B1.5			2829
07 Jun	B1136	U1139	1154		SF	N24W76	2831
07 Jun	1204	1207	1216		SF	N25W83	2831
07 Jun	1325	1335	1349	B2.1			
07 Jun	1431	1435	1439	B3.5			
07 Jun	1449	1455	1503	B2.8			
07 Jun	2049	2052	2103	B2.0			
08 Jun	0309	0315	0323	B2.5			2830
08 Jun	0511	0522	0530	B3.2			
08 Jun	0927	0934	0942	B2.8			
08 Jun	1019	1028	1039	B4.7			
08 Jun	1046	1053	1059	C1.4			
08 Jun	1328	1339	1354	B3.1			
08 Jun	1421	1432	1441	B4.0			
08 Jun	1458	1508	1516	B3.8			
08 Jun	1542	1551	1557	B4.1			
08 Jun	1716	1723	1730	C2.4			
08 Jun	1807	1814	1817	B4.1			
08 Jun	1847	1908	1917	C1.1			
08 Jun	2134	2141	2144	B3.3			
08 Jun	2232	2235	2240	B4.0			
09 Jun	0046	0050	0054	B4.0			2827
09 Jun	0328	0335	0353	B3.1			2830
09 Jun	0505	0520	0530	B8.0			2831
09 Jun	0844	0907	0922	C3.7			2831
09 Jun	1135	1144	1150	B4.5			2830
09 Jun	1910	1925	1927	B8.1			2831
10 Jun	0432	0437	0457	B2.6			2830
10 Jun	0559	0642	0657	C1.1			



## *Flare List*

Date	Time			Optical			Rgn #
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	
10 Jun	0902	0908	0919	B4.5			2831
11 Jun	0758	0802	0806	B2.1			2833
11 Jun	2155	2202	2206	B1.4			2832
12 Jun	0037	0047	0052	B1.5			2833
12 Jun	0124	0133	0145	B2.4			2833
12 Jun	0241	0244	0248	B1.4			2833
12 Jun	1712	1717	1725	B1.4			2833
13 Jun	0740	0746	0750	B1.0			2833



## Region Summary

Date	Location		Sunspot Characteristics					Flares									
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical					
			Lon	10 <sup>6</sup> hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4	
<b>Region 2827</b>																	
29 May	N11E44		71	10	2	Bxo	2	B									
30 May	N11E29		73	60	5	Cro	5	B					1				
31 May	N12E15		73	110	7	Cai	10	BG					2				
01 Jun	N11E03		71	100	10	Csi	10	B	1				1				
02 Jun	N12W14		74	70	8	Csi	8	B									
03 Jun	N11W27		76	70	5	Cso	4	B									
04 Jun	N11W41		78	50	5	Dso	5	B					1				
05 Jun	N12W56		78	120	6	Hsx	3	A									
06 Jun	N12W72		81	100	3	Hsx	1	A									
07 Jun	N12W86		82	50	2	Hsx	1	A									
									1	0	0		5	0	0	0	0

Crossed West Limb.

Absolute heliographic longitude: 71

<b>Region 2828</b>																	
30 May	S32E33		69	10	1	Axx	2	A									
31 May	S31E19		69	10	1	Axx	1	A									
01 Jun	S31E06		69	plage													
02 Jun	S31W08		70	plage													
03 Jun	S31W22		71	plage													
04 Jun	S31W36		72	plage													
05 Jun	S31W50		72	plage													
06 Jun	S31W63		72	plage													
07 Jun	S31W77		73	plage													
									0	0	0		0	0	0	0	0

Died on Disk.

Absolute heliographic longitude: 69



**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 2829</b>																								
02 Jun	S18E49		12	10	1	Hrx	2	A																
03 Jun	S18E35		14	10	1	Cro	4	B																
04 Jun	S18E23		12	20	4	Cao	5	B					1											
05 Jun	S18E10		12	30	6	Cro	7	B																
06 Jun	S18W04		13	10	6	Bxo	5	B																
07 Jun	S18W17		13	60	6	Dso	8	B																
08 Jun	S17W29		11	50	10	Dso	12	B																
09 Jun	S20W39		8	20	1	Dso	3	B																
10 Jun	S20W53		9	10	2	Axx	3	A																
11 Jun	S20W67		10	plage																				
12 Jun	S20W81		11	plage																				
													0	0	0	1	0	0	0	0	0	0		
Crossed West Limb.																								
Absolute heliographic longitude: 13																								
<b>Region 2830</b>																								
06 Jun	S27W59		68	70	3	Cao	6	B																
07 Jun	S26W73		69	50	6	Cao	3	B																
08 Jun	S25W86		68	40	8	Cao	2	B																
													0	0	0	0	0	0	0	0	0	0		
Crossed West Limb.																								
Absolute heliographic longitude: 68																								
<b>Region 2831</b>																								
07 Jun	N24W83		79	10	4	Hrx	1	A																
													2											
													0	0	0	2	0	0	0	0	0	0		
Crossed West Limb.																								
Absolute heliographic longitude: 79																								
<b>Region 2832</b>																								
09 Jun	N15W00		328	10	3	Bxo	4	B																
10 Jun	N14W12		328	10	3	Bxo	6	B																
11 Jun	N14W26		329	10	3	Axx	3	A																
12 Jun	N14W40		330	plage																				
13 Jun	N14W50		326	0		Axx	1	A																
													0	0	0	0	0	0	0	0	0	0		
Still on Disk.																								
Absolute heliographic longitude: 328																								





**Region Summary - continued**

Date	Location		Sunspot Characteristics				Flares									
	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	
<b>Region 2833</b>																
13 Jun	N08E64	211	140	3	Hsx	1	A	0	0	0	0	0	0	0	0	0

Still on Disk.

Absolute heliographic longitude: 211



## ***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> --

Current

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