

Solar activity was at very low to moderate levels. Region 2822 (N18, L=335, class/area Dsi/180 on 09 May) rotated onto the visible disk on 07 May and produced an M3/1n flare at 07/1904 UTC. Associated with this flare were type II (816 km/s) and Type IV radio sweeps as well as a non-Earth directed CME. C-class flares were observed on 08-09 May, including a long duration C2/Sf flare at 09/1449 UTC with an associated Type II (407 km/s) radio sweep and another CME beginning at 09/1436 UTC in SOHO/LASCO C2 imagery. A faint, partial-halo CME was also observed on 09 May associated with a 15 degree filament eruption centered near S22E10. The CME was first observed in C2 imagery beginning at 09/1124 UTC. The two CMEs from 09 May are being analyzed at the time of this report with the potential for at least one having 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 through the period.

Solar wind parameters were weakly enhanced on 03-05 May under a positive polarity CH HSS. Solar wind speed increased to a maximum of 498 km/s at 03/2351 UTC while total field reached a maximum of 13 nT at 03/0500 UTC. The Bz component was mostly positive during this time resulting in quiet conditions. By midday on 05 May, solar wind speed had decreased to under 350 km/s and remained so through 09 May. Quiet conditions were observed for the rest of the period.

### **Space Weather Outlook** **10 May - 05 June 2021**

Solar activity is expected to be very low to low with the chance for further M-class flares on 10-19 May as Region 2822 rotates across the visible disk. Very low to low levels are expected on 20-27 May with the return of old Region 2821 (S21, L=226). Very low levels are expected on 28 May-01 Jun. Very low to low levels are expected again on 02-05 Jun as Region 2822 rotates around the east limb.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be reach high levels on 16-19 May and again on 21-24 May due to recurrent CH HSS influences.

Geomagnetic field activity is expected to reach unsettled levels on 10, 12-13, 15-18, 20-21 May. Active levels are expected on 15-17 and 20 May and G1 (Minor) storm levels are likely on 16 May due to recurrent CH HSS effects.



### *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	
03 May	72	0	0	A2.1	0	0	0	0	0	0	0	0	0
04 May	70	0	0	A2.9	0	0	0	0	0	0	0	0	0
05 May	70	0	0	A2.0	0	0	0	0	0	0	0	0	0
06 May	71	0	0	A3.6	0	0	0	0	0	0	0	0	0
07 May	75	15	130	A5.0	0	1	0	2	1	0	0	0	0
08 May	76	17	180	A6.0	2	0	0	4	0	0	0	0	0
09 May	76	18	180	A5.5	3	0	0	4	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
	03 May	9.4e+04	4.4e+04
04 May	1.6e+05	4.3e+04	3.3e+06
05 May	1.3e+05	4.4e+04	4.0e+06
06 May	1.0e+05	4.4e+04	4.9e+06
07 May	1.1e+05	4.5e+04	4.3e+06
08 May	1.4e+05	4.4e+04	6.6e+06
09 May	3.1e+05	4.5e+04	5.9e+06

### *Daily Geomagnetic Data*

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
	03 May	6	2-2-2-2-2-1-1	3	2-1-2-2-0-0-0-0	5
04 May	5	2-1-1-1-2-1-2-1	3	2-0-0-2-0-0-1-1	4	2-1-1-1-1-0-1-1
05 May	3	0-0-0-1-2-1-2-1	0	0-0-0-0-0-0-0-0	2	1-1-0-0-1-0-1-1
06 May	2	1-1-0-1-2-0-1-0	4	1-1-1-1-3-1-0-0	4	1-1-1-1-2-1-1-0
07 May	3	0-0-0-1-2-1-2-1	1	0-0-0-0-0-1-1-0	3	0-1-0-0-1-1-1-1
08 May	4	1-0-1-2-2-1-1-1	3	1-0-0-3-2-0-0-0	3	1-0-1-2-1-0-0-0
09 May	6	0-0-0-1-4-2-1-2	1	0-1-0-0-1-1-0-0	2	0-1-1-0-1-1-0-2



### *Alerts and Warnings Issued*

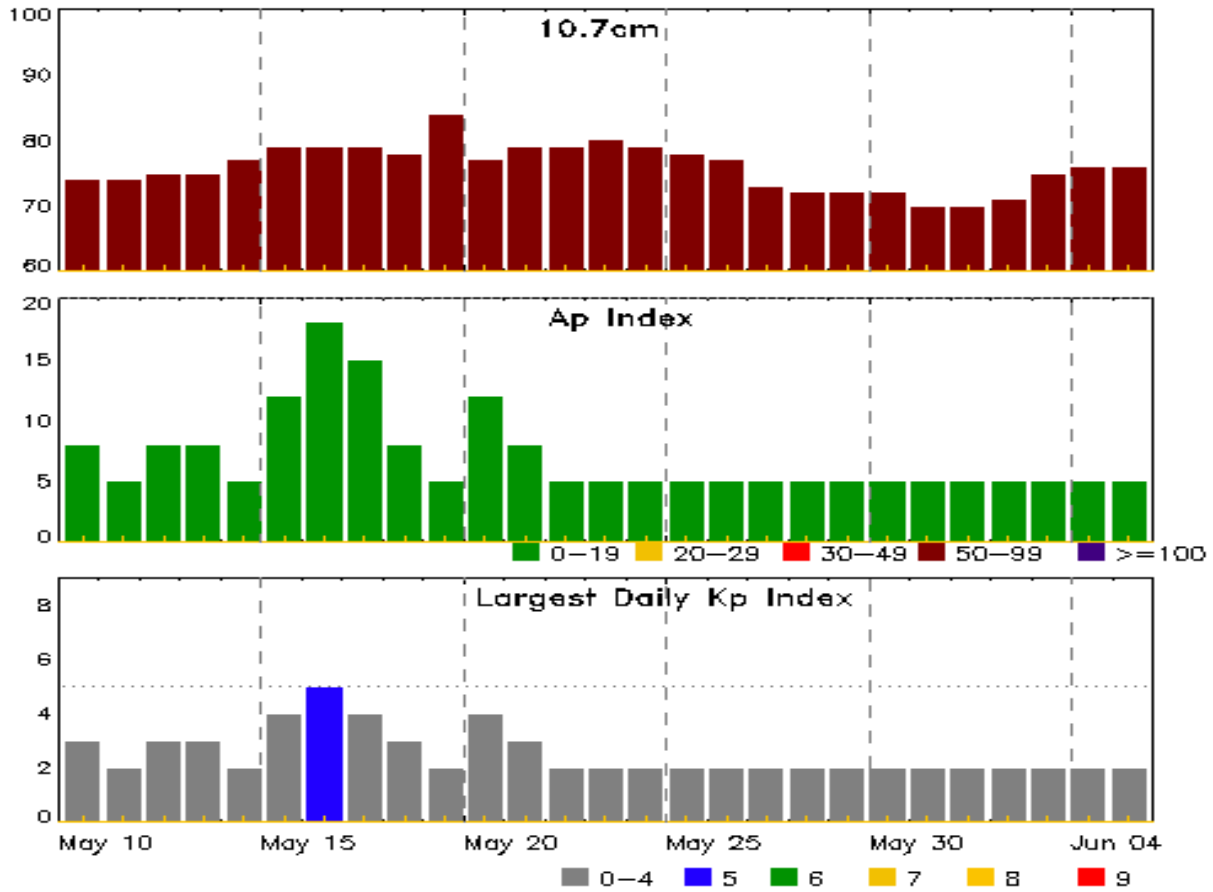
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<b>Date &amp; Time of Issue UTC</b>	<b>Type of Alert or Warning</b>	<b>Date &amp; Time of Event UTC</b>
07 May 1925	SUMMARY: 10cm Radio Burst	07/1850 - 1915
07 May 1926	ALERT: Type II Radio Emission	07/1902
07 May 1927	ALERT: Type IV Radio Emission	07/1907
09 May 1416	SUMMARY: 10cm Radio Burst	09/1354 - 1355
09 May 1502	ALERT: Type II Radio Emission	09/1431

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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
10 May	74	8	3	24 May	79	5	2
11	74	5	2	25	78	5	2
12	75	8	3	26	77	5	2
13	75	8	3	27	73	5	2
14	77	5	2	28	72	5	2
15	79	12	4	29	72	5	2
16	79	18	5	30	72	5	2
17	79	15	4	31	70	5	2
18	78	8	3	01 Jun	70	5	2
19	84	5	2	02	71	5	2
20	77	12	4	03	75	5	2
21	79	8	3	04	76	5	2
22	79	5	2	05	76	5	2
23	80	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
07 May	1843	1904	1919	M3.9	0.045	1N	N17E78		2822	160	94	3

### *Flare List*

Date	Time			X-ray Class	Optical		
	Begin	Max	End		Imp/ Brtns	Location Lat CMD	Rgn #
04 May	0847	0852	0858	B1.6			
04 May	1158	1210	1224	B1.3			
05 May	2225	2231	2238	B1.2			
05 May	2243	2248	2254	B1.1			
06 May	0257	0303	0308	B1.0			
06 May	0604	0615	0629	B1.2			
06 May	0752	0801	0805	B3.4			
06 May	1541	1548	1552	B1.1			
06 May	1906	1914	1919	B1.1			
07 May	0033	0038	0042	B2.7			
07 May	0337	0341	0345	B6.0			
07 May	0649	0655	0659	B1.4			
07 May	1408	1414	1422	B2.7	SF	N17E83	
07 May	1648	1655	1705	B2.4	SF	N16E72	
07 May	1843	1904	1919	M3.9	1N	N17E78	2822
08 May	0702	0707	0716	B1.0			
08 May	0822	0826	0832	B1.5			
08 May	1039	1047	1051	B1.0			
08 May	1233	1300	1319	C1.5	SF	N16E65	2822
08 May	1321	1325	1327		SF	N16E65	2822
08 May	1417	1427	1438	B2.6			
08 May	1540	1546	1550	B1.2	SF	N16E63	2822
08 May	1822	1845	1858	C8.6	SF	N16E63	2822
08 May	2056	2107	2111	B3.0			2822
09 May	0027	0044	0100	B2.8			2822
09 May	0100	0109	0112	B2.3			2822
09 May	0112	0116	0121	B2.8			2822
09 May	0418	0436	0442	C1.6	SF	N15E57	2822
09 May	0542	0547	0555	B1.5			2822
09 May	0555	0611	0634	B3.0			2822



## *Flare List*

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
09 May	0754	0758	0805	B1.2			2822
09 May	1338	1358	1409	C4.0	SF	N15E51	2822
09 May	1420	1449	1525	C2.0	SF	N16E57	2822
09 May	1920	1924	1931	B1.8	SF	N17E50	2822



## *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><i>Region 2822</i></b>																							
07 May	N18E70		335	130	4	Cso	5	B		1				1									
08 May	N18E57		336	180	5	Csi	7	B	2				4										
09 May	N18E45		335	180	4	Dsi	8	BG	3				4										
									5	1	0		8	1	0	0	0						

Still on Disk.

Absolute heliographic longitude: 335



## ***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

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