

Solar activity was reached low levels on 26 Apr. A C1 flare from Region 2816 (S24, L=262, class/area Dai/120 on 19 Apr) at 26/0230 UTC was the largest of the period. A DSF was also observed on 26 Apr, lifting off around 26/1635 UTC. Most of the ejecta appears to have been headed to the SW of Earth's orbit, though the lack of available STEREO-A coronagraph imagery increased uncertainty around determining if an Earth-directed component was present. All of the other active regions were in decay and mostly quiet as they rotated towards the western limb. Only low-level B-class activity was observed over 27 Apr - 02 May.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was mostly normal to moderate with the exception of a brief high level (peak flux of 1,810 pfu reached at 30/1550 UTC) reached on 30 Apr.

Geomagnetic field activity range from quiet to G1 (Minor) geomagnetic storm levels. G1 (Minor) levels were observed on 26 Apr in response to enhancements from a CME that left the Sun on 22 Apr. Total magnetic field strength was weakly enhanced reaching 7 nT while Bz was sustained southward to -7 nT. Solar wind speeds were steadily elevated to speeds between ~480-500 km/s prior the G1 event. Geomagnetic conditions would decrease to quiet - unsettled levels on 27 Apr and into quiet over 28 Apr - 01 May as solar wind parameters returned to nominal levels. A slight increase to unsettled conditions was observed on 02 May due to what appears to be influence from the current sheet with a possible embedded weak transient.

Space Weather Outlook **03 May - 29 May 2021**

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 be at normal to moderate levels from 03-13 May and 25-29 May. High levels are likely on 14-24 May in response to multiple, recurrent, negative polarity CH HSSs.

Geomagnetic field activity is expected to range from quiet to G2 (Moderate) geomagnetic storm levels. G1 (Minor) geomagnetic storm levels on 13 May are likely to increase to G2 (Moderate) levels on 14 May. Active conditions are likely on 03-04 May, 12 May, 15-17 May and 20 May. Unsettled levels are likely on 05 May, 11 May, and 21 May. All anticipated elevations in geomagnetic activity are in response to influence from recurrent CH HSSs. The remainder of the outlook period is expected to at quiet levels.



Daily Solar Data

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10 ⁻⁶ hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
26 April	80	54	220	A7.1	1	0	0	4	0	0	0	0
27 April	79	47	140	A7.4	0	0	0	0	0	0	0	0
28 April	78	42	70	A6.6	0	0	0	0	0	0	0	0
29 April	77	37	70	A5.6	0	0	0	0	0	0	0	0
30 April	73	35	70	A4.5	0	0	0	0	0	0	0	0
01 May	72	11	10	A3.1	0	0	0	0	0	0	0	0
02 May	72	0	0	A3.0	0	0	0	0	0	0	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ² -day -sr)		Electron Fluence (electrons/cm ² -day -sr)	
	>1 MeV	>10 MeV	>2MeV	
	26 April	8.9e+04	4.3e+04	2.9e+06
27 April	5.2e+04	4.4e+04	1.4e+07	
28 April	5.2e+04	4.5e+04	4.1e+07	
29 April	5.4e+04	4.5e+04	4.6e+07	
30 April	1.8e+05	4.4e+04	4.3e+07	
01 May	1.2e+05	4.4e+04	8.9e+06	
02 May	8.5e+04	4.5e+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
	26 April	12	4-4-3-1-2-1-2-2	18	3-5-4-3-4-1-1-1	14
27 April	8	3-3-2-2-2-1-1-1	15	1-3-5-4-3-2-0-1	8	3-3-2-2-1-1-0-1
28 April	4	2-0-0-2-2-1-1-1	2	1-1-0-1-1-0-0-0	3	2-1-1-1-1-0-0-1
29 April	5	2-2-1-1-2-1-2-1	4	0-0-2-3-2-0-0-0	6	2-2-2-2-2-1-2-1
30 April	6	1-1-1-1-1-2-3-2	1	0-0-0-0-0-1-1-1	6	1-2-1-1-1-2-2-2
01 May	6	1-1-2-3-1-1-1-2	2	0-0-1-2-1-0-1-0	5	2-1-1-2-1-1-1-2
02 May	12	3-3-3-2-2-2-3-3	7	2-3-3-2-1-0-1-1	18	3-3-3-1-1-2-2-2

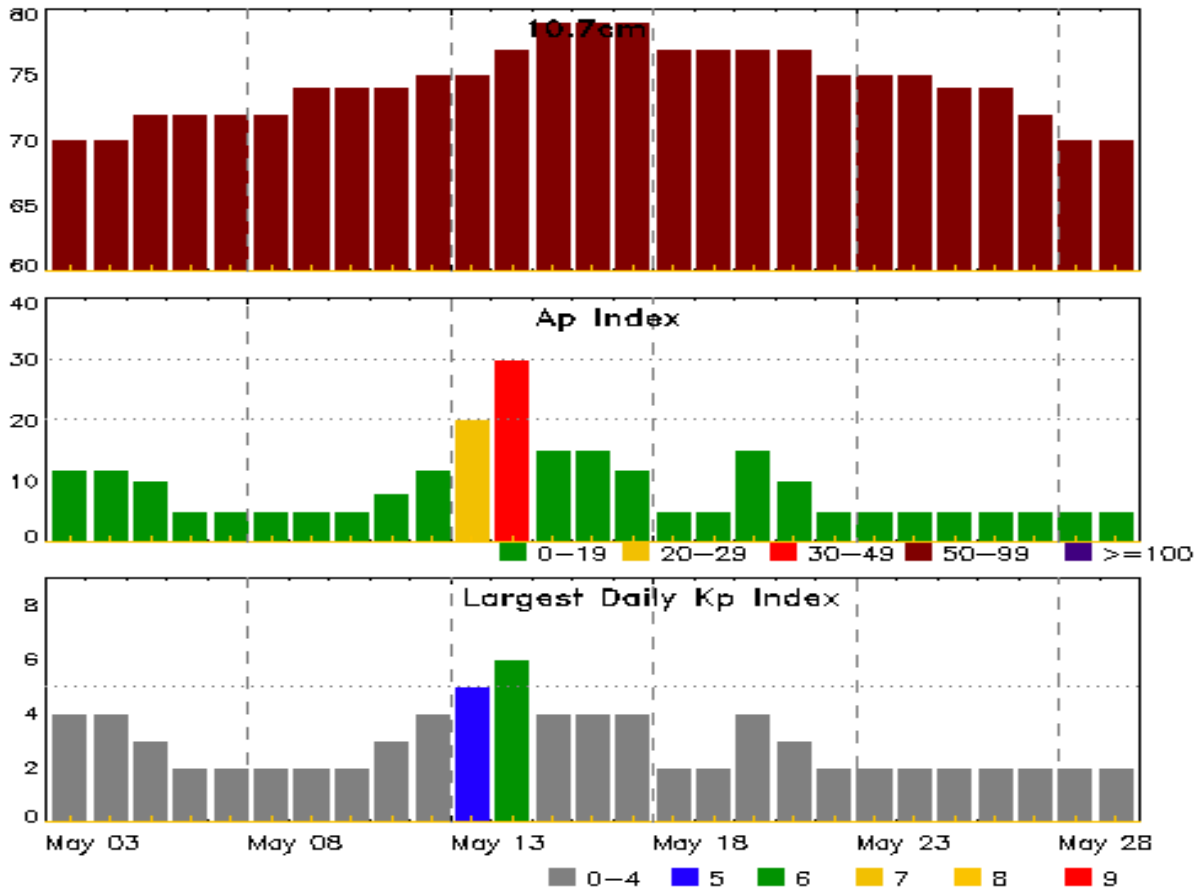


Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
26 Apr 0050	WARNING: Geomagnetic K = 4	26/0050 - 1200
26 Apr 0054	ALERT: Geomagnetic K = 4	25/0054
26 Apr 0441	WARNING: Geomagnetic K = 5	26/0441 - 1200
26 Apr 0526	ALERT: Geomagnetic K = 5	26/0526
27 Apr 0120	WARNING: Geomagnetic K = 4	27/0120 - 0600
27 Apr 0523	EXTENDED WARNING: Geomagnetic K = 4	27/0120 - 1200
30 Apr 1603	ALERT: Electron 2MeV Integral Flux \geq 1000pfu	30/1530
02 May 0246	WARNING: Geomagnetic K = 4	02/0245 - 1200
02 May 1417	ALERT: Type II Radio Emission	02/1129



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
03 May	70	12	4	17 May	79	12	4
04	70	12	4	18	77	5	2
05	72	10	3	19	77	5	2
06	72	5	2	20	77	15	4
07	72	5	2	21	77	10	3
08	72	5	2	22	75	5	2
09	74	5	2	23	75	5	2
10	74	5	2	24	75	5	2
11	74	8	3	25	74	5	2
12	75	12	4	26	74	5	2
13	75	20	5	27	72	5	2
14	77	30	6	28	70	5	2
15	79	15	4	29	70	5	2
16	79	15	4				



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				
26 Apr	0048	0051	0055	B1.8			
26 Apr	0108	0128	0140	B2.4			
26 Apr	0147	0151	0153	B1.9	SF	S22W04	2820
26 Apr	0222	0230	0235	C1.3			2816
26 Apr	0252	0256	0300	B3.9	SF	S22W04	2820
26 Apr	0409	0418	0434	B1.1			2820
26 Apr	0434	0447	0452	B1.9	SF	S22W05	2820
26 Apr	0501	0514	0521	B1.6			2820
26 Apr	0541	0549	0556	B2.3			2820
26 Apr	0846	0856	0900	B1.6			2820
26 Apr	1010	1022	1030	B3.2	SF	S21W07	2820
26 Apr	1048	1052	1056	B1.2			2820
26 Apr	1219	1225	1234	B1.0			
26 Apr	1303	1307	1312	B1.2			
26 Apr	1329	1334	1340	B4.2			
26 Apr	1346	1351	1355	B1.7			
26 Apr	1424	1431	1437	B1.0			
26 Apr	1550	1559	1612	B1.1			
27 Apr	0429	0434	0439	B1.2			2821
27 Apr	0737	0743	0758	B1.2			2821
27 Apr	0813	0823	0836	B2.8			2821
27 Apr	1604	1613	1617	B3.3			2821
27 Apr	2141	2153	2201	B2.2			2820
28 Apr	0720	0729	0737	B2.0			2820
28 Apr	0739	0745	0749	B3.4			2820
28 Apr	0804	0809	0819	B1.2			2820
28 Apr	1240	1244	1248	B1.2			2821
29 Apr	1351	1401	1408	B1.1			2820
29 Apr	1759	1805	1817	B1.4			2821
29 Apr	1819	1823	1829	B1.3			2821
29 Apr	1941	1954	2002	B1.4			2820



Flare List

Date	Time			Optical			Rgn #
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	
29 Apr	2034	2054	2103	B2.4			2821
29 Apr	2213	2232	2241	B6.2			2821
30 Apr	0326	0333	0344	B1.0			2820
30 Apr	0404	0417	0433	B1.9			2818
30 Apr	0448	0455	0502	B1.4			2818
30 Apr	1151	1159	1209	B1.6			2820
30 Apr	1243	1252	1303	B1.0			2820
01 May	1950	1959	2016	B1.7			2820



Region Summary

Date	Location		Sunspot Characteristics				Flares									
	Lat	CMD	Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
			Lon	10 ⁶ hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
Region 2816																
16 Apr	S24E59	264	80	5	Cao	3	B									
17 Apr	S24E46	264	20	7	Cao	4	B									
18 Apr	S25E34	263	50	7	Cao	5	B						2			
19 Apr	S24E21	262	120	8	Dai	8	B		1				2			
20 Apr	S24E08	262	110	9	Cao	10	B						1			
21 Apr	S24W06	263	100	9	Cao	9	B						2			
22 Apr	S24W18	261	50	10	Cro	6	B	5					1	1		
23 Apr	S24W31	262	50	12	Cro	8	B	2					2			
24 Apr	S24W44	262	30	13	Cro	7	B									
25 Apr	S22W65	270	10	1	Axx	1	A	1					1			
26 Apr	S22W79	270	plage					1								
								9	1	0	11	1	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 263

Region 2818																
20 Apr	S17E66	203	90	1	Hsx	1	A									
21 Apr	S17E52	205	40	1	Hsx	1	A									
22 Apr	S17E39	204	50	1	Hsx	1	A									
23 Apr	S17E25	206	50	1	Hsx	1	A									
24 Apr	S16E12	206	40	1	Hsx	1	A									
25 Apr	S16W01	205	40	1	Hsx	1	A									
26 Apr	S16W13	204	40	1	Hsx	1	A									
27 Apr	S17W27	204	10	1	Hsx	1	A									
28 Apr	S17W39	203	10	1	Hsx	1	A									
29 Apr	S16W53	205	20	1	Hsx	1	A									
30 Apr	S16W67	205	20	1	Hsx	1	A									
01 May	S16W80	205	10	1	Axx	1	A									
								0	0	0	0	0	0	0	0	

Crossed West Limb.
 Absolute heliographic longitude: 205



Region Summary - continued

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

Region 2819

24 Apr	N24W27	245	10	4	Bxo	3	B										
25 Apr	N24W40	245	plage														
26 Apr	N24W54	245	plage														
27 Apr	N24W68	246	plage														
28 Apr	N24W82	247	plage														
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 245

Region 2820

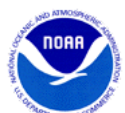
24 Apr	S22E08	210	70	5	Dai	11	B				1						
25 Apr	S22W06	211	80	7	Dso	12	B				1						
26 Apr	S21W18	209	110	8	Dsi	15	B				4						
27 Apr	S21W32	210	70	11	Esi	11	B										
28 Apr	S22W44	208	30	11	Dao	6	B										
29 Apr	S22W57	209	30	10	Cro	5	B										
30 Apr	S22W71	209	20	10	Bxo	3	B										
01 May	S20W84	209	plage														
									0	0	0	6	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 211

Region 2821

25 Apr	S22W16	221	30	4	Cro	3	B										
26 Apr	S21W28	219	70	5	Dsi	8	B										
27 Apr	S23W43	220	60	8	Dai	5	B										
28 Apr	S22W56	220	30	9	Cao	5	B										
29 Apr	S21W74	226	20	1	Hsx	1	A										
30 Apr	S21W89	227	30	1	Hsx	1	A										
									0	0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 221



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

<ftp://ftp.swpc.noaa.gov/pub/warehouse> -- Online archive from 1997

<https://www.ngdc.noaa.gov/stp/satellite/goes-r.html> -- NCEI GOES data
textarchive

<https://www.swpc.noaa.gov/products/solar-cycle-progression> -- Solar Cycle
Progression web site

<https://www.swpc.noaa.gov/content/contact-us> -- Contact and Copyright
information

https://www.swpc.noaa.gov/sites/default/files/images/u2/Usr_guide.pdf -- User
Guide

