Space Weather Highlights
01 April - 07 April 2024

SWPC PRF 2536
08 April 2024

Solar activity reached moderate levels on 01 Apr due to an M3.9/Sf flare at 01/0132 UTC from Region 3625 (N13, L=174, class/area=Dai/80 on 01 Apr); the largest event of the period. The remainder of the period saw low level solar activity with C-class flares observed from several unremarkable active regions. No Earth-directed CMEs were observed as a result of this periods activity.

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 period.

Geomagnetic field activity reached active levels on 01 Apr, and unsettled levels on 02-03 Apr, due to weak positive polarity CH HSS influences. Active conditions were observed again on 04 Apr, with unsettled levels observed on 05-06 Apr, due to weak negative polarity CH HSS influences. Quiet conditions and a nominal solar wind environment prevailed over 07 Apr.

Space Weather Outlook
08 April - 04 May 2024

Solar activity is expected to be at low to moderate levels throughout the outlook period, with C-class flare activity expected and a varying chance for M-class flare activity.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to continue at normal to moderate levels through 04 May.

Geomagnetic field activity is expected to reach active levels on 09-10 Apr in response to anticipated positive polarity CH HSS influence. Quiet and quiet to unsettled conditions are expected to prevail throughout the remainder of the outlook period.

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
01 April	125	50	112	B8.6	0	1	0	2	0	0	0	0
02 April	113	35	76	B4.7	0	0	0	0	0	0	0	0
03 April	112	45	101	B3.2	0	0	0	0	0	0	0	0
04 April	114	47	170	B3.3	0	0	0	1	0	0	0	0
05 April	121	81	310	B4.3	5	0	0	0	0	0	0	0
06 April	123	71	400	B4.0	1	0	0	0	0	0	0	0
07 April	125	79	380	B3.5	2	0	0	1	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
01 April	7.7e+05	1.8e+04	2.0e+06
02 April	5.6e+05	1.7e+04	2.6e+06
03 April	3.9e+05	1.6e+04	3.1e+06
04 April	6.7e+05	1.6e+04	2.6e+06
05 April	5.4e+05	1.6e+04	6.7e+06
06 April	1.2e+05	1.6e+04	6.5e+06
07 April	9.4e+04	1.6e+04	1.1e+07

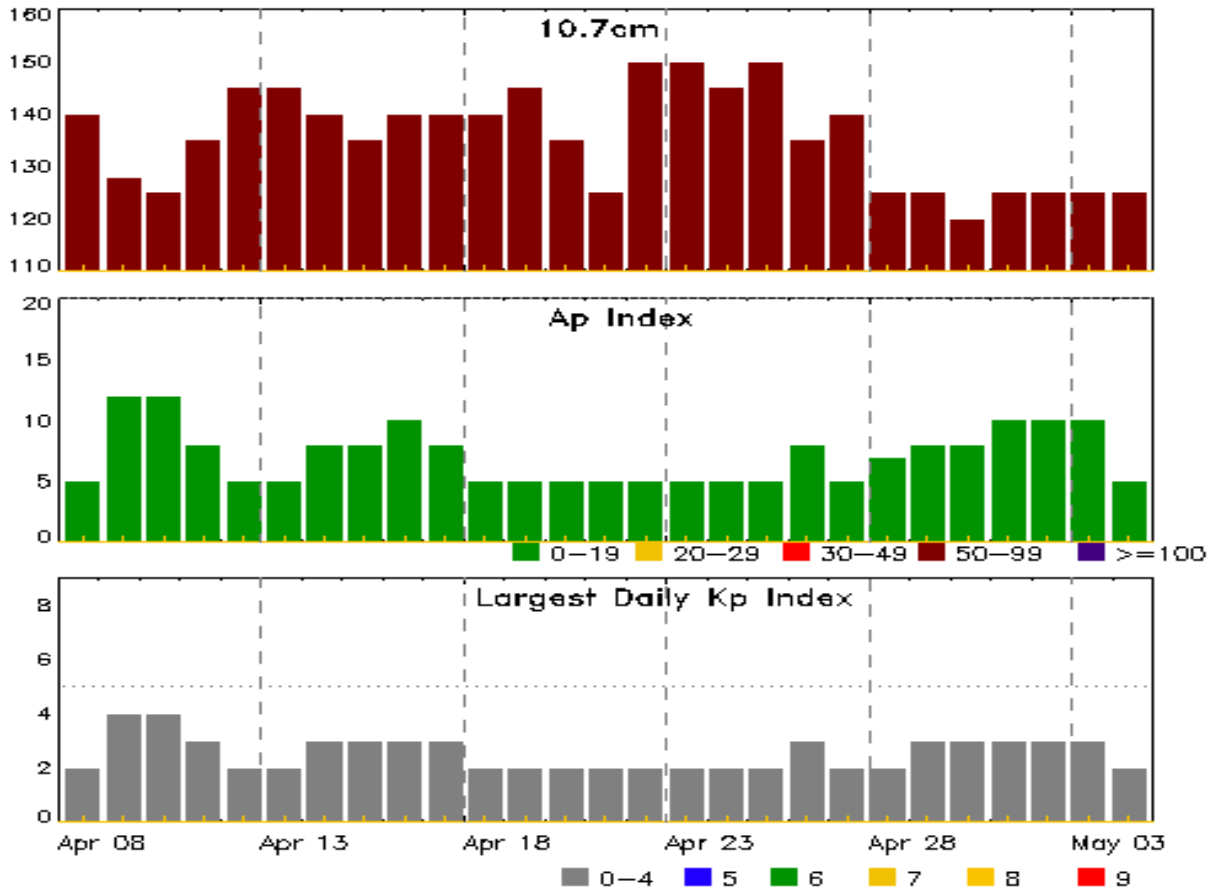
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
01 April	9	1-3-3-1-2-3-2-2	14	2-3-5-3-3-1-2-1	11	2-3-4-2-2-2-2-2
02 April	7	0-1-1-3-3-3-1-1	9	1-1-0-5-2-1-1-1	8	2-2-2-3-2-2-2-1
03 April	10	2-1-1-1-2-2-1-5	8	2-2-2-3-2-3-1-0	7	3-2-2-1-2-1-1-1
04 April	33	6-3-3-3-3-4-6-3	18	0-0-2-5-5-3-2-3	12	2-1-3-3-3-3-2-4
05 April	10	2-3-2-3-2-3-2-2	21	2-3-4-5-5-3-2-1	12	2-3-3-3-3-2-2-2
06 April	8	3-2-3-2-2-1-1-2	12	3-2-4-3-3-1-2-1	10	3-2-3-2-2-1-2-2
07 April	5	1-2-1-1-2-2-1-1	8	2-2-1-3-3-2-1-1	6	2-2-1-2-2-1-1-2

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
01 Apr 0739	WARNING: Geomagnetic K = 4	01/0740 - 1500
01 Apr 0803	ALERT: Geomagnetic K = 4	
01 Apr 1808	WATCH: Geomagnetic Storm Category G1 predicted	
02 Apr 1103	WARNING: Geomagnetic K = 4	02/1102 - 1800
02 Apr 1926	WATCH: Geomagnetic Storm Category G1 predicted	
03 Apr 0210	WARNING: Geomagnetic K = 4	03/0210 - 0600
04 Apr 1139	WARNING: Geomagnetic K = 4	04/1138 - 2359
04 Apr 2256	EXTENDED WARNING: Geomagnetic K = 4	04/1138 - 05/0600
05 Apr 0555	EXTENDED WARNING: Geomagnetic K = 4	04/1138 - 05/2359
05 Apr 1806	CANCELLATION: Geomagnetic Storm Category G1 predicted	
06 Apr 0203	WARNING: Geomagnetic K = 4	06/0205 - 1200

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
08 Apr	140	5	2	22 Apr	150	5	2
09	128	12	4	23	150	5	2
10	125	12	4	24	145	5	2
11	135	8	3	25	150	5	2
12	145	5	2	26	135	8	3
13	145	5	2	27	140	5	2
14	140	8	3	28	125	7	2
15	135	8	3	29	125	8	3
16	140	10	3	30	120	8	3
17	140	8	3	01 May	125	10	3
18	140	5	2	02	125	10	3
19	145	5	2	03	125	10	3
20	135	5	2	04	125	5	2
21	125	5	2				

Energetic Events

	Time			X-ray		Optical Information			Peak Radio Flux		Sweep Freq Intensity	
Date	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	245	2695	II	IV
01 Apr	0113	0132	0157	M3.9		0.062	SF	N08W64	3625			

Flare List

	Time				Optical		
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
01 Apr	0113	0132	0157	M3.9	SF	N08W64	3625
01 Apr	1252	1255	1256		SF	N14W76	3625
03 Apr	0230	0236	0240	B5.1			3628
03 Apr	0258	0305	0309	B5.5			3628
03 Apr	0310	0319	0323	B7.7			3628
04 Apr	0845	0852	0900	B5.3	SF	S10W06	
04 Apr	1719	1726	1731	B5.9			
04 Apr	1815	1823	1829	B8.4			
04 Apr	2121	2131	2138	B6.2			
05 Apr	0244	0305	0321	C3.8			
05 Apr	1257	1307	1314	C2.0			3630
05 Apr	1655	1708	1714	C1.2			3633
05 Apr	1723	1726	1737	C1.1			3633
05 Apr	1759	1805	1810	C1.0			3633
05 Apr	2021	2029	2035	B7.6			3633
06 Apr	0057	0121	0138	C1.6			
06 Apr	0453	0500	0509	B6.9			3629
06 Apr	2118	2126	2131	B6.7			3633
07 Apr	1911	1926	1941	C1.1	SF	N27E19	3632
07 Apr	2133	2143	2150	B8.9			
07 Apr	2150	2200	2212	C1.0			

Region Summary

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3617												
20 Mar	S15E70	184	60	4	Hax	3	A								
21 Mar	S15E56	185	150	6	Cao	2	B								
22 Mar	S14E41	186	100	6	Cao	6	B	2			2				
23 Mar	S14E29	185	90	4	Cao	4	B				1				
24 Mar	S13E17	184	60	3	Cao	5	B					1			
25 Mar	S13E04	184	60	2	Cao	2	B								
26 Mar	S14W10	185	50	5	Hsx	1	A								
27 Mar	S14W24	186	30	1	Hsx	1	A				1				
28 Mar	S14W38	186	30	1	Cso	3	B								
29 Mar	S13W51	186	30	5	Cso	2	B								
30 Mar	S13W63	185	20	1	Cro	2	B								
31 Mar	S13W76	185	10	1	Axx	1	A								
01 Apr	S13W90	186	plage												
								2	0	0	4	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 184

			Region 3619												
21 Mar	N17E61	179	130	4	Cao	5	B								
22 Mar	N20E46	181	100	6	Cao	5	B								
23 Mar	N19E31	183	120	3	Cao	3	B								
24 Mar	N19E16	185	100	2	Cso	3	B								
25 Mar	N19E04	184	130	7	Cso	3	B	1			3				
26 Mar	N19W10	185	140	8	Cso	7	B								
27 Mar	N18W24	186	140	8	Dso	6	B								
28 Mar	N19W39	187	60	6	Hax	5	A								
29 Mar	N17W52	187	50	3	Hsx	2	A								
30 Mar	N18W66	188	50	2	Hsx	1	A				1				
31 Mar	N18W79	188	50	2	Hsx	1	A								
01 Apr	N18W93	189	30	2	Hsx	1	A								
								1	0	0	4	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 184

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3620												
22 Mar	S10E74	153	30	2	Cro	3	B								
23 Mar	S10E61	153	30	2	Hrx	3	A								
24 Mar	S10E46	155	30	2	Hax	2	A								
25 Mar	S09E32	156	30	3	Hsx	2	A								
26 Mar	S08E19	156	20	1	Hrx	1	A								
27 Mar	S09E05	157	20	1	Hrx	2	A								
28 Mar	S08W10	158	10	1	Axx	2	A								
29 Mar	S08W24	159	plage												
30 Mar	S08W38	160	plage												
31 Mar	S08W52	161	plage												
01 Apr	S08W66	162	plage												
02 Apr	S08W81	163	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 157

			Region 3622												
24 Mar	N19E61	139	60	3	Dao	5	B								
25 Mar	N20E46	142	40	5	Cso	4	B	1			2				
26 Mar	N19E32	143	10	4	Bxo	2	B								
27 Mar	N11E18	144	plage												
28 Mar	N11E03	145	plage												
29 Mar	N11W11	146	plage												
30 Mar	N11W25	147	plage												
31 Mar	N11W39	148	plage												
01 Apr	N11W53	149	plage												
02 Apr	N11W68	150	plage												
03 Apr	N11W82	151	plage												
								1	0	0	2	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 145

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3624												
30 Mar	N16E50	72	10	3	Bxo	2	B								
31 Mar	N16E39	70	10	4	Hrx	1	A								
01 Apr	N15E25	71	1	1	Axx	1	A								
02 Apr	N15E10	72	plage												
03 Apr	N15W04	73	5	1	Axx	1	A								
04 Apr	N15W18	74	plage												
05 Apr	N15W32	75	plage												
06 Apr	N15W46	76	plage												
07 Apr	N15W60	76	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 73

			Region 3625												
31 Mar	N12W65	173	40	5	Dai	7	B	1							
01 Apr	N13W78	174	80	7	Dai	6	B		1		2				
02 Apr	N10W93	175	70	8	Dao	2	B								
								1	1	0	2	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 173

			Region 3626												
01 Apr	N11W33	129	1	3	Bxo	2	B								
02 Apr	N13W48	130	1	3	Bxo	2	B								
03 Apr	N13W62	131	1	3	Bxo	2	B								
04 Apr	N11W75	130	30	4	Cao	2	B								
05 Apr	N11W88	131	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 129

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3627												
02 Apr	N09E58	24	5	1	Axx	1	A								
03 Apr	N10E44	25	5	1	Axx	1	A								
04 Apr	N11E30	26	10	1	Axx	1	A								
05 Apr	N09E19	24	10	1	Axx	1	A								
06 Apr	N09E05	25	plage												
07 Apr	N09W09	25	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 25

			Region 3628												
03 Apr	N07E67	2	90	2	Hsx	1	A								
04 Apr	N10E54	2	110	2	Hsx	1	A								
05 Apr	N08E41	2	190	3	Hax	4	A								
06 Apr	N07E28	2	240	4	Hax	2	A								
07 Apr	N08E14	2	250	5	Cko	6	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 2

			Region 3629												
04 Apr	N07W12	68	20	3	Cro	3	B								
05 Apr	N06W28	71	30	4	Cao	6	B								
06 Apr	N05W41	71	60	4	Dai	8	B								
07 Apr	N05W55	71	40	4	Cao	6	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 68

			Region 3630												
05 Apr	S11W24	67	30	5	Bxi	5	B	1							
06 Apr	S11W38	68	20	5	Bxi	5	B								
07 Apr	S11W53	69	5	1	Axx	1	A								
								1	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 67

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3631												
05 Apr	N11W08	51	10	1	Axx	2	A								
06 Apr	N11W22	52	plage												
07 Apr	N11W37	53	5	2	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 51

			Region 3632												
05 Apr	N26E44	359	40	3	Cao	3	B								
06 Apr	N26E30	359	30	3	Cao	3	B								
07 Apr	N26E16	360	10	1	Cao	1	B	1			1				
								1	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 360

			Region 3633												
05 Apr	S09E82	322	plage					3							
06 Apr	S09E71	319	50	4	Hsx	3	A								
07 Apr	S08E59	320	70	5	Dso	4	BG								
								3	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 320

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

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