Space Weather Highlights
15 April - 21 April 2024

SWPC PRF 2538
22 April 2024

Solar activity reached moderate levels on 15 Apr, 16-19 Apr and 21 Apr and was at low levels on 20 Apr. A large amount of numbered regions were recorded on the visible disk, with 26 in total. Region 3639 (N26, L=222, class/area=Eki/320 on 17 Apr) produced the highest flare of the period, an M4.0/1n (R1-Minor) at 15/1932 UTC. 17 other M-class (R1) flares were observed this period from multiple other regions. An complex area of sunspot groups was observed in the southern hemisphere. Region 3638 (S17, L=226, Cai/beta) was far from the most magnetically complex of the group but was very active in its production of eruptions associated with numerous CMEs over the past week. Most of the ejecta was thought to move south of the ecliptic but some of the activity may have produced CMEs whose periphery may be on the Sun-Earth line.

Other activity included an eruption N of Region 3636 (S21, L=251, Class/area=Cso/100 on 13 Apr) around 15/0557 UTC. A faint CME thought to be associated with the event was observed in SOHO/LASCO C2 imagery beginning after 15/0648 UTC. Modeling of the CME suggested arrival on 18 Apr but the most pronounced portion of the CME was observed passing Earth over 19 Apr.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit ranged from normal background to moderate levels.

Geomagnetic field activity was ranged from quiet to G3 (Strong) geomagnetic storm levels this period. Quiet to unsettled conditions on 15 Apr increased to G1 (Minor) geomagnetic storm levels due to transient influence from a CME activity on the Sun over 12 Apr. Quiet to unsettled conditions on 17 Apr were associated with a weak passing CME that left the Sun on 14 Apr. Quiet conditions were then observed on 18 Apr as solar wind conditions trended towards nominal levels. An increase to G3 (Strong) geomagnetic storm conditions were observed with the passage of CME associated with activity on the Sun over 15 Apr. Total magnetic field strength (Bt) reached a peak of 18 nT at 19/1425 UTC. The Bz component was sustained in a far southward orientation with a maximum deflection of -17 nT observed at 19/1421 UTC. Solar wind speeds steadily increased from the low 300's to ~500 km/s by the end of 19 Apr. Bt returned to near 5 nT on 20 Apr and the geomagnetic field responded with quiet to unsettled conditions. Active conditions were again observed on 21 Apr following additional periods of sustained Bz south.

Space Weather Outlook
22 April - 18 May 2024

Solar activity is expected to be moderate levels (R1-R2/Minor-Moderate), with a chance for X-class flare R3 (Strong), over 22-27 Apr due to a plethora of productive sunspots rotating

towards the W limb. As those spots groups rotate off, solar activity is likely to be a low levels with a chance for M-class (R1-R2), through the remainder of the outlook period due to both developing spots in the E hemisphere and the return of productive spot groups on the farside of the Sun.

There is a chance for the greater than 10 MeV proton flux at geosynchronous orbit to reach above the S1 (Minor) levels over 22-27 Apr due to the plethora of sunspots in the W hemisphere.

The greater than 2 MeV electron flux at geosynchronous orbit may reach high levels on 22-25 Apr in response to geomagnetic activity observed on 19 Apr.

Geomagnetic field activity is like to reach active levels over 22-24 Apr and 26-27 Apr in response to multiple coronal hole high speed streams (CH HSSs). There is potential for combined influence of coronal hole activity and multiple weak transients over 22-24 Apr. Unsettled levels are likely on 25 Apr, 01-03 May, and 05-07 May due to the anticipated return of multiple other weak CH HSSs. The remainder of the outlook period is likely to be at mostly 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
15 April	192	193	1070	C1.5	13	8	0	12	5	0	0	0
16 April	199	176	1200	C1.6	4	1	0	0	0	1	0	0
17 April	217	199	1150	C1.9	12	1	0	9	1	1	0	0
18 April	227	247	1380	C2.7	3	3	0	11	2	0	0	0
19 April	213	243	1120	C2.3	11	2	0	11	1	0	0	0
20 April	210	240	1200	C1.7	12	0	0	14	3	0	0	0
21 April	217	283	1340	C2.1	6	3	0	15	1	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
15 April	1.7e+06	1.6e+04	7.4e+06
16 April	3.8e+06	1.5e+04	9.4e+05
17 April	9.0e+05	1.5e+04	9.1e+05
18 April	3.4e+05	1.6e+04	1.3e+06
19 April	8.8e+05	1.5e+04	1.0e+06
20 April	1.9e+05	1.6e+04	1.5e+06
21 April	2.9e+05	1.5e+04	8.5e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
15 April	7	1-2-0-2-2-2-2-3	2	1-1-0-1-0-0-2-1	8	2-2-1-2-1-2-2-3
16 April	17	3-1-0-4-3-3-3-4	36	3-3-5-4-4-5-6-4	31	4-3-4-4-3-4-5-5
17 April	8	3-2-1-2-2-1-3-2	13	3-1-1-3-3-5-1-1	7	3-1-1-2-2-2-2-2
18 April	5	2-0-0-2-1-2-1-2	1	1-0-0-1-0-0-0-1	4	2-1-0-1-1-1-0-2
19 April	21	2-1-4-4-4-3-5-3	46	2-1-5-5-4-7-6-3	41	2-1-4-4-5-5-7-4
20 April	10	2-2-3-3-3-2-2-2	21	2-2-4-6-3-3-2-2	12	3-2-3-3-2-2-2-3
21 April	14	3-3-3-2-4-2-2-3	36	3-3-5-6-5-5-4-2	15	3-3-3-3-4-4-4-3

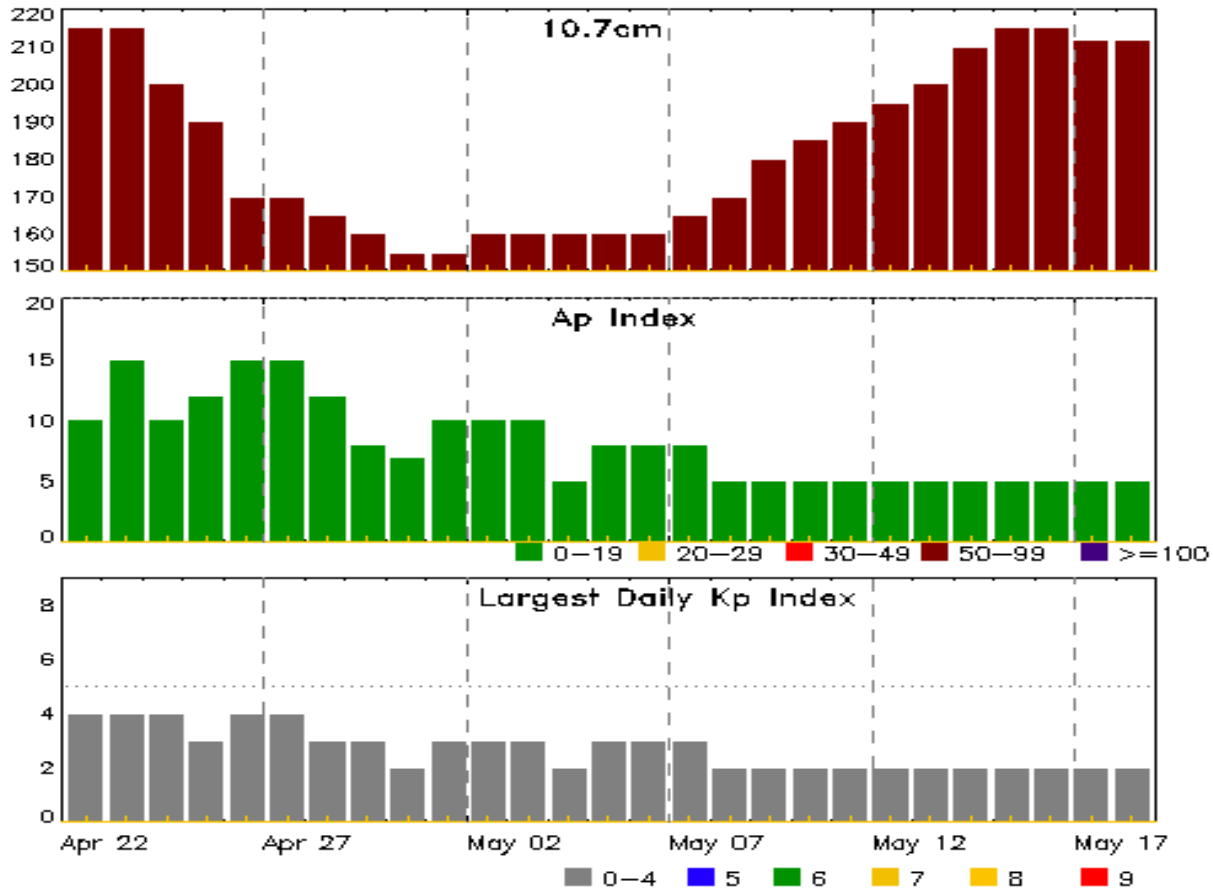
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
15 Apr 2306	WARNING: Geomagnetic K = 4	15/2306 - 16/0600
16 Apr 0100	ALERT: Geomagnetic K = 4	
16 Apr 0556	EXTENDED WARNING: Geomagnetic K = 4	15/2306 - 16/1500
16 Apr 1108	WARNING: Geomagnetic K = 5	16/1108 - 1500
16 Apr 1424	EXTENDED WARNING: Geomagnetic K = 4	15/2306 - 16/2359
16 Apr 1909	WARNING: Geomagnetic K = 5	16/1909 - 2359
16 Apr 1912	ALERT: Geomagnetic K = 5	
16 Apr 2123	WATCH: Geomagnetic Storm Category G1 predicted	
16 Apr 2245	ALERT: Geomagnetic K = 5	
16 Apr 2254	EXTENDED WARNING: Geomagnetic K = 4	15/2306 - 17/0900
16 Apr 2255	EXTENDED WARNING: Geomagnetic K = 5	16/1909 - 17/0600
16 Apr 2309	WARNING: Geomagnetic K = 6	16/2309 - 17/0300
19 Apr 0648	WARNING: Geomagnetic K = 4	19/0650 - 1800
19 Apr 0750	ALERT: Geomagnetic K = 4	
19 Apr 0900	WARNING: Geomagnetic K = 5	19/0900 - 1500
19 Apr 1415	ALERT: Geomagnetic K = 5	
19 Apr 1416	EXTENDED WARNING: Geomagnetic K = 5	19/0900 - 2359
19 Apr 1552	ALERT: Geomagnetic K = 5	
19 Apr 1755	EXTENDED WARNING: Geomagnetic K = 4	19/0650 - 20/0600
19 Apr 1920	ALERT: Geomagnetic K = 5	
19 Apr 1940	WARNING: Geomagnetic K = 6	19/1939 - 2359
19 Apr 1940	ALERT: Geomagnetic K = 6	
19 Apr 1940	WARNING: Geomagnetic K = 6	19/1939 - 2359
19 Apr 1951	WARNING: Geomagnetic K>= 7	19/1950 - 2359
19 Apr 1952	ALERT: Geomagnetic K = 7	
21 Apr 0500	WARNING: Geomagnetic K = 4	21/0500 - 1500
21 Apr 1456	ALERT: Geomagnetic K = 4	
21 Apr 1457	EXTENDED WARNING: Geomagnetic K = 4	21/0500 - 2359
21 Apr 2244	ALERT: Type II Radio Emission	21/2209

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
21 Apr 2306	EXTENDED WARNING: Geomagnetic K = 4	21/0500 - 22/0900

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
22 Apr	215	10	4	06 May	160	8	3
23	215	15	4	07	165	8	3
24	200	10	4	08	170	5	2
25	190	12	3	09	180	5	2
26	170	15	4	10	185	5	2
27	170	15	4	11	190	5	2
28	165	12	3	12	195	5	2
29	160	8	3	13	200	5	2
30	155	7	2	14	210	5	2
01 May	155	10	3	15	215	5	2
02	160	10	3	16	215	5	2
03	160	10	3	17	212	5	2
04	160	5	2	18	212	5	2
05	160	8	3				

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
15 Apr	0106	0118	0126	M1.7	0.011	SF	N34E68	3639				
15 Apr	0715	0732	0738	M1.0	0.013	1F	N30E57	3639				
15 Apr	0838	0842	0847	M2.3	0.009	1B	N27W29	3634		13000	100	
15 Apr	0921	0932	0942	M1.2	0.010	SF	N29E60	3639				
15 Apr	1343	1358	1401	M1.1	0.005	1F	N28E56	3639				
15 Apr	1401	1404	1406	M1.4	0.005	SN	N26W33	3634				
15 Apr	1408	1417	1427	M2.2	0.021			3639				
15 Apr	1925	1932	1939	M4.0	0.018	1N	N28E56	3639				
16 Apr	1749	1802	1814	M1.1	0.014	2N	S10E36	3645				
17 Apr	2155	2208	2217	M1.6	0.012	2N	S07E22	3643				
18 Apr	0232	0248	0253	M2.2	0.014	SF	S11E27	3643				
18 Apr	0717	0737	0809	M1.3	0.029	SF	S12E23	3643				
18 Apr	2012	2016	2021	M1.6	0.009	SF	S12E17	3647				
19 Apr	0440	0453	0503	M2.1	0.017	SF	N20W58	3635				
19 Apr	1253	1306	1323	M1.0	0.013			3647		210		
21 Apr	1239	1259	1334	M1.0	0.025	1F	S06W25	3645		190		
21 Apr	1507	1514	1520	M2.2	0.010	SF	N22E19	3646			120	
21 Apr	2144	2152	2157	M3.4	0.013	SN	S17W37	3638		380	120	

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
15 Apr	0002	0009	0013	C4.6			3639
15 Apr	0106	0118	0126	M1.7	SF	N34E68	3639
15 Apr	0251	0309	0323	C4.4			3643
15 Apr	0323	0333	0341	C6.3			3639
15 Apr	0411	0417	0424	C5.3	SF	N34E68	3639
15 Apr	0441	0446	0450	C5.5	SF	N28W30	3634
15 Apr	0530	0537	0547	C7.9	SF	N29W28	3634
15 Apr	0553	0557	0607		SF	S17E30	3636
15 Apr	0715	0732	0738	M1.0	1F	N30E57	3639
15 Apr	0750	0750	0803		SF	N26W29	3634
15 Apr	0825	0828	0832		SF	N26W28	3634
15 Apr	0838	0842	0847	M2.3	1B	N27W29	3634
15 Apr	0921	0932	0942	M1.2	SF	N29E60	3639

Flare List

Date	Time			X-ray	Optical		
	Begin	Max	End	Class	Imp/ Brtns	Location Lat CMD	Rgn #
15 Apr	0946	0947	0951		SF	S14E70	3643
15 Apr	1343	1358	1401	M1.1	1F	N28E56	3639
15 Apr	1401	1404	1406	M1.4	SN	N26W33	3634
15 Apr	1408	1417	1427	M2.2			3639
15 Apr	1647	1705	1713	C5.0			3639
15 Apr	1833	1838	1842	C2.6			3639
15 Apr	1905	1912	1918	C4.2	1N	N29W33	3634
15 Apr	1925	1932	1939	M4.0	1N	N28E56	3639
15 Apr	2007	2007	2010		SF	N29W33	3634
15 Apr	2041	2057	2126	C4.4	SF	N22E52	3639
15 Apr	2139	2143	2155	C5.2			3638
15 Apr	2218	2222	2226	C2.8			3634
15 Apr	2349	2355	0001	C3.9			3638
16 Apr	0058	0106	0115	C2.7			3639
16 Apr	1006	1015	1024	C3.9			3643
16 Apr	1527	1534	1538	C4.8			3639
16 Apr	1718	1729	1749	C5.3			3639
16 Apr	1748	1753	1846	M1.1	2N	S10E36	3645
17 Apr	0010	0017	0023	C2.8	SF	N14W11	3641
17 Apr	0101	0102	0106		SF	N29E60	3639
17 Apr	0313	0328	0344	C8.1	SF	N29E60	3639
17 Apr	0722	0730	0734	C8.8			3637
17 Apr	1339	1348	1355	C3.5	SF	S09E24	3643
17 Apr	1355	1404	1409	C3.7	SF	N35E33	3639
17 Apr	1545	1548	1552	C6.6			
17 Apr	1642	1648	1652	C5.2	SF	S17E22	3638
17 Apr	1800	1807	1813	C3.3			
17 Apr	1813	1820	1824	C4.6			
17 Apr	1943	1949	1954		SF	S12E30	3645
17 Apr	2000	2004	2012	C9.0	1F	S06E25	3643
17 Apr	2013	2021	2031	C4.3	SF	N35E30	3639
17 Apr	2152	2209	2307	M1.6	2N	S07E22	3643
17 Apr	2222	2222	2230		SF	S17E16	3638
17 Apr	2320	2325	2329	C7.8			3638
18 Apr	0218	0220	0225		SF	S12E27	3643
18 Apr	0232	0248	0253	M2.2	SF	S11E27	3643
18 Apr	0459	0504	0508		SF	S12E25	3643
18 Apr	0510	0512	0519		SF	S09E19	3645

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
18 Apr	0555	0609	0620	C7.3	SF	S09E19	3645
18 Apr	0606	0612	0621		SF	S09E20	3645
18 Apr	0717	0737	0809	M1.3	SF	S12E23	3643
18 Apr	1144	1151	1156	C8.9			3645
18 Apr	1616	1646	1702	C9.8	1N	S10E12	3645
18 Apr	1654	1705	1725		SF	S16E08	3638
18 Apr	1917	1921	1936		SF	S12E17	3647
18 Apr	1936	1958	2103		1N	S12E17	3647
18 Apr	1944	1945	1949		SF	S07E15	3645
18 Apr	1951	1953	1955		SF	S08E16	3645
18 Apr	2012	2016	2021	M1.6			3647
19 Apr	0105	0111	0120	C3.0			3639
19 Apr	0120	0127	0131	C3.5			3647
19 Apr	0137	0148	0151	C4.1			3647
19 Apr	0151	0157	0201	C4.1			3647
19 Apr	0213	0216	0218		SF	S13E14	3643
19 Apr	0223	0229	0231		SF	N20W58	3635
19 Apr	0244	0252	0309	C4.9			3635
19 Apr	B0405	U0409	A0411		SF	N20W58	3645
19 Apr	0440	0453	0503	M2.1			3647
19 Apr	B0453	U0503	0514		1F	S12E11	3647
19 Apr	B0453	U0453	0501		SF	S08E10	3645
19 Apr	0503	0503	0506		SF	N20W58	3635
19 Apr	0504	0504	0513		SF	S13E15	3643
19 Apr	0509	0509	0511		SF	N21W59	3635
19 Apr	1111	1120	1124	C4.9			3639
19 Apr	1253	1306	1323	M1.0			3647
19 Apr	1458	1504	1511	C4.4			3639
19 Apr	1528	1535	1540	C3.5			3645
19 Apr	1733	1743	1749	C4.7			3638
19 Apr	1918	1924	1929	C3.8			3639
19 Apr	2043	2051	2056	C3.9	SF	N19W66	3642
19 Apr	2215	2216	2223		SF	S16W06	3638
19 Apr	2252	2252	2303		SF	S17W12	3638
19 Apr	2335	2335	2337		SF	S08W03	3645
20 Apr	0057	0107	0113	C4.8	SN	S17W08	3638
20 Apr	0152	0155	0200		SF	S17W08	3638
20 Apr	0333	0339	0347	C2.7			3643

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
20 Apr	0620	0628	0642	C3.7			
20 Apr	0707	0712	0720		SF	N23W07	3639
20 Apr	0836	0849	0903	C3.9	SF	S21W36	3636
20 Apr	0911	0918	0923	C3.0			3639
20 Apr	1146	1152	1156	C3.7	SF	S17W15	3638
20 Apr	1301	1307	1315	C2.8			3645
20 Apr	B1522	1522	1533		SF	N20E31	3646
20 Apr	1537	1541	1547		SF	S07W19	3645
20 Apr	1618	1705	1831		1F	S07W19	3645
20 Apr	1635	1641	1646	C4.9	SF	S07W19	3645
20 Apr	1652	1706	1720	C7.5			3645
20 Apr	1756	1757	1800		SF	S18W18	3638
20 Apr	1813	1813	1816		SF	N28W11	3639
20 Apr	1821	1839	1857		SF	N28W11	3639
20 Apr	1832	1917	1951		1F	S07W20	3645
20 Apr	1908	1909	1918		SF	S18W24	3638
20 Apr	1952	2111	2250		1F	S07W22	3645
20 Apr	2046	2056	2105	C3.2	SF	S18W25	3638
20 Apr	2143	2150	2153	C4.3			3645
20 Apr	2153	2159	2209	C4.9			3645
20 Apr	2317	2319	2321		SF	S07W20	3645
21 Apr	0100	0113	0124	C5.7	SF	S09W23	3645
21 Apr	0425	0434	0439	C3.9	SF	S08W29	3638
21 Apr	0439	0446	0453	C3.8			3638
21 Apr	0713	0713	0716		SF	N23E24	3646
21 Apr	0727	U0736	A0805		SF	S06W27	3637
21 Apr	1035	U1219	1224		SF	N22E21	3646
21 Apr	1214	U1219	1224		SF	S18W32	3638
21 Apr	B1236	U1254	A1339	M1.0	1F	S06W25	3645
21 Apr	1408	1409	1446		SF	N21E20	3646
21 Apr	1507	1514	1520	M2.2	SF	N22E19	3646
21 Apr	1532	1533	1535		SF	N22E19	3646
21 Apr	B1618	U1621	A1627		SF	S27E68	
21 Apr	1628	1630	1633		SF	N22E19	3646
21 Apr	1716	1721	1739		SF	S09W31	3645
21 Apr	2042	2055	2110	C5.3	SF	S09W24	3647
21 Apr	2144	2152	2157	M3.4	SN	S17W37	3638
21 Apr	2306	2315	2337	C4.0	SF	S12W25	3645

Flare List

	Time				Optical		
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
21 Apr	2337	2345	2349	C3.7			

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 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								
08 Apr	N08W00	3	260	5	Cho	5	B								
09 Apr	N08W14	4	260	5	Cho	4	B								
10 Apr	N08W28	4	260	4	Hhx	4	A								
11 Apr	N08W38	2	260	4	Cko	6	B								
12 Apr	N07W51	1	240	3	Hax	3	A								
13 Apr	N08W64	1	180	3	Hax	4	A								
14 Apr	N08W77	1	120	2	Hax	2	A	1							
15 Apr	N05W91	1	60	2	Hsx	1	A								
								1	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 3

			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				
08 Apr	N28E04	359	10	2	Hsx	2	A	1							
09 Apr	N26W09	359	5		Axx	1	A								
10 Apr	N26W23	360	plage												
11 Apr	N26W37	1	plage												
12 Apr	N26W51	1	plage												
13 Apr	N26W65	2	plage												
14 Apr	N26W79	3	plage												
								2	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 359

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 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								
08 Apr	S07E44	319	160	8	Dsi	6	BG								
09 Apr	S07E30	320	120	8	Dso	6	BG								
10 Apr	S08E19	317	130	8	Dso	6	BG								
11 Apr	S08E05	319	120	7	Cso	5	B	1			1				
12 Apr	S08W10	320	110	5	Cso	6	B								
13 Apr	S08W23	320	110	6	Cso	8	B								
14 Apr	S08W38	322	80	4	Cso	2	B				1				
15 Apr	S10W51	322	80	2	Hsx	1	A								
16 Apr	S09W65	323	80	3	Cso	3	B								
17 Apr	S07W78	322	80	4	Cso	3	B								
18 Apr	S08W92	323	80	4	Cso	3	B								
								4	0	0	2	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 319

			Region 3634												
08 Apr	N27E54	309	10	2	Axx	2	A	1							
09 Apr	N27E40	310	10	2	Axx	2	A	1							
10 Apr	N26E23	313	10	3	Bxo	2	B	2			2				
11 Apr	N26E09	315	120	6	Dsi	10	BG				1				
12 Apr	N26W05	315	120	7	Dsi	13	B	3			2				
13 Apr	N27W17	314	280	9	Dki	17	B	1			1				
14 Apr	N26W30	314	290	9	Dki	18	B				1				
15 Apr	N25W42	313	300	13	Ehi	23	B	4	2		6	2			
16 Apr	N26W56	314	310	9	Dhi	9	B								
17 Apr	N27W70	314	290	11	Eki	8	B								
18 Apr	N28W82	313	220	10	Dso	6	B								
								12	2	0	13	2	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 315

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 3635													
10 Apr	N19E48	289	10	7	Bxo	2	B								
11 Apr	N20E38	286	30	10	Cso	8	B	5			2				
12 Apr	N21E26	284	50	10	Csi	9	B	1							
13 Apr	N23E13	284	30	10	Cao	7	B				1				
14 Apr	N21W00	284	20	6	Cso	5	B								
15 Apr	N22W14	285	10	5	Bxo	3	B								
16 Apr	N22W28	286	10	5	Axx	3	A								
17 Apr	N22W42	286	10	4	Axx	3	A								
18 Apr	N22W56	287	20	3	Cro	3	B								
19 Apr	N22W70	288	10	4	Cro	2	B	1			3				
20 Apr	N19W88	292	plage												
								7	0	0	6	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 284

		Region 3636													
11 Apr	S21E72	252	30	2	Hsx	2	A	3							
12 Apr	S21E58	252	50	3	Hsx	2	A				4				
13 Apr	S21E46	251	100	5	Cso	5	B								
14 Apr	S21E33	251	80	3	Cso	4	B	1			1				
15 Apr	S18E20	251	90	4	Cso	3	B				1				
16 Apr	S20E08	250	90	4	Cso	3	B								
17 Apr	S20W05	249	70	3	Cso	4	B								
18 Apr	S21W18	249	60	3	Cao	4	B								
19 Apr	S21W31	249	30	3	Cao	3	B								
20 Apr	S21W44	249	20	23	Cro	3	B	1			1				
21 Apr	S21W58	250	10	1	Axx	1	A								
								5	0	0	7	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 249

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 3637												
12 Apr	S10E81	230	plage					3							
13 Apr	S11E66	231	20	4	Cro	3	B	3	1						
14 Apr	S12E53	231	40	4	Cso	4	B		1			1			
15 Apr	S12E39	232	10	4	Bxo	2	B								
16 Apr	S13E27	231	20	4	Dro	2	BD								
17 Apr	S13E13	231	20	4	Cro	4	B	1							
18 Apr	S14E01	230	10	6	Bxo	6	B								
19 Apr	S15W13	231	10	1	Axx	1	A								
20 Apr	S13W28	233	10	4	Bxo	6	B								
21 Apr	S13W43	234	10	2	Axx	2	A				1				
								7	2	0	1	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 230

			Region 3638												
13 Apr	S17E70	227	30	1	Hsx	1	A	1							
14 Apr	S17E58	226	30	1	Hsx	1	A	1							
15 Apr	S17E44	227	80	3	Cao	4	B	2							
16 Apr	S17E32	226	80	4	Cai	8	B								
17 Apr	S17E15	228	30	7	Cri	5	B	2			2				
18 Apr	S18E03	228	30	5	Cri	5	B		1		1				
19 Apr	S18W08	226	60	4	Cai	13	B	1			2				
20 Apr	S18W22	227	70	5	Cai	12	B	3			6				
21 Apr	S18W35	227	80	5	Cri	11	B	2	2		3				
								12	3	0	14	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 228

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 3639												
14 Apr	N29E62	222	30	5	Cao	7	B	10			8				
15 Apr	N30E48	223	240	11	Eai	14	BG	6	6		4	3			
16 Apr	N29E36	220	310	11	Eki	19	BGD	3							
17 Apr	N29E22	222	320	11	Eki	16	BGD	3			4				
18 Apr	N29E11	220	290	12	Eai	16	BG								
19 Apr	N29W02	220	300	12	Ekc	19	BG	4							
20 Apr	N29W14	219	240	12	Eac	19	BG	1			3				
21 Apr	N28W29	221	260	12	Eki	22	BG								
								27	6	0	19	3	0	0	0

Still on Disk.
Absolute heliographic longitude: 220

			Region 3640												
14 Apr	N21E58	226	10	1	Axx	1	A								
15 Apr	N21E44	227	plage												
16 Apr	N21E30	228	plage												
17 Apr	N21E16	228	plage												
18 Apr	N21E02	229	plage												
19 Apr	N21W12	230	plage												
20 Apr	N21W26	231	plage												
21 Apr	N21W40	232	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 229

			Region 3641												
14 Apr	N11E13	271	70	5	Dao	8	B								
15 Apr	N11W01	272	90	7	Dao	19	B								
16 Apr	N12W14	271	110	9	Dao	6	B								
17 Apr	N12W28	272	60	8	Dao	3	B	1			1				
18 Apr	N09W45	276	30	1	Hsx	1	A								
19 Apr	N09W59	277	10	1	Axx	1	A								
20 Apr	N10W72	277	20	1	Hrx	1	A								
21 Apr	N10W87	278	10	1	Axx	1	A								
								1	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 272

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 3642												
15 Apr	N18W11	282	10	4	Bxo	5	B								
16 Apr	N18W25	283	10	4	Bxo	5	B								
17 Apr	N18W39	283	plage												
18 Apr	N18W53	284	plage												
19 Apr	N18W67	285	plage					1			1				
20 Apr	N18W81	286	plage												
								1	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 282

			Region 3643												
15 Apr	S10E63	208	100	6	Dai	8	B	1			1				
16 Apr	S13E48	210	100	7	Dai	6	BG	1							
17 Apr	S13E34	210	130	16	Fai	20	B	2	1		1	1	1		
18 Apr	S12E17	213	160	10	Dai	29	B		1		4				
19 Apr	S13E05	213	130	10	Dai	18	B				2				
20 Apr	S13W03	208	90	10	Cro	12	B	1							
21 Apr	S13W16	208	80	7	Cro	10	B								
								5	2	0	8	1	1	0	0

Still on Disk.
Absolute heliographic longitude: 208

			Region 3644												
16 Apr	N12E72	183	80	4	Dso	2	B								
17 Apr	N12E60	184	80	4	Dso	2	B								
18 Apr	N12E49	182	120	5	Dso	2	B								
19 Apr	N13E37	181	120	5	Dso	2	B								
20 Apr	N13E23	182	140	5	Dso	2	B								
21 Apr	N13E10	181	150	6	Dso	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 181

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 3645												
16 Apr	S10E38	220	plage						1				1		
17 Apr	S10E24	220	30	5	Cai	8	BG				1				
18 Apr	S09E10	221	140	7	Dai	12	B	3			5	1			
19 Apr	S09W04	222	210	8	Dai	16	B	1			3				
20 Apr	S09W20	225	240	10	Dai	18	B	5			3	3			
21 Apr	S09W34	226	290	10	Dki	20	BG	2	1		3	1			
								11	2	0	15	5	1	0	0

Still on Disk.
Absolute heliographic longitude: 222

			Region 3646												
17 Apr	N21E59	185	30	8	Cso	3	B								
18 Apr	N21E50	181	70	8	Cro	8	B								
19 Apr	N21E38	180	20	8	Bxo	5	B								
20 Apr	N21E28	177	10	2	Bxo	3	B				1				
21 Apr	N21E14	178	30	5	Cao	8	B				6				
								0	0	0	7	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 178

			Region 3647												
18 Apr	S10E12	218	140	4	Dac	10	BD		1		1	1			
19 Apr	S13W00	218	160	5	Dac	9	BD	3	2			1			
20 Apr	S13W15	220	200	6	Dac	10	BD								
21 Apr	S13W28	219	220	6	Dac	12	BD	1			1				
								4	3	0	2	2	0	0	0

Still on Disk.
Absolute heliographic longitude: 218

			Region 3648												
18 Apr	N19E39	192	10	3	Bxo	2	B								
19 Apr	N19E25	193	plage												
20 Apr	N18E12	193	10	1	Axx	1	A								
21 Apr	N18W02	193	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 193

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 3649												
19 Apr	N16W24	242	20	5	Bxi	8	B								
20 Apr	N15W39	244	20	1	Axx	1	A								
21 Apr	N15W53	245	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 242

			Region 3650												
19 Apr	S11E21	197	30	3	Cro	4	B								
20 Apr	S11E05	200	120	6	Cai	11	B								
21 Apr	S11W08	199	70	6	Cai	8	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 200

			Region 3651												
19 Apr	N13E25	192	10	2	Bxo	2	B								
20 Apr	N13E11	194	10	1	Axx	1	A								
21 Apr	N13W02	193	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 193

			Region 3652												
21 Apr	N15E31	160	60	4	Cai	7	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 160

			Region 3653												
21 Apr	N03E60	132	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 132

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 3654													
21 Apr	S07E60	132	10	2	Bxo	3	B	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 132

		Region 3655													
21 Apr	S27E62	130	20	3	Cro	3	B	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 130

		Region 3656													
21 Apr	S12E72	120	20	2	Hsx	1	A	0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 120

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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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