Space Weather Highlights
22 April - 28 April 2024

SWPC PRF 2539
29 April 2024

Solar activity reached high levels on 22 Apr and 24 Apr. Moderate levels were observed on 23 Apr, 25 Apr, and 27 Apr. Finally, low levels were observed on 26 Apr and 28 Apr. In total, there were 20 low-level M-class events (R1-Minor) over the past week. The strongest was an M3.6 flare at 23/0319 UTC from Region 3654 (S07, L=135, class/area=Ekc/310 on 28 Apr). Of the 24 numbered active regions observed on the visible disk, 6 produced M-class activity.

Type II radio events were observed on the 22 Apr, 23 Apr, and 24 Apr. The 23 Apr event was associated with an M2.9 flare at 23/1744 UTC from Region 3645 (S09, L=226, class/area=Dki/290 on 21 Apr). The 24 Apr event was associated with a C9.4 flare at 24/1410 UTC from Region 3638 (S18, L=227, class/area=Cri/080 on 21 Apr) and was also accompanied by a Type IV radio sweep. The associated CMEs are likely to have been associated with geomagnetic activity observed at Earth over 26 Apr. The region produced numerous, small, slow-moving CMEs that were primarily directed south of the ecliptic plane over the week.

An additional CME first observed ~27/1100 UTC in SOHO/LASCO C2 imagery, which originated from the vicinity of Region 3654, was analyzed and modeled. The results suggested a component along the Sun-Earth line with effects likely to be observed around 01 May.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 25 Apr. The remainder of the summary was at normal to moderate levels.

Geomagnetic field activity was ranged from quiet to G1 (Minor) geomagnetic storm levels. G1 levels observed on 26 Apr are thought to be associated with transient influence from activity that occurred on the Sun several days earlier. Unsettled conditions on 27 Apr were observed the Bz component of the IMF turned northward. Active conditions were reached early on 28 Apr due to a positive polarity CH HSS. The remainder of the summary period was at quiet to unsettled levels.

Space Weather Outlook
29 April - 25 May 2024

Solar activity is expected to be at low levels with a chance for M-class (R1-R2/Minor-Moderate) activity over the outlook period. Primarily contributors to flare probability include Region 3654 currently in the western hemisphere and a collective of active and adjacent regions in the southern hemisphere which are due to return to the visible disk over 08-10 May.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be normal to moderate levels over the outlook period.

Geomagnetic field activity is expected to range from quiet to active levels. Active levels on the 01-02 May are anticipated due to likely influence from combined effects of a CH HSS and transient effects of a CME that left the Sun on 27 Apr. Active levels on 23-24 May and unsettled levels on 29-30 Apr and 03-07 May are expected due to recurrent CH HSS features. 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
22 April	227	283	1280	C3.3	8	7	0	19	3	0	0	0
23 April	219	282	1470	C3.0	9	3	0	21	4	0	0	0
24 April	199	283	1500	C2.6	11	5	0	12	1	1	0	0
25 April	167	196	1070	C1.6	9	3	0	4	0	0	0	0
26 April	153	154	600	C2.0	6	0	0	6	0	0	0	0
27 April	153	126	500	C1.8	2	2	0	10	0	0	0	0
28 April	140	119	510	C1.3	7	0	0	13	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
22 April	9.7e+04	1.6e+04	1.6e+07
23 April	6.4e+04	1.6e+04	3.1e+07
24 April	2.3e+05	1.7e+04	4.4e+07
25 April	2.0e+05	1.8e+04	7.2e+07
26 April	2.1e+05	1.7e+04	3.5e+06
27 April	9.1e+04	1.7e+04	1.7e+06
28 April	1.1e+05	1.8e+04	4.5e+06

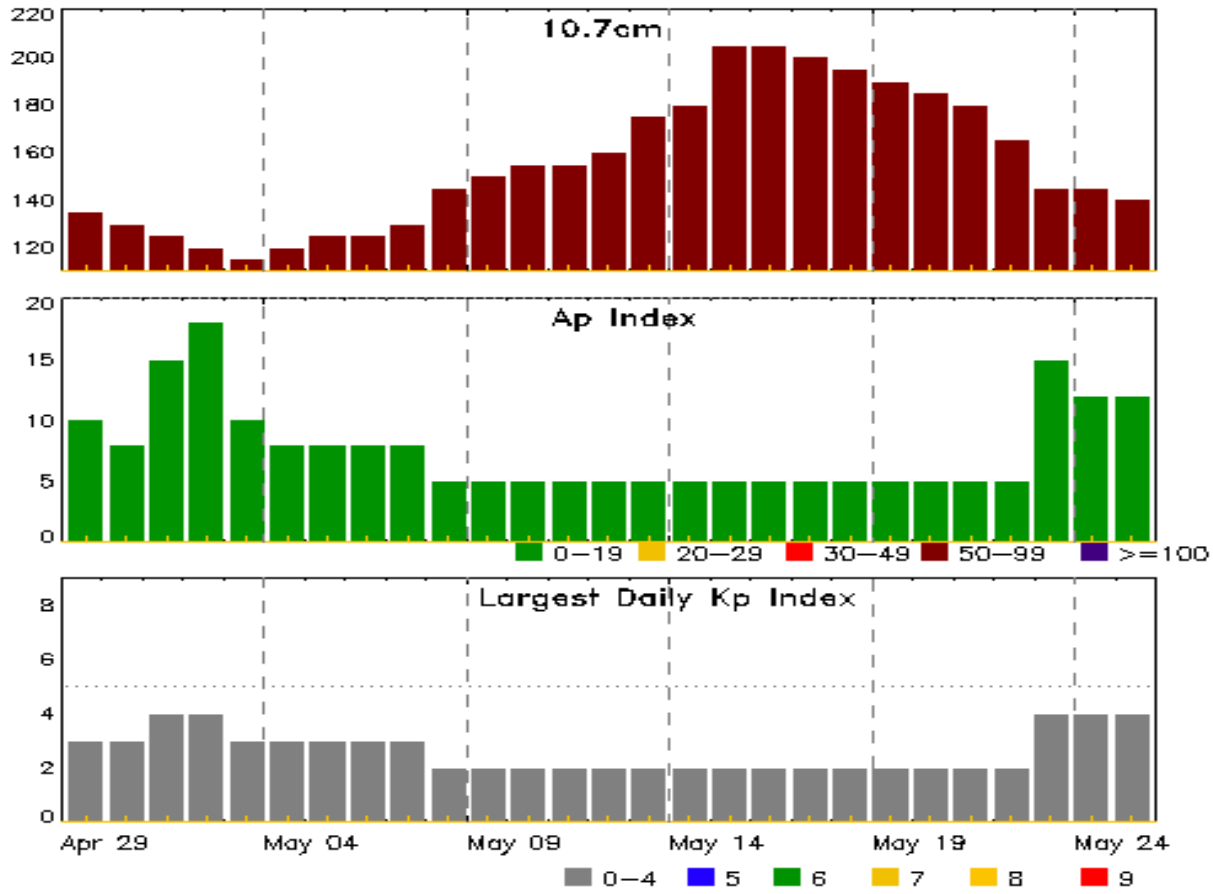
Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
22 April	0	2-3-3-3-3-0-0-0	13	3-3-4-3-3-1-1-2	9	2-3-3-2-2-2-2-2
23 April	9	0-0-0-0-2-3-2-3	11	2-2-2-4-4-0-2-1	8	2-1-2-2-2-2-3-2
24 April	4	1-0-0-2-2-2-2-0	1	1-1-0-0-0-0-1-0	4	2-0-1-1-1-1-0-1
25 April	3	0-0-0-1-2-2-1-1	0	0-0-0-0-0-0-0-0	3	1-0-0-1-1-1-1-1
26 April	11	1-2-3-2-3-4-2-2	30	2-3-5-4-5-6-2-2	19	2-2-3-3-4-5-3-2
27 April	12	3-3-2-1-3-3-3-2	14	3-2-2-1-5-2-3-2	12	3-3-2-1-3-3-3-3
28 April	7	3-2-2-1-1-2-2-1	5	3-2-1-1-1-0-1-1	22	4-2-1-1-1-1-1-1

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
22 Apr 2207	ALERT: Type II Radio Emission	22/2119
23 Apr 0357	SUMMARY: 10cm Radio Burst	23/0313 - 0315
23 Apr 1916	ALERT: Type II Radio Emission	23/1710
24 Apr 1432	ALERT: Type II Radio Emission	24/1415
24 Apr 1500	ALERT: Type IV Radio Emission	24/1440
25 Apr 1059	ALERT: Electron 2MeV Integral Flux >= 1000pfu	25/1045
26 Apr 0451	WARNING: Geomagnetic K = 4	26/0500 - 1500
26 Apr 1406	EXTENDED WARNING: Geomagnetic K = 4	26/0500 - 2359
26 Apr 1459	ALERT: Geomagnetic K = 4	
26 Apr 1648	WARNING: Geomagnetic K = 5	26/1646 - 2359
26 Apr 1651	ALERT: Geomagnetic K = 5	
26 Apr 2300	EXTENDED WARNING: Geomagnetic K = 4	26/0500 - 27/1200
27 Apr 1416	WARNING: Geomagnetic K = 4	27/1415 - 28/0600
28 Apr 0232	ALERT: Geomagnetic K = 4	

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
29 Apr	135	10	3	13 May	175	5	2
30	130	8	3	14	180	5	2
01 May	125	15	4	15	205	5	2
02	120	18	4	16	205	5	2
03	115	10	3	17	200	5	2
04	120	8	3	18	195	5	2
05	125	8	3	19	190	5	2
06	125	8	3	20	185	5	2
07	130	8	3	21	180	5	2
08	145	5	2	22	165	5	2
09	150	5	2	23	145	15	4
10	155	5	2	24	145	12	4
11	155	5	2	25	140	12	4
12	160	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
22 Apr	0758	0813	0830	M1.0	0.016	SF	S07W36	3645				
22 Apr	1313	1335	1417	M1.6	0.046	1N	S10W39	3645				
22 Apr	1446	1455	1508	M1.1	0.003			3645				
22 Apr	1508	1519	1532	M1.6	0.007	1F	N23E07	3646				
22 Apr	1541	1550	1558	M2.8	0.003	SN	S11E67	3656	630			
22 Apr	1626	1630	1636	M1.0	0.006			3656				
22 Apr	2105	2116	2124	M1.5	0.002	1N	S17W48	3638	300			3
23 Apr	0306	0319	0335	M3.6	0.040			3654	140	240		
23 Apr	0807	0821	0829	M3.0	0.021	1B	S05E41	3654	120			
23 Apr	1733	1744	1752	M2.9	0.025	SF	S08W59	3645	350			2
24 Apr	0013	0029	0038	M1.7	0.022	SF	S20W62	3638				
24 Apr	0230	0239	0244	M1.8	0.009			3638	180			
24 Apr	1207	1214	1239	M1.4	0.019			3645				
24 Apr	2227	2250	2254	M1.1	0.005			3647				
24 Apr	2254	2259	2305	M2.0	0.012			3638				
25 Apr	0140	0149	0201	M1.0	0.013			3645				
25 Apr	1311	1321	1327	M1.0	0.007			3638	1000			
25 Apr	1703	1712	1716	M1.3	0.004			3638				
27 Apr	1223	1235	1244	M2.1	0.017	SN	S07W15	3654				
27 Apr	2129	2140	2149	M3.0	0.025			3654				

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
22 Apr	0030	0039	0113	C6.5	SF	S12W22	3647
22 Apr	0305	0317	0320	C4.9			3636
22 Apr	0320	0325	0329	C5.5			
22 Apr	0324	0326	0330		SF	S26W60	3636
22 Apr	0342	0342	0346		SF	S25E62	3655
22 Apr	0527	0537	0542	C8.9			3638
22 Apr	0758	0813	0830	M1.0	SF	S07W36	3645
22 Apr	0938	0940	0949		SF	N27W35	3639
22 Apr	1032	1036	1046		SF	N23E09	3646
22 Apr	1046	1048	1054		SF	S26E57	3655
22 Apr	1059	1101	1107		SF	S26E57	3655

Flare List

Date	Time			X-ray	Optical		
	Begin	Max	End	Class	Imp/ Brtns	Location Lat CMD	Rgn #
22 Apr	1116	1117	1134		SF	S26E57	3655
22 Apr	1207	1212	1224	C5.9			
22 Apr	1313	1335	1417	M1.6	1N	S10W39	3645
22 Apr	B1322	1333	1358		SF	S07W34	3647
22 Apr	B1331	U1343	A1352		SF	S12E73	3656
22 Apr	B1332	1336	1344		SF	S11E68	3656
22 Apr	1446	1455	1508	M1.1			3645
22 Apr	1508	1519	1532	M1.6	1F	N23E07	3646
22 Apr	1541	1550	1558	M2.8	SN	S11E67	3656
22 Apr	1545	1546	1549		SF	S17W43	3638
22 Apr	1547	U1609	A1613		SF	N16E25	3652
22 Apr	1605	1611	1612		SF	N15E24	3652
22 Apr	1626	1630	1636	M1.0			3656
22 Apr	1840	1844	1849		SF	N20W61	3649
22 Apr	1913	1918	1932	C4.8			
22 Apr	2014	2020	2024	C4.5			
22 Apr	2105	2116	2124	M1.5	1N	S17W48	3638
22 Apr	2240	2254	2259	C8.1	SF	S07W47	3645
22 Apr	2358	2358	2359		SF	S18W50	3638
23 Apr	B0000	U0000	0005		SF	S07W47	3645
23 Apr	0024	0026	0029		SF	S11W53	3645
23 Apr	0119	0125	0127		SF	S07W47	3645
23 Apr	0306	0319	0335	M3.6			3654
23 Apr	B0421	U0423	A0429		SF	S10W54	3645
23 Apr	0659	0704	0710	C3.5	SF	S22W58	3636
23 Apr	0731	0741	0750	C5.4			3638
23 Apr	0737	0741	0752		SF	S05E42	3654
23 Apr	0750	0800	0805		SF	S21W58	3638
23 Apr	0807	0821	0829	M3.0	1B	S05E41	3654
23 Apr	0819	U0828	A0831		SF	S21W58	3638
23 Apr	0845	U0848	0849		SF	N15E13	3652
23 Apr	0945	0951	1004	C4.6			3638
23 Apr	1004	1009	1021	C4.4			3645
23 Apr	1237	1245	1252	C5.0			
23 Apr	1333	1343	1408	C7.8	1N	S07E39	3654
23 Apr	1401	1401	1417		SF	N14E11	3652
23 Apr	1446	1447	1458		SF	N22W09	3646
23 Apr	1532	1540	1552		SF	S11W51	3647

Flare List

Date	Time Begin	Time Max	Time End	X-ray Class	Optical Imp/ Brtns	Optical Location Lat CMD	Optical Rgn #
23 Apr	1601	1609	1616		SF	S05W55	3645
23 Apr	1648	1648	1655		SF	S07E36	3654
23 Apr	1700	1701	1706		SF	S12W45	3643
23 Apr	1711	1711	1724		SF	S07E36	3654
23 Apr	1725	1728	1756	M2.9	SF	S08W59	3638
23 Apr	1735	1743	1814		1N	S16W58	3638
23 Apr	1747	1747	1750		SF	N22W12	3646
23 Apr	1752	1755	1800		SF	S11W45	3643
23 Apr	1819	1827	1838		SF	S09W31	3650
23 Apr	2000	2002	2007		SF	N22W12	3646
23 Apr	2058	2111	2121	C7.4	1F	S05W59	3645
23 Apr	2132	2139	2149	C6.8			
23 Apr	2250	2254	2258	C6.2			3646
24 Apr	0013	0029	0038	M1.7			3638
24 Apr	0017	0017	0023		SF	N15E05	3652
24 Apr	0019	0025	0107		2F	S08W51	3645
24 Apr	B0046	U0046	A0109		SF	S20W62	3638
24 Apr	B0046	U0055	A0132		SF	S11W63	3645
24 Apr	0230	0239	0244	M1.8			3638
24 Apr	0332	0338	0345	C4.7			3654
24 Apr	0357	0413	0430	C6.2			3650
24 Apr	0433	0440	0446	C7.4			3646
24 Apr	B0436	U0440	0447		SF	N22W16	3646
24 Apr	0438	0440	0449		SF	N20W19	3646
24 Apr	0617	0617	0624	C4.2	SF	S17W65	3638
24 Apr	0732	0733	0735		SF	S12W52	3647
24 Apr	0735	0741	0746	C6.9	SF	S06W64	3645
24 Apr	B0851	U0851	0900		SF	N23W19	3646
24 Apr	0929	0943	1000	C5.0			3648
24 Apr	1207	1214	1239	M1.4			3645
24 Apr	1347	1348	1350		SF	S20W26	
24 Apr	1402	1410	1420	C9.4	1F	S18W70	3638
24 Apr	1447	1450	1451		SF	S08W69	3645
24 Apr	1456	1506	1508		SF	N19W43	3648
24 Apr	1539	1543	1554	C3.5			3647
24 Apr	1915	1923	1936	C4.0			3645
24 Apr	1951	2007	2027	C7.9			3638
24 Apr	2212	2220	2227	C7.4			3638

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
24 Apr	2227	2250	2254	M1.1			3647
24 Apr	2254	2259	2305	M2.0			3638
25 Apr	0042	0043	0050		SF	S18W70	3647
25 Apr	0112	0117	0128	C4.6			3648
25 Apr	0128	0135	0140	C8.7			3645
25 Apr	0140	0149	0201	M1.0			3645
25 Apr	0645	0646	0649		SF	S13E07	3657
25 Apr	0810	0814	0818	C2.8			3643
25 Apr	0903	0903	0906		SF	N14W49	3648
25 Apr	1155	1202	1206	C2.6			3647
25 Apr	1225	1235	1240	C4.2			
25 Apr	1311	1321	1327	M1.0			3638
25 Apr	1426	1431	1437	C3.7			3638
25 Apr	1626	1632	1639	C3.2			3648
25 Apr	1703	1712	1716	M1.3			3638
25 Apr	1803	1807	1812	C9.4			3638
25 Apr	2300	2309	2328		SF	S07E07	3654
25 Apr	2358	0009	0024	C5.1			3638
26 Apr	0057	0105	0117	C3.5			3638
26 Apr	0629	0629	0638	C6.6	SF	N17W64	3639
26 Apr	0725	0726	0736		SF	N17W64	3639
26 Apr	0741	0748	0758	C3.9			3647
26 Apr	1121	1128	1133	C2.5			
26 Apr	1442	1444	1449		SF	S13W16	3657
26 Apr	1928	1935	1940	C4.9			
26 Apr	2136	2141	2148	C4.9			
26 Apr	2258	2258	2305		SF	S07W06	3654
26 Apr	2337	2338	A2359		SF	S06W10	3654
26 Apr	2338	2339	2346		SF	S07W05	3654
27 Apr	0000	0000	0048	C3.3	SF	S06W10	3654
27 Apr	0537	0537	0547		SF	S07W10	3654
27 Apr	0917	0918	0930		SF	S10W09	3654
27 Apr	1217	1237	1259	M2.1	SN	S07W15	3654
27 Apr	1438	1438	1441		SF	S21W64	3658
27 Apr	1516	1517	1525		SF	N19W87	3648
27 Apr	1542	1544	1552		SF	N19W85	3648
27 Apr	1614	1626	1638	C4.9	SF	N19W85	3648
27 Apr	1757	1800	1803		SF	S07W21	3654

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
27 Apr	2129	2140	2149	M3.0			3654
27 Apr	2307	2310	2316		SF	S22W67	3658
28 Apr	1111	1113	1119		SF	S07W25	3654
28 Apr	1212	1235	1253	C7.8	SF	S06W28	3654
28 Apr	1305	1315	1330		SF	S07W28	3654
28 Apr	1428	1436	1447		SF	S11W25	3654
28 Apr	1542	1601	1618	C6.3	SF	S07W32	3654
28 Apr	1827	1827	1834		SF	S07W31	3654
28 Apr	1927	1930	1948		SF	S06W33	3654
28 Apr	2006	2020	2032	C8.3	SF	S06W35	3654
28 Apr	2013	2013	2016		SF	N10E53	3660
28 Apr	2112	2120	2126	C2.4			3654
28 Apr	2126	2130	2135	C2.5	SF	S06W34	3654
28 Apr	2206	2218	2226	C2.6	SF	S22W77	3658
28 Apr	2232	2235	2245		SF	S07W33	3654
28 Apr	2251	2306	2313	C7.7	SF	S08W31	3654

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 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								
22 Apr	S21W70	248	10	1	Axx	1	A	1			1				
23 Apr	S21W84	249	plage					1			1				
								7	0	0	9	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 249

			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				
22 Apr	S13W55	233	10	2	Bxo	2	B								
23 Apr	S13W69	234	plage												
24 Apr	S13W83	235	plage												
								7	2	0	1	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 230

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 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				
22 Apr	S18W51	229	10	5	Bxo	9	B	1	1		2	1			
23 Apr	S18W65	230	10	6	Bxo	10	B	2	1		2	1			
24 Apr	S17W74	233	30	5	Cai	6	B	4	3		2	1			
								19	8	0	20	3	0	0	0

Died on Disk.
Absolute heliographic longitude: 228

			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								
22 Apr	N28W44	222	200	12	Eai	12	BG				1				
23 Apr	N28W58	223	160	12	Eai	9	BG								
24 Apr	N29W66	217	80	12	Eao	4	B								
25 Apr	N30W78	217	20	2	Cao	2	B								
26 Apr	N30W90	215	10	1	Axx	1	A	1			2				
								28	6	0	22	3	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 220

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 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												
22 Apr	N21W55	233	plage												
23 Apr	N21W69	234	plage												
24 Apr	N21W83	235	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
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

Crossed West Limb.
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 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								
22 Apr	S13W32	210	20	7	Cro	7	B								
23 Apr	S13W46	211	10	4	Bxo	6	B				2				
24 Apr	S12W57	209	240	12	Eac	16	BG								
25 Apr	S12W72	211	plage					1							
26 Apr	S12W87	212	plage												
								6	2	0	10	1	1	0	0

Crossed West Limb.
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								
22 Apr	N14W04	182	150	7	Dao	3	B								
23 Apr	N13W18	183	80	7	Dao	6	B								
24 Apr	N13W21	180	60	6	Hsx	2	A								
25 Apr	N13W42	181	40	6	Hsx	2	A								
26 Apr	N13W57	182	40	6	Hsx	2	A								
27 Apr	N13W70	182	10	3	Bxo	2	B								
28 Apr	N13W83	182	10	2	Bxo	2	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 182

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	1	1		3	1			
22 Apr	S09W50	228	260	10	Dkc	18	BG	1	3		2	1			
23 Apr	S08W64	229	250	10	Dkc	17	BG	2			6	1			
24 Apr	S08W71	230	260	10	Dkc	15	BG	2	1		3		1		
25 Apr	S08W84	223	220	10	Dai	12	B	1	1						
								16	7	0	26	7	2	0	0

Crossed West Limb.
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				
22 Apr	N21W01	179	100	7	Cai	14	B		1		1	1			
23 Apr	N21W15	180	200	9	Dai	18	BG	1			3				
24 Apr	N21W20	179	230	10	Dai	12	B	1			3				
25 Apr	N21W40	179	130	10	Dao	9	B								
26 Apr	N21W53	178	90	10	Cao	5	B								
27 Apr	N22W61	173	30	2	Cao	2	B								
28 Apr	N22W74	173	10	1	Axx	1	A								
								2	1	0	14	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 179

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 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				
22 Apr	S13W44	222	200	6	Dac	17	BG	1			2				
23 Apr	S13W58	223	190	7	Dac	20	BG				1				
24 Apr	S14W61	220	140	7	Dai	12	B	1	1		1				
25 Apr	S13W82	221	120	6	Dac	8	B	1			1				
26 Apr	S13W92	217	plage					1							
								8	4	0	7	2	0	0	0

Crossed West Limb.
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								
22 Apr	N18W16	194	plage												
23 Apr	N18W30	195	10	4	Bxo	5	B								
24 Apr	N18W38	197	70	9	Dai	11	BG	1			1				
25 Apr	N18W60	199	80	10	Dai	8	BG	2			1				
26 Apr	N18W72	197	80	9	Dri	6	BG								
27 Apr	N18W85	197	10	2	Bxo	2	B	1			3				
								4	0	0	5	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 193

			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												
22 Apr	N15W68	246	20	4	Cso	3	B				1				
23 Apr	N16W81	246	20	4	Cso	3	B								
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 242

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 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								
22 Apr	S10W23	201	100	6	Cai	8	B								
23 Apr	S11W37	202	110	8	Cai	12	B				1				
24 Apr	S11W45	204	10	6	Bxo	2	B	1							
25 Apr	S11W59	198	plage												
26 Apr	S11W73	198	plage												
27 Apr	S11W87	199	plage												
								1	0	0	1	0	0	0	0

Crossed West Limb.
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												
22 Apr	N15W17	195	plage												
23 Apr	N15W31	196	plage												
24 Apr	N15W45	197	plage												
25 Apr	N09W49	186	plage												
26 Apr	N09W63	187	plage												
27 Apr	N09W76	188	plage												
28 Apr	N09W90	189	plage												
								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 3652												
21 Apr	N15E31	160	60	4	Cai	7	B								
22 Apr	N15E17	161	120	6	Dao	6	B				2				
23 Apr	N15E02	163	120	9	Dso	5	B				2				
24 Apr	N14W05	164	80	8	Cso	5	B				1				
25 Apr	N14W26	165	80	2	Hsx	1	A								
26 Apr	N14W42	167	70	2	Hsx	1	A								
27 Apr	N14W57	169	70	2	Hsx	1	A								
28 Apr	N14W70	169	50	2	Hsx	2	A								
								0	0	0	5	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 163

			Region 3653												
21 Apr	N03E60	132	10	1	Axx	1	A								
22 Apr	N02E45	133	10	1	Axx	1	A								
23 Apr	N02E30	135	plage												
24 Apr	N03E15	136	0		Axx	1	A								
25 Apr	N03W00	139	plage												
26 Apr	N03W15	140	plage												
27 Apr	N03W30	142	plage												
28 Apr	N03W45	144	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 139

			Region 3654												
21 Apr	S07E60	132	10	2	Bxo	3	B								
22 Apr	S09E45	133	20	1	Cro	2	B								
23 Apr	S08E31	134	160	8	Dai	13	B	1	2		3	2			
24 Apr	S08E25	134	130	11	Eac	18	B	1							
25 Apr	S08E06	133	210	11	Eai	12	BG				1				
26 Apr	S08W08	133	160	12	Eai	19	BG				3				
27 Apr	S08W23	135	230	13	Esi	18	BG	1	2		5				
28 Apr	S07W36	135	310	15	Ekc	25	BGD	6			11				
								9	4	0	23	2	0	0	0

Still on Disk.
Absolute heliographic longitude: 133

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 3655												
21 Apr	S27E62	130	20	3	Cro	3	B	1			1				
22 Apr	S28E50	127	30	7	Cro	6	B				4				
23 Apr	S28E36	129	130	8	Dao	4	B								
24 Apr	S28E30	129	120	11	Eso	5	B								
25 Apr	S27E11	128	100	9	Dso	4	B								
26 Apr	S27W03	128	60	9	Hsx	1	A								
27 Apr	S26W20	132	60	2	Hax	1	A								
28 Apr	S26W33	132	60	2	Hsx	1	A								
								1	0	0	5	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 128

			Region 3656												
21 Apr	S12E72	120	20	2	Hsx	1	A								
22 Apr	S12E60	118	10	1	Bxo	2	B		2		3				
23 Apr	S12E46	119	10	1	Cro	3	B								
24 Apr	S12E42	117	20	3	Cro	5	B								
25 Apr	S12E20	119	10	1	Axx	1	A								
26 Apr	S12E07	118	10	1	Axx	1	A								
27 Apr	S12W07	119	plage												
28 Apr	S12W21	120	plage												
								0	2	0	3	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 118

			Region 3657												
22 Apr	S11E31	146	10	3	Bxo	2	B								
23 Apr	S12E17	147	10	2	Bxo	1	B								
24 Apr	S12E10	149	20	7	Cro	7	B								
25 Apr	S13W05	144	30	7	Bxo	3	B				1				
26 Apr	S15W19	144	10	2	Bxo	3	B				1				
27 Apr	S15W32	144	10	2	Bxo	3	B								
28 Apr	S14W46	145	10	1	Axx	1	A								
								0	0	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 144

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 3658												
24 Apr	S21W32	183	10	2	Bxo	2	B								
25 Apr	S21W47	186	20	3	Cro	3	B								
26 Apr	S23W60	185	60	6	Dro	4	B								
27 Apr	S23W71	183	50	6	Cro	6	B				2				
28 Apr	S22W84	183	50	3	Cao	4	B	1			1				
								1	0	0	3	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 183

			Region 3659												
25 Apr	S13E34	105	10	1	Axx	1	A								
26 Apr	S13E20	105	10	1	Axx	1	A								
27 Apr	S13E06	106	plage												
28 Apr	S13W08	107	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 106

			Region 3660												
27 Apr	N10E62	50	30	1	Hsx	1	A								
28 Apr	N10E50	49	10	3	Bxo	3	B				1				
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 49

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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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