Space Weather Highlights **SWPC PRF 2431**
28 March - 03 April 2022 **04 April 2022**

Solar activity reached high levels at 30/1737 UTC due to an X1 flare, the largest of the period, from Region 2975 (N13, L=088, class/area Dkc/330 on 30 Mar). This event was associated with Type II (estimated speed of 1,424 km/s) and Type IV radio sweeps, 10 cm radio burst (540 sfu), and a CME that after modeling did not appear to contain an Earth-directed component. Region 2975 was the most active and magnetically complex region on the disk throughout the period. It was responsible for an M4 flare at 28/1129 UTC, with associated Type II radio sweep and a partial halo/asymmetric CME. Region 2975 produced a second M-flare, an M1/Sn at 28/2059 UTC, also with Type II activity and a full halo/asymmetric CME. Subsequesnt analysis and modeling indicated Earth-directed transients from both events with speeds of 667 km/s and 841 km/s respectively. The second and faster CME was forecast to catch up and combine with the first transient from the M4 event. The combined arrival of both events at the magnetosphere was forecasted for early on 31 Mar. Region 2975 was responsible for an M9/1b flare at 31/1835 UTC, with associated Type II and Type IV radio sweeps, 10 cm radio bursts and a CME that was not determined to be Earth-directed. Region 2975 produced four additional M-flares during the period: an M2/2n flare at 29/0111 UTC; an M1 flare at 29/2152 UTC; an M2 flare at 02/0256 UTC; and an M4/1n flare at 02/1744 UTC. Region 2976 (N15, L=068, class/area Eko/550 on 30 Mar) produced an M3/Sn flare at 02/1355 UTC. Region 2974 (S18, L=090, class/area Cso/90 on 23 Mar) produced an M1/Sf flare at 29/0158 UTC.

Four proton events were observed during the period. The first event was a 10 MeV integral flux event that exceeded 10 pfu. It began at 28/1325 UTC, reached a maximum of 18.7 pfu at 28/1450 UTC, and ended at 28/2115 UTC. The second event was a 100 MeV event that exceeded 1 pfu that began at 28/1245 UTC, reached a maximum flux of 1 pfu at 28/1325 UTC, and ended at 28/1455 UTC. The third event was a 10 MeV integral flux event that excedded 10pfu. This event began at 31/0620, reached a maximum flux of 10.6 pfu at 31/0630 UTC, and ended at 31/0720 UTC. The last proton event was a 10 MeV integral flux event that exceeded 10 pfu. This event began at 02/1430 UTC, reached a maximum flux of 32 pfu at 02/1600 UTC, and ended at 03/0005 UTC.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 03 Apr with a peak flux of 2,600 pfu at 03/1505 UTC. This activity was in response to elevated solar wind speeds from the 28 Mar CMEs. Electron flux reached moderate levels on 28 Mar - 02 Apr.

Geomagnetic field activity reached active levels late on 30 Mar and G1 (Minor) storm levels early on 31 Mar in response to a pair of CMEs that left the solar disk on 28 Mar. Solar wind speed stair-stepped from ~410 km/s to 500 km/s and then later 600+ km/s after arrival. Total field peaked at 23 nT while Bz briefly dropped as low as -12 nT. Active levels were observed on 01-03 Apr with G1 (Minor) storms observed on 02 Apr as these transient features persisted and later combined with a negative-polarity CH HSS. Active levels were observed on 28 Mar due to positive polarity CH HSS influence and quiet conditions prevailed on 29 Mar on the days preceeding the dual CME arrival.

Space Weather Outlook
04 April - 30 April 2022

Solar activity is likely to be moderate (R1-R2, Minor-Moderate) with a chance for X-class flaring on 04 Apr. M-class flaring probability decreases to a slight chance on 05-06 Apr as Region 2975 rotates around the west limb. These probabilities are anticipated on 14-27 Apr with the return of Region 2975. Very low to low activity is expected on Apr 07-13 and 28-30 Apr.

The greater than 10 MeV proton flux at geosynchronous orbit may increase above the 10 pfu threshold (S1-Minor) on 04 Apr if Region 2975 produces another significant eruption. A return to background levels is anticipated for the remainder of the outlook period.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 04-07 Apr in response to persistent combined CME/CH HSS influence.

Geomagnetic field activity is expected to reach active levels on 04, 11, 23, 29-30 Apr and unsettled levels on 05, 12, 20-21, 24-25 Apr due to recurrent CH HSS effects. Quiet conditions are anticipated for 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
28 March	156	125	980	B8.7	10	2	0	3	0	0	0	0
29 March	149	124	1160	C1.3	17	4	0	8	1	1	0	0
30 March	151	73	1560	B8.9	11	0	1	2	0	0	0	0
31 March	149	84	1170	C1.2	12	1	0	6	1	0	0	0
01 April	147	109	1220	C1.2	21	0	0	3	0	0	0	0
02 April	143	118	1180	C1.0	12	3	0	6	2	0	0	0
03 April	140	129	1230	B7.7	6	0	0	3	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
28 March	8.2e+05	5.0e+05	8.2e+06
29 March	2.9e+06	3.3e+05	9.3e+06
30 March	1.6e+06	9.5e+04	4.4e+06
31 March	4.6e+06	4.1e+05	1.5e+06
01 April	1.6e+06	1.1e+05	1.6e+06
02 April	6.4e+06	6.4e+05	2.2e+07
03 April	3.3e+07	3.3e+05	9.4e+07

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
28 March	10	4-4-1-2-2-1-1-1	9	3-3-3-3-3-0-0-0	10	4-4-2-2-1-0-1-1
29 March	6	1-2-2-2-2-1-2-2	3	1-0-1-1-2-1-1-1	8	2-2-2-2-2-2-2-2
30 March	7	1-1-0-2-2-3-2-3	5	1-1-2-3-0-1-1-2	8	1-1-1-2-1-2-2-4
31 March	18	4-4-3-3-4-3-2-2	35	4-5-5-6-4-4-2-3	27	5-5-4-4-4-4-2-3
01 April	12	2-3-4-3-3-2-1-2	35	2-2-6-6-6-3-1-2	17	3-3-4-4-4-3-2-2
02 April	19	4-4-4-2-3-3-3-3	27	4-5-6-4-2-2-3-2	22	4-5-4-2-2-3-4-3
03 April	7	2-1-1-1-2-2-2-3	5	1-1-1-1-2-2-1-2	27	4-2-2-2-2-2-2-3

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
28 Mar 1203	WARNING: Proton 10MeV Integral Flux > 10pfu	28/1202 - 2100
28 Mar 1213	WARNING: Proton 100MeV Integral Flux > 1pfu	28/1212 - 2100
28 Mar 1218	ALERT: Type II Radio Emission	28/1123
28 Mar 1219	ALERT: Type IV Radio Emission	28/1137
28 Mar 1302	ALERT: Proton Event 100MeV Integral Flux > 1pfu	28/1245
28 Mar 1342	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	28/1325
28 Mar 1923	SUMMARY: 10cm Radio Burst	28/1711 - 1714
28 Mar 1951	WATCH: Geomagnetic Storm Category G2 predicted	
28 Mar 2047	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	28/1202 - 29/0600
28 Mar 2048	EXTENDED WARNING: Proton 100MeV Integral Flux > 1pfu	28/1212 - 29/0300
29 Mar 0911	SUMMARY: Proton Event 100MeV Integral Flux > 1pfu	28/1245 - 1455
29 Mar 0918	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	28/1325 - 2115
29 Mar 0918	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	28/1325 - 2115
29 Mar 1710	WATCH: Geomagnetic Storm Category G3 predicted	
30 Mar 1735	ALERT: X-ray Flux exceeded M5	30/1729
30 Mar 1812	ALERT: Type II Radio Emission	30/1732
30 Mar 1815	SUMMARY: 10cm Radio Burst	30/1730 - 1752
30 Mar 1822	ALERT: Type IV Radio Emission	30/1734
30 Mar 1824	SUMMARY: X-ray Event exceeded X1	30/1721 - 1746
30 Mar 2012	WARNING: Proton 10MeV Integral Flux > 10pfu	30/2030 - 31/2359
30 Mar 2012	WARNING: Proton 100MeV Integral Flux > 1pfu	30/2030 - 31/2359
30 Mar 2312	WARNING: Geomagnetic K = 4	30/2311 - 31/1500
31 Mar 0003	ALERT: Geomagnetic K = 4	30/2359
31 Mar 0156	WARNING: Geomagnetic Sudden Impulse expected	31/0210 - 0300
31 Mar 0217	SUMMARY: Geomagnetic Sudden Impulse	31/0210
31 Mar 0233	WARNING: Geomagnetic K = 5	31/0235 - 1200
31 Mar 0253	ALERT: Geomagnetic K = 5	31/0252
31 Mar 0604	ALERT: Geomagnetic K = 5	31/0559

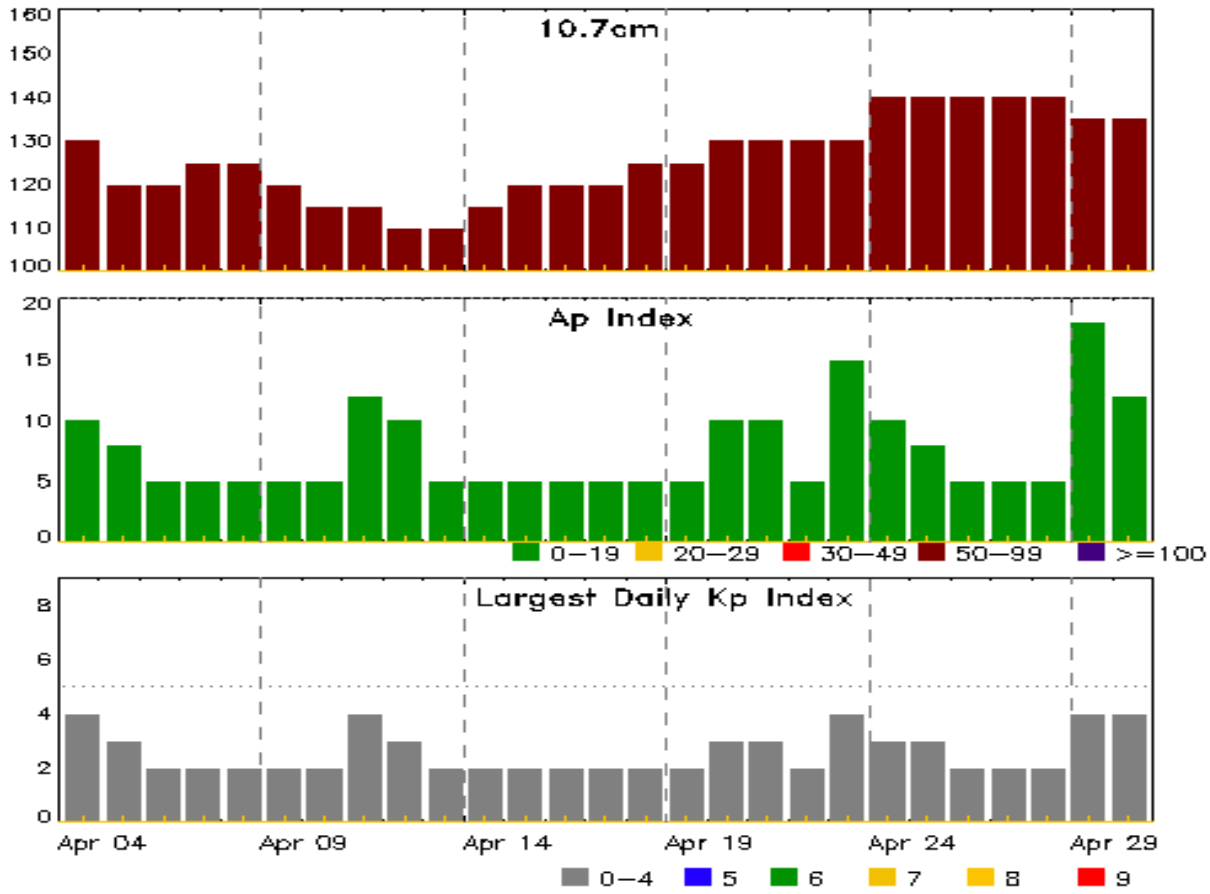
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
31 Mar 0627	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	31/0620
31 Mar 1403	CANCELLATION: Proton 100MeV Integral Flux > 1pfu	
31 Mar 1418	WARNING: Geomagnetic K = 5	31/1418 - 01/0600
31 Mar 1434	EXTENDED WARNING: Geomagnetic K = 4	30/2311 - 01/0900
31 Mar 1835	ALERT: X-ray Flux exceeded M5	31/1830
31 Mar 1845	SUMMARY: 10cm Radio Burst	31/1828 - 1832
31 Mar 1917	ALERT: Type IV Radio Emission	31/1841
31 Mar 1917	ALERT: Type II Radio Emission	31/1834
31 Mar 2012	SUMMARY: 10cm Radio Burst	31/1928 - 1952
31 Mar 2105	ALERT: Type II Radio Emission	31/1929
31 Mar 2333	SUMMARY: X-ray Event exceeded M5	31/1817 - 1845
01 Apr 0209	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	31/0620 - 0720
01 Apr 0852	EXTENDED WARNING: Geomagnetic K = 4	30/2311 - 01/1800
02 Apr 0118	WARNING: Geomagnetic K = 4	02/0120 - 0600
02 Apr 0126	ALERT: Geomagnetic K = 4	02/0125
02 Apr 0402	WARNING: Geomagnetic K = 5	02/0402 - 1200
02 Apr 0402	EXTENDED WARNING: Geomagnetic K = 4	02/0120 - 1500
02 Apr 0517	ALERT: Geomagnetic K = 5	02/0516
02 Apr 1403	ALERT: Type II Radio Emission	02/1323
02 Apr 1413	WARNING: Proton 100MeV Integral Flux > 1pfu	02/1415 - 2359
02 Apr 1427	WARNING: Proton 10MeV Integral Flux > 10pfu	02/1430 - 2359
02 Apr 1453	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	02/1430
02 Apr 1455	EXTENDED WARNING: Geomagnetic K = 4	02/0120 - 2359
02 Apr 2354	EXTENDED WARNING: Geomagnetic K = 4	02/0120 - 03/0900
02 Apr 2355	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	02/1430 - 03/0900
03 Apr 0853	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	02/1430 - 03/1500
03 Apr 0939	ALERT: Electron 2MeV Integral Flux >= 1000pfu	03/0920

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
03 Apr 1546	SUMMARY: Proton Event 10MeV Integral Flux >= 10pfu	02/1430 - 03/0005

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
04 Apr	130	10	4	18 Apr	125	5	2
05	120	8	3	19	125	5	2
06	120	5	2	20	130	10	3
07	125	5	2	21	130	10	3
08	125	5	2	22	130	5	2
09	120	5	2	23	130	15	4
10	115	5	2	24	140	10	3
11	115	12	4	25	140	8	3
12	110	10	3	26	140	5	2
13	110	5	2	27	140	5	2
14	115	5	2	28	140	5	2
15	120	5	2	29	135	18	4
16	120	5	2	30	135	12	4
17	120	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
28 Mar	1058	1129	1145	M4.0	0.044			2975	3900		3	2
28 Mar	2049	2059	2109	M1.1	0.011	SN	N14W11	2975	350			
29 Mar	0057	0111	0126	M2.2	0.025	2N	N16W10	2975				
29 Mar	0148	0158	0203	M1.1	0.008	SF	S19W13	2974	180	19		
29 Mar	0917	0938	0955	M1.0	0.016							
29 Mar	2143	2152	2157	M1.6	0.006			2975				
30 Mar	1721	1737	1746	X1.3	0.096			2975	1e+05	540	3	1
31 Mar	1817	1835	1845	M9.6	0.076	1B	N13W47	2975	450	700	2	1
02 Apr	0239	0256	0307	M2.9	0.023			2975				
02 Apr	1256	1355	1444	M3.9	0.140	SN	N15W61	2976			2	
02 Apr	1734	1744	1751	M4.3	0.021	1N	N14W78	2975	41	110		

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
28 Mar	0038	0043	0055	C1.9			2978
28 Mar	0055	0107	0115	C2.1			2978
28 Mar	0317	0323	0327	C1.2			2975
28 Mar	0632	0642	0657	C1.1			2975
28 Mar	0831	0841	0850	C1.5			2978
28 Mar	0948	0957	1003	C2.1			2975
28 Mar	1058	1129	1145	M4.0			2975
28 Mar	1616	1643	1659	C5.1			
28 Mar	1703	1713	1732	C9.8			2975
28 Mar	1848	1900	1908	C6.3			2975
28 Mar	2049	2059	2109	M1.1	SN	N14W11	2975
28 Mar	2136	2136	2137	C5.5	SF	N12W11	2975
28 Mar	2329	2331	2338		SF	S20W12	2974
29 Mar	0000	0113	0611		2N	N16W10	2975
29 Mar	0008	0021	0037	C5.8			2975
29 Mar	0057	0111	0126	M2.2			2975
29 Mar	0148	0158	0203	M1.1	SF	S19W13	2974
29 Mar	0326	0339	0344	C5.5			
29 Mar	0345	0349	0353	C5.2			
29 Mar	0356	0359	0405	C8.6			

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
29 Mar	0627	0704	0737		SF	N16W10	2975
29 Mar	0701	0705	0706		SF	N14W14	2975
29 Mar	0737	0953	0816	C3.3	1F	N16W10	2975
29 Mar	0803	0810	0817	C3.4	SF	N13W18	2975
29 Mar	0841	0901	0917	C3.1			
29 Mar	0917	0938	0955	M1.0			
29 Mar	1015	1023	1024		SF	N14W21	2975
29 Mar	1134	1134	1143		SF	N13W17	2975
29 Mar	1225	1233	1240	C2.2			
29 Mar	1406	1428	1523	C4.3	SF	N14W21	2975
29 Mar	1503	1518	1530	C3.9	SF	S24E65	2978
29 Mar	1551	1557	1607	C2.3			2978
29 Mar	1705	1712	1719	C2.1			2975
29 Mar	1733	1745	1750	C4.7			2975
29 Mar	1924	1946	2008	C3.3			2978
29 Mar	2026	2032	2037	C3.5			2975
29 Mar	2143	2152	2157	M1.6			2975
29 Mar	2211	2219	2222	C1.8			2975
29 Mar	2245	2258	2306	C6.7			2978
30 Mar	0104	0112	0122	C1.8			
30 Mar	0215	0224	0233	C3.0	SF	N12W12	2975
30 Mar	0248	0250	0253		SF	N12W12	2975
30 Mar	0423	0431	0436	C2.2			2975
30 Mar	0457	0501	0506	C2.0			2975
30 Mar	0535	0546	0553	C2.6			2975
30 Mar	0638	0646	0650	C2.3			2978
30 Mar	0834	0842	0846	C1.2			2976
30 Mar	1010	1017	1023	C1.1			2975
30 Mar	1221	1235	1258	C4.5			2975
30 Mar	1350	1359	1403	C2.6			2975
30 Mar	1435	1446	1454	C2.0			2978
30 Mar	1721	1737	1746	X1.3			2975
31 Mar	0245	0254	0308	C1.9			
31 Mar	0539	0542	0548	C3.2			
31 Mar	0756	0800	0805	C3.9			
31 Mar	0913	0917	0921	C2.0			
31 Mar	1201	1211	1223	C5.4			
31 Mar	1308	1316	1341	C2.4			2981

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
31 Mar	B1340	1340	1358		SF	N13W46	2975
31 Mar	1410	1412	1422	C3.8	SF	S23E39	2978
31 Mar	1640	1647	1652	C2.0			2975
31 Mar	1727	1734	1739	C2.1			
31 Mar	1744	1746	1748		SF	N13W47	2975
31 Mar	1817	1835	1845	M9.6	1B	N13W47	2975
31 Mar	1929	1933	1949	C5.4	SF	S26E36	2981
31 Mar	2051	2057	2101	C2.6	SF	S15E23	2978
31 Mar	2106	2114	2120		SF	S17E23	2978
31 Mar	2343	2353	2359	C4.4			2975
01 Apr	0227	0234	0240	C5.7			2981
01 Apr	0255	0304	0310	C3.0			2981
01 Apr	0400	0402	0412	C2.2			2981
01 Apr	0509	0517	0524	C2.5			2981
01 Apr	0615	0622	0638	C4.3			2978
01 Apr	0638	0647	0655	C3.8			2978
01 Apr	0714	0722	0731	C4.4			2981
01 Apr	0827	0835	0851	C1.9			2978
01 Apr	1132	1138	1146	C2.5			2975
01 Apr	1222	1229	1235	C2.1			2978
01 Apr	1251	1254	1301	C1.9			2981
01 Apr	1323	1332	1338	C2.3			2978
01 Apr	1338	1342	1347	C2.8			2978
01 Apr	1421	1429	1442	C2.2	SF	S18E22	2978
01 Apr	1610	1616	1627	C1.8			2978
01 Apr	1638	1644	1649	C1.9			2981
01 Apr	1838	1845	1854	C2.2			2975
01 Apr	1947	2000	2005	C1.6	SF	S17E20	2978
01 Apr	2005	2008	2012	C1.9			2981
01 Apr	2209	2216	2229	C1.6			2975
01 Apr	2236	2244	2248	C4.9	SN	S26E22	2981
02 Apr	0056	0106	0116	C3.2			2975
02 Apr	0214	0216	0219		SF	N19W65	2977
02 Apr	0239	0256	0307	M2.9			2975
02 Apr	0419	0424	0558	C2.0			2981
02 Apr	0456	0505	0512	C3.9			2981
02 Apr	0558	0629	0650	C2.1			2984
02 Apr	0650	0706	0715	C2.2			2975

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
02 Apr	0715	0727	0730	C2.3			2984
02 Apr	0730	0736	0739	C2.5			2984
02 Apr	0739	0743	0750	C6.4	SF	S26E17	2981
02 Apr	0817	0825	0830	C6.5	SF	N13W67	2975
02 Apr	0836	0839	0846	C3.4			2975
02 Apr	1040	1046	1050	C2.6			2978
02 Apr	1256	1355	1444	M3.9	SN	N15W61	2976
02 Apr	1331	1345	1435		SN	N14W65	2984
02 Apr	1331	1424	1452		1N	N16W65	2975
02 Apr	1629	1629	1632		SF	N14W78	2975
02 Apr	1734	1744	1751	M4.3	1N	N14W78	2975
02 Apr	2015	2023	2036	C2.5			2975
03 Apr	0152	0153	0155		SF	S27E00	2981
03 Apr	0358	0407	0411	C2.0	SF	N20W70	2975
03 Apr	0740	0747	0752	C1.3			2981
03 Apr	0752	0820	1005	C2.4			2975
03 Apr	1005	1014	1018	C1.6	SF	N13W84	2975
03 Apr	1245	1309	1326	C6.4			2976
03 Apr	1647	1714	1740	C3.7			2976

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 2972												
19 Mar	S28E17	178	20	4	Bxo	5	B								
20 Mar	S27E04	178	30	4	Bxo	4	B								
21 Mar	S27W09	177	40	5	Dso	8	B								
22 Mar	S27W22	177	40	7	Cso	7	B	1							
23 Mar	S29W32	174	plage												
24 Mar	S29W46	175	plage												
25 Mar	S29W60	176	plage												
26 Mar	S29W74	177	plage												
27 Mar	S29W88	178	plage												
								1	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 178

			Region 2973												
20 Mar	N19E45	137	20	5	Bxo	4	B								
21 Mar	N19E33	134	20	4	Bxo	2	B								
22 Mar	N19E22	133	plage												
23 Mar	N19E08	135	plage												
24 Mar	N19W06	135	plage												
25 Mar	N19W20	136	plage												
26 Mar	N19W34	137	plage												
27 Mar	N19W48	138	plage												
28 Mar	N19W62	139	plage												
29 Mar	N19W76	139	plage												
								0	0	0	0	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 135

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 2974												
22 Mar	S17E61	94	60	4	Cso	2	B	3							
23 Mar	S18E54	90	90	6	Cso	2	B	2			2				
24 Mar	S19E39	90	60	3	Cso	3	B	1			1				
25 Mar	S19E25	91	30	4	Cro	2	B		1			1			
26 Mar	S19E11	92	20	1	Hrx	2	A								
27 Mar	S19W02	92	10	1	Axx	1	A								
28 Mar	S19W16	93	10	1	Axx	1	A				1				
29 Mar	S19W27	90	0		Axx	1	A		1		1				
30 Mar	S19W41	91	plage												
31 Mar	S19W55	92	plage												
01 Apr	S19W69	93	plage												
02 Apr	S19W83	94	plage												
								6	2	0	5	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 92

			Region 2975												
23 Mar	N13E63	78	160	11	Dao	5	B	1			1				
24 Mar	N14E55	75	160	9	Cao	5	B	5							
25 Mar	N12E39	77	160	12	Eso	5	B								
26 Mar	N12E20	87	40	3	Hsx	3	A								
27 Mar	N12E05	85	50	9	Csi	22	B				1				
28 Mar	N13W12	89	210	10	Dac	26	BG	6	2		2				
29 Mar	N13W25	87	300	10	Dhc	30	BGD	8	2		6	1	1		
30 Mar	N13W38	88	330	10	Dkc	20	BGD	7		1	2				
31 Mar	N13W52	89	330	10	Dkc	20	BGD	2	1		2	1			
01 Apr	N13W66	90	300	11	Ekc	24	B	3							
02 Apr	N15W78	88	260	11	Ekc	9	BD	5	2		2	2			
03 Apr	N15W91	88	260	11	Ekc	8	BG	3			2				
								40	7	1	18	4	1	0	0

Still on Disk.
Absolute heliographic longitude: 85

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 2976												
24 Mar	N15E64	66	400	9	Dho	6	B								
25 Mar	N16E47	68	450	12	Eho	13	B				1				
26 Mar	N20E27	75	530	15	Eho	13	B								
27 Mar	N16E22	68	500	14	Eho	15	BD								
28 Mar	N16E08	69	480	13	Eho	10	BD								
29 Mar	N14W03	66	500	13	Eko	9	BD								
30 Mar	N15W18	68	550	13	Eko	4	BD	1							
31 Mar	N16W31	67	410	12	Eko	6	B								
01 Apr	N16W45	69	410	13	Eko	6	B								
02 Apr	N18W58	68	330	14	Eho	4	B		1		1				
03 Apr	N20W78	74	310	5	Hhx	2	A	2							
								3	1	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 66

			Region 2977												
27 Mar	N21W11	100	40	6	Dro	8	B								
28 Mar	N21W25	102	40	5	Bxo	8	B								
29 Mar	N18W36	99	10	6	Axx	1	A								
30 Mar	N18W50	100	plage												
31 Mar	N18W64	101	plage												
01 Apr	N18W78	102	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 100

			Region 2978												
27 Mar	S15E75	14	180	2	Hsx	1	A	4							
28 Mar	S17E68	9	210	12	Eso	4	B	3							
29 Mar	S20E56	6	310	10	Dho	8	BG	4			1				
30 Mar	S19E39	11	670	12	Eko	8	BG	2							
31 Mar	S18E28	8	400	11	Eho	7	BG	2			3				
01 Apr	S18E14	10	410	14	Eki	9	BG	9			2				
02 Apr	S18E03	7	420	16	Chi	11	BG	1							
03 Apr	S18W10	7	440	14	Chi	14	B								
								25	0	0	6	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 7

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 2979												
28 Mar	S21E10	67	20	3	Bxo	4	B								
29 Mar	S22W06	68	30	5	Axx	2	A								
30 Mar	S22W20	70	plage												
31 Mar	S22W34	71	plage												
01 Apr	S22W48	72	plage												
02 Apr	S22W62	73	plage												
03 Apr	S22W76	73	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 68

			Region 2980												
28 Mar	N08W28	105	10	2	Bxo	2	B								
29 Mar	N08W42	104	10	2	Bxo	3	B								
30 Mar	N04W53	102	10	1	Bxo	1	B								
31 Mar	N04W68	105	plage												
01 Apr	N04W83	107	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 105

			Region 2981												
31 Mar	S26E31	5	30	4	Dri	11	B	2			1				
01 Apr	S26E18	6	80	7	Dri	19	BG	9			1				
02 Apr	S25E06	4	80	9	Cri	17	BG	3			1				
03 Apr	S25W07	4	120	10	Cri	16	B	1			1				
								15	0	0	4	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 4

			Region 2982												
01 Apr	S19E47	337	20	1	Hrx	1	A								
02 Apr	S19E34	337	20	1	Axx	1	A								
03 Apr	S19E21	336	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 336

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 2983												
01 Apr	N23E53	331	plage												
02 Apr	N20E42	328	40	2	Hsx	2	A								
03 Apr	N23E28	329	30	2	Hrx	3	A								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude: 329															
			Region 2984												
02 Apr	N12W69	80	30	3	Dro	4	B	3			1				
03 Apr	N12W83	80	30	3	Dro	2	B								
								3	0	0	1	0	0	0	0
Still on Disk.															
Absolute heliographic longitude: 80															
			Region 2985												
03 Apr	S20E68	289	30	2	Hsx	3	A								
								0	0	0	0	0	0	0	0
Still on Disk.															
Absolute heliographic longitude: 289															

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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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