Space Weather Highlights **SWPC PRF 2528**
05 February - 11 February 2024 **12 February 2024**

Solar activity ranged from moderate levels to very high levels this period. In total, one X-class flare and 18 M-class flares and were observed. The largest event was an X3.3 flare at 09/1314 UTC from Region 3575 (S36, L=177, class/area=Dkc/270 on 05 Feb), which was beyond the SW limb at the time of the event. Region 3576 (S16, L=057, class/area=Fkc/740 on 11 Feb) was the largest and most active region this week and produced the bulk of the M-class flare activity; most notable was an M9.0 flare at 10/2307 UTC which produced an Earth-directed CME expected to arrive late on 12 Feb/early on 13 Feb. Other notable activity included a filament eruption centered near S37W02 at 08/2000 UTC which resulted in an Earth-directed CME expected to arrive on 12 Feb.

The greater than 10 MeV proton flux reached S1-S2 (Minor-Moderate) levels following the X3.3 flare at 09/1314 UTC. The solar radiation storm began at 09/1530 UTC, reached a peak flux of 187 pfu at 09/2355 UTC, and decreased below event threshold at 11/1805 UTC. The greater than 10 MeV proton flux persisted just below event thresholds after 11/1805 UTC.

The greater than 2 MeV electron flux was at normal to moderate levels throughout the week.

Geomagnetic field activity was quiet and unsettled on 05-06 Feb due to a combination of positive polarity CH HSS influences and the arrival of a CME from 01 Feb. Quiet conditions were observed over 07-08 Feb. Quiet and unsettled levels were observed on 09 Feb with the arrival of a CME from 06 Feb late in the day. Quiet conditions were observed on 10 Feb. Quiet to active conditions were observed on 11 Feb due to the arrival of a shock associated with the 09/1314 UTC X3.3 flare. The interplanetary shock was observed in solar wind data at 11/0121 UTC. Solar wind speeds increased from approximately 350 km/s to 439 km/s, eventually reaching 634 km/s by 11/1410 UTC. Total field increased from 4 nT to 19 nT initially, while the Bz component indicated a mostly negative trend to a low of -15 nT. A geomagnetic sudden impulse was observed at Earth with a 40 nT deviation (Boulder Magnetometer) at 11/0211 UTC.

Space Weather Outlook
12 February - 09 March 2024

Solar activity is expected to be low to moderate throughout the period with M-class flares likely and a chance for X-class flares.

No proton events are expected at geosynchronous orbit, barring significant flare activity.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 15-17 Feb, with normal to moderate levels expected throughout the remainder of the period.

Geomagnetic field activity is expected to reach G1 (Minor) storm levels on 12-14 Feb, and G2 (Moderate) levels on 13 Feb, due to the anticipated arrival of CMEs from 08 and 10 Feb. Quiet

and unsettled conditions are expected on 26-27 Feb due to negative polarity CH HSS influences. Quiet levels are expected throughout the remainder of the 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
05 February	173	152	1065	C2.2	11	2	0	9	2	0	0	0
06 February	190	175	1020	C1.8	5	3	0	11	1	0	0	0
07 February	188	164	1210	C1.4	6	2	0	3	2	0	0	0
08 February	185	149	940	C1.6	10	5	0	13	2	1	0	0
09 February	183	105	910	C1.1	8	2	1	7	1	0	0	0
10 February	194	146	1030	C1.6	12	3	0	5	1	0	0	0
11 February	180	144	1090	C1.5	7	1	0	5	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
05 February	5.3e+05	2.0e+04	1.6e+06
06 February	4.0e+05	3.6e+04	1.3e+06
07 February	3.5e+05	2.1e+04	1.2e+06
08 February	7.3e+05	2.0e+04	1.0e+06
09 February	5.7e+06	2.6e+06	1.6e+06
10 February	3.8e+07	1.1e+07	1.8e+06
11 February	3.6e+07	2.6e+06	1.6e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
05 February	6	1-1-2-1-2-2-2-2	4	0-0-1-1-3-1-1-1	7	1-1-2-2-2-2-2-3
06 February	8	2-2-2-2-2-3-2-1	6	1-1-0-4-2-1-1-0	8	3-2-2-2-2-2-2-1
07 February	3	0-0-1-1-2-1-1-1	3	0-0-1-1-3-1-0-0	4	0-1-1-1-2-1-1-1
08 February	5	1-1-1-1-2-2-2-1	5	0-0-1-3-3-2-1-0	5	1-1-1-2-2-2-2-1
09 February	4	1-0-0-1-1-1-1-3	2	0-0-0-2-2-0-0-1	6	1-0-1-2-2-1-1-3
10 February	4	0-2-1-2-2-1-1-1	2	0-0-0-2-2-0-0-0	5	1-1-1-2-2-1-1-2
11 February	12	4-3-3-3-2-2-1-2	15	2-3-4-5-2-2-1-1	32	4-3-4-3-2-2-2-2

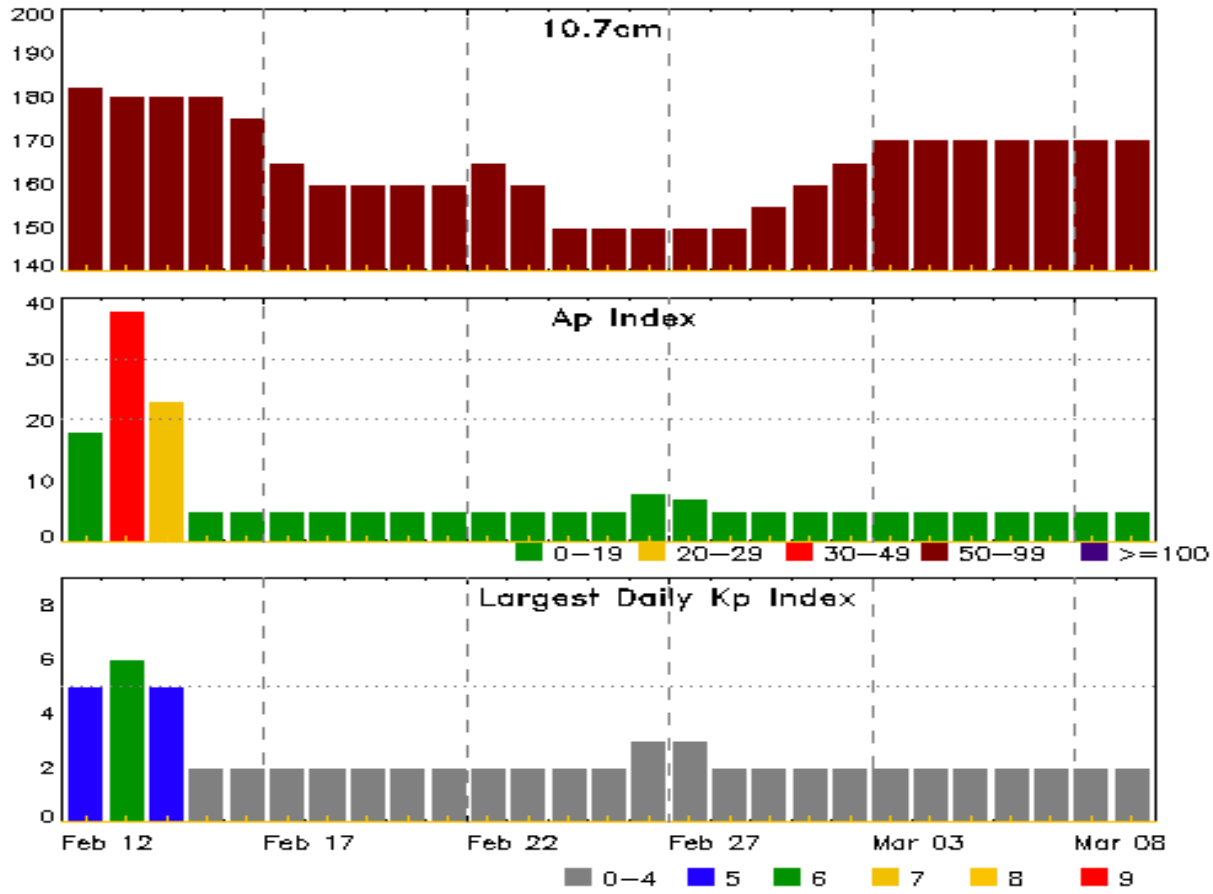
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
06 Feb 0256	SUMMARY: 10cm Radio Burst	06/0213 - 0233
06 Feb 0349	ALERT: Type II Radio Emission	06/0310
06 Feb 0353	ALERT: Type IV Radio Emission	06/0314
07 Feb 0332	ALERT: X-ray Flux exceeded M5	07/0329
07 Feb 0413	SUMMARY: 10cm Radio Burst	07/0314 - 0356
07 Feb 0446	SUMMARY: X-ray Event exceeded M5	07/0304 - 0411
08 Feb 1213	ALERT: Type II Radio Emission	08/1149
09 Feb 1307	ALERT: X-ray Flux exceeded M5	09/1303
09 Feb 1323	ALERT: Type IV Radio Emission	09/1307
09 Feb 1345	SUMMARY: X-ray Event exceeded X1	09/1253 - 1332
09 Feb 1350	SUMMARY: 10cm Radio Burst	09/1258 - 1325
09 Feb 1514	WARNING: Proton 10MeV Integral Flux > 10pfu	09/1520 - 10/0600
09 Feb 1545	ALERT: Proton Event 10MeV Integral Flux >= 10pfu	09/1530
09 Feb 1838	ALERT: Proton Event 10MeV Integral Flux >= 100pfu	09/1815
10 Feb 0409	SUMMARY: 10cm Radio Burst	10/0335 - 0354
10 Feb 0505	SUMMARY: 10cm Radio Burst	10/0359 - 0404
10 Feb 0555	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	09/1520 - 11/0600
10 Feb 2224	WATCH: Geomagnetic Storm Category G1 predicted	
10 Feb 2307	ALERT: X-ray Flux exceeded M5	10/2304
10 Feb 2322	ALERT: Type II Radio Emission	10/2256
10 Feb 2323	SUMMARY: 10cm Radio Burst	10/2303 - 2308
10 Feb 2359	ALERT: Type IV Radio Emission	10/2305
11 Feb 0137	WARNING: Geomagnetic Sudden Impulse expected	11/0155 - 0255
11 Feb 0217	WARNING: Geomagnetic K = 4	11/0217 - 1200
11 Feb 0219	ALERT: Proton Event 10MeV Integral Flux >= 100pfu	11/0210
11 Feb 0220	ALERT: Geomagnetic K = 4	
11 Feb 0223	WARNING: Geomagnetic K = 5	11/0220 - 1200
11 Feb 0229	SUMMARY: Geomagnetic Sudden Impulse	11/0211

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
11 Feb 0251	SUMMARY: X-ray Event exceeded M5	10/2256 - 2314
11 Feb 0555	EXTENDED WARNING: Proton 10MeV Integral Flux > 10pfu	09/1520 - 12/0600
11 Feb 0746	WATCH: Geomagnetic Storm Category G2 predicted	
11 Feb 0848	SUMMARY: Proton Event 10MeV Integral Flux >= 100pfu	09/2310 - 11/0355
11 Feb 1140	EXTENDED WARNING: Geomagnetic K = 4	11/0217 - 12/1200

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
12 Feb	182	18	5	26 Feb	150	8	3
13	180	38	6	27	150	7	3
14	180	23	5	28	150	5	2
15	180	5	2	29	155	5	2
16	175	5	2	01 Mar	160	5	2
17	165	5	2	02	165	5	2
18	160	5	2	03	170	5	2
19	160	5	2	04	170	5	2
20	160	5	2	05	170	5	2
21	160	5	2	06	170	5	2
22	165	5	2	07	170	5	2
23	160	5	2	08	170	5	2
24	150	5	2	09	170	5	2
25	150	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
05 Feb	0413	0428	0444	M2.1	0.002	SF	S16E71	3576				
05 Feb	0610	0622	0626	M1.4	0.006	SF	S21E79	3576				
06 Feb	0215	0228	0237	M2.2	0.006			3575		470	2	
06 Feb	0237	0312	0337	M4.2	0.130			3575	3300	480	1	2
06 Feb	1838	1849	1907	M1.3	0.019			3575	110			
07 Feb	0304	0331	0411	M5.1	0.140	SF	S40W78	3575	970	390		
07 Feb	1741	1805	1835	M1.3	0.030			3576				
08 Feb	1241	1312	1337	M3.4	0.075			3576				
08 Feb	1411	1418	1425	M1.2	0.009			3564				
08 Feb	1517	1523	1527	M1.8	0.006	1F	S15E25	3576				
08 Feb	1856	1902	1906	M1.3	0.004	1F	S15E24	3576				
08 Feb	2316	2355	0036	M3.9	0.008							
09 Feb	0036	0041	0045	M3.1	0.003	1N	S16E17	3576		100		
09 Feb	1253	1314	1332	X3.3	0.430			3575		1000		2
09 Feb	1754	1800	1807	M1.2	0.007			3576	130	57		
10 Feb	0042	0051	0100	M1.5	0.011	SF	S14E06	3576				
10 Feb	0304	0354	0429	M3.4	0.096					250		
10 Feb	2256	2307	2314	M9.0	0.045	1F	S10W12	3576	190	360	3	3
11 Feb	2235	2245	2250	M1.0	0.005							

Flare List

	Time			Optical			
Date	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
05 Feb	0147	0155	0207	C3.2			3576
05 Feb	0210	0217	0222	C3.9			3576
05 Feb	0315	0329	0335	C8.8	SF	S16E71	3576
05 Feb	0413	0428	0444	M2.1	SF	S16E71	3576
05 Feb	0610	0622	0626	M1.4	SF	S21E79	3576
05 Feb	0728	0744	0748	C4.6	SF	S38W51	3575
05 Feb	0748	0802	0814	C6.9			3575
05 Feb	B1046	U1105	1133	C9.6	SF	S15E71	3576
05 Feb	1259	1319	1332	C6.3	SF	S15E68	3576
05 Feb	B1338	U1339	A1343		SF	S17E68	3576
05 Feb	1411	1419	1425	C3.6			3576
05 Feb	B1452	U1504	A1507		1F	S14E61	3576

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
05 Feb	1616	1619	1627		SF	S12E65	3576
05 Feb	1716	1727	1740	C3.8	SF	S35W53	3575
05 Feb	2148	2157	2204	C2.6			
05 Feb	2302	2315	2330	C6.1	1F	N10W40	3565
06 Feb	0215	0228	0237	M2.2			3575
06 Feb	0237	0312	0337	M4.2			3575
06 Feb	B0701	U0702	0704		SF	S14E61	3576
06 Feb	0913	0914	0916		SF	S15E57	3576
06 Feb	1056	1056	1058		1F	S16E58	3576
06 Feb	1102	1104	1111		SF	S16E58	3576
06 Feb	1116	1130	1133		SF	S16E58	3576
06 Feb	1135	U1144	1202	C4.5	SF	S16E58	3576
06 Feb	1212	1213	1216		SF	S16E58	3576
06 Feb	1218	1226	1230		SF	S16E58	3576
06 Feb	1235	1241	1244		SF	S16E58	3576
06 Feb	1248	1258	1306	C9.4	SF	S40W68	3575
06 Feb	1336	1347	1409		SF	S16E58	3576
06 Feb	1353	1405	1413		SF	S05W11	3570
06 Feb	1547	1614	1626	C5.1			3578
06 Feb	1737	1744	1750	C3.2			3575
06 Feb	1819	1835	1838	C6.2			3575
06 Feb	1838	1849	1907	M1.3			3575
07 Feb	0003	0005	0009	C2.5			3575
07 Feb	0118	0124	0128	C2.5			3575
07 Feb	0151	0202	0216	C4.5			3575
07 Feb	0218	0231	0238	C8.2			3575
07 Feb	0256	0257	0258		SF	S40W78	3575
07 Feb	0304	0331	0411	M5.1	SF	S40W78	3575
07 Feb	1035	1043	1052	C2.8			3576
07 Feb	1130	U1132	1136		1F	S16E58	3576
07 Feb	1317	1341	1415	C4.9			3576
07 Feb	1741	1805	1835	M1.3			3576
07 Feb	B2001	2024	2038		1F	S12E32	3576
07 Feb	2150	2151	2154		SF	N17W04	3577
08 Feb	0120	0137	0158	C3.9			3574
08 Feb	0407	0414	0420	C2.2			3576
08 Feb	0448	0450	0452		SF	S16E27	3576
08 Feb	B0732	U1145	A1338		2B	S16E26	3576

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
08 Feb	0837	0848	0855	C4.3	SF	S16E27	3576
08 Feb	0933	0952	0956		SF	S17E29	3576
08 Feb	1000	1003	1005		SF	S17E29	3576
08 Feb	1011	1012	1015		SF	N20W46	3567
08 Feb	1051	1106	1125	C3.4			
08 Feb	1125	1140	1206	C5.3			3576
08 Feb	1144	1146	1151	C9.8	SF	N19W48	3576
08 Feb	1241	1312	1337	M3.4			3576
08 Feb	1411	1418	1425	M1.2			3564
08 Feb	B1510	1521	1607	M1.8	1F	S15E25	3576
08 Feb	1612	1621	1628	C6.1	SF	S11W81	3564
08 Feb	1656	1707	1711	C7.0	SF	S14E22	3576
08 Feb	1756	1803	1808	C2.7	SF	S15E24	3576
08 Feb	1856	1902	1906	M1.3	1F	S15E24	3576
08 Feb	1942	1943	1944		SF	S14W81	3564
08 Feb	2007	2017	2023		SF	S13E22	3576
08 Feb	2213	2221	2230	C2.6	SF	S15E23	3576
08 Feb	2316	2355	0036	M3.9			
08 Feb	2335	2335	2356		SF	S12E18	3576
09 Feb	0036	0041	0045	M3.1	1N	S16E17	3576
09 Feb	0213	0225	0232	C6.6			3575
09 Feb	0618	0629	0633	C3.0			3576
09 Feb	0703	0704	0706		SF	S17E17	3576
09 Feb	0726	0731	0735	C9.4	SF	S15E14	3576
09 Feb	0752	0804	0806	C3.0			3575
09 Feb	0806	0816	0822	C5.6	SF	S15E17	3576
09 Feb	1015	1021	1029	C6.2	SF	S15E17	3576
09 Feb	1140	1142	1146		SF	N20W63	3567
09 Feb	1222	1228	1236	C1.7	SF	S16E14	3576
09 Feb	1253	1314	1332	X3.3			3575
09 Feb	B1329	U1329	A1329		SF	S16E14	3576
09 Feb	1754	1800	1807	M1.2			3576
09 Feb	2358	0007	0014	C3.9			3576
10 Feb	0036	0040	0042	C2.4			3576
10 Feb	0042	0051	0100	M1.5	SF	S14E06	3576
10 Feb	0209	0214	0218	C2.5			3576
10 Feb	0304	0354	0429	M3.4			
10 Feb	B0356	0415	A0427		SF	S15E04	

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
10 Feb	0503	0507	0508		SF	S15E02	3576
10 Feb	0644	0652	0659	C7.4			3582
10 Feb	0659	0733	0742	C7.6			3576
10 Feb	0742	0746	0751	C8.0			3576
10 Feb	0742	0746	0751	C8.1			3576
10 Feb	0824	0845	0855		SF	S15E04	3576
10 Feb	0932	0951	0959	C8.7	SF	S17E03	3576
10 Feb	1811	1821	1826	C6.1			3576
10 Feb	2041	2049	2057	C2.7			3576
10 Feb	2102	2108	2112	C2.8			3576
10 Feb	2241	2249	2254	C3.2			3576
10 Feb	2256	2307	2314	M9.0	1F	S10W12	3576
10 Feb	2355	0003	0011	C8.7	SF	S14W10	3576
11 Feb	0015	0015	0020		SF	S12W11	3576
11 Feb	0033	0038	0045	C7.3	SF	S14W05	3576
11 Feb	0150	0154	0158	C3.3			3582
11 Feb	0459	0505	0510		SF	N09E42	3583
11 Feb	0559	0607	0616		SF	N09E42	3583
11 Feb	0836	0846	0901	C4.7			3583
11 Feb	1356	1405	1413	C2.9			3583
11 Feb	1717	1725	1744	C3.5			3583
11 Feb	1957	2003	2009	C3.1			3576
11 Feb	2235	2245	2250	M1.0			
11 Feb	2350	2358	0004	C2.3			

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 3564												
28 Jan	S09E54	165	10	1	Axx	1	A								
29 Jan	S09E40	166	plage												
30 Jan	S12E25	167	plage												
31 Jan	S14E11	168	plage												
01 Feb	S14W03	169	plage								1				
02 Feb	S14W17	169	plage												
03 Feb	S14W31	171	plage												
04 Feb	S14W45	172	plage												
05 Feb	S14W59	172	plage												
06 Feb	S13W72	172	30	4	Cao	3	B								
07 Feb	S13W83	170	40	4	Cao	3	B								
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 169

			Region 3565												
28 Jan	N07E62	155	10	2	Hrx	1	A								
29 Jan	N08E50	156	30	2	Cro	4	B	1							
30 Jan	N07E36	156	50	4	Dao	5	B	2			1				
31 Jan	N07E23	156	50	4	Dso	5	B	2			3				
01 Feb	N07E12	154	20	5	Cro	8	B	1							
02 Feb	N07W01	153	20	5	Dri	8	BG								
03 Feb	N05W15	155	20	5	Cri	7	BG				1				
04 Feb	N05W29	156	20	4	Cro	8	BG								
05 Feb	N06W43	156	10	3	Bxo	4	B	1				1			
06 Feb	N05W57	157	10	5	Bxo	5	B								
07 Feb	N05W68	155	10	5	Bxo	2	B								
08 Feb	N05W83	157	plage												
								7	0	0	5	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 153

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 3567													
29 Jan	N20E84	124	plage					1							
30 Jan	N20E70	124	210	9	Dso	4	B	1							
31 Jan	N19E54	125	220	9	Dai	12	B	7			2				
01 Feb	N19E40	126	240	6	Dai	13	BG	2			2				
02 Feb	N19E24	133	180	10	Dai	21	B								
03 Feb	N18E09	131	30	11	Eri	8	B				1				
04 Feb	N18W06	133	30	11	Cri	8	B				1				
05 Feb	N16W21	134	10	9	Bxo	4	B								
06 Feb	N17W35	135	plage												
07 Feb	N17W49	136	plage												
08 Feb	N17W63	137	plage								1				
09 Feb	N17W77	138	plage								1				
								11	0	0	8	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 133

		Region 3569													
30 Jan	S12E04	189	plage					1							
31 Jan	S12W10	189	10	1	Axx	1	A	1							
01 Feb	S12W24	190	plage												
02 Feb	S12W38	190	plage												
03 Feb	S12W52	192	plage												
04 Feb	S12W66	193	plage												
05 Feb	S12W81	194	plage												
								2	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 189

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 3570												
01 Feb	S04E50	116	20	5	Dro	1	B								
02 Feb	S04E35	117	20	5	Dro	5	B								
03 Feb	S04E21	119	20	6	Dro	7	B								
04 Feb	S05E08	119	20	6	Dro	4	B								
05 Feb	S05W07	120	10	5	Bxo	2	B								
06 Feb	S05W20	120	plage								1				
07 Feb	S03W35	122	plage												
08 Feb	S03W50	124	plage												
09 Feb	S03W65	126	plage												
10 Feb	S03W80	128	plage												
								0	0	0	1	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 120

			Region 3571												
01 Feb	S16E61	105	90	3	Hsx	2	A	5			1				
02 Feb	S17E49	103	110	3	Hsx	2	A	5	1			1			
03 Feb	S18E37	103	120	2	Hsx	2	A				1				
04 Feb	S17E23	104	130	2	Cso	3	B								
05 Feb	S17E08	105	100	3	Hsx	3	A								
06 Feb	S17W05	105	110	4	Hsx	5	A								
07 Feb	S17W17	104	120	3	Hax	5	A								
08 Feb	S19W28	102	80	2	Hax	2	A								
09 Feb	S18W43	103	70	3	Hax	2	A								
10 Feb	S17W54	104	80	5	Hsx	3	A								
11 Feb	S17W68	102	60	5	Hsx	3	A								
								10	1	0	2	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 105

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 3572												
01 Feb	S12E22	144	10	1	Axx	2	A								
02 Feb	S12E08	144	10	1	Axx	2	A								
03 Feb	S12W06	146	plage												
04 Feb	S12W20	147	plage												
05 Feb	S12W34	147	5	1	Axx	1	A								
06 Feb	S12W48	148	10	2	Bxo	2	B								
07 Feb	S12W61	148	10	3	Bxo	2	B								
08 Feb	S12W74	148	20	4	Hsx	1	A								
09 Feb	S12W88	149	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 146

			Region 3573												
01 Feb	N23E08	158	30	2	Cao	4	B	1							
02 Feb	N23W06	158	40	6	Cso	3	B								
03 Feb	N22W18	158	10	4	Cro	2	B								
04 Feb	N22W32	158	10	6	Cro	2	B								
05 Feb	N22W46	159	10	2	Bxo	2	B								
06 Feb	N21W61	161	10	2	Bxo	2	B								
07 Feb	N21W75	162	plage												
08 Feb	N21W89	163	plage												
								1	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 158

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 3574												
01 Feb	N15E70	96	90	2	Dao	2	B								
02 Feb	N15E58	94	90	5	Dso	2	B								
03 Feb	N15E44	96	90	6	Dso	2	B								
04 Feb	N16E32	95	60	5	Cso	3	B								
05 Feb	N16E17	96	30	5	Cao	2	B								
06 Feb	N17E03	97	30	6	Cso	3	B								
07 Feb	N17W08	95	20	5	Cro	3	B								
08 Feb	N16W22	96	20	2	Hsx	2	A	1							
09 Feb	N17W33	93	10	2	Axx	2	A								
10 Feb	N16W46	94	10	1	Axx	1	A								
11 Feb	N16W60	94	plage												
								1	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 97

			Region 3575												
02 Feb	S37W25	177	20	3	Bxi	8	B	1							
03 Feb	S37W37	177	280	7	Dkc	12	BGD				3				
04 Feb	S37W51	178	350	9	Dkc	12	BGD		1						
05 Feb	S36W64	177	270	8	Dkc	7	BGD	3			2				
06 Feb	S36W78	178	250	10	Dki	7	BGD	3	3		1				
07 Feb	S37W90	177	250	9	Cko	3	BD	4	1		2				
								11	5	0	8	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 177

			Region 3576												
03 Feb	S17E82	58	200	6	Dac	3	B	11							
04 Feb	S16E72	55	700	14	Ekc	18	BD	11	6		7				
05 Feb	S15E57	56	610	11	Ekc	13	BD	6	2		7	1			
06 Feb	S16E46	54	540	16	Fki	41	BGD	1			9	1			
07 Feb	S16E33	54	670	16	Fkc	37	BGD	2	1			2			
08 Feb	S16E17	57	670	16	Fkc	44	BGD	7	3		10	2	1		
09 Feb	S16E05	56	710	16	Fkc	27	BGD	6	2		6	1			
10 Feb	S16W09	57	730	18	Fkc	36	BGD	11	2		4	1			
11 Feb	S16W23	57	740	19	Fkc	44	BGD	2			3				
								57	16	0	46	8	1	0	0

Still on Disk.
Absolute heliographic longitude: 56

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 3577												
05 Feb	N25E20	93	5	3	Bxo	3	B								
06 Feb	N25E06	94	10	6	Bxo	4	B								
07 Feb	N25W07	94	10	5	Bxo	4	B				1				
08 Feb	N25W18	92	10	2	Hsx	1	A								
09 Feb	N22W29	90	10	1	Axx	1	A								
10 Feb	N22W43	91	plage												
11 Feb	N22W57	91	plage												
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 94

			Region 3578												
05 Feb	S03E67	46	5	1	Axx	1	A								
06 Feb	S05E53	47	20	5	Cro	3	B	1							
07 Feb	S05E40	47	30	4	Cro	4	B								
08 Feb	S04E26	48	20	4	Cso	3	B								
09 Feb	S04E11	50	plage												
10 Feb	S04W04	52	plage												
11 Feb	S04W19	53	plage												
								1	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 52

			Region 3579												
07 Feb	S14E60	27	50	2	Hax	1	A								
08 Feb	S12E37	37	30	5	Cro	3	B								
09 Feb	S11E17	44	20	1	Hsx	1	A								
10 Feb	S10E04	44	20	1	Hsx	1	A								
11 Feb	S09W10	44	20	1	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 44

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 3580												
08 Feb	N23W50	124	30	2	Hax	2	A								
09 Feb	N21W66	127	10	1	Axx	1	A								
10 Feb	N21W78	126	10	1	Axx	1	A								
11 Feb	N21W92	126	plage												
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 124

			Region 3581												
08 Feb	S20E68	46	60	2	Hsx	1	A								
09 Feb	S21E58	3	80	2	Hsx	1	A								
10 Feb	S21E44	4	100	1	Hsx	1	A								
11 Feb	S21E31	2	80	1	Hsx	2	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 2

			Region 3582												
10 Feb	N06E14	34	40	4	Cao	6	B	1							
11 Feb	N06E01	33	60	7	Cao	9	B	1							
								2	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 33

			Region 3583												
10 Feb	N09E42	6	20	4	Cro	6	B								
11 Feb	N09E29	5	110	7	Dso	14	B	3			2				
								3	0	0	2	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 5

			Region 3584												
10 Feb	S15E71	337	20	1	Hsx	1	A								
11 Feb	S15E57	337	20	1	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 337

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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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