

**Space Weather Highlights**  
**17 February - 23 February 2025**

**SWPC PRF 2582**  
**24 February 2025**

Solar activity was at low levels on 18-20 and 22 Feb, moderate levels on 17 and 21 Feb, and reached high levels on 23 Feb. In total, seven M-class flares (R1-Minor) were observed, ranging from M1.0 to M4.9, and one X-class (R3-Strong) flare. Contributing regions were 3992 (S06, L=246, class/area Eai/090 on 17 Feb), 3998 (S14, L=114, class/area Ekc/290 on 23 Feb), 4000 (N17, L=105, class/area Dai/180 on 22 Feb), and 4001 (N24, L=176, class/area Dai/050 on 23 Feb). The sole X flare was an X2.0 from Region 4001 at 23/1927 UTC.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 17-18 Feb due to persistent negative polarity CH influence, and was at normal to moderate levels on 19-23 Feb.

Geomagnetic field activity reached G1 (Minor) storm levels on 18-19 Feb, and saw an isolated active period on 20 Feb, due to persistent negative polarity CH influence. Conditions were at quiet to unsettled levels 21-23 Feb as CH effects dissipated.

**Space Weather Outlook**  
**24 February - 22 March 2025**

Solar activity is expected to range from low to moderate levels throughout the period. R1-R2 (Minor-Moderate) activity is possible at different points throughout the period as active regions grow, evolve, return from the far-side of the Sun. There is a slight chance for R3 or greater events if any of the active regions develop additional complex magnetic structures.

There is a slight chance for S1 (Minor) or greater proton events, pending the development and activity of the active regions.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels from 24 Feb-09 Mar and 19-22 Mar. From 10-18 Mar, high levels are likely as recurrent negative polarity coronal holes are expected to move into geoeffective positions.

Geomagnetic field activity is expected to be at quiet to unsettled levels on 24 Feb-06 Mar with periodic, weak CH influences. Unsettled to active levels, with isolated G1 (Minor) storming conditions are likely from 07-18 Mar as recurrent negative polarity CHs are expected to be in a geoeffective position. A return to mostly quiet conditions is expected on 19-22 Mar as the CHs move out of a favorable position.



### **Daily Solar Data**

| Date        | Radio Flux<br>10.7cm | Sun spot<br>No. | Sunspot Area<br>( $10^{-6}$ hemi.) | X-ray<br>Background<br>Flux | Flares |   |   |         |   |   |   |
|-------------|----------------------|-----------------|------------------------------------|-----------------------------|--------|---|---|---------|---|---|---|
|             |                      |                 |                                    |                             | X-ray  |   |   | Optical |   |   |   |
| C           | M                    | X               | S                                  | 1                           | 2      | 3 | 4 |         |   |   |   |
| 17 February | 185                  | 218             | 1550                               | C1.2                        | 17     | 1 | 0 | 9       | 0 | 0 | 0 |
| 18 February | 178                  | 187             | 1465                               | B9.9                        | 11     | 0 | 0 | 0       | 0 | 0 | 0 |
| 19 February | 178                  | 119             | 1315                               | B9.9                        | 6      | 0 | 0 | 1       | 0 | 0 | 0 |
| 20 February | 184                  | 123             | 1335                               | C1.2                        | 6      | 0 | 0 | 0       | 0 | 0 | 0 |
| 21 February | 197                  | 138             | 1240                               | C1.6                        | 6      | 2 | 0 | 11      | 2 | 0 | 0 |
| 22 February | 199                  | 215             | 1230                               | C1.9                        | 15     | 0 | 0 | 11      | 0 | 0 | 0 |
| 23 February | 210                  | 186             | 1150                               | C2.7                        | 7      | 4 | 1 | 7       | 0 | 0 | 0 |

### **Daily Particle Data**

| Date        | Proton Fluence<br>(protons/cm <sup>2</sup> -day -sr) |         | >2MeV | Electron Fluence<br>(electrons/cm <sup>2</sup> -day -sr) |         |
|-------------|--|---------|-------|--|---------|
|             | >1 MeV   | >10 MeV |       | >2MeV  |         |
| 17 February | 5.0e+05  | 1.7e+04 |       |  | 9.5e+07 |
| 18 February | 7.8e+05  | 1.7e+04 |       |  | 4.9e+07 |
| 19 February | 3.4e+05  | 1.6e+04 |       |  | 1.2e+07 |
| 20 February | 4.5e+04  | 1.6e+04 |       |  | 9.2e+06 |
| 21 February | 8.3e+04  | 1.8e+04 |       |  | 1.5e+07 |
| 22 February | 1.2e+07  | 2.6e+04 |       |  | 9.9e+06 |
| 23 February | 5.7e+06  | 1.9e+04 |       |  | 4.7e+06 |

### **Daily Geomagnetic Data**

| Date        | Middle Latitude |                 | High Latitude |                 | Estimated |                     |
|-------------|-----------------|-----------------|---------------|-----------------|-----------|---------------------|
|             | A               | K-indices       | A             | K-indices       | A         | Planetary K-indices |
| 17 February | 11              | 2-3-2-2-3-3-2-3 | 20            | 2-2-2-4-5-5-2-2 | 15        | 3-3-2-2-3-4-2-3     |
| 18 February | 10              | 3-2-1-1-1-3-1-4 | 12            | 3-4-2-0-1-3-3-3 | 14        | 4-3-2-1-1-3-1-5     |
| 19 February | 13              | 4-2-3-2-2-2-3-3 | 19            | 4-3-5-3-2-2-3-3 | 20        | 5-3-4-2-2-2-4-3     |
| 20 February | 5               | 3-2-1-0-2-1-0-1 | 4             | 3-2-1-1-0-0-0-0 | 7         | 4-3-1-1-1-0-0-1     |
| 21 February | 6               | 3-0-1-1-2-2-2-1 | 3             | 1-0-1-1-3-0-0-0 | 6         | 3-1-1-1-2-1-1-2     |
| 22 February | 3               | 2-0-0-0-2-2-1-1 | 5             | 2-0-1-3-3-0-1-0 | 7         | 3-1-1-1-2-1-1-2     |
| 23 February | 6               | 2-1-1-1-2-2-3   | 2             | 1-1-1-2-0-0-0-1 | 15        | 3-2-1-1-0-1-1-3     |

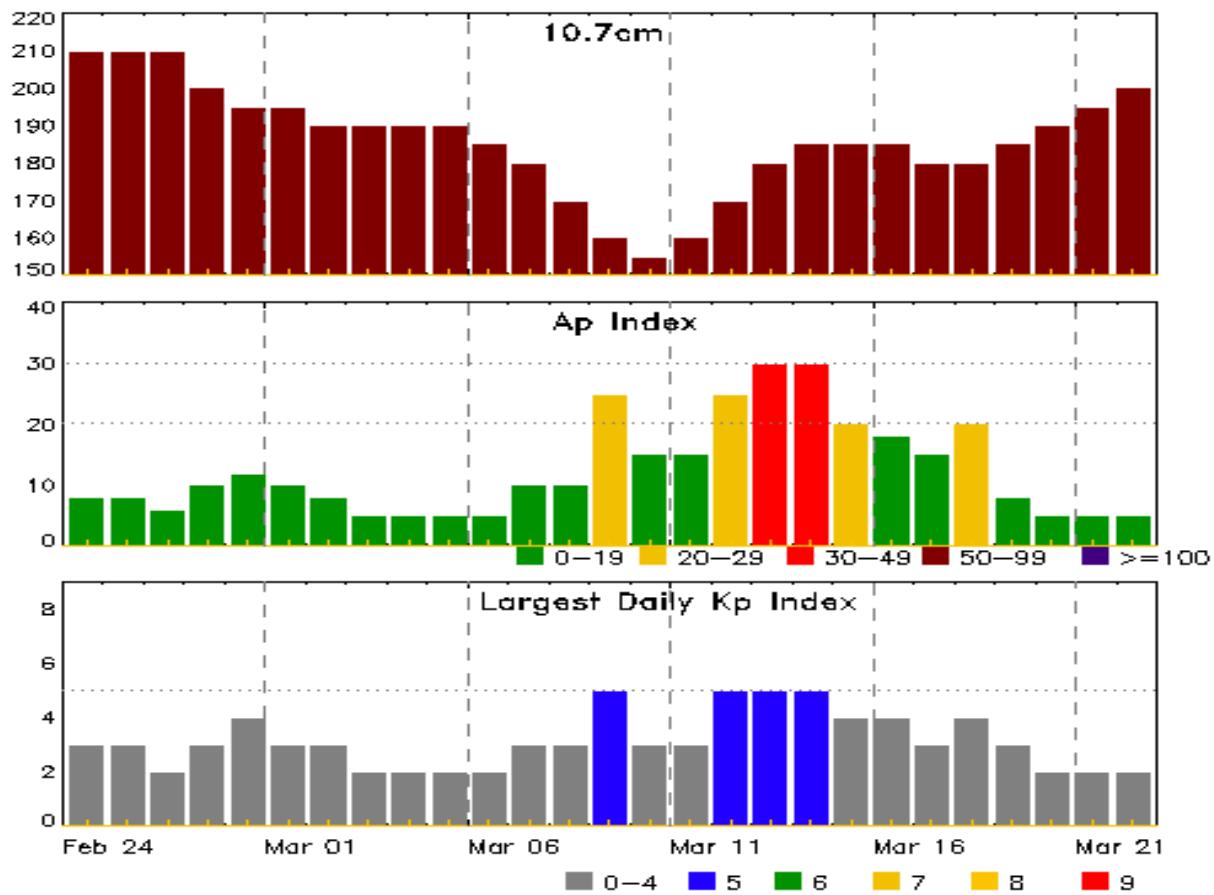


## ***Alerts and Warnings Issued***

| <b>Date &amp; Time<br/>of Issue UTC</b> | <b>Type of Alert or Warning</b>                                | <b>Date &amp; Time<br/>of Event UTC</b> |
|---|--|---|
| 17 Feb 0347                             | CONTINUED ALERT:<br>Electron 2MeV Integral Flux $\geq$ 1000pfu | 11/1405                                 |
| 17 Feb 0444                             | EXTENDED WARNING: Geomagnetic K = 4                            | 13/0527 - 17/1200                       |
| 17 Feb 1124                             | EXTENDED WARNING: Geomagnetic K = 4                            | 13/0527 - 17/2359                       |
| 17 Feb 2347                             | EXTENDED WARNING: Geomagnetic K = 4                            | 13/0527 - 18/0900                       |
| 18 Feb 0855                             | EXTENDED WARNING: Geomagnetic K = 4                            | 13/0527 - 18/1500                       |
| 18 Feb 2235                             | WARNING: Geomagnetic K = 4                                     | 18/2234 - 19/0900                       |
| 18 Feb 2236                             | ALERT: Geomagnetic K = 4                                       |   |
| 18 Feb 2243                             | WARNING: Geomagnetic K = 5                                     | 18/2242 - 19/0300                       |
| 19 Feb 0002                             | ALERT: Geomagnetic K = 5                                       |   |
| 19 Feb 0149                             | ALERT: Geomagnetic K = 5                                       |   |
| 19 Feb 0737                             | EXTENDED WARNING: Geomagnetic K = 4                            | 18/2234 - 19/1500                       |
| 19 Feb 0804                             | WARNING: Geomagnetic K = 5                                     | 19/0804 - 1500                          |
| 19 Feb 2025                             | WARNING: Geomagnetic K = 4                                     | 19/2024 - 20/0600                       |
| 19 Feb 2058                             | ALERT: Geomagnetic K = 4                                       |   |
| 20 Feb 0837                             | ALERT: Type II Radio Emission                                  | 19/2338                                 |
| 20 Feb 0909                             | SUMMARY: 10cm Radio Burst                                      | 20/0444 - 0445                          |
| 23 Feb 1931                             | ALERT: X-ray Flux exceeded M5                                  | 23/1925                                 |
| 23 Feb 2014                             | SUMMARY: X-ray Event exceeded X1                               | 23/1922 - 1934                          |



## Twenty-seven Day Outlook



| Date   | Radio Flux | Planetary | Largest  | Date   | Radio Flux | Planetary | Largest  |
|--------|------------|-----------|----------|--------|------------|-----------|----------|
|        | 10.7cm     | A Index   | Kp Index |        | 10.7cm     | A Index   | Kp Index |
| 24 Feb | 210        | 8         | 3        | 10 Mar | 155        | 15        | 3        |
| 25     | 210        | 8         | 3        | 11     | 160        | 15        | 3        |
| 26     | 210        | 6         | 2        | 12     | 170        | 25        | 5        |
| 27     | 200        | 10        | 3        | 13     | 180        | 30        | 5        |
| 28     | 195        | 12        | 4        | 14     | 185        | 30        | 5        |
| 01 Mar | 195        | 10        | 3        | 15     | 185        | 20        | 4        |
| 02     | 190        | 8         | 3        | 16     | 185        | 18        | 4        |
| 03     | 190        | 5         | 2        | 17     | 180        | 15        | 3        |
| 04     | 190        | 5         | 2        | 18     | 180        | 20        | 4        |
| 05     | 190        | 5         | 2        | 19     | 185        | 8         | 3        |
| 06     | 185        | 5         | 2        | 20     | 190        | 5         | 2        |
| 07     | 180        | 10        | 3        | 21     | 195        | 5         | 2        |
| 08     | 170        | 10        | 3        | 22     | 200        | 5         | 2        |
| 09     | 160        | 25        | 5        |        |            |           |          |

## ***Energetic Events***

| Date   | Time  |      |          | X-ray |            | Optical Information |              |       | Peak           |      | Sweep Freq |    |
|--------|-------|------|----------|-------|------------|---------------------|--------------|-------|----------------|------|------------|----|
|        | Begin | Max  | Half Max | Class | Integ Flux | Imp/ Brtns          | Location Lat | CMD # | Radio Flux 245 | 2695 | II         | IV |
| 17 Feb | 1507  | 1513 | 1523     | M1.0  | 0.008      | SF                  | S05W76       |       | 3992           |      |            |    |
| 21 Feb | 1205  | 1215 | 1219     | M3.3  | 0.010      | 1B                  | N18E17       |       | 4000           | 110  |            |    |
| 21 Feb | 1431  | 1435 | 1439     | M1.4  | 0.003      | SN                  | N18E16       |       | 4000           |      |            |    |
| 23 Feb | 0200  | 0213 | 0223     | M4.9  | 0.033      |                     |              |       | 4001           |      | 120        |    |
| 23 Feb | 0954  | 0956 | 1001     | M1.0  | 0.004      |                     |              |       | 3998           |      |            |    |
| 23 Feb | 1147  | 1158 | 1207     | M1.6  | 0.013      |                     |              |       | 4001           |      |            |    |
| 23 Feb | 1618  | 1635 | 1651     | M1.0  | 0.015      | SN                  | S12W23       |       | 3998           |      |            |    |
| 23 Feb | 1922  | 1927 | 1934     | X2.0  | 0.086      |                     |              |       | 4001           | 3600 | 180        |    |

## ***Flare List***

| Date   | Time  |      |      | Optical     |            |              |       |
|--------|-------|------|------|-------------|------------|--------------|-------|
|        | Begin | Max  | End  | X-ray Class | Imp/ Brtns | Location Lat | Rgn # |
| 17 Feb | 0149  | 0158 | 0205 | C2.2        |            |              | 3998  |
| 17 Feb | 0216  | 0228 | 0234 | C3.6        |            |              | 3998  |
| 17 Feb | 0255  | 0300 | 0306 | C2.2        |            |              | 3992  |
| 17 Feb | 0358  | 0401 | 0408 | C2.7        |            |              | 3998  |
| 17 Feb | 0424  | 0446 | 0456 | C5.9        |            |              | 3992  |
| 17 Feb | 0726  | 0736 | 0744 | C2.6        |            |              | 3992  |
| 17 Feb | 0807  | 0818 | 0830 | C2.9        |            |              | 3998  |
| 17 Feb | 1143  | 1152 | 1202 | C3.9        |            |              | 3998  |
| 17 Feb | 1332  | 1340 | 1345 | C3.9        |            |              | 3998  |
| 17 Feb | 1446  | 1455 | 1507 | C5.7        | SN         | N00E24       | 3997  |
| 17 Feb | 1448  | 1454 | 1531 |             | SF         | S16E60       | 3998  |
| 17 Feb | 1507  | 1513 | 1523 | M1.0        | SF         | S05W76       | 3992  |
| 17 Feb | 1546  | 1556 | 1631 | C4.4        | SF         | S16E60       | 3998  |
| 17 Feb | 1716  | 1720 | 1726 |             | SF         | S16E60       | 3998  |
| 17 Feb | 1752  | 1802 | 1820 |             | SF         | S15E58       | 3998  |
| 17 Feb | 1753  | 1753 | 1800 |             | SF         | S09W19       | 3990  |
| 17 Feb | 1827  | 1833 | 1837 | C2.2        | SF         | S15E58       | 3998  |
| 17 Feb | 1935  | 1942 | 1946 | C1.8        | SF         | S05W82       | 3992  |
| 17 Feb | 2017  | 2022 | 2027 | C1.6        |            |              | 3986  |
| 17 Feb | 2140  | 2152 | 2204 | C2.3        |            |              | 3998  |
| 17 Feb | 2204  | 2212 | 2218 | C2.1        |            |              | 3998  |
| 17 Feb | 2330  | 2340 | 2357 | C2.4        |            |              | 3998  |
| 18 Feb | 0031  | 0035 | 0047 | C2.2        |            |              | 3992  |



## Flare List

| Date   | Time  |      |      | Optical     |           |                  |       |
|--------|-------|------|------|-------------|-----------|------------------|-------|
|        | Begin | Max  | End  | X-ray Class | Imp/Brtns | Location Lat CMD | Rgn # |
| 18 Feb | 0047  | 0108 | 0126 | C5.7        |           |                  | 3990  |
| 18 Feb | 0126  | 0130 | 0135 | C5.2        |           |                  | 3998  |
| 18 Feb | 0358  | 0403 | 0407 | C3.3        |           |                  | 3998  |
| 18 Feb | 0407  | 0412 | 0420 | C3.7        |           |                  | 3996  |
| 18 Feb | 0745  | 0750 | 0755 | C3.9        |           |                  | 3992  |
| 18 Feb | 1125  | 1133 | 1139 | C1.6        |           |                  | 3990  |
| 18 Feb | 1200  | 1209 | 1215 | C1.7        |           |                  | 3990  |
| 18 Feb | 1659  | 1710 | 1714 | C3.0        |           |                  | 3992  |
| 18 Feb | 1714  | 1719 | 1724 | C2.8        |           |                  | 3992  |
| 18 Feb | 1811  | 1817 | 1823 | C1.8        |           |                  | 3992  |
| 19 Feb | 0355  | 0407 | 0427 | C2.7        |           |                  | 3992  |
| 19 Feb | 1004  | 1016 | 1032 | C3.4        |           |                  | 3990  |
| 19 Feb | 1041  | 1049 | 1058 | C4.2        |           |                  | 3997  |
| 19 Feb | 1550  | 1558 | 1605 | C1.5        |           |                  | 3990  |
| 19 Feb | 1929  | 1933 | 1938 | C2.8        | SF        | S17E19           | 3996  |
| 19 Feb | 2323  | 2345 | 2359 | C8.1        |           |                  | 3991  |
| 20 Feb | 0236  | 0244 | 0255 | C1.5        |           |                  | 3990  |
| 20 Feb | 0611  | 0617 | 0623 | C1.5        |           |                  | 3996  |
| 20 Feb | 0834  | 0849 | 0903 | C1.8        |           |                  | 3996  |
| 20 Feb | 1401  | 1408 | 1413 | C1.9        |           |                  | 3996  |
| 20 Feb | 1453  | 1501 | 1505 | C4.9        |           |                  | 3996  |
| 20 Feb | 2211  | 2220 | 2228 | C2.2        |           |                  | 3998  |
| 21 Feb | 0756  | 0810 | 0824 | C4.4        | SF        | S12E10           | 3998  |
| 21 Feb | 1112  | 1119 | 1125 | C5.8        | SF        | S09W70           | 3990  |
| 21 Feb | 1205  | 1215 | 1219 | M3.3        | 1B        | N18E17           | 4000  |
| 21 Feb | 1359  | 1401 | 1424 |             | SF        | S12E05           | 3998  |
| 21 Feb | 1431  | 1435 | 1439 | M1.4        | SN        | N18E16           | 4000  |
| 21 Feb | 1449  | 1449 | 1454 |             | SF        | S13E06           | 3998  |
| 21 Feb | 1521  | 1530 | 1543 |             | SF        | S13E06           | 3998  |
| 21 Feb | 1530  | 1530 | 1537 |             | SF        | S17W06           | 3996  |
| 21 Feb | 1552  | 1559 | 1603 | C7.6        | 1N        | S18W16           | 3996  |
| 21 Feb | 1725  | 1725 | 1729 |             | SF        | S14W17           | 3996  |
| 21 Feb | 1804  | 1807 | 1809 |             | SF        | N17E11           | 4000  |
| 21 Feb | 1850  | 1859 | 1905 | C3.6        | SF        | S08W73           | 3990  |
| 21 Feb | 1942  | 1953 | 2002 | C3.9        |           |                  | 3998  |
| 21 Feb | 2239  | 2248 | 2253 | C4.8        | SF        | N19E12           | 4000  |
| 22 Feb | 0015  | 0022 | 0027 | C3.1        |           |                  | 4000  |
| 22 Feb | 0142  | 0148 | 0153 | C3.2        |           |                  | 3990  |



## Flare List

| Date   | Time  |      |      | Optical     |           |                  |       |
|--------|-------|------|------|-------------|-----------|------------------|-------|
|        | Begin | Max  | End  | X-ray Class | Imp/Brtns | Location Lat CMD | Rgn # |
| 22 Feb | 0243  | 0306 | 0317 | C8.1        |           |                  | 4001  |
| 22 Feb | 0317  | 0321 | 0325 | C7.4        |           |                  | 4000  |
| 22 Feb | 0700  | 0705 | 0709 | C3.3        |           |                  | 3990  |
| 22 Feb | 1052  | 1052 | 1054 |             | SF        | S15W28           | 3996  |
| 22 Feb | 1300  | 1301 | 1306 |             | SF        | S13W06           | 3998  |
| 22 Feb | 1344  | 1348 | 1355 |             | SF        | S11W10           | 3998  |
| 22 Feb | 1640  | 1644 | 1650 | C3.2        | SF        | S11W10           | 3998  |
| 22 Feb | 1727  | 1732 | 1749 | C2.6        |           |                  |       |
| 22 Feb | 1825  | 1829 | 1833 | C3.3        |           |                  | 3998  |
| 22 Feb | 1833  | 1845 | 1855 | C3.9        |           |                  |       |
| 22 Feb | 1841  | 1844 | 1901 |             | SF        | S12W11           | 3998  |
| 22 Feb | 1942  | 1948 | 1953 | C2.9        | SF        | S12W11           | 3998  |
| 22 Feb | 2001  | 2009 | 2014 | C4.0        |           |                  | 3998  |
| 22 Feb | 2017  | 2021 | 2034 | C3.7        |           |                  | 3998  |
| 22 Feb | 2046  | 2049 | 2054 | C3.5        |           |                  | 3998  |
| 22 Feb | 2055  | 2107 | 2122 | C8.3        |           |                  | 4001  |
| 22 Feb | 2149  | 2155 | 2200 | C5.7        | SF        | S12W11           | 3998  |
| 22 Feb | 2228  | 2233 | 2239 |             | SF        | S12W11           | 3998  |
| 22 Feb | 2248  | 2248 | 2303 |             | SF        | S11W16           | 3998  |
| 22 Feb | 2304  | 2305 | 2312 |             | SF        | S11W16           | 3998  |
| 22 Feb | 2313  | 2316 | 2322 |             | SF        | S11W16           | 3998  |
| 23 Feb | 0039  | 0048 | 0054 | C4.6        |           |                  | 3998  |
| 23 Feb | 0200  | 0213 | 0223 | M4.9        |           |                  | 4001  |
| 23 Feb | 0431  | 0450 | 0522 | C6.2        |           |                  | 3998  |
| 23 Feb | 0901  | 0914 | 0922 | C7.5        |           |                  | 3998  |
| 23 Feb | 0954  | 0956 | 1001 | M1.0        |           |                  | 3998  |
| 23 Feb | 1147  | 1158 | 1207 | M1.6        |           |                  | 4001  |
| 23 Feb | 1507  | 1512 | 1516 | C5.3        | SN        | S11W24           | 3998  |
| 23 Feb | 1618  | 1635 | 1651 | M1.0        | SN        | S12W23           | 3998  |
| 23 Feb | 1717  | 1721 | 1731 | C9.5        | SF        | S12W23           | 3998  |
| 23 Feb | 1902  | 1907 | 1913 | C5.4        | SF        | S12W24           | 3998  |
| 23 Feb | 1922  | 1927 | 1934 | X2.0        |           |                  | 4001  |
| 23 Feb | 1954  | 1955 | 1958 |             | SF        | N17E67           |       |
| 23 Feb | 2138  | 2142 | 2147 | C5.0        | SF        | S10W24           | 3998  |
| 23 Feb | 2151  | 2151 | 2159 |             | SF        | S11W28           | 3998  |



## ***Region Summary***

| Date               | Lat    | CMD | Location |     | Sunspot Characteristics |                 |               |               | Flares       |       |   |   |         |   |   |   |
|--------------------|--------|-----|----------|-----|-------------------------|-----------------|---------------|---------------|--------------|-------|---|---|---------|---|---|---|
|                    |        |     | Helio    | Lon | Area<br>$10^6$          | Extent<br>hemi. | Spot<br>Class | Spot<br>Count | Mag<br>Class | X-ray |   |   | Optical |   |   |   |
|                    |        |     |          |     |                         |                 |               |               |              | C     | M | X | S       | 1 | 2 | 3 |
| <b>Region 3986</b> |        |     |          |     |                         |                 |               |               |              |       |   |   |         |   |   |   |
| 05 Feb             | N05E69 |     | 254      |     | 50                      |                 | 3             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 06 Feb             | N06E56 |     | 254      |     | 50                      |                 | 2             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 07 Feb             | N06E42 |     | 254      |     | 170                     |                 | 3             | Hsx           | 1            | A     |   | 2 |         |   |   |   |
| 08 Feb             | N06E27 |     | 256      |     | 170                     |                 | 3             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 09 Feb             | N06E15 |     | 255      |     | 140                     |                 | 3             | Hsx           | 2            | A     |   |   |         |   |   |   |
| 10 Feb             | N06W00 |     | 257      |     | 140                     |                 | 3             | Hsx           | 2            | A     |   |   |         |   |   |   |
| 11 Feb             | N06W15 |     | 259      |     | 150                     |                 | 3             | Hsx           | 2            | A     |   |   |         |   |   |   |
| 12 Feb             | N06W30 |     | 261      |     | 140                     |                 | 3             | Hsx           | 2            | A     |   |   |         |   |   |   |
| 13 Feb             | N06W44 |     | 261      |     | 120                     |                 | 2             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 14 Feb             | N06W51 |     | 255      |     | 70                      |                 | 3             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 15 Feb             | N06W62 |     | 253      |     | 80                      |                 | 2             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 16 Feb             | N05W76 |     | 254      |     | 90                      |                 | 3             | Hsx           | 1            | A     |   |   |         |   |   |   |
| 17 Feb             | N06W90 |     | 254      |     | 80                      |                 | 3             | Hsx           | 1            | A     |   | 1 |         |   |   |   |
|                    |        |     |          |     |                         |                 |               |               |              |       | 3 | 0 | 0       | 0 | 0 | 0 |

Crossed West Limb.

Absolute heliographic longitude: 257

## ***Region 3987***

|        |        |  |     |  |       |  |   |     |   |   |  |  |   |   |   |   |
|--------|--------|--|-----|--|-------|--|---|-----|---|---|--|--|---|---|---|---|
| 06 Feb | S09E65 |  | 245 |  | 30    |  | 2 | Hsx | 1 | A |  |  |   |   |   |   |
| 07 Feb | S09E50 |  | 246 |  | 20    |  | 2 | Hrx | 2 | A |  |  |   |   |   |   |
| 08 Feb | S09E36 |  | 247 |  | 20    |  | 2 | Hrx | 2 | A |  |  |   |   |   |   |
| 09 Feb | S09E24 |  | 246 |  | 10    |  | 3 | Hrx | 3 | A |  |  | 1 |   |   |   |
| 10 Feb | S09E10 |  | 247 |  | 10    |  | 3 | Bxo | 2 | B |  |  |   |   |   |   |
| 11 Feb | S09W04 |  | 248 |  | 10    |  | 6 | Bxo | 6 | B |  |  |   |   |   |   |
| 12 Feb | S09W18 |  | 249 |  | plage |  |   |     |   |   |  |  |   |   |   |   |
| 13 Feb | S09W33 |  | 250 |  | plage |  |   |     |   |   |  |  |   |   |   |   |
| 14 Feb | S07W47 |  | 251 |  | plage |  |   |     |   |   |  |  |   | 1 |   |   |
| 15 Feb | S07W61 |  | 252 |  | plage |  |   |     |   |   |  |  |   |   |   |   |
| 16 Feb | S07W75 |  | 253 |  | plage |  |   |     |   |   |  |  |   |   |   |   |
| 17 Feb | S07W89 |  | 254 |  | plage |  |   |     |   |   |  |  |   | 0 | 0 | 0 |

Crossed West Limb.

Absolute heliographic longitude: 248

## ***Region Summary - continued***

| Date               | Lat    | CMD | Location |     | Sunspot Characteristics |                   |               |               | Flares       |       |         |   |
|--------------------|--------|-----|----------|-----|-------------------------|-------------------|---------------|---------------|--------------|-------|---------|---|
|                    |        |     | Helio    | Lon | Area<br>$10^{-6}$ hemi. | Extent<br>(helio) | Spot<br>Class | Spot<br>Count | Mag<br>Class | X-ray | Optical |   |
|                    |        |     |          |     |                         |                   |               |               |              | C     | M       | X |
|                    |        |     |          |     |                         |                   |               |               |              | S     | 1       | 2 |
|                    |        |     |          |     |                         |                   |               |               |              | 3     | 4       |   |
| <b>Region 3989</b> |        |     |          |     |                         |                   |               |               |              |       |         |   |
| 09 Feb             | N18E64 |     | 206      | 120 | 2                       | Hsx               | 1             | A             |              |       |         |   |
| 10 Feb             | N18E50 |     | 207      | 160 | 2                       | Hsx               | 1             | A             |              |       |         |   |
| 11 Feb             | N18E36 |     | 208      | 170 | 3                       | Hsx               | 1             | A             |              |       |         |   |
| 12 Feb             | N18E22 |     | 209      | 200 | 3                       | Hsx               | 1             | A             |              |       |         |   |
| 13 Feb             | N18E07 |     | 210      | 250 | 3                       | Hhx               | 1             | A             | 1            |       |         |   |
| 14 Feb             | N18W00 |     | 204      | 250 | 3                       | Hhx               | 1             | A             | 1            |       |         |   |
| 15 Feb             | N18W14 |     | 205      | 270 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 16 Feb             | N18W28 |     | 206      | 270 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 17 Feb             | N19W39 |     | 204      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 18 Feb             | N19W53 |     | 205      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 19 Feb             | N19W65 |     | 203      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 20 Feb             | N19W79 |     | 204      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 21 Feb             | N19W93 |     | 205      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
|                    |        |     |          |     |                         |                   |               |               |              | 2     | 0       | 0 |
|                    |        |     |          |     |                         |                   |               |               |              | 0     | 0       | 0 |
|                    |        |     |          |     |                         |                   |               |               |              | 0     | 0       | 0 |
|                    |        |     |          |     |                         |                   |               |               |              | 0     | 0       | 0 |

Crossed West Limb.

Absolute heliographic longitude: 204

## **Region 3990**

|        |        |  |     |     |    |     |    |    |   |    |   |   |
|--------|--------|--|-----|-----|----|-----|----|----|---|----|---|---|
| 10 Feb | S09E68 |  | 189 | 220 | 3  | Cao | 3  | B  |   |    |   |   |
| 11 Feb | S09E54 |  | 190 | 260 | 6  | Dko | 3  | BG | 1 |    |   |   |
| 12 Feb | S09E40 |  | 191 | 260 | 7  | Dko | 7  | BG | 1 |    |   |   |
| 13 Feb | S09E26 |  | 191 | 310 | 9  | Cki | 7  | BG | 3 | 5  |   |   |
| 14 Feb | S10E13 |  | 191 | 310 | 7  | Dki | 8  | BG | 2 | 2  | 1 |   |
| 15 Feb | S09W00 |  | 191 | 310 | 13 | Cki | 18 | BG | 1 |    |   |   |
| 16 Feb | S08W14 |  | 192 | 280 | 14 | Cki | 42 | BG |   |    |   |   |
| 17 Feb | S09W23 |  | 188 | 250 | 11 | Cko | 17 | BG |   | 1  |   |   |
| 18 Feb | S09W37 |  | 189 | 250 | 11 | Cko | 12 | BG | 3 |    |   |   |
| 19 Feb | S09W50 |  | 188 | 250 | 3  | Cko | 6  | B  | 2 |    |   |   |
| 20 Feb | S09W64 |  | 189 | 250 | 3  | Cko | 6  | B  | 1 |    |   |   |
| 21 Feb | S09W78 |  | 190 | 120 | 3  | Cso | 3  | B  | 2 | 2  |   |   |
| 22 Feb | S09W91 |  | 190 | 120 | 3  | Cso | 2  | B  | 2 |    |   |   |
|        |        |  |     |     |    |     |    |    |   | 16 | 2 | 0 |
|        |        |  |     |     |    |     |    |    |   | 10 | 1 | 0 |
|        |        |  |     |     |    |     |    |    |   | 0  | 0 | 0 |

Crossed West Limb.

Absolute heliographic longitude: 191



## ***Region Summary - continued***

| Date                      | Lat    | CMD | Location |     | Sunspot Characteristics |                   |               |               |              | Flares |   |   |         |   |   |   |
|---------------------------|--------|-----|----------|-----|-------------------------|-------------------|---------------|---------------|--------------|--------|---|---|---------|---|---|---|
|                           |        |     | Helio    | Lon | Area<br>$10^6$ hemi.    | Extent<br>(helio) | Spot<br>Class | Spot<br>Count | Mag<br>Class | X-ray  |   |   | Optical |   |   |   |
|                           |        |     |          |     |                         |                   |               |               |              | C      | M | X | S       | 1 | 2 | 3 |
| <b><i>Region 3991</i></b> |        |     |          |     |                         |                   |               |               |              |        |   |   |         |   |   |   |
| 11 Feb                    | S12E70 |     | 174      |     | 30                      |                   | 1             | Hsx           | 1            | A      |   | 1 |         |   |   |   |
| 12 Feb                    | S12E58 |     | 173      |     | 30                      |                   | 7             | Cso           | 3            | B      |   |   |         |   |   |   |
| 13 Feb                    | S12E44 |     | 173      |     | 20                      |                   | 2             | Hrx           | 2            | A      |   |   |         |   |   |   |
| 14 Feb                    | S12E31 |     | 173      |     | 20                      |                   | 1             | Hrx           | 1            | A      |   |   |         |   |   |   |
| 15 Feb                    | S13E17 |     | 174      |     | 10                      |                   | 2             | Axx           | 2            | A      |   |   |         |   |   |   |
| 16 Feb                    | S13E03 |     | 175      |     | 20                      |                   | 4             | Cro           | 6            | B      |   |   |         |   |   |   |
| 17 Feb                    | S14W10 |     | 175      |     | 10                      |                   | 1             | Axx           | 1            | A      |   |   |         |   |   |   |
| 18 Feb                    | S14W24 |     | 176      |     | plage                   |                   |               |               |              |        |   |   |         |   |   |   |
| 19 Feb                    | S14W38 |     | 176      |     | plage                   |                   |               |               |              |        |   |   | 1       |   |   |   |
| 20 Feb                    | S14W52 |     | 177      |     | plage                   |                   |               |               |              |        |   |   |         |   |   |   |
| 21 Feb                    | S14W66 |     | 178      |     | plage                   |                   |               |               |              |        |   |   |         |   |   |   |
| 22 Feb                    | S13W78 |     | 176      |     | 10                      |                   | 5             | Axx           | 2            | A      |   |   |         |   |   |   |
| 23 Feb                    | S09W85 |     | 171      |     | 10                      |                   | 4             | Cro           | 3            | B      |   |   |         | 2 | 0 | 0 |
|                           |        |     |          |     |                         |                   |               |               |              |        |   |   |         | 0 | 0 | 0 |
|                           |        |     |          |     |                         |                   |               |               |              |        |   |   |         | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 175

## ***Region 3992***

|        |        |  |     |  |     |  |    |     |    |    |    |   |   |   |   |   |
|--------|--------|--|-----|--|-----|--|----|-----|----|----|----|---|---|---|---|---|
| 12 Feb | S06W11 |  | 242 |  | 150 |  | 6  | Dai | 11 | BG | 2  |   |   |   |   |   |
| 13 Feb | S06W26 |  | 243 |  | 210 |  | 9  | Dai | 16 | BG | 2  | 1 |   |   | 5 |   |
| 14 Feb | S07W40 |  | 244 |  | 90  |  | 12 | Eai | 11 | BG |    |   |   |   |   |   |
| 15 Feb | S05W54 |  | 245 |  | 60  |  | 11 | Eao | 7  | BG | 1  |   |   |   |   |   |
| 16 Feb | S05W67 |  | 245 |  | 70  |  | 14 | Eao | 5  | BG | 3  |   |   |   |   |   |
| 17 Feb | S06W81 |  | 246 |  | 90  |  | 14 | Eai | 17 | BG | 4  | 1 |   |   | 2 |   |
| 18 Feb | S06W96 |  | 248 |  | 90  |  | 14 | Eai | 17 | BG | 5  |   |   |   |   |   |
|        |        |  |     |  |     |  |    |     |    |    | 17 | 2 | 0 | 7 | 0 | 0 |
|        |        |  |     |  |     |  |    |     |    |    |    |   |   | 0 | 0 | 0 |

Crossed West Limb.

Absolute heliographic longitude: 242

## ***Region Summary - continued***

| Date               | Lat    | CMD | Location |     | Sunspot Characteristics |                   |               |               | Flares       |       |         |   |
|--------------------|--------|-----|----------|-----|-------------------------|-------------------|---------------|---------------|--------------|-------|---------|---|
|                    |        |     | Helio    | Lon | Area<br>$10^{-6}$ hemi. | Extent<br>(helio) | Spot<br>Class | Spot<br>Count | Mag<br>Class | X-ray | Optical |   |
|                    |        |     |          |     |                         |                   |               |               |              | C     | M       | X |
|                    |        |     |          |     |                         |                   |               |               |              | S     | 1       | 2 |
|                    |        |     |          |     |                         |                   |               |               |              | 3     | 4       |   |
| <b>Region 3993</b> |        |     |          |     |                         |                   |               |               |              |       |         |   |
| 13 Feb             | N15E74 |     | 143      | 250 | 5                       | Hhx               | 1             | A             |              |       |         |   |
| 14 Feb             | N15E61 |     | 143      | 220 | 4                       | Hhx               | 1             | A             |              |       |         |   |
| 15 Feb             | N16E47 |     | 144      | 220 | 4                       | Hsx               | 2             | A             |              |       |         |   |
| 16 Feb             | N15E34 |     | 144      | 210 | 4                       | Hsx               | 3             | A             | 1            |       |         |   |
| 17 Feb             | N15E24 |     | 141      | 250 | 3                       | Hhx               | 2             | A             |              |       |         |   |
| 18 Feb             | N15E10 |     | 142      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 19 Feb             | N15W04 |     | 142      | 250 | 3                       | Hhx               | 1             | A             |              |       |         |   |
| 20 Feb             | N15W18 |     | 143      | 250 | 3                       | Cho               | 3             | B             |              |       |         |   |
| 21 Feb             | N15W32 |     | 144      | 170 | 3                       | Cso               | 3             | B             |              |       |         |   |
| 22 Feb             | N15W45 |     | 144      | 180 | 3                       | Hax               | 1             | A             |              |       |         |   |
| 23 Feb             | N15W58 |     | 144      | 180 | 3                       | Hsx               | 1             | A             |              |       |         |   |
|                    |        |     |          |     |                         |                   |               |               |              | 1     | 0       | 0 |
|                    |        |     |          |     |                         |                   |               |               |              | 0     | 0       | 0 |
|                    |        |     |          |     |                         |                   |               |               |              | 0     | 0       | 0 |
|                    |        |     |          |     |                         |                   |               |               |              | 0     | 0       | 0 |

Still on Disk.

Absolute heliographic longitude: 142

### **Region 3994**

|        |        |     |    |   |     |   |   |   |  |   |   |   |
|--------|--------|-----|----|---|-----|---|---|---|--|---|---|---|
| 13 Feb | S21E10 | 207 | 30 | 4 | Dro | 3 | B |   |  |   |   |   |
| 14 Feb | S19W04 | 208 | 30 | 3 | Dao | 3 | B | 2 |  | 2 | 1 |   |
| 15 Feb | S19W18 | 209 | 30 | 5 | Cro | 6 | B |   |  |   |   |   |
| 16 Feb | S21W32 | 208 | 40 | 5 | Cao | 9 | B |   |  |   |   |   |
| 17 Feb | S19W46 | 211 | 10 | 3 | Bxo | 4 | B |   |  |   |   |   |
| 18 Feb | S19W60 | 212 | 5  | 1 | Axx | 1 | A |   |  |   |   |   |
| 19 Feb | S19W74 | 212 | 5  | 1 | Axx | 1 | A |   |  |   |   |   |
| 20 Feb | S19W88 | 213 | 5  | 1 | Axx | 1 | A |   |  | 2 | 0 | 0 |
|        |        |     |    |   |     |   |   |   |  | 2 | 1 | 0 |
|        |        |     |    |   |     |   |   |   |  | 0 | 0 | 0 |

Crossed West Limb.

Absolute heliographic longitude: 208

### **Region 3995**

|        |        |     |    |   |     |   |   |  |  |   |   |   |
|--------|--------|-----|----|---|-----|---|---|--|--|---|---|---|
| 14 Feb | S22W30 | 234 | 30 | 3 | Cro | 5 | B |  |  |   |   |   |
| 15 Feb | S22W44 | 235 | 20 | 5 | Cso | 2 | B |  |  |   |   |   |
| 16 Feb | S23W58 | 236 | 40 | 2 | Cao | 2 | B |  |  |   |   |   |
| 17 Feb | S21W74 | 239 | 30 | 1 | Hrx | 1 | A |  |  |   |   |   |
| 18 Feb | S21W88 | 240 | 30 | 2 | Hrx | 1 | A |  |  | 0 | 0 | 0 |
|        |        |     |    |   |     |   |   |  |  | 0 | 0 | 0 |
|        |        |     |    |   |     |   |   |  |  | 0 | 0 | 0 |

Crossed West Limb.

Absolute heliographic longitude: 234



## ***Region Summary - continued***

| Date               | Lat    | CMD | Location |     | Sunspot Characteristics |                   |               |               |              | Flares |    |   |         |   |   |   |   |
|--------------------|--------|-----|----------|-----|-------------------------|-------------------|---------------|---------------|--------------|--------|----|---|---------|---|---|---|---|
|                    |        |     | Helio    | Lon | Area<br>$10^{-6}$ hemi. | Extent<br>(helio) | Spot<br>Class | Spot<br>Count | Mag<br>Class | X-ray  |    |   | Optical |   |   |   |   |
|                    |        |     |          |     |                         |                   |               |               |              | C      | M  | X | S       | 1 | 2 | 3 | 4 |
| <b>Region 3996</b> |        |     |          |     |                         |                   |               |               |              |        |    |   |         |   |   |   |   |
| 15 Feb             | S11E65 |     | 126      |     | 90                      |                   | 11            | Eso           | 9            | B      |    | 4 |         |   |   |   |   |
| 16 Feb             | S17E51 |     | 127      |     | 100                     |                   | 11            | Eai           | 17           | BG     |    | 1 |         |   |   |   |   |
| 17 Feb             | S16E39 |     | 126      |     | 350                     |                   | 13            | Eko           | 21           | BG     |    |   |         |   |   |   |   |
| 18 Feb             | S16E25 |     | 127      |     | 360                     |                   | 14            | Eki           | 18           | BG     |    | 1 |         |   |   |   |   |
| 19 Feb             | S16E11 |     | 127      |     | 330                     |                   | 15            | Eki           | 12           | BG     |    | 1 |         |   | 1 |   |   |
| 20 Feb             | S16W03 |     | 128      |     | 330                     |                   | 17            | Fko           | 8            | BG     |    | 4 |         |   |   |   |   |
| 21 Feb             | S16W17 |     | 129      |     | 330                     |                   | 17            | Fko           | 8            | B      |    | 1 |         | 2 | 1 |   |   |
| 22 Feb             | S16W33 |     | 132      |     | 230                     |                   | 17            | Fao           | 12           | B      |    |   |         | 1 |   |   |   |
| 23 Feb             | S16W47 |     | 133      |     | 220                     |                   | 17            | Fao           | 5            | B      |    |   |         |   |   |   |   |
|                    |        |     |          |     |                         |                   |               |               |              |        | 12 | 0 | 0       | 4 | 1 | 0 | 0 |
|                    |        |     |          |     |                         |                   |               |               |              |        |    |   |         |   |   |   | 0 |

Still on Disk.

Absolute heliographic longitude: 128

## **Region 3997**

|        |        |     |       |   |     |    |   |  |  |   |   |   |   |   |   |   |   |
|--------|--------|-----|-------|---|-----|----|---|--|--|---|---|---|---|---|---|---|---|
| 14 Feb | N03E57 | 149 | plage |   |     |    |   |  |  |   | 1 |   |   |   |   |   |   |
| 15 Feb | N03E42 | 149 | 30    | 6 | Cao | 5  | B |  |  | 1 |   | 1 |   |   |   |   |   |
| 16 Feb | N03E28 | 150 | 40    | 6 | Cai | 56 | B |  |  | 1 |   |   |   |   |   |   |   |
| 17 Feb | N03E16 | 149 | 50    | 6 | Cai | 10 | B |  |  | 1 |   | 1 |   |   |   |   |   |
| 18 Feb | N03E03 | 149 | 30    | 6 | Cao | 8  | B |  |  |   |   |   |   |   |   |   |   |
| 19 Feb | N03W10 | 148 | 10    | 4 | Bxo | 3  | B |  |  | 1 |   |   |   |   |   |   |   |
| 20 Feb | N03W25 | 150 | 10    | 4 | Bxo | 3  | B |  |  |   |   |   |   |   |   |   |   |
| 21 Feb | N03W40 | 152 | 10    | 4 | Bxo | 2  | B |  |  |   |   |   |   |   |   |   |   |
| 22 Feb | N03W55 | 154 | plage |   |     |    |   |  |  |   |   |   |   |   |   |   |   |
| 23 Feb | N03W70 | 156 | plage |   |     |    |   |  |  |   |   |   |   |   |   |   |   |
|        |        |     |       |   |     |    |   |  |  |   | 5 | 0 | 0 | 2 | 0 | 0 | 0 |
|        |        |     |       |   |     |    |   |  |  |   |   |   |   |   |   |   | 0 |

Still on Disk.

Absolute heliographic longitude: 149

## ***Region Summary - continued***

| Date               | Lat    | CMD | Location |     | Sunspot Characteristics |                   |               |               |              | Flares |   |   |         |   |   |   |   |
|--------------------|--------|-----|----------|-----|-------------------------|-------------------|---------------|---------------|--------------|--------|---|---|---------|---|---|---|---|
|                    |        |     | Helio    | Lon | Area<br>$10^6$ hemi.    | Extent<br>(helio) | Spot<br>Class | Spot<br>Count | Mag<br>Class | X-ray  |   |   | Optical |   |   |   |   |
|                    |        |     |          |     |                         |                   |               |               |              | C      | M | X | S       | 1 | 2 | 3 | 4 |
| <b>Region 3998</b> |        |     |          |     |                         |                   |               |               |              |        |   |   |         |   |   |   |   |
| 15 Feb             | S14E81 | 111 | plage    |     |                         |                   |               |               |              |        |   |   | 1       |   |   |   |   |
| 16 Feb             | S14E66 | 112 | 90       | 6   | Cao                     | 4                 | B             | 3             |              |        |   |   | 1       |   |   |   |   |
| 17 Feb             | S14E54 | 111 | 150      | 7   | Dai                     | 16                | BD            | 11            |              |        |   |   | 5       |   |   |   |   |
| 18 Feb             | S14E40 | 112 | 170      | 8   | Dai                     | 19                | BD            | 2             |              |        |   |   |         |   |   |   |   |
| 19 Feb             | S14E26 | 112 | 200      | 10  | Dai                     | 12                | BD            |               |              |        |   |   |         |   |   |   |   |
| 20 Feb             | S14E12 | 113 | 220      | 10  | Dai                     | 18                | BG            | 1             |              |        |   |   |         |   |   |   |   |
| 21 Feb             | S14W02 | 114 | 220      | 11  | Eai                     | 22                | BGD           | 2             |              |        |   |   | 4       |   |   |   |   |
| 22 Feb             | S14W14 | 113 | 280      | 13  | Eki                     | 28                | BG            | 7             |              |        |   |   | 10      |   |   |   |   |
| 23 Feb             | S14W28 | 114 | 290      | 13  | Ekc                     | 28                | BG            | 7             | 2            |        |   |   | 6       |   |   |   |   |
|                    |        |     |          |     |                         |                   |               |               |              | 34     | 2 | 0 | 26      | 0 | 0 | 0 |   |

Still on Disk.

Absolute heliographic longitude: 114

## **Region 3999**

|        |        |     |       |   |     |   |   |  |  |   |   |   |   |   |   |   |
|--------|--------|-----|-------|---|-----|---|---|--|--|---|---|---|---|---|---|---|
| 16 Feb | N05E53 | 125 | 20    | 4 | Cro | 5 | B |  |  |   |   |   |   |   |   |   |
| 17 Feb | N06E38 | 127 | 30    | 6 | Cro | 7 | B |  |  |   |   |   |   |   |   |   |
| 18 Feb | N06E23 | 129 | 30    | 7 | Cro | 9 | B |  |  |   |   |   |   |   |   |   |
| 19 Feb | N06E10 | 128 | 20    | 6 | Cro | 3 | B |  |  |   |   |   |   |   |   |   |
| 20 Feb | N06W05 | 130 | 20    | 6 | Cro | 3 | B |  |  |   |   |   |   |   |   |   |
| 21 Feb | N06W20 | 132 | 20    | 6 | Cro | 3 | B |  |  |   |   |   |   |   |   |   |
| 22 Feb | N04W33 | 132 | 10    | 2 | Bxo | 3 | B |  |  |   |   |   |   |   |   |   |
| 23 Feb | N04W48 | 134 | plage |   |     |   |   |  |  | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 130

## **Region 4000**

|        |        |     |     |   |     |    |     |   |   |   |   |   |   |   |   |   |
|--------|--------|-----|-----|---|-----|----|-----|---|---|---|---|---|---|---|---|---|
| 21 Feb | N17E07 | 104 | 120 | 6 | Dai | 16 | B   | 1 | 2 |   |   |   | 3 |   |   |   |
| 22 Feb | N17W06 | 105 | 180 | 9 | Dai | 20 | BGD | 2 |   |   |   |   |   |   |   |   |
| 23 Feb | N17W20 | 106 | 180 | 9 | Dai | 20 | BGD |   |   |   |   |   | 3 | 0 | 0 | 0 |
|        |        |     |     |   |     |    |     |   |   | 3 | 2 | 0 | 3 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 105

## **Region 4001**

|        |        |     |    |   |     |   |   |   |   |   |   |   |   |   |   |   |
|--------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|
| 22 Feb | N24W76 | 175 | 40 | 3 | Cao | 3 | B | 2 |   |   |   |   |   |   |   |   |
| 23 Feb | N24W90 | 176 | 50 | 4 | Dai | 4 | B |   | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 175



## ***Region Summary - continued***

| Date               | Lat    | CMD | Location     |                         | Sunspot Characteristics |               |               |     |       | Flares |   |         |   |   |   |   |
|--------------------|--------|-----|--------------|-------------------------|-------------------------|---------------|---------------|-----|-------|--------|---|---------|---|---|---|---|
|                    |        |     | Helio<br>Lon | $10^6$ hemi.<br>(helio) | Area<br>Extent<br>Class | Spot<br>Count | Spot<br>Class | Mag | X-ray |        |   | Optical |   |   |   |   |
|                    |        |     |              |                         |                         |               |               |     | C     | M      | X | S       | 1 | 2 | 3 | 4 |
| <b>Region 4002</b> |        |     |              |                         |                         |               |               |     |       |        |   |         |   |   |   |   |
| 22 Feb             | N13E20 |     | 79           | 20                      | 3                       | Cro           | 6             | B   |       |        |   | 0       | 0 | 0 | 0 | 0 |
| 23 Feb             | N13E06 |     | 80           | 20                      | 4                       | Cro           | 6             | B   |       |        |   | 0       | 0 | 0 | 0 | 0 |
|                    |        |     |              |                         |                         |               |               |     |       |        |   |         |   |   |   |   |

Still on Disk.

Absolute heliographic longitude: 80

### **Region 4003**

|        |        |  |    |    |   |     |   |   |  |  |  |   |   |   |   |   |
|--------|--------|--|----|----|---|-----|---|---|--|--|--|---|---|---|---|---|
| 22 Feb | N10E49 |  | 50 | 10 | 3 | Bxo | 2 | B |  |  |  | 0 | 0 | 0 | 0 | 0 |
| 23 Feb | N10E35 |  | 51 | 10 | 3 | Bxo | 2 | B |  |  |  | 0 | 0 | 0 | 0 | 0 |
|        |        |  |    |    |   |     |   |   |  |  |  |   |   |   |   |   |

Still on Disk.

Absolute heliographic longitude: 51

### **Region 4004**

|        |        |  |    |    |   |     |   |   |  |  |  |   |   |   |   |   |
|--------|--------|--|----|----|---|-----|---|---|--|--|--|---|---|---|---|---|
| 22 Feb | S15E71 |  | 27 | 30 | 2 | Hsx | 1 | A |  |  |  | 0 | 0 | 0 | 0 | 0 |
| 23 Feb | S15E57 |  | 29 | 30 | 2 | Hsx | 1 | A |  |  |  | 0 | 0 | 0 | 0 | 0 |
|        |        |  |    |    |   |     |   |   |  |  |  |   |   |   |   |   |

Still on Disk.

Absolute heliographic longitude: 29

### **Region 4005**

|        |        |  |    |    |   |     |   |   |  |  |  |   |   |   |   |   |
|--------|--------|--|----|----|---|-----|---|---|--|--|--|---|---|---|---|---|
| 22 Feb | S05E54 |  | 44 | 10 | 3 | Cro | 2 | B |  |  |  | 0 | 0 | 0 | 0 | 0 |
| 23 Feb | S05E39 |  | 47 | 10 | 3 | Cro | 2 | B |  |  |  | 0 | 0 | 0 | 0 | 0 |
|        |        |  |    |    |   |     |   |   |  |  |  |   |   |   |   |   |

Still on Disk.

Absolute heliographic longitude: 47

### **Region 4006**

|        |        |  |    |     |   |     |   |   |  |  |  |   |   |   |   |   |
|--------|--------|--|----|-----|---|-----|---|---|--|--|--|---|---|---|---|---|
| 22 Feb | N17E71 |  | 27 | 110 | 6 | Dao | 3 | B |  |  |  | 0 | 0 | 0 | 0 | 0 |
| 23 Feb | N17E57 |  | 29 | 150 | 6 | Dai | 4 | B |  |  |  | 0 | 0 | 0 | 0 | 0 |
|        |        |  |    |     |   |     |   |   |  |  |  |   |   |   |   |   |

Still on Disk.

Absolute heliographic longitude: 29

## ***Preliminary Report and Forecast of Solar Geophysical Data (The Weekly)***

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**Notice:** The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned.  
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