**Space Weather Highlights**
**30 January - 05 February 2023**

**SWPC PRF 2475**
**06 February 2023**

Solar activity was low. The largest event of the period was a C6.6 flare at 05/0326 UTC from an unnumbered region from around the east limb. No Earth-directed CMEs were observed throughout the period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels throughout the reporting period.

Geomagnetic field activity was at quiet to active levels. Active conditions were observed on 02 Feb, unsettled levels were observed on 30-31 Jan and 01, 03-04 Feb due to CH HSS influence. Quiet conditions prevailed on 05 Feb.

**Space Weather Outlook**
**06 February - 04 March 2023**

Solar activity is expected to be low with a slight chance for M-class flare activity (R1-R2) throughout the outlook period.

No proton events are expected at geosynchronous orbit.

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

Geomagnetic field activity is expected to range from quiet to active levels. Active conditions are likely on 07-08 Feb. Unsettled levels are likely on 06, 09-10, 18-19, 22-24, 27 Feb and 02 Mar. Increased geomagnetic activity is in response to multiple, recurrent CH HSSs. The remainder of the outlook period is expected to be mostly quiet.

## *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 |
| 30 January | 136 | 67 | 290 | B6.7 | 11 | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| 31 January | 137 | 65 | 360 | B7.2 | 7 | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| 01 February | 134 | 89 | 320 | B6.7 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| 02 February | 135 | 56 | 180 | B6.3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 03 February | 135 | 74 | 190 | B5.5 | 4 | 0 | 0 | 3 | 1 | 0 | 0 | 0 |
| 04 February | 139 | 66 | 180 | B7.7 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 05 February | 144 | 79 | 200 | B7.9 | 3 | 0 | 0 | 4 | 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 |
| 30 January | 1.2e+06 | 2.5e+04 | 2.5e+07 |
| 31 January | 7.3e+04 | 2.4e+04 | 2.8e+06 |
| 01 February | 3.9e+05 | 2.6e+04 | 8.6e+06 |
| 02 February | 1.8e+05 | 2.9e+04 | 1.5e+06 |
| 03 February | 3.2e+05 | 2.6e+04 | 2.2e+06 |
| 04 February | 1.1e+05 | 2.5e+04 | 1.2e+06 |
| 05 February | 7.7e+04 | 2.5e+04 | 1.4e+06 |

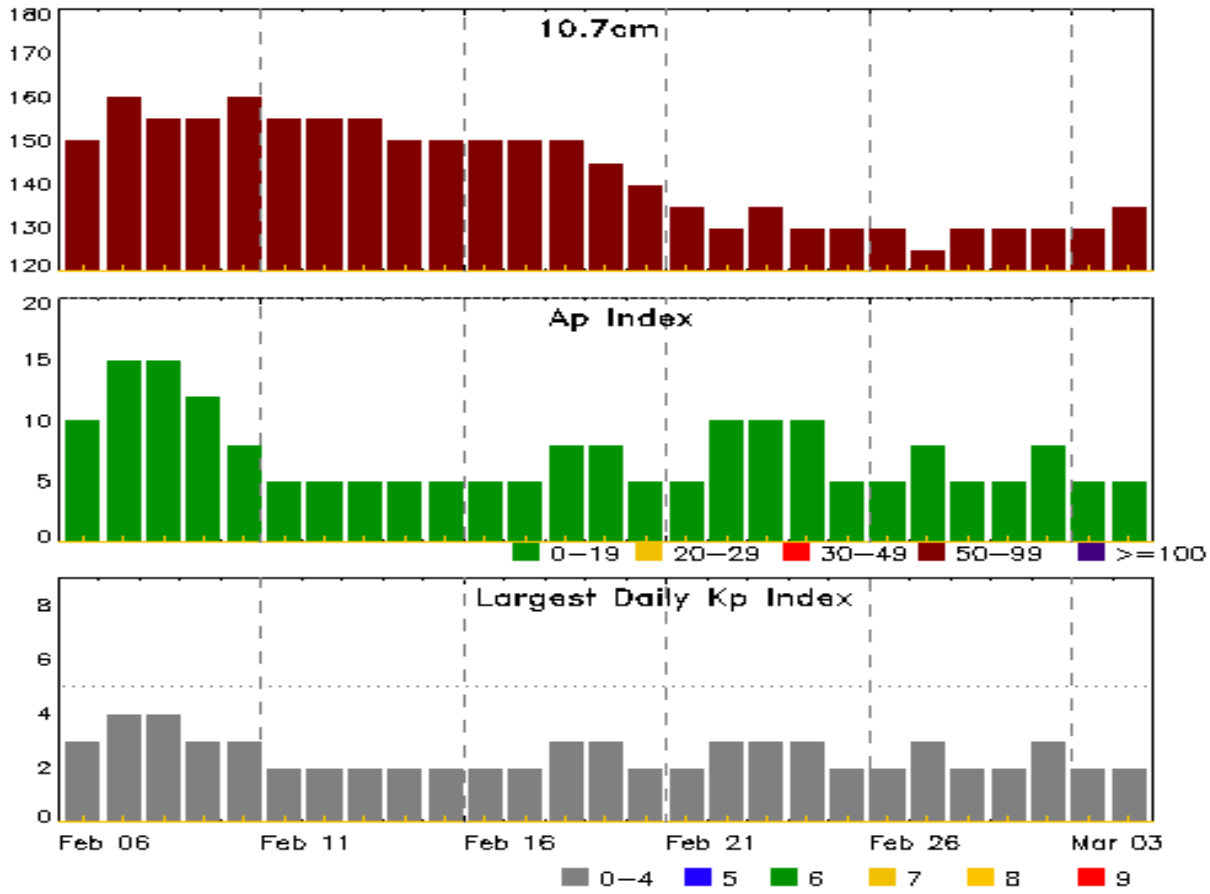
## *Daily Geomagnetic Data*

| Date | Middle Latitude Fredericksburg | | High Latitude College | | Estimated Planetary | |
|---|---|---|---|---|---|---|
| | A | K-indices | A | K-indices | A | K-indices |
| 30 January | 4 | 1-1-1-1-1-1-1-2 | 2 | 0-0-0-2-0-0-1-1 | 5 | 2-0-1-1-1-1-1-3 |
| 31 January | 6 | 1-2-2-2-1-2-2-1 | 10 | 1-1-3-3-2-3-3-1 | 9 | 1-2-3-2-1-3-2-2 |
| 01 February | 3 | 1-1-0-0-1-1-2-2 | 3 | 0-0-0-0-0-1-2-1 | 6 | 2-0-1-1-1-1-3-3 |
| 02 February | 2 | 2-1-0-0-1-1-1-0 | 2 | 2-1-0-2-0-0-0-0 | 6 | 4-2-1-1-1-0-1-1 |
| 03 February | 6 | 2-1-0-1-2-3-2-1 | 6 | 1-0-0-0-2-4-2-1 | 9 | 3-2-1-1-2-3-3-2 |
| 04 February | 5 | 2-3-0-1-1-1-1-1 | 6 | 2-1-2-0-4-1-0-0 | 6 | 3-3-1-1-1-1-1-1 |
| 05 February | 3 | 0-2-0-1-1-1-1-2 | 2 | 0-0-0-2-1-1-1-0 | 3 | 1-2-0-1-1-1-2-2 |

## *Alerts and Warnings Issued*

| Date & Time of Issue UTC | Type of Alert or Warning | Date & Time of Event UTC |
|---|---|---|
| 31 Jan 0822 | WARNING: Geomagnetic K = 4 | 31/0822 - 1200 |
| 31 Jan 1750 | WARNING: Geomagnetic K = 4 | 31/1749 - 2359 |
| 01 Feb 1822 | WARNING: Geomagnetic Sudden Impulse expected | 01/1830 - 1930 |
| 01 Feb 1903 | SUMMARY: Geomagnetic Sudden Impulse | 01/1854 |
| 02 Feb 0123 | WARNING: Geomagnetic K = 4 | 02/0122 - 1200 |
| 02 Feb 0301 | ALERT: Geomagnetic K = 4 | 02/0259 |
| 03 Feb 1707 | WARNING: Geomagnetic K = 4 | 03/1706 - 04/0300 |

## *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 |
|---|---|---|---|---|---|---|---|
| 06 Feb | 150 | 10 | 3 | 20 Feb | 140 | 5 | 2 |
| 07 | 160 | 15 | 4 | 21 | 135 | 5 | 2 |
| 08 | 155 | 15 | 4 | 22 | 130 | 10 | 3 |
| 09 | 155 | 12 | 3 | 23 | 135 | 10 | 3 |
| 10 | 160 | 8 | 3 | 24 | 130 | 10 | 3 |
| 11 | 155 | 5 | 2 | 25 | 130 | 5 | 2 |
| 12 | 155 | 5 | 2 | 26 | 130 | 5 | 2 |
| 13 | 155 | 5 | 2 | 27 | 125 | 8 | 3 |
| 14 | 150 | 5 | 2 | 28 | 130 | 5 | 2 |
| 15 | 150 | 5 | 2 | 01 Mar | 130 | 5 | 2 |
| 16 | 150 | 5 | 2 | 02 | 130 | 8 | 3 |
| 17 | 150 | 5 | 2 | 03 | 130 | 5 | 2 |
| 18 | 150 | 8 | 3 | 04 | 135 | 5 | 2 |
| 19 | 145 | 8 | 3 | | | | |

## *Energetic Events*

| | Time | | | X-ray | | Optical Information | | | Peak Radio Flux | | Sweep Freq Intensity | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Begin | Max | Half Max | Class | Integ Flux | Imp/ Brtns | Location Lat CMD | Rgn # | 245 | 2695 | II | IV |

**No Events Observed**

## *Flare List*

| | Time | | | | Optical | | |
|---|---|---|---|---|---|---|---|
| Date | Begin | Max | End | X-ray Class | Imp/ Brtns | Location Lat CMD | Rgn # |
| 30 Jan | 0404 | 0413 | 0419 | C1.5 | | | 3207 |
| 30 Jan | 0518 | 0519 | 0520 | | SF | S23W53 | 3205 |
| 30 Jan | 0558 | 0607 | 0615 | C2.5 | SF | N20E37 | |
| 30 Jan | 0615 | 0620 | 0631 | C2.1 | | | 3207 |
| 30 Jan | 0739 | 0746 | 0751 | C1.7 | | | 3207 |
| 30 Jan | B0939 | U0940 | A0944 | | SF | S22W56 | 3205 |
| 30 Jan | 1152 | 1207 | 1220 | C3.1 | | | 3207 |
| 30 Jan | 1552 | 1600 | 1614 | C1.0 | | | |
| 30 Jan | 1745 | 1753 | 1757 | C2.9 | | | 3207 |
| 30 Jan | 1845 | 1851 | 1902 | C1.4 | SF | S21E52 | 3206 |
| 30 Jan | 1956 | 2002 | 2006 | | SF | S21E52 | 3206 |
| 30 Jan | 2053 | 2058 | 2107 | C2.1 | SF | N23W41 | 3200 |
| 30 Jan | 2120 | 2122 | 2130 | | SF | S21E51 | 3206 |
| 30 Jan | 2154 | 2207 | 2222 | C1.9 | SF | N24W60 | 3204 |
| 30 Jan | 2337 | 2355 | 0021 | C2.0 | | | 3207 |
| 31 Jan | 0652 | 0658 | 0704 | C1.1 | | | |
| 31 Jan | 1046 | 1100 | 1107 | C4.8 | SF | S12E73 | 3207 |
| 31 Jan | 1255 | 1303 | 1312 | B9.8 | SF | S11E68 | 3207 |
| 31 Jan | 1517 | 1528 | 1544 | C1.3 | | | 3206 |
| 31 Jan | 1612 | 1616 | 1629 | C3.1 | SF | S12E70 | 3207 |
| 31 Jan | 1814 | 1820 | 1824 | C1.3 | SF | N26W71 | 3204 |
| 31 Jan | 1818 | 1820 | 1822 | | SF | S12E68 | 3207 |
| 31 Jan | 1921 | 1930 | 1936 | C2.4 | SF | S12E67 | 3207 |
| 31 Jan | 1941 | 1942 | 1945 | | SF | S11E64 | 3207 |
| 31 Jan | 2205 | 2210 | 2215 | C1.5 | SF | S12E62 | 3207 |
| 01 Feb | 0100 | 0104 | 0108 | C1.0 | | | 3207 |
| 01 Feb | 0120 | 0128 | 0133 | C1.8 | SF | S09E68 | 3207 |
| 01 Feb | 0811 | 0816 | 0820 | B9.8 | | | |
| 01 Feb | 1356 | 1402 | 1406 | | SF | N25W78 | 3204 |
| 01 Feb | 1401 | 1401 | 1404 | | SF | S13E60 | 3207 |
| 01 Feb | 1750 | 1801 | 1814 | C3.7 | | | 3204 |

## *Flare List*

| Date | Time | | | Optical | | | |
|---|---|---|---|---|---|---|---|
| | Begin | Max | End | X-ray Class | Imp/ Brtns | Location Lat CMD | Rgn # |
| 01 Feb | 2233 | 2248 | 2300 | C5.7 | | | 3204 |
| 01 Feb | 2317 | 2335 | 2348 | | SF | N14E55 | 3208 |
| 02 Feb | 0424 | 0439 | 0451 | C1.3 | | | 3204 |
| 02 Feb | 1401 | 1412 | 1429 | C1.3 | | | 3204 |
| 03 Feb | 0008 | 0017 | 0025 | B8.8 | | | 3207 |
| 03 Feb | 0231 | 0249 | 0300 | C3.9 | | | 3204 |
| 03 Feb | 0843 | 0851 | 0858 | B9.3 | SF | S12E32 | 3207 |
| 03 Feb | 0950 | 0958 | 1015 | | SF | S12E32 | 3207 |
| 03 Feb | 1520 | 1528 | 1536 | C1.7 | SF | S10E30 | 3207 |
| 03 Feb | 1542 | 1549 | 1557 | C1.5 | | | 3207 |
| 03 Feb | 1621 | 1646 | 1712 | C2.9 | 1F | S12E30 | 3207 |
| 04 Feb | 0025 | 0055 | 0147 | C2.2 | | | |
| 04 Feb | 0507 | 0515 | 0520 | C1.4 | | | 3211 |
| 04 Feb | 0649 | 0655 | 0659 | C1.4 | | | 3211 |
| 04 Feb | 1517 | 1525 | 1531 | C1.7 | SF | S12E13 | 3207 |
| 05 Feb | 0006 | 0006 | 0011 | | SF | S12E07 | 3207 |
| 05 Feb | 0245 | 0250 | 0257 | C1.0 | | | |
| 05 Feb | 0316 | 0326 | 0331 | C6.6 | | | |
| 05 Feb | 1037 | 1051 | 1058 | C6.4 | | | 3211 |
| 05 Feb | 1729 | 1730 | 1732 | | SF | S17W54 | 3212 |
| 05 Feb | 1738 | 1738 | 1742 | | SF | S17W38 | 3211 |
| 05 Feb | 1940 | 1941 | 1953 | | SF | N15E06 | 3208 |

## *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 3197*** | | | | | | | | | | | | |
| 19 Jan | N24E46 | 69 | 10 | 4 | Bxo | 4 | B | | | | | | | | |
| 20 Jan | N24E32 | 70 | 10 | 4 | Bxo | 4 | B | | | | | | | | |
| 21 Jan | N24E18 | 71 | 10 | 4 | Cro | 8 | B | | | | | | | | |
| 22 Jan | N24E04 | 71 | 10 | 4 | Cro | 8 | B | | | | | | | | |
| 23 Jan | N24W10 | 72 | 10 | 4 | Axx | 4 | A | | | | | | | | |
| 24 Jan | N20W24 | 72 | 60 | 8 | Dao | 5 | B | | | | | | | | |
| 25 Jan | N20W32 | 94 | 30 | 5 | Cro | 3 | B | | | | | | | | |
| 26 Jan | N20W45 | 68 | 10 | 6 | Bxo | 2 | B | | | | | | | | |
| 27 Jan | N20W59 | 68 | plage | | | | | | | | | | | | |
| 28 Jan | N20W73 | 69 | plage | | | | | | | | | | | | |
| 29 Jan | N20W87 | 70 | plage | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Crossed West Limb.
Absolute heliographic longitude: 71

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***Region 3198*** | | | | | | | | | | | | |
| 19 Jan | N27E58 | 57 | 30 | 5 | Cao | 6 | B | | | | | | | | |
| 20 Jan | N27E45 | 57 | 30 | 5 | Cao | 6 | B | | | | | | | | |
| 21 Jan | N27E31 | 58 | 30 | 5 | Cso | 6 | B | | | | | | | | |
| 22 Jan | N27E17 | 58 | 30 | 5 | Cso | 3 | B | | | | | | | | |
| 23 Jan | N27E03 | 59 | 30 | 5 | Cso | 3 | B | | | | | | | | |
| 24 Jan | N26W10 | 58 | 60 | 3 | Cso | 1 | B | | | | 3 | | | | |
| 25 Jan | N25W24 | 59 | 70 | 1 | Hsx | 1 | A | | | | 2 | | | | |
| 26 Jan | N26W37 | 59 | 50 | 1 | Hsx | 1 | A | | | | | | | | |
| 27 Jan | N26W50 | 59 | 20 | 2 | Hsx | 1 | A | | | | 1 | | | | |
| 28 Jan | N26W63 | 59 | 20 | 1 | Hrx | 1 | A | | | | | | | | |
| 29 Jan | N26W75 | 58 | 10 | 1 | Axx | 1 | A | | | | | | | | |
| 30 Jan | N26W89 | 59 | plage | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |

Crossed West Limb.
Absolute heliographic longitude: 59

## *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 3199*** | | | | | | | | | | | | |
| 20 Jan | N15E61 | 40 | 40 | 5 | Cao | 5 | B | | | | | | | | |
| 21 Jan | N15E47 | 42 | 90 | 5 | Dai | 10 | B | 1 | | | 2 | | | | |
| 22 Jan | N15E33 | 42 | 90 | 5 | Dai | 10 | B | | | | | | | | |
| 23 Jan | N16E20 | 40 | 80 | 7 | Dai | 12 | B | | | | | | | | |
| 24 Jan | N16E05 | 42 | 60 | 8 | Cao | 12 | B | | | | | | | | |
| 25 Jan | N18W08 | 43 | 40 | 7 | Cao | 6 | B | | | | | | | | |
| 26 Jan | N16W23 | 45 | 10 | 5 | Axx | 1 | A | 3 | | | 4 | | | | |
| 27 Jan | N16W36 | 48 | 10 | 1 | Axx | 1 | A | | | | | | | | |
| 28 Jan | N16W50 | 46 | plage | | | | | | | | | | | | |
| 29 Jan | N16W64 | 47 | 10 | 1 | Axx | 1 | A | | | | | | | | |
| 30 Jan | N16W78 | 48 | plage | | | | | | | | | | | | |
| | | | | | | | | 4 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |

Crossed West Limb.
Absolute heliographic longitude: 42

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***Region 3200*** | | | | | | | | | | | | |
| 22 Jan | N21E60 | 15 | 40 | 5 | Cao | 3 | B | | | | | | | | |
| 23 Jan | N21E47 | 13 | 70 | 2 | Cao | 2 | B | | | | | | | | |
| 24 Jan | N23E35 | 13 | 40 | 2 | Cao | 2 | B | | | | | | | | |
| 25 Jan | N21E22 | 13 | 50 | 8 | Cao | 7 | B | | | | | | | | |
| 26 Jan | N16E12 | 11 | 30 | 4 | Cao | 6 | B | 2 | | | 1 | | | | |
| 27 Jan | N21W01 | 10 | 10 | 3 | Bxo | 2 | B | | | | 1 | | | | |
| 28 Jan | N21W15 | 11 | 10 | 6 | Axx | 1 | A | 1 | | | 1 | | | | |
| 29 Jan | N21W28 | 11 | plage | | | | | | | | | | | | |
| 30 Jan | N21W42 | 12 | plage | | | | | 1 | | | 1 | | | | |
| 31 Jan | N21W56 | 13 | plage | | | | | | | | | | | | |
| 01 Feb | N21W70 | 14 | plage | | | | | | | | | | | | |
| 02 Feb | N21W84 | 14 | plage | | | | | | | | | | | | |
| | | | | | | | | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |

Crossed West Limb.
Absolute heliographic longitude: 10

## *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 3201*** | | | | | | | | | | | | |
| 24 Jan | N25E58 | 350 | 20 | 1 | Hsx | 1 | A | | | | | | | | |
| 25 Jan | N24E44 | 351 | 70 | 1 | Hsx | 1 | A | | | | | | | | |
| 26 Jan | N24E30 | 352 | 60 | 2 | Hsx | 1 | A | | | | | | | | |
| 27 Jan | N25E17 | 352 | 60 | 2 | Hsx | 1 | A | | | | | | | | |
| 28 Jan | N23E04 | 352 | 60 | 2 | Hsx | 1 | A | | | | | | | | |
| 29 Jan | N24W10 | 353 | 30 | 2 | Hsx | 2 | A | | | | | | | | |
| 30 Jan | N25W22 | 352 | 50 | 1 | Hsx | 1 | A | | | | | | | | |
| 31 Jan | N24W34 | 350 | 50 | 1 | Hsx | 1 | A | | | | | | | | |
| 01 Feb | N24W48 | 351 | 50 | 2 | Hsx | 12 | A | | | | | | | | |
| 02 Feb | N26W62 | 352 | 20 | 1 | Axx | 2 | A | | | | | | | | |
| 03 Feb | N24W75 | 352 | plage | | | | | | | | | | | | |
| 04 Feb | N24W89 | 353 | plage | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Crossed West Limb.
Absolute heliographic longitude: 352

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***Region 3203*** | | | | | | | | | | | | |
| 25 Jan | N16E32 | 4 | 10 | 8 | Bxo | 3 | B | | | | | | | | |
| 26 Jan | N16E16 | 7 | 20 | 3 | Cro | 6 | B | | | | | | | | |
| 27 Jan | N16E03 | 6 | 10 | 3 | Bxo | 3 | B | | | | | | | | |
| 28 Jan | N17W10 | 6 | 10 | 3 | Bxo | 6 | B | | | | | | | | |
| 29 Jan | N17W24 | 7 | plage | | | | | | | | | | | | |
| 30 Jan | N17W38 | 8 | plage | | | | | | | | | | | | |
| 31 Jan | N17W52 | 9 | plage | | | | | | | | | | | | |
| 01 Feb | N25W46 | 350 | plage | | | | | | | | | | | | |
| 02 Feb | N25W60 | 350 | plage | | | | | | | | | | | | |
| 03 Feb | N25W74 | 351 | plage | | | | | | | | | | | | |
| 04 Feb | N25W88 | 352 | plage | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Crossed West Limb.
Absolute heliographic longitude: 6

## *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 3204*** | | | | | | | | | | | | |
| 28 Jan | N24W33 | 29 | 10 | 3 | Bxo | 3 | B | 1 | | | | | | | |
| 29 Jan | N25W46 | 29 | 60 | 6 | Dao | 7 | B | | | | | | | | |
| 30 Jan | N25W59 | 29 | 50 | 5 | Dao | 5 | B | 1 | | | 1 | | | | |
| 31 Jan | N24W72 | 31 | 60 | 3 | Dao | 3 | B | 1 | | | 1 | | | | |
| 01 Feb | N24W86 | 33 | 80 | 7 | Cao | 3 | B | 2 | | | 1 | | | | |
| | | | | | | | | 5 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Crossed West Limb.<br>Absolute heliographic longitude: 29 | | | | | | | | | | | | | | | |
| | | | ***Region 3205*** | | | | | | | | | | | | |
| 28 Jan | S24W36 | 32 | 10 | 3 | Bxo | 4 | B | | | | | | | | |
| 29 Jan | S24W48 | 31 | 40 | 6 | Cao | 5 | B | | | | | | | | |
| 30 Jan | S22W64 | 33 | 90 | 4 | Cao | 4 | B | | | | 2 | | | | |
| 31 Jan | S23W78 | 34 | 90 | 3 | Cao | 1 | B | | | | | | | | |
| 01 Feb | S23W91 | 34 | 60 | 5 | Hsx | 2 | A | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Crossed West Limb.<br>Absolute heliographic longitude: 32 | | | | | | | | | | | | | | | |
| | | | ***Region 3206*** | | | | | | | | | | | | |
| 29 Jan | S22E59 | 284 | 10 | 4 | Bxo | 4 | B | | | | | | | | |
| 30 Jan | S22E47 | 282 | 40 | 5 | Cso | 5 | B | 1 | | | 3 | | | | |
| 31 Jan | S22E33 | 282 | 30 | 6 | Cao | 5 | B | 1 | | | | | | | |
| 01 Feb | S21E19 | 285 | 30 | 4 | Bxo | 4 | B | | | | | | | | |
| 02 Feb | S20E05 | 286 | 30 | 3 | Bxo | 3 | B | | | | | | | | |
| 03 Feb | S21W08 | 285 | 10 | 3 | Axx | 1 | A | | | | | | | | |
| 04 Feb | S21W22 | 286 | plage | | | | | | | | | | | | |
| 05 Feb | S21W36 | 287 | plage | | | | | | | | | | | | |
| | | | | | | | | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Still on Disk.<br>Absolute heliographic longitude: 286 | | | | | | | | | | | | | | | |

## *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 3207*** | | | | | | | | | | | | |
| 30 Jan | S12E72 | 257 | 60 | 1 | Cai | 2 | B | 6 | | | | | | | |
| 31 Jan | S11E65 | 254 | 130 | 7 | Cao | 5 | B | 4 | | | 7 | | | | |
| 01 Feb | S11E49 | 254 | 90 | 7 | Cao | 7 | B | 2 | | | 2 | | | | |
| 02 Feb | S12E36 | 253 | 110 | 9 | Cao | 10 | B | | | | | | | | |
| 03 Feb | S12E23 | 254 | 100 | 9 | Cai | 11 | B | 3 | | | 3 | 1 | | | |
| 04 Feb | S13E10 | 254 | 60 | 8 | Cao | 10 | B | 1 | | | 1 | | | | |
| 05 Feb | S14W04 | 255 | 60 | 7 | Bxo | 10 | B | | | | 1 | | | | |
| | | | | | | | | 16 | 0 | 0 | 14 | 1 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 255

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***Region 3208*** | | | | | | | | | | | | |
| 01 Feb | N16E51 | 252 | 10 | 3 | Cro | 1 | B | | | | 1 | | | | |
| 02 Feb | N16E39 | 250 | 20 | 2 | Cro | 1 | B | | | | | | | | |
| 03 Feb | N16E27 | 250 | 10 | 1 | Axx | 1 | A | | | | | | | | |
| 04 Feb | N15E13 | 251 | plage | | | | | | | | | | | | |
| 05 Feb | N15W01 | 252 | plage | | | | | | | | 1 | | | | |
| | | | | | | | | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 252

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***Region 3209*** | | | | | | | | | | | | |
| 03 Feb | N18E56 | 221 | 40 | 4 | Dao | 6 | B | | | | | | | | |
| 04 Feb | N18E41 | 223 | 70 | 4 | Dso | 6 | B | | | | | | | | |
| 05 Feb | N18E26 | 225 | 60 | 7 | Dso | 6 | B | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 225

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ***Region 3210*** | | | | | | | | | | | | |
| 03 Feb | S15W05 | 282 | 30 | 5 | Cao | 5 | B | | | | | | | | |
| 04 Feb | S15W16 | 280 | 30 | 5 | Cao | 5 | B | | | | | | | | |
| 05 Feb | S17W29 | 280 | 20 | 4 | Bxo | 4 | B | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 282

## *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 3211*** | | | | | | | | | | | | | |
| 04 Feb | S16W29 | 293 | 20 | 3 | Cao | 5 | B | 2 | | | | | | | |
| 05 Feb | S17W41 | 292 | 40 | 4 | Cro | 6 | B | 1 | | | 1 | | | | |
| | | | | | | | | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 293

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ***Region 3212*** | | | | | | | | | | | | | |
| 05 Feb | S17W56 | 307 | 20 | 5 | Bxo | 3 | B | | | | 1 | | | | |
| | | | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 307

## *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. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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