

Solar activity was at low levels through the period. Both Regions 2222 (S20, L=083, class/area Ekc/680 on 30 November) and 2219 (N04, L=160, class/area Dko/300 on 30 November) produced the majority of the C-class flare activity. The largest flares of the period were a C8/1f at 27/0047 UTC and a C7/Sf at 28/0040 UTC, both from Region 2222. Region 2219 emerged on the visible disk on 24 November and continued to show growth in area and magnetic complexity until the latter half of 30 November. Region 2222 rotated onto the SE limb on 26 November and showed slight to moderate growth throughout the period. No Earth-directed coronal mass ejections were observed.

No proton events were observed at geosynchronous orbit.

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

Geomagnetic field activity was at quiet to unsettled levels. Quiet conditions were observed on 25-26 November and again on 29 November. Isolated unsettled conditions were observed on 24 and 27-28 November. Solar wind parameters were at nominal levels through 27 November with solar wind speeds in decline from approximately 400 km/s to a low near 290 km/s. A solar sector boundary crossing from a positive (away) into a negative (towards) sector was observed at approximately 27/0241 UTC. Total field increased thereafter to a maximum of 13 nT after midday on 28 November while solar wind speed showed a steady increase from 29 November through the end of the period. Solar wind speeds ended the period slightly enhanced around 430 km/s. The geomagnetic field responded with unsettled levels to end the period on 30 November.

Space Weather Outlook

01 December - 27 December 2014

Solar activity is expected to be at low levels with a chance for M-class flaring (R1-R2, Minor-Moderate) and a slight chance for an X-class flare (R3-Strong or greater) for the forecast period as Region 2222 rotates across the visible disk as well as the return of old Region 2209 (S13, L=251) on 08 December.

A slight chance for a greater than 10 MeV proton event above the S1 (Minor) threshold exists from 04-10 December due to potential significant flare activity from Region 2222 as it rotates into a better connected location.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels on 02-04 and again on 13-22 December due to coronal hole high speed stream (CH HSS) influence.

Geomagnetic field activity is expected to be quiet to unsettled levels with active periods possible on 01-02, 11-15, and again from 17-20 December due to recurrent CH HSS activity.



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 |
| 24 November | 172 | 111 | 2070 | B9.3 | 5 | 0 | 0 | 12 | 1 | 0 | 0 | 0 |
| 25 November | 169 | 120 | 2060 | B8.3 | 2 | 0 | 0 | 16 | 0 | 0 | 0 | 0 |
| 26 November | 171 | 170 | 940 | B8.7 | 5 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| 27 November | 179 | 155 | 970 | C1.4 | 9 | 0 | 0 | 31 | 2 | 0 | 0 | 0 |
| 28 November | 181 | 166 | 1220 | C1.1 | 5 | 0 | 0 | 23 | 0 | 0 | 0 | 0 |
| 29 November | 177 | 156 | 1350 | B9.1 | 11 | 0 | 0 | 21 | 2 | 0 | 0 | 0 |
| 30 November | 177 | 153 | 1540 | B7.9 | 6 | 0 | 0 | 8 | 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 | >100 MeV | >0.6 MeV | >2MeV | >4 MeV |
| | 24 November | 1.0e+05 | 1.2e+04 | 2.8e+03 | | 2.7e+07 |
| 25 November | 7.3e+04 | 1.1e+04 | 2.6e+03 | | 1.7e+07 | |
| 26 November | 9.0e+04 | 1.1e+04 | 2.6e+03 | | 3.8e+07 | |
| 27 November | 1.9e+05 | 1.1e+04 | 2.7e+03 | | 1.3e+07 | |
| 28 November | 3.2e+05 | 1.1e+04 | 2.7e+03 | | 7.0e+06 | |
| 29 November | 4.3e+05 | 1.2e+04 | 2.7e+03 | | 5.1e+06 | |
| 30 November | 4.5e+05 | 1.2e+04 | 2.6e+03 | | 4.9e+06 | |

Daily Geomagnetic Data

| Date | Middle Latitude Fredericksburg | | High Latitude College | | Estimated Planetary | |
|-------------|-----------------------------------|-----------------|--------------------------|-----------------|------------------------|-----------------|
| | A | K-indices | A | K-indices | A | K-indices |
| | 24 November | 5 | 3-1-1-1-2-1-1-0 | 14 | 1-1-2-2-5-4-2-2 | 7 |
| 25 November | 4 | 1-2-0-2-2-1-1-1 | 5 | 0-0-0-3-3-2-1-0 | 5 | 1-2-1-2-1-2-2-1 |
| 26 November | 4 | 1-1-1-1-2-1-1-1 | 8 | 0-0-1-4-4-1-0-0 | 5 | 1-1-2-1-2-1-0-1 |
| 27 November | 7 | 1-3-1-1-2-2-2-2 | 4 | 0-1-1-2-2-2-1-1 | 8 | 2-3-2-1-2-2-2-2 |
| 28 November | 5 | 1-1-0-0-3-2-2-1 | 5 | 1-0-0-0-4-2-1-0 | 5 | 1-1-0-1-3-2-1-1 |
| 29 November | 5 | 1-1-1-1-2-2-2-1 | 2 | 0-0-0-0-2-1-1-0 | 5 | 1-1-2-1-2-2-2-1 |
| 30 November | 6 | 1-1-2-2-2-2-2-2 | 3 | 0-1-1-1-0-2-1-2 | 9 | 1-2-2-2-1-3-3-3 |

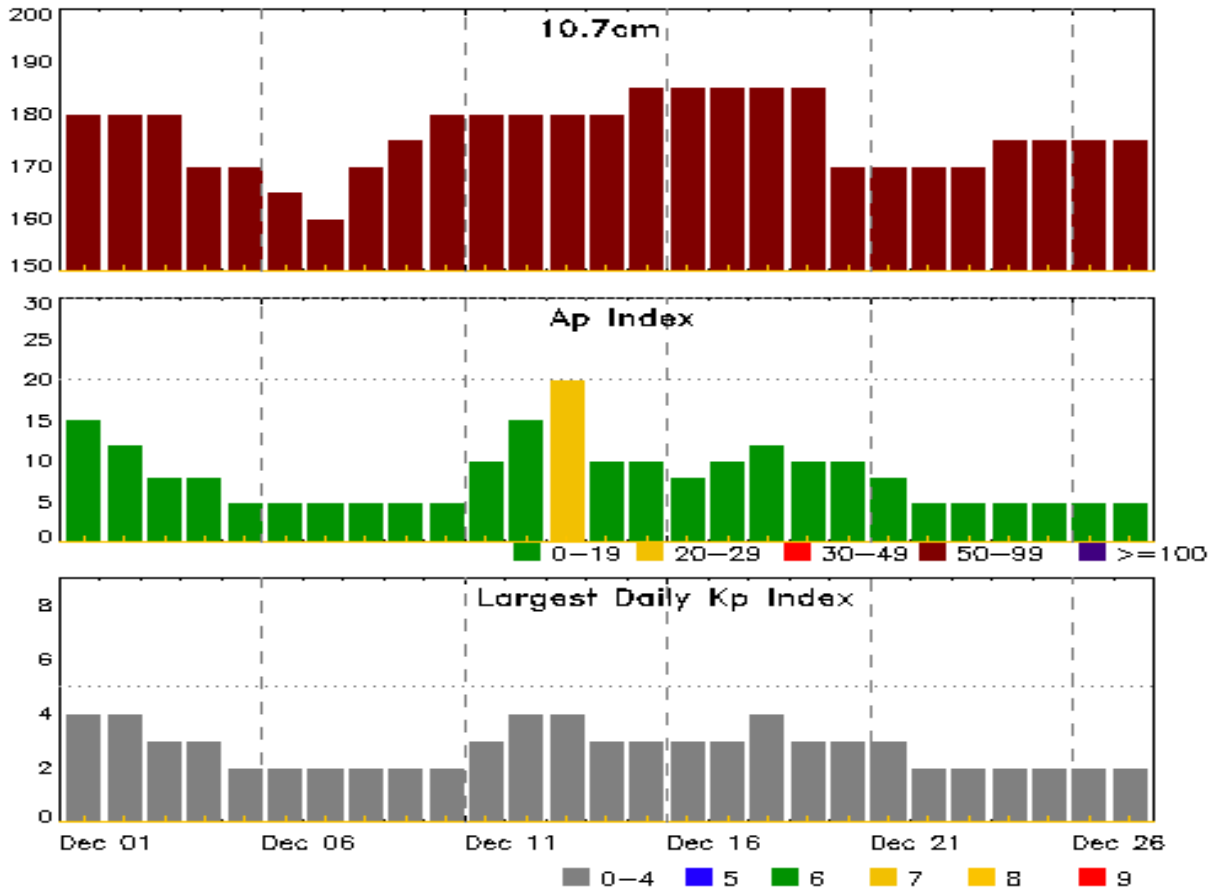


Alerts and Warnings Issued

| Date & Time of Issue UTC | Type of Alert or Warning | Date & Time of Event UTC |
|---|---------------------------------|---|
| 29 Nov 0235 | SUMMARY: 10cm Radio Burst | 29/0147 - 0148 |



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 |
|--------|----------------------|----------------------|---------------------|--------|----------------------|----------------------|---------------------|
| 01 Dec | 180 | 15 | 4 | 15 Dec | 185 | 10 | 3 |
| 02 | 180 | 12 | 4 | 16 | 185 | 8 | 3 |
| 03 | 180 | 8 | 3 | 17 | 185 | 10 | 3 |
| 04 | 170 | 8 | 3 | 18 | 185 | 12 | 4 |
| 05 | 170 | 5 | 2 | 19 | 185 | 10 | 3 |
| 06 | 165 | 5 | 2 | 20 | 170 | 10 | 3 |
| 07 | 160 | 5 | 2 | 21 | 170 | 8 | 3 |
| 08 | 170 | 5 | 2 | 22 | 170 | 5 | 2 |
| 09 | 175 | 5 | 2 | 23 | 170 | 5 | 2 |
| 10 | 180 | 5 | 2 | 24 | 175 | 5 | 2 |
| 11 | 180 | 10 | 3 | 25 | 175 | 5 | 2 |
| 12 | 180 | 15 | 4 | 26 | 175 | 5 | 2 |
| 13 | 180 | 20 | 4 | 27 | 175 | 5 | 2 |
| 14 | 180 | 10 | 3 | | | | |



Energetic Events

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

No Events Observed

Flare List

| Date | Time | | | X-ray Class | Imp/ Brtns | Optical Location Lat CMD | Rgn # |
|--------|-------|-------|-------|-------------|------------|--------------------------|-------|
| | Begin | Max | End | | | | |
| 24 Nov | 0116 | 0122 | 0150 | | SF | S10W52 | 2209 |
| 24 Nov | 0128 | 0132 | 0254 | C1.7 | SF | S08E27 | 2216 |
| 24 Nov | 0306 | 0313 | 0333 | | SF | S07E25 | 2216 |
| 24 Nov | 0844 | 0844 | 0851 | | SF | S11E24 | 2216 |
| 24 Nov | 0937 | 0941 | 0951 | | SF | S18E66 | 2217 |
| 24 Nov | 1050 | 1104 | 1138 | C4.1 | SF | S15E66 | 2217 |
| 24 Nov | B1252 | U1252 | A1259 | | SF | S14W58 | 2209 |
| 24 Nov | 1612 | 1620 | 1630 | C2.2 | SF | S15E63 | 2217 |
| 24 Nov | 1742 | 1809 | 1843 | C2.8 | SF | S16E61 | 2217 |
| 24 Nov | 2056 | 2058 | 2101 | | SF | S10E17 | 2216 |
| 24 Nov | 2208 | 2218 | 2314 | C2.5 | 1F | S18E62 | 2217 |
| 24 Nov | 2215 | 2221 | 2225 | | SF | N05E23 | 2219 |
| 24 Nov | 2216 | 2221 | 2225 | | SF | S13E19 | 2216 |
| 25 Nov | 0144 | 0144 | 0147 | | SF | S19E60 | 2217 |
| 25 Nov | 0318 | 0320 | 0326 | | SF | S19E60 | 2217 |
| 25 Nov | 0332 | 0332 | 0336 | | SF | S12E14 | 2216 |
| 25 Nov | 0552 | 0554 | 0556 | | SF | S19E58 | 2217 |
| 25 Nov | 0558 | 0603 | 0608 | | SF | S19E58 | 2217 |
| 25 Nov | B0717 | U0846 | A0852 | | SF | S15E53 | 2217 |
| 25 Nov | B1132 | U1132 | A1140 | | SF | S17E54 | 2217 |
| 25 Nov | 1148 | 1150 | 1152 | | SF | N05E15 | 2219 |
| 25 Nov | B1154 | U1211 | A1313 | | SF | N05E15 | 2219 |
| 25 Nov | B1225 | U1234 | A1244 | | SF | S20E55 | 2217 |
| 25 Nov | 1254 | 1257 | 1321 | C1.1 | | | 2217 |
| 25 Nov | B1315 | U1353 | A1426 | | SF | N06E14 | 2219 |
| 25 Nov | B1323 | U1323 | A1339 | | SF | S17E56 | 2217 |
| 25 Nov | B1341 | U1341 | 1344 | | SF | S17E56 | 2217 |
| 25 Nov | B1350 | U1358 | A1411 | | SF | S18E54 | 2217 |
| 25 Nov | B1417 | U1419 | A1428 | | SF | S16E22 | 2220 |
| 25 Nov | 1853 | 1854 | 1900 | | SF | N04E10 | 2219 |
| 25 Nov | 2042 | 2045 | 2048 | C1.7 | | | |



Flare List

| Date | Time | | | Optical | | | |
|--------|-------|------|------|-------------|-----------|------------------|-------|
| | Begin | Max | End | X-ray Class | Imp/Brtns | Location Lat CMD | Rgn # |
| 26 Nov | 0030 | 0034 | 0036 | C1.7 | SF | N05E06 | 2219 |
| 26 Nov | 0609 | 0617 | 0624 | C2.9 | SN | S18E42 | 2217 |
| 26 Nov | 0654 | 0656 | 0659 | | SF | N05E04 | 2219 |
| 26 Nov | 0858 | 0911 | 0932 | | SF | S19E40 | 2217 |
| 26 Nov | 0905 | 0905 | 0912 | | SF | N05E02 | 2219 |
| 26 Nov | 1539 | 1546 | 1558 | C2.8 | | | 2222 |
| 26 Nov | 1759 | 1804 | 1813 | C2.6 | SF | S18E78 | 2222 |
| 26 Nov | 1859 | 1900 | 1903 | | SF | N04E10 | 2219 |
| 26 Nov | 2221 | 2226 | 2230 | C3.2 | SF | S20E72 | 2222 |
| 26 Nov | 2357 | 2358 | 0009 | | SF | S21E71 | 2222 |
| 27 Nov | 0039 | 0047 | 0051 | C8.2 | 1F | S21E73 | 2222 |
| 27 Nov | 0125 | 0131 | 0142 | | SF | S21E73 | 2222 |
| 27 Nov | 0141 | 0201 | 0222 | C3.7 | | | 2209 |
| 27 Nov | 0145 | 0145 | 0150 | | SF | S21E73 | 2222 |
| 27 Nov | 0154 | 0158 | 0201 | | SF | S21E73 | 2222 |
| 27 Nov | 0212 | 0212 | 0217 | | SF | S21E73 | 2222 |
| 27 Nov | 0232 | 0235 | 0236 | | SF | S23E71 | 2222 |
| 27 Nov | 0238 | 0238 | 0245 | | SF | S23E71 | 2222 |
| 27 Nov | 0300 | 0307 | 0312 | | SF | S21E73 | 2222 |
| 27 Nov | 0300 | 0313 | 0320 | | SF | N04W07 | 2219 |
| 27 Nov | 0333 | 0333 | 0336 | | SF | S21E73 | 2222 |
| 27 Nov | 0339 | 0339 | 0341 | | SF | S21E73 | 2222 |
| 27 Nov | 0354 | 0356 | 0358 | | SF | S21E73 | 2222 |
| 27 Nov | 0400 | 0405 | 0411 | | SF | S21E73 | 2222 |
| 27 Nov | 0440 | 0448 | 0457 | C5.0 | SF | S21E73 | 2222 |
| 27 Nov | 0529 | 0536 | 0550 | C2.8 | SF | S10W15 | 2216 |
| 27 Nov | 0649 | 0651 | 0709 | C5.4 | SF | S21E73 | 2222 |
| 27 Nov | 0721 | 0721 | 0731 | | SF | N05W08 | 2219 |
| 27 Nov | 0820 | 0820 | 0823 | | SF | S22E72 | 2222 |
| 27 Nov | 0828 | 0848 | 0903 | C3.3 | SF | S21E71 | 2222 |
| 27 Nov | 0845 | 0852 | 0856 | | SF | N04W10 | 2219 |
| 27 Nov | 0856 | 0858 | 0902 | | SF | S21E71 | 2222 |
| 27 Nov | 0906 | 0909 | 0910 | | SF | S21E71 | 2222 |
| 27 Nov | 0934 | 0957 | 1018 | C4.8 | SF | S22E68 | 2222 |
| 27 Nov | 1003 | 1020 | 1030 | C4.6 | | | 2222 |
| 27 Nov | 1053 | 1059 | 1108 | C5.1 | | | 2222 |
| 27 Nov | 1404 | 1408 | 1411 | | SF | N04W14 | 2219 |
| 27 Nov | 1408 | 1409 | 1411 | | SF | S17E62 | 2222 |



Flare List

| Date | Time | | | X-ray Class | Optical | | Rgn # |
|--------|-------|------|------|----------------|---------------|---------------------|----------|
| | Begin | Max | End | | Imp/ Brtns | Location Lat CMD | |
| 27 Nov | 1420 | 1422 | 1443 | | SF | S17E62 | 2222 |
| 27 Nov | 1503 | 1505 | 1506 | | SF | S17E62 | 2222 |
| 27 Nov | 1521 | 1523 | 1531 | | SF | S18E68 | 2222 |
| 27 Nov | 1717 | 1718 | 1724 | | SF | S19E71 | 2222 |
| 27 Nov | 1816 | 1816 | 1820 | | SF | S19E71 | 2222 |
| 27 Nov | 2246 | 2246 | 2249 | | SF | S17E58 | 2222 |
| 27 Nov | B2306 | 2310 | 2329 | | 1F | S22E60 | 2222 |
| 27 Nov | 2332 | 2341 | 2348 | | SF | S21E58 | 2222 |
| 28 Nov | 0026 | 0039 | 0111 | C7.5 | SF | S25E47 | 2222 |
| 28 Nov | 0120 | 0124 | 0127 | | SF | S21E58 | 2222 |
| 28 Nov | 0144 | 0235 | 0320 | C1.5 | SF | S21E55 | 2222 |
| 28 Nov | 0348 | 0348 | 0352 | | SF | S20E50 | 2222 |
| 28 Nov | 0355 | 0357 | 0402 | | SF | S20E55 | 2222 |
| 28 Nov | 0406 | 0413 | 0414 | | SF | S20E54 | 2222 |
| 28 Nov | 0418 | 0422 | 0424 | C2.9 | | | 2222 |
| 28 Nov | 0603 | 0603 | 0606 | | SF | S19E57 | 2222 |
| 28 Nov | 0700 | 0703 | 0704 | | SF | S20E50 | 2222 |
| 28 Nov | 0719 | 0719 | 0722 | | SF | S20E52 | 2222 |
| 28 Nov | 0730 | 0731 | 0738 | | SF | S20E52 | 2222 |
| 28 Nov | 0754 | 0758 | 0803 | | SF | N05E54 | 2221 |
| 28 Nov | 0757 | 0804 | 0821 | | SF | S21E53 | 2222 |
| 28 Nov | 0852 | 0854 | 0856 | | SF | S21E53 | 2222 |
| 28 Nov | 0937 | 0948 | 0949 | | SF | S20E50 | 2222 |
| 28 Nov | 0954 | 1011 | 1017 | | SF | S20E50 | 2222 |
| 28 Nov | 1116 | 1120 | 1125 | C2.0 | | | 2222 |
| 28 Nov | 1513 | 1513 | 1515 | | SF | S18E48 | 2222 |
| 28 Nov | 1624 | 1626 | 1629 | | SF | S19E47 | 2222 |
| 28 Nov | 1708 | 1716 | 1719 | | SF | N04W29 | 2219 |
| 28 Nov | 1805 | 1806 | 1821 | | SF | N04W29 | 2219 |
| 28 Nov | 1839 | 1840 | 1846 | | SF | N04W31 | 2219 |
| 28 Nov | 2012 | 2016 | 2019 | C3.1 | SF | N04W32 | 2219 |
| 28 Nov | 2202 | 2203 | 2212 | | SF | N04W32 | 2219 |
| 28 Nov | 2326 | 2329 | 2335 | | SF | S22E48 | 2222 |
| 29 Nov | 0000 | 0010 | 0021 | C4.0 | | | 2222 |
| 29 Nov | 0004 | 0006 | 0046 | | 1F | S23E31 | 2224 |
| 29 Nov | 0005 | 0013 | 0017 | | SF | N05W35 | 2219 |
| 29 Nov | 0024 | 0030 | 0033 | | SF | S21E42 | 2222 |
| 29 Nov | 0041 | 0041 | 0054 | | SF | S19E46 | 2222 |



Flare List

| Date | Time | | | X-ray Class | Imp/ Brtns | Optical | | Rgn # |
|--------|-------|------|-------|----------------|---------------|---------------------|--|----------|
| | Begin | Max | End | | | Location Lat CMD | | |
| 29 Nov | 0144 | 0158 | 0321 | C4.2 | SF | S20E34 | | 2222 |
| 29 Nov | 0158 | 0200 | 0207 | | SF | N06W33 | | 2219 |
| 29 Nov | 0306 | 0309 | 0318 | | SF | S15W26 | | 2220 |
| 29 Nov | 0349 | 0352 | 0407 | | SF | S21E42 | | 2222 |
| 29 Nov | 0449 | 0451 | 0459 | | SF | S21E41 | | 2222 |
| 29 Nov | 0540 | 0543 | 0550 | | SF | N05W35 | | 2219 |
| 29 Nov | 0703 | 0704 | 0710 | C1.6 | SF | N05W38 | | 2219 |
| 29 Nov | 0710 | 0713 | 0716 | | SF | N05W38 | | 2219 |
| 29 Nov | 0816 | 0821 | 0825 | C6.7 | SN | S18E41 | | 2222 |
| 29 Nov | 0858 | 0902 | 0914 | C2.1 | SF | N05W38 | | 2219 |
| 29 Nov | 0957 | 1001 | 1007 | C4.0 | SF | S21E37 | | 2222 |
| 29 Nov | 1015 | 1016 | 1018 | | SF | S21E37 | | 2222 |
| 29 Nov | 1017 | 1025 | A1038 | | SF | N00E41 | | 2221 |
| 29 Nov | 1137 | 1140 | 1143 | C1.2 | | | | 2219 |
| 29 Nov | 1242 | 1247 | 1254 | C1.7 | | | | 2219 |
| 29 Nov | 1321 | 1349 | 1418 | C6.5 | | | | 2219 |
| 29 Nov | 1417 | 1435 | 1444 | | 1F | S21E37 | | 2222 |
| 29 Nov | 1427 | 1434 | 1446 | | SF | N03W41 | | 2219 |
| 29 Nov | 1516 | 1516 | 1521 | | SF | N05E33 | | 2221 |
| 29 Nov | 1801 | 1803 | 1808 | C3.8 | SF | S21E32 | | 2222 |
| 29 Nov | 2222 | 2223 | 2228 | | SF | S21E30 | | 2222 |
| 29 Nov | 2242 | 2246 | 2249 | C1.7 | SF | N05E28 | | 2221 |
| 30 Nov | 0142 | 0146 | 0150 | C1.6 | SF | N03E32 | | 2221 |
| 30 Nov | 0242 | 0244 | 0253 | | SF | N04W50 | | 2219 |
| 30 Nov | 0315 | 0326 | 0333 | C1.4 | SF | S21E34 | | 2222 |
| 30 Nov | 0401 | 0406 | 0409 | C1.1 | SF | S20E27 | | 2222 |
| 30 Nov | 0452 | 0454 | 0538 | | SF | S18E31 | | 2222 |
| 30 Nov | 0758 | 0828 | 0915 | | SF | S18E29 | | 2222 |
| 30 Nov | 0913 | 0915 | 0921 | | SF | S16W20 | | 2217 |
| 30 Nov | 1317 | 1320 | 1322 | C1.4 | | | | 2222 |
| 30 Nov | 1343 | 1348 | 1353 | C1.9 | | | | 2216 |
| 30 Nov | 1716 | 1719 | 1721 | C2.1 | SF | N05E28 | | 2221 |



Region Summary

| Date | Location | | Sunspot Characteristics | | | | Flares | | | | | | | | | | | |
|--------------------|----------|-----|---------------------------------|-------------------|---------------|---------------|--------------|-------|---|---|---------|----|---|---|---|--|--|--|
| | Lat CMD | Lon | Helio 10 ⁻⁶ hemi. | Extent (helio) | Spot Class | Spot Count | Mag Class | X-ray | | | Optical | | | | | | | |
| | | | | | | | | C | M | X | S | 1 | 2 | 3 | 4 | | | |
| Region 2113 | | | | | | | | | | | | | | | | | | |
| 06 Jul | N12E80 | 161 | 50 | 2 | Hax | 1 | A | | | | | | | | | | | |
| 07 Jul | N07E62 | 165 | 80 | 3 | Cao | 2 | B | | | | | | | | | | | |
| 08 Jul | N10E48 | 166 | 60 | 6 | Csi | 12 | BG | 2 | 1 | | | 10 | 1 | 1 | | | | |
| 09 Jul | N09E35 | 167 | 60 | 8 | Dai | 17 | BG | 2 | 1 | | | 8 | 1 | | | | | |
| 10 Jul | N09E20 | 168 | 40 | 8 | Cao | 6 | B | 1 | | | | 2 | | | | | | |
| 11 Jul | N07E12 | 163 | 30 | 15 | Cro | 10 | B | 1 | | | | 3 | | | | | | |
| 12 Jul | N07W04 | 166 | 60 | 10 | Cso | 8 | B | | | | | 1 | | | | | | |
| 13 Jul | N07W18 | 167 | 70 | 11 | Eao | 9 | B | 1 | | | | 2 | | | | | | |
| 14 Jul | N07W32 | 167 | 40 | 9 | Dao | 11 | B | | | | | | | | | | | |
| 15 Jul | N08W46 | 168 | 10 | 8 | Bxo | 4 | B | | | | | | | | | | | |
| 16 Jul | N12W59 | 168 | 10 | | Axx | 1 | A | | | | | | | | | | | |
| 17 Jul | N12W73 | 169 | plage | | | | | | | | | | | | | | | |
| 18 Jul | N12W87 | 169 | plage | | | | | | | | | | | | | | | |
| 15 Nov | S09E24 | 274 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | 7 | 2 | 0 | 26 | 2 | 1 | 0 | 0 | | | |

Died on Disk.

Absolute heliographic longitude: 166

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|------|----|-----|----|-----|----|---|---|----|----|---|---|---|--|--|--|
| Region 2209 | | | | | | | | | | | | | | | | | | |
| 12 Nov | S13E73 | 264 | 30 | 1 | Hsx | 1 | A | | | | | | | | | | | |
| 13 Nov | S15E62 | 262 | 30 | 1 | Hax | 1 | A | 2 | | | | | | | | | | |
| 14 Nov | S15E56 | 255 | 680 | 24 | Fkc | 9 | BG | 2 | | | | 2 | 1 | | | | | |
| 15 Nov | S15E45 | 253 | 800 | 23 | Fkc | 16 | BGD | 2 | 2 | | | 6 | 1 | | | | | |
| 16 Nov | S14E31 | 254 | 940 | 26 | Fkc | 23 | BGD | 7 | 1 | | | 10 | | | | | | |
| 17 Nov | S13E18 | 252 | 990 | 26 | Fkc | 22 | BGD | 2 | | | | 4 | | | | | | |
| 18 Nov | S13E07 | 251 | 1100 | 27 | Fkc | 26 | BGD | 3 | | | | 1 | | | | | | |
| 19 Nov | S14W03 | 248 | 930 | 19 | Fko | 16 | BGD | 1 | | | | 7 | | | | | | |
| 20 Nov | S16W16 | 248 | 970 | 16 | Fko | 24 | BGD | 2 | | | | 4 | | | | | | |
| 21 Nov | S15W29 | 248 | 900 | 19 | Fko | 29 | BGD | 3 | | | | 13 | | | | | | |
| 22 Nov | S15W43 | 249 | 950 | 19 | Fko | 23 | BGD | 7 | | | | 5 | 3 | | | | | |
| 23 Nov | S15W57 | 250 | 1000 | 19 | Fki | 21 | BGD | 2 | | | | 4 | | | | | | |
| 24 Nov | S15W69 | 248 | 950 | 19 | Fko | 16 | BGD | | | | | 2 | | | | | | |
| 25 Nov | S15W81 | 246 | 1090 | 18 | Fko | 11 | BGD | | | | | | | | | | | |
| 26 Nov | S16W91 | 243 | 300 | 6 | Hkx | 5 | A | | | | | | | | | | | |
| | | | | | | | | 33 | 3 | 0 | 58 | 5 | 0 | 0 | 0 | | | |

Crossed West Limb.

Absolute heliographic longitude: 248



Region Summary - continued

| Date | Location | | Sunspot Characteristics | | | | Flares | | | | | | | | | | | |
|--------------------|----------|-----------|----------------------------|----------------|------------|------------|-----------|-------|---|---|---------|---|---|---|---|---|--|--|
| | Lat CMD | Helio Lon | Area 10 ⁶ hemi. | Extent (helio) | Spot Class | Spot Count | Mag Class | X-ray | | | Optical | | | | | | | |
| | | | | | | | | C | M | X | S | 1 | 2 | 3 | 4 | | | |
| Region 2213 | | | | | | | | | | | | | | | | | | |
| 15 Nov | S09E26 | 272 | 30 | 4 | Cro | 3 | B | | | | | | | | | | | |
| 16 Nov | S09E12 | 273 | 40 | 5 | Dai | 9 | B | | | | | | 2 | | | | | |
| 17 Nov | S10W02 | 274 | 30 | 5 | Cro | 12 | B | | | | | | | | | | | |
| 18 Nov | S09W15 | 273 | 10 | 5 | Bxo | 6 | B | | | | | | | | | | | |
| 19 Nov | S08W28 | 273 | 10 | 2 | Bxo | 2 | B | | | | | | | | | | | |
| 20 Nov | S08W42 | 274 | plage | | | | | | | | | | | | | | | |
| 21 Nov | S08W56 | 275 | plage | | | | | | | | | | | | | | | |
| 22 Nov | S08W70 | 276 | plage | | | | | | | | | | | | | | | |
| 23 Nov | S08W84 | 277 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | | |

Crossed West Limb.

Absolute heliographic longitude: 274

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-------|---|-----|----|---|---|---|---|---|---|---|---|---|---|--|--|
| Region 2214 | | | | | | | | | | | | | | | | | | |
| 16 Nov | S13E59 | 226 | 20 | 4 | Cro | 4 | B | | | | | | | | | | | |
| 17 Nov | S12E47 | 223 | 10 | 5 | Bxo | 4 | B | | | | | | | | | | | |
| 18 Nov | S13E31 | 226 | 10 | 7 | Bxo | 6 | B | 1 | | | | | 1 | | | | | |
| 19 Nov | S12E19 | 225 | 20 | 7 | Cro | 10 | B | | | | | | 1 | | | | | |
| 20 Nov | S12E06 | 226 | 10 | 5 | Bxo | 3 | B | | | | | | 1 | | | | | |
| 21 Nov | S13W05 | 224 | 10 | 1 | Axx | 2 | A | | | | | | | | | | | |
| 22 Nov | S12W19 | 225 | 10 | 1 | Axx | 2 | A | | | | | | 1 | | | | | |
| 23 Nov | S12W33 | 226 | plage | | | | | | | | | | | | | | | |
| 24 Nov | S12W47 | 226 | plage | | | | | | | | | | | | | | | |
| 25 Nov | S12W61 | 227 | plage | | | | | | | | | | | | | | | |
| 26 Nov | S12W75 | 228 | plage | | | | | | | | | | | | | | | |
| 27 Nov | S12W89 | 229 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | | |

Crossed West Limb.

Absolute heliographic longitude: 224



Region Summary - continued

| Date | Location | | Sunspot Characteristics | | | | | Flares | | | | | | | |
|------|----------|-----|--------------------------------|------|-------------------|---------------|---------------|--------------|-------|---|---|---------|---|---|---|
| | Lat CMD | Lon | Helio 10 ⁶ hemi. | Area | Extent (helio) | Spot Class | Spot Count | Mag Class | X-ray | | | Optical | | | |
| | | | | | | | | | C | M | X | S | 1 | 2 | 3 |

Region 2215

| | | | | | | | | | | | | | | | | | |
|--------|--------|-----|-------|---|-----|---|---|--|---|---|---|---|---|---|---|---|---|
| 17 Nov | N09E49 | 221 | 10 | 1 | Axx | 1 | A | | | | | | | | | | |
| 18 Nov | N09E38 | 219 | 10 | 5 | Bxo | 2 | B | | | | | | | | | | |
| 19 Nov | N09E24 | 221 | plage | | | | | | | | | | | | | | |
| 20 Nov | N09E10 | 222 | 10 | 1 | Axx | 1 | A | | | | | | | | | | |
| 21 Nov | N09W05 | 224 | plage | | | | | | | | | | | | | | |
| 22 Nov | N09W17 | 223 | plage | | | | | | | | | | | | | | |
| 23 Nov | N09W31 | 224 | plage | | | | | | | | | | | | | | |
| 24 Nov | N09W45 | 224 | plage | | | | | | | | | | | | | | |
| 25 Nov | N09W59 | 225 | plage | | | | | | | | | | | | | | |
| 26 Nov | N09W73 | 226 | plage | | | | | | | | | | | | | | |
| 27 Nov | N09W87 | 227 | plage | | | | | | | | | | | | | | |
| | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Crossed West Limb.

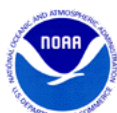
Absolute heliographic longitude: 224

Region 2216

| | | | | | | | | | | | | | | | | | |
|--------|--------|-----|-------|----|-----|----|-----|----|---|---|----|---|---|---|---|---|---|
| 18 Nov | S13E97 | 164 | plage | | | | | | 2 | | | | | | | | |
| 19 Nov | S13E77 | 169 | plage | | | | | | | | | | | | | | |
| 20 Nov | S13E68 | 164 | 360 | 6 | Dko | 3 | B | 1 | | | | | | | | | |
| 21 Nov | S14E54 | 165 | 640 | 10 | Dkc | 7 | BD | 3 | | | 2 | | | | | | |
| 22 Nov | S13E41 | 165 | 630 | 9 | Dkc | 9 | BG | 2 | | | 1 | | | | | | |
| 23 Nov | S13E28 | 165 | 630 | 8 | Dkc | 12 | BGD | 1 | | | 1 | | | | | | |
| 24 Nov | S14E13 | 165 | 720 | 10 | Dkc | 23 | BG | 1 | | | 5 | | | | | | |
| 25 Nov | S13E01 | 164 | 420 | 8 | Dkc | 26 | BG | | | | 1 | | | | | | |
| 26 Nov | S14W10 | 162 | 280 | 8 | Dki | 23 | B | | | | | | | | | | |
| 27 Nov | S13W25 | 165 | 200 | 9 | Cai | 20 | B | 1 | | | 1 | | | | | | |
| 28 Nov | S13W40 | 167 | 200 | 6 | Dao | 10 | B | | | | | | | | | | |
| 29 Nov | S13W54 | 167 | 140 | 5 | Dao | 8 | B | | | | | | | | | | |
| 30 Nov | S14W65 | 165 | 160 | 7 | Dao | 8 | B | 1 | | | | | | | | | |
| | | | | | | | | 12 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 164



Region Summary - continued

| Date | Location | | Sunspot Characteristics | | | | | Flares | | | | | | | | | |
|--------------------|----------|-----|-------------------------|-------|---------|-------|-------|--------|-------|----|---|---------|----|----|---|---|---|
| | Lat CMD | Lon | Helio | Area | Extent | Spot | Spot | Mag | X-ray | | | Optical | | | | | |
| | | | 10 ⁶ | hemi. | (helio) | Class | Count | Class | C | M | X | S | 1 | 2 | 3 | 4 | |
| Region 2217 | | | | | | | | | | | | | | | | | |
| 22 Nov | S20E80 | 127 | | plage | | | | | | | | 1 | | | | | |
| 23 Nov | S19E68 | 125 | 180 | | 5 | Cao | 3 | B | | | | 6 | | | | | |
| 24 Nov | S19E53 | 125 | 260 | | 8 | Cko | 6 | B | | | | 4 | | 4 | 1 | | |
| 25 Nov | S19E41 | 124 | 380 | | 11 | Ekc | 10 | BG | | | | 1 | | 10 | | | |
| 26 Nov | S20E29 | 123 | 120 | | 12 | Eai | 26 | BG | | | | 1 | | 2 | | | |
| 27 Nov | S20E17 | 123 | 130 | | 14 | Eai | 15 | BG | | | | | | | | | |
| 28 Nov | S20E01 | 126 | 70 | | 4 | Cao | 5 | B | | | | | | | | | |
| 29 Nov | S19W12 | 125 | 70 | | 3 | Cao | 3 | B | | | | | | | | | |
| 30 Nov | S18W25 | 125 | 80 | | 8 | Dao | 9 | BG | | | | | | 1 | | | |
| | | | | | | | | | | 13 | 0 | 0 | 17 | 1 | 0 | 0 | 0 |

Still on Disk.
 Absolute heliographic longitude: 126

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-----|--|---|-----|---|---|--|---|---|---|---|---|---|---|---|
| Region 2218 | | | | | | | | | | | | | | | | | |
| 24 Nov | N14E64 | 114 | 120 | | 8 | Cso | 2 | B | | | | | | | | | |
| 25 Nov | N15E53 | 112 | 130 | | 9 | Cso | 2 | B | | | | | | | | | |
| 26 Nov | N15E38 | 114 | 140 | | 9 | Cso | 2 | B | | | | | | | | | |
| 27 Nov | N16E28 | 112 | 140 | | 3 | Hsx | 1 | A | | | | | | | | | |
| 28 Nov | N16E15 | 112 | 140 | | 3 | Hsx | 1 | A | | | | | | | | | |
| 29 Nov | N16E02 | 111 | 130 | | 3 | Hsx | 1 | A | | | | | | | | | |
| 30 Nov | N16W11 | 111 | 140 | | 3 | Hsx | 1 | A | | | | | | | | | |
| | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.
 Absolute heliographic longitude: 111

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-----|--|----|-----|----|-----|--|---|---|---|----|---|---|---|---|
| Region 2219 | | | | | | | | | | | | | | | | | |
| 24 Nov | N05E20 | 158 | 10 | | 3 | Bxo | 2 | B | | | | | | 1 | | | |
| 25 Nov | N05E07 | 158 | 30 | | 5 | Dri | 8 | B | | | | | | 4 | | | |
| 26 Nov | N05W08 | 160 | 30 | | 6 | Dri | 23 | B | | | 1 | | | 4 | | | |
| 27 Nov | N04W21 | 161 | 200 | | 9 | Dai | 16 | BG | | | | | | 4 | | | |
| 28 Nov | N04W34 | 161 | 250 | | 11 | Ekc | 16 | BG | | | 1 | | | 5 | | | |
| 29 Nov | N05W47 | 160 | 260 | | 11 | Ekc | 16 | BGD | | | 5 | | | 7 | | | |
| 30 Nov | N04W60 | 160 | 300 | | 10 | Dko | 9 | BG | | | | | | 1 | | | |
| | | | | | | | | | | 7 | 0 | 0 | 26 | 0 | 0 | 0 | 0 |

Still on Disk.
 Absolute heliographic longitude: 158



Region Summary - continued

| Date | Location | | Sunspot Characteristics | | | | Flares | | | | | | | | | | | |
|--------------------|----------|-----|--------------------------------|-------------------|---------------|---------------|--------------|-------|---|---|---------|---|---|---|---|---|--|--|
| | Lat CMD | Lon | Helio 10 ⁶ hemi. | Extent (helio) | Spot Class | Spot Count | Mag Class | X-ray | | | Optical | | | | | | | |
| | | | | | | | | C | M | X | S | 1 | 2 | 3 | 4 | | | |
| Region 2220 | | | | | | | | | | | | | | | | | | |
| 24 Nov | S16E28 | 150 | 10 | 1 | Axx | 2 | A | | | | | | | | | | | |
| 25 Nov | S17E14 | 151 | 10 | 3 | Bxo | 3 | B | | | | | 1 | | | | | | |
| 26 Nov | S16E01 | 151 | 10 | 4 | Bxo | 6 | B | | | | | | | | | | | |
| 27 Nov | S16W13 | 153 | 10 | 2 | Axx | 2 | A | | | | | | | | | | | |
| 28 Nov | S16W27 | 154 | 10 | 2 | Bxo | 2 | B | | | | | | | | | | | |
| 29 Nov | S16W41 | 154 | 0 | 1 | Axx | 1 | A | | | | | 1 | | | | | | |
| 30 Nov | S16W55 | 155 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | | |

Still on Disk.
Absolute heliographic longitude: 151

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|----|-----|----|-----|----|----|---|---|---|---|---|---|---|---|---|--|--|
| Region 2221 | | | | | | | | | | | | | | | | | | |
| 26 Nov | N04E70 | 81 | 30 | 4 | Dro | 4 | B | | | | | | | | | | | |
| 27 Nov | N04E56 | 84 | 160 | 8 | Dai | 10 | B | | | | | | | | | | | |
| 28 Nov | N04E43 | 84 | 200 | 11 | Eac | 16 | BG | | | | | 1 | | | | | | |
| 29 Nov | N04E29 | 84 | 200 | 11 | Eac | 18 | BG | 1 | | | | 3 | | | | | | |
| 30 Nov | N04E16 | 84 | 160 | 9 | Dsi | 14 | BG | 2 | | | | 2 | | | | | | |
| | | | | | | | | 3 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | | |

Still on Disk.
Absolute heliographic longitude: 84

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|----|-----|----|-----|----|----|----|---|---|----|----|---|---|---|---|--|--|
| Region 2222 | | | | | | | | | | | | | | | | | | |
| 26 Nov | S20E70 | 82 | 30 | 1 | Hrx | 1 | A | 3 | | | | 2 | | | | | | |
| 27 Nov | S20E59 | 81 | 120 | 10 | Dai | 10 | BG | 7 | | | | 26 | 2 | | | | | |
| 28 Nov | S20E44 | 83 | 330 | 11 | Ehc | 17 | BG | 4 | | | | 16 | | | | | | |
| 29 Nov | S21E30 | 83 | 540 | 13 | Ekc | 26 | BG | 5 | | | | 10 | 1 | | | | | |
| 30 Nov | S20E17 | 83 | 680 | 13 | Ekc | 30 | BG | 3 | | | | 4 | | | | | | |
| | | | | | | | | 22 | 0 | 0 | 58 | 3 | 0 | 0 | 0 | 0 | | |

Still on Disk.
Absolute heliographic longitude: 83

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|--|--|
| Region 2223 | | | | | | | | | | | | | | | | | | |
| 27 Nov | N17W11 | 151 | 10 | 3 | Bxo | 1 | B | | | | | | | | | | | |
| 28 Nov | N17W25 | 152 | 10 | 3 | Bxo | 5 | B | | | | | | | | | | | |
| 29 Nov | N17W40 | 153 | 10 | 6 | Bxo | 3 | B | | | | | | | | | | | |
| 30 Nov | N16W52 | 152 | 10 | 1 | Axx | 1 | A | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Still on Disk.
Absolute heliographic longitude: 151



Region Summary - continued

| Date | Location | | Sunspot Characteristics | | | | Flares | | | | | | | | |
|------|----------|-----|-------------------------|-------------------------------|-------------------|---------------|---------------|--------------|-------|---|---|---------|---|---|---|
| | Lat | CMD | Helio Lon | Area 10 ⁶ hemi. | Extent (helio) | Spot Class | Spot Count | Mag Class | X-ray | | | Optical | | | |
| | | | | | | | | | C | M | X | S | 1 | 2 | 3 |

Region 2224

| | | | | | | | | | | | | | | | | | | |
|--------|--------|----|-------|---|-----|---|---|--|---|---|---|---|---|---|---|---|---|---|
| 28 Nov | S24E29 | 98 | 10 | 3 | Bxo | 4 | B | | | | | | | | | | | |
| 29 Nov | S24E15 | 98 | plage | | | | | | | | | | 1 | | | | | |
| 30 Nov | S24E01 | 99 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 99

Region 2225

| | | | | | | | | | | | | | | | | | | |
|--------|--------|----|----|---|-----|---|---|--|---|---|---|---|---|---|---|---|---|---|
| 30 Nov | S17E56 | 44 | 10 | 1 | Axx | 1 | A | | | | | | | | | | | |
| | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 44

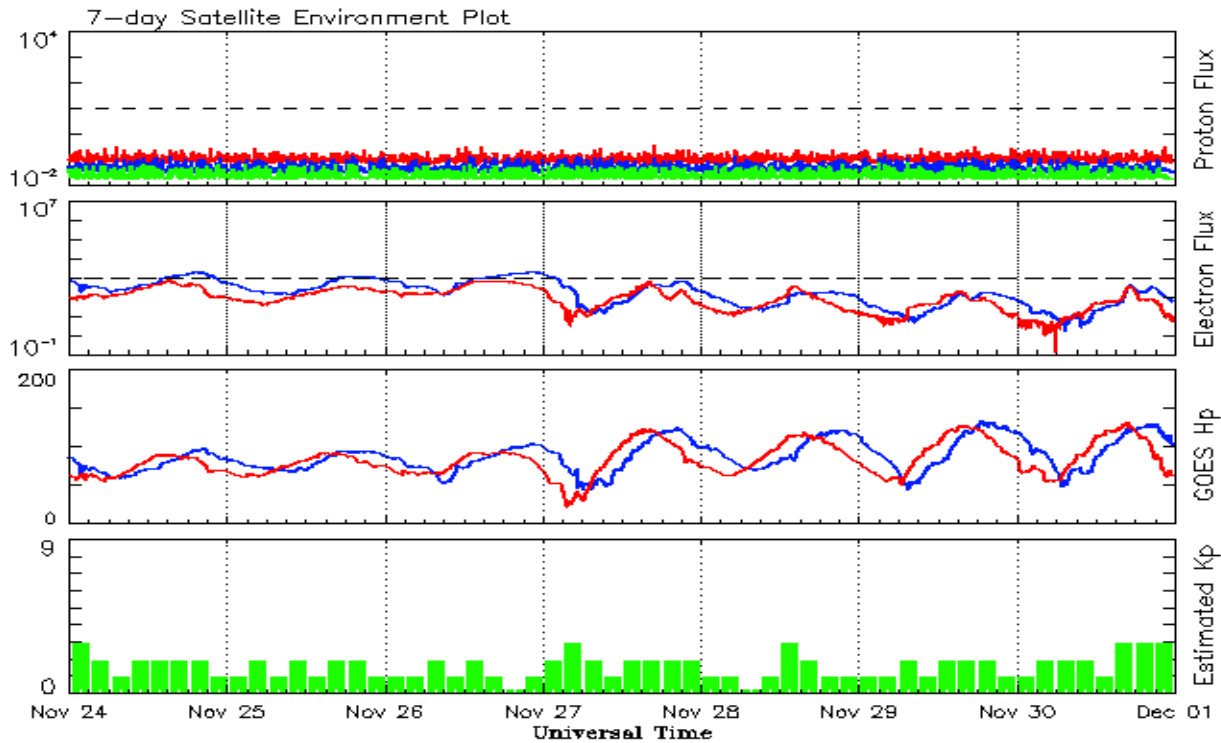


Recent Solar Indices (preliminary)
Observed monthly mean values

| Month | Sunspot Numbers | | | | | Radio Flux | | Geomagnetic | |
|-------------|-----------------|-------|--------|---------------|------|------------|--------|-------------|--------|
| | Observed values | | Ratio | Smooth values | | Penticton | Smooth | Planetary | Smooth |
| | SEC | RI | RI/SEC | SEC | RI | 10.7 cm | Value | Ap | Value |
| 2012 | | | | | | | | | |
| December | 60.4 | 40.8 | 0.68 | 88.0 | 59.6 | 108.4 | 120.1 | 3 | 7.5 |
| 2013 | | | | | | | | | |
| January | 99.8 | 62.9 | 0.63 | 87.1 | 58.7 | 127.1 | 118.9 | 4 | 7.5 |
| February | 60.0 | 38.1 | 0.63 | 86.7 | 58.4 | 104.4 | 118.0 | 5 | 7.4 |
| March | 81.0 | 57.9 | 0.71 | 85.7 | 57.6 | 111.2 | 117.1 | 9 | 7.4 |
| April | 112.8 | 72.4 | 0.64 | 86.7 | 57.9 | 125.0 | 116.6 | 5 | 7.2 |
| May | 125.5 | 78.7 | 0.63 | 90.5 | 59.9 | 131.3 | 118.1 | 10 | 7.0 |
| June | 80.1 | 52.5 | 0.66 | 94.4 | 62.6 | 110.2 | 120.9 | 13 | 7.1 |
| July | 86.1 | 57.0 | 0.66 | 97.9 | 65.5 | 115.6 | 123.9 | 9 | 7.3 |
| August | 90.2 | 66.0 | 0.73 | 103.7 | 68.9 | 114.7 | 127.9 | 9 | 7.6 |
| September | 55.0 | 37.0 | 0.67 | 111.0 | 73.0 | 102.7 | 132.3 | 5 | 7.8 |
| October | 127.1 | 85.6 | 0.67 | 114.3 | 74.9 | 132.3 | 134.7 | 7 | 7.8 |
| November | 125.7 | 77.6 | 0.62 | 114.6 | 75.3 | 148.4 | 135.4 | 5 | 7.9 |
| December | 118.2 | 90.3 | 0.76 | 115.4 | 75.9 | 147.7 | 135.9 | 5 | 7.5 |
| 2014 | | | | | | | | | |
| January | 125.9 | 81.8 | 0.65 | 117.7 | 77.3 | 158.6 | 137.3 | 6 | 7.1 |
| February | 174.6 | 102.3 | 0.59 | 119.5 | 78.4 | 170.3 | 138.6 | 12 | 6.9 |
| March | 141.1 | 91.9 | 0.65 | 123.2 | 80.8 | 149.9 | 140.8 | 6 | 7.2 |
| April | 130.5 | 84.7 | 0.65 | 124.8 | 81.9 | 144.3 | 143.5 | 9 | 7.5 |
| May | 116.8 | 75.2 | 0.64 | 122.3 | | 130.0 | 144.7 | 7 | 7.9 |
| June | 107.7 | 71.0 | 0.66 | | | 122.2 | | 7 | |
| July | 113.6 | 72.5 | 0.64 | | | 137.3 | | 5 | |
| August | 106.2 | 74.7 | 0.70 | | | 124.7 | | 9 | |
| September | 127.4 | 87.6 | 0.69 | | | 146.1 | | 11 | |
| October | 92.0 | 60.6 | 0.66 | | | 153.7 | | 10 | |
| November | 101.8 | | | | | 155.3 | | 10 | |

Note: Values are final except for the most recent 6 months which are considered preliminary. Cycle 24 started in Dec 2008 with an RI=1.7.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 24 November 2014*

The proton flux plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by the SWPC Primary GOES satellite, near West 75, for each of three energy thresholds: greater than 10, 50, and 100 MeV.

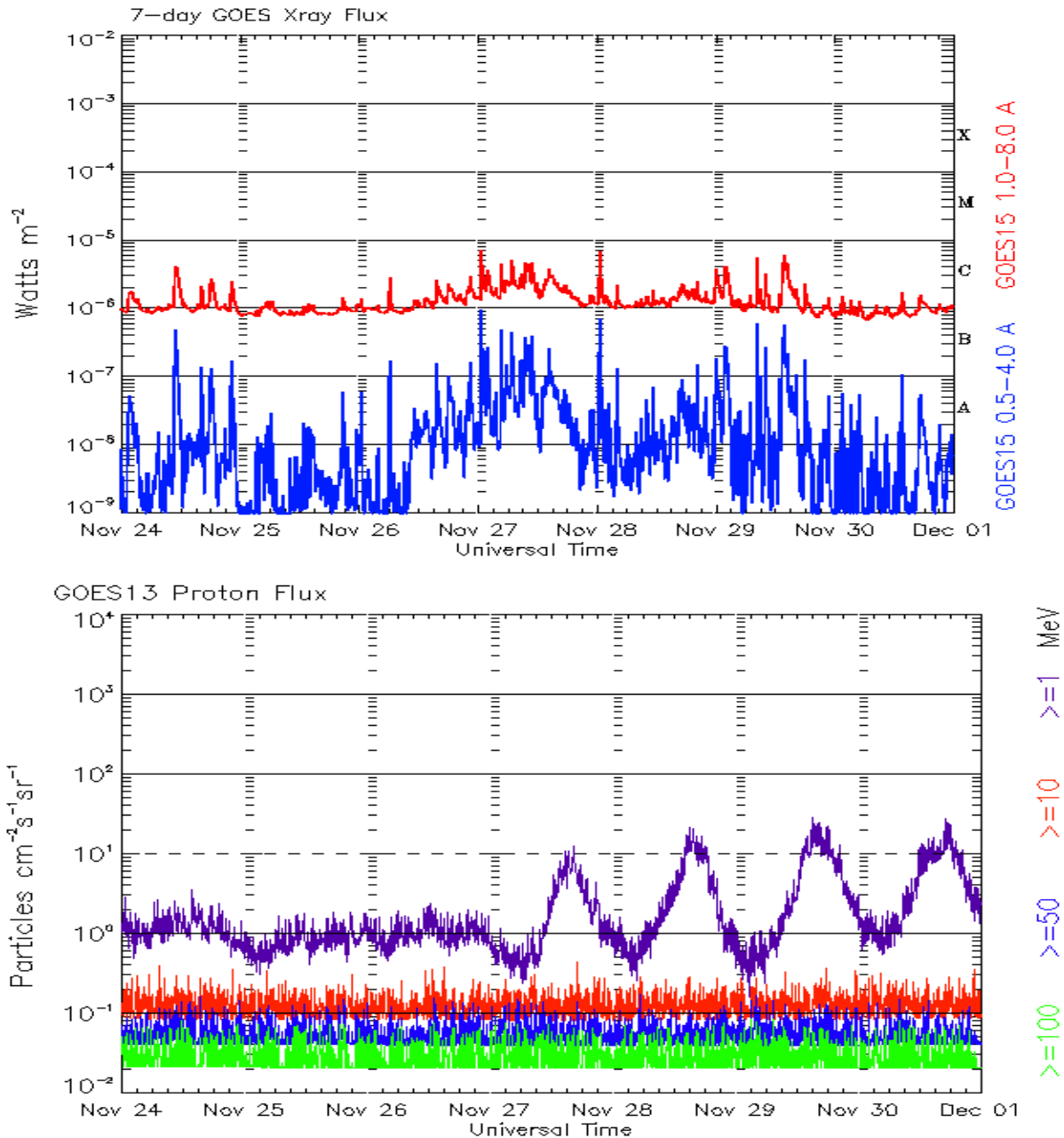
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

The Hp plot contains the five minute averaged Hp magnetic field component in nanoteslas (nT) as by the SWPC Primary GOES satellite. The Hp component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

The Estimated 3-hour Planetary Kp-index is derived at the NOAA Space Weather Prediction Center using data from the following ground-based magnetometers: Boulder, Colorado; Chambon la Foret, France; Fredericksburg, Virginia; Fresno, California; Hartland, UK; Newport, Washington; Sitka, Alaska. These data are made available thanks to the cooperative efforts between SWPC and data providers around the world, which currently includes the U.S. Geological Survey, the British Geological Survey, and the Institut de Physique du Globe de Paris.

The data included here are those now available in real time at the SWPC and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are 'global' parameters that are applicable to a first order approximation over large areas. H parallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.





*Weekly GOES Satellite X-ray and Proton Plots
Week Beginning 24 November 2014*

The x-ray plots contains five-minute averages x-ray flux (Watt/m²) as measure by the SWPC primary GOES X-ray satellite, usually at West 105 longitude, in two wavelength bands, 0.05 - 0.4 and 0.1 - 0.8 nm. The letters A, B, C, M and X refer to x-ray event levels for the 0.1 - 0.8 nm band.

The proton plot contains the five-minute averaged intergral flux units (pfu = protons/cm² -sec -sr) as measured by the primary SWPC GOES Proton satellite for each of the energy thresholds: >1, >10, >30, and >100 MeV. The P10 event threshold is 10 pfu at greater than 10 MeV.



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

Published every Monday by the Space Weather Prediction Center.

U.S. Department of Commerce
NOAA / National Weather Service
Space Weather Prediction Center
325 Broadway, Boulder CO 80305

Notice: The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

The Weekly has been published continuously since 1951 and is available online since 1997.

<http://spaceweather.gov/weekly/> -- Current and previous year

<http://spaceweather.gov/ftpmenu/warehouse.html> -- Online archive from 1997

<http://spaceweather.gov/ftpmenu/> -- Some content as ascii text

<http://spaceweather.gov/SolarCycle/> -- Solar Cycle Progression web site

<http://spaceweather.gov/contacts.html> -- Contact and Copyright information

http://spaceweather.gov/weekly/Usr_guide.pdf -- User Guide

