

Solar activity was low all week. Of the 18 active regions observed on the visible disk through the course of the week, only three were responsible for 28 of the 32 x-ray flares recorded. Region 2056 (N05, L=258, class/area: Eko/300 on 12 May) produced 11 flares, including the largest of the week, a C8/1f at 14/1504 UTC. Regions 2060 (S14, L=227, class/area: Dac/180 on 14 May) and 2063 (N10, L=179, class/area: Dai/150 on 15 May) were responsible for nine and eight C-class events, respectively. Each of these three regions developed a beta-gamma type magnetic configuration during the week.

No Earth-directed coronal mass ejections were observed during the week. The only radio emission observed was a weak type II sweep (est. shock velocity 878 km/s) observed by the Sagamore Hill RSTN site from approximately 15/2028 - 2038 UTC. The sweep was likely associated with a CME first observed in SOHO/LASCO C2 imagery at 15/2048 UTC off the East limb.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at moderate levels on May 12 through May 16 and at normal levels for the remainder of the week.

Geomagnetic field activity was quiet all week with the exception a single unsettled period on 12 May.

Space Weather Outlook **19 May - 14 June 2014**

Solar activity is expected to be at low levels with a chance for moderate or greater levels through the period.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 22-24 May in response to a recurrent coronal hole high speed stream. The remainder of the forecast period should see normal to moderate flux levels.

Geomagnetic field activity is expected to be at quiet to unsettled levels throughout the period. Unsettled to active conditions are possible on 21-22 May, 25 May, and again on 04-08 Jun in response to recurrent coronal hole high speed solar wind streams.



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 |
| 12 May | 163 | 164 | 1140 | B7.0 | 6 | 0 | 0 | 14 | 2 | 0 | 0 | 0 |
| 13 May | 159 | 138 | 880 | B6.4 | 3 | 0 | 0 | 5 | 1 | 0 | 0 | 0 |
| 14 May | 163 | 162 | 1000 | B6.5 | 7 | 0 | 0 | 13 | 1 | 0 | 0 | 0 |
| 15 May | 152 | 130 | 900 | B5.8 | 6 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 16 May | 139 | 136 | 770 | B5.1 | 7 | 0 | 0 | 4 | 1 | 0 | 0 | 0 |
| 17 May | 134 | 146 | 580 | B5.0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 18 May | 128 | 138 | 470 | B4.4 | 2 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |

Daily Particle Data

| Date | Proton Fluence (protons/cm ² -day-sr) | | | Electron Fluence (electrons/cm ² -day-sr) | | |
|--------|---|---------|----------|---|---------|---------|
| | >1 MeV | >10 MeV | >100 MeV | >0.6 MeV | >2MeV | >4 MeV |
| | 12 May | 8.1e+04 | 1.1e+04 | 2.6e+03 | | 5.2e+06 |
| 13 May | 1.4e+05 | 1.0e+04 | 2.8e+03 | | 1.2e+07 | |
| 14 May | 1.2e+05 | 1.1e+04 | 2.6e+03 | | 1.3e+07 | |
| 15 May | 1.3e+05 | 1.1e+04 | 2.7e+03 | | 9.5e+06 | |
| 16 May | 1.1e+05 | 1.1e+04 | 2.4e+03 | | 3.1e+06 | |
| 17 May | 5.4e+04 | 1.0e+04 | 2.4e+03 | | 1.5e+06 | |
| 18 May | 9.1e+04 | 1.0e+04 | 2.5e+03 | | 1.7e+06 | |

Daily Geomagnetic Data

| Date | Middle Latitude Fredericksburg | | High Latitude College | | Estimated Planetary | |
|--------|-----------------------------------|-----------------|--------------------------|-----------------|------------------------|-----------------|
| | A | K-indices | A | K-indices | A | K-indices |
| | 12 May | 10 | 2-2-3-2-4-2-2-1 | 12 | 2-3-3-4-3-2-1-1 | 8 |
| 13 May | 7 | 1-2-1-2-3-2-2-2 | 0 | 1-1-2-2-1-1-1-0 | 5 | 1-2-1-1-1-1-1-2 |
| 14 May | 8 | 1-1-1-2-4-2-1-2 | 6 | 0-2-1-1-3-1-1-2 | 6 | 1-1-1-1-2-2-1-2 |
| 15 May | 5 | 1-1-1-1-3-1-1-1 | 3 | 0-2-1-0-0-1-1-1 | 5 | 2-2-1-1-1-1-1-1 |
| 16 May | 6 | 1-1-1-2-3-2-2-1 | 4 | 2-1-1-1-2-2-1-0 | 5 | 2-1-1-1-2-2-1-1 |
| 17 May | 4 | 1-0-0-1-3-2-1-1 | 2 | 1-1-1-2-1-0-0-0 | 4 | 1-1-1-1-1-1-0-1 |
| 18 May | 5 | 2-1-1-1-2-2-2-1 | 5 | 2-2-1-1-1-2-1-1 | 5 | 2-2-1-1-1-2-1-1 |

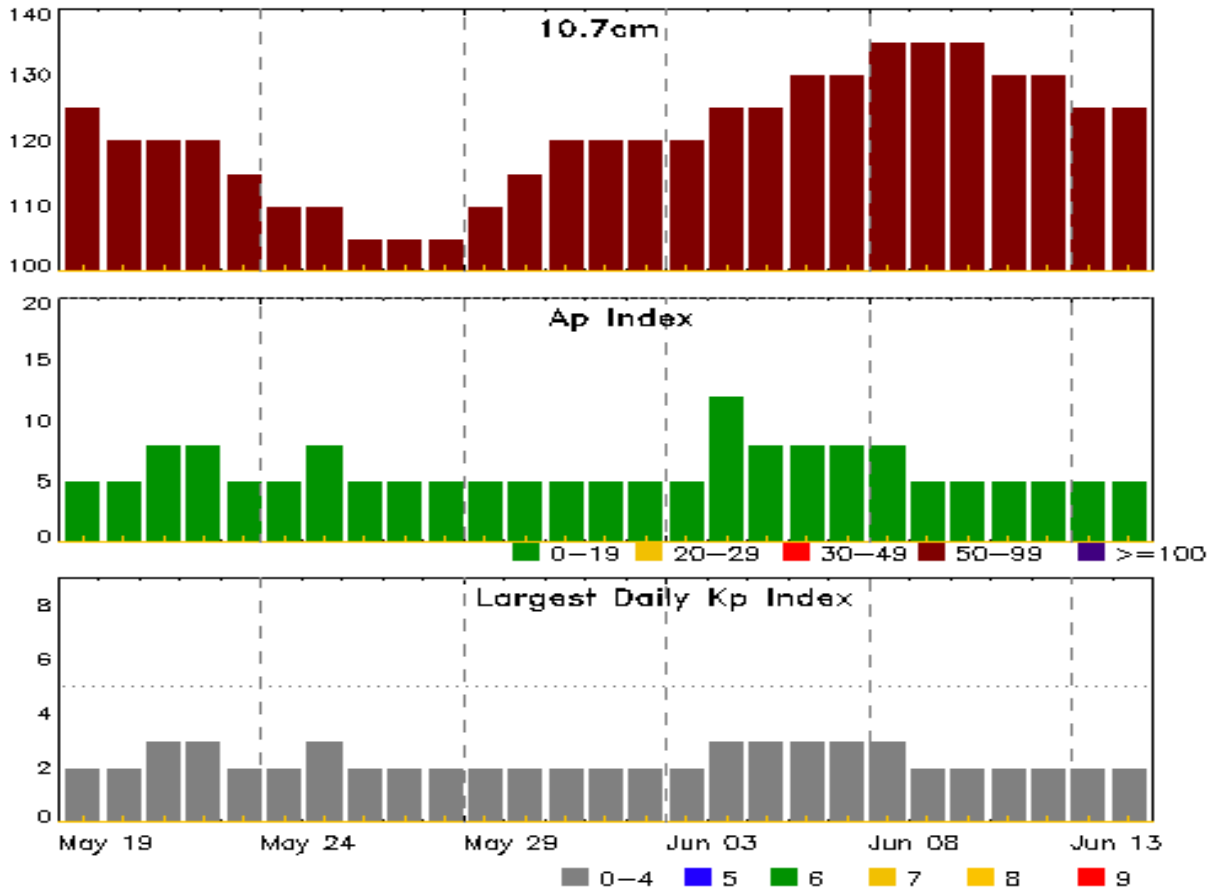


Alerts and Warnings Issued

| Date & Time of Issue UTC | Type of Alert or Warning | Date & Time of Event UTC |
|---|---------------------------------|---|
| 15 May 2223 | ALERT: Type II Radio Emission | 15/2028 |



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 |
|--------|----------------------|----------------------|---------------------|--------|----------------------|----------------------|---------------------|
| 19 May | 125 | 5 | 2 | 02 Jun | 120 | 5 | 2 |
| 20 | 120 | 5 | 2 | 03 | 120 | 5 | 2 |
| 21 | 120 | 8 | 3 | 04 | 125 | 12 | 3 |
| 22 | 120 | 8 | 3 | 05 | 125 | 8 | 3 |
| 23 | 115 | 5 | 2 | 06 | 130 | 8 | 3 |
| 24 | 110 | 5 | 2 | 07 | 130 | 8 | 3 |
| 25 | 110 | 8 | 3 | 08 | 135 | 8 | 3 |
| 26 | 105 | 5 | 2 | 09 | 135 | 5 | 2 |
| 27 | 105 | 5 | 2 | 10 | 135 | 5 | 2 |
| 28 | 105 | 5 | 2 | 11 | 130 | 5 | 2 |
| 29 | 110 | 5 | 2 | 12 | 130 | 5 | 2 |
| 30 | 115 | 5 | 2 | 13 | 125 | 5 | 2 |
| 31 | 120 | 5 | 2 | 14 | 125 | 5 | 2 |
| 01 Jun | 120 | 5 | 2 | | | | |



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 | Location Lat CMD | Rgn # |
|--------|-------|-------|-------|-------------|------------|------------------|-------|
| | Begin | Max | End | | | | |
| 12 May | B0001 | 0007 | 0019 | | SF | S14E37 | 2060 |
| 12 May | 0020 | 0103 | 0302 | | SF | S14E35 | 2060 |
| 12 May | 0133 | 0151 | 0209 | C1.8 | 1F | N06E07 | 2056 |
| 12 May | 0315 | 0321 | 0332 | C1.3 | SF | S17E36 | 2060 |
| 12 May | 0434 | 0434 | 0436 | | SF | S13E34 | 2060 |
| 12 May | 0625 | 0642 | 0655 | C2.3 | SF | S04E04 | 2059 |
| 12 May | 0626 | 0636 | 0704 | | SF | N04W02 | 2056 |
| 12 May | 0723 | 0736 | 0744 | C1.5 | SF | S17E34 | 2060 |
| 12 May | B0828 | U0833 | A0835 | | SF | S15E34 | 2060 |
| 12 May | B0849 | U0853 | A0906 | | 1F | S15E33 | 2060 |
| 12 May | 0925 | U0933 | 1023 | | SF | S17E33 | 2060 |
| 12 May | B1100 | U1106 | A1110 | | SF | S18E32 | 2060 |
| 12 May | B1153 | U1201 | A1218 | | SF | S18E32 | 2060 |
| 12 May | 1500 | 1502 | 1514 | | SF | N06W01 | 2056 |
| 12 May | 1532 | 1532 | 1536 | | SF | S18E26 | 2060 |
| 12 May | 1756 | 1805 | 1811 | C1.1 | SF | S19E28 | 2060 |
| 12 May | 2209 | 2216 | 2224 | C1.0 | | | 2060 |
| 13 May | 0135 | 0136 | 0205 | | SF | N07W05 | 2056 |
| 13 May | 0222 | 0227 | 0234 | | SF | N13W23 | 2055 |
| 13 May | 0326 | 0326 | 0333 | | SF | N11W23 | 2055 |
| 13 May | 0749 | 0749 | 0805 | | SF | N11W26 | 2055 |
| 13 May | 0915 | 0920 | 0923 | C1.5 | | | 2056 |
| 13 May | 1022 | 1030 | 1041 | C1.1 | | | 2060 |
| 13 May | 1951 | 1953 | 1958 | | SF | N05W18 | 2056 |
| 13 May | 2153 | 2224 | 2307 | C6.8 | 1F | N06W21 | 2056 |
| 14 May | 0049 | 0053 | 0056 | C2.8 | SF | N10E56 | 2063 |
| 14 May | 0325 | 0335 | 0351 | C1.6 | SF | S14E09 | 2060 |
| 14 May | B0436 | U0442 | 0536 | C2.1 | SF | N11E53 | 2063 |
| 14 May | B0438 | 0457 | 0510 | | SF | S15E08 | 2060 |
| 14 May | 0537 | 0542 | 0552 | | SF | N11E53 | 2063 |
| 14 May | B0555 | U0620 | A0633 | C1.6 | SF | N11E53 | 2063 |



Flare List

| Date | Time | | | Optical | | | Rgn # |
|--------|-------|-------|-------|-------------|-----------|------------------|-------|
| | Begin | Max | End | X-ray Class | Imp/Brtns | Location Lat CMD | |
| 14 May | B0737 | U0804 | A0820 | | SF | N12E53 | 2063 |
| 14 May | B0815 | U0830 | A0909 | | SF | S13E06 | 2060 |
| 14 May | B0829 | U0850 | A0929 | C2.6 | SF | N12E52 | 2063 |
| 14 May | 1215 | 1220 | 1228 | C1.5 | | | 2063 |
| 14 May | 1259 | 1504 | 1528 | C8.3 | 1F | N07W30 | 2056 |
| 14 May | 1357 | 1359 | 1359 | | SF | N09E50 | 2063 |
| 14 May | 1501 | 1503 | 1517 | | SF | N09E49 | 2063 |
| 14 May | 1545 | 1548 | 1554 | | SF | S16W01 | 2060 |
| 14 May | B1555 | U1555 | A1608 | | SF | S16E01 | 2060 |
| 15 May | 0231 | 0256 | 0318 | C5.0 | | | 2058 |
| 15 May | 0336 | 0340 | 0344 | C3.2 | | | 2060 |
| 15 May | B0523 | U0529 | A0554 | C3.2 | SF | N12E40 | 2063 |
| 15 May | 1259 | 1303 | 1312 | B8.6 | | | |
| 15 May | 1402 | 1406 | 1411 | C1.0 | SF | S13W13 | 2060 |
| 15 May | 1952 | 2010 | 2017 | C1.0 | | | 2056 |
| 15 May | 2058 | 2108 | 2112 | C1.4 | | | 2060 |
| 16 May | 0004 | 0009 | 0016 | C1.8 | SF | N05W51 | 2056 |
| 16 May | 0326 | 0332 | 0337 | C1.3 | | | 2053 |
| 16 May | 0541 | 0548 | 0559 | C1.3 | | | 2056 |
| 16 May | 0658 | 0704 | 0709 | C5.7 | 1F | N05W55 | 2056 |
| 16 May | 0712 | 0716 | 0718 | C2.9 | | | 2056 |
| 16 May | 0803 | 0803 | 0812 | | SF | N10E28 | 2063 |
| 16 May | 0857 | 0903 | 0914 | B9.4 | SF | N11E26 | 2063 |
| 16 May | 1326 | 1331 | 1337 | C1.5 | | | 2056 |
| 16 May | 2011 | 2016 | 2024 | C2.5 | SF | N09E20 | 2063 |
| 17 May | 0101 | 0118 | 0131 | | SF | N11E18 | 2063 |
| 17 May | 0234 | 0239 | 0248 | C3.3 | SF | S15E01 | 2066 |
| 17 May | 0319 | 0327 | 0331 | | SF | N12W73 | 2055 |
| 18 May | 0233 | 0239 | 0245 | C1.2 | SF | N12E05 | 2063 |
| 18 May | 0611 | 0654 | 0859 | C3.8 | | | 2056 |
| 18 May | 0650 | 0652 | 0703 | | SF | N09E00 | 2063 |
| 18 May | 0716 | 0717 | 0719 | | SF | N09E00 | 2063 |



Region Summary

| 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 2052 | | | | | | | | | | | | | | | | | |
| 02 May | S11E49 | 331 | 30 | 2 | Cro | 4 | B | 3 | | | 1 | | | | | | |
| 03 May | S11E35 | 333 | 100 | 5 | Dso | 9 | B | | | | 1 | | | | | | |
| 04 May | S12E22 | 333 | 80 | 5 | Dao | 8 | B | | | | | | | | | | |
| 05 May | S12E08 | 334 | 50 | 5 | Dao | 6 | B | | | | | | | | | | |
| 06 May | S12W06 | 334 | 30 | 3 | Cro | 5 | B | | | | | | | | | | |
| 07 May | S12W20 | 335 | 10 | 1 | Hrx | 2 | A | | | | | | | | | | |
| 08 May | S12W32 | 334 | 10 | 4 | Bxo | 2 | B | | | | | | | | | | |
| 09 May | S12W46 | 335 | 10 | 4 | Bxo | 2 | B | | | | | | | | | | |
| 10 May | S12W60 | 336 | 10 | 4 | Bxo | 3 | B | 1 | | | 1 | | | | | | |
| 11 May | S12W74 | 336 | 10 | 4 | Bxo | 3 | B | | | | | | | | | | |
| 12 May | S12W88 | 337 | plage | | | | | | | | | | | | | | |
| | | | | | | | | 4 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | |

Crossed West Limb.

Absolute heliographic longitude: 334

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-------|---|-----|---|---|---|---|---|---|---|---|---|---|---|--|
| Region 2053 | | | | | | | | | | | | | | | | | |
| 03 May | N10E50 | 318 | 10 | 3 | Bxo | 2 | B | | | | | | | | | | |
| 04 May | N10E40 | 315 | 20 | 3 | Bxo | 4 | B | 3 | | | 4 | | | | | | |
| 05 May | N10E26 | 316 | 50 | 5 | Dao | 7 | B | | | | 1 | | | | | | |
| 06 May | N10E12 | 316 | 60 | 5 | Dao | 8 | B | | | | | | | | | | |
| 07 May | N10W02 | 317 | 30 | 5 | Cro | 5 | B | | | | 2 | | | | | | |
| 08 May | N10W16 | 318 | 30 | 5 | Cao | 3 | B | | | | | | | | | | |
| 09 May | N10W29 | 318 | 30 | 4 | Cao | 4 | B | | | | | | | | | | |
| 10 May | N10W43 | 319 | 10 | 3 | Cro | 3 | B | | | | | | | | | | |
| 11 May | N09W57 | 319 | 10 | 1 | Axx | 1 | A | | | | | | | | | | |
| 12 May | N09W69 | 318 | 10 | | Axx | 1 | A | | | | | | | | | | |
| 13 May | N09W83 | 319 | plage | | | | | | | | | | | | | | |
| | | | | | | | | 3 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | |

Crossed West Limb.

Absolute heliographic longitude: 317



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 2054 | | | | | | | | | | | | | | | | | |
| 04 May | S12E65 | 290 | 40 | 2 | Hsx | 1 | A | | | | | | | | | | |
| 05 May | S12E51 | 291 | 40 | 2 | Hsx | 1 | A | | | | | | | | | | |
| 06 May | S12E37 | 291 | 30 | 2 | Hax | 1 | A | | | | | | | | | | |
| 07 May | S12E23 | 292 | 20 | 2 | Hrx | 1 | A | | | | | | | | | | |
| 08 May | S12E11 | 291 | 20 | 2 | Hrx | 1 | A | | | | | | | | | | |
| 09 May | S12W03 | 292 | 10 | 1 | Hrx | 1 | A | | | | | | | | | | |
| 10 May | S12W16 | 292 | 10 | 3 | Bxo | 3 | B | | | | | | | | | | |
| 11 May | S09W31 | 293 | plage | | | | | | | | | | | | | | |
| 12 May | S09W45 | 294 | plage | | | | | | | | | | | | | | |
| 13 May | S09W59 | 295 | plage | | | | | | | | | | | | | | |
| 14 May | S09W73 | 296 | plage | | | | | | | | | | | | | | |
| 15 May | S09W87 | 296 | plage | | | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Crossed West Limb.
 Absolute heliographic longitude: 292

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-----|----|-----|----|----|---|---|---|----|---|----|---|---|---|---|
| Region 2055 | | | | | | | | | | | | | | | | | |
| 05 May | N10E67 | 273 | 200 | 6 | Dao | 3 | B | | | | | | | | | | |
| 06 May | N10E53 | 275 | 230 | 6 | Dso | 7 | B | | | | | | 1 | | | | |
| 07 May | N11E39 | 276 | 380 | 10 | Dko | 5 | B | | | | | | 1 | | | | |
| 08 May | N12E32 | 269 | 450 | 10 | Dho | 4 | B | | | | | | 1 | | | | |
| 09 May | N12E18 | 271 | 530 | 11 | Ehi | 12 | BG | 1 | | | | | 2 | | | | |
| 10 May | N12E04 | 272 | 440 | 11 | Eho | 11 | BG | 2 | | | | | 10 | | | | |
| 11 May | N12W09 | 271 | 380 | 11 | Eko | 7 | B | 2 | | | | | 3 | | | | |
| 12 May | N13W22 | 270 | 330 | 11 | Eko | 10 | B | | | | | | | | | | |
| 13 May | N12W36 | 271 | 280 | 12 | Eho | 16 | B | | | | | | 3 | | | | |
| 14 May | N12W50 | 271 | 250 | 12 | Eho | 9 | B | | | | | | | | | | |
| 15 May | N13W65 | 274 | 200 | 11 | Eso | 2 | B | | | | | | | | | | |
| 16 May | N13W77 | 273 | 150 | 6 | Cso | 3 | B | | | | | | | | | | |
| 17 May | N13W91 | 274 | 60 | 3 | Hax | 1 | A | | | | | | 1 | | | | |
| | | | | | | | | 5 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 |

Crossed West Limb.
 Absolute heliographic longitude: 272



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 2058 | | | | | | | | | | | | | | | | | | |
| 08 May | S12E69 | 233 | 50 | 2 | Hax | 1 | A | 1 | | | | | | | | | | |
| 09 May | S14E57 | 232 | 100 | 12 | Eao | 4 | B | 6 | | | | 6 | 1 | | | | | |
| 10 May | S15E45 | 231 | 140 | 17 | Fao | 9 | BG | | | | | 1 | | | | | | |
| 11 May | S11E30 | 232 | 50 | 9 | Cao | 8 | B | 1 | | | | | | | 1 | | | |
| 12 May | S11E15 | 233 | 10 | 2 | Axx | 5 | A | | | | | | | | | | | |
| 13 May | S10W00 | 235 | 10 | 5 | Bxo | 9 | B | | | | | | | | | | | |
| 14 May | S10W12 | 234 | 10 | 4 | Bxo | 9 | B | | | | | | | | | | | |
| 15 May | S11W26 | 235 | 0 | 1 | Axx | 1 | A | 1 | | | | | | | | | | |
| 16 May | S11W40 | 236 | plage | | | | | | | | | | | | | | | |
| 17 May | S11W53 | 236 | plage | | | | | | | | | | | | | | | |
| 18 May | S11W67 | 236 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | 9 | 0 | 0 | 7 | 1 | 1 | 0 | 0 | | | |

Still on Disk.

Absolute heliographic longitude: 235

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-------|---|-----|---|---|---|---|---|---|---|---|---|---|---|--|--|
| Region 2059 | | | | | | | | | | | | | | | | | | |
| 10 May | S00E23 | 253 | 10 | 1 | Hrx | 1 | A | | | | | | | | | | | |
| 11 May | S00E08 | 254 | 10 | 1 | Hsx | 1 | A | | | | | | | | | | | |
| 12 May | S01W07 | 255 | 20 | 1 | Hsx | 4 | A | 1 | | | | 1 | | | | | | |
| 13 May | S01W21 | 256 | plage | | | | | | | | | | | | | | | |
| 14 May | S01W36 | 259 | plage | | | | | | | | | | | | | | | |
| 15 May | S01W51 | 260 | plage | | | | | | | | | | | | | | | |
| 16 May | S01W66 | 262 | plage | | | | | | | | | | | | | | | |
| 17 May | S01W81 | 264 | plage | | | | | | | | | | | | | | | |
| | | | | | | | | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | |

Crossed West Limb.

Absolute heliographic longitude: 255



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 | 4 | | | | | | | |
| Region 2060 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 May | S16E37 | 225 | 100 | 7 | Dai | 16 | BG | 1 | | | | 2 | | | | | | | | | | | |
| 12 May | S16E22 | 226 | 180 | 7 | Dac | 25 | BG | 4 | | | | 11 | 1 | | | | | | | | | | |
| 13 May | S15E08 | 226 | 170 | 9 | Dac | 21 | BG | 1 | | | | | | | | | | | | | | | |
| 14 May | S14W05 | 227 | 180 | 10 | Dac | 23 | BG | 1 | | | | 5 | | | | | | | | | | | |
| 15 May | S15W18 | 227 | 160 | 9 | Dai | 12 | BG | 3 | | | | 1 | | | | | | | | | | | |
| 16 May | S14W32 | 228 | 150 | 10 | Cao | 11 | BG | | | | | | | | | | | | | | | | |
| 17 May | S13W47 | 230 | 140 | 3 | Hax | 2 | A | | | | | | | | | | | | | | | | |
| 18 May | S13W62 | 231 | 140 | 3 | Hax | 2 | A | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 10 | 0 | 0 | 19 | 1 | 0 | 0 | 0 | 0 | | | |

Still on Disk.

Absolute heliographic longitude: 227

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-----|---|-----|---|---|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|--|
| Region 2061 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 May | S24E67 | 195 | 40 | 2 | Cao | 3 | B | | | | | | | | | | | | | | | | |
| 12 May | S24E53 | 195 | 100 | 2 | Hsx | 2 | A | | | | | | | | | | | | | | | | |
| 13 May | S25E40 | 194 | 90 | 2 | Hsx | 1 | A | | | | | | | | | | | | | | | | |
| 14 May | S23E27 | 194 | 90 | 2 | Hax | 1 | A | | | | | | | | | | | | | | | | |
| 15 May | S24E16 | 193 | 110 | 2 | Hax | 2 | A | | | | | | | | | | | | | | | | |
| 16 May | S25E03 | 193 | 110 | 2 | Hsx | 2 | A | | | | | | | | | | | | | | | | |
| 17 May | S23W10 | 193 | 90 | 2 | Hsx | 2 | A | | | | | | | | | | | | | | | | |
| 18 May | S24W23 | 192 | 80 | 2 | Hsx | 1 | A | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

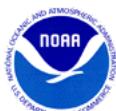
Still on Disk.

Absolute heliographic longitude: 193

| | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-------|---|-----|---|---|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|--|
| Region 2062 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 May | S07W30 | 292 | 30 | 4 | Dao | 7 | B | | | | | | | | | | | | | | | | |
| 12 May | S06W43 | 291 | 80 | 6 | Dao | 6 | B | | | | | | | | | | | | | | | | |
| 13 May | S05W57 | 292 | 60 | 6 | Dao | 8 | B | | | | | | | | | | | | | | | | |
| 14 May | S06W72 | 294 | 40 | 6 | Cao | 4 | B | | | | | | | | | | | | | | | | |
| 15 May | S06W87 | 296 | plage | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Crossed West Limb.

Absolute heliographic longitude: 292



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 2063 | | | | | | | | | | | | | | | | | |
| 14 May | N10E41 | 180 | 120 | 6 | Dao | 5 | B | 5 | | | 8 | | | | | | |
| 15 May | N10E30 | 179 | 150 | 6 | Dai | 8 | BG | 1 | | | 1 | | | | | | |
| 16 May | N10E17 | 179 | 120 | 6 | Dai | 11 | B | 1 | | | 3 | | | | | | |
| 17 May | N11E04 | 179 | 80 | 7 | Dai | 17 | B | | | | 1 | | | | | | |
| 18 May | N11W10 | 179 | 30 | 8 | Cri | 10 | B | 1 | | | 3 | | | | | | |
| | | | | | | | | 8 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 179

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|-------|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| Region 2064 | | | | | | | | | | | | | | | | | |
| 14 May | N08E26 | 195 | 10 | 2 | Bxo | 4 | B | | | | | | | | | | |
| 15 May | N08E13 | 195 | 10 | 4 | Bxo | 3 | B | | | | | | | | | | |
| 16 May | N09W00 | 196 | 10 | 5 | Bxo | 3 | B | | | | | | | | | | |
| 17 May | N09W14 | 197 | plage | | | | | | | | | | | | | | |
| 18 May | N09W28 | 197 | plage | | | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

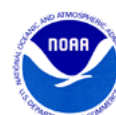
Still on Disk.
Absolute heliographic longitude: 196

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| Region 2065 | | | | | | | | | | | | | | | | | |
| 15 May | S19E67 | 142 | 10 | | Axx | 1 | A | | | | | | | | | | |
| 16 May | S19E53 | 143 | 10 | 1 | Cro | 3 | B | | | | | | | | | | |
| 17 May | S18E38 | 145 | 10 | 3 | Bxo | 4 | B | | | | | | | | | | |
| 18 May | S18E24 | 145 | 10 | 3 | Bxo | 6 | B | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 145

| | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| Region 2066 | | | | | | | | | | | | | | | | | |
| 16 May | S16E01 | 195 | 20 | 3 | Cao | 5 | B | | | | | | | | | | |
| 17 May | S15W12 | 195 | 40 | 5 | Dao | 5 | B | 1 | | | 1 | | | | | | |
| 18 May | S16W26 | 195 | 70 | 4 | Dao | 7 | B | | | | | | | | | | |
| | | | | | | | | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.
Absolute heliographic longitude: 195



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 2067

| | | | | | | | | | | | | | | | | | |
|--------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 May | S08W69 | 252 | 10 | 3 | Cro | 4 | B | | | | | | | | | | |
| 18 May | S09W83 | 252 | 10 | 1 | Axx | 1 | A | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 252

Region 2068

| | | | | | | | | | | | | | | | | | |
|--------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 May | S17E26 | 157 | 20 | 4 | Cro | 4 | B | | | | | | | | | | |
| 18 May | S18E13 | 156 | 10 | 6 | Bxo | 3 | B | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 156

Region 2069

| | | | | | | | | | | | | | | | | | |
|--------|--------|-----|----|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 May | S18E52 | 117 | 10 | 1 | Axx | 1 | A | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 117

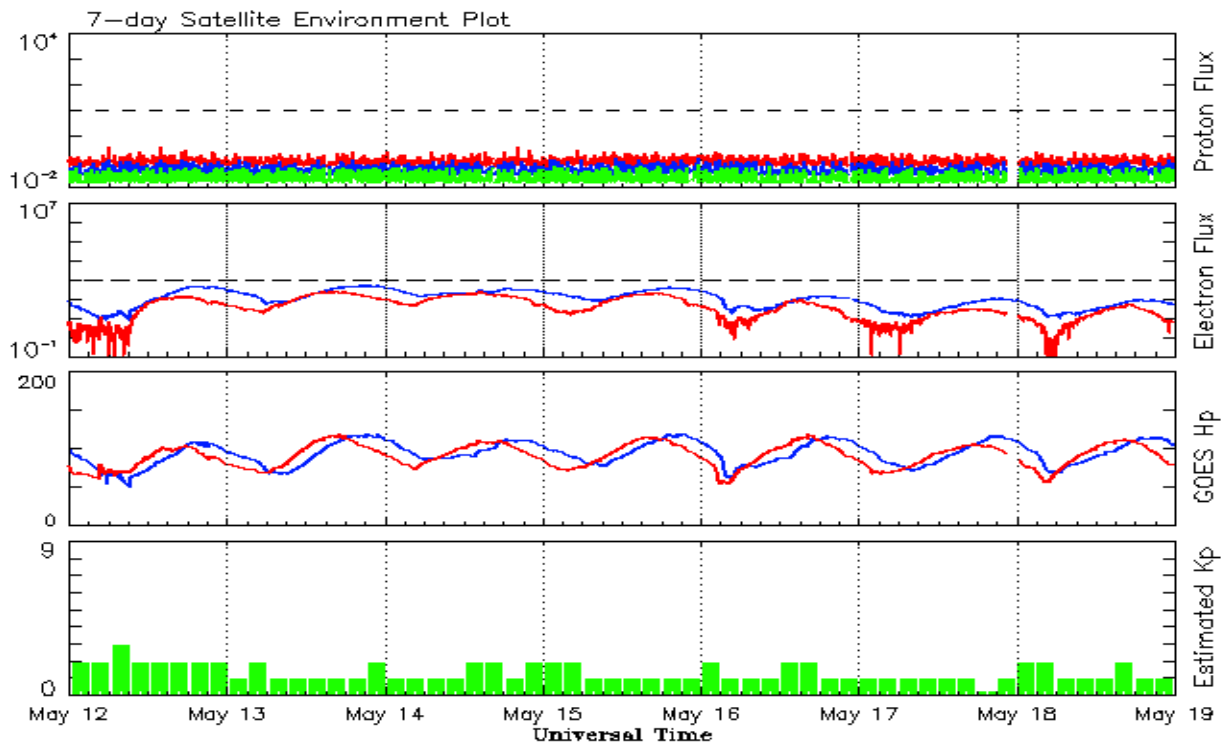


Recent Solar Indices (preliminary)
Observed monthly mean values

| 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 | | | | | | | | | |
| May | 99.5 | 69.0 | 0.69 | 87.7 | 61.7 | 121.5 | 123.8 | 8 | 8.2 |
| June | 88.6 | 64.5 | 0.73 | 83.9 | 58.9 | 120.5 | 121.1 | 10 | 8.3 |
| July | 99.6 | 66.5 | 0.67 | 82.4 | 57.8 | 135.6 | 119.5 | 13 | 8.3 |
| August | 85.8 | 63.0 | 0.74 | 83.1 | 58.2 | 115.7 | 119.2 | 7 | 8.1 |
| September | 84.0 | 61.4 | 0.73 | 83.7 | 58.1 | 123.2 | 118.9 | 8 | 7.8 |
| October | 73.5 | 53.3 | 0.73 | 85.0 | 58.6 | 123.3 | 119.2 | 9 | 7.4 |
| November | 89.2 | 61.8 | 0.69 | 87.3 | 59.7 | 120.9 | 120.1 | 6 | 7.3 |
| 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 | 69.0 | 114.7 | 127.9 | 9 | 7.6 |
| September | 55.0 | 37.0 | 0.67 | 111.0 | 73.1 | 102.7 | 132.3 | 5 | 7.8 |
| October | 127.1 | 85.6 | 0.67 | 114.3 | 75.0 | 132.3 | 134.7 | 7 | 7.8 |
| November | 125.7 | 77.6 | 0.62 | | | 148.4 | | 5 | |
| December | 118.2 | 90.3 | 0.76 | | | 147.7 | | 5 | |
| 2014 | | | | | | | | | |
| January | 125.9 | 82.0 | 0.65 | | | 158.6 | | 6 | |
| February | 174.6 | 102.8 | 0.59 | | | 170.3 | | 12 | |
| March | 141.1 | 92.2 | 0.65 | | | 149.9 | | 6 | |
| April | 130.5 | 84.7 | 0.65 | | | 144.3 | | 9 | |

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 12 May 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.

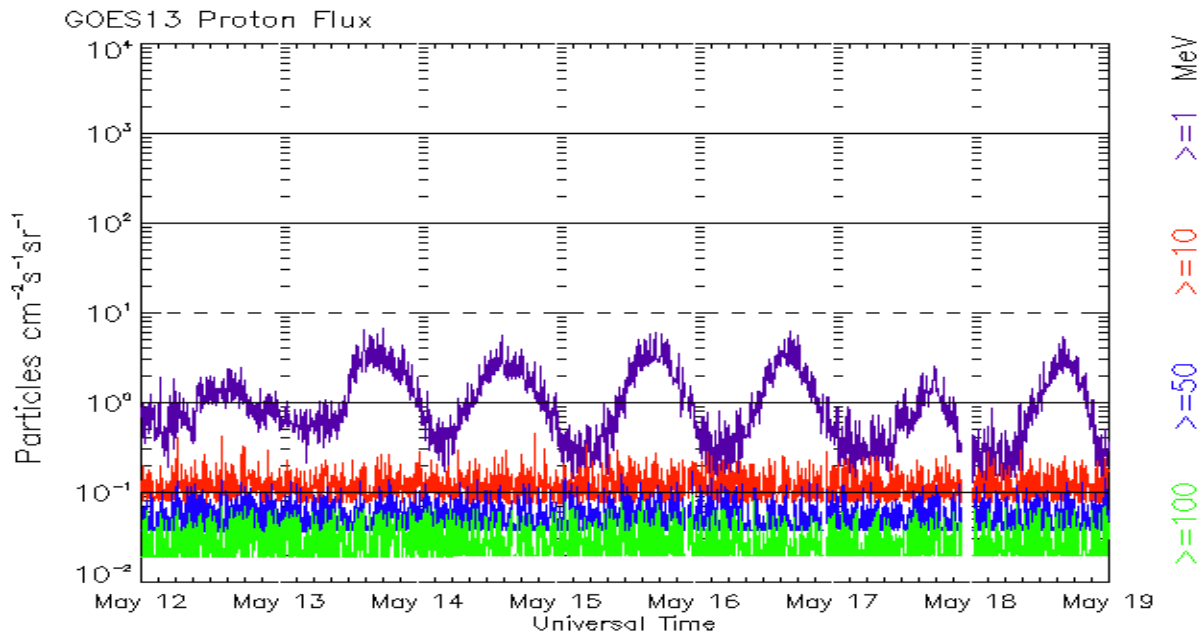
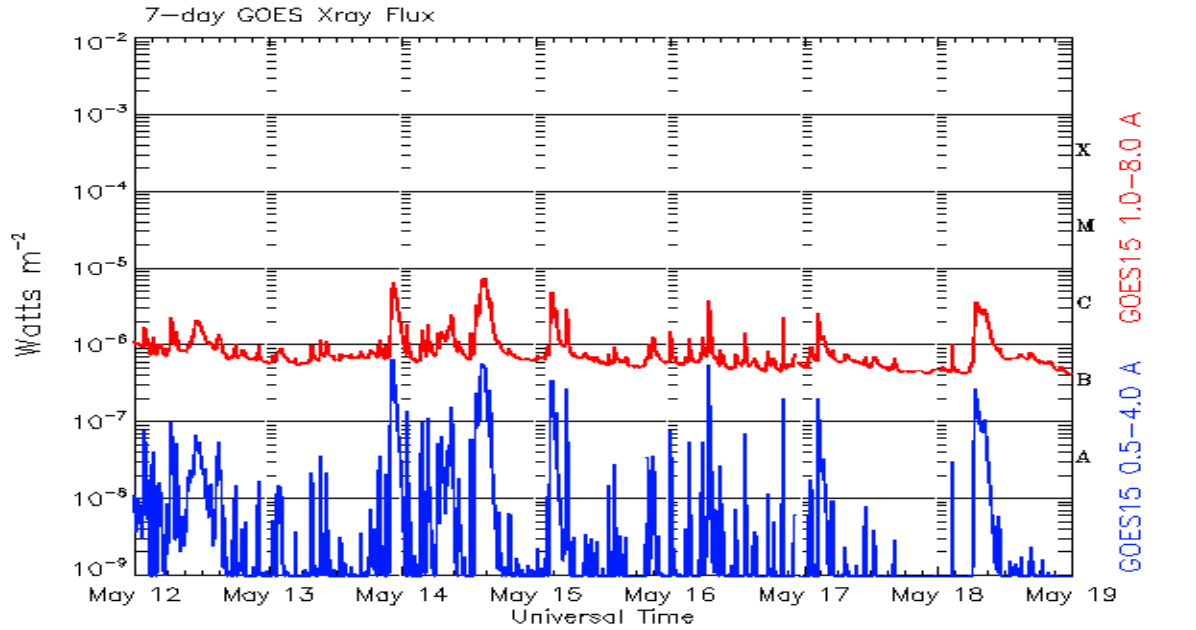
The electron flux plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV by the SWPC Primary GOES satellite.

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 12 May 2014

The x-ray plots contains five-minute averages x-ray flux (Watt/ m^2) 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/ cm^2 -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)

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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

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