

Space Weather Highlights
31 March – 06 April 2008

SEC PRF 1701
08 April 2008

Solar activity was very low to low. Activity increased to low levels on 03 April due to two low-level C-class flares from Region 989 (S12, L = 204, class/area Cso/080 on 29 March). Activity was at very low levels during the remainder of the period with isolated B-class flares from Region 989. A halo CME occurred on late 05 April. The CME was first visible in SOHO/LASCO C2 images at 15/1626 UTC. The CME was judged to be back-sided, based upon STEREO Ahead EUVI 195 images and the GOES-10 X-ray signature.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels throughout the summary period.

Geomagnetic field activity was at mostly quiet levels during 31 March - 03 April. Activity increased to minor storm levels during 04 April. A further increase to major storm levels occurred on 05 April with a brief period of severe storm detected at high latitudes. Activity decreased to minor storm levels on 06 April with a brief major storm period detected at high latitudes. ACE solar wind data indicated Earth entered a co-rotating interaction region (CIR) on 04 April in advance of a recurrent coronal hole high-speed stream (HSS). Interplanetary magnetic field intensity increased to a peak of 15 nT at 04/1758 UTC during the CIR, while IMF Bz reached a minimum of -14 nT at 04/1758 UTC. Earth entered the HSS on 05 April. Velocities increased through 06 April with a peak of 763 km/sec detected at 06/0858 UTC. Velocities remained elevated during the rest of the period as the HSS continued.

Space Weather Outlook
09 April – 05 May 2008

Solar activity is expected to be very low.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to reach high levels during 09 - 16 April and 23 April - 05 May.

Geomagnetic field activity is expected to be at quiet to unsettled levels during 09 - 10 April. Mostly quiet conditions are expected during 11 - 21 April. Activity is expected to increase to active to major storm levels during 22 - 24 April due to a recurrent coronal hole high-speed stream. Activity is expected to decrease to unsettled levels during 25 - 26 April as the high-speed stream subsides. Quiet conditions are forecast during 27 - 30 April. Activity is expected to increase to unsettled to active levels during 01 - 05 May with minor storm levels likely on 02 May as another recurrent coronal hole high-speed stream affects the field.



Daily Solar Data

| Date | Radio Flux 10.7 cm | Sun spot No. | Sunspot Area (10 ⁶ hemi.) | X-ray Background | Flares | | | | | | | |
|----------|-----------------------|-----------------|---|------------------|------------|---|---|---------|---|---|---|---|
| | | | | | X-ray Flux | | | Optical | | | | |
| | | | | | C | M | X | S | 1 | 2 | 3 | 4 |
| 31 March | 79 | 45 | 250 | A3.3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 01 April | 78 | 25 | 180 | A2.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 02 April | 76 | 24 | 220 | A2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 03 April | 76 | 14 | 70 | A3.0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 04 April | 73 | 0 | 0 | A1.4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 05 April | 71 | 0 | 0 | <A1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 06 April | 69 | 0 | 0 | <A1.0 | 0 | 0 | 0 | 0 | 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 | >.6 MeV | >2MeV | >4 MeV |
| | 31 March | 1.3E+6 | 1.7E+4 | 4.0E+3 | | 1.8E+9 |
| 01 April | 1.3E+6 | 1.6E+4 | 3.7E+3 | | 1.0E+9 | |
| 02 April | 1.7E+6 | 1.7E+4 | 4.0E+3 | | 1.6E+9 | |
| 03 April | 2.2E+6 | 1.8E+4 | 4.0E+3 | | 1.7E+9 | |
| 04 April | 2.7E+6 | 1.8E+4 | 4.0E+3 | | 8.9E+8 | |
| 05 April | 9.1E+6 | 1.8E+4 | 3.7E+3 | | 1.7E+7 | |
| 06 April | 1.7E+6 | 1.7E+4 | 3.6E+3 | | 3.6E+7 | |

Daily Geomagnetic Data

| Date | Middle Latitude Fredericksburg | | High Latitude College | | Estimated Planetary | |
|----------|-----------------------------------|-----------------|--------------------------|-----------------|------------------------|-----------------|
| | A | K-indices | A | K-indices | A | K-indices |
| | 31 March | 2 | 1-0-0-1-1-0-1-1 | 5 | 1-1-0-3-3-0-0-1 | 4 |
| 01 April | 5 | 2-3-2-0-1-1-1-0 | 6 | 1-3-3-2-2-0-0-0 | 4 | 1-2-2-0-1-1-1-0 |
| 02 April | 1 | 0-1-0-0-1-1-0-0 | 0 | 0-0-0-0-0-0-0-0 | 1 | 0-0-0-0-0-1-0-0 |
| 03 April | 2 | 1-1-0-1-1-1-0-0 | 1 | 1-1-0-0-0-0-0-0 | 2 | 1-1-0-0-0-1-0-0 |
| 04 April | 8 | 0-0-0-1-2-3-4-3 | 10 | 0-0-0-2-4-4-3-2 | 11 | 0-0-0-1-2-3-5-3 |
| 05 April | 9 | 1-1-0-2-2-4-2-3 | 38 | 2-1-1-6-5-7-3-2 | 21 | 1-1-0-3-3-6-5-4 |
| 06 April | 11 | 2-4-3-2-2-2-2-2 | 29 | 3-3-5-6-5-2-3-1 | 18 | 3-5-4-3-3-2-2-2 |

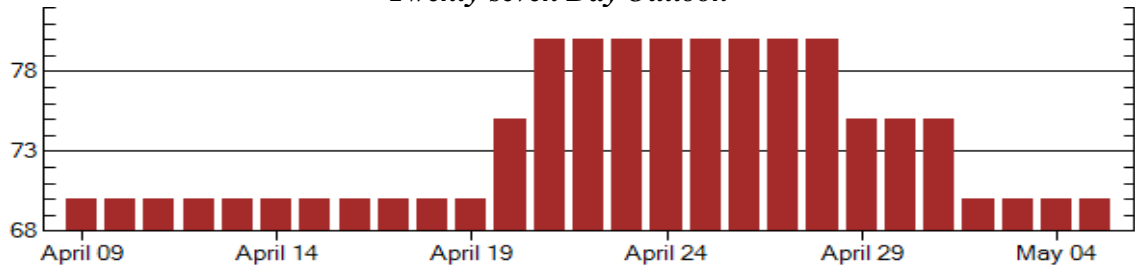


Alerts and Warnings Issued

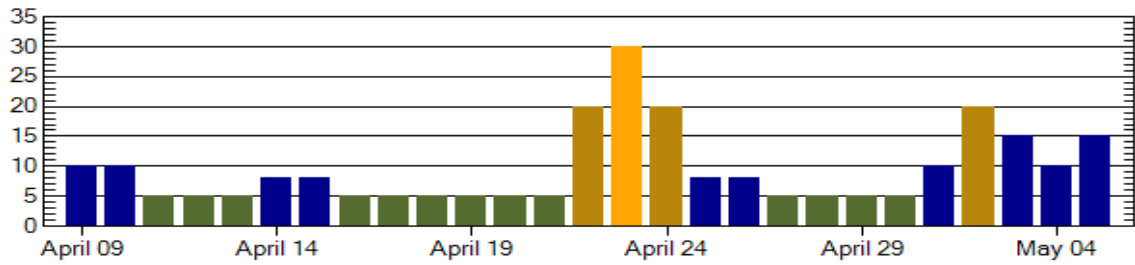
| Date & Time of Issue | Type of Alert or Warning | Date & Time of Event UTC |
|----------------------|---|--------------------------|
| 31 Mar 0502 | ALERT: Electron 2MeV Integral Flux >1000pfu | 31 Mar 0500 |
| 01 Apr 0503 | ALERT: Electron 2MeV Integral Flux >1000pfu | 01 Apr 0500 |
| 02 Apr 0500 | ALERT: Electron 2MeV Integral Flux >1000pfu | 02 Apr 0500 |
| 03 Apr 0502 | ALERT: Electron 2MeV Integral Flux >1000pfu | 03 Apr 0500 |
| 04 Apr 0502 | ALERT: Electron 2MeV Integral Flux >1000pfu | 04 Apr 0500 |
| 04 Apr 1655 | WARNING: Geomagnetic K=4 | 04 Apr 1700 - 05/1600 |
| 04 Apr 2003 | ALERT: Geomagnetic K=4 | 04 Apr 2000 |
| 05 Apr 1545 | EXTENDED WARNING: Geomagnetic K=4 | 04 Apr 1700 - 06/1600 |
| 05 Apr 1644 | WARNING: Geomagnetic K=5 | 05 Apr 1700 - 2359 |
| 05 Apr 1700 | ALERT: Geomagnetic K=5 | 05 Apr 1658 |
| 05 Apr 1716 | ALERT: Electron 2MeV Integral Flux >1000pfu | 05 Apr 1700 |
| 06 Apr 0514 | ALERT: Geomagnetic K=5 | 06 Apr 0513 |
| 06 Apr 0622 | WARNING: Geomagnetic K=5 | 06 Apr 0622 - 1600 |
| 06 Apr 1457 | EXTENDED WARNING: Geomagnetic K=4 | 04 Apr 1700 - 08/1600 |
| 06 Apr 1622 | ALERT: Electron 2MeV Integral Flux >1000pfu | 06 Apr 1600 |



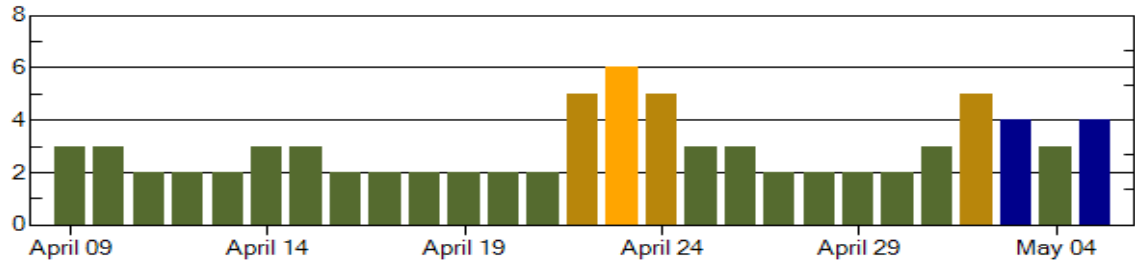
Twenty-seven Day Outlook



10.7 cm



Ap Index



Largest Daily Kp Index

| Date | Radio Flux 10.7 cm | Planetary A Index | Largest Kp Index | Date | Radio Flux 10.7 cm | Planetary A Index | Largest Kp Index |
|--------|--------------------|-------------------|------------------|--------|--------------------|-------------------|------------------|
| 09 Apr | 70 | 10 | 3 | 23 Apr | 80 | 30 | 6 |
| 10 | 70 | 10 | 3 | 24 | 80 | 20 | 5 |
| 11 | 70 | 5 | 2 | 25 | 80 | 8 | 3 |
| 12 | 70 | 5 | 2 | 26 | 80 | 8 | 3 |
| 13 | 70 | 5 | 2 | 27 | 80 | 5 | 2 |
| 14 | 70 | 8 | 3 | 28 | 80 | 5 | 2 |
| 15 | 70 | 8 | 3 | 29 | 75 | 5 | 2 |
| 16 | 70 | 5 | 2 | 30 | 75 | 5 | 2 |
| 17 | 70 | 5 | 2 | 01 May | 75 | 10 | 3 |
| 18 | 70 | 5 | 2 | 02 | 70 | 20 | 5 |
| 19 | 70 | 5 | 2 | 03 | 70 | 15 | 4 |
| 20 | 75 | 5 | 2 | 04 | 70 | 10 | 3 |
| 21 | 80 | 5 | 2 | 05 | 70 | 15 | 4 |
| 22 | 80 | 20 | 5 | | | | |



Energetic Events

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

No Events Observed

Flare List

| Date | Time | | | Optical | Imp / Brtns | Location Lat CMD | Rgn |
|----------|--------------------|------|------|-----------------|----------------|---------------------|-----|
| | Begin | Max | End | X-ray Class. | | | |
| 31 March | 0532 | 0532 | 0542 | B2.4 | Sf | S11W22 | 988 |
| 01 April | 0016 | 0026 | 0033 | B3.0 | | | 989 |
| | 2017 | 2020 | 2022 | B1.0 | | | 989 |
| 02 April | 1643 | 1656 | 1707 | B1.0 | | | |
| | 2002 | 2012 | 2016 | B1.1 | | | |
| | 2339 | 2347 | 2355 | B2.0 | | | |
| 03 April | 0112 | 0124 | 0136 | C1.2 | | | |
| | 0218 | 0227 | 0235 | C1.2 | | | |
| | 0555 | 0559 | 0612 | B1.2 | | | |
| | 1527 | 1531 | 1533 | B1.0 | | | |
| | 1555 | 1556 | 1609 | B2.9 | Sf | S12W36 | 989 |
| | 1944 | 1951 | 1958 | B1.9 | | | |
| | 2023 | 2023 | 2028 | B2.3 | Sf | S08W42 | 989 |
| 04 April | 0147 | 0157 | 0208 | B5.0 | | | |
| | 1457 | 1501 | 1505 | B1.2 | | | |
| | 1810 | 1810 | 1815 | B2.7 | Sf | S08W54 | 989 |
| 05 April | 1102 | 1106 | 1110 | B1.3 | | | |
| 06 April | No Flares Observed | | | | | | |



Region Summary

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

Region 987

| | | | | | | | | | | | | | | | | | | |
|-----------------|-----|------|----|-----|-----|---|--|--|--|--|--|--|--|--|--|--|--|---|
| 23 Mar S08E50 | 258 | 0040 | 03 | Cso | 004 | B | | | | | | | | | | | | 1 |
| 24 Mar S08E36 | 259 | 0110 | 06 | Dai | 009 | B | | | | | | | | | | | | 2 |
| 25 Mar S08E23 | 259 | 0130 | 08 | Dac | 010 | B | | | | | | | | | | | | |
| 26 Mar S08E09 | 259 | 0170 | 08 | Dao | 015 | B | | | | | | | | | | | | |
| 27 Mar S07W05 | 260 | 0170 | 08 | Dai | 011 | B | | | | | | | | | | | | 1 |
| 28 Mar S08W18 | 260 | 0130 | 08 | Dsi | 014 | B | | | | | | | | | | | | |
| 29 Mar S06W31 | 260 | 0090 | 08 | Dso | 006 | B | | | | | | | | | | | | |
| 30 Mar S06W46 | 262 | 0080 | 07 | Dso | 005 | B | | | | | | | | | | | | |
| 31 Mar S07W58 | 261 | 0050 | 04 | Cro | 005 | B | | | | | | | | | | | | |
| 01 Apr S08W75 | 264 | 0030 | 01 | Hsx | 001 | A | | | | | | | | | | | | |
| 02 Apr S08W89 | 265 | 0020 | 01 | Axx | 002 | A | | | | | | | | | | | | |
| 0 0 0 4 0 0 0 0 | | | | | | | | | | | | | | | | | | |

Crossed West Limb.

Absolute heliographic longitude: 260

Region 988

| | | | | | | | | | | | | | | | | | | |
|-----------------|-----|------|----|-----|-----|---|--|--|--|--|--|--|--|--|--|--|--|---|
| 24 Mar S09E59 | 236 | 0100 | 07 | Dsi | 006 | B | | | | | | | | | | | | 1 |
| 25 Mar S09E47 | 235 | 0200 | 08 | Dao | 011 | B | | | | | | | | | | | | |
| 26 Mar S09E34 | 234 | 0300 | 10 | Dso | 015 | B | | | | | | | | | | | | 1 |
| 27 Mar S09E20 | 235 | 0280 | 10 | Dsi | 014 | B | | | | | | | | | | | | |
| 28 Mar S08E07 | 235 | 0230 | 12 | Eai | 014 | B | | | | | | | | | | | | |
| 29 Mar S08W06 | 235 | 0220 | 11 | Eai | 010 | B | | | | | | | | | | | | |
| 30 Mar S06W21 | 237 | 0200 | 07 | Cao | 004 | B | | | | | | | | | | | | |
| 31 Mar S07W35 | 238 | 0190 | 06 | Cao | 009 | B | | | | | | | | | | | | 1 |
| 01 Apr S07W50 | 239 | 0150 | 06 | Dso | 004 | B | | | | | | | | | | | | |
| 02 Apr S07W63 | 239 | 0200 | 03 | Hsx | 002 | A | | | | | | | | | | | | |
| 03 Apr S06W78 | 241 | 0070 | 04 | Hsx | 004 | A | | | | | | | | | | | | |
| 04 Apr S06W91 | 241 | | | | | | | | | | | | | | | | | |
| 0 0 0 3 0 0 0 0 | | | | | | | | | | | | | | | | | | |

Crossed West Limb.

Absolute heliographic longitude: 235



Region Summary- Continued

| Location | | Sunspot Characteristics | | | | | | Flares | | | X-ray | | | Optical | |
|-------------------|----------------|-------------------------|-------------------------|---------|-------|-------|-------|--------|---|---|---------|---|---|---------|---|
| Date | (° Lat ° CMD) | Helio | Area | Extent | Spot | Spot | Mag | X-ray | | | Optical | | | | |
| | | Lon | (10 ⁻⁶ hemi) | (helio) | Class | Count | Class | C | M | X | S | 1 | 2 | | |
| <i>Region 989</i> | | | | | | | | | | | | | | | |
| 25 Mar | S10E77 | 205 | 0050 | 02 | Hax | 001 | A | 1 | | | | 1 | | | |
| 26 Mar | S12E63 | 205 | 0050 | 04 | Dao | 003 | B | | | | | | | | |
| 27 Mar | S13E48 | 207 | 0060 | 04 | Dso | 002 | B | | | | | | | | |
| 28 Mar | S12E36 | 206 | 0050 | 05 | Dao | 005 | B | | | | | | | | |
| 29 Mar | S12E23 | 206 | 0080 | 04 | Cso | 004 | B | | | | | | | | |
| 30 Mar | S12E08 | 208 | 0020 | 02 | Cso | 002 | B | | | | | | | | |
| 31 Mar | S11W01 | 204 | 0010 | 00 | Axx | 001 | A | | | | | | | | |
| 01 Apr | S11W15 | 204 | | | | | | | | | | | | | |
| 02 Apr | S11W28 | 204 | | | | | | | | | | | | | |
| 03 Apr | S11W41 | 204 | 0000 | 00 | | 000 | | | | | | 2 | | | |
| 04 Apr | S11W54 | 204 | 0000 | 00 | | 000 | | | | | | 1 | | | |
| 05 Apr | S11W67 | 204 | | | | | | | | | | | | | |
| 06 Apr | S11W80 | 204 | | | | | | | | | | | | | |
| | | | | | | | | 0 | 1 | 0 | 3 | 1 | 0 | 0 | 0 |

Still on Disk.

Absolute heliographic longitude: 204



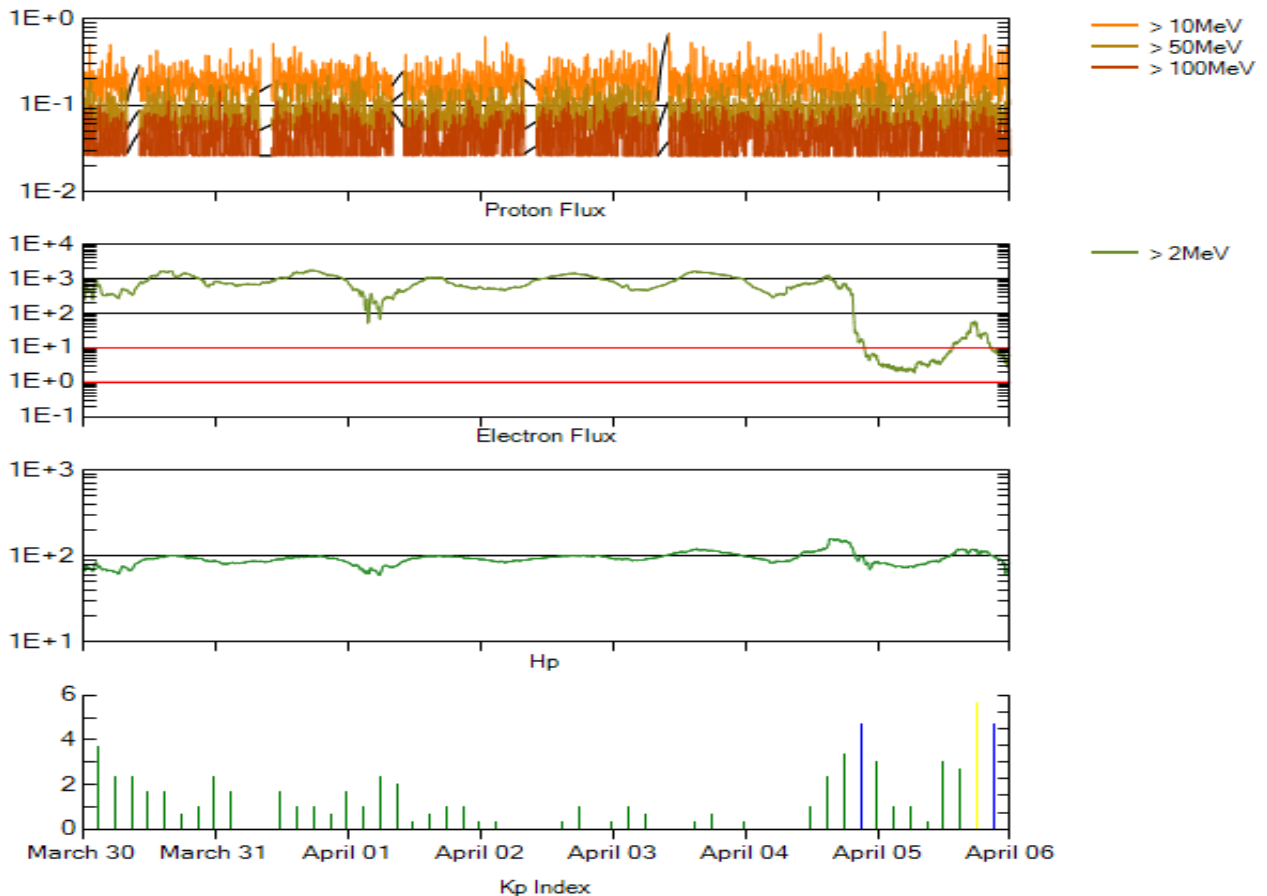
Recent Solar Indices (preliminary)
Of the observed monthly mean values

| Month | Sunspot Numbers | | | Radio Flux | | Geomagnetic | | | |
|-------------|------------------------|-------------|-----------------|----------------------|---------------------|-----------------------|-----------------|-----------------|-----------------|
| | Observed values SEC | Ratio RI | Ratio RI/SEC | Smooth values SEC | Smooth values RI | *Penticton 10.7 cm | Smooth Value | Planetary Ap | Smooth Value |
| 2006 | | | | | | | | | |
| April | 55.2 | 30.2 | 0.55 | 30.6 | 17.1 | 89.0 | 80.9 | 11 | 7.9 |
| May | 39.6 | 22.2 | 0.56 | 30.7 | 17.3 | 81.0 | 80.8 | 8 | 7.9 |
| June | 37.7 | 13.9 | 0.37 | 28.9 | 16.3 | 80.1 | 80.6 | 9 | 8.3 |
| July | 22.6 | 12.2 | 0.54 | 27.2 | 15.3 | 75.8 | 80.3 | 7 | 8.7 |
| August | 22.8 | 12.9 | 0.57 | 27.6 | 15.6 | 79.0 | 80.3 | 9 | 8.7 |
| September | 25.2 | 14.5 | 0.58 | 27.7 | 15.6 | 77.8 | 80.2 | 8 | 8.7 |
| October | 15.7 | 10.4 | 0.66 | 25.2 | 14.2 | 74.3 | 79.4 | 8 | 8.6 |
| November | 31.5 | 21.5 | 0.68 | 22.3 | 12.7 | 86.4 | 78.5 | 9 | 8.5 |
| December | 22.2 | 13.6 | 0.61 | 20.7 | 12.1 | 84.3 | 77.9 | 15 | 8.5 |
| 2007 | | | | | | | | | |
| January | 26.6 | 16.9 | 0.64 | 19.7 | 12.0 | 83.5 | 77.5 | 6 | 8.4 |
| February | 17.2 | 10.6 | 0.62 | 18.9 | 11.6 | 77.8 | 76.9 | 6 | 8.4 |
| March | 9.7 | 4.8 | 0.49 | 17.5 | 10.8 | 72.3 | 76.0 | 8 | 8.4 |
| April | 6.9 | 3.7 | 0.54 | 16.0 | 9.9 | 72.4 | 75.2 | 9 | 8.5 |
| May | 19.4 | 11.7 | 0.60 | 14.2 | 8.7 | 74.5 | 74.2 | 9 | 8.4 |
| June | 20.0 | 12.0 | 0.60 | 12.8 | 7.7 | 73.7 | 73.2 | 7 | 7.8 |
| July | 15.6 | 10.0 | 0.64 | 11.6 | 7.0 | 71.6 | 72.5 | 8 | 7.4 |
| August | 9.9 | 6.2 | 0.63 | 10.2 | 6.1 | 69.2 | 71.8 | 7 | 7.6 |
| September | 4.8 | 2.4 | 0.50 | 9.9 | 5.9 | 67.1 | 71.5 | 9 | 7.8 |
| October | 1.3 | 0.9 | 0.70 | | | 65.5 | | 9 | |
| November | 2.5 | 1.7 | 0.68 | | | 69.7 | | 5 | |
| December | 16.2 | 10.1 | 0.62 | | | 78.6 | | 4 | |
| 2008 | | | | | | | | | |
| January | 5.1 | 3.4 | 0.67 | | | 72.1 | | 6 | |
| February | 3.8 | 2.1 | 0.55 | | | 71.2 | | 9 | |
| March | 15.9 | 9.3 | 0.58 | | | 72.9 | | 10 | |

NOTE: All smoothed values after September 2002 and monthly values after March 2003 are preliminary estimates. The lowest smoothed sunspot index number for Cycle 22, RI = 8.0, occurred in May 1996. The highest smoothed sunspot number for Cycle 23, RI= 120.8, occurred April 2000.

*After June 1991, the 10.7 cm radio flux data source is Penticton, B.C. Canada. Prior to that, it was Ottawa.





*Weekly Geosynchronous Satellite Environment Summary
Week Beginning 30 March 2008*

Protons plot contains the five-minute averaged integral proton flux (protons/cm²-sec -sr) as measured by GOES-11 (W135) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

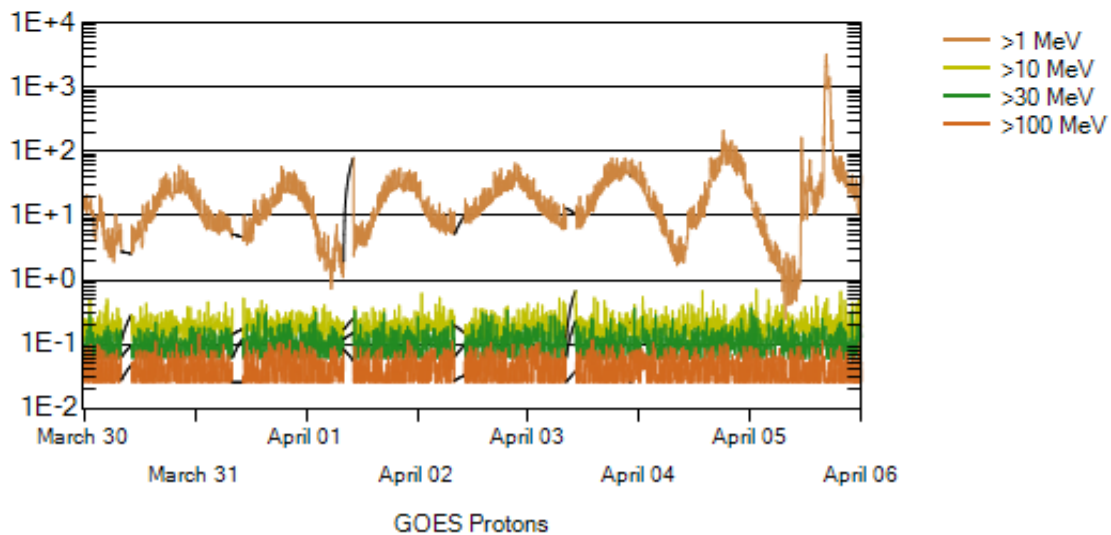
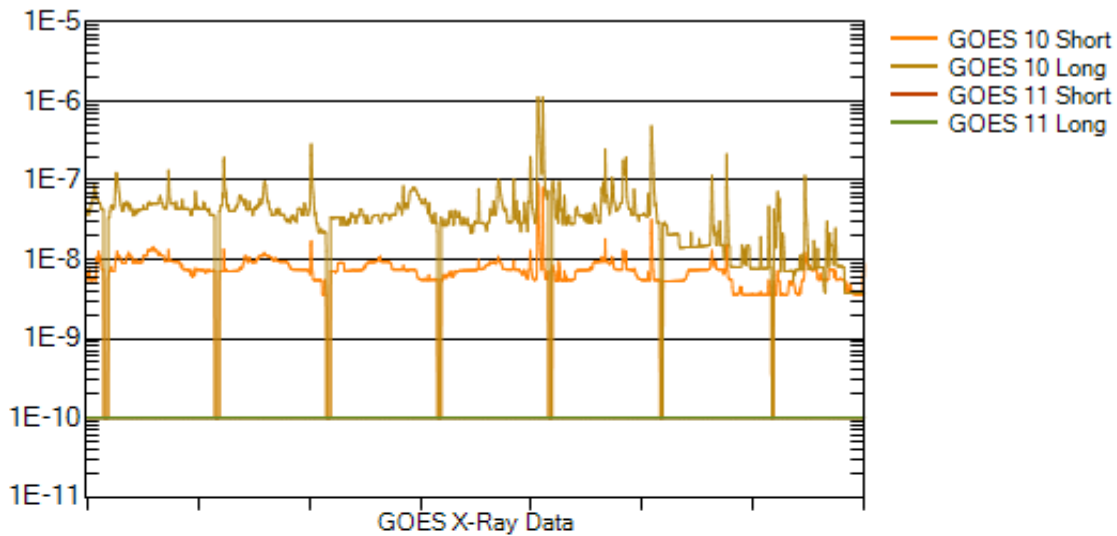
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W075).

Hp plot contains the five minute averaged magnetic field H - component in nanoteslas (nT) as measured by GOES-12. The H component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

Kp plot contains the estimated planetary 3-hour K-index (derived by the Air Force Weather Agency) in real time from magnetometers at Meanook, Canada; Sitka, AK; Glenlea, Canada; St. Johns, Canada; Ottawa, Canada; Newport, WA; Fredericksburg, VA; Boulder, CO; Fresno, CA and Hartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC), British Geological Survey (BGS) and the US Geological Survey. These may differ from the final Kp values derived from a more extensive network of magnetometers.

The data included here are those now available in real time at the SEC 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

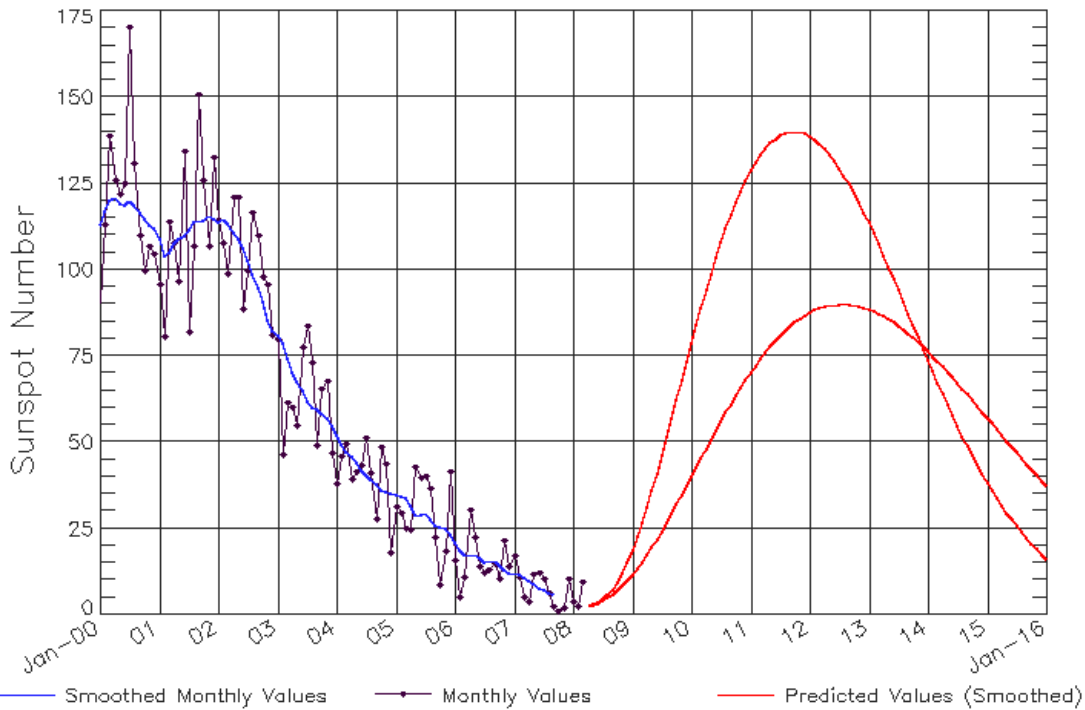
X-ray plot contains five-minute averaged x-ray flux (watts/m²) as measured by GOES 10 (W060) and GOES 11 (W135) in two wavelength bands, .05 - .4 and .1 - .8 nm. The letters A, B, C, M and X refer to x-ray event levels for the .1 - .8 nm band.

Proton plot contains the five-minute averaged integral proton flux (protons/cm²-sec-sr) as measured by GOES-11 (W135) for each of the energy thresholds: >1, >10, >30 and >100 MeV. P10 event threshold is 10 pfu (protons/cm²-sec-sr) at greater than 10 MeV.



ISES Solar Cycle Sunspot Number Progression

Data Through 31 Mar 08



Updated 2008 Apr 7

NOAA/SWPC Boulder, CO USA

SEC Prediction of Smoothed Sunspot Number

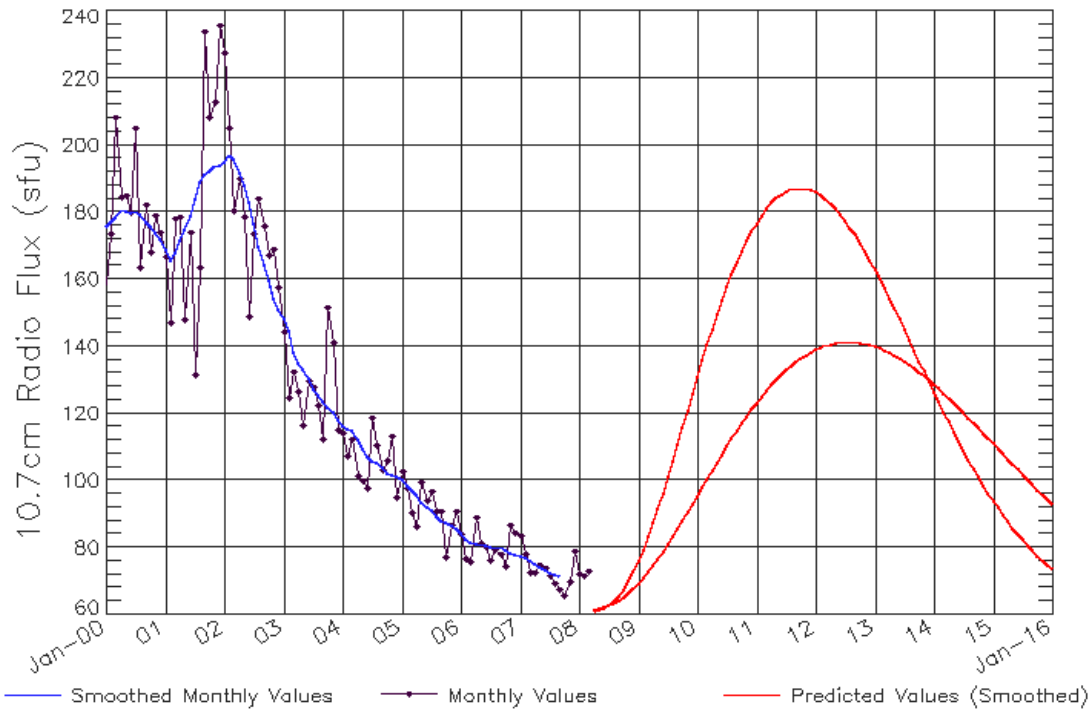
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo |
| 2006 | 21 (***) | 19 (***) | 17 (***) | 17 (***) | 17 (***) | 16 (***) | 15 (***) | 16 (***) | 16 (***) | 14 (***) | 13 (***) | 12 (***) |
| 2007 | 12 (***) | 12 (***) | 11 (***) | 10 (***) | 9 (***) | 8 (***) | 7 (***) | 6 (***) | 6 (***) | 8/2 (1) | 10/0 (3) | 11/0 (5) |
| 2008 | 11/0 (7) | 12/0 (8) | 13/0 (9) | 15/0 (10) | 17/0 (11) | 18/0 (12) | 20/0 (13) | 23/0 (14) | 22/0 (15) | 24/0 (15) | 27/0 (15) | 30/0 (15) |
| 2009 | 33/3 (15) | 37/7 (15) | 41/11 (15) | 46/16 (15) | 51/21 (15) | 56/26 (15) | 61/31 (15) | 66/36 (15) | 71/41 (15) | 77/47 (15) | 82/52 (15) | 88/58 (15) |
| 2010 | 93/63 (15) | 98/68 (15) | 104/74 (15) | 109/79 (15) | 113/83 (15) | 118/88 (15) | 122/92 (15) | 126/96 (15) | 130/100 (15) | 134/104 (15) | 137/107 (15) | 140/110 (15) |
| 2011 | 143/113 (15) | 146/116 (15) | 148/118 (15) | 150/120 (15) | 151/121 (15) | 152/122 (15) | 153/123 (15) | 154/124 (15) | 154/124 (15) | 154/124 (15) | 154/124 (15) | 154/124 (15) |
| 2012 | 153/123 (15) | 152/122 (15) | 151/121 (15) | 149/119 (15) | 148/118 (15) | 146/116 (15) | 144/114 (15) | 142/112 (15) | 139/109 (15) | 137/107 (15) | 134/104 (15) | 131/101 (15) |
| 2013 | 128/98 (15) | 125/95 (15) | 122/92 (15) | 119/89 (15) | 115/85 (15) | 112/82 (15) | 109/79 (15) | 105/75 (15) | 102/72 (15) | 98/68 (15) | 95/65 (15) | 92/62 (15) |
| 2014 | 88/58 (15) | 85/55 (15) | 82/52 (15) | 78/48 (15) | 75/45 (15) | 72/42 (15) | 69/39 (15) | 66/36 (15) | 63/33 (15) | 61/31 (15) | 58/28 (15) | 55/25 (15) |
| 2015 | 53/23 (15) | 51/21 (15) | 48/18 (15) | 46/16 (15) | 44/14 (15) | 42/12 (15) | 40/10 (15) | 38/8 (15) | 37/7 (15) | 35/5 (15) | 33/3 (15) | 32/2 (15) |

Note: Hi is for the larger solar cycle prediction, Lo is for the smaller solar cycle prediction



ISES Solar Cycle F10.7cm Radio Flux Progression

Data Through 31 Mar 08



Updated 2008 Apr 7

NOAA/SWPC Boulder, CO USA

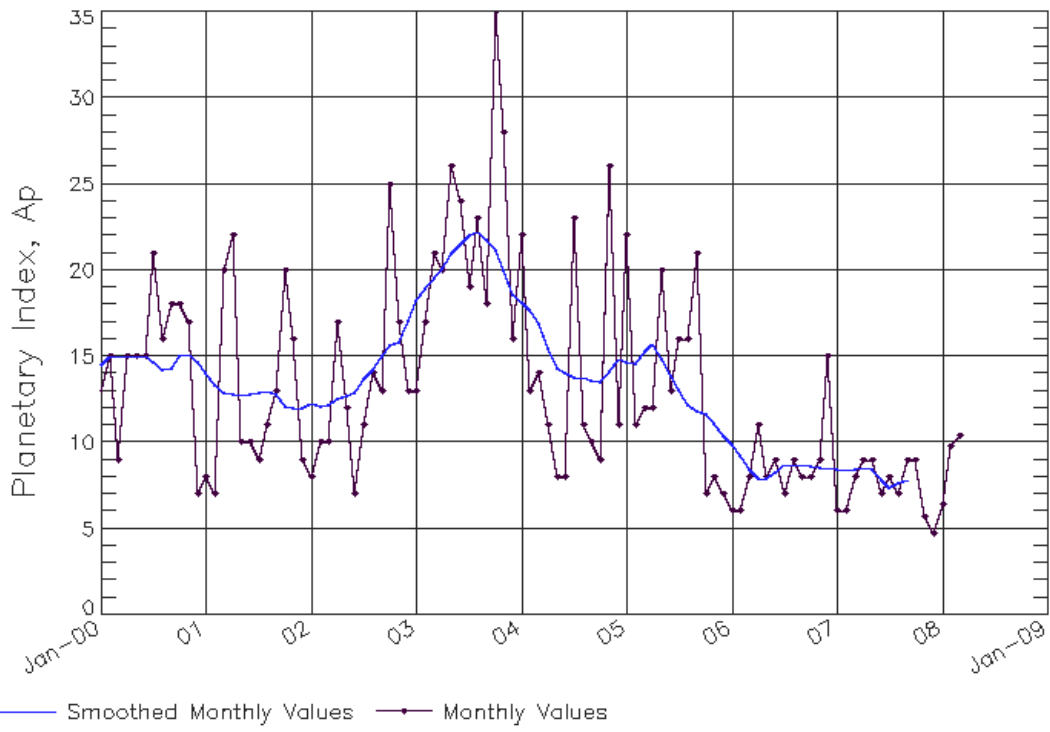
SEC Prediction of Smoothed F10.7cm Radio Flux

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
| | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo | Hi/Lo |
| 2006 | 84 (***) | 83 (***) | 82 (***) | 81 (***) | 81 (***) | 81 (***) | 80 (***) | 80 (***) | 80 (***) | 79 (***) | 79 (***) | 78 (***) |
| 2007 | 78 (***) | 77 (***) | 76 (***) | 75 (***) | 74 (***) | 73 (***) | 73 (***) | 72 (***) | 72 (***) | 73/67 (1) | 74/64 (3) | 75/61 (5) |
| 2008 | 76/60 (7) | 77/60 (9) | 79/60 (11) | 81/60 (13) | 83/60 (15) | 85/60 (17) | 87/60 (19) | 88/60 (21) | 88/60 (22) | 90/60 (23) | 92/60 (23) | 95/60 (23) |
| 2009 | 98/60 (23) | 102/60 (23) | 106/60 (23) | 110/64 (23) | 114/68 (23) | 119/73 (23) | 124/78 (23) | 128/82 (23) | 133/87 (23) | 138/92 (23) | 143/97 (23) | 148/102 (23) |
| 2010 | 153/107 (23) | 158/112 (23) | 163/117 (23) | 168/122 (23) | 172/126 (23) | 176/130 (23) | 180/134 (23) | 184/138 (23) | 188/142 (23) | 191/145 (23) | 194/148 (23) | 197/151 (23) |
| 2011 | 199/153 (23) | 202/156 (23) | 204/158 (23) | 205/159 (23) | 207/161 (23) | 208/162 (23) | 209/163 (23) | 209/163 (23) | 210/164 (23) | 210/164 (23) | 210/164 (23) | 209/163 (23) |
| 2012 | 208/162 (23) | 208/162 (23) | 206/160 (23) | 205/159 (23) | 204/158 (23) | 202/156 (23) | 200/154 (23) | 198/152 (23) | 196/150 (23) | 193/147 (23) | 191/145 (23) | 188/142 (23) |
| 2013 | 185/139 (23) | 183/137 (23) | 180/134 (23) | 177/131 (23) | 174/128 (23) | 171/125 (23) | 168/122 (23) | 164/1128 (23) | 161/115 (23) | 158/112 (23) | 155/109 (23) | 152/106 (23) |
| 2014 | 149/103 (23) | 146/100 (23) | 143/97 (23) | 140/94 (23) | 137/91 (24) | 134/88 (25) | 131/85 (26) | 129/83 (27) | 126/80 (27) | 124/78 (28) | 121/75 (29) | 119/73 (29) |
| 2015 | 116/70 (30) | 114/68 (30) | 112/66 (31) | 110/64 (31) | 108/62 (32) | 106/60 (32) | 105/60 (32) | 103/60 (32) | 102/60 (33) | 100/60 (33) | 99/60 (33) | 97/60 (33) |



ISES Solar Cycle Ap Progression

Data Through 31 Mar 08



Updated 2008 Apr 7

NOAA/SWPC Boulder, CO USA

