

December 27, 2010

Space Weather Prediction Center (SWPC)  
GOES X-Ray Data Lists

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*****
***** Data List Naming Convention *****
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The SWPC data list naming convention was changed in 2010 to support GOES satellite designation changes. SWPC designates a Primary and a Secondary GOES Satellite for each instrument.

<http://www.swpc.noaa.gov/Data/goes.html>

Filename includes a 'p' for the Primary and 's' for the Secondary SWPC GOES satellite. The satellite number, i.e. GOES-15, is in the Data List file header.

Naming Convention:

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2-hour lists:      Gp_xr_1m.txt  and      Gs_xr_1m.txt
                  Gp_xr_5m.txt  and      Gs_xr_5m.txt
Full day lists: 20091201_Gp_xr_1m.txt  and  20091201_Gs_xr_1m.txt
                20091201_Gp_xr_5m.txt  and  20091201_Gs_xr_5m.txt
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This directory contains GOES X-ray Data Lists for 1- and 5-min data. Currently there is only a Primary GOES XRS satellite.

The lists update every 1- and 5-minutes respectively.

The files with no date in the filename always contain data for the last 2-hours. Users retrieving data frequently are asked to use these files.

The daily files are named with the UT day of the data and the GOES satellite, i.e G12 refers to GOES 12.

The file format follows a standard data list conventions where header lines start with either # or :.

Date/times

Dates are shown as year month day (2006 02 06) and an SWPC "Modified Julian Day (MJD). The SWPC MJD for Jan 1, 2004 is 53005

Time is shown as HourMin (1900) and seconds of the day (68400)

See <http://www.swpc.noaa.gov/Data/goes.html> the SWPC GOES Satellite News web page

GOES data are archived at the National Geophysical Data Center  
<http://www.ngdc.noaa.gov/stp>

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\*\* Please read the SWPC Disclaimer at <http://www.swpc.noaa.gov/> \*\*  
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SWPC provides near-real-time and recent data, solar and geomagnetic indices and solar event reports created from preliminary reports. Preliminary data may contain errors or be revised after further review. The historical products in this SWPC Warehouse are the preliminary reports as originally published. SWPC does not encourage the use of preliminary data for research purposes.

Links to on-line data at SWPC and archive sites with final data:  
<http://www.swpc.noaa.gov/Data/>

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Please send comments and questions to [SWPC.Webmaster@noaa.gov](mailto:SWPC.Webmaster@noaa.gov)  
Report problems to [SWPC.CustomerSupport@noaa.gov](mailto:SWPC.CustomerSupport@noaa.gov)

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OLD NOTICES

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GOES 15 Designated Primary X-ray Satellite

October 28, 2010 -- GOES 15 replaced GOES 14 as the Primary SWPC GOES X-ray Satellite. GOES 14 is being moved into storage. There is no Secondary SWPC GOES X-ray satellite.

X-ray ascii data files use the file naming convention 'Gp' for GOES Primary, this means only header lines changes.

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At 0000UT OCTOBER 28

GOES 15 Will Replace GOES 14 as Primary Satellite for XRS data

October 13, 2010: At 0000 UT October 28 GOES 15 will replace GOES 14 as the Primary SWPC GOES X-ray Satellite. GOES 14 is being moved into storage. There is no Secondary SWPC GOES X-ray satellite.

Because the X-ray file naming convention uses 'Gp' for GOES Primary, the only data file changes will be in header lines.

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GOES 10 Decommissioning Dec 1, 2009

GOES 14 Becomes Primary Satellite for XRS data

No Secondary Satellite for X-rays or Electrons and Protons

November 17, 2009: On Tuesday, 01 December, the GOES 10 satellite will be officially decommissioned. At that time, GOES 14 will replace GOES 10 as the Primary SWPC GOES X-ray Satellite.

GOES 10 Data Lists End Dec 1, 2009

The SWPC GOES 10 Data Lists will end Dec 1. The older GOES 10 Data Lists will rotate out of the directories over the next 90 days.

/lists/xray/G10xr\_1m.txt and 'yearmoda'\_G10xr\_1m.txt  
/lists/xray/G10xr\_5m.txt and 'yearmoda'\_G10xr\_5m.txt

GOES 14 X-ray Data Lists will begin after 0000UT Dec 1, 2009.

Changes to the GOES XRS Data

The GOES 10 and GOES 14 XRS instruments have very different electronics and therefore, there will be some qualitative changes in the appearance of the data. The main difference will be the level of noise in the data at the lowest values. When the background levels are low (less than 2E-8 W/m2 or A2.0), the GOES 10 data looks flat and the steps are very abrupt. At these low flux levels, the GOES 14 data will be quite noisy. As the x-ray flux levels rise up above 2E-8, the noise will decrease and the plots will look very similar to the GOES 10 data.

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GOES 10 X-ray Outages During Eclipse Season

Feb 21, 2008 -- GOES 10 X-ray outages due to spacecraft eclipse season started Feb 20 and will continue for about 40 days (April 1). Maximum eclipse duration will reach about 65 minutes peaking in the middle of the interval (March 11). Currently, X-ray sensors (XRS) are not operational on other GOES satellites to fill in for the GOES-10 eclipses.  
X-ray and Proton Data

No GOES 10

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GOES-10 X-ray Data Returns  
GOES-11 Xray Data LOST

February 12, 2008 -- GOES-10 data has resumed and GOES-10 has been designated the SWPC primary GOES Satellite for X-ray data.

GOES-11 Xray Data has become unavailable and is not expected to return.  
GOES-11 Data Lists ended on Feb 10, 2008.  
GOES-11 Data Lists have been discontinued.

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GOES-12 X-ray Lists End

November 27, 2007 -- the GOES-12 X-ray list has been discontinued because the X-ray sensor is not operating.

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GOES Primary and Secondary Satellite Change  
GOES 11 Primary, GOES 10 Secondary

April 13, 2007 -- Due to an anomaly on the GOES 12 X-ray Sensor (XRS) no GOES 12 X-ray data has been available at SEC since April 12, 2250 UTC. SEC has changed its Primary and Secondary X-ray satellite designations to GOES 11 Primary and GOES 10 Secondary.

There may be minor differences between GOES XRS sensors but the differences should not affect products.

For now GOES X-ray data files will be created for all three GOES satellites, GOES 11, GOES 10, and GOES 12 in case GOES 12 data is available again.

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SEC Secondary GOES Spacecraft Change

At 1400UT, June 22, 2006 the SEC secondary GOES satellite for magnetometer, X-ray, and electron measurements changed from GOES 10 to GOES 11. GOES 12 remains the primary SEC GOES satellite. For energetic proton measurements there was no change; GOES 11 remains the primary SEC GOES satellite and GOES 10 the secondary. SEC products that include magnetometer, X-ray, and electron measurements from the secondary SEC GOES satellite changes at that time.

GOES 11 data lists began June 22, 2006, and the GOES 10 x-ray lists ended with June 21.

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GOES 10 Energetic Proton Outages Expected

June 19, 2006 -- GOES 10, SEC's secondary GOES satellite for energetic protons, will not be available at SEC for about two weeks beginning on June 25th, because its telemetry frequency will be changed to avoid conflicting with GOES 11 transmissions. There will be two additional periods (approximately 10 - 14 days) when GOES 10 data will not be available, as GOES 10 drifts past GOES 13 and GOES 12.

GOES 11, the primary SEC GOES satellite for Energetic Protons will be available throughout the GOES 10 outages.

June 19,2003

To ensure continued operational monitoring of important energetic particle data, it is necessary to reassign primary/secondary designations for the GOES Space Environment Monitor (SEM) detectors. Beginning 1700 UTC on June 18, 2003 GOES 11 (113W) became the primary satellite for protons. GOES 12 (75W) continues as the primary satellite for magnetometer, X-ray, and electron measurements. GOES 10 (135W) is the secondary satellite for all SEM sensors - magnetometer, X-ray, and energetic particles. Because of the degraded state of the proton data on GOES-10, its designation as the secondary source for proton data is a short-term solution. More permanent solutions have been identified and are being evaluated. Users will be notified when we define and schedule a permanent fix.

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May 15, 2003 -- The GOES 10 energetic proton detectors are showing intermittent, high noise levels in the higher energy proton channels (greater than about 80 MeV). This problem was first noticed in data taken April 26, 2003. To ensure continued operational monitoring of important energetic particle data, it is necessary to reassign primary/secondary designations for the GOES Space Environment Monitor (SEM) detectors. As of 1500 UT on May 15, GOES-8 became the primary satellite for protons. GOES 12 is the primary satellite for magnetometer, X-ray, and electron measurements. GOES 10 is the secondary satellite for all SEM sensors - magnetometer, X-ray sensor, and energetic particle sensor. This short-term solution (approximately 2 - 3 months) will be in place until we define and

implement a permanent fix.

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April 8, 2003 SEC stopped using GOES 8 data.  
GOES 10 is now SEC's primary GOES satellite, with GOES 12 the backup  
for magnetometer, XRS x-ray measurements, and energetic particle data.  
However, no integral particle and electron flux values are available  
on GOES 12.