January 28, 2011

EDITED SOLAR EVENTS LISTS

Jan 28, 2011 -- Edited Events lists from Jan 24 through 28 had bad
Radio and Flare date/times. The files have been corrected.

This directory contains the last 60 daily files of preliminary solar
event reports received at SWPC and manually reviewed and edited by the
duty forecaster. SWPC compiles these lists from preliminary reports
received from contributing stations. Incorrect, missed, and incomplete
reports are possible.

Files for the current full year, and earlier years are online from 1996.
See the SWPC FTP server ftp.swpc.noaa.gov at /pub/warehouse or via a
web browser: http://www.swpc.noaa.gov/ftpmenu/warehouse.html

Today's list is updated every 30 minutes at 2 and 32 minutes past the hour.
Yesterday's list is updated every 3 hours, and the lists for the past 3 days
are recreated daily at 0302 to pick up late additions or changes.

Filename format: YEARMODAevents.txt -- 4 digit year, 2 digit month, 2 digit day.
In addition, "events.txt" contains the current day's list.
"yesterday.txt" contains the previous day's list.

A subset, called the "energetic events" is available in other SWPC products.

Solar Geophysical Activity Summary (SGAS)

http://swpc.noaa.gov/ftpmenu/forecasts/SGAS.html

Daily Space Weather Event Reports

http://swpc.noaa.gov/ftpmenu/indices/dayevt.html

SWPC's WEEKLY publication, in Adobe PDF format

http://swpc.noaa.gov/weekly/

A sample list and descriptions of each field are included below.

The format is fixed, 80 columns wide, with standard headers.

If no events are reported a single line is shown

NO EVENT REPORTS.

Previous user notices are at the bottom of this file.

Your comments and suggestions are welcome.

SWPC.Webmaster@noaa.gov

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Sample Report from 2005 showing high solar activity. Note our name changed

from Space Environment Center to Space Weather Prediction Center in October 2007.

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:Product: 20050316events.txt

:Created: 2005 Mar 17 1802 UT

:Date: 2005 03 16

Prepared by the U.S. Dept. of Commerce, NOAA, Space Environment Center.

Please send comments and suggestions to SEC.Webmaster@noaa.gov

#

Missing data: ////

Updated every 30 minutes.

Edited Events for 2005 Mar 16

#

#Event Begin Max End Obs Q Type Loc/Frq Particulars Reg#

#---

1590 0318 0318 0318 LEA G RBR 245 51

1620 + 0348 //// 1635 COM C RSP 30-80 CTM/1

1600 + 0408 0410 0412 LEA G RBR 245 210

1730 + 0422 1214 1511 COM G RNS 245 160

1610 0522 0528 0532 G10 5 XRA 1-8A B4.2 1.9E-04

1630 0741 0744 0748 G10 5 XRA 1-8A B1.9 7.3E-05

1630 0741 //// 0743 SVI C RSP 025-089 III/1

1640 1052 //// 1053 SVI U RSP 025-046 III/1

1650 1125 1125 1125 SVI G RBR 245 85

1650 1125 1125 1125 SVI G RBR 410 46

1660 1150 //// 1150 SVI C RSP 025-041 III/1

1670 + 1205 1208 1210 G12 5 XRA 1-8A B3.5 8.1E-05 0742

1670 1206 1206 1209 SAG G RBR 245 100 0742

1670 1207 1207 1207 SAG G RBR 410 56 0742

1670 1209 1210 1210 G12 5 XFL S02W48 3.0E+02 6.5E+02 0742

1670 1210 //// 2228 SAG C RSP 110-180 CTM/1 0742

1680 + 1217 1221 1223 G12 5 XRA 1-8A B5.1 1.4E-04 0742

1680 + 1219 1219 1219 SVI G RBR 410 310 0742

1680 1221 1222 1223 G12 5 XFL S03W50 7.5E+02 2.3E+03 0742

1690 + 1242 1245 1247 G12 5 XRA 1-8A B3.1 7.7E-05 0742

1690 1246 1246 1247 G12 5 XFL S07W48 4.3E+02 9.1E+02 0742

1700 + 1306 //// 1306 SAG C RSP 030-053 III/1

1710 + 1318 1322 1332 G12 5 XRA 1-8A B3.0 2.3E-04 0742

1710 1322 1327 1331 G12 5 XFL S07W53 2.3E+02 4.6E+02 0742

1720 + 1339 //// 1339 SVI C RSP 025-034 III/1

1750 1450 //// 1451 SVI C RSP 025-180 III/1

1760 + 1542 1547 1554 G12 5 XRA 1-8A B3.8 2.1E-04 0742

1760 + 1544 1544 1546 SAG G RBR 245 380 0742

1760 + 1544 //// 1545 SAG C RSP 030-180 III/1 0742

1760 1546 1550 1553 G12 5 XFL S07W54 4.8E+02 1.0E+03 0742

1770 1633 //// 1634 SAG C RSP 030-050 III/1

1780 1755 //// 1756 SAG C RSP 030-053 III/1

1790 + 1851 //// 1851 PAL C RSP 025-085 III/1

1800 + 1947 1953 1959 G12 5 XRA 1-8A B5.9 3.3E-04 0742

1800 1952 1957 1957 G12 5 XFL S06W57 7.3E+02 1.8E+03 0742

1810 + 2029 2034 2036 G12 5 XRA 1-8A B5.3 1.6E-04 0742

1810 + 2030 //// 2032 CUL C RSP 20-350 III/2 0742

1810 2033 2033 2035 G12 5 XFL S07W54 7.8E+02 2.0E+03 0742

1810 + 2035 2035 2035 PAL G RBR 245 110 0742

1810 2035 2035 2035 PAL G RBR 410 63 0742

1820 + 2049 2053 2056 G12 5 XRA 1-8A B3.6 1.3E-04 0742

1820 2051 //// 2051 CUL C RSP 40-160 III/1 0742

1820 2053 2053 2053 G12 5 XFL S02W55 1.8E+02 3.3E+02 0742

1830 + 2116 2116 2116 PAL G RBR 245 630

1830 + 2116 2116 2116 PAL G RBR 410 130

1830 2116 2116 2116 PAL G RBR 606 67

1830 2116 //// 2116 CUL C RSP 40-460 III/2

1840 + 2304 2314 2316 G12 5 XRA 1-8A B9.8 4.6E-04 0742

1840 2309 2313 2316 G12 5 XFL S07W56 2.0E+03 5.3E+03 0742

1840 2313 2313 2318 HOL 3 FLA S06W52 SF ERU 0742

1840 2313 //// 2315 PAL C RSP 025-180 V/1 0742

1840 + 2314 2314 2314 PAL G RBR 245 160 0742

1840 + 2314 2314 2314 PAL G RBR 410 1700 0742

1840 + 2314 //// 2315 CUL C RSP 18-500 III/3 0742

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DESCRIPTION:

The first line is the filename.

The second line indicates the date/time the list was created.

The third line contains the date of the data. Each file (list) contains one UTC day.

Lines that begin with # are header lines.

Event - This is an arbitrary event number assigned by SWPC. It groups several reports into a single event, as determined by the SWPC forecaster.

\+ - A plus sign (+) after the event number indicates that more than one report was received for this event, and the forecaster has selected this report to represent those received.

Begin, Max, End -

The UTC Time (Coordinate Universal Time, same as UT) of the beginning, maximum, and end of the event as reported by the observing site.

"////" indicates a missing time.

The UTC day of the event's begin time is the UTC day of the list.

The UTC day of the maximum and/or end times may or may not be the same as the begin time. Most solar events are several hours in duration. If the maximum or end time is less than the begin time, then assume the times are for the next UTC day. A single letter can proceed a Begin, Max, or End time. A=after, B=before, U=uncertain. For example the begin time A0146 means the event began after 0146.

The begin time of an x-ray event is defined as the first minute, in a sequence of 4 minutes, of steep monotonic increase in 0.1-0.8 nm flux. The x-ray event maximum is taken as the minute of the peak x-ray flux. The end time is the time when the flux level decays to a point halfway between the maximum flux and the pre-flare background level.

The begin time of an SXI flare (XFL) is minutes following the associated x-ray event. The maximum time is the most intense period in the brightest region of the SXI image. The end time is the last SXI image before the X-ray event end time.

Obs - The reporting observatory.

CUL - Culgoora, Australia

HOL - Holloman AFB, NM, USA LEA - Learmonth, Australia

PAL - Palahua, HI, USA RAM - Ramey AFB, PR, USA

SAG - Sagamore Hill, MA, USA SVI - San Vito, Italy

Events from GOES satellites data show the SWPC Primary or Secondary GOES spacecraft for the observatory, e.g. G12

(See the "Station Lists" directory in the "Welcome" directory for more information.)

Q - Quality

For radio bursts at fixed and sweep frequencies, and for storms, this shows the quality of the data

C = Corrected report

G = Good

U = Uncertain

For optical flares, this shows the quality of observing conditions, from 1 to 5, where: 1 = very poor and 5 = excellent

X-ray events and SXI flare have a quality of 5 (meaning excellent).

Type - Type of report, see http://www.swpc.noaa.gov/info/glossary.html

BSL = Bright surge on the limb

DSF = Filament disappearance

EPL = Eruptive prominence on the limb

FIL = Filament

FLA = Optical flare observed in H-alpha

FOR = Forbush decrease (cosmic ray decrease))

GLE = Ground-level event (cosmic ray increase)

LPS = Loop prominence system

PCA = Polar cap absorption

RBR = Fixed-frequency radio burst

RNS = Radio Noise Storm

RSP = Sweep-frequency radio burst

SPY = Spray

XFL = SXI X-ray flare from GOES Solar X-ray Imager (SXI)

XRA = X-ray event from SWPC's Primary or Secondary GOES spacecraft

Loc/Frq - Location or frequency.

Location is in degrees latitude, north or south, and degrees longitude, east or west, from central meridian. The location is the spherical, heliographic coordinates of the solar region, as a distance in degrees from a line extending from the solar equator (heliographic latitude), and distance in degrees from a line extending from the north solar rotational pole to the south solar rotational pole through the center of the solar disk, as viewed from Earth (central meridian) in H-alpha.

Frequencies are in Mhz.

Particulars - Additional information from the report, chosen on the basis of the report type.

XRA: X-ray Class

Class	x = peak flux in the 0.1 to 0.8 nm range	
	In mks system	In cgs system
	Wm-2	erg cm-2 s-1
A	x < 10-7	x < 10-4
B	10-7 <= x < 10-6	10-4 <= x < 10-3
C	10-6 <= x < 10-5	10-3 <= x < 10-2
M	10-5 <= x < 10-4	10-2 <= x < 10-1
X	10-4 <= x	10-1 <= x

Integrated flux from start to end, in joules m E-2.

FLA: Importance and brightness

Importance is the corrected area of the flare in heliospheric square degrees at maximum brightness, observed in the H-alpha line (656.3 nm).

S - Subflare (area < or =2.0 square degrees).

1 - Importance 1 (2.1 <= area <= 5.1 square degrees)

2 - Importance 2 (5.2 <= area <= 12.4 square degrees)

3 - Importance 3 (12.5 <= area <= 24.7 square degrees)

4 - Importance 4 (area >= 24.8 square degrees)

Brightness is the relative maximum brightness of flare in H-alpha.

F - faint N - normal B - brilliant

Flare Characteristics

VWL = Visible in white light

UMB = Greater than or equal to 20 percent umbral coverage

PRB = Parallel ribbon

LPS = Associated Loop Prominence (LPS)

YSR = Y-shaped ribbon

ERU = Several eruptive centers

BPT = One or more brilliant points

HSS = Associated high speed dark or bright surge

DSD = Dark surge on the disk

DSF = Flare followed the disappearance of a solar filament in the same region

BLU = H-alpha emission greater in the blue wing than in the red wing

XFL: maximum area (e.g., 1.6e+03) and max intensity (e.g., 1.5e+05).

RBR:

The peak value above pre-burst background of associated radio bursts at frequencies 245, 410, 610, 1415, 2695, 4995, 8800 and 15400 MHz:

1 flux unit = 10-22 Wm-2 Hz-1

RSP:

Type/Intensity

Type II: Slow drift burst

Type III: Fast drift burst

Type IV: Broadband smooth continuum burst

Type V: Brief continuum burst, generally associated with Type III bursts

Type VI: Series of Type III bursts over a period of 10 minutes or more, with no period longer than 30 minutes without activity

Type VII: Series of Type III and Type V bursts over a period of 10 minutes or more, with no period longer than 30 minutes without activity

Type CTM: Broadband, long-lived, dekametric continuum

Intensity is a relative scale 1=Minor, 2=Significant, 3=Major

Shock speed in km/s

Reg# - The SWPC-assigned solar region number. The daily SWPC Solar Region Summary report contains detailed information about solar regions.

see http://swpc.noaa.gov/ftpmenu/forecasts/SRS.html

For optical events, region numbers are assigned by the observatory.
Region numbers are assigned to X-ray events by SWPC staff.

For SXI flares, an SWPC algorithm finds the brightest area in the SXI
image and assigns the region number of the closest active solar region.
A region number is assigned to off-disk, west limb events if the region
recently rotated around the limb.

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USER NOTICES

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GOES 14 Became Primary Satellite for XRS data

December 1, 2009: GOES 14 is the Primary SWPC GOES Satellite for X-ray Events.
There is no Secondary X-ray Satellite at this time.

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SEC Secondary GOES Spacecraft Change

June 19, 2006 -- At 1400UT, June 22, the SEC secondary GOES satellite

for magnetometer, X-ray, and electron measurements will change from GOES 10 to GOES 11. GOES 12 will continue as the primary SEC GOES satellite. For energetic proton measurements there is no change; GOES 11 will remain the primary SEC GOES satellite and GOES 10 will remain the secondary. SEC products that include magnetometer, X-ray, and electron measurements from the secondary SWPC GOES satellite will change at that time. See details at http://www.swpc.noaa.gov/goes.html

In the Edited Solar Events Lists, the Observatory field for events from the GOES primary and secondary satellites will be G12 and G11.

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January 5, 2004 -- GOES Solar X-ray Imager (SXI) flare (XFL) reports were added to the Edited Solar Events Lists. SXI flares from GOES-12 provide valuable flare location and other information, especially when no optical observations are available. SEC developed the SXI flare algorithm, triggered by GOES X-ray events, which finds the brightest area in the latest SXI image and assigns the region number of the closest active solar region. A region number is assigned to off-disk, west limb events if the region recently rotated around the limb. Near-real-time SXI images and a description of the GOES SXI instrument are at http://swpc.noaa.gov/sxi/

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September 8, 2003 -- The Filament disappearance (Type = DSF) reports now have an associated location. See description on Loc/Frq below.

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GOES Satellite Changes

On May 15, 2003 GOES-12 became SEC's primary GOES satellite, and GOES 10 the backup. Event Lists show GOES 12 and GOES 10 XRA events.

See details at http://www.swpc.noaa.gov/GOES.html