

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

Sample Report from 2005 showing high solar activity. Note our name changed from Space Environment Center to Space Weather Prediction Center in October 2007. *****

```
: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
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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

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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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>