

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE



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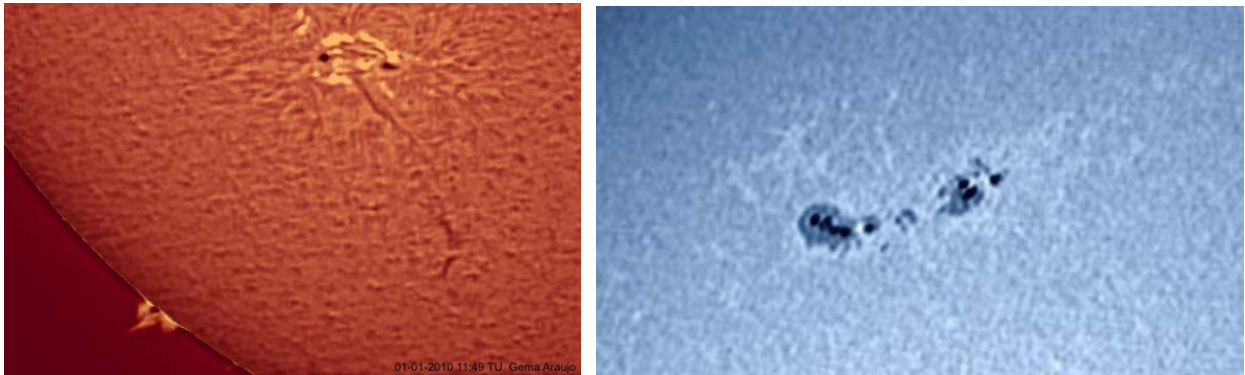
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To start out 2010 properly we've had some great solar activity. These images were taken by Gema Araujo of Spain. The left image of prominences on New Years Day Jan 1, 2010 at 11:49UT. The image to the right in CaK taken on Jan 14, 2010 at 12:23UT. We also have SID flares recorded. It has been a long wait. Please see the wonderful drawings of an evolving prominence by Gonzalo Vargas of Bolivia at the end of the bulletin.

We wish to make a special note that **Daniel Williams** has stepped down as sunspot analyst. Dan took on the position in May 2006 and we thank him for his hard work and the great job he has done during his time at this post. I'll be performing the analysis of the sunspot data during the interim.

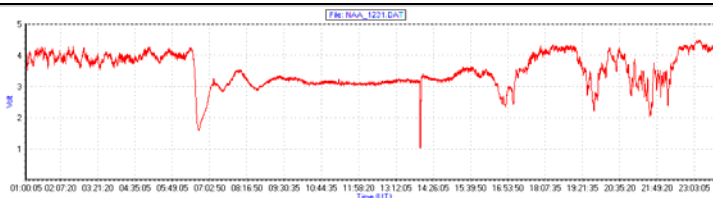
## Notice to all Sunspot Observers

Beginning with the March 2010 observations all sunspot reports need to be submitted electronically in the official format using the SolObs program (Windows) or the Sunkey program (DOS) or manual entry in the proper text format). Having the solar team re-enter observations manually is time consuming and considerably slows our process down. Using the programs helps us quickly analyze and report all the observations. The programs are available at the following link. <http://www.aavso.org/observing/programs/solar/solarsoftware.shtml>

If you cannot submit data electronically in this format, please email me at the address above. We truly appreciate you following these guidelines.

# Sudden Ionospheric Disturbance Report

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 Marlborough, MA 01752 USA  
 noatak@aol.com



## Sudden Ionospheric Disturbances (SID) Recorded During January 2010

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
100102	0724	2	100123	0028	1-			
100102	1416	1+	100124	0100	1			
100103	1214	1						
100109	1508	1-						
100118	0555	3						
100119	0706	2						
100119	0843	1-						
100119	0903	1+						
100119	1312	1-						
100119	1339	2+						
100119	1420	1						
100119	1538	1						
100119	2235	2+						
100120	0457	2						
100120	0618	2						
100120	0712	1						
100120	0726	1-						
100120	0748	2						
100120	0928	1+						
100120	1100	2+						
100120	1233	2						
100120	1516	1-						
100120	1757	1+						
100121	1050	1-						
100123	0020	1-						

Importance rating:	Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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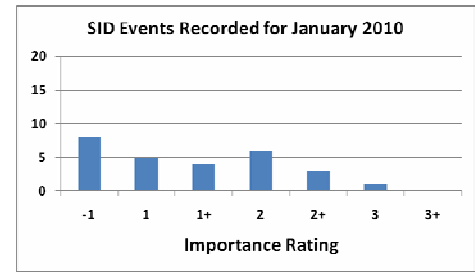
Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A Clerkin	A29	NAA	S Oatney	A125	NML
M Hill	A87	NAA			
G DiFilippo	A93	DHO HWU			
R Battaiola	A96	HWU			
J Wallace	A97	NAA			
F Steyn	A102	NAA NWC			
M Suhovecky	A115	NAA			
L Loudet	A118	GQD NAA TBB			
J Godet	A119	GBZ GQD ICV			
F Adamson	A122	NWC			

Reports submitted but no SIDs detected: A52, A91, A99, A107, A108, A124

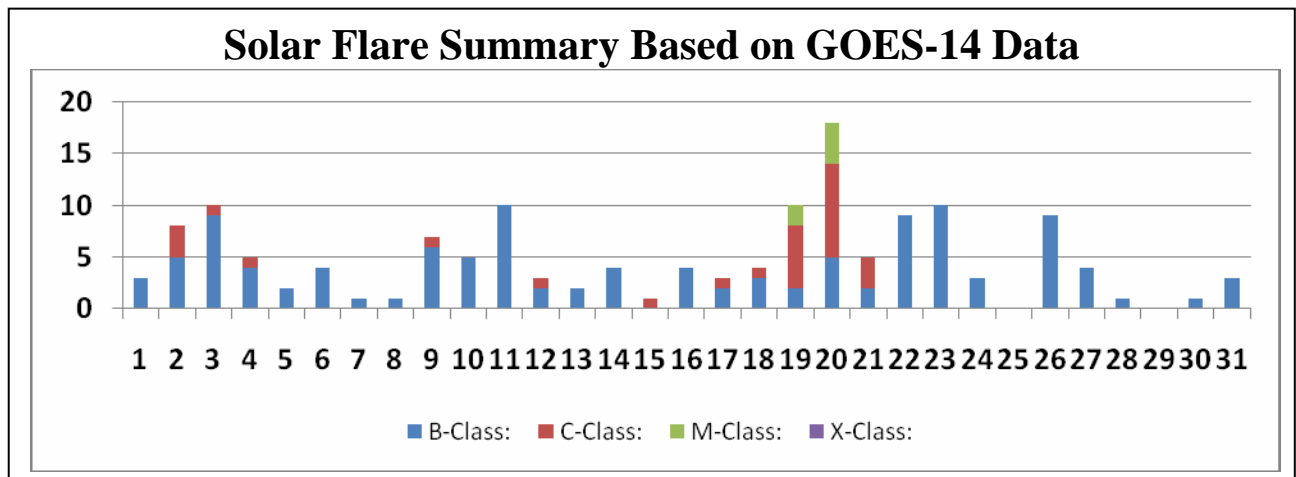
The events listed above meet at least one of the following criteria

- 1) Event reported by two or more observers within  $\pm 5$  minutes
- 2) Event matched to GOES-8 XRA event to within  $\pm 15$  minutes and event time < 1000 UT
- 3) reported by observer with a quality rating > 8 (scale 1-10)

# Solar Events



What a month January of 2010 has been! Most of you reported in with with positive results and the numbers speak for themselves. There were 27 correlated SID events reported this month, mostly centered around the 20<sup>th</sup> of the month. This corresponds well with the activity levels measured by the GOES satellite. There were 116 B-Class events, 28 C-Class events and 6 M-Class events. Most of the stronger events were also centered about the 20<sup>th</sup> as well. So keep your equipment going and if it's not then you should try to get it going soon because it looks like the sun has come alive from it's long rest at minimum and as most of you know the rise to maximum is usually very swift so the activity level can be expected to really pick up over the next year now. Thanks to all for your reports.



American Relative Sunspot Numbers (Ra) for  
January 2010 [**boldface = maximum, minimum**]

Day	N	Raw Mean	Ra
1	22	17	12
2	24	21	14
3	16	18	14
4	23	14	10
5	21	8	6
6	22	0	<b>0</b>
7	21	3	2
8	19	11	7
9	25	16	12
10	23	24	17
11	19	37	25
12	15	31	22
13	21	31	22
14	20	29	20
15	18	28	19
16	17	23	16
17	15	18	12
18	17	11	7
19	16	0	0
20	18	9	6
21	22	17	13
22	19	28	20
23	27	35	25
24	22	39	<b>28</b>
25	21	34	24
26	26	22	16
27	19	16	12
28	20	13	9
29	19	12	8
30	14	7	4
31	24	15	11

Means      **20.2**      **18.9**      **13.3**

No. of Observers: **46**

Total No. of Observations: **625**

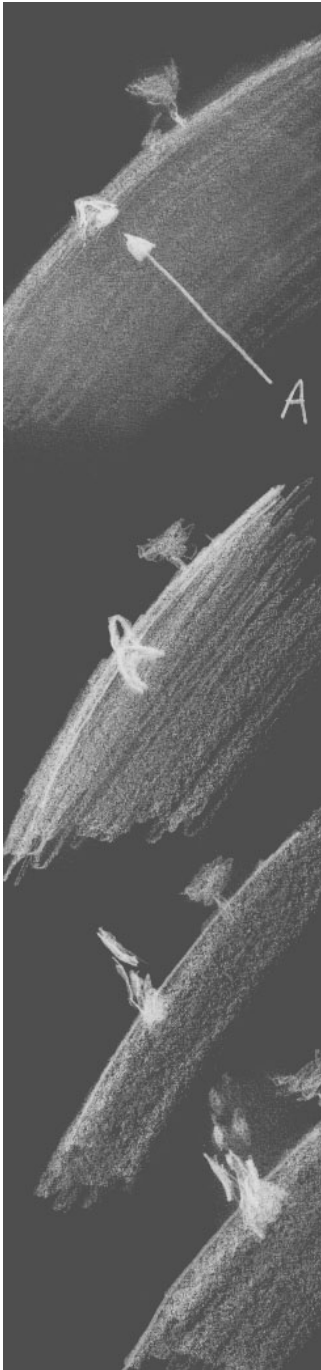
**Reporting Addresses:**

**Sunspot Reports – Email: solar@aavso.org Postal Mail: AAVSO,  
49 Bay State Rd. Cambridge, MA, 02138 Fax: 617-354-0665**

**SID Flare Reports – email: noatak@aol.com Postal Mail: Mike Hill,  
114 Prospect St., Marlboro, MA, 01752**

AAP	A. Abbott	9
AJV	J. Alonso	12
ANGR	R. Ang	13
ARAG	G. Araujo	24
BARH	H. Barnes	11
BATR	R. Battaiola	3
BERJ	J. Berdejo	7
BLAJ	J. Blackwell	12
BMF	M. Boschatt	13
BRAB	B. Branchett	24
BROB	R. Brown	18
CKB	B. Cudnik	20
CLZ	L. Corp	4
CNT	D. Chantiles	12
DGP	G. Dyck	8
DUBF	F. Dubois	14
FERJ	J. Fernandez	15
FLET	T. Fleming	18
FUJK	K. Fujimori	25
HAYK	K. Hay	13
HMQ	M. Harris	9
JASK	K. Jaskulska	13
KAPJ	J. Kaplan	17
KNJS	J & S Knight	25
KROL	L. Krozel	4
LEVM	M. Leventhal	17
MARF	F. Mariuzza	14
MCE	E. Mochizuki	28
MILJ	J. Miller	13
MMI	M. Moeller	11
OATS	S. Oatney	11
OBSO	ISP Observatory	18
SCGL	G. Schott	13
SIMC	C. Simpson	2
STEF	G. Stefanopoulos	4
STEM	G. Stemmler	11
STQ	N. Stokidis	11
SUZM	M. Suzuki	27
SZUM	M. Szulc	17
TESD	D. Teske	22
TJV	J. Temprano	1
VARG	A. Vargas	22
VIDD	D. Vidican	6
WILW	W. Wilson	17
WRP	R. Wheeler	5
YESH	H. Yesilyaprak	12

**GROWING OF A SOLAR PROMINENCE - Gonzalo Vargas**  
**January 6, 2010**



**January 6 at 19:55 U.T. I was observing a “tree” solar prom in the north-east solar limb. Suddenly a very bright almost white point was growing to the east of the “tree” solar prom ( see arrow with “A” ), it was like an small bright pyramid.**

**At 19:58 U.T. was clear a very bright arc ascending very fast, one minute after.**

**It looks that it broke in some extreme loop.**

**At 20:01 U.T. three separate like clouds appear at the top, the base was wider and bright.**



**At 20:14UT the top of the arch makes an arc in direction of the “tree” solar prominence**

**At 22:30UT only the “tree” solar prom was observed, no sign of the faster solar prominence**