

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

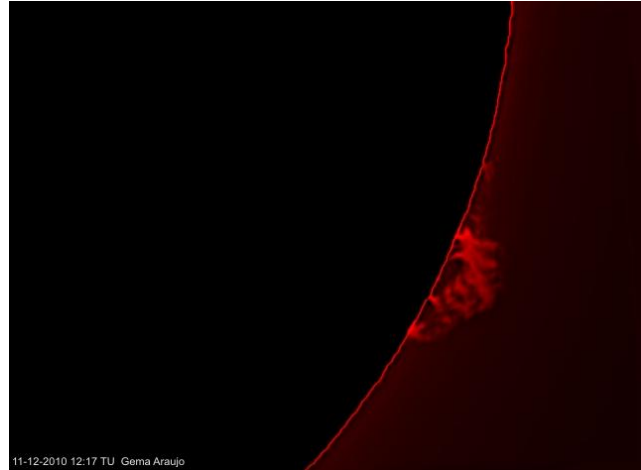
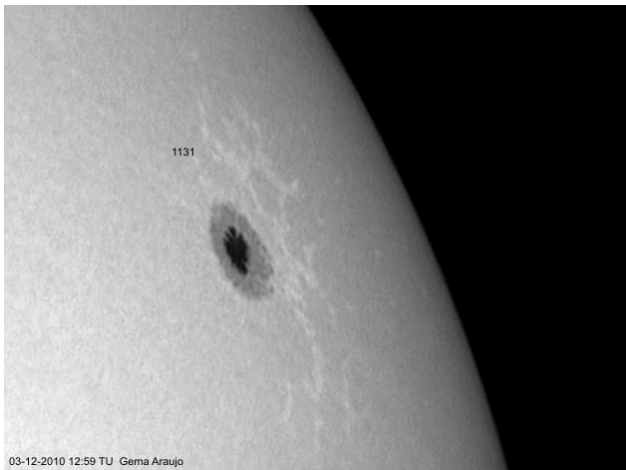


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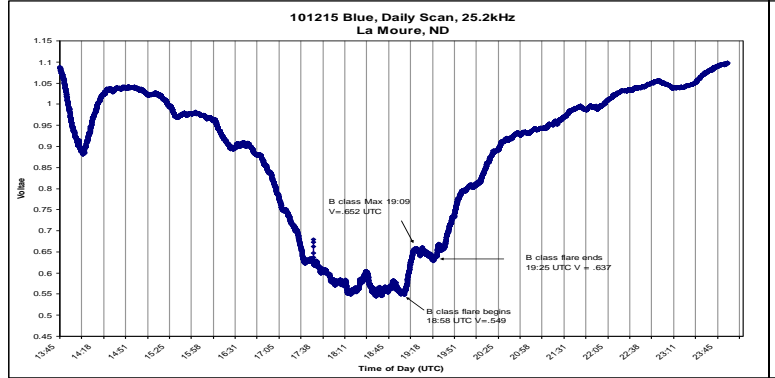
The year 2010 ended with more solar activity captured by Gema Araujo of Spain. The image on left taken on December 3, 2010 at 12:59UT of a large sunspot in AR1131. The image on right was taken on December 11, 2010 at 12:17UT and shows a nice prominence using a hydrogen-alpha filter.

Solar Section Chairperson Needed ASAP

It is with deep regret that after over 4 years of being chair of this section I will have to step down due to increased business responsibilities and travel. A volunteer is needed to step forward and lead the combined solar group and be editor of the monthly solar bulletin. This section has a long history in contributing the monthly American Relative Sunspot Number (Ra) and the Sudden Ionospheric Disturbance (SID) solar flare radio reports. If you can spare 4 hours per month and wish to take on the leadership of this section, please contact me at Paul@theDDO.ca I will be available to assist in the transition over the next several months to get the new chairperson up to speed. Thank You.

Sudden Ionospheric Disturbance Report

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Sudden Ionospheric Disturbances (SID) Recorded During December 2010

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
101201	0624	1+	101215	0024	2			
101202	0449	2+	101215	0216	1-			
101203	0151	2+	101215	0248	1+			
101204	0417	1	101215	0644	2+			
101206	0701	1-	101215	1909	1+			
101206	0717	1-	101220	0516	1-			
101206	1520	2	101220	0716	1-			
101208	0120	1-	101220	0727	1-			
101208	0331	1-	101224	2356	1-			
101210	0104	1-	101225	0356	1-			
101212	2221	1-	101231	0428	1+			
101213	1713	1-	101231	1959	2+			
101214	0356	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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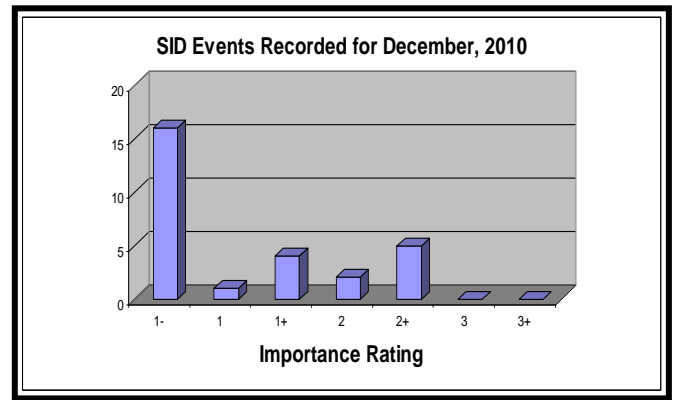
Observer	Code	Station(s) monitored
F Steyn	A102	NWC
R Howe	A121	NML
F Adamson	A122	NWC
G Myers	A124	NLK
S Oatney	A125	NML

Observer	Code	Station(s) monitored
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The events listed above meet at least one of the following criteria

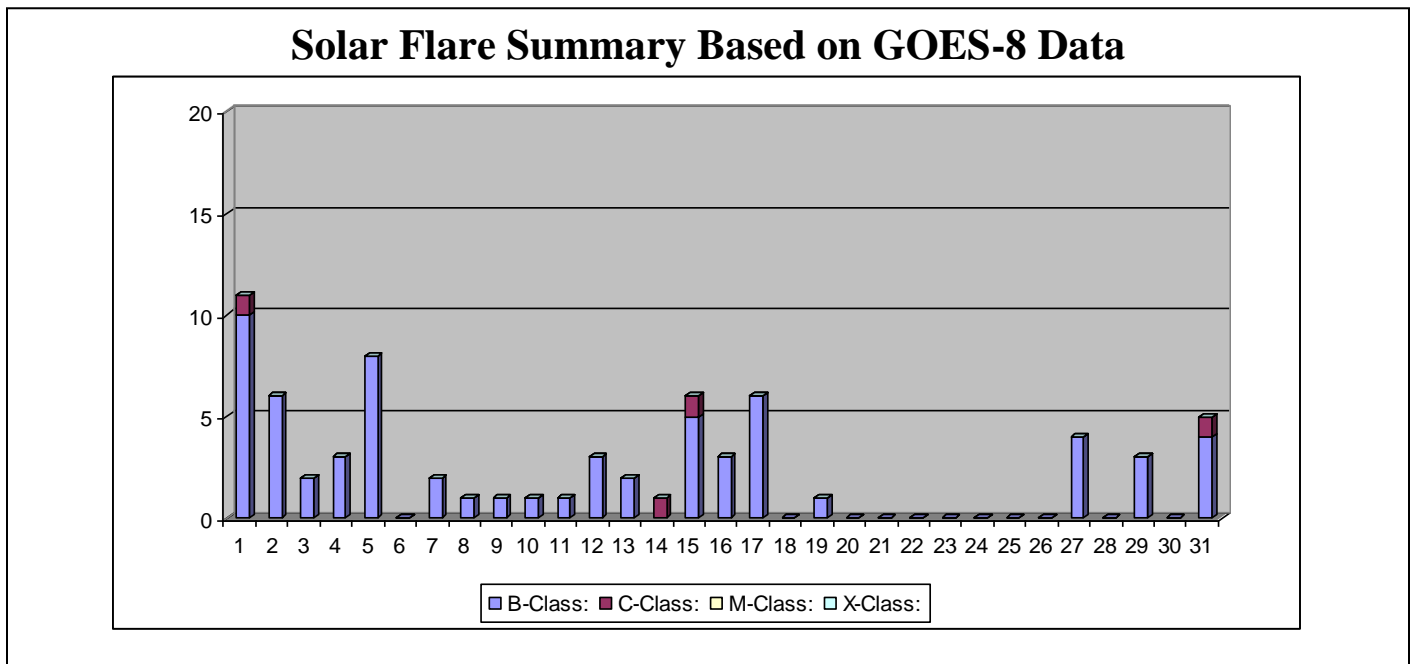
- 1) Event reported by two or more observers within ± 5 minutes
- 2) Event matched to GOES-8 XRA event to within ± 15 minutes and event time < 1000 UT
- 3) reported by observer with a quality rating > 8 (scale 1-10)

Solar Events



There were 70 solar flares measured by GOES-8/14, 4 of which were C class flares. Of the 12 AAVSO SID Observers who submitted reports, 5 recorded December events.

There were 66 B class flares this month, and comparing November's 141 flares/24 C class and three M class, December shows a big drop in flare activity. The Importance Ratings for December flares were also less than the November Importance Ratings because of the small number of C and M class flare activity.



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

Day	N	Raw Mean	Ra
1	19	32	21
2	17	30	21
3	16	31	23
4	27	45	31
5	16	37	26
6	20	25	18
7	22	25	18
8	26	25	17
9	23	24	17
10	17	28	20
11	20	23	17
12	24	24	17
13	18	37	24
14	20	24	17
15	16	14	10
16	13	12	8
17	15	10	6
18	23	0	0
19	22	0	0
20	20	0	0
21	17	4	2
22	16	5	4
23	14	9	6
24	16	9	6
25	9	17	12
26	18	16	11
27	22	16	11
28	21	19	13
29	16	16	11
30	17	18	13
31	27	44	31
Means	18.9	20.0	14.0

Total Observers: 46
Total Observations: 587

Initials	Name	# of Obs.
AAP	A. Patrick Abbott	6
AAX	Alexandre Arorim	13
AJV	J. Alonso	14
ARAG	Gema Araujo	29
ASA	Salvador Aguirre	11
BARH	Howard Barnes	11
BATR	Roberto Battaiola	8

BEB	Ray Berg	6
BERJ	Jose Alberto Berdejo	6
BMF	Michael Boschat	12
BOSB	Biswajit Bose	21
BRAB	Brenda Branchett	29
BRAF	Raffaello Braga	10
BROB	Robert Brown	17
CHAG	German Chavas Morales	31
CKB	Brian Cudnik	22
CLZ	Corp Laurent	4
CNT	Dean Chantiles	6
DUBF	Franky Dubois	17
FAM	Fabio Mariuzza	12
FERJ	Javier Ruiz Fernandez	10
FLET	Tom Fleming	23
FUJK	K. Fujimori	24
HALB	Brian Halls	2
HAYK	Kim Hay	6
JASK	Krystyna Wirkus	3
KAPJ	John Kaplan	14
KNJS	James & Shirley Knight	23
KROL	Larry Krozel	1
LEVM	Monty Leventhal	21
MARE	Enrico Mariani	6
MILJ	Jay Miller	7
MMI	Michael Moeller	16
OATS	Susan Oatney	10
OBSO	IPS Observatory	11
RICE	E. C. Richardson	11
SIMC	Clyde Simpson	1
STQ	Nick Stoikidis	12
TESD	David Teske	25
TJV	Javier Temprano	3
URBP	Piotr Urbanski	6
VARG	A.Gonzalo Vargas	22
VIDD	Daniel Vidican	10
WILW	William M. Wilson	16
WIRP	Piotr Wirkus	1
YESH	Hulya Yesilyaprak	18

Reporting Addresses:

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