

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS  
SOLAR COMMITTEE

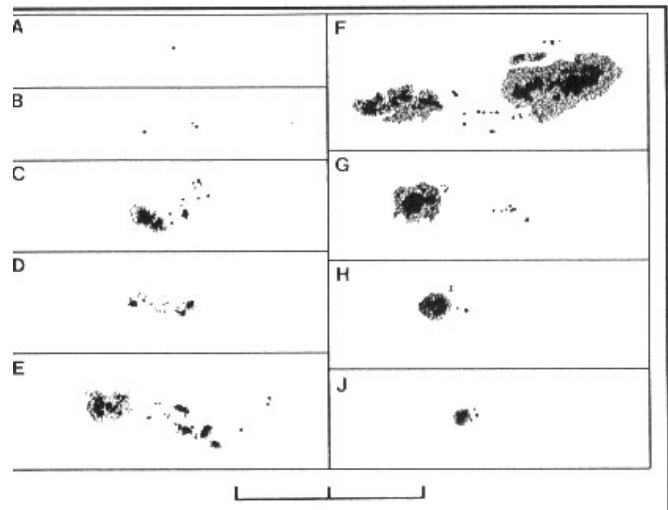
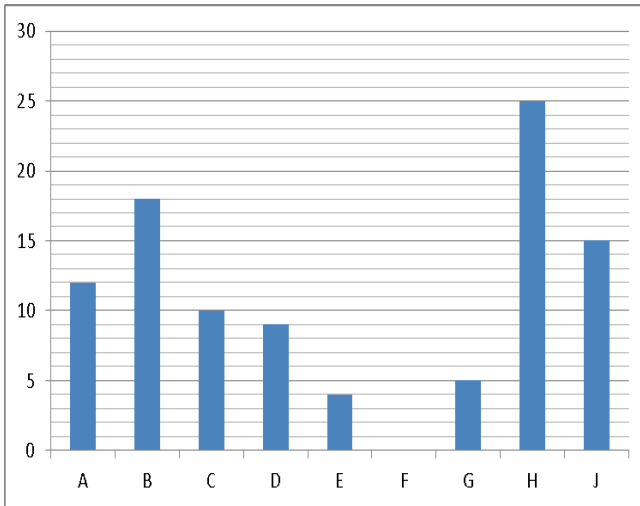


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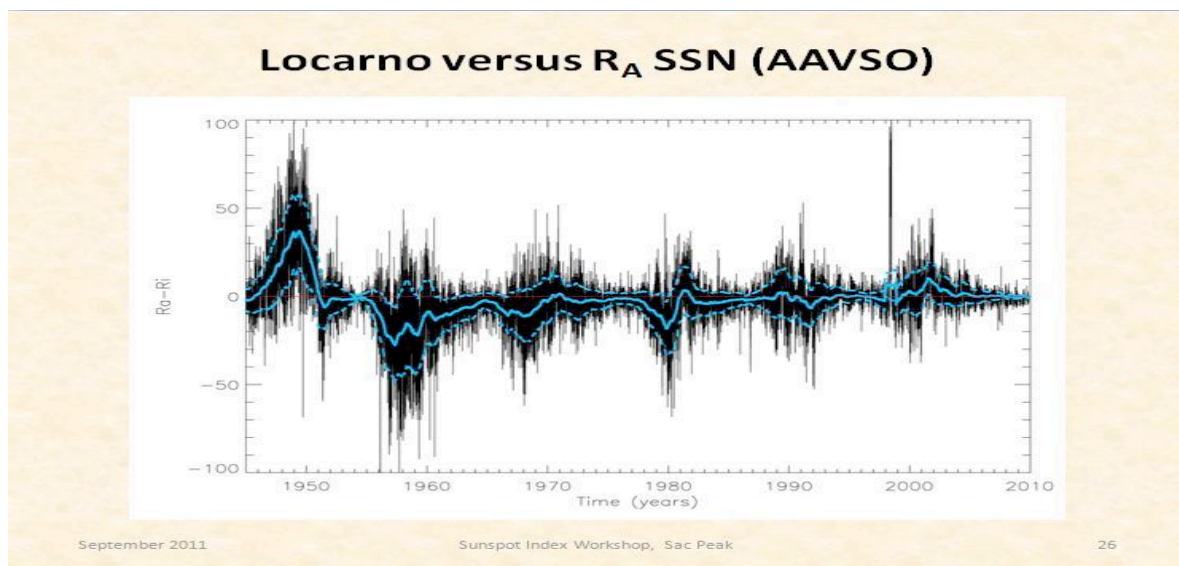
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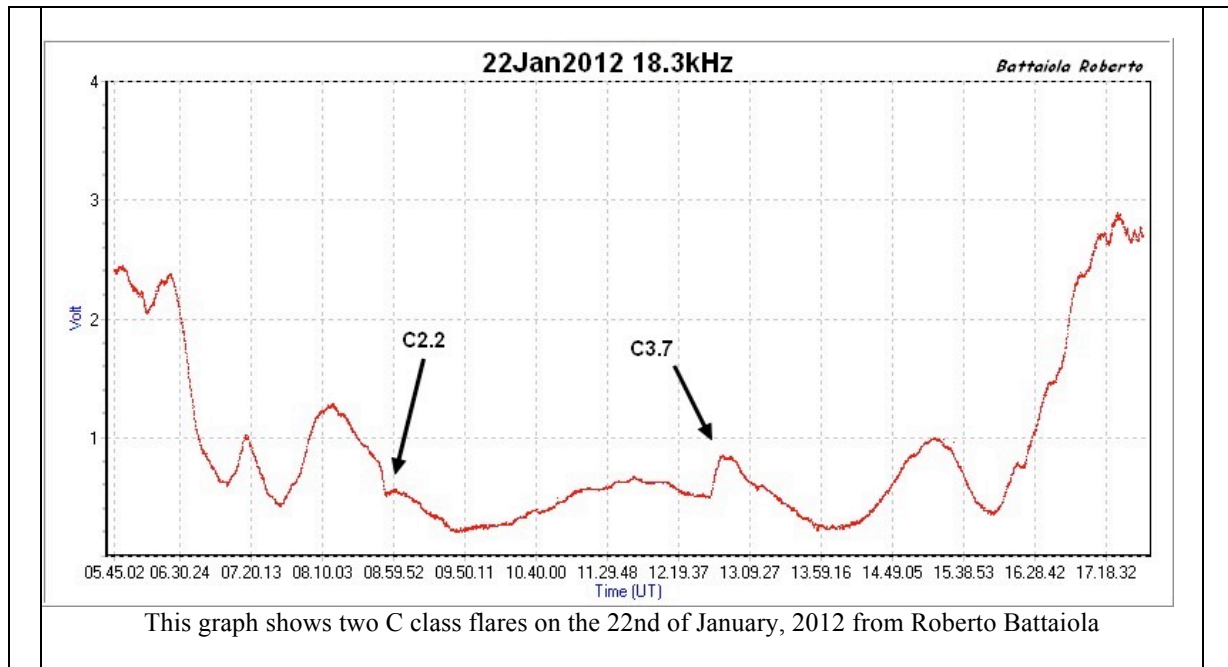


These graphs were made by *Alvaro Gonzalo Vargas Beltrán, Cochabamba Bolivia*:  
On the left are the Zurich Classifications for the January, 2012 sunspots, and on the right are his drawings he recorded. All visual observations and hand drawings!



For the last 60 years the monthly AAVSO American Relative sunspot numbers (blue) can be matched to the daily observations of the standard reference observatory at Locarno, Italy. The Locarno observatory is used by SIDC to rate and rank their European volunteer observers. Graph courtesy of Frederic Clette, SIDC.

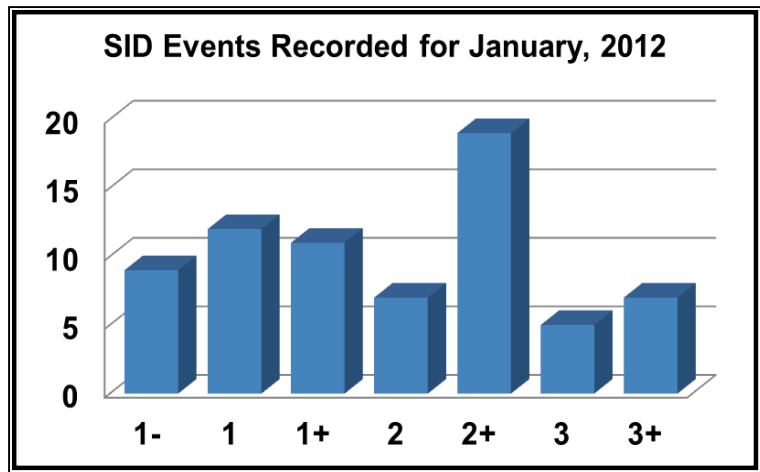
# Sudden Ionospheric Disturbance Report



## Sudden Ionospheric Disturbances (SID) Records During January, 2012

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
120101	0733	2+	120114	1208	1+	120122	1247	2+
120102	0528	1+	120114	1247	2	120122	1255	2
120102	1519	2+	120114	1318	1+	120123	0348	3
120105	1045	2+	120116	0812	1-	120123	0354	3
120106	1124	1+	120116	1038	2	120124	0952	1
120107	0442	2+	120116	1607	3+	120126	0008	1
120108	0227	2+	120117	0449	1-	120126	0039	2+
120108	0328	1	120117	0455	2+	120126	0150	2+
120108	0450	2+	120118	0955	1-	120126	0158	2+
120108	1318	2	120118	1029	1+	120126	1011	1
120108	1710	2+	120118	1914	2+	120126	2045	2
120110	0409	3	120119	1250	1	120127	0425	1+
120111	0447	2+	120119	1455	3+	120127	0642	2
120111	1112	1-	120119	1525	3	120127	1208	1+
120112	0435	1	120119	1625	3+	120127	1832	3
120112	1320	2	120121	1342	2+	120127	1840	3+
120112	1324	1+	120122	0304	2+	120130	0439	1
120113	0605	1	120122	0854	1			
120114	0341	1	120122	0958	1			

# Solar Events

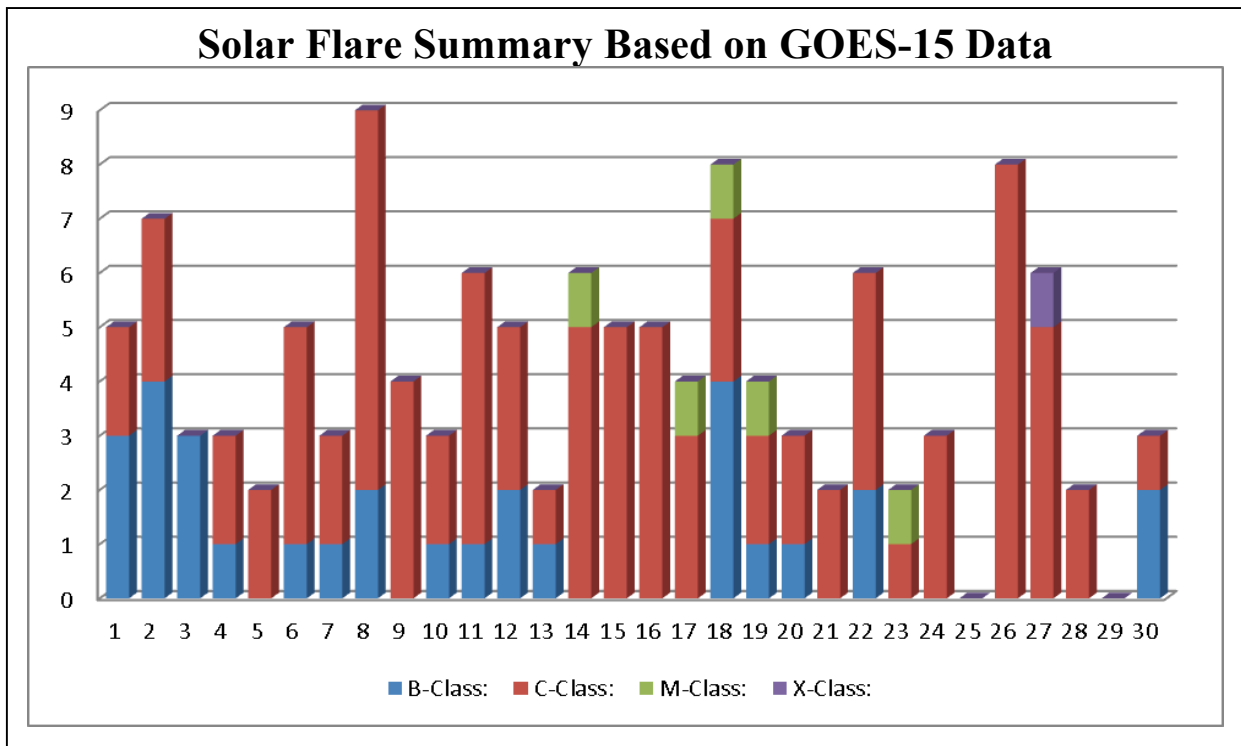


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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## Sudden Ionospheric Disturbances (SID) Observers During January, 2012

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
P King	A80	HWU	R Howe	A121	NLM
A McWilliams	A94	NML	F Adamson	A122	NWC
R Battaiola	A96	HWU	G Myers	A124	NLK
J Wallace	A97	NAA	S Oatney	A125	NML
F Steyn	A102	NAA NWC	K Cotar	A129	DHO FTA
M Suhovecky	A115	NAA	S Zinn	A130	NLK
L Loudet	A118	GQD NAA	J Karlovsky	A131	DHO ICV
J Godet	A119	GBZ GQD ICV			
B Terrill	A120	NWC	L Anderson	A91	No Data

There were 124 solar flares measured by GOES-15 for January, 2012. There was one X class and five M class flares, 88 C class and 30 B class flares. The sun was not as active with C and M class flares as December, 2011. There were 16 AAVSO SID Observers who submitted reports this month.



American Relative Sunspot Numbers (Ra) for  
January, 2012 [**boldface = maximum, minimum**]

DAY	NumObs	RAW	Ra
1	26	57	39
2	30	82	60
3	28	100	68
4	29	98	64
5	31	89	63
6	27	91	66
7	29	101	72
8	32	89	63
9	21	71	50
10	23	60	43
11	24	53	38
12	24	48	31
13	22	76	53
14	33	94	70
15	34	115	82
16	26	113	<b>86</b>
17	27	117	81
18	23	93	63
19	22	88	59
20	18	100	65
21	25	98	67
22	22	96	66
23	23	97	68
24	22	76	52
25	21	59	47
26	21	45	<b>29</b>
27	23	44	30
28	29	39	28
29	27	47	33
30	30	59	43
31	36	68	50
<b>Average</b>	<b>26.1</b>	<b>79.5</b>	<b>55.7</b>

Observer	#Obs	Name
AAX	21	Alexandre Arorim
AJV	20	J. Alonso
ARAG	31	Gema Araujo
ASA	20	Salvador Aguirre
BARH	8	Howard Barnes
BATR	2	Roberto Battaiola
BEB	4	Ray Berg

BERJ	10	Jose Alberto Berdejo
BMF	14	Michael Boschat
BRAB	30	Brenda Branchett
BRAF	7	Raffaello Braga
BROB	23	Robert Brown
BXD	15	Alexandru Burda German Morales Chavas
CHAG	27	
CIOA	14	Ioannis Chouinavas
CKB	19	Brian Cudnik
CLZ	4	Corp Laurent
CNT	14	Dean Chantiles
CVJ	10	Jose Carvajal
DELS	6	Susan Delaney
DGP	20	Gerald Dyck
DJOB	21	Jorge del Rosario
DUBF	18	Franky Dubois
FAM	8	Fabio Mariuzza Javier Ruiz Fernandez
FERJ	12	
FLET	26	Tom Fleming
FUJK	21	K. Fujimori
HALB	4	Brian Halls
HAYK	12	Kim Hay
HMQ	5	Mark Harris
HOWR	28	Rodney Howe
HRUT	7	Timothy Hrutkay
JASK	9	Krystyna Wirkus Gerado Jinenez Lopez
JGE	6	
JJK	2	Jerry Klotz
KAND	18	Kandilli Observatory
KAPJ	17	John Kaplan James & Shirley Knight
KNJS	25	
KROL	16	Larry Krozel
LEVM	15	Monty Leventhal
LKR	14	Kristine Larsen
MARE	4	Enrico Mariani
MILJ	11	Jay Miller
MMI	16	Michael Moeller
MUDG	4	George Mudry
OATS	18	Susan Oatney
OBSO	6	IPS Observatory
RICE	17	E. C. Richardson
SCGL	16	Gerd-Lutz Schott
SIMC	6	Clyde Simpson



SONA	5	Andries Son
SUZM	25	Miyoshi Suzuki
TESD	20	David Teske
URBP	14	Piotr Urbanski
VARG	17	A.Gonzalo Vargas
VIDD	8	Vidican Dan
WILW	8	William M. Wilson
WIRP	1	Piotr Wirkus
WRP	3	Russell Wheeler

Sunspot Reports – Kim Hay

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SID Solar Flare Reports – Rodney Howe

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**Total observers: 60**  
**Total observations: 808**



Ernest Richardson sends this image of the sun from his Celestron 8" telescope;  
 January, 5, 2012