

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR SECTION



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Dear Solar Observers,

I'm writing today on behalf of the AAVSO Solar Section. Section leader Rodney Howe has been actively working with the solar research community, and one of the topics that have come up often has been the availability of original records and archived reports. Researchers have found it very useful to have original records as made by individual observers, to better understand the American Relative Sunspot Number. For example, recent work by Leif Svalgaard with Herbert Luft's archives has been very useful for solar research. Importantly, the AAVSO does not have copies of individual observer reports for many years, until we very recently began archiving these materials at AAVSO Headquarters. The AAVSO does have an archive of Ra', but we do not have most monthly observer reports from the mid-1970s through the year 2000. We are also missing several years of reports from 2006 through late 2009.

We are requesting that all AAVSO solar observers transmit their original reports to AAVSO headquarters if at all possible so that they can be properly preserved and put to use by the research community. We are asking the following:

* For observers with reports in *electronic* format, please send them to me at this email address (matthewt@aavso.org), or contact me with any questions about file formats or how to transmit large numbers of files. Please contact me before you send files, in case they are mistakenly trapped by spam prevention software or are otherwise miss-delivered.

* For observers with observations in paper format, please send us electronic scans (jpeg or pdf) or make paper copies of your records. For notebooks or large collections, please contact me (matthewt@aavso.org) so that we can make arrangements or give suggestions for scanning.

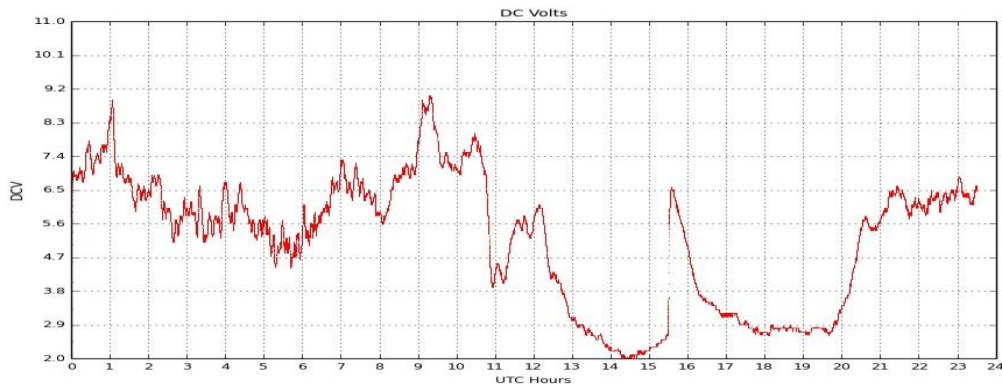
In either case, we encourage you to share as much as possible, but if making this material available will be difficult, please contact me for suggestions. We may be able to assist with some special cases (e.g. files on floppy disk or out-of-service hard drives).

Clear skies, & best wishes,

Matthew

Sudden Ionospheric Disturbance Report

File: VLFllog201411090001.txt UTC: Sun Nov 9 23:30:00 2014 sun AZ = 267.2 sun EL = -22.6



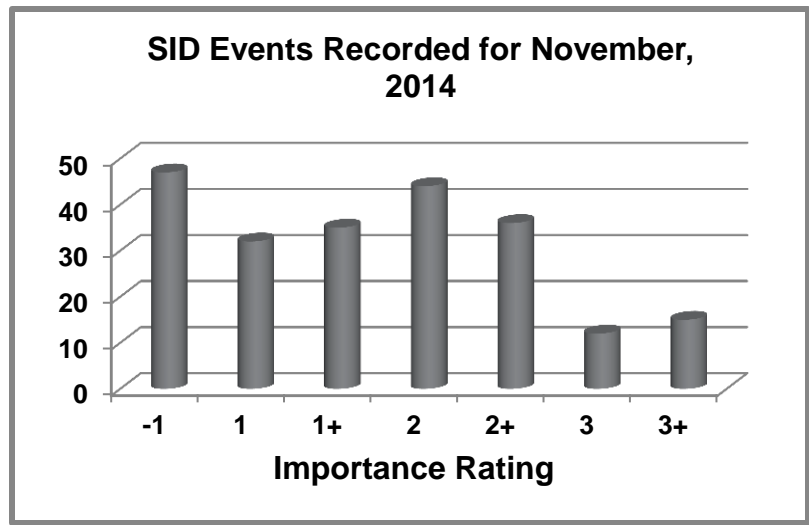
An M class flare (M6.2.0 15:30 UT) on November 9, 2014. This graph from John DuBois, recording of NAA

Sudden Ionospheric Disturbances (SID) Records During November, 2014

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
141101	833	-1	141104	2002	2	141107	1707	2+
141101	927	1+	141104	2315	3	141107	1800	1+
141101	939	2+	141105	944	2	141107	2144	-1
141101	1024	2	141105	1715	3+	141107	2317	1+
141101	1349	1+	141106	52	1+	141108	1339	3
141101	1653	2+	141106	137	1+	141108	1822	1
141102	945	2	141106	346	3	141108	1951	1+
141102	2015	2+	141106	352	2	141108	2309	-1
141103	825	2+	141106	600	2+	141109	313	2
141103	1140	3	141106	1111	1+	141109	721	1
141103	1152	2	141106	1424	1	141109	841	1
141103	1849	3	141106	1639	2	141109	932	-1
141103	1934	-1	141106	2214	2	141109	1217	2
141103	2038	3+	141106	2335	1	141109	1343	1
141103	2122	2	141107	207	-1	141109	1404	-1
141103	2238	2+	141107	229	1+	141109	1456	1+
141103	2329	2+	141107	248	2+	141109	1532	1
141104	418	1	141107	425	3+	141110	1024	-1
141104	829	2	141107	935	2	141110	1235	2
141104	838	2	141107	1012	2	141110	1240	1
141104	908	2	141107	1021	1+	141110	1700	2
141104	1139	-1	141107	1207	-1	141110	2333	1+
141104	1621	-1	141107	1319	-1	141111	4	1+
141104	1823	2	141107	1400	-1	141111	800	-1

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
141111	1054	1	141121	158	2	141126	1355	3
141111	1124	-1	141121	353	2	141127	48	2
141111	1325	2	141121	941	2+	141127	200	1+
141111	1508	2+	141121	1536	2	141127	450	1+
141111	1521	2+	141121	1803	2	141127	558	1
141111	1550	1	141121	1914	2+	141127	703	1+
141111	1610	-1	141121	2144	2+	141127	745	3+
141111	1729	-1	141122	24	2	141127	847	1
141111	2301	3	141122	103	2	141127	940	1
141112	318	3+	141122	347	-1	141127	1010	2
141112	851	-1	141122	418	-1	141127	1059	1+
141112	1042	1+	141122	606	2	141127	2127	-1
141112	1705	1	141122	1331	-1	141128	42	2+
141113	604	2	141122	1440	1	141128	235	-1
141113	616	2+	141122	2015	2+	141128	424	1+
141113	715	1	141123	435	3	141128	912	3
141113	841	-1	141123	541	1+	141128	1340	-1
141113	1021	1+	141123	1006	3	141128	1356	-1
141113	1454	2+	141123	1050	1+	141128	1629	1
141113	2002	1+	141123	1335	3+	141128	1707	1+
141113	2038	1	141123	1829	3+	141128	1734	1
141113	2127	-1	141123	1932	2+	141128	2344	-1
141113	2150	-1	141123	2128	3+	141129	201	3+
141114	603	1	141124	745	2+	141129	207	2+
141114	751	1	141124	1059	1+	141129	705	2
141114	1205	3	141124	1107	2+	141129	821	1
141115	1200	2	141124	1209	1+	141129	821	-1
141115	1953	-1	141124	1310	3+	141129	828	1+
141115	2050	1+	141124	1437	-1	141129	905	1
141115	2225	2+	141124	1444	-1	141129	1003	-1
141116	747	1+	141124	1501	-1	141129	1205	2
141116	912	-1	141124	1508	-1	141129	1249	-1
141116	1006	1	141124	1609	-1	141129	1346	2
141116	1300	2	141124	1647	-1	141129	1537	2
141116	1432	2	141124	1902	3+	141129	1637	2+
141116	1750	2	141124	1929	2+	141129	1738	3+
141116	1838	3+	141124	2251	1	141129	2307	2
141117	905	2	141125	838	2+	141130	146	2+
141117	918	1	141126	0	1	141130	514	1+
141117	1000	2	141126	615	2+	141130	1347	1
141117	1300	2	141126	850	3			
141120	643	2+	141126	1348	-1			
141121	32	2						

Solar Events

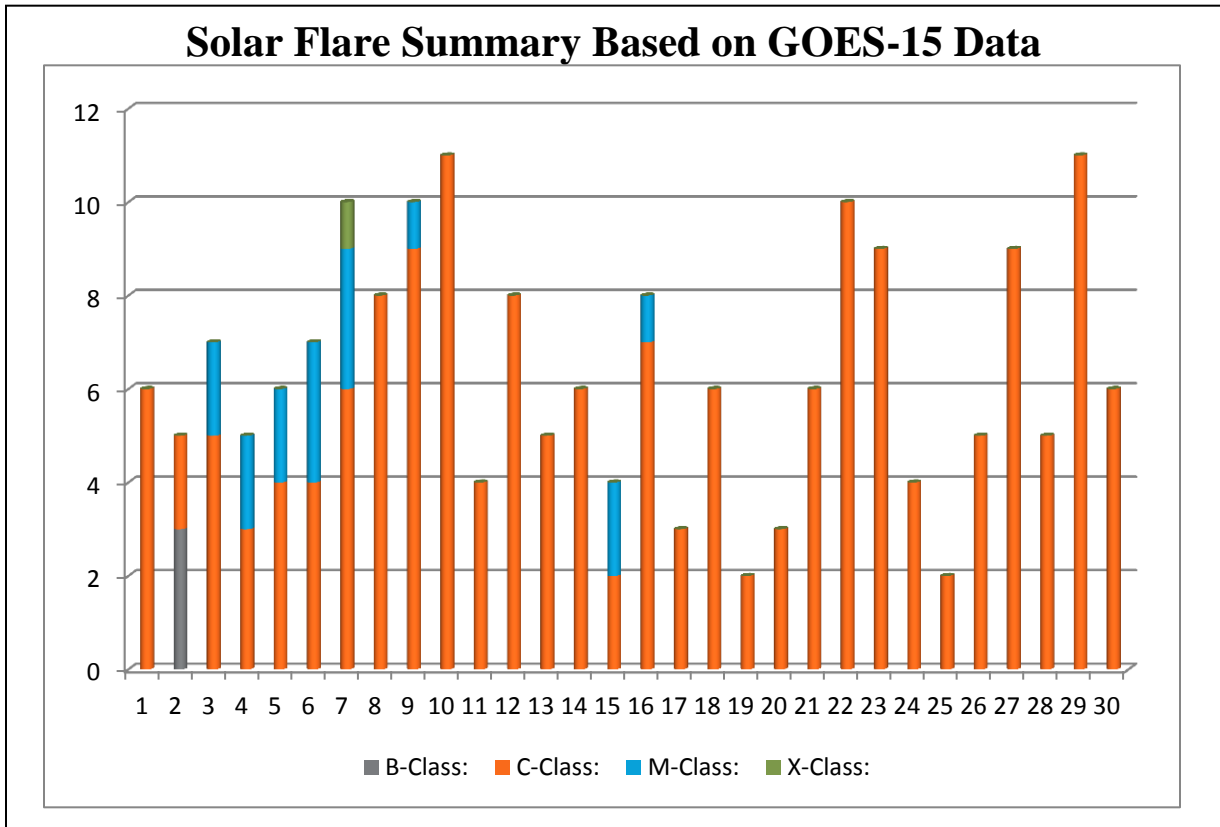


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: 125
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Sudden Ionospheric Disturbances (SID) Observers During November, 2014

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
R Battaiola	A96	HWU	R Green	A134	NWC
J Wallace	A97	NAA	R Mrlak	A136	GQD NSY
L Loudet	A118	GBZ GQD NAA	D Koawl	A137	NPM
B Terrill	A120	NWC	S Aguirre	A138	NLK
F Adamson	A122	NWC	F Francione & C Re	A139	HWU NAA NSY
S Oatney	A125	NAA NLK	I Ryumshin	A142	DHO GBZ GQD
J Karlovsky	A131	DHO NSY	Orion Observatory	A144	NAA NLK NPM
			M Stephanou	A145	DHO

There were 191 solar flares measured by GOES-15 for November, 2014: One X class flare, 16 M class, 171 C class and 3 B class flares. About the same flaring this month compared to last. There were 15 AAVSO SID observers who submitted reports this month.



American Relative Sunspot Numbers (Ra) for
November, 2014 [**boldface = maximum, minimum**]

DAY	NumObs	RAW	Ra
1	25	80	60
2	36	86	62
3	24	92	69
4	27	95	70
5	22	105	77
6	23	85	61
7	26	83	59
8	31	72	56
9	29	63	47
10	32	61	46
11	27	77	58
12	13	93	65
13	22	88	70
14	26	90	71
15	25	89	66
16	21	86	62
17	26	77	55
18	29	61	49
19	30	58	46
20	30	67	50
21	30	56	45
22	23	70	52
23	22	75	59
24	28	95	68
25	14	108	79
26	19	107	79
27	24	134	94
28	29	128	95
29	31	126	100
30	23	131	100
Average	25.6	87.9	65.8

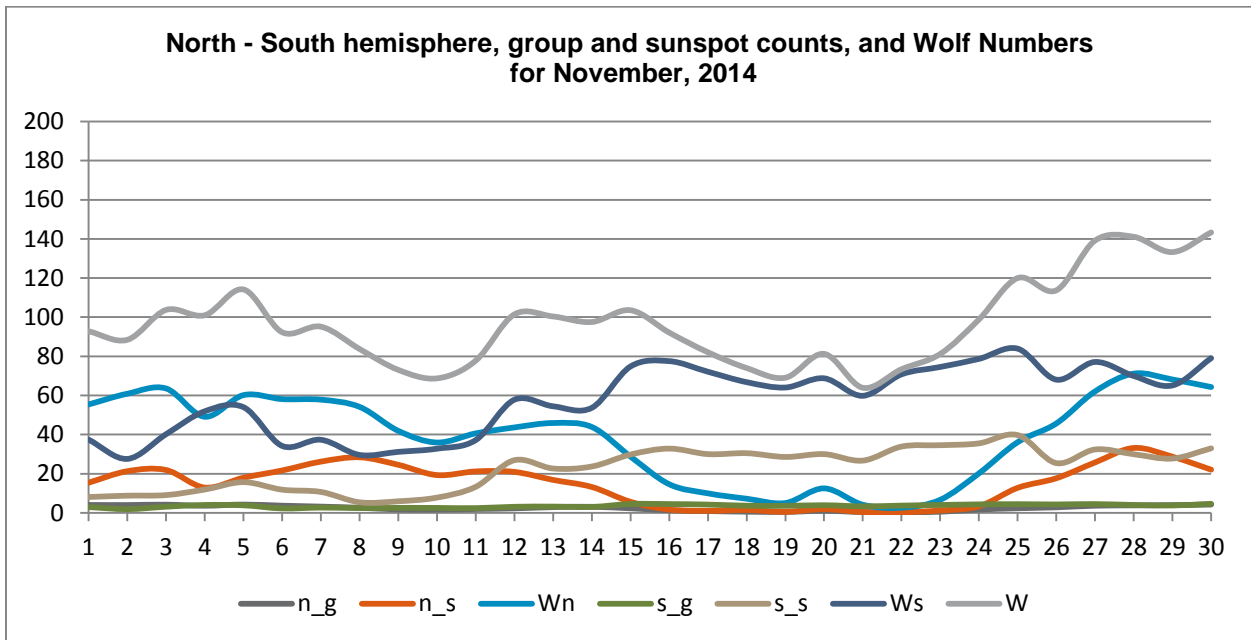
Obs	#Obs	Name
AAX	13	Alexandre Amorim
AJV	19	J. Alonso
ARAG	29	Gema Araujo
ASA	24	Salvador Aguirre
BARH	10	Howard Barnes
BATR	4	Roberto Battaiaola
BDDA	7	Diego Bastiani
BERJ	14	Jose Alberto Berdejo
BLAJ	1	John A. Blackwell
BMF	12	Michael Boschat
BRAB	24	Brenda Branchett

BRAF	10	Raffaello Braga
BROB	22	Robert Brown
BSAB	22	Santanu Basu
CHAG	24	German Morales Chavez
CIOA	6	Ioannis Chouinavas
CKB	18	Brian Cudnik
CNT	6	Dean Chantiles
CVJ	5	Jose Carvajal
DEMF	1	Frank Dempsey
DGP	11	Gerald Dyck
DJOB	7	Jorge del Rosario
DUBF	18	Franky Dubois
FERJ	10	Javier Ruiz Fernandez
FJAE	2	Dr.John Alan Freeman
FLET	20	Tom Fleming
FLF	11	Fredirico Luiz Funari
FTAA	3	Tadeusz Figiel
FUJK	20	K. Fujimori
HALB	6	Brian Halls
HAYK	6	Kim Hay
HMQ	3	Mark Harris
HOWR	16	Rodney Howe
JDAC	16	David Jackson
JJMA	11	Jessica M.Johnson
KAND	15	Kandilli Observatory
KAPJ	15	John Kaplan
KNJS	25	James & Shirley Knight
KROL	16	Larry Krozel
LEVM	6	Monty Leventhal
LKR	12	Kristine Larsen
MARE	5	Enrico Mariani
MCE	21	Etsuiku Mochizuki
MILJ	11	Jay Miller
MJHA	21	John McCammon
MMI	16	Michael Moeller
MUDG	2	George Mudry
OATS	8	Susan Oatney
OBSO	11	IPS Observatory
ONJ	13	John O'Neill
RLM	10	Mat Raymonde
SCGL	15	Gerd-Lutz Schott
SDOH	30	Jan Alvestad (SDO)
SIDM	11	Monika Sidor
SIMC	4	Clyde Simpson
SMNA	2	Michael Stephanou
SONA	13	Andries Son
STAB	24	Brian Gordon-States

TESD	25	David Teske
URBP	9	Piotr Urbanski
VIDD	8	Dan Vidican
WAW	2	Artur Wargin
WILW	14	William M. Wilson
WRP	2	Russell Wheeler

Total Observers: 64
Total Observations: 797

There were 37 out of 64 observers who submitted North and Southern hemisphere group and sunspot counts this month. The Southern hemisphere slightly predominates where the 4th 11th, and 28th days crossover.



Reporting Addresses:

Sunspot Reports – Kim Hay solar.aavso@gmail.com

SID Solar Flare Reports – Rodney Howe ahowe@frii.com