

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS  
SOLAR SECTION



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Here I am helping some 80 middle school k2 thru k6 'Bridge' students learn about sunspots.  
<https://share.shutterfly.com/share/received/welcome.sfly?fid=63736f27e8481da0&sid=0AatWjlk1YtmTEsg> Dr. Bob Stencel hosted these middle-school kids at the University of Denver's Chamberlin Observatory: <http://mysite.du.edu/~rstencel/Chamberlin/cham1.html>

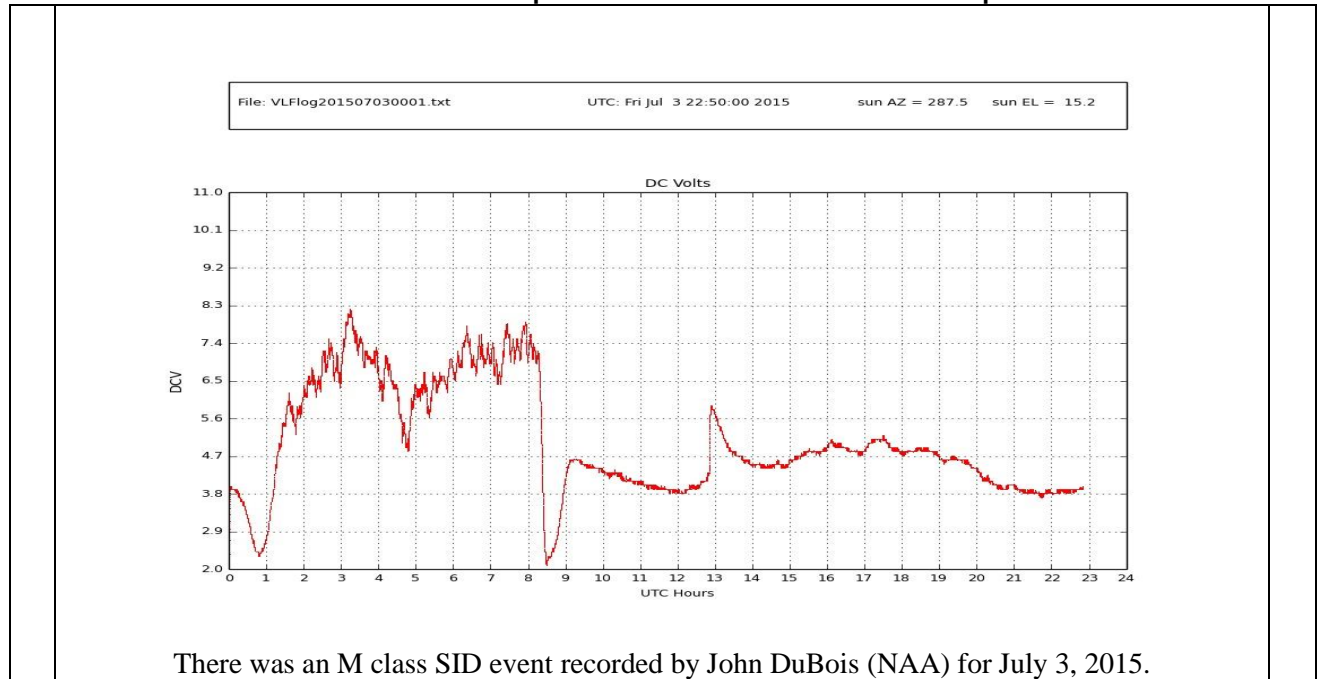


Photo by Nick Long, 2011 Apr



**Please note** that a change was made to SunEntry on August 11 to make it more secure. If anyone experiences any problems with it, the first thing to do is to delete the SunEntry.jnlp file that you use to launch it and download it again from here: <https://www.aavso.org/sun-entry> Please check the Solar observing forum for messages (<https://www.aavso.org/forums/variable-stars/solar-observing-and-sid-monitoring>) and/or contact Sara Beck directly ([sara@aaavso.org](mailto:sara@aaavso.org)).

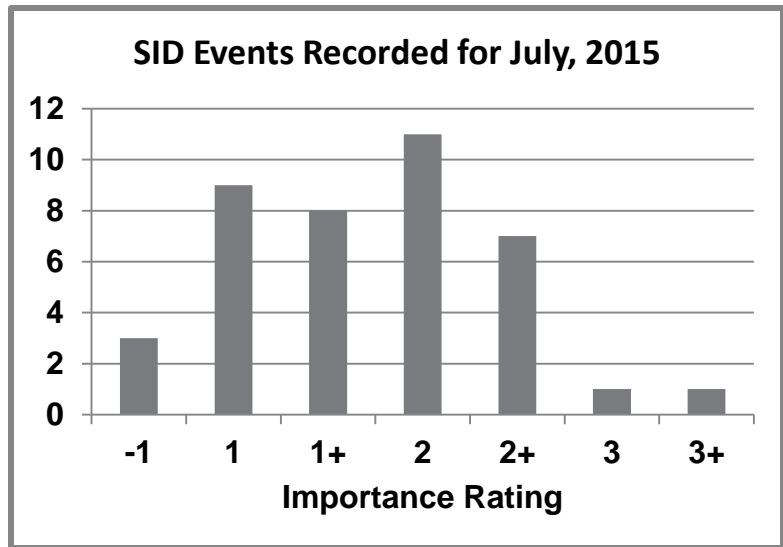
## Sudden Ionospheric Disturbance Report



### Sudden Ionospheric Disturbances (SID) Records During July, 2015

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
150702	1532	1+	150705	1844	2	150706	1705	1+
150702	1538	2+	150706	1052	1	150706	843	2+
150703	919	2	150706	1118	1	150707	424	1
150703	1132	2	150706	2041	1	150707	409	2+
150703	1251	2	150706	2043	1	150709	337	2+
150703	554	1+	150706	736	2	150714	1208	2
150703	1123	1+	150706	754	2	150714	553	2+
150703	314	2+	150706	1142	2	150718	1436	1+
150703	305	3+	150706	851	3	150724	1443	1+
						150724	1757	1+

# Solar Events

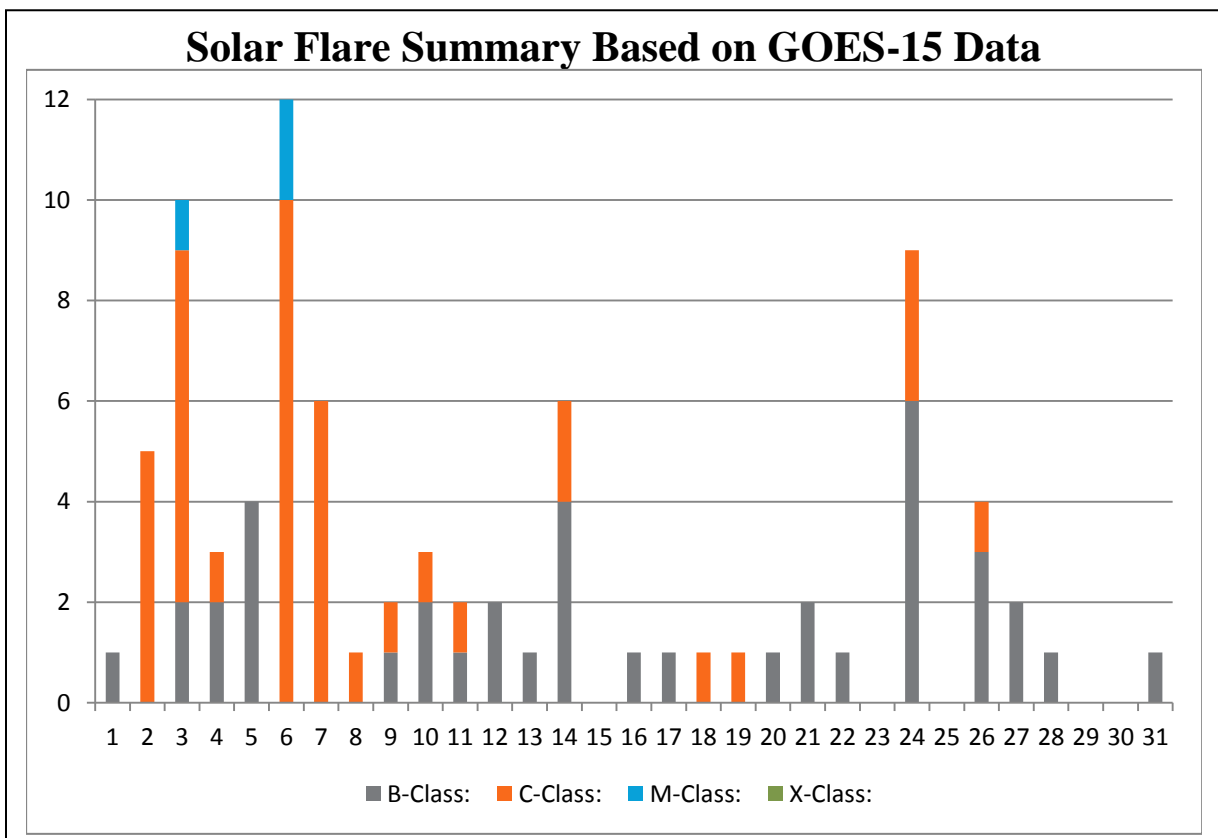


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: 125
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## Sudden Ionospheric Disturbances (SID) Observers During July, 2015

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A McWilliams	A94	NML	S Oatney	A125	NAA NLK
J Wallace	A97	NAA	J Karlovsky	A131	DHO
L Loudet	A118	DHO GQD	R Mrllak	A136	GQD
J Godet	A119	GBZ GQD ICV	G Silvis	A141	NLK NPM
B Terrill	A120	NWC	R Rogge	A143	DHO GQD ICV
F Adamson	A122	NWC	K Menzies	A146	NAA

There were only 83 flares recorded by GOES for July, 2015: 3 M class, 41 C class and 39 B class flares. Very little activity for this month for cycle 24, in fact there were 5 days this month with no flares at all! There were 12 AAVSO SID observers who submitted reports this month.



American Relative Sunspot Numbers (Ra) for July, 2015 [**boldface = maximum, minimum**]

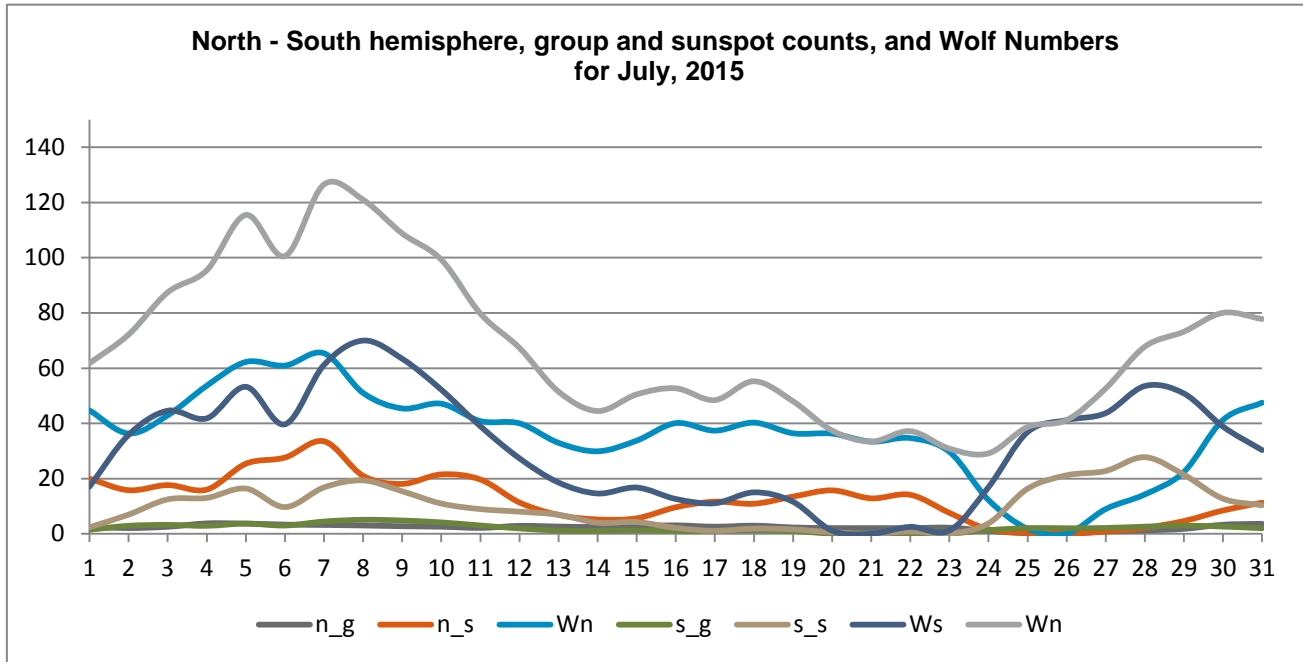
DAY	NumObs	RAW	Ra
1	33	57	45
2	33	69	53
3	38	79	62
4	28	91	73
5	31	108	81
6	34	93	72
7	29	115	89
8	26	114	<b>90</b>
9	28	102	80
10	35	93	72
11	43	73	59
12	39	63	48
13	33	51	40
14	35	44	36
15	31	42	31
16	37	48	37
17	30	43	33
18	34	49	40
19	33	44	35
20	38	35	28
21	32	34	26
22	35	32	26
23	37	26	21
24	37	23	<b>17</b>
25	38	35	27
26	29	41	30
27	36	52	39
28	38	59	45
29	35	61	47
30	38	69	54
31	31	66	51
<b>Average</b>	<b>34</b>	<b>61.6</b>	<b>47.9</b>

Obs	#Obs	Name
AAX	16	Alexandre Amorim
AJV	26	J. Alonso
ARAG	31	Gema Araujo
ASA	24	Salvador Aguirre
BARH	10	Howard Barnes
BERJ	17	Jose Alberto Berdejo
BLAJ	7	John A. Blackwell
BMF	19	Michael Boschat
BRAB	31	Brenda Branchett
BRAF	26	Raffaello Braga

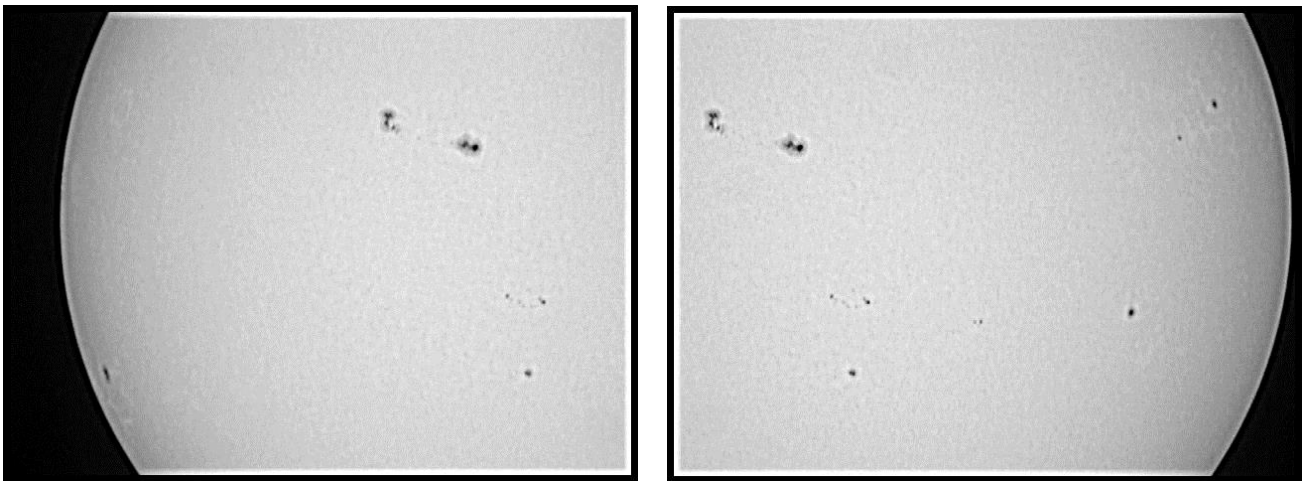
BSAB	12	Santanu Basu
BXD	5	Alexandru Burda
CHAG	29	German Morales Chavez
CIOA	14	Ioannis Chouinavas
CKB	29	Brian Cudnik
CNT	9	Dean Chantiles
DEMF	6	Frank Dempsey
DGP	18	Gerald Dyck
DJOB	12	Jorge del Rosario
DUBF	27	Franky Dubois
FERJ	21	Javier Ruiz Fernandez
FLET	26	Tom Fleming
FLF	16	Fredirico Luiz Funari
FTAA	17	Tadeusz Figiel
FUJK	17	K. Fujimori
HALB	12	Brian Halls
HAYK	25	Kim Hay
HMQ	6	Mark Harris
HOWR	25	Rodney Howe
JDAC	19	David Jackson
JGE	6	Gerardo Jimenez Lopez
KAND	31	Kandilli Observatory
KAPJ	26	John Kaplan
KNJS	24	James & Shirley Knight
KROL	27	Larry Krozel
LKR	14	Kristine Larsen
LRRR	26	Robert Little
MGAA	3	Gael Mariani
MILJ	16	Jay Miller
MJHA	26	John McCammon
MMAE	2	Aaron McNeely
MUDG	15	George Mudry
MWU	12	Walter Maluf
OATS	17	Susan Oatney
OBSO	11	IPS Observatory
ONJ	3	John O'Neill
RLM	16	Mat Raymonde
SCGL	27	Gerd-Lutz Schott
SDOH	31	Jan Alvestad (SDO)
SIDM	23	Monika Sidor
SIMC	16	Clyde Simpson
SMNA	1	Michael Stephanou
SONA	13	Andries Son
STAB	30	Brian Gordon-States
SUZM	18	Miyoshi Suzuki
TESD	29	David Teske
URBP	4	Piotr Urbanski

VARG	24	A. Gonzalo Vargas
VIDD	24	Dan Vidican
WAU	1	Artur Wargin
WILW	23	William M. Wilson
WRP	6	Russell Wheeler

<b>Total</b>	<b>Observers:</b>	<b>62</b>
<b>Total</b>	<b>Observations:</b>	<b>1097</b>



There were 37 out of 62 observers who counted northern and southern hemisphere groups and sunspots this month. The northern hemisphere was predominant with days of crossover on the 2<sup>nd</sup>, 3<sup>rd</sup>, 7<sup>th</sup>, 11<sup>th</sup>, 24<sup>th</sup>, 30<sup>th</sup>.



Please find attached two Sunspots pictures, from 8 July 2015, UT 10h38m and 10h40m. North is up; East at left. Best regards, Dan Vidican (VIDD)

**Reporting Addresses:**

Sunspot Reports – Kim Hay [solar@aaavso.org](mailto:solar@aaavso.org)

SID Solar Flare Reports – Rodney Howe [ahowe@frii.com](mailto:ahowe@frii.com)