

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR SECTION

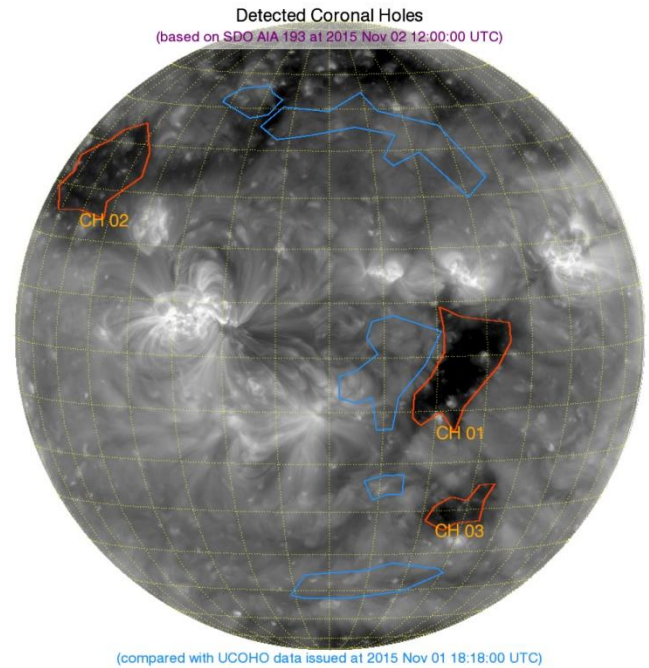
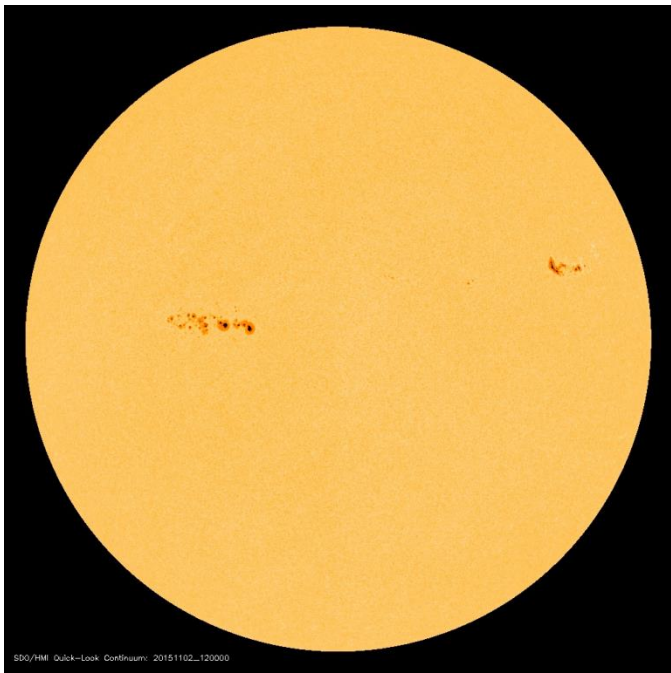


Rodney Howe, Editor, Chairperson
c/o AAVSO, 49 Bay State Rd
Cambridge, MA 02138

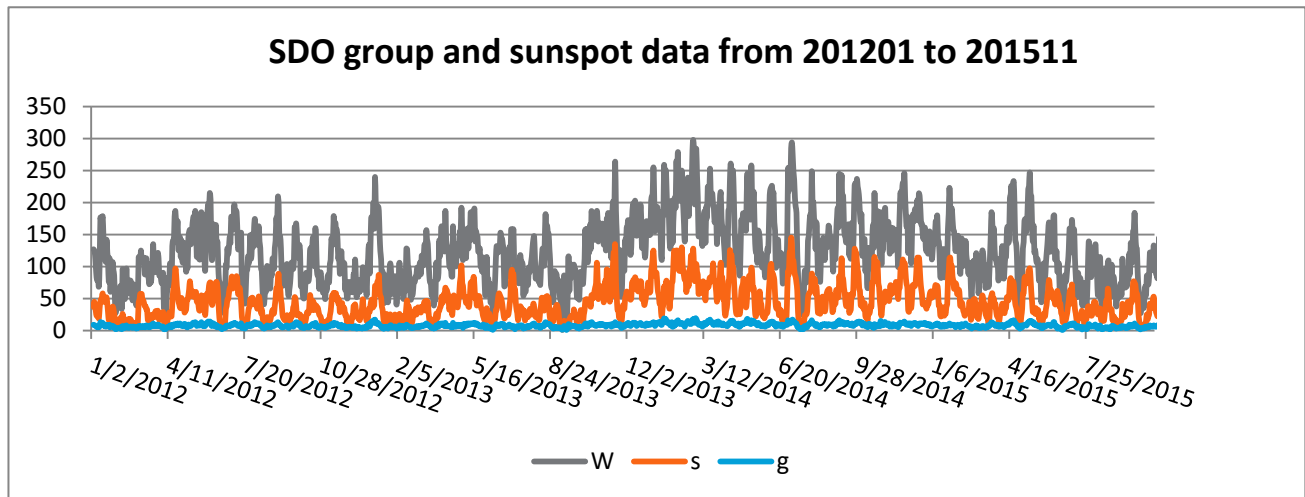
Web: <http://www.aavso.org/solar-bulletin>
Email: solar.aavso@gmail.com
ISSN 0271-8480

Volume 71 Number 11

November, 2015

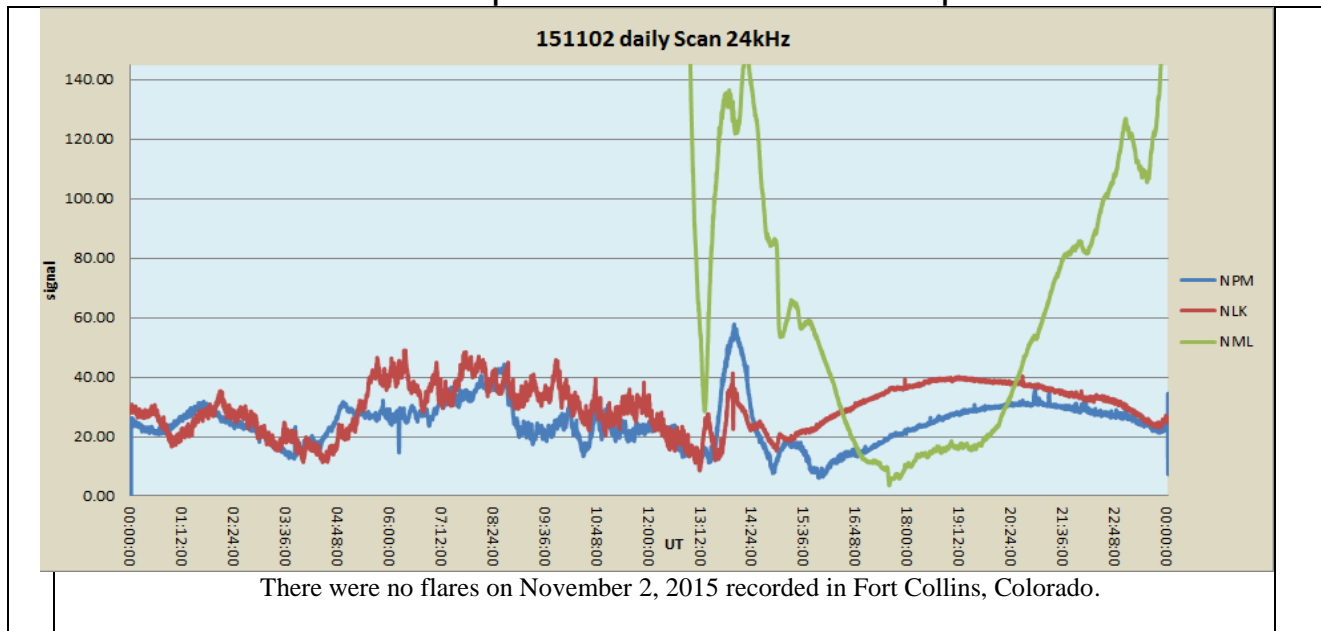


SDO HMI Solar Continuum (Flattened Colorized Intensity gram) <http://hmi.stanford.edu/>
Example: 2015 Nov. 2 And the Atmospheric Imaging Assembly (AIA) on the right:
<http://aia.lmsal.com/> (Images choices by Frank Dempsey <http://sdo.gsfc.nasa.gov/>).



Jan Alvestad <http://www.solen.info/solar/index.html> has submitted HMI data for the last 3 years.
To understand how Jan Alvestad creates the groups and sunspots: <http://arxiv.org/abs/1109.0473v1>

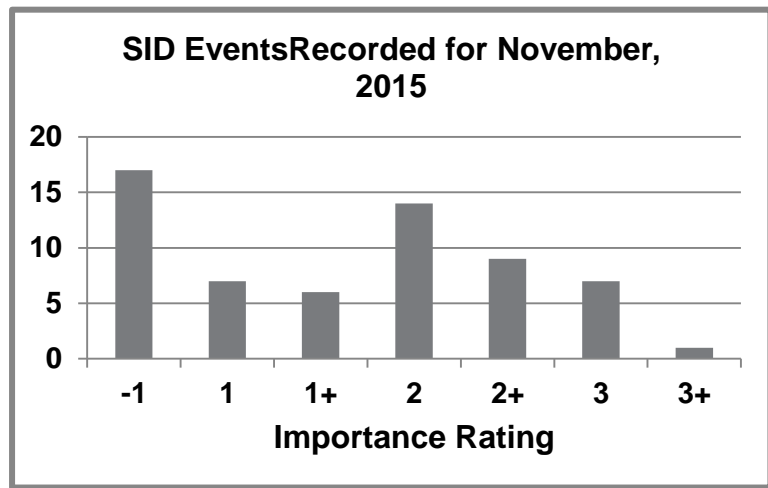
Sudden Ionospheric Disturbance Report



Sudden Ionospheric Disturbances (SID) Records During November, 2015

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
151101	23	2	151104	32	2	151113	1632	3
151101	115	2	151104	218	2+	151113	1841	-1
151101	338	2+	151104	324	2+	151116	1718	1
151101	921	-1	151104	859	1	151121	1352	1
151101	1208	-1	151104	1203	2+	151122	210	3+
151101	1637	1+	151104	1216	3	151123	1319	-1
151101	1740	2	151104	1312	3	151123	1331	-1
151101	2020	1+	151104	1333	2	151123	1341	1
151102	638	-1	151104	1346	3	151124	1109	-1
151102	959	2	151104	2140	2	151124	1153	1
151102	1004	2+	151106	1806	-1	151125	827	2
151102	1202	3	151107	21	1+	151126	1225	-1
151102	1319	-1	151107	531	2	151127	1402	-1
151102	1345	1+	151109	1255	-1	151128	1210	2+
151102	1442	1	151109	1306	3			
151102	1459	1+	151109	1313	2+			
151103	51	2	151110	1408	1			
151103	1653	-1	151111	1250	2+			

Solar Events

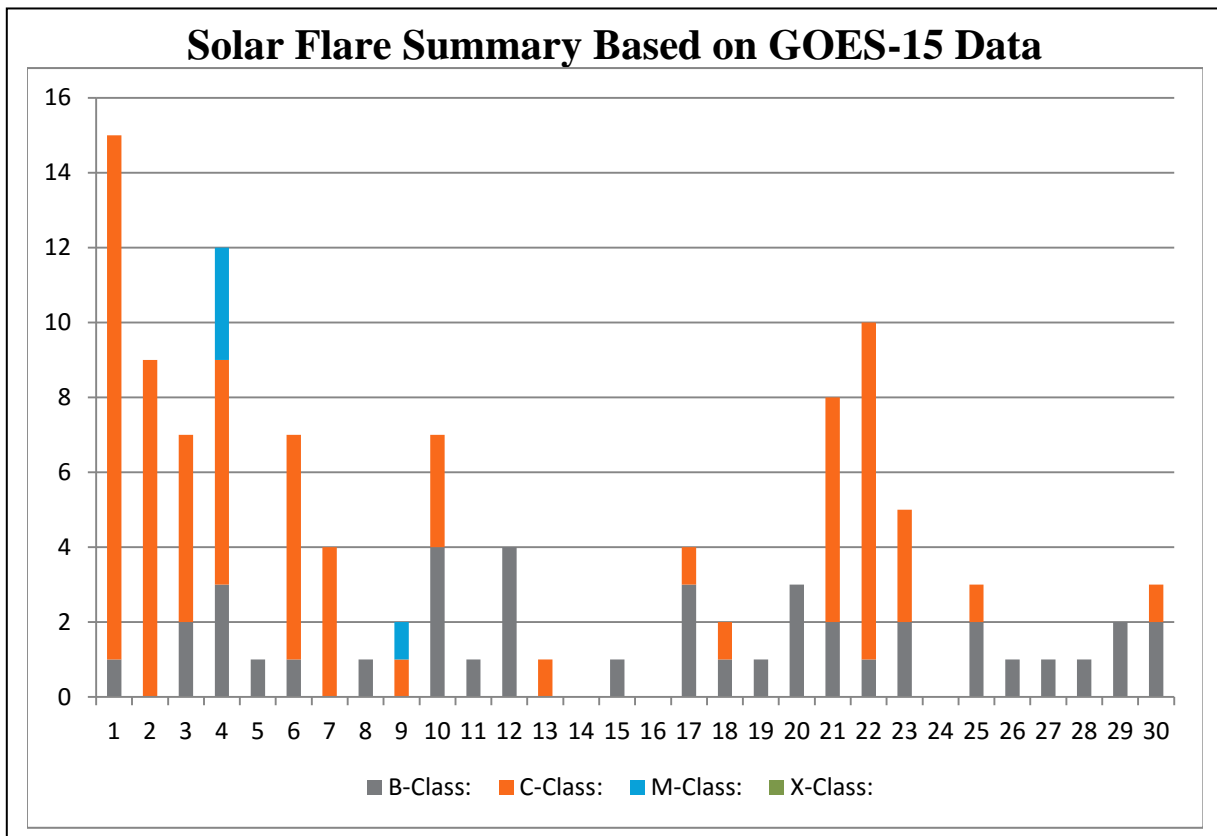


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: 125
-----------------------------------	---------	----------	-----------	----------	-----------	-----------	---------

Sudden Ionospheric Disturbances (SID) Observers During November, 2015

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A McWilliams	A94	NML	J Karlovsky	A131	DHO NSY
R Battaiola	A96	HWU	R Green	A134	NWC
J Wallace	A97	NAA	R Mrlak	A136	GQD NSY
L Loudet	A118	GQD	S Aguirre	A138	NML
J Godet	A119	GBZ GQD ICV	G Silvis	A141	NAA NLK NPM
B Terrill	A120	NWC	I Ryumshin	A142	DHO GQD
F Adamson	A122	NWC	R Rogge	A143	DHO GQD ICV
S Oatney	A125	NML	K Menzies	A146	NAA

There were 116 GOES XRA events recorded for November, 2015. Four M class flares, 71 C class flares and 41 B class flares. The number of flares in November was about half those in October and there were three days with no flares at all. There were 16 AAVSO SID observers who submitted reports this month.



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

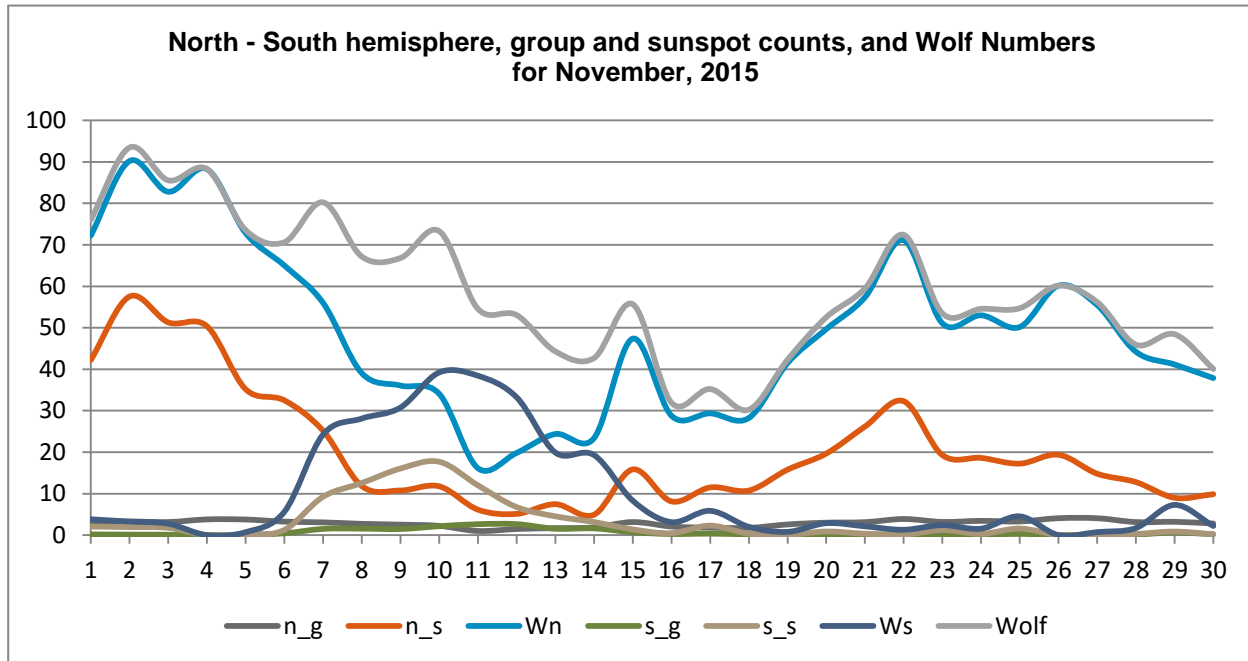
DAY	NumObs	RAW	Ra
1	32	72	56
2	26	82	62
3	32	76	56
4	25	86	63
5	26	68	49
6	22	65	46
7	23	72	55
8	31	65	49
9	34	61	47
10	20	67	46
11	21	52	36
12	27	44	32
13	23	36	28
14	18	32	25
15	24	42	30
16	30	25	18
17	28	26	19
18	28	24	19
19	27	41	31
20	27	48	37
21	30	55	41
22	29	66	50
23	31	51	41
24	27	49	38
25	30	54	42
26	23	57	42
27	26	50	37
28	23	42	34
29	24	42	34
30	23	38	27
Average	26.3	52.9	39.6

CHAG	29	German Morales Chavez
CIOA	16	Ioannis Chouinavas
CKB	17	Brian Cudnik
CNT	9	Dean Chantiles
DEMF	2	Frank Dempsey
DJOB	12	Jorge del Rosario
DUBF	17	Franky Dubois
FERJ	16	Javier Ruiz Fernandez
FLET	19	Tom Fleming
FLF	1	Fredirico Luiz Funari
FTAA	4	Tadeusz Figiel
FUJK	20	K. Fujimori
HAYK	15	Kim Hay
HOWR	19	Rodney Howe
JDAC	12	David Jackson
JGE	5	Gerardo Jimenez Lopez
JJMA	3	Jessica M.Johnson
KAND	21	Kandilli Observatory
KAPJ	12	John Kaplan
KNJS	23	James & Shirley Knight
KROL	18	Larry Krozel
LEVM	18	Monty Leventhal
LKR	4	Kristine Larsen
LRRR	19	Robert Little
MENM	6	Miguel Menegotto
MILJ	15	Jay Miller
MJAF	26	Juan Antonio Moreno Quesada
MJHA	28	John McCammon
MUDG	2	George Mudry
MWU	7	Walter Maluf
OBSO	17	IPS Observatory
ONJ	12	John O'Neill
RLM	10	Mat Raymonde
RRO	1	Ralph Rogge
SCGL	19	Gerd-Lutz Schott
SDOH	30	Jan Alvestad (SDO)
SDP	1	Dolores Sharples
SIDM	2	Monika Sidor
SIMC	7	Clyde Simpson
SONA	4	Andries Son
SPIA	4	Piotr Skorupski
STAB	14	Brian Gordon-States
SUZM	20	Miyoshi Suzuki
TESD	22	David Teske
URBP	10	Piotr Urbanski
VARG	22	A. Gonzalo Vargas
VIDD	9	Dan Vidican

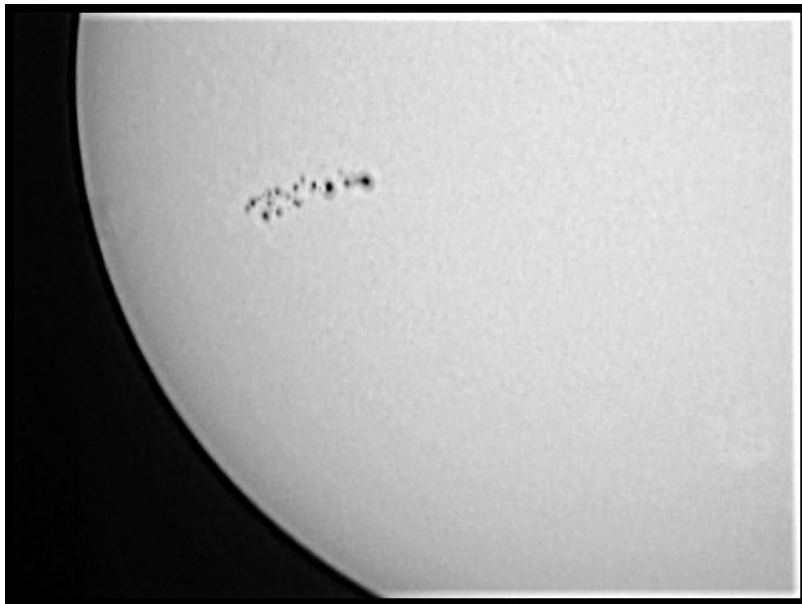
Obs	#Obs	Name
AAX	7	Alexandre Amorim
AJV	22	J. Alonso
ARAG	23	Gema Araujo
ASA	21	Salvador Aguirre
BATR	5	Roberto Battaiola
BERJ	16	Jose Alberto Berdejo
BMF	9	Michael Boschat
BRAB	25	Brenda Branchett
BRAF	10	Raffaello Braga
BROB	24	Robert Brown
BSAB	28	Santanu Basu

VRUA	2	Ruben Verboven
WAU	1	Artur Wargin
WILW	17	William M. Wilson
WRP	3	Russell Wheeler

Total	Observers:	62
Total	Observations:	832



There were 40 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 10th and the 13th.



Please find attached a picture of the big group of sunspots (AR2443), from 1 November 2015.

It is processed with ASTROSTAK, from 12 selected pictures.

Season Greetings, Dan Vidican

Reporting Addresses:

Sunspot Reports – Kim Hay solar@aavso.org

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