

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR COMMITTEE



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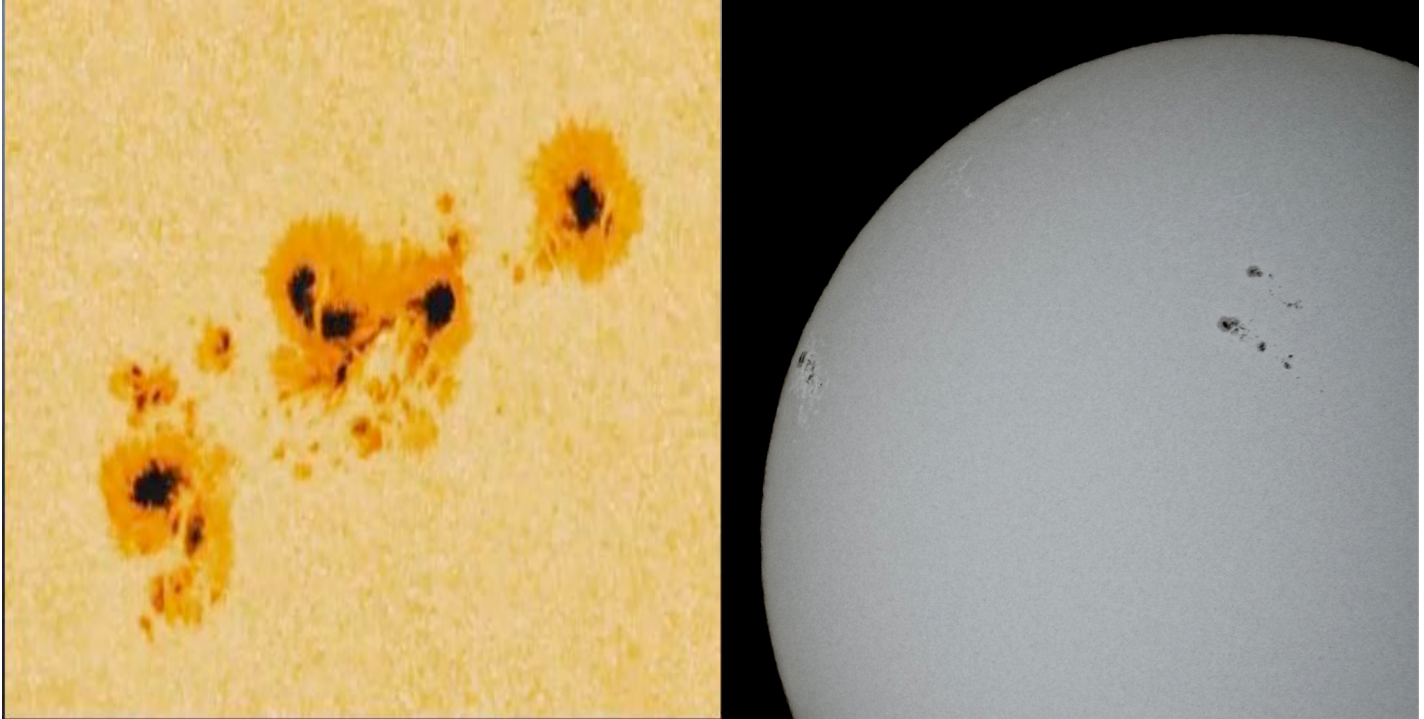
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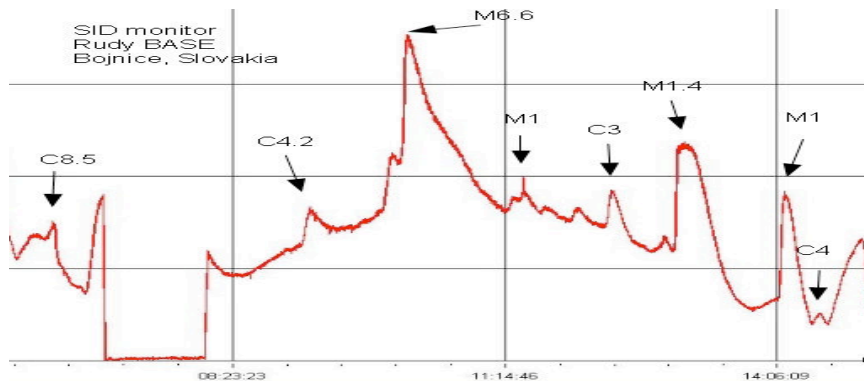
Chair: Paul Mortfield, paul@industrialstars.com

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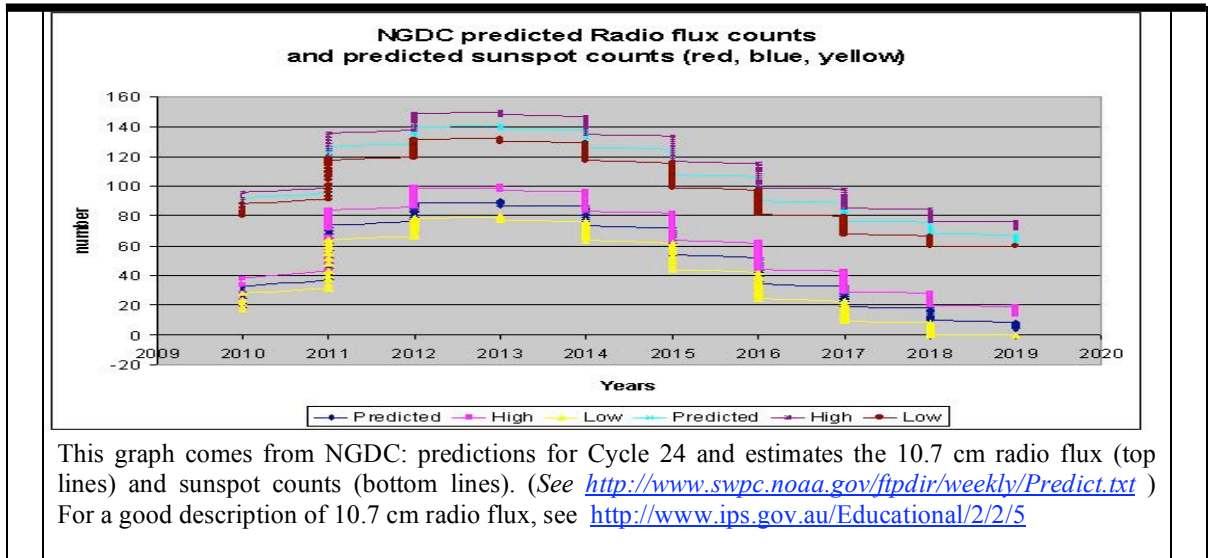


The question comes up: how many sunspots you can count for February, 19th when AR1158 is on the limb, as in Dan Laszlo's white light image (right); AR1161 is in the center, and above that AR1162? The sunspot evolution image on the left is AR1158 metamorphous movie taken from the SDO satellite for February, 16th: <http://spaceweather.com/archive.php?view=1&day=16&month=02&year=2011>



February, 19th, was a very busy day for M class solar flares as seen in this SID plot.

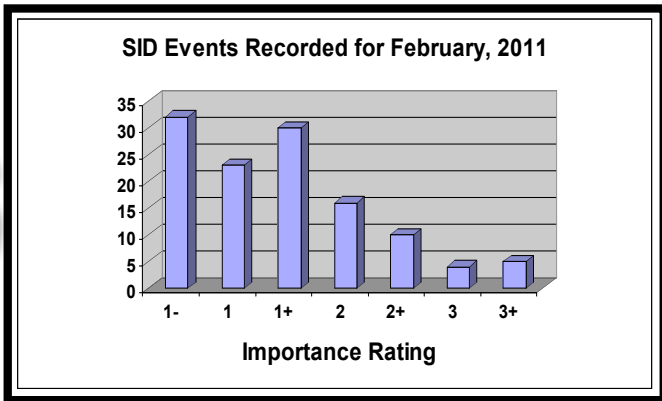
Sudden Ionospheric Disturbance Report



Sudden Ionospheric Disturbances (SID) Records During February, 2011

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
110204	1219	2	110216	0626	1	110218	1505	1+
110204	2355	1-	110216	0741	1+	110218	1556	1
110208	1855	1-	110216	0911	2	110218	1753	1+
110208	2113	1	110216	1032	1+	110218	1917	1+
110209	0130	1-	110216	1205	1-	110218	2103	1+
110210	0639	1	110216	1425	2	110219	0306	3
110210	0658	1+	110216	1533	1	110219	0502	2
110210	1234	2+	110216	2113	2+	110219	0534	3
110210	1351	2	110217	0145	1	110219	0705	2+
110212	1501	2	110217	0432	1-	110219	0806	1+
110213	1300	1+	110217	0554	1-	110219	1530	1-
110213	1331	2+	110217	0930	1	110219	1644	1
110213	1351	3	110217	1002	1-	110220	0041	1-
110213	1359	2+	110217	1029	1	110220	0326	1
110213	1739	2+	110217	1045	1-	110221	0906	1+
110214	0846	2	110217	1237	1+	110221	1007	1
110214	1201	2	110217	1554	2+	110221	1010	2
110214	1252	2	110217	2357	1-	110221	1545	1-
110214	1407	3+	110218	0021	1-	110221	1833	2
110214	1428	3	110218	0126	1-	110223	1224	1+
110214	1728	2	110218	0326	1+	110224	0732	2
110214	1932	1+	110218	0453	2+	110224	1353	1+
110215	0011	1-	110218	0629	1+	110224	1743	1
110215	0037	1	110218	0723	1+	110224	1939	1+
110215	0100	1	110218	0911	1+	110225	0519	1
110215	0151	3+	110218	1002	1-	110225	0545	1
110215	0159	2+	110218	1012	2	110225	1729	1-
110215	0242	1+	110218	1033	1-	110226	0812	1-
110215	0303	2+	110218	1125	1	110227	0356	1
110215	0434	1+	110218	1139	1-	110228	0707	1
110215	1443	2	110218	1159	1-	110228	0736	1+
110215	1510	1-	110218	1220	1-	110228	0952	1+
110216	0103	1+	110218	1303	1+	110228	1051	3+
110216	0142	1-	110218	1408	1+	110228	1250	1+
110216	0550	2	110218	1431	1-			

Solar Events

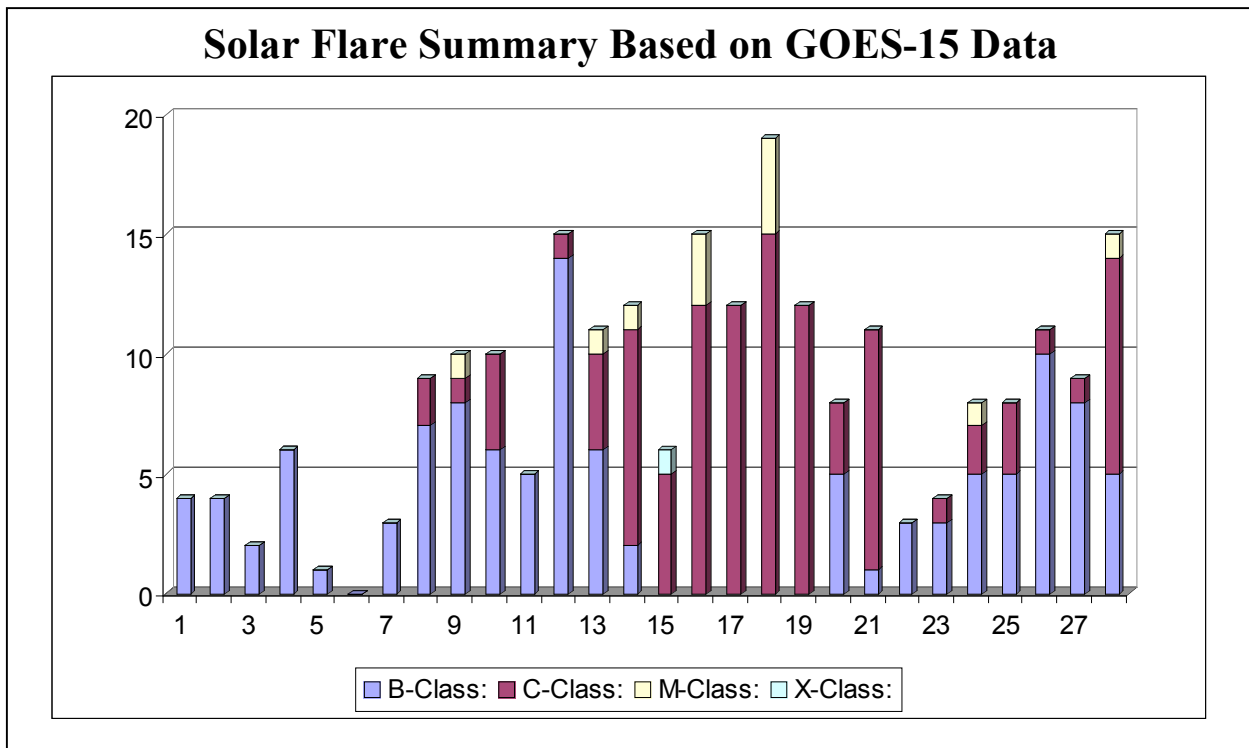


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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Sudden Ionospheric Disturbances (SID) Observers During February, 2011

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
P King	A80	HWU	L Loudet	A118	DCF NAA
M Hill	A87	NAA	J Godet	A119	GBZ GQD ICV
L Anderson	A91	NWC	R Howe	A121	NML
R Battaiola	A96	HWU	F Adamson	A122	NWC
J Wallace	A97	NAA	G Myers	A124	NLK
M King	A99	HWU	S Oatney	A125	NML
F Steyn	A102	NAA NWC	G Perry	A126	DHO
M Suhovecky	A115	NAA	G Richardson	A128	NPM

There were 233 solar flares measured by GOES-15 for February, 2011, with one X class flare, 12 M class flares, 107 C class and 113 B class flares. Of the 16 AAVSO SID Observers who submitted reports, all 16 recorded February events. (Somewhat of a busy month!)



American Relative Sunspot Numbers (Ra) for February, 2011 [**boldface = maximum, minimum**]

DAY	NumObs	RAW	Ra
1	18	23	15
2	19	17	12
3	21	22	16
4	20	24	17
5	21	20	14
6	19	7	5
7	27	15	11
8	25	40	27
9	23	41	30
10	25	26	17
11	25	43	29
12	27	61	42
13	25	70	49
14	27	79	57
15	27	73	52
16	27	69	49
17	19	60	42
18	21	81	54
19	19	87	57
20	23	61	41
21	22	43	31
22	28	34	24
23	26	29	20
24	22	11	9
25	23	18	12
26	22	35	23
27	21	39	28
28	27	45	31
Averages	23	42	29

CNT	12	Dean Chantiles
CVJ	10	Jose Carvajal
DEMF	2	Frank Dempsey
DGP	13	Gerald Dyck
DUBF	13	Franky Dubois
FERJ	21	Javier Ruiz Fernandez
FLET	16	Tom Fleming
FUJK	22	K. Fujimori
HAYK	11	Kim Hay
HMQ	6	Mark Harris
HOWR	27	Rodney Howe
JASK	13	Krystyna Wirkus
KAPJ	21	John Kaplan
KNJS	25	James & Shirley Knight
LEVM	13	Monty Leventhal
MARE	5	Enrico Mariani
MILJ	8	Jay Miller
MMI	17	Michael Moeller
OATS	6	Susan Oatney
OBSO	10	IPS Observatory
SCGL	15	Gerd-Lutz Schott
SIMC	6	Clyde Simpson
STEM	13	Gerhard Stemmler
STQ	8	Nick Stoikidis
SUZM	25	Miyoshi Suzuki
TESD	19	David Teske
URBP	13	Piotr Urbanski
VARG	20	A.Gonzalo Vargas
VIDD	16	Daniel Vidican
WILW	15	William M. Wilson
WIRP	2	Piotr Wirkus
YESH	16	Hulya Yesilyaprak

Total Observers: 46
Total Observations: 649

Initials	#Obs	Name
AAP	6	A. Patrick Abbott
AJV	15	J. Alonso
ARAG	27	Gema Araujo
ASA	18	Salvador Aguirre
BARH	11	Howard Barnes
BERJ	11	Jose Alberto Berdejo
BLAJ	11	John A. Blackwell
BMF	14	Michael Boschat
BOSB	11	Biswajit Bose
BRAB	26	Brenda Branchett
BXD	13	Alexandru Bruda
CHAG	20	German Chavas Morales
CKB	20	Brian Cudnik
CLZ	7	Corp Laurent

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