

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS
SOLAR COMMITTEE



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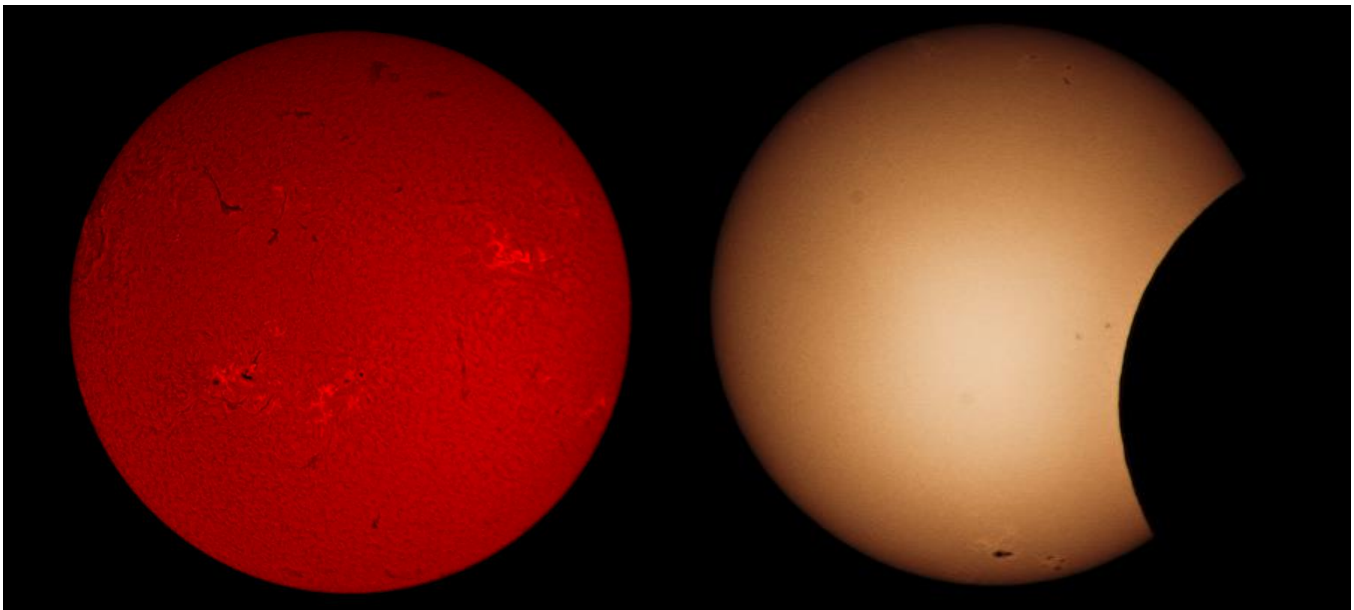
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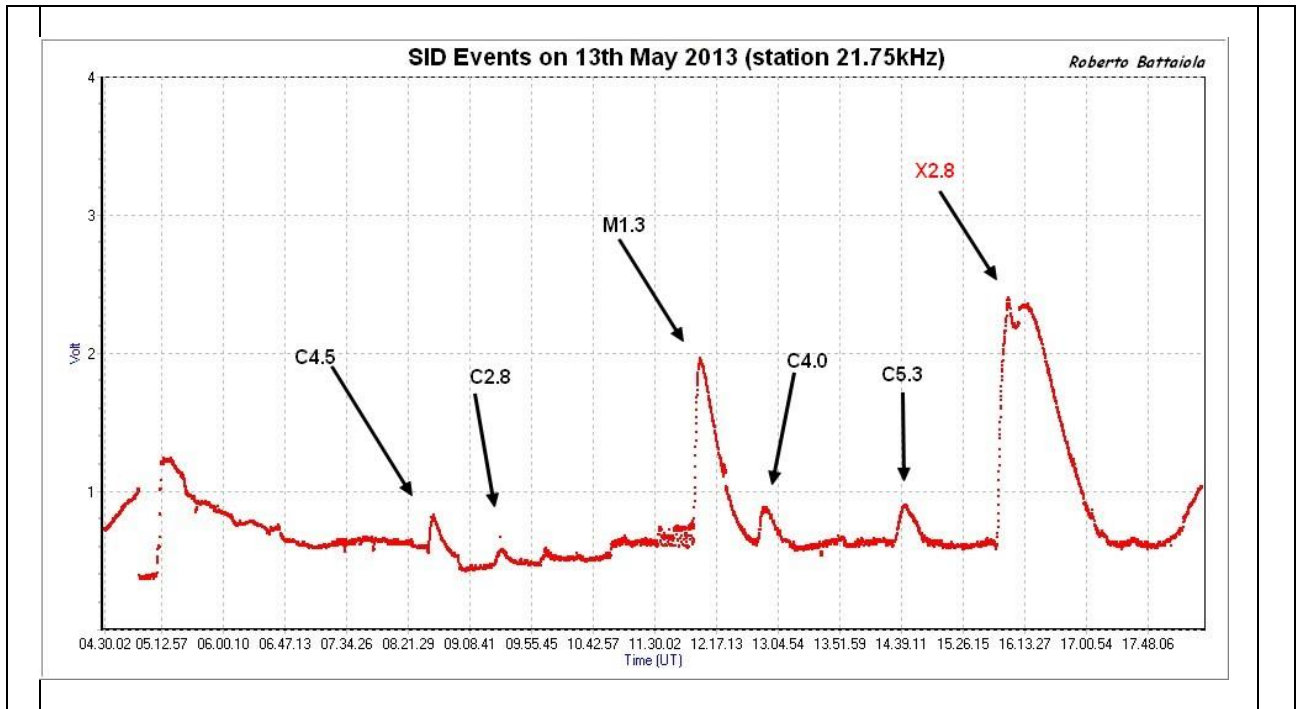
May, 2013



Klemen Cotar from Kranj, Slovenia writes: finally a month with more active Sun. This was the first month in a year that it was not cloudy every day. Attached is an image taken with an H-alpha filter on 3 May 12:15UT through 60mm Lunt solar-scope. It is stacked from 120 photos, 1/160, ISO400, NikonD3000.

Ashley Cooper writes: just out of interest, thought I might send you a shot of the annular eclipse today; 9 May, 2013. It was a partial where I am (Sydney), but annular in the north of Australia.

Sudden Ionospheric Disturbance Report

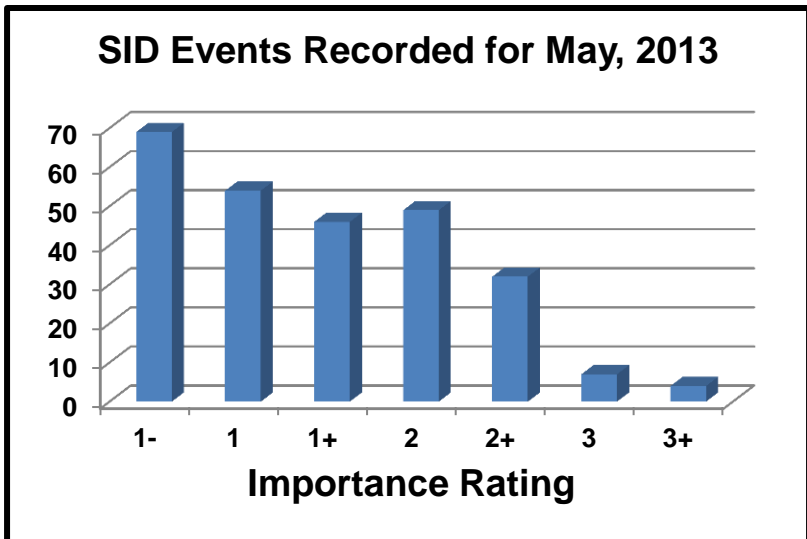


Sudden Ionospheric Disturbances (SID) Records During May, 2013

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
130501	0126	2	130505	0645	2	130510	0440	2+
130501	0528	1-	130505	0759	1	130510	0950	1+
130501	0657	1-	130505	0935	1+	130510	1253	2+
130501	0728	2	130505	1612	1-	130510	1257	1+
130501	1206	1+	130505	1622	1+	130510	1435	1
130501	1415	1+	130505	1756	1+	130510	1554	1
130502	0508	2	130505	2021	1+	130510	1637	1+
130502	1100	1	130506	0223	1-	130511	1249	1+
130502	1311	1	130506	0807	1-	130511	1358	2
130503	0036	1-	130507	0256	1-	130512	0838	1+
130503	1211	1+	130507	0314	1-	130512	0902	1-
130503	1503	1	130507	0541	1	130512	1000	1+
130503	1629	3	130507	0619	1-	130512	1105	1
130503	1650	2	130507	0824	1+	130512	1316	1
130503	1657	2	130508	0022	1-	130512	1601	1-
130503	1730	2	130508	1650	1+	130513	0037	1+
130503	1739	2	130509	0523	1	130513	0208	3+
130503	2052	1	130509	1038	1+	130513	0646	1-
130503	2131	3+	130509	1623	1-	130513	0707	1-
130504	0318	1-	130509	1639	1+	130513	0808	1-
130504	0800	1+	130509	1743	1	130513	0839	1+
130504	1237	2	130510	0052	2	130513	0931	1+
130505	0050	2	130510	0406	1+	130513	1204	1+

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
130513	1211	1-	130519	1517	2+	130524	1837	3+
130513	1253	2	130519	1724	1+	130525	0133	1-
130513	1400	1+	130519	1744	2	130525	0440	1-
130513	1439	2	130520	0049	1	130525	1047	1
130513	1601	2	130520	0525	2+	130525	1111	1-
130513	1804	2+	130520	1020	2	130525	1317	1-
130513	2205	2	130520	1428	2	130525	1405	1-
130514	0013	2+	130520	1506	2	130525	1513	1-
130514	0033	2	130520	1627	2	130525	1626	1
130514	0109	2	130521	0013	1-	130525	1728	1-
130514	1222	1	130521	2242	1-	130525	1754	1
130514	2107	1+	130522	0036	1	130525	2147	1-
130514	2201	2	130522	0054	1-	130526	0955	1+
130515	0145	3+	130522	0100	1-	130526	1812	1
130515	1239	2+	130522	0247	2+	130526	2002	1
130516	1911	2+	130522	1032	2	130526	2124	1
130516	1923	1+	130522	1302	3	130529	0651	2
130516	2153	2+	130522	1322	2+	130530	2023	1+
130517	0442	1-	130522	1328	3	130530	2044	1-
130517	0852	2+	130523	0914	1	130530	2102	1+
130517	0859	2+	130523	1450	1+	130530	2152	1+
130518	0347	1+	130523	1500	1-	130530	2159	2
130518	0651	1	130523	1530	1+	130530	2236	2
130518	2020	3	130523	1848	2	130530	2246	2
130518	2102	2	130524	0125	1-	130531	0536	1-
130519	0917	1+	130524	1348	1-	130531	1042	2
			130524	1631	1-	130531	1938	2+
			130524	1637	1	130531	2000	2
						130531	2017	2

Solar Events

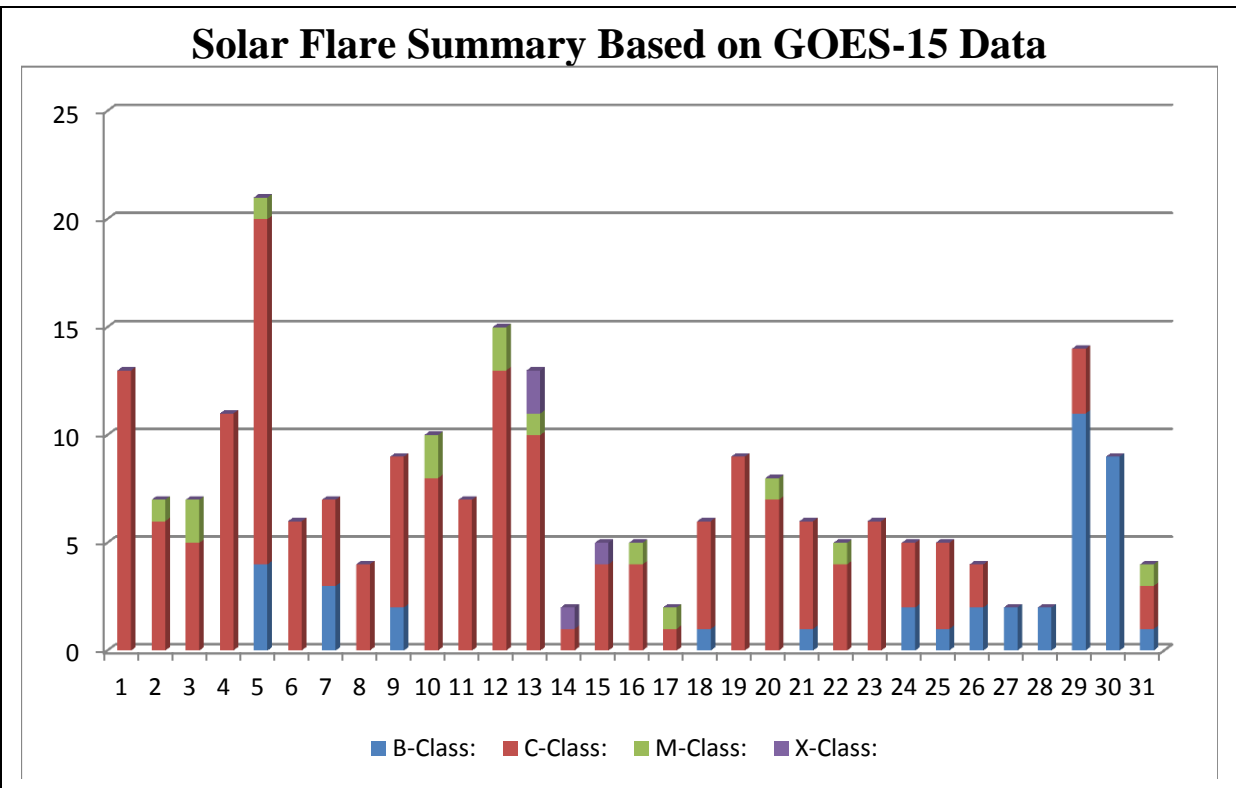


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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Sudden Ionospheric Disturbances (SID) Observers During May, 2013

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A McWilliams	A94	NML	S Oatney	A125	NLK NML
R Battaiola	A96	HWU	K Cotar	A129	DHO GBZ
J Wallace	A97	NAA	J Karlovsky	A131	DHO
F Steyn	A102	NWC	E Soubrouillar	A132	DHO GQD HWU
A Son	A112	DHO	R Green	A134	NWC
L Loudet	A118	GQD NAA TBB	R Mrlak	A136	GQD NSY
J Godet	A119	GBZ GQD ICV	D Koawl	A137	DHO NAA NWC
B Terril	A120	NWC	F Francione	A139	HWU NAA
F Adamson	A122	NWC	L Corp	A140	DHO

There were 229 solar flares measured by GOES-15 for May, 2013, four X class, 14 M class, 170 C class and 41 B class flares. The sun was very active with X, M and C class flares this month. There were 17 AAVSO SID Observers who submitted reports this month.



American Relative Sunspot Numbers (Ra) for
 May, 2013 [**boldface = maximum, minimum**]

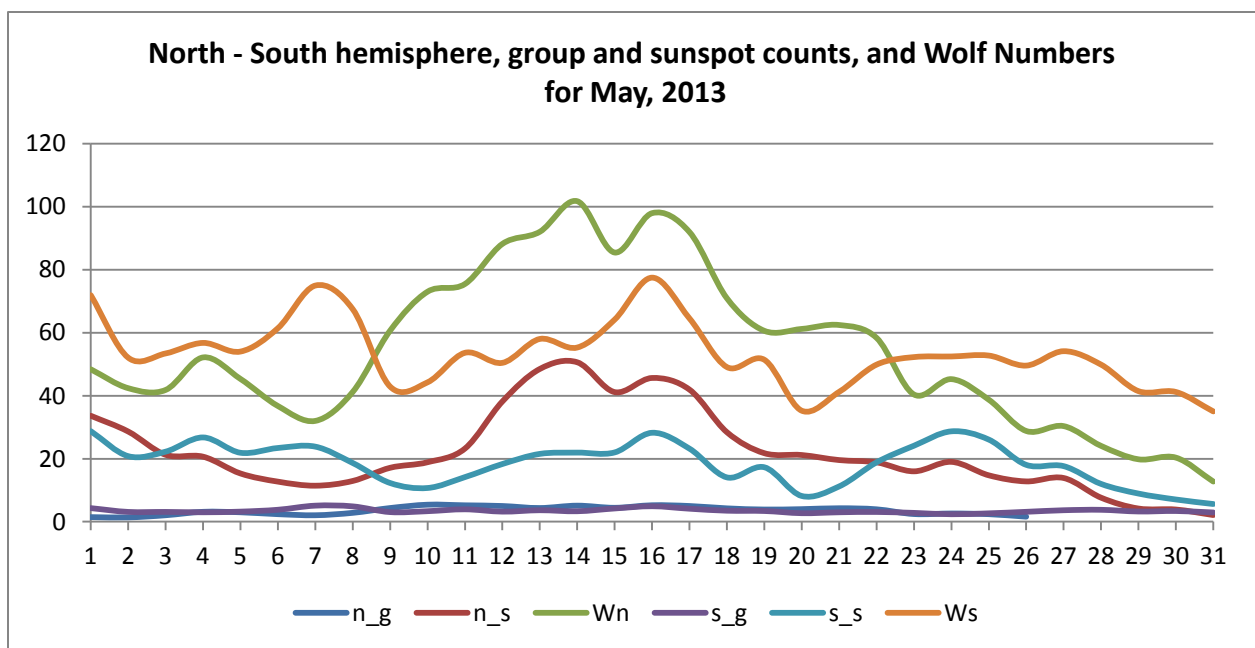
DAY	NumObs	RAW	Ra
1	40	116	82
2	35	93	69
3	37	95	68
4	44	103	77
5	46	97	71
6	39	95	71
7	38	105	77
8	32	107	80
9	32	102	75
10	29	110	81
11	35	117	87
12	36	134	96
13	35	151	107
14	35	147	106
15	34	150	109
16	33	175	126
17	30	160	116
18	31	123	89
19	37	116	84
20	30	101	74
21	27	104	78
22	34	109	81
23	27	92	65
24	31	98	69
25	31	94	70
26	42	83	62
27	30	86	60
28	26	72	51
29	32	63	47
30	35	53	39
31	35	44	31
Average	34.1	106.2	77.4

Obs	#Obs	Name
AAP	8	A. Patrick Abbott
AAX	15	Alexandre Amorim
AJV	16	J. Alonso
AMG	1	Margarete J. Amorim
ARAG	31	Gema Araujo
ASA	5	Salvador Aguirre
BARH	9	Howard Barnes
BATR	5	Roberto Battaiola
BDDA	14	Diego Bastiani

BERJ	10	Jose Alberto Berdejo
BMF	17	Michael Boschat
BRAB	29	Brenda Branchett
BRAF	18	Raffaello Braga
BROB	27	Robert Brown
BXD	19	Alexandru Burda
CAJA	10	Ashley Cooper
CHAG	30	German Morales Chavez
CIOA	13	Ioannis Chouinavas
CKB	15	Brian Cudnik
CLZ	3	Laurent Corp
CNT	12	Dean Chantiles
CPAB	3	Paul Coliac
DEMF	9	Frank Dempsey
DGP	24	Gerald Dyck
DJOB	11	Jorge del Rosario
DUBF	26	Franky Dubois
FAM	6	Fabio Mariuzza
FERJ	17	Javier Ruiz Fernandez
FLET	21	Tom Fleming
FLF	18	Fredirico Luiz Funari
FTAA	11	Tadeusz Figiel
FUJK	22	K. Fujimori
HAYK	16	Kim Hay
HOWR	27	Rodney Howe
HRUT	11	Timothy Hrutkay
JASK	15	Krystyna Wirkus
JGE	8	Gerardo Jimenez Lopez
JJMA	14	Jessica M.Johnson
KAND	29	Kandilli Observatory
KAPJ	17	John Kaplan
KNJS	26	James & Shirley Knight
KROL	21	Larry Krozel
LEVM	21	Monty Leventhal
LKR	16	Kristine Larsen
MARE	4	Enrico Mariani
MCE	27	Etsuiku Mochizuki
MGAA	6	Gael Mariani
MILJ	13	Jay Miller
MJHA	30	John McCammon
MMI	26	Michael Moeller
MUDG	11	George Mudry
OATS	10	Susan Oatney
OBSO	14	IPS Observatory
RLM	5	Mat Raymonde
SCGL	22	Gerd-Lutz Schott
SIMC	13	Clyde Simpson

SMNA	2	Michael Stephanou	WILW	24	William M. Wilson
SONA	15	Andries Son	WRP	3	Russell Wheeler
STAB	29	Brian Gordon-States			
SUZM	25	Miyoshi Suzuki			
TESD	23	David Teske	Total	Observers:	67
URBP	20	Piotr Urbanski	Total	Observations:	1058
VARG	22	A. Gonzalo Vargas			
VIDD	15	Daniel Vidican			
WAU	3	Artur Wargin			

Thirty eight of our sixty seven observers submitted data on the sunspot and group counts for the Sun's north and south hemispheres. It is interesting to note how the Wolf numbers of groups and Sunspots counts cross over on the 8th and 22nd this month.



Reporting Addresses:

Sunspot Reports – Kim Hay

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SID Solar Flare Reports – Rodney Howe

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