

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS  
SOLAR COMMITTEE



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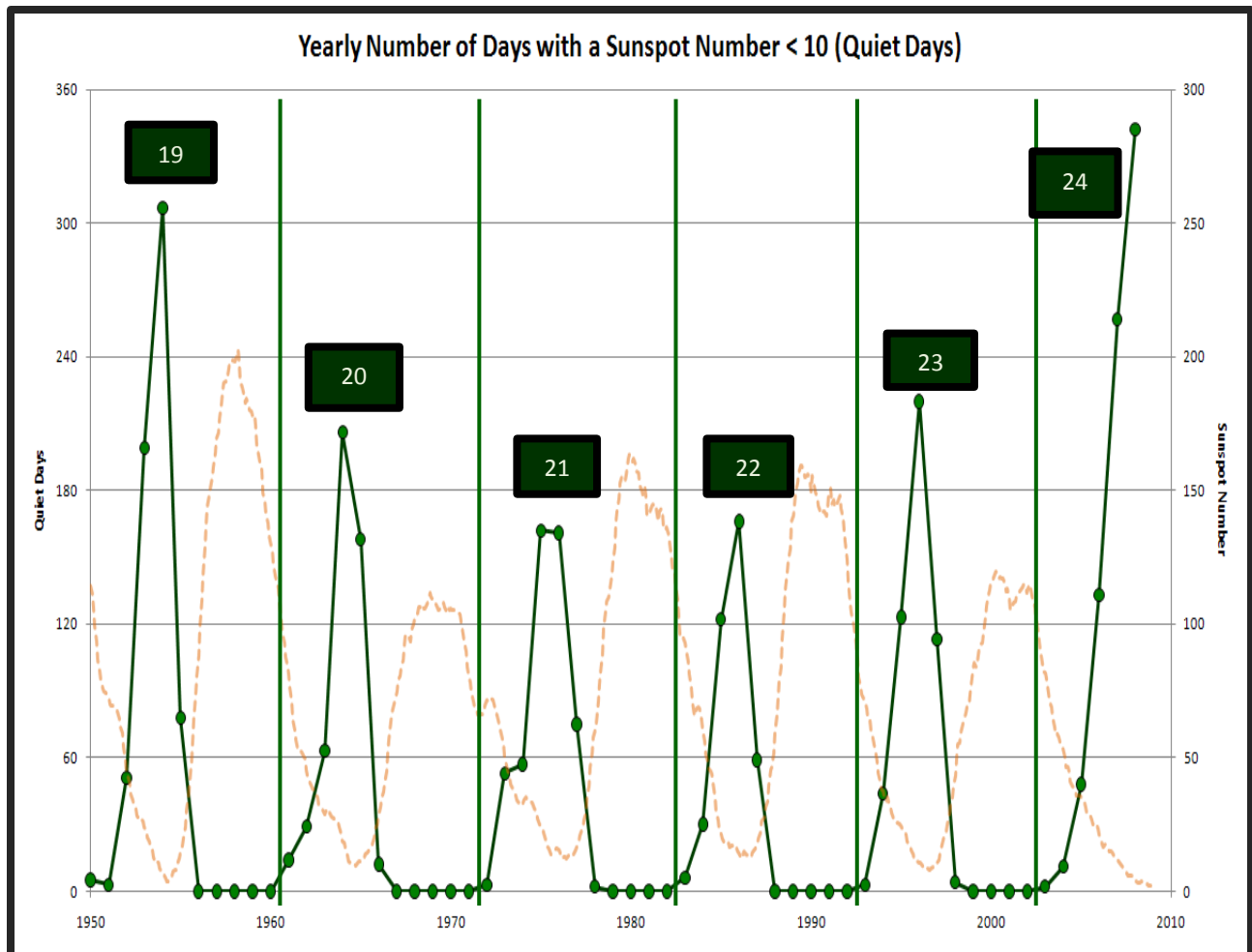
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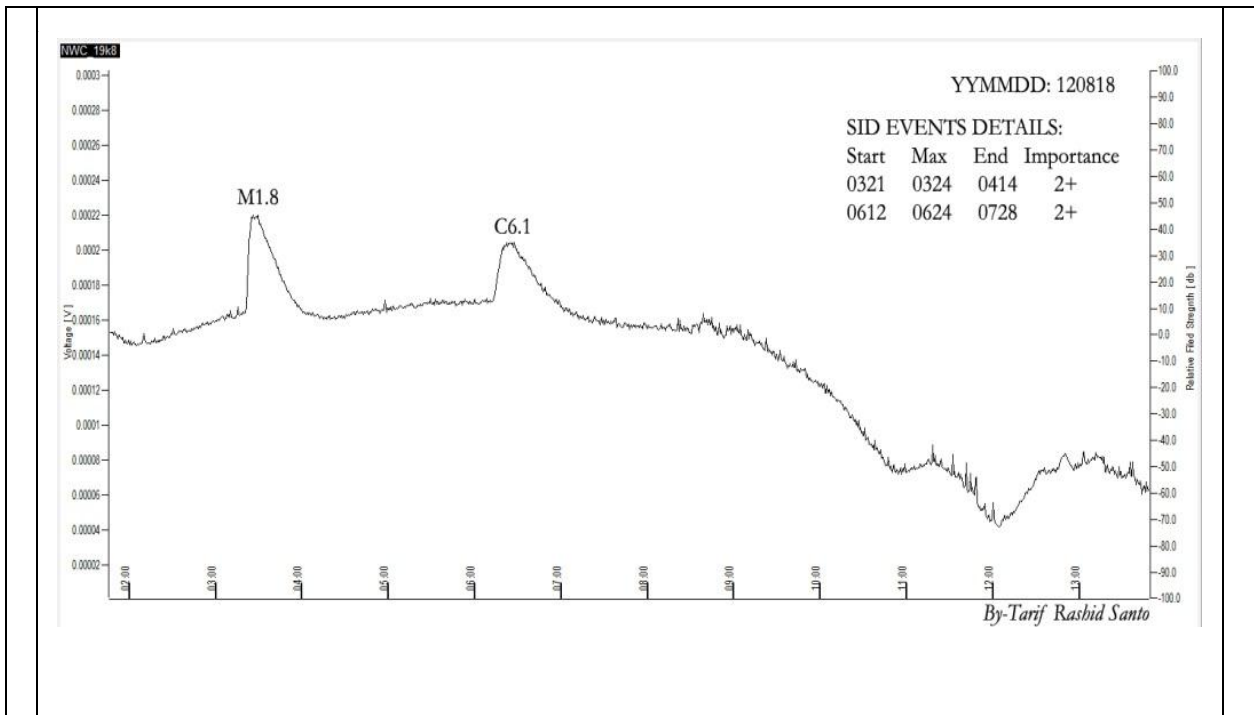
August, 2012



Above is a plot of both yearly totals for quiet days and average monthly smoothed sunspot number with each solar cycle numbered near its maximum. Note that the yearly quiet days for Solar Cycle 24 are only listed through 2008.

Newly sorted data from the National Geophysical Data Center (AAVSO and SIDC) contains the number of days each year that the daily sunspot number falls into specific categories. For this study, NGDC examined the number of days each year that the daily sunspot number is less than ten, which we hereafter refer to as quiet days, for the following reasons:

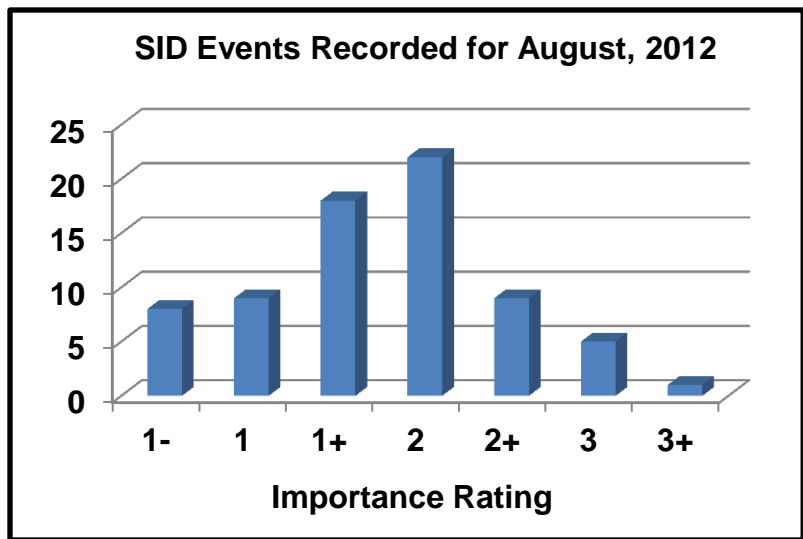
- 1) The total number of quiet days during a solar minimum can be used as a method to quantify how quiet a minimum is.
- 2) By using a non-zero categorical value (sunspot count less than 10), we can minimize the error introduced by uncertainty in the sunspot number in the past due to the limits of older instrumentation.



### Sudden Ionospheric Disturbances (SID) Records During August , 2012

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
120801	955	1+	120808	1448	2	120818	955	2
120801	1036	1+	120808	1620	1+	120818	1038	1
120801	1053	2	120809	0	3	120818	1150	-1
120801	1253	2	120809	532	-1	120818	1227	1
120801	1424	-1	120809	1147	2+	120818	1340	1+
120803	601	1+	120810	421	2+	120818	1428	2
120803	808	1+	120810	1740	1+	120818	1510	-1
120803	2130	-1	120810	1918	2+	120818	1608	2+
120804	1141	1+	120811	1213	3	120818	1916	1+
120804	1148	2+	120811	1220	2+	120818	2254	1
120806	418	2	120813	930	1+	120818	2323	2
120806	437	2	120813	1242	2	120829	2000	1+
120806	817	2	120814	1145	1+	120830	825	-1
120806	1023	1	120816	1259	3	120830	912	2
120806	1030	1	120816	1314	3	120830	1211	2+
120806	1136	2	120817	837	2	120830	1921	-1
120806	1142	1	120817	1319	2+	120830	1958	1+
120806	1408	1+	120817	1532	1+	120830	2145	1
120806	1659	2	120817	1612	1	120831	722	2
120807	818	1+	120817	1720	2	120831	730	2
120807	1024	1	120818	326	3	120831	957	2
120807	1331	2	120818	620	2	120831	1414	1+
120808	1133	2+	120818	837	-1	120831	1611	2
120808	1407	2	120818	858	1+	120831	2025	3+

# Solar Events

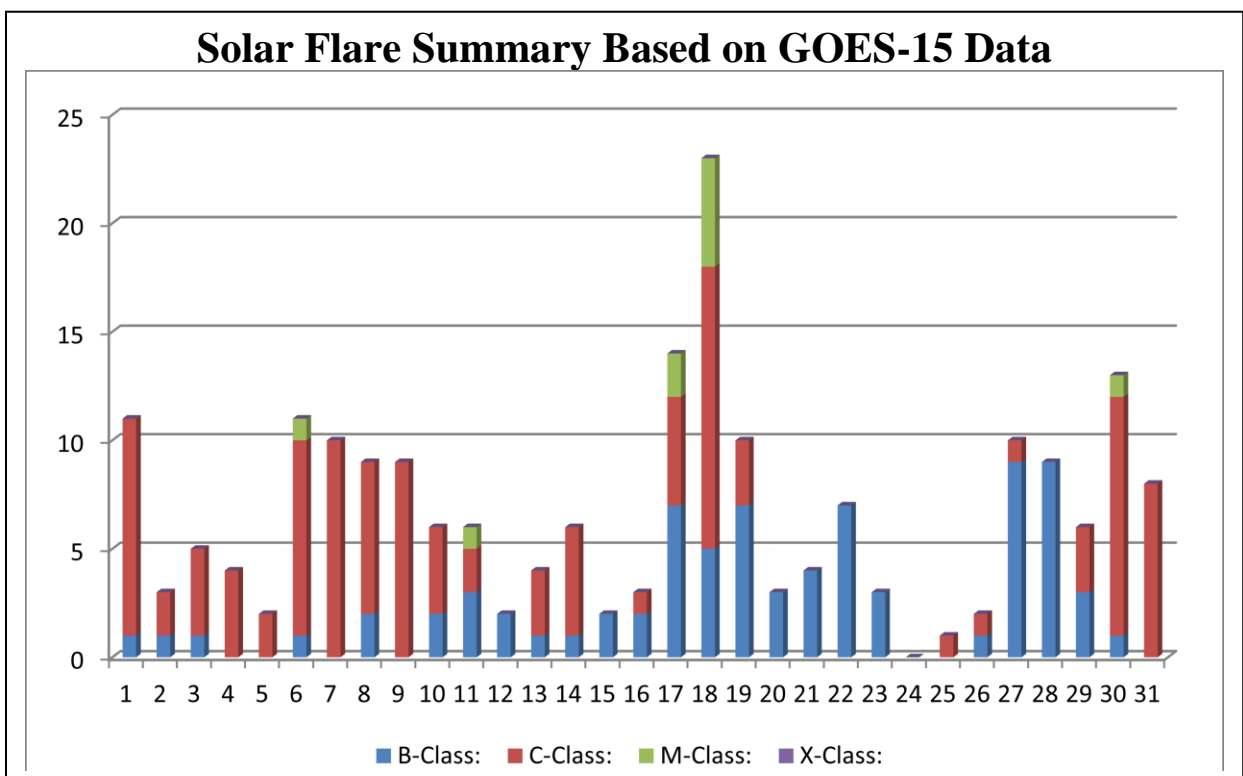


Importance rating: Duration (min)	1-: <19	1: 19-25	1+: 26-32	2: 33-45	2+: 46-85	3: 86-125	3+: >125
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## Sudden Ionospheric Disturbances (SID) Observers During August , 2012

Observer	Code	Station(s) monitored	Observer	Code	Station(s) monitored
A McWilliams	A94	NML	S Oatney	A125	NML
J Wallace	A97	NAA	K Cotar	A129	DHO GBZ
F Steyn	A102	NWC	J Karlovsky	A131	DHO
L Loudet	A118	DHO GQD TBB	E Soubrouillar	A132	DHO FTA
J Godet	A119	GBZ GQD	T Santo	A133	NWC
F Adamson	A122	NWC	R Green	A134	NWC
G Myers	A124	NLK	R Battaiola	A96	No Data

There were 206 solar flares measured by GOES-15 for August, 2012. There were 10 M class flares, 118 C class and 78 B class flares. The sun was much less active compared to July, 2012. There were 14 AAVSO SID Observers who submitted reports this month, although R. Battaiola (A96) had no data.



American Relative Sunspot Numbers (Ra) for  
August, 2012 [**boldface = maximum, minimum**]

DAY	NumObs	RAW	Ra
1	44	119	85
2	42	121	87
3	41	143	<b>104</b>
4	38	126	89
5	36	102	72
6	41	81	58
7	42	105	75
8	42	116	82
9	40	128	92
10	33	109	81
11	44	90	66
12	40	78	60
13	34	57	44
14	37	30	23
15	33	25	<b>19</b>
16	41	32	23
17	39	40	28
18	43	45	32
19	43	57	40
20	40	63	46
21	45	60	44
22	46	56	41
23	43	61	43
24	42	62	46
25	39	66	50
26	42	71	54
27	34	67	46
28	41	67	46
29	42	71	51
30	44	101	72
31	45	123	91
<b>Average</b>	<b>40.5</b>	<b>79.7</b>	<b>57.7</b>

Observer	#Obs	Name
AAP	3	A. Patrick Abbott
AAX	21	Alexandre Amorim
AJV	19	J. Alonso
AMG	5	Margarete J. Amorim
ARAG	29	Gema Araujo
ASA	19	Salvador Aguirre
BARH	12	Howard Barnes
BATR	9	Roberto Battaiola
BEB	10	Ray Berg
BERJ	9	Jose Alberto Berdejo

BMF	19	Michael Boschat
BRAB	29	Brenda Branchett
BRAF	29	Raffaello Braga
BROB	31	Robert Brown
CADA	3	Adair Cardoso
CHAG	30	German Morales Chavez
CIOA	16	Ioannis Chouinavas
CKB	20	Brian Cudnik
CLZ	5	Laurent Corp
CNT	6	Dean Chantiles
CVJ	25	Jose Carvajal
DELS	13	Susan Delaney
DEMF	8	Frank Dempsey
DGP	29	Gerald Dyck
DJOB	25	Jorge del Rosario
DUBF	31	Franky Dubois
FAM	15	Fabio Mariuzza
FERJ	20	Javier Ruiz Fernandez
FLET	23	Tom Fleming
FLF	31	Fredirico Luiz Funari
FTAA	17	Tadeusz Figiel
FUJK	27	K. Fujimori
HAYK	21	Kim Hay
HMQ	4	Mark Harris
HOWR	29	Rodney Howe
HRUT	22	Timothy Hrutkay
JASK	23	Krystyna Wirkus
JGE	6	Gerardo Jimenez Lopez
JJK	4	Jerry Klotz
KAND	30	Kandilli Observatory
KAPJ	27	John Kaplan
KNJS	23	James & Shirley Knight
KROL	13	Larry Krozel
LEVM	18	Monty Leventhal
LKR	9	Kristine Larsen
MARE	15	Enrico Mariani
MCE	29	Etsuiku Mochizuki
MGAA	11	Gael Mariani
MILJ	12	Jay Miller
MJHA	31	John McCammon
MMI	30	Michael Moeller
MUDG	20	George Mudry
OATS	12	Susan Oatney
OBSO	7	IPS Observatory
RICE	23	E. C. Richardson
SCGL	25	Gerd-Lutz Schott
SIMC	14	Clyde Simpson

SONA	25	Andries Son
SSSA	1	Sueli Sousa Septiba
STAB	31	Brian Gordon-States
STVA	1	Togo Vaz Sepetiba
SUZM	29	Miyoshi Suzuki
TESD	21	David Teske
URBP	23	Piotr Urbanski
VARG	28	A. Gonzalo Vargas
VIDD	23	Daniel Vidican
WILW	27	William M. Wilson
WRP	1	Russell Wheeler

**Total Observers 68**  
**Total Observations 1256**

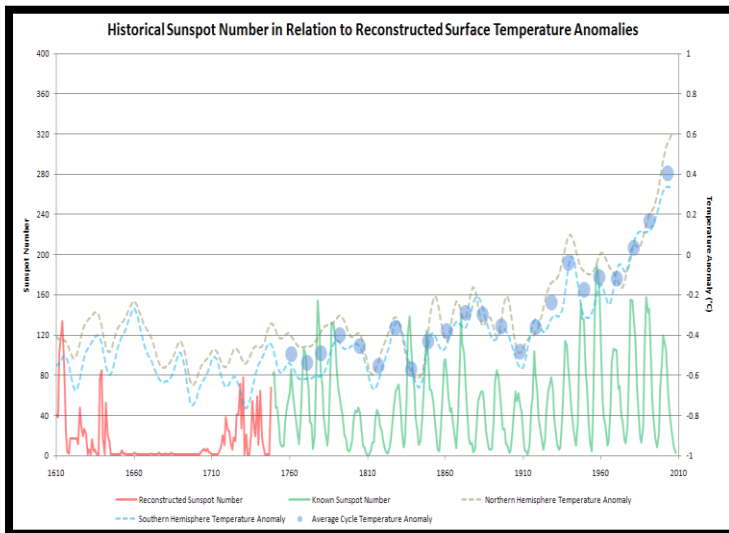
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**Sunspot Reports – Kim Hay**

Email: [solar.aavso@gmail.com](mailto:solar.aavso@gmail.com)

**SID Solar Flare Reports – Rodney Howe**

Email: [ahowe@frii.com](mailto:ahowe@frii.com)



A plot of the yearly sunspot number (in red) and monthly sunspot number (in green) along with Northern Hemisphere and Southern Hemisphere temperature anomalies and average temperature anomalies during a solar cycle. Note the temperature drops during weaker solar cycles. (Data from the National Geophysical Data Center)