

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

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**Table I. American Relative Sunspot Numbers (Ra) for February 2005 [boldface = maximum, minimum]**

Day	N	Raw Mean	Ra
1	25	28	21
2	30	25	18
3	26	15	11
4	29	21	15
5	32	28	21
6	34	47	33
7	31	49	35
8	28	49	34
9	33	57	42
10	34	65	46
11	36	71	52
12	31	77	<b>56</b>
13	30	69	52
14	30	57	42
15	33	70	50
16	26	62	43
17	32	63	44
18	28	50	37
19	23	44	32
20	25	35	26
21	30	31	22
22	30	28	20
23	39	19	14
24	27	13	10
25	33	15	10
26	37	7	4
27	37	2	<b>1</b>
28	30	3	2
29	---	---	---
30	---	---	---
31	---	---	---

Means:                30.7                39.3                28.3

Total No. of Observers: 61

Total No. of Observations: 859

**Table II. February 2005 Observers**

14 AAP P.Abbott	20 MCE E.Mochizuki
27 ARAG G.Araujo	13 MEU E.Mason
9 BARH H.Barnes	16 MMI M.Moeller
4 BATR R.Battaiola	19 OBSO IPS Observatory
12 BERJ J.Berdejo	13 RICE E.Richardson
6 BLAJ J.Blackwell	21 RITA A.Ritchie
16 BMF M.Boschat	13 SCGL G.Schott
19 BOSE B.Bose	12 SCHG G.Scholl
24 BRAB B.Branchett	2 SDP D.Sharples
24 BRAD D.Branchett	7 SIMC C.Simpson
2 BRAM M.Bradbury	3 STEF G.Stefanopoulos
20 BRAR R.Branch	8 STEM G.Stemmler
21 BROB R.Brown	13 STQ N.Stoikidis
4 CAMP P.Cambell	22 SUZM M.Suzuki
25 CHAG G.Morales	16 SZUM M.Szulc
18 CKB B.Cudnik	15 TESD D.Teske
9 CLZ L.Corp	11 THR R.Thompson
2 COMT T.Compton	16 TJV J.Temprano
25 CR T.Cragg	10 URBP P.Urbanski
21 DEJV J.van Delft	11 VARG A.Vargas
7 DGP G.Dyck	14 WILW W.Wilson
22 DRAJ J.Dragesco	13 YESH H.Yesilyaprak
18 DUBF F.Dubois	
10 FEEC C.Feehrer	
8 FERJ J.Fernandez	
17 FLET T.Fleming	
22 FUJK K.Fujimori	
4 GOEM M.Goetz	
9 HAYK K.Hay	
20 JAMD D.James	
15 JEFT T.Jeffrey	
16 KAPJ J.Kaplan	
20 KNJS J&S Knight	
6 KROL L.Krozel	
9 LARJ J.Larriba	
11 LERM M.Lerman	
22 LEVM M.Leventhal	
8 MARE E.Mariani	
25 MARJ J.Maranon	

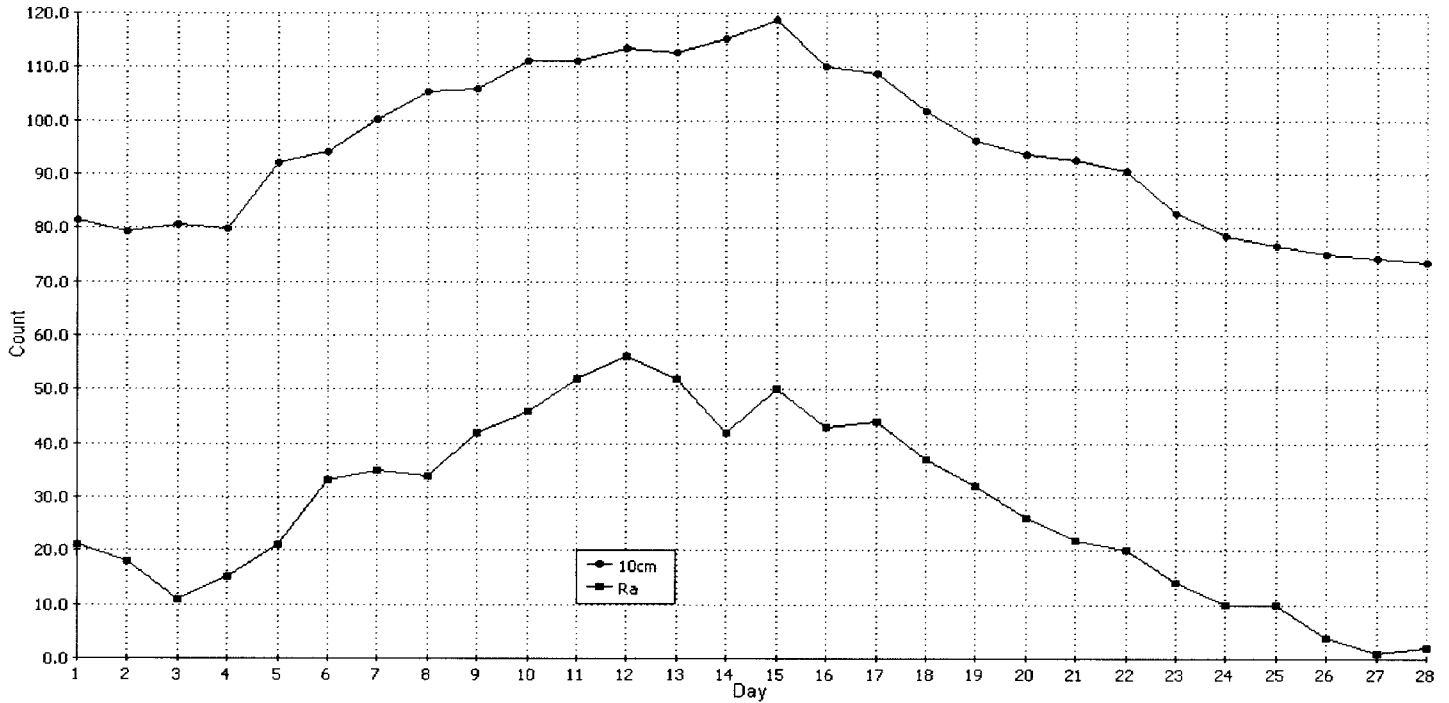
## Reporting Addresses

**Sunspot Reports -- email:** solar@aavso.org  
**postal mail:** AAVSO, 25 Birch St. Cambridge, MA 02138  
**FAX (AAVSO):** (617) 354-0665

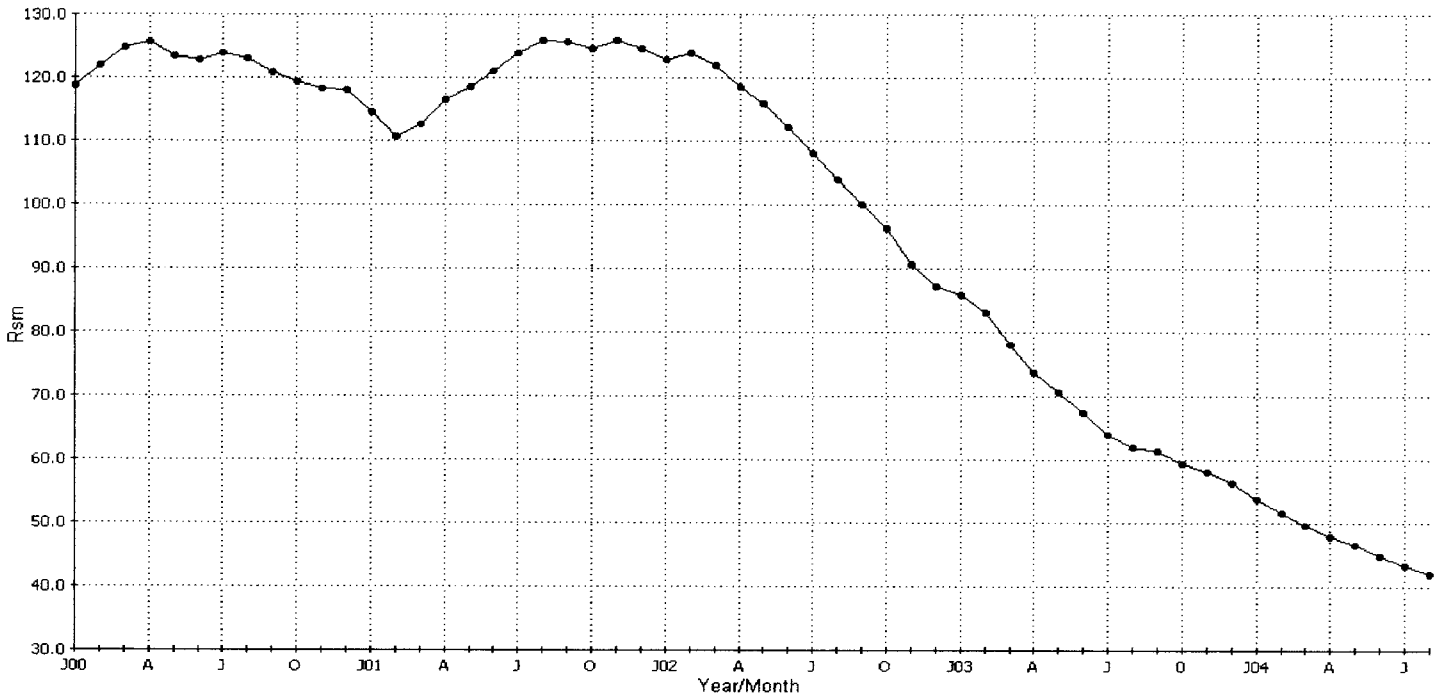
**SID Solar Flare Reports -- email:** noatak@aol.com  
**postal mail:** Mike Hill  
114 Prospect St. Marlboro, MA 01752

**Table III. Means of Raw Group Counts (RG) and Ratios of Spots to Groups (S:G) in February 2005**

Day	RG	S:G	Day	RG	S:G	Day	RG	S:G	Day	RG	S:G
1	2.1	3.5	9	4.3	3.4	17	3.7	7.0	25	1.2	2.3
2	1.9	2.7	10	5.2	2.5	18	3.4	4.5	26	0.5	2.6
3	1.2	2.2	11	5.4	3.3	19	3.3	3.5	27	0.2	2.7
4	1.8	1.6	12	5.5	4.0	20	2.4	4.2	28	0.2	2.5
5	2.4	1.7	13	4.7	4.6	21	2.1	5.2	29		
6	3.9	2.3	14	3.7	5.2	22	2.0	4.0	30		
7	3.9	2.8	15	3.6	9.3	23	1.3	5.0	31		
8	3.5	3.8	16	3.3	9.0	24	0.9	5.0	Mn.	2.7	3.9



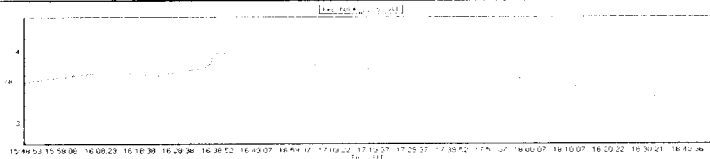
**Fig. 1. 10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for February 2005.**  
10 cm source: <http://www.drao.nrc.ca/icarus>



**Fig. 2. Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to August 2004 (Waldmeier Method).**

# Sudden Ionospheric Disturbance Report

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 Marlborough, MA 01752 USA  
 noatak@aol.com



## Sudden Ionospheric Disturbances (SID) Recorded During February 2005

(Analysis performed by Michael Hill, SID Analyst)

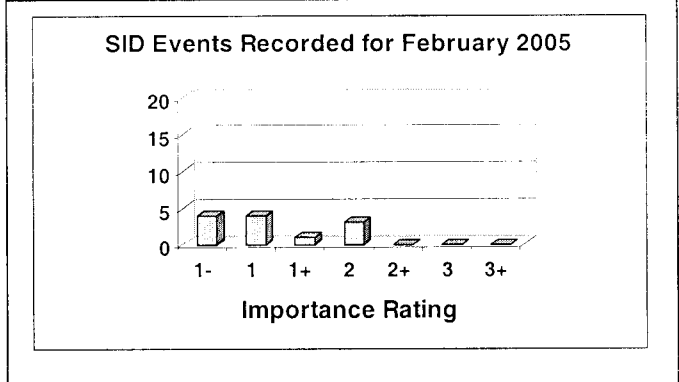
Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
050204	1508	1						
050206	0930	2						
050206	0940	1-						
050207	0950	1-						
050207	1701	1-						
050208	1526	1						
050213	1039	1						
050216	1638	1-						
050219	1051	2						
050219	1100	2						
050223	0630	1+						
050223	0935	1						

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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The events listed above meet at least one of the following criteria

- 1) Event reported by two or more observers within  $\pm 5$  minutes
- 2) Event matched to GOES-8 XRA event to within  $\pm 15$  minutes and event time < 1000 UT
- 3) reported by observer with a quality rating > 8 (scale 1-10)

Observer	Code	Station(s) monitored
A Clerkin	A29	NAA NAU
J Winkler	A50	NAA
D Toldo	A52	NWC
S Hansen	A59	NAA
P King	A80	FTA
M Hill	A87	NAA
L Anderson	A91	NWC
G Di Filippo	A93	DHO
T Poulos	A95	NAA
J Wallace	A97	NAA
G Bressan	A101	HWU
F Steyn	A102	NAA NWC
L Observatory	A107	DHO
P Mortfield	A108	NAA
A Son	A112	DHO



# Solar Events

February was a very slow month for SID events. Our observers recorded the lowest count of SIDs that I have seen in my five years of acting SID Analyst. Only twelve! And of these most were low importance rating events. A slow month indeed and quite a switch from last months very large number of SID events due to sunspot region 720. There was no such region this month, which clearly shows how just one very active region can really cause the numbers to spike to high levels in an otherwise quiet time for solar activity.

There were only 143 X-Ray flares recorded by the GOES-12 spacecraft in February which is also a fairly low number. Of these, only one was an M-Class event. All the rest were B and C Class events.

Thank you all for sending in your data. It is appreciated, even those that report in that no SID events were recorded for the month.

## Solar Flare Summary Based on GOES-12 Data

