Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

Carl E. Feehrer, Editor
9 Gleason Rd.
Bedford, MA 01730

Email: cfeehrer@hotmail.com

ISSN 0271-8480

Volume 61 Number 3 **March 2005**

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

Day	N	Raw Mean	Ra
1	34	1	**1**
2	30	11	8
3	29	8	5
4	36	12	9
5	37	15	10
6	42	16	11
7	31	29	20
8	32	44	31
9	34	52	37
10	39	61	**46**
11	32	58	41
12	36	60	43
13	40	60	44
14	36	59	43
15	36	48	36
16	34	38	28
17	28	35	27
18	35	35	26
19	43	34	25
20	38	34	25
21	34	41	29
22	32	40	29
23	23	46	34
24	33	60	43
25	32	51	36
26	35	32	24
27	25	25	17
28	29	17	12
29	32	11	7
30	28	5	3
31	36	13	9
Means:	**33.6**	**33.9**	**24.5**

Total No. of Observers: 63

Total No. of Observations: 1041

Table II. March 2005 Observers

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

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 March 2005

Day	RG	S:G	Day	RG	S:G	Day	RG	S:G	Day	RG	S:G
1	0.1	3.7	**9**	2.9	8.2	**17**	2.1	6.7	**25**	3.0	7.1
2	0.9	2.3	**10**	3.4	8.0	**18**	2.1	6.8	**26**	2.1	5.7
3	0.6	2.4	**11**	3.2	8.1	**19**	2.0	7.3	**27**	1.7	5.0
4	1.0	2.0	**12**	3.3	8.5	**20**	2.1	6.5	**28**	1.2	4.3
5	1.1	3.5	**13**	3.1	9.3	**21**	2.7	5.2	**29**	0.8	3.0
6	1.1	3.9	**14**	3.3	7.6	**22**	2.2	8.1	**30**	0.4	1.4
7	2.1	3.8	**15**	2.8	7.5	**23**	2.3	9.9	**31**	1.1	1.5
8	2.6	6.9	**16**	2.3	7.1	**24**	3.3	8.5	**Mn.**	**2.0**	**5.8**

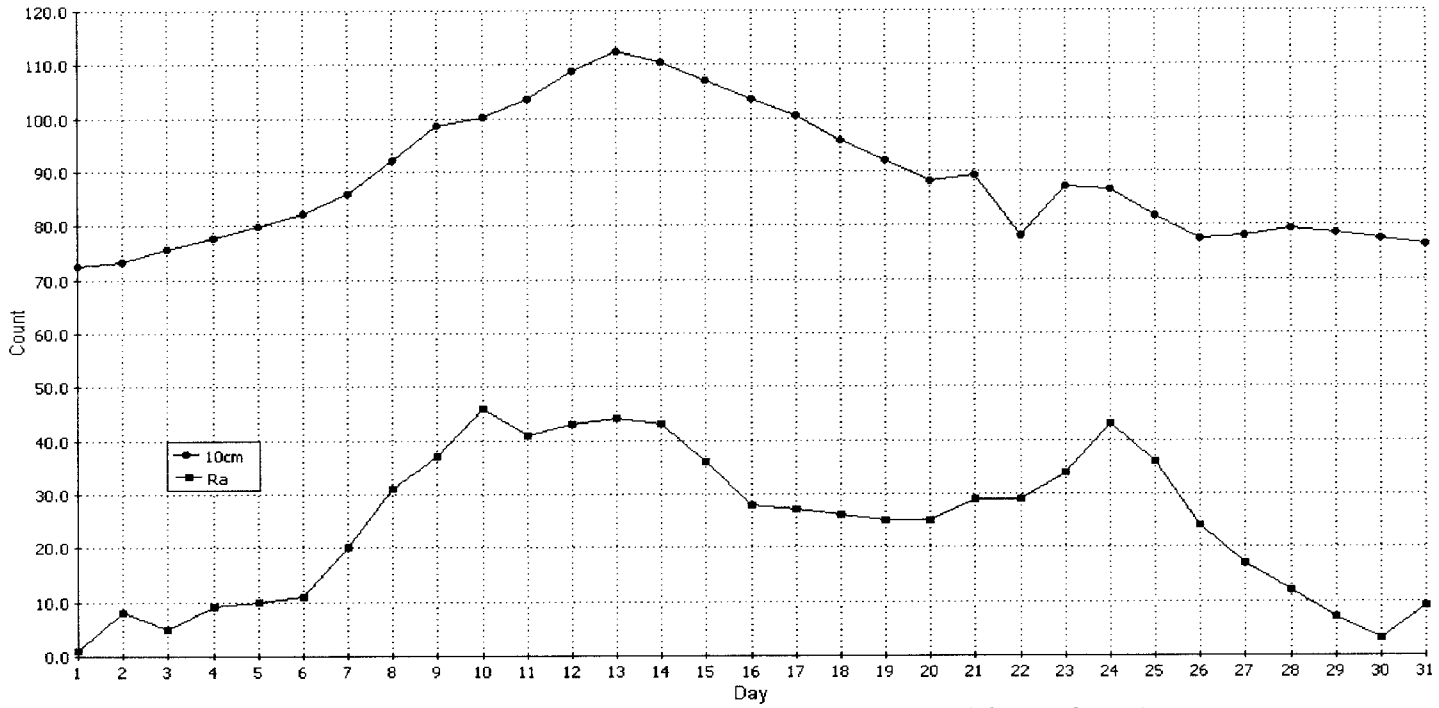


Fig. 1. 10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for March 2005.
10 cm source: http://www.drao.nrc.ca/icarus

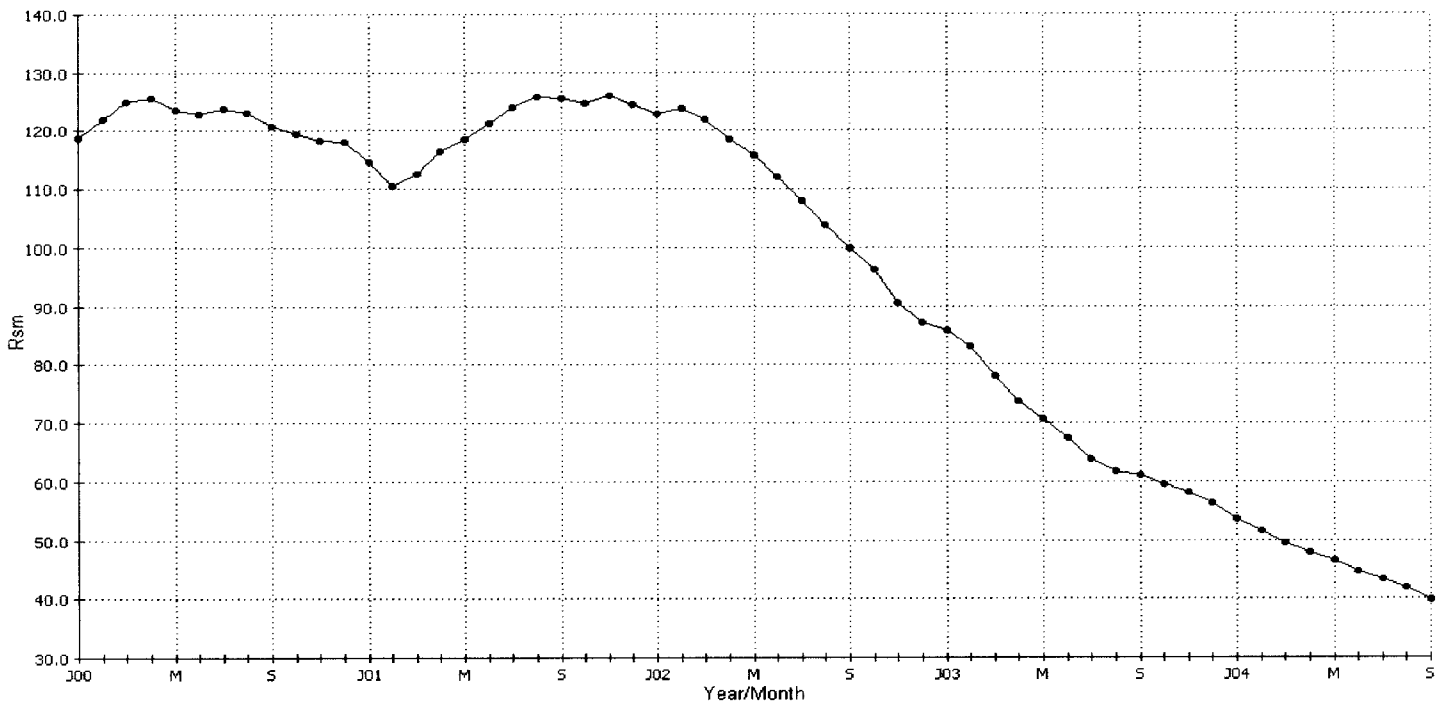


Fig. 2. Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to September 2004 (Waldmeier Method).

AAVSO Solar Committee Activity
for the Period October 2004 to January 2005

Summary Read at March 26, 2005 Meeting, Las Cruces, NM

Chair and Sunspot Observing Group Leader: Carl E. Feehrer
Solar Flare/SID Observing Group Leader: Mike Hill

Monthly reporting by sunspot and SID observers continued at relatively strong levels during the period. A small decrease in the number of sunspot observers actually reporting , 59 vs. 62 for a similar period in 2003, was compensated for by an essentially unchanged report total, 855 vs. 863. The number of SID observers reporting actually increased to 17 from a 2003 level of 13, with a total of 63 validated events reported during this period vs. 67 in 2003.

Observer Awards

Sunspot Observers

Two additional observers, Brian Cudnik of the United States and Miyoshi Suzuki of Japan have now met the initial goal of 1500 observations, bringing the total to seven since inception of the awards program in 1999. Certificates of achievement will be presented to these two observers and to others who have met the 1500 criterion by the time of the next annual meeting.

SID Observers

Two additional observers, Peter King of England and Ted Poulos of the United States, join the earlier group of nine SID observers who have met the initial criterion of 40 months of reporting. Certificates of achievement will also be presented to these observers and later qualifiers at the next annual meeting.

Website Activity

Judging from the numbers of downloads, the solar pages of the website, including those devoted to the Solar Bulletin, SID and sunspot data files, and images contributed by observers, continue to be popular. During this reporting period, a total of 30,091 download requests--an average of 244 per day--were satisfied. In the corresponding period last year, a total of 26,390 pages--an average of 214 pages per day--were satisfied.

Several important updates of and revisions to SID equipment and station information files have been posted to the SID pages during the period.

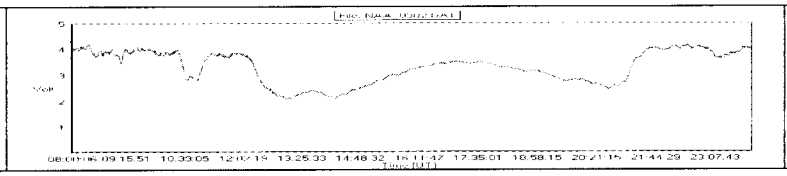
The number of new images of the sun contributed during the period continues to decrease. This is due, we believe, to the progressive decline in good photographic opportunities as solar minimum is approached rather than to loss of interest.

Acknowledgements

The efforts of the Solar Committee continue to be supported by a loyal group of observers, many of whom have contributed to the program for a long time. We express our thanks to these observers and to volunteer Arthur Ritchie and AAVSO staff who aid in preparing data, distributing the Bulletin, and keeping the website up to date.

Sudden Ionospheric Disturbance Report

Michael Hill, SID Analyst
114 Prospect St
Marlborough, MA 01752 USA
noatak@aol.com



Sudden Ionospheric Disturbances (SID) Recorded During March 2005

(Analysis performed by Michael Hill, SID Analyst)

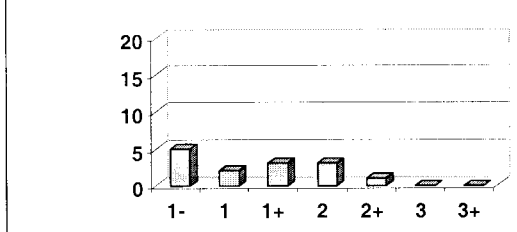
Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
050305	2007	1						
050310	1142	2						
050312	0907	1+						
050313	0819	2						
050313	0829	1-						
050313	1512	1-						
050314	0708	1-						
050314	1307	1-						
050315	0646	1-						
050315	0654	2+						
050319	0709	2						
050319	1801	1+						
050319	2022	1+						
050320	0614	1						

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

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

1) Event reported by two or more observers within ±5 minutes
2) Event matched to GOES-8 XRA event to within ±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	NAU
J Winkler	A50	NAA NML
D Toldo	A52	NWC
M Hill	A87	NAA
J Mandaville	A90	NPM
G Di Filippo	A93	DHO
T Poulos	A95	NAA
R Battaiola	A96	HWU
P Campbell	A100	NLK
G Bressan	A101	HWU
F Steyn	A102	NAA NWC
L Observatory	A107	DHO
P Mortfield	A108	NAA



Solar Events

March proved to be a very slow month for SIDS. Five observers reported in with no SID events and a good deal of observers who did report in had very few SIDs to report. Thanks to all of you for reporting in these lean times however. It keeps the data consistent across the entire solar cycle. There were only 14 correlated SID events in March. These were spread evenly across the small and medium importance ranges with no long duration events. There were only 135 X-Ray flares reported by the GOES satellite. Of these all were B and C class events. As can be seen below the beginning and end of the month were almost devoid of any X-Ray activity.