

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

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

Day	N	Raw Mean	Ra
1	29	42	28
2	30	36	26
3	28	32	21
4	20	24	17
5	24	19	13
6	20	21	16
7	19	7	4
8	27	16	12
9	27	24	17
10	25	26	18
11	27	44	31
12	26	58	41
13	29	59	42
14	24	78	56
15	35	85	60
16	23	87	65
17	26	86	59
18	35	82	59
19	28	72	51
20	26	70	49
21	34	63	46
22	27	45	32
23	31	30	22
24	26	38	26
25	30	42	30
26	21	34	23
27	27	31	22
28	25	27	20
29	31	28	20
30	34	29	21
31	30	34	24

Means: 26.7 44.1 31.5

Total No. of Observers: 61

Total No. of Observations: 844

Table II. January 2005 Observers

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

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 January 2005

Day	RG	S:G	Day	RG	S:G	Day	RG	S:G	Day	RG	S:G
1	2.2	9.1	9	1.6	4.8	17	3.8	12.5	25	2.8	5.2
2	1.9	9.2	10	1.8	4.1	18	4.0	10.3	26	2.0	6.8
3	1.7	8.1	11	2.7	6.2	19	3.7	9.3	27	2.1	4.5
4	1.6	6.3	12	2.7	11.2	20	3.9	7.9	28	2.0	3.8
5	1.3	4.9	13	2.6	13.0	21	3.8	6.9	29	1.8	5.3
6	1.6	3.4	14	3.0	15.6	22	3.0	4.8	30	1.7	7.5
7	0.6	1.8	15	3.4	14.8	23	2.4	2.7	31	2.1	6.7
8	1.3	2.5	16	3.7	14.0	24	3.0	2.7	Mn.	2.4	7.3

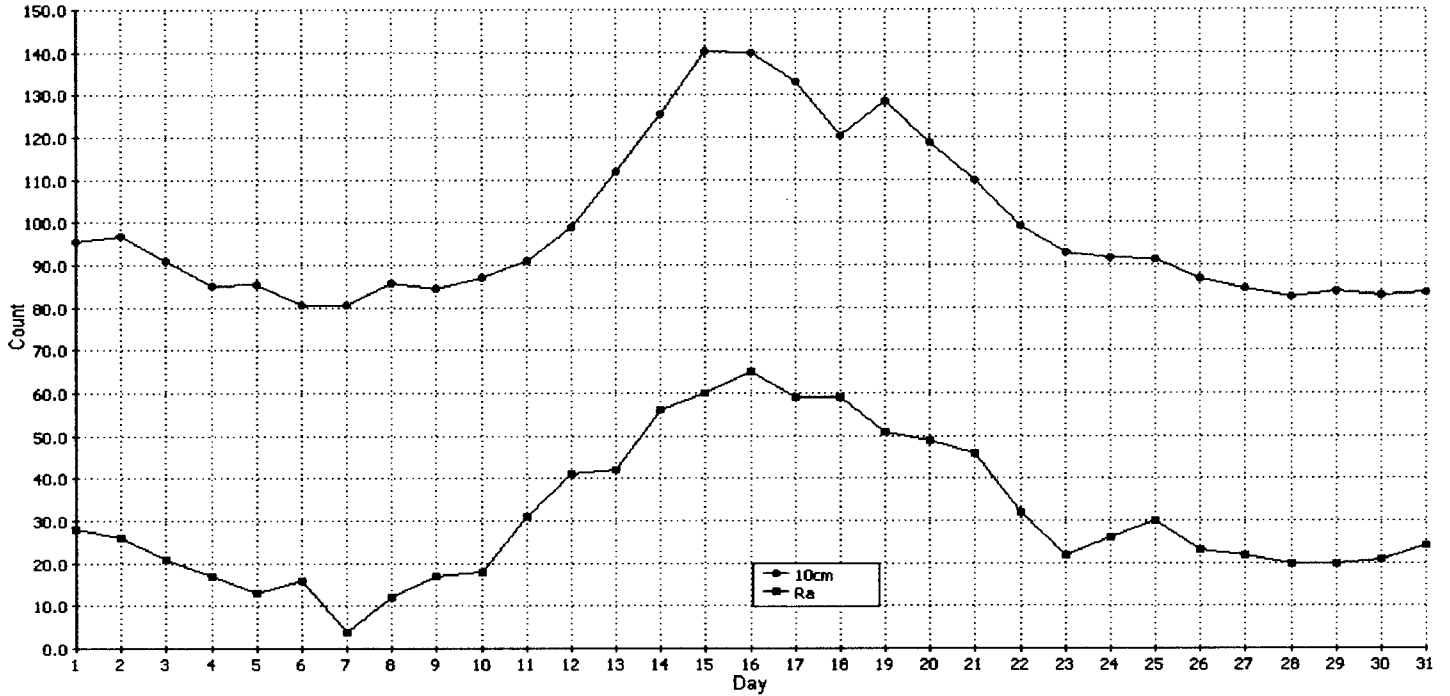


Fig. 1. 10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for January 2005.
10 cm source: <http://www.drao.nrc.ca/icarus>

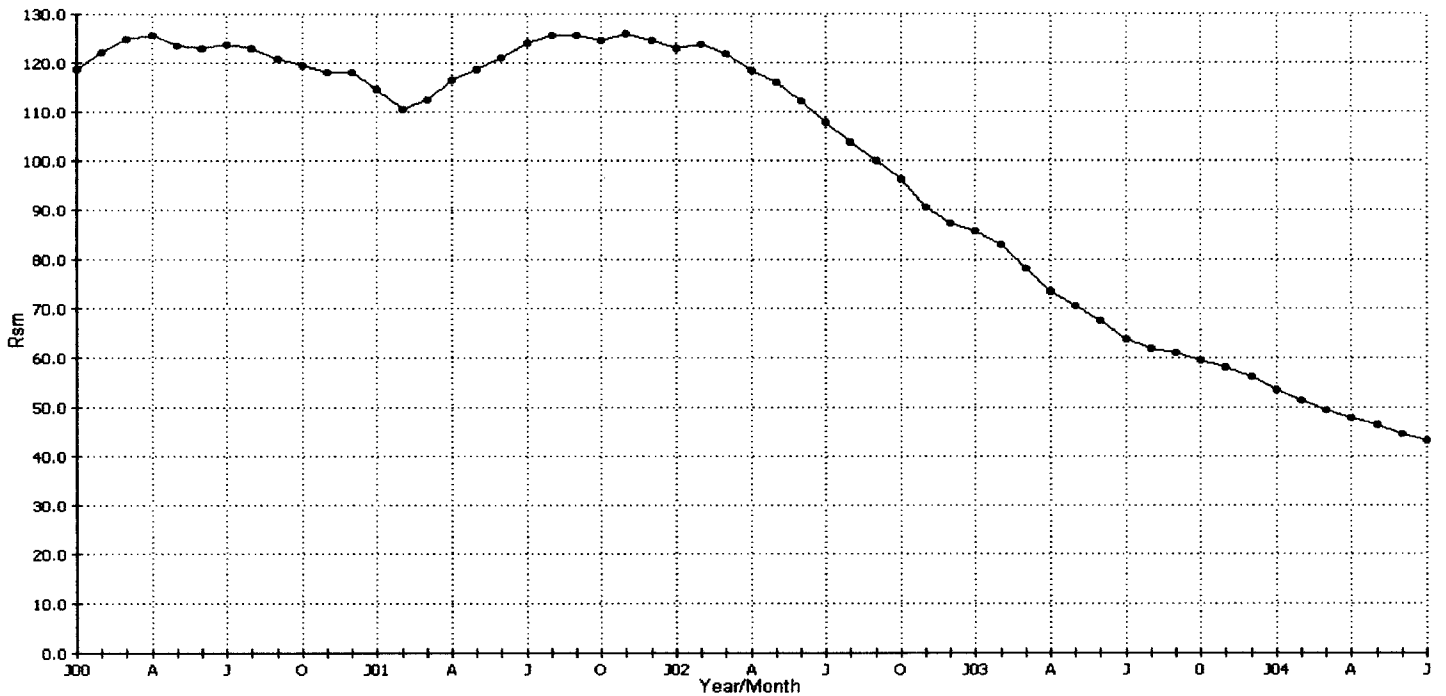
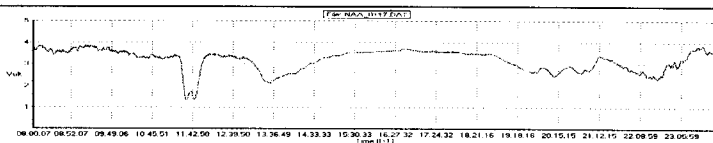


Fig. 2. Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to July 2004 (Waldmeier Method).

Sudden Ionospheric Disturbance Report

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Sudden Ionospheric Disturbances (SID) Recorded During January 2005

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
050101	0014	1	050114	1412	1+	050116	1010	1-
050101	0030	2+	050114	1911	1	050116	1151	1-
050101	1836	2+	050114	2118	1+	050116	1517	1
050102	1617	3+	050114	2204	1-	050116	1538	1-
050103	0428	2+	050115	0032	1-	050116	1721	1
050103	0935	1-	050115	0042	2+	050116	1806	1-
050104	0617	2+	050115	0341	1+	050116	1832	1-
050104	1111	1+	050115	0418	1-	050117	0000	1+
050105	1631	2+	050115	0433	1+	050117	0246	1
050105	1642	2+	050115	0612	3+	050117	0952	1+
050109	0848	2	050115	0638	1+	050117	1639	2
050109	1443	1	050115	0938	2	050117	1953	1+
050112	0708	1+	050115	1135	1-	050117	2244	1-
050113	0809	2	050115	1149	1	050118	0043	1+
050113	1118	2	050115	1233	1-	050118	0213	1-
050113	1129	1-	050115	1358	1-	050118	0618	2
050113	1410	1-	050115	1423	1+	050118	0648	1
050113	1635	1-	050115	1657	1	050118	1134	1+
050113	1713	1+	050115	1708	1	050118	1543	2+
050113	1905	1-	050115	1819	1+	050118	1550	2
050114	0752	1-	050115	1855	1+	050118	1850	1-
050114	0838	1-	050115	1952	1-	050118	1904	1
050114	1020	1+	050115	2208	1+	Partial data set due to space constraints. See AAVSO website for full data set.		
050114	1145	1	050116	0211	2+			
050114	1241	1	050116	0757	1-			

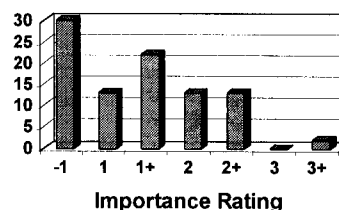
Importance rating : Duration(min) 1-: <19 1: 19-25 1+: 26-32 2: 33-45 2+: 46-85 3: 86-125 3+: >125

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	NAA NAU
D Toldo	A52	NAA NWC VTX
S Hansen	A59	NAA
P King	A80	FTA
W Moos	A84	FTA
M Hill	A87	NAA
J Mandaville	A90	NPM
L Anderson	A91	NWC
G Di Filippo	A93	DHO HWU
T Poulos	A95	NAA
R Battaiola	A96	HWU
J Wallace	A97	NAA
M King	A99	HWU
P Campbell	A100	NLK
G Bressan	A101	HWU
F Steyn	A102	NAA NWC
L Observatory	A107	DHO
P Mortfield	A108	NAA

SID Events Recorded for January 2005



Solar Events

The sun started off 2005 with a bang! We had a lot of activity, much of it due to one very large sunspot group (region 720) which produced many energetic events. Observers reported 93 correlated SID events, a very large number for these times of solar minimum. There were not too many long duration events but this was made up for by the great quantity of events that were reported with a lower importance rating. In January the GOES-12 satellite recorded 240 X-Ray flares. Of these, 6 were X-Class flares! There have not often been this many in one month. A lot of these more energetic events, including an additional 21 M-Class flares, took place during the time frame from the 11th to the 21st of the month while sunspot region 720 crossed the disk. You can see that the SID events reported by our observers clustered around this time frame as well.

As we start another year I want to take this opportunity to thank all of you for contributing your data so promptly and in good format. I've had to ask a few of you to occasionally fix things up with your data files but have always had a good response. This helps me out tremendously and I thank you for that as well. I hope the year ahead brings you good observing and interesting projects. I myself am working on a new H-Alpha telescope so hopefully I can "see" the flare events that we all record the effects of with our SID monitors. Happy New Year to all our observers.

- Michael Hill, AAVSO SID Analyst -

Solar Flare Summary based on GOES-12 Data January 2005

