

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

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December 2005

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

Day	N	Raw Mean	Ra
1	26	63	49
2	19	68	54
3	24	83	61
4	19	73	56
5	20	66	50
6	28	53	38
7	21	31	23
8	20	33	26
9	22	39	28
10	26	46	35
11	21	49	38
12	25	47	37
13	23	53	38
14	19	51	38
15	24	51	38
16	25	44	31
17	25	34	25
18	29	36	27
19	29	49	37
20	23	51	39
21	27	47	37
22	24	45	36
23	28	52	38
24	21	66	48
25	21	56	40
26	27	67	52
27	24	66	54
28	24	62	47
29	25	62	45
30	22	61	46
31	24	49	37

Table II. December 2005 Observers

13 AAP P.Abbott	10 KAPJ J.Kaplan
25 ANGR R.Ang	17 KNJS J.Knight
20 ARAG G.Araujo	2 KROL L.Krozel
8 BARH H.Barnes	8 LARJ J.Larriba
7 BATR R.Battaiola	29 MCE E.Mochizuki
12 BERJ J.Berdejo	24 MENM M.Menegotto
6 BLAJ J.Blackwell	19 MMI M.Moeller
10 BMF M.Boschat	18 OATS S.Oatney
15 BOSB B.Bose	22 RITA A.Ritchie
24 BRAB B.Branchett	18 SCGL G.Schott
6 BRAD D.Branchett	2 SIMC C.Simpson
1 BRAM M.Bradbury	6 STEM G.Stemmler
23 BRAR R.Branch	17 STQ N.Stoikidis
20 BROB R.Brown	25 SUZM M.Suzuki
8 BVK K.Bankston	8 SZUM M.Szulc
3 CAMP P.Campbell	26 TESD D.Teske
27 CHAG G.Morales	6 TJV J.Temprano
17 CKB B.Cudnik	5 URBP P.Urbanski
13 CLZ L.Corp	16 VARG A.Vargas
29 CR T.Cragg	5 VIDD D.Vidican
26 DEJV J.van Delft	13 WILW W.Wilson
22 DGP G.Dyck	5 WRP R.Wheeler
15 FERJ J.Fernandez	16 YESH H.Yesilyaprak
23 FLET T.Fleming	
26 FUJK K.Fujimori	
3 HAYK K.Hay	
10 JAMD D.James	
6 JEFT T.Jeffrey	

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

Means: 23.7 53.3 40.3

Total No. of Observers: 51

Total No. of Observations: 735

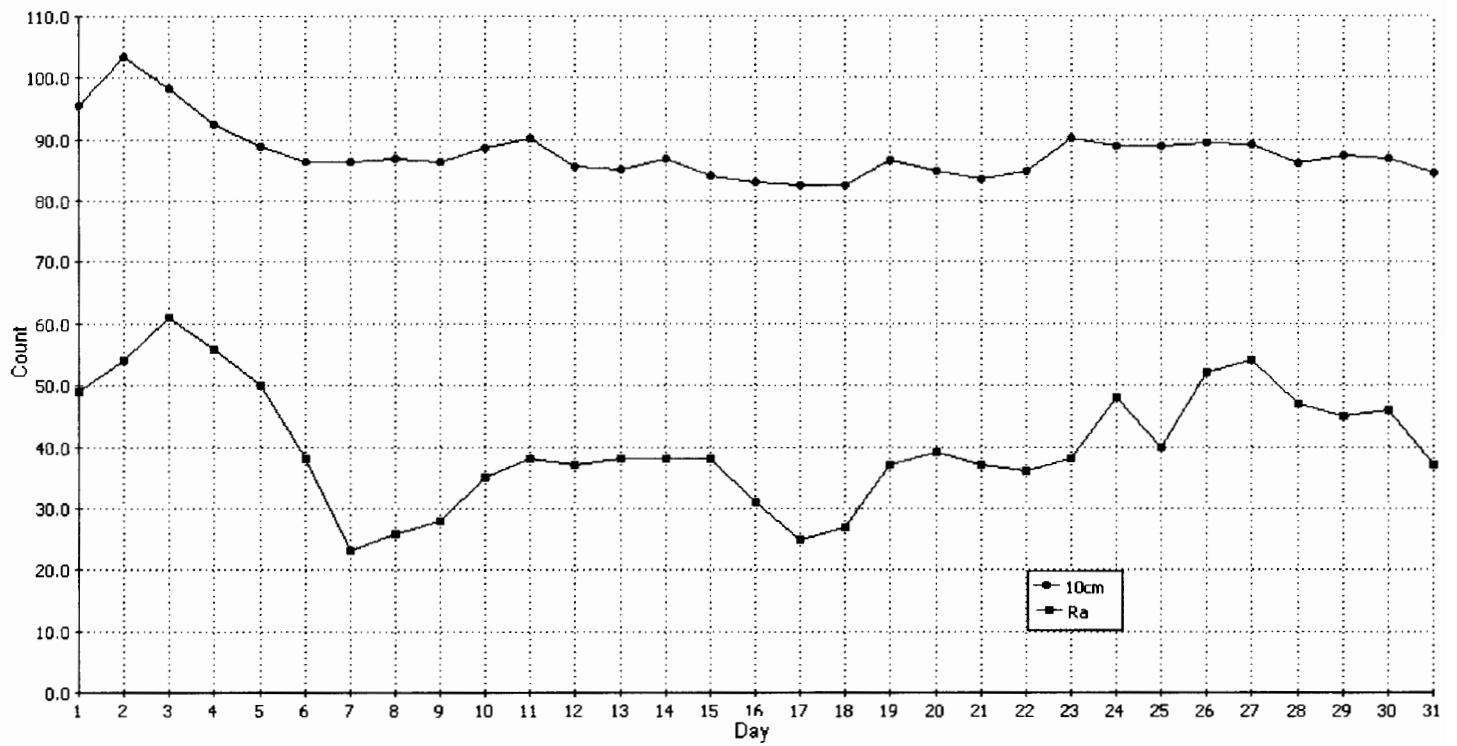


Fig. 1. 10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for December 2005.
 10 cm source: <http://www.drao.nrc.ca/icarus>

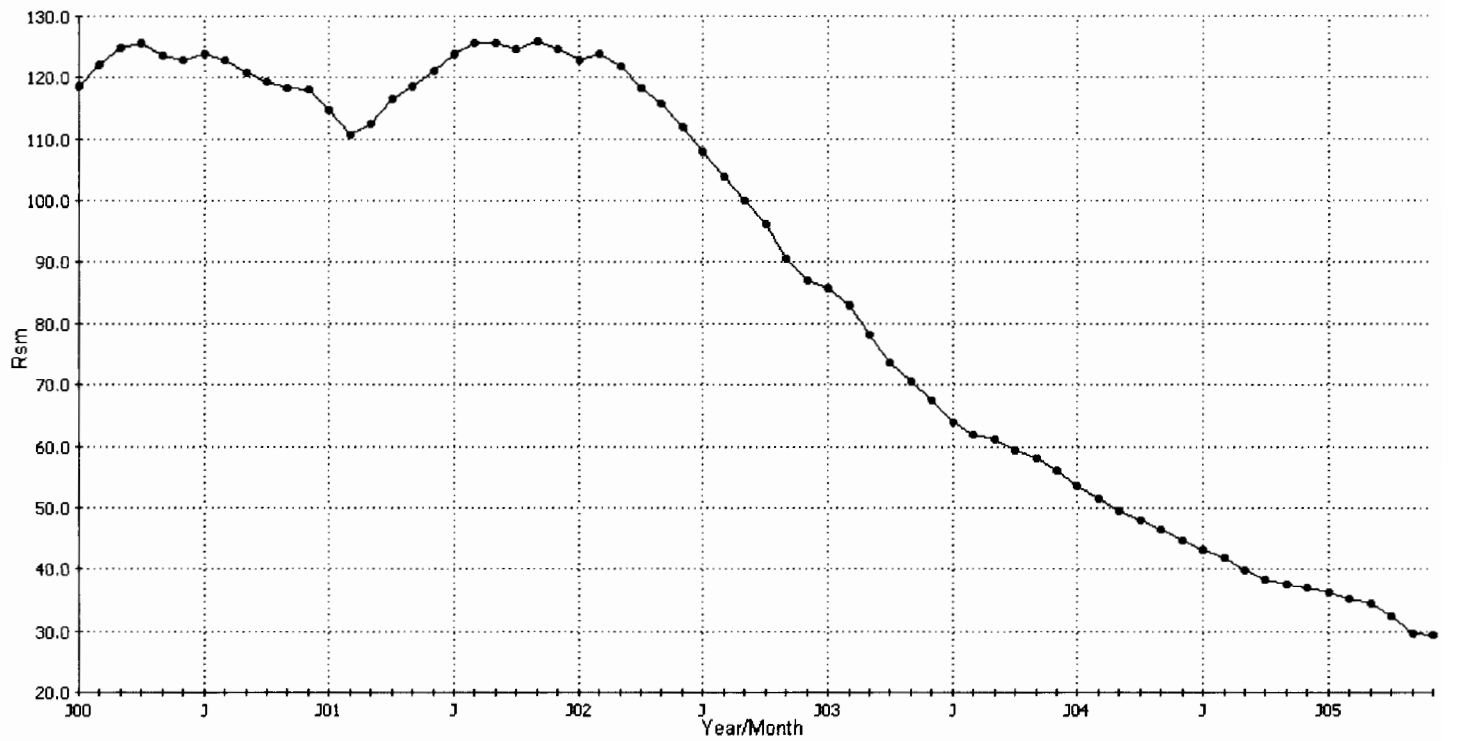


Fig. 2. Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to June 2005 (Waldmeier Method).

Table IV. Sunspot and SID Observers Who Contributed Reports During 2005.

Sunspot Observers

AAP	Patrick Abbott	Canada
ARAG	Gema Araujo	India
AJV	Javier Alonso	Spain
ANGR	Raymund Ang	Philippeans
BARH	Howard Barnes	New Zealand
BATR	Roberto Battaiola	Italy
BEB	Ray Berg	USA
BERJ	Jose Berdejo	Spain
BLAJ	John Blackwell	USA
BMF	Michael Boschat	Canada
BOSB	Biswajit Bose	India
BRAB	Brenda Branchett	USA
BRAD	David Branchett	USA
BRAM	Mark Bradbury	USA
BRAR	Robert Branch	USA
BROB	Bob Brown	USA
CAMP	Paul Campbell	Canada
CHAG	German Morales	Bolivia
CKB	Brian Cudnik	USA
CLZ	Laurent Corp	France
COMT	Thomas Compton	USA
CR	Tom Cragg	Australia
DEJV	Jacques van Delft	South Africa
DELS	Susan Delaney	USA
DEMF	Frank Dempsey	Canada
DGP	Gerald Dyck	USA
DRAJ	Jean Dragesco	France
DUBF	Franky Dubois	Belgium
FEEC	Carl Feehrer	USA
FERJ	Jose Fernandez	Spain
FLET	Tom Fleming	USA
FUJK	Kenichi Fujimori	Japan
GOEM	Martin Goetz	Germany
HALB	Brian Halls	England
HAYK	Kim Hayk	Canada
HRUT	Timothy Hrutkay	USA
JAMD	David James	USA
JEFT	Thomas Jeffrey	USA
JENJ	Jamey Jenkins	USA
JENS	Simon Jenner	England
KAPJ	John Kaplan	USA
KHAR	Rana Khan	India
KNJS	James Knight	South Africa
KQR	Richard Kinne	USA
KROL	Larry Krozel	USA
KUZM	Mikhail Kuzmin	Russia
LARJ	Jose Larriba	Spain
LERM	Michel Lerman	Canada
LEVM	Monty Leventhal	Australia
MARE	Enrico Mariani	Italy
MARJ	Jose Maranon	Spain
MCE	Etsuiku Mochizuki	Japan
MEU	Euan Mason	New Zealand
MENM	Miguel Menegotto	Argentina
MMI	Michael Moeller	Germany
OATS	Susan Oatney	USA
OBSO	IPS Observatory	Australia
OYE	Yenal Ogmen	Turkey

Sunspot Observers (cont'd.)

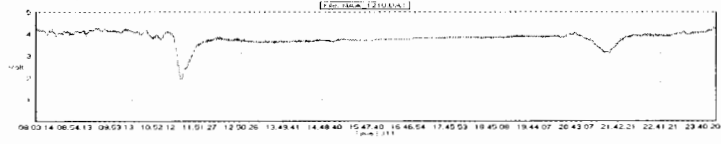
PEKT	Riza Pektas	Turkey
RICE	E. C. Richardson	England
RIDC	Charles Ridgway	USA
RITA	Arthur Ritchie	USA
SCGL	Gerd Lutz Schott	Germany
SCHG	Greg Scholl	USA
SDP	Dolores Sharples	USA
SIMC	Clyde Simpson	USA
STEF	George Stefanopoulos	Greece
STEM	Gerhard Stemmler	Germany
STQ	Nick Stoikidis	Greece
SUZM	Miyoshi Suzuki	Japan
SZAK	Kryzstoff Szatkowski	Poland
SZUM	Mieczyslaw Szulc	Poland
TESD	David Teske	USA
THR	Raymond Thompson	Canada
TJV	Javier Temprano	Spain
URBP	Piotr Urbanski	Poland
VARG	Alberto Vargas	Boliva
VIDD	Daniel Vidican	Romania
WILW	William Wilson	USA
WRP	Russell Wheeler	USA
YESH	Hulya Yesilyaprak	Turkey

SID Observers

A-29	Andy Clerkin	USA
A-50	Jerry Winkler	USA
A-52	Domenic Toldo	South Africa
A-59	Steve Hansen	USA
A-63	James Ellerbe	Spain
A-80	Peter King	England
A-84	Walter Moos	Switzerland
A-87	Mike Hill	USA
A-90	Jim Mandaville	USA
A-91	Len Anderson	Australia
A-93	Guglielmo DiFilipo	Italy
A-95	Ted Poulos	USA
A-96	Roberto Battaiola	Italy
A-97	Jon Wallace	USA
A-99	Michael King	England
A-100	Paul Campbell	Canada
A-101	Giorgio Bressan	Italy
A-102	Francois Steyn	South Africa
A-103	Biswajit Bose	India
A-107	Nick Stoikidis	Greece
A-108	Paul Mortfield	USA
A-112	Andries Son	Belgium
A-115	Mark Suhovecky	USA
A-116	Trent Bjorndahl	Canada
A-117	Ken Hubal	USA

Sudden Ionospheric Disturbance Report

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Marlborough, MA 01752 USA
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Sudden Ionospheric Disturbances (SID) Recorded During December 2005

(Analysis performed by Michael Hill, SID Analyst)

Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
051201	0835	1-						
051202	0250	2+						
051202	1013	1+						
051202	1306	1-						
051202	2017	1-						
051203	0553	1-						
051203	0727	1-						
051213	0451	2						
051213	1250	2						
051213	1452	2+						
051222	0954	1+						
051222	1651	1						
051223	0731	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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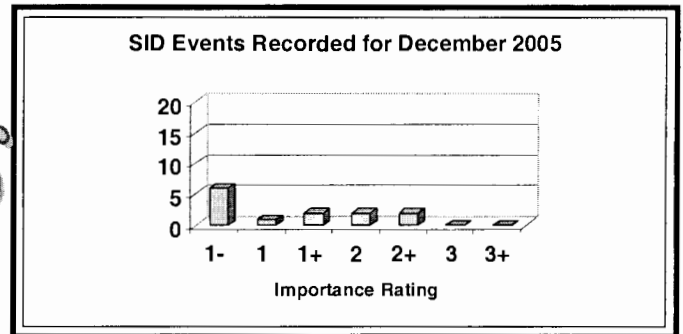
Observer	Code	Station(s) monitored
J Winkler	A50	NAA
M Hill	A87	NAA
J Mandaville	A90	NPM
L Anderson	A91	NWC
T Poulos	A95	NAA
R Battaiola	A96	HWU
M King	A99	HWU
P Campbell	A100	NLK
G Bressan	A101	HWU
F Steyn	A102	NAA NWC

Observer	Code	Station(s) monitored
L Observatory	A107	DHO
P Mortfield	A108	NAA

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)

Solar Events



December was a fairly slow month. There was activity mostly around the beginning of the month and then mid-month or so. Very few SID's were reported - only thirteen and of these, most were of lower importance rating. There were 139 X-ray flares recorded by the GOES-12 satellite. Of these, four were M-Class and the rest C or B class.

