

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE

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

Day	N	Raw Mean	Ra
1	38	115	84
2	36	143	109
3	43	145	114
4	33	153	<b>118</b>
5	35	141	101
6	31	124	91
7	37	106	77
8	30	104	75
9	35	84	65
10	40	64	49
11	45	61	47
12	37	54	41
13	36	56	42
14	38	39	28
15	30	29	22
16	29	16	12
17	33	3	2
18	38	0	<b>0</b>
19	39	1	1
20	42	1	1
21	42	0	0
22	37	4	3
23	34	18	13
24	34	19	14
25	30	19	14
26	33	21	16
27	35	18	13
28	43	29	22
29	39	50	37
30	40	63	48
31	34	94	70

Means:            36.3            57.2            42.9

Total No. of Observers: 57

Total No. of Observations: 1126

**Table II. July 2005 Observers**

21 AAP P.Abbott	1 KROL L.Krozel
28 ARAG G.Araujo	15 LARJ J.Larriba
1 ARE R.Allessi	13 LERM M.Lerman
9 BARH H.Barnes	21 LEVM M.Leventhal
12 BATR R.Battaiola	18 MARE E.Mariani
20 BERJ J.Berdejo	29 MARJ J.Maranon
11 BLAJ J.Blackwell	17 MCE E.Mochizuki
15 BMF M.Boschat	15 MENM M.Menegotto
3 BOSB B.Bose	28 MMI M.Moeller
26 BRAB B.Branchett	29 OATS S.Oatney
31 BRAR R.Branch	16 OBSO IPS Observatory
31 BROB R.Brown	14 RICE E.Richardson
8 CAMP P.Campbell	15 RIDC C.Ridgway
30 CHAG G.Morales	28 RITA A.Ritchie
16 CKB B.Cudnik	14 SCHG G.Scholl
18 CLZ L.Corp	11 SIMC C.Simpson
23 COMT T.Compton	24 STEM G.Stemmler
27 CR T.Cragg	28 STQ N.Stoikididis
27 DEJV J.van Delft	21 SUZM M.Suzuki
26 DGP G.Dyck	27 SZUM M.Szulc
13 FEEC C.Feehrer	31 TESD D.Teske
22 FERJ J.Fernandez	11 THR R.Thompson
21 FLET T.Fleming	18 TJV J.Temprano
22 FUJK K.Fujimori	21 URBP P.Urbanski
19 GOEM M.Goetz	21 VARG A.Vargas
15 HAYK K.Hay	23 VIDD D.Vidican
14 HRUT T.Hrutkay	28 WILW W.Wilson
22 KAPJ J.Kaplan	29 YESH H.Yesilyaprak
29 KNJS J&S	

**Note: An intense storm in the vicinity of AAVSO headquarters on August 2 resulted in the loss of telephone service and access to the Internet, and some equipment damage. Although it is unlikely, transmissions of solar observer reports to the AAVSO may have been affected. If you emailed a report and do not see your name and contribution listed in Table II above, please resubmit your report. Thank you. Ed.**

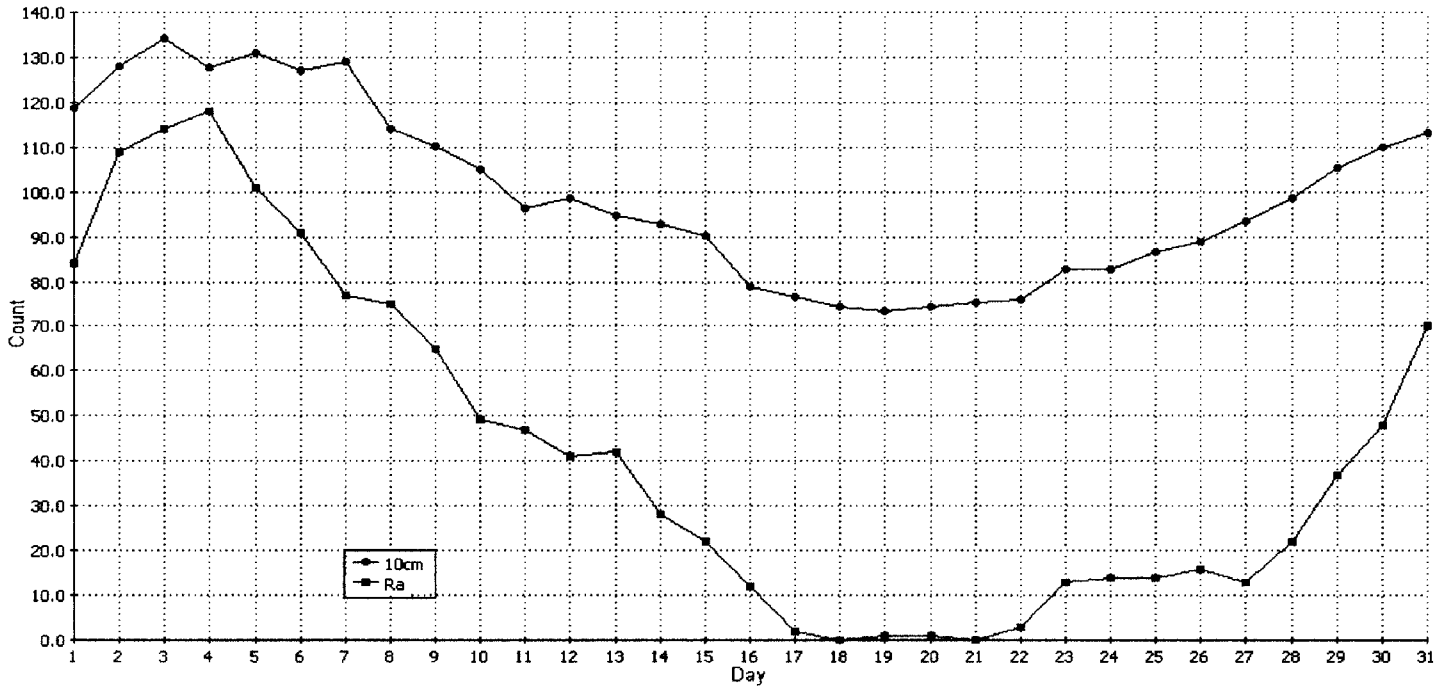
### Reporting Addresses

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

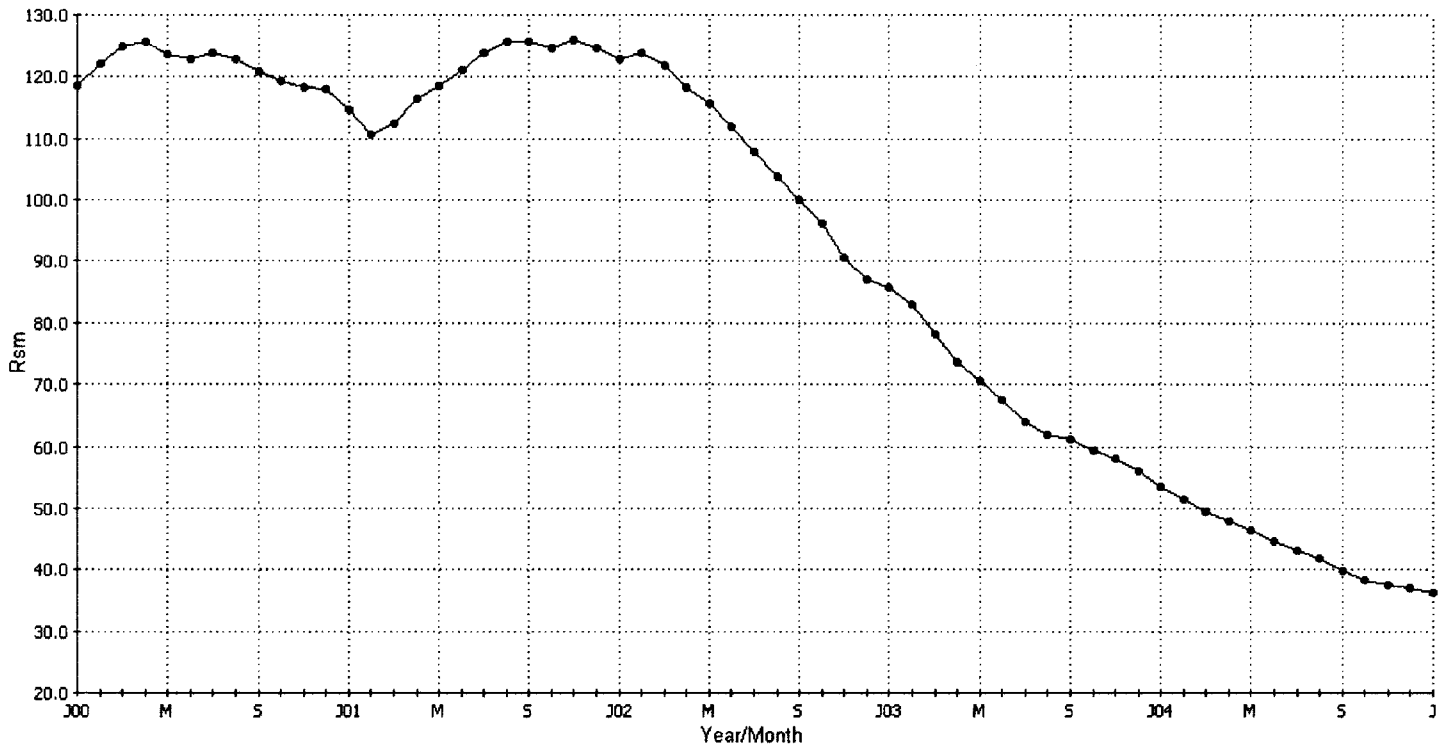
**SID Solar Flare Reports -- email:** noatak@aol.com  
**postal mail:** Mike Hill  
114 Prospect St. Marlboro, MA 01752

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

Day	RG	S:G	Day	RG	S:G	Day	RG	S:G	Day	RG	S:G
1	6.9	6.7	9	4.5	8.7	17	0.2	5.0	25	1.1	7.3
2	8.0	7.9	10	3.5	8.3	18	0.0	0.0	26	1.0	11.0
3	7.7	8.8	11	3.5	7.4	19	0.1	0.0	27	1.1	6.4
4	8.3	8.4	12	3.4	5.9	20	0.1	0.0	28	1.9	5.3
5	7.6	8.6	13	4.1	3.7	21	0.0	0.0	29	2.8	7.9
6	6.2	10.0	14	2.7	4.4	22	0.3	0.0	30	3.2	9.7
7	5.0	11.2	15	1.8	6.1	23	1.1	6.4	31	5.1	8.4
8	4.9	11.2	16	1.0	6.0	24	1.2	5.8	<b>Mn.</b>	<b>3.2</b>	<b>6.3</b>



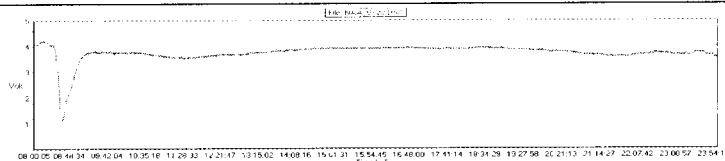
**Fig. 1. 10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for July 2005.**  
10 cm source: <http://www.drao.nrc.ca/icarus>



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

# Sudden Ionospheric Disturbance Report

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 noatak@aol.com



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

(Analysis performed by Michael Hill, SID Analyst)

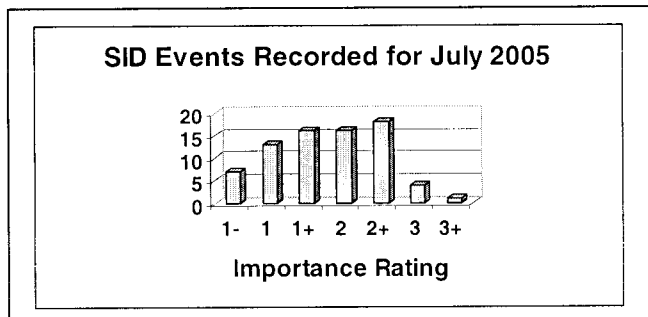
Date	Max	Imp	Date	Max	Imp	Date	Max	Imp
050701	0503	2	050710	1517	1+	050713	2155	1
050701	0730	1-	050711	1510	2	050714	0724	1+
050702	0318	2	050712	0209	2	050714	1023	1+
050702	0641	2	050712	0702	1	050714	1635	1
050702	0933	1	050712	0807	2+	050714	1724	1+
050702	1238	1+	050712	1004	1	050714	2300	2
050703	0458	2+	050712	1126	1+	050715	1146	1
050703	0914	3	050712	1214	1	050716	0341	2+
050706	0627	1-	050712	1305	2+	050716	0636	2
050706	0821	1-	050712	1558	1+	050716	0717	1+
050706	0850	1	050712	1624	1+	050716	1123	1+
050706	1307	1	050712	2141	2+	050717	0632	2+
050706	1607	1-	050712	2245	2+	050727	0502	3
050707	0802	1-	050713	0558	2+	050728	0026	2+
050707	1228	1+	050713	0640	1-	050728	0630	2
050707	1246	1	050713	0741	1	050728	2152	2
050707	1330	1+	050713	0825	1+	050728	2201	2+
050707	1520	2	050713	0905	1	050729	1733	1+
050707	1620	2+	050713	1015	1	050730	0520	1+
050708	0523	2	050713	1219	1+	050730	0628	2+
050708	1621	2+	050713	1409	2	050730	1655	3
050709	1028	2	050713	1417	2+	050730	1702	3
050709	1702	2+	050713	1424	3+	050731	0843	1-
050709	2200	2+	050713	1813	2+	050731	0925	2
050709	2208	2+	050713	1910	2	050731	1223	2

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  $\pm 5$  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 NML NPM
D Toldo	A52	NWC XXX
M Hill	A87	NAA
J Mandaville	A90	HWU
L Anderson	A91	NWC
G Di Filippo	A93	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
B Bose	A103	VTX
L Observatory	A107	DHO
P Mortfield	A108	NAA



# Solar Events

July turned out to be a very active month. Even though there was a distinct lull in activity from July 19-22 where there was not a single X-Ray flare event, the month overall was active. Our observers reported a total of 75 correlated SID events. Many of these were in the low to moderate importance range with a few long duration events. This closely matches the the GOES-12 X-Ray flare observation. There were 209 X-Ray events and of these 19 were M-Class events and 2 were X-Class events. Thanks to all of you for sending in your observations. As always all reports are appreciated.

