

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - SOLAR COMMITTEE



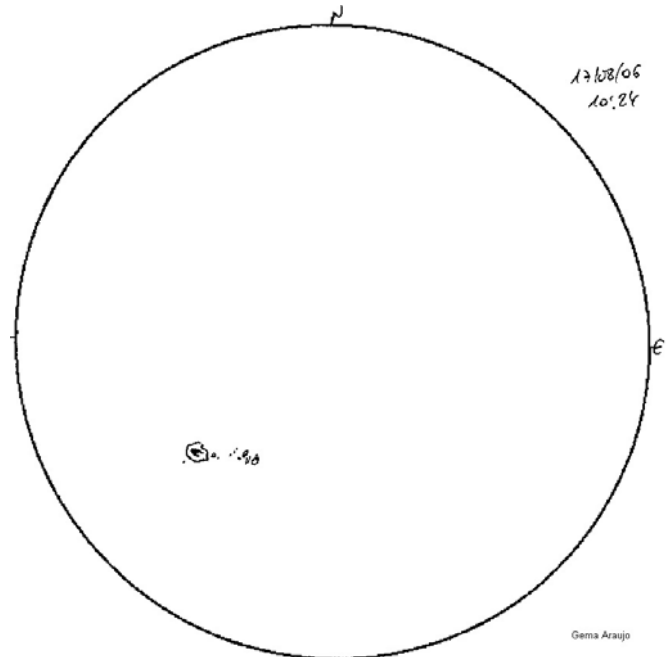
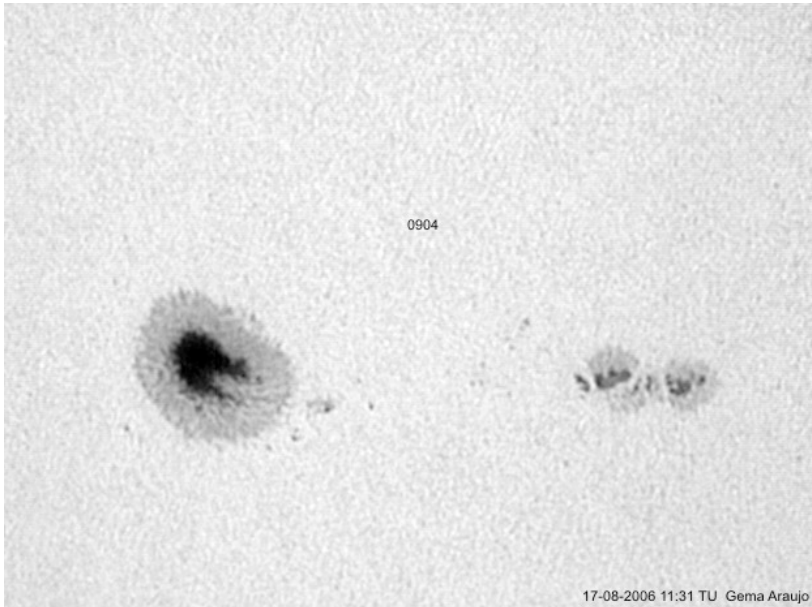
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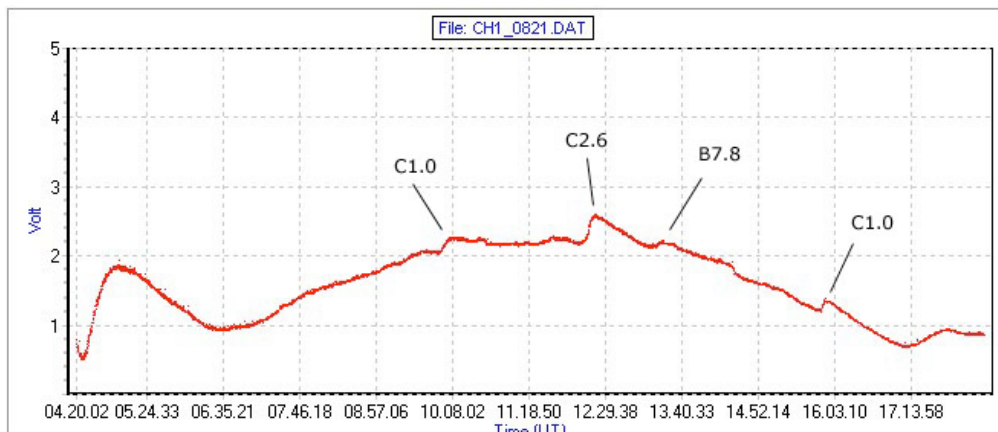
Volume 62 Number 8

August 2006

August came and went, but fortunately there was some solar activity worth observing. Mike Hill welcomes two new SID observers, both from France in his SID section and as always I'd like to thank solar group members that took the time to send in some solar images as well as a little about themselves. This month I'd like to highlight the observations of several European observers.



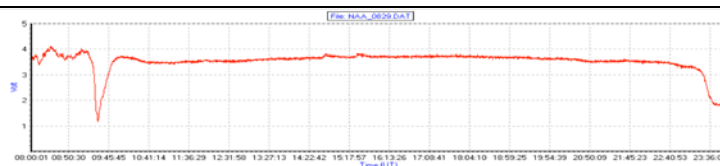
Gema Araujo, lives in the south of Spain and takes daily images and drawings of the sun using an 80mm f/11 refractor. She became interested in the sun while witnessing the August 1999 eclipse and began regular observations in 2000. The photo and drawing were both made on August 17, 2006 at her home. <http://astrosurf.com/obsolar>



Roberto Battaiola (A96) lives close to Milan and has been monitoring SID flares since 1999. This plot from August 21, 2006 shows multiple flares while monitoring station HWU at 18.3 kHz. He uses a Gyrator II from fellow SID observer Guglielmo Di Filippo (A93).

# Sudden Ionospheric Disturbance Report

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 Marlborough, MA 01752 USA  
 noatak@aol.com



## Sudden Ionospheric Disturbances (SID) Recorded During August 2006

(Analysis performed by Michael Hill, SID Analyst)

| Date   | Max  | Imp | Date | Max | Imp | Date | Max | Imp |
|--------|------|-----|------|-----|-----|------|-----|-----|
| 060809 | 0122 | 1   |      |     |     |      |     |     |
| 060810 | 0601 | 1   |      |     |     |      |     |     |
| 060810 | 0908 | 1-  |      |     |     |      |     |     |
| 060810 | 1813 | 1+  |      |     |     |      |     |     |
| 060811 | 0805 | 1-  |      |     |     |      |     |     |
| 060811 | 0943 | 1-  |      |     |     |      |     |     |
| 060811 | 1245 | 2+  |      |     |     |      |     |     |
| 060813 | 0854 | 1-  |      |     |     |      |     |     |
| 060815 | 1046 | 1-  |      |     |     |      |     |     |
| 060819 | 1125 | 1+  |      |     |     |      |     |     |
| 060820 | 1335 | 2+  |      |     |     |      |     |     |
| 060820 | 1633 | 1   |      |     |     |      |     |     |
| 060820 | 2109 | 1-  |      |     |     |      |     |     |
| 060821 | 1006 | 2   |      |     |     |      |     |     |
| 060821 | 1220 | 2+  |      |     |     |      |     |     |
| 060821 | 1321 | 1   |      |     |     |      |     |     |
| 060821 | 1554 | 1   |      |     |     |      |     |     |
| 060822 | 1321 | 2+  |      |     |     |      |     |     |
| 060826 | 2006 | 2+  |      |     |     |      |     |     |
| 060828 | 1107 | 1+  |      |     |     |      |     |     |
| 060829 | 1446 | 1   |      |     |     |      |     |     |
| 060829 | 1530 | 1   |      |     |     |      |     |     |
|        |      |     |      |     |     |      |     |     |
|        |      |     |      |     |     |      |     |     |
|        |      |     |      |     |     |      |     |     |
|        |      |     |      |     |     |      |     |     |

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

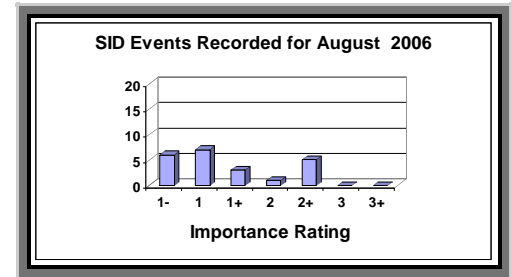
| Observer      | Code | Station(s) monitored |
|---------------|------|----------------------|
| A Clerkin     | A29  | NAA                  |
| M Hill        | A87  | NAA                  |
| J Mandaville  | A90  | NPM                  |
| G Di Filippo  | A93  | DHO                  |
| R Battaiola   | A96  | DHO HWU              |
| J Wallace     | A97  | NAA                  |
| P Campbell    | A100 | NLK                  |
| F Steyn       | A102 | NWC                  |
| L Observatory | A107 | DHO                  |
| P Mortfield   | A108 | NAA                  |

| Observer    | Code | Station(s) monitored |
|-------------|------|----------------------|
| M Suhovecky | A115 | NAA                  |
| K Hubal     | A117 | NAA NLK              |
| L Loudet    | A118 | DHO                  |
| J Godet     | A119 | GQD                  |

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)

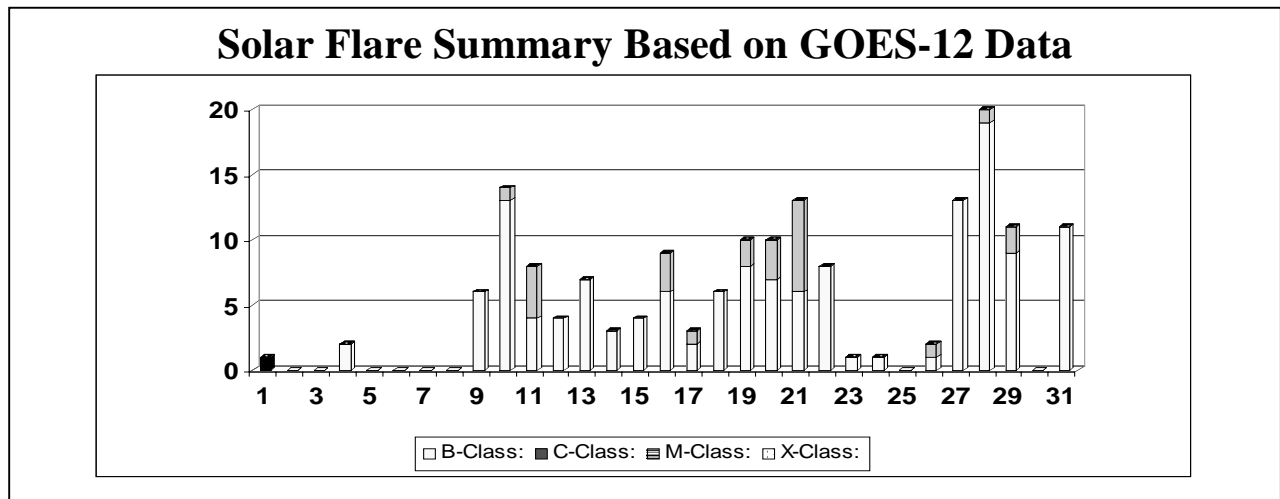
# Solar Events



August was more active for SID's than we have been used to these past months. This month there were 22 correlated SID events although most were of low importance rating. Corresponding to this activity there were 160 X-Ray flares as recorded by the GOES-12 satellite. Most of these were small B-Class flares with 17 of them of C-Class. A lot of low level activity. It is interesting to see a sudden spike in activity, however, as the new solar cycle appears to be just starting it's ramp up to solar max. It will be good to monitor this activity closely as time progresses.

I would like to welcome two new observers, both from France. Lionel Loudet (A118) and Jean-Pierre Godet (A119). Both have very impressive setups and get very good clean signals of the stations that they monitor. Lionel also has a very nice SID Monitoring web site which can be viewed by going to the url: <http://sidstation.lionelloudet.homedns.org>

Sadly, one member has decided to "hang up his loops" as he said himself. Jerry Winkler (A50) will no longer be reporting and his contribution will certainly be missed. Thanks so much Jerry for your many years of dedicated service to the AAVSO SID Program.



American Relative Sunspot Numbers (Ra) for  
August 2006 [**boldface = maximum, minimum**]

| Day | N  | Raw Mean | Ra        |
|-----|----|----------|-----------|
| 1   | 35 | 10       | 7         |
| 2   | 40 | 12       | 8         |
| 3   | 35 | 5        | 3         |
| 4   | 32 | 0        | <b>0</b>  |
| 5   | 42 | 0        | <b>0</b>  |
| 6   | 36 | 1        | 1         |
| 7   | 35 | 0        | <b>0</b>  |
| 8   | 38 | 9        | 6         |
| 9   | 39 | 15       | 10        |
| 10  | 37 | 24       | 17        |
| 11  | 40 | 25       | 17        |
| 12  | 42 | 24       | 17        |
| 13  | 44 | 25       | 18        |
| 14  | 36 | 29       | 20        |
| 15  | 38 | 27       | 18        |
| 16  | 40 | 29       | 21        |
| 17  | 38 | 26       | 18        |
| 18  | 38 | 28       | 20        |
| 19  | 37 | 22       | 16        |
| 20  | 40 | 14       | 10        |
| 21  | 38 | 21       | 14        |
| 22  | 40 | 15       | 11        |
| 23  | 38 | 19       | 14        |
| 24  | 32 | 20       | 14        |
| 25  | 29 | 23       | 16        |
| 26  | 37 | 21       | 15        |
| 27  | 35 | 33       | 22        |
| 28  | 35 | 33       | <b>23</b> |
| 29  | 32 | 25       | 18        |
| 30  | 38 | 19       | 15        |
| 31  | 38 | 31       | 22        |

Means      **37.2**      **18.9**      **13.3**

No. of Observers: 61

Total No. of Observations: 1154

**Reporting Addresses:**

**Sunspot Reports – Email: solar@aavso.org Postal Mail: AAVSO, 25 Birch St. Cambridge, MA, 02138 Fax: 617-354-0665**

**SID Flare Reports – email: noatak@aol.com Postal Mail: Mike Hill, 114 Prospect St., Marlboro, MA, 01752**

July 2006 Sunspot Observers

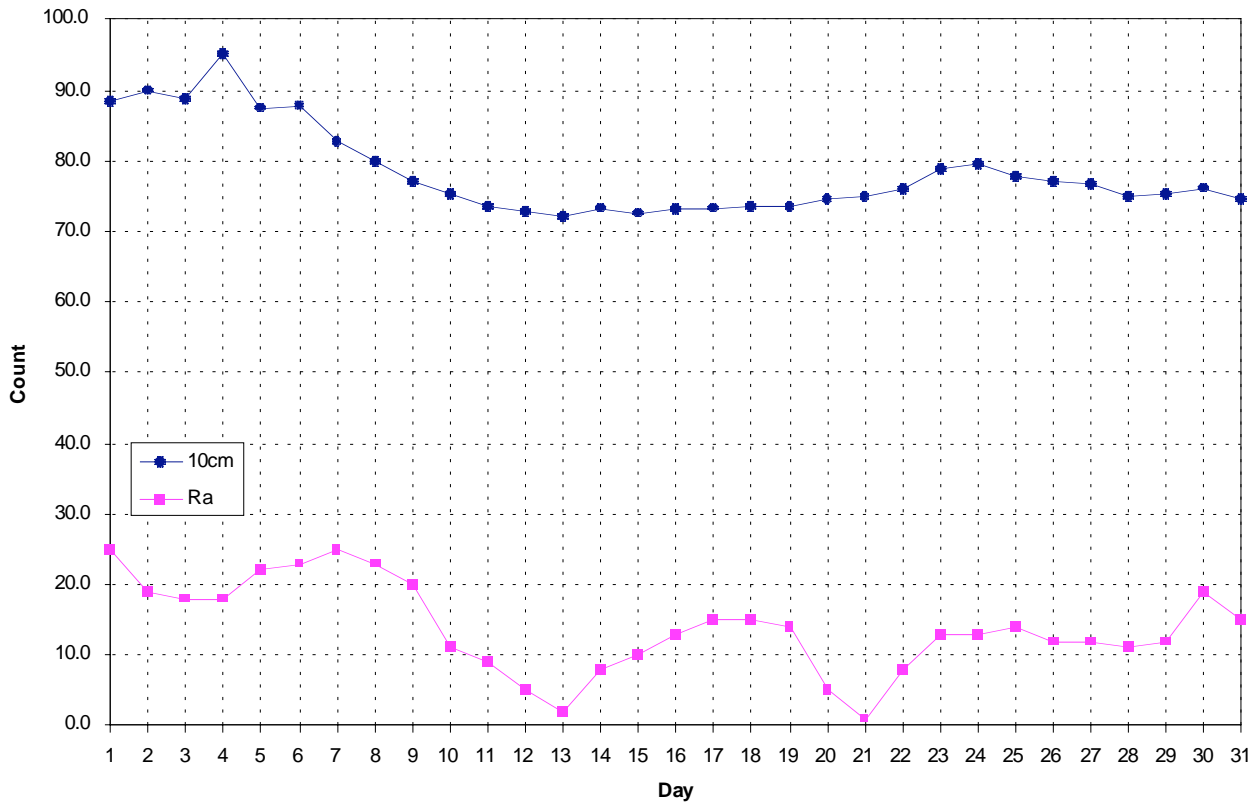
|                |      |    |
|----------------|------|----|
| P. Abbott      | AAP  | 24 |
| J. Alonso      | AJV  | 18 |
| G. Araujo      | ARAG | 30 |
| H. Barnes      | BARH | 14 |
| R. Battaiola   | BATR | 17 |
| R. Berg        | BEB  | 12 |
| J. Berdejo     | BERJ | 6  |
| J. Blackwell   | BLAJ | 5  |
| M. Boschat     | BMF  | 16 |
| B. Branchett   | BRAB | 30 |
| M. Bradbury    | BRAM | 7  |
| R. Branch      | BRAR | 27 |
| R. Brown       | BROB | 31 |
| Y. Brovarets   | BYG  | 29 |
| P. Campbell    | CAMP | 6  |
| G. Morales     | CHAG | 31 |
| B. Cudnik      | CKB  | 19 |
| L. Corp        | CLZ  | 8  |
| T. Compton     | COMT | 18 |
| T. Cragg       | CR   | 26 |
| J. van Delft   | DEJV | 19 |
| G. Dyck        | DGP  | 5  |
| J. Fernandez   | FERJ | 22 |
| T. Fleming     | FLET | 31 |
| K. Fujimori    | FUJK | 18 |
| M. Goetz       | GOEM | 4  |
| B. Halls       | HALB | 22 |
| K. Hay         | HAYK | 13 |
| S. Jenner      | JENS | 6  |
| J. Kaplan      | KAPJ | 27 |
| J. & S. Knight | KNJS | 23 |
| L. Krozel      | KROL | 1  |

|                 |      |    |
|-----------------|------|----|
| J. Larriba      | LARJ | 10 |
| M. Lerman       | LERM | 14 |
| J. Maranon      | MARJ | 31 |
| L. McHenry      | MCHL | 4  |
| E. Mason        | MEU  | 5  |
| M. Moeller      | MMI  | 30 |
| S. Oatney       | OATS | 30 |
| IPS Observatory | OBSO | 12 |
| R. Pektas       | PEKT | 30 |
| E. Richardson   | RICE | 21 |
| A. Ritchie      | RITA | 23 |
| G. Schott       | SCGL | 31 |
| D. Sharples     | SDP  | 1  |
| C. Simpson      | SIMC | 5  |

|                  |      |    |
|------------------|------|----|
| G. Stefanopoulos | STEF | 9  |
| G. Stemmler      | STEM | 25 |
| N. Stoikidis     | STQ  | 28 |
| M. Suzuki        | SUZM | 19 |
| M. Szulc         | SZUM | 30 |
| D. Teske         | TESD | 28 |
| J. Temprano      | TJV  | 15 |
| P. Urbanski      | URBP | 18 |
| A. Vargas        | VARG | 28 |
| D. Vidican       | VIDD | 13 |
| D. Williams      | WILD | 6  |
| W. Wilson        | WILW | 26 |
| R. Wheeler       | WRP  | 7  |

**10 cm Solar Flux and American Relative Sunspot Numbers (Ra) for July 2006**

10 cm source: <http://www.drao.nrc.ca/icarus>



Smoothed Mean Sunspot Numbers (Rsm) from January 2000 to January 2006  
(Waldmeier Method)

