



# The British Astronomical Association

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## BAA Solar Section Newsletter

### Sunspot data 2026 May

| <u>Day</u> | <u>g</u> | <u>R</u> |
|------------|----------|----------|
| 1          | 8        | 132      |
| 2          | 7        | 117      |
| 3          | 7        | 113      |
| 4          | 7        | 111      |
| 5          | 8        | 108      |
| 6          | 6        | 80       |
| 7          | 4        | 60       |
| 8          | 4        | 61       |
| 9          | 5        | 78       |
| 10         | 5        | 76       |
| 11         | 5        | 67       |
| 12         | 4        | 50       |
| 13         | 4        | 52       |
| 14         | 3        | 39       |
| 15         | 3        | 39       |
| 16         | 4        | 50       |
| 17         | 6        | 82       |
| 18         | 5        | 71       |
| 19         | 5        | 66       |
| 20         | 4        | 62       |
| 21         | 5        | 66       |
| 22         | 6        | 94       |
| 23         | 7        | 94       |
| 24         | 7        | 91       |
| 25         | 7        | 89       |
| 26         | 8        | 117      |
| 27         | 9        | 127      |
| 28         | 8        | 117      |
| 29         | 7        | 103      |
| 30         | 8        | 103      |
| 31         | 7        | 89       |

### Monthly Means

|         |       |                |
|---------|-------|----------------|
| MDFg:   | 6.08  | (40 observers) |
| MDFNg   | 3.14  | (34 observers) |
| MDFSg   | 3.10  | (34 observers) |
| Mean R: | 86.51 | (43 observers) |

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Images for the web should be sent to  
Peter Meadows: [peter@petermeadows.com](mailto:peter@petermeadows.com) and  
copied to me. All digital images must be in "JPEG"  
format with the same orientation as naked eye  
orientation. Include initials, date and time in the  
file name. Keep each image file to less than 1Mb.

### On-line Reporting:

<https://britastro.org/solarwl>  
<https://britastro.org/solarha>

### Observers:

|                           |                            |
|---------------------------|----------------------------|
| R S Armas, Cuba           | S Jenner, Kent             |
| J Arnold, Leeds           | A Johnston, Denbighshire   |
| C Bailey, Suffolk         | S L Karl, Aberdeen         |
| R Battaiola, Milan, Italy | D Keep, Lincoln            |
| M Boschat, Canada         | M Kinder, Cheshire         |
| C F Bowron, South Yorks   | C Longthorn, Rugby         |
| A Bowyer, Epsom Downs     | L Macdonald, Berkshire     |
| P Brierley, Cheshire      | R Mackenzie, Kent          |
| S Brown, Leicestershire   | M Mattos, Spain            |
| M Buck, Bristol           | P Meadows, Essex           |
| L Cambon, France          | H Meyerdierks, Germany     |
| I Chouinavas, Greece      | C C Moraes, Brazil         |
| G Clarke, Australia       | L Morrone, Italy           |
| E Colombo, Italy          | M Nicholls, Sheffield      |
| J Cook, Wolverhampton     | R Samworth, Leicestershire |
| P Curtin, USA             | J D Shanklin, Cambridge    |
| S Dawes, London           | D Smith, Essex             |
| A Devey, Spain            | L Smith, Angus             |
| R Dryden, Oxon            | M Stephanou, Greece        |
| F Dubois, Belgium         | T Tanti, Malta             |
| T Emmett, Cambs           | P Taylor, Coventry         |
| E Fabrigat, France        | D Teske, Mississippi, USA  |
| M Giuntoli, Italy         | C B Thielke, Denmark       |
| D Glover, Essex           | SOS PTMA, Poland           |
| S Green, Lancs            | TOS, Poland                |
| K Hall, Warrington        | S Ove Thimm, Denmark       |
| B Halls, W Sussex         | P Urbanski, Poland         |
| K Hay, Canada             | G Vargas, Bolivia          |
| R Heard, Suffolk          | D Vidican, Romania         |
| R Hill, Arizona, USA      | S Viney, Cheshire          |

### **The Sun in White Light – May**

A rise in southern hemisphere activity led to an increase in the Relative Sunspot Number (R), nearing the activity level seen in 2026 January. This increased southern hemisphere activity was however restricted to the first week and latter stages of the month with a definite lull in the middle period.

Even though solar maximum for Cycle 25 occurred in 2024 October, substantial and active sunspots are still commonplace. Boulder numbers were allocated to 34 sunspot groups during the month, the main groups being reported below.

**AR14425 N07°/163°** survived on the disk from the previous month and by the 1<sup>st</sup> was just west of the central meridian (CM). The group was of type Dao with an area of 300 millionths with a small penumbral sunspot leading and the largest penumbral sunspot being in the centre of the group. A cluster of small sunspots trailed the leading two components. These smaller sunspots faded over the coming days and the group was classified as Hax by the 3<sup>rd</sup>. The group was last seen close to the NW limb on the 6<sup>th</sup> type Hsx.

**AR14428 S22°/169°** also survived on the disk from the previous month and was similarly just west of the CM and into the SW quadrant on the 1<sup>st</sup>. The group was classified as type Dsc with an area of 200 millionths being a typical bipolar group in structure with small penumbral sunspots leading and following interspersed with small sunspots. The leader had a divided umbra. The group was of similar structure over the next few days however the leader and follower penumbral sunspots appeared to strengthen. By the 4<sup>th</sup> the group was in decline with the number of pores reduced and by the 5<sup>th</sup> the group had decayed to type Cso as it approached the limb.

**AR14432 N14°/080°** rotated over the NE limb on the 1<sup>st</sup> as a Axx type sunspot. The group became type Bxo on the 4<sup>th</sup> and strengthened to type Cso on the 5<sup>th</sup>. The group was of similar appearance on the 6<sup>th</sup> when it was approaching the CM. The following day the follower penumbral sunspot strengthened which continued on the 8<sup>th</sup> with pores developing to its west. By the 9<sup>th</sup> the group had also developed a penumbral leader along with an enlarged penumbral follower. The group had an estimated area of 470 millionths. As the group progressed towards the NW limb, further development took place with the group being type Eko and having an area of 940 millionths by the 11<sup>th</sup>. The group remained of similar appearance on the 12<sup>th</sup> with only the following penumbral sunspot still being visible the following day as the leader had rotated around the limb.

**AR14436 N19°/327°** rotated over the NE limb on the 9<sup>th</sup> having the appearance of two small penumbral sunspots travelling in close proximity. The following day, the group was easier to define as type Dso consisting of two small east/west aligned penumbral sunspots with a pore to the south of the follower sunspot. As the group progressed towards the CM, the components appeared to merge and three small umbrae formed within the penumbral area. By the 15<sup>th</sup> as the group crossed the CM, the components parted once more to form a Dao group with an area of 240 millionths. Thereafter, the follower penumbral sunspot reduced and the group was of type Cao as it approached the NW limb.

**AR14441 N08°/278°** formed in the mid NE quadrant on the 16<sup>th</sup> as a Bxo type group. The group strengthened the following day with the follower sunspot becoming penumbral. By the 18<sup>th</sup>, small penumbral sunspots were at either end of the group. The following day with the group just into the NW quadrant, it extended in longitude to type Eai and a few pores appeared between the two main components. Further development particularly in the central area of the group was evident on the 20<sup>th</sup>. The group underwent shape changes as it approached the NW limb and by the 23<sup>rd</sup> it was of type Ehi with the largest sunspot being the leader.

**AR14444 S17°/176° & AR14447 S22°/166°** AR14444 rotated over the SE limb as a single Hsx sunspot on the 21<sup>st</sup> and remained the same the following day. On the 23<sup>rd</sup> a cluster of minor sunspots developed to the northwest of the main sunspot which were subsequently assigned as AR14447. These new sunspots strengthened and by the 25<sup>th</sup> AR14447 sported a mature penumbral sunspot with minor penumbral sunspots following. With the close proximity of both groups, they could be counted as one active area and described as such.

The whole area was estimated at 280 millionths on the 23<sup>rd</sup> and by the 26<sup>th</sup> had increased to 440 millionths. Over the next few days, the follower sunspots in AR14447 reduced with both active regions reducing to 200 millionths in area by the 29<sup>th</sup>. By the 30<sup>th</sup> the smaller sunspots between the main components of both groups had faded so that just over 10° of longitude separated the two components, now being counted as two separate sunspot groups, both of type Hsx. This remained the case on the 31<sup>st</sup>.

**AR14446 S11°/140° & AR14448 S07°/132° & AR14449 S10°/137°** comprised another area of activity with three sunspots groups in close association. AR14446 was first seen on the 23<sup>rd</sup> close to the SE limb as an Hsx sunspot. By the next day, two additional following sunspots were visible, both to the north of the original sunspot and at a highly inclined angle. The group was assessed as type Eac with a total area on the 25<sup>th</sup> estimated as 610 millionths. These two new sunspots were allocated Boulder numbers with AR14448 being the most northerly of the trio and AR14449 being located at a latitude between AR14446 and AR14448. On subsequent days, development took place within the leading penumbral sunspot (AR14446) with a region of photosphere visible within it on the 27<sup>th</sup>. On the 28<sup>th</sup>, the northernmost sunspot (AR14448) began to decay and was no longer visible on the 29<sup>th</sup>. Both AR14446 and AR14449 were estimated as a type Dac group with an area of 410 millionths on the 29<sup>th</sup> which by the 31<sup>st</sup> had reduced to 250 millionths and type Dao.

**AR14455 N10°/085°** was first seen close to the NE limb on the 27<sup>th</sup> as a large penumbral sunspot. By the 29<sup>th</sup> the group was further onto the disk and estimated to be of type Hax with an area of 400 millionths. A few following pores were visible on the 30<sup>th</sup> with the group being of type Cko with an area of 510 millionths. On the 31<sup>st</sup>, the main penumbral sunspot became quite irregular although its area remained similar to that of the previous day.

23 observers reported a Quality number of **Q = 18.81** for May.

### **The Sun in H-alpha Prominences**

18 observers reported a prominence MDF of **6.62** for May.

A small hedgerow type prominence was on the SW limb on the 1<sup>st</sup> which became irregular the following day. The prominence had a hooked appearance on the 3<sup>rd</sup> and was much reduced by the 4<sup>th</sup>.

An arch prominence was seen on the NW limb on the 9<sup>th</sup> extending to about 40,000 km in height. The prominence was still present the following day but reduced and an outcrop of three shorter prominences were just to the north. Several small prominences peppered the eastern limb particularly the SE limb.

A hedgerow prominence was on the SE limb on the 14<sup>th</sup> and 15<sup>th</sup> which started to rotate onto the disk during the 16<sup>th</sup> and 17<sup>th</sup>.

On the 23<sup>rd</sup> a moderately sized irregular loop prominence was seen on the W limb which was active until the 25<sup>th</sup> in various shapes.

A quiescent fan type prominence was on the NE limb on the 26<sup>th</sup> and also a large hedgerow type prominence graced the NW limb. This latter feature was estimate to extend around the limb for about 150,000 km and rise to 50,000 km in height.

A church shaped prominence was reported on the SW limb on the 28<sup>th</sup> with a tower of plasma at one end reaching a height of about 75,000 km and extending for 50,000 km around the limb. A pillar prominence was also seen on the NE limb rising to about 80,000 km.

On the 30<sup>th</sup> an arch prominence was on the SE limb rising to 50,000 km with a base of 100,000 km in length and a double column type prominence hearth was on the SW limb also rising to 50,000 km.

An arch prominence was on the SE limb on the 31<sup>st</sup> rising to 50,000 km with a base width of about 75,000 km.

### **Filaments & Plage**

18 observers reported a filament MDF of **7.86** and 17 observers reported a plage MDF of **5.23** for May.

The long north-south aligned filament reported at the end of April was still visible in the NE quadrant at the start of May. The filament was estimated at 200,000 km long on the 1<sup>st</sup> and 250,000 km long on the 2<sup>nd</sup> although it was starting to break along its southern extremity. The filament survived to the NW limb where it produced some minor prominence activity on the 9<sup>th</sup> and 10<sup>th</sup>.

Two long filaments dominated the southern hemisphere on the 19<sup>th</sup>, both aligned east-west. The first was in the SW quadrant and estimated at 300,000 km in length whilst the second in the SE quadrant was shorter at 150,000 km. Another east-west aligned filament lay across the CM in the northern hemisphere, around 350,000 km long. All three filaments were still present on the 21<sup>st</sup> and 22<sup>nd</sup>. On the 23<sup>rd</sup> the first of the southern hemisphere filaments reached the SW limb and was responsible for the irregular loop prominence reported on that day. The second of the southern filaments reached the SW limb on the 26<sup>th</sup> and was responsible for moderate prominence activity thereafter.

Two filaments dominated the NE quadrant on the 27<sup>th</sup>, the most southerly being broader and darker. Both filaments travelled across the disk together with the most northerly extending and thickening. The crossed the CM on the 30<sup>th</sup> and broke into three separate elements in the NW quadrant on the 31<sup>st</sup>.

Plage was recorded around the main sunspot groups during the month.

### **Polar Faculae**

Brian Halls reported a high latitude polar faculae MDF of **0.88** for May.

### **Flares**

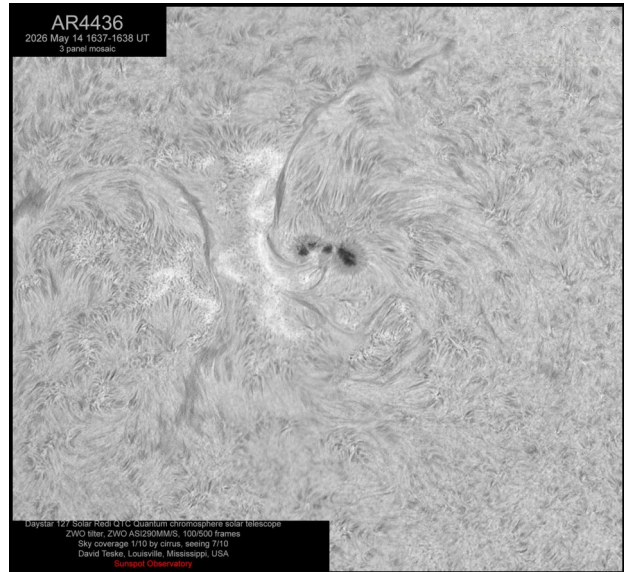
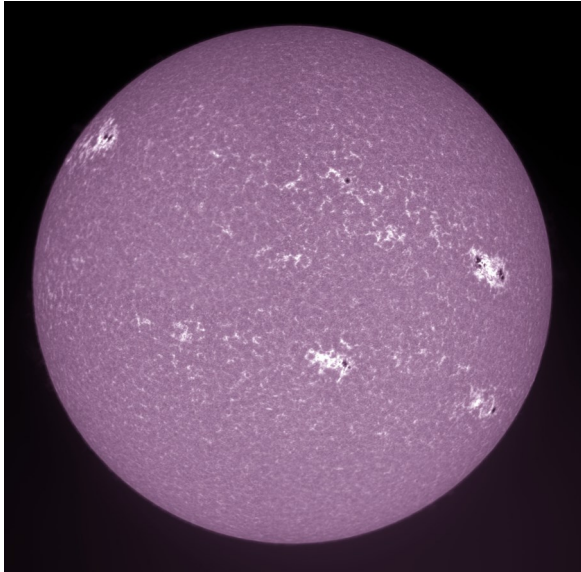
Minor flares were reported throughout the month by several observers. Eric Fabrigat recorded B class flares from AR14432, 14436, 14441 and 14455 and also a C class flares associated with AR14429 and AR14431. Andy Devey recorded an M6 flare on the 10<sup>th</sup> at 1429 UT associated with AR14436 and Lyn Smith observed a C3.7 flare on the same day associated with AR14432 at 0930 UT. On the 23<sup>rd</sup> Peter Meadows reported a short duration C1.9 flare at 0915 UT very close to the E limb and to the south of AR14446. The flare appeared bright and compact and was visible for only one minute. Mick Nicholls reported a C1.9 flare on the 31<sup>st</sup> at 1246 UT associated with AR14449.

## **MAGNETOMETER REPORT**

**2026 MAY**

| <b>DATE</b> | <b>DURATION (UT)</b> |       | <b>ACTIVITY</b> | <b>Solid-state magnetometer,<br/>Uncalibrated<br/><b>John Cook</b></b> |
|-------------|----------------------|-------|-----------------|------------------------------------------------------------------------|
| 30/1        | 19:00                | 05:00 | Disturbed       |                                                                        |
| 4/5         | 17:00                | 04:00 | Disturbed       |                                                                        |
| 8           | 21:00                | 22:45 | Disturbed       |                                                                        |
| 10          | 13:23                | SFE   |                 |                                                                        |
| 13/14       | 22:00                | 02:00 | Disturbed       |                                                                        |
| 15          | 11:30                | 21:45 | Disturbed       |                                                                        |
| 15          | 21:45                | 23:00 | Active          |                                                                        |
| 15/16       | 23:00                | 07:00 | Disturbed.      |                                                                        |
| 16/17       | 17:00                | 01:00 | Disturbe        |                                                                        |
| 25/26       | 22:30                | 01:00 | Disturbed       |                                                                        |
| 27          | 20:30                | 23:00 | Disturbed       |                                                                        |
| 28          | 21:00                | 23:45 | Disturbed       |                                                                        |
| 30/31       | 17:15                | 02:00 | Disturbed       |                                                                        |

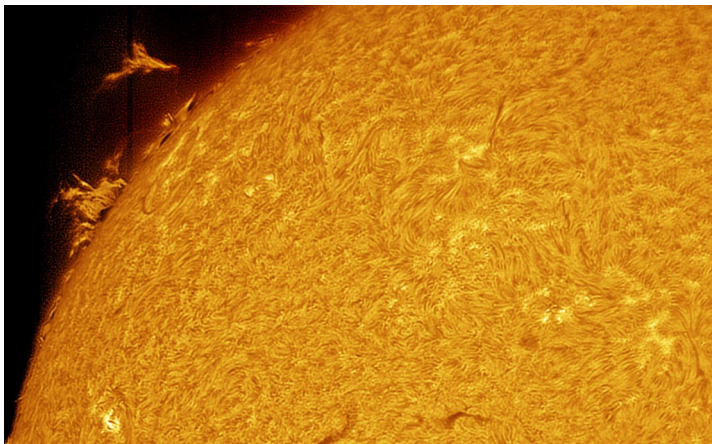




**Above Left:** Full disk imaged in CaK by Stuart Green on the 10th at 0817 UT

**Above Right:** AR14436 imaged by David Teske on the 14th at 1637-38 UT, Daystar 127

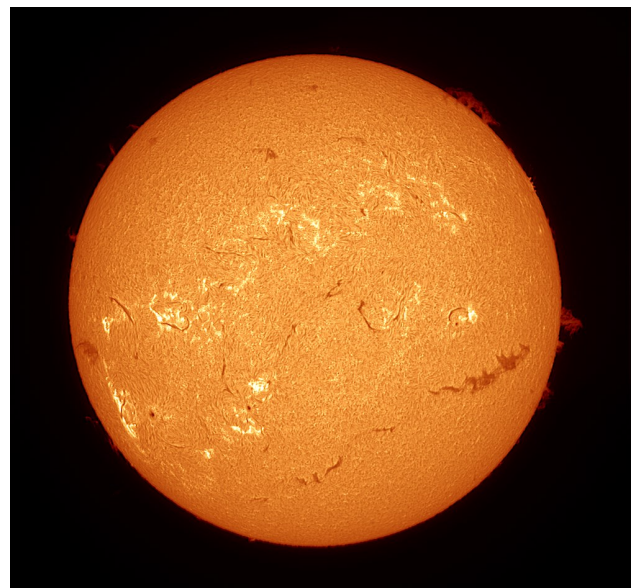
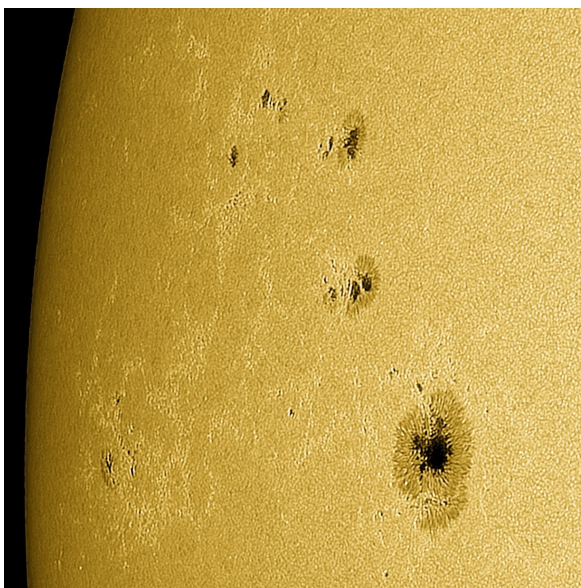
**Below Left:** Detached prominence imaged by Dave Smith on the 22nd at 1116 UT



**Above Right:** Brian Halls image of AR14443 and broad filament at 0718 UT on the 24th

**Below Left:** AR14446/48/49 imaged by Carl Bowron on the 25th at 0928 UT

**Below Right:** Full disk in H-alpha imaged on the 25th at 0934 UT by Mick Nicholls





## Section News

The BAA Autumn meeting is in Liverpool starting on Friday evening 18th September 2026 with a full Saturday programme the following day. Liverpool Astronomical Society celebrates its 145th anniversary this year so why not celebrate with them and come along. Tickets for BAA members are £15 for the meeting and can be obtained via the BAA Website <https://britastro.org/event/autumn-2026-meeting>

Of course before that prestigious event, we have a total solar eclipse on 12th August starting around Greenland and tracking over the North Atlantic, mainland Spain and ending in the Balearics. Maximum eclipse will be 2 minutes 18 seconds. If you are intending to observe this spectacular event, please remember to send in a short report and your images to the Section for publication and archiving.

The next Section meeting via the Zoom platform will commence at 1930 hrs BST (18.30 hrs UT) on Friday 24th July 2026. Details and the link will be circulated nearer the time.



**Above:** AR14425/24/20 approaching the NW limb on the 1st at 0850 UT by John Arnold

**Right:** AR14455 by Luigi Morrone imaged on the 31st at 0943 UT C14 EDGE HD 355 mm

**Below:** AR14455 over the NE limb, imaged by Chris Longthorn on the 28th at 0854 UT

**Below Right:** AR14446 in mid flare at 1152 UT On the 30th imaged by Stuart Green

