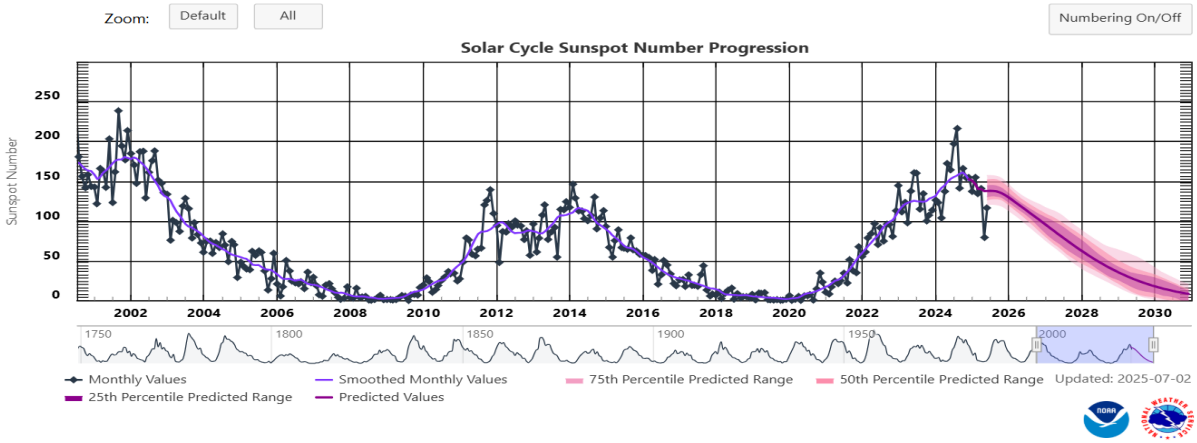
Month: June 25

- **NEWS FROM THE SOLAR SECTION**

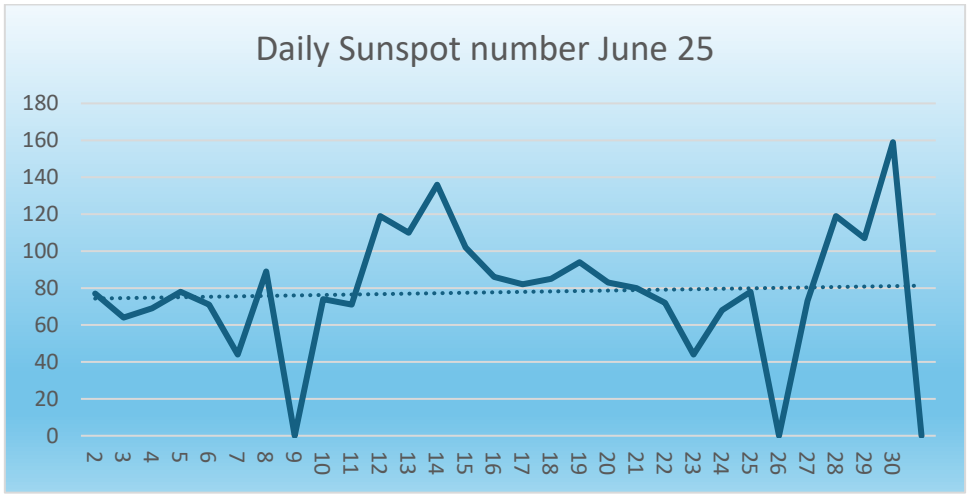
May 2025 Solar News

The latest sunspot progression data continues to reflect a robust Solar Cycle 25, currently near its predicted maximum. The graph shows a sharp increase in July's sunspot number. Historical patterns—and the inherent dynamics of solar magnetic activity—suggest that a secondary peak remains a realistic possibility, as seen in several past cycles. This is supported by the latest NOAA projections, which maintain a broad range to account for such variability. We will therefore continue to monitor monthly sunspot numbers closely to assess the potential development of a second peak in the coming months, contributing valuable insight into the ongoing complexity of our Sun's behaviour.



SUNSPOT OBSERVATIONS July 2025

2025	June	Jacques v Delft Time	Seeing	Jacques v Delft Groups	Jacques v Delft Spots	Jacques v Delft W no.	Jacques v Delft North Groups	Jacques v Delft South groups	Jacques v Delft North spots	Jacques v Delft South spots
Sun	1	945	G	5	32	82	4	1	27	5
Mon	2	1100	G	5	27	77	4	1	21	6
Tue	3	1035	G	4	24	64	3	1	20	4
Wed	4	1340	G	5	19	69	3	2	11	8
Thu	5	1025	G	5	28	78	3	2	20	8
Fri	6	1000	G	5	21	71	2	3	12	9
Sat	7	1115	G	3	14	44	1	2	2	12
Sun	8	1005	G	7	19	89	2	5	2	17
Mon	9		G			0				
Tue	10	1030	G	5	24	74	2	3	7	17
Wed	11	1135	G	5	21	71	2	3	7	14
Thu	12	1230	G	8	39	119	4	4	7	32
Fri	13	1030	G	8	30	110	5	3	18	12
Sat	14	1130	G	9	46	136	5	4	31	15
Sun	15	940	G	7	32	102	5	2	22	10
Mon	16	1130	G	6	26	86	5	1	24	2
Tue	17	1400	G	5	32	82	4	1	29	3
Wed	18	1045	G	6	25	85	4	2	19	6
Thu	19	955	G	7	24	94	4	3	13	11
Fri	20	1135	G	6	23	83	3	3	13	10
Sat	21	1050	G	6	20	80	3	3	13	7
Sun	22	1000	G	5	22	72	2	3	6	16
Mon	23	1045	G	3	14	44	1	2	2	12
Tue	24	1105	G	5	18	68	1	4	1	17
Wed	25	1315	G	5	28	78	1	4	9	19
Thu	26		G			0				
Fri	27	1400	G	5	23	73	2	3	11	12
Sat	28	1115	G	10	19	119	5	5	13	6
Sun	29	1115	G	9	17	107	4	5	8	9
Mon	30	1040	G	11	49	159	4	7	14	35
						0				



Monthly Means		
MDF	86,3	1 Observer
MDF g	6,1	1 Observer
MDF Ng	3,1	1 Observer
MDF Sg	2,9	1 Observer

Observers:

Jacques van Delft ASSA Bloemfontein South Africa

When more than 1 observer is submitting sunspots, the average per day is calculated and noted.

SOLAR FLARE ACTIVETY MARCH 2024

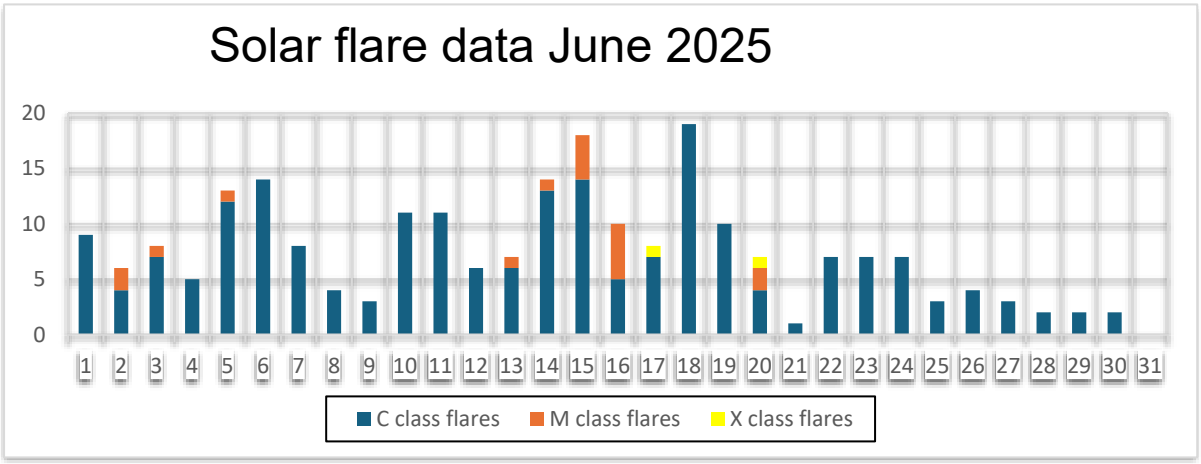
Solar flares are classified according to their x-ray brightness in the wavelength range 1 to 8 Angstrom. There are 3 categories: C class – minor, M class – medium and X class – big. Each category has 9 subdivisions.

A total of 229 solar flares were observed: 210 C-class flares and 17 M-class flares and 2 X class flare.

Solar flare data: LABORATORY OF X-RAY ASTRONOMY OF THE SUN

2024	June	C class	M class	X class	Sol Actindex	NOA No	
Sun	1	9	0	0	6,7		
Mon	2	4	2	0	6	4100	M3,3 M1,1
Tue	3	7	1	0	5,9	4105	M1,4
Wed	4	5	0	0	4,3		
Thu	5	12	1	0	5,4	4100	M1,1
Fri	6	14	0	0	5,5		
Sat	7	8	0	0	4,8		
Sun	8	4	0	0	3,5		
Mon	9	3	0	0	2,3		
Tue	10	11	0	0	4,7		
Wed	11	11	0	0	5,6		
Thu	12	6	0	0	5,2		
Fri	13	6	1	0	5,1	4105	M1,2
Sat	14	13	1	0	6	4105	M1,0
Sun	15	14	4	0	8	4105/4114	M6,8 M2,2 M1,9/ M8,4
Mon	16	5	5	0	7,9	4114/??	M1,2 M1,8 M3,6/ M1,4 M1,1
Tue	17	7	0	1	7,7	4114	X1,2
Wed	18	19	0	0	7,3		
Thu	19	10	0	0	6,2		
Fri	20	4	2	1	7,7	4114/4117	M4,6 X1,9/ M1,0
Sat	21	1	0	0	5,5		
Sun	22	7	0	0	3		
Mon	23	7	0	0	3,9		
Tue	24	7	0	0	3,9		
Wed	25	3	0	0	3,1		
Thu	26	4	0	0	2,7		
Fri	27	3	0	0	2,4		
Sat	28	2	0	0	2,7		
Sun	29	2	0	0	2,3		
Mon	30	2	0	0	3,1		
	Totals	210	17	2			

Credit: https://xras.ru/en/sun_flares.html



- **Geomagnetic data**

K INDEX

Scientists monitor geomagnetic activity using various instruments, including magnetometers and satellites, to better understand the processes involved and predict potential impacts on technological systems such as power grids, communication networks, and navigation systems as well as changes in our climate. Severe geomagnetic storms have the potential to disrupt these systems, making the study of geomagnetic activity crucial for both scientific understanding and practical applications.

Increased geo-magnetic activities are caused by Coronal Mass Ejections (CME's) triggered by solar activities such as solar flares, filament eruptions and Coronal openings.

The K-index scale has a range from 0 to 9 and is directly related to the maximum amount of fluctuation (relative to a quiet day) in the geomagnetic field over a three-hour interval.

2025	June	0hrs to 03hrs	03hrs to 06hrs	06hrs to 09hrs	09hrs to 12hrs	12hrs to 15hrs	15hrs to 18hrs	18hrs to 21hrs	21hrs to 24hrs	A Index
Sun	1	5,33	5,33	8,00	7,33	7,67	5,00	7,00	4,00	107
Mon	2	4,67	5,00	6,33	6,67	6,00	5,33	5,33	5,67	69
Tue	3	5,67	7,00	6,00	5,33	5,67	4,67	2,67	2,33	58
Wed	4	1,33	3,67	3,00	4,00	5,00	5,33	3,67	3,00	26
Thu	5	3,67	2,33	2,33	3,00	2,67	2,67	2,33	2,33	12
Fri	6	2,33	2,00	2,33	2,33	2,00	2,00	2,33	2,00	8
Sat	7	2,00	2,00	4,00	4,33	2,33	2,33	4,67	4,33	20
Sun	8	2,33	2,33	2,00	2,00	3,00	4,00	3,00	4,33	15
Mon	9	3,67	4,33	2,67	2,33	2,33	2,67	2,00	3,00	15
Tue	10	2,67	1,67	2,33	2,00	1,67	1,67	2,33	3,00	9
Wed	11	3,33	2,67	1,67	1,67	2,33	3,67	3,67	5,00	18
Thu	12	4,67	4,33	4,00	3,67	3,67	2,67	5,33	5,33	33
Fri	13	6,33	5,67	5,33	4,67	6,00	5,00	6,00	5,67	31
Sat	14	4,67	5,33	3,00	3,33	3,33	3,00	2,67	3,00	24
Sun	15	2,00	1,67	2,00	3,00	2,00	3,00	3,00	2,00	10
Mon	16	2,00	2,33	3,67	2,00	2,33	1,67	2,33	2,00	10
Tue	17	2,00	2,00	2,33	1,67	2,67	2,33	2,33	3,00	9
Wed	18	3,33	2,33	2,00	3,00	3,33	2,33	2,33	3,67	13
Thu	19	3,00	1,67	2,00	1,33	1,33	2,00	4,33	3,00	12
Fri	20	1,33	2,00	3,00	2,67	2,00	3,00	2,33	1,00	9
Sat	21	2,00	3,33	1,33	1,33	3,00	3,67	2,00	3,00	12
Sun	22	3,67	2,33	1,67	2,00	2,00	2,00	2,33	2,00	9
Mon	23	1,33	2,00	2,33	2,00	2,00	2,67	1,67	1,67	7
Tue	24	1,33	2,00	2,33	2,00	2,00	2,67	1,67	1,67	7
Wed	25	1,67	1,33	2,00	2,00	3,00	3,33	4,33	4,33	15
Thu	26	4,00	3,33	3,67	3,00	4,00	4,00	4,00	5,00	26
Fri	27	5,33	4,00	4,00	3,00	3,00	2,00	2,00	2,67	21
Sat	28	1,67	2,33	3,33	2,67	2,00	1,67	2,00	2,00	9
Sun	29	2,00	2,00	2,33	2,33	2,00	1,67	2,33	2,67	8
Mon	30	2,33	2,00	2,33	3,33	1,67	3,00	2,67	2,67	11

Geomagnetic Storm Index

G1	G2	G3	G4	G5

Credit: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

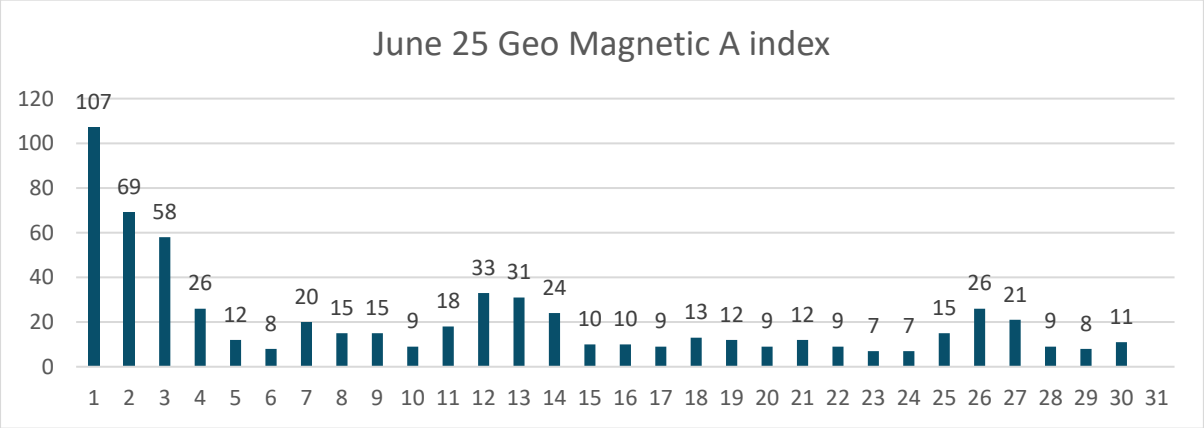
A INDEX

The solar A Index is a numerical scale that represents the geomagnetic activity in the Earth's ionosphere caused by solar flares and other solar phenomena. It measures the overall geomagnetic disturbance level on a scale from 0 to 400. The index is derived from the observed planetary A index, which quantifies the magnetic activity over a 24-hour period.

Here's a breakdown of the solar A Index scale:

- 0 to 7: Quiet geomagnetic conditions.
- 08 to 15: Unsettled geomagnetic conditions.
- 16 to 29: Active geomagnetic conditions.
- 30 to 49: Minor storm levels.
- 50 to 99: Major storm levels.
- 100 and above: Severe storm levels.

A higher A Index generally indicates more disturbed geomagnetic conditions. This index is valuable for radio operators, especially those involved in high-frequency (HF) radio communication, as it helps predict the likelihood of signal disruptions due to solar activity. The solar A Index is typically updated regularly and is an important tool for space weather monitoring and forecasting.



June 2025 recorded notably elevated geomagnetic activity, with the A index peaking at 107 on the 1st, reflecting the impact of sustained solar wind disturbances and possible CME interactions with Earth’s magnetosphere. Elevated values on the 2nd and 3rd (69 and 58 respectively) indicate a prolonged geomagnetic response, gradually tapering off through the month. A moderate uptick around mid-month and again toward the 26th suggests continued fluctuations tied to solar activity. This highlights the dynamic coupling between solar outputs and Earth’s magnetic environment, underlining the importance of continued monitoring as Solar Cycle 25 progresses.

H Alpha Observations

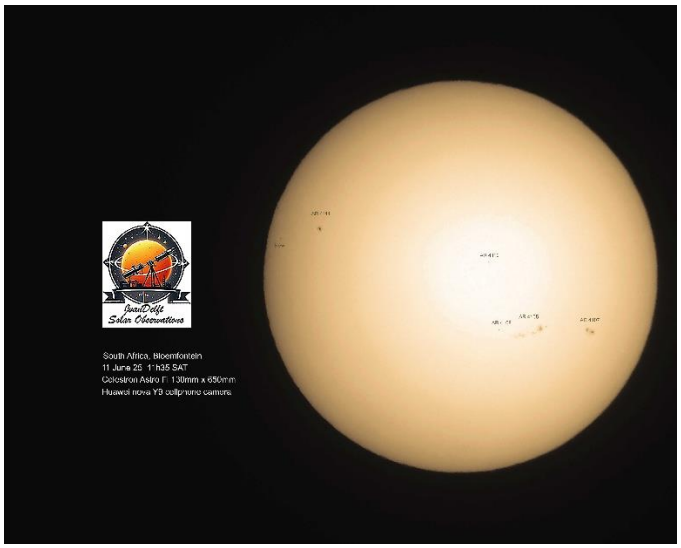
Two observers shared his H-Alpha data for March 2025. Andrew Devey from BAA & MSAS living in Spain and Mick Nicholls from BAA & MSAS living in the UK.

Jun-25	Prominance Active		Prominance Quit		Prominance Total		Plage Areas		Filaments		Flares	
	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls	Andrew Devey	Mick Nicholls
1	2		0		2		4		6		0	
2		0		2		2		3		6		0
3												
4	2	0	2	4	4	4	5	4	6	6	0	0
5	5		1		6		5		4		0	
6	2		2		4		4		5		0	
7	3		2		5		4		6		0	
8												
9												
10	4	0	1	6	5	6	3	4	6	9	0	0
11	3	0	3	6	6	6	4	4	4	6	0	0
12												
13	2		2		4		3		5		0	
14	3	0	2	3	5	3	4	4	5	4	0	0
15	3		2		5		3		4		1	
16		0		2		2		2		6		1
17	1	0	2	4	3	4	2	1	3	5	0	0
18		0		5		5		3		6		0
19	2	0	2	3	4	3	3	3	5	6	0	1
20	3	0	1	3	4	3	2	3	5	5	0	0
21	3		0		3		3		5		0	
22	3		0		3		3		4		0	
23	2		1		3		2		4		0	
24	2		2		4		2		5		0	
25	0		3		3		3		6		0	
26	1	0	2	2	3	2	3	3	6	9	0	0
27												
28	3	0	2	6	5	6	2	5	6	7	0	0
29	3	2		5		3		5		0		
30		0		4		4		4		8		0

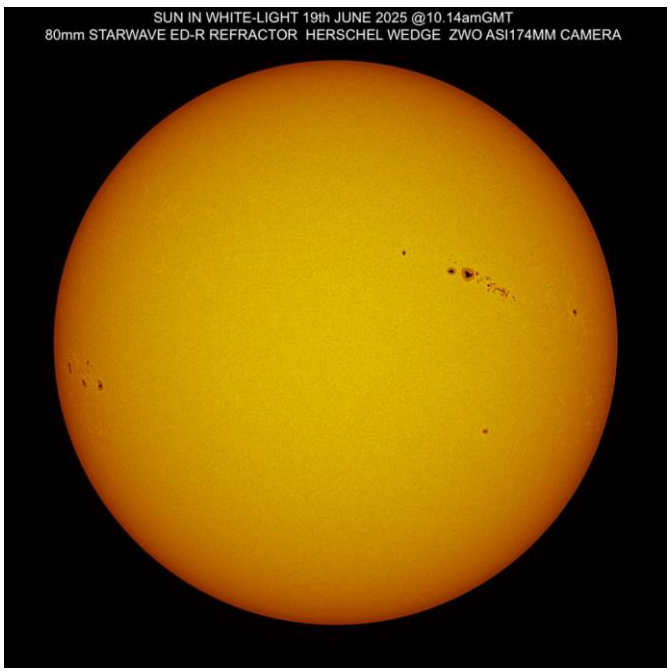
May 2025	Counts	Observations	MDF
Prominance	134	34	3,9
Plage Areas	112	34	3,3
Filaments	183	34	5,4
Flares	3	33	0,1

- **Solar images**

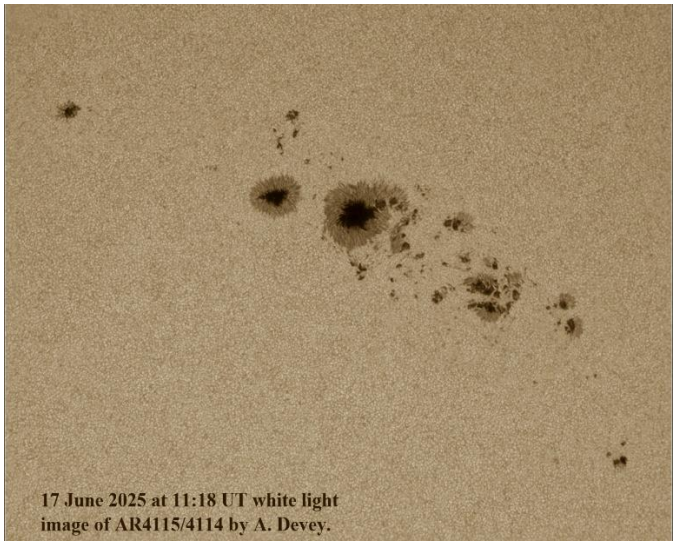
WHITE LIGHT



Jacques van Delft ASSA South Africa

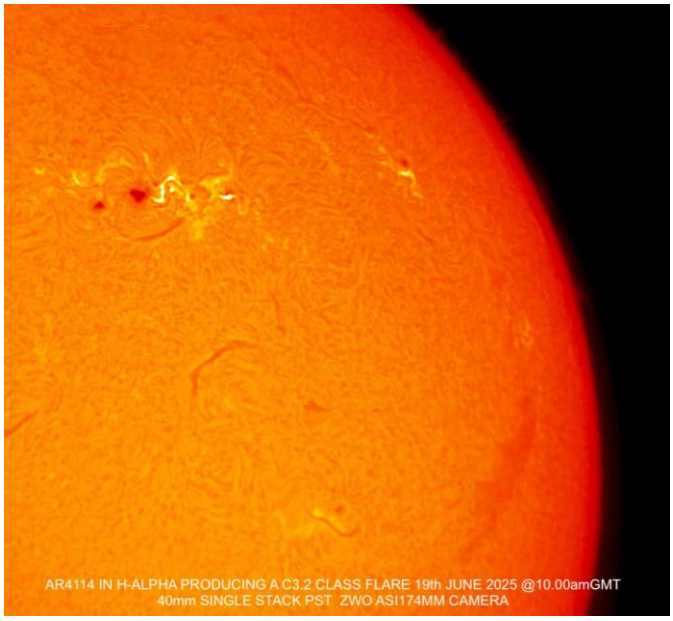


Mick Nicholls, BAA/MSAS UK

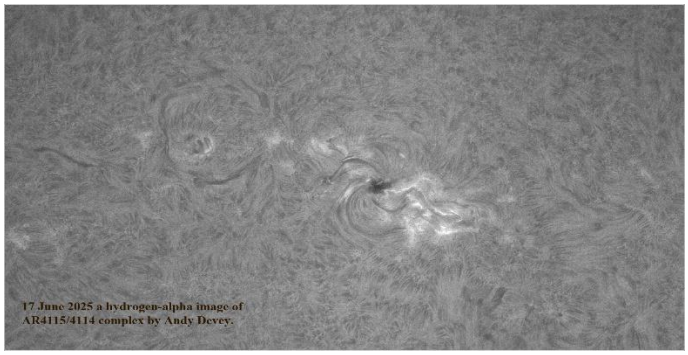


Andrew Devey, BAA/MSAS Spain.

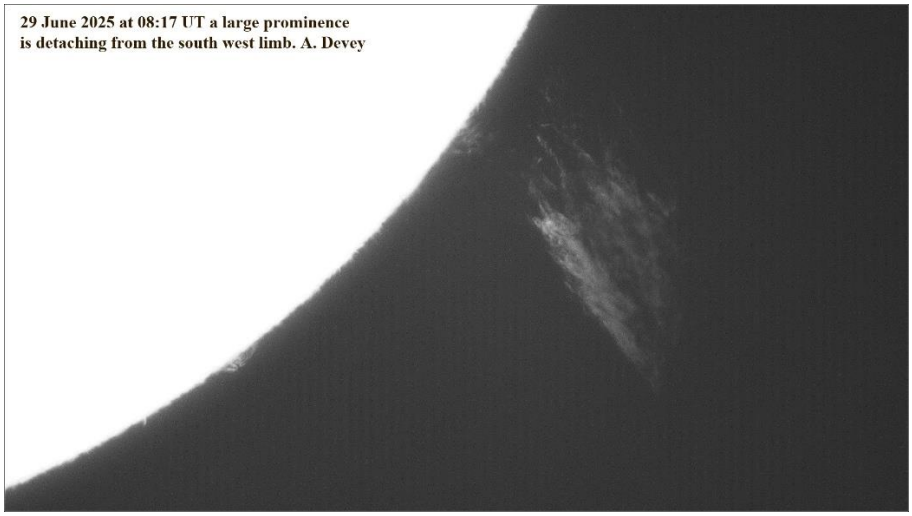
H-Alpha



Mick Nicholls, BAA/MSAS UK

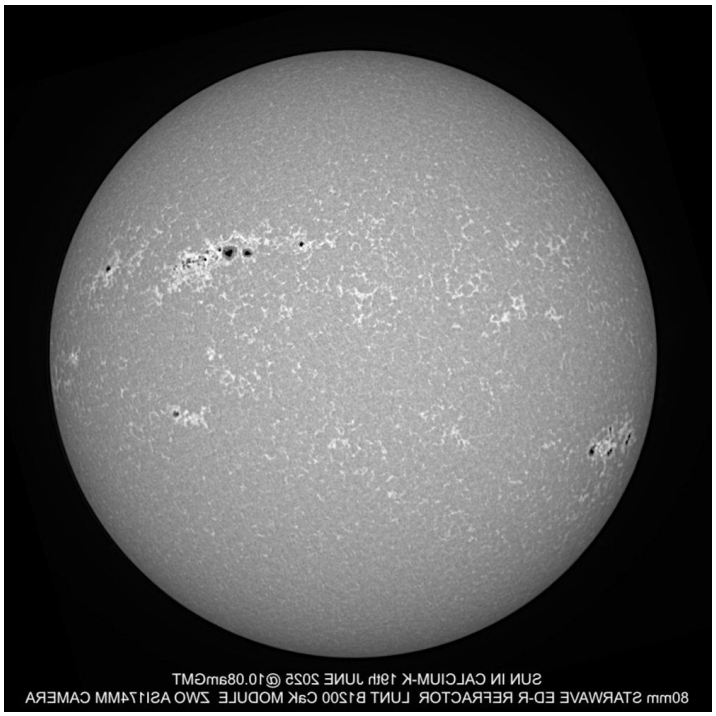


Andrew Devey, BAA/MSAS Spain.



Andrew Devey, BAA/MSAS Spain.

CaI-K



Mick Nicholls, BAA/MSAS UK

Thanks to the contributors of data and images,

Clear skies and regards
Jacques van Delft

ASSA Solar Section