



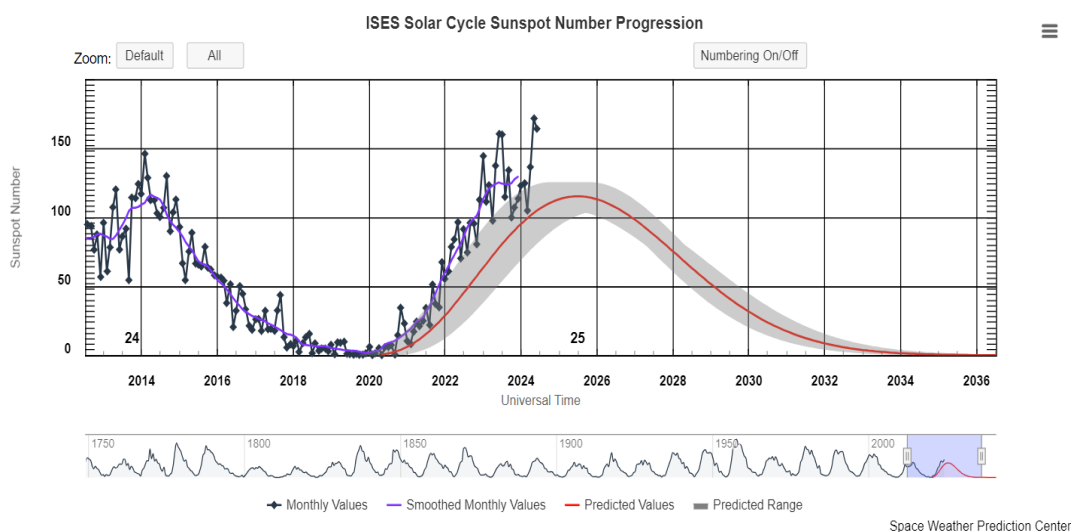
Month: June 2024

NEWS FROM THE SOLAR SECTION



July 2024 solar news

This month the Sunspot number declined from 171.7 to 164.2. Solar flare, and geo magnetic activities also declined after May months high activities.



SUNSPOT OBSERVATIONS

June 24		Day	Time	Seeing	Groups	Spots	W no.	North Groups	South groups	North spots	South spots
	Sat	1	1245	G	6	37	97	5	1	22	15
	Sun	2					0				
	Mon	3					0				
	Tue	4					0				
	Wed	5	1205	G	9	56	146	4	5	15	41
	Thu	6	1305	G	8	49	129	3	5	13	36
	Fri	7	1345	G	9	38	128	2	7	7	31
	Sat	8	915	G	9	38	128	2	7	8	30
	Sun	9	1305	G	11	36	146	3	8	5	31
	Mon	10	1215	G	9	23	113	2	7	3	20
	Tue	11	1330	G	8	18	98	2	6	3	15
	Wed	12	1220	G	7	22	92	1	6	1	21
	Thu	13	1035	G	7	25	95	2	5	4	21
	Fri	14	1210	G	8	37	117	2	6	6	31
	Sat	15	1500	G	8	50	130	3	5	14	36
	Sun	16					0				
	Mon	17	750	G	7	39	109	2	5	13	26
	Tue	18	1204	G	6	44	104	2	4	12	32
	Wed	19	830	G	4	51	91	2	2	16	35
	Thu	20	1435	G	6	63	123	3	3	29	34
	Fri	21	1330	G	7	59	129	4	3	21	38
	Sat	22	1245	G	8	53	133	2	6	11	42
	Sun	23	915	G	8	26	106	4	4	12	14
	Mon	24	1520	G	10	32	132	2	8	2	30
	Tue	25	1445	G	7	30	100	2	5	3	27
	Wed	26	1130	G	8	37	117	1	7	2	35
	Thu	27	1225	G	7	40	110	2	5	6	34
	Fri	28	1320	G	11	41	151	2	9	11	30
	Sat	29	1430	G	13	41	171	2	11	6	35
	Sun	30	1005	G	15	50	200	4	11	19	31
			Observations								
					Groups	Spots	W no.	North Groups	South groups	North spots	South spots
			26		216	1035	3195	65	151	264	771

Monthly Means

MDF 122,9 1 Observer

MDF g 8,3 1 Observer

MDF Ng 2,5 1 Observer

MDF Sg 5,8 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 ACTIVITY OCTOBER 2023

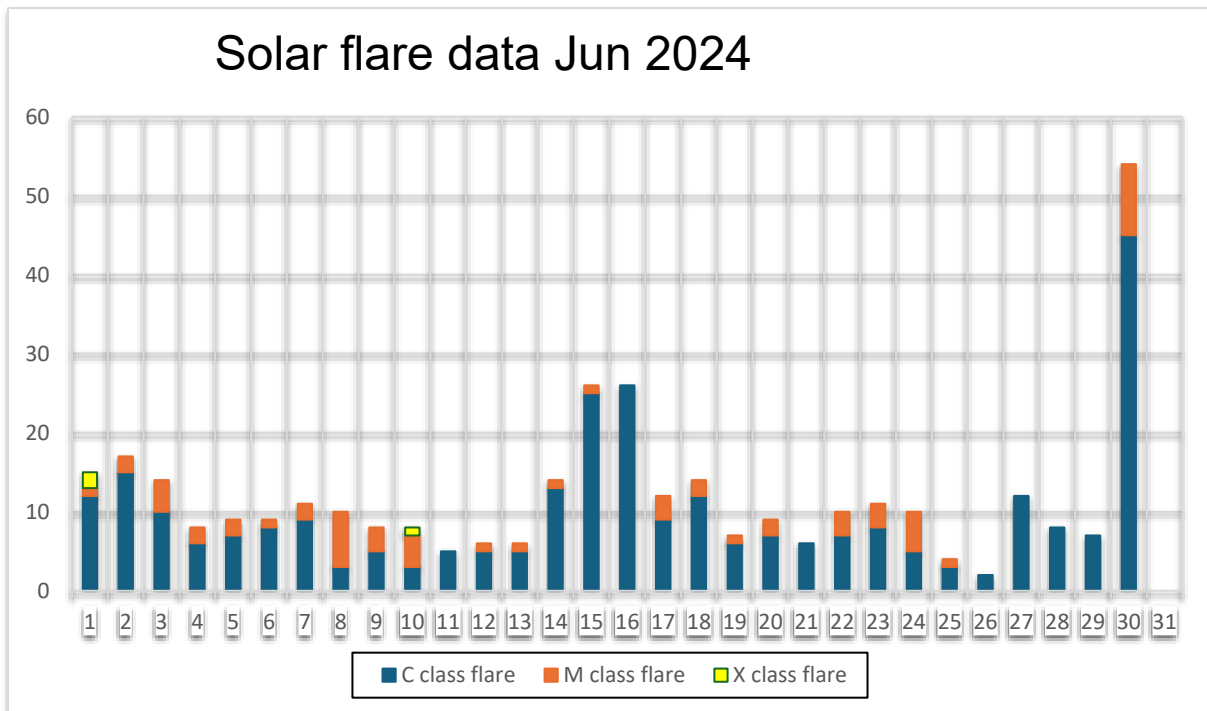
Solar flares are classified according to their x-ray brightness in the wavelength range 1 to 8 Angstrom. There are 3 categories: C class – minor, M class – medium and X class – big. Each category has 9 subdivisions.

A total of 358 solar flares were observed: 294 C-class flares and 61 M-class flares and 3 X class flares.

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

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

2024	Jun	C class	M class	X class	NOA No	
Sat	1	12	1	2	3697	X1,4 X1,0 M7,3
Sun	2	15	2	0	3697	M1,2 M2,0
Mon	3	10	4	0	3695/3697	M1,8/M1,0 M3,2 M2,8
Tue	4	6	2	0	3697	M2,4 M1,6
Wed	5	7	2	0	3697	M3,4 M2,6
Thu	6	8	1	0	3697	M6,1
Fri	7	9	2	0	3697/3709	M1,2/M4,0
Sat	8	3	7	0	3697/3703/3709	M3,3 M9,7 M1,5 M1,2 M1,2/M1,0/M1,8
Son	9	5	3	0	3697/3709	M1,6 M1,0/M1,2
Mon	10	3	4	1	3697	M3,3 M2,2 M5,3 M1,3 M9,5 X1,5
Tue	11	5				
Wed	12	5	1		3711	M1,2
Thu	13	5	1		3713	M3,2
Fri	14	13	1		3712	M2,4
Sat	15	25	1		3712	M1,3
Sun	16	26	0	0		
Mon	17	9	3	0	3711/3712	M1,1/M1,5 M1,5
Tue	18	12	2	0	3712	M2,4 M1,2
Wed	19	6	1	0	3711	M1,1
Thu	20	7	2	0	3719	M1,1 M5,7
Fri	21	6	0	0		
Sat	22	7	3	0	?/3716/3720	M1,2/M2,8/M1,0
Sun	23	8	3	0	3712/3716/3723	M1,2/M2,4/M9,3
Mon	24	5	5	0	3712/3713/3720	M1,3 M1,8/M1,1/M1,5
Tue	25	3	1	0	3723	M1,0
Wed	26	2	0	0		
Thu	27	12	0	0		
Fri	28	8	0	0		
Sat	29	7	0	0		
Sun	30	45	9	0		
Totals		294	61	3		



- **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.

Jun 24	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	Low pressures
1	2,33	1,33	1,33	1,33	1,67	1,33	1,33	0,33	5,00	10
2	1,00	1,00	1,00	1,33	1,33	1,00	1,67	2,33	5,00	9
3	2,33	2,00	1,67	2,00	2,00	1,33	2,00	4,67	11,00	4
4	2,67	3,00	2,67	2,00	1,67	1,00	0,33	0,67	8,00	5
5	1,00	2,00	2,00	2,00	2,00	1,67	1,67	2,67	7,00	8
6	2,00	2,00	1,67	1,67	1,67	1,00	0,33	1,00	6,00	8
7	1,33	2,33	2,67	3,33	6,00	5,67	3,00	3,33	28,00	11
8	4,33	3,33	3,00	2,67	2,00	3,00	1,67	1,67	14,00	12
9	1,67	1,00	1,33	3,00	2,00	1,00	1,67	1,67	5,00	15
10	1,67	1,00	1,33	1,33	1,00	3,67	4,33	2,00	11,00	13
11	4,00	4,00	2,67	2,00	1,67	1,67	1,00	1,67	12,00	6
12	1,33	0,67	1,33	1,33	1,67	1,67	1,33	1,67	5,00	13
13	1,00	0,33	0,67	1,00	1,33	1,33	1,33	0,67	4,00	12
14	1,00	1,33	2,00	2,00	1,33	0,67	1,67	2,33	6,00	13
15	2,33	2,00	2,00	2,67	5,33	3,33	2,67	4,00	15,00	15
16	3,00	1,33	0,00	3,33	3,33	2,67	4,00	2,00	13,00	12
17	2,00	3,00	2,00	2,00	2,00	3,00	3,33	3,00	11,00	10
18	2,00	2,67	2,67	2,67	3,00	2,67	1,67	1,67	10,00	13
19	3,00	3,00	2,00	2,00	0,00	2,33	1,67	1,67	9,00	17
20	2,00	1,67	1,67	1,67	2,00	1,33	2,00	2,33	7,00	11
21	1,67	1,67	1,67	0,67	1,00	0,67	1,33	1,00	5,00	12
22	1,67	1,00	0,67	0,67	1,33	1,00	0,67	1,67	4,00	14
23	1,33	1,67	2,33	3,00	3,33	2,33	2,67	2,00	10,00	10
24	1,67	1,33	0,67	1,33	1,33	1,00	1,00	2,00	5,00	12
25	1,67	1,67	2,67	3,00	2,67	2,33	2,33	1,67	9,00	11
26	2,00	1,67	1,33	1,67	2,33	2,33	2,67	3,33	9,00	9
27	4,33	4,33	3,67	6,00	7,67	5,33	5,00	3,67	9,00	14
28	4,33	2,67	2,33	2,67	2,33	2,67	3,00	2,67	59,00	14
29	4,33	2,67	2,33	2,67	2,33	2,67	3,00	2,67	14,00	11
30	2,67	2,67	1,67	2,33	3,00	3,33	2,00	2,00	11,00	11

Geomagnetic Storm Index

G1	G2	G3	G4	G5
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Credit: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

A INDEX

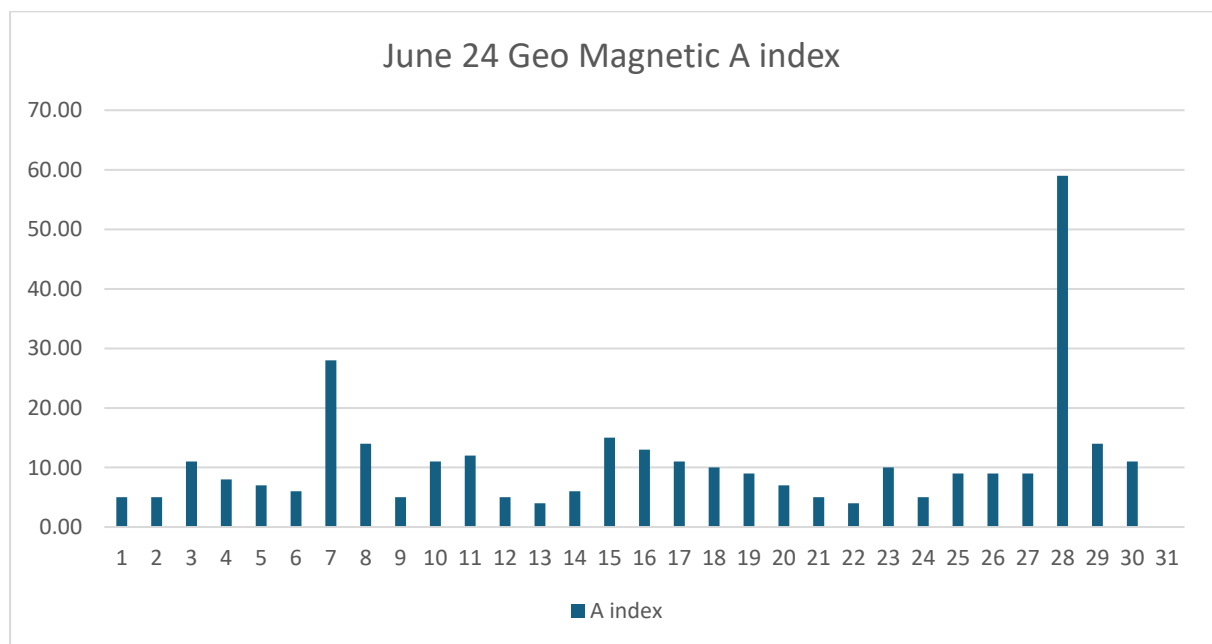
The solar A Index is a numerical scale that represents the geomagnetic activity in the Earth's ionosphere caused by solar flares and other solar phenomena. It measures the overall geomagnetic disturbance level on a scale from 0 to 400. The index is derived from the observed planetary A index, which quantifies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

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

- 0 to 7: Quiet geomagnetic conditions.
- 8 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.



One periods of high Geo-magnetic activities were experienced in June and special notice must be made on the G5 / KP 7.67 storm condition experienced on 28 June 24 which sparked high Aurora activities and high disturbance in the Earths atmosphere.

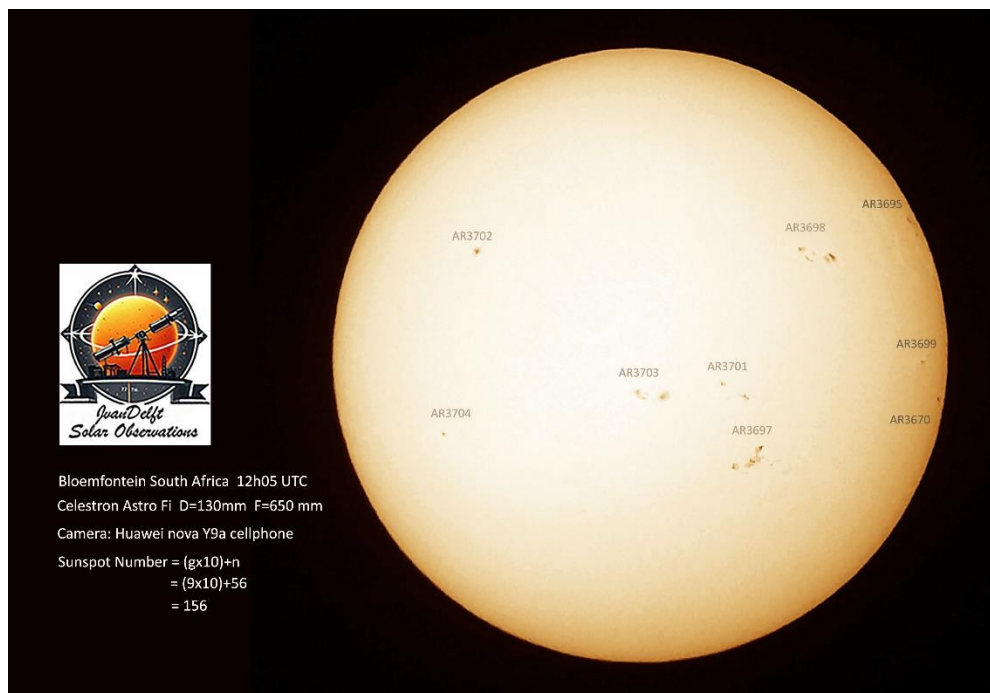
- **H Alpha Observations**

Two observer shared their H-Alpha data for June 2024. Andrew Devey from BAA & MSAS living in Spain and Mick Nicholls from BAA & MSAS living in the UK.

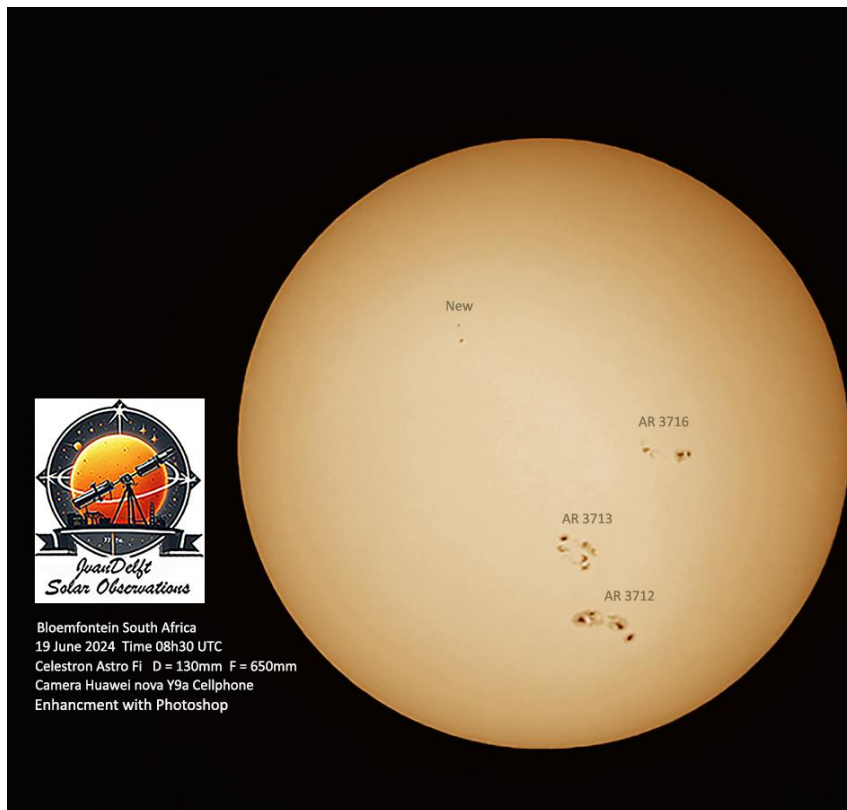
April 2024	Counts	Observations	MDF
Prominence	156	32	4,9
Plage Areas	140	32	4,4
Filaments	173	32	5,4
Flares	9	31	0,3

- **Solar images**

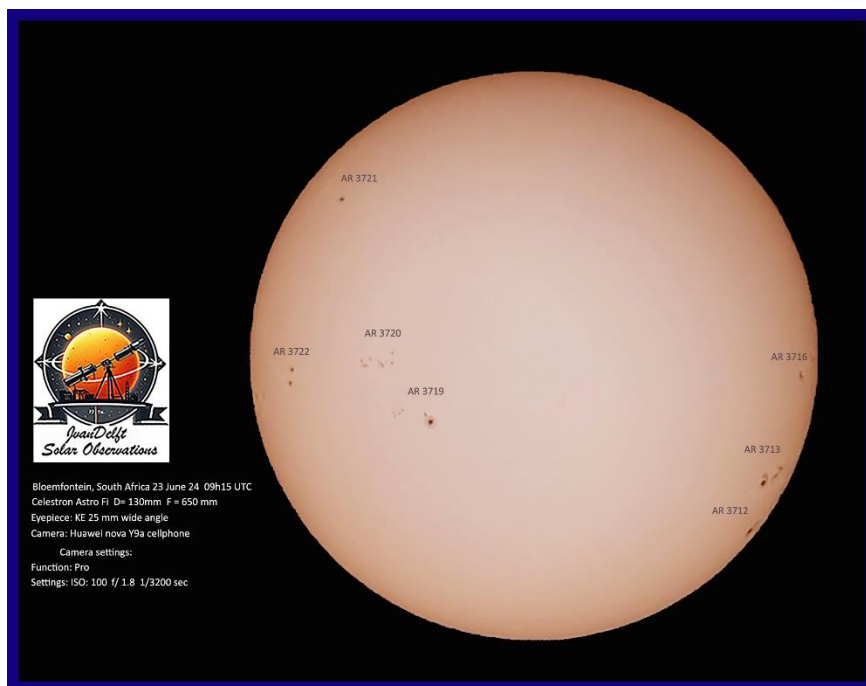
WHITE LIGHT



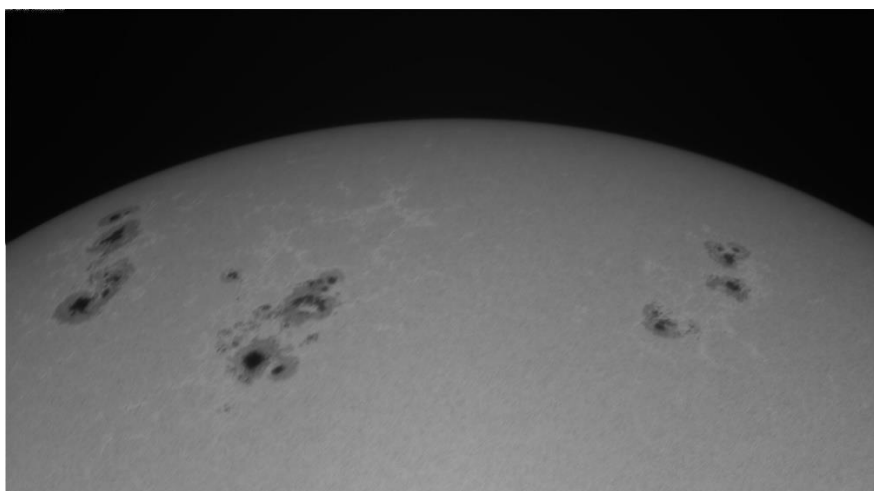
Jacques van Delft ASSA South Africa



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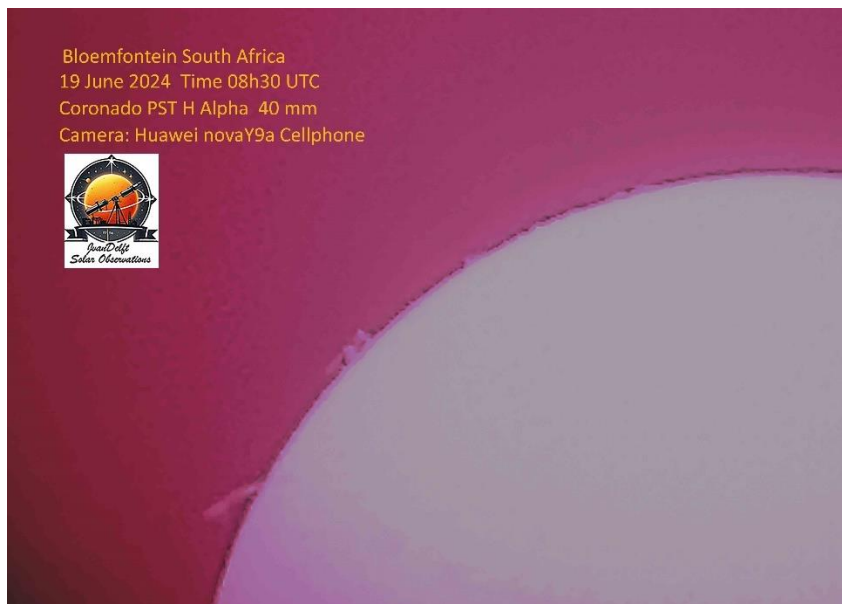


Andrew Devey, BAA/MSAS Spain. 10_24_06UT

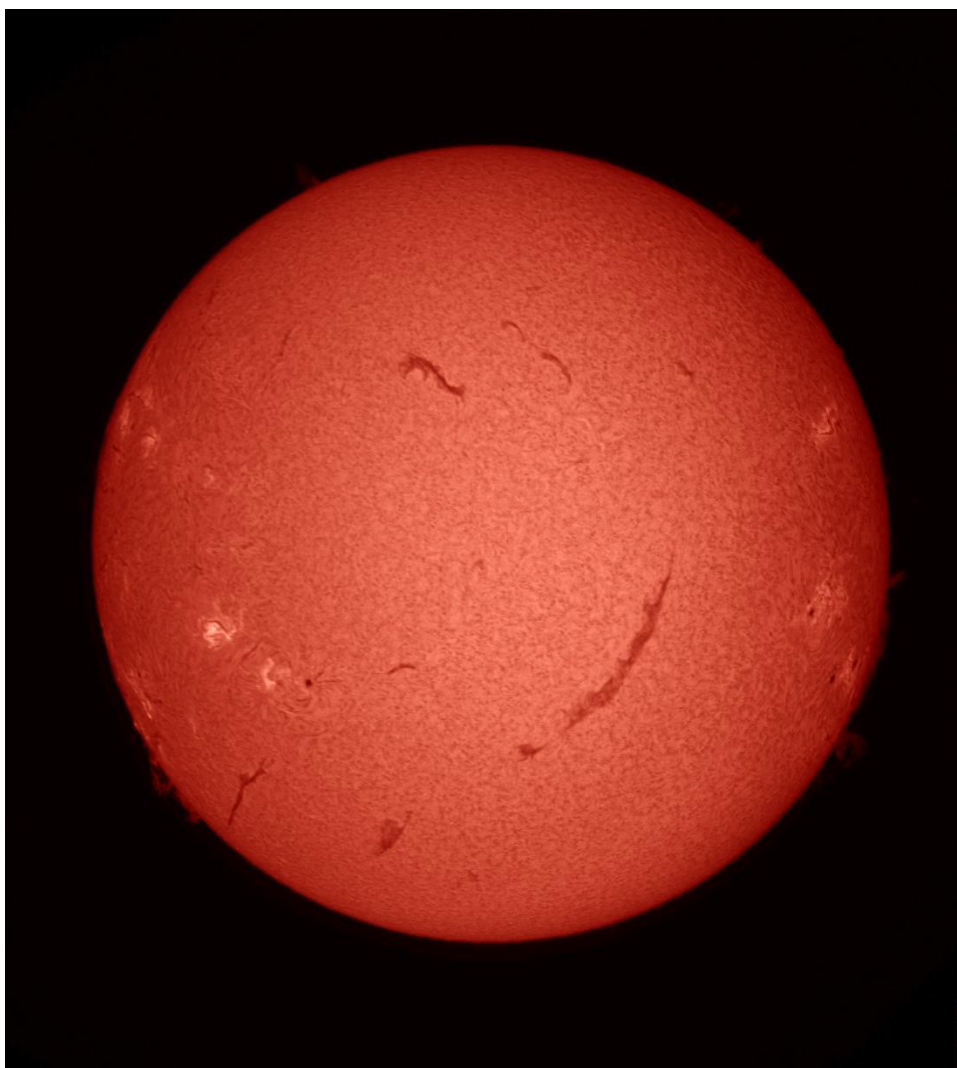
H-Alpha



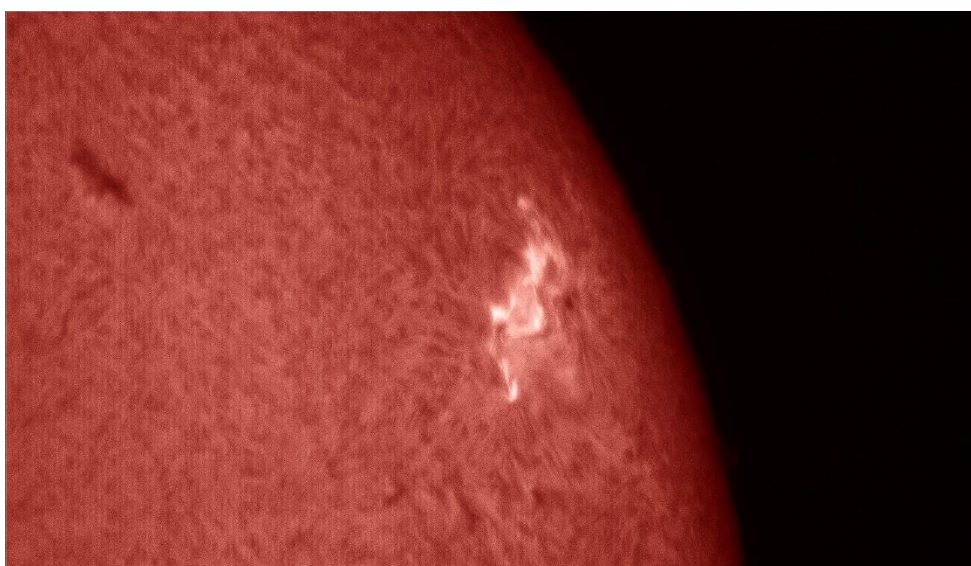
Mick Nicholls BAA/MSAS, United Kingdom



Jacques van Delft ASSA South Africa

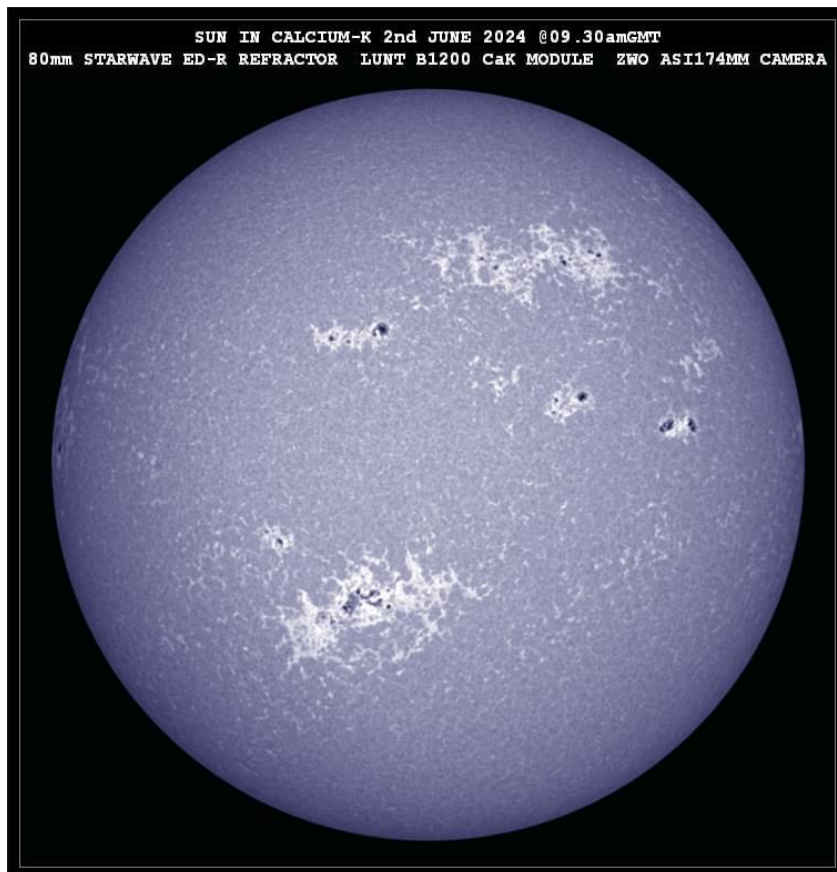


Andrew Devey, BAA/MSAS Spain. 2024-06-22-10_54_09UT



Andrew Devey, BAA/MSAS Spain. 2024-06-22-0920 UT M2 flare AR3716

Ca-K



Mick Nicholls BAA/MSAS, United Kingdom

Clear skies and regards

Jacques van Delft

ASSA Solar Section