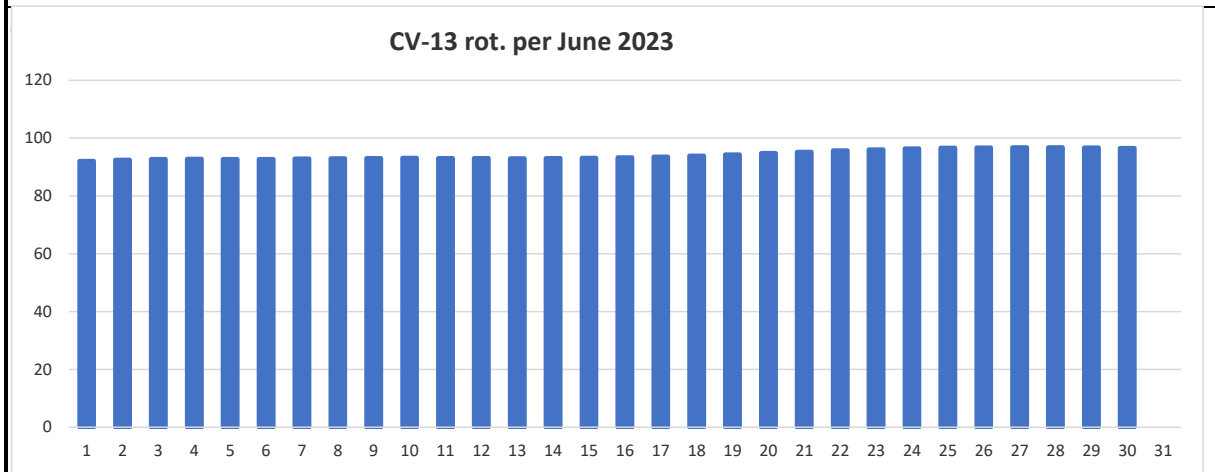
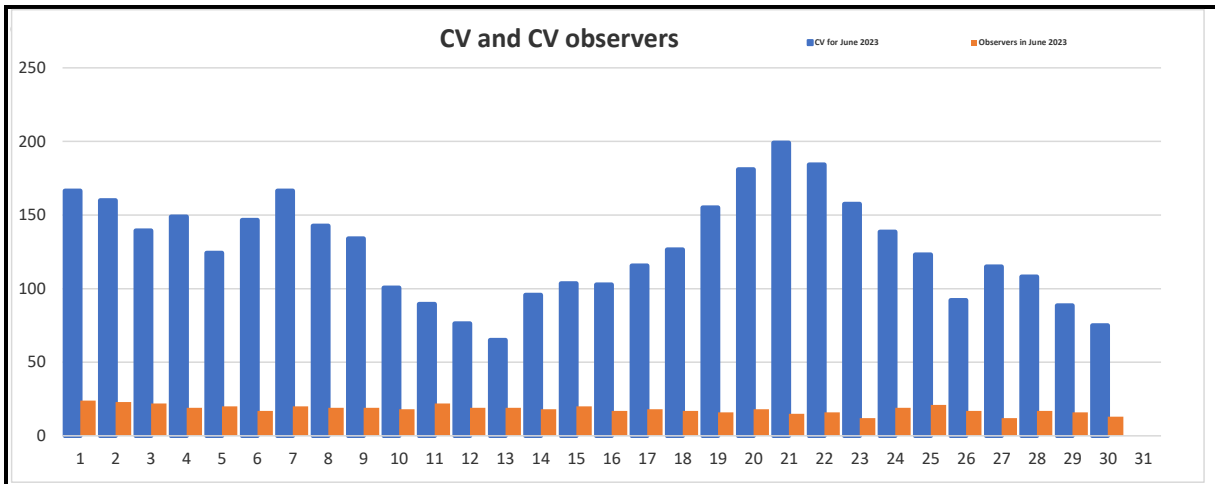


Results						
Date	CV	Obsrvrs	Regions 6 rot.	CV-USAF 6-rot.	CV-6 rot.	CV-13 rot.
1	166,50	24	7,13	115,01	110,86	92,04
2	160,00	23	7,15	114,90	111,30	92,50
3	139,41	22	7,16	114,87	111,60	92,73
4	148,79	19	7,16	115,33	112,05	92,78
5	124,25	20	7,16	115,30	112,30	92,72
6	146,53	17	7,18	115,65	112,58	92,73
7	166,50	20	7,21	116,05	112,98	92,86
8	142,58	19	7,23	116,42	113,21	92,95
9	134,00	19	7,25	116,35	113,38	93,08
10	100,56	18	7,26	116,16	113,30	93,11
11	89,45	22	7,24	115,87	113,04	93,09
12	76,32	19	7,24	115,48	112,59	93,02
13	65,05	19	7,24	115,01	112,09	92,95
14	95,61	18	7,25	114,57	111,83	93,03
15	103,45	20	7,26	114,49	111,61	93,17
16	102,65	17	7,27	114,41	111,45	93,34
17	115,50	18	7,28	114,62	111,49	93,59
18	126,53	17	7,29	114,70	111,61	93,88
19	155,06	16	7,32	114,74	111,79	94,28
20	181,00	18	7,35	114,91	112,08	94,76
21	199,00	15	7,38	115,03	112,48	95,24
22	184,25	16	7,41	114,83	112,73	95,72
23	157,42	12	7,44	114,31	112,91	96,06
24	138,58	19	7,49	113,60	112,83	96,40
25	123,10	21	7,53	113,24	112,70	96,64
26	92,06	17	7,53	112,38	112,27	96,72
27	114,92	12	7,53	111,71	111,94	96,76
28	108,06	17	7,52	110,87	111,23	96,78
29	88,44	16	7,51	109,88	110,40	96,69
30	75,00	13	7,48	109,08	109,64	96,55
Totals/ Avrgs	3,96	27,3	0,97	4,83	112,08	94,20



Latest sunspot regions developments

Reg.-First-Last-Lat.-Long.-Rot.-Area-Lgth.-CV-max.

00.01.1900	3331,07.06.23,09.06.23,18.06.23,-23,15,2271,180,ESO,26
Region,First date,Max.date,Last date,Lat.,Long.,Rot.,Max.mvh,Max class,Max CV	3333,13.06.23,17.06.23,22.06.23,-11,312,2272,240,EAI,23
3323,31.05.23,05.06.23,11.06.23,-7,103,2271,330,EKI,47	3335,14.06.23,17.06.23,25.06.23,-15,285,2272,390,EKI,47
3326,02.06.23,05.06.23,14.06.23,26,70,2271,190,HSX,10	
3327,04.06.23,06.06.23,13.06.23,-15,53,2271,300,DKI,46	
3329,06.06.23,07.06.23,15.06.23,23,52,2271,120,DAO,19	

:Product: Weekly Highlights and Forecasts

Highlights of Solar and Geomagnetic Activity
03 - 09 July 2023

<http://services.swpc.noaa.gov/text/weekly.txt>

Solar activity reached moderate levels (R1-Minor) on 03-07 Jul and declined to low levels on 08-09 Jul. Region 3354 (N16, L=168, class/area Fkc/1150 on 02 Jul) produced an M1.4/Sf at 04/1235 UTC and an M1.0/Sf at 06/1049 UTC. Region 3358 (S13, L=068, class/area Dai/100 on 03 Jul) produced an M1.3/1n at 03/0653 UTC. Region 3361 (N24, L=042, class/area Ekc/260 on 08 Jul) produced an M1.0/Sf on 05/1858 UTC. Region 3359 (S21, L=072, class/area Dao/240 on 06 Jul) produced the largest event of the period, an M4.0/2b at 07/0629 UTC. This event also produced a 190 sfu Tenflare. During the period, no Earth-directed CMEs were detected.

No proton events were observed at geosynchronous orbit.

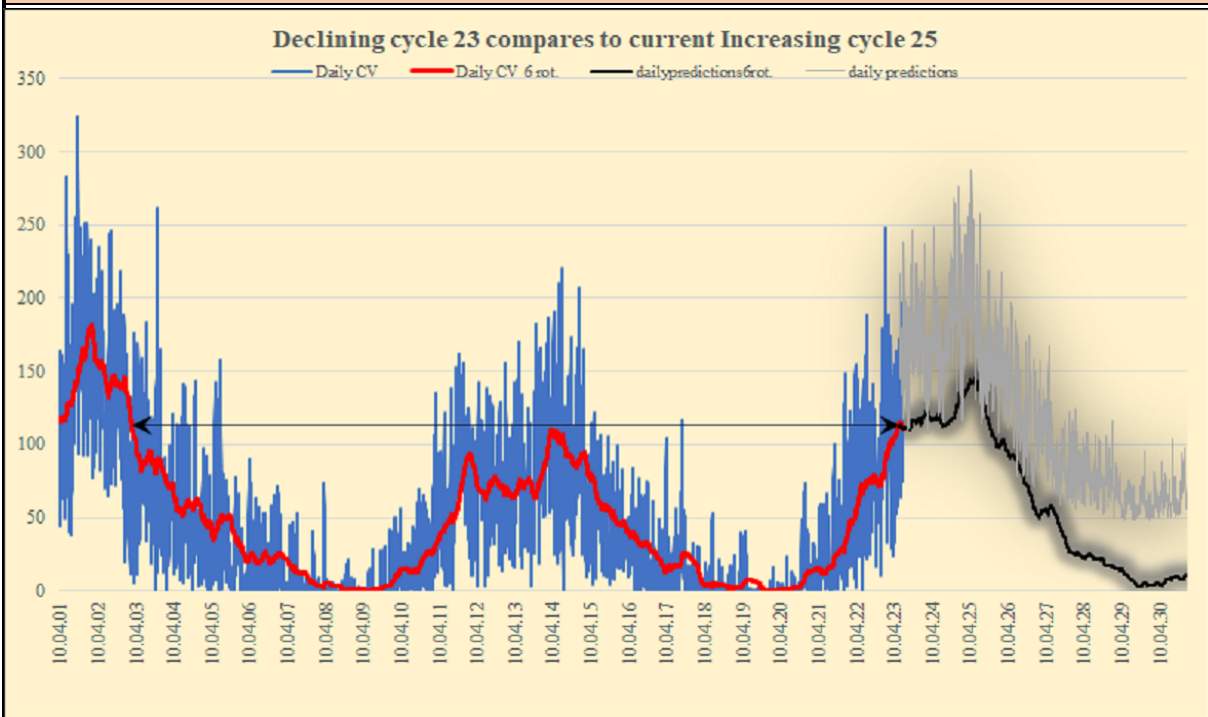
The greater than 2 MeV electron flux at geosynchronous orbit was at high levels on 03-05 Jul with a peak flux of 3,560 pfu observed at 05/1650 UTC. Normal to moderate levels were observed on 06-09 Jul.

Solar activity is expected to be at low to R1-R2 (Minor-Moderate) levels throughout the forecast period.

No proton events are expected at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels throughout the forecast period.

Monthly graph



The above graphic show CV-Int. levels solar cycle 25 over maximum for solar cycle 24.

Highlights June 2023

The solar activity is still rising though many regions have been of modest sizes. However, both CV-I 6 and 13 rotational averages have reached interesting values. The 6-rot. averages have now superceeded cycle 24, and the first time this happened was on 01 May this year! Situation now is that on the 9th June we could compare 6-rot. averages with 3rd April 2001, over 22 years ago! We have not seen the end of the rising, and towards maximum in July 2025 we may see daily values of near or over 300!
A total of 610 regions this cycle per end June 2023 (297 regions North and 313 regions South).
 At the same time solar cycle 24 produced 485 regions.

Region	First date	Max.date	Last date	Lat.	Long.	Rot.	Max.mvh	Max class	Max CV
3323	31.05.23	05.06.23	11.06.23	-7	103	2271	330	EKI	47
3326	02.06.23	05.06.23	14.06.23	26	70	2271	190	HSX	10
3327	04.06.23	06.06.23	13.06.23	-15	53	2271	300	DKI	46
3329	06.06.23	07.06.23	15.06.23	23	52	2271	120	DAO	19
3331	07.06.23	09.06.23	18.06.23	-23	15	2271	180	ESO	26
3333	13.06.23	17.06.23	22.06.23	-11	312	2272	240	EAI	23
3335	14.06.23	17.06.23	25.06.23	-15	285	2272	390	EKI	47
3336	14.06.23	14.06.23	19.06.23	-21	279	2272	160	CSO	11
3337	15.06.23	18.06.23	24.06.23	18	265	2272	120	CSO	11
3338	15.06.23	16.06.23	26.06.23	11	264	2272	140	CSO	11
3339	17.06.23	19.06.23	29.06.23	-20	239	0	180	HSX	10
3340	18.06.23	26.06.23	29.06.23	22	235	0	350	EKI	47
3341	19.06.23	23.06.23	01.07.23	-15	210	0	200	CSO	11
3342	19.06.23	21.06.23	21.06.23	-22	342	0	200	DAO	19

We reckon t
 May continue production of lots of large regions and major solar flares and CME's to Solar Max.: Our latest and final prediction to occur late July 2025, earliest possible may be April 2025.
 Solar Flux onset: OCCURED 30 September 2022, the Onset 13 rot. ctrd. Occurred 18 Mar 2023.

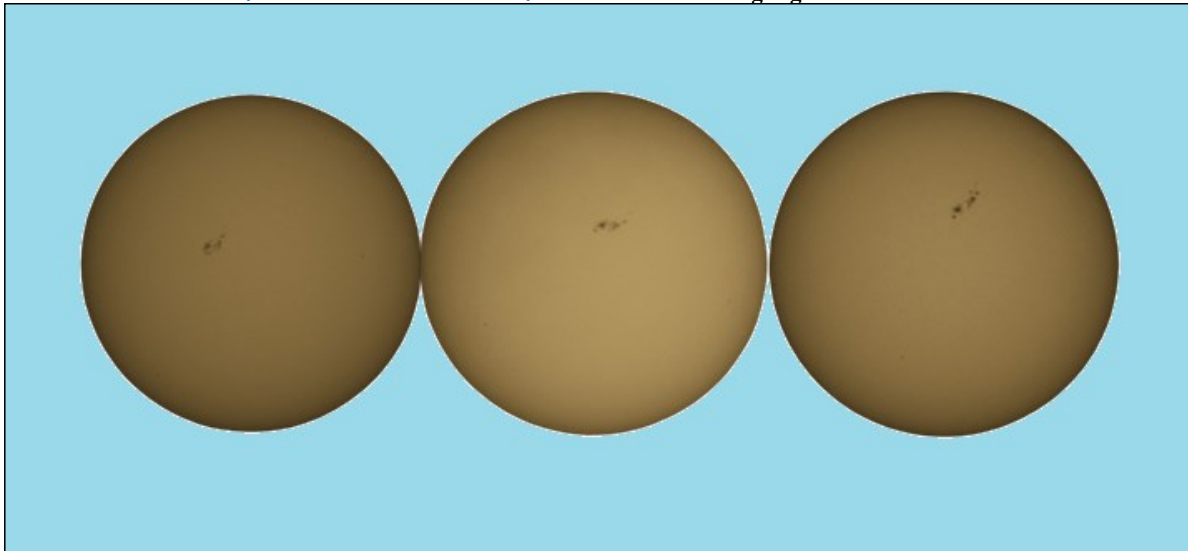
Stay tuned and observe the solar disk from now on!
 Please remember you are always welcome to contribute with drawings and photos!

TAKE A SURVEY:
Here is a Survey of hmiigr SOHO solar images 2022.
<https://www.cv-helios.net/helios/cv/web/2022/Video2022.mov>

Pictures from last month - Observer contributions, etc.

Photo courtesy: Thanks to CV-222 Milena Niemczyk, Poland

Highlights June 2023



Sun in white light collage CV-222 Milena Niemczyk, Poland, 28-29-30 June 2023

Awards this month

0

none



New members:

Welcome to:

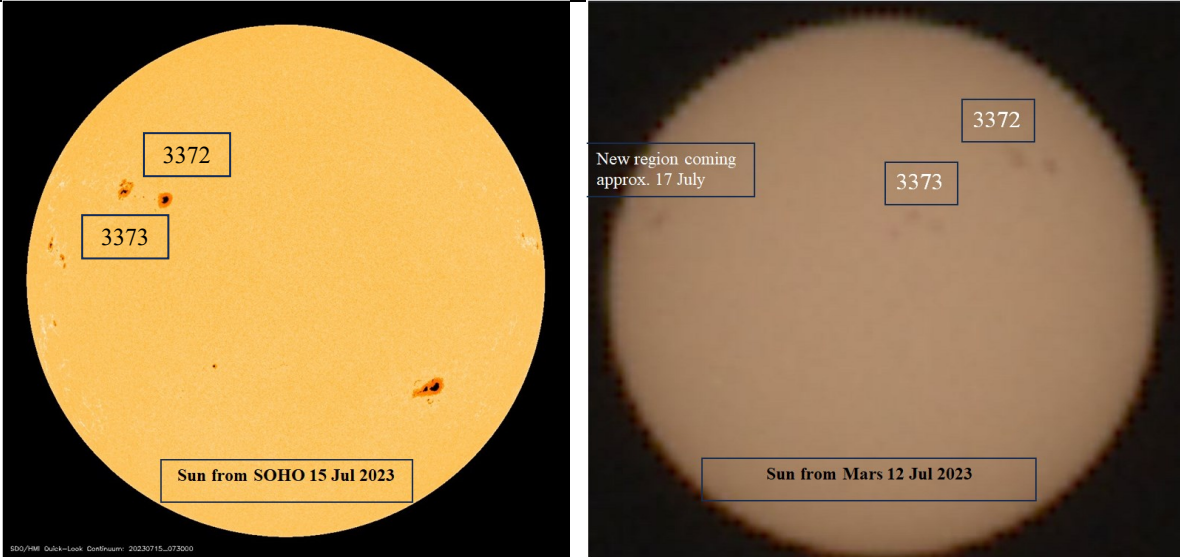
CV-222 Milena Niemczyk, Poland

07 Jun 2023

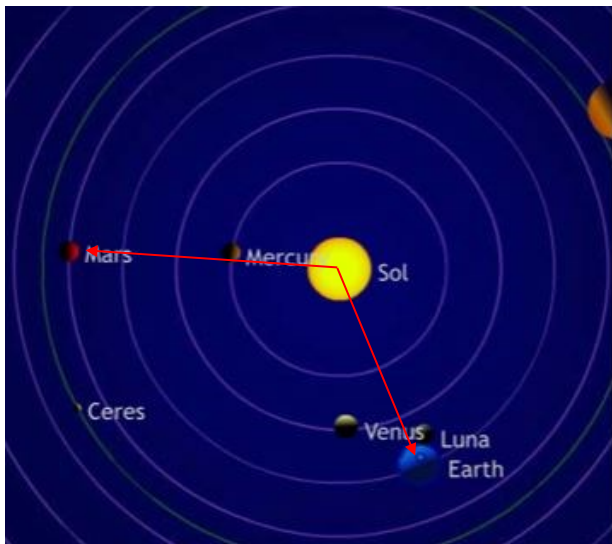
Welcome to our New Member!

We are now 52 active members (last 12 mo.)

Mars Perserverance rover see new sunspot region days before appearance as seen from Earth



The blurred image (right) from Perserverance on Mars on July 12, 2023, taken by the Mastcam-Z camera show regions 3372, 3373 and a new large region that will be coming around east limb on approx. 17 July!
Imaging are done my Perserverance in order to test quality of sky much related to, for instance, dust storms.
The SOHO reprocessed image from 15 July 2023 to the left.



The inner planets of our solar system today 15 July 2023.
From Earth we now have the advantage of planet Mars now being approximately 30 percent ahead of Earth, leaving us at a favorable position through Mars Perserverance that constantly provide images submitted to Earth stations so that we may see sunspot regions approximately 7 days before they will turn over east limb as seen from us.

Zürich/McIntosh classifications as observed by SWPC 15.08.1981-14.07.2023

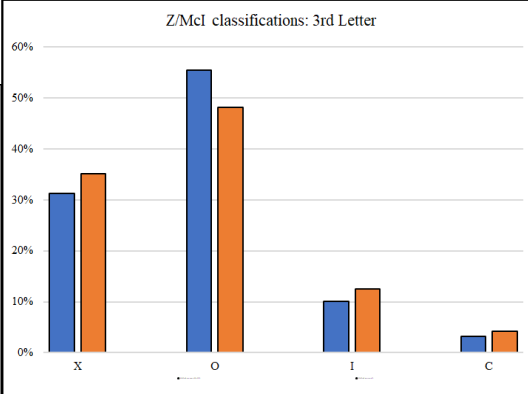
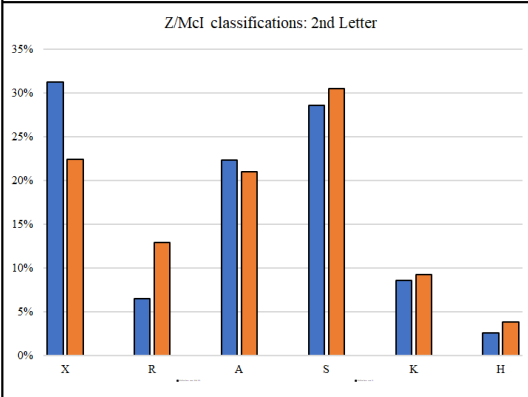
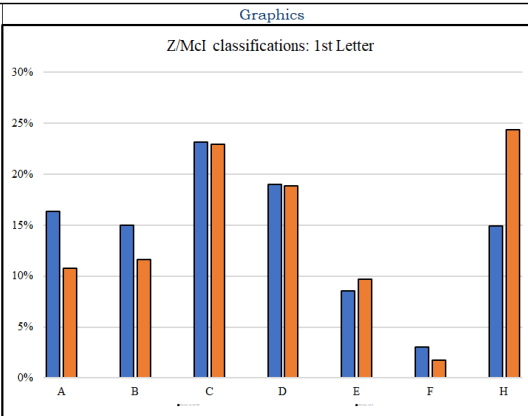
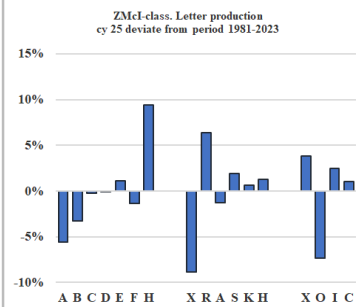
Zürich/McIntosh classifications
observed by SWPC 15.08.1981 - 14.07.2023

Comparisons Distribution 1st, 2nd and 3rd Letter, 1981-2023, vs. Cycle 25 2019-2023

1st Letter	Pct 1981-2023	Pct cy 25
A	16,3 %	10,8 %
B	15,0 %	11,7 %
C	23,2 %	22,9 %
D	19,0 %	18,8 %
E	8,6 %	9,7 %
F	3,1 %	1,7 %
H	15,0 %	24,3 %

2nd Letter	Pct 1981-2023	Pct cy 25
X	31,3 %	22,4 %
R	6,6 %	12,9 %
A	22,4 %	21,1 %
S	28,6 %	30,5 %
K	8,6 %	9,2 %
H	2,6 %	3,8 %

3rd Letter	Pct 1981-2023	Pct cy 25
X	31,3 %	35,1 %
O	55,5 %	48,1 %
I	10,1 %	12,5 %
C	3,2 %	4,2 %



The Zürich/McIntosh class 1st Letter:

Type H significantly over average

The Zürich/McIntosh class 2nd Letter:

Type x significantly under average

Type r significantly over average

The Zürich/McIntosh class 3rd Letter:

Type o significantly under average

Solar Coordinates

Daily list of Solar Ephemeris available at:

[Daily list of Solar Ephemeris and SDO on grid](#)

Here you can see Today's Po, Bo, Lo, Rotation no., RA and Dec. and adjusted SOHO-picture on grid.

Calculating CV

For your convenience and security, use the mif2021,

<https://www.cv-helios.net/mif2021.xlsx>

the Monthly Input Form, which you can use for all of your next reportings!

Monitor MPR daily progress

CV-Helios Network: Monitor MPR progress as entries are made!

Monitor your submissions as they are registered:

<https://cv-helios.net/helios/cv/web/mprpost.html>

The data are available fresh from about 10:00 UTC until local midnight.

Content comprises CV-Report for latest month, CV-Report for latest month

individual results, Extracts from NOAA on forecasts/discussion,

Extracts from NOAA warehouse on SRS and other activity,

Last 24 months CV-data, This month CV acc. to USAF

Registration data

Check if your CV-observations have been registered (please allow up to 24 hrs):

<https://www.cv-helios.net/helios/cv/web/datlist.htm>

for checking of Entries Summary

<https://www.cv-helios.net/helios/cv/web/cvobsmonth.htm>

CONTRIBUTE WITH YOUR PHOTOS AND OTHER OF INTEREST!

We would like YOU to contribute with drawings or photos from last month

Also any other contribution that may have an interest for our observers.

Please send by email to:

cvhelios@gmail.com

[Please check out www.cv-helios.net/cvrep2.html](http://www.cv-helios.net/cvrep2.html) for updates of files!

SUBMISSIONS OF CV-OBSERVATIONS

Log on to:

<https://www.cv-helios.net/observations/index.html>

[Classification Help](#)

login

solaris

password

cvheliosobs

[Monthly Input Form as excel](#)

Submission before 15th of proceeding month 18:00 UTC.

(password: cvhelios)

MPR issue 15th of proceeding month 2000 UTC. Good luck CV-observing!

**Average received to registered time: 0 day 16 hours 13 minutes
and Average macrotime used for one registration is 14,57 seconds**

CV-Helios Network

- over 41 years in solar amateur astronomy service!

There are now Entries reg.: 12969 entries registered
containing 209226 CV-observations!

Last 12 months 5845 CV-observations from 40 observers originating from 17 countries

Editorial close: 15.07.2023 17:40 UTC



CV-Helios Network