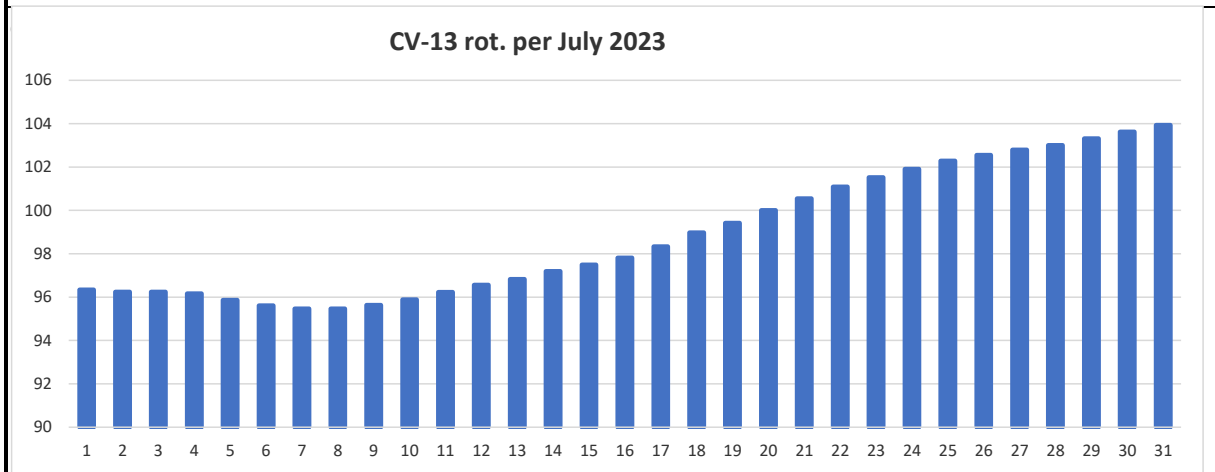
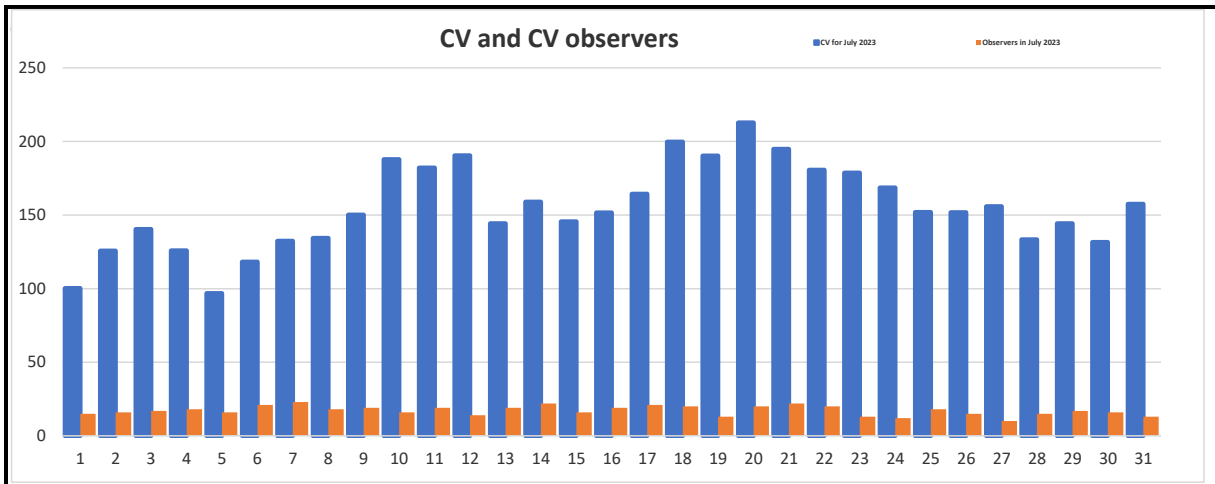


Results						
Date	CV	Obsrvrs	Regions 6 rot.	CV-USAF 6-rot.	CV-6 rot.	CV-13 rot.
1	100,20	15	7,46	108,53	109,07	96,34
2	125,63	16	7,44	108,11	108,74	96,24
3	140,35	17	7,41	107,84	108,63	96,24
4	125,89	18	7,38	107,58	108,52	96,16
5	96,82	16	7,37	107,00	108,36	95,86
6	118,18	21	7,37	106,77	108,44	95,60
7	132,29	23	7,37	106,64	108,58	95,47
8	134,32	18	7,37	106,74	108,71	95,46
9	150,21	19	7,40	107,63	109,19	95,63
10	187,82	16	7,42	108,77	109,91	95,89
11	182,16	19	7,46	110,07	110,70	96,23
12	190,50	14	7,49	111,04	111,37	96,56
13	144,30	19	7,51	111,59	111,86	96,82
14	159,00	22	7,54	112,21	112,48	97,20
15	145,56	16	7,54	112,85	112,97	97,49
16	151,60	19	7,54	113,51	113,52	97,82
17	164,29	21	7,56	114,51	114,18	98,33
18	199,80	20	7,59	115,43	115,00	98,97
19	190,21	13	7,60	116,43	115,74	99,42
20	212,70	20	7,59	117,27	116,68	100,00
21	194,86	22	7,58	118,05	117,45	100,55
22	180,62	20	7,56	118,00	117,83	101,09
23	178,62	13	7,55	117,85	117,83	101,52
24	168,58	12	7,54	117,71	117,73	101,91
25	152,00	18	7,52	117,37	117,70	102,29
26	151,80	15	7,51	116,89	117,56	102,55
27	155,80	10	7,50	116,22	117,49	102,80
28	133,33	15	7,48	115,84	117,31	103,00
29	144,28	17	7,48	115,72	117,47	103,31
30	131,56	16	7,49	115,94	117,61	103,62
31	157,43	13	7,52	116,38	117,79	103,93
Totals/ Avrgs	3,96	27,3	0,97	4,83	113,43	98,85



Latest sunspot regions developments

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

00.01.1900	3366,07.07.23,10.07.23,12.07.23,-11,56,2272,130,DSO,25
Region,First date,Max.date,Last date,Lat.,Long.,Rot.,Max.mvh,Max class,Max CV	3367,08.07.23,13.07.23,15.07.23,10,18,2272,200,EAL,23
3354,26.06.23,02.07.23,04.07.23,15,167,2272,1150,FKC,57	3372,11.07.23,14.07.23,24.07.23,23,271,2273,770,EKO,44
3359,01.07.23,06.07.23,10.07.23,-21,70,2272,240,DAO,19	
3361,04.07.23,10.07.23,14.07.23,24,41,2272,270,EHC,59	
3363,06.07.23,12.07.23,18.07.23,-21,346,2273,850,DKO,43	

:Product: Weekly Highlights and Forecasts

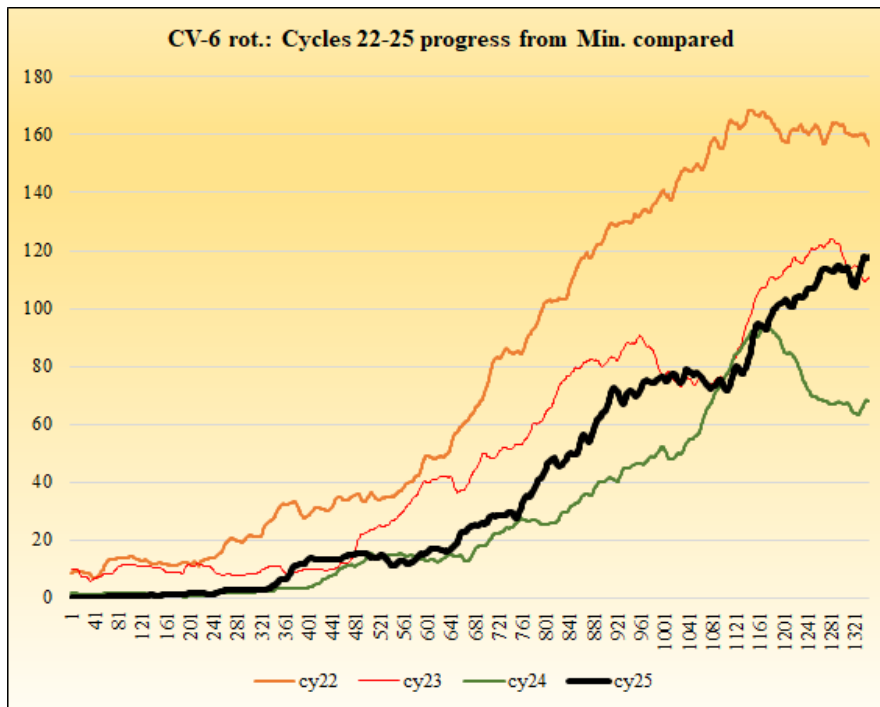
Highlights of Solar and Geomagnetic Activity
07 - 13 August 2023

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

Solar activity reached high levels on 07 Aug with three M-class flares (R1/Minor) observed in addition to an X1.5 flare (R3/Strong) at 07/2046 UTC from Region 3386 (N11, L=096, class/area=Dki/250 on 06 Aug); the largest event of the period. Moderate activity levels were observed on 08 Aug with an M3.6/Sf flare observed from Region 3387 (N20, L=069, class/area=Dsi/140 on 06 Aug). Low levels of activity were observed throughout the remainder of the week, with the bulk of C-class activity originating from Regions 3394 (S22, L=342, class/area=Dho/270 on 09 Aug) and 3395 (N13, L=331, class/area=Dai/180 on 12 Aug) over 09-13 Aug.

The greater than 10 MeV proton flux exceeded 10 pfu (S1/Minor) following west limb flare activity on 07 Aug. The S1 event began at 08/0115 UTC, reached a peak of 47 pfu at 09/0025 UTC, and ended at 10/0950 UTC. The greater than 10 MeV proton flux slowly decayed following the end of S1 levels and returned to background levels on 13 Aug.

Monthly graph



It is apparent that the stage and rise of solar cycle 25 now can be compared to solar cycle 23 (1996-2008). At the time of issue CV-I for last day of July 2023 can compare to 19 April 2001, more than 22 years ago! Solar cycle 25 has now long gone superseded solar cycle 24 (2008-2019) at the same stage of development.

The above graphic show CV-Int. levels solar cycle 25 compared to same stage previous cycles.

Highlights July 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 superseded 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 19th 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 647 regions this cycle per end August 2023 (314 regions North and 333 regions South). At the same time solar cycle 24 produced 513 regions (205 north and 308 south).

Region	First date	Max.date	Last date	Lat.	Long.	Rot.	Max.mvh	Max class	Max CV
3354	26.06.23	02.07.23	04.07.23	15	167	2272	1150	FKC	57
3359	01.07.23	06.07.23	10.07.23	-21	70	2272	240	DAO	19
3361	04.07.23	10.07.23	14.07.23	24	41	2272	270	EHC	59
3363	06.07.23	12.07.23	18.07.23	-21	346	2273	850	DKO	43
3366	07.07.23	10.07.23	12.07.23	-11	56	2272	130	DSO	25
3367	08.07.23	13.07.23	15.07.23	10	18	2272	200	EAI	23
3372	11.07.23	14.07.23	24.07.23	23	271	2273	770	EKO	44
3373	14.07.23	19.07.23	25.07.23	8	247	2273	550	EKC	56
3376	17.07.23	18.07.23	27.07.23	24	231	2273	180	DSO	25
3377	17.07.23	24.07.23	29.07.23	-9	199	2273	260	DHO	49
3379	19.07.23	23.07.23	31.07.23	15	173	2273	280	FHO	51
3386	26.07.23	28.07.23	06.08.23	12	93	2273	360	DKI	46
3391	29.07.23	31.07.23	11.08.23	23	34	2273	130	HSX	10

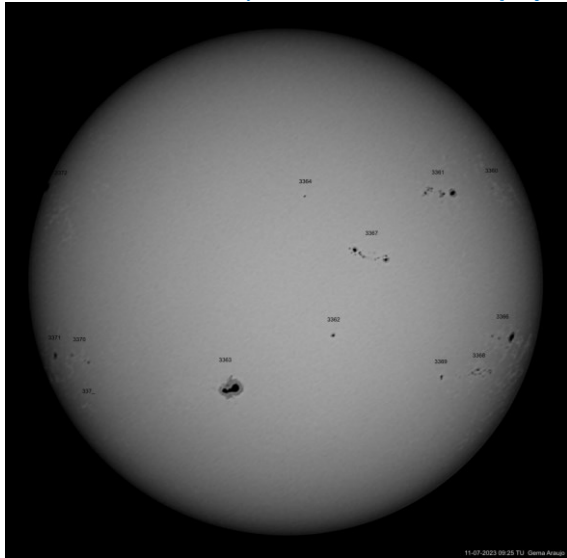
We reckon there have passed 1334 days (solar flux 1371 days) of the new cycle by this issue. May continue production of lots of large regions and major solar flares and CME's too! Solar Max.: Our latest and final prediction to occur late July 2025, earliest possible may be April 2025. Solar Flux onset: 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.

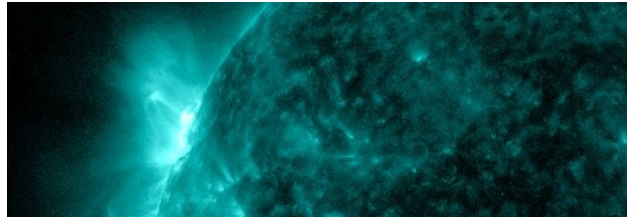
Photo courtesy: Thanks to CV-135 Gema Araujo, Spain



Highlights July 2023

Left: Photo from CV-135 Gema Araujo, Spain from 11 July 2023.

On this day we saw 12 sunspot regions and the CV reached 182,2 (CV-USAF was 235)



Above: NASA's Solar Dynamics Observatory saw the M&-flare exposition on 11th July at 1808 UTC. Courtesy: Spaceweather.com

Awards this month

1

Award no.: 160 to CV-102 PAULO ROBERTO MOSER date 05 July 2023 milestone 3000 CV-obs.!
CONGRATULATIONS!



New members:

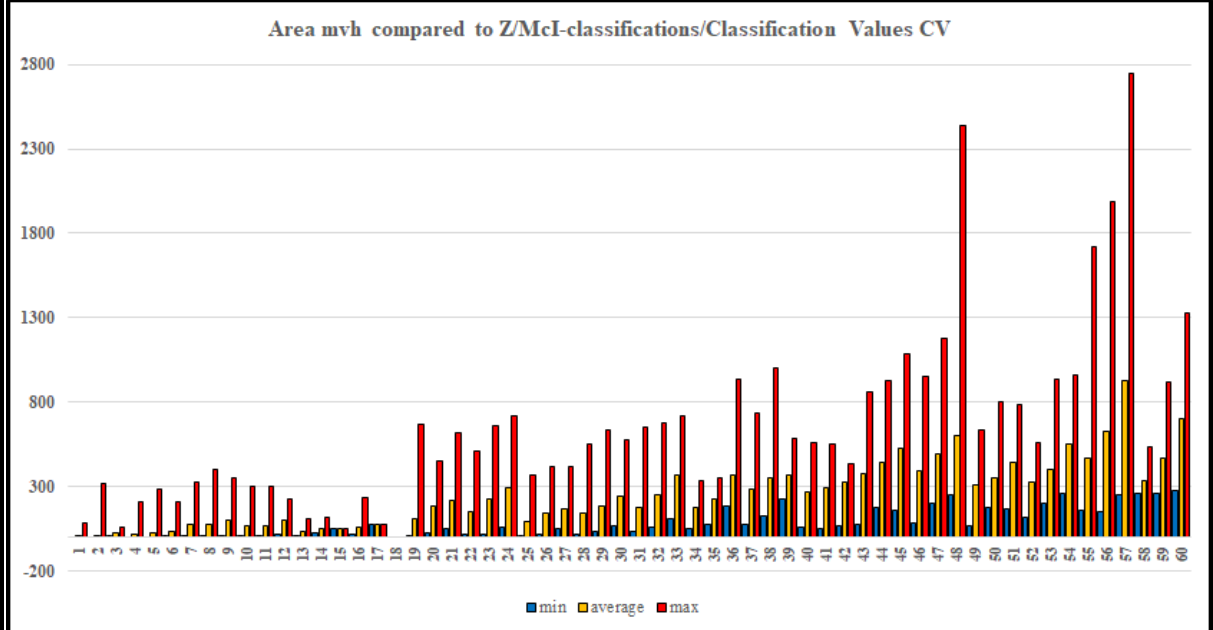
Welcome to:

0

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

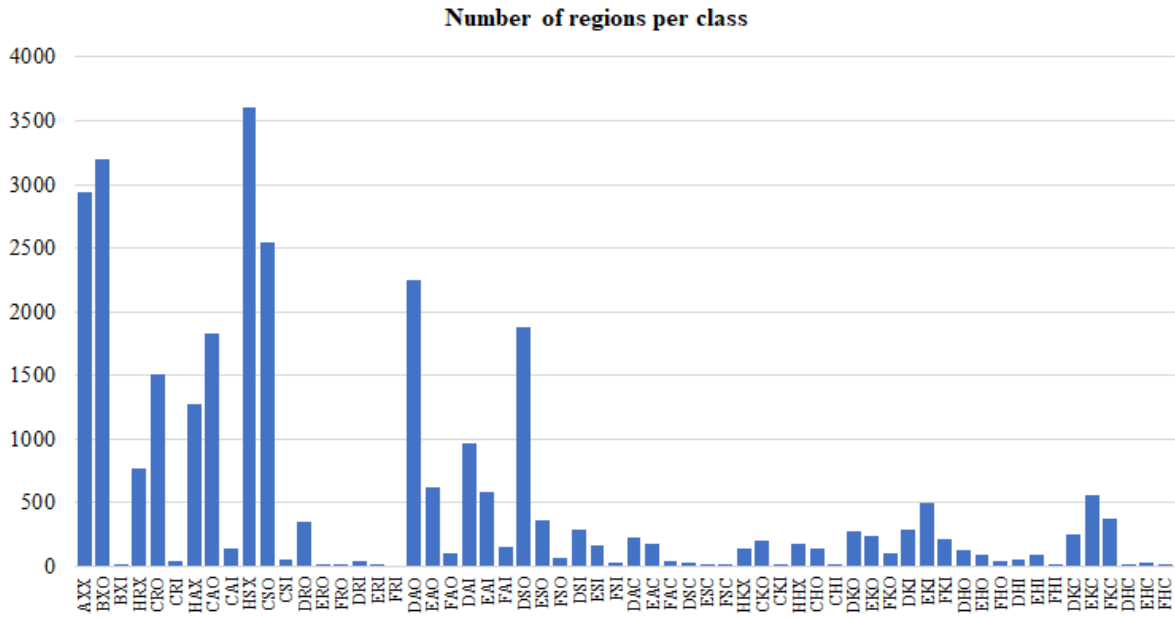
Sunspot area compared to Zürich/McIntosh classifications according to NOAA/USAF and CV-USAF

Average Area-mvh compared to Class/CV														
CV	Class	min	avrg.	max	CV	Class	min	avrg.	max	CV	Class	min	avrg.	max
1	AXX	0	8	90	21	FAO	50	219	620	41	CHO	50	291	550
2	BXO	0	14	320	22	DAI	20	154	510	42	CHI	70	327	440
3	BXI	10	25	60	23	EAI	20	229	660	43	DKO	80	382	860
4	HRX	0	20	210	24	FAI	60	298	720	44	EKO	180	443	930
5	CRO	0	27	290	25	DSO	10	91	370	45	FKO	160	527	1090
6	CRI	10	39	210	26	ESO	20	148	420	46	DKI	90	396	950
7	HAX	10	79	330	27	FSO	50	173	420	47	EKI	200	493	1180
8	CAO	10	81	405	28	DSI	20	143	550	48	FKI	250	604	2440
9	CAI	10	103	350	29	ESI	40	185	640	49	DHO	70	314	640
10	HSX	10	70	300	30	FSI	70	244	580	50	EHO	180	355	800
11	CSO	10	68	300	31	DAC	40	182	650	51	FHO	170	443	790
12	CSI	20	106	230	32	EAC	60	255	680	52	DHI	120	326	560
13	DRO	10	34	110	33	FAC	110	370	720	53	EHI	200	405	940
14	ERO	30	54	120	34	DSC	50	179	340	54	FHI	260	551	960
15	FRO	50	50	50	35	ESC	80	230	350	55	DKC	160	472	1720
16	DRI	20	61	240	36	FSC	190	373	940	56	EKC	150	624	1990
17	ERI	80	80	80	37	HKX	80	284	740	57	FKC	250	930	2750
18	FRI	0		0	38	CKO	130	350	1000	58	DHC	260	333	540
19	DAO	10	113	670	39	CKI	230	374	590	59	EHC	260	468	920
20	EAO	30	185	450	40	HHX	60	268	560	60	FHC	280	701	1330



The table above show the minimum, average and maximum sizes according to what Zürich/McIntosh-classification they belong to. Data are valid from 1st January 1996 to 8th August 2023 from the Joint USAF/NOAA.

Zürich/McIntosh classifications as observed by SWPC 15.08.1981-03.08.2023



Number of sunspot regions per Zürich/McIntosh-classification

Zürich/McIntosh-classifications and (CV); Number of regions 01Jan1996-03Aug2023		
AXX (1): 2943	FAO (21): 104	CHO (41): 135
BXO (2): 3200	DAI (22): 969	CHI (42): 7
BXI (3): 24	EAI (23): 590	DKO (43): 279
HRX (4): 774	FAI (24): 154	EKO (44): 242
CRO (5): 1512	DSO (25): 1879	FKO (45): 103
CRI (6): 44	ESO (26): 364	DKI (46): 288
HAX (7): 1280	FSO (27): 68	EKI (47): 495
CAO (8): 1830	DSI (28): 283	FKI (48): 216
CAI (9): 137	ESI (29): 160	DHO (49): 134
HSX (10): 3603	FSI (30): 27	EHO (50): 98
CSO (11): 2548	DAC (31): 226	FHO (51): 41
CSI (12): 59	EAC (32): 175	DHI (52): 54
DRO (13): 348	FAC (33): 42	EHI (53): 91
ERO (14): 8	DSC (34): 29	FHI (54): 16
FRO (15): 1	ESC (35): 23	DKC (55): 250
DRI (16): 39	FSC (36): 6	EKC (56): 555
ERI (17): 1	HKX (37): 146	FKC (57): 379
FRI (18): 0	CKO (38): 198	DHC (58): 22
DAO (19): 2243	CKI (39): 16	EHC (59): 34
EAO (20): 621	HHX (40): 173	FHC (60): 22

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 number of Entries registered: 13000

containing 209771 CV-observations!

Last 12 months 5802 CV-observations from 40 observers originating from 17 countries

Editorial close: 15.08.2023 18:03 UTC



CV-Helios Network