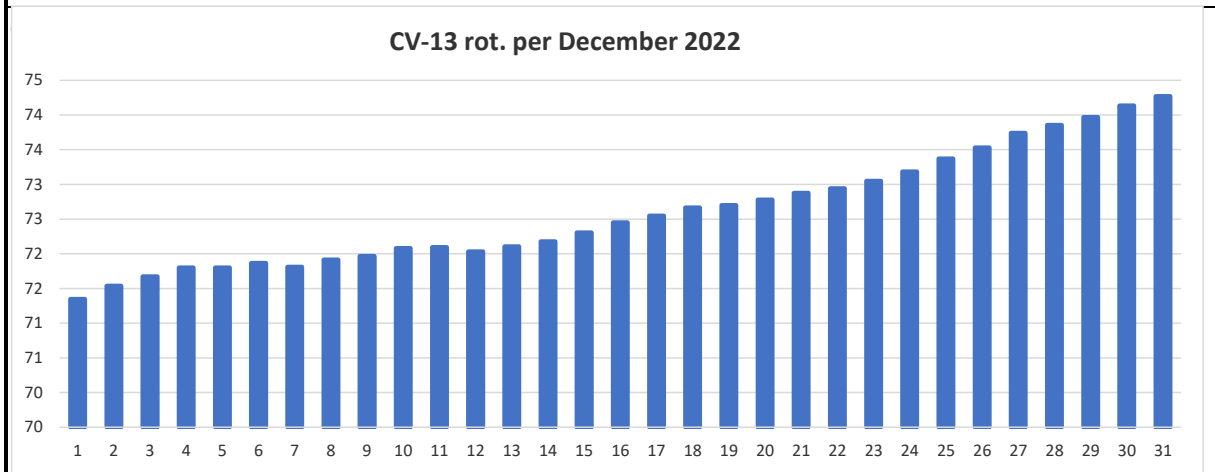
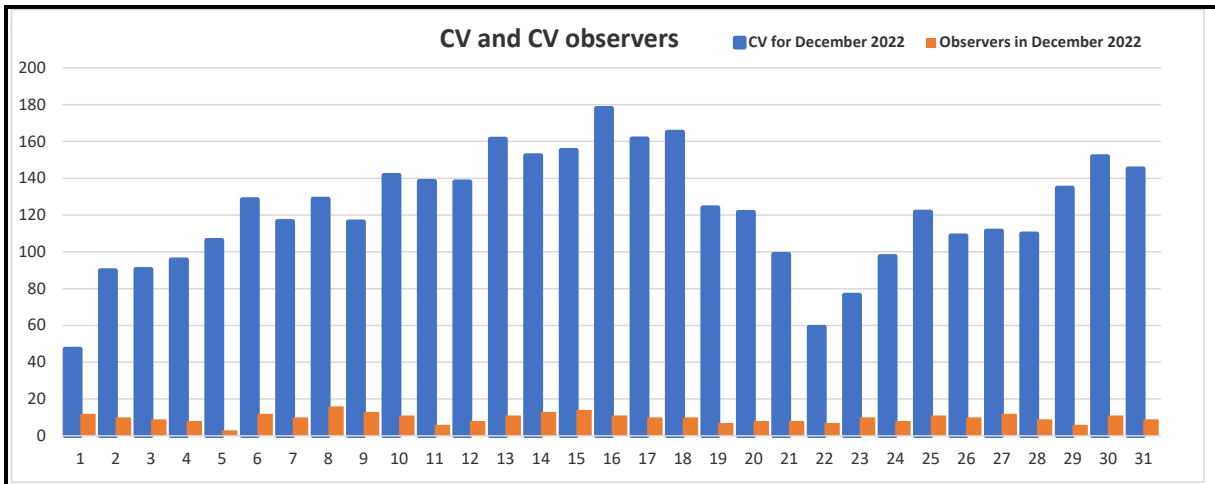


Results						
Date	CV	Obsrvrs	Regions 6 rot.	CV-USAF 6-rot.	CV-6 rot.	CV-13 rot.
1	47,25	12	4,82	71,01	72,61	71,35
2	89,90	10	4,81	70,75	72,53	71,54
3	90,44	9	4,81	70,64	72,41	71,67
4	95,75	8	4,82	70,85	72,36	71,80
5	106,33	3	4,82	71,17	72,43	71,80
6	128,50	12	4,85	71,34	72,73	71,86
7	116,60	10	4,88	71,65	73,04	71,81
8	128,69	16	4,92	72,20	73,57	71,91
9	116,31	13	4,93	72,77	74,02	71,96
10	141,64	11	4,95	73,42	74,61	72,08
11	138,33	6	4,99	74,30	75,02	72,09
12	138,13	8	5,02	75,07	75,47	72,03
13	161,36	11	5,06	75,93	76,11	72,10
14	152,31	13	5,11	76,73	76,75	72,18
15	155,21	14	5,12	77,74	77,43	72,30
16	178,09	11	5,13	78,74	77,98	72,45
17	161,50	10	5,14	79,21	78,35	72,55
18	165,10	10	5,15	79,55	78,56	72,66
19	124,00	7	5,17	79,83	78,50	72,70
20	121,50	8	5,18	79,95	78,36	72,78
21	98,75	8	5,18	79,93	78,11	72,88
22	59,00	7	5,18	79,43	77,48	72,94
23	76,50	10	5,20	79,23	76,95	73,05
24	97,50	8	5,20	78,92	76,63	73,18
25	121,73	11	5,21	78,32	76,29	73,37
26	108,80	10	5,21	77,79	75,63	73,53
27	111,33	12	5,20	77,38	74,90	73,74
28	109,78	9	5,18	76,69	74,24	73,85
29	134,67	6	5,19	76,73	73,96	73,97
30	151,82	11	5,20	76,97	74,05	74,13
31	145,22	9	5,18	77,57	74,13	74,27
Totals/ Avrgs	3,96	27,3	0,97	4,83	75,33	72,60



Latest sunspot regions developments

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

- 3192-13.01.23-14.01.23-19,0-119,5-2266-130-6-27
- 3191-13.01.23-14.01.23-11,5-124,5-2266-120-6-17
- 3190-13.01.23-14.01.23--12,5-123,5-2266-345-9-27
- 3189-13.01.23-14.01.23-23,0-225,5-2266-10-3-2
- 3188-12.01.23-14.01.23--23,0-148,7-2266-23-6-14
- 3187-10.01.23-10.01.23-13,0-215,0-2266-10-1-1
- 3186-10.01.23-14.01.23-24,6-169,4-2266-296-10-39
- 3185-09.01.23-14.01.23-19,7-247,7-2266-47-5-10
- 3184-08.01.23-14.01.23--12,9-180,1-2266-373-11-37
- 3183-05.01.23-11.01.23--16,7-309,0-2266-119-7-15

:Product: Weekly Highlights and Forecasts

Highlights of Solar and Geomagnetic Activity
02 - 08 January 2023

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

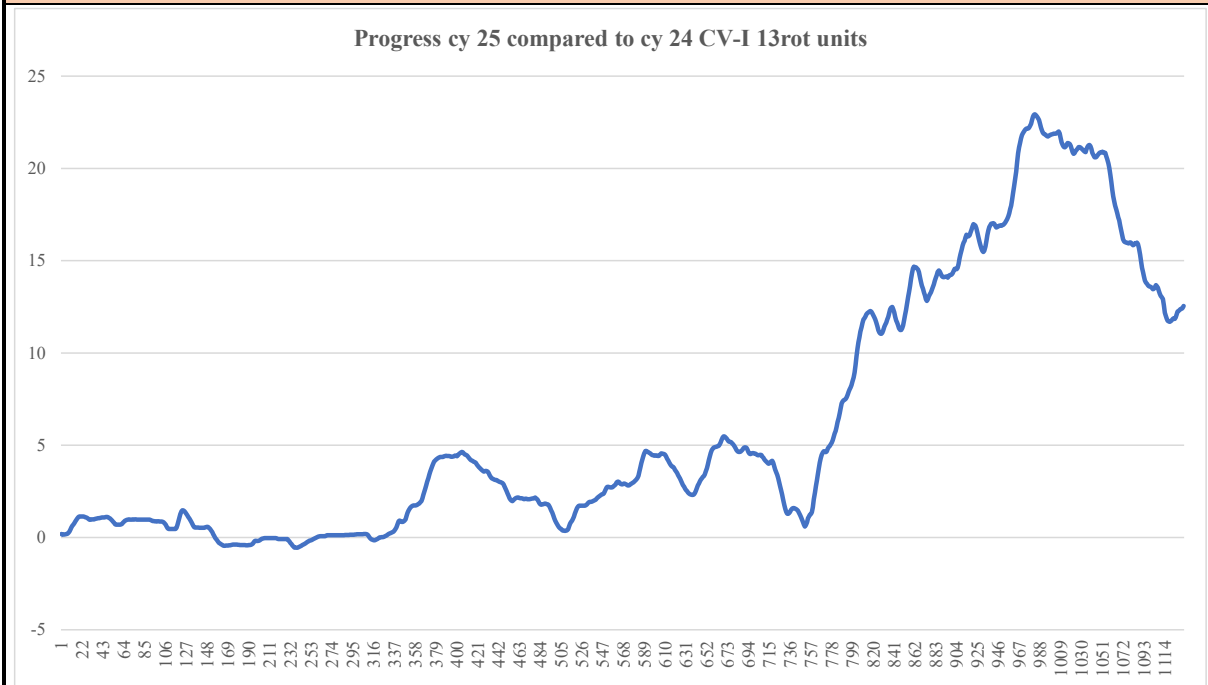
Solar activity ranged from low to high levels. Region 3182 (S17, L=228, class/area=Eki/880 on 08 Jan) produced a the strongest event of the period, an X1/2b flare 06/0057 (R3 - Strong) UTC with an associated Tenflare. The region also produced an M1/Sf flare (R1 - Minor) at 07/0052 UTC. As it was rotating on to the visible disk from the SE limb, Region 3184 (S13, L=179, class/area=Hax/240) produced four M1 flares on 08 Jan at 0839, 0915, 1451 and 1902 UTC. The remaining nine numbered active regions were either quiet or only produced C-class X-ray flares.

Other activity included an asymmetric, partial-halo CME which was observed off the E limb at ~03/0636 UTC. Associated with the event was a C3 flare, a Type II (est. 624 km/s) and Type IV radio sweep, along with a Tenflare. The produced CME was analyzed and not determined to have an Earth-directed component.

Solar activity is expected to be at low to moderate levels over 09-11 Jan, primarily due to the flare potential from Regions 3182 and 3184. The remainder of the outlook period is expected to be at low levels with a slight chance for M-class flares (R1-R2 - Minor-Moderate).

No proton events are expected at geosynchronous orbit.

Monthly graph



The above graphic show progress cy 25 compared to cy 24 CV-I 13rot units at the same progress time.
The situation per 31 Dec 2022 is that we are now only 20% or 12,54 CV-I units ahead of solar cycle 24.

Highlights December 2022

Solar activity has become more average and number of regions are slowly increasing.
The CV 13-rot. ctrd. avgs. are still slightly higher than for solar cycle 24 at the same time of progress!
The CV-Int. 13-rot. avrgs. is now ahead with 20 percent compared to same date in cycle 24.
A small upswing since last month. Sunspot region production at Month 37 was slowing down a bit.
A total of 397 regions this cycle per mid Dec. 2022 (184 regions North and 213 regions South).
At the same time solar cycle 24 produced 361 regions.

SUNSPOT REGIONS EXCEEDING 100 mvh in December 2022

Region,First date,Max.date,Last date,Lat.,Long.,Rot.,Max.mvh,Max class,Max CV
2916,21.12.21,21.12.21,03.01.22,-17,192,2252,640,HSX,10
2918,22.12.21,22.12.21,01.01.22,20,210,2252,280,CRO,5
2921,28.12.21,28.12.21,30.12.21,30,247,2252,300,DAO,19

Date	Strongest flare	Date	Strongest	Date	Strongest flare
02.12.2022	M1.2	04.12.2022	M1.2	13.12.2022	M6.3
14.12.2022	M5.7	15.12.2022	M6.3	15.12.2022	M4.0
16.12.2022	M5.7	16.12.2022	M1.0	17.12.2022	M4.0
18.12.2022	M1.0	19.12.2022	M1.1	21.12.2022	M1.1
26.12.2022	M2.0	28.12.2022	M2.0	28.12.2022	M2.4
29.12.2022	M3.7	30.12.2022	M2.4	31.12.2022	M3.7

We reckon there have passed 1122 days (solar flux 1159 days) of the new cycle by this issue.
The prospects for a solar cycle much higher than no. 24 still is good!
January now produces lots of big regions and solar flares too!

Solar Max.:

Solar Flux onset: OCCURED 30 September 2022, the Onset 13 rot. ctrd. will occur during last part of 2022.

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:

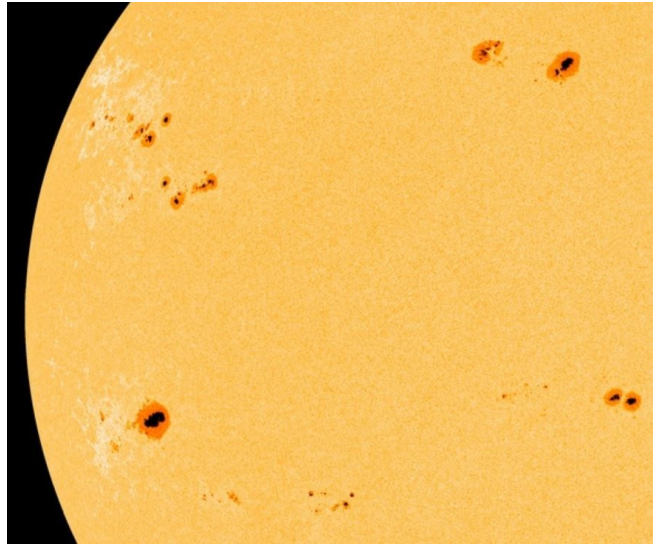
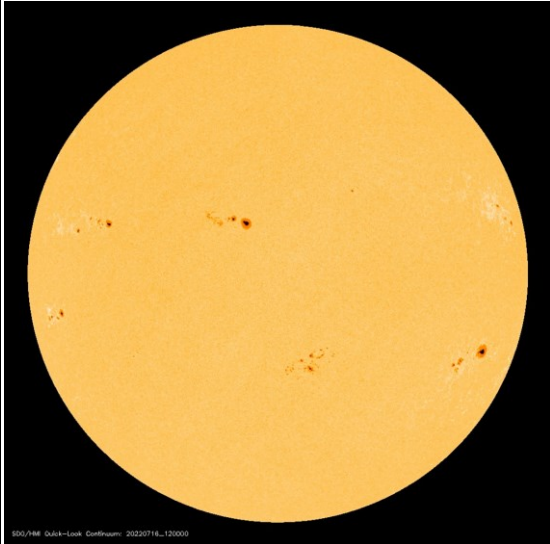
Here is a Survey of hmiigr SOHO solar images 2022.

<https://www.cv-helios.net/helios/cv/web/2022/Video2022.mov>

Pictures from last month - Observer contributions, etc.

photo courtesy SDO/HMI NOAA gov

Highlights December 2022/January 2023



Left: The top CV-I day of year 2022: SOHO image "hmiigr" 16 Jul. 2022.

Right: SOHO image from 14 Jan. 2023. Great activity in January!

Awards this month

0


none



New members:

Welcome to:

We are now 49 active members (last 12 mo.)

Solar Coordinates	New from April 2020
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 https://www.cv-helios.net/helios/cv/web/cvobsmonth.htm for checking of Entries Summary	
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 for updates of files!	
<u>SUBMISSIONS OF CV-OBSERVATIONS</u>	
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 21 hours 25 minutes	
CV-Helios Network - over 41 years in solar amateur astronomy service! There are now Entries reg.: 12786 entries registered containing 206403 CV-observations! Last 12 months 6260 CV-observations from 43 observers originating from 17 countries	
Editorial close: 15.01.2023 19:41 UTC	
 CV-Helios Network	