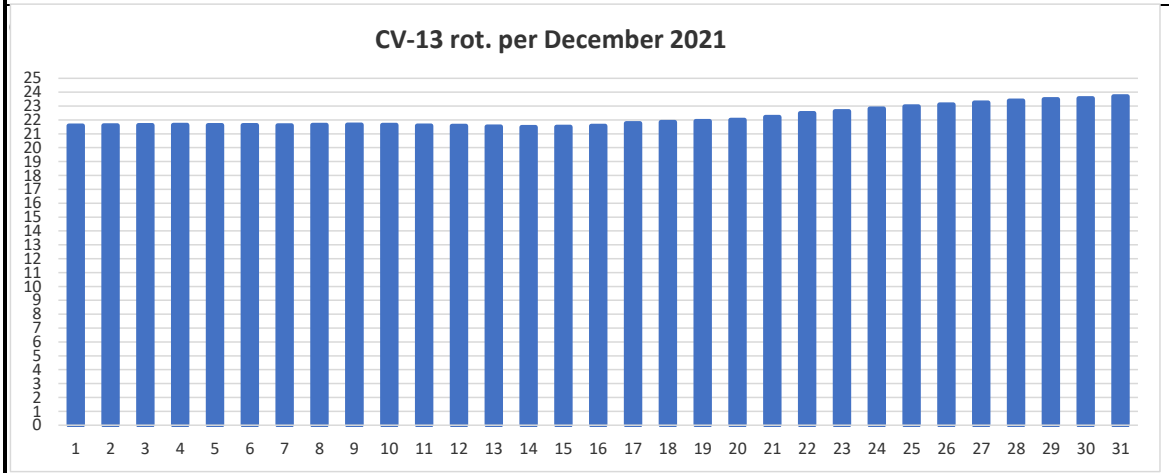
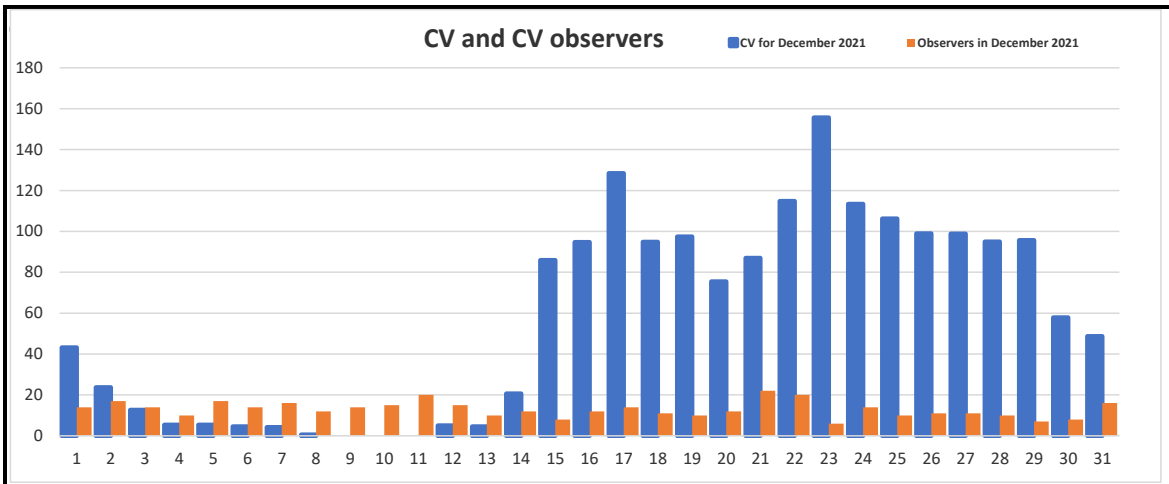


Results						
Date	CV	Obsrvrs	Regions 6 rot.	CV-USAF 6-rot.	CV-6 rot.	CV-13 rot.
1	43,14	14	2,47	31,14	30,43	21,59
2	23,65	17	2,48	31,32	30,50	21,61
3	12,64	14	2,49	31,35	30,53	21,61
4	5,40	10	2,50	31,34	30,55	21,64
5	5,35	17	2,51	31,30	30,55	21,62
6	4,50	14	2,51	31,10	30,48	21,61
7	4,25	16	2,51	30,96	30,38	21,61
8	0,50	12	2,50	30,78	30,25	21,63
9	0,00	14	2,49	30,52	29,98	21,64
10	0,00	15	2,48	30,18	29,67	21,63
11	0,00	20	2,46	29,84	29,24	21,58
12	5,00	15	2,45	29,45	28,95	21,56
13	4,50	10	2,45	29,09	28,68	21,52
14	20,67	12	2,45	29,00	28,48	21,49
15	85,88	8	2,46	29,40	28,52	21,50
16	94,75	12	2,48	29,62	28,63	21,56
17	128,43	14	2,49	30,24	29,01	21,75
18	94,82	11	2,52	30,99	29,38	21,84
19	97,40	10	2,55	31,63	29,77	21,91
20	75,42	12	2,59	31,97	30,18	22,00
21	87,00	22	2,63	32,59	30,74	22,21
22	114,75	20	2,68	33,16	31,43	22,48
23	155,67	6	2,72	33,84	31,84	22,62
24	113,43	14	2,76	34,69	32,35	22,82
25	106,20	10	2,79	35,41	32,71	22,96
26	99,00	11	2,81	36,02	33,09	23,10
27	98,82	11	2,82	36,49	33,44	23,25
28	94,90	10	2,83	36,98	33,68	23,38
29	95,71	7	2,84	37,30	33,88	23,49
30	57,88	8	2,85	37,42	34,00	23,56
31	48,75	16	2,85	37,61	34,11	23,70
Totals/ Avrgs	3,96	27,3	0,97	4,83	30,82	22,14



:Product: Weekly Highlights and Forecasts

:Issued: 2022 Jan 10 0129 UTC
 # Prepared by the US Dept. of Commerce, NOAA, Space Weather Prediction Center
 # Product description and SWPC contact on the Web
 # <https://www.swpc.noaa.gov/content/subscription-services>
 #
 # Weekly Highlights and Forecasts
 #
 # Highlights of Solar and Geomagnetic Activity
 03 - 09 January 2022

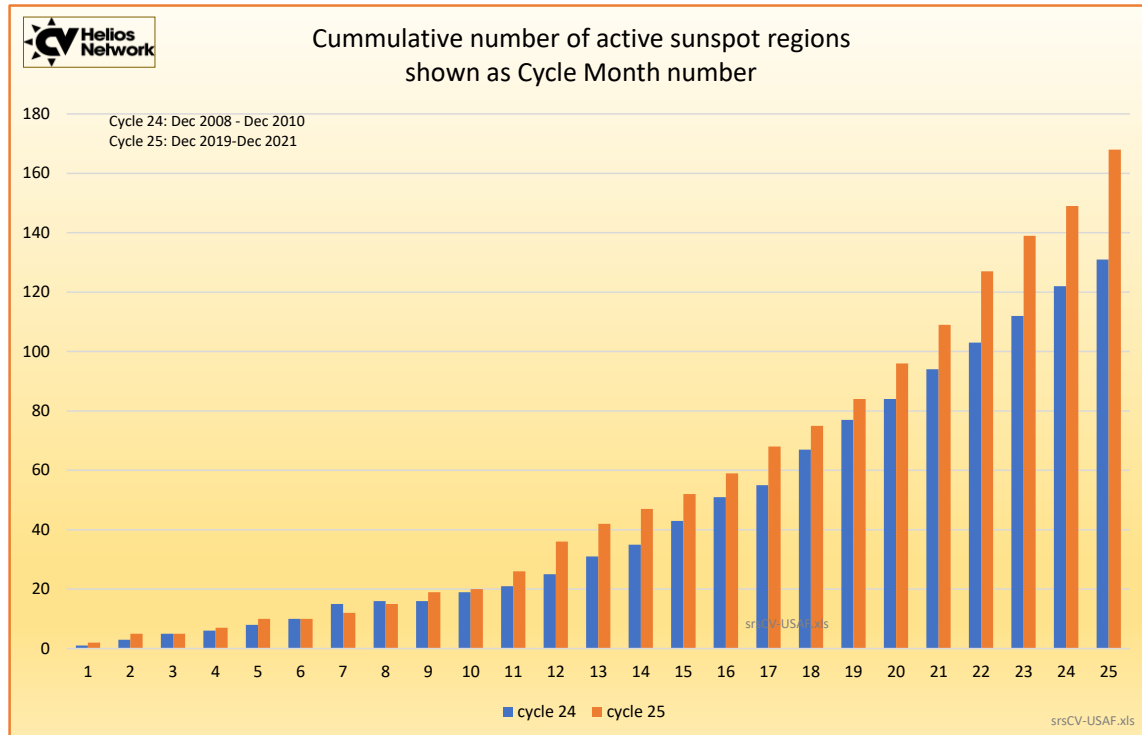
Solar activity was at very low to low levels during the period. C-class activity was observed on 06-07 Jan from Region 2924 (S31, L=038, class/area Ehi/430 on 08 Jan). The largest of these events was a C2 flare observed at 07/2210 UTC. The remaining regions were unremarkable and quiet. Late on 09 Jan, Type II (575 km/s S.V.) and Type IV radio emissions were observed, most likely associated with CME activity at or behind the NE limb. No other activity was observed during the period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit reached high levels on 08 Jan with a maximum flux of 2,655 pfu observed at 08/1805 UTC. Moderate levels were observed on 03-07 Jan and 09 Jan.

Geomagnetic field activity ranged from quiet to GI (Minor) storm

Monthly graph



Cycle 25 on the lead against cycle 24 producing sunspot regions!

News December 2021

Solar activity is still low but number of regions are slowly increasing. The CV as 13-rot. centered averages are now higher than for solar cycle 24 at the same time of progress from minimum!
The solar flux is now ahead with over 9 percent and CV-I 13-rot. ahead with 21 percent compared to cycle 24!
Sunspot region production at Month nbr. 25 was 37 more than for cycle 24 (131 vs. 168) !
There were a total of 19 sunspot regions in December 2021. The highest number of regions since Sep 2015!

List of 6 significant sunspot regions exceeding 50 mvh developing in December 2021:

The LARGEST SUNSPOT REGIONS (≥ 100 mvh) 01.10-30.10 were:

Reg.-First-Last--Lat.-Long.-Rot.-Area - ZMcI-history

2898: 23.11-03.12 Lat S25, Lo 241 Rt. 2251 97 m., CV 10,3, CRO CRO DRO DAO DAO CSO CSO HSX HSX HSX CSO

2900: 26.11-02.12 Lat S27, Lo 254 Rt. 2251 105 m., CV 10,0, CRO DSO DSO DAO DAO DAO AXX

2907: 13.12-24.12 Lat S21, Lo 314 Rt. 2252 208 m., CV 34,6, BXO DSC DKI DAI DHI DKI DKI DAI DAI EAI EKI EHI

2908: 15.12-25.12 Lat S20, Lo 271 Rt. 2252 155 m., CV 22,7, DKO DAO DKI DKI EAI CAI DSI DAI CAI CRO HAX

2909: 15.12-24.12 Lat S21, Lo 285 Rt. 2252 116 m., CV 12,9, DAO DAO DSO DAO CAO CSO HAX HSX HAX HRX

2916: 21.12-03.01 Lat S17, Lo 070 Rt. 2252 85 m., CV 10,2, HSX DSO DSO DHI EKC EKC EKC EKI EHI ESI EHI EHI EHO DSO

Rank50 - Type - Date - Region - Flare Start - Max - End

Activity cut from Sunspot Region Summaries from NOAA:

Rank50 - Type - Date - Region

Rank 9 - Type M1.9 - Date 20.12.2021 Region 2908

Rank 11 - Type M1.89 - Date 28.12.2021 Region 2918

Rank 13 - Type M1.6 - Date 28.12.2021 Region 2918

Rank 19 -Type M 4 - Date 21.12.2021 Region 2916

Rank 20 -Type M1.4 - Date 05.12.2021 Region 2898

Rank 23 - Type M1.3 - Date 22.12.2021 Region 2908

Rank 25 - Type M1.29 - Date 17.12.2021 Region 2911

Rank 27 - Type M1.1 - Date 21.12.2021 Region 2916

Solar Max.: Will occur around July 2025, earliest possibility April 2025.

Solar Flux onset expected soon. The P-Index, rise/fall data from solar flux,

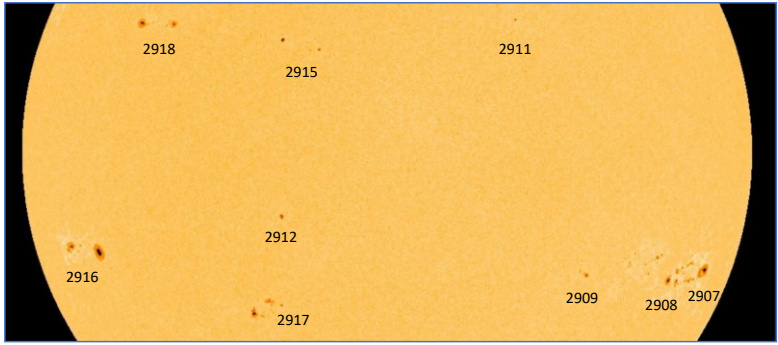
This proved great activity in December 2021 and which may persist until at least February 2022.

Stay tuned and observe the solar disk from now on!

Please remember you are always welcome to contribute with drawings and photos!

Preliminary total number for year 2021 is 7038 CV-observations from 48 observers! Thank you all of you!

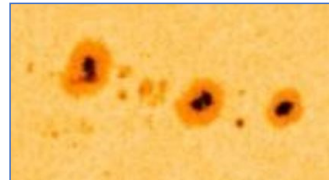
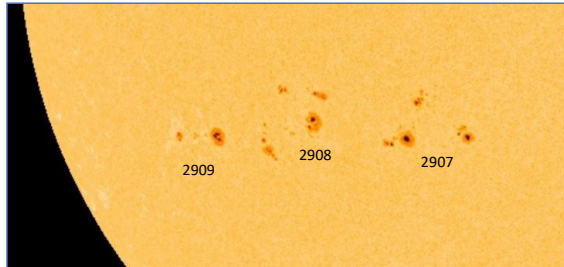
Pictures from last month - Observer contributions, etc.



Largest Regions of Dec. 2021

The most active day
of December 2021: 23rd Dec.
photo courtesy SDO/HMI NOAA gov

Below left:
Series of penumbraspots
Dec 17, 2021



Close up
of region 2916
Dec 30. 2021
640 mvh
SDO/HMI

Awards this month 0


none

New members: **Welcome to:**

CV-Helios Network have decided to include
Kandilli Observatory, Turkey, to the memberlisting
according to general tabular data availability on internet.

Updates next issue

We are now 53 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 16 hours 27 minutes			
CV-Helios Network - over 40 years in solar amateur astronomy service! There are now Entries reg.: 12288 entries registered containing 197682 CV-observations! Last 12 months 7038 CV-observations from 48 observers originating from 17 countries			
Editorial close: 15.01.2022 19:00 UTC			
 CV-Helios Network			