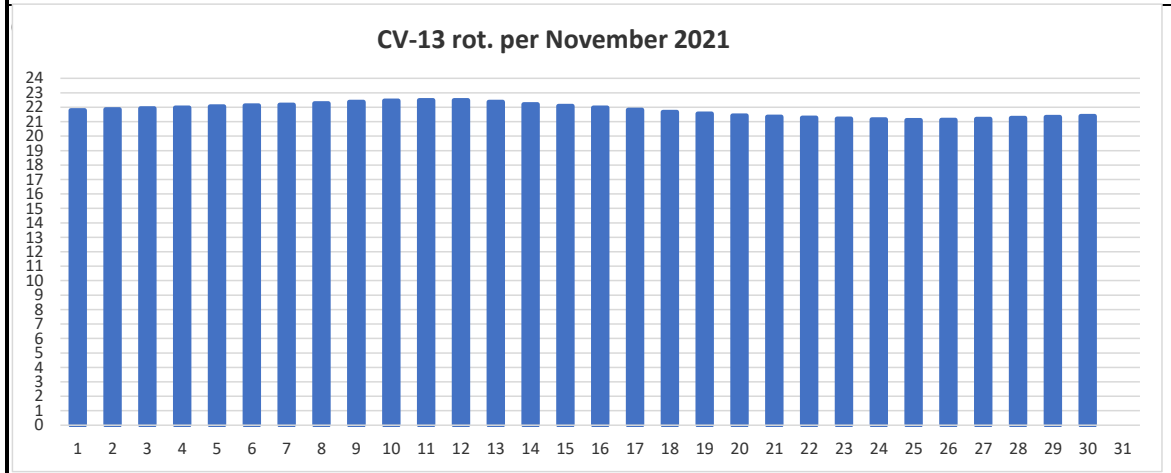
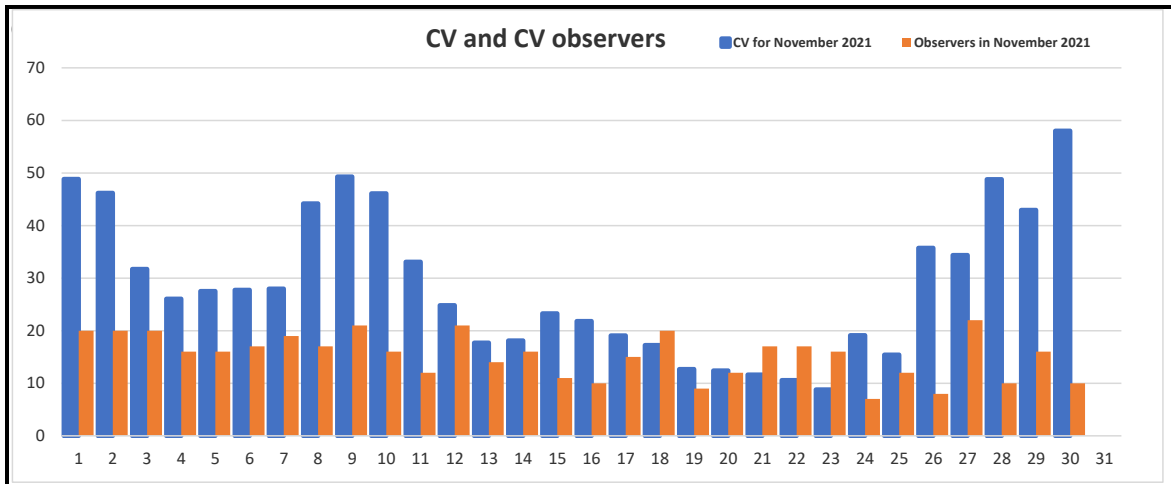




<b>Results</b>						
Date	CV	Obsrvrs	Regions 6 rot.	CV-USAF 6-rot.	CV-6 rot.	CV-13 rot.
1	48,85	20	2,30	29,80	28,20	21,78
2	46,20	20	2,32	29,96	28,39	21,85
3	31,70	20	2,32	30,12	28,47	21,91
4	26,06	16	2,32	30,15	28,55	21,97
5	27,50	16	2,33	30,26	28,57	22,04
6	27,76	17	2,34	30,19	28,37	22,11
7	28,00	19	2,34	29,76	28,16	22,16
8	44,18	17	2,34	29,44	28,07	22,26
9	49,29	21	2,35	29,65	28,28	22,37
10	46,13	16	2,35	29,89	28,48	22,45
11	33,08	12	2,36	29,96	28,60	22,48
12	24,81	21	2,37	30,08	28,69	22,48
13	17,71	14	2,37	30,05	28,73	22,37
14	18,13	16	2,37	30,08	28,74	22,20
15	23,27	11	2,37	30,00	28,74	22,08
16	21,80	10	2,38	30,09	28,75	21,97
17	19,07	15	2,38	30,15	28,75	21,82
18	17,25	20	2,37	29,99	28,61	21,66
19	12,67	9	2,37	29,91	28,62	21,55
20	12,42	12	2,37	29,87	28,72	21,42
21	11,65	17	2,37	29,93	28,84	21,33
22	10,59	17	2,37	30,05	28,95	21,26
23	8,81	16	2,38	30,10	29,03	21,19
24	19,14	7	2,39	30,07	29,15	21,14
25	15,42	12	2,39	30,09	29,25	21,09
26	35,75	8	2,40	30,19	29,40	21,12
27	34,36	22	2,41	30,41	29,58	21,18
28	48,80	10	2,43	30,63	29,78	21,25
29	42,94	16	2,43	30,80	29,96	21,32
30	58,00	10	2,46	30,95	30,15	21,38
Totals/ Avrgs	<b>3,96</b>	<b>27,3</b>	<b>0,97</b>	<b>4,83</b>	<b>28,82</b>	<b>21,77</b>



**LAST 10 SUNSPOT REGIONS**

- Reg.-First-Last-Lat.-Long.-Rot.-Area-Lgth.-CV-max.
- 2907-13.12.21-14.12.21--21,0-319,0-2252-30-6-18 BXO-DSC-----
  - 2906-13.12.21-14.12.21--29,0-343,0-2252-30-5-7 BXO-CSO-----
  - 2905-12.12.21-14.12.21--11,0-349,7-2252-20-2-5 CRO-CRO-HRX-----
  - 2904-04.12.21-07.12.21--26,5-81,5-2251-15-3-2 AXX-BXO-BXO-BXO-----
  - 2903-30.11.21-01.12.21--17,5-148,5-2251-10-3-2 AXX-BXO-----
  - 2902-30.11.21-05.12.21-16,7-198,0-2251-42-4-9 CRO-DRO-DSI-CRO-HRX-AXX-----
  - 2901-28.11.21-01.12.21-16,8-154,0-2251-18-2-6 HSX-HSX-AXX-BXO-----
  - 2900-26.11.21-02.12.21--26,9-254,1-2251-147-6-16 CRO-DSO-DSO-DAO-DAO-DAO-AXX-----
  - 2899-26.11.21-27.11.21--21,0-307,0-2251-35-4-2 BXO-BXO-----
  - 2898-23.11.21-03.12.21--24,5-239,8-2251-89-5-11 CRO-CRO-DRO-DAO-DAO-CSO-CSO-HSX-HSX-HSX-CSO--

**:Product: Weekly Highlights and Forecasts**

:Issued: 2021 Dec 13 0138 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  
 06 - 12 December 2021

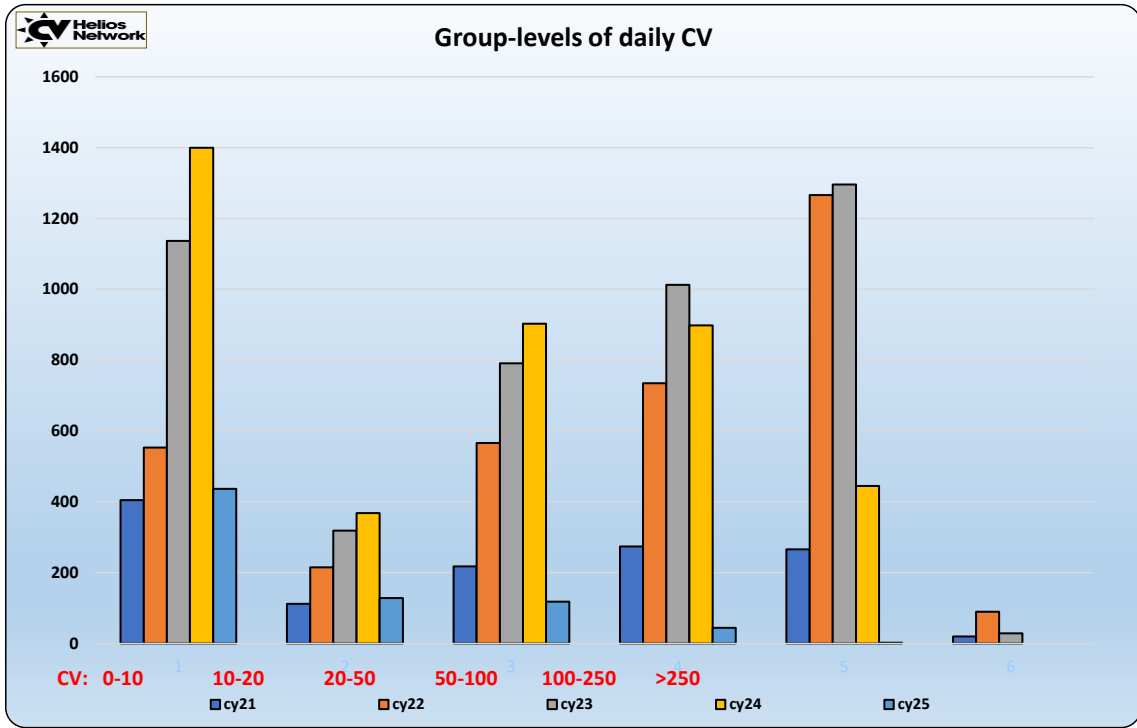
Solar activity ranged from very low to low. A C1.3 flare was observed at 06/0622 UTC from Region 2902 (N18, L=198, class/area Dsi/100 on 02 Dec), the largest of the period. All other numbered regions on the visible disk were quiescent. No Earth-directed CMEs were observed in available coronagraph imagery during the reporting period.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was normal to high levels. High levels were observed from 06-10 Dec following influence from a positive polarity CH HSS. Normal to moderate levels returned on 11-12 Dec.

Geomagnetic field activity ranged from quiet to unsettled. Isolated unsettled levels were observed on 06-07 Dec in response to influence

Monthly graph



Levels of CV compared to cycles 21-25

News November 2021

Solar activity is still low but number of regions are slowly increasing. As shown in this issue, the CV as 13-rot. centered averages are now higher than for solar cycle 24 at the same time of progress from minimum! According to solar flux we are now ahead with about 7 percent compared to cycle 24.

There were a total of 13 sunspot regions in November 2021.

List of 4 significant sunspot regions exceeding 100 mvh developing in November 2021:

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

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

2887: 22.10-03.11 Lat S26, Lo 277 Rt. 2249 107 m., CV 9,3, DAO DKI DKI DKI DHI DHI DKC DHI DSO CSO CSO HAX HSX

2893: 31.10-12.11 Lat N17, Lo 156 Rt. 2249 132 m., CV 10,1, HSX HSX HSX HSX HSX CSO HSX HSX HSX HSX HSX HSX HSX

2894: 05.11-17.11 Lat S27, Lo 091 Rt. 2249 129 m., CV 10,8, HSX CSO CSO CSO HSX HSX HAX DAO CSO HSX HSX HSX HSX

2900: 26.11-02.12 Lat S27, Lo 254 Rt. 2251 164 m., CV 18,6, CRO DSO DSO DAO DAO DAO AXX

Activity cut from Sunspot Region Summaries from NOAA:

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

Rank 13-Type M1.5-Date 01.11.2021 Region 2887 Flare Start 00:57 Max 01:45 End 02:10

Rank 10-Type M1.7-Date 02.11.2021 Region 2891 Flare Start 02:57 Max 03:01 End 03:05

Rank 11-Type M1.6-Date 02.11.2021 Region 2891 Flare Start 02:03 Max 02:51 End 02:57

Rank 50-Type C5.3-Date 03.11.2021 Region 2887 Flare Start 20:53 Max 21:16 End 21:41

Rank 8-Type M2-Date 09.11.2021 Region 2891 Flare Start 15:47 Max 17:02 End 17:37

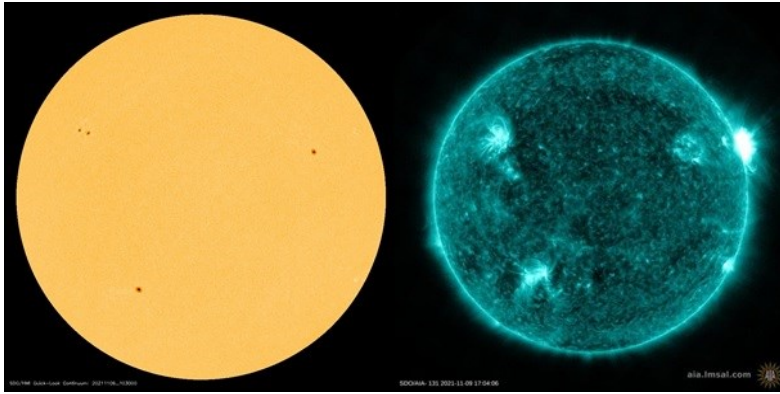
Regions 2887 and 2891 the most significant flare producers in November 2021

Solar Max.: Originally July 2025, which now may occur end Feb/start March 2025.

Solar Flux onset expected soon. The P-Index, rise/fall data from solar flux, and typically this index will show a clear top in rising potential about 3 1/2 year prior to solar max, This should indicate that we shall see great activity in the period December 2021 to at least February 2022. Stay tuned and observe the solar disk from now on!

We wish you all lots of sunny days, happy observing and good luck further on in 2021! Please remember you are always welcome to contribute with drawings and photos!

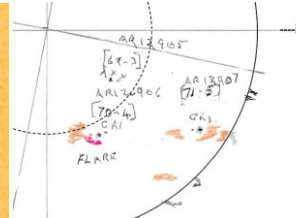
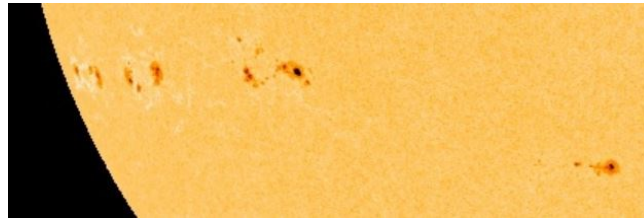
**Pictures from last month - Observer contributions, etc.**



**Largest Regions of Nov. 2021**

Regions 2893, 2894 and 2895  
on November 09, 2021  
courtesy SDO/HMI NOAA gov

Below - Latest:  
New regions 2906, 2907, 2908, 2909  
Dec 15, 2021



Partial drawing  
by courtesy  
CV-107 M Leventhal  
Dec 14, 2021

**Awards this month** 1

Award no.: 145 CV-086 TOS POLAND date 03.11.2021 milestone 8000 CV-obs.! CONGRATULATIONS!




Congratulations!

**New members:** **Welcome to:**

none

none

We are now 54 active members (last 12 mo.)

<b>Solar Coordinates</b>		New from April 2020	
Daily list of Solar Ephemeris available at: <a href="#">Daily list of Solar Ephemeris and SDO on grid</a> Here you can see Today's Po, Bo, Lo, Rotation no., RA and Dec. and adjusted SOHO-picture on grid.			
<b>Calculating CV</b>			
For your convenience and security, use the mif2021, <a href="https://www.cv-helios.net/mif2021.xlsx">https://www.cv-helios.net/mif2021.xlsx</a> the Monthly Input Form, which you can use for all of your next reportings!			
<b>Monitor MPR daily progress</b>			
<b>CV-Helios Network: Monitor MPR progress as entries are made!</b> Monitor your submissions as they are registered: <a href="https://cv-helios.net/helios/cv/web/mprpost.html">https://cv-helios.net/helios/cv/web/mprpost.html</a> 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			
<b>Registration data</b>			
Check if your CV-observations have been registered (please allow up to 24 hrs): <a href="https://www.cv-helios.net/helios/cv/web/datlist.htm">https://www.cv-helios.net/helios/cv/web/datlist.htm</a> <a href="https://www.cv-helios.net/helios/cv/web/cvobsmonth.htm">https://www.cv-helios.net/helios/cv/web/cvobsmonth.htm</a> for checking of Entries Summary			
<b>CONTRIBUTE WITH YOUR PHOTOS AND OTHER OF INTEREST!</b>			
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: <a href="mailto:cvhelios@gmail.com">cvhelios@gmail.com</a>			
Please check out <a href="http://www.cv-helios.net/cvrep2.html">www.cv-helios.net/cvrep2.html</a> for updates of files!			
<b><u>SUBMISSIONS OF CV-OBSERVATIONS</u></b>			
Log on to: <a href="https://www.cv-helios.net/observations/index.html">https://www.cv-helios.net/observations/index.html</a> <a href="#">Classification Help</a> login solaris password cvheliosobs <a href="#">Monthly Input Form as excel</a> Submission before 15th of proceeding month 18:00 UTC. (password: cvhelios) MPR issue 15th of proceeding month 2000 UTC. Good luck CV-observing!			
<b>Average received to registered time: 1 day 07 hours 30 minutes</b>			
<b>CV-Helios Network</b> - over 40 years in solar amateur astronomy service!  There are now Entries reg.: 12242 entries registered containing 197213 CV-observations! Last 12 months 6986 CV-observations from 47 observers originating from 17 countries			
<b>Editorial close: 15.12.2021 16:43 UTC</b>			
 <b>CV-Helios Network</b>			