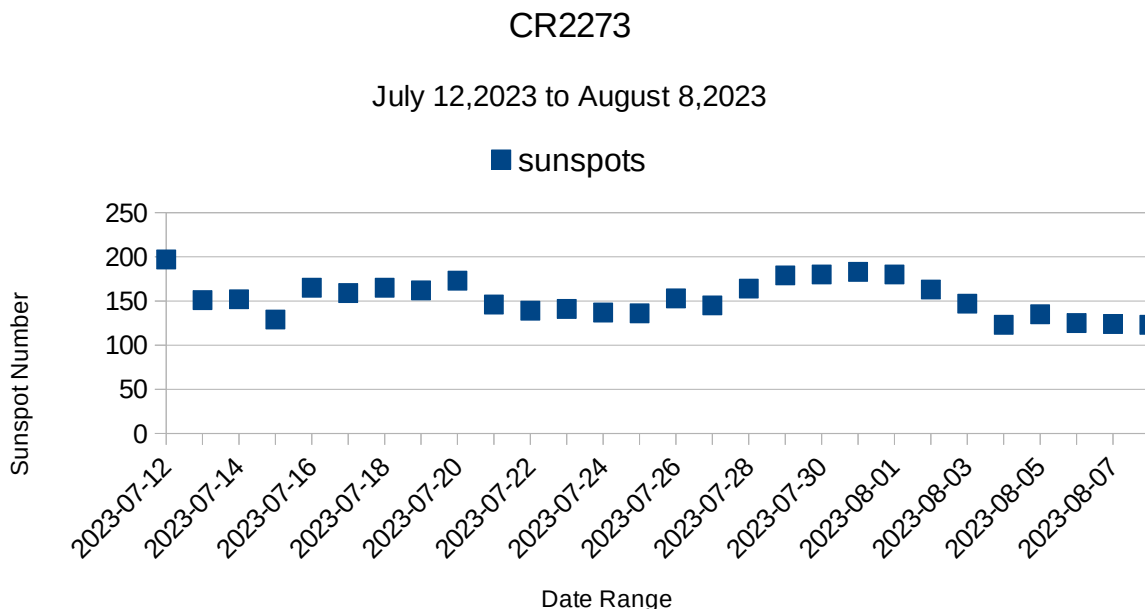


Carrington Rotation Report  
Kim Hay

CR2273 July 12- August 8, 2023

This rotation had very high Sunspot number of 197 on July 12, 2023. and the lowest of 123 on August 4<sup>th</sup>. It seemed to be a steady month both in sunspot numbers and in groups in each hemisphere - a very busy Solar face.



Information from SILSO Monthly reports

GROUPS IN CR2273 North 19 South 19- New groups in CR2273 was 26.

Flares (Rotation)	C	M	X
	310	63	2

The two X class flares came from AR3386 which was located in the Northern Hemisphere.

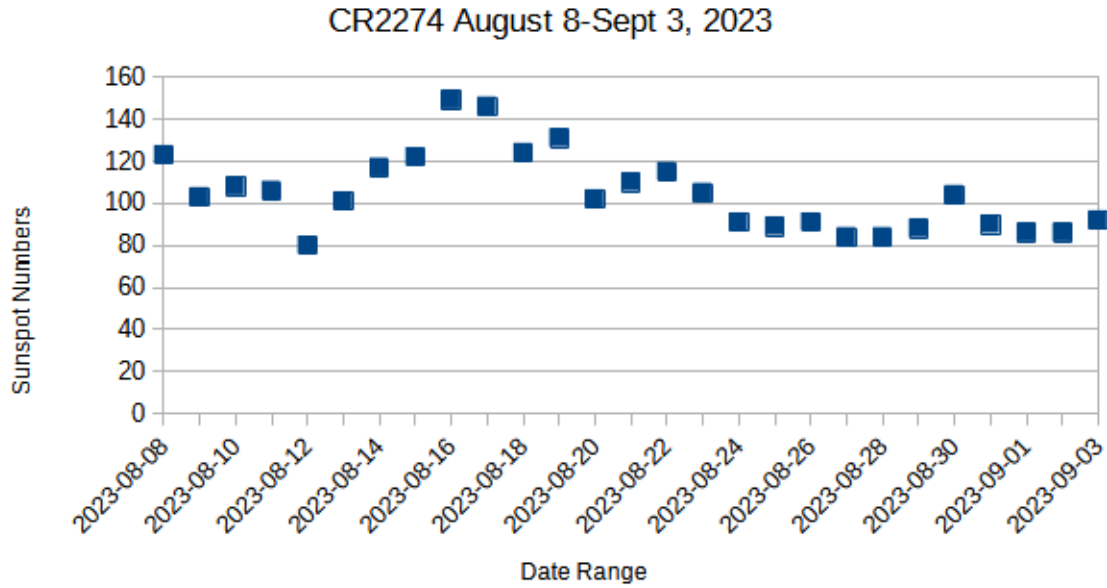
**Observations for Rotations:**

CR2273 687 Images submitted

NAMES	WL	HAWL	HA	CAK
DVDTSK	X	X	X	
EFRNMRLS			X	

GEVDBU	X		X	
GLHGRSM			X	X
HWESK	X		X	X
JMKVTY	X		X	X
KIMHAY	X		X	
LGIMRRN	X		X	
MKTH			X	
MLOTT	X			X
RCLSCTT	X			
RKHLL	X			
RNDTTM			X	
THRMK	X		X	X
VDSLJV			X	

CR2274  
 (August 8- Sept 3, 2023)



This particular rotation saw a sharp decline on August 12<sup>th</sup> of 80 and then an uptick in sunspot numbers with a high on August 16 with 149. The rest of month tapered off with a range of 86 to 104, ending the rotation period with 92 sunspots.

Groups in CR2274 were again about equal, but down from CR2273. With 16 in the North, and 15 in the South. A total of 21 new groups in this rotation

CR2274 had a total of 798 Images submitted

Names	WL	HAWL	HA	CAK
ChrVldr	X			X
DVDTSK	X	X	X	
EFRNMRLS			X	
GLHGRSM			X	X
HWESK	X		X	X
JMKVTY	X		X	X
KIMHAY	X			
LIGMRM	X			
MLOTT	X			X
RCKSCTT	X			

RKHLL        X  
RNDTTM      X  
THRMK       X            X            X

Very active Rotation with AR3415 showing lots of activity over the cycle. The largest Sunspot groups were.

The flaring activity was mainly in the C flares with M flares, but no X class Flares.

Flares (Rotation)	C	M	X
	175	16	0

CR2275  
 (Sept 4 - Oct 1, 2023)

The peak days for sunspot counts was Sept 11 with 189 and Sept 22 with 198. All data in the sunspot numbers is from the SILSO monthly data.

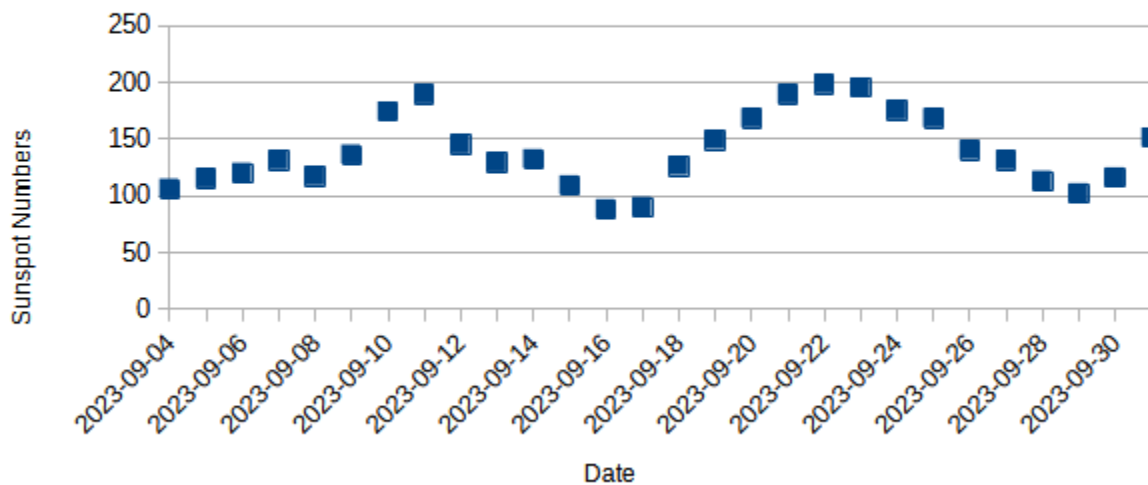
Flares (Rotation)	C	M	X
	219	25	0

CR2275 559 Images submitted

Names	WL	HAWL	HA	CAK	CAK/WL
ChrVldr				X	
DVDTSK	X	X	X		
EFRNMRLS			X		
FRNMILO	X		X		
GEVDBU	X		X		
GLHGRSM			X	X	
HWESK	X		X	X	
JMKVTY	X				
LIGMRM	X				
RCKSCTT	X				
RKHLL	X		X		X
RNDTTM			X		
THRMK	X		X	X	
VDSLJ			X		

CR2275

Sept 4- October 1, 2023



CR2276  
 (Oct 2 - Oct 28, 2023)

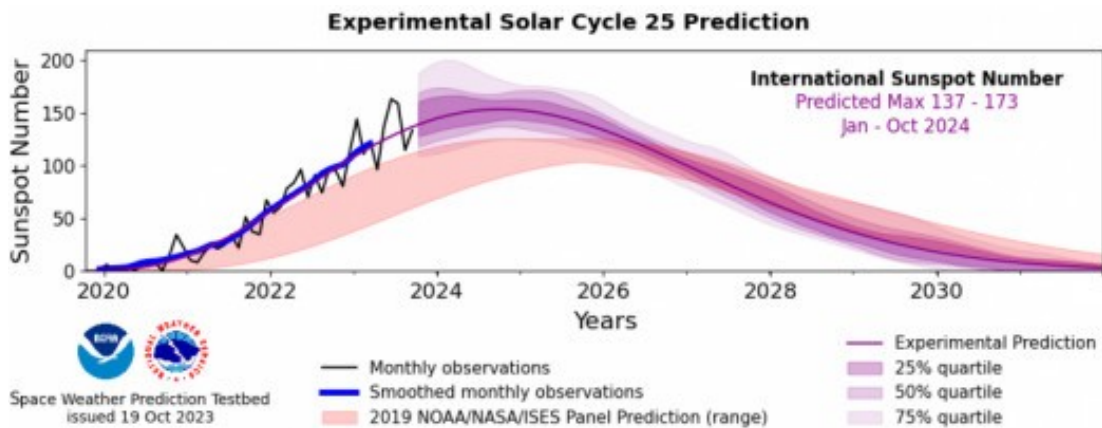
This rotation was within one month, and not spanning over a second month. The flare activity was down in the C and M flares, and no X class flares were observed. However, there were many Earth directed CME's that hit the Earth by mid month, producing auroras on Oct 19/20 as far down as the mid-states in the US.

Flares (Rotation)	C	M	X
	100	6	0

CR2276 438 Images submitted (at the time of the report) 7 Observers

Names	WL	HAWL	HA	CAK	CAK/WL
DVDTSK	X	X	X		
EFRNMRLS			X		
GLHGRSM			X	X	
HWESK	X		X	X	
JMKVTY	X		X	X	
RKHLL	X		X		
THRMK	X		X	X	

NOAA has revised their prediction of Cycle 25, and has stated it is more like Cycle 23 than Cycle 24.




As quoted from

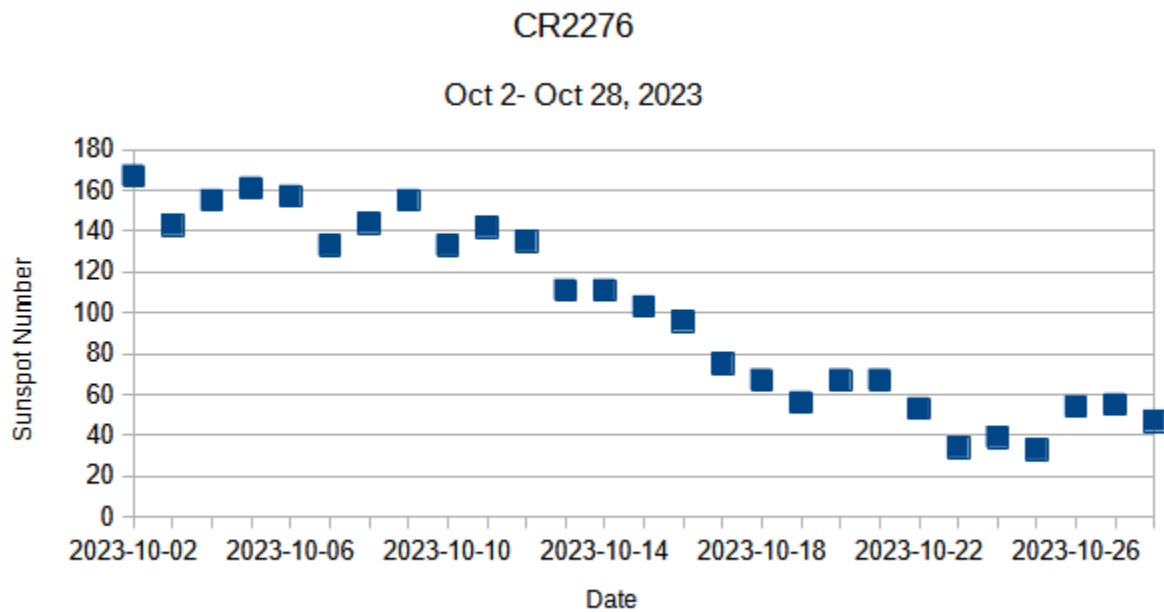
Spaceweather.com via NOAA

“NOAA's original prediction for Solar Cycle 25 is shown in  pink the broad band

indicating the uncertainty of the forecast. It has become clear in recent years that the original prediction was too low, which prompted NOAA to issue a new one. The magenta line , traces the new forecast, and takes into account recent high sunspot counts.

Uncertainties in the new forecast are  bounded by different shades of magenta. There is roughly a 25% chance that the smoothed sunspot number will fall within the dark-shaded region; a 50% chance it will fall in the medium-shaded region; and a 75% chance it will fall in the lightest of the shaded regions.

If this new forecast is correct, Solar Cycle 25 could land in the ballpark of Solar Cycle 23, which peaked in 2000-2001, and produced the famous Halloween Storms of 2003. However, the odds still favor Solar Cycle 25 being a bit weaker than Solar Cycle 23. Either way, next year's Solar Max could be potent."



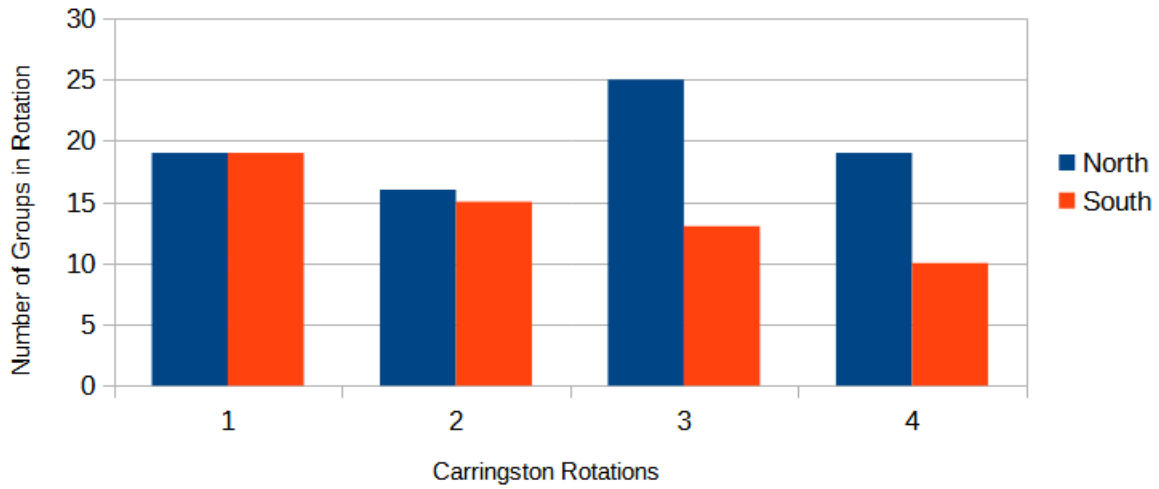
The sunspot count started dropping around mid-October with a low on October 25<sup>th</sup> of 33 , after experiencing a high sunspot count on October 2, 2023 of 167.

It seems that the roller-coaster ride of Solar activity is continuing. Let's see what CR2277 will give us in the way of events.

Sunspot groups over the last 4 rotations shows the Southern Hemisphere has been decreasing faster than the Northern Hemisphere.

## CR2273-CR2276

Groups per Hemisphere



### Index

#### Names of Observers

Dvdtsk	David Teske	MLott	Marie Lott
EfrnMrIs	Efrain Morales	MkTh	Michael Teoh
FrnMilo	Frank Mellilo	MchIRos	M. Rosolina
GevDbU	Gerd Vanderbulcke	MrkJstn	M. Johnston
GlhGrsm	Guilherme Grassmann	RndTtm	Randy Tatum
HwEsk	Howard Eskildsen	Rkhll	Rik Hill
JmKvTy	James Kevin Ty	ThRmk	Theo Ramakers
KimHay	Kim Hay	VdslvJ	Vlamiir da Silva Junior

### Legend

**WL** – White Light

**HAWL**-Hydrogen Alpha & White Light

**HA**- Hydrogen Alpha

**CAK**- calcium K

**CAK-WL**-Calcium K and White Light

**OIII**- Oxygen III



## References

SILSO <https://www.sidc.be/SILSO/home>

Space Weather Live [www.spaceweatherlive.com](http://www.spaceweatherlive.com)

Space Weather [spaceweather.com](http://spaceweather.com)

STCE <https://www.stce.be/newsletter/pdf/2023/STCEnews20231027.pdf>

Space Weather Woman [spaceweatherwoman.com](http://spaceweatherwoman.com) (Dr. Tamihta Skov) also on YouTube