CQ CHATTER

SEPTEMBER 2024 **VOLUME B24 •ISSUE 7**

WOOD COUNTY AMATEUR RADIO CLUB

President	**KG8FH**	**Jeff Halsey**
Vice President	**WE8TOM**	**Tom Leingang**
Secretary	**N1RB**	**Bob Boughton**
Treasurer	**KD8NJW**	**Jim Barnhouse**
Board Members	**WB8NQW/KE8QGV**	**Bob Willman/Roger Weith**

Minutes

WCARC Meeting

August 12, 2024

Jeff-KG8FH presiding

Present: Bob-N1RB, Jim-KD8NJW, Tom-WE8TOM, Larry-W4LAT, Tim-KF8BGD, Bob-WB8NQW, Gary-KF8AQX, Wil-KC8IFW, Rex-KC8PFF, Jeff-KG8FH, Norm-KE8WTG, Roger-KE8QGV, Russ-KE8PJM, Terry-KE8CVA, Phil-W8PSK, Eric-WD8LEI

Call to order: by KG8FH at 7:30 with Pledge of Allegiance.

Minutes: Motion to approve minutes of the the June meeting as published in the July issue of CQ Chatter (NQW/CVA) was approved unanimously.

Treasurer's Report: Motion to approve (CVA/QGV) was passed unanimously.

Old Business:

- Eric (LEI) presented a report on progress of local ARES/AREDN efforts. He mentioned that the programmers are soon to reveal a newly formatted home page for AREDN nodes. There is a YouTube video tutorial available. The format involves a completely revised user interface and looks pretty slick.
- The Lucas County group is continuing work on establishing a node at most all Toledo hospitals. Wood County will

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Net Check Ins-I

Aug	*6*	*Traffic: 0*
	KD8VWU	*(NCS)*
	KE8QGV	
	N8MSU	
	KE8CVA	
	KG8FH	
	WD8LIC	
	KB8QEW	
	WB8NQW	
	KE8PJM	
	W8PSK	
	KD8RNO	
	KA8VNG	
	KE8WTG	
	N1RB	
	WD8LEI	
	KC8EKT	
	WE8TOM	*(17)*
Aug	*13*	*Traffic: 0*
	KD8NJW	*(NCS)*
	WB8NQW	
	KG8QP	
	K8CBR	
	KE8CVA	
	KC8EKT	
	KF8BGD	
	KG8FH	
	KB8QFF	
	WD8LEI	
	KE8PJM	
	W8PSK	
	N8VNT	
	KD8RNO	
	WE8TOM	
	N1RB	
	KE8WTG	
	KA8VNG	*(18)*

Brain Teasers

1. What happens to the current at the junction of two components in parallel?

a.) it divides between them depending on the value of the components
b.) it is the same in both components
c.) its value doubles
d.) its value is halved

2. Why might the range of UHF and VHF signals be greater in the winter?

a.) less ionospheric absorption
b.) less absorption by vegetation
c.) less solar activity
d.) less tropospheric absorption

3. What is the amount of change, measured in decibels (dB), of a power increase from 20 watts to 200 watts?

a.) 10 dB
b.) 12 dB
c.) 18 dB
d.) 28 dB

September Contests

The contest lineup for the month of September is given below. Please note that the WARC bands (60, 30, 17 and 12 m) are never open to contesting.

Sep 1-2	*1700 to 0300 Z*	160 m to 10 m
Tennessee QSO Party		**all modes**
Sep 7	*1400 to 2200 Z*	80 m to 10 m
Ohio State Parks OTA		**SSB**
Sep 14-15	*0000 to 2359 Z*	80 m to 10 m
WAE(urope) DX 'test-SSB		**SSB**
Sep 14-16	*1800 to 0259 Z*	6 m up
ARRL VHF 'test		**all modes**
Sep 21-22	*1400 to 0159 Z*	80 m to 10 m
New Jersey QSO Party		**all modes**
Sep 21-22	*1400 to 0200 Z*	160 m to 10 m
Iowa QSO Party		**all modes**
Sep 21-22	*1400 to 2000 Z*	160 m to 10 m
Texas QSO Party		**all modes**
Sep 21-22	*1600 to 2200 Z*	80 m to 10 m
New Hampshire QSO Party		**all modes**
Sep 28-29	*0000 to 2359 Z*	80 m to 10 m
CQ WW DX 'test-RTTY		**RTTY**
Sep 28-29	*1200 to 1200*	160 m to 10 m
Maine QSO Party		**all modes**

Net Check Ins-II

Aug	*20*	*Traffic: 0*
	KG8FH	*(NCS)*
	KE8WTG	
	N1RB	
	KD8RNO	
	WE8TOM	
	KA8VNG	
	KD8VWU	
	WD8LEI	
	WB8NQW	
	W8PSK	
	KE8CVA	
	KC8EKT	
	KF8BGD	
	KE8PJM	*(14)*

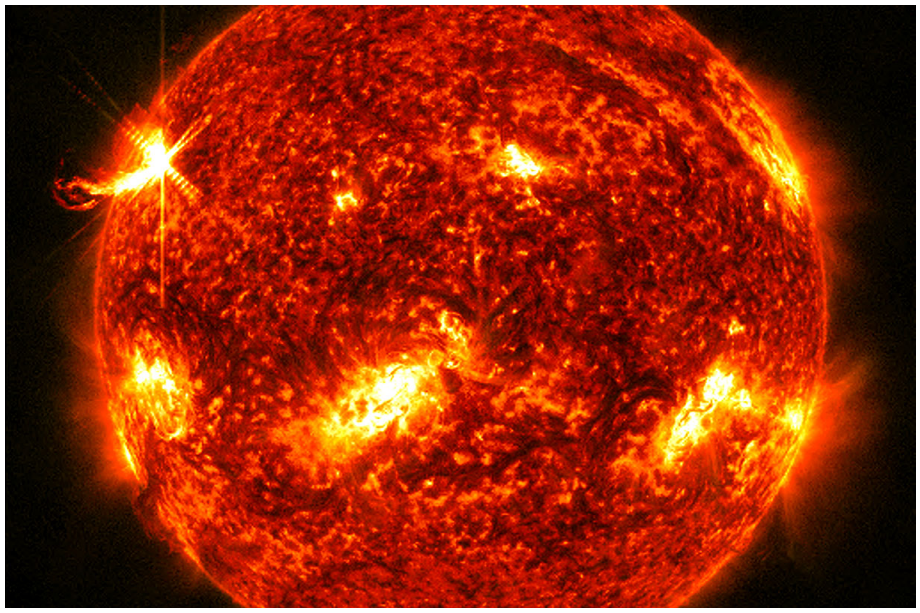
Aug	*27*	*Traffic: 0*
	WB8NQW	*(NCS)*
	KE8CVA	
	KC8EKT	
	KG8FH	
	KD8AAK	
	KD8RNO	
	N1RB	
	KD8NJW	
	W8PSK	
	KA8VNG	
	KE8WTG	
	KD8VWU	
	WE8TOM	
	KB8QEW	
	KE8PJM	*(15)*

Brain Teaser answers: (T) 1-a, 2-b 3-a

Peak Solar Activity Is Closer Than You Think, Reaching Levels Not Seen in 20 Years

from Science-by Zack Savitsky

The Sun's flare-ups can threaten satellites and electric grids, highlighting need for better forecasts



On 10 January, a solar flare erupted from the Sun (upper left edge)—a sign of increasing magnetic activity.NASA/ GSFC/SDO

In 2019, as the Sun approached a minimum in its 11-year cycle of magnetic activity, a dozen scientists assembled for a traditional exercise: forecasting the next peak. Now, a few years into the Sun's resurgence, it's becoming clear that the official prediction from the panel, convened by NASA, the National Oceanic and Atmospheric Administration (NOAA), and the International Space Environment Service (ISES), missed the mark. The Sun's activity

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WCARC Weekly Net

Tuesdays at *2100* all year

147.18 MHz 67 Hz PL

Net Control Roster

Sep	*3*	*N1RB*
Sep	*10*	*KD8VWU*
Sep	*17*	*KG8FH*
Sep	*24*	*KD8NJW*
Oct	*1*	*WB8NQW*

NEXT MEETING

Breakfast Meeting

Saturday September 7

TIME: 9:00 AM

PLACE:

Frisch's Big Boy
E. Poe Rd. &
N. Main St..
Bowling Green, OH

10 meter Nets

Informal SSB group meets Sunday@ 20:30 local on 28.335 MHz

Informal CW group meets Tuesday @ 20:00 local on 28.050 MHz

Fusion Net

Thursday

@ 19:30 local

on 442.125 MHz

Wires-X Operators welcome

Informal net

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has already surpassed the forecast, reaching levels not seen in 20 years, and solar maximum may arrive within the next year, months ahead of its presumed schedule. "Obviously the panel underestimated it," says Ilya Usoskin, a physicist at the University of Oulu.

The discrepancy highlights a need for better observations of the Sun. It may also point to unknown factors influencing the churning dynamo of ionized gas that gives rise to the Sun's magnetic field. "I'd like to think we're making progress in terms of understanding the dynamo, but there's work to do," says Mark Miesch, a solar physicist at the University of Colorado Boulder.

The stakes are high. At peak activity, the Sun more often unleashes particle storms that crash into Earth, threatening satellites, jamming radio transmissions, and overloading power grids. Because the previous cycle was unusually mild, "We've been lulled into a false sense of complacency," says Tamitha Skov, a heliophysicist at Millersville University.

Scientists typically track solar cycles by counting sunspots—flares of activity spurred by knots of magnetic field loops. The sunspot number climbs over the course of a solar cycle, then drops near zero as magnetic activity subsides. When the NASA-NOAA-ISES prediction panel met in 2019, it **analyzed about 60 different forecast models,** each offering an estimate for the peak number of sunspots and when it would arrive.

Some of the models are purely statistical, making forecasts by extrapolating centuries of sunspot observations. Others rely on observable "precursors" thought to be correlated with the solar cycle, such as the strength of the magnetic field at the Sun's poles at solar minimum. As the cycle progresses, that "seed field" gets more powerful as its field lines are wound up into a doughnut shape by the way the Sun rotates—faster at the equator than at the poles. A third category relies on advanced computer models that work like climate models, ingesting as much observable data as possible and then using the laws of physics to simulate the Sun's dynamo and shifting magnetic fields.

After a week of discussing the merits of different approaches, the panel voted and hashed out a consensus: The monthly sunspot count would peak at about 115, sometime around July 2025—making it a relatively weak cycle, much like the preceding one. But the Sun has already woken up faster and is feistier than expected. It sported over 250 sunspots several weeks ago.

"Did we get it absolutely right? No," says Lisa Upton, a physicist at the Southwest Research Institute who co-chaired the panel. "But considering the level of uncertainty that's associated with what we're trying to do here, it's actually a quite good prediction."

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minutes from p. 1

have a 5 GHz link to this network soon. Eric reported that the PBX is still not operational.

- Jeff proposed that we try to sell the surplus equipment that the Club owns at the Findlay Hamfest. To that end, he proposed that WCARC buy a table for $20. He requested volunteers to man the table on Sunday, Sept. 8. WE8TOM and W8PSK volunteered. Jeff moved (FH/QGV) that the Club cover the funding for the table(s) and for the 2 admissions. The motion passed unanimously.
- Jeff reminded everyone that at the October business meeting we need to develop a slate of officers for 2025.
- Jeff then opened the floor for comments. W4LAT reported on his discussion with Yaesu regarding the problem we have been having with intermittent signal cut-outs experienced by some operators.

Adjournment: at 8:08 PM. ■

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Upton believes one reason the panel's prediction fell short is the quality and longevity of the observations that feed and drive the precursor and dynamo models—most importantly, the strength of the polar magnetic field. Those values come primarily from the Wilcox Solar Observatory, which can see the imprint of the polar field on the spectrum of sunlight. But the telescope has relatively poor resolution and a limited view. NASA mission concepts such as Firefly and Solaris would send spacecraft closer to the Sun to probe its polar fields directly, but they're still in the development phase. Other researchers suspect a deeper snag. The relationship between polar magnetic fields and subsequent solar activity is drawn from measurements spanning only a few decades, and other factors may be at work. Clues are coming from observations led by Scott McIntosh, a solar physicist and deputy director of the National Center for Atmospheric Research. For 2 decades, he and colleagues have tracked millions of "bright points" in extreme-ultraviolet images of the Sun that they think trace bands of magnetic field traveling under the Sun's skin. The bright points seem to follow a pattern across two solar cycles: clusters routinely emerge at mid-latitudes at the start of the first solar cycle. They then migrate toward the equator as the solar activity peaks, falls, and peaks again. At the end of the second cycle, the points suddenly disappear in what the researchers call a "terminator event." Just after this event, the bright points reappear at midlatitudes and start the cycle afresh.

McIntosh believes the double-cycle pattern means the underlying field bands from subsequent cycles must be interacting—sometimes constructively, leading to increased solar activity. And he thinks the timing of consecutive terminator events can be used to forecast this interference—and the height and timing of

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September Hamfests

Sept 8 Hamfest-Findlay Radio Club. Hancock County Fairgrounds, Findlay, OH
web: findlayradioclub.org

Sept 15 Hamfest-Adrian Radio Club. Lenawee County Airport, Adrian, MI
web: www.w8tqe.com

Sept 22 Hamfest-Hamfest Association of Cleveland. Cuyahoga County Fairgrounds, Berea, OH **web:** www.hac.org

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the next solar maximum. After spotting the most recent terminator event in December 2021, he and colleagues predicted this cycle's sunspots would peak at about 184 sometime near early 2024. "It's a fascinating pattern and something that will challenge dynamo theory," Miesch says. Dibyendu Nandi, an astrophysicist at the Indian Institute of Science Education and Research Kolkata who worked on dynamo models used in the 2019 panel prediction, doesn't buy the predictive power of the terminator events. He does, however, still believe that bright points may be an important signal. "I think they're onto something," he says.

The dynamo simulations have come a long way in the past decade and now predict the polar seed fields pretty well, Nandi says. If overall solar activity continues to ramp up far beyond predictions, scientists might have to reconsider whether polar fields are really the only thing driving the solar cycle, he reasons. Perhaps, as McIntosh's observations suggest, the interaction of lingering magnetic fields in the Sun's interior are leaving a footprint on the next cycle. It's a possibility that Nandi is investigating in his models now.

"If there's one certainty in this field of prediction," Nandi says, "it's that we should be always ready to be proved wrong and go back to our drawing boards." ■

It's Time to Renew

Dues Payable to:
WCARC, P. O. Box 534
Bowling Green, OH 43402

2024 FINDLAY RADIO CLUB HAMFEST

findlay radio club
W8FT
Box 587 Findlay, OH 45839
Organized in 1925

RAIN OR SHINE

FREE PARKING

SUNDAY, SEPTEMBER 8

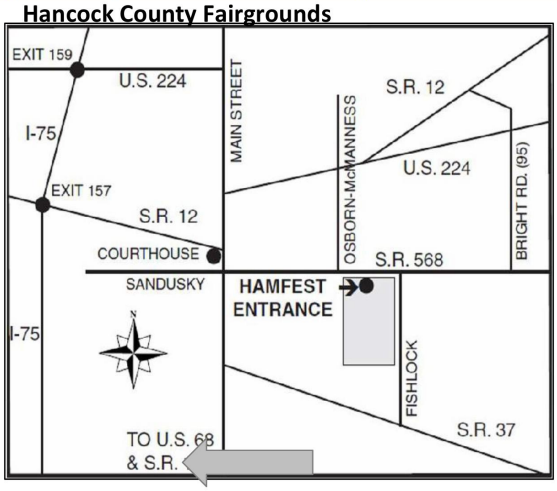
Hancock County Fairgrounds
1017 E. Sandusky St., Findlay, OH 45840

General Admission STILL JUST $10
$20 Vendor Table ($15 each additional table)
Each Flea Market Space $10
$25 Overnight Fee

Vendor Set-up – 6:00am
Doors open at 8:00am

For Ticket Sales:
https://buytickets.at/findlayradioclub/1195722

Hancock County Fairgrounds



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