The Arkansas Diamond

October 25

ARKANSAS DIAMOND RADIO CLUB NEWS LETTER

Volume 46

Local Nets:

Petit Jean Mountain
Monday Night
7:30pm 146.685
141.3 Tone

ADARC Simplex
Thursday Night 8pm
146.51 No tone no offset

CAREN Statewide Net
Thursday Night 7pm
146.940 - offset
no tone

FARC Conway
Thursday Night
7:30 pm 146.970 pl 114.5

Inside this issue:

Next Meeting October 9th

North Fire Station

By the Hospital and Next to Colton's

5pm ish if you want to eat

6pm for the regular meeting

General Exam Review Questions just for fun

G1A02

On which of the following bands is phone operation prohibited?

A. 160 meters

B. 30 meters

C. 17 meters

D. 12 meters

G1C11

What measurement is specified by FCC rules that regulate maximum power?

A. RMS output from the transmitter

B. RMS input to the antenna

C. PEP input to the antenna

D. PEP output from the transmitter

Answers found on Page 5

CQ CQ CQ.....

Hello everyone. I hope you all are enjoying this cooler weather. Well at least it is not in the 90 degree level.

Folks, this is a great time to do maintenance on your antennas and ham shack. We are past the summer doldrums. So, hopefully the bands will be better. We are past the solar maximum of cycle 25 and yet we still have a few years of good propagation. It is time however to be sure our stations are in the best condition possible as we head toward the solar minimum.

Please make plans to attend our October meeting this Thursday the 9th. John Evans is working up a great program for us. We have a program set up for the November Tech Night. Greg Mihran the designer of the POTA Performer antenna will be live via Zoom to talk about the elevated counterpoise concept and antenna design. We are currently working to get a program for the December Tech Night. So stay tunned. If you have any suggestions for a program please send an email to David or Roger.

October seems like Hamfest month. As usual the Petit Jean Hamfest will be at the Lutheran camp on the 11th. If that is not enough for you the Perry County Club will be holding their first hamfest a week later on the 18th. It will be at the Perry County fairgrounds. It's a great month for amateur radio.

I hope to see you Thursday night.

73

Operating Experience.

From Stewart Nelson KD5LBE

I had and experience that reminded me to check my "swr". My signals were not getting to the net controller on the Razorback net. I rechecked the connections and found a problem coming through the widow with my 239/259 connection. I went from barely above the noise floor to an S9. One, check your SWR meter with a 50 resistor to see if it's right. Next check your antenna for an SWR under 2 at the radio. It is good to get an inline continuous meter of some kind. Because it was good last month doesn't mean something may be out now. My 7300 self tunes but it was around 10 SWR and didn't give me a warning. The in line watt meter and the SWR should keep me from messing up in the future. Also have a friend listen to you and have them give you a signal report. As HAMs we don't need to waste time with radios that are working at their full potential. 73

Are ham radio BAND CONDITIONS always this bad?

From a YouTube video by KB9VBR Antennas

So, you may be finding that band conditions have been somewhat harsh this summer. Especially 20 meters. You ask, is this normal? Well, we have a couple of things going on here. This is the peak of solar cycle 25 and you take the peak with the good and the bad. When the cycle is at its peak you get great numbers like all these sunspots and the Solar Flux Index is up. As you know this really enhances propagation. But because of all the solar activity, you get those flares, the CMEs, the solar winds that at the same time just totally trash the bands. Then you end up with another phenomenon that happens from about May until the end of August, or early September called the summer doldrums. This is because the days are so long you have a supercharged ionosphere that never lets up. And the only band that really functions reliably is 20 m.

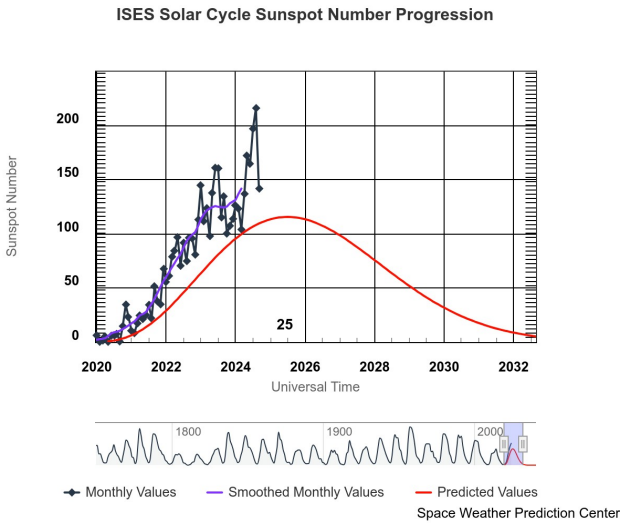
In the summer doldrums the sun is up so long that the F layer, which during the day is two layers has little time to merge into one layer. Therefore, that good solid high reflective point does not get a chance to form. You just have to take it as it is. But as someone once said, the sun giveth the sun taketh away. And whether you are at the top of the cycle or at the bottom of the cycle, it doesn't matter, right? The sun giveth the sun taketh away.

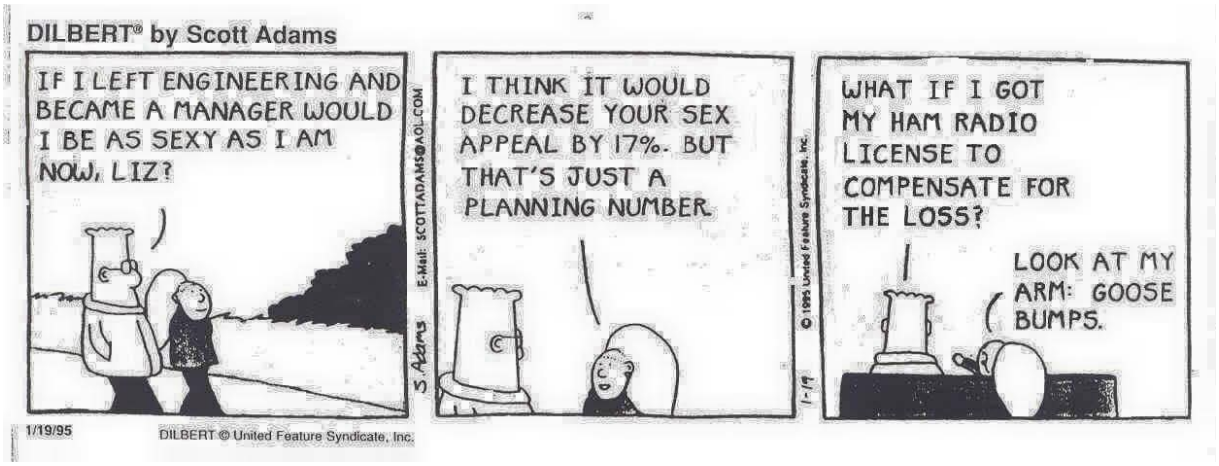
So, it's now that I think we will look at this again probably in the next month. We'll look at where our sunspot numbers are. But we are starting that downward march towards the solar minimum. It's going to take a few years, so we can enjoy it going down just like we enjoyed it coming up. Sunspots will be diminishing which means solar activity will be diminishing. We should still be getting a lot of great activity for the next 2 to 3 years on like 15 meters and even 10 meters. 20 meters will be a lot cleaner as well.

Now that fall is approaching and soon winter, the low bands will start to clean up a little bit too. When you're at the top of the solar cycle it is very good and terrible at the same time. And during the climb up and the slide down you get more good than bad if you don't hit a bottom like we did a few years ago. That was the worst. Going for months without any sunspots was terrible.

Then when we get down to the solar minimum in about five years, you'll be you'll be asking, where is everybody? Well, we'll be back like we were about four years ago. Then once again everybody will be crowded on 20 and 40 meters.

Editors note: I have included my AI search results concerning Cycle 25 at the end of this newsletter. It contains links for further study in case you want to get your geek on.





POTA Performer Antenna

By Roger Alabach

While hunting POTA stations I could not help noticing one station in California was much more readable than the other California stations. His callsign is KJ6ER. I worked him several times at several different parks. One day I happened on a YouTube video reviewing the POTA Performer antenna designed by none other than Greg Mihran, KJ6ER. That got my attention. By watching the video, I found that this was not a store-bought antenna but one that you can build. I downloaded the plans, at no cost, for this which also included the parts list. After ordering the parts, it occurred to me that this would be a good project for Tech Night. And so, that is what we did on our September Tech Night. We were able to get a good SWR and worked a couple of stations. Since then, I have set up the antenna in my back yard. I arranged the counterpoise wires 180 degrees apart to make the antenna non directional. I worked around 25 stations from different parts of the country ranging from the East Coast to Wyoming and Idaho.

Greg Mihran has agreed to do a zoom meeting with our club for our November Tech Night program. I plan to set up the POTA Performer antenna before the meeting starts in the event he would like to work our station as part of the meeting. So, he will fill us in on the antenna theory behind the raised counterpoise design and answer any questions we have about the design and deployment of this antenna. He is a good speaker and I believe this tech night meeting will be a lot of fun as well as informative.

Answers from page 1:

G1 A02: B. 30 meters

G1 C11 D. PEP output from the transmitter

Meeting October 9th: Don't miss our meeting.

Program: National Traffic Handling System by John Evans

Tech night: August: This ended up being a round table discussion about ham stations and how to improve them. Simple is not so bad.

September: We built a POTA performer antenna and made a couple of contacts. .

Hamfests:

Petit Jean Hamfest, at the Lutheran Camp on the mountain.

October 11. http://www.k5boc.net/ for more information.

Central Arkansas, Perryville, Hamfest and Swap Meet

https://www.w5ola.org/central-arkansas-hamfest-and-swap-meet/

Please comment or make suggestions concerning our newsletters. kf5sde@gmail.com

Here are a couple of Special Event Stations that might be of interest.

- **10/10/2025 | Continental Navy Birthday**

Oct 10-Oct 14, 1300Z-0400Z, WM3PEN, Philadelphia, PA. Holmesburg Amateur Radio Club. 14.276 7.250. QSL. Holmesburg Amateur Radio Club, 3341 Sheffield Ave, Philadelphia, PA 19136. wm3pen.org

- **10/18/2025 | National Mashed Potato Day**

Oct 18, 1500Z-2200Z, W9P, Plover, WI. Central Sands Amateur Radio. 14.320MHz 40m depending upon band cond. 15M band conditions . QSL. Phil Schobert, 300 Polk St, Stevens Point, WI 544815841. Celebrating National Mashed Potato Day from the World's Largest Potato Masher located at the Food and Farm Exploration Center. CSARC2022@gmail.com

- **11/01/2025 | Operation Able Archer '83**

Nov 1-Nov 14, 0001Z-2359Z, K9NBH, Salem, WI. Great Lakes Radio Club. 7.225 14.250. Certificate. Great Lakes Radio Club, General Delivery, Salem, WI 53168. Commemorating the 1983 Cold War Able Archer Exercise. See K9NBH QRZ page for additional event details. Digital certificate available. No paper certificate or QSL cards. https://www.qrz.com/db/K9NBH

- **1/11/2025 | Honoring our Veterans and Celebrating Veterans Day, 2025**

Nov 11, 1500Z-2000Z, KA4TAL, Conway, SC. Horry Post 111 The American Legion Amateur Radio Club. 14.255 7.264 14.275 7.185. Certificate. The American Legion Amateur Radio Club, Horry Post 111, 3003 Highway 701 North, Conway, SC 29526. e-Certificate only. Request e-Certificate via email address. QSL Cards accepted and sender will receive a QSL card in return. https://horrypost111sc.org/radio-club

For a more complete list of upcoming special event stations go to: https://www.arrl.org/special-event-stations

Get on the air!

Arkansas Diamond Amateur Radio Club

P.O. Box 1262
Morrilton, AR 72110.

The Arkansas Diamond Radio Club (KE5FSY) of Morrilton News Letter This bulletin is published 4 times a year for the promotion of HAM radio. Ham radio is for enjoyment and is the emergency back bone of communication for the communities. When all else fails we will be there, we have in the past and will be in the future. Editors are KF5SDE Roger Alabach kf5sde@gmail.com All HAM related stories are welcome.

Organization

Club Officers

David (W5WUP) is the Club President, Conway County ES Training & Resource Officer, County Emergency Coordinator for ARES/RACES/AUXCOM.

Roger (KF5SDE) is the Club Vice-President and the Deputy Communications Officer for Conway County ES/911. He is also in charge of the quarterly newsletter.

Steve Beavers (KF5DIF) is the Club Treasurer and Director of Conway County Office of Emergency Services/911

We are on the web

https://arkansasdiamondarc.com/

AI search results “Where are we in Solar Cycle 25?”

We are currently near or at the **solar maximum phase of Solar Cycle 25**, which began in December 2019 and is expected to last until around 2030. The solar maximum, the peak of sunspot and solar activity, is forecast to occur around mid to late 2025, with some recent data suggesting it may have already started or will peak between 2024 and 2025 1 2 4 7 8.

Current Phase of Solar Cycle 25

Solar Cycle 25 officially began at solar minimum in December 2019, marking the transition from Solar Cycle 24, which was relatively weak and had its maximum in April 2014 1 2.

- The recent solar maximum phase is marked by heightened sunspot numbers, increased solar flares, and coronal mass ejections.

Earlier forecasts by NOAA and NASA predicted a relatively weak cycle similar to Cycle 24, with a peak sunspot number near 115 in July 2025 1. However, newer analyses and observed data indicate that this cycle may be stronger than initially expected, with sunspot numbers exceeding prior projections 3 6 7.

Observations as of early 2024 reveal monthly smoothed sunspot numbers around 137 or more, indicating that the solar maximum is either underway or reached earlier than some forecasts suggested 7.

NASA and NOAA confirmed in a 2024 teleconference that the Sun has reached the solar maximum period, which can extend over about a year 8.

Significance and Observations

The solar maximum phase includes a magnetic polarity flip of the Sun, occurring roughly every 11 years 4 8.

Activity during this phase influences space weather, potentially affecting satellite operations, communications, and even Earth’s upper atmosphere and climate patterns 4.

The current cycle’s activity has surprised experts by being stronger and more active than the relatively weak previous cycle (Solar Cycle 24), reversing earlier expectations of a prolonged low-activity phase 3 5.

Some studies suggest we may be exiting a centennial period of subdued activity (the Centennial Gleissberg Cycle minimum), returning to more typical solar behavior with stronger cycles 5 6.

In summary, as of September 2025, we are at or very near the peak of Solar Cycle 25's solar maximum, which is characterized by increased sunspot activity and solar storms, and is expected to decline towards the next minimum around 2030 [1] [2] [4] [7] [8].

Solar Cycle 25 is expected to last approximately **11 years**, following the typical duration of solar cycles, which usually span from 9 to 14 years. Specifically, it commenced at solar minimum in December 2019 and is projected to reach its maximum around mid to late **2025**, with the decline toward a solar minimum expected around **2030**. This pattern aligns with historical observations of solar cycles.

The cycle's progression and activity are being closely monitored as it may exhibit variations compared to previous cycles, including potential periods of heightened activity or prolonged phases of solar maximum.

Monitoring the progression of Solar Cycle 25 is significant for several reasons:

1. Space Weather Prediction

Solar cycles influence space weather, including solar flares and coronal mass ejections (CMEs), which can impact satellite operations, communications, and navigation systems. Accurate predictions can help mitigate potential disruptions.

2. Impact on Earth's Environment

Increased solar activity can affect the Earth's upper atmosphere and climate patterns. Understanding these impacts is crucial for climate modeling and predicting weather variations.

3. Technology Vulnerability

Enhancements in solar activity pose risks to modern technology. Strong solar storms can damage power grids, satellites, and telecommunications infrastructure. Monitoring helps in preparing and protecting critical systems.

4. Scientific Research

Studying solar cycles provides insights into solar physics and the Sun's behavior, including magnetic field reversals and sunspot formation. This knowledge informs broader astrophysical theories and contributes to understanding stellar processes.

5. Understanding Long-Term Solar Trends

- Monitoring helps identify patterns in solar behavior over longer periods, including correlations with past cycles. Understanding cycles can lead to predictions about future solar activity and climate interactions.

6. Public Awareness and Preparedness

Raising awareness about solar storms and their effects fosters preparedness and resilience among communities, industries, and governments, ensuring better responses to potential events.

7. Exploration of Space

For space missions, particularly those beyond Earth's magnetic field, understanding solar activity is crucial for astronaut safety and mission success. Knowledge about solar cycles helps plan safe launch windows and mission durations.

Conclusion

In summary, the significance of monitoring Solar Cycle 25 lies in its implications for technology, climate science, space missions, and public safety, making it a vital area of research and observation in the field of heliophysics and beyond.