



# ROCKINGHAM COUNTY AMATEUR RADIO CLUB. INC.



**President**  
Tim Walker  
WD4GXD

**Vice-President**  
Roger Joyner  
W4AYO

**Treasurer**  
Paul Patterson  
N4CE

**Secretary**  
Furman Lanier  
WD4MKU

## *The RockingHAMmer News*

Post Office Box 2264, Reidsville, North Carolina, 27323

February 2021

Vol. 19 No. 2

www.n4iv.org

### PRESIDENT'S CORNER

Greetings;

Please plan to attend the club meeting on February 16, 2021 at 7 PM this month. We plan to meet this month at the Salvation Army Community Center, 708 Barnes Street, Reidsville. I'm very excited to return once again to this meeting location and Roger is planning to deliver a very informative demonstration of his Nano Spectrum Analyzer. We've already taken care of most of the routine business for the new year so we should have a great time together. Be prepared to abide by the protective measures we've all adopted by now for in-person gatherings. You may pay annual club dues at the meeting and, hence, continue support for our organization. As always, stay in touch for any last-minute notices of a change in meeting location. Thanks!

73s Tim (WD4GXD)

### NEWSLETTER CONTENTS

PAGE	CONTENT
1 - 2	<a href="#">President's Corner</a>
2 - 3	<a href="#">Club News &amp; Meeting Minutes</a>
4	<a href="#">Events</a>
5	<a href="#">Skywarn, NOAA / NWS</a>
6	<a href="#">Net Information</a>
7 - 9	<a href="#">General Amateur Radio News</a>

\*\*\*The content headings are now hyperlinks to the specific content.  
You can click on the title above and you can jump to that section without scrolling.

## CLUB NEWS & MEETING MINUTES

### Meeting Minutes

Minutes from the January 2021 RCARC meeting

The meeting was opened at 1900 on January 19 at the QTH of Jim Smith, N3UZ by President Tim Walker, WD4GXD with 9 club members present.

Tim, WD4GXD, presented a program on two different UHF antennas. A vertical collinear transposed - coax array and Vivaldi uhf antenna. You had to be there.

The Minutes from November and December meetings were read by Jamey, K4RVJ.

The Treasure report was given by Paul, N4CE, and was approved.

Tech report was given by Tim, WD4GXD and Mike, WA3RFE, will be looking for a chance to get into the Annie Hospital to check on the 146.85 repeater.

Bill, N8KSG, presented the Audit Report for 2020 and then the Budget for 2021.

New business

There was a reminder for club members to promote the paying of dues for 2021.

The new schedule for VE test session is March 20th at Jim's QTH 660 Butter Road, Wentworth.

It is possible that the February Meeting will be back at the Salvation Army Building on 704 Barnes Street, Reidsville. Stay TUNED on the weekly Monday evening nets.

The Swap Feast this year is canceled for May this year.

- Furman, WD4MKU

### **\*\* Please note:**

#### **\*\*\*ATTENTION FCC, VE CHANGES\*\*\***

If you or someone you know is looking to take their ham radio test, the FCC will no longer accept SSN on the 605s. It has to be an FRN from now on. You can obtain an FRN without having a call.\*\*

**\*\*\*\* 2021 Membership Drive \*\*\*\***

It is time for all members to renew their membership for 2021. At only \$25, RCARC membership is a bargain, and your renewal is CRITICAL to maintaining the activities and club repeater. We have been averaging about 35 paid memberships the last couple years, and many active hams just simply forget to renew, and this creates a strain on predicting how our needs will be met. Please bring a check to the January meeting to renew, or better yet - put your renewal in the mail to the PO box listed at the top of the newsletter today. Thanks!

Thanks to the following Amateurs who have renewed their RCARC membership for 2020. Your continued support is appreciated!

<b>Members as of January, 2021. Family memberships * are listed by the primary call sign</b>					
N4JRA	WD4MKU	N3UZ			
KK4IFG	KF4LIK	N3WKW			
KJ4ANA	WB4VVY	KB4SHP			
WF4I	K4RVJ	KN4BBA			
N1YBH	KJ4CIW	WD4GXD			
KO4KWD	N4CE				
W4AYO	KO4HLZ				
<b>Honorary members:</b>					
W4WBP					
WB4JYC					

Please consider **renewing** your membership OR sharing the membership application with non-member local hams. Membership is open to all licensed amateurs. Dues are \$25 annually. To join, fill out the application below or speak with any of our members or officers for more information. Here's the link to the membership application: [\*\*Membership Application\*\*](#)

This newsletter is published monthly by and for the members of the Rockingham County Amateur Radio Club. Computer / internet users should be able to click on the website links that are usually underlined. Please advise me of any change of address or mail preference. Please have all articles to me by the 1st Tuesday of each month.

73, The Editor (n4rfx.1@gmail.com)

**EVENTS**

Breakfast

**HENRY POLLOCK MEMORIAL BREAKFAST and RCARC BREAKFAST will be held on WEDNESDAY'S at 7:00 am at the Sanitary restaurant, in Reidsville.**

## RCARC Meeting

Due to COVID-19 restrictions RCARC meetings normally held the 3rd Tuesday at 7 pm, at the Salvation Army 708 Barnes street in Reidsville. An ALTERNATE location will be announced prior to each meeting, while restrictions exist.

## Club Socials

Once each quarter a social event will replace our monthly meeting, normally held on that 3rd Tuesday. The months of MARCH, SEPTEMBER, and DECEMBER, the SECOND Saturday from 6:00 to 7:30 pm (Location to be announced) prior to the social.

For the month of JUNE, that social will be held in conjunction with Field-Day.

## UPCOMING HAMFESTS

Editor's Note: Regretfully, most all Hamfests and Conventions for the rest of 2020 and into the first quarter of 2021 have been cancelled within 250 miles of Rockingham County.



Skywarn Weather Spotters (and all amateur radio operators) encountering severe weather, are encouraged to monitor and make reports. The Skywarn website is: [skywarn.org](http://skywarn.org).

Blacksburg SKYWARN conducts a weekly net one Wednesday evenings at 9pm on 146.745 as well as numerous other linked repeaters in SW VA, Northern NC and SE WV. The net is available on Echolink via KF4YLM-R. All stations, regardless of prior SKYWARN training or experience, are welcome. The net provides SKYWARN spotters with information on training events, spotting tools, and severe weather potentials in the Blacksburg County Warning Area.

The full list of FM repeaters on which this net runs is:

146.745 T107.2 K1GG/R Roanoke/Poor Mtn

147.225 T100.0 KF4YLM/R Lewisburg, WV

145.130 T103.5 N4VL/R Galax/Mt. Airy

145.410 T103.5 N4VL/R Roanoke/Poor Mtn

444.600 T103.5 N4VL/R Pulaski

147.420 T103.5 N4VL/L (simplex) Big Walker Mtn / Wythe Co.



## NOAA WEATHER RADIO BANDS CHANNELS - FREQUENCIES - S.A.M.E. Codes

162.400 MHz WXL42          WINSTON-SALEM NWS PIEDMONT AREA  
Rockingham County, N.C. SAME code: 037157

162.475 MHz WXL60          BLACKSBURG NWS ROCKINGHAM COUNTY  
Rockingham County, N.C. SAME code: 037157

All stations listed for travel (in MHz):

162.400	162.425	162.450	162.475	162.500	162.525	162.550
---------	---------	---------	---------	---------	---------	---------

A nation-wide network of radio stations broadcast continuous weather information from nearby National Weather Service (NWS) offices. You can get weather 24 hours a day. NOAA weather radios are the best way to receive warnings from the NWS. It is best to have a battery back-up and Specific Area Message Encoder (SAME) that will alert you when a watch or warning is issued for Rockingham County, N.C. (037157). Complete information is at NOAA's website: [nws.noaa.gov/nwr](http://nws.noaa.gov/nwr) . For current weather forecasts on the internet, go to NOAA's National Weather Service website: [weather.gov](http://weather.gov) . Weather forecast on a mobile device: [mobile.weather.gov](http://mobile.weather.gov) or [cell.weather.gov](http://cell.weather.gov)

### RCARC CLUB NETS

Monday 8:00 PM RCARC System Fusion Ragchew, 147.345 MHz, C4FM mode  
This is a weekly informal net conducted in Yaesu C4FM digital mode to promote its use.  
*Please put your radio in fixed C4FM "VW" Mode.*

Monday 8:30PM          RCARC 2-meter FM net                                  147.345 MHz 103.5  
This club net is a weekly meeting for announcements, business, and comments. Check-ins will be taken in analog (FM) mode. Please make it a priority to check into our net.

Thursday 8:00 PM RCARC System Fusion Ragchew, 147.345 MHz, C4FM mode  
This is a weekly informal net conducted in Yaesu C4FM digital mode to promote its use. Please put your radio in fixed C4FM "VW" Mode.

### AREA NETS

- |                  |                                 |                  |
|------------------|---------------------------------|------------------|
| • Sunday 8:00pm  | Sherrills Ford, NC              | 50.150, no tone  |
| • Sunday 8:30pm  | Southern Alamance Net           | 146.670, no tone |
| • Sunday 9:00pm  | Greensboro News & Info Net      | 145.150, 100 Hz  |
| • Sunday 9:00pm  | Southeastern D-Star Weather Net | REF002A          |
| • Sunday 9:30pm  | Central NC Traffic Net          | 146.820, no tone |
| • Monday 8:00pm  | Randolph County Net             | 147.255, 82.5 Hz |
| • Monday 9:00pm  | Lynchburg, VA                   | 50.400, no tone  |
| • Tuesday 8:00pm | Sandlappers, Lexington, SC      | 50.250, no tone  |
| • Tuesday 8:00pm | Burlington ARES Net             | 146.670, no tone |
| • Tuesday 8:30pm | Triad Skywarn Net               | 147.255, 82.5 Hz |

- Tuesday 9:00pm 442.86250 N.C. D-Star Net (W4GSO) REF054C or
- Wednesday 8:00pm Roanoke Amateur Club Net 146.985,107.5Hz
- Wednesday 8:30pm Forsyth County ARES Net 145.470, 100 Hz
- Wednesday 8:45pm Greensboro Amateur Society Net 145.250, 88.5 Hz
- Thursday 8:00pm Pink Hill, NC 50.200, no tone
- Thursday 9:00pm Guilford County ARES Net 145.150, 100 Hz
- Saturday 8:00am Wake Forest, NC 50.200, no tone

Daily Nets

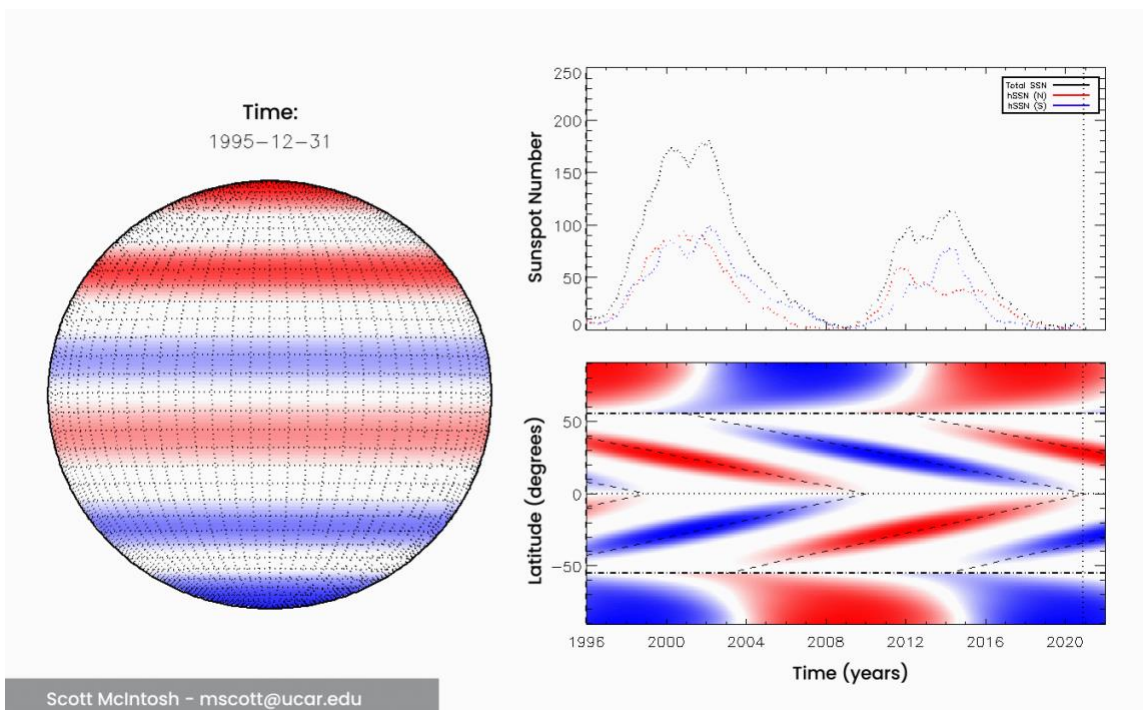
- 5:30am Possum Trot Net 147.225, 82.5 Hz
- 8:00am Richmond 6 Meter Net 50.215, no tone
- 2:30pm Vag-A-Bon Net 145.470, 100 Hz
- 7:30pm Tarheel Emergency Net (ARES) 3.923 LSB
- 7:30pm Piedmont Triad Traffic Net 145.250, 88.5 Hz

**OTHER AMATEUR RADIO NEWS THAT MAY BE OF INTEREST**

**NEW SUNSPOT CYCLE COULD BE ONE OF THE STRONGEST ON RECORD**

Scientists use an extended, 22-year solar cycle to make the forecast

DEC 7, 2020 - BY LAURA SNIDER



[TO SEE THE ANIMATED VERSION OF THIS GRAPHIC CLICK HERE](#)

LEFT: Oppositely charged magnetic bands, represented in red and blue, march toward the equator over a 22-year period. When they meet at the equator, they annihilate one another.

RIGHT: The top animation shows the total sunspot number (black) and the contributions from the north (red) and south (blue) hemispheres. The bottom shows the location of the spots.

In direct contradiction to the official forecast, a team of scientists led by the National Center for Atmospheric Research (NCAR) is predicting that the Sunspot Cycle that started this fall could be one of the strongest since record-keeping began.

In a new article published in *Solar Physics*, the research team predicts that Sunspot Cycle 25 will peak with a maximum sunspot number somewhere between approximately 210 and 260, which would put the new cycle in the company of the top few ever observed.

The cycle that just ended, Sunspot Cycle 24, peaked with a sunspot number of 116, and the consensus forecast from a panel of experts convened by the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) is predicting that Sunspot Cycle 25 will be similarly weak. The panel predicts a peak sunspot number of 115.

If the new NCAR-led forecast is borne out, it would lend support to the research team's unorthodox theory – detailed in a series of papers published over the last decade – that the Sun has overlapping 22-year magnetic cycles that interact to produce the well-known, approximately 11-year sunspot cycle as a byproduct. The 22-year cycles repeat like clockwork and could be a key to finally making accurate predictions of the timing and nature of sunspot cycles, as well as many of the effects they produce, according to the study's authors.

“Scientists have struggled to predict both the length and the strength of sunspot cycles because we lack a fundamental understanding of the mechanism that drives the cycle,” said NCAR Deputy Director Scott McIntosh, a solar physicist who led the study. “If our forecast proves correct, we will have evidence that our framework for understanding the Sun's internal magnetic machine is on the right path.”

The new research was supported by the National Science Foundation, which is NCAR's sponsor, and NASA's Living With a Star Program.

### SUNSPOT CYCLE 25 STARTS WITH A BANG; WHAT WILL FOLLOW?

In McIntosh's previous work, he and his colleagues sketched the outline of a 22-year extended solar cycle using observations of coronal bright points, ephemeral flickers of extreme ultraviolet light in the solar atmosphere. These bright points can be seen marching from the Sun's high latitudes to the equator over about 20 years. As they cross the mid-latitudes, the bright points coincide with the emergence of sunspot activity.

McIntosh believes the bright points mark the travel of magnetic field bands, which wrap around the Sun. When the bands from the northern and southern hemispheres – which have oppositely charged magnetic fields – meet at the equator, they mutually annihilate one another leading to a “terminator” event. These terminators are crucial markers on the Sun's 22-year clock, McIntosh says, because they flag the end of a magnetic cycle, along with its corresponding sunspot cycle, — and act as a trigger for the following magnetic cycle to begin.

While one set of oppositely charged bands is about halfway through its migration toward the equatorial meetup, a second set appears at high latitudes and begins its own migration. While these bands appear at

high latitudes at a relatively consistent rate — every 11 years — they sometimes slow as they cross the mid-latitudes, which appears to weaken the strength of the upcoming solar cycle.

This happens because the slowdown acts to increase the amount of time that the oppositely charged sets of bands overlap and interfere with one another inside the Sun. The slow-down extends the current solar cycle by pushing the terminator event out in time. Shifting the terminator out in time has the effect of eating away at the spot productivity of the next cycle.

“When we look back over the 270-year long observational record of terminator events, we see that the longer the time between terminators, the weaker the next cycle,” said study co-author Bob Leamon, a researcher at the University of Maryland Baltimore County. “And, conversely, the shorter the time between terminators, the stronger the next solar cycle is.”

This correlation has been difficult for scientists to see in the past because they have traditionally measured the length of a sunspot cycle from solar minimum to solar minimum, which is defined using an average rather than a precise event. In the new study, the researchers measured from terminator to terminator, which allows for much greater precision.

While terminator events occur approximately every 11 years and mark the beginning and end of the sunspot cycle, the time between terminators can vary by years. For example, Sunspot Cycle 4 began with a terminator in 1786 and ended with a terminator in 1801, an unprecedented 15 years later. The following cycle, 5, was incredibly weak with a peak amplitude of just 82 sunspots. That cycle would become known as the beginning of the “Dalton” Grand Minimum.

Similarly, Sunspot Cycle 23 began in 1998 and did not end until 2011, 13 years later. Sunspot Cycle 24, which is just ending, was quite weak as well, but it was also quite short — just shy of 10 years long — and that’s the basis for the new study’s bullish prediction that Sunspot Cycle 25 will be strong.

“Once you identify the terminators in the historical records, the pattern becomes obvious,” said McIntosh. “A weak Sunspot Cycle 25, as the community is predicting, would be a complete departure from everything that the data has shown us up to this point.”

## **FRENCH AMATEUR RADIO SATELLITE PART OF SPACEX RECORD LAUNCH**

**JIM/ANCHOR:** The SpaceX launch late last month set records for the number of satellites aboard but hams are especially interested in one, as Jeremy Boot G4NJH tells us.

**JEREMY:** When a record number of small satellites left earth aboard a SpaceX Falcon 9 rocket on Sunday January 24th, France's UVSQ-SAT satellite carrying an FM amateur radio transponder was among them. The satellite is focusing on broadband measurements of Earth Radiation Budget and on Solar Spectral Irradiance in the Herzberg continuum. Amateur radio operators are being encouraged to contact the satellite as well. Toward this end, AMSAT-Francophone is providing hams with software to receive, interpret and upload telemetry to the AMSAT-F server or the SatNOGS database. The software runs on both Linux and Windows platforms.

The satellite, designed by LATMOS, has had its frequencies coordinated by the IARU. The Saint-Quentin-en-Yvelines Radio-Club F6KRK was also involved in the project.

It was among the 143 satellites carried on SpaceX's first dedicated SmallSat Rideshare Program



mission, which broke the previous record of 104 simultaneous launches aboard an Indian Polar Satellite Launch Vehicle in 2017.

For Amateur Radio Newsline I'm Jeremy Boot G4NJH.

## **GEORGIA AMATEURS DEMONSTRATE RADIO SCIENCE ON FIELD DAY**

**JIM/ANCHOR:** Winter Field Day was a little bit different this year for some hams in Georgia. Kevin Trotman N5PRE tells us how they spent it.

**KEVIN:** The Macon, Georgia shopping mall known as the Shoppes at River Crossing became part of a Winter Field Day activity —and even the mall's security department got in on the action. Hams were using the occasion to demonstrate analog and digital HF operations as well as UHF/VHF and D-STAR. According to David Johnson KF4ALH, emergency coordinator for Macon-Bibb ARES, this field day activity was more about scoring big points on education and public relations instead of points in a contest. Hams from Macon-Bibb County ARES were joined by the Macon-Bibb County EMA Volunteer Group, Macon Amateur Radio Club, the Monroe County ARES Group and the Monroe County Amateur Radio Society.

The hams gave science lessons and history lessons along with a basic look at how amateur radio works and the role it plays when hurricanes sweep through.

David said a few visitors seemed interested in learning more and doing more. He added: "If even one new person gets the Amateur Radio bug from our event, I consider that a bonus."

For Amateur Radio Newsline I'm Kevin Trotman N5PRE.