



The
Wave Bender



December 2020

Ohio Section

AWARD WINNING NEWSLETTER



Merry 
Christmas 

FROM
ALL OF US
ON THE
BOARD

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- VP:** Maureen Stein, KD8NXS kd8nxs@wrarc.net
- Secretary:** Mike Cibella, KC8UNR kc8unr@wrarc.net
- Treasurer:** Bob Kramer, KE8HHH ke8hhh@wrarc.net
- Past President:** Bob Mitzel, N8RCM n8rcm@wrarc.net

Trustees:

- Steve Fabry, KC8SOY kc8soy@wrarc.net
- Darrin Cannon, N8DMC n8dmc@wrarc.net
- Rose Marko, KD8TII kd8tii@wrarc.net

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- Historian: Rose Marko, KD8TII
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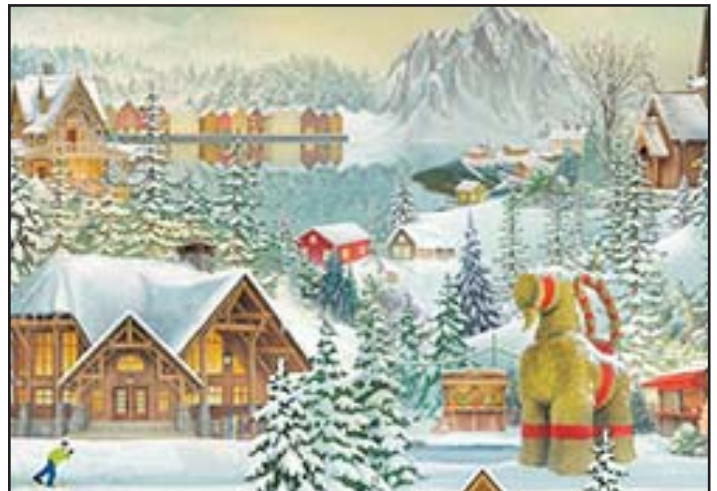
Officer's Meeting:

November 10, 7:00 P.M. At Eat 'n Park,
Austintown, Eat 'n Park,
5451 Mahoning Ave
All members welcome

Members Meeting:

November 17, Davidson's
3636 Canfield Rd., Cornersburgh

Speaker: None



OTHER IMPORTANT WEB SITES

THE ARRL EXAM SEARCH PAGE

<[HTTP://WWW.ARRL.ORG/FIND-AN-AMATEUR-RADIO-LICENSE-EXAM-SESSION](http://www.arrl.org/find-an-amateur-radio-license-exam-session)>

OHIO SINGLE SIDEBAND NET

<[HTTP://WWW.OSSBN.ORG/INDEX.HTML](http://www.ossbn.org/index.html)>

ANTENNA HEIGHT ABOVE AVERAGE TERRAIN (HAAT) CALCULATOR

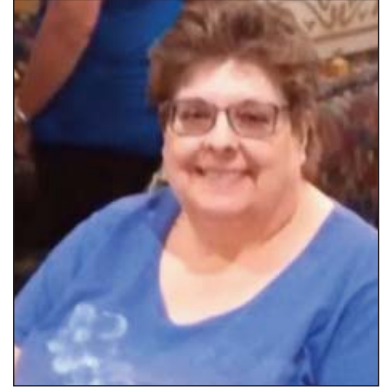
[HTTPS://WWW.FCC.GOV/MEDIA/RADIO/HAAT-CALCULATOR](https://www.fcc.gov/media/radio/haat-calculator)



<http://www.wrarc.net/>

FROM OUR VP

Hello, Everyone. I want to start as I write this on Dec. 18, by wishing you all a very happy holiday season. My wish for each of you is a very happy, HEALTHY, and SAFE New Year. The virus continues to surge and will keep us from resuming our normal activities and in person meetings for the immediate future. We hope that as vaccination progresses it will make enough of a difference into 2021 that we will be able to return sometime into the year, as yet not known when. The safety of our members is the most important thing to consider. In the meantime, please continue to observe the safe health practices that will help slow down the community spread of this terrible virus. We will keep you updated as things unfold. We hope you are all planning to come back to the club for 2021. Our dues amounts and structure remain the same and should be paid by Jan. 31. Unfortunately, we cannot have an after the holiday party this year due to COVID.

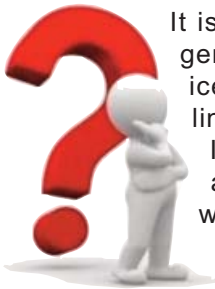


Please join us on the Friday night nets if you can. The repeater has been moved recently and is being worked on and enhanced over time. As this process continues it should enable greater coverage so if in the past you could not get in to it, you may be able to now. We miss you all. Please stay safe and stay well.

73 Maureen, KD8NXS



JUST THINKING OUT LOUD (KINDA RANDOM)



It is often discussed what type of PR / Education can we do to get the youth and the public in general involved in the service/hobby. I will contend that most of us on this list got into the service/hobby long before there was the internet. I often hear people who say something along the lines "oh we need to get them into DMR etc etc etc" While I don't necessarily dislike the mode I do take exception that the way DMR mostly gets used and is nothing more than VOIP with a radio on each end instead of a phone. I'm seeing more and more "appliance operators" with no desire to learn anything more about the service/hobby than DMR or other digital modes. They seldom have any serious desire to get into any form of contesting, field day, public service etc etc etc.

This troubles me. Now I do understand that it's a big service/hobby and there is a lot of things for everyone to do but IMHO we are losing ground in the education department. Like many of us on this list we do a number of PR events where we're interfacing with the public at various levels. And I do listen to all of their comments. Soooo I've been thinking about this for some time and have some thoughts.

I personally don't think that most youth get all that much enthused that they can talk to anywhere in the world on a service that they recognize as not much different than any number of other services that do essentially the same thing with devices they already own and doesn't require a license. There is just no magic in DMR.

My question is could /should or would we be better off discussing how you can take this radio, gather these other parts, build their own antennas, assemble it together and get it working and on the air and talk to someone around the world who has done the very same and there is no additional layers of technology involved ... now that's what got me interested in the service/hobby A few youth / young adults I have already talked to and it really seems to grab them that we can do what all we can WITHOUT the internet. Now that seems magical. 🌸

Mike Urich, KA5CVH
PIO Harris County, TX ARES
<http://ka5cvh.com>
From the ARRL PR reflector

We may be Volunteers, but we're professional.

NATIONWIDE RED CROSS EMERGENCY COMMUNICATIONS DRILL

Mahoning County ARES participated in the Nationwide Red Cross Emergency Communications Fall Drill on November 14th. It was an evolution of the highly successful Spring Drill that had hundreds of participants from some 40 states and Puerto Rico.

The Fall Drill was a Winlink-specific event with the following goals: (1) pass traditional Red Cross (ARC) forms from as many states and as many radio amateurs as possible to one of six Divisional Clearinghouses, and (2) bring as many radio operators as possible up to a "basic" level of Winlink proficiency.

Winlink Global Radio Email is a network of amateur radio and authorized government-licensed stations that provides worldwide radio email using radio pathways where the internet is not present. The system is built, operated and administered entirely by licensed "Ham" volunteers. It supports email with attachments, position reporting, weather and information bulletins, and is well-known for its role in interoperable emergency and disaster relief communications. It is capable of operating completely without the internet--automatically--using smart-network radio relays. Visit <https://winlink.org/> for more information.

To prepare for the drill MC ARES members completed an exercise each week for 6 weeks. The exercises involved using Winlink to send and receive email using various forms, attachments, and features. These emails could be sent via radio over the air or via telnet over the internet. This helped us achieve goal number 2 of basic Winlink proficiency. We also used peer to peer mode (P2P) which allows stations to connect directly to each other. We verified we our local P2P mode capability by exchanging emails with each other on 80 meters which could be valuable in an emergency.

On November 14th MC ARES members participated in the drill by sending a message using ARC form 213 to a the Atlantic divisional clearinghouse of the Red Cross. We contributed to goal number one of having as many amateurs as possible pass traditional Red Cross forms.

If you are interested in public service or emergency communications and would like more information about Mahoning County ARES please visit our web site at <http://www.mahoning-ares.org/> and check into the Mahoning County ARES net the first and third Monday of the month at 8:30 pm on the W8QLY repeater 146.745 pl 110.9.

Rich Slutz, KB8GAE MC AEC

The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES.

Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

CONTACT WRARC ELMERS WITH YOUR QUESTIONS - QUESTIONS@WRARC.NET

Fabry, Steve KC8SOY
Haren, Roy KD8IJF

Yaesu FT8900, FT8800, Mobile
???

kc8soy@yahoo.com
harens@juno.com



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He who is afraid of asking, is afraid of learning

Articles from members for the Wave Bender are encouraged. They must be received by the editor by the 20th each month. Please send your articles to: k8jaa@arrl.net, and put WRARC on the subject line of your email.

Join us for the WRARC Friday night Net 9:00 P.M.
KD8DWV - 145.270, PL -110.9

WRARC Simplex Frequency 146.565

Mahoning County ARES® Nets
1st Monday 8.40 PM ET W8QLY Repeater - 146.745 (PL 110.9)
&
3rd Monday 8.40 PM ET W8QLY Repeater - 146.745 (PL 110.9)
ARES thanks MVARA for the use of their repeater

W8SGT is facilitating The Ohio HF net every Tuesday - 7:00 PM
The net is run from the State of Ohio EOC on the
Ohio ARES Admin frequency 3875 kHz LSB
moves to 7240 Khz after 20-min.
All are welcome to check in.

The Ohio ARES/OES Digital Emergency Net held every Tuesday at 8:00PM.
held on 3585 kHz USB.

Please note all digital communications are Upper Side Band.
<http://www.http://ohden.org/> for net details. Net Manager Gary NJ8BB



**Semi-Monthly
Ham Community
Breakfast
Second and Fourth
Tuesdays
9:00 A.M.
Eat 'n Park Restaurant
in Austintown
Join Us!**

RESULTS OF YOUR VOTE



Ohio's SEC, Stan, N8BHL, Named as CQ Magazine's Emergency Communications Editor

CQ Magazine has announced that Ohio's Section Emergency Coordinator Stan Broadway, N8BHL, has been named as the magazine's Emergency Communications Editor. Licensed for more than 40 years, Broadway first was attracted to ham radio by listening to a VHF severe weather net in Ohio and to the Hurricane Watch Net, for which he currently serves as a board member and net control operator.



In the Great Lakes Division, incumbent Director Dale Williams, WA8EFK, retained his seat in a challenge from Michael Kalter, W8CI.



Incumbent Vice Director Tom Delaney, W8WTD, did not run for another term.

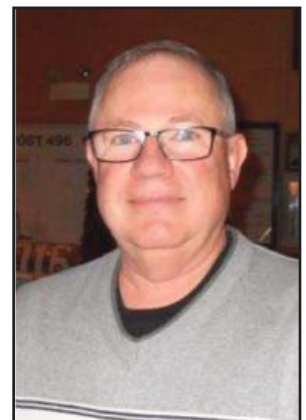


The vote was 1,840 to 1,398. In a three-way contest for Great Lakes Division Vice Director, Ohio Section Manager Scott Yonally, N8SY, received 1,670 votes to outpoll Jim Hessler, K8JH, with 975 votes, and Frank Piper, KI8GW, who received 611 votes.

Drum Roll Please -



Founding Club Member Tom Sly, WB8LCD, is our new OHIO Section Manager!!!



All newly elected officials take office at noon on January 1, 2021.

SHACK SHOT

I am here today to give you a peek of my, and my husband, Dennis's, Ham Radio Shack. We have been members for 8-years, and this is the first time I decided to show it to the club. It is not much, but this is where I started doing the net back in 2017. The system shows the different equipment pieces that we use. On the bottom left, we have the YAESU FT 7900. Bottom center is the Greco Scanner. Bottom right is the KENWOOD HF Transceiver TS-590. The top right is the KENWOOD Dual Band TM-D710. The last one, the Dual Band is what I use and have been using to do the net. Dennis showed me the ropes on how and what to do and I have never looked back. I do have a lot more to learn about this equipment and other topics, so hopefully, when this corona virus goes away, Chris Monske, WF8U, will be starting up his classes and I will be attending to find out what it is all about.



I hope everyone is following all the restrictions and guide- lines to stay home and stay safe so that soon we well be coming back to our regular routine.

73 Rose KD8TII
WRARC/Trustee



I'm always asking for input by members. The following questions may give you something to think about.

- What was your first station?
- Tell us about our first contact.
- Have you built something?
- Who was your First Elmer?
- How old were you when you got interested? and/or
- How did ham radio shape your life?



-ye ed

Tell us how you got interested, or how you got started. Maybe you had an Elmer you'd like to tell us about. -ed

FCC TO REQUIRE EMAIL ADDRESSES ON APPLICATIONS

ARLB038 QST de W1AW ARRL Bulletin 38 ARLB038
 From ARRL Headquarters Newington CT December 2, 2020
 To all radio amateurs

Amateur radio licensees and candidates will have to provide the FCC with an email address on applications, effective sometime in mid-2021.

If no email address is included, the FCC may dismiss the application as defective.

The FCC is fully transitioning to electronic correspondence and will no longer print or provide wireless licensees with hard-copy authorizations or registrations by mail.

A Report and Order (R&O) on "Completing the Transition to Electronic Filing, Licenses and Authorizations, and Correspondence in the Wireless Radio Services" in WT Docket 19-212 was adopted on September 16. The new rules will go into effect 6 months after publication in the Federal Register, which hasn't happened yet, but the FCC is already strongly encouraging applicants to provide an email address.

When an email address is provided, licensees will receive an official electronic copy of their licenses when the application is granted.

The Report and Order can be found in PDF format online at,
<https://www.fcc.gov/document/fcc-adopts-electronic-licensing-report-and-order>

Under Section 97.21 of the new rules, a person holding a valid amateur station license "must apply to the FCC for a modification of the license grant as necessary to show the correct mailing and email address, licensee name, club name, license trustee name, or license custodian name." For a club or military recreation station license, the application must be presented in document form to a club station call sign administrator who must submit the information to the FCC in an electronic batch file.

Under new Section 97.23, each license will have to show the grantee's correct name, mailing address, and email address. "The email address must be an address where the grantee can receive electronic correspondence," the amended rule will state. "Revocation of the station license or suspension of the operator license may result when correspondence from the FCC is returned as undeliverable because the grantee failed to provide the correct email address."

**FCC POSTS EMAIL ADDRESS REMINDER ON ULS LANDING PAGE**

ARLB039 FCC Posts Email Address Reminder On ULS Landing Page
 To all radio amateurs

The FCC is encouraging users of the Universal Licensing Service (ULS) to have an email address on file with the FCC. The ULS Landing Page can be found at,
<https://www.fcc.gov/wireless/systems-utilities/universal-licensing-system>

"Applicants are strongly encouraged to provide an email address on their license application(s), which will trigger the electronic issuance of an official copy of their license(s) to the email provided upon application grant. Per the timing specified in Rulemaking FCC 20-126, the FCC will no longer print, and licensees will no longer be able to request, hard copy license authorizations sent by mail."

The Rulemaking can be found online in PDF format at,
<https://docs.fcc.gov/public/attachments/FCC-20-126A1.pdf> .

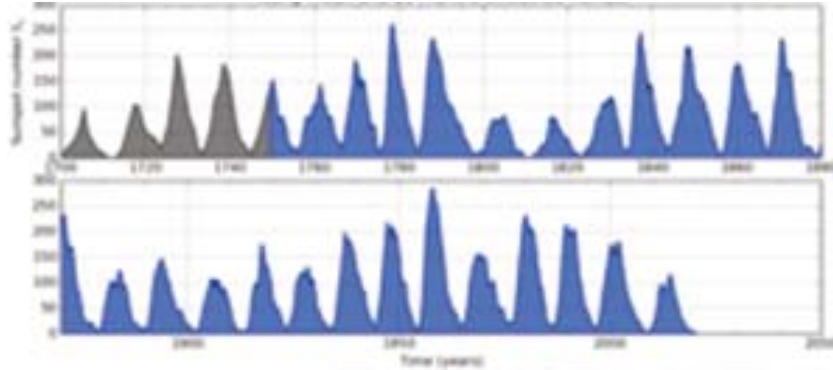
The FCC has not yet established the date by which an email address will be required on all applications. ARRL VEC already has begun including email addresses on FCC applications for as many applicants as possible.
<https://arxiv.org/pdf/2006.15263.pdf> .



SUNSPOT CYCLE 25

Academic Paper Predicts Sunspot Cycle 25 Could be Among the Strongest Ever

A research paper <<https://arxiv.org/pdf/2006.15263.pdf>>, "Overlapping Magnetic Activity Cycles and the Sunspot Number: Forecasting Sunspot Cycle 25 Amplitude," by Scott W. McIntosh, Deputy Director of the National Center for Atmospheric Research in Boulder, et al., has concluded that Solar Cycle 25 could be among the strongest sunspot cycles ever observed, and will almost certainly be stronger than the just-ended Solar Cycle 24 (sunspot number of 116). The scientists say it will also most likely be stronger than Solar Cycle 23 (sunspot number of 180). As the abstract explains:



Sunspot cycle graph dating to 1700. [SILSO Graphic]

"The sun exhibits a well-observed modulation in the number of spots on its disk over a period of about 11 years. From the dawn of modern observational astronomy, sunspots have presented a challenge to understanding -- their quasi-periodic variation in number, first noted 175 years ago, stimulates community-wide interest to this day. A large number of techniques are able to explain the temporal landmarks, (geometric) shape, and amplitude of sunspot 'cycles;' however, forecasting these features accurately in advance remains elusive.

"Recent observationally motivated studies have illustrated a relationship between the sun's 22-year magnetic cycle and the production of the sunspot cycle landmarks and patterns, but not the amplitude of the sunspot cycle. Using (discrete) Hilbert transforms on more than 270 years of (monthly) sunspot numbers, we robustly identify the so-called 'termination' events that mark the end of the previous 11-year sunspot cycle, the enhancement/acceleration of the present cycle, and the end of 22-year magnetic activity cycles. Using these, we extract a relationship between the temporal spacing of terminators and the magnitude of sunspot cycles.

"Given this relationship and our prediction of a terminator event in 2020, we deduce that Sunspot Cycle 25 could have a magnitude that rivals the top few since records began. This outcome would be in stark contrast to the community consensus estimate of Sunspot Cycle 25 magnitude."

McIntosh's recorded presentation of the paper is available. Use passcode **z7qCn@3G**.

<https://us02web.zoom.us/rec/share/NMITa_PcxJMN335-sN-Hhq5t1WzbmTY-qNTDt1SCedeR9pxPdG6o3p_046iVtmAl.qEgoEo-6p34nOrmf>



Stan Adamski, KB3WPD
Janet Egan
Jim Jickess, KB8QDZ



ARECIBO OBSERVATORY INSTRUMENT PLATFORM FALLS INTO ICONIC DISH

12/01/2020

[UPDATED 2020-12-02 @1609 UTC] The 900-ton instrument platform of the 305-meter radio telescope at Arecibo Observatory in Puerto Rico fell some 400 feet Tuesday morning, crashing into the huge, already-damaged dish below, the National Science Foundation (NSF) reported in a December 1 Tweet. “No injuries were reported,” NSF said, adding that it is still assessing the situation. “Our top priority is maintaining safety.” The calamity not only was a final and fatal blow for the observatory but for the people of Puerto Rico.



Head of Telescope Operations Angel Vazquez, WP3R, called December 1 “indeed a sad day.” Vazquez was in the Observatory’s control room at the time, salvaging important instruments when he heard a loud noise.

“At around 7:55 AM, the platform collapsed due to the extra stress on the existing cables because of the main cable failure in November. Strands were starting to pop all weekend long, and it was just a matter of time,” he told ARRL. “It came off the easternmost tower (T4) and took about 15 seconds. The azimuth arm that housed the dome came off the track, fell into the dish a little north of center and the triangle was pulled by the other existing cables to the northwestern part of the dish. The tops of the towers broke as well. This was a 900-ton platform, and the dome was smashed like an eggshell.”

The towers supported the massive instrument platform, which was suspended on cables above the dish. On August 10, an auxiliary cable that helped to support the platform snapped and fell, causing a 100-foot gash in the reflector dish. After an extensive evaluation, NSF announced on November 19 that the damaged radio telescope — in service for nearly 60 years — was beyond repair and would be decommissioned due to safety concerns. Arecibo, which, among other accomplishments had contributed to the observation of black holes, was the second-largest radio telescope in the world.

The iconic dish has served as a backdrop for several science fiction movies. The Arecibo Observatory Amateur Radio Club, KP4AO, is headquartered at the research facility, and several other radio amateurs are employed there in addition to Vazquez. Operations at the world-famous observatory have been managed by the University of Central Florida (UCF).

Engineers were ready to implement emergency structural stabilization of the auxiliary cable system, but while arranging delivery of two replacement cables and two temporary cables, a main cable broke on the same tower on November 6. Based on the stresses borne by the second broken cable, engineers concluded that the remaining cables were likely weaker than originally projected.

Antenna designer and electrical engineer Jim Breakall, WA3FET, who conducted research at the world-famous facility over more than 45 years, told ARRL that his experience with Arecibo began in 1974 when he was a student, and he worked on the first HF ionospheric heating design and calibration of the dish for ionospheric research. He also conducted amateur radio moonbounce experiments there. Later, he designed *Continued page 11*

ARECIBO OBSERVATORY - CONTINUED FROM PAGE 10

feeds for radio astronomy and designed and built the HF ionosphere modification facility that fed the dish with a dipole array at the bottom of the huge dish, after Hurricane Georges destroyed the first HF facility some 10 miles away in 1998.

"I built a super contest station on my farm there about 2 miles away using Angel's call sign, WP3R. It got destroyed in Hurricane Maria in 2017," Breakall recounted. "I also was on the team for KP4AO in 2010 for EME [moonbounce] and my photo was on the cover of QST with Joe Taylor, K1JT."

"I was prepared for this, but still never wanted to hear it," Breakall told ARRL. "It is like losing a loved one when you know they are dying. Wow. Who would have ever believed it."

NSF said it was saddened by the latest development regarding the aging radio telescope. "As we move forward, we will be looking for ways to assist the scientific community and maintain our strong relationship with the people of Puerto Rico."



Our wireless doorbells sitting on their chargers....



December 2020

PREPAREDNESS LEADS TO READINESS - MATT W8DEC



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	5 Bathtub Party Day
6 Mitten Tree Day	7 Pearl Harbor Day	8 Eat'n Park Austintown 8:30 A.M. Ham Community Breakfast	9	10	11 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	12
13 Roast Chestnuts Day	14	15 Bill of Rights Day	16	17	18 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	19
20  Last Day WaveBender Articles Due	21 	22 Eat'n Park Austintown 8:30 A.M. Ham Community Breakfast	23 A Festivus for the rest of us!	24	25  Christmas	26 National Whiner's Day
27 National Fruitcake Day	28	29	30	31 New Year's Eve 	2021 	