Allen County HamNews

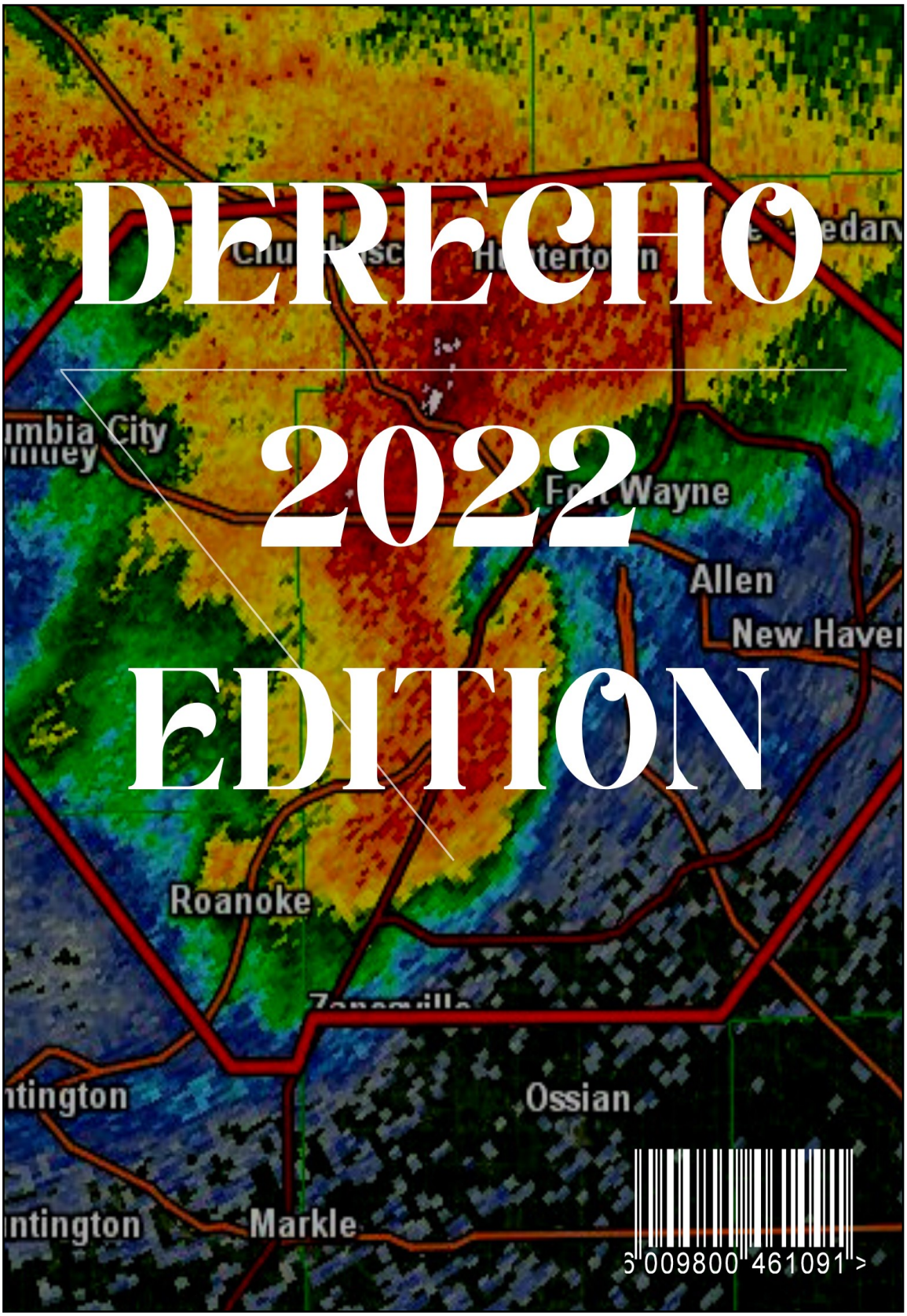
Fort Wayne Radio Club Fort Wayne DX Association Allen County Amateur Radio Technical Society

July 2022

Volume 23

Issue 7

In this edition:



Hamming It Up With the Editor

For some reason this month's edition of the HamNews strikes me as one of the more varied editions—last month's Derecho storm, Field Day, and the 13 Colonies event—just to name a few highlights.

Derecho

I hope that each of you were able to stay safe during the storm last month. I happened to be in Ontario, Canada that night (operating as /VE3), but followed the storm progress live. Jay, W9LW provides the story of the wicked storm and of the local hams that provided support for Skywarn.

Field Day 2022

Another Field Day is in the history books. Check out the photo coverage of the event in this month's edition.

VHF Contests

Carl, K9LA talks about his experience with the VHF contest last month. Be sure to check the VHF bands frequently for summer propagation!

Operating HF portable

As a result of his recent portable operations, Jim, AC9EZ discusses ground conductivity in this edition. Shocking. Positively shocking.

13 Colonies Event

This annual operating event is currently on the air. Check out page 3 for more information on this fun operating event.

Wrapping Up

After last month's storm and events, perhaps this month will be a little more tame. Enjoy the summer! God bless the United States of America.

73,

Josh, W9HT (& sometimes W9HT/VE3)

ALLEN COUNTY HAMNEWS

HamNews is a monthly publication of the Fort Wayne Radio Club, the Allen County Amateur Radio Technical Society, and the Fort Wayne DX Association.

Articles are written by members and friends of the three clubs. New submissions for HamNews are always welcome. Please send your information to the editor within two days of the end of the month for inclusion in the next edition.

HamNews Editor
Josh Long, W9HT
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13 Colonies Event

Celebrate the Fourth of July by making contacts and earning a fun certificate!

See http://www.13colonies.us for more information.

Derecho 2022

"Three rounds of severe storms that began the afternoon of June 13th and continued into the overnight hours led to a significant swath of straight line wind damage. At the Fort Wayne Airport, a wind gust of 98 mph from the severe storm was recorded. This led to significant damage in the Fort Wayne area" (NWS, 2022).

This special section to the Allen County HamNews includes coverage of this historic storm by Jay, W9LW. Special thanks to all of the local ham operators who supported the Skywarn net that night.

The photos to the right illustrate some of the local damage and are courtesy of Ashley Smoot.

—Editor

Skywarn net activates for record-breaking derecho

By Jay Farlow, net manager, Allen County Skywarn

Tree, automobile and utility damage caused by the June 13, 2022, derecho in the Waynedale area of southwestern Fort Wayne, photographed June 14 by storm spotter Ashleigh Smoot. Photo used with permission.

A destructive, severe thunderstorm, which the National Weather Service (NWS) subsequently classified as a derecho, caused significant damage June 13, especially in southwestern Fort Wayne and Aboite Township. The storm produced a record, 98 mph wind gust at the Fort Wayne International Airport automated surface observing system at 10:39 p.m. ET. The Allen County amateur radio Skywarn® net played an important role in providing valuable reports to the NWS Northern Indiana weather forecast office (IWX).

IWX issued a severe thunderstorm warning for Allen County at 9:30 p.m. ET. Between that time and 12:05 a.m., when net operations associated with the derecho discontinued, the net received and relayed to IWX a total of at least 63 storm spotter reports from at least 21 different ham radio-equipped storm spotters (See Table 1, below).

Report Type	Number
Wind damage	37
Hail	11
Power outage	7
Flash flood	5
Wind measurement	2
Roll cloud	1
Total	63

Table 1: Counts of storm spotter reports by type received by the Allen County amateur radio Skywarn net between 9:30 p.m. ET June 13, 2022, and 12:05 a.m. June 14.

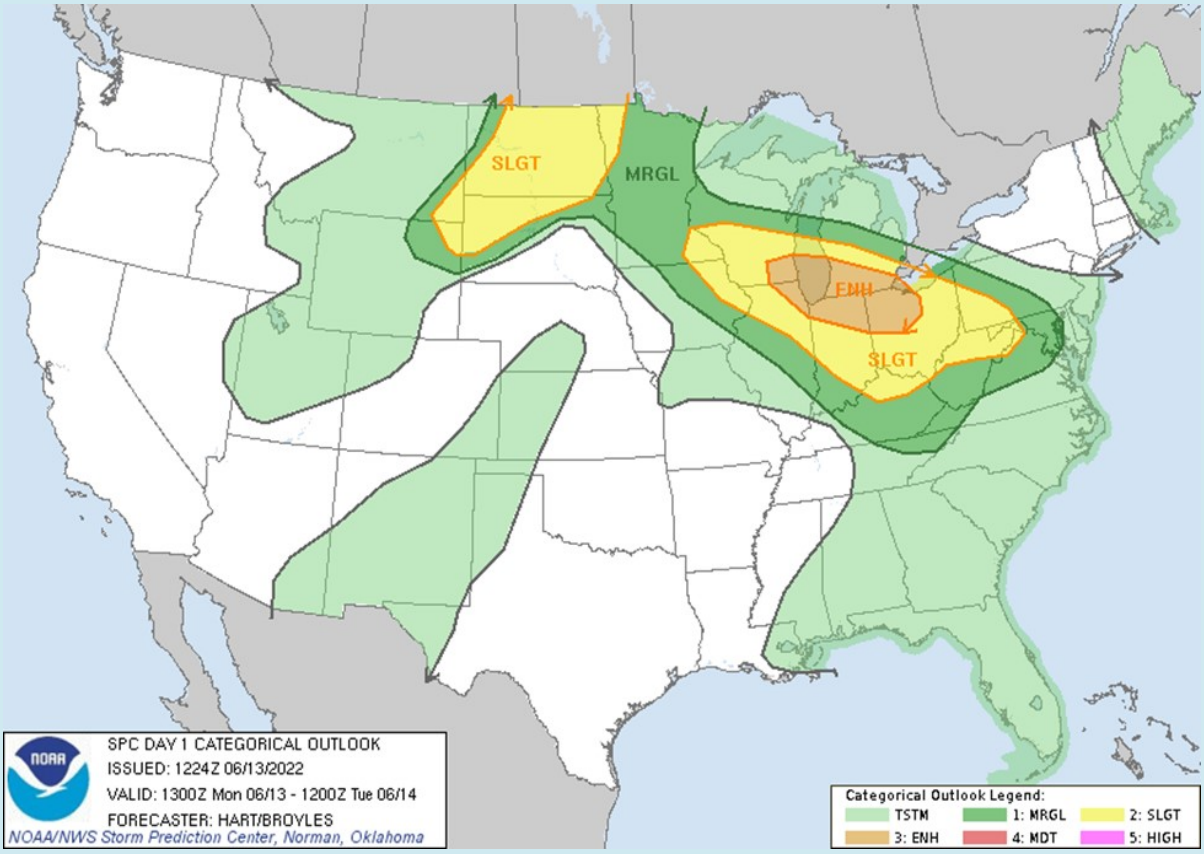
"The near real time reports the National Weather Service Northern Indiana received from Allen County amateur radio operators were crucial in helping us determine the scope of the damage that was underway," said IWX meteorologist Lonnie Fisher, N8QKJ.

"The net was relaying reports of numerous trees and tree limbs down at such a rapid rate that I was struggling to keep up with sending them as NWS local storm reports," Fisher continued. "We wish to thank the Allen County, Indiana ham radio operators for their assistance in this and other events."

At times the net was quite busy. During a peak period, the net received and relayed a report every minute.

Early forecast

Net leaders began planning net operations when the day-one convective outlook that the NWS Storm Prediction Center (SPC) issued at 8:24 a.m. ET placed Allen County in a level three of five (enhanced) categorical risk of severe weather. The outlook forecast a 30% probability of damaging, straight-line winds and a 10% or greater probability that any such winds could exceed 75 mph



SPC map showing categorical risk levels as of 8:24 a.m. ET June 13.

Later that day, IWX forecast multiple waves of thunderstorms, with the first wave being less severe than the second.

Net manager Jay Farlow, W9LW created an on-call schedule for net control station (NCS) operators. This determined in advance who would lead the net during different times of day, should activation become necessary.

First wave arrives

At 4:35 p.m. ET, IWX issued severe thunderstorm warning number 26 for extreme southwestern Allen County.

Two minutes later, Chad Beach, W9GGA activated the Allen County Skywarn net in standby mode on the Allen County Amateur Radio Technical Society 146.88 MHz repeater. As the net's operations manual explains, standby mode allows stations to continue to use the repeater as they wish, including simply checking in, while an NCS stands by to handle any reports that storm spotters transmit. At 4:58 p.m., IWX issued severe thunderstorm warning number 27 for a larger portion of southern Allen County. At 5:02 p.m. Rich Detommaso, KD9ISV took over as NCS. By 6 p.m., both warnings had expired. KD9ISV called for check-ins and then terminated net activity. During this period, the net received one spotter report of hail.

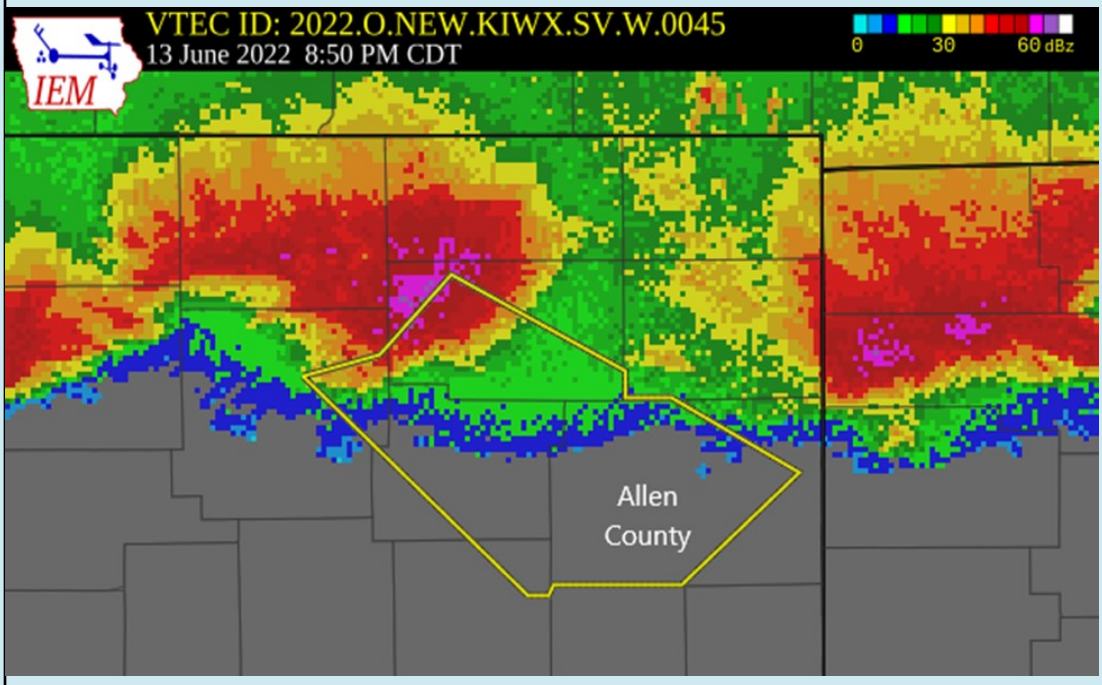
In addition to W9GGA and KD9ISV, the following stations checked in during this standby session:

AC9XS, AC9XU, K9SKS, KB9YTT, KC8EDS, KC9MUT, KC9SJP, KC9XU, KD8GOB, KD9NYZ, KD9QHI and KD9QZC.

Two minutes after SPC issued the watch, KD9ISV re-activated the net in standby mode. W9GGA took over as NCS at 7:12 p.m., followed by W9LW at approximately 7:30 p.m.

The wording of the watch, combined with input from IWX meteorologists and reports of storm damage to the northwest of Allen County led W9LW to expect the possibility of a high volume of spotter reports. He therefore arranged for two other operators to act as liaisons to IWX, via the NWS' internet chat system, NWSChat. W9GGA and Jim Stephens, KD9NYZ would alternate typing reports into the NWSChat, so the net could take a new report while one of them was still entering the previous report.

At 9:50 p.m. ET, IWX issued severe thunderstorm warning number 45, whose polygon included more than half of Allen County. The warning included a thunderstorm damage threat tag of "destructive" and a maximum wind gust tag of 80 mph. The warning would be in effect until 10:30 p.m. At that time, the heaviest radar echoes were approximately 20 miles northwest of the county.

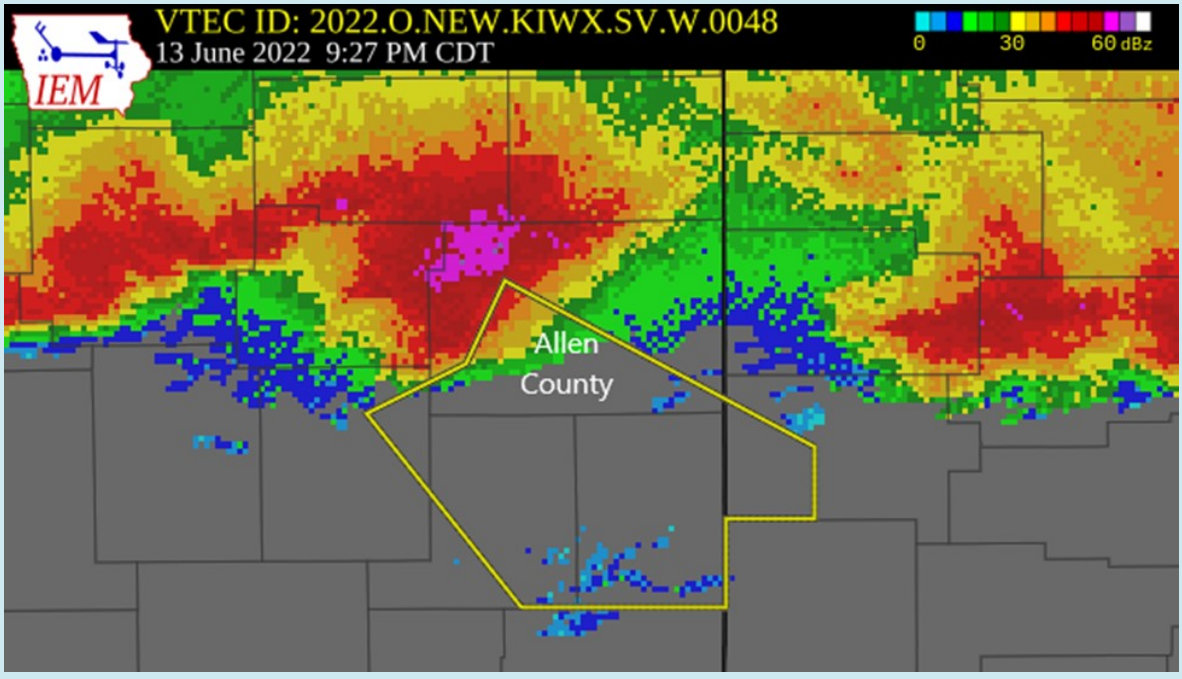


Polygon (in yellow) for IWX severe thunderstorm warning number 45, issued at 9:50 p.m. ET June 13, 2022. Allen County is depicted at the southeastern end of the polygon.

By 10:18 p.m. ET, the following stations had checked in: AC9XU, KA9IPA, KD8GOB, KD9NYZ, KD9QHI, KD9VV, W5TGL, W9GGA, W9KMH, W9SA, W9TSB and WD9HRP. At that time, as radar data indicated that the heaviest echoes had reached the edge of Allen County, W9LW transitioned the net from standby mode to directed net mode, reminding stations that in this mode, the net operations manual limits transmissions to those needed to report weather or impacts that meet NWS reporting criteria.

At 10:25 p.m. ET, Jerry Etnier, KD9QHI made the event's first report of wind damage in Allen County.

At 10:27 p.m. ET, IWX issued severe thunderstorm warning number 48, which included southern Allen County. This warning included the same "destructive" and 80 mph tags as warning number 45. Warning number 48 was set to expire at 11:15 p.m. ET.



A large part of Allen County was at the northwestern end of the yellow polygon for IWX severe thunderstorm warning number 48, issued at 10:27 p.m. ET June 13, 2022.

At 10:30 p.m. ET, severe thunderstorm warning number 45 expired on schedule, but warning number 48 remained in effect. At approximately this time (the exact time wasn't logged), signals on the 146.88 MHz repeater became so noisy and difficult to copy that W9LW moved the net to the Fort Wayne Radio Club 146.94 MHz repeater, which the net's operations manual identifies as its secondary frequency.

When the last severe thunderstorm warning for Allen County expired at 11:15 p.m. ET, W9LW discontinued directed net mode. Because a severe thunderstorm watch remained in effect, he continued net operations in standby mode and the net continued, to receive and relay damage reports from storm spotters.

At 12:03 a.m. ET, IWX announced that severe thunderstorm watch number 356 expired for Allen County. Two minutes later, W9LW discontinued net operations, ending a session that ran for five hours, 42 minutes, including the initial standby mode.

During this second session, the following stations participated (in addition to KD9NYZ, W9GGA and W9LW), including some who transmitted reports and others who made their availability known outside of directed net operations:

AC9XS, AC9XU, K3DCK, K9SKS, KA9IPA, KB9DOS, KC8EDS, KC9JOM, KC9MUT, KC9UOQ, KD9EAA, KD9GOB, KD9INP, KD9ISV, KD9KPI, KD9NIV, KD9OOA, KD9PFN, KD9QHI, KD9QZC, KD9VV, N9EHK, N9JFS, N9PDX, N9RAG, N9TB, W5TGL, W9KMH, W9LCF, W9SA, W9TSB, WB9UDW and WD9HRP.

Early morning June 14: yet another watch

At 1:05 a.m. ET June 14, SPC issued severe thunderstorm watch number 365, which included Allen County and indicated an expiration time of 7 a.m. Five minutes later, W9GGA activated standby mode. Fortunately, no storms led to new spotter reports or warnings for Allen County. Due to the lack of severe weather, W9GGA discontinued standby mode at 3:03 a.m. By that time the following stations had checked in:

KD8GOB, KD9NIV, KD9NYZ, KD9QHI, KD9UGG and N9IYI.

IWX publishes data on the storm's own web page

During the days that followed the derecho, IWX created a web page that describes the event and the atmospheric environment that led to it. The page includes images of radar data, damage photos and a complete list of local storm reports IWX issued, including those that resulted from reports provided by the Allen County net.

Net manager praises operators

"Allen County hams demonstrated exceptional communication capabilities and net discipline during these events," said net manager W9LW. "All operators should be proud of their participation, whether they transmitted spotter reports or stood by, ready to assist if needed."

The Northeastern Indiana Amateur Radio Association

AUBURN HAMFEST

New Date! *Saturday, **August 13**, 2022*

Auburn Cord Duesenberg Museum

1600 S. Wayne St. Auburn, IN 46706

OPEN 9 AM TO 2 PM • TALK-IN: 147.015 (141.3) 7:00 AM • LOAD-IN: 7 TO 9 AM

FREE Admission

6,000 SQ. FT. INDOOR DISPLAY SPACE *(Not counting the huge Museum Area!)*

FREE AUBURN CORD DUESENBERG Museum

View an amazing collection of classic motor vehicles.

FREE Parking

Supervised by the DeKalb County ARES Team.

NEW this year—FOOD VENDOR
on the parking lot.

NEED MORE INFO?
E-MAIL: W9OU@ARRL.NET

Indoor Vendor Tables: $10 ea.
Order online now at www.w9ou.org

Outdoor Sales - One raffle ticket purchase for each parking space.

Contact: W9OU@ARRL.NET

Raffle Prizes:

1st- Xiegu G90 HF Radio with Base
2nd- YaesuFT-70DR withMag Mount Ant.
3rd- N3FJP Logging software—Full Reg.
4th- $50.00 DX Engineering Gift Cert.

Ticket Prices $5.00 - Buy 2, get 1 Free!

Hamsplatter
Fort Wayne Radio Club P.O. Box15127, Fort Wayne, IN

FROM THE FWRC PRESIDENT: CAROLE'S CORNER

The FWRC put on another Special Event Station activity at Parkview Field during a Tin-Caps vs. Lake County baseball game on June 12th. I was interviewed by the Tin-Caps play-by-play guy Mike Maahs during the 2 nd inning on ESPN-1380 and got to talk about Ham Radio. We made a number of contacts on 40M phone, ate some hotdogs and ice cream and drank a little beer. It was a lot of fun.

The FWRC operated 4A during Field Day out at Jefferson Township Park just east of New Haven. We ran two cw stations, two phone stations and a GOTA station. Propagation was up and down, but I think overall we did pretty well.

Don't miss the July club meeting at 7:00 PM on Friday, July 15 th at the Good Shepherd United Methodist Church. It will feature Ron Gregory, Art Saltzberg, Chris Roberts &; Dick Chevillet reminiscing on their days at WOWO and amateur radio. Please round everyone up you can to show them we remember them.

Due to the fact that I am home bound as a result of a foot operation, and Jim Pliett is convalescing due to a fall off a ladder while working on the remains of his tower, we likely will be cancelling the July Foxhunt that was scheduled for July the 10th .

73,

Carole, WB9RUS

FWRC Activities for 2022		
Foxhunts	**Board Meetings**	**Club Meetings**
~~7/10/2022~~	7/5/2022	7/15/2022
8/7/2022	8/9/2022	8/19/2022
9/18/2022	9/6/2022	9/16/2022
10/2/2022	10/11/2022	10/21/2022
11/6/2022	11/8/2022	11/18/2022
--	11/29/2022	12/9/2022

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FORT WAYNE RADIO CLUB MEETING MINUTES

17 June 2022

The June meeting of the Ft. Wayne Radio Club was held at the Good Shepherd United Methodist Church (GSUMC) on 17 June, 2022.

President Carole Burke, (WB9RUS) welcomed all attendees (about 16) and led them in the pledge of allegiance. Then everyone gave their name and callsign.

Treasurer Bob Streeter, (W8ST), while not present, provided data regarding the current club Treasury status as of 17 June, 2022, to wit:

Savings-	$1,844.31
Checking-	$6,660.84
Vanguard Money Market	$11,335.31
Year-To-Date Income	$1,375.00
Year-To-Date Expenses	$2,034.49
Club members count	150

Carole noted that the FWRC will set up a Special Event station at Parkview Field during the Tin-Caps vs. Lake County baseball game on 12 June. We will operate a 40 and 20 M station using a 40/20M end feed antenna. This is similar to what was done last year to celebrate the FWRC's 101th year anniversary. So far, Carole, Al Burke, (WB9SSE), Charles Ward, (KC9MUT) and Tom Rupp, (KU8T) have agreed to man the effort More FWRC members would be appreciated, either to help man the station or to just show up at the game (to help publicize Amateur Radio). Carole will participate in an on-the-air interview with Tin-Caps play-by-play announcer Mike Maahs on ESPN-1380 during the second inning. This will give her the opportunity to promulgate the story of ham radio, and specifically the FWRC, and publicize the upcoming Field Day initiative. (Editor's note: This section is a recap from last month.)

Al Burke reported that as a result of the severe storm that blew through northern Indiana on the 13th of June, Jim Pliett, (K9OMA) lost his tower and the antennas mounted on it. Fortunately it did not strike his house or outbuildings, but did take out a tree. The tower is a total loss. Several other area hams lost antennas as a result of the storm. Straight line winds reaching 98 mph were recorded at the airport, and a hanger was partially destroyed.

Paul Prestia, (KA3OPZ) noted that all of the club repeaters were operating normally although the 146.91 satellite receiver installed at Parrott Rd. is not working, so a trip to the site will be required. He also noted that work is about complete on a second 146.91 satellite receiver that will be installed at Jim Wolf's QTH with the antenna up about 80'.

Carole mentioned that the annual Tailgate Hamfest will occur on Friday 19 August at the Purdue/Ft. Wayne campus in Parking Lot #3, on the 2nd floor. It's protected from the weather and from those pesky bees that always seem to be prevalent in August. Admission is free. Sellers donate ten percent of their proceeds to the club who will in turn donate whatever is realized to PFW's science scholarship and/or Science Fair fund.

The June meeting presentation was supposed to be provided by Ron Gregory, (W9RGM) describing his adventures while serving as a disc jockey at WOWO during the 70's, 80's and 90's. Unfortunately he became ill and so has had to reschedule his presentation to the next (15 July) club meeting. As a result Charles discussed planning for Field Day. We will be utilizing Jefferson Township Park just east of New Haven. We will use tents and perhaps the club trailer for operating positions, and we will have the use of the park's covered pavilion for meals. Saturday evening (about 5:30 pm), Charles will prepare his world famous hamburgers and hot dogs to kick off the club's spring/summer banquet. The rest of the goodies will depend upon what attendees bring in. (Meat balls and deviled eggs are always a good way to go). Aside from the hamburgers and hot dogs, the club will also provide paper plates, cutlery, condiments and soft drinks as usual.

Charles Ward and Al Burke described a recent donation to the club. A former club member who is in poor health and is now living in Florida donated the 72 foot, four section, nested, crank-up tower to the club. It is on the ground in south Ft. Wayne. It appears to have been manufactured by U.S. Towers. Charles showed pictures taken of the tower just before coming to tonight's meeting. We may move the tower from its present location to Robison Park for temporary storage until we find a buyer. It is likely we will dispose of the tower via an auction.

The meeting adjourned at 8:11pm.

Respectfully submitted,

Al Burke, WB9SSE

Secretary, Fort Wayne Radio Club

Field Day 2022






Photos are courtesy of Jim, KD9ZZ and the editor

Field Day 2022

continued

Photos are courtesy of Jim, KD9ZZ and the editor

State of the Arts

Allen County Amateur Radio Technical Society P.O. Box 10342, Fort Wayne, IN

Hello everyone!

Our last board meeting was on June 14th and was virtual meeting. The virtual meeting are working out very well. We went over some details for the upcoming HamFest and started organizing speakers for the forums. We still have the Secretary position open on the ACARTS board. If anyone is interested in being a part of our board, please email me at w9tsb (at) outlook.com.

Our last general meeting was on the 21st of June 2022 and was a virtual meeting. The topic was on good audio. The topics covered EQ settings, microphones, and audio interfaces. I will share a video and slides on YouTube in the next week or so, the link will be posted on the ACARTS website at www.acarts.com.

Just a reminder, there will be no board meeting or general meeting this month. Hope you all had a great Field Day and have a Happy 4th of July!

Thank you, all!

Chris McCullough, W9TSB

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SEA-PAC and ARRL June VHF Contest

By Carl Luetzelschwab, K9LA

SEA-PAC 2022

At the beginning of June I attended SEA-PAC (in Seaside, OR), which was also the ARRL's Northwestern Division Convention. Vicky and I have been to SEA-PAC two other times, and it offers a great convention/ hamfest and the opportunity to chase lighthouses on the West Coast of Oregon and Washington.

Vicky didn't make it this time, though, as our two grandkids from Iowa were coming for their annual two week visit. They are teen volunteers at the Fort Wayne Children's Zoo, so someone had to stay home to be there when they arrived. That's okay, as this trip was very expensive due to the current economic conditions (I was not traveling on ARRL business, and thus paid for it out of my pocket).

I did a four-hour Workshop Friday afternoon. The content was divided into four presentations: Solar Topics, Antenna Topics, Field Day Topics and Events That Impact the F2 Region. The last one talked about events at ground level and in the lower atmosphere that couple up to the F2 region to cause it to vary in the short-term.

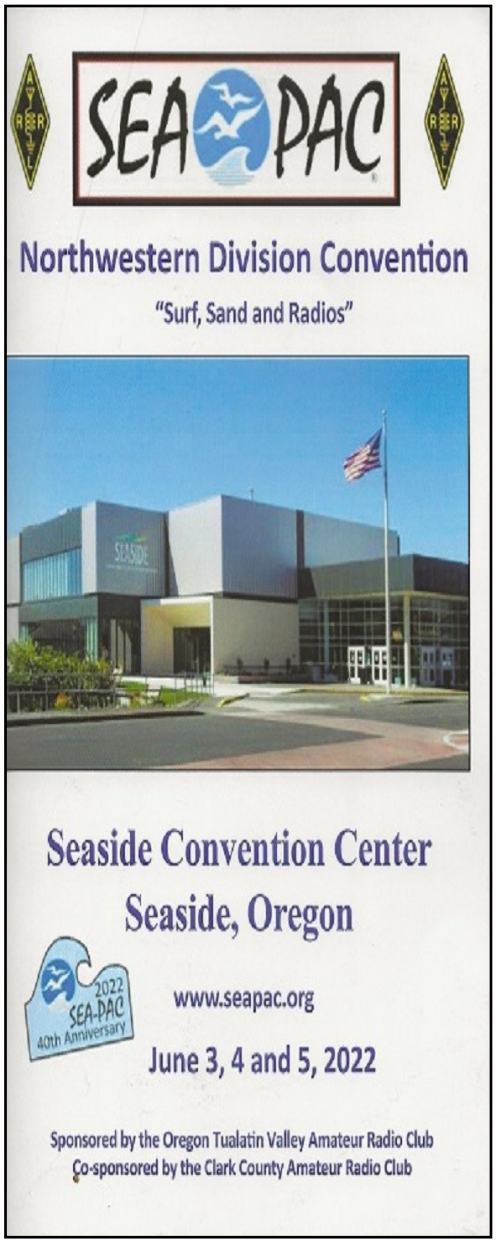
On Saturday I gave a 1-hour seminar on my air mobile HF contesting activities when we lived in Texas and owned a Cessna 170B. One of the contests was the ARRL 10 Meter Contest in December 1979. Charlie, KC9LA, was the operator in the right front seat for that one. We flew from north Fort Worth to Ardmore, OK and back at about 2000 feet, making 60 QSOs with my TS-120S and a short center-loaded whip (about 2-feet in length) mounted on top of the fuselage. We learned that the ergonomics of an air mobile contest station in a Cessna 170B are very poor.

ARRL June 2022 VHF Contest

When the ARRL June VHF contest rolled around on the weekend of June 11 and 12, I was ready to go. I had put up my little 3-element 6m Yagi (an MFJ-1762) at 10 feet – see the accompanying image. It's on a 6-foot boom and weighs about 3 pounds. Most of the time I had it pointed southwest. I also used my Tennadyne 14-30 MHz T6 LPDA to make some QSOs when signals were stronger on it than on the 3-element 6m Yagi. The SWR on the T6 at 50 MHz is around 1.8:1 due to loss in the coax from the shack to the T6.

I only did CW and SSB. I made 36 CW QSOs and 34 SSB QSOs in 45 grids for a claimed score of 3150. That's certainly not much of an effort, but I'm happy as I had to work around doing stuff with our two grandkids.

I'm already dreaming of a bigger 6m antenna up higher and moving up to several hundred watts. I bet that would improve my score considerably.



Tuning Up

Ground Conductivity - A Study On Earth

A mental puzzle that has stumped me for some time is the fact that the average level of ground conductivity differs depending on where you are located in the United States. What's so hard to comprehend you might ask? Well, let's put it this way. What non, man-made factor determines the average level of ground conductivity? More importantly, why is it that the majority of the highest average values of ground conductivity are located in the central portion of the United States, and not near the coasts, closer to the ocean? This is the subject of this month's article.

Ground Conductivity - Measurements

Ground conductivity is just one measure of the electrical properties of the physical earth. Nowadays, ground conductivity is measure in Siemens per meter, with antenna modeling softwares like EZNEC and 4NEC2 assigning a value of 0.005 S/m as "typical" or "average" ground conductivity.

In the 1970s, the FCC created a map of the continental United States (and Alaska and Puerto Rico too) that gave average values of ground conductivity. The FCC's map gives the average ground conductivity readings in units of millimhos, which can be easily converted into millisiemens: 1 millimho = 1 millisiemen.

According to the ARRL's *Antenna Handbook* (2015), this map is of limited value to radio amateurs for two reasons. Firstly, the data the FCC found was focused more on ground wave propagation at commercial broadcast band frequencies. Second, the values the FCC assigned are averages. Like all good averages, there could be any number of extreme values within these averaged areas, so the map has limited use in giving a truly accurate picture of what the ground conductivity level may be in any one location.

The Question

Although this map may be useful, it offers us a very good segue into why I found this concept so puzzling. Looking at figure 1, one can see that average ground conductivity value is all "across the map." But what may come as a surprise, is that the highest average values for the continuous United States actually come from two locations - right next to the Gulf and Pacific Coasts, and in the great plains's states - far removed from any ocean or coastline.

What makes those values of ground conductivity in the central USA so mind boggling is that those values are equivalent to 0.03 S/m - six times the value used as an "average ground" value! What causes this? Is there a vast salt-water ocean that lie under these areas? Is there an enormous copper vein that lies untapped in this location? I decided to do a little research and see if I could find some sort of obvious explanation for these values using maps of natural resources, such as fresh water aquifers, oil reserves, and elevation maps. I used the state of North Dakota as a test location for this research philosophy, since I've frequently vacationed in the area and have enjoyed great radio success in the state.

Figure 1 - The FCC's 1970s ground conductivity

Fresh Water Aquifers

Under much of the US lie fresh water underground aquifers. Although fresh water is not particularly electrically conductive, I thought maybe some sort of reaction is going on with the soil above the aquifers causing the increase of average ground conductivity levels.

In a document published by the State of North Dakota are contained maps of three underground aquifers, and one map of surficial aquifers.

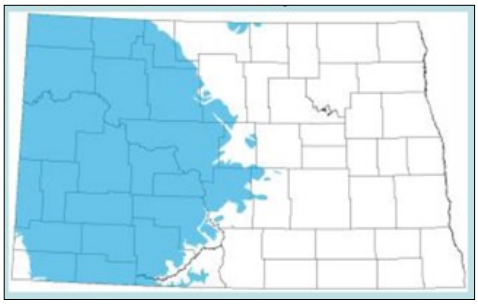


Figure 2 - One of the maps of just one underground aquifer in North Dakota.

Looking at the maps, there appears to be no correlation between underground aquifers and North Dakota's mostly 3 S/m average ground conductivity levels. Two of the three maps of North Dakota's underground aquifers show these aquifers covering roughly 50% of the **western** portion of the state (see Figure 2). According to the FCC's ground conductivity map, there is a drop in average ground conductivity values in the southwest corner of North Dakota - **exactly in the same location as three different underground aquifers.** So, probably the underground aquifers can't answer the question.

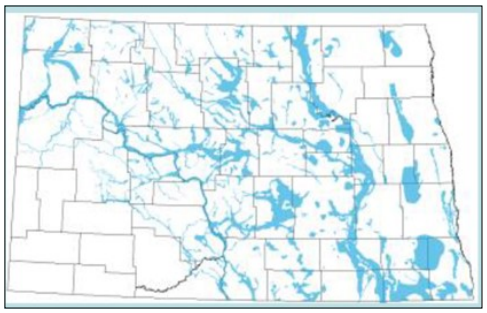


Figure 3 - Map of surface aquifers in North Dakota.

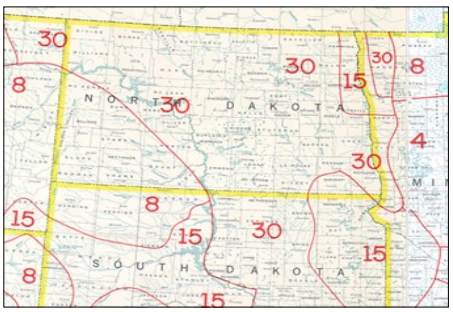


Figure 4 - Zoomed in photo of ground conductivity values in North Dakota

However, there may be one small breakthrough. If we look at the map of the surficial aquifers in North Dakota, we see that these surface aquifers roughly cover the same areas as the increased ground conductivity values on the FCC's map (see figure 3). This looks a little more promising. The two parts of North Dakota that show lower values of ground conductivity on the FCC's map are in the southwest corner of the state and the northeast corner of the state (figure 4). It's not a perfect match, but there appears to be a possible pattern correlation.

Elevation

There is another test we can try - elevation. It stands to reason that the higher something is, the more earth (rock, dirt, etc.) must be there to create a physically high piece of ground. If there is something underground or lying on the surface causing the increase in average ground conductivity levels, then high levels of ground should have poor ground conductivity readings.

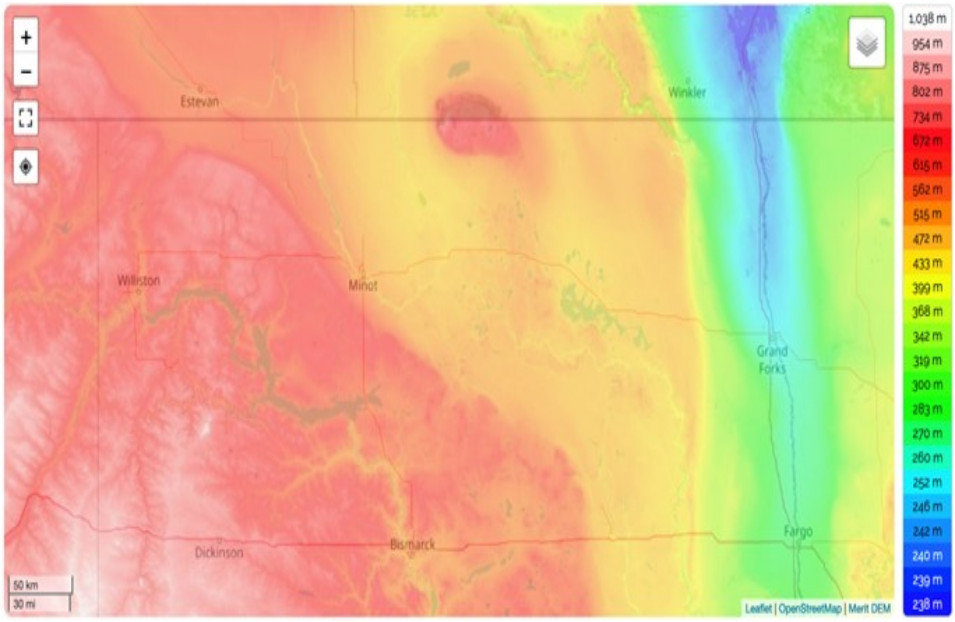


Figure 5 - Elevation map of North Dakota.

Check out figure 5. In this figure, we see an overall view of elevations in North Dakota. This map may suggest a possible clue to our question. Notice on the FCC's map that the "poor" ground conductivity values seem to center on that southwest corner, and sure enough, the highest elevations in the state are also in the same corner of the state. The only problem we can't account for is the northeast corner of the state. In that corner, we have some of the lowest elevation levels found in North Dakota, and yet the FCC's map shows decreasing ground conductivity values in that area.

Conclusion

From this admittedly cursory glance at the question, it appears that perhaps surficial aquifers and elevation play a role in determining the high/low values of average ground conductivity in North Dakota. Although there does not appear to be a 100% correlation, both the surface aquifer and elevation maps do appear to parallel the FCC's ground conductivity map.

As a side note, I did check a map of the oil/natural gas reserves in North Dakota and compare it to the FCC's map, but the patterns in oil and natural gas reserves did not match closely with the FCC's map.

Perhaps at a later date we will continue our study into this problem. For now, it remains an interesting enigma,

73 de Jim AC9EZ

Have any radio-related gear that you don't need or that is unused? List it it for sale, for trade, or for free in the August edition of the Allen County HamNews to find it a new home and to make room for new radio gear. Contact the editor with your listings by the second-to-last day of the month. See page 2 for contact information.

FOR SALE

YAESU VX-170 2M HT
$65

The radio is in nice condition, works well, and includes the manual, drop-in charger, antenna, belt clip, and everything else in the picture.

CONTACT THE EDITOR AT DRJOSHLONG (AT) GMAIL.COM

SELECTED RADIO CONTESTS/EVENTS JULY 2022

Key:

Date	Event	Dates/Times
1	RAC Canada Day Contest,	0000Z-2359Z, Jul 1
16-17	CQ Worldwide VHF Contest,	1800Z, Jul 16 to 2100Z, Jul 17
1-8	13 Colonies Special Event,	1300Z, Jul 1 to 0400Z, July 8
9-10	IARU HF World Championship,	1200Z, Jul 9 to 1200Z, Jul 10
27	SKCC Sprint,	0000Z-0200Z, Jul 27
9-10	SKCC Weekend Sprintathon,	1200Z, Jul 9 to 2400Z, Jul 10
30-31	RSGB IOTA Contest,	1200Z, Jul 30 to 1200Z, Jul 31
16-17	North American QSO Party, RTTY,	1800Z, Jul 16 to 0559Z, Jul 17
30-31	Tennessee State Parks on the Air,	1400Z-2200Z, Jul 30 and 1400Z-2200Z, Jul 31

This information comes from the WA7BNM Contest Calendar at contestcalendar.com and is gratefully acknowledged. It is deemed accurate as of the time of publication.

Area Nets

Daily			Tuesday		
8:00 AM	3.535	Daily (QIN) Indiana Section CW net	7:30 PM	147.150+	21 Repeater Group Net (97.4 PL)
8:30 AM	3.912	Daily Indiana Traffic Net	8:00 PM	50.580 USB	FWRC 6-Meter SSB Net
6:00 PM	3.910	Daily Indiana Traffic Net	9:00 PM	146.940-	Allen Co. ARES Training Net (141.3 PL)
6:30 PM	146.880-	IMO (alternate is 146.760)	Wednesday		
7:00 PM	147.015+	Tri State Two Meter Net	7:00 PM	146.760-	FWRC YL Net
8:00 PM	3.535	Daily (QIN) Indiana Section CW net	8:00 PM	145.270-	Whitley Co. ARES (141.3 PL)
Weekdays			8:00 PM	50.580 FM	FWRC 6-Meter FM Net
9:00 AM	3.820	Little Red Barn Net	9:00 PM	146.940-	Help and Swap Net (141.3 PL)
Sunday			Thursday		
8:00 PM	444.550+	Whitley Co. ARC Sunday Night Net (141.3 PL)	8:00 PM	D-STAR	Indiana D-STAR net (Note 3)
8:30 PM	1.965 & 146.910-	"No-Name" Net also on EchoLink Node number 519521	8:00 PM	50.580	AM 6-Meter AM Net
9:00 PM	145.53 simplex	Northeast Indiana Packet Net 1200 baud (Note 2)	8:30 PM	145.510 simplex	Allen County ARES Digital Operations Team Training Net (Note 4)
Monday			Saturday		
8:00 PM	224.780-	Fort Wayne 224 Net	8:00 PM	146.685-	Huntington ARES(141.3 PL)

1. All times local time. **Any changes or corrections should be submitted to the newsletter editor at drjoshlong (at) gmail.com.**
2. NEIPN is direct accessible via any BPQ Chat Node (or through Node hopping etc.) via other packet frequencies in this area and other areas through other nodes (it is locally direct accessible on 145.53 in NC & NE Indiana/NW Ohio and SE Michigan using KA9LCF-11, KC9VYU-11, N9LCF-11,N9PXO-11, K9BIF-11) Most BPQ Nodes use an SSID of -11.
3. Reflector REF024B.
4. Net starts using BPSK-31 and switches to BPSK-250 after roll call to pass traffic etc. NBEMS suite of software (FLDIGI, FLMSG, and FLAMP) is preferred.
5. Indiana HF Traffic Nets Web Site: http://www.inarrl.org/index.php/public-service/indiana-nts

Area Repeaters (updated as of 7/1/22)

Frequency	Offset	Tone/ Notes	Callsign	Frequency	Offset	Tone/ Notes	Callsign
53.3300	-1 MHz	--	W9FEZ	442.6375	+5 MHz	MDR CC1	N9MTF
145.330	-0.6 MHz	--	W9FEZ	442.99375	+5 MHz	D-Star W9TE-B	W9TE
146.880	-0.6 MHz	--	W9INX	443.100	+5 MHz	DMR CC1	K9MMQ
147.255	+0.6 MHz	--	W9INX	443.275	+5 MHz	P25 NAC # 293	K9MMQ
146.760	-0.6 MHz	141.3	W9TE	444.250	+5 MHz	141.3	W9AVW
146.910	-0.6 MHz	--	W9TE	444.800	+5 MHz	--	W9FEZ
146.940	-0.6 MHz	141.3 FM / C4FM	W9TE	444.8750	+5 MHz	141.3	W9TE
224.780	-1.6 MHz	--	W9FEZ				

FWRC Membership Application

Name:_____ Call Sign:_____
License Class:_____
Street address: _____ City:_____
State:_____ ZIP:_____._____ Phone #:(_____) _____
Email address:_____ ARRL Member? _____
(ARRL membership helps the club maintain ARRL affiliation)
May we list your name, call & email address in our membership roster & on our club web site?

Fort Wayne Radio Club dues:

Regular membership	$25.00 / year
Family membership[1]	$35.00 / year
Student membership[2]	$5.00 / year
Associate membership[3]	$20.00 / year

(Memberships for July-December are ½ the stated amounts)

Please attach a check to this form (paying by check is strongly encouraged) made out to:
Fort Wayne Radio Club (check number_____) and bring to a club meeting or mail to:
Fort Wayne Radio Club
P.O. Box 15127
Fort Wayne, IN 46885-5127

[1] Please list all names and calls on an attached sheet.
[2] K-12 or full time student.
[3] Unlicensed member.

ACARTS Membership Application

Name:_____ Call Sign:_____
License Class:_____
Street address: _____ City:_____
State:_____ ZIP:_____._____ Phone #:(_____) _____
Email address:_____ ARRL Member? _____
(ARRL membership helps the club maintain ARRL affiliation)
May we list your name, call & email address in our membership roster & on our club web site?

ACARTS dues:

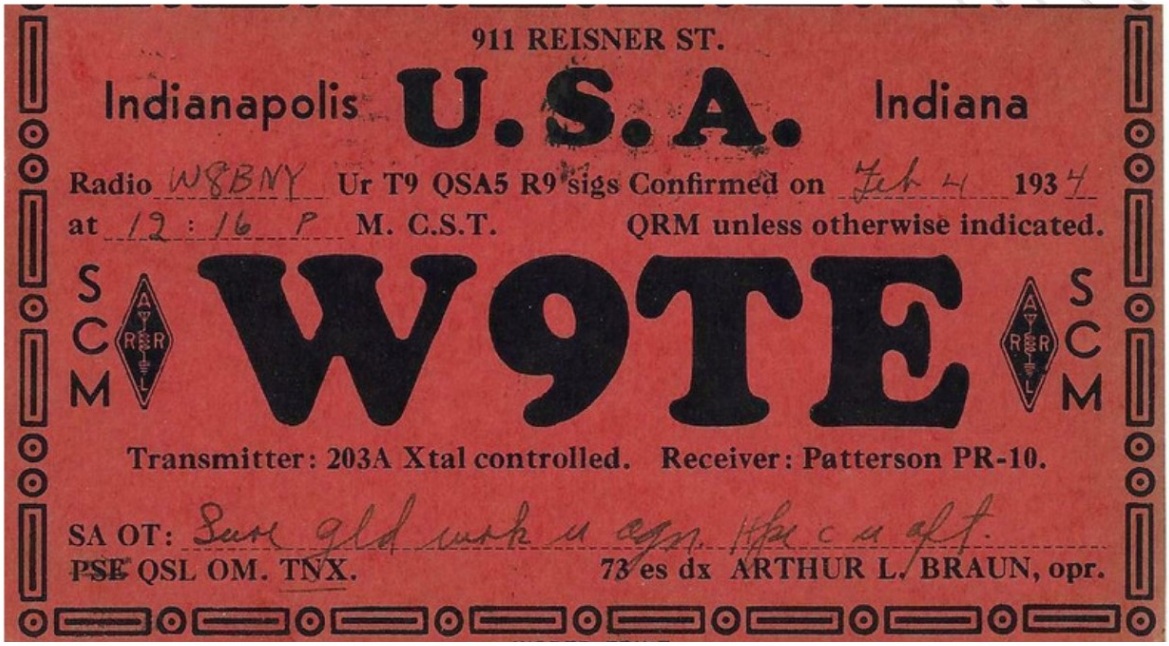
Regular membership	$12.00 / year
Additional family members[1]	$6.00 / year
Student membership[2]	$6.00 / year
Associate membership[3]	$6.00 / year

(New regular memberships are $1.00/month)

Please attach a check to this form (paying by check is strongly encouraged) made out to:
Allen County Amateur Radio Technical Society (check number_____) and bring to a club meeting or mail to:
A.C.A.R.T.S.
P.O. Box 10342
Fort Wayne, IN

[1] Please list all names and calls on an attached sheet.
[2] K-12 or full time student.
[3] Unlicensed member.

From the vault



Here is a bit of ham radio history, circa 1934.

Evidently, Art Braun held the W9TE call back in the day (before the Fort Wayne Radio Club did). He owned the Ft. Wayne Electronic Company prior to 1948 and owned the Muncie Electronics Company from 1948 to 1964.

Likely he was a member of the FWRC. Mr. Art Braun passed away in Ft. Wayne on September 19, 1971 at age 61.

73,

Al Burke