

# Wavelengths

March 2017

## Xenia Weather Amateur Radio Net XWARN (W8XRN)

147.1650+ (123.0) (Analog Only)

443.1000+ (123.0) (Analog + System Fusion)

**Meetings:** 2nd Monday, 7:30PM,  
Greene Memorial Hospital ([1141 N Monroe Dr, Xenia, OH](#))  
Herman Menapace Auditorium

Online Newsletter: <https://sway.com/4q5ZW3DoL75CzLgd>



*Editor's Note: This month's featured weather event is the Ohio River Flood of January 1937. The picture above shows the flooding at Coney Island. More details about the flood and the role of amateur radio operators will be given later in the newsletter.*

## President's Message

On March 22, there will be a statewide tornado drill to mark the official start of severe weather season. At 9:50 AM EDT, XWARN will activate the weather net on the 147.165 (+123.0) repeater. I am looking for one volunteer to act as net control and another to act as liaison between the Greene County Net and Dayton Skywarn. Note that the net will take place while many of us are at work, so if your schedule permits, we could really use your help. All are encouraged to check in.

At the last meeting, I announced that I was adding "MESH" to the list of standing committees. As yet, no one has stepped forward to chair the committee, so I will act as interim chair. Anyone interested in getting involved with this please contact me at [n8ado@arrl.net](mailto:n8ado@arrl.net) or we can speak in person at Frischs after a meeting. So, "what is MESH?" In this context, MESH is the use of amateur radio to transmit high speed digital data from point to point using modified WiFi hardware to create self-forming ("MESH") networks. The idea is to have an easily deployed data network that can provide essential services in the event of a communications emergency. Think of it as a ham version of the internet, using ham frequencies in the microwave bands to link stations. It provides a way to move email, live video, and other data when the usual connection to the internet is not available. With permission, you could even remotely control N8JJ's TS-2000 based home station. (The demo is remarkable). XWARN could take on the role of maintaining the equipment and helping to deploy it when the need arises. The local backbone network is still in early development, but advancing. See more at [mi-amivalleymesh.org](http://mi-amivalleymesh.org).

## Back to Basics — APRS

Since I mentioned APRS in the February Monthly Program, I thought I'd take some time to talk about APRS basics here. For our non-ham's out there, APRS stands for Automated Packet Reporting System. APRS generally evolved around the same time as GPS and served as a convenient mechanism to report position, which then turned into a mechanism to track resources in an emergency.

The name of APRS was actually changed at one time from "Packet" to "Position", but it was eventually changed back to "Packet" to emphasize its uses beyond position reporting. What are those uses? APRS can also transmit weather information from backyard weather stations as well as send what amounts to text/email messages. However, APRS is generally limited

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## Club Contacts

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- President, Bob Baker, N8ADO  
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[publicservice@xwarn.net](mailto:publicservice@xwarn.net)
- Newsletter, Jason Bowman, WG8B  
[newsletter@xwarn.net](mailto:newsletter@xwarn.net)

### Some Links Spelled Out:

AUXCOMM: [https://  
training.fema.gov/  
emicourses/schedules.aspx](https://training.fema.gov/emicourses/schedules.aspx)

Tragedy of the Commons:  
[https://en.wikipedia.org/  
wiki/  
Tragedy\\_of\\_the\\_commons](https://en.wikipedia.org/wiki/Tragedy_of_the_commons)

ARRL Band Plan: [http://  
www.arrl.org/band-plan](http://www.arrl.org/band-plan)

47 CFR 97.201c:  
<https://tinyurl.com/jdpcdjz>

*(Continued from page 1)*

I am happy to report that Steve Mackey N8ILR has volunteered to coordinate t-shirt sales at Hamvention this year. Please give him your cooperation, especially when he asks you what hours you want to sign up for.

Public Service Events are on the horizon. March 25 (Sat) is “No Buts About It” 5k at Fairfield Mall, April 1 (Sat) is Spring Has Sprung 5k at Xenia YMCA, and (a big one) April 9 (Sun) is Ohio River Road Runners Club full and half marathon (“Xenia Marathon”) at Xenia YMCA and surrounding region.

At the upcoming meeting (March 13), folks from the Dave Kalter Memorial Youth DX Adventure will give a presentation and will offer a chance to buy raffle tickets toward winning a new IC-7300 transceiver. See you there!

73, N8ADO

## Calendar of Events

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- March 13, Monday, 7:30 PM, XWARN Monthly Meeting, [Greene Memorial Hospital Auditorium](#)
- Maker Fest is mid March, and XWARN will be providing the trailer and asking for volunteers. More to come on this event.
- April 1, Saturday, Spring Has Sprung 5k race, Xenia (details to come)
- April 1 is the date set for the 2017 Ohio ARES Conference! The conference will be held again at the Marion Technical campus (OSU Marion) as it was last year.
- April 9, Sunday, ORRRC Marathon, Xenia (details to come)
- April 10, Monday, 7:30 PM, XWARN Monthly Meeting, [Greene Memorial Hospital Auditorium](#)
- April 22. NVIS antenna day
- May19-21. Hamvention

## Amateur Radio in Action

This month's ARRL [ARES e-Letter](http://www.arrl.org/ares-el?issue=2017-02-15#toc03) (<http://www.arrl.org/ares-el?issue=2017-02-15#toc03>), in a follow-up to the Hurricane Matthew response, focuses in on an issue becoming increasingly common - the supply of amateur radio operators can easily exceed demand in a real emergency given that some amateurs may also be committed to CERT, the Red Cross, etc. in addition to ARES. They also discuss a variety of issues with credentialing and installation and maintenance of equipment. Finally, the newsletter talks about training. What constitutes real training? Take ARRL's [EC-001](http://www.arrl.org/online-course-catalog) (<http://www.arrl.org/online-course-catalog>) to find out. But don't think for one minute that the typical weekly net is training. It most definitely is NOT training. Real training typically looks like this:

1. Get all parties together to discuss what they want to accomplish and establish the framework for training
2. Component training - fire dept trains their people separately on fire dept stuff, amateur radio operators train their people on radio stuff, etc.
3. Table-top exercises. Generally scripted (everyone knows the script) to identify the easy "kills" for subsequent training but can also involve unscripted (only the training organizers know the script) events.
4. Joint, scripted field training. The reason this training is scripted is that it will initially be difficult enough getting everyone to just talk to each other the way they should. So you shouldn't start off with an unscripted scenario.
5. Graduation Exercise. An unscripted, large scale training exercise involving everyone. Only the training organizers know the script.
6. Wash, rinse, and repeat (start with #1 again).

Generally speaking, these steps can be covered in a 1-year period of time or less, but it does take dedicated effort on everyone's part. However, the period needs to be short enough so that new people don't have to wait too long for the early steps. This is especially true of new people coming into management or leadership positions.

Jason, WG8B

### XWARN Mission

The mission of the Xenia Weather Amateur Radio Net (XWARN) amateur radio club is to conduct weather spotting nets during severe weather and other communication services for the City Of Xenia and all other Greene County communities.

In this capacity, we are set up to provide communication services as required to the Greene County Ohio Public Service Agencies and other local government entities. The communications services provided to the supported agencies may be for emergency purposes or to simply enhance their communications abilities. On an as needed basis XWARN provides similar services to various government entities of our surrounding counties.

Additionally, XWARN provides communications support to various community organizations in support of marathons, 5K runs, 10K runs, bicycle events, etc. to provide health and safety assistance to the participants and sponsors of said events.

In support of these goals, XWARN operates and maintains amateur radio repeaters and other equipment in Greene County.

## **Minutes from February 2017**

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**February 13, 2017.** At 7:30PM, President Bob Baker called the meeting to order. All recited the Pledge of Allegiance. There were 18 members present.

**Cracker Barrel:** Hamvention volunteers still needed-- the Communication comm could still use a few. Plus the reminder that all XWARN members must take a turn selling tee shirts.

**Minutes:** Minutes from last month received. No comments or corrections. Later in meeting it was established there was a quorum so the January minutes were accepted.

### **Committee Reports**

*President:* Bob has compiled a master list of all events that he wants to post on-line for easy access to members. Jason has a few ideas how this might be accomplished.

*Service:* Mike Crawford and Bob Baker reported that Tech Fest will be Sat/Sun Feb 18th and 19. Mar 25th will be the "No Buts About It" in the morning. April 1 "Spring has Sprung 5k". April 9 Xenia Marathon. May 19-20-21 the Hamvention.

*Trailer:* Trailer will be on display at the Aug 5 and 6 Maker Fair.

*Repeater:* None // *Web site:* None

*Newsletter:* Jason Bowman is still figuring out the Outlook vs. Microsoft

*Mesh:* Bob wants this to become a committee soon. He called XWARN will probably be on to take a major part. DARA indicates they may fund.

**Old Business:** None

### **New Business**

The March XWARN program will be the Youth DX team. President Baker wants to present a check for a donation to this group at the time of meeting. In previous years XWARN donated \$300. Since it turned out there was a quorum, Jason moved to cut a \$300 check for Youth DX. Dick Bray seconded the motion. Motion passed. // Bill Blake KD8RLB has a radio class for Scouts March 4 at GCCC Bill asks hams to be available on Sat March 4 to receive QSL calls so the Scout can receive their badge. // Hamvention Tee shirt sale-we still need a coordinator. Do we want to increase the number of shirts to sell and do we want to sell online? Steve Mackey has agreed to become coordinator, and the general feeling was the past order numbers was adequate and online orders are a good idea to explore.

**Meeting Presentation:** Jason Bowman WG8B presented a PowerPoint of ADS-B, a new technology being used in air traffic control.

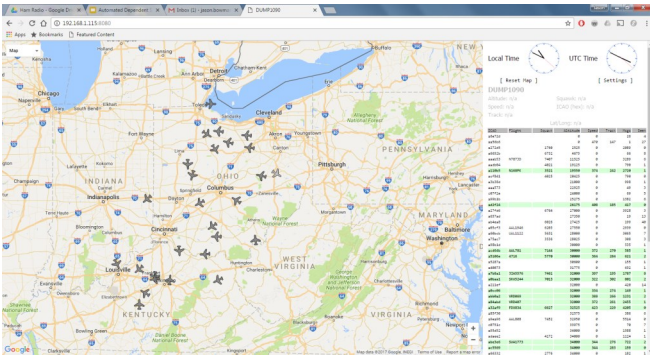
**Before closing,** President Baker report Tina James contacted him to offer all the radio equipment her father left after his death. Several members offered to go investigate.

**Next meeting** is March 13 and the program is the Youth DX Adventure Team presentation.

**Adjournment:** Dick Bray/Steve Mackey moved to adjourn.

Respectfully, Karen Baker, Acting Secretary

## February & March Programs



For March's program, Don Dubon will be doing a pitch for the [Youth DX Adventure](http://qsl.net/n6jrl/) (<http://qsl.net/n6jrl/>). Some of you may have heard this at the last DARA meeting.

For [February's program](https://tinyurl.com/j4uhrnv) (<https://tinyurl.com/j4uhrnv>), Jason (WG8B) presented information on one of the new air traffic control technologies called Automated Dependent Surveillance - Broadcast (ADS-B). ADS-B is the latest technology

for safely separating aircraft. Similar to Automated Packet Reporting System (APRS), aircraft equipped with ADS-B send out messages containing position, including altitude, tail and flight number, and speed, and sometimes other information. Jason covered the history of Air Traffic Control leading up to the need for ADS-B and how amateur radio operators might benefit from building an ADS-B receiver — feedlines and connectors are very important at 1 GHz, the need for high gain antennas for good performance, and making use of Raspberry Pi computers.

## Back to Basics — APRS

*(Continued from page 1)*

to reporting position. Why? Radio manufacturers make it exceedingly difficult to transmit a message using APRS. It certainly isn't as easy as using your cell phone.

The frequency for APRS in the US is 144.3900 MHz. Why did I add those extra zeroes? Because if you're ever going to fill out ICS 205 or 217A in support of a served agency, they want the frequency to four decimal places. Thank you [AUXCOMM](#)! However, have you noticed how 144.3900 MHz is absolutely swamped sometimes? Me, too. In California, they have effectively outlawed the use of certain APRS settings to limit APRS repeats to 1 bounce or no bounces in the network. Why? Because of the combination of high towers in the mountains overlooking thousands of hams running to the supermarket with APRS turned on for no particular reason. If you want to know the scientific principle at work here, google "[Tragedy of the Commons](#)".

The congestion on 144.3900 MHz has become so bad sometimes that I've considered asking the ham lead for a given public service event to move APRS to another frequency. Nothing really prevents you from using another frequency other than standard practice, a.k.a. the [ARRL Band Plan](#), and the lack of internet gateways on other frequencies if you need that. Remember two things:

- Band plans in the amateur radio community do not have the force of law or even regulation
- If you move to another frequency and there is interference, the FCC will look to the band plan to decide the winner. It even says so in Part 97 I believe ([47 CFR 97.201\(c\)](#)), but I'm not sure if that applies in this situation. For something that isn't regulatory, it sure sounds regulatory :-)

Jason (WG8B)



## New WZLR 95.3 Tower

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Fellow club member Clifford Blow, KD8YND, shared some photos of the new [WZLR tower](#) going up and the old tower coming down. Cliff writes,

*The attached picture from today's Dayton Daily News may or may not be of any interest for the newsletter, the others I took this afternoon as the old tower is being dismantled. I have enjoyed watching the construction from my living room window where I live across the highway at 1767 U.S. 68 South, (across from Boyd Road.) The new tower extended maybe 30' to 50' above the old one. An internet search of WZLR 95.3 reveals a lot of history about the station and tower. When we moved here back in 1976 it was WBZI. Shortly*

*after we moved that winter (very cold) the conditions were just right we heard the station through our electric furnace (spooky). The sound only lasted a few minutes and hasn't happened since then.*



### Some More Links Spelled Out:

WZLR Tower: <https://tinyurl.com/hn2zyga>

National Weather Service 1937 Flood Page: <http://www.weather.gov/iln/1937OhioRiverFlood>

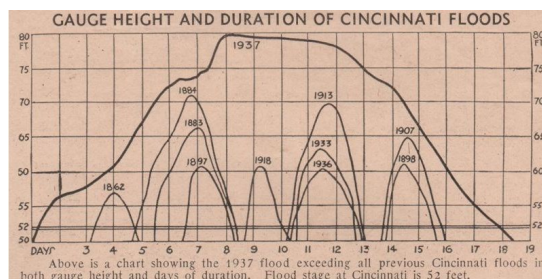
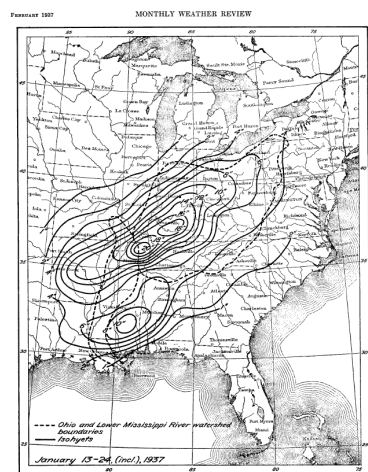
April 1937 Issue of QST: <https://tinyurl.com/ju49bx>

One Tube Radio article: <http://onetuberadio.com/2017/01/26/1937-ohio-river-flood/>

# The Ohio River Flood of 1937



Coney Island, Cincinnati, Ohio  
Ohio River Flood, January, 1937



In late January of 1937, the Ohio River valley from Cairo, IL, to Pittsburgh, PA, received close to 15 inches of rain over an extended period of time. While this event largely missed the Dayton area, this flood still holds the flood record for towns along the Ohio River, including Cincinnati. It also made the Dayton 1913 flood look small in comparison (see gauge height figure below). Flood stage in Cincinnati is 52ft. The height of the river during the 1937 flood was almost 80ft! By the way, the record not only includes official measurements but also scientific estimates from the archaeological record! It wasn't until rains in 2011 that the flood record was broken in some places along the Ohio River. One of the interesting points about this flood is that radio became the primary method of communication, and amateur radio operators were heavily involved. Rather than take up space here, I will simply link to several websites and online documents for you to read separately. I have also provided some additional pictures below.

- The [National Weather Service](#) maintains a page dedicated to the 1937 Ohio River Flood
- There was an extensive article in the [April 1937](#) issue of QST magazine summarizing the role of amateur radio in the emergency response
- [OneTubeRadio.com](#) also summarizes amateur radio's involvement in the emergency response.

Club Call: W8XRN

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Website: XWARN.NET

«FNAME» «LNAME» - «CALL»  
«ADDRESS»  
«CITY», «STATE» «ZIP»

## Wavelengths

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Wavelengths is published monthly by the Xenia Weather Amateur Radio Net. Our meetings are currently held on the 2nd Monday of each month at **7:30 pm** at the Greene Memorial Hospital Auditorium. You can find additional information about our organization at [www.xwarn.net](http://www.xwarn.net). We welcome new and experienced Amateur operators and those interest in becoming an Amateur operator to attend our meetings.