

Ohio ARES NVIS Antenna Day – 2017

It was no surprise that poor band conditions hampered communications during our NVIS antenna day this year. But, that's why it's necessary to do the test! I think that many stations participated but did not send in their log because of low contacts. We got some great comments, everyone had a chance to test antennas, and we even had some out-of-state participation.

We had logs from 15 counties (some with multiple stations) with more than 200 contacts. We had contacts made from 36 Ohio counties, and at least 15 other states. Here are the Ohio counties we know participated:

Allen	Lucas
Champaign	Madison
Columbia	marion
Coshocton	Medina
Crawford	Montgomery
Cuyahoga	Muskingum
Darke	Muskisngum
Delaware	OHDEN
Franklin	Richland
Geauga	Sandusky
Greene	Sarge
Hamilton	Scioto
Hancock	Seneca
henry	Shelby
Knox	Summit
Lake	Union
Licking	Washington
Lorain	Wood

We had a log submitted by a large group operating K3CAL in Maryland, and contacts in IL, IN, KY, MD, MI, MO, NC, NJ, NTY, PA, TN and VA. As expected, those were on 40 which was nicely open, but long.

This year we opened contacts on 60 and 160. As expected, because of the time of day, 160 was a bust. There was some activity on 60 SSB, even though 40 was long there were contacts to be made within Ohio on 60. That helps prove the band as a target for ARES planning. 80 was the best band for contacts. OHDEN was busy, there were a lot of contacts on the digital modes heard.

Antennas in the mix included the following:

160 horz loop 40'	Horizontal Loop
2259 15'	Inv V 30' 80
40/80 2259 cross dipole	Inv V 40/60 (2259 style) 30'
75m folded dipole 25'	OCF/Window 20'
80 Horiz. Loop 30'	OCF/Window 30'
Dipole 40'	Turnstile
Doublet 60'	Turnstile 25' on 40
Fan Dipole	Turnstile 30', 40/80
Fan dipole 40/80 at 35	Window 30'
G5RV	

The primary purpose of this event: fellowship and having fun.

Secondary is to play with antennas and develop solid communications that can be used during emergencies.

“Attaboys” are due to K8RYU in Washington County, who scored 26 contacts with 18 Ohio counties and several states. Sonny, W8FHF, was a solid signal last year, and this year made contacts in 21 counties with a 75 meter folded dipole.

Here are the comments:

County	Comments
Greene	<p><u>GCARES Operational Plan</u> Greene County ARES initially planned to operate from the large open field behind Bellbrook Middle School on Feedwire Road. With continuing daily weather forecasts (through Friday) for high probability of rain on Saturday, we decided to cancel outdoor activity and move indoors.</p> <p><u>BARC/GCARES Emcomm Center Operation</u> Henry Ruminski W8HJR and Fred Stone W8LLY operated the Bellbrook ARC Comm Center Station 1 using voice on 80, 40 and 60m using an Icom IC-7300 transceiver and an 80-60-40m fan dipole.</p>

	<p>The BARC fan dipole seemed to work well but there wasn't all that much activity (or maybe band conditions were not the best). The 40m band seemed to be 'long' during the designated 40m operational period and we were hearing more distant states than Ohio. Installation of a 160m Inverted-L antenna for BARC Comm Center is in progress.</p> <p><u>WA8APB & KI8JY Operations</u></p> <p>Bill Curtice WA8APB and Dave Perry KI8JY operated from their respective home stations.</p> <p>Bill WA8APB was NCS for OHDEN on 80-40-60&160 using his Kenwood TS-2000 transceiver, inverted V dipoles for 80 & 40, a Carolina Windom on 60M and an end-fed dipole on 160m .</p> <p>Dave KI8JY operated both voice and data from Beaver creek, OH on 80m & 40m, using his ICOM IC-718 transceiver and OCF dipole antenna. Antenna height is 20'. Transmitter power was 100W PEP on LSB and 20W on Olivia 8/500. Antenna performance on 80m was consistent with that observed during prior weekly contacts with W8SGT. Antenna operation on 40m was hard to judge, given few contacts during this event, and no prior NVIS emphasis on this band.</p>
Washington	<p>My station setup for general operation with an emphasis on Contesting. I use the turnstile antenna for state QSO parties, especially Michigan. Last year in the NVIS test the turnstile was a big hit on 40, but the bands too long this year.</p> <p>Stations listed above were mostly S7-9. Weakest stations were KV4ZY, N8OHO, W8EQ, W8SGT, N8CUY. All stations suffered from considerable QSB. Stations with VERY LOW antennas suffered the greatest fade range, based upon limited observations.</p> <p>K8MP (another contester like myself) and W8FHF had strongest signals.</p> <p>I believe that a strong effort to include 60M into the picture for Ohio ARES should be made.</p> <p>The NVIS test is a great idea, needs to be tried during other seasons of the year in order to get some real test of the results.</p> <p>There are some great articles on NVIS of which I suspect all are aware but I will mention them just in case. Modeling guru Cebic published a column in QEX jan-Feb 2007 which compares a wide range of antennas for NVIS using models. While these are just "models" they do offer some great ideas. There is also a book by Fiedler & Farmer entitled NVIS published by World Radio Books (1996) which details several studies by the military. That booklet is probably out-of-print but available on-loan I'm sure.</p>
Union	<p>We didn't make any HF phone contacts but made a couple digital contacts. Attached is the report and also the wrap messages from fldigi that were received. We had some issues with FIMsg to get it to work correctly when replying.</p>

Muskingum	OPERATIONS FROM MUSKINGUM CO. GOOD CONDITIONS, SOLID QSO'S, ALL OVER THE STATE...LOW ACTIVITY ON 80 MTRS, MANY COUNTIES NOT OPERATING.
Cuyahoga	<p>We had some tuning issues. It is believed that the feed line for the end fed (Antenna 3) being longer than the antenna itself, may have had some bearing on its operation, as the antenna worked well at residence with a short feed.</p> <p>We had 5 visitors from the area.</p>
Medina	We used one antenna for voice, one for digital contacts
MD	Logs with info and pictures attached. We're located in Calvert County in southern Maryland on the west side of the Chesapeake Bay. We used our club call, K3CAL, for SSB contacts and KB3RAN for digital contacts. Thanks for the opportunity to participate.
Delaware	<p>There was good activity on 80m. I had a scout event in the morning so I didn't get started until about 11:15 but I logged about 5 contacts on 80. 80m was very noisy as well but contacts were made.</p> <p>At 12noon I switched to 40m and didn't hear anyone. I took a break and came back about 12:45 and still didn't hear anyone. All I heard were miscellaneous QSOs happening several states away but nothing in Ohio. At 2pm I tried 60m and 160m and again heard nothing.</p>
Crawford	Was able to hear numerous stations replying that Anchor stations were not able to hear with either antenna. Sometimes 4 and 5 at a time. 160 meter loop antenna had quieter overall noise level but G5RV was able to hear weakest stations best and must have been 10dB or more louder on xmit.
Greene	<ol style="list-style-type: none"> 1. QSB was present on 80 and 40 meters sometimes short term within a minute and sometimes over a a 10 to 20 minute interval. 2. 40 M seemed like the band was waking up in the 12-1 timeframe, later than usual. 3. Propagation in general was not particularly good yet it was still possible to make contacts in spite of QSB and weak signals. Using a linear was sometimes the only way of establishing contact on 40 M, 80 M was ok with just 100 watts for 10-12 am. 4. Had to terminate participation at 1245 due to care giving responsibilities. No data or observations after that time frame. 5. Of the 25 contacts made, only 10 were accomplished with 100 watts, the other 15 required a linear with 1,400 watts to establish contact. Without the linear, I would not have been able to provide the respective stations any signal reports. 6. Quite a variety of antennas were used by test participants. My use of horizontal loops can be problematic in that they offer a 1-2 S unit reduction in noise thus enabling me to hear stations but noise at the other end precluded them from hearing me. My reports to the other stations were equal to or greater than the reports they gave me.
Franklin	NVIS Day was fun and quite useful. Franklin County Emergency Management & Homeland Security (FCEM&HS) was buzzing with activity. We had Franklin County Auxiliary Communications Club (FCACC, the RACES organization for Franklin Co, managed by FCARES) and OHMR both operating field-expedient stations from the site

in addition to the HF station that's in the assessment center. The assessment center station was running on a wire atop the roof of the building. OHMR had a Windom up on the north of the building in the trees, an AS-2259 up in a clearing near the trees on the northwest side of the building, and FCACC had an AS-2259 up on the south side of the building. In addition to the usual goals of NVIS Day, we accomplished some testing around what does and doesn't work in getting HF stations working productively that close to each other. If you've not seen the real "difference in practice" between new rigs and old rigs, that's certainly one place you can see it!

A VIPSS trainee tour group from Franklin County Sheriff's Office came through and got to see the operation. We talked about amateur radio and likely scenarios that would require both professional and volunteer responders, and how ARES and other programs would support various communications needs, and particularly how amateur radio is valuable in coordinating among agencies that don't have the ability to use their radios if power is out and repeaters are unreliable.

Ok, a few notes and recommendations for next year, in no particular order:

1. Having the event as a non-contest is good for giving us time to do things like have multiple antenna systems that we can try. Talking on one, then switching to another right there is quite nice for making comparisons. That might be a use case that we specifically encourage. (W8OMR was set up that way early but then we added a second transceiver and started doing other stuff; the second transceiver wasn't 60m capable so I couldn't hand N8BHL off to the operator sitting next to me when we contacted.)
2. I didn't hear OHDEN, but started listening in the 40m time slot. I did manage to copy other Ohio NVIS stations without trouble out there but I didn't hear an OHDEN net control, or many stations on for that matter.
3. Richard KD8PHG and I talked a little when he joined us over at FCEM&HS. They seem to have had some logistical issue over at The Sarge so when he left the site, SGT was quiet. He said that he wasn't hearing as much activity as he'd like. We speculated that between space weather and temperature, we might have had relatively low participation. I guess we won't know until you start getting logs.
4. Wow was 40m long. Even in early to mid afternoon we were working sites way down on the "south coast" in 4-land without hearing too much locally.
5. I couldn't pull it off in time for this year, but I seem to be getting some interest in SHARES about cooperating in a future NVIS Day somehow. Sounds like a bunch of the SHARES operators are also hams with a good bit of exposure to ARES and/or NTS but haven't really been active there for a while. I wonder if maybe our more elite operators leave the straight amateur radio public service stuff behind in favor of programs like MARS and SHARES and whatever other stuff I don't know about. I smell opportunity here, I'll keep working it and let you know when I got far enough in that I've got the right person for you to talk to in that program. If my effort stalls out by the time we get to maybe September, I think we should try to start it up again maybe via NF8O.

	<ol style="list-style-type: none"> 6. I have an idea for changing the structure of the event. KD8PHG seems to like it. Rather than spelling out hours of operation on a particular band, how about having all bands active the whole time, so that if conditions are poor on one band, things will be able to migrate to another. Very late in the game I figured out that's what some people were doing but during much of the 40m time I was cooling my heels and demonstrating different things like JT65's ability to work under cruddy conditions (but with highly limited functionality) to the people who were gathered there. 7. It might be better to span bands if we actually have nets on each of the bands rather than have people just find each other. I figure net control can keep track of who is coming in and going out and direct people to call each other for making transmissions, then people can observe the signal reports, and go in turns reporting the other stations' reports. Get done with one band for a while and go try the other band's net. Can't hear anything? No problem just bounce to another. We had "anchor stations" this year, so maybe we just have a group like that spread around as NCS for each of the bands we're handling. 8. I liked OHDEN's get a message in and around kind of thing. Seems much more like a meaningful exercise that way than an exchange of just county and signal reports. Maybe we should look at a more precise exchange (Maidenhead grid to six digits or more?) or some more to exchange—but I fear getting too fancy there might make it more of a Something-Else Day (you know, a SED!) than an NVIS Day. Maybe formalize the multiple-antenna thing I said in #1 above. I'd really like to have people exchange some kind of token or other so that they can't just infer what the other guy is saying and think that they've got it. (With so many of us using callsigns tied to county clubs, I can easily see someone "cleaning up" their reports as they compile the data for sending in—thus an erroneous "Fairfield" becomes "Franklin" but the signal report was still "59" when clearly something was amiss. 9. Some people are just unclear on the concept of a signal report. I heard a hilarious report ("five by nine and about a seven on the scale") that got me laughing so hard that I think I messed up the logger and he didn't get the callsigns down (he was copying two other stations for practice).
Delaware	80 was fairly good first thing in the morning. 40, as expected, was very long, but open. I was pleased with 60, made several contacts there. OHDEN was jumping, with lots of digital checkins! Equipment (PC interface) issues prevented digital contacts here.