



The Listening Post



Dedicated to Community Service and All Central Florida Hams

March 2018

President's Message

Hi everyone – Can you believe it is March already? WoW! I hope everyone is doing well. Lot of flu bugs going around.

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OARC MEETING

March 7, 2018 7:30pm
Beardall Senior Center
800 Delaney Ave, Orlando, FL 32801
ARRL Testing: 5:30pm
For information & Updates
See www.oarc.org

OARC Board of Directors

President: John Knott, N4JTK
Vice President: Michael Cauley, W4MCA
Treasurer: Ana Groe, KM4JVE
Secretary: Bob Nocero, W4KBW
Directors:
Bob Cumming, W2BZY
Ralph Betts, W4ORL
Tony Darnell, KK4VRP
Val Jacyno, AK4MM
Frank Tagliani, KD4EZW
James Deuel, N0XIA

The Listening Post is the OARC newsletter for OARC members. The LP will be distributed electronically via E-mail and the OARC web site (www.oarc.org).

Co-Editors: Thomas Husband KM4MAL and Ed Thralls NE4H.

Comments, suggestions and articles are welcome. Send to editors@oarc.org.

Contributing to this edition: John Knott N4JTK, Michael Cauley W4MCA, James Deuel N0XIA

OARC REPEATERS

Call	Freq	Shift	PL
KB4UT	146.760*	-600	103.5
N4UMB	125.015	-600	103.5

* Fusion Repeater

D-Star

K1XC C	146.820	-600	
K1XC B	443.275	+5MHz	
K1XC A	1275.00	-12 MHz	Voice
K1XC A	1255.00	-12MHz	Digital
W4PLB C	145.160	+600	
W4PLB B	442.300	+5MHz	

All D-star repeaters are connected

President's Message *(Continued from Previous Page)*

I have heard many people coming down with the flu more than once this year. Make sure you do everything you can to protect yourself from it.

I would like to take this opportunity to publicly congratulate Michael, W4MCA on his first HamCation as the General Chairman. He had some big shoes to fill and I think he succeeded above expectations. He was able to put a great committee together that worked very well together. Veteran members were able to help the "newbies" this year which helped a lot. Again, congrats to Michael and the committee for another successful show.

Make sure you read this issue from cover to cover. It's going to be stuffed with information and what is going on locally in Amateur Radio.

We'll see everyone on March 7 at the next meeting.

73
John Knott, N4JTK
President

2018 Elections

It's that time of the year again. At the March 2018 General Meeting, we'll be accepting nominations from the memberships for the elections that will be held at the April 2018 Meeting. All Board positions are up for elections.

Election of Officers and Directors. The Nominating Committee shall submit a slate of nominees for Officers and Directors for consideration at the General Meeting preceding the Annual Meeting. Nominations may also be made from the floor at that same meeting. Questions regarding eligibility for election must be raised at the Board Meeting preceding the Annual Meeting. Nominees deemed not meeting qualifications as specified in ARTICLE IV, SECTION 2 as determined by a majority vote of the Board, shall be notified in writing prior to the Annual Meeting. The Secretary or designee shall prepare a ballot with the names of all qualified nominees. This ballot shall be distributed to all eligible voters at the Annual Meeting. Absentee ballots shall be available from the Secretary by individual request and must be returned before the Annual Meeting. The ballot shall be cast in secret and counted by members of the Nominating Committee not running for office. The election shall be decided by a plurality. Upon vote of the membership, the ballots may be immediately destroyed. Persons elected, shall assume their office at the close of this meeting.

Duties:

1. **President.** The President shall be responsible for the coordination and supervision of the work of the other Officers and any employees, agents, professional advisors, and consultants. The President shall appoint a Property Manager and a Repeater Manager each having duties as defined in ARTICLE VIII.

He/she may sign, execute, and deliver on the name of the corporation all deeds, mortgages, bonds, contracts and other instruments when specifically authorized by the Board, except in cases where items are expressly delegated by these By-Laws or the Board to some other Officer or agent. He/she may perform such other duties as may be assigned by the agent. He/she may perform such other duties as may be assigned by the Board. Unless otherwise provided by the Board or these By-Laws, he/she shall preside, when present, at all meetings.

2. **Vice President.** The Vice President shall perform such duties as may be assigned by the Board or the President. In the absence of the President, or in the event of his/her death, inability or refusal to act, shall perform all duties of the President, and when so acting, shall have all of the powers of and be subject to all of the restrictions of the President as set forth in these By-Laws.
3. **Secretary.** The Secretary shall keep the minutes of all meetings, see that notices are duly given as required by law or these By-Laws, and be the custodian of the Corporate records. He/She shall see that the books, reports, statements and all other documents and records required by law are properly kept and filed and kept available to the Board on request
4. **Treasurer.** The Treasurer shall have charge and custody of and be responsible for all funds, securities, notes, contracts, deeds, and other indices of title and valuable assets of the Corporation. He/She shall receive and give receipt for moneys payable to the Corporation and deposit all moneys in such depositories as shall be selected by the Board. He/She shall cause such funds to be dispersed by check or draft, signed as the Board may require, and be responsible for the accuracy of the amounts of, and cause to be preserved proper vouchers for, all moneys dispersed. He/She shall have the right to require from time to time reports or statements giving such information as he/she may require with respect to any and all financial transactions of the Corporation. He/She shall keep or cause to be kept at such place as the Board shall designate, correct records of the moneys, business and transactions of the Corporation, and exhibit them to any Officer or Director. He/She shall render to the Board, whenever requested, an account of the financial condition of the Corporation and of all of his/her transactions as treasurer, and, as soon as may be possible after the close of the fiscal year, make and submit to the Board a like report for such fiscal year, and lay before each Annual Meeting, the financial statements of the Corporation. The Treasurer is to be bonded at Club expense.

Annual Meeting. The Annual Meeting of the members of the corporation shall be held in the month of April in each year at such time and place as shall be stated in the notice of the meeting. The purpose of the Annual Meeting is the election of the Officers and Directors of the Corporation, and for other purposes as determined by the Board.

HamCationSM Chairman Column

(By Michael Cauley, W4MCA)

Greetings Everyone

First let me say thank you to all the HamCation Volunteers. We had over 175 volunteers this year which is a record. Also, please help in saying thank you to all the HamCation Chairman/Chairwomen a lot of these members on the committee were new this year. People don't realize that the volunteers on the HamCation Committee put in hundreds of volunteer hours each year to make the show the success that it is. Please when you see one of the following people please Thank them for what they do for Amateur Radio.

- Ray Richard, W4RPR
- Ana Groe, KM4JVE
- Lidy Meijers, KJ4LMM
- Peter Meijers, AI4KM
- Tony Darnell, KK4VRP
- Benton Bonney, W4PE
- Val Jacyno, AK4MM
- Bob Cumming, W2BZY
- James Deuel, N0XIA
- Mike Bivins, KG4BDL
- David Virden, WN4WYS
- Frank Gergits, KC9GNQ
- Andy Anderson, KJ4VQN
- Aaron Morrison, AE4KO
- John Knott, N4JTK
- Bob Nocero, W4KBW
- Ralph Betts, W4ORL
- Ed Thralls, NE4H
- Frank Tagliani, KD4EZW
- Larry Monroe, N2HBX
- Dean Groe, KD4TWJ

With that said the other record we broke this year is the attendance. We had a little over 22,300 attend the show. I know it was busy when on Saturday the Orlando Police Department informed me we ran out of parking for a little while which is another first.

I know all the vendors I talked to said they were busier this year than any other year. We are already working on improvements for the 2019 show. Again, let me say thank you to everyone who volunteer without you we cannot have a great show like we do.

Michael Cauley
2018 HamCation General Chairman

HamCationSM Appreciation Picnic

When: April 7, 2018
Where: Bill Fredrick Park at Turkey Lake
3401 S. Hiawassee Road
Orlando, Florida 32835
Pavilion #6
Time: 1:00pm

On behalf of the Orlando Amateur Radio Club and the HamCation Committee you are cordially invited to our annual HamCation volunteer appreciation picnic.

We thank you for your devoted time and efforts with helping make HamCation the Huge success it is. Your contribution has allowed us to continue to grow every year and make the show better every year.

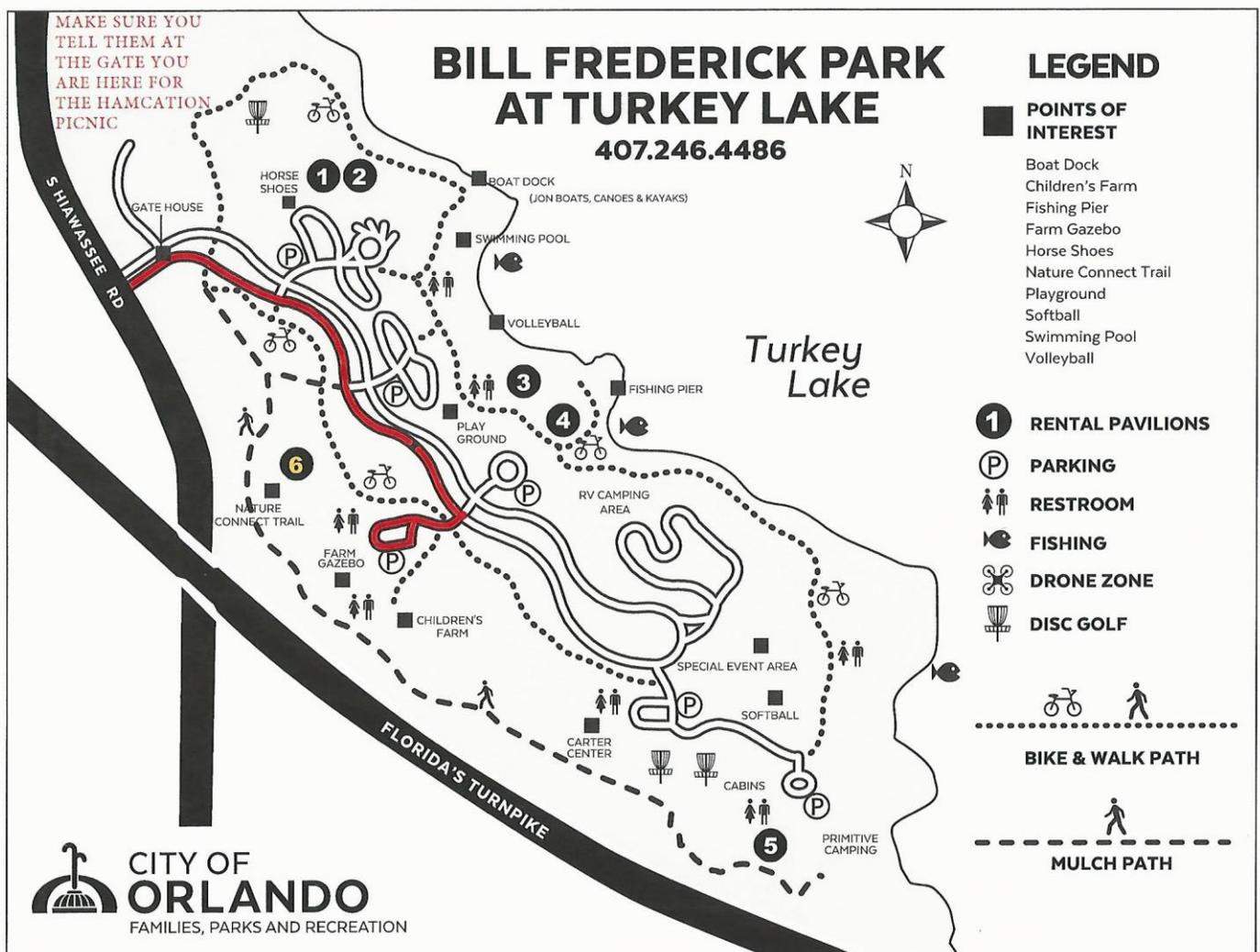
We will be having Hamburgers, Hotdogs, Veggie Burgers, Potato Salad, Beans and lots more. I promise you will not go away hungry.

We will have some great prizes to give away.

Please RSVP to picnic@oarc.org by April 1

When you come thru the main gate follow the road to the right. Then follow the signs to Pavilion #6. On the map below follow the red road.

The Park Charges admission. When you get to the Main Gate tell them you are attending the HamCation Picnic and it will be free to get in. OARC is covering the fee for everyone.



Tour de Cure

On Sunday March 25, 2018 will be the next American Diabetes Association Tour de Cure. This year's event is once again turning into a larger event than last year. All numbers, including the number of participants has surpassed the numbers from the same time last year.

This year there is a new component to the event. They have a combined the ADA Stepp out with the ADA Tour de Cure bringing a Walk/Run route this year. This alone will bring an extra 200-500 participants to the event.

We are again tasked with providing communications to the overall event. Also, SAG units, ROVERS, Rest Stop, and other support positions that can be of assistance. All of this is coordinated over Amateur Radio.

If you can assist with this event, even if you have not worked an event like this before, please go to <https://www.surveymonkey.com/r/GT7QT6W> to sign up.

We'll then get you up to speed with the info that has gone out to date.

BikeMS

Coming up on Saturday May 5 and Sunday May 6, 2018 The BikeMS Citrus Tour will commence. This is a charity bicycle ride for the Multiple Sclerosis Society.

The event on Saturday begins very early at Fantasy of Flight in Polk County. There are multiple routes the all end at the Omni Resort in Champions Gate. There is a need for Rest Stop Operators, SAG units, ROVERS, GREENWAY Drivers, and more.

If you are interested in this event and would like to more information, contact John Knott or Michael Cauley.

If you would like to go ahead and signup, go to: <http://www.citrustour.org/>

EWExphoria Net on REF037-C

(By James Deuel, NOXIA)

While attending HamCation 2018, I ran across a female person dressed in what I thought was a bunny suit. Being concerned about heat exhaustion (it was hot that Saturday), I enquired if she was okay. That question appeared to already be on her

mind and she was planning to leave and change. This left me with her companion to answer questions.

I met Bob Stille, KC8MLB and his wife, Carol, W8EWE. Carol was the one dressed as a sheep. Those ears had me fooled for the wrongly depicted furry animal. Bob and Carol are promoting a weekly net called the EWEphoria D-STAR Net conducted every Monday at 8:00 pm on Reflector 037-C. You can go to this Videos By Mike, YouTube and look at the promo Carol did for EWEphoria around the 7 minute - 11 second mark, at <https://www.youtube.com/watch?v=vvDIVm73N-o>.



Bob, KC8MLB and Carol Stille, W8EWE



EWEphoria Radio Club member, Carol

Reflector 037 is sponsored by the OARC and both the Orlando and Sanford D-STAR vhf repeaters are connected to REF037-C, 24/7. Other repeaters in central Florida connect to 37-C, which includes Marion County where the EWEphoria Radio Club is located.

For those that have D-STAR, tune in and see if the EWEphoria net leaves you with "a feeling or state of intense excitement and happiness!" Their enthusiasm clearly showed at HamCation.

73,

CONVERSATION

(The ARRL Contest Update for January 24, 2018)

He's a Contesting Machine!

A non-ham friend and I were having a discussion the other day about radio contesting. Since he's a friend, he's come around to thinking it's more quaint than bizarre that I sometimes spend weekends in front of the radio. He doesn't understand why there's such an allure to trying to exchange information through an imperfect medium - he's definitely a layer 7 and above kind of person.

"Why don't you just write a computer program to do the contest for you? You told me you were having computer issues the last time you were gone for a contest weekend, aren't you using computers already?"

Why not indeed? In the name of progress and bigger contest scores, we're ever-increasing the use of automation and software to assist the operator. Logging programs today can:

- Keep track of stations we've worked
- Step the operator through the contact process, including asking for fills automatically
- Send contest information flawlessly, automatically filling in exchange information like serial numbers and signal reports
- Alert us to a wide range of errors or inconsistencies by checking information as it is entered
- Tune in stations to work for just the 'burden' of clicking on call signs in a band map or multiplier window
- Predict correct call signs using Bayesian analysis of decoded characters
- Provide up-to-the-moment information to help the operator balance multipliers versus rate
- Provide situational awareness through spectrum displays with or without labeled call signs

The role of the operator has evolved, too. Though for CW and SSB operator copying ability is important, today's operators must be more skilled in information management and situational awareness than ever before. Since the nitty-gritty contact details are handled, the operator is working at a higher level. We admire the operators that can run pileups on two bands simultaneously, since they are 'rate machines!' The qualities we admire for radio contesting prowess implicitly accelerate the dehumanization of radio contesting.

Machines and robots are not new in radio contesting. Back in 2005, Ward, N0AX, wrote about WU1F's 'TACO' bot, and N6TR's 'Z80' program that made Field Day contacts on their own. The Z80 moniker should provide a hint to the 1986 vintage of the code. Ward wrote at the time that: "It's going to take a long time, though, before machine- and human-copy signals can mix it up together to the point of a human not realizing that they are communicating with a machine." In a contest situation, the messages in a QSO are very constrained, and today there's no difference between the response you'd expect from a human or a machine. Providing anything but the exchange even to human operators will more likely than not get a robotic 'agn?' or 'nr?' What if we have already reached 'peak human' in radiosport?

Many who have used WSJT-X and FT8 comment on how 'auto-sequencing' QSOs is the only reliable way to make the '15 second window deadline' for the each phase of a FT8 QSO. Auto-sequencing is normalizing the behavior and acceptability of letting the computer make the contact, relinquishing the role of the operator to monitoring the contact and providing the final "OK" to log the QSO. One person's de-skilling of the QSO process is another person's contesting aid.

Will something like WSJT-X's 'autoseq' functionality turn up in a RTTY-capable logging program next? A logging program that incorporates such a feature would be an advantage to an operator. I'd imagine the feature would do the same thing as a human: After sending a CQ, listen for tones in the decoding channel and look for calls

being decoded; highlight them by matching them to a database of call patterns, or actual call signs; pick the one that hasn't been worked on this band mode, or is a juicy multiplier, enter it in the call sign box; wait for no tones to be detected in the decoding channel, then send the exchange. That would certainly beat the 'operator skill' of chasing a call sign around with the mouse in the decoding window under noisy band conditions.

From my own interpretation of the current ARRL RTTY Roundup rules, it does not appear that a human-supervised RTTY "bot" is forbidden. FCC rules do however mandate that humans must initiate transmissions when outside the automatic-control sub-bands. Any bot will have to wait for the human to press the 'CQ' button.

Is there room in the hobby for those who want to advance the state of the radio art by building competitive contesting bots?

OPERATING TIP

(The ARRL Contest Update for January 24, 2018)

Changing A Window Location to Avoid a Pain In the Neck

This tip was prompted by a story appearing in the Northern California Contest Club's (NCCC) December 2017 *JUG* newsletter (PDF): Sometimes just moving a window on the screen of your monitor can change your posture enough to reduce or eliminate operator pain or fatigue. Hank, W6SX, experienced neck pain after a RTTY contest, which he solved by changing his screen layout. He moved his logger's RTTY decoding window to a location higher on this computer monitor, which changed his neck position, and got rid of the ache.

Bonus: If you need to display a website but it's not in your language, try using Google Translate (<http://translate.google.com>). Just type the URL into the Google Translate page, and you can choose the target language if it is not detected automatically.

OPERATING TIP

(The ARRL Contest Update for February 7, 2018)

Take your Headphones Off to Copy Weak CW Signals

The next time you're struggling to copy a CW signal buried in noise, try taking off your headphones and holding them at arms length, using the earpieces as speakers. Sometimes it's enough to make the CW signal pop out of the noise, enabling copy. The same effect can sometimes be experienced by listening to a larger external speaker from several feet, or a room, away. (Fred, K6DGW, via the Elecraft email reflector)

WORD TO THE WISE

(The ARRL Contest Update for February 7, 2018)

Triboelectric Effect

After you walk across a carpet wearing socks or shoes in a low-humidity environment, you might experience a static electricity shock when you touch a wall switch or another human. The charge that you accumulated during your carpet walk was due to the triboelectric effect, which is the gain or loss of electrons between dissimilar materials when those materials physically move against one another. Increasing the frictional forces by shuffling can intensify the effect, as most siblings are aware. Lord Kelvin built one type of electrostatic generator that uses water drops to develop potential differences. Dust or sand particles hitting wire antennas in strong wind can cause static electricity to accumulate.

ARRL Hudson Division Director Promotes Amateur Radio Parity Act Before Senate Committee

(The ARRL Letter for February 1, 2018)

ARRL Hudson Division Director Mike Lisenco, N2YBB, testified on January 25 before a session of the Senate Committee on Commerce, Science, and Transportation regarding Amateur Radio's readiness to respond in an emergency. The session, "This is not a Drill: An Examination of Emergency Alert Systems," was called in the wake of an incoming missile warning erroneously released in Hawaii in January. Lisenco said Amateur Radio played a role not only in responding to the warning but in disseminating word that the missile alert had been issued by mistake.

Lisenco said the Hawaii Radio Amateur Civil Emergency Service (RACES) activated on UHF and via a VHF inter-island repeater network, and amateur stations monitored the alert and cancellation activity, which came less than 1 day after RACES had completed an Amateur Radio communication exercise at the State Emergency Operations Center (EOC). In his written testimony, Lisenco recounted that the situation after the missile warning in Hawaii was chaotic.

"The phone lines into the State EOC were soon overwhelmed and congested, and the website was overwhelmed with public inquiries," he said. Lisenco said that in such situations, Amateur Radio volunteers are typically present at state or county EOCs and at the State Warning Point, the Hawaii Emergency Management Agency. He pointed out that the cancellation of the false warning circulated on various information outlets 13 minutes after the missile warning went out.



"That was picked up and relayed through the Amateur Radio networks," he told the Committee in written testimony. "The cell phone alert system could not be used for the cancellation notice until prior FEMA approval was obtained. Once that was obtained, the cancellation alert went out to the cell phone network after 38 minutes from the initial alert."

"Many people had received the warning first on their cell phones through the Wireless Emergency Alert (WEA) system, but a cancellation on that same system was substantially delayed," Lisenco said. "The result was that Amateur Radio networks disseminated validated cancellation information long before the cellular networks were able to do so."

Lisenco took the opportunity to address how private land-use regulations can preclude Amateur Radio disaster response capabilities.



"There is no substitute for the ready availability of a residential Amateur Radio station in daily operation from a licensee's residence," he said. "The licensee cannot be expected to have the ability to communicate into or from a disaster site unless he or she has a station with an effective outdoor antenna capable of operation on multiple frequency bands at once, which is ready to be pressed into service from the licensee's residence at a moment's notice."

Lisenco reminded the panel members that the Amateur Radio Parity Act of 2017 is now pending before the Committee.

"We are in desperate need of this legislation, and without it, the volunteer emergency communications services provided by Amateur Radio will be precluded. We urge the Committee in the strongest terms to please approve and send this legislation forward without delay," Lisenco said.

Mississippi Senator Roger Wicker, a cosponsor with Connecticut Senator Richard Blumenthal, of the Amateur Radio Parity Act, attended the hearing. Responding to a question from Wicker at the hearing, Lisenco pointed out that an early US Coast Guard warning cancellation notice was relayed to Amateur Radio networks and disseminated quickly, while the State Warning Point waited to obtain FEMA authorization to rescind the warning via cellular phones. As a result, Amateur Radio networks were able to disseminate validated cancellation information long before the cellular networks could. Wicker issued a statement noting Lisenco's testimony and posted a video clip of his exchange with Lisenco.

Anticipated New Building Won't Be Ready for Hamvention 2018, but Flea Market Could Expand

(The ARRL Letter for February 1, 2018)

Due to circumstances beyond their control, Hamvention® 2018 organizers are reluctantly walking back an earlier announcement that a new building would be available for this year's event at the Greene County Fairgrounds and Expo Center in Xenia, Ohio.

"Despite all of the best efforts and intentions by Greene County, the Greene County Agricultural Society, and Hamvention, we have learned the anticipated new building will not be constructed in time for Hamvention 2018," Hamvention General Chair Ron Cramer, KD8ENJ, said. "The prefab sections bid on and architecturally required are currently backlogged. We expect construction to be delayed until after our show and the Greene County Fair." Cramer said construction should be completed this year in time for Hamvention 2019. "We regret this; however, it is well out of our control," Cramer said.



On the plus side, he continued, Hamvention 2018 will have more room for inside exhibits, with the addition of the vacated Furniture Building, and the Flea Market may gain new space as well.

"After consultation with professionals, we are in the process of solving the mud issue in the Flea Market area," Cramer said. "We anticipate work to start as soon as weather allows. We are rearranging the soccer field parking to eliminate use of the low areas where we had problems last year."



A revised exit plan and additional off-site parking are also in the works, along with easy-to-use maps to help visitors navigate. Parking and shuttles will be free. Talk-in also has new equipment and a taller tower to extend its reach.

"There are many new ideas we are working on to make your stay with us more enjoyable," Cramer added. "Keep watching our website for updates." -- *Thanks to Hamvention General Chair Ron Cramer, KD8ENJ*

Amateur Radio Emergency Service Transitioning to New Online Reporting System

(The ARRL Letter for February 22, 2018)

The Amateur Radio Emergency Service (ARES) will phase out the traditional ARES report forms later this year in favor of an online system called *ARES Connect*, a volunteer management, communications, and reporting system. The new system will allow information to be logged by ARES members and managed through the Field Organization. The advent of *ARES Connect* is one of the key elements highlighted in "[The Amateur Radio Emergency Service \(ARES\) 2017 Annual Report](#)," released this week.

"*ARES Connect* is a volunteer management system that covers event signup, reporting, and roster management," ARRL Emergency Preparedness Manager Mike Corey, KI1U, said. "It does not change how ARES operates when serving a partner entity; it is simply a system that will make managing volunteers and events easier." Beta testing of *ARES Connect* will begin in March. ARES made changes to its report forms last year to make it easier to process information at ARRL Headquarters and to standardize the format for all forms. ARES Monthly Reports have been posted to the ARRL website, providing regular information on Amateur Radio public service communication activity, the report noted.



ARRL Emergency Preparedness Manager Mike Corey, KI1U (right), and volunteer Val Hotzfeld, NV9L, were among those who deployed to Puerto Rico following Hurricane Maria to support the American Red Cross.

According to the 2017 report, ARES membership stands at 31,332, up by nearly 13% from 2016. The number of emergency operations events reported was up by 665 from the previous year, with 1,913 reported in 2017. The top three states in terms of ARES membership in 2017 were California (2,265), Texas (1,930), and Ohio (1,858).

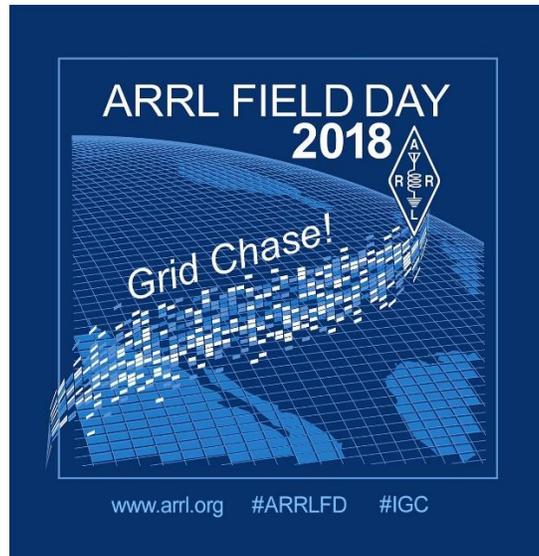
Reported ARES events amounted to 51,673 in 2017 - a 4% increase -- accounting for 718,930 volunteer hours at a calculated value of more than \$17.3 million.

"There was a noticeable increase in reported activity during August through November," the *ARES 2017 Annual Report* said. "During this period there was Amateur Radio response activity for hurricanes Harvey, Irma, and Maria; wildfires in the western

states, and the total solar eclipse that occurred on August 21."

According to the report, 26 states gained ARES members, while 13 lost members.

Field Day 2018



We are rapidly approaching Field Day for this year. We are looking for someone to head up organizing the stations in the following bands 80, 40, 20 & 10 meters. This includes phone, CW, and digital.

We are not looking for a maximum number of stations, we want just enough that can be manned for 24 hours.

Field day this year is June 23-24.

Please see a Board Member for more info.



OARC Meetings and Events 2018

March 7, Wednesday	Meeting
March 25, Sunday	Tour de Cure
April 4, Wednesday	Meeting
April 14, Saturday	HamCation Volunteer Picnic
April 21-22, Sat – Sun	Technician License Class
May 2, Wednesday	Meeting
May 5-6, Sat – Sun	Bike MS
June 6, Wednesday	Meeting
June 23-24, Sat – Sun	Field Day 2018
July 11 – No Meeting	No Meeting (1st Wednesday is National Holiday)
August 1, Wednesday	Meeting
September 5, Wednesday	Meeting
October 3, Wednesday	Meeting
November 7, Wednesday	Meeting
December , Saturday	Christmas Party *** Date TBD
December 5, Wednesday	No Meeting but Exams will be administered at 5:30pm at the Beardall Center



OARC Membership Application

Make Checks payable to
Orlando Amateur Radio Club

Orlando Amateur Radio Club, OARC
Post Office Box 574962
Orlando FL 32857

To have your membership card mailed to you, please include a SASE with your check.

Date: ___/___/20___ [] Regular Member [] Family Member [] Associate Member
[] New Membership [] Renewal [] CMP

Name: _____ Call _____ Class _____

Address: _____

City _____ State _____ Zip _____

E-mail Address (print) _____

(Home) Phone: _____ (Cell) Phone _____ Birth Month _____

Rates: Regular [] 1 year \$15.00 [] 3 years \$40.00 [] 6 years \$75.00

Rates: Family [] 1 year \$5.00 per family member Husband, Wife or Child under 18

Rates: Associate [] 1 year \$15.00 Dues Total: _____

All Membership(s) will expire ONE year from date paid.

Other Club Affiliation: _____

Are you an ARRL Member: [] Yes [] No

Name Badges: White letters on Black background with Gold embossed OARC logo.

[] Regular 3" x 1.5" @ \$10.00 each

Name: _____ Call _____

All badges are to be picked up at the General meeting or add \$2.00 for shipping & handling.

Shipping & Handling: [] Yes [] No

Badges _____ **S&H** _____ **Total** _____



APRIL 21-22 HAM RADIO CLASS

Interested in becoming a Ham Radio Operator?

Orange County ARES and Orlando Amateur Radio Club will be joining forces to host a Ham Radio Technician Class. Two



*Orange County
ARES*



Get your Ham
Radio License

Talk around the
world!

Become an
emergency
communications
volunteer

Limited Seating

Deadline to
Register March

ORANGE COUNTY
ARES

Orlando Amateur
Radio Club

www.ocares.org

www.oarc.org

April 21-22, 2018 8am