The Ham Arundel News





Providing Fellowship and Community Service through Amateur Radio Since 1951

September 2019

41st Year of Publication



The Prez Sez

Summer officially ends September 23rd. Between now and then we have a lot of ham radio to pack in. We start a day early with the 2019 World Wide Digi DX Contest running Saturday August 31st at 8 AM local time, and ending 8 AM on September 1st. This is a 100% FT4 and FT8 Contest, the rules for which can be downloaded

from our web site. Four days later on September 5th we get our first look at the AARC Budget for 2020, which will be voted on October 3rd.

September 12th we have a Board Meeting which will be preceded by our first meeting of the Ham Shack Antenna Committee. This group is to create an antenna plan that reaches three major goals for our Ham Shack. First it must provide us with a way to access all bands 160 meters to 70 centimeters. This first goal is designed to broaden the horizons of our new hams and give them a more full featured view of our hobby. Second it must allow our members a facility from which they can operate. This will bring our membership into the club house, provide those without facilities at home with access to the bands, and improve access for others. Third and finally we want to provide the capability to use 4 bands simultaneously during larger events like Winter Field Day and the Maryland DC QSO Party. This gives us the experience of a multi-multi atmosphere and the ability to make our hobby more social than ever before.

September 14th we face the single busiest day of the year. The day begins at the club house at 8am when we start installation of one of our TA-33 Mosley antennas on the North Tower. This by itself should take two hours. Half way through, at 9am we will open up our Antenna Parts Giveaway at the rear of the Storage Building. We have a number of antenna parts, as well as a full antenna or two that need good homes. The only thing we ask is that anything you take, you must use for Amateur Radio purposes. Anything not taken will be sold, by the club, for scrap aluminum. So don't take it if you don't plan to use it. At 10am we are hopeful to start our first Fox Hunt in many years. We have plenty of members with tape measure Yagis, and other direction finding antennas. Assuming they show up, we still need a decent number of folks to help with the driving and the triangulation needed to find the Fox. So whether you have a team or not, show up at 10am and we'll assign you one. If you remember, bring a compass, or a county map. Jim Wallace (N3ADF) has agreed to be the Fox and he's already plotting where to hide. Hopefully he won't tell me. I wanna find him along with everyone else. When the Fox Hunt ends, and we expect that to be around noon, the Club Picnic begins at the pavilion on the DFRC grounds. This can be accompanied by members bringing ham items for sale, and will be followed by VE Testing in the club house. And you though Field Day was busy.

The very next day the HSMM-MESH group meets at the club house. Then we move into the second half of the month. We have a club meeting on the 19th, Saturday, Sept 21st, a number of us will be found at the 2019 Emergency Preparedness Expo at Marley Station on Route 2. We will be sharing booth space with Anne Arundel ARES and the Maryland Mobileers, and will be promoting our upcoming Technician License Class starting October 5th. This event runs 10am till 2pm and includes everything from fire trucks and helicopters, to information booths, emergency equipment and live demonstrations. It's also a good place to learn about CERT, too. Then, Sunday, Sept 22nd is our Open Shack time.

We have a Rules Committee Meeting on the 26th and we can't forget Raven has moved the September Kit Building Workshop till the 5th Sunday in September. It's the 29th.

While all this happens in the fore-ground our Nominations Committee will be busy finding a slate of individuals ready to run for our 7 club officer positions in November. I hope a lot of you will consider running. It's a good job to have, and I know it's given me a new respect for those who have done it before me. It can be a lot of work, but it's a lot of fun too. I know it's given me a great chance to try to make the AARC the kind of club I want to belong to. I believe I should mention that I'm planning on re-running for my position as President of the AARC in 2020. I hope you will honor me with another chance to get it right. Besides, I figure 73 is the perfect age for a last full year as President. After that I hope you will allow me a long and eventful career as Training Director, and elder statesman for the AARC, an organization that just continues to get better and better!



ARRL Board Pledges to Oppose French Proposal for 2 Meters

At its July meeting, the ARRL Board of Directors resolved that "at the appropriate time" ARRL will oppose a proposal by France to include 144 – 146 MHz among spectrum to study for non-safety Aeronautical Mobile

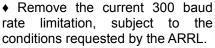


Service applications with an eye toward sharing the spectrum with the Amateur Services. The action came as the Board met July 19 - 20 in Windsor, Connecticut for its second meeting of 2019. The Board pointed out that 144 -146 MHz is allocated globally to the Amateur Service on a primary basis and enjoys widespread use for emergency communication. It also pointed to the investment by radio amateurs of money and effort to build repeaters, beacons, space infrastructure, and propagation research systems that have global reach. The AMSAT and ARISS communities would be severely affected as many spacecraft use 2 meters to facilitate communication, the Board noted.ARRL International Affairs Vice President Jay Bellows, K0QB, recommended continuing to monitor the proposal. If it is added as an agenda item for study for WRC 2023, the Board should consider action, he advised.

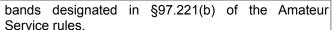
Digital Communication Issues

The Board instructed Washington Counsel David Siddall, K3ZJ, to take appropriate steps to obtain FCC approval for several changes to the Part 97 Amateur Radio

Service rules. The requested changes stemmed from discussions regarding the interference potential of automatically controlled digital stations (ACDS); the prohibition of Amateur Radio message traffic that's encoded to obscure its meaning, and false assertions that ARRL — despite its record of steadfast opposition — supports or encourages encrypted transmissions. The Board directed that the FCC be asked to make rule changes that would:



♦ Authorize all automatically controlled digital (data) stations (ACDS) below 30 MHz, regardless of occupied bandwidth, to operate only within the ACDS



- ◆ Require all digital mode stations operating with a bandwidth greater than 500 Hz to operate within the ACDS bands, whether or not these stations are automatically controlled.
- ♦ Limit the maximum bandwidth of digital mode signals below 29 MHz to 2.8 kHz.
- ♦ Reiterate to the FCC that ARRL's position is unchanged from that expressed in ARRL's 2013 **comments** on a *Petition for Rulemaking* (RM-11699) filed by Don Rolph, AB1PH. Those comments specifically addressed encryption of messages and made clear that such messages generally are prohibited in Amateur communications by §97.113 of the FCC rules and by Article 25, §2 of the *International Radio Regulations* and should remain prohibited.

The Board also wants to request that the FCC remind radio amateurs "by whatever appropriate means available" of the current prohibition in §97.113(a)(4) and Article 25, §2 of the *International Radio Regulations* against transmitting "messages encoded for the purpose of obscuring their meaning."

ARRL-initiated mediation efforts for rival parties to reach consensus on all or some of the issues they raised in the so-called "Symbol Rate" proceeding ended a few days prior to the July Board meeting with useful discussion but no agreement among those parties on recommendations to the FCC.

Other Actions

The Board tasked its Administration and Finance (A&F) Committee to assess the feasibility of a Research Working Group (RWG) and, if warranted, to establish one. The group would help the Board and ARRL management

to better gauge trends, collect more accurate membership information, and more closely track the progress of programs. The Board suggested that the RWG be led by statistical coordinator CEO Michel, WB2ITX,



coordinator appointed by the President. ARRL President Rick Roderick, K5UR; First Vice President. ARRL CEO Howard Michel, WB2ITX; President Rick Roderick, K5UR; First Vice President Greg Widin, K0GW, and Treasurer Rick Niswander, K7GM. [Michelle Patnode, W3MVP, photo]

would chair the RWG. The A&F Committee will report back to the full Board at its January 2020 meeting.

Upon the recommendation of the Programs and Services Committee, the Board directed that the rules for all ARRL contests be revised to require that each claimed contact include contemporaneous direct initiation by the operator on both sides of the contact. Contact initiation may be local or remote. The Board further voted to amend the DXCC rules to establish the same requirement for that program.

The Board voted to add a QRP Single Operator subcategory for the ARRL RTTY Roundup.

Reports

In his report to the Board, CEO Michel expressed concern that the number of new amateur licenses was down, and, if the trend continues, it could pose a potential risk to ARRL. Michel told the Board that Headquarters staff will move forward with a new *On The Air* magazine aimed toward new licensees. "Keeping new amateurs engaged with a publication geared toward the newcomer is a primary goal," Michel explained. He added that the new podcast *So Now What?* is off to a good start with encouraging response.

Treasurer Rick Niswander, K7GM, told the Board that ARRL's investment portfolio returns were in line with approximated market returns in the equity and credit markets, but he remains concerned that the markets are richly priced in an underlying economic environment that is starting to show some signs of strain.

Chief Financial Officer Diane Middleton, W2DLM, reported that the League continues to have a financially strong balance sheet and generated a larger-than-expected gain from operations through June 30. Total revenues were greater than forecast, while expenses were lower than forecast. Cash flow also continued to be healthy.

Censure Rescinded

The Board acted to rescind its public censure of ARRL Southwestern Division Director Richard Norton, N6AA. The censure action, taken at a special Board meeting in November 2017, was based on Norton's alleged violation of the ARRL Policy on Board Governance and Conduct of Members of the Board of Directors and Vice Directors, adopted in January of that year and itself since rescinded.

Minutes of the July ARRL Board of Directors meeting are available on the ARRL website.

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2 Meter Sharing Proposal is on CEPT Conference Preparatory Group Agenda

The final European Conference of Postal and Telecommunications Administrations (<u>CEPT</u>) Conference Preparatory Group (CPG) meeting prior to World Radiocommunication Conference 2019 (WRC-19) gets

under way on August 26. Action at that gathering will determine whether a French proposal to have WRC-23 study sharing 144 – 146 MHz with the Aeronautical Mobile Service will be adopted as a CEPT WRC-19 position. International Amateur Radio Union (IARU) experts will be present at the CPG to explain the IARU position on this and



other topics. The French proposal, raised on short notice at a CEPT meeting in June, has riled the Amateur Radio community worldwide and prompted petitions to prevent its passage. The proposed 144 – 146 MHz segment would be part of a broader consideration of spectrum allocated to the Aeronautical Mobile Service.

IARU has asked its member societies to explain the Amateur Service's concerns over the French proposal to their telecommunications regulators, and it has submitted a background paper on amateur usage and regulatory concerns, as well as a basic technical analysis showing the impracticality of such a proposal. IARU has said much more appropriate parts of the spectrum are available to study for non-safety AMS applications.

Another issue addressed during the June CEPT meeting concerned the sharing of the Amateur Radio 1240 – 1300 MHz band with Europe's Galileo GPS system. IARU has asked its member societies to discuss with regulators the best way to resolve concerns regarding a few cases of Amateur Radio interference to the Galileo navigation system specific to its E6 sub-band at 1260 – 1300 MHz. IARU believes that CEPT is the proper venue to study the matter, rather than proposing it as WRC-23 agenda item.

Regarding the WRC-19 agenda item to harmonize the 50 MHz band, IARU has expressed its hope that member-states will support the European Common Proposal, "with as many as possible signing the optional footnote to allow primary access on a national basis over part of the band being proposed for amateur use."

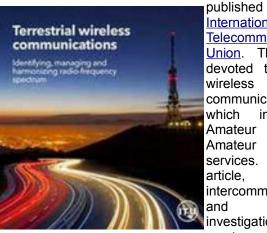
IARU has indicated that it will seek support from Region 1 administrations for a "No change" approach to the current regulatory situation in the 5650 – 5850 MHz and 47 – 47.2 GHz bands.

Documents for the CEPT Conference Preparatory Group meeting are available via the CEPT website.

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Global Institutions Support Amateur Radio Communication and Experimentation

Former ARRL CEO David Sumner, K1ZZ, has contributed to the <u>latest edition</u> of *ITU News Magazine* --



International Telecommunication Union. The issue is devoted to "terrestrial wireless communications," which includes the Amateur Radio and Amateur Satellite services. Sumner's "Self-training, article. intercommunication and technical

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investigations: the amateur service in the

21st Century," discusses Amateur Radio within the context of a global network of experimenters and communicators who, in Sumner's words, "expand the body of human knowledge and technical skills that are essential to

development and offer a resource that can literally save when natural disasters disrupt communications channels."

"Amateur licensees are grateful that ITU memberstates continue to recognize the benefits of providing direct access to the radio spectrum to qualified individuals," said Sumner, who now serves as secretary of the International Amateur Radio Union (IARU), an ITU sector member.

Sumner points out that access to frequency bands "spaced throughout the radio spectrum" is critical to Amateur Radio's future. He notes that the initial pattern of ham allocations dates back to 1927 and the International Radiotelegraph Conference. Allocations have been expanded at subsequent conferences, most recently at World Radiocomunication Conference 2015 (WRC-15), when ham radio obtained a tiny secondary band near 5.3

MHz. (An earlier WRC was responsible for the Amateur Service's two lowest-frequency allocations. 135.7 - 137.8 kHz and 472 - 479 kHz.) The 1979 World Administrative Radio Conference (WARC) extended terrestrial allocations above 40 GHz to include amateur allocations.

"If future World а Radiocommunication Conference extends allocations above 275 GHz, adequate provisions for amateur experimentation should IARU Secretary David be made," Sumner observed.



Sumner, K1ZZ

The first item on the agenda for WRC-19, which takes

place this fall in Egypt, calls on delegates to consider an allocation at 50 MHz to the Amateur Service in ITU Region 1 (Europe, Africa, and the Middle East) that aligns with existing allocations in Regions 2 and 3.

Sumner notes that ITU "plays an essential role" in keeping the spectrum clear of unwanted interference and emissions, an effort he said is "especially vital to the Amateur Service, which uses sensitive receivers to compensate for practical and regulatory limitations on antennas and transmitter power levels."

Sumner also pointed to the role radio amateurs can play in developing and refining communication protocols, including digital techniques, to improve weaksignal performance. He noted that Joseph Taylor, K1JT -- a codeveloper of such digital modes as FT8, FT4, and JT65 -- received an ITU Gold Medal in recognition of his outstanding contributions to radiocommunication.

As Sumner explained, the IARU -- a federation of more than 140 member-societies --represents the interests of radio amateurs around the world before ITU. IARU's contribution to the work of ITU began in 1932 with its admission to participate in the work of the International Radiocommunicaiton Consultative Committee (CCIR). IARU is a member of the ITU Radiocommunication and Development sectors.

"The IARU is proud to be an active member of the ITU community," Sumner said.

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Amateur Radio Resources Ready as **Dorian Predicted to Become a** "Maior Hurricane"

Amateur Radio resources organized this week as Hurricane Dorian threatened Puerto Rico and the Virgin Islands and worked its way through the Caribbean. A change in direction spared Puerto Rico -- still recovering from hurricanes Irma and Maria in 2017 -- from taking a direct hit; the Virgin Islands suffered downed trees and widespread power outages. As of August 29, Dorian was a Category 1 storm with maximum sustained winds near 85 MPH with higher gusts. According to the National Hurricane Center (NHC), Dorian was expected to become a major hurricane on Friday and remain an extremely dangerous hurricane through the weekend, reaching Category 3 or 4 by September 1. Heavy rainfall generated

by Dorian could cause flash flooding, the NHC said.

"The risk of hurricane-force devastating winds along the Florida east coast and peninsula late this weekend and early next week continues to increase," the NHC said on August 29.

"We are standing by in a ready-to-respond state, once a more definitive track is known," Southern Florida Section Manager Barry Porter, KB1PA, told **ARRL**



Headquarters on August 29. "We will be holding a tri-Section conference call tonight to firm up any plans." Porter said Florida Voluntary Organizations Active in Disaster and Red Cross were in preparation mode.

On Wednesday, the Hurricane Watch Net (HWN), activated for about 9 hours on 14.325 MHz and 7.268 MHz, working in conjunction with WX4NHC at the NHC in Miami to provide "ground truth" weather data to forecasters. The VolP Hurricane Net also activated.

The HWN has continued to closely monitor Dorian's progress. HWN Manager Bobby Graves, KB5HAV, said the HWN tentatively plans reactivate on August 30 at 2100 UTC.

The ARRL Headquarters Emergency Response Team is also monitoring the situation closely. ARRL officials are in regular communication with partner agencies, particularly FEMA and the Department of Homeland Security. In addition, ARRL HQ remains in close contact with Field Organization officials in the affected region, where some ARRL Ham Aid equipment was previously positioned.

W1AW, which had already planned to be in operation for the Hiram Percy Maxim 150th Birthday special event this weekend, will remain ready to assist with emergency communications.

Visit the ARRL website or the Hurricane Watch Net website for updates on the progress of Hurricane Dorian.

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WWV Centennial Committee Prepares for Trial Run of WW0WWV Special Event

The <u>WWV Centennial Committee</u> reports that it will conduct a trial run of special event station WW0WWV over the August 24 – 25 weekend. Radios and antennas began arriving last week, and a tower and beam will be erected, along with several vertical antennas. WW0WWV will be set up adjacent to the WWV transmitter site in Fort Collins, Colorado. WWV <u>turns 100 years old</u> on October 1.

"We'll be testing band and notch filtering, in an attempt to reign in the extreme RF environment created by WWV and WWVB," said Dave Swartz, W0DAS, of the Northern Colorado Amateur Radio Club (NCARC). The club will carry out the special event



operation in conjunction with the WWV Amateur Radio Club and the National Institute of Standards and Technology (NIST), which operates WWV/WWVH/WWVB. The special event site is within 1/3 of a mile of all six WWV transmitters and the 50 kW WWVB transmitter. "Onair tests will start Saturday afternoon, August 24, and run through Sunday, August 25," Swartz said, adding that organizers will post specific times and frequencies on the WWV Centennial Committee website.



Greg Ella, N0EMP, uses a 10 MHz loop to monitor the broadcast signal of WWV at the site of the special event station. He was able to measure the drift of a GPS disciplined oscillator (GPSDO) to about 1 Hz in 90 seconds against the 10 MHz WWV carrier.

The WWV Centennial special event is set to run from September 28 through October 2, and roundthe-clock operation will take place on CW, SSB, modes. and digital Operations will shift HF among bands following typical propagation and will include 160 meters as well as satellites (SO-50, AO-91, and AO-92) and 6-meter meteor scatter. Up to four stations will be on the

air for routine operations. A fifth station will schedule contacts with schools, universities, and museums, as well as conducting unscheduled contacts. The additional station will periodically broadcast an AM carrier from a radio locked with WWV's 10 MHz signal.

"At this point we have filled our operator's slots and met equipment goals, but we need more financial resources to cover basic operating expenses, return shipping, and site logistics," Swartz said. Members of the Amateur Radio industry have contributed equipment, including radios, amplifiers, and antennas.

NIST has announced that it will not be able to open the doors of WWV to the public for the event. "Due to a number of reasons, the scope of the formal

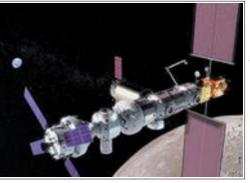
celebration will be limited to only 100 invited participants," the WWV Centennial Committee announced. "WW0WWV will be the main public event for the centennial celebration."

Visit the WWV Centennial Committee website to see how you can contribute or get involved.

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AMSAT and ARISS Designing Amateur Radio System for Lunar Gateway

Details are still being fleshed out, but <u>AMSAT</u> and <u>ARISS</u> are working on the design of an Amateur Radio system for NASA's Lunar Gateway. As NASA explains, the Gateway "will be a small spaceship in orbit around the moon that will provide access to more of the lunar surface than ever before with living quarters for astronauts, a lab for science and research, ports for visiting spacecraft, and more." For NASA, the Lunar Gateway is "a spaceport for human and robotic exploration to the moon and beyond." For radio amateurs, the Lunar Gateway will represent the next step in moving ham radio out of low-Earth orbit and into deep space. Under the current **timeline**, initial



sections of the Gateway are scheduled to launch in 2022, with the Gateway in lunar orbit by 2026.

"To make this happen, we are leveraging the work and

expertise of the worldwide AMSAT organizations and the international ARISS community in this endeavor," ARISS-International Chair and AMSAT Vice President for Human Spaceflight Programs Frank Bauer, KA3HDO, said. "We have an international team working on this and are meeting twice a month to mature the concept." The ARISS concept was presented to NASA in May and got positive feedback, and was favorably received a few weeks later at the ARISS-International meeting in Montreal from the Canadian Space Agency's Gateway Program Manager.

"The Amateur Radio Exploration (AREx) team has done some really good work," Bauer continued. "The challenge for amateurs will be on the order of a 30 dB signal path loss as compared to LEO. But the link margins on our design seem too close."



The Lunar

Gateway will serve as a solar-powered communication hub, science lab, short-term habitation module, and a

holding area for rovers and other robots that may be bound for the moon or for other planets. NASA is leading the project in collaboration with commercial and international partners, and all of the International Space Station partners. This includes the European Space Agency, Roscosmos (Russia), JAXA (Japan), and the Canadian Space Agency.

One of the project's facets now under discussion within the AREx Working Group is a phased-array antenna that can be electronically directed. The Lunar Gateway group has told ARISS that it is important to get in on Phase 1 of the Lunar Gateway program and develop its system early on.

"We need to develop a block diagram of a system and subsystems and find team members who want to work on each, Bauer said when the ARISS-International team met in Montreal. "We must set up requirements and interface documentation. We need to solidify the frequencies to use, working with the International Space Frequency Coordination Group."

ARISS ARRL Representative Rosalie White, K1STO, said that ARISS wants to spread the word about the new initiative. "Doing so will help bring in greatly needed new volunteers to join the team and assist with what unique things must be done," she said. "When able, face-to-face meetings must be held with team leaders to define roles for team members and to develop hardware plans."

White also hopes the new project may inspire the generosity of the Amateur Radio community.

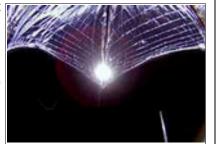
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LightSail 2 Demonstrates Flight by Light

The Planetary Society's crowdfunded LightSail 2 spacecraft is successfully raising its orbit solely on the power of sunlight. Since unfurling the spacecraft's solar sail on July 23, mission managers have been optimizing the way the spacecraft orients itself during solar sailing. After a few tweaks, LightSail 2 began raising its orbital apogee, something the mission team said demonstrated the mission's primary

goal of "flight i by light for CubeSats." Continuing to sail on sunlight in Earth orbit, the spacecraft's orbital apogee 729 hit kilometers (approximately 452 miles) as of August 5, an increase of 3.2 LightSail 2's aluminized Mylar sail kilometers (nearly 2 miles) since sail deployment.

LightSail launched on June 25,



shines against the blackness of space, with the Sun peeking through near a sail boom. [Photo courtesy of The Planetary Society]

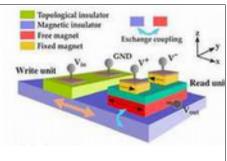
and it deployed on July 2 from Prox-1, a Georgia Tech student-built spacecraft the size of a small washing machine. Using the Experimental License call sign WM9XPA, LightSail 2 automatically transmits a beacon packet on 437.025 MHz (9,600 bps FSK) every few seconds, which can be decoded into 238 lines of text telemetry describing the spacecraft's health and status -everything from battery status to solar sail deployment motor state.

Every 45 seconds, the spacecraft transmits "LS2" in CW on 437.025 MHz. More information is on The Planetary Society website. -- Thanks to The Planetary

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Logic Switch Uses No Electric Current

The Smart2.0 Newsletter for May 13 reported on a logic switch that uses no electric current. According to the article, researchers at New York University say the new method of controlling magnetic circuits is energy efficient, promising lower heat and energy costs in applications such as large server farms or in the artificial intelligence arena, which requires massive amounts of memory.



[Image courtesy of Smart2.0 Newsletter]

"The method uses voltage-controlled topological switch (VTOPSS) that requires only electric fields. rather than currents, to switch between two Boolean logic states, greatly reducing the heat

generated and energy used," the article explains. "Spin can be transported without a charge with the use of a topological insulator -- a material whose interior is insulating but that can support the flow of electrons on its surface."

Compared with existing spin-based devices. researchers claim the VTOPSS offers 10 to 70 times lower energy dissipation and 70 to 1,700 times lower energydelay product. The VTOPSS technology, the researchers add, "offers competitive metrics compared with existing CMOS technology, and interconnect issues that dominate the performance in CMOS logic are relatively less significant for the VTOPSS, enabling it to switch between two states more effectively."

"Imagine if you were preparing a recipe and had to go into a different room anytime you needed an ingredient before returning to the kitchen to add it," says NYU Tandon School of Engineering Assistant Professor Shaloo Rakheja, the principal author of an academic paper on VTOPSS. "It's just as inefficient when the portions of computing hardware needed to do a calculation and the portions needed to store it are not well integrated."

The article noted that VTOPSS can reduce reliance on cloud memory, potentially making computing safer, because it would be harder for to gain access to a system's hardware.

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VE Testing Schedule Second Saturday of each month

 Noon – AARC – David Rawley, N3AT testing@w3vpr.org

Third Saturday of each month - 9AM - Laurel ARC -John Creel, 301-572-5124

Fourth Tuesday of each month - 6PM - MMARC -Mike Montrose / KA2JAI 443-310-4907 web site is tinyurl.com/marylandmobileers

To all exams bring:

- Picture ID
- Social Security Number or FCC Registration Number (FRN)
- **ORIGINAL** and a **COPY** of current FCC amateur radio license

ORIGINAL and a COPY of all element credits (eg., FCC letters, old licenses or unexpired Certificates of Successful Completion of

Examination-CSCE)

ARRL Policymakers, Staff Continue Efforts to Enhance ARES Program, Add Resources

The ARRL Board of Directors, committees and administrative staff have focused on enhancing the venerable ARES program. A major <u>ARES Plan</u> was adopted, providing new direction going forward. A standardized training plan was adopted and a new <u>ARES Emergency Communicator Individual Task Book</u> was approved and published.

Last month, the Board considered the report of its Public Service Enhancement Working Group (PSEWG). A "change log" is proposed for the Task Book that will highlight changes made as the book is periodically revised and updated. ARES position guidelines were posted to the on-line ARES workbook and major revising and updating of ARRL's Introduction to Emergency Communications course (now designated as IS-001) has been completed. [The course is now available at no cost to any ARES registrant, and a "tutorless" format has been added as a parallel path for completing the course. Additional tutors were successfully recruited to help handle the huge initial interest as the changes were extremely well-received by the field organization. A "challenge" path directly to the final exam is also being implemented.] Similar updating and introduction of IS-016 - Public Service and Emergency Communications Management for Radio Amateurs -- will follow in the next few months.

The ARRL HQ staff has brought veteran Ohio Section Manager Scott Yonally, N8SY, on board to assist in the implementation of *ARES Connect* and to field questions about the new software package from users.

The League's Ham Aid program was reviewed, with some modest revisions to procedures. Most recently, the PSEWG has begun its examination of the future role of the League's National Traffic System in concert with ARES. A brief survey of selected SMs, STMs and SECs is to provide a beginning point for a more extensive analysis of the program. This review and evaluation is expected to be a major part of the PSEWG's efforts in the upcoming months.

A Board Ad Hoc EmComm Manager Requirements Report specifies the job requirements of a new position at ARRL HQ -- Director of Emergency Management -- who will lead a team responsible for supporting the ARES program and will work with HQ staff to develop standards, protocols, and processes designed to support the Field Organization.

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Arizona ARES Volunteers Support Communication during Arizona Wildland Fire

Members of the Coconino County Amateur Radio Club (CARC) in Arizona activated on July 21 as winds accelerated the Museum Fire beyond 50 acres, triggering the activation of the county's Emergency Operations Center (EOC). Members of the club, many of them ARES volunteers, staffed the EOC.



Smoke from the Museum Fire is in the distance as CARC members complete a temporary radio setup for more effective communication. [Ken Held, KF7DUR, photo]

"The club has a great relationship working Coconino County," said CARC's Public Information Officer Dan Shearer, N7YIQ. "CARC's ARES component has a dedicated position in the EOC structure and has assisted on many incidents over the last few years, providing communications to field personnel when cell and radio coverage is limited or nonexistent."

Shearer said Amateur Radio equipment and antennas are stored at the EOC, and CARC members have been trained to set it up and have everything operational within an hour of activation.

The fire, of undetermined origin, soon grew larger than 500 acres and became a top fire-fighting priority. A Type 1 incident management team took over management of the fire-fighting effort late on July 22, and more than 12 Hotshot crews (teams highly trained in all aspects of fire management), fire engines, water tenders, and aircraft were engaged in suppressing the blaze. Residents in some neighborhoods were ordered to evacuate, although no homes and structures were lost. There were fears that the fire might overrun communications sites on Mount Elden, which include public service, private, and Amateur Radio repeaters.

"The loss of one or both of these complexes would have been catastrophic," Shearer said. CARC members were prepared for the risk and quickly assembled spare equipment, including extra radios and repeaters.

Air tankers dropped many loads of fire retardant around the repeater sites, and the exceptional work of the fire crews prevented the fire from running up the slopes to the complexes, Shearer said.

A midweek change in the weather with substantial rain gave firefighters a chance to keep the blaze from crossing a fire line they constructed. ARES resources were released on July 26 and placed on standby as the fire risk was substantially reduced.

Shearer said there is now a risk of flash flooding across the burned-over areas from the region's summer rainy period, and the City of Flagstaff and Coconino County are providing sandbags.

"CARC personnel provided well over 250 hours in support of the Museum Fire in direct support of the joint EOC," Shearer said, adding that the EOC team and Arizona Governor Doug Ducey expressed their appreciation when the governor visited the fire operations.

The Museum Fire grew to nearly 2,000 acres before it was brought under control.

Used with permission The ARRL Letter for August 8, 2019

W1AW 2019 Spring/Summer Operating Schedule

Morning Schedule:

	Time	Mode	Days
ı			
	1300 UTC (9 AM ET) 1300 UTC (9 AM ET)	CWs	Wed, Fri
	1300 UTC (9 AM ET)	CWf	Tue, Thu

Daily Visitor Operating Hours:

1400 UTC to 1600 UTC - (10 AM to 12 PM ET) 1700 UTC to 1945 UTC - (1 PM to 3:45 PM ET)

(Station closed 1600 to 1700 UTC (12 PM to 1 PM ET))

Afternoon/Evening Schedule:

2000	UTC	(4 PM	ET)	CWf	Mon, Wed, Fri
2000	"	"		CWs	Tue, Thu
2100	"	(5 PM	ET)	CWb	Daily
2200	"	(6 PM	ET)	DIGITAL	Daily
2300	"	(7 PM	ET)	CWs	Mon, Wed, Fri
2300	"		"	CWf	Tue, Thu
0000	"	(8 PM	ET)	CWb	Daily
0100	"	(9 PM	ET)	DIGITAL	Daily
0145	"	(9:45 F	PM ET)	VOICE	Daily
0200	"	(10 PM	ET)	CWf	Mon, Wed, Fri
0200	"		"	CWs	Tue, Thu
0300	"	(11 PI	M ET)	CWb	Daily

Frequencies (MHz)

CW: 1.8025 3.5815 7.0475 14.0475 18.0975 21.0675 28.0675 50.350 147.555

DIGITAL: - 3.5975 7.095 14.095 18.1025 21.095 28.095 50.350 147.555

VOICE: 1.855 3.990 7.290 14.290 18.160 21.390 28.590 50.350 147.555

Notes:

CWs = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM

CWf = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM

CWb = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.

DIGITAL = BAUDOT (45.45 baud), BPSK31 and MFSK16 in a revolving schedule.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

On Tuesdays and Fridays at 2230 UTC (6:30 PM ET), Keplerian Elements for active amateur satellites are sent on the regular digital frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0000 UTC (8 PM ET) Thursdays and 0000 UTC (8 PM ET) Fridays.

Audio from W1AW's CW code practices, and CW/digital/phone bulletins is available using EchoLink via the W1AW Conference Server named "W1AWBDCT." The monthly W1AW Qualifying Runs are presented here as well. The CW/digital/phone audio is sent in real-time and runs concurrently with W1AW's regular transmission schedule.

All users who connect to the conference server are muted. Please note that any questions or comments about this server should not be sent via the "Text" window in EchoLink. Please direct any questions or comments to w1aw@arrl.org.

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Digital at 15 minutes past the hour, and CW on the half hour.

FCC licensed amateurs may operate the station from 1400 UTC to 1600 UTC (10 AM to 12 PM ET), and then from 1700 UTC to 1945 UTC (1 PM to 3:45 PM ET) Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy.

The complete W1AW Operating Schedule may be found on page 93 in the March 2019 issue of QST or on the web at, http://www.arrl.org/w1aw-operating-schedule.

ARRL Contest and DXCC Rules Now Prohibit Automated Contacts

ARRL has incorporated changes to the rules for all ARRL-sponsored contests and DXCC, prohibiting automated contacts and requiring that an actual operator is initiating and carrying out a contact. These changes also apply to Worked All States (including Triple Play and 5-Band WAS), Fred Fish W5FF Memorial, and VUCC awards. The changes are effective immediately and affect

the rules for both HF contests, and VHF/UHF contests as well as DXCC.

A resolution at the July ARRL

Board Directors



meeting pointed to "growing concern over fully automated contacts being made and claimed" for contest and for DXCC credit. The rules now require that each claimed contact include contemporaneous direct initiation by the operator on both sides of the contact. Initiation of a contact may either be local or remote.

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SECTION TRAFFIC MANAGER'S REPORT

MDC NTS NETS:

MEPN 1907 W3YVQ QND/31 QNI/348 QTC/44 MINS/615 BTN 1907 AB3WG NO REPORT MDD 1907 AA3SB QND/ 60 QNI/232 QTC/112 MINS/490 MSN 1907 N3AEA QND/ 28 QNI/88 QTC/7 MINS/455

PSHR: KK3F 150, W3YVQ 135, K3IN 110, N3JET 100, AA3SB 100, WB3FTQ 100, NI2W 54;

TFC: KK3F 1588, K3IN 152, WB3FTQ 87, AA3SB 70, N3JET 48, W3YVQ 45, NI2W 7

HF PROPAGATION

MEPN: The net NVIS propagation was functional throughout July, 2019, with good signals after 1800L most evenings.

Due to the low solar activity, the afternoon and early evening propagation suffered with the sunset later as we passed solstice.

This resulted in higher absorption and less effective NVIS propagation between 1730L and 1800L, often with the residual E layer from the daytime high sun angle obscuring the F1-F2 layers overhead. Signals tended to improve after 1800L. The MEPN DTS stations continue to also provide liaison with the national digital messaging services including DTN and Winlink.

MDD: NVIS propagation for local MDC stations on MDD early and late (and on RRI/3RN/C4 nets) was greatly improved. As July progressed, the higher sun angle allowed the MUF to remain above the net frequency on most nights.

CW OPERATORS NEEDED

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Additional CW operators are needed for liaison to MDD and to the higher nets, and Net Control Stations are also needed on MDD and 3RN/C4. The evening NTS and RRI nets in Cycle

4 nation-wide are conducted on CW.

MEPN/MDD/3RN ECHOLINK

MEPN representatives check for EchoLink checkins starting at net call daily via the WB3GXW-L link node (or *WASH_DC* conference node backup if the -L node is not available).

MSN CW TRAINING

We are very sorry to report that the MSN Net Manager, Bruce, W8CPG, became SK in June, 2019. The Net and Section sincerely appreciate all the work he did to help keep the net going, and all the work to help so many newcomers. Bruce will be sorely missed. The net will continue to operate and serve nightly at 1930L on 3563 kHz. Ron, N3AEA, is stepping up to fill the Net Manager's role. Thanks, Ron.

BTN LOCAL NTS TRAFFIC AND TRAINING NET

The BTN continues to meet on 145.33/R (no tone) daily at 6:30PM local time. The BTN was established to provide a welcoming place for newcomers to the Amateur Service, and their first exposure to directed traffic nets and message handling. The NM, AB3WG, has initiated plans for broader cooperation between BTN and MSN to foster more awareness between operators using the respective modes. Instructive message swapping and liaison duties are in effect.

Thanks to all the Section traffic net NCS stations, RRI/DTN and WL2K stations, liaisons, and traffic handlers for the continuing effort to keep the nets running and traffic moving.

Thank you for your continued support of MDC integrated ARES(r), RRI, and NTS operations.

73, W3YVQ, MDC ASM, STM w3yvq atsign arrl dot net w3yvq atsign winlink dot org from WL2K

Used with permission MDC Section News Friday August 16, 2019

Partners in Service: FEMA Announces Plans for September National Preparedness Month

Next month is National Preparedness Month with the theme *Prepared, Not Scared. Be Ready for Disasters.* National Preparedness Month (NPM) is recognized each September to promote family and community disaster and emergency planning now and throughout the year. This year's campaign will feature PSAs and multimedia products around four weekly themes:

Week 1: Sept 1-7 Save Early for Disaster Costs

· Week 2: Sept 8-14 Make a Plan to Prepare for Disasters

· Week 3: Sept 15-21 Teach Youth to Prepare for Disasters

Week : Sept 22-30 Get Involved in Your Community's Preparedness

Content has been loaded on the Ready.gov National Preparedness Month Toolkit webpage. This year, FEMA wants participants, which include ARES operators, to share their activities and success stories. The longtime ARRL partner wants brief descriptions of what you are planning for National Preparedness Month. Send them to FEMA-IGA@fema.dhs.gov with the word NPM in the subject line. An appropriate, brief submission would be your planned or conducted ARRL Simulated Emergency Test (SET) activity. Many groups will be holding their SET during September and through the fall. The primary League-sponsored national emergency exercise is designed to assess the skills and preparedness of ARES and other organizations involved with emergency/disaster response. Here's an opportunity to let FEMA know about it.

In June 2003, ARRL became an official affiliate program of <u>Citizen Corps</u>, an initiative within the Department of Homeland Security to enhance public preparedness and safety. The Statement of Affiliation makes ARRL an affiliate under the four charter Citizen Corps programs--Neighborhood Watch, Volunteers in Police Service, Community Emergency Response Teams and Medical Reserve Corps.

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Cape Cod ARES and SKYWARN Provide Support in Rare Cape Cod Tornado Event

Cape Cod, Massachusetts, ARES, and SKYWARN Amateur Radio volunteers were promptly pressed into action as a storm system on July 23 produced severe thunderstorms that spawned three tornadoes over the Cape. Hurricane-force wind also resulted in significant tree and utility wire damage across

Cape Cod. Some pockets of wind damage also occurred in the northwest corner of Martha's Vineyard.

Amateur Radio SKYWARN spotters were the first to provide critical ground truth information. Under the direction of Cape Cod District Emergency Coordinator Frank O'Laughlin, WQ1O, and



Eastern Massachusetts SEC Rob Macedo, KD1CY, a SKYWARN net ran for several hours on a Barnstable VHF repeater, receiving numerous damage reports.

Amateur Radio operations shifted to an ARES net supporting communication between a shelter at the Dennis-Yarmouth School and the Barnstable County Emergency Operations Center, which serves as the Multiagency Coordination Center (MACC).



"Dozens of reports of trees and wires down and some structural

damage reports were received during the SKYWARN net, and Amateur Radio operators

supported initial damage assessment in the hardest hit areas and provided photos and videos that were shared via social media and other outlets," Macedo said. "This provided critical situational awareness and disaster information to the National Weather Service (NWS), state emergency management, and local media outlets, and helped to diagnose the areas for NWS meteorologists to survey to determine whether a tornado or straight-line wind damage occurred."

ARES support for the Dennis-Yarmouth shelter as well as Amateur Radio operations at the Barnstable

County MACC continued around the clock, with six radio amateurs engaged in shelter and EOC communications over the course of about 2 days. The severe weather

knocked out power for some 53,000 customers on Cape Cod, and it took utilities several days to repair the damage and restore service.

"Traffic that was handled focused on the logistics of taking care of people who stayed in the shelter until power restoration efforts were near completion," O'Laughlin explained.

A NWS-Norton survey team consisting of several meteorologists surveyed the



damage and confirmed three tornadoes on Cape Cod in addition to destructive straight-line winds. Since tornado records have been kept, starting in 1950, only three tornadoes have been recorded on Cape Cod up until last year. -- Thanks to Rob Macedo, KD1CY

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Flmsg Used in Maine Red Cross Mass Care Exercise

On August 9 and 10, the Waldo (Maine) County EMA conducted a 24 hour mass care exercise. A designated Red Cross shelter in Thorndike was staffed with volunteers with the public invited to have meals and stay overnight. Several Red Cross volunteers served as shelter managers and 62 Boy Scouts volunteered to act as residents of the shelter. A meal to which the public was invited was served on Friday evening and over 60 people from the community attended.

The radio communications component of the exercise was focused on the transfer of Red Cross forms by radio. Jim Piper N6MED, a registered nurse and Amateur Radio liaison for the Gold Country Region American Red Cross, headquartered in Sacramento, California, was enlisted to initiate a Red Cross 213 form using the popular flmsg utility of the flidigi suite of digital interfaces. Piper has been an advocate for flmsg as a message tool as it may be used with virtually any electronic communications medium. Based on this need, Dave Freese, W1HKJ, the author of flmsg, created a highly simplified "Agency" GUI for flmsg that is designed to be used by personnel with limited computer skills. There are only three buttons that permit the volunteer to create, view or edit the contents of a form. In the Gold Country Region implementation, *flmsg* and the Red Cross custom forms are contained on thumb drives that are deployed to all shelter disaster response trailers and that can be handed out to volunteers. There is nothing to install on the computer.

Piper sent an ARC-213 form (a 1kB text file reduced from the custom HTML file) via Winlink attachment to the Waldo County EMA in Belfast, Maine. At the EMA, a radio operator moved the file to *flmsg* where it was sent by VHF using *fldigi* to the shelter. A volunteer at

the shelter then used the *flmsg* Agency tool to compose a reply, whereupon the process was repeated to get the reply back to Sacramento. The process worked very smoothly and served to demonstrate to the shelter staff the usefulness of the *flmsg* tool. The Red Cross forms and information on the message utility can be accessed here. [Fldigi (Fast Light digital) is a free and open source program/suite of utilities that can be used for emergency messaging with simple two-way data communications using a laptop's sound card].— source: Steve Hansen KB1TCE, Waldo County, Maine ARES/RACES

Used with permission The ARRL E-Letter, Aug 21, 2019

Hurricane Zebra, Florida Hurricane Season Exercises Yield Good Results

The first annual ARRL Northern Florida Section Hurricane Exercise was held on Saturday, August 3, 2019, from 0800-1000 hours eastern time. The mission was to test the section's HF voice and digital ability to send and receive message traffic between county EOCs and the State EOC (SEOC) in Tallahassee. The plan called for two messages for each county EOC to send to the State EOC by either voice or Winlink. Stations were also to check into the Statewide Amateur Radio Network (SARnet), the network of linked UHF voice repeaters that serves the State of Florida Department of Transportation.

According to an after action report submitted by Dave Davis, WA4WES, Assistant Section Emergency Coordinator, stations throughout the section participated. Davis said "Overall, it was a good first effort, and we did well." Objectives included stations to communicate with the State EOC by voice and/or digital modes; become familiar with net procedures including message handling using the ICS message form 309; determine viability of communications on different bands, times of day and different modes (voice and data); and network with other message handlers likely to be involved during real incidents.

Results and Lessons Learned

The EOCs at Bay and St. John's Counties were opened. While the State EOC was unavailable, several stations were able to establish links with KK4SIH in Leon county where the SEOC is located. On 3955 kHz, many stations were able to send messages to the station using Winlink. Operators successfully met the objectives of learning net procedures, and using the ICS form 309 to send messages on different bands at different times of day using both voice and data modes. 80-meters demonstrated the most consistent reliability, followed by 60-meters and 40-meters.

The use and reliability of the HF bands must be mastered by those responsible for using them as they do exhibit periods when they are unusable. The use of propagation charts can help identify the frequencies for optimal communication for any given part of the day. Alternate frequencies and modes need to be part of the plan, and stations must know when to move to the other designated frequencies and modes.

The lack of back up net control stations was an

issue: backup NCS and other critical positions need to be pre-assigned. Stations that passed traffic on HF generally spoke too fast. They need to slow down. All messages need to have a standardized message header. See Florida ICS-213 Message Training.

All messages must be originated/written by a person in authority, not by the radio operator. Message logs need to be maintained, and the ICS 309 form is good for this purpose. Its uniform use throughout the section is encouraged. All participating stations should become familiar with Winlink.

ASEC Davis concluded "The response to this exercise was very good. Of course, more work needs to be done, but for a first time effort, I was impressed with the knowledge, enthusiasm, and skill demonstrated by operators throughout the section. The objective now will be to build on what was learned."

Florida Region 4 RACES Communications Exercise Also Conducted

Sumter County (Florida) Emergency Management/RACES hosted a *Region 4 Communications Exercise*. (The State's Division of Emergency Management divides Florida into Regions for emergency management purposes. Region 4 encompasses the counties in the Tampa area).

The exercise was intended to test RACES capability to communicate from county to county within the region. Systems used included the SARNet for initial coordination and then FM repeater, simplex and/or or HF systems to pass messages from county to county and back to Sumter County, which had originated them. This procedure included sending the message in both directions so each county could test its capability with its connecting county on each side.

As with most exercises of this nature, several counties did have some minor issues, which were ultimately resolved. It showed that the goals of discovering those minor issues, finding their solutions, and implementing them were met. RACES Officer Gene King, KI4LEH, said "Our hope, of course, is that when we are activated/deployed we will have a properly working communications system, know which system or mode works best for our needs, and fulfill our role as emergency communications operators in serving our respective agencies to the best of our abilities."

The exercise was well received by those who participated; a good hot wash was conducted via a telephone conference call where each county's participant(s) related their take on the exercise. There is unanimous support for quarterly exercises. Participants will meet in person for an hour at the Tampa Bay Hamfest, Friday, December 13, and Saturday, December 14, 2019. "This way, we can get to know each other a little better than by just over the airwaves," King said, adding "we hone our skills as radio operators, enhancing our abilities to serve no matter if we operate under an ARES or RACES umbrella."

Used with permission The ARRL E-Letter, Aug 21, 2019

The *Ham Arundel News* is the monthly official publication of

The Anne Arundel Radio Club, Inc. (ARRL Club No. 0484).

Editor: Milford Craig / N3WYG

Send newsletter articles, questions and information to **Milford** at **newsletter@w3vpr.org**

Deadline for submissions – The Saturday after the 3rd Thursday of the month

Mailing Address:

Anne Arundel Radio Club Post Office Box 308 Davidsonville, MD 21035

Meetings:

General Business 1st Thursday at 7:30 PM Board Meeting 2nd Thursday at 7:30 PM Program/Activity 3rd Thursday at 7:30 PM

Dues:

\$30 per year, payable December 1st Discounts available for family members and students

World Wide Web: www.w3vpr.org

AARC Supports The Maryland Slow Net: 3.563 MHz CW 7:30 P. M. Daily

^^^^^^^

Free Money for AARC! ARRL Membership Reminder

ARRL affiliated clubs receive a commission for every new ARRL membership and renewal they submit to ARRL Headquarters. Clubs retain a portion of the dues for each regular or senior membership submitted to ARRL Headquarters:

Clubs retain \$15 for each new membership OR lapsed membership (of two years or more).
Clubs retain \$2 for each renewal,
A RENEWING MEMBER can renew at any time, even before

their current membership expires.

Send your application and payment (made out to AARC) to the club treasurer.



Mark Your Calendars

REGULAR ACTIVITIES

Club Meetings are held on the first and third Thursdays of the month from 7:30 to 9PM at the clubhouse located at the Davidsonville Family Recreation Center in Davidsonville, MD

Free License Exams every 2nd Saturday of the Month - Check in at Noon, Exams at 1PM - At the clubhouse - Contact David Rawley / AE5Z, testing@w3vpr.org

Weekly AARC 2-Meter Net on 147.105 (Typically linked to 147.075 and 444.400 with CTCSS tone of 107.2 Hz) every Wednesday at 8 PM - All Welcome

2 meter "HOLLY NET" on 147.105 (Typically linked to 147.075 and 444.400 with CTCSS tone of 107.2 Hz) every morning 7:00 am to 9:00 am. All hams are welcome.

EVENT SCHEDULE

5 Sep, Thu

7:30 - 9pm AARC - Club meeting, newcomers always welcome.

12 Sep. Thu

7:30 - 9:30pm AARC - board meeting

14 Sep, Sat

9:00 am - Noon - Fox Hunt

Noon - 5pm [AARC] Picnic with Antenna & Tower Giveaway

12 - 3pm AARC - Free License Exams

15 Sep, Sun

1 - 4pm AARC - Mesh Networking group, Every 3rd Sunday, 1 to 4 PM at the clubhouse

19 Sep, Thu

7:30 - 9pm AARC - Club meeting, newcomers always welcome.

22 Sep, Sun

1 - 4pm Open Shack Hours

29 Sep, Sun

1 - 4pm AARC Kit-building, troubleshooting and repair, at 1 to 4 PM at the clubhouse



Saturday, September 14, 2019
(the morning of our Annual Picnic)
Start time at the AARC is 9:00 am



Sign Up and Full Information is on W3VPR.org.

So, wadda' ya' say, do you wanna' "hunt a fox"?

Just form a team with 3 of your buddies, and sign up ASAP -- definitely by the Sept.5 Club meeting.

[FYI, individuals without a team are welcome to join, too, but we have to have a minimum of 3 teams to hold the "Hunt".

Ending the Great Radio Silence after "The Great War"

Practical wireless was still in its infancy at the turn of the 20th century and unregulated experimentation rampant. Chaos reigned on the airwaves. Given the

technology of the day -- spark gap transmitters that emitted very, very broad signals -- interference was a problem. As Al Brogdon, W1AB, explains in "The World War I Shutdown," in the September 2019 issue of QST (p. 70), hams, passenger ships, and the US Navy were the main users of



the US Navy were the main users of wireless, and the Navy went to Congress in an unsuccessful effort to wrest control over radio and, effectively, abolish ham radio in the US. Radio amateurs opposing the bill had an ally in the Marconi Company.

When the US in 1917 joined the European conflict that became World War I, the federal government ordered hams to disassemble their stations, lower their antennas, and not use transmitters *or* receivers. Many hams who joined the military took their own radio gear along, because, as Brogdon explains, "the military didn't have enough radio equipment."

The end of the war did not mean the resumption of Amateur Radio. Hams were allowed to use their receivers again but not transmit. The Navy was still in charge of all US radio communications, and another bill introduced in Congress proposed handing over ongoing control of all radio to the Navy.



ARRL First President Hiram Percy Maxim, W1AW.

Publication of QST also ceased during the war, and many hams had let their ARRL

memberships lapse for the duration. ARRL officers and key members dug into their own wallets to thwart the bill, mailing a "Little

Blue Card" to members urging them to ask their congressional representatives to oppose the Navy proposal. ARRL President Hiram Percy Maxim went to Washington to speak against the bill, which died in committee.

It was not until 1919 -- amid another Navy effort to gain control over radio that was stalled by opposition from hams and others -- that the transmitting ban was lifted by an act of Congress. As Brogdon explains, "Maxim went to Washington again and found a sympathetic ear in Massachusetts Congressman William Greene, who ultimately introduced the successful House Joint Resolution 217, which asked the Navy 'to remove the restrictions on the use and operation of Amateur Radio stations throughout the United States."

Hams were back on the air by the fall of 2019 -- 100 years ago!

Used with permission The ARRL Letter for August 22, 2019

Cable Lacing

Cable lacing is the technique of using cord to tie individual cables together to make a bundle. According to an <u>article on thebroadcastbridge.com website</u>, it's a lost art! It's not really been lost -- there's even a <u>NASA standard for cable lacing</u>.

But its application has narrowed to uses where its unique characteristics offset the increased labor required to do it. Compared to other bundling techniques such as zip ties or wire looms, cable lacing adds little to no thickness and weight to the bundle, and doesn't present additional "sharp edges" that can cut or be caught on conduit.

Cord that is UV safe, fire resistant, more compatible with special insulation types, or has other characteristics particular to the application can be chosen.

You'll still find cable lacing in aircraft, <u>spacecraft</u>, machinery subject to heavy vibration, and applications involving repeated extreme temperature cycling.

Used with permission The ARRL Contest Update for August 7, 2019



APRS Amateur Radio Balloon, Call Sign NA1WJ-5, Launched

An APRS Amateur Radio balloon, call sign NA1WJ-5, <u>launched</u> from the recent World Scout Jamboree, has floated across the Atlantic. The <u>Scouting</u>



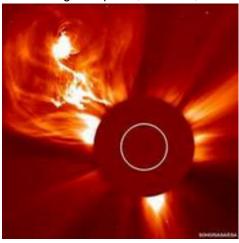
Magazine blog reports: "You can reach practically any corner of the globe Amateur Radio. That's the message K2BSA wanted to show Scouts at the World Scout Jamboree. Those in the Amateur Radio association launched

four Mylar balloons from the Summit Bechtel Reserve in West Virginia, in hopes that one would catch the jet stream and end up on the other side of the world. One did." Each balloon, approximately 3 feet in diameter, was equipped with GPS, a ham radio transmitter, and solar panels. The balloon payload could relay weather, movement, and location information. Each helium-filled balloon was capable of attaining an altitude of between 28,000 and 32,000 feet -- nearly as high as most commercial planes fly.

Used with permission The ARRL Letter for August 8, 2019

160 Years Since The Carrington Event

September 1 marks the 160th anniversary of the Carrington Event, the strongest geomagnetic storm known to have hit Earth since at least the 14th century. The event was named for British astronomer Richard Carrington, who first viewed and sketched the huge sunspot complex on the sun from which a gigantic solar flare -- a coronal mass ejection -- erupted, as he watched. Within hours, Earth was virtually enveloped by an aurora borealis that was visible even at lower latitudes and into the tropics. It was a truly spectacular light show that in some places, turned night into day. When the flare interacted with Earth's magnetosphere, however, it was another story.



This was the Victorian age, practical when wireless was still a few decades off, but "auroral phenomena," as was it called then. had remarkable manifestation of magnetic influence" on telegraph wires -the internet of the

day, as it were. So considerable was the effect that The New York Times reported telegraph operators were able to disconnect the batteries that normally operated the system and were "working by the atmospheric current entirely!" Although the operators subsequently were able to reconnect their batteries, the storm continued to affect the lines. A telegraph manager in Pittsburgh reported "streams of fire" emitted from the circuits. In Washington, DC, telegraph operator Frederick W. Royce was severely shocked as his forehead grazed a ground wire. A witness said an arc of fire jumped from Royce's head to the telegraphic equipment.

The Times account quoted an operator in Worcester, Massachusetts, who said, "During ten years' experience in telegraphing, I have frequently observed the effect of the Aurora Borealis on the wires, but never before have I seen it so grand and appalling."

Operators said that at times the polarity of the battery power supply would become reversed. "One moment the batteries would begin to boil over, and we would have so strong a circuit that the armature would not come away from the magnet; the next moment, there would be no current at all," a report from Quebec recounted.

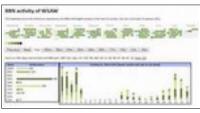
Based on examinations of ice samples, scientists believe that geomagnetic storms two and three times stronger occurred prior to the 14th century.

After the Carrington Event, scientists began paying a lot more attention to solar phenomena and sunspots. -- Thanks to Frank Donovan, W3LPL

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How Active Have You Been

A new web tool can tell how active you have been over the past 12 months. Plug your call sign into this website to review your station activity. This tool from DJ1YFK uses the



Reverse Beacon Network (RBN) data to generate an activity report (a "heat map") showing the activity for any call sign. -- The ARRL Contest Update

Used with permission The ARRL Letter for August 8, 2019 ^^^^^^^

Recent Tower-Related Accident

A close friend of a radio amateur who died in a recent tower-related accident contacted ARRL with additional observations. Joseph Areyzaga, K1JGA (photo), died in the July 27 incident, and the tower's owner was seriously injured. The individual reported that Areyzaga and Mike Rancourt, K1EEE -- the tower's owner -- were in the process of lowering one of the antennas when the tower tipped over. The friend | Joseph Areyzaga, said the tower was genuine Rohn K1JGA. 25, with a genuine Rohn BPH25



hinge plate, and that the apparent -- but not proven -failure point was not obvious while the tower was still standing. All three pier posts on the hinge plate broke off, with the tower section bolts still intact and in place, he reported. No official determination has been made as to the specific cause of the failure. Rancourt, who was seriously injured in the incident, remains hospitalized but is said to be recovering well.

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AARC Mesh Networking Group

1:00 to 4:00 PM monthly, on the 3rd Sunday of the month AARC Clubhouse, Davidsonville, MD (Next Meeting will be Sept 15, 2019.)

Inter-American Proposal Removes 47 - 47.2 GHz from Bands under Study for 5G Services

The 34th meeting of the Inter-American Telecommunication Commission (CITEL) Permanent Consultative Committee II (PCC.II) concluded a week of meetings on August 16 in Ottawa, Canada, in advance of World Radiocommunication Conference (WRC-19). The meetings were aimed at reaching regional consensus on WRC-19 agenda items. Attendees at PCC.II included ARRL Technical Relations Specialist Jon Siverling, WB3ERA, who is on the US delegation to WRC-19.

"The bia news is that the Inter-American Proposal (IAP) going forward to ITU from CITEL countries has removed the 47 -47.2 GHz Radio Amateur allocation from WRC-19 agenda item 1.13," Siverling said. forward а change' proposal." member-states. table the possible sharing Relations Officer.



Radio amateurs present at the CITEL meeting tasked with looking out for issues of concern to the Amateur Service were (from left to "We are putting right) Bryan Rawlings, VE3QN, a member of 'NO Canada's WRC-19 delegation and Radio Amateurs of Canada (RAC) Special Advisor to World Radiocommunication Conferences: George Gorsline, VE3YV, an IARU Region 2 Supported by 13 Executive Committee member; Flavio Archangelo, PY2ZX, a member of Brazil's the IAP would WRC-19 delegation and the IARU Region 2 take frequencies CITEL coordinator; Sergio Bertuzzo, VA3SB, RAC International Affairs Officer, and Jon in that range off Siverling, WB3ERA, a member of the US for delegation to WRC-19 and ARRL Technical

with 5G International Mobile Telephony (IMT). Siverling conceded that other administrations could raise the issue at WRC-19.

The International Telecommunication Union (ITU) Radiocommunication Sector (ITU-R) was to conduct and complete appropriate studies to determine spectrum needs for the IMT terrestrial component in the 24.25 - 86 GHz range, and studies on sharing and compatibility, while taking into account the protection of services with primary allocations on the band. ITU-R has not conducted any sharing studies between the IMT-2020 systems and incumbent Amateur Radio and Amateur Satellite services. "Therefore, it has not been demonstrated that the incumbent services can be protected, as required by Resolution 238 (WRC-15), and No Change is proposed for the 47 – 47.2 GHz frequency band," the IAP said.

Fourteen administrations signed on to an IAP that voices no objection to an Amateur Radio allocation at 50 -54 MHz in ITU Region 1 (Europe, the Mideast, and Africa).

Under WRC-19 agenda item 10 (future agenda items), language to protect the Amateur Radio primary 50 - 54 MHz allocation was included in a US proposal to study implementing space-based Earth Exploration Satellite Service (EESS) radars to operate in the 40 – 50

MHz range, in time for WRC-23, recognizing that 50 - 54 MHz is primary in Regions 2 and 3, with an alternative primary Amateur Service allocation in a number of Region 1 countries.

Also under agenda item 10, the frequency segment 47 - 47.2 GHz was removed from a proposal to study several additional frequency ranges for the Fixed Satellite Service (FSS).

Twelve member-states agreed to an IAP that supports no change to the existing allocation at 5725 5850 MHz, and 18 member states supported no change in the 5850 - 5925 MHz segment in the face of calls to consider these bands for higher power and outdoor wireless access points. The US and Canada are among countries with a secondary Amateur Radio allocation at 5650 - 5925 MHz.

Language in a Canadian contribution, with additions from the US delegation, was added regarding WRC-19 agenda item 9.1.6, which seeks to identify frequencies for medium- and high-power wireless charging of electric vehicles (WPT-EV). Delegates to PCC.II forwarded an IAP of No Change to the Radio Regulations. The wording emphasizes the requirement to properly set standards to avoid harmful interference to radio services from WPT-EV systems: "[A]s wireless power transmission and technology for electric vehicles continues to evolve, the protection of existing, planned, and future radiocommunication services against harmful interference. includina unwanted emissions harmonics, must be ensured. This can be achieved through further studies and the development or updating of applicable ITU-R recommendations and reports."

The recent CITEL meeting was the last prior to WRC-19, which will be October 28 - November 22 in Sharm El-Sheikh, Egypt. — Thanks to Jon Siverling, WB3ERA, and Bryan Rawlings, VE3QN

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Net Control Radio Operators

ARE NEEDED

during the work-weekdays from 0700 to 0900 am.

Contact: Jim Wallace, N3ADF

Scouting's JOTA Now Opem for Stations to Regster

Registration now is open for stations to register for Scouting's 2019 Jamboree on the Air (JOTA). JOTA will take place October 18 - 20. JOTA is Scouting's largest event in the world and always takes place over the third weekend of October. Click on "Sign Up Now" and



register using your free Scout.org user id. Use the same site to register for the 2019 Jamboree on the Internet. Bill Stearns, NE4RD, has been named the Boy Scouts of America (BSA) National Jamboree on the Air Task Force Chair. He has activated a number of JOTA and Scout Camp stations from the Montana Scout Council and served on the 2017 National Scout Jamboree K2BSA and 2019 World Scout Jamboree NA1WJ staffs. The NA1WJ Amateur Radio operation at the 2019 World Scout Jamboree in West Virginia reported that more than 3,000 Scouts took part in the ham radio demonstrations, logging more than 4,000 contacts in 86 DXCC entities.

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Hiram Percy Maxim Birthday Celebration

Reminder: The <u>Hiram Percy Maxim Birthday</u> <u>Celebration</u> gets under way on Saturday, August 31, and wraps up on Monday, September 8. The 9-day operating



event commemorates the 150th anniversary of the birth of ARRL cofounder and first president Hiram Percy Maxim, W1AW (HPM) -- born on September 2, 1869 -- and is open to all radio amateurs. The objective is to work as many participating stations as possible. W1AW and all ARRL members will append "/ 150" to their call signs during this

event (DX operators who are ARRL members may operate as <call sign>/150, if permitted by their country of license.) Stations will exchange a signal report and ARRL/RAC Section. A total of 84 multipliers are available. DX stations will send a signal report and "DX." All Amateur Radio bands except 60, 30, 17, and 12 meters are available. Contacts may be made on CW, phone, and digital modes. Incentives are available for using different modes, operating portable, and using social media, among others. Logs will be scored, and downloadable certificates will be available. An announcement and complete rules appear in the September issue of QST, p. 86.

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N1MM Logger+ users



N1MM Logger+ users planning to operate the Hiram Maxim 150th birthday celebration event must first download the file HPM150.zip. the Then. files extract into C:Users<your name>(My) user **DocumentsN1MM**

Logger+UserDefinedContests.

"HPM 150" will show up as a contest choice when you open a new log file. The event is August 31 - September 8. Operating FT4 or FT8 during HPM 150 is not quite as simple. According to WSJT-X developer Joe Taylor, K1JT, the two digital modes are "not a good fit" for the HPM 150 event. "There's no built-in support for two stations using non-standard call signs to work each other with standard auto-sequencing," Taylor said. "Messages intended for Field Day support the exchange of ARRL/RAC sections, but do not include signal reports." He said it's possible to piece together the necessary contact information using free-text messages and manual sequencing, "but most FT4/FT8 users would not find this convenient," he added. -- Thanks to Joe Carcia, NJ1Q, and Joe Taylor, K1JT Used with permission The ARRL Letter for August 29, 2019

Sweden's Alexanderson Alternator station



Sweden's
Alexanderson
Alternator station
SAQ says it
received 438
listener reports -"an incredible
amount" -- for its
June 30
Alexanderson
Day

transmissions. The list included five reports from the US and three from Canada. The historic electro-mechanical transmitter, which dates back to the 1920s, is fired up periodically throughout the year on 17.2 kHz. "We are very thankful for all your enthusiastic and positive feedback, with images, recordings, videos, and even Morse ink writer strips," SAQ said. The station is a World Heritage Site in Grimeton, Sweden. SAQ's June 30 message commemorated the 100th anniversary of the first east-towest transatlantic voice transmission from the Marconi station in Ireland to Cape Breton Island, Nova Scotia. SAQ has posted an interactive map showing the locations of all received listener reports from recent transmissions. including the June 30 transmission, and video of the Alexanderson Day transmission event has been posted to its YouTube channel

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AARC Repeaters and Nets

2 Meter Repeaters

Location	Frequency	Tone	Notes
Davidsonville	147.105+	107.2	AARC Repeater with morning traffic net.
Glen Burnie	147.075+	107.2	AARC repeater Located in Northern AA County.
BrandyWine	147.150+	114.8	SMARC Repeater.
Prince Frederick	Prince Frederick 145.350- 156.7 SPARC/CARC Re		SPARC/CARC Repeater.
Laurel	147.225+	156.7	Laurel ARC Repeater.
Millersville	146.805-	107.2	Repeater.

1.25 Meter Repeaters

Location	ocation Frequency Ton		Notes
Davidsonville	223.880-	107.2	AARC 1.25M repeater *check to see if tied into 7.105
Millersville	224.560-	107.2	AARC repeater Located in Northern AA County.

70cm Repeaters

Location	Frequency	Tone	Notes
Davidsonville	444.400+	107.2	AARC 70 cm Repeater.
Annapolis	442.300+	107.2	AARC 70 cm repeater
Laurel	442.500+ 156.7		Laurel ARC 70 cm Repeater.
Millersville	449.125-	107.2	Maryland Mobileers Repeater.
Upper Marlboro	443.600+	103.5	SMARC 70 cm Repeater.

Packet Stations

Location	Frequency	Call	Notes
Davidsonville	145.050	W3VPR	AARC Club packet node running JNOS
Davidsonville	145.010	W3VPR-5	Digipeter Relay to EOC Winlink
Millersville	145.010	W3AAC-5	Digipeter Relay to EOC Winlink
Glen Burnie	145.010	W3AAC-10	EOC Winlink system and digipeter

Amateur Radio NETS

Name	Frequenc	y (in Mhz)	Day	Time
The "Holly Net"	147.105+	PL 107.2	Weekdays	0700
AARC Talk Net	147.105+	PL 107.2	Wednesday	2000
AA County ARES Net	146.805-	PL 107.2	Sunday	2000
Baltimore Traffic Net	146.670-		Daily	1830
Boating Net	146.805-	PL 107.2	Wednesday	1930
Maryland Emergency Phone Net	3.920		Daily	1800
Maryland-DC-Delaware Traffic Net	3.643		Daily	1900 and 2200
Maryland Slow Net	3.563		Daily	1930
React Net	442.300+	PL 107.2	1st Sunday	1930

We use **simplex 146.430 Mhz** frequently enough that you should probably program that into your HT or mobile. This is the go-to frequency for many 5K race/walk volunteering efforts, local communication, Field Day setup, and the like when we're not using a repeater.

REPEATER FREQUENCIES

Davidsonville	Millersville	Glen Burnie	Annapolis
147.105+		147.075+	
223.880-	224.560-		
444.400+			442.300+

PL: 107.2 for all repeaters

The 147.105 and 147.075 repeaters are frequently linked. Please leave an extra second after the courtesy beep to allow the link to reset as well.

Visitors are welcome to all meetings and nets.

Meetings are held in the Clubhouse at the

Davidsonville Family Recreation Center,

Queen Anne Bridge and Wayson Roads off

MD Route 214 near Davidsonville, MD.

For en-route directions, make initial contact on the 147.105 repeater.

Copyright © 2011 Anne Arundel Radio Club



Wednesday Night Talk Net -- All are welcome

8PM, On the AARC Repeater 147,105

Other Amateur Radio nets

Name	Frequency		Day	Time
The "Holly Net"	147.105+Mhz PL	107.2	Weekdays	0700
AA County ARES Net	146.805- Mhz PL	107.2	Sunday	2000
Baltimore Traffic Net	146.670- Mhz		Daily	1830
Maryland Emergency Phone Net	3.820Mhz		Daily	1800
MD-DC-DE Traffic Net	3.557Mhz		Daily	1900 and 2200
Maryland Mobileers Net	146.805	PL107.2	Monday	1930
Maryland Slow Net	3.563 MHz		Daily	1930
REACT Net	442.300+Mhz	PL107.2	1st Sunday	1930

The Radio Amateur Operator is...

CONSIDERATE

...He/[She] never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL

...He/[She] offers loyalty, encouragement and support to other amateurs, local clubs, the IARU Radio Society in his/[her] country, through which Amateur Radio in his/[her] country is represented nationally and internationally.

PROGRESSIVE

...He/[She] keeps his/[her] station up to date. It is well-built and efficient. His/[Her] operating practice is above reproach.

FRIENDLY

...He/[She] operates slowly and patiently when requested; offers friendly advice and counsel to beginners; kind assistance, cooperation and consideration for the interests of others. These are the marks of the amateur spirit.

BALANCED

...Radio is a hobby, never interfering with duties owed to family, job, school or community.

PATRIOTIC

...His/[Her] station and skills are always ready for service to country and community.

- adapted from the original Amateur's Code, written by Paul M. Segal, W9EEA, in 1928The Radio Amateur's Cod