The Ham Arundel News





June 2020



Prez Sez

As 2020 started I had this concept in mind that we'd be finishing the ham shack, and putting up a tower that would enable us to use it on all bands 160m through 70cm. I wasn't sure we'd get all the new antennas up but I thought maybe some would be operational by year's end. I had a Field Day Team Leader in place in whom I

had, and still have, great confidence, and was looking forward to June and all the fun we'd have.

What a difference a pandemic makes. When faced with the possibility that not all of us might be here to see 2021 priorities change, and fast. It reminds us that keeping everyone safe really is, and always has been, 'job one'.

With adversity comes ingenuity. We've adapted. Projects we had in mind for 2020 are now on the back burner. Health and COVID-19 protection have jumped to the foreground. Field Day plans have been modified, and modified again. Testing has been halted, and likely soon will restarted soon with a whole new set of rules to keep us all safe. And we didn't stop training new hams or holding meetings. We found Zoom, and made it standard for our meetings and classes. We are hams after all. We adapt to use new technologies all the time. It is who we are. We are constantly a work in progress.

Some of this has even led to permanent improvements that will last well beyond our current health We are already working to hybridize future crisis. meetings, making them attendable either in person or And the ability to record meetings, classes, online. presentations and such opens new avenues for us. It appears we radio types have a lot more to learn about using video, but we are headed down the right road.

As the Governor's plan for re-opening Maryland is already underway, and as we proceed toward restarting VE Testing and holding a Field Day event at the DFRC there are a few things we need to consider.

But for a minute, lets consider considering. When I need to make a decision the first thing I do is study up on the subject. Research is a good thing. I also tend to ask the opinions of those I feel have some expertise in the topic. Opinions aren't facts, so before I consider them, I tend to first evaluate 1) the sources for my information, 2) their relative expertise on the topic, and 3) their personal stake in the outcome. So when it comes to a medical

41st Year of Publication

problem, like COVID-19, I rely on the medical community, rather than the political community for my information. Simply put, I trust doctors more than politicians of any Clearly they have more expertise in medical party. matters. Plus their stake in the game seems a lot more about people staying alive than about a myriad of other concerns. Doctors have a bigger job than keeping 51% of us happy once every few years.

Every doctor I've seen on TV tells me the same few things. First, not everyone who has been infected with the COVID-19 virus shows any symptoms. Ever! Some people's immune systems seem to successfully ward off the virus, and then a few weeks later produce antibodies for it, just as if they had been sick. Using contact tracing techniques it does appear that these people are contagious for some period, but how long and when is not easy to determine.

Second, we are told that for a few days prior to a person showing symptoms of COVID-19 they appear to be able to spread the virus, though not as effectively as someone who is actively sneezing and coughing. And we, for sure, know they can spread the virus after they start showing those symptoms, plus others like chills, muscle pains, sore throat, loss of taste or smell, shortness of breath, and fever.

Third we are told by the medical community that those with symptoms like trouble breathing, persistent pain or pressure in the chest, new confusion, inability to wake or stay awake, and bluish lips or face, should seek medical care immediately.

Armed with this knowledge, many places have begun using IR thermometers, which run under \$100. They quickly determine if anyone has a fever, without any physical touching of the person being tested. Folks who have fevers are not admitted and sent home. While this is not a sure fire method of determining if someone has an active COVID-19 infection, it is a tool worth using. I have therefore asked the Board to vote by email on a Motion to purchase such a device for the club. We can then use it to screen participants for both Field Day and all VE Testing, until the pandemic is over. Again this will not insure us that no one who is infected gets in, but it will warn us of those who are most likely to be infected.

I would also ask anyone who plans to attend either Field Day or a VE Testing session be aware of the symptoms listed above, and know when to stay home.

Next I would like to remind all our members, that face masks are to be worn during Field Day and its setup and teardown sessions. This will also be the case at all

VE Testing for the foreseeable future. We may make exceptions for microphone use, assuming we can't find microphones that can go inside your mask.

We will also have a lot of hand washing, Clorox wiping and equipment disinfecting going on whenever we are at the DFRC. We will enlist your aid as needed, and can only hope to have sufficient volunteers to keep things clean and sanitized.

I suspect you don't need to be reminded but, the wearing of a mask is not a political statement. It is not even primarily a way to protect yourself from COVID-19. It is a way to prevent others from getting COVID-19 from you, should you have it, and perhaps not know it. So please protect your fellow hams and in doing so their families and loved ones. I urge you to wear a mask when at the DFRC until further notice. Protective gloves may also be a requirement at times for various things like test handling. If the VE Team Leader or Field Day authority ask you to wear protective gloves, please humor them and just do it. Your help will be greatly appreciated.

Thanks in advance.

73!

Keith, AE3D

Social Distancing Exam Sessions Demonstrate Pent-Up Demand for Testing

A recent in-person "social-distancing" amateur radio exam session in Indiana and a "drive-in" session in California are representative of those that are relieving some of the pent-up demand for testing. As the COVID-19 pandemic continues, in-person exam sessions have begun to resume across the US and elsewhere in the world.

"With in-person sessions starting up again around the country, we are hearing the same story from volunteer examiner (VE) teams everywhere," said ARRL Volunteer Examiner Coordinator (VEC) Maria Somma, AB1FM. "Large numbers of candidates who have been waiting to test are contacting teams and are thankful for the



opportunity to sit for an exam. So far, we've heard mostly positive results. Candidates are very prepared, as they've had extra time to study. VE teams and candidates are following CDC and

state guidelines for social distancing."

Anderson (IN) Repeater Club VE Team Liaison Steve Riley, WA9CWE, told ARRL earlier this month that his club has been conducting test sessions every month since 2011, typically serving four or five candidates each session, but the May 19 session attracted 14 individuals.

"We were unable to test in April, but were able to get back in for the May session," Riley said. "Several candidates were from Central Indiana, and we had a fellow drive down from Chicago, a couple from the Dayton, Ohio, area, and also from Fort Wayne, Indiana." The team limited participation until it could conduct the trial run. VEs and examinees alike wore face masks, and the test room was configured to accommodate the necessary spacing between individuals. "We questioned everyone entering with the usual health questions," he added.

"Our VE paperwork became a serial flow for

grading instead of our prior 'huddle' of the three VEs over the answer sheet," Riley recounted. "As a result, things were a bit slower than in the past. The tables, pencils, and pens were disinfected."

The result for the session was 11 new radio amateurs and three upgrades. "All went well,



although we identified a couple improvements in paperwork flow for next month's test," Riley added.

"There is quite a pent-up demand for new amateur licenses and upgrades as a result of the number of test sessions that have been canceled," he continued. "I hope that as sessions resume, they have the success that we had." Riley said he's already been contacted by six people who plan to sit for the exam in June.

In California, VE Larry Loomer, KI6LNB, told the ARRL VEC that his team conducted a successful drive-in license testing session on May 16 at the Concord Bay Area Rapid Transit Station.

Loomer explained that candidates fill out their paperwork in their cars. "I have circled in pencil all of the boxes on [Form] 605, the answer sheet, and the CSCE (Certificate of Successful Completion of Exam) that the candidates need to fill in, to minimize the face-to-face time." Once paperwork is completed, candidates take a test booklet and answer sheet on a clipboard and sit in a chair in front of their cars, taking the test in front of the VEs.

Completed tests go into a box on the VE table, and candidates back their cars into a holding area, to let other cars park by the testing chairs. Once a test is scored and signed, the CSCE goes to the waiting candidate, who may then drive away.

"I'm seeing videos of remote test-taking sessions, and they still look labor intensive to me," Loomer said. "We are sticking with the drive-in format for the present time."

Somma said, "Our VE teams are doing a great job! I'm impressed with their attention to safety, their professionalism, and their innovative tactics."

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Temporary Rule Waivers Announced for 2020 ARRL Field Day

With one month to go before 2020 <u>ARRL Field</u> <u>Day</u>, June 27 - 28, the ARRL Programs and Services Committee (PSC) has adopted two temporary rule waivers for the event:

1) For Field Day 2020 only, Class D stations

may work all other Field Day stations, including other Class D stations, for points.

Field Day rule 4.6 defines Class D stations as "Home stations," including stations operating from permanent or licensed station locations using commercial power. Class D stations ordinarily may only count contacts made with Class A, B, C, E, and F Field Day stations, but the temporary rule waiver for 2020 allows Class D stations to count contacts with other Class D stations for QSO credit.

2) In addition, for 2020 only, an aggregate club score will be published, which will be the sum of all individual entries indicating a specific club (similar to the aggregate score totals used in ARRL affiliated club competitions).

Ordinarily, club names are only in published the results for Class A 🗛 and Class F entries, but the temporary rule waiver for 2020 allows participants from <u>any Class</u> to optionally include a



single club name with their submitted results following Field Day.

For example, if Podunk Hollow Radio Club members Becky, W1BXY, and Hiram, W1AW, both participate in 2020 Field Day -- Hiram from his Class D home station, and Becky from her Class C mobile station -both can include the radio club's name when reporting their individual results. The published results listing will include individual scores for Hiram and Becky, plus a combined score for all entries identified as Podunk Hollow Radio Club.

The temporary rule waivers were adopted by the PSC on May 27, 2020.

ARRL Field Day is one of the biggest events on the amateur radio calendar, with over 36,000 participants in 2019, including entries from 3,113 radio clubs and emergency operations centers. In most years, Field Day is also the largest annual demonstration of ham radio, because many radio clubs organize their participation in public places such as parks and schools.

Due to the COVID-19 pandemic, many radio clubs have made decisions to cancel their group participation in ARRL Field Day this year due to public health recommendations and/or requirements, or to significantly modify their participation for safe social distancing practices. The temporary rule waivers allow greater flexibility in recognizing the value of individual and club participation regardless of entry class.

ARRL is contacting logging program developers about the temporary rule waivers so developers can release updated versions of their software prior to Field Dav weekend.

Participants are reminded that the preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules include instructions for submitting entries after the event. Entries must be submitted or postmarked by Tuesday, July 28, 2020.

The ARRL Field Day web page includes a series of articles with ideas and advice for adapting participation this vear.

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What is that signal I just heard?

SIGNALWIKI

Here is a site that has cataloged various transmissions and attempts to identify them. There are recording and waterfall signature that you can use to compare.

^^^^^

Emergency Ventilator Designed and Constructed by Hams Going to FDA

Radio amateurs have succeeded in providing a complete, working ventilator system to University of Florida researchers who are in the process of applying to the Food

and Drug Administration for an Emergency Use Authorization (EUA). А successful submission would blaze the way for volunteers and manufacturers



around the world to Airway components of the emergency create highly Intensive Care Unit

low-cost, ventilator. [Photo courtesy of Gordon functional Gibby, KX4Z]

(ICU) or anesthesia-care ventilators that offer many of the features of modern ventilators at a fraction of the typical cost. Dr. Gordon Gibby, KX4Z, who is associated with the project, said efforts to further improve the device are ongoing.

"We made a stunning improvement in accuracy of the system and measuring volumes last night at about 1 AM," he told ARRL. "Accuracy of that particular alarm measurement went from about 300%, down to about 10%. The FDA submission is being readied, but we keep making engineering improvements."

Gibby credited some of the primary volunteers. Benedict, KD8CGH, has provided incredible "Bob volunteer testing, now exceeding 1.6 million cycles on one crucial valve and 300,000 on another. Jack Purdum, W8TEE, is the main 'code-cleaner' for one of multiple teams building software, following the initial lead of Marcelo Varanda, VA3MVV. Ashhar Farhan, VU2ESE, not only created the ventilator controller schematic but the printed circuit board layout that will be part of an expected University of Florida submission." Farhan was among the founding code writers of what we now know as Voice over Internet Protocol (VoIP).

Other hams worked on mechanical designs for



The ventilator controller circuit board, designed by Michael Stapleton, WD4LHT. [Courtesy of Gordon Gibby, KX4Z]

the ventilator to go more than 1 million breaths before significant valve issues developed, and the part can be replaced for less than \$15.

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The completed prototype in Florida was built using typical tools by a radio amateur, and assembled boards provided by LifeMech, a manufacturer working with the project. Farhan crafted an extendable menu structure for the Arduino Nano-based controller, and gas-flow measurements are made every few milliseconds by an I2C-based differential pressure transducer that can measure down to tiny PSI fractions, allowing the design to accurately track patient-induced variations in the volume of delivered gasses.

"Using Wenzenried's expiratory valve, electronic on-off control at the rate of 30 Hz allows modulation of the valve to set the continuous airway pressure used to keep the patient's lung alveoli open against virus-induced waterlogging of the connective tissue," Gibby explained. An improved software design allows faster monitoring that accurately measures patient breaths despite gas flow perturbations, with the only valve component showing wear after nearly a million cycles is the nitrile diaphragm.

"Perhaps the most surprising development was the addition of the ability to sense patient effort to take a breath and immediately switch to assisting the patient with that breath, known as 'assist-control' ventilation," Gibby said. "This is expected to allow far lighter sedation of patients — potentially even no sedation — and allows patients' crucial respiratory muscles to keep up their strength." He said the current design goes far beyond the FDA's guidance document for emergency ventilator development.

Radio amateurs delivered the operational control system, basic manufacturing instructions, software, and software explanation to the University of Florida on April 24

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Scott's YouTube Channel

Scott DeMatteo (W3GTR) has started his own YouTubeChannel with info of interest to hams. Click on the link below to see it. <u>https://www.youtube.com/channel/</u> <u>UCFZa4GVqCL4tZN9afKc4i7Q</u>

Radio Amateur Finds Another "Zombie Satellite"

British Columbia radio amateur Scott Tilley, VE7TIL, has found another "zombie satellite," as he calls them. This time, he tracked and identified radio signals from the experimental 236.748.700

UHF military communication satellite LES-5. Tilley says he found the satellite in what he called a geostationary "graveyard" orbit after noting a modulated carrier on 236.7487 MHz.

"Most zombie satellites are satellites that are no longer under human



control, or have failed to some degree," Tilley told National Public Radio (NPR) earlier this month. It's not clear whether LES-5 is still capable of receiving commands.

LES-5 was built by MIT's Lincoln Laboratory and launched in 1967 as part of the military's Tactical Satellite Communication Program. It was supposed to shut down in 1972, but it continues to operate as long as its solar panels are facing the sun.

What intrigued Tilley about LES-5 was that it might be the oldest functioning geostationary satellite in space.



After British Columbia went on lockdown due to the COVID-19 pandemic, Tilley found himself with a lot of free time such for а search. He located LES-5 on March 24. From his home in

LES-5 under construction

Roberts Creek, British Columbia, Tilley, an amateur astronomer, routinely scans the skies for radio signals from classified objects orbiting Earth. Since he started, he's located dozens of secret or unlisted satellites.

In 2018, while hunting for an undisclosed US government spacecraft lost in a launch mishap, he spotted the signature of IMAGE (Imager for Magnetopause-to-Aurora Global Exploration), a NASA spacecraft believed to have died in December 2005. The <u>discovery</u> delighted space scientists. NASA and another ham in the UK confirmed his finding. Launched in 2000 on a mission to monitor space weather, IMAGE mapped plasma patterns around Earth.

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NASA CubeSat Array to Study Causes of Giant Solar Particle Storms

A new NASA mission making use of a half-dozen CubeSats will study how the sun generates and releases giant space weather storms -- known as solar particle storms -- into planetary space.

"Not only will such information improve understanding of how our solar system works, but it ultimately can help protect astronauts traveling to the moon and Mars by providing better information on how the sun's radiation affects the space environment they must travel through," NASA said of the new Sun Radio Interferometer

Space Experiment

mission will involve

an array of six

operating as one

very large radio

telescope. NASA

design, build, and

project.

CubeSats

has

\$62.6

launch

(SunRISE)

awarded

SunRISE

million to

The



Illustration 1: NASA's SunRISE mission will study what drives solar particle storms. [NASA, image]

as early as mid-2023.

NASA chose SunRISE in August 2017 as one of two Mission of Opportunity proposals to conduct an 11month mission concept study. In February 2019, the agency approved a continued formulation study of the mission for an additional year. SunRISE is led by Justin Kasper at the University of Michigan in Ann Arbor and managed by NASA's Jet Propulsion Laboratory (JPL) in Pasadena, California.

"We are so pleased to add a new mission to our fleet of spacecraft that help us better understand the sun, as well as how our star influences the space environment between planets," said Nicola Fox, director of NASA's <u>Heliophysics Division</u>. "The more we know about how the Sun erupts with space weather events, the more we can mitigate their effects on spacecraft and astronauts."

The six solar-powered CubeSats will simultaneously observe radio images of low-frequency emissions (0.1 - 25 MHz) from solar activity and share them via NASA's Deep Space Network. The constellation of CubeSats would fly within 6 miles of each other. The CubeSats will create 3D maps to pinpoint where giant particle bursts originate on the Sun and how they evolve as they expand outward into space. This, in turn, will help determine what initiates and accelerates these giant jets of radiation. The six individual spacecraft will also work together to map -- for the first time -- the pattern of magnetic field lines reaching from the sun out into interplanetary space.

NASA's Missions of Opportunity pair new, relatively inexpensive missions with previously approved host launches.

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Garmin Seeks FCC Ruling or Waiver to Obtain Certification for Part 95/Part 25 Device

The FCC is <u>seeking public comment</u> on an April 24 request by Garmin International for a declaratory ruling or a rules waiver to obtain equipment certification for a handheld unit that combines a low-power, terrestrial Part 95 Multi-Use Radio Service (MURS) transmitter and a Part 25 emergency satellite communication module in the same device. Section 95.2761(c) precludes combining MURS transmitting capabilities in equipment that is also

capable of transmitting in another service, with the exception of Part 15 unlicensed services.

Garmin's proposed product is a handheld unit that will include two transmitters: a low-power MURS transmitter for shortrange terrestrial communication, and a previously certified Part 25



module that will allow emergency communication via the Iridium satellite system under a blanket license held by Iridium. End users would have to subscribe to the Iridium service.

Garmin argues that the purpose of the original equipment authorization restriction was "to prevent consumer confusion with other terrestrial services that either had different licensing regimes or were for different types of communications" and that it is inappropriate in this case. Garmin asserts that a waiver would serve the public interest because "the certified Part 25 module in the MURS unit would allow emergency communications to the outside world at the push of a button." The FCC seeks comment on the waiver request.

Comments are due by May 28, with reply comments due by June 13. Interested parties may file short comments via the FCC's <u>Electronic Comment Filing</u> <u>Service (Express)</u>. Visit the FCC's "<u>How to Comment on FCC Proceedings</u>" page for information on filing extended comments

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Getting It Right

The news brief "Welsh Radio Amateur Heard *Titanic* Distress Call, But Authorities Did Not Believe Him" in the April 23 edition of *The ARRL Letter* repeated a myth regarding the now-obsolete CQD distress signal. It was not an acronym for "come quickly, distress."

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RSGB Aims to Promote Health and Well-Being within the Amateur Radio Community

The Radio Society of Great Britain (RSGB) has launched a major campaign -- "Get on the air to care" (GOTA2C) -- in association with the UK National Health Service (NHS) to help promote health and well-being within the amateur radio community during the COVID-19 pandemic.

"Now, more than ever, we need to optimize all modes of communication to help reduce loneliness and



isolation within communities," said Paul Devlin, of the NHS England Emergency Care Improvement Support

provides "Amateur radio а wonderful, Team. unprecedented opportunity to help make this a reality." The RSGB is urging radio amateurs in the UK and around the globe to get on the air to chat and "support each other across the airwaves."

Radio amateurs can "get on the air to care" with a simple handheld transceiver.

RSGB General Manager Steve Thomas, M1ACB, said, "We want this campaign to inspire even more to get involved and also to use #GOTA2C when they share photos, videos, and news of what they're doing on social media."

Devlin said that GB1NHS, the UK's National Health Service ham station, gives the NHS "the ability to reach communities anywhere in the world, regardless of geographic

location or to GBINHS connection domestic power supplies, land lines, cell phone,



or internet services. It will be on the air as part of this campaign, so listen out for it!"

ARRL has been promoting its "Stay Safe and Stay on The Air" initiative in some of its media outlets, using the hashtag #StayOnTheAir, as a way to counter online fatique and social isolation. Read more. -- Thanks to Heather Parsons, RSGB Communications Manager

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Amateur Radio Gains Significant Boost in UK by Connecting People



Mark Rider, G3VHJ.

During Lockdown A recent **BBC**

feature has news outlined how ham radio has gotten a significant boost by connecting during people the COVID-19 lockdown in

the UK. The article, by Vanessa Pearce, quotes the Radio Society of Great Britain (RSGB) -- the UK's IARU member-society -- as saying that many former hams are now returning to the hobby. Mark Rider, G3VHJ -- a retired engineer who lives alone in North Warwickshire -- said that after the lockdown restricted his occasional trips to the pub, rehearsing with musician friends, and visiting his wife in a nursing home, he decided to dust off his ham radio equipment "to seek out

some other social interaction." Rider said that ranchewing has become one of the highlights of his day. "Just speaking to somebody else in the same situation is very rewarding," he said. The 67-year-old told BBC News that keeping in touch with others has been more important since his wife suffered a stroke.

RSGB General Manager Steve Thomas, M1ACB, said the society has experienced a three-fold increase in license examination applications since social distancing

rules were put into place. The UK has about 75,000 amateur licensees.

Elevenyear-old Anne-Marie Rowland, 2E0RUX, of Cornwall, worked with the Cornish Amateur Radio Club to conduct informal twice-weekly nets to help keep people in "We have touch.



Ann-Marie Rowland, 2E0RUX.

some regulars, but also

some new people join in," she told the BBC. Her father, Bill, MONXF, runs a net that has attracted older radio amateurs who are self-isolating, to help them feel connected.

The RSGB recently instituted its "Get on the Air to Care" (#GOTA2C) campaign in conjunction with the National Health Service and its GB1NHS amateur station to promote amateur radio use during the pandemic lockdown. Some stations have been adding /NHS to their call signs to support the effort, which aim to support the emotional health and wellbeing of the amateur radio community.

The RSGB introduced remote administration of entry-level Foundation-class amateur radio exams in mid-April. Pete Sipple, M0PSX, told BBC News that he's seen a "massive" surge in demand for training courses and exam session and has had to up the number of course offerings.

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The Anne Arundel Radio Club is a registered 501C3 charity. We are pleased to receive any donations over your yearly dues.

Amateur Radio Gearing Up for Predicted "Above Average" Atlantic Hurricane Season

Long-range forecasts for the 2020 Atlantic Basin hurricane season, which begins on June 1 and extends until November 30, anticipate above-normal activity. The National Hurricane Center (NHC) 2020 outlook calls for a season about 140% more active than average, with four Category 3 to Category 5 hurricanes. The 2019 season saw three major hurricanes (out of six).

"The above-average prediction is largely due to the hot Atlantic and Caribbean waters and lack of a substantial El Niño in the Pacific," the NHC explained,



noting that the combination of a busy hurricane season and the ongoing COVID-19 pandemic could create a nightmare scenario for affected areas. FEMA and local emergency management agencies are already issuing COVID-19 auidelines for hurricane shelters, which include face masks and social distancing.

The NHC Annual Station Test -- to check readiness of amateur radio

stations and operators -- takes place on Saturday, May 30, 1300 - 2100 UTC. The NHC's WX4NHC will be on the air, marking its 40th year of public service at the NHC. Julio Ripoll, WD4R, the Assistant Amateur Radio Coordinator at the NHC, said the event offers an opportunity for radio amateurs worldwide to exercise the sorts of communications available during severe weather. "We will be making brief contacts on many frequencies and modes, exchanging signal reports and basic weather data -sunny, rain, temperature, etc.) with any station in any location," Ripoll said.

Operation will be on HF, VHF, UHF, APRS, and Winlink. WX4NHC will center its activity on the Hurricane Watch Net (<u>HWN</u>) frequencies of 14.325 MHz and 7.268 MHz, depending on propagation, but will operate elsewhere as conditions dictate. WX4NHC will also operate on the <u>VoIP Hurricane Net</u> from 2000 until 2100 UTC.

Dr. Philip J. Klotzbach *et al* of the Colorado State University (CSU) Department of Atmospheric Science cite a variety of factors that led them to conclude this hurricane

season could get serious. Pointing to the "somewhat above normal" tropical Atlantic seasurface temperatures, the scientists estimate "about eight hurricanes," four of them major, during the 2020 season.

"I must say, I'm not liking what I'm seeing," reacted Hurricane Watch Net Manager Bobby Graves, KB5HAV,



North Carolina State University. The TSR forecast calls for three major hurricanes, while the University of Arizona and North Carolina State predict between three and five major hurricanes.

"Since 2014, the Hurricane Watch Net has been very busy," Graves told ARRL. "We've had 20 net activations for 19 hurricanes and one tropical storm. Since 2015, we've worked nine major land-falling hurricanes, including four land-falling Category 5 storms."

Graves pointed out that the past six hurricane seasons not only were busy and historic but very deadly, and he's hoping the 2020 hurricane season will not turn in a repeat performance.

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A Pre-Hurricane Season Exercise Was Carried Out On May 16

A pre-hurricane season exercise was carried out on May 16 for radio amateurs and the National Weather Service (NWS) in the southeastern US. The

scenario was а Category 3 - 4 storm making landfall at Panama City on Florida's panhandle. and moving through Alabama and Georgia. The Tallahassee NWS Office asked amateur



radio operators for weather and storm damage reports. Exercise nets opened on HF and on a VHF repeater (HF turned out to be a disappointment), with stations using Winlink for reporting. Stations' weather observations were submitted to the NWS via the nets using the *NWSChat* utility. The Atlantic Hurricane Season starts on June 1. --Thanks to The ARRL ARES E-Letter

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Global COVID-19 Radio Event Set for June 6 - 7

Stations bearing call signs that promote the "stayat-home" message and the value of social distancing and isolation have sprung up during the COVID-19 pandemic,



with some 150,000 messages of support shared around the world. An on-air gathering over the June 6 - 7 weekend will offer a further opportunity for stay-athome stations and radio amateurs to share greetings in a contest-like

framework, looking toward the day that restrictions will ease, eventually making the stay-at-home injunction obsolete. The patron of the STAYHOME radio <u>campaign</u> is

Finland's Foreign Minister Pekka Haavisto, and the worldwide activity has the endorsement of International Amateur Radio Union (IARU) President Tim Ellam, VE6SH/G4HUA, and the United Nations Amateur Radio Club.

"Amateur radio operators across the world are experiencing something we have never seen before, with the current COVID-19 pandemic," Ellam said. "In times like this, on-the-air activities can benefit our communities and ourselves. Events such as this are important to improve operating skills. It is also encouraging us to get on the air and keep active, as well as promoting social distancing." Ellam expressed thanks to the national regulators in more than three dozen countries that made special stay-at-home-suffix call signs available for amateur use.

Sponsoring the event and campaign are the Finnish Amateur Radio League (SRAL), in cooperation with Araucaria DX Group (ADXG) of Brazil, and Radio Arcala (OH8X) in Finland.

UN Amateur Radio Club President James Sarte, K2QI, has said that 4U1UN will be on the air to support of the global STAY HOME movement, as will sister stations 4U1GSC (operated as 4U9STAYHOME) and 4U1A (operated as 4U2STAYHOME).

Special event station W2I/STAYHOME, helmed by Ria Jairam, N2RJ, and Peter Dougherty, W2IRT, will also be on the air, operating CW, SSB, and FT8 simultaneously. (Jairam is ARRL Hudson Division Director.)

The STAYHOME event gets under way at 1000 UTC on Saturday, June 6, concluding 24 hours later. Bands will include 80, 40, 20, 15, and 10 meters, with CW, SSB, and digital (FT4/FT8 only). Exchange is a signal report and operator age, except for FT4/FT8 reports. Awards and certificates in the various operating categories will be available. Email for more information.

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Planning Your ARRL Field Day 2020 Operation

For most of us, ARRL <u>Field Day</u> 2020 is going to look quite different than it has in past years. Considering the impact of social distancing due to the COVID-19 pandemic,

many radio clubs and large groups will not be gathering in their usual Field Day locations this year. Here are some tips and suggestions to help participate



in amateur radio's largest annual on-air event under these unusual circumstances.

Don't Forget 6 Meters Field Day is a non-adjudicated operating event and not a "full speed ahead" contest. It is also not just an HF event. All amateur radio bands above 50 MHz may be used during the event too.

This includes 6 meters, which often offers significant propagation enhancements around the time of Field Day weekend. The band is available to amateurs holding a Technician-class license or higher. If you have an HF/VHF/UHF multi-mode transceiver, try making SSB, CW, or digital contacts on 6 meters. Even a simple vertical or dipole will allow you to experience the "magic band."

Activities for Techs

One suggestion for clubs to consider in order to increase participation among their Technician-class members is to schedule specific times when these club members will monitor designated VHF and UHF simplex frequencies for Field Day activity. (Avoid published national FM simplex calling frequencies; repeaters are prohibited for Field Day contacts.) This way, members having equipment capable of VHF/UHF-only operation may be able to participate from home or a vehicle. Clubs can choose a list of frequencies and schedule times in advance.

On HF, Technician-class licensees have CW privileges on 80, 40, and 15 meters, as well as RTTY/data and SSB phone privileges on 10 meters. If you aren't a CW operator, try calling CQ on 10-meter SSB in the late afternoon and early evening on Saturday to see if conditions are favorable for long-distance communications. Try experimenting with a simple wire antenna for 10 meters. You might discover that the band can offer plenty of unexpected propagation.

Set Up for Digital Modes

You might want to explore using FT4/FT8 (or other) digital modes on 10 meters, 6 meters, or even on VHF/UHF. These modes offer an opportunity to make weak-signal contacts when band conditions often do not support voice communication. There have been reports of some great 6-meter openings in recent weeks, and these are likely to occur more frequently as summer approaches.

Setup is relatively straightforward. You'll need a computer and a digital interface to connect the radio to the computer, and you'll need to download one of the digital mode software packages, such as the free <u>WSJT-X</u> suite, which incorporates FT8 and FT4. Software should support the ARRL Field Day exchange (*WSJT-X* version 2.0 or later, for example).

ARRL <u>Field Day</u> rules place a premium on "developing skills to meet the challenges of emergency preparedness as well as to acquaint the general public with the capabilities of amateur radio." Field Day 2020 is June 27 - 28.

The Excitement of Ham Satellites

Another area to explore is satellite operation. Many hams have had success making contacts via the FM satellites with just a VHF/UHF handheld radio and a small handheld directional antenna. You'll need a multi-mode VHF/UHF transceiver for the linear (SSB and CW) satellites. To determine when a satellite will be making a pass over your location, visit AMSAT's <u>Online Satellite</u> <u>Pass Prediction</u> page.

An Opportunity for Learning

ARRL Field Day 2020 may be the year you decide to participate solo, or with other members of your household. You may want to focus on expanding your knowledge base and experiment with new modes or bands that you never thought of using before. If you're a mentor to a newer ham, Field Day can be an opportunity to share some of your knowledge with them, as well as for you to expand your own operating horizons. This might be the year to leave your Field Day comfort zone and try something new!

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Venerable AO-7 Satellite Continues to Deliver

The nearly 46-year-old AO-7 amateur satellite made a remarkable contact possible on May 4 between Diego Feil, LW2DAF, in Buenos Aires, Argentina (GF05rk), and Tom Ambrose, ZS1TA, in Cape Town, South Africa (JF95fx). The contact spanned 4,329 miles across the



South Atlantic, with both stations aiming at only 2 or 3 degrees above the horizon.

Both stations had been watching orbital predictions for several weeks,

and the times they could "see" AO-7 at the same time occurred only occasionally. Electrical noise, particularly in Cape Town, had hampered earlier efforts, but on the morning of May 4, noise levels were low, and a perfect contact was possible with a full exchange of call signs and reports.

In 2016, Dave Swanson, KG5CCI, in Arkansas, and Eduardo Erlemann, PY2RN, in Brazil, achieved a distance milestone on AO-7, completing a scheduled contact that covered a calculated distance of just over 4,979 miles, which Swanson at the time said was "way beyond the theoretical range of AO-7" and a feat that "the math said shouldn't be possible." -- *Thanks to* AMSAT News Service

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Islands On The Air Users May Obtain Award Credits via Logbook of The World

Islands On The Air (IOTA) users may now obtain contact credits via ARRL's Logbook of The World (LoTW). A similar arrangement is already in place with Club Log.

"Islands On The Air (IOTA) Ltd. is delighted to announce the implementation of the ARRL application which allows the use of QSO-matching via LoTW," IOTA's Roger Balister, G3KMA, said. "We wish to thank ARRL for having made their application available."

Balister said an initial list of operations extending from the arrangement with LoTW has been added to the IOTA database, and these will become available for contactmatching starting on May 21. "We are sure that the IOTA community will welcome this development for which they have long been pressing," Balister added.



ARRL Director of Operations Norm Fusaro, W3IZ, points out that LoTW has, for years, allowed award sponsors access to a utility that lets them verify contacts in LoTW. "The IOTA folks have begun using this utility, but still check the QSOs against known IOTA operations," he explained, noting that applicants cannot apply for IOTA awards through LoTW.

To claim a new island group from matched LoTW contacts, users would click on "Retrieve QSOs from LoTW" to retrieve matching records. Within 30 minutes, IOTA users will receive an email listing the matches added to a list of pending contacts.

Use the "Submit HF application" or "Submit VHF application" utilities to go through the steps necessary to ensure that your application is complete before submitting it. Once IOTA has accepted the LoTW-matched contacts and any others in an application supported by QSL cards, IOTA will credit the contacts to your IOTA Award account and issue any appropriate awards or certificates.

See Instructions for LoTW QSO Matching for details. Direct correspondence to the IOTA Support Desk

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Amsat Has Spelled Out Its Golf Program Objectives.

AMSAT says the aim of its developing "Greater Orbit, Larger Footprint" (<u>GOLF</u>) satellite program is to place amateur radio transponders in low-Earth orbit (LEO), medium-Earth orbit

(MEO), and eventually high-Earth orbit (HEO). "The goal of the GOLF program is to work by steps through a series of increasingly capable spacecraft to learn skills and



systems for which we do not yet have any low-risk experience. Among these are active attitude control, deployable/steerable solar panels, radiation tolerance for commercial off-the-shelf components in higher orbits, and propulsion," AMSAT explained. "The first step is to be one or more LEO satellites similar to the existing AO-91 and AO-92, but with technologies needed for higher orbits." AMSAT says the eventual goal is an HEO satellite similar to AO-10, AO-13, and AO-40, "but at a currently affordable cost combined with significantly enhanced capabilities." Used with permission The ARRL Letter for May 28, 2020

W1AW 2020 Spring/Summer Operating Schedule

Morning Schedule:

Time	Mode	Days
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 PM ET)	VOICE	Daily
0200	"	(10 PM ET)	CWf	Mon, Wed, Fri
0200	"		CWs	Tue, Thu
0300	"	(11 PM 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 91 in the March 2020 issue of QST or on the web at, <u>http://www.arrl.org/w1aw-operating-schedule</u>.

Used with permission ARRL Bulletin 8

Resolving Sunspot Number Confusion

Recently, well-known contester and DXer Frank Donovan, W3LPL, <u>reviewed</u> NOAA's official updated solar cycle prediction. Noted propagation authority Carl Luetzelschwab, K9LA, followed up.

In his discussion, Donovan commented that the



International Sunspot Number is typically about one-third lower than the Space Weather Prediction Center (SWPC) sunspot number. There's a good reason for this discrepancy, and it should be resolved in the near future. Let's look at how we got

The Space Weather Prediction Center.

into this confusing situation, and what the solution is. We have sunspot records back to Solar Cycle 1 (and even earlier). The official sunspot number originally came out of Zurich, but now originates from the Royal Observatory of Belgium. In 1848, Rudolf Wolf devised the equation for the sunspot number. It involves the number of sunspot groups, the total number of individual spots in all the groups, and a variable scale factor. We were happy with this until 2011, when the first of four workshops were held to review the sunspot data due to concerns that the scale factor may have been skewing the data. The result of the four workshops was an entirely new sunspot record.

The biggest difference is the scale factor of 0.6 that had been used and is no longer considered valid, based on corroborating data. This change raised the revised (Version 2.0) data over the former (Version 1.0) data by 1/0.6. The Royal Observatory of Belgium started reporting Version 2.0 sunspot numbers on July 1, 2015. Keep in mind that the V2.0 record *all the way back to Cycle 1* changed, too). Now, if we go to the Table of Recent Solar Indices (Preliminary) of Observed Monthly Mean Values' in the data tab, we'll see the following SWPC predictions. Columns 1 and 2 are the year and month. Columns 3, 4, and 5 are the monthly mean sunspot numbers per Space Weather Operations (with the SWPC), per the Royal Observatory of Belgium (RI is also

known as the International Sunspot Number), and the ratio between the two. Columns 6 and 7 are the smoothed sunspot numbers per SWO and per 2014

the Royal Observatory of Belgium (RI). Note that the smoothed sunspot numbers are 6 months behind the monthly mean sunspot numbers. That's because of how the smoothed

2016

2018

sunspot number is determined. So, the discrepancy that W3LPL talked about is between the SWO values and the RI values; the SWO group never applied the 0.6 scale factor to its sunspot count, and thus the SWO values are essentially the Royal Observatory of Belgium Version 2.0 data. The RI values reported by SWO are the Royal Observatory of Belgium Version 1.0 data. In the graph, the V1.0 data is in blue and the V2.0 data is in orange. The SWO data (in gray) indeed follows the V2.0 data, and the RI data, in yellow, follows the V1.0 data.

To resolve this discrepancy going forward, SWO plans to change RI to V2.0 data at solar minimum, when the V1.0 data should be equal, or extremely close, to the V2.0 data. So, the SWO data, for all intents and purposes, will be equal to the RI data. That should resolve the confusion with sunspot numbers, except for the fact that our old sunspot numbers, to which our propagation predictions were correlated, now are deemed incorrect. --*Carl Luetzelschwab, K9LA*

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New WSJT-X Beta Version Offers Significant FT4 and FT8 Upgrades

A new beta version of the WSJT-X software suite has been released that includes the first updates to the popular FT8 and FT4 protocols since last fall. Co-Developer Joe Taylor, K1JT, said the "candidate release" WSJT-X version 2.2.0-rcl represents significant program upgrades to FT8, FT4, and other protocols. The beta version will be valid for a month.

"This candidate release is your first chance to test the new features and provide feedback to the *WSJT* Development Group," Taylor advised. A list of program changes since *WSJT-X* 2.1.2 is available in the cumulative <u>Release Notes</u> and in the updates *WSJT-X* 2.2.0 <u>User</u> <u>Guide</u>.

The latest beta version corrects bugs that prevented AP (a priori) decoding multi-pass and/or decoding in some circumstances. The algorithm for AP decoding has been improved and extended. FT8 decoding is now spread over three

2020



intervals — starting at 11.8 seconds into a receive sequence, typically yielding around 85% of the possible decodes for the sequence. "You, therefore, see most decodes much earlier than before," the *Release Notes* explain. A second processing step starts at 13.5 seconds, and a final step at 14.7 seconds.

"Overall decoding yield on crowded bands is improved by 10% or more," the *Release Notes* say, although systems with receive latency greater than 0.2 seconds will experience smaller improvements, even while seeing many decodes sooner.

Other changes:

• The "contest mode" FT4 protocol always uses "RR73" for the TX4 message.

• The status bar now displays the number of decodes in the most recent receive sequence.

Release candidate *WSJT-X* 2.2.0-rcl will be available for 1 month (starting on May 10). A general availability release of *WSJT-X* 2.2.0 is anticipated for June 1.

"For those looking even farther ahead, we are well along in the development of two new modes designed for the LF and MF bands," Taylor said. "One mode is for WSPR-like activity, and one is for making 2-way contacts." Both will use 2-minute transmit-receive sequences. The contact-mode protocol reaches threshold signal-to-noise ration of around –31 dB.

Taylor said that upgrading from earlier versions of *WSJT-X* should be seamless, with no need to uninstall a previous version or to move any files, although he said beta testers may wish to install the beta version in a directory separate from the "general availability" *WSJT-X* 2.1.2 installation.

Installation packages for Windows, Linux, and Macintosh are available on the <u>WSJT-X Development</u> <u>Group</u> page. Scroll down to "Candidate release: WSJT-X 2.2.0-rc1." The packages are also available from <u>SourceForge</u>.

The WSJT-X Development Group request those using the new beta version of *WSJT-X* to alert the developers and to report any bugs or improvements they have implemented, using **instructions** included in the *User Guide*.

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Choosing FTx Transmit and Receive Frequencies in Crowded Contest Bands

Here's how to pick FT-mode transmit and receive frequencies in crowded contest bands. First, pick an audio offset frequency greater than 500 Hz, but less than the suggested frequency intervals (e.g., 2 kHz). In crowded band conditions, the "base" transmit frequencies for FT4 or FT8 are suggested to be at 2 kHz intervals. For example, some stations may set their radio's frequency to 14.130 MHz, while others are at 14.132 or 14.134 MHz.

Berdiktion	Ra Frequence
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Under these conditions, it makes sense to choose a transmit frequency offset *greater* than 500 Hz, but *less* than 2 kHz.

Here's the reasoning: If the CQing station chooses 14.130.0

with an offset of 2.4 kHz, then a listening station's radio tuned to 14.132.0 will "see" that station at 400 Hz. Many radios have audio passbands of between 500 Hz and 3,000 Hz. Frequencies outside that range are not received as well. A reduced sensitivity at 400 Hz can make the difference in decoding successfully.

The station *answering* the CQ (radio at 14.132.0 MHz) should likely pick a frequency at or near the CQ frequency, since the operator doesn't know whether the CQing station's frequency is at 14.130 or 14.132. If the receiving station chooses, say, 1.5 kHz, this would be at 14.133.5. A CQing station set to 14.130 may not be decoding all the way to 3.5 kHz from the radio's offset frequency. *-- Thanks to* The ARRL Contest Update

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Net Control Radio Operators ARE NEEDED for the HOLLY NET

during the work-weekdays from 0700 to 0900 am.

Contact: Jim Wallace, N3ADF

MDC SECTION TRAFFIC MANAGER'S REPORT

MDC 202004 STM REPORTS

QST MDC 2004 STN PSHR = >70 TOTAL CALL PSHR KK3F 140 W3YVQ 135 K3IN 110 NI2W 101 WB3FTQ 100 AA3SB 100 AB3WG 79 N3JET 72

QST MDC 2004 STN BPL: KK3F 2004 SAR 19/1240/1220/20/2499

MDC NETS 2004:

MEPN/C2, MARYLAND EMERGENCY PHONE NET, 3820/1800L-DY Liaisons: 3RN2/MDD/DTN/BTN/WVA/NTSD/WL2K MEPN 2004 W3YVQ QND/30 QNI/580 QTC/23 MINS/670

BTN/C4, BALTIMORE TRAFFIC NET, 145.33/1830L-DY Liaisons: MEPN/MDD/NTSD/WL2K

BTN 2004 AB3WG QND/30 QNI/507 QTC/18 MINS/575

MDD/C4, MARYLAND/DC/DELAWARE NET, 3557/1900L-2200L-DY Liaisons: 3RN4/MEPN/BTN/DTN/NTSD/WL2K

MDD 2004 AA3SB QND/59 QNI/332 QTC/101 MINS/547

MSN, MARYLAND SLOW NET, 3563/1930L-DY TRAINING, Liaisons: MDD

MSN 2004 N3AEA QND/30 QNI/142 QTC/13 MINS/564

MDC 2004 PSHRS FILED (Zero entries omitted.): CALL DATE PSHR

KK3F 2004 PSHR 1/40 2/40 3/30 4/30 TOTAL 140 W3YVQ 2004 PSHR 1/40 2/40 3/30 4/25 TOTAL 135 K3IN 2004 PSHR 1/40 2/40 3/30 TOTAL 110 NI2W 2004 PSHR 1/40 2/16 3/20 4/25 TOTAL 101 WB3FTQ 2004 PSHR 1/40 2/40 3/20 TOTAL 100 AA3SB 2004 PSHR 1/40 2/40 3/20 TOTAL 100 AB3WG 2004 PSHR 1/37 2/22 3/20 TOTAL 79 N3JET

2004 PSHR 1/34 2/18 3/20 TOTAL 72

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MDC 2004 SARS FILED: CALL DATE SAR ORIG/RCVD/SENT/DLVD/TOTAL KK3F 2004 SAR 19/1240/1220/20/2499 K3IN 2004 SAR 1/80/85/3/169 AA3SB 2004 SAR 2/45/20/5/72 W3YVQ 2004 SAR 0/17/33/0/50 WB3FTQ 2004 SAR 0/23/11/12/46 AB3WG 2004 SAR 0/17/4/1/22

N3JET 2004 SAR 0/8/6/4/18 NI2W 2004 SAR 2/5/5/4/16

MDC NTS NETS:

- MEPN 2004 W3YVQ QND/30 QNI/580 QTC/23 MINS/670

- BTN 2004 AB3WG QND/30 QNI/507 QTC/18 MINS/575 - MDD 2004 AA3SB QND/59 QNI/332 QTC/101 MINS/547

MSN 2004 N3AEA QND/30 QNI/142 QTC/13 MINS/564
PSHR: KK3F 140, W3YVQ 135, K3IN 110, NI2W 101, WB3FTQ 100, AA3SB 100, AB3WG 79, N3JET 72;
TFC: KK3F 2499, K3IN 169, AA3SB 72, W3YVQ 50, WB3FTQ 46, AB3WG 22, N3JET 18, NI2W 16

HF PROPAGATION

The MEPN NVIS propagation was functional in April, 2020, with good signals most evenings. Due to the low solar activity, the afternoon propagation suffered with less effective NVIS propagation during the pre-net. This effect will worsen as long as sunset continues to move later. The MEPN DTS stations continue to provide liaison with the national digital messaging services including DTN and Winlink.

MDD: April NVIS propagation for local MDC stations on MDD early and late continued to improve with acceptable prop all month. Early sessions are in daylight, late in dark with MUFs around 4MHz or above. Outbound traffic to 3RN may be handled by DTS representatives as needed for posting on the Digital Traffic Net (DTN) when prop permits. DTN stations operate 24/7 so traffic will flow across the country as prop permits, day or night.

CW OPERATORS NEEDED

Additional CW operators are needed for liaison from MEPN and BTN 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/BTN/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). The conference bridge is available for MEPN, MDD, BTN, MSN, and 3RN stations during periods of failed propagation.

MSN CW TRAINING

The MSN net continues to operate and serve nightly at 1930L on 3563 kHz. Ron, N3AEA, has stepped up to fill the Net Manager's role. Thanks, Ron. Show your support by checking in even if you do not take training. MSN needs NCS stations and liaison stations to early and late MDD. Ron could use your help.

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. A new cooperative effort has been launched between ANAR ARES(r) and the BTN as well.

Thanks to all the Section's 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.

Stay safe and be well during the presence of the Corona virus. You may congregate in any numbers on our nets without masks. Good time to polish up that CW and enjoy some contacts on HF.

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 NewsApril 15, 2020

Stunning Photos Of Earth

The Virginia Tech camera on AO-92 has taken stunning photos of Earth. With additional passes planned, the Virginia Tech camera onboard AO-92 (Fox-1D) has been activated on at least two passes over North America. Several photos were taken, captured by amateur



stations runnina FoxTelem. and <u>uploaded</u> to the AMSAT website. All of photos the taken by AO-92 can be viewed on the AMSAT website at the link. The Virginia Tech

camera remains active for 45 minutes after being enabled by a ground station. Stations in the US, the Caribbean, Mexico, and Central and South America are encouraged to set their stations up to receive and upload high-speed telemetry in <u>FoxTelem</u>. -- Thanks to AMSAT News Service via AMSAT Vice President-Operations Drew Glasbrenner, KO4MA

Used with permission The ARRL Letter for May 7, 2020

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

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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

Thursday, June 4, Membership Meeting Saturday, June 6, General Class Saturday, June 13, Manassas Hamfest VE Testing (Check for directions.) Thursday, June 18, Membership Meeting Sunday, June 21, BARC Hamfest Father's Day Thursday, June 25, Rules Committee Friday, June 26, Field Day 2020 Saturday, June 27, Field Day 2020

Saturday, June 27, Field Day 2020 Sunday, June 28, Field Day 2020

PLEASE during this extraordinary time, check the AARC Calendar for full information.

Stay tuned to the W3VPR Repeaters for information and also lend assistance where necessary.

Thank you very much.

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	145.350-	156.7	SPARC/CARC Repeater.
Laurel	147.225+	156.7	Laurel ARC Repeater.
Millersville	146.805-	107.2	Repeater.

1.25 Meter Repeaters

Location	Frequency	Tone	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.

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Wednesday Night Talk Net -- All are welcome

8PM, On the AARC Repeater 147.105

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

Other Amateur Radio nets

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