

CAARA NEWS



Cape Ann Amateur Radio Association
Gloucester, Massachusetts
NOVEMBER- 2023 EDITION



PRESIDENT'S COLUMN

by Brandon- NQ1W

Dear Members,

We have had such nice weather for operating. I can be in the HAM shack, mobile, or walking out in the woods with my HT, all are great in the fall. Also, as the foliage thins out, we can have a great time building and getting new antennas up! I hope you are having similar enjoyment with the hobby this fall.

To that end, I am incredibly excited to announce that CAARA member Paul Krueger N1JDH will be presenting at the members meeting on November 11th at noon. Paul has extensive professional experience in RF design and analysis. He will be presenting about antenna design, highlighting choice models of common antenna designs to help us visualize the radiation patterns we might expect if we try them at our home or POTA stations. It will be a fun and enlightening talk with a spirited discussion afterwards. I look forward to seeing you there!

On a more serious note, we wanted to take a moment to comment on a horrible trend of scams that are preying on our HAM radio community and many other not for profit and hobbyist organizations with elderly members. Recently, it came to my attention that SK members' families were being solicited for their loved one's station hardware directly by people misrepresenting themselves and the club. I have also heard of members receiving emails directly soliciting for gift cards and money from fraudulent email addresses presenting themselves as club officers. It is important for members to know that no one in CAARA will ever directly solicit donations of any kind from members or their families. Ever. We are reporting these occurrences to the police identity theft and fraud units. Please take care out there and avoid being a victim of these scammers.



Finally, I wanted to make an open plea for volunteers to field questions from other amateurs on our 9pm Sunday Night CAARA net. Similar to the success we've had with the 6pm nets, we are looking to enhance this net's profile. We will be shifting the focus of the Sunday Night CAARA club net to connecting Elmers with the local HAM radio community. I think these nets can be a lot of fun as we mentor new operators by answering questions from our community. Please join us on Sunday nights and check in as an Elmer willing to field questions or with questions to pose to the Elmer net.

Have a great Fall, and let's get on the air together with CAARA!

Regards,

Brandon Hockle NQ1W
President

THE EMCOMM MINUTE

By Dean- KB1PGH

So I thought I would change it up a bit this month and talk about ham shack safety and home safety. I guess you could say that ham shack safety is under emergency communications and home safety should be talked about for home emergencies.



What reminded me about ham shack safety was that since November is here it's time to take a look especially at your outside antennas and coax before winter sets in. Whether you have a beam antenna or just a dipole it's good to invest just a little bit of time to make sure that all of your antenna connections are ok. It's great if you can lower the antenna but if you can't you could always use a pair of binoculars or even a drone with a camera on it. You will have to ask how old is your coax and the connections to your antenna and how old is the coax seal? The last thing you want is water intrusion into your coax connection at the antenna which

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It is the policy of the editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio and of interest to CAARA members, and space is available. Material is accepted on a first come, first serve basis. Articles and other materials may be submitted by internet to Jon at jpcrockport@gmail.com . If possible, material should be in Word format. Material may also be submitted as hard copy to Jon-K1TP or any Club Officer.

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Welcome to CAARA:

CAARA, an ARRL affiliated club, operates the 2 meter W1GLO repeater on 145.130 MHz with antennas located on the ATT cell tower in the Blackburn Industrial Complex in Gloucester Massachusetts. It has an average effective radius of 60 miles, and serves Eastern Massachusetts, Cape Cod, Rhode Island, Southern New Hampshire, and maritime mobile stations.

CAARA also operates the W1GLO repeater on 224.900 located at the CAARA clubhouse.

The 443.700 repeater is now on the ATT cell tower in the Blackburn Industrial Complex with greatly enhanced performance running in fusion mode and linked to 10 other repeaters in the New England area.

The Association is one of the few amateur radioclubs that has its own clubhouse. Located at 6 S tanwood Street in Gloucester, with a variety of HF stations with beam, vertical, or G5RV antennas.

Amateur radio exams are held on REQUEST at the CAARA clubhouse. Anyone who is considering a new license or an upgrade, is welcome to test with us. Currently pre-registration is necessary. Contact the head of our VE team Bill Poulin- WZ1L if you have any questions about monthly testing.

Monthly member meetings are held on the second Saturday of each month at noon except for July and August.

Each Sunday evening at 9:00 PM, the club operates a 2 meter fm net on 145.130. This is an open and informal net which disseminates club news and prepares operators for emergency communications work. All are invited to check into the net as club membership is not a requirement.

The club is open most Tuesday's from 5- 8PM for CAARA members and interested parties to stop by and socialize, as well as use the extensive collection of ham radio gear.

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will lead to high SWR. Sometimes coax connections can loosen up due to the coax moving in the wind. It's always good to make sure that you tighten your coax connections a

little bit more with a pair of pliers to make sure that they are tight. The other thing you can do is to check your coax as well. How old is your coax leading up to your antenna? Coax doesn't last forever. Eventually it's going to dry out and split under the heat of the summer sun and the sub zero temps of winter. It can even get damaged due to rubbing up against branches and towers and where it leads into your house coax can be chewed on by animals. Just take a moment and inspect the whole length for splits and cuts in the coax and you can always check your coax with a SWR meter. With regards to your out door antenna just make a note to check to see if any wires or elements are not brushing up against tree branches and that all connections on the antenna are ok and not rusted or rotted if you can get to them. Just make a note to periodically check your antennas and coax a couple times a year, especially in the fall before it snows and in the spring after all the winter storms. Oh, one last thing. It's always good to have a back up piece of coax ready to go in case your old outdoor coax goes bad so you won't be out of action for too long. I almost forgot-If you have a outdoor antenna you should have a lightning arrestor on your coax before it goes into your house. The lightning arrestor will be connected to a ground rod outside the window of your house. Now of course not everyone will be able to do that but I have heard of hams disconnecting the coax from their radios when they are not using them-or at least when thunderstorms are around. Even the cold wind during winter can build up static on your antennas.

Ok, so we have covered outdoor shack safety and regular maintenance so now let's take a look at indoor shack safety. Please make a note to check every piece of coax and wire that is connected to any piece of ham equipment. You will actually have to make the effort to get behind all of your radios and under the desk that all your radio equipment sits on. When was the last time you did that?

What you should do is inspect every power cord to make sure that every wire is not nicked or crushed or cut or nibbled on. Some house fires have started by crushed or cut power wires under rugs. You can also make sure that all of your power cord connections are

tight because sometimes they can loosen up by moving stuff around in your shack. Also take the time to get rid of all the dust behind your ham shack desk to eliminate that fire hazard. Plus you can always reorganize wires while your back there with zip ties if you want. The next step is to get all the dust off of the vents going to your radios and other equipment. Spend a couple of bucks and get a can of that compressed air that people use to dust off electronics and get all the dust off of everything. You can also make sure that all of your indoor coax connections are tight as well with a pair of pliers. Sometimes they loosen up over time. If you really want to get fancy for ham shack safety is all of your power cords properly grounded in a proper AC outlet? Are your shacks AC outlets wired properly going to the homes main fuse box? You can get a AC outlet checker for a few bucks on Amazon.

Oh, that reminds me . Always check your power strips to make sure that they are grounded to the AC outlet as well. Most ones nowadays have indicators on them that will tell you that. I would highly recommend not getting a cheap power strip. Save a few bucks and get a nice one that will protect you against power surges. I use the "Tripp Lite" brand which you can find on Amazon. They cost a bit more but it's worth it. I had a power surge in my home when I was growing up because National Grid messed up re hooking lines during a power outage and the power spike blew up equipment. You can also buy power strips that have built in RFI and EMI protection which is always a plus.

One other thing to think of is make sure that your indoor household wiring can handle the power load in Amps going to the AC outlet in your shack. When I bought my house it still had the pre 1950's knob and tube wiring which we had to replace throughout the house. That sort of wiring would never be able to handle to amp load of running a entire ham shack-not to mention of even running a ham radio amplifier. One last aspect of shack safety is grounding all of your equipment to a outdoor ground rod but that's another level of sophistication that you may want to look at or at least learn about. So the main goal is to take the time to inspect all of your ham gear indoors and out at least twice a year to keep a minimum of safety and to spot trouble before you get high SWR and indoor power problems.

Before I go, if you want you could always look at Ham Radio equipment insurance. You can get it through the ARRL or check with your homeowners or renters insurance. That's it for now and 73



HALLOWEEN

by Curtis Wright- AA3JE

A true ghost story for Hams

One October, as I was selecting the candy for Halloween, making sure it included a few kinds that I liked, I noticed my wife was a little distracted.

“What is it, love?” I said.

“I was wondering when you will remove the ghost in the garage.”

Now my family takes ghosts very seriously. There is grandpa, always detected by the smell of ivory soap and diesel fuel. There is whoever is doing the midnight footsteps (I suspect a racoon). There is/was the high squeaky voiced in the basement (the tin roof picks up the 1 KW local railroad repeater), and the odd ominous presence.

“What ghost?”

“The one making the erie wailing sound.”

Based on my life experience, this is a dying smoke alarm. So I went into the garage and heard nothing. This is not unusual. After 65 years of age most males hear little (or pretend not to).

Going with the odds, I dug out the 15 foot “A” frame ladder, got a 9 volt battery, and perched, wobbling, replaced the battery in the garage fire detector. Then, to be sure, I replaced the eye level fire detector battery as well, though it was silent.

It always amazes me that with voice chips so cheap, electronics makers do not enable the darn things to identify themselves when their battery is dying.

I reported back.

“All fixed.”

“We’ll see.”

That night, sound asleep, I was awoken by a gentle prod.

“It’s still there.”

I got up, went into the garage, and sat. I made a cup of cocoa, as it might take a while for the few remaining hair cells in my inner ears to perk up.

Then I heard it. Just at the limits of my hearing, a thin, wavering, piping sound like Tinkerbelle with a hangover.

I went back to bed, and investigated further in the morning.



Freezer alarm battery replaced- It was fine.

Car Freon checked- it was fine.

Remote security camera checked- it was fine.

Then I sat and just listened.

It was hard to locate (it was hard to hear), but it seemed to be coming from the storage shelves.

Now there is a lot of stuff on those shelves, but I walked along, stopping and listening, and it seemed to be coming from the battery box used for public service events. I pulled it down and opened it up. There was a faint wailing, coming from the Battery Booster module, that thing that keeps the output high while sucking the battery dry. I disconnected the battery, and the sound stopped.



After a while I found the manual. Turns out the thing has an alarm to let you know you have sucked the battery dry. A quick rewiring job to allow the battery to be disconnected from the outside and a battery charge, and problem solved. Turns out that the thing still sucks power when there is no load, not a lot, but enough to slowly drain the battery in the box.

Note to self- buy hearing aid.

Then, just to make sure, I burned some sage and did a little dance. It never hurts to be sure.

NEXT MEETING

CAARA member Paul Krueger N1JDH will be presenting at the members meeting on November 11th at noon. Paul has extensive professional experience in RF design and analysis.

He will be presenting about antenna design, highlighting choice models of common antenna designs to help us visualize the radiation patterns we might expect if we try them at our home or POTA stations.

It would also be a good time to get checked out on the new first floor radios so you can use them effectively and safely- see Jon or Larry at the meeting on November 11.



UPDATED ACCESS POLICY

The Board of Directors is happy to report to the membership that there has been an equipment upgrade on the existing station with an additional operating station added on the 1st floor at 6 Stanwood St. In conjunction with the upgrade, the Board of Directors has updated the access policy to the 1st floor to help encourage members to come in and operate at their discretion.

The existing station (Station A) previously based on a Yaesu FT-920 has been upgraded with a Yaesu FT-950 which was kindly donated to the club by Hank McCarl W4RIG.

We have also added on the 1st floor Station B which is based on a Yaesu FT-710 which was funded by a grant from the ARRL. This station is equally capable of operating voice modes or digital modes using WSJT-X on all HF bands from 10-80m except 60m and we want to encourage newer or inexperienced members including members with Technician and Novice class licenses to learn on and operate this station.

To briefly summarize the updated access policy, current members who have been in good standing for the previous 12 months and who have been validated and checked off by a member of the equipment committee or other designated club member shall, upon request made to the Board of Directors, be given the access code to the 1st floor for the purpose of coming into the building at their discretion for the purpose of operating whichever station(s) on the 1st floor for they have been validated.

You do not need to be a member for 12 months to get validated to operate a station, only to get the access code to permit unsupervised operation. If the building is otherwise open and there is no conflicting formal event like an ongoing BoD or members meeting a validated member can still come in and operate. If your membership status changes so that you are no longer in good standing you will lose the access privilege until 12 months after you have transitioned back into again being a member in good standing.

Access privilege for those members who previously qualified on the FT-920 before 8/1/23 will for now retain their access to the 1st floor but will need to re qualify on Station A and/or Station B by March 1, 2025 to retain the access privilege without interruption.

We expect to start formally validating members on or around November 1st. You can contact Larry AJ1Z or Jon K1TP to arrange for a time to meet at the club to go through a brief tutorial and demonstrate basic ability to manage the alarm system and operate the station for validation; once signed off if/when you meet the requirement for obtaining the access code to the 1st floor you can also petition the BoD via email board@caara.net to obtain it.

--Larry AJ1Z



Amateur Radio Newsline Report

FCC EYES NEW APPROACH TO WIRELESS ALERTS

PAUL/ANCHOR: We begin this week's newscast with a look at the lifesaving communication known as the wireless emergency alert system. Here in the US, the FCC has begun rethinking exactly how these alerts should be transmitted. We have those details from Sel Embee KB3TZD.

SEL: The FCC is looking for alternative ways for delivery of wireless emergency alerts that do not rely on functioning cell towers. Calling cell networks unreliable, the commission's Public Safety and Homeland Security Bureau is seeking ways to get messages to the public that do not run the risk of cell towers being knocked out of service or having coverage dead zones. In a public notice released October 19th, the FCC said it was looking for partners to test alternative technologies for emergency-alert use.

According to a report in Radio World, the FCC is willing to consider satellites, high-altitude balloons, drones or similar technology to make up for gaps in wireless coverage. The FCC recalled one of the most recent incidents of cell coverage failing when in August, 21 cell sites failed to function in Hawaii during the deadly wildfires in that state.

The commission is asking interested parties to use the Electronic Comment Filing System to contact the FCC within 60 days of the notice's publication.

PAUL/ANCHOR: The FCC has also announced that the agenda for its next open meeting on November 15th will include a vote that will modernize and bring more flexibility for amateur radio operators who use the digital modes. The FCC website says the commissioners plan to remove [quote] "outdated restrictions" [endquote] and allow for more innovation.

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GRANT TO AID MISSOURI REPEATER SYSTEM UPGRADE

PAUL/ANCHOR: Residents in southwestern Missouri are about to benefit from an amateur radio repeater system upgrade that will assist in times of bad weather -- and in other instances. We hear about those changes from Randy Sly W4XJ.

RANDY: A crucial weather-emergency communications system in southwest Missouri will receive an upgrade to expand its reach as a result of a grant of nearly \$70,000. The Southwest Missouri Regional SKYWARN Ham Radio Repeater System allows storm spotters to reach the National Weather Service forecast office in Springfield, Missouri, providing up-to-date eyewitness accounts. Funding for the improvements will come from Amateur Radio Digital Communications which will channel the grant through the Southern Missouri Emergency Communications Fund.

The 10-month-long overhaul of the linked repeater system, known as the 49 Repeater Group, will add new repeaters and replace aging equipment. In the meantime, local amateur radio clubs will be learning more from the group's Michael Blake, NØNWS, who will encourage radio operators to become active in the project as well.

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REPEATER SYSTEM DISABLED BY TENNESSEE WILDFIRES

PAUL/ANCHOR: A repeater system elsewhere is trying to recover. Although wildfires near Chattanooga, Tennessee have been brought under control, the region's High Point Repeater site has been left disabled by cable damage left behind by the blaze. The 220MHz repeater, the Wires-X repeater and the APRS digipeater and iGate system of the Lookout Mountain Amateur Radio Community, N4LMC, will not return to use until

further notice, according to the club's website. The damage also temporarily knocked a broadcast FM station off the air. The Lookout Mountain amateurs' website said the group will need to replace all cables at the site. They are also awaiting word from the tower owners about possible damage to the tower, guy wires and anchor points.**

RUSSIAN AMATEUR QSOs ON 6-METRE BAND DEEMED LEGAL

PAUL/ANCHOR: If you happen to hear an amateur with a Russian callsign while you're listening on the band between 50 and 52 MHz, you're not imagining things - and no, that ham is not violating any regulations. Ed Durrant DD5LP tells us what's happening.

ED: Russian amateurs holding that country's highest class of radio licence are now being permitted to use the 6-metre band with up to 1 kilowatt under a verbal agreement with the Russian regulator. According to a report in the November 2023 issue of Funk Telegramm, hams are working to secure written permission for 6 meters which is not officially defined as an amateur band in Russia. Hams with Russian callsigns have been using the band since 2014 from Crimea when that territory was annexed. This was a privilege carried over from the time when 6-metre operation was permitted in Crimea when it was part of Ukraine.

Funk Telegramm quotes Alexander Kozlov, RW5C, an active amateur who is on the air from Moscow, as confirming to the magazine that a number of amateurs like him are now being heard regularly on the band and are making contacts. Russian amateurs have long contended that if authorities recognise 6-metre operation from Crimea, the privilege should be extended to all Russian hams.

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BROADCAST CELEBRATES 80 YEARS FOR UK SHORTWAVE SITE

PAUL/ANCHOR: Radio enthusiasts in the UK turned on their shortwave sets for an on-air celebration - and Jeremy Boot G4NJH tells us about it.

JEREMY: One hundred people turned out on Tuesday, the 17th of October, for an 80th anniversary celebration at the UK's last remaining shortwave radio transmitting site. Countless others attended the party from a distance -- as shortwave listeners who later sent in reception reports.

The Woofferton Transmitting Station, which was built by the BBC during the Second World War, is owned by Encompass Digital Media. Its celebration broadcast was transmitted to listeners in Europe as an analogue broadcast on 17.785 MHz and as a DRM broadcast on 11.725 MHz.

In a rare turn at programming, the station also used its oldest transmitter - a Marconi BD272 built in Britain in 1963, to send programming to North America on 15.245 MHz.

To hear the anniversary broadcast, click on the link that you can find in the text version of this week's newscast at arnewsline.org

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YLS PREPARE FOR NOVEMBER ALARA MEETUP

PAUL/ANCHOR: YLs throughout Australia and beyond are getting ready for a few days of socializing and talking about one of their favorite topics: amateur radio. Graham Kemp VK4BB tells us what's on the agenda.

GRAHAM: It's been a tradition every few years since 1984: a national get-together of the members of ALARA, the Australian Ladies Amateur Radio Association. Next month, the in-person contacts will be made in Hobart where YLs from the organisation will meet up - some for the first time - without having to call CQ.

ALARAmeet, as it is known, is now held every three years. It features a busy agenda on the 4th and 5th of November, a mix of amateur radio activities and social outings, including a tour of historic sites and an optional cruise. It's not unexpected to have an international attendance: many of the 200 or so ALARA members live overseas and have their membership sponsored by YLs living Down Under. Created in 1975, ALARA works to nurture women's participation and enthusiasm for all things amateur radio.

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NEWSLINE TO PRESENT INTERNATIONAL NEWSMAKER AWARD

PAUL/ANCHOR: Once again, Newsline is preparing to select the recipient for its International Newsmaker of the Year award. We launched this award in 2019 with our editorial staff recognizing the individuals, groups or formal clubs who have spent the previous year bringing amateur radio into the spotlight showing its positive values and contributions to the community. We are broadening the award's scope this year by acknowledging that the dissemination of information to the public about amateur radio's positive influence no longer relies solely on mainstream media. This year, and going forward, the award will be presented to a recipient who has illuminated amateur radio's role in mainstream media or via internet channels. Stay tuned in the weeks ahead. We will select a winner - to be announced in early December.

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MERIT BADGES HIGHLIGHT FOR WISCONSIN JOTA WEEKEND

PAUL/ANCHOR: The Scouting organization recognizes Jamboree on the Air as the largest Scouting event in the world -- but for one group participating in Wisconsin, the global amateur radio activity created some personal and very local triumphs. Patrick Clark K8TAC gives us those details.

PATRICK: In a small village just east of Wausau, Wisconsin, scouts were making QSOs as part of the Jamboree on the Air weekend on Saturday, October 21st. They were using the callsign of the Wisconsin Valley Radio Association, W9SM. Eight volunteer operators from the club helped the scouts get on the air. These radio contacts weren't about the pursuit of QSL cards but the chase for one of three merit badges: the Radio Merit Badge; the Signs, Signals and Codes Merit Badge and the Communications Merit Badge. The activity attracted scouts from other parts of Wisconsin and some from as far away as Minneapolis, Minnesota. According to Nicholas Schilling, KC9FEM, all 22 Scouts who had enrolled to get the Radio Merit Badge succeeded in that effort and many of the others completed part of the requirements toward the other two badges. Perhaps the biggest challenge of the day was faced by Gary Harrison, W9CPY, an Eagle Scout who is also president of the Wisconsin Valley club. Gary said that one scout who lives on a farm locally made radio contact with a scout in Canada - who also happens to live on a farm. The two got on quite well -- almost to the point of an extended ragchew. Gary later told Newsline: [quote] "I couldn't get the microphone back!"

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HISTORIC SWEDISH STATION SAQ MARKS UN DAY

PAUL/ANCHOR: On Tuesday, October 24th, the 100-year-old Grimeton Radio Station transmitted a message of peace to the world from Sweden in a celebration that was also livestreamed on YouTube and accompanied by a ham radio activation. Jeremy Boot G4NJH has that story.

JEREMY: The broadcast hosted by the Alexander Grimeton Friendship Association in Sweden marked UN Day by sending its station callsign, SAQ, followed by a message of peace in CW. The 200-kilowatt Alexanderson alternator began its transmission at 1500 UTC on 17.2 kHz. Those who could not be present at the World Heritage site were able to watch it live on the YouTube channel of the friendship association. Amateur radio operators also participated using the callsign SK6SAQ for contacts using CW and SSB on 80, 40 and 20 metres.

It's all over now but the waiting: The operators of the historic transmitter are expecting QSL reports from listeners who received the longwave transmission. The Grimeton amateurs are also awaiting too - for those who made their contacts on HF.**

TAIWANESE STATION HOLDING SHORTWAVE EVENT

PAUL/ANCHOR: Hams and shortwave listeners alike are invited to participate in a radio event that celebrates the reach of shortwave and its powers to send music and other programming around the world. Here's Jim Meachen ZL2BHF with the details.

JIM: If you thought the days of short wave broadcast listening were long gone you may be wrong as a broadcast station in Taiwan is reaching out to the global amateur radio community for assistance with its international short wave event that continues until the 14th of November. The Fu-Hsin (FOO SHIN) Broadcasting Station is asking listeners to send reception reports that include such details as favourite music being heard or favourite programme. The listening frequencies are 9.410 MHz, 9.774 MHz and 15.375 MHz. Listeners who provide reception details will be sent a QSL card. The station also broadcasts locally on AM and FM but that programming is not involved in this activity. Reception report forms can be downloaded from the station's website, which appears in the text version of this week's newscast.

SWAINS ISLAND W8S DXPEDITION RELEASES QSO DATA

PAUL/ANCHOR: If you are in the log for a successful contact with the Swains Island W8S DXpedition, you're in plenty of good company. The team reports that they made 89,530 QSOs with 21,471 unique callsigns. Contacts were evenly distributed across three largest global regions: Europe accounted for 35.1 percent, North America, 30.8 percent and Asia 29 percent. More details and other statistics can be found on ClubLog using the link in the text version of this week's newscast at arnewsline.org



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WORLD OF DX

In the World of DX, be listening for Jun OE1JUN/JH4RHF operating as H44RH from Honiara in the Solomon Islands, IOTA Number OC-047. He is on the air until the 31st of October. After that, he has tentative plans to operate as H4ØRH from Pigeon Island, IOTA Number OC-065, in Temotu Province, between the 1st and 9th of November. Check QRZ.com for updates. QSL to OE1JUN.

Ed, N2HX is active as V4/N2HX from St. Kitts, IOTA Number NA-104, until the 18th of November. Listen for him in the CQWW DX SSB contest using the callsign V49R. QSL via home call, direct or bureau.

Listen for Pierre, VE3KTB and Alexey VE1RUS operating as VY0ERC from the Eureka Amateur Radio Club station on Ellesmere Island, IOTA Number NA-ØØ8, through the 22nd of November. See QRZ.com for details.

Shack of the Month

CAARA member N1RJB - Ron has a nice neat setup here with an Yaesu 710 HF transceiver setup for digital modes.



FCC To Vote on Removing Symbol Rate Restrictions

ARRL The National Association for Amateur Radio® welcomes news of a scheduled vote by the Federal Communications Commission (FCC) to consider removing symbol rate restrictions that restrict digital modes, foster inefficient spectrum use, and dampen incentives for innovation.

In the draft Commission decision, the FCC would replace the current HF restrictions with a 2.8 kHz bandwidth limit. The Commission also announced that it will consider a Further Notice in which it will propose eliminating similar restrictions where they apply in other bands and consider relying on signal bandwidth limits. If both actions are adopted by the Commission, there will be a period for public comment on the Further Notice issues.

In announcing the proposed Commission actions, FCC Chairwoman Jessica Rosenworcel said that "We're bolstering amateur radio. We will vote on a proposal to incentivize innovation and experimentation in the amateur radio bands by removing outdated restrictions and providing licensees with the flexibility to use modern digital emissions."

ARRL requested and strongly supports replacing the symbol rate limits on the HF bands with a 2.8 kHz bandwidth limit. ARRL also supports eliminating the symbol rate limits in favor of the already-existing bandwidth limits where they apply on the VHF and UHF bands and eliminating the similar limits 2200 and 630-meter bands.

ARRL Director of Emergency Management Josh Johnston, KE5MHV, said the changes will result in a tremendous time savings during disasters, when every second counts. "We will be very pleased to have the FCC remove the restrictions on symbol rate for the amateur bands. This will eliminate the need for temporary waivers during an event and provide the ability to train and exercise using the higher symbol rate, allowing increased data capability to our served agencies and partners."

Solar maximum will arrive sooner and last longer than previously expected, say scientists

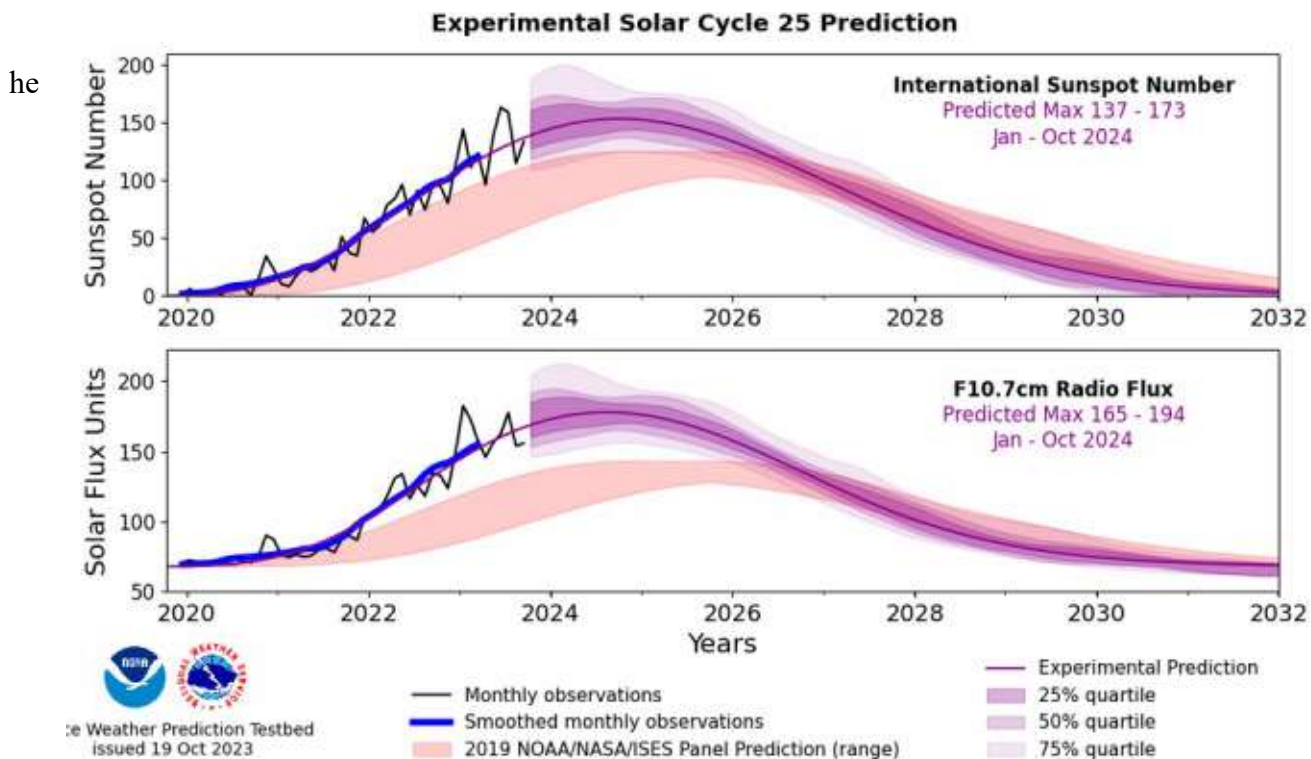
The sun will reach the peak of its current activity cycle in 2024, one year earlier than previous estimates, according to experts at NOAA's Space Weather Prediction Center (SWPC).

The revised prediction now places Solar Cycle 25's peak of activity known as "solar maximum" between January and October 2024 according to a NOAA statement. The peak will be earlier, stronger and last longer than estimates made in 2019.

The solar cycle describes an approximately 11-year period of solar activity driven by the sun's magnetic field and indicated by the frequency and intensity of visible sunspots on the surface.

Predictions on when solar maximum will occur are based on long-term historical records of sunspot numbers, advanced statistics and models of the solar dynamo — the flow of hot, ionized gases within the sun that generate our star's magnetic field which in turn drives the solar cycle.

"We expect that our new experimental forecast will be much more accurate than the 2019 panel prediction and, unlike previous solar cycle predictions, it will be continuously updated on a monthly basis as new sunspot observations become available," solar scientist Mark Miesch said in the NOAA statement. "It's a pretty significant change."



revised prediction is good news for eclipse chasers as the total solar eclipse on April 8, 2024 will occur near the solar maximum. During totality, when the moon completely obscures the sun's disk, the sun's outer atmosphere (known as the corona) is visible to observers. During heightened solar activity, the corona is very active and eagle-eyed observers may be able to see solar prominences — gigantic loops of plasma extending outward from the sun — appear as bright pink spots at the sun's edges.

Accurate predictions of solar activity are crucial as geomagnetic storms triggered by plasma outbursts known as coronal mass ejections can affect electrical grids, GPS signals, drag satellites out of orbit and pose a

radiation risk to airline workers and astronauts. Advanced warning of space weather events can help industries implement safeguarding procedures to reduce the risk to both their equipment and workers.

"We can't ignore space weather, but we can take appropriate measures to protect ourselves," NASA says.

We are of course not without our own natural protection — Earth's magnetic field.

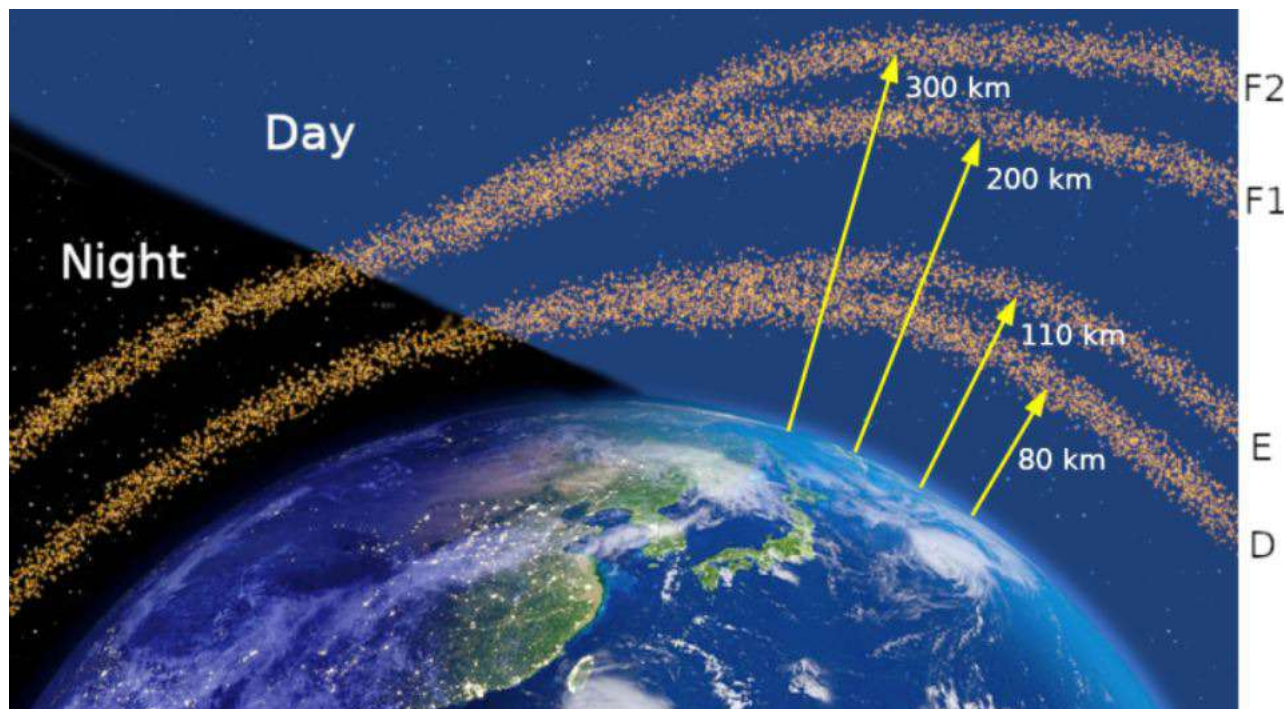
When energetic particles and magnetic fields are released from the sun during events such as solar flares and coronal mass ejections, Earth can sometimes find itself within the line of fire.

When this happens, our protective magnetic "bubble" known as the magnetosphere repels harmful energy away from Earth and traps it in zones called the Van Allen radiation belts. These donut-shaped belts of radiation can swell when the sun's activity increases.

But our protective shield is not invincible.

During particularly strong space weather events — which are more common during solar maximum — Earth's magnetic field is disturbed and geomagnetic storms can penetrate the magnetosphere and lead to widespread radio and power blackouts as well as endangering astronauts and Earth-orbiting satellites. One notable example occurred in 1989 when a CME accompanied a solar flare and plunged the entire province of Quebec, Canada into an electrical blackout that lasted around 12 hours according to NASA.

However, not all magnetosphere interferences are destructive, and one disturbance in particular gives rise to a remarkable show — auroras. The phenomenon is known as the northern lights (aurora borealis) in the Northern Hemisphere and the southern lights (aurora australis) in the Southern Hemisphere and is triggered by energetic particles being redirected toward Earth's poles and colliding with atoms of oxygen and nitrogen in Earth's atmosphere.



The Earth's ionosphere is the ionized upper part of the atmosphere, and it's also the most dynamic as it swells and ebbs depending on whether it's exposed to the Sun or not. It's the ionosphere that enables radio frequency communications to reach beyond the horizon, its thickness and composition also affects the range and quality of these transmissions.

REMEMBERING GARDI- KA1BTK SK ON 11-11-2020



I was born and raised as a "Son of Gloucester" in 1958. I have been actively involved in the maritime community all my life. I was a charter member of Sea Scout Ship 256 and later, Sea Explorer Ship 56 in Riverdale, during which time I sailed to Canada aboard the schooner "Truant" under Capt. Paul T. Harling in 1975. I have crewed and skippered aboard many vessels, both commercial and recreational, throughout New England and have been very fortunate to have owned and sailed two beautiful sailing vessels, a 1968 Colombia 22, "Olde Blue" and a 30-foot wooden L. F. Herreshoff cutter, "Jesse Boyce".

I started playing with CB Radio when I was about 15 but I wanted to find out what made the radio "tick" inside. So around 1977 I got my Amateur Radio Operator "Novice Ticket" and dug in! But as it happens, other interests took over my life and I let my license drop. Still, throughout a +/- 45-year career in facilities maintenance, I practiced many of the lessons I had learned from Ham Radio.

Now, in my early 60's the course of my life has changed yet again. I found I have a need for some of the aspects of Amateur Radio, and a wish to explore this world more in-depth. So, with no regrets, I've left the maritime world behind (somewhat) and I have jumped back into "Ham Radio" with both feet! Finally, on April 29th of 2016 I obtained the elusive Amateur Extra status!

For my rigs, I opted to go all Yaesu because I thought it best to get behind one manufacturer. I wanted the best HT that I could afford, so for radio #1 I selected the Yaesu VX-8DR with all the options. Radio #2 is a Yaesu FT-8800R handling the U/VHF mobile. Rig #3 is an HF, All Mode, FT-450D. Because I enjoy experimenting with what I can use as an antenna, I've added to that an LDG YT-450 tuner. I built my own, tri-banded "Floundah-Rig" version of the Homebrew Buddipole, and a surprisingly successful, quad-banded "Squid Jig", a version of the Octopus antenna!

I am a member of the Amateur Radio Relay League, Cape Ann Amateur Radio Association, the North Shore Radio Association, Newburyport Electronics and Radio Society, and Ipswich Emergency Management. I am an ARRL Emergency Coordinator for the Cape Ann area. I'm currently a SKYWARN Spotter, and an ARRL accredited Volunteer Examiner and registered License Instructor. I'm looking to advancing further into the Amateur Radio Emergency Service, Radio Amateur Civil Emergency Service, SKYWARN, and other emergency communication service opportunities.