



November 2024

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<http://www.w1mv>



<https://www.facebook.com/w1mvmara/>



<https://twitter.com/search?q=Massasoit%20Amateur%20Radio%20Association&src=typd>

Next meeting is November 19, 2024. Social hour is from 1800. Meeting starts at 1830. Talk-in is on 147.180+. Meeting will be at the Bridgewater public library. No meeting in December see you in January.

Merry Christmas, Happy Hanukkh, Happy Kwanzaa, Happy Holidays, and Happy New Years

ON THE AIR Tuesdays 1st Dec 3rd 2nd Dec 10th 4th ? Dec 24th and 5th ? Dec 31st Happy Holidays. Tuesdays at 2000 (8pm)

Presidents Message

By John Laiosa

Please send your apparel request to me

We had a good turn out at last month's meeting, 9 members showed up. We voted in a new member, Phil AC1S0. The Tuesday night nets are going well, lots of participation and good topics. We will have a presentation on Skywarn presented by Rob Macedo, KD1CY at the Bridgewater Public Library on November 23 from 10-11 AM, all are welcome. Any apparel request, please send them to me.

jlaiosa@gmail.com

Secretary report

By Phil McNamara N1XTB

MARA minutes 15 October 2024

Meeting called to order by John N1BSO at 1830 at the Bridgewater Library meeting room.

Attendees
N1BSO John
KB1WCK Joe
KC1TLT Wendy
N4NMF Barry (via zoom)
N1IQI Loren
AC1SO Phil
N1XTB Phil
KC1UQE Mary
WA1BEE Allen
KA1YL Connie

Secretary report discussed and accepted
Treasurer and Repeater report accepted.
John N1BSO mentioned some UHF testing this week

Old business

Just a reminder that a minimum order is required to put in an order for club apparel.

Tuesday night net needs new ideas. Please send them to Tom and John.

New business

Discussion about having a speaker for Skywarn/NWS presentation in the fall- in November.

Will be open to the public. Phil N1XTB to coordinate with Library. Library will advertise. Likely date will be a Saturday.

Phil AC1SO voted in as a new member of MARA.

Discussion of storm season coming. Talked about spare repeater.

Meeting adjourned at 1844

Post meeting discussions about HF operations, POTA and SOTA

Newsletter editor Rick Emord KB1TEE

Good day I am sorry I didn't get out the October newsletter the camp ground we were in for two weeks had horrible internet. Then I came home got my camper winterized on Monday and surgery on Tuesday. For those of you who sent me good wishes for my knee surgery everything went well. The doctor found more damage than he expected. My rehab is going good my physical therapist was amazed at my recovery. If you have any suggestions for the newsletter content or a subject that you would like to see please drop me a line. If you haven't been on the Tuesday night net new meeting on the air check it out.

K1USN radio group

There is sad news to report regarding the future of the K1USN Radio Club!

Several weeks ago we (K1RV, W1VP & N1DC) met with two Braintree town

officials and were informed that due to the impending need for more meeting

room space @ the Watson Building, we were being asked to vacate our

current room.

2024 Pacifcon Inspires Next Generation of Radio Amateurs

Contributed by Bob Inderbitzen, NQ1R – ARRL Director of Marketing and Innovation

The Mount Diablo Amateur Radio Club held its successful convention, [Pacificon 2024](#), in San Ramon, California, October 18 - 20. The convention drew radio amateurs from throughout the populous Bay Area of California and beyond, and annually hosts the ARRL Pacific Division Convention.

The organizing committee works all year on pulling together an impressive program. This year included an exceptional lineup of forums, seminars, hands-on activities, and exhibits. But the standout this year was the tremendous effort to include and engage young hams and prospective hams.

Pacificon coincided with the largest scouting event in the world, Jamboree-on-the-Air-Jamboree-on-the-Internet (JOTA-JOTI). As radio amateurs and radio clubs around the world got scouts on the air to promote friendship and global citizenship, Pacificon partnered with the Boy Scouts of America Golden Gate Area Council to get dozens of scouts to attend the convention. The scouts were led by their troop leaders in small groups to meet with ARRL Education and Learning Manager Steve Goodgame, K5ATA, and his wife Cyndi Goodgame, K5CYN, for a short introduction to radio and wireless technology, ham radio, and ARRL. The scouts also got on the air using the most recognized call sign in the world, W1AW. Special Event Station W1AW/6 was sponsored by the Palo Alto Amateur Radio Association (PAARA).

Many young hams also attended, including those accompanying parents and grandparents. Among them was ARRL East Bay Section Youth Coordinator Alexia Snethen, KM6LGG, a 17-year-old from Alameda County, and San Joaquin Valley Youth Coordinator Shane Lewis, K5SML. Both Youth Coordinators are General class licensees and are involved in a variety of activities throughout their sections to attract and engage more young hams. For instance, Snethen runs a youth net on a local repeater, and helps students in her section connect with each other, even online, to discuss ham radio.

Meet the ham radio enthusiasts who help keep the New York Marathon running smoothly

'If the phones are down, the hams are up.'

By [Tom Hawking](#) Posted on Nov 3, 2024 11:04 AM EST

By any metric, the New York Marathon is an immense production. The 50,000+ runners who are starting the race on Sunday November 3 make this the world's largest marathon. Their route will take them through all five of the city's boroughs, from the starting line on Staten Island up through Brooklyn and Queens, across the Queensboro Bridge to Manhattan's Upper East Side, north into the Bronx and then back down along the east side of Central Park to the finish line in the Park itself. Ensuring that the whole thing goes off without a hitch is a remarkable feat of organization. The race relies on a small army of volunteers, who do everything from staffing the water stations at every mile marker and making sure runners don't get lost to offering medical expertise.

Perhaps more than anything else, though, coordinating an event with so many moving pieces requires reliable, efficient communications. Volunteers play a critical role here, too, including one very specific group: local amateur radio (or "ham radio") operators. Ensuring that the whole thing goes off without a hitch is a remarkable feat of organization. The race relies on a small army of volunteers, who do everything from staffing the water stations at every mile marker and making sure runners don't get lost to offering medical expertise. Donni Katzovicz is a ham radio enthusiast who has

volunteered at the Marathon since 2018 through Event Hams, a group that has coordinated the Marathon's use of amateur radio spectrum for the last decade. He explains that ham radio essentially plays two key roles during the marathon. The first is as a route for communications that don't require the use of official channels. "Obviously," he says, "The marathon has commercial [radio] licenses and [its own communications infrastructure]. You [also] have all the local emergency services—FDNY, NYPD, EMS. The National Guard gets involved. The Secret Service gets involved. And they all have their [own] radios and equipment."

However, he continues, "New York City is a big place. And if there's, say, a runner who's violating the uniform policy, or who's holding too big of an inflatable donut, the best use of resources for the NYPD radio is maybe not to be tied up [handling] that." As well as chasing down people with overly extravagant costumes, however, ham radio also stands ready to play a second, more critical role: providing a reliable and resilient backup method of communications if primary channels go down for whatever reason. Katzovicz says, "If there was a major failure of all the major, super-critical systems, [organizers know] that there's still a backup there."

At the most basic level, ham radio is any radio that operates on the radio bands reserved for amateurs. As Katzovicz explains, enthusiasts come up with all manner of uses for their little corner of the electromagnetic spectrum: "The hobby itself is really, really, incredibly broad and encompasses a lot of different parts of science and technology. Some people ... have handheld walkie talkies and to talk to other licensed people in their neighborhood; others make their own radios or make their own Rube Goldberg-esque devices to listen and transmit, and others coordinate with local civil bodies and provide backup communications during planned and unplanned events."

Ham radio is well-suited to the latter role because, as Katzovicz explains, "It's incredibly resilient." This is because radio is a fundamentally simple technology that hasn't changed a great deal in decades. In essence, all you need to communicate via radio are a transmitter and a receiver, and both are devices that enthusiasts can build themselves. A basic walkie-talkie, for instance, simply encodes a message and broadcasts it at a given frequency via the built-in antenna. Anyone else within range can tune to the same frequency and pick up that message. In a scenario where, say, all a city's power was out, battery-powered walkie talkies would still work just fine, whereas cell phones would be useless.

Activating Grassy Mountain, GA for SOTA and two POTA parks at the same time (all while figuring out what not to do next time)

by John (W3HN) and Zach (NI4K)

Sometime in early 2024, my son Zach contacted me and said, "Dad, the Georgia SOTA and POTA folks are having a campout in October. Why don't you visit us in Atlanta and we can go camping, meet some fellow hams, and activate a SOTA peak or two?" It made sense, as Zach had become the most active ham in the family, had taught himself CW, loved an excuse to go camping, was a natural organizer, and had been the impetus for my handful of POTA activations. And it was all easier now that I had retired in December 2023.

The "campout" was the W4SOTA campout, planned for Wednesday, October 2 through Sunday, October 6, 2024, at the Lake Rabun Beach Campground at the Chattahoochee-Oconee National Forest. Zach got his camping vehicle, Thor the Taco truck, ready for the jaunt. A Taco truck (for the handful of folks out there that don't know this), is a Toyota Tacoma pick-up.

"Thor" is the name the truck acquired because of its imposing demeanor. It has four-wheel drive, a three-inch lift, the metric equivalent of 33" tires, a Go Fast Camper pop-up camper over the bed, an electric winch, a silly number of extra lights up front, and is equipped for some of Zach's hobbies. Air compressor for mountain biking? Check. Back-up battery with separate charging system for ham radio and a 12-volt refrigerator? Check. A pullout kitchen with a sink and two-burner stove? Check. Both 2-meter FM and GMRS radios in the cab for communicating with your mountain biking and camping buddies on those weekends on western Bureau of Land Management (BLM) lands? Check. Both 2-meter FM and GMRS radios in the cab for communicating with your mountain biking and camping buddies on those weekends on western Bureau of Land Management (BLM) lands? Check. It even has 12-volt DC available via Anderson

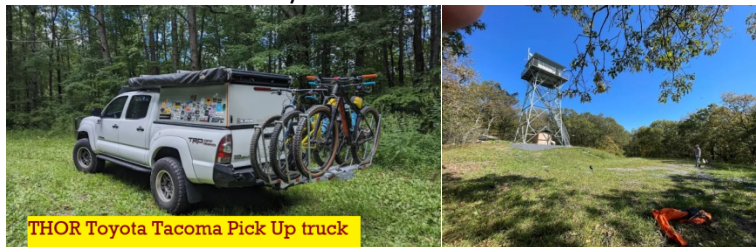
power connectors in the cab, because you never know when you might be driving cross country and come to a lonely park in serious need of a POTA activation.

Zach emailed me spreadsheets with gear lists and options. I ignored them, scribbled unintelligible notes on my yellow pads, and ended up bringing everything that might arguably be used for SOTA, POTA, Winter and Summer Field Days, or to run a 1970s era government emergency communications center. Truthfully, that is an exaggeration – I didn't pack the warm clothes required for a Winter Field Day.

Zach paid for a campsite, and our trip south from Pennsylvania was planned, when everything came to a screeching halt on September 30, 2024. Hurricane Helene had severely damaged areas of Tennessee, North Carolina, Virginia, and Georgia. Zach soon learned the original campout was cancelled when he received an electronic refund for the campsite. Some of the original attendees were unable to make it, including Thomas (K4SWL) who was [reporting regularly](#) on the devastation and challenges to his family and neighbors from his QTH outside of Swannanoa, North Carolina, just east of Asheville.

We couldn't confirm if there was a substitute campout. Despite this, we decided to push on with a modified weekend. My wife and I drove south to Atlanta, Zach organized his gear, he helped me "sort" (i.e., drastically cut back) my gear from multiple plastic tubs, and we had use of a cabin near Ellijay, Georgia, within a short drive to the summit and parks Zach had mapped out. We decided we could pull this off, and on Friday, October 4, Zach and I loaded Thor and were soon booming north from Atlanta on US-575. Ellijay, Georgia is a nice town. After a lovely rooftop dinner, a good night's sleep in a cabin in the woods, and a great breakfast at a local restaurant, Zach had Thor headed to our destination, Grassy Mountain, summit W4G/HC-007. In addition to having two hams activating this SOTA summit, Zach had determined that Grassy Mountain was located within two POTA parks, Chattahoochee-Oconee National Forest (US-4473), and Cohutta Wildlife Management Area (US-7446). So, if we were organized, we could provide a double-triple – two operators and three locations (a SOTA summit and two POTA parks).

In about 45 minutes Thor led us to a parking spot deep in the forest near the locked gate to the Grassy Mountain access trail. We donned our GORUCK rucksacks filled with radios, antennas, coax, water, sundry accessories, and a snack or two (we left the steel plates at home). The route up to the top of the summit was a mile and a half hike on rutted double-track, with a switchback a little over half way to the summit.



Once atop the summit Zach and I assessed the site. It consisted of about one acre of cleared land, with what looked like a former fire watch tower in the corner of the cleared area. Zach and I broke out our KX2 Elecraft transceivers. Zach hooked his to a Tufteln 40-10 EFRW, mounted to a SOTA Beams carbon fiber telescopic mast. I deployed a EndFedz EFT-MTR 20/30/40 antenna in a sloper configuration, and tuned it up using the internal Elecraft tuner. Those were the bands I intended to use. I also had my Mountain Topper MTR-3B QRP transceiver, which might get some use, too. We also used some untested QRP bandpass filters found on eBay. They seemed to work, but will undergo more scientific testing to confirm their functionality. Zach was racking up contacts on CW, but I was having difficulty on SSB. I had been trying to operate the antenna on 20 and 40 meters when it was configured for 30 meters – which we only realized when we took a gander at the antenna manual back at the cabin after we regained cell service. The SMA connector is removed to enable 30-meter operation, not installed. Bing! It is a testament to Elecraft that their antenna tuner is robust enough to handle that mismatch. It is also an excellent example of why you should read the equipment manuals for gear you don't operate very often before your field effort! Go to QSTper.com for the rest of the story

SKYWARN PRESENTATION

On Saturday 23 November 10am to 11 am at the Bridgewater library Rob Macedo KD1CY will be presenting on the NWS skywarn program. The public will also be invited.

The USTNR group USS Massachusetts operations



Our 2025 schedule has three operations on the USS Massachusetts
April 19th this is our annual event on board 0830 on the air by 1000-1530
June Museum Ships on the Air weekend June 6th set up on the air at 8:00pm which is 0000 zulu we will wrap up the session on Sunday June 8
September 20 anniversary of the launch of the USS Massachusetts on board 0830 on the air by 1000-1530

AARC Flea Market] AARC Flea Market - February 15, 2025

The Algonquin Amateur Radio Club will hold its annual Flea Market on February 15, 2025 from 9:00 AM to 12:00 Noon. The event will be held at the 1LT Charles W. Whitcomb School, 25 Union St or off Bolton St (Rt. 85), Marlborough, MA 01752.

Shelf project ideas



Building a Wall-Mounted Utility Shelf

This shelf isn't meant to hold every tool you own. But it's perfect for keeping tools, hardware, and project supplies off your bench. https://www.woodsmith.com/newsletter/2024/10/31/building-a-wall-mounted-utility-shelf/?utm_medium=email&utm_source=WSM+-+NL+-+Woodsmith+Tips&oly_enc_id=0739D9705701D3



A century-old technology has been added to Petersburg's fire hall for emergency communication when all else fails. Amateur radio —or ham radio— is a form of two-way radio communication that allows specially licensed operators to communicate over long distances using radio frequencies reserved for non-commercial use. Think walkie-talkie, but much more powerful. Depending on the equipment and frequency range, ham radio operators can communicate with neighboring communities, countries on the other side of the world, or even space.

Ham radio is both a hobby for the electronically-inclined and serves as a reliable communication resource. Using specific "nets" —designated frequencies— licensed ham radio operators can socialize with other hobbyists as well as help out during emergencies by keeping communities in touch when regular communication goes down. Ham radios can function powered by battery or other alternative energy sources. Even the government regards ham radio as a dependable backup communication system for emergency or disaster scenarios where cellular and internet grids no longer work.

Amateur radio operators —also called hams— in the U.S. have a specific license granted by the Federal Communications Commission (FCC) that legally permits them to transmit on certain frequency bands. Licensing prevents radio interference and ensures that operators know proper radio procedure and safety protocols. Licensed operators can register with a nearby Amateur Radio Emergency Service (ARES) to volunteer their ham radio skills and training in the event of an emergency. Alaska has a few thousand licensed operators, and several amateur radio clubs, including a couple ARES, for Alaskan hams to join if they so choose. When the world's second-largest earthquake ever recorded shook Alaska in 1964, government and private communication systems failed; but ham radio operators were able to restore communication because their transmissions did not rely on towers or landlines, which were destroyed by the 9.2 magnitude earthquake in Prince William Sound.

The Alaska-Pacific emergency preparedness net —or A-P net— originated as a result, and now has over a hundred hams checking in to the designated frequency each week. Petersburg resident and ham radio operator Gary Treffry is a member of the A-P net. Anyone can listen in to a ham radio transmission, so long as they have a system capable of receiving those ham bands —frequency ranges reserved for amateur radio use. However, a license is required in order to personally broadcast. "Once you've participated in a net fairly regularly for a while ... you get to know those people better than most people know their next door neighbor," Treffry said sincerely. He is friends with hams in Japan, New Zealand, South Africa, Hawaii, throughout the country and around the world. "You'll get to know people all over the globe and ... once you get to know them, you can travel all over the damn world and ... have a place to go and stay." Treffry has had ham radio in his life since he was a kid, first taking interest in what would become a life-long hobby while working as a farm hand north of Spokane for his neighbor, who was a dairy farmer as well as a ham radio operator. "He had his ham radio stuff in the milking parlor," Treffry recalled. "I'd go in there and he'd be milking cows, you know, and he'd have his ham radio on. And so I got interested in it..." He told the Pilot he has been a ham radio operator since he was 13 years old.

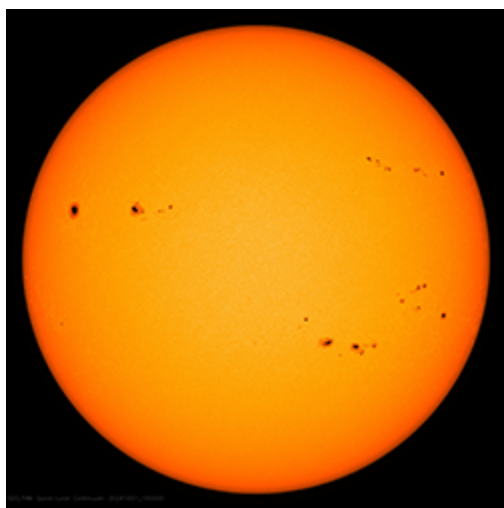
There were a handful of ham radio operators in the closest small town, about 10 miles away. Treffry remembers going on "transmitter hunts" which he described as hide-and-go-seek, but using directional finding antennas to seek out a hidden person transmitting from a parked car — a similar set up to the red Subaru he currently drives around town, custom equipped with an antenna and solar panels on top, and his ham radio call-sign as his license plate. He often parks at [The Petersburg Volunteer Fire Department](#) fire hall, which he describes as "a superb location..." "One of the

things that makes it really good is that wet muskeg," Treffry explained of the expansive landscape immediately behind the station. "It provides a super good ground electrically conductive to earth ... this wet muskeg is almost like having ... a great big copper sheet out there." Treffry recently donated his ham radio equipment to the borough, which has now been set up at PVFD with all the bells and whistles — or more specifically, transceivers, antennas, amplifier, tuners, wires, power supplies and various other pieces of equipment; even a custom-built corner shelf to house the indoor tech that connects to the system outside.

He designed and built the entire ham radio antenna system and helped set it up this fall behind the fire hall, adjacent to the expansive muskeg. "One thing about the station, there's double redundancy with everything. Two transmitter receivers, two separate antennas and separate power supplies ... basically, it's fail-proof," Treffry told the Pilot while looking for a wrench. He was working on the final steps of setting up the system, specifically the connections for the long wire antenna, with the assistance of Emergency Services Director Aaron Hankins, who was burying a conduit. To have interested folks to operate the system on behalf of the borough in emergency scenarios, as well as create a community space for ham hobbyists, the borough intends to establish a local ham radio club in Petersburg, based out of the PVFD fire hall. "The idea is to allow [hams] to still do their own thing, but with the donated equipment from Gary, the borough ... will have a publicly managed ham radio site to maintain communications when all else fails," Hankins told the Pilot.

Hankins said part of the initial idea behind standing up a ham radio club is to have that emergency service option readily available in the borough, citing the mention of an ARES site in Petersburg Borough's 2010 disaster response plan. "We are islands ... there's no one we can just drive down the road and get communications from," he said, "but we hope to have that added [ham communication] capability." Hankins said the PVFD Association is going to manage the club and its members will need to submit to a background check because it will take place inside of the fire department, "That's the only real hurdle there..." He is working on contacting the other couple of hams in town, and hopes "to have more info out soon, now that we are getting the rest of this together..." "[Treffry] has contributed a lot ... and I hope that we never have to use his contribution in an emergency fashion, but we'll definitely be very glad to have this capability if the need arises," concluded Hankins.

The K7RA Solar Update



Key solar indicators were lower this week, with average daily solar flux down from 194.3 to 170.5 and average daily sunspot numbers declining from 129.3 to 127.7.

On October 22, Spaceweather.com reported:

"THE SUN IS TAKING A QUICK BREAK: Solar Max is hard work. Just ask the Sun. After flaring almost without pause for the past 10 months, the Sun is taking a quick break. Solar activity has been low for the past 48 hours with no flares stronger than category C. The quiet won't last. Solar Max is expected to continue for at least another year; flaring should resume shortly."

Predicted solar flux is 200 on October 25-26, then 205 and 215 on October 27-28, then 220 on October 29-31, then 180, 185, 180 and 175 on November 1-4, 180 on November 5-6, 185 on November 7-8, 180 on November 9, 175 on November 10-12, then 180 and 175 on November 13-14, 170 on November 15-16, 165 on November 17-18, and 160 and 165 on November 19-20.

Predicted planetary A index is 15, 18 and 7 on October 25-27, then 8 on October 28-29, 5 On October 30

through November 10, then 12, 12, 8, 5, 12, 10, 5, 15 and 10 on November 11-19, and 5 on November 20-21, 12 on November 22 and 5 on November 23-30. "Weekly Commentary on the Sun, the Magnetosphere, and the Earth's Ionosphere - October 24, 2024 from F.K. Janda, OK1HH:

"NASA and NOAA announced in a joint statement on October 15, 2024 that a solar maximum is underway. This phase of the cycle may take 2 to 3 years to develop. For shortwave propagation, this implies that the regular openings of the shortest bands will continue at least through 2025, possibly longer.

"The author of these lines considers it likely that the current 11-year cycle will have two peaks, the first of which is taking place now. In that case, we could expect the second peak in 2025.

"Coronagraphs aboard artificial Earth satellites provide invaluable data for predicting solar activity. The Solar and Heliospheric Observatory (SOHO) has been in operation for an unexpectedly long time - it was launched in December 1995! Fortunately, the Sun is still being similarly observed by GOES-19, although it is still undergoing testing with instrument checks, including the coronagraph, which we expect to be in regular use from Spring 2025. "In the last two weeks or so, we have been able to observe the size of AR3842 and AR3844 on the Sun's far side.

"AR3844, meanwhile, emerged on the southeastern limb of the solar disk, was renamed AR3869, and immediately made itself known with a powerful solar flare of class X3.3. It happened on October 24, with the peak of the event at 0357 UT. The extreme ultraviolet radiation from the flare ionized the upper part of the Earth's atmosphere. The Dellinger effect knocked out shortwaves to 30 MHz for nearly an hour in the Australia and Southeast Asia region. The current CME has left the Sun, but is unlikely to hit Earth (if it does, it could happen on October 26).

"After the eruption, due to the increase in ionization of the ionospheric F2 region between 0910 - 1050 UT, the 50 MHz magic band between central and southern Europe and Japan (especially the southern half of its large islands) was opened. However, the vast majority of contacts were established at 50313 kHz (WSJT-X, FT8)."

Send your tips, reports, observations, questions and comments to k7ra@arrl.net. When reporting observations, don't forget to tell us which mode you were operating.



On Armed Forces Day in May 1971, 53 years ago, two amateur operators working as WZ6SNI, activated San Nicolas Island, IOTA NA-066. At 61 miles offshore, San Nicolas is the most remote of the Channel Islands off the coast of Southern California, and is owned by the US Navy. Now, weather permitting, Will Costello, WC6DX, has been authorized to be active from San Nicolas Island November 8 - 12, 2024. He is taking a Buddihex antenna for 6 - 20 meters and a 100-watt rig. For island chasers in Southern California, Arizona, and southern Nevada who may not be able to hear because of skip, he will also take a Buddipole antenna for daytime use on 40 and 30 meters. Operations will be primarily SSB, and CW if conditions deteriorate due to solar flares. QSL instructions will be on WC6DX's QRZ.com page after the operation.

Massasoit Amateur Radio Association Executive Board

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Vice President: OPEN

Secretary: OPEN

Treasurer: Phil McNamara N1XTB

Call Sign Trustee: Phil McNamara N1XTB

Newsletter editor : Rick Emord KB1TEE

2M Repeater 147.180+ (Tone 67.0)

440 Repeater 444.550+ (Tone 88.5)

APRS Node Node 144.39 W1MV-1

Packet BBS 145.09 N1XTB-4

Packet Node Brockton 145.09 W1JOE-7 (BROCK)

MARA Web Page <http://www.w1mv.org/>

Facebook <https://www.facebook.com/w1mvmara/>

WARC Web Page <http://www.wa1npo.org>

Qsl via www.eqsl.cc

Skywarn <http://wx1box.org> and

www.powersrvcs.org/w1gmf/skywarn.htm

Mailing Address P.O. Box 428 Bridgewater, MA 02324

Monthly meetings are held the 3rd Tuesday of each month, for time being, Tuesday Night Zoom meeting will be at 6:30pm.

Our Meetings-On-The-Air are held all other Tuesday evenings at 8PM on 147.180+.

The South Shore Skywarn Net is held every Saturday evening at 8PM local time on 147.180+ and is open to all hams.

VE Exams are held the 2nd Saturday of every month, in Braintree contact Steve Cohen, W1OD via email w1od@arrl.net. Walk-ins are no longer permitted. We will be hosting VE exams at 8:45 at the Watson building. If you know of anyone planning to take an exam, please have them drop a note to Steve to confirm a reservation

From our Shack to yours

MERRY CHRISTMAS

CHEAP QSLs

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