

Eastern MA ARES Winter Exercise Scenario and Guidelines



Eastern MA ARES

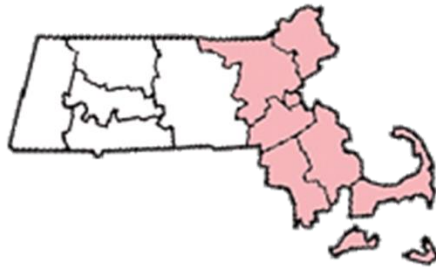
Section Exercise: **"Snow Globe"**

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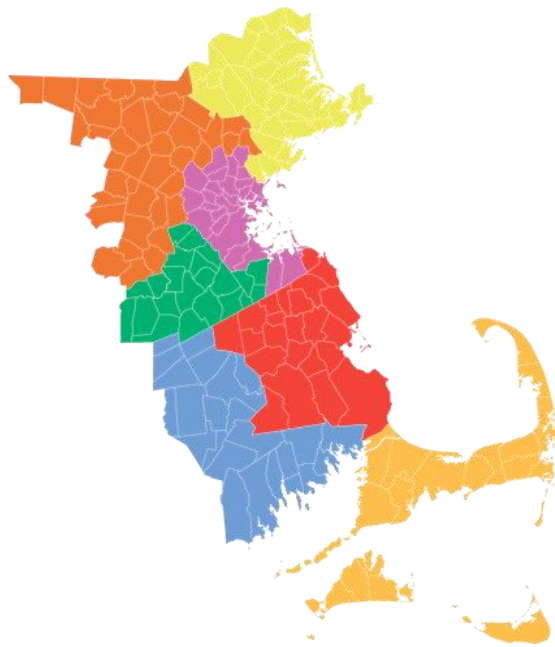
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Eastern MA ARES Map



Date and time of Exercise

Saturday February 3rd, 2023

Setup time: 9:00am

Start Time: 10:00am

End Time: 12:00pm

Operational Duration: 2 hours

Purpose

The Eastern MA Section Amateur Radio Emergency Service will conduct a winter operations exercise to test its capability in establishing communications with stations within its section and outside it under simulated emergency conditions. The operational exercise called **“Snow Globe”** will test the ability of several home stations, EOCs, possible field sites and other stations to communicate. The exercise will attempt to build upon the lessons learned from our past operational exercises.

Scenario

It has been a warm fall season in southern New England heading into the early winter, but fortunes changed rapidly as the end of January approached. On Tuesday January 30th, an intense winter storm moved up the east coast delivering heavy snow to much of southern New England. Pressures were down to 970mb or about 28.65". A huge swath of snow with a jackpot in central MA and Metro-west topped out near 30". Boston had near 25" with western MA seeing up to 20". In SE MA amounts near 20" fell as some warmer marine air held down accumulations. Near the South coast and Cape Cod, amounts of near 14" of heavy Gorilla glue snow had fallen. In these areas, Winds over 70mph combined with the heavy wet snow to take out power, especially over the Cape.

In an incredibly bad twist of fate, a much larger and deeper storm impacted southern New England on Thursday February 1st. Low pressure emerging from the NC coast moved up near Nantucket with pressures near 956mb (28.23"). Winds gusted over 100mph over the Cape and islands for over 9 hours and over 75mph for more than 24 hours. Winds near hurricane force were recorded in almost all areas east of Worcester including RI. Wind damage over the Cape and Islands is devastating. Many building have had roofs ripped off and some vulnerable houses have had curtain wall failures.

Historic coastal flooding has occurred along parts of the eastern MA coast. Areas near the south shore endured successive high tide cycles with many structures destroyed by wave action. This resulted in similar flooding to that experience in the 1978 storm.

This second devastating storm put down a new snow blanket of near 30" in western MA and near 40" in central MA all the way to Metro west. Much of southern New England now lies under the greatest snowfall blanket to fall in a single month in its history. In SE MA, much of the snow cover was inundated with rainfall as warmer marine air flooding into the Cape moving inland. Heavy flooding has only made the situation worse there as they had winds over hurricane force for almost a day. Over the Cape and Islands, the area is almost snow free from the 4" of rain that fell along with temperatures that reached into the 50s on the tails of the 100mph winds which swept the area.

Situation Report

The situation in southern New England is dire. Transportation by roads is virtually impossible. Only one runway is open at Logan airport. Worcester airport is closed as is TF Green. It remains unknown when roads may be reopened. The interstate highways also remain closed. People in much of the region are virtually trapped wherever they may be. The only exception is the Cape and Islands where almost bare ground exists, but damage to structures and debris are extreme from the brutal period of 100mph winds.

Almost 82% of MA is without power with a restoration time that remains highly unknown. MEMA is fully activated, but is suffering from lack of human resources as many personnel were unable to reach their assignments before conditions made travel impossible. The National Guard was activated by the Governor, but also faces human resource issues as the activation came very late in the event

Along the MA east coast, destructive coastal flooding has taken place. Hundreds of structures have been either damaged or destroyed. At least 34 people remain missing along the coast. High water vehicles are on standby, but are having difficulty with overland travel.

In interior MA away from the coast, everything is paralyzed. Travel will likely be impossible for some time. Local EMA and public safety are doing the best that they can in spite of the travel issues. They are advising people to try to keep warm as best they can and as safely as possible. A few warming centers and shelters have been opened, but people are unable to travel far from their homes.

Over the Cape and Islands, destruction is the word for the event. Many buildings remain with roof damage or even some being destroyed. The Barnstable County Regional Emergency Planning Committee in coordination with local EMA/public safety has attempted to open its regional shelter system. Travel is possible due to the bare ground, but hazardous debris remains everywhere. Power is virtually non-existent on the Cape mainland. Many communities on the Cape/Islands are also trying to activate additional capacity shelters and warming centers, but human resources remain elusive as many are unable to leave their damaged homes and businesses. Hospitals on Cape are almost at capacity from injured people and aggravated medical condition from the event. Fuel throughout the commonwealth is getting scarce and difficult to transport. Although the Cape and Islands have bare ground, roads leading there are quite the opposite.

Communications in southern New England have taken a serious hit. Cell service is spotty in much of the region away from the SE coastal area of MA and almost non-existent over the Cape and Islands. The MA State Police trunking 800mhz radio system is non-functional on the Cape/Islands along with several other public safety UHF systems. Most of the amateur radio repeaters on the Cape are also out of action demanding a simplex VHF response along with HF. Two field sites have been setup on the Cape mainland to help facilitate radio traffic. Many of the fixed station sites have suffered roof/antenna damage.

ARES/RACES/AUXCOMM groups are working with state and local EMA units to help with radio traffic throughout the region. Amateur stations are also working to relay damage reports from SKYWARN to NWS and local/state officials as best they can. The National Traffic System (NTS) is working to try to get Health and Welfare traffic out of the region through voice and digital means.

There are already concerns about another coastal storm in the next several days. This will be a grueling situation for all, but one that we knew was coming eventually. Good luck to our ARES people and all of our partners in meeting the needs of our mission. BE SAFE.

ARES groups and simulated activities

This exercise guideline is deliberately generic in nature. ARES groups are free to adapt this scenario and conduct their operations as needed for their groups. Feel free to use your home stations or mobiles for this purpose. It is likely that most of the operations involved in this exercise will utilize home stations.

Exercise Objectives

The objectives of this exercise are as follows:

- Establish and conduct a tactical net on simplex 2m or FM repeater for your group
- Establish contact with any Town EOC RACES stations
- Establish contact with other ARES districts where possible
- Establish an HF 75m voice net for all of MA (and potentially other areas)
- Establish a 60m HF voice net for all of MA (and potentially other areas)
- Send requested SKYWARN damage report by tactical voice
- Send requested SKYWARN damage report form by Winlink
- Check in and/or pass information on the MMRA repeater network
- Check in and/or pass information the NEW-ENG3 9123 Echolink node
- Conduct an NTS NBEMS net on 75m voice and pass traffic
- Conduct an NTS voice net on 2m VHF FM
- Conduct an NTS voice net on 75m and pass traffic
- Attempt operations with the RI section on VHF and/or HF
- Conduct 6m operations on the Mt. Wachusett 6m repeater

Operational Ground Rules

ARES/RACES

ARES/RACES/Auxcomm groups can fully adapt and change their individual plans to suit the needs of the local group.

Tactical Message Handling

Tactical message handling, on voice, will occur on 2 meters, Echolink and on 60/75mHF.

Setup and Timeline

Setup time will be 9am. The exercise will begin promptly at 10am. It will last approximately 2 hours and will end at 1200pm. Timelines may be adjusted accordingly in response to turnout and early completions of primary objectives.

Exercise Disclaimers

Due to the proliferation of radio scanners and the possibility of misconstrued information by the public, all tactical voice messages *that can be misconstrued* will be preceded by the words “**This is a Drill**”. Any NTS formal messages that can be misconstrued will have the words “**This is a drill X**” as the first five words in the body text. In this time of national public concern, we must make all efforts to ensure that the general populace is not misled and that amateur radio is not portrayed in a negative manner. *If the messages are NOT considered to be able to be misconstrued, then the disclaimer will not be needed. NTS messages about health and welfare should contain the disclaimer.*

Exercise Messaging Activities

There will be one primary operational activity in addition to NTS Health and Welfare messaging. This will involve the sending of a SKYWARN damage report by voice or Winlink.

SKYWARN Damage Report

The primary messaging activity for this exercise will be the sending of a SKYWARN damage report by **voice** or **Winlink**. This will be sent by ***ONE METHOD ONLY*** to avoid duplication. If you are sending the report by Winlink, you will be using the “Severe Weather Report Form”. The damage reports will ***NOT*** be sent by NTS.

The damage report will contain the usual information that we collect regarding damage to infrastructure such as buildings, utilities, roads and bridges. The reports can also contain the status of your local communities in regards to sheltering, local power situations and local community actions or requests. In this exercise scenario, many of those reports will come after the storm has passed as it would take time for these circumstances to be known or to evolve.

SEVERE WEATHER REPORT

[Load Severe WX Data](#)

1. Sender

2. Report Date/Time (local)

3. Report Version (Select one): First Report Update Report Final Report

4. Reporting Party Name

5. Reporting Party Phone Number

6. Reporting Party Email Address

EVENT AREA

7. City

8. State/Province/Region

9. County

10. Other

11. Latitude

12. Longitude

13. MGRS

14. Grid

LAT/LON and MGRS default to the center of the grid square listed in Express Settings, unless a GPS is used or Lat/LON or MGRS are entered manually.

If sending report for someone else, do not use your GPS Lat/Lon, obtain theirs if available and manually enter in decimal format.

OBSERVED EVENT CONDITIONS

Measurements used: Imperial Metric

15. Flood:

16. Hail size:

17. High Wind Speed: MPH

[View Wind Speed guidelines](#)

18. Tornado / Funnel Cloud:

19. Wind Damage:

20. Winter Precipitation:

21. Snow: inches

22. Freezing Rain: inches

23. Heavy Rain: inches . 24. Time period: hours Report 1" or greater in an hour and every inch thereafter.

25. Additional Information or Damage Descriptions (*Be Brief*)

Tree down on wires
100 main st
Boontown, MA
1030pm

[Submit](#)

[Save Severe WX Data](#)

[Reset Form](#)

Ver 4.0

Since this will be a damage report only and not a weather report, we will be reporting the damage in BOX 25 of the form (see above example). Your damage report can be sent using Winlink by VHF or by HF (see frequency usage). Winlink damage reports will be sent to WX1BOX.

If you do not have Winlink, you can send your damage report by tactical voice on 2m FM, on the 60/75m HF tactical nets or on Echolink. You will give the damage, the location, and the time of the event. It will contain the same information as BOX 25 of the form shown above.

NETS and mode of operations

HF tactical voice operation

An HF net will be started on 60m and 75m in MA. They will operate concurrently. Participants can send their primary voice activity involving the SKYWARN damage report if they wish. They can also send signal reports of other participating HF net stations for the record.

60m voice operations

NOTE: The 60m frequency usage for this exercise has *CHANGED*. Channel FIVE will be primary with channel FOUR as a secondary. This was necessitated due to a noise problem on channel ONE by one of the NCS stations.

HF 60m operation will be first attempted on Channel FIVE 5403.5 kHz. *As we are a secondary user on 60m, any primary user (US Government stations) cannot have interference from a secondary user. Primary users will have priority access at all times.* If a primary user is operating on channel FIVE, the net will fall back and be conducted on channel FOUR: 5371.5 kHz.

75m voice operations

A 75m HF voice net will be operational on 3930kHz complimenting the 60m net for voice tactical HF operations.

VHF/UHF voice operation

ARES groups are requested to set up voice nets as you normally do for exercises. These nets can be repeater, simplex or any combination of the two. Participants can send their primary voice activity involving the SKYWARN damage report if they wish. Any additional voice components for the exercise can be set by the local ARES/RACES group to fit their needs.

6m voice operations

There will be a net on the 53.31-Mount Wachusett Repeater PL: 71.9 Hz beginning at 1130am local time. Stations able to reach it are encouraged to check into the net.

HF and VHF/UHF Winlink operation

The SKYWARN damage report primary operations activity can be sent by Winlink HF or VHF/UHF Winlink for this exercise and will involve the use of RMS Winlink sites. If you are sending by Winlink, please **send to WX1BOX**

Echolink/IRLP operation

Echolink will be operational for this exercise. It will be the *NEW-ENG3* Echolink conference node 9123/IRLP 9123. It will be monitored by several ARES leaders and will serve as an online component.

NTS Health and Welfare operation

In an effort to try to promote NTS using digital modes and voice, NTS will stand up a health and welfare NTS operation. Messages can be passed by the MA/RI Digital Net (MARIDN) using NBEMS on 75m. Messages can also be passed by voice on the NTS VHF nets and the MA/RI phone net (MARIPN) on 75m.

NTS operations on HF NBEMS

There will be an HF NTS NBEMS net available that will use digital modes to pass NTS messages. This net will be a special edition of the Massachusetts-Rhode Island-Digital Net (MARIDN). The net will operate on 3582.5 kHz (1500hz center) and begin with the Thor 22 mode. More on this net and its normal operation can be found here on the Eastern MA ARRL website [MARIDN](#)

NTS HF Phone Operations

The MA/RI NTS phone net will be operational for the duration on the exercise period. It will operate on 3978khz LSB.

NTS VHF 2m operations

NTS will also have a voice 2m net (EM2MTN) on the Boston 145.23-repeater. Participants are welcome to join the net and try their hand at copying and sending as well.

NTS Nets

EM2MTN (Eastern Mass 2 Meter Traffic Net)
145.23- PL88.5 Boston

MARIDN (Mass - Rhode Island Digital Net)
3582.5 USB THOR22 1500Hz center

MARIPN (Mass - Rhode Island Phone Net)
3978 LSB phone

Additional nets and frequencies are shown in the frequency section.

Minute Man Repeater System operation

The Minute Man Repeater system (MMRA) will be active during the exercise. Primary voice activity such as the SKYWARN damage report can be sent along with other messaging or participant info.

Metrics for participation

All ARES groups participating in the exercise are encouraged to send a list of participants and activities by email after the exercise so a good overview of participants can be established. Send to your local ARES EC and/or DEC. If you are unaware of who your leader is, Visit the Eastern MA ARES website at <https://ema.arrl.org/ares/>

Exercise Frequency Usage

Two meter and 440 MHz local voice nets: - The following is a list of key frequencies with any additional frequencies at the discretion of local ARES Group

147.000-Dartmouth Repeater (PL: 67.0 Hz)
147.180-Bridgewater Repeater (PL: 67.0 Hz)
146.895-Walpole Repeater (PL: 123.0 Hz)
146.955-Westford Repeater (PL: 74.4 Hz)
145.230-Boston Repeater (PL: 88.5 Hz) **NTS Net**
147.435-Western Middlesex ARES Simplex (PL: 110.9 Hz) and NTS
146.580-Cape Cod ARES Simplex (No PL)
446.675-Marlborough Repeater (PL: 88.5 Hz)

The MMRA Network will be utilized at the section level – a link to the repeaters linked up is listed at the end of the frequency usage document

Note: The link on the 146.670 repeater is not operating with MMRA

Secondary Frequencies that will be monitored:

146.985-Blue Hill Science Center – Milton, MA (linked) (PL 88.5 Hz)
449.125-Blue Hill Science Center – Milton MA (linked) (PL: 146.2 Hz)
446.325-New England Sci-Tech - Natick, MA (PL: 146.2 Hz) ***

6 meter operations

53.31-Mount Wachusett Repeater PL: 71.9 Hz (TBA)

Winlink Express VHF (non-P2P): 145.090 FM frequencies –

Local VHF RMS Stations – Some stations may offer both Packet and VARA FM modes

**AB1PH-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
W1SHS-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
KF1D-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
W1SGL-10 connect direct or via digipeaters WA1PLE-2, W1STR-3 or BROCK
WZ0C-10 connect direct or via digipeater W1STR-3**

Or other VHF RMS stations available from Winlink Express station lookup.

Also see http://www.n1xtb.net/EMA_packet_map.html for locations of local RMS stations

Telnet may be used if available and necessary.

HF Winlink stations (Non-P2P):

Local HF RMS stations - VARA HF Preferred mode

W1EO: 3937.900 KHz center, 3936.4 KHZ dial

KF1D: 7101.3 KHz center, 7099.8 KHz dial

W1EO: 7102.5 KHz center, 7101.0 KHz dial

Or other HF RMS stations available from Winlink Express station lookup.

Telnet may be used for training purposes if RF capability is not present.

Primary region wide 75m HF Voice Operations: 3930 kHz LSB

NOTE: The 60m frequency usage for this exercise has CHANGED. Channel FIVE will be primary with channel THREE as a secondary. This was necessitated due to a noise problem on channel one by one of the NCS stations.

Primary 60m HF voice operations: 5403.5 kHz (USB), fall back to 5371.5 kHz if needed. Note that newer HF radios that have 60m as a standard feature often have the frequencies displayed as channelized (center frequencies) whereas radios that have been modified for 60m operation often display the dial frequencies. Power limit is 100 watts ERP.

Center	'Dial' Frequency (USB)	'Unofficial' Channel Designation
5332.0 kHz	5330.5 kHz	Channel 1
5348.0 kHz	5346.5 kHz	Channel 2
5358.5 kHz	5357.0 kHz	Channel 3
5373.0 kHz	5371.5 kHz	Channel 4
5405.0 kHz	5403.5 kHz	Channel 5

Primary NTS HF NBEMS 75m (MARIDN) operations: 3582.5khz- start mode: Thor22 1500hz

Primary NTS HF Phone 75m (MARIPN) operations: 3978khz LSB

HF Winlink stations: See online list on the winlink.org site

Echolink: *NEW-ENG3* node 9123/IRLP: 9123

Minute Man Repeater system (MMRA) linked repeaters VHF/UHF (see MMRA.org for repeater list and look at the ARES configuration): http://www.mmra.org/repeaters/repeater_index_by_linkstate.html

***** If available**

Group Operations

There will be several groups operating during this exercise. They may be RACES/ARES/Auxcomm or some combination thereof. Information regarding their operations can be added below if needed.