VarAC GPS Setup static location

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August 30, 2025, revision 0.1

TLDR #1

Update VarAC GPS Settings for “Manual GPS Data” and add your GPS coordinates in Degree Decimal Minutes (DMM) Format. The format **MUST** match the following

38° 55.57092 N 76° 44.00808 W

Update your canned message to add “//n <GPSLOC>//n” at the end of your check-in line. The “//n” will put the <GPSLOC> tag on a line after the check-in. **THIS IS REQUIRED IN ORDER FOR OUR CHECK-IN SOFTWARE.**

<EM:VARACWEDNESDAY@GMAIL.COM,k3jsj@arrl.net><SBJ:VarAC Wednesday Check-In>K3JSJ, Jason, Bowie, Prince George's, MD (HF)//n<GPSLOC>//n

TLDR #2

Use VarAC Wednesday’s canned check-in generator tool to generate a new canned message with the <GPSLOC> tag and replace your existing canned message with the new one

PURPOSE

Integrating your GPS location into VarAC adds a powerful dimension to your operations, allowing you to share your exact position with other operators, participate in location-based activities, and enhance emergency communication capabilities. This document outlines the steps rto set up a static GPS location in VarAC, update your canned messages to include position data, and send your location to fellow operators.

VarAC supports dynamic reading of GPS from a device connected to your computer. That integration will be covered in a different training document.

IMPORTANT

The GPS coordinates in this document are for example to set up VarAC to report GPS information. You should use your actual GPS location in place of the GPS information in the document.

GET YOUR LOCATION

Before configuring VarAC to transmit your position, it is crucial to determine your precise geographic coordinates. There are several ways to do this, depending on your access to technology and environment:

- Using a GPS Device: The most reliable way to obtain your location is via a handheld GPS unit or a GPS-enabled radio. Power on your device, allow it to acquire satellites, and note your latitude and longitude. Many devices will also provide altitude and grid locator information.
- Smartphone Applications: Most modern smartphones have built-in GPS. Applications such as Google Maps, Apple Maps, or Ham-specific apps like HamGPS can quickly provide your latitude/longitude. Copy the coordinates as displayed (e.g., 38.926182 N, 76.733468 W).
- Your QRZ profile: If you are operating from the address associated with your license grant you ***might*** be able to obtain your GPS information from the QRZ.com for the callsign you are using. For operators in the United States, QRZ obtains geo-graphic information from the mailing address associated with your FCC license grant. It is not clear if QRZ updates this information when your mailing address changes. You can find GPS location information under the Details tab of a QRZ profile. If the GPS information is not correct you will need to update it. See Appendix 2.
- Online Services: If you are operating indoors or without a GPS device, you can use online services. Websites like QRZ's GridMapper (https://www.qrz.com/gridmapper) allows you to enter your Maindenhead grid locator (e.g., FM18pw) and navigate the map to get your precise GPS coordinates.

CONVERT COORDINATES

VarAC uses Degrees Decimal Minutes (DMM) format for GPS coordinates to a precision of five decimal places. VarAC uses the degree symbol and cardinal directions (N, S, E, W) in the location string. Do not include the minutes symbol, single quote, at the end of the string of digits following the decimal point.

QRZ's GridMapper application provides coordinate in Decimal Degrees (DD) format. You can use an online service, https://latitudeandlongitude.net/en/converter, to convert from DD format into DMM format that VarAC uses. Remember that GPS coordinates with South and West ordinals have a negative sign. If you prefer to manually convert, see the Appendix 1 for the steps. Remember: Replace the GPS coordinates with yours

Example: Operating event at K3RTV

I am supporting a special event and operating at the National Capitol Radio Museum which is located at (latitude, longitude) of (38.926182, -76.733468). Figure 1 shows the GPS location entered into the https://latitudeandlongitude.net/en/converter webpage in D format. After entering the information in webpage, the screen will update and show the GPS converted into DMM format. Copy the Latitude and Longitude out into a text file and drop the single quote character following the last digit in the decimal portion to get the information needed to use into VarAC manual GPS location. In this case the string will be

38° 55.57092 N 76° 44.00808 W

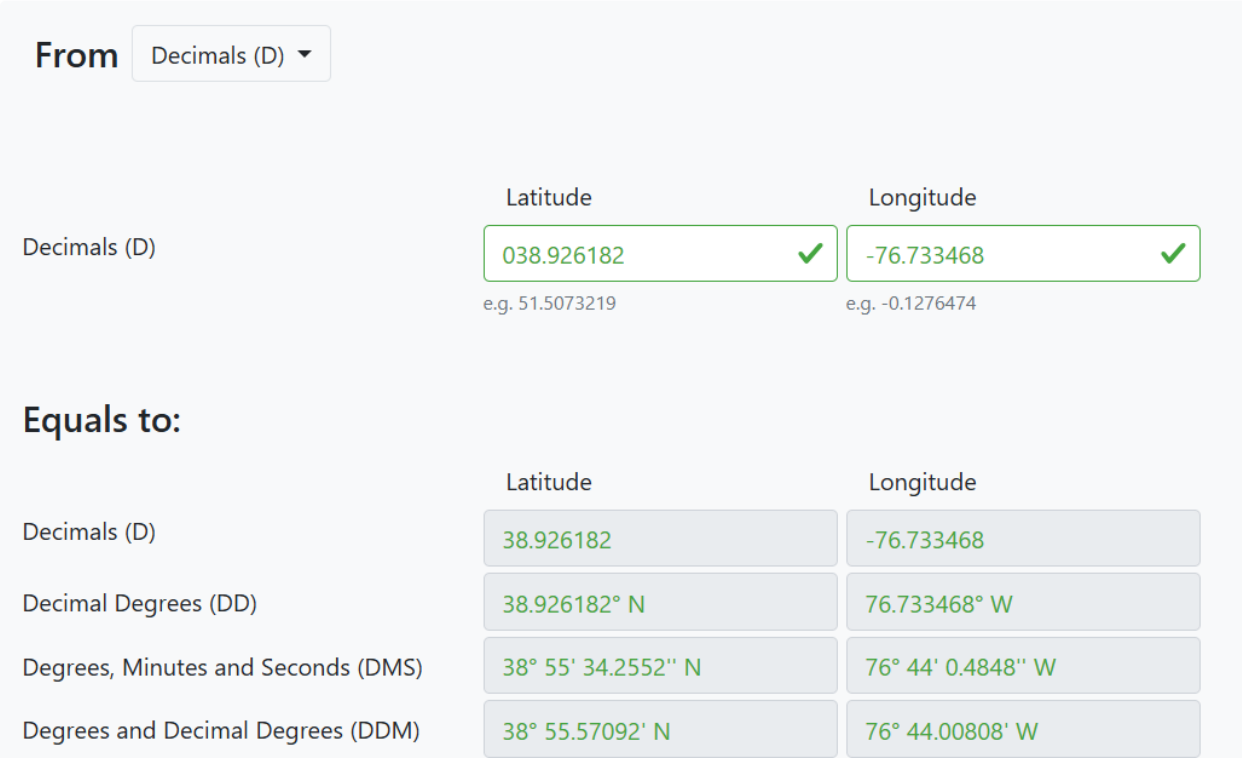


Figure 1 - Convert GPS DD to DDM

CONFIGURE LOCATION IN VARAC

With your location information in hand, you are ready to configure VarAC to use it. The process involves inputting your coordinates into the GPS settings.

- Open Settings menu: Launch VarAC and navigate to the settings => RIG control and VARAC Configurations
- Open GPS settings: Click the “GPS” tab
- Enter Your Coordinates: Check the “Manual GPS Data” checkbox and paste your GPS coordinate in the box. See Figure 2
- Save and Confirm: After entering your GPS location data, save the configuration.

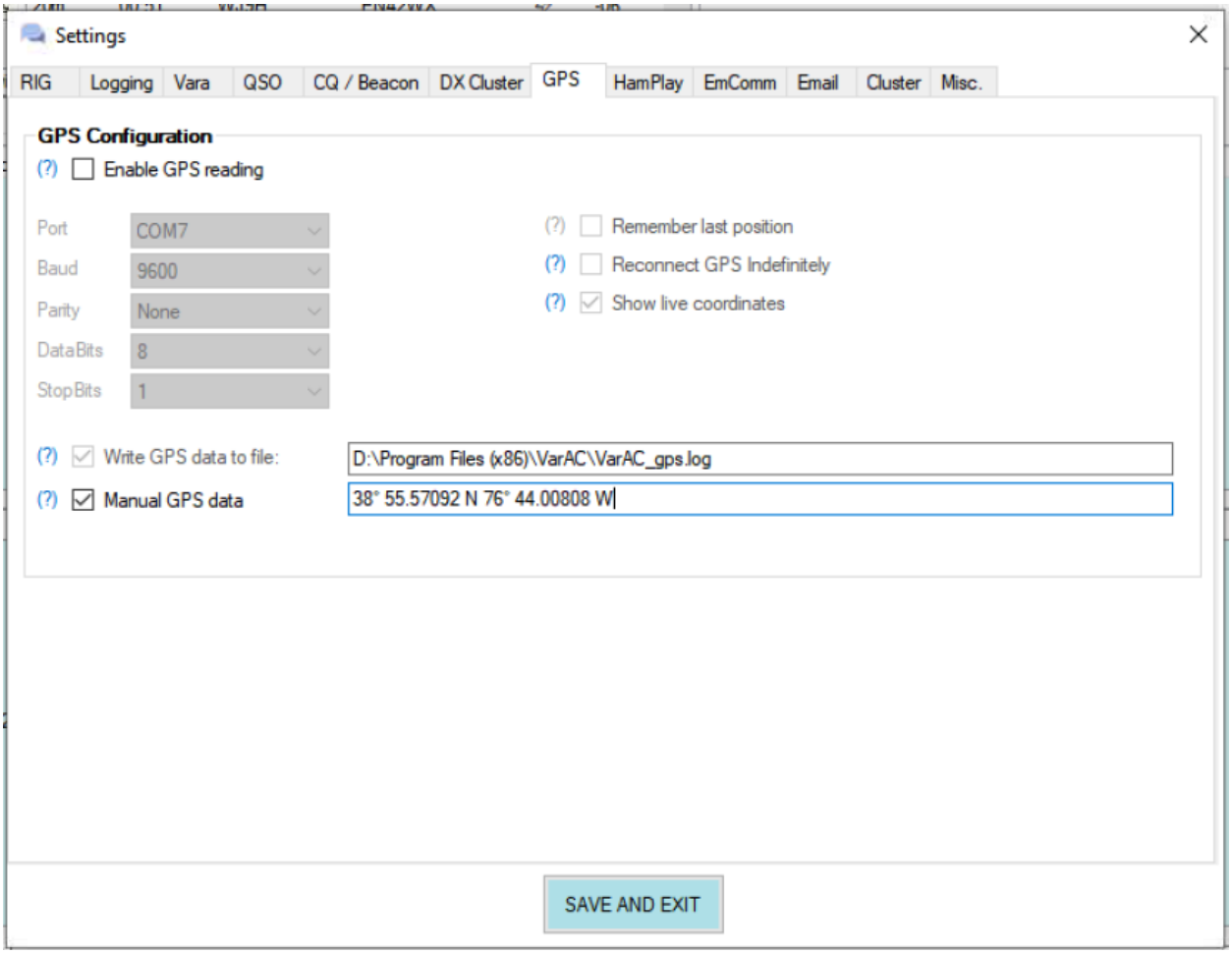


Figure 2 - Entering GPS location in VarAC GPS menu

At this point your GPS location will be available in the <GPSLOC> tag. Now we will update your Canned message to include this tag.

UPDATE CANNED MESSAGE

Canned messages are pre-written texts that can be sent with a single click, streamlining repetitive communication. Including your GPS location, via the <GPSLOC> tag, in these messages ensures that your position is always accessible to contacts, especially in emergency or field situations.

I am going to update my existing VarAC Wednesday canned message in VarAC to add the <GPSLOC> tag. Doing so will result in including my GPS coordinates with my weekly check-in message.

Note: The VarAC Wednesday canned message tool has been updated to include the <GPSLOC> tag. If you would prefer you can use that tool to generate the check-in message and replace what you currently have entered in VarAC.

- Open Canned Messages Menu: In VarAC, open Settings => Canned (predefined) messages.
- Edit your Canned Message: Click into the box where your canned message is located. At the end of check-in message type "//n<GPSLOC//n". Note: do not type the quote characters, but the information inside of the quotes. Figure 3 shows what your screen should look like.

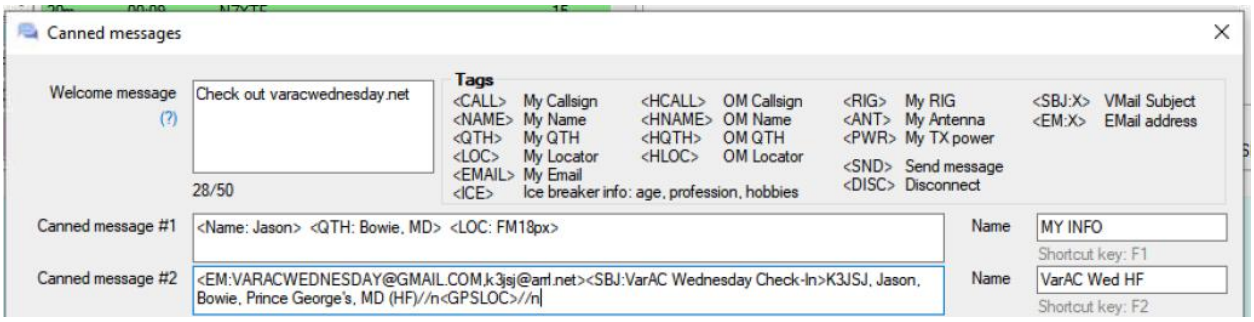


Figure 3 - Add <GPSLOC> tag to your canned message

- Now, click "SAVE AND CONTINUE"

It is important to include the "//n" as these will interest an newlines. Your canned message now includes the <GPSLOC> tag. When this canned message is used VarAC will expand this into the GPS location you entered in the GPS menu.

COMPOSE YOUR MESSAGE

Now that your location is configured and included in your canned messages, you are ready to compose your VMAIL message.

- Compose your message: Click “SEND VMAIL” to being a new message dialog.
- Select Canned Message: At the top right of the screen, use “CANNED MESSAGE” drop-down and select your canned message. The canned message will automatically populate the fields. The <GPSLOC> tag expands to reflect the GPS location. See Figure 4

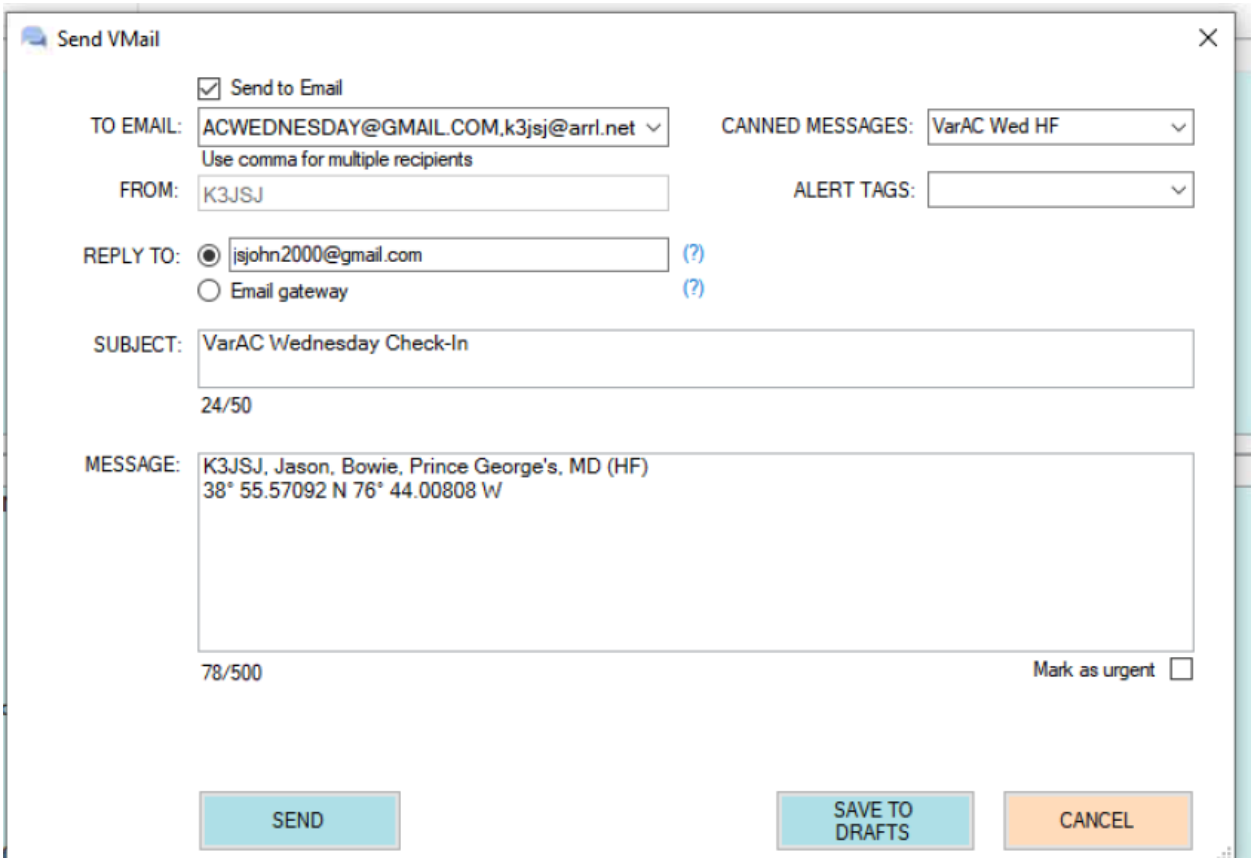


Figure 4 - VMAIL after selecting canned message (Note GPS coordinate online FOLLOWING check-in line)

- Review the VMAIL: Review the VMAIL and make sure the GPS coordinate is on the line **FOLLOWING** your check-in. If it is not, then you need to go back to “UPDATE CANNED MESSAGE” and correct it.
- Click the SEND button: Click SEND to place the message in your OUTBOX

At this point your message includes GPS information. Connect to a VarAC Email gateway and send your message. You may test sending before the VarAC Wednesday event. Our software to process check-ins filters out messages sent outside of the Wednesday event.

CONCLUSION

Integrating GPS location with VarAC enhances your digital communication by providing real-time position data. Following these steps ensures a seamless setup process, from obtaining your coordinates to sending them out in messages. Whether for day-to-day operations, contests, or emergency response, sharing your location creates opportunities for richer, more connected amateur radio experiences.

APPENDIX1 – CONVERT COORDINATES (D to DDM)

Given GPS coordinate (Latitude, Longitude) = (38.926182, -76.733468) in Degree Decimal Form convert it into Degree Decimal Minutes

Step 1. Extract degrees

The degrees are the integer part of the DD value. Ignore any negative signs.

In this case they would be 38 and 76.

Step 2. Convert decimal part of minutes

Subtract degree part from the DD value to get the decimal remainder. Multiple by sixty to get decimal minutes. Write to a precision of five decimal places.

(38.926182 – 38) x 60 = (0.926182) x 60 = 55.57092

(76.733468 – 76) x 60 = (0.733468) x 60 = 44.00808

Step 3 Compose the DMM string.

We now write the DMM string using information from Step 1 & 2.

38° 55.57092 N 76° 44.00808 W

You can paste the string into the following tool to verify the format is in the correct format for our software to detect.

regex101: VarAC GPS format

Appendix 2 – Updating your GPS location in QRZ.com

To update your GPS information in QRZ you must first have a QRZ.com account. See QRZ's "How to Add your Callsign to QRZ's database" for steps on how to create your account. Once you have an account, log and follow these steps:

Step 1. Login and edit your profile

Click your call sign on the top right and select Edit [YOUR CALLSIGN]

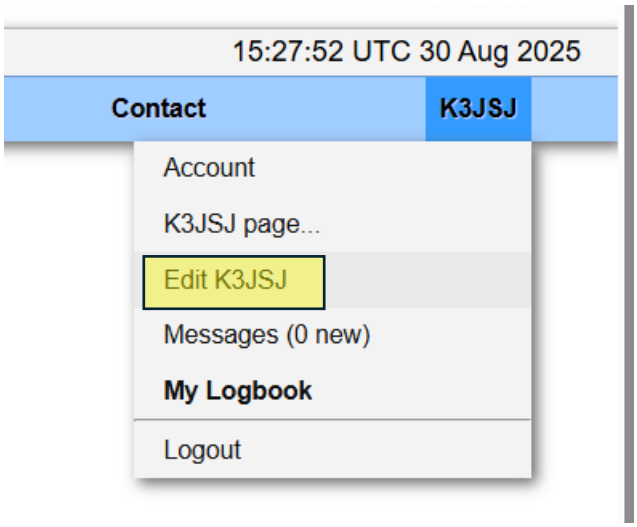
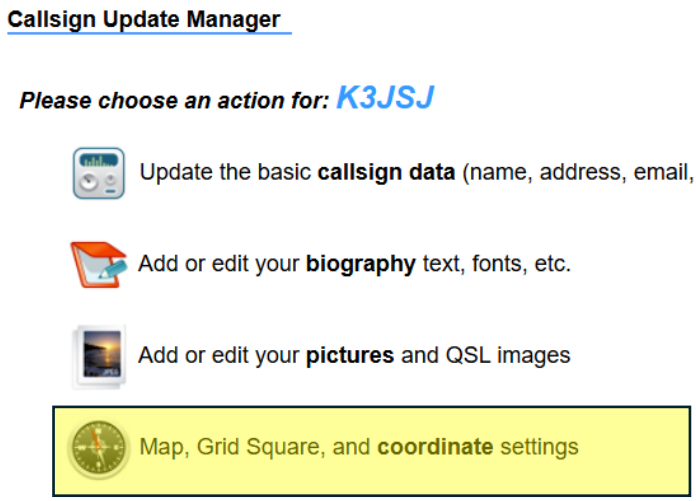


Figure 5 - Edit your QRZ profile

Step 2. Click "Map, Grid Square, and coordinate settings



Step 3. Update your GPS location

Enter your latitude and longitude or use the map to select your location. Press the Save button

Step 4. View your location

Open your profile and click details tab to see your GPS coordinates and grid square