

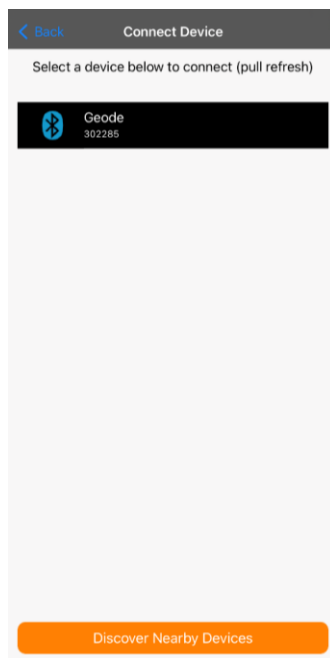
How to: Enable Your Geode GNS2 or GNS3 to use SouthPAN SBAS Service

This guide is intended for users who wish to utilize SouthPAN, a Satellite-Based Augmentation System (SBAS) capability provided by Geoscience Australia and Toitū Te Whenua Land Information New Zealand, on their Geode GNS receiver.

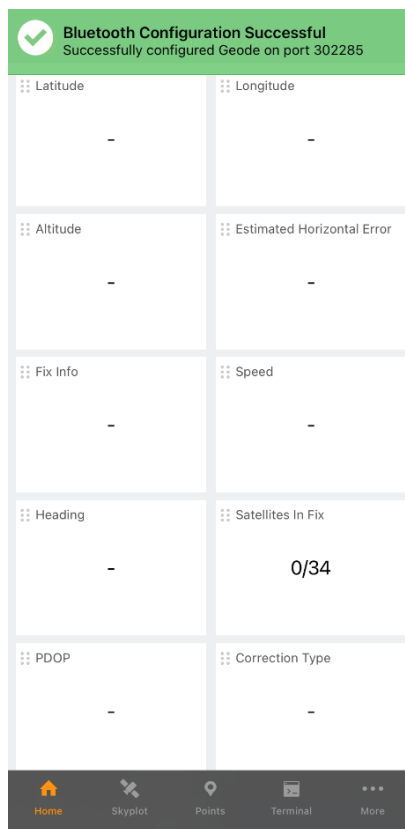
1. Download one of the following Geode Connect utility software options. Screenshots in this guide are from the iPhone/iPad app, but the other app versions have a very similar user interface.

Note: there has been reported issues of inconsistent SouthPAN corrections when configuring a Geode with Microsoft Windows software. Users are advised to configure their Geode receivers with the mobile app.

- a. [Geode Connect app for iPhone and iPad from the Apple App Store](#)
 - b. [Geode Connect app for Android from Google Play Store](#)
 - c. [Geode Connect for Microsoft Windows PC](#)
2. Connect with your Geode receiver from the Geode Connect app
 - a. Ensure your smartphone or laptop's Bluetooth is enabled. If this is your first time connecting with your specific device, click **Discover Nearby Devices** at the bottom of the screen. Note that if you are using the Windows PC application, you may need to add your Geode from your computer's Bluetooth setting first. Additionally, make sure that your Geode is only attempting to connect to one instance of Geode Connect (e.g., if you are using the mobile app, make sure that your PC isn't also trying to connect via Bluetooth).



- b. In the **Select An Accessory** dialog, select your Geode device based on the serial number. Your Geode receiver's serial number is located on the bottom of the receiver.
- c. On the **Connect Device** page, select your Geode device to connect
- d. Once pairing is successful, a green banner will appear showing that Bluetooth configuration is successful. You can now use the Geode Connect app to modify your Geode receiver's configurations. The top of your Geode Connect screen will also display your Geode's serial number.

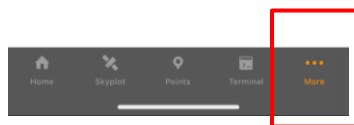
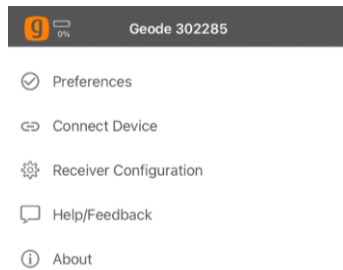


Your Geode receiver's Bluetooth icon light will also turn on and stay solid blue once paired successfully with Geode Connect

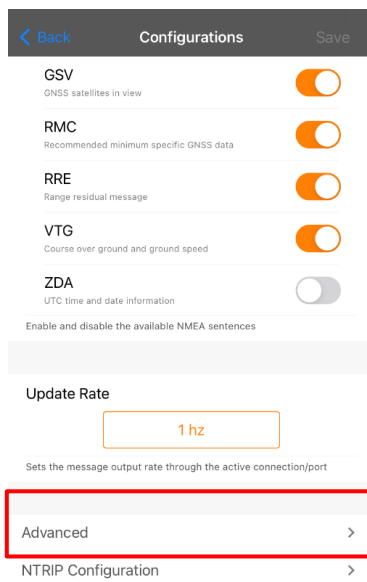


3. Review SBAS settings

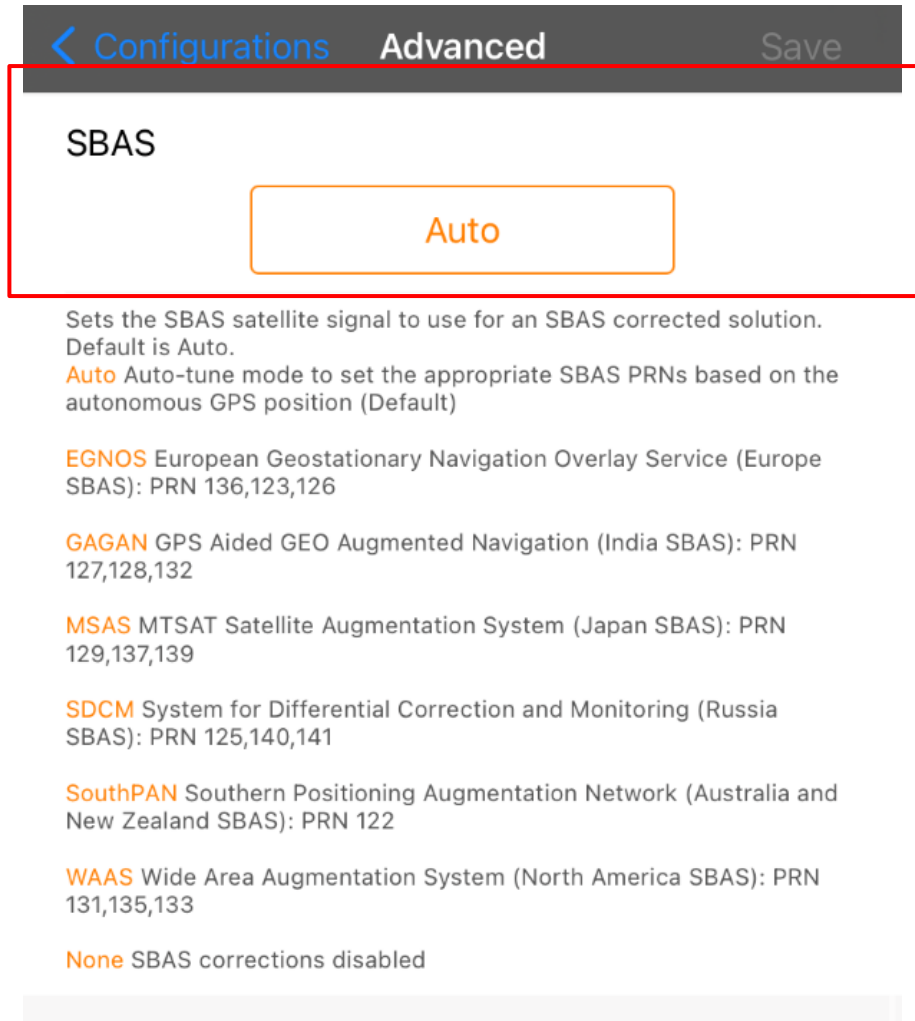
- a. Click on the **More** tab at the lower right corner of the screen. If using Geode Connect on a Windows PC, click on the triple line tab icon at the top left of the screen.



- b. Click on **Receiver Configurations -> Advanced**



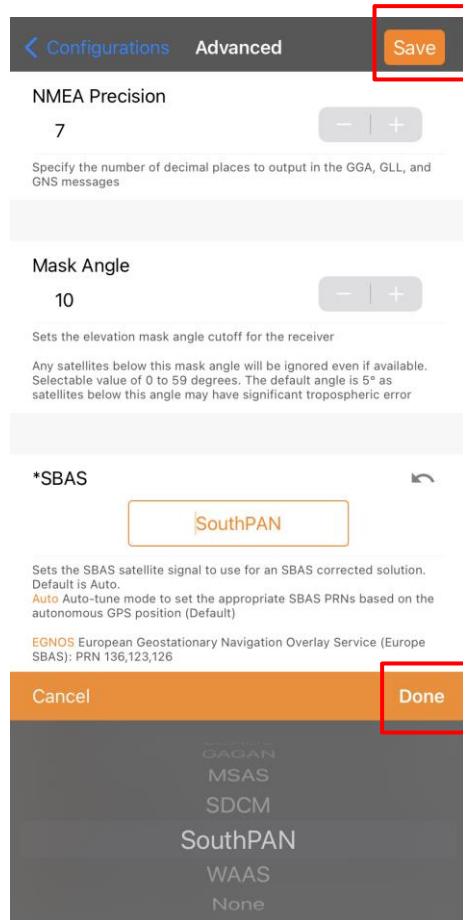
- c. Scroll down to **SBAS** section



- d. The default setting is Auto, which will select an SBAS satellite signal based on the GNSS position. This section also lists the description of all the available SBAS options and their respective PRN (Pseudo Random Noise) numbers. Clicking on the orange-outlined button will display all the SBAS services available. To change the SBAS service, click on the desired service to use. Click **Done** to close the options, and click **Save** on the upper right hand corner of the screen to save your configuration changes.

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Usually, the Auto selection is sufficient because the various SBAS services cover different geographical areas. However, if the Geode is not automatically getting quality 2 in SouthPAN region, you may manually change the setting to SouthPAN. By doing so, SBAS will **only** work in the Australia/New Zealand region.

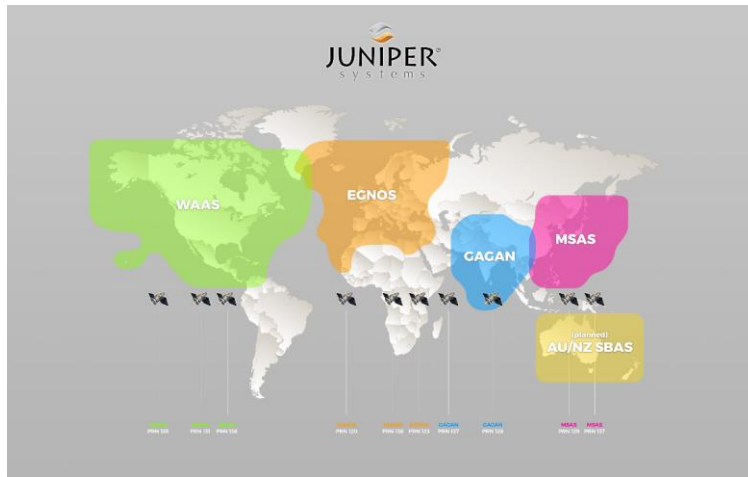
Note that the Auto selection is not recommended in regions where SBAS coverage overlaps because the receiver may jump back and forth between two different services. Switching between different reference datum may cause significant error between points of data.

There is no overlap in the Australia/New Zealand region. If you plan to use your Geode in another country, be sure to change your Geode's SBAS setting back to Auto or the appropriate service.

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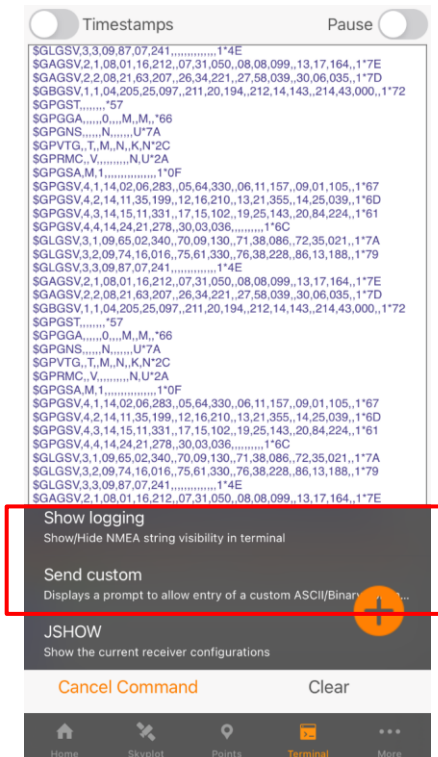
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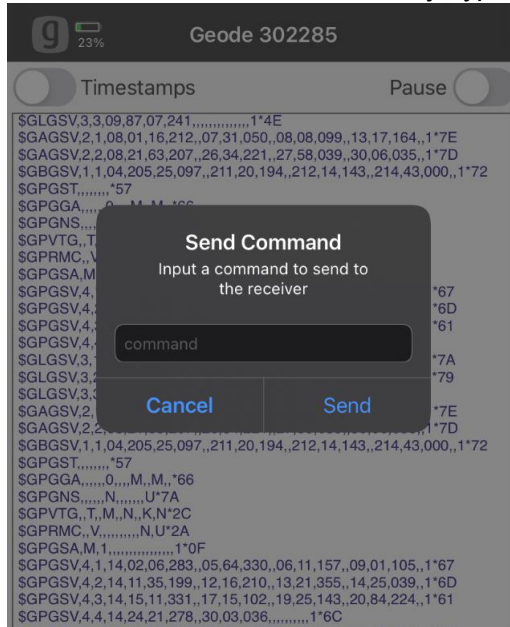


If you purchased your Geode receiver through SonTek, there is no need to change other configurations in order for your Geode to work with your ADCP.

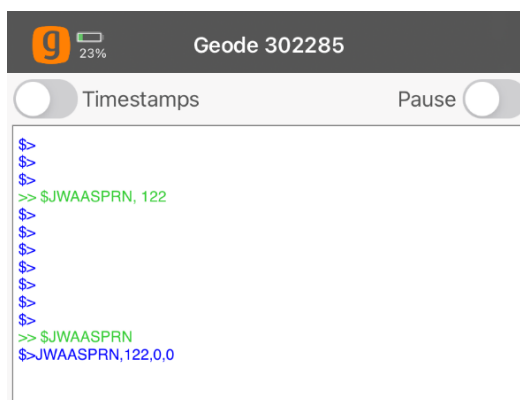
4. Alternate option- send direct commands via the terminal
 - a. Click on the Terminal icon at the bottom to access the terminal page, which displays the live NMEA sentences the Geode is receiving
 - b. Click **Send Command**. Note that you can click **Show Logging** to hide the live NMEA sentences



- c. Click **Send Custom**. In the entry, type in **\$JWAASPRN, 122**



- d. Send the command. When the Geode accepts the command, it will respond with **\$>**. If you send the **\$JWAASPRN** command, the terminal will respond with the current PRN code value. If you manually navigate to the SBAS setting under **Receiver Configurations**, the SBAS setting will also be updated to reflect the direct command



Now your Geode is ready to receive SBAS corrections from SouthPAN in the Australia and New Zealand region. If you plan to use your Geode in another region, be sure to change your SBAS setting back to Auto, or a specific SBAS provider if you will be in a region where SBAS service coverage overlaps. If you have questions or need assistance, please reach out to the SonTek technical support team at support@sontek.com.