



The *Aqua Map*TM How-To serie

How to use the GPS with your iPhone/iPad

Basic GPS Info



Image 1: GPS Satellite constellation

The GPS system is able to locate your position thanks to a set of satellites orbiting the earth that are sending signals to your device. Different “countries” have there own constellation of satellites (eg. GPS in US, Galileo in EU, GLONASS in Russia) but the modern GPS receivers are able to use all of them. Because your device need to receive these signals, you need to be in a open sky to have a better localization and you can have no location at all inside a tunnel. Other factors can influence the quality of the signal, as clouds and leaves, or the number of satellites visible from your position.

The GPS in the iOS devices

Most of the iPhone and iPad models have an internal GPS receiver and using the localization on these devices is very simple. For the few models that do not have an internal GPS you have to buy an external GPS and connect it to your device.

The iPhone/iPad devices use also the 3G, the wifi and the bluetooth signal to improve the GPS localization but these info are not mandatory to have a good position. Having these additional signals speed up the first point acquisition and could



Image 2: Page to enable/disable localization for specific applications

reduce the power used by the GPS but even in areas without them it is possible to have a good localization using only the GPS signal.

Visualize your position with *Aqua Map*TM

To enable the GPS position in the *Aqua Map*TM iOS application you have simply to **tap** on the **“Center on GPS” button** (see Image 3) and the application will start to show the GPS position (a blue dot) on the map as soon as the GPS receiver will be able to calculate your position (if you are indoor this could be difficult). When the “Center on GPS” button is active the *Aqua Map*TM will also automatically re-center the map on your position; each time you will pan on the map the auto-center mode will be disabled and you could re-activate it simply tapping again on the same button.

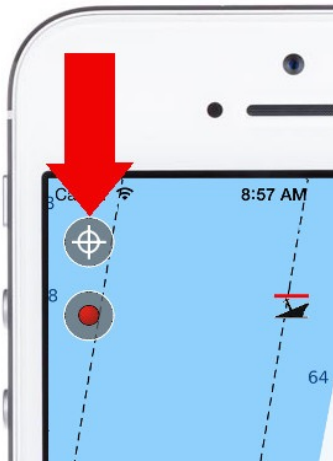


Image 3: “Center on GPS” button

If it is the first time you activate the GPS with *Aqua Map*TM, then a window requesting to allow the application to use your location will appear: you shall answer **“Allow” to enable the GPS**. If you press “Don’t Allow” the application will never display the GPS position but you can correct your choice in the iPhone Settings->Privacy->Localization->YourApplication (see Image 2).

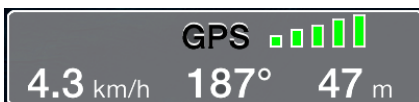


Image 4: GPS Info window

When the GPS is active you will see a small window in the bottom part of the screen (see Image 4) showing GPS information: a colored bar for the quality of the GPS signal and in the below row: speed, direction and altitude.

Most of the iPhone/iPad models also have an internal compass, so if you have the “Center on GPS” button active (**North Up mode**) and you tap again on it, *Aqua Map*TM will enter in the **Head Up mode** (see Image 5). When this mode is active the map will automatically rotate accordingly to the compass direction (where you are pointing your device). To exit from this mode simply touch the map anywhere or tap again the same button. To zoom in and out without exiting from this mode you shall use the Zoom + and Zoom - button.



Image 5: North up to Heading up mode

When you are moving, *Aqua Map*TM will show on the map your direction with a magenta line (named Heading line) exiting from the GPS icon (see Image 6). Note that this is the moving



Image 6: Heading line and GPS

direction of your device (where you are going) and not the compass direction (where you are pointing your device).

When you close *Aqua Map*[™] the GPS will be automatically disabled to reduce your battery usage (unless you are recording a track but this is another story). When you will re-open the application the GPS will be restarted accordingly.

Aqua Map[™] is an iOS application for Nautical navigation, see www.globalaquamaps.com