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## Topic 1: Getting started

### 1. What is Garmin *etrex*<sup>®</sup> 10 GPS?

The [etrex<sup>®</sup> 10](#) is a small handheld GPS developed that has been purchased for the GPS in Schools program.

### 2. About this guide

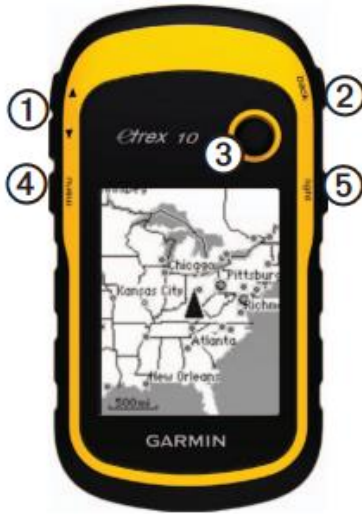
This guide has been designed to give you a basic overview of how to use your Garmin [etrex<sup>®</sup> 10](#) GPS and its various functions and how to use it in conjunction with [LISTmap](#) for viewing and manipulating observed data.

The information in Topic 4, 5 and 6 – transferring data to / from the GPS – is also applicable to any modern Garmin GPS that uses a USB cable connection which supports automatic detection of the GPS by a computer (a Plug and Play connection). The [Garmin Oregon<sup>®</sup> 600t](#) is another such unit.

This guide assumes that a user has a basic understanding of how to use the LISTmap. For more information on how to use the LISTmap, refer to [LISTmap HELP](#) and the [LISTmap videos](#) .

## Topic 2: Getting to know your *etrex*® 10

### 1. Buttons and components



①	Zoom keys
②	Back key
③	Thumb Stick™
④	Menu key
⑤	Power and backlight key



⑥	Mini-USB port (under weather cap)
⑦	Battery cover
⑧	Battery cover locking ring
⑨	Mounting spine

1. Place two (2) AA batteries into the GPS. To access the battery compartment, turn the **BATTERY COVER LOCK RING**.
2. A prolonged press of the **POWER** (⏻) button will start the GPS.

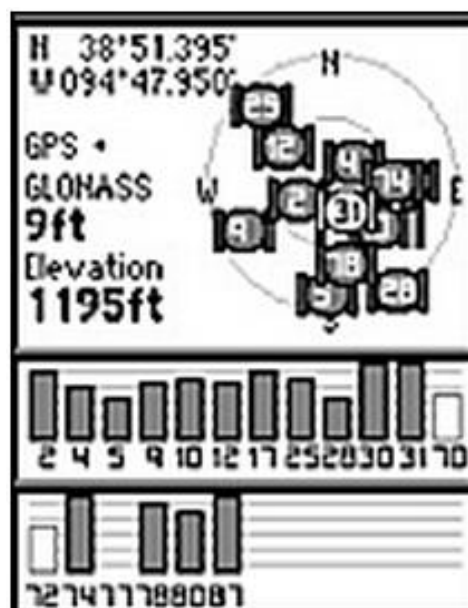
### 2. Getting started and tracking satellites

1. Upon starting up the GPS for the first time, set the language to English when prompted.
2. The main function menu should now be displaying (as shown in the figure on the next page). The **THUMBSTICK** allows you to scroll through the functions menu on the GPS. To select a function, press into the **THUMBSTICK**.
3. To exit a function, press the **BACK KEY** button. This will return you to the main functions menu.
4. To adjust the brightness on the GPS and view the battery life, press the **BACKLIGHT KEY** once (do not hold this button in otherwise the GPS will turn off) and adjust the brightness toggle using the **THUMBSTICK**.



Important information to remember:

- **Keep in mind that the GPS requires a clear skyview (clouds don't matter) to work well. Stay clear of tall buildings, trees or similar that might block your (and therefore the GPS's) view of the sky.**
- For a GPS to locate itself, it is required to 'see' to at least four (4) satellites. You can view how many satellites the GPS is 'seeing' by selecting the **SATELLITE** menu icon (the last icon on the main functions menu screen). This will bring up a screen displaying the location of satellites 'seen' by the GPS at that time (below shows that the GPS can 'see' 12 satellites at that particular time).



## Topic 3: The functions of the *etrex*<sup>®</sup> 10

There are multiple functions on the *etrex*<sup>®</sup> 10 handheld GPS. This section of the guide will give a brief overview of some of these functions.

### 1. Using the map function

The map function displays your GPS location on a global map.

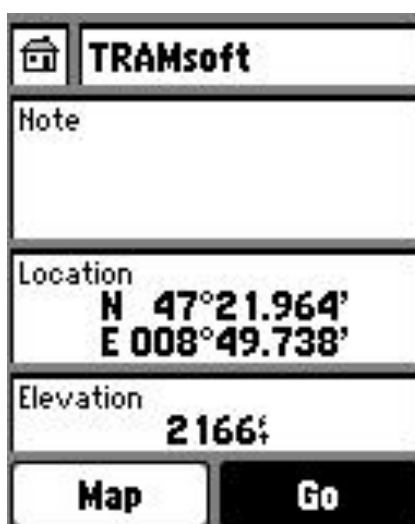
- Select the 'map' icon on the main functions menu.
- The triangle symbol (▲) represents your GPS's location on a map.
- A question mark symbol may appear over the top of the triangle. This indicates that the GPS is searching for satellites to connect to; this process may take a couple of minutes before the GPS can locate itself.
- To exit the map function, press the **BACK** key.

### 2. Using the waypoint functions

A waypoint is a location that can be recorded and stored onto the GPS.

#### 2.1 Marking a waypoint

- Whilst on the main functions menu page, select the 'Mark Waypoint' icon. A screen will be displayed (as displayed below in the figure) indicates that location of the GPS in Eastings and Northings, and an elevation above sea level.
- A name and note can also be attached to each waypoint. This can be edited by navigating to each of the sections using the **THUMBSTICK** and clicking in with the **THUMBSTICK**.
- Once happy with the information attached to the waypoint, select 'Go' to store the waypoint.



## 2.2 Going to a Waypoint

As a waypoint is stored with coordinates, it can be located and revisited using the GPS.

- Whilst on the main function menu, select the 'Where to?' icon.
- The following screen will ask whether you want to locate a track, recent find, coordinate, city or waypoint. Select waypoint.
- A list of waypoints that have been stored into the GPS will appear. To locate to a particular waypoint, navigate to and select the waypoint using the THUMBSTICK. A map will display, indicating the location of the waypoint and the location of the GPS. Press into the THUMBSTICK again to select 'Go'.

## 2.3 Deleting a Waypoint

To help free storage space on the GPS and reduce clutter, waypoints that are unwanted can be deleted.

- On the main functions menu, select the 'Waypoint Manager' icon. This will display all the waypoints that have been recorded onto the GPS storage system.
- To delete individual waypoint: select the individual waypoint that you want deleted using the THUMBSTICK, press the **MENU KEY** to display the various options for that waypoint, then select the delete option within this menu. Press the **BACK KEY** to escape these options.
- To delete all waypoints: on the page that list all the waypoints, press the **MENU KEY**, then select the 'delete all' option within this menu.
- To exit the 'Waypoint Manager' and return to the main functions menu, press the **BACK KEY**.

## 3. Viewing the 'behind the scenes' data

The etrex® 10 automatically stores behind-the-scenes information while it is turned on and has satellite reception. This information includes:

- Maximum moving speed.
- Average moving speed.
- Trip distance (odometer).

To view this data, select the 'Trip Computer' icon on the main function menu. The figure on the next page displays an example trip computer data.

To reset this data, press the **MENU KEY** when viewing the trip computer data, and then select the 'Reset' option.

Sunrise in 7 hr 42 min	
Elevation <b>2151</b> <sup>ft</sup>	Trip Odometer <b>35.8</b> <sup>mi</sup>
Speed <b>12.9</b> <sup>mi/h</sup>	Max Speed <b>27.3</b> <sup>mi/h</sup>
Moving Time <b>03:11</b>	Moving Avg <b>7.1</b> <sup>mi/h</sup>
Stopped Time <b>01:28</b>	Overall Avg <b>6.0</b> <sup>mi/h</sup>

#### 4. Viewing and saving your track

A track is a recording of your path you have travelled since the GPS first came into reception with the satellites. Within the map function, your track appears as a small dashed line that is drawn behind your GPS location arrow as you walk (example shown below).



You can save your track into the GPS internal storage so that you can revisit them later, or export them onto the computer for viewing in a variety of software (how to export a track to the computer, then view your track on LISTmap is explained further on).

- Go to the main function menu, and then scroll down the menu using the **THUMBSTICK** to select the 'Track Manager' icon.
- Select the 'current track' option.
- Select the 'save track' option, then edit your track name (if you wish, you may keep the default name provided) using the **THUMBSTICK** on the onscreen keyboard (e.g. MyTrack). Once happy with your track name, select the 'Done' option.

- The following page will ask you if you would like to clear your current track. This means that up until this point, you can save your track you have created and either continue on that same track, or choose to start a new track. For the purpose of this description select 'yes'.

Your track is now saved. You can now revisit your track using the 'Where To?' function (to return to this main function menu, press the **BACK** key – when in doubt, press the **BACK** key 😊).

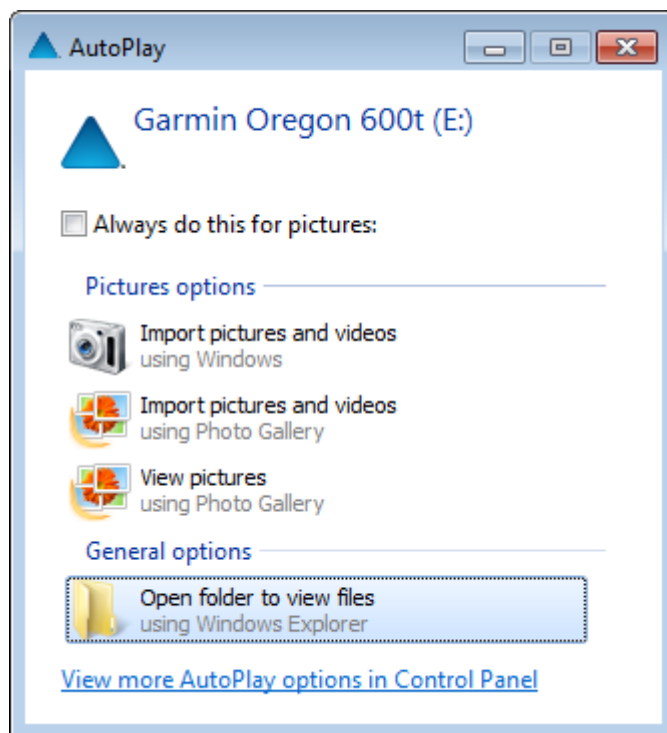
## Topic 4: Transferring data between a computer and the GPS

The etrex® 10 (or [Garmin Oregon® 600t](#)) allows for the transfer of waypoint and track data between the GPS and the computer. This function can be used to transfer downloaded waypoints and tracks onto the GPS. For example, the location of a geocache can be uploaded onto the GPS as a waypoint. This function can also be used for transferring the waypoints and track data that you observed out in the field to the computer for further editing.

The etrex® 10 can be connected to the computer using the USB cable (as displayed below).

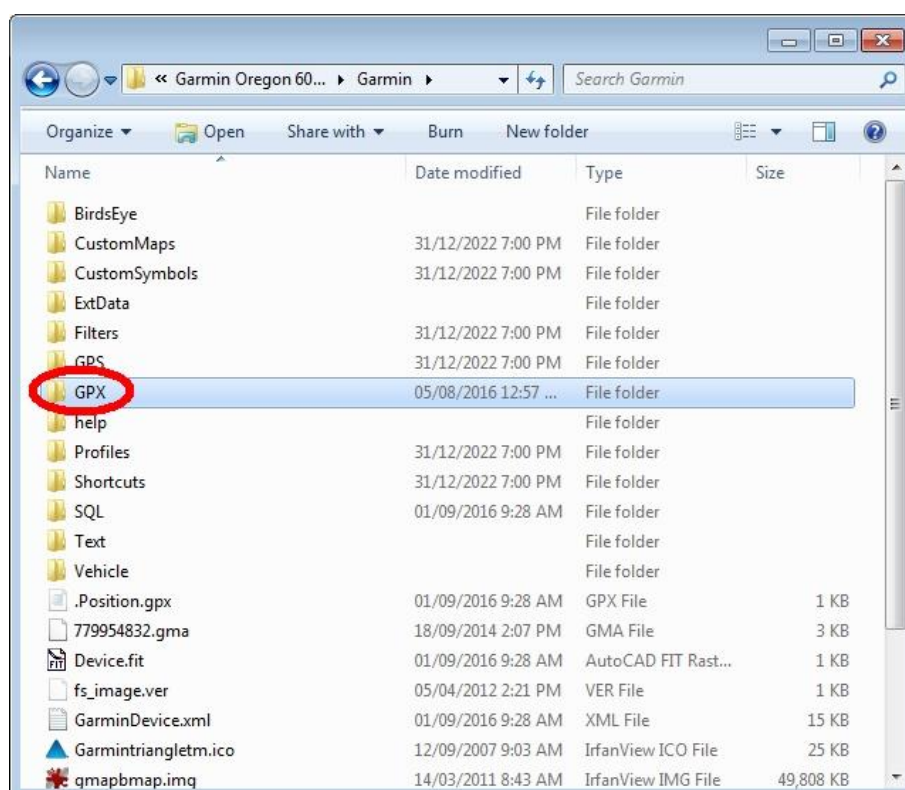


A mini-USB port is located under the rubber cover on the back of the GPS. With the GPS turned off, simply plug the mini-USB cable fitting into this port and then plug USB fitting into a USB port on your computer. Once the GPS is connected it will turn on automatically and after waiting a few moments for the computer to detect the GPS you are able to view the files on the GPS as a removable storage drive (similar to the way you would with a USB memory stick or smartphone).



Choose the Open Folder to view files option to browse the information on the GPS.

The file format for the waypoint and track data created by Garmin GPS units is **\*.GPX** (stands for **GPS eXchange file**). This format is commonly recognized across a majority of software packages that handle data captured by a handheld GPS. On a Garmin GPS these files are found in a folder called GPX. Further information about how to find and use these files is in the following sections.



## Topic 5: Transferring data between the GPS and the LISTmap

The LISTmap is an online viewer map that allows you to create your own personalised maps of Tasmania, using a wide range of authoritative land-based information. LISTmap also offers a function that allows you to create editable markups on your personal map, import data from your GPS or computer and export waypoint and route information you have defined in your mark-up directly to your GPS.

Before transferring data to/ from the Garmin GPS ensure it is connected to your computer as described in

**Topic 4: Transferring data between a computer and the GPS.**

### 1. Transferring waypoints and tracks from the GPS to the LISTmap

Open LISTmap in your web browser (e.g. Chrome, Mozilla, Explorer) at

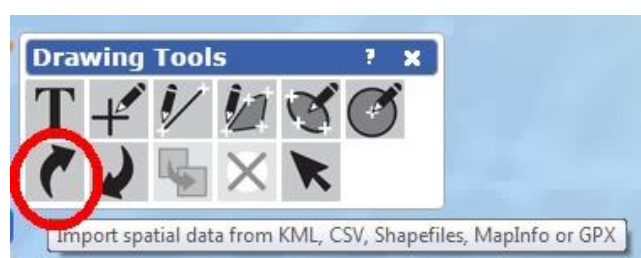
<https://www.thelist.tas.gov.au/app/content/home>, and click on the 'LISTmap' icon.



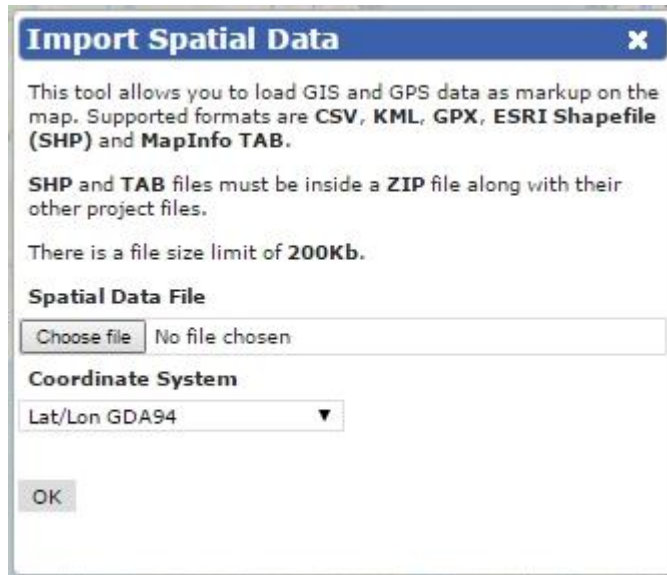
- Hover over the Tools arrow in the top left hand corner of the screen then click on Drawing Tools.



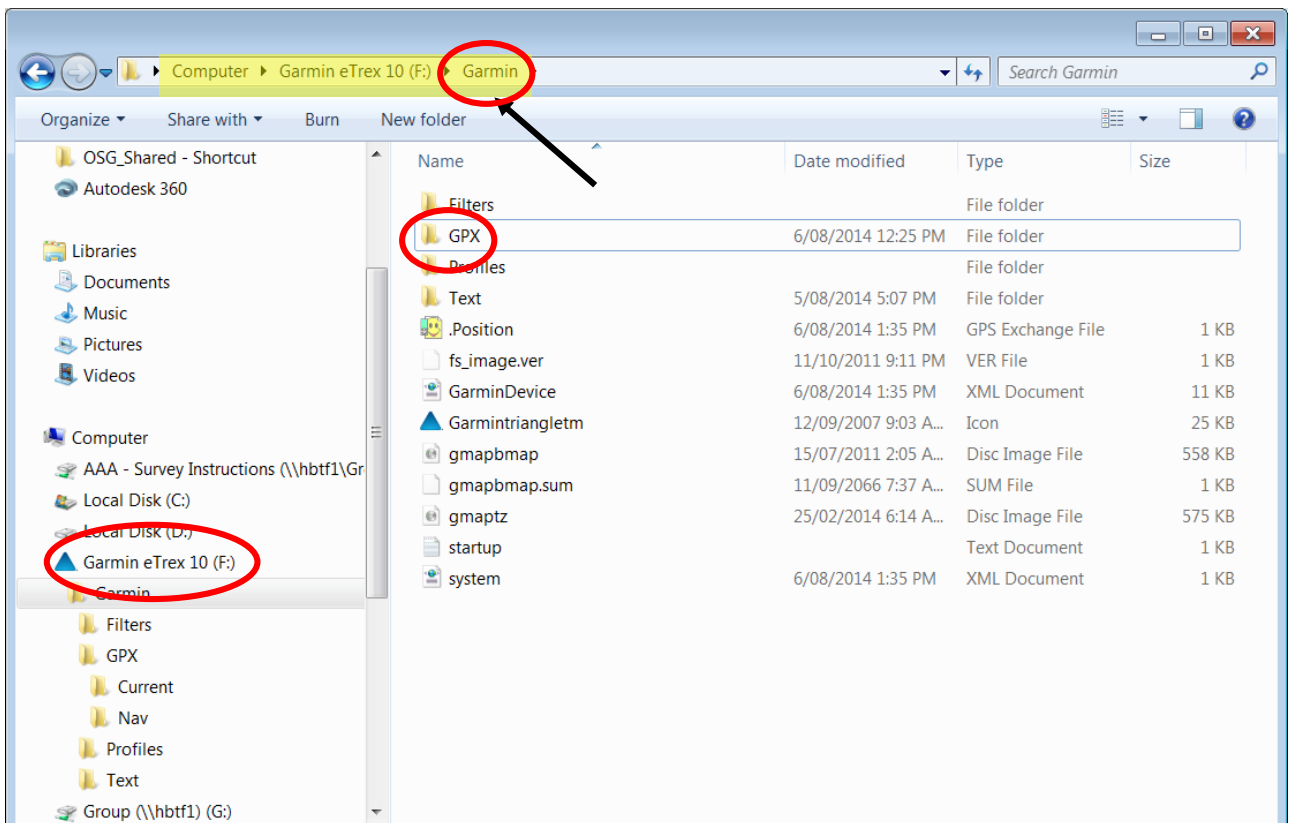
- The Drawing Tools window will appear. Click on the Import Spatial Data Icon (indicated below).



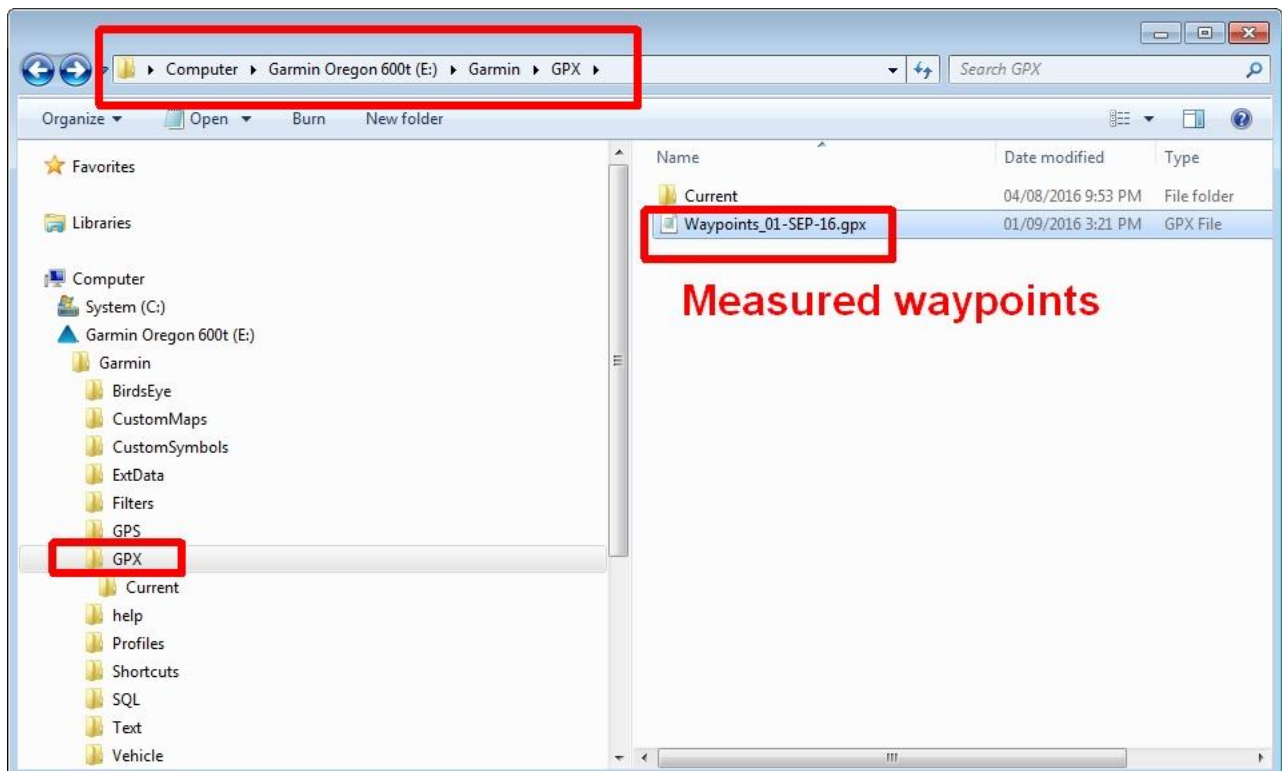
- An Import Spatial Data box will appear (indicated below).



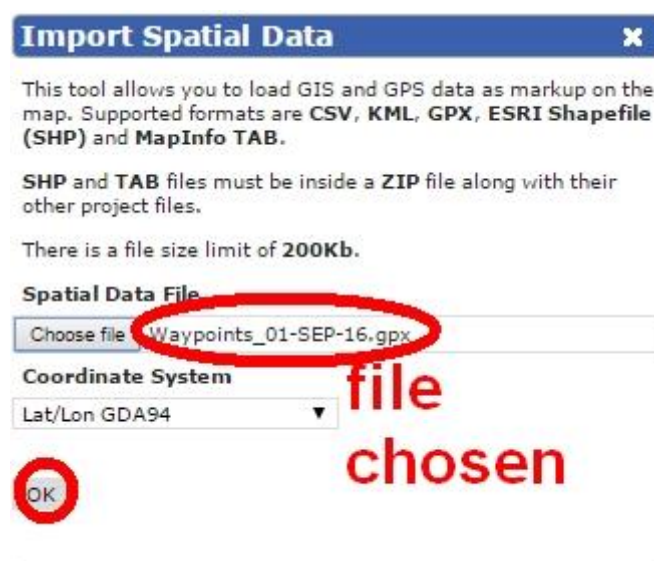
- Click on *Choose File* and browse for the location of your file:
  - The location of the waypoints and the tracks is within the *Garmin* → *GPX* folder within the Garmin removable storage connection – see image below. Different GPS may call them different names. Garmin GPS usually store measured Waypoint GPX files with a name that includes the date of their capture. The active Track is usually saved with the name *Current.GPX*. It may also be saved in a sub-folder within the GPX folder called *Current* (*Garmin* → *GPX* → *Current* folder). There may also be other subfolders in the GPX folder – e.g. *Garmin* → *GPX* → *Nav* and you may need to browse through the various folders and try each GPX file.



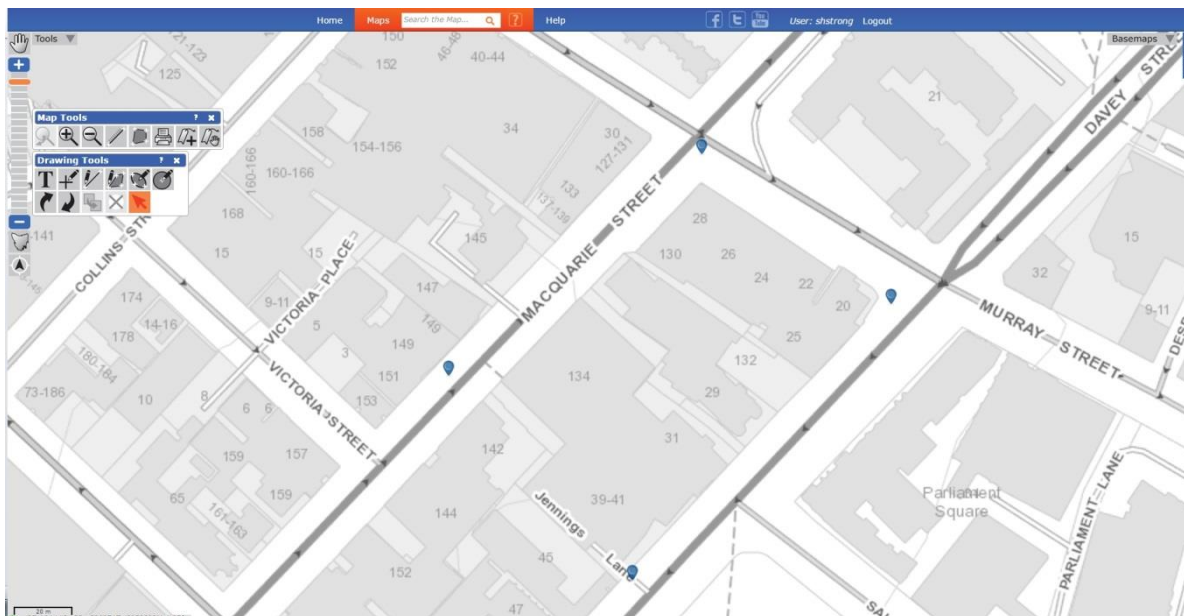
- Select the waypoints/tracks GPX files that you would like to import
- To import in a number GPX files, such as the current Track file and a file of Waypoints you measured you will need to repeat the 'Import Spatial Data' process described above.
- For instance, to import a waypoint file in the GPS folder use the dialogue box to browse for the file and select it.



- In the drop down box, select the Coordinate System of the data you're importing (this will be Lat/Lon GDA94), then click OK.




- Wait for the layer to load then if LISTmap doesn't automatically zoom your map view to the area of interest navigate the map to view your mark-up manually – the waypoints chosen in this example are the blue dots shown on the map below.

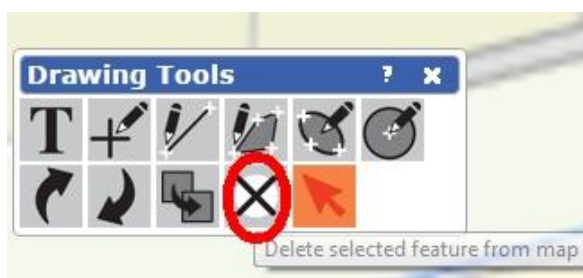


**NOTE: All the waypoints captured on a particular date are stored in one GPX file. This means that if unwanted waypoints are stored on a particular date (e.g. accidental storage of an incorrect waypoint in the field), they will appear in LISTmap when that GPX file is imported in. It is possible to delete these unwanted waypoints within LISTmap:**

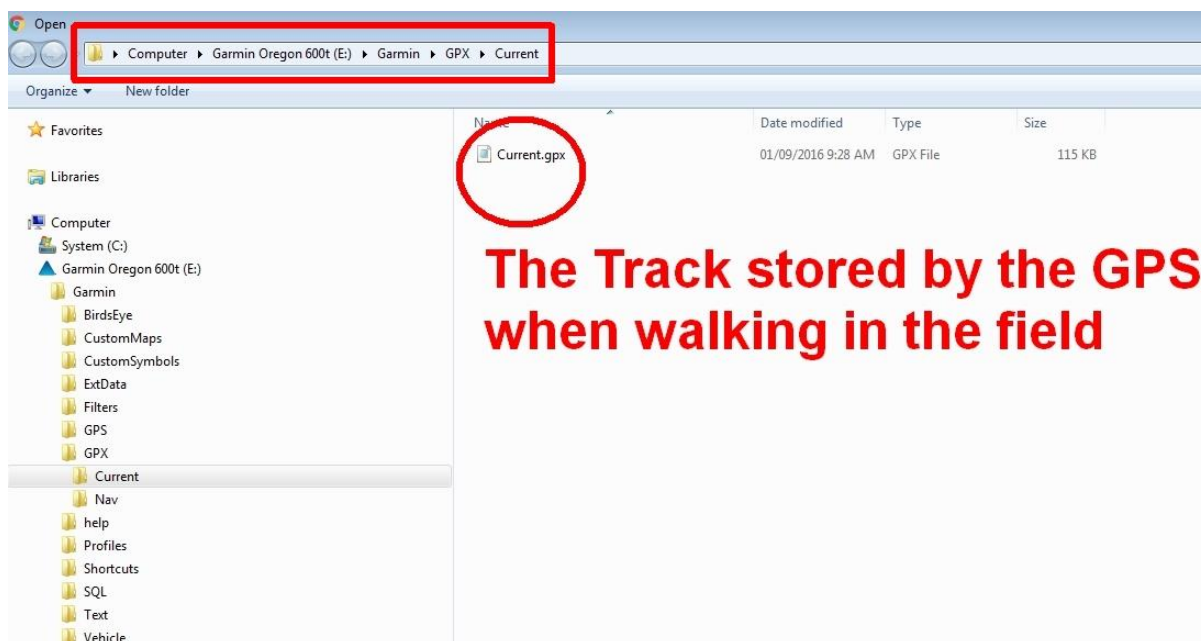
- Within the 'Drawing Tools' in LISTmap, choose the 'select' icon (  )



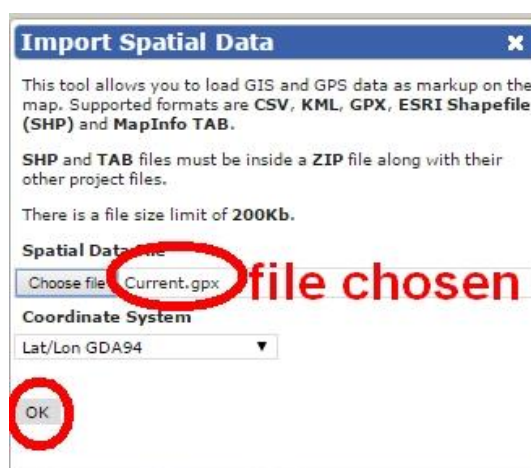
- Click on the unwanted waypoints, then choose the 'delete' icon (  )



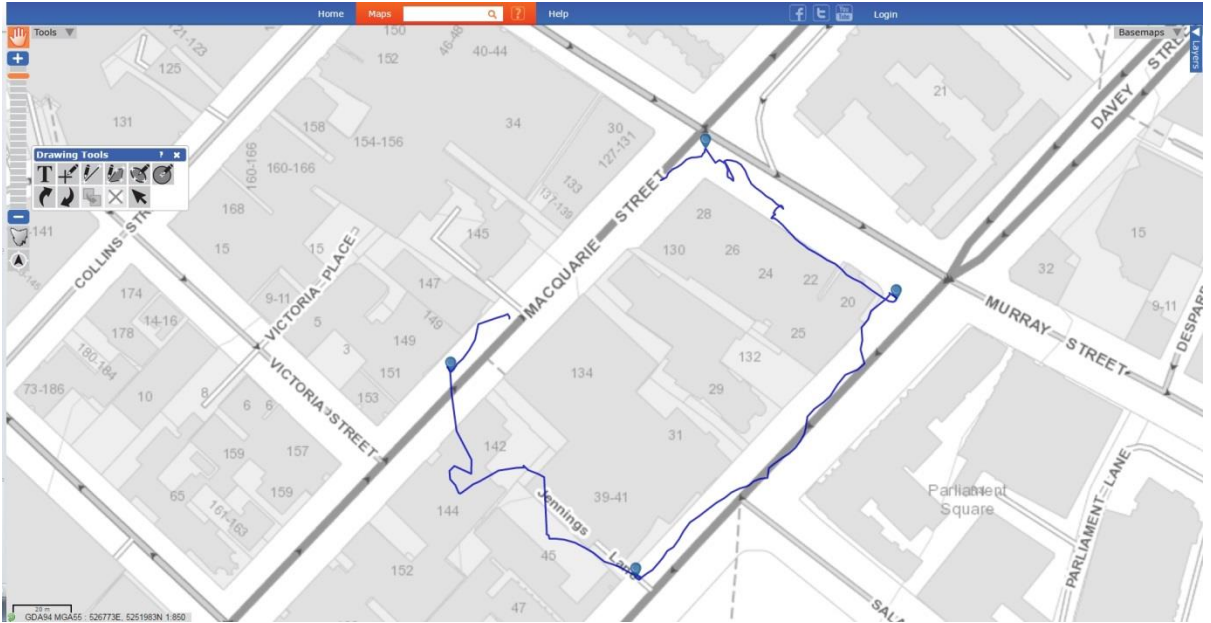
- The track measured on the same day is downloaded by repeating the 'Import Spatial Data' process, this time browsing for the Current.gpx file located in the sub-directory within GPX called 'current' :



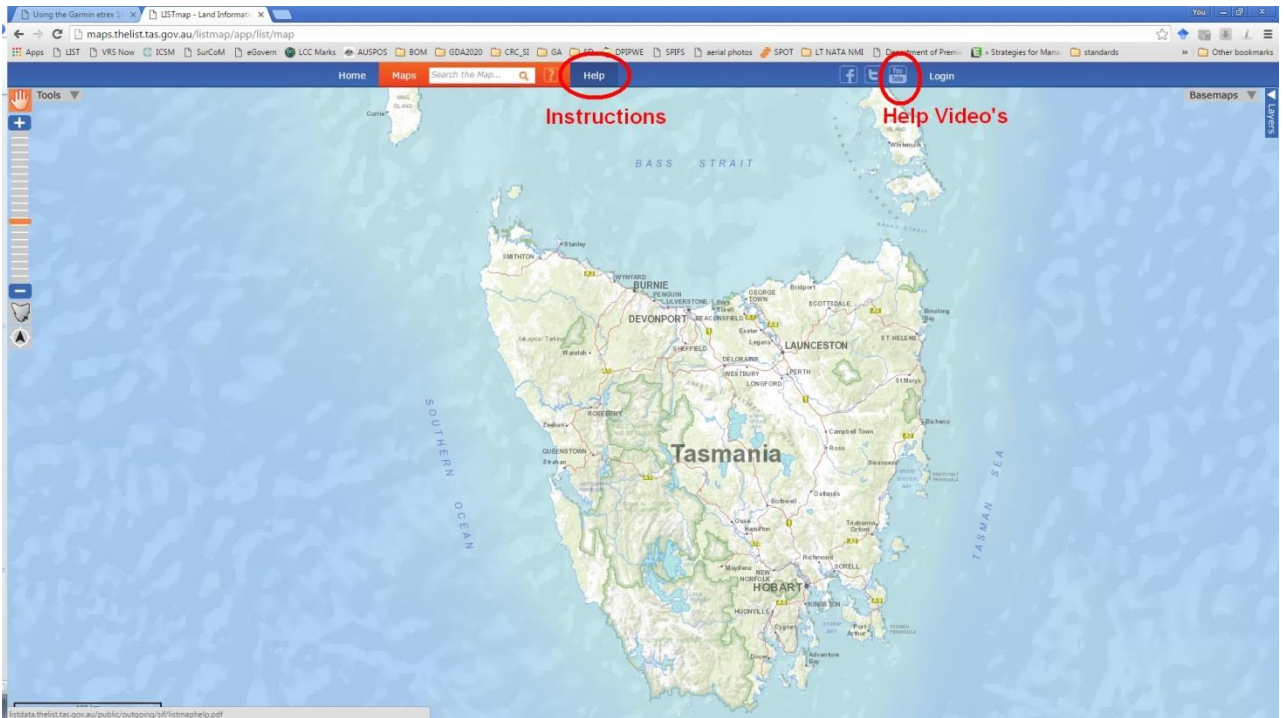
- In the drop down box, select the Coordinate System of the data you're importing (this will be Lat/Lon GDA94), then click OK.



- Wait for the layer to load then if LISTmap doesn't automatically zoom your map view to the area of interest to view your mark-up manually – the track chosen in this example is the blue line shown on the map below.



- Once loaded, you can select and modify your measured GPS data by using the Drawing Tools – see the [LISTmap help](#) or watch the [Drawing in LISTmap video](#).

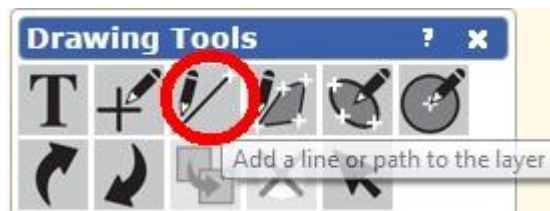


## 2. Transferring waypoints and tracks from the LISTmap to the GPS

LISTmap allows users to make their own waypoints ('drawing tools' → 'add a point to the layer')



and predefined tracks ('drawing tools' → 'add a line or path to the layer')



which can be uploaded onto a GPS and into other mapping software (e.g. Google Earth).

Below is an example of some waypoints (blue dots) created around New Town Primary School.



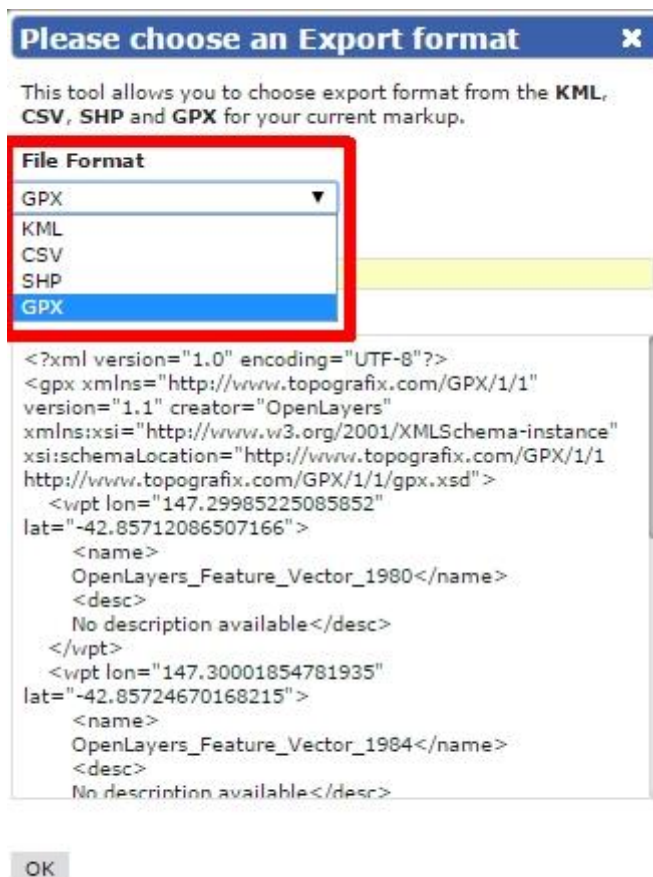
LISTmap can export these newly drawn waypoints in a variety of common formats, including a **\*.GPX** file, which can then be copied onto the GPS unit.

The following steps describe this process:

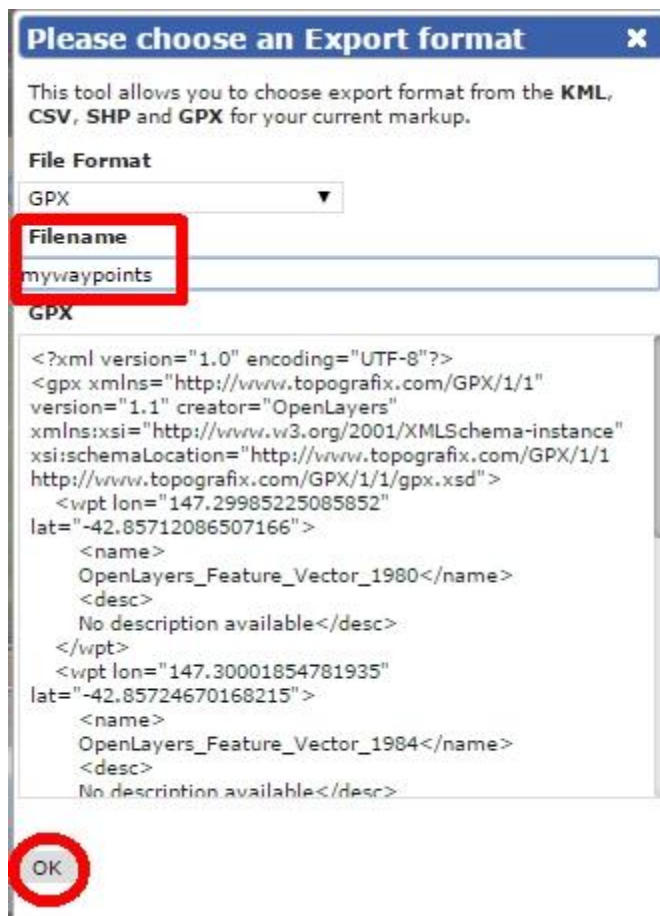
- Once you are satisfied with your newly drawn waypoints/routes, connect your GPS unit to your computer using the process outlined in **Topic 4: Transferring data between a computer and the GPS**
- Within LISTmap, select 'Export Markup to KML, CSV, SHP or GPX'.



- Choose the GPX format from the dropdown list under the File Format option,



- Click in entry box under the Filename option and type in the name you want to call the waypoints file (in this case 'mywaypoints' has been typed) and then select OK.



- LISTmap will create a **GPX** file, in this case called 'mywaypoints.gpx'. The web browser you are using (e.g. Internet Explorer, Chrome, Firefox) will determine what happens with this file, similar to any other file you download from the internet. In the case of Internet Explorer you will be asked 'Do you want to open or save your waypoint file?'



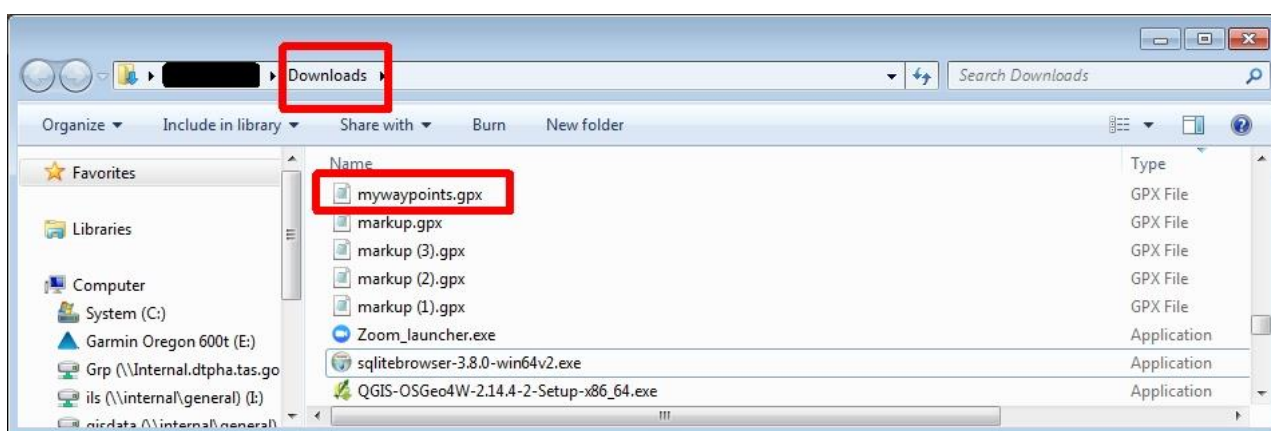
- Choose 'Save' from the dialogue bar



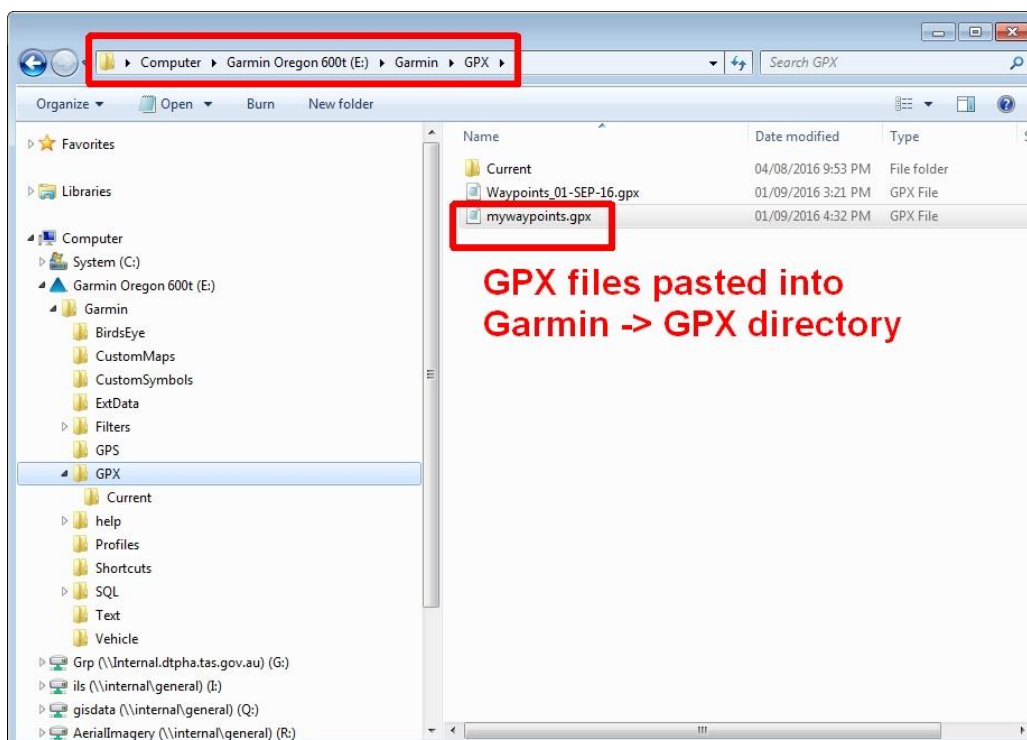
- Choose 'Open folder' from the dialogue bar



- Your normal file management application will open in the folder where your \*GPX file was downloaded to e.g. in Windows Explorer :



- Use your normal file management application to copy the waypoint GPX file you have created onto your GPS unit :



**NOTE: waypoints and tracks cannot be exported off the LIST within the same \*.GPX file. Export each set of data individually, creating separate files.**

The new tracks/waypoints are now on your Garmin etrex® GPS!

Once you disconnect the GPS from the computer, turn the GPS back on (the GPS shuts itself down when it is disconnected from the computer) and access your newly imported waypoints/routes!

If you imported waypoints you can view these within the 'map' function, 'where to?' function, or the 'waypoint manager' function. The newly imported waypoints will not have names, nor individual description attached, where this can be edited within the 'waypoint manager' function.

If you imported a predefined track, you can view this within the 'map' function, 'where to?' function, or the 'track manager' function. The newly imported file will be named "Open Layers export", where this can be edited within the 'track manager' function.

## Topic 6: Transferring data to / from the GPS using EasyGPS

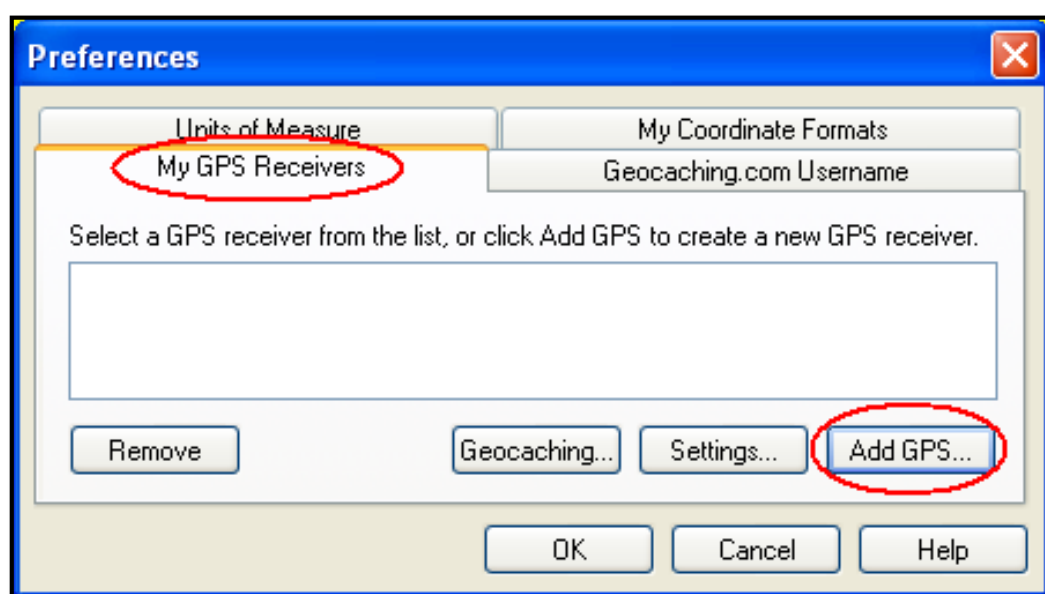
EasyGPS is a free software available at <http://www.easygps.com/download.asp> that also allows you to create, edit, and transfer waypoints, routes and tracks between your computer and your Garmin GPS

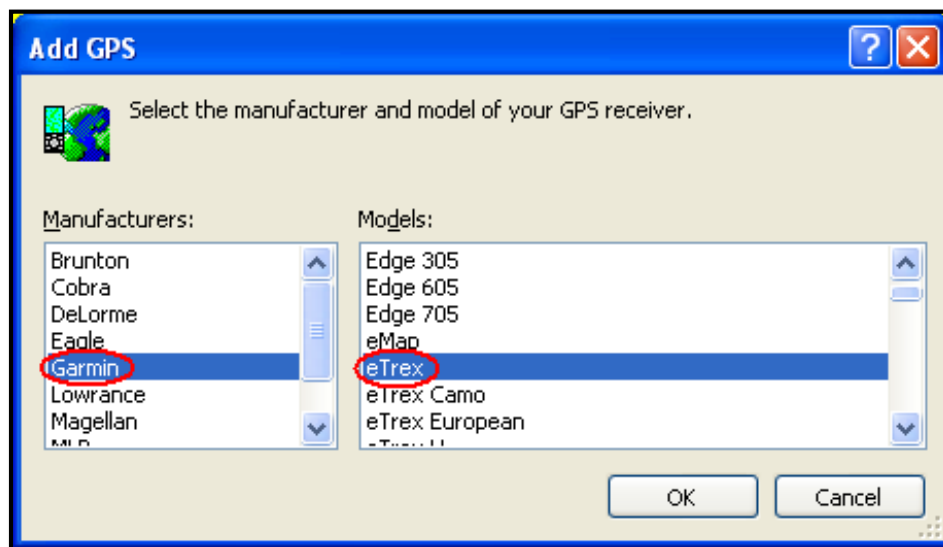
Once on this website, select the 'download free' button and download and install the software as prompted.

Once installed and run for the first time, you will be prompted to insert in the units of measurements that will be used in the EasyGPS software. This will allow for the software to recognise the recorded data being transferred off the GPS. The following dot points will demonstrate what measurement units are to be placed in these fields:

- Distance is to be set to **Meters**.
- Elevation is to be set to **Meters**.
- Area is to be set to Square **Meters**.
- Depth is to be set to **Meters**.
- Speed is to be set to **km/hr**.
- Bearing is to be set to **ddd mm.mm (Azimuth)**.
- Temperature is to be set to **Celsius**.
- All the remaining default settings can stay the same.

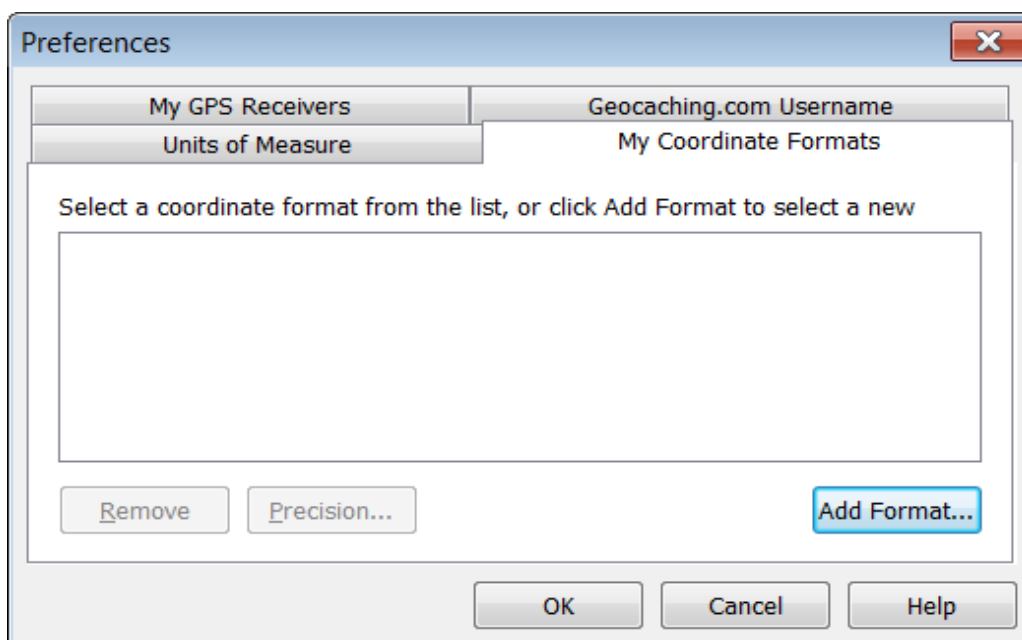
When prompted to select the Garmin etrex® 10 GPS receiver, select 'Add GPS' and choose from the list 'Garmin etrex 10'. These following figures will help you identify how to select the Garmin etrex® 10 GPS.

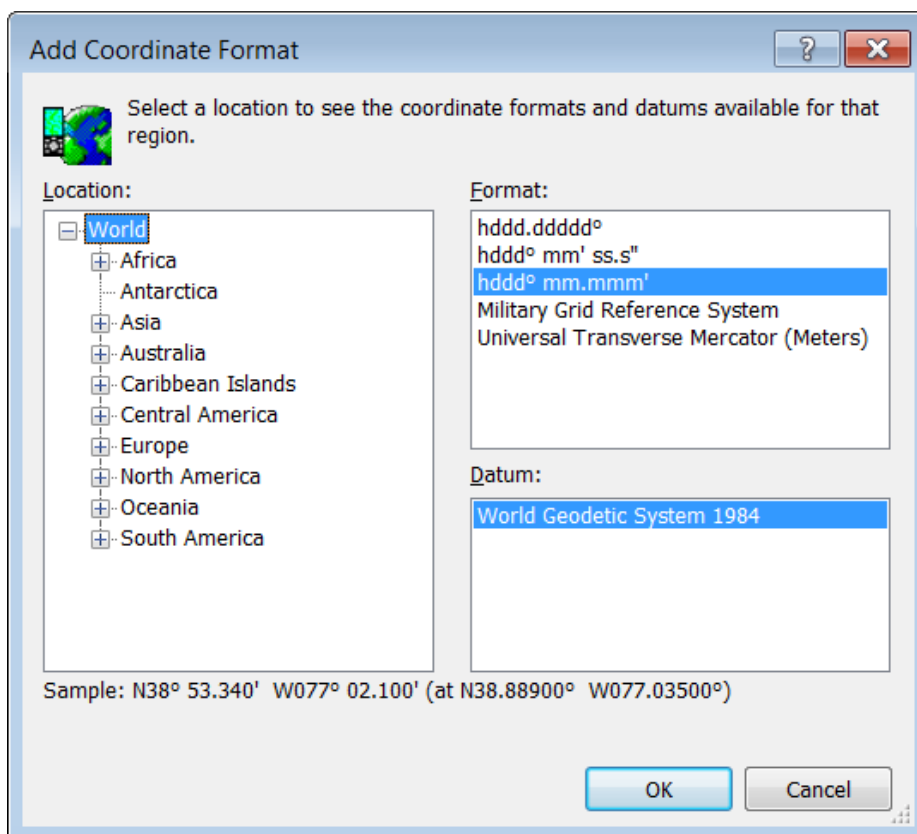




It is also important to set the coordinate format within the EasyGPS software. This will ensure that the waypoint's location stored in the GPS will be displayed in the same location within the software.

Within the 'My Coordinate Format' tab, select 'Add Format'. Within the location list, select 'World'. Within the format list, select 'hddd.mmmm'. Within the datum list, select the 'World Geodetic System 1984'. The following figures will help you identify how to select this coordinate format.





If these settings were not displayed to you upon installing the EasyGPS software, within the software choose from the menu Edit→Preferences (or use Ctrl+Shift+P) and insert in all the relevant settings mentioned.

**You are now equipped to use your etrex® GPS and  
experience the world of GPS technology!**

**Happy exploring!**