

## **An Introduction to Using GPS**

### **A QMD Publication**

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Dedicated handheld GPS devices have their uses and are a valuable tool. Their key advantages come from relocation, using co-ordinates (either saved or input while out on the mountain), and tracing your Route. The strongest use of the device is probably in using it to get to a set of co-ordinates as route finding and orienteering skills are still required and it differs little from using a compass.

In this blog post I will look at these three skills, relocation, using co-ordinates (either saved or input while out on the mountain), and tracing your route, and ways to develop them, in a little more detail as best I can. Before doing so we do need to give due consideration to the pitfalls and failings of GPS devices. You can skip this section by scrolling to [How to Use a GPS Device as a Navigational Aide.](#)

With regards navigation, orienteering, and route finding it is important to bear in mind that a GPS is of no help when it comes to the bedrock skill required for navigation and route finding in the mountains: the ability to read and interpret contours and features. True mountain navigation is based on this skill above all else.

### **GPS in the Mountains: Concerns About Safety**

GPS is not an ‘advance’ in navigation per se. It is a technology that changes the way we are able to navigate. It is not ‘better’ or ‘worse’ than other technologies. Electronic navigational devices rely on set of machine automated processes that would usually be carried out in some form or other by a human. In other words, these devices replace the skills, physical and cognitive, that humans need to develop and maintain in order to navigate effectively and efficiently, especially so under adverse conditions. Users of any technology come to rely on the technology, often a ‘machine’, to perform functions they should be able to perform themselves, and this reliance leads to a reduction in the related skills.

That’s not to say GPS devices don’t have their place, but it would be deeply unfortunate if the outdoor leader industry came to rely on GPS as a means to navigate. Not least because reliance on GPS devices leads to a reduction in locational awareness through observation.

Empirical research on the use of GPS by walkers, mountaineers, and other outdoor enthusiasts is limited. There are some findings of note:

- Using a GPS consistently in place of traditional navigational skills erodes existing navigational and route finding skills and can adversely impact on spatial orientation and the learning of new routes;
- In some situations use of GPS slows navigation, in some situations it speeds up navigation;
- Using a GPS can result in disengagement from surroundings, but it may open up other forms of engagement;
- Mobile (electronic) map users acquire a more fragmented and clustered knowledge of landmarks on a route;

- Learning from a map and learning from navigating the route (without a GPS) result in equal learning over time;
- Map reading develops specific cognitive skills;
- Map reading and navigating may result in better spatial orientation (compared to using a GPS).

All of this is further complicated by the necessary distinctions between navigating and route finding. In the context of hillwalking/mountaineering we have map reading, route finding, waymarking (landmarks/features), and navigation at the very least. Also, most definitions of navigation are so weak they could mean almost anything – finding your way from A to B, for example.

Perhaps the most interesting study I have come across so far indicated that a good route description is at least as good as a map in terms of the speed and accuracy of travelling the route. But a good route description depends on clear and properly contextualised waymarks and sense of direction.

There are, of course, some clear advantages to using a GPS and in some situations they could make all the difference (but that could go either way). It does seem that while GPS does erode existing skills and inhibit the development of skills in one way it may open up opportunities for other skills to be developed. And there are apparent advantages for some people that could lead to improvements in quality of life (where there is some form of cognitive impairment leading to difficulty with day-to-day mobility, for example).

It is important, also, to distinguish between the use of dedicated handheld GPS devices, Mobile Phone Apps, and electronic maps (e.g. on a phone, tablet, or computer).

Mobile Phone Apps, as opposed to dedicated GPS devices, are weaker navigational aides and can be dangerous. The Lake District Mountain Rescue services have acknowledged an increase in people needing to be ‘rescued’ who have been relying on Mobile Phone Apps. This is simply common sense. A mobile phone is not intended for this purpose. They can be a useful aide in planning walks with electronic maps.

At first glance electronic maps are great. You can zoom in to the detail and pick up features. You can plot routes and save them. You can add waymarks. And so on. However, you are limited to a small area, even less so on a mobile phone, and lose perspective of the wider country. This has an impact on how you perceive your surroundings and locate yourself in them, especially in unfamiliar country. In my experience it has a huge impact on true map reading. Going from plotting a walk on my computer screen to actually following it on a 1:25 or 1:40 is disorienting as they look nothing like each other. What I tend to do now is plot the walk on the computer then plot it again on the 1:25 and the 1:40/50. This gives me an idea of how the country looks on the real map.

When I first wrote about this topic I received a lot of comments from people purporting to be from members of Mountain Rescue Teams, and have seen similar comments and stories since. A simple test of this is to ask the commentator which team they are a member of as any legitimate comment by a genuine member of a Mountain Rescue Team will always state which team they are a member of.

This experience prompted me to write to Mountain Rescue (MR) services in the UK, USA, and the European Continent. I also visited a number of Mountain Rescue sites to see their published position on the use of GPS devices.

Firstly, all MR Services are clear that it is important, for safety reasons, to be able to navigate using a map and compass, particularly in adverse weather conditions. Second, if using handheld devices it is important to know how to use them competently. Third, no MR Service endorses either the use of handheld GPS devices over and above using a map and compass or the replacement of a map and compass by a handheld GPS device.

Furthermore, no MR Service endorses any commercial products (See Addendum for a correction to this statement). MR tend to have strict policies that do not allow them to endorse commercial products, for obvious reasons. Not least of which is promoting the use of GPS risks a net result of people assuming they can rely solely on a GPS device, and that is dangerous.

Here are the conclusions I reached:

- When out in the hills and/or mountains you need to be able to understand from the map what the terrain will be like, choose suitable routes, and be able to make decisions about changing your route if you need to. A Smartphone, GPS, or indeed a paper map cannot tell you this. Map reading and route findings skill are required, and they are two different things. Really speaking, every member of a group needs to be able to look at the map and work out the best way to adjust any route to deal with changing situations.
- Electronic devices rely on batteries, are susceptible to damage and weather conditions, malfunction, and lose signal. It is essential to have a paper map and compass with you (assuming maps are available).
- Using a Mobile Phone or GPS as a primary means of navigation leads to deskilling and it is important to practice and update traditional map and compass skills as well as route finding.
- Being able to orientate a map to the ground, recognise features on the ground as they appear on a map, and tell the direction of travel and distance travelled are core skills. These become degraded when relying on a GPS device.
- It takes a competent set of navigational skills to relocate and route find using a map and compass.
- Using a GPS device competently and appropriately can compliment the use of a map and compass but cannot replace them and the skills required to use them. Using a GPS device competently also requires an additional skill set.
- Mobile phones and GPS are useful, but don't rely on your mobile phone to get you out of trouble - in many mountainous areas there may not be any signal coverage.
- There is no universal validated training in the use of GPS devices. The best trainers in this respect are those who have long experience of using them in the appropriate context. And there is no point in learning to use a GPS device of any sort if you can't use a map and compass proficiently.
- If purchasing a GPS device it is probably sensible to ensure it can use the GLONASS network. Interestingly, the old-style handheld GPS devices seem to be being superseded by devices that utilise the Iridium network, which has full global coverage, and provide communication tools such as text and phone calls.

- Carrying a fully charged mobile phone with GPS enabled when out in the mountains is, all other things being equal, usually a good safety precaution. Provided there is no interference, and provided the phone is working and you can use it, you can potentially be located by the Rescue Services using [SARLOC](#). Similarly having '999' enabled on your phone is an important safety tool.
- There are now standardised navigation courses in the UK through the NNAS system and they are a good place to start to learn proper navigational skills (use of map and compass). <https://nnas.org.uk/> If using a GPS device – not a mobile phone app – Rick Shearer provides courses and is probably the most experienced and qualified provider in the field. <https://www.eventbrite.co.uk/o/rick-shearer-14963140889>
- The issues are more complicated in parts of the world where maps are less detailed/only on a large scale/not available. In these circumstances core navigational and outdoor skills such as being able to understand how grid references work (longitude and latitude), use altitude readings, read the ground, route find, remember waymarks and features in usable ways, remember the back route, understand directional markers and pointers, utilise terrain, assess weather conditions without any additional information, find shelter, work from a [possibly very basic and maybe only verbal] route description, and so on are even more important and need to be developed, practiced, and maintained.
- Relying on a GPS alone is a hazardous strategy. Relying on a Mobile Phone App is doubly so.

But the fact remains that GPS devices are a useful addition to the navigation armory – if you know how to use one efficiently and effectively and you can navigate efficiently and effectively using only a map and compass, especially in adverse weather conditions. We will now go on to look at using a GPS device as a navigational aide.

## **How to Use a GPS Device as a Navigational Aide**

Here we will look at the functions and items of GPS devices listed below, and how to make use of them. This is not an instruction manual for your specific device, and this is only my understanding. I hope that by introducing you to these basic principles you will be able to go on and develop your own proficiency in the device you use.

All the examples given here are based on my Garmin GPS. Other GPS devices and even different models will likely have different labels and menus. However, these are core functions common to the majority of GPS devices and should be available on your device.

Before going any further RTfM if you haven't already. If you have then read it again. You will need to know the basics for setting your GPS and where to find the various functions we refer to here. As well as RTfM there are numerous online cheats and hacks for all makes of GPS and a selection of [GPS specific forums](#) and [collated resources](#). The links have been added on the main QMD site under [Resources](#). Most, in not all, GPS devices will perform the functions referred to below but the actual steps will vary from GPS to GPS.

If you are going to use a GPS it is essential you are able to navigate effectively using a map and compass in poor weather conditions. It is not safe to assume you will be able to rely on your GPS. You should always carry a real map and compass with you, as discussed above. Finally, if all you ever do is follow a Route or Track on a GPS device then you are not navigating and you are putting yourself, and anybody who is with you, at risk.

## Functions Considered Here

- **Co-ordinates**
- **Location/re-location**
- **Waypoints (including Find and Go To)**
- **Routes**
- **Track and Tracback (also called Backtrack on some devices)**
- **Creating Your Own Waypoints and Downloading Data**
- **Compass (noted only)**
- **Trip Computer/Odometer (noted only)**
- **Sensors (noted only)**
- **Memory and Storage (A Further Post to Come on Maps)**
- **Software support (noted only)**

**NOTE: How to use a GPS when wearing thick gloves and/or if your hands are cold: keep a pencil in your jacket, as well as in your first aid kit, and use it like a stick thingy to push the buttons.**

**NOTE: Most GPS devices start Tracking when turned on and may have stored historic data about a previous track and/or Track data on the Trip Computer. Unless you want to keep this data, when doing a multi-day trip for example, it is best to clear it. This is usually done using the Reset options in the Main Menu or in the Setup Menu.**

- **Main Menu > Setup > Reset > choose Reset option to clear existing data sets**

## Co-ordinates

GPS co-ordinates are the location of a fixed point on the surface of the earth. The units for co-ordinates can be set differently on GPS devices and you should RTfM to find out how to set them. In the UK, for example, I use the [OS grid co-ordinates](#). I could just as easily use latitude and longitude but the maps I use are easier to read using the OS grid co-ordinates and I am used to using them. However, in other countries, and especially when maps are not available, latitude and longitude may a better option. Knowing the basic difference between co-ordinate systems is also important for loading Waypoints into your GPS and interpreting them, as we shall see later.

## Example of Co-ordinates Settings

To set the co-ordinate units on my Garmin I go to the Main Menu and go into Setup. In Setup I go to Position Format. In Position Format I have selected the British Grid from the list and for the Map Datum it defaults to the Ordnance Survey system. Other selections have different defaults or may ask you to select the Map Datum. This is a more complicated process than I've allowed for here but RTfM or a visit to the Forums should provide the answers to any pressing questions.

The other Position Format you should be familiar with is the Latitude and Longitude Format. Again, this is a case of RTfM. The Map Datum typically, but not always, used is WGS 84. Different settings may be required for nautical use.

- **Main Menu > Setup > Position Format > select appropriate units and settings.**

## Location/re-location

Any experienced hiker, trekker, mountaineer, and so on needs to be able to relocate using a map and compass, and sometimes using only a map. Once you can do this you can also use a GPS to relocate – find your current location. Simply RTfM to find out which buttons to press to give you your current Location. This will give you a set of co-ordinates which you can read back onto your paper map. You should always check your location using map and compass relocation strategies and not assume your GPS is accurate (even if it is). You can also use the [OS Locate app](#) for this function.

### Example of Location/Relocation

On my Garmin I simply press the Find button and then ‘enter’ Coordinates and that gives me a Grid Reference (GR) for my current location. It also gives me the option to enter a new location and Find it.

- **Find > Coordinates = GR (can also enter a GR here)**

On OS Locate on my phone all I do is open the App and it gives me the location and a compass. If I go into the About tab it gives me a menu with Settings and if I open Settings I can switch between the OS Grid and Latitude and Longitude. The OS Locate App should work anywhere where you can access a GPS signal and is not limited to the UK, although you will need to change the settings for other countries.

## Waypoints

Waypoints are sets of co-ordinates that mark a specific point or place. They are the basis of effective GPS use. You use Waypoints to plan a Route, taking a line from Waypoint to Waypoint. You can dynamically mark a location as a Waypoint and store it for further reference. You can Go To a Waypoint you put into your GPS. Waypoints can be downloaded and stored as a separate file and Waypoints can be created as a separated file and uploaded to a GPS.

A Route is planned from your armchair. That is, a Route is what you plan when sitting snug and warm with a map in front of you, either a paper map or an electronic map. The advantage of an electronic map is that you can plan a Route by joining up Waypoints and then it and load it onto your GPS. Or you can plan the actual Route on your GPS and save it. You can also plan a Route with Waypoints on a paper map and then load the Waypoints into the GPS. The disadvantage of electronic maps is that the device you have may not communicate with your GPS meaning you cannot transfer the Route electronically.

You can dynamically mark a Waypoint when you are out with your GPS. Again, you need to RTfM to find out how to do this but it is usually no more complicated than pressing a button. You can give the Waypoint a name to reference it and I suggest making this relevant to the actual location (e.g. such and such a summit/couloir, path junction, start of path...etc.). You can return to the Waypoint during your walk using ‘Go To’, revisit it on other walks, use it as part of a future Route plan, and so on.

You can dynamically enter a Waypoint and Go To it. If you are out on a walk, for example, have relocated using your GPS, and have taken a reading off the map of where you need to

get to you can enter those coordinates into the GPS and Go To them. There is a risk, of course, in that how close you get to the intended location will depend on the accuracy of the coordinates you enter.

One of the most important functions in relation to Waypoints is the Go To function. This allows you to get directions to a Waypoint from your current location. This can be used in any number of ways from finding your way back to a start via a selection of waypoints to finding your way to a summit to finding the start of a path or an escape when in difficulty. You can also complete a walk by using Go To to navigate from Waypoint to Waypoint and can help improve your route finding skills and understanding of moving across rough ground in a absence of a clear path.

On most, if not all, GPS devices you should also be able to Go To a series of Waypoints in a chosen order. This will join up the Waypoints and create a Route, but it will likely be a direct route – a straight line between the Waypoints – and not a Track that is usable. Again, you need to experiment with your GPS to find out exactly what level of functionality is available on your device.

Waypoints can be created on your computer and uploaded into the GPS. You create a file with Waypoint coordinates, save it as a text file, then convert this to a GPX file. The GPX file can then be uploaded to your GPS. I do this using Excel. Similarly, a Track or set of Waypoints can be downloaded from your GPS and stored separately. When you download the files you tend to get a lot of other stuff with them and they usually need to be cleaned.

### **Example of Marking and Entering a Waypoint**

To dynamically mark a Waypoint I simply press the Mark button on my GPS. It brings up a Waypoint screen which allows me enter further details and tells me my current location. If I want to see that Waypoint I simply go into Waypoints on the menu and enter and it brings up the record of all stored Waypoints.

- **Mark > Done = marks Waypoint as a GR (enter name of Waypoint; enter new GR to change Waypoint)**

If I was out and wanted to enter a Waypoint I can press either the Find and enter the Coordinates of the where I want to go, or the Mark button to get me into my current coordinates, and then enter the coordinates of where I want to go. How you do this varies between GPS devices and you will need to RTfM or ask the forums.

- **Find > Coordinates > enter a GR > Done (will lead to coordinates)**
- **Mark > enter a GR > Done; Find > Waypoint > [the Waypoint just entered]**

### **Example of a Route**

A Route is a series of lines connecting a set of Waypoints. A Route is not an exact record of where you have walked, that would be a Track. Routes are usually plotted either on another device and then uploaded to the GPS or plotted directly onto the GPS.

[See the GPS Routes and Tracks page](#)

## **Example of Go To**

To Go To a set of coordinates, a Waypoint, using my GPS I either press Find and then Waypoints or Coordinates. I will enter Waypoints if I want to Go To an existing Waypoint and Coordinates if I want to enter coordinates. But, as noted earlier, I can even go into an existing Waypoint and change the coordinates. However, this would overwrite the existing record and is not advised.

Once I have selected a Waypoint, or entered a set of coordinates, I press Go and the GPS will direct me to that Waypoint.

If I select a Waypoint directly without using Find the options are slightly different and I need to enter the Waypoint first and then select Go.

On my GPS I also have a complete Menu for the Waypoints that allows me to do all sorts of interesting and exciting things. Again, this is a question of playing with your GPS and getting to know what it can do along with RTfM.

If, for example, I was out in the Elan Valley and wanted to get to the summit of Drygarn Fawr and I knew I had the Waypoint stored I could press Find, enter Waypoints, select Drygarn Fawr, and press Go and the GPS would show me the direction to the Waypoint. It would not show me the best route to follow, unless I already had one stored in the GPS, but it would act like a compass and keep me pointed at the Waypoint as well as telling me how close I was to it (an advantage, certainly).

- **Find > Waypoints > select Waypoint (e.g. Drygarn Fawr) > Go**
- **Find > Coordinates > enter a GR > Done**
- **Page/Menu (depends on GPS and the way it is set up) > Waypoint Manager > select Waypoint > Go/Menu and choose options**
- **Menu/Page (depends on GPS and the way it is set up) > Waypoint Manager > select Waypoint > Menu > Add to Route > choose existing Route [Name] OR Create Route**

## **Example of using Waypoints and Go To for Navigating and Route finding**

Suppose I want a day out visiting the Rhinog summits. I also want to explore the area and roam around practicing some route finding and navigation. I can load the Waypoints of the summits into my GPS and drive up to the car park at Graig-ddu Isaf. Then I simply go into Waypoints, select the first summit I want to bag, [name of summit], and set off in the right direction as shown by my GPS. I can explore and change direction along the way referring now and then to my GPS to get me heading back in the right direction. Once I've bagged my first summit simply go back into Waypoints, enter the second summit I want to visit, and Go to it. I may add some additional Waypoints during my journey if I find something interesting I might want to return to another time. I will also be tracking my journey so I can review where I have been on the map when I download the GPX file. I could also use Go To to join up the Waypoints in a set order thereby creating a basic Route.

**Load GPX file of Rhinog Summits into GPX. From Car Park at Graig-ddu Isaf:**

- **Page > Waypoint Manager > Y Llethr > Go; Menu > Waypoints > Rhinog Fach > Go; ...**

**OR**

- **Page > Waypoint Manager > Y Llethr > Add to Route > choose existing Route [Name] OR Create Route > name Route > ...continue adding Waypoints; Find > Routes > select Route you have just created**

## **Routes**

A Route is planned from your armchair. That is, a Route is what you plan when sitting snug and warm with a map in front of you, either a paper map or an electronic map. The advantage of an electronic map is that you can plan a Route by joining up waymarks and then save the Route and load it onto your GPS. Or you can plan the actual Route on your GPS and save it. You can also plan a Route with waypoints on a paper map and then load the waypoints into the GPS. The disadvantage of electronic maps is that the device may not communicate with your GPS meaning you cannot transfer the Route electronically.

**See above for an Example.**

## **Track and Tracback (also called Backtrack on some devices)**

A Track is a record of your actual route taken. Most GPS devices automatically record the Track unless told not to do so and it is advisable to clear all Track data and other recordings before starting out on a new journey.

The advantage of a Track is twofold. First, you can see where you have actually been and store a record of it. This is especially useful for when you want to explore more in the area or want to record a particularly tricky route and note Waypoints with a high degree of accuracy. Second, you can follow a Track back the way you have come. Different GPS devices have different ways of doing this. On my GPS I simply press Find, select Track, then select Current Track, and it gives me the option to Tracback, which reverses the Track. Alternatively I can save the current Track, save a Reverse Track, then Find and select Reverse [Name of Track].

- **Find > Tracks > Current Track > Tracback**
- **Page > Track Manager > Current Track > Save Track; Page > Track Manager > go to name of saved Track and select/enter > Copy Reversed > save >; Find > Tracks > select name of saved Reversed Track > Go**

## **Creating Your Own Waypoints and Downloading Data**

The advantages and benefits of being able to create your own Waypoints by entering data and/or downloading data and manipulating it should be obvious. You can build a database/s of Waypoints and share them. For example, when out on walks you could build a database of interesting archaeological features by Marking them. At the end of each walk you can

download the Waypoints, add descriptions, and build up a database for an area. At any time you can then plot a Route visiting these Waypoints in whatever order you want. Alternatively, using a map, electronic or paper, you can take the coordinates of a series of Waypoints, create a text file, convert it to a GPX file, load it into your GPS and join the Waypoints as a Route. These are two simple examples of what you can achieve by becoming conversant with Waypoints, the use of text files, and the Go/Go To/Find functions.

The only limit to your use of Waypoints is your imagination.

### **Creating your own Waypoints**

To get full use out of your GPS you need to know how to create your own files, which you can then upload. These are not Routes, although this is possible, but simply files of Waypoints. Doing so allows you to create a set of Waypoints you can upload and then navigate (using Go To) from Waypoint to Waypoint.

The way I do this is to enter a set of coordinates into an Excel file, save it as a text file, and then convert it into a GPX file using [Javawa RTWtool](#) (other Freeware options are available in the GPS section in [Resources](#)). The GPX file can then be plotted on a map and/or load into your GPS. Not all mapping software allows for Waypoints to be plotted on their own. OS Maps, for example, will, frustratingly, only accept an uploaded Route and will not upload Waypoints on their own. Bespoke software such as Basecamp does allow you to do this.

The GPS will probably not store the Waypoints the same way you have so will need some way of recognising which Waypoint in which and the order in which you want to visit them. This depends on how you name and number the Waypoints. You will need to play around with this on your GPS to see which way works best.

**Example of a text file using latitude and longitude (from <http://www.hills-database.co.uk>) to be converted into a GPX file**

**The same file converted into a GPX file and then saved as a text file**

### **Downloading data**

Data can be downloaded from GPS devices, usually in a GPX format which is transferable between various devices and programs. It can also be downloaded as a text file which can then be loaded into, for example, Excel. Most GPS devices will need some sort of additional software that allows you to download and upload data and translate data from text to GPX and vice versa.

Garmin has its own dedicated software, Basecamp, which allows you to download and upload files. However, you will need additional software for converting files and creating your own Topo maps. (See below for links to software sites; Freeware.)

When you download a Track or set of Waypoints from your GPS you are likely to get a whole load of additional information, some of which you may want but most of which you won't want. It's best to save the original file and then create a new file you can work on. You can clean the new file and remove any information you don't want and then save it. This will give you, for example, a list of useful Waypoints with the coordinates for each Waypoint. This can be saved for future reference and/or plotted on to a map and so on.

### **Part Example of a Track downloaded from Basecamp as a text**

As you can see the GPS file has a lot of data available but most of the fields are blank. There is another page of headings with no data above this one. I can set the GPS to record more data than this but I use the minimum settings. What you see on this page is the numerous Waymarks the GPS collects. In this short walk it logged around 1000 Waymarks.

### **Example of a set of Waypoints I created from an existing source downloaded from Basecamp as a text file (Created from <http://www.hills-database.co.uk>)**

Even though I only input minimum data into the text file when it is converted to a GPX file all the additional fields are created as well. These fields can be added to on the GPS device.

### **Compass**

Many if not most GPS devices now come with an electronic compass. This is no replacement for a real compass, but can be used in the same way. The GPS compass can also be 'locked' to a bearing in the same way a real compass housing can be set and it is worth RTfM on how to do this.

### **Trip Computer/Odometer**

As with sensors most if not all GPS devices will come with some sort of odometer that measures the distance travelled and the speed of travel. This can be useful if you are not confident about pacing and the relationship between time and distance over different terrains and ground. It is also interesting information when reviewing your journey. RTfM

### **Sensors**

GPS devices increasingly have sensors to take barometric measures, altitude measures, and temperature readings. These can be helpful under some circumstances. It is useful, for example, to know if the air pressure is changing, what altitude you are at, and what the temperature is on a very hot or very cold day. The altitude measure typically needs to be recalibrated at regular intervals and you need to RTfM on this.

### **Memory and storage**

Annoyingly, GPS devices tend to make heavy use of limited internal storage for Tracks, Routes, and Waypoints. For this reason it is a good idea to regularly download any information and store it elsewhere.

It is worth getting and using a memory card you can write to if your GPS device will take one. Maps are usually stored on memory cards due to the space required, and you can also store GPX files of waypoints, Tracks, and Routes on the card. It gives you the option to load and store Topo maps, OSM maps, and other maps.

You will need to find out the format your GPS needs the maps to be stored in and how to let the GPS know where they are. Also, sometimes individual maps files can overlap and overwrite each other. There is Freeware available to resolve and manage all of this. However, this is a big topic and will have to be dealt with in a separate post.

## **Software support**

Most GPS devices have some sort of dedicated or proprietary software and there are a number of good quality freeware programs available. There are also forums dedicated to GPS discussions. For bespoke and proprietary support you will need to contact the manufacturer.

## **[Useful GPS resources](#) (Link to Resources Page)**

## **Addendum**

I said that MR Teams/Services do not endorse commercial products. In absolute terms this is incorrect and some commercial products have been allowed to use some MR logos and state that the product has been ‘endorsed’ by MR teams.

Firstly, an endorsement is a form of public support or approval. It is not a measure of quality. Endorsements are not regulated and quality assured. Endorsements do encourage others to share the product. Thus Person A pointing out to Person B that a product has been endorsed shows just how effective endorsements are.

Second, The [Mountain Rescue Association \(USA\) at least has a policy](#) that prohibits endorsement of commercial products.

Third, Andy Simpson, the Mountain Rescue Council of England and Wales Press Officer said, in Issue 4 of their [2002 Newsletter](#),

‘...I believe that we have an opportunity for this organisation to raise its profile and become a valuable, marketable brand in it’s own right. Already we’ve had to take one company to task for inferring that their product was endorsed by ‘mountain rescue’ – they could see the value so why can’t we? Whilst I wouldn’t advocate prostituting the MRC by endorsing any company who asked, I can see the value of judicious logo placement on certain products or advertisements, in return for suitable monetary or sponsorship return. This benefit, in turn, will cascade down to the teams in the form of free or subsidised training courses or kit – who knows, the MRC may buy your next Land Rover. For that to work we need regular, accurate information and, more importantly, a willingness for that information to be brought to the public’s attention.’

In other words, there is a potential financial quid pro quo, in whatever form it takes, when an MR service, or related service, 'endorses' a commercial product. The same is often the case when celebrities and/or members of the public endorse products (as is the case in 'Social Influencers' and 'Stealth Marketing'). It should not be taken as a form of quality assurance, and no one, as far as I know, has made a claim that endorsement is related to quality, and in this context it is not related to safety.

So, until and unless I hear from MR services I will stand, in principle, by what I've said given that my meaning was, and is, that no MR service has given either a quality assurance or an assurance of safety of one commercial product over and above any other as far as I know. And that is what I meant when I said no MR services have endorsed a commercial product. Furthermore, as noted, the MRA at least have a policy that prohibits endorsing commercial products. This may be, at least in part, for the very reason that the public mistake endorsement for quality assurance.