

GPS Track survey and Editing procedure

Before a new Track survey it is necessary to remember:

- Check the GPS settings and battery power
- Reset data (tracks and data) of previous surveys
- Organize a "Survey Plan" of the area of interest by preparing digital maps to be loaded on the GPS, possibly tracks and waypoints for reference
- Prepare traditional cartography of the area
- Take a camera and check the battery charge and available memory
- Get a pen and a notebook for any notes

The settings of Garmin GPS (Dakota, Oregon, GPSMAP, eTrex, etc) are summarized in the following table:

MENU	ITEM	OPTION
SYSTEM	GPS	WAAS/EGNOS
DISPLAY	BACKLIGHT TIMEOUT	15 SEC
MAP	ORIENTATION	TRACK UP
TRACK	TRACK LOG	RECORD, SHOW ON MAP
TRACK	RECORD METHOD*	AUTO
TRACK	RECORDING INTERVAL**	MOST OFTEN
POSITION FORMAT	MAP DATUM	WGS84
POSITION FORMAT	MAP SPHEROID	WGS84

*Garmin GPS have three options >>> **Distance**: record tracks at a specified distance; **Time**: record tracks at a specified time; **Auto**: records tracks at a variable rate to create an optimum representation of your tracks.

**For the Recording Interval there are several options. Using the Most Often interval provides the most track detail and fills up the device memory quicker.

For other devices (Holux, Medion, Magellan, etc) it will be necessary to verify the different options for saving the track. Make sure to activate the recording and to choose recording intervals to ensure a good accuracy in the description of the track. This is achieved by setting the memorization of the current position every **3-5 m** or **2-5 sec**.

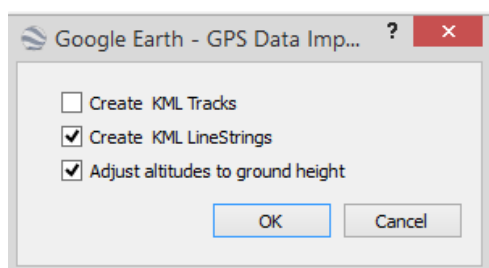
Once the Track has been detected, it will be necessary to check it and eventually correct the obvious errors (Editing procedure). To do this you can use Google Earth or alternatively SAS Planet.

Google Earth

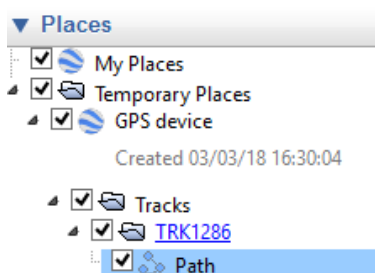
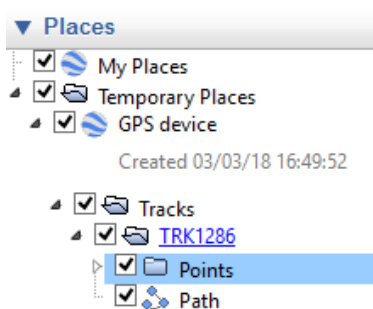
You can directly open the file stored by the GPS in GPX format:

File > Open > Gps (*.gpx *.loc * etc)

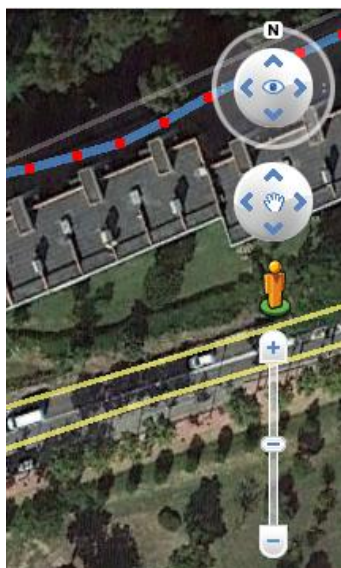
Use the following setup at the next window:



The Track will be displayed and in **Places** this will be the situation:



Delete the **[Points]** folder by highlighting it and clicking on the right mouse button > **Delete**



Highlight the Path line and click on the right mouse button > **Properties**

At this point the vertices of the line will be highlighted and it will be possible to move them, delete them or add new ones.

Use the navigation tools on the right of the screen (or alternatively, mouse and keyboard) to navigate the satellite map by zooming in on the sections of the route to be modified.

Once the Editing phase is over, highlight the Path line and click on the right mouse button > **Save Place As ...**

Give the track a name and save in *.KML format

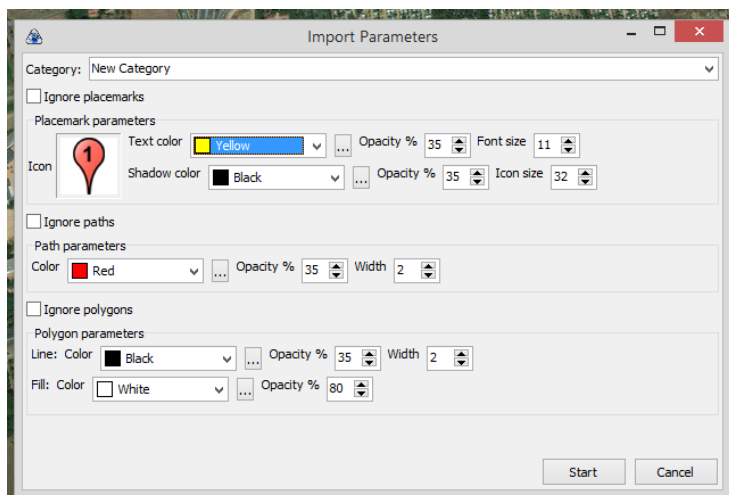
At this point it will be possible to share the path and eventually convert it back into *.GPX format. For this purpose, an online converter can be used, for example: <https://kml2gpx.com>

Note that it is often more convenient to digitize a new Track based on the information collected rather than editing the Track log. To do this, select from the menu **Add > Path**, digitize the path, assign a name to the new Track and click ok. Finally save the path in *.KML format

SAS Planet

You can directly open the file stored by the GPS in GPX format:

Operation > Open > Gps (All compatible formats (*.kml *.kmz *.gpx etc))



Set the Import parameters at will.

Move to the Track with the mouse pointer and once you click the right button select **Edit**.

The vertices of the line will be highlighted and it will be possible to move them, delete them or add new ones (double click) using the editing tools available and shown.

Once the Editing phase has finished, highlight the Track and click on the right mouse button > **Placemark Export**

Save in *.KML, *.KMZ or *.GPX format. At this point it will be possible to share the Track.

SAS Planet allows you to change the background map at any time. To do this, use the options on the **Maps** menu.

It should be noted that it is often more convenient to digitize a new track in SAS Planet on the basis of the information collected rather than editing the Track log. To do this, select from the **Placemark** menu > **Add Path**, digitize the path, assign a name to the new Track and click ok.

Finally save the path in *.KML, *.KMZ or *.GPX format.



All the .gpx files need timestamps in order to be imported into all kind of GPS.

To do this, after the editing procedure use this online tool:

http://gtoes.org/strava/Add_Timestamps_To_GPX.php

As a general recommendation, the following average speed is suggested in relation to the IMBA rating system:

IMBA 1: 12-15 km/h

IMBA 2: 10-12 km/h

IMBA 3: 7-10 km/h