Downloading GPS Data to Shapefile

This guide explains how to download data from a GPS unit and convert the data to a shapefile layer.

Download from GPS

To download from a GPS unit, QGIS requires the freeware program GPSBabel to be installed on the computer. The download file is called GPSBabel-1.4.2-Setup.exe and can be found on the Christmas Island GIS (or on the DVD) at the following path: <u>\\CIGIS\software\Freeware\GPSBabel-1.4.2-Setup.exe</u>

- 1. Double click the .exe file. The following window will open.
- 2. Select Run.

File Dow	nload - Security Warning 🛛 🛛 🔀
Do you	want to run or save this file?
	Name: GP5Babel-1.4.2-Setup.exe Type: Application, 9.96MB From: www.gpsbabel.org <u>Run S</u> ave Cancel
•	While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not run or save this software. <u>What's the risk?</u>

- 3. The download wizard will automatically open.
- 4. Use the setup wizard to guide you through the install process.
- 5. On the last screen select the option to create a shortcut on your desktop.
- 6. GPSBabel will be installed on your computer and the icon will appear as a shortcut on your desktop.



- 7. Connect your GPS device to the computer.
- 8. Open GPSBabel.

9. In the *Input* box:

- a. Select *Device*.b. From within the *Format* drop-down list select the type of GPS device you are using.

🛓 GPSBabel		
File Help		
Input File Device Format Device Name: usb: V Options	Garmin serial/USB protocol Brauniger IQ Series Barograph Download DeLorme PN-20/PN-30/PN-40 USB protocol Garmin serial/USB protocol GlobalSat DG-100/BT-335 Download Holux M-241 (MTK based) download	
Translation Options	Magellan serial protocol MTK Logger (Blue 747,0starz BT-1000,) download NaviGPS GT-11/BGT-11 Download SkyTraq Venus based loggers (download) Wintec WBT-100/200 GPS Download)
File Name Options		
		Close 🕹 Apply

10. Select 'usb' from the Device Name drop-down list.

4 GPSBabel	
File Help	
Input	
O File O Device Format Garmin serial/USB protocol	~
Device Name: usb:	
Options	
Translation Options	
🚦 🗹 Waypoints 📲 🗹 Routes 🚦 🗹 Tracks 💚 🛛 Filters	More Options
Output	
File O Device Format GPX XML	~
File Name	
Options	
Close	🛃 Apply

- 11. In the *Translation Options* box:

 - a. Select the data types you would like to download.b. Use the *Filters* options if you wish to download data from a specific date.

d GPSBabel	
File Help	
/ Input	
O File O Device Format Garmin serial/USB protocol	~
Device Name: usb: 💌	
Options	
Translation Options	More Options
File O Device Format GPX XML	~
File Name	
Options	
Clos	e 🕢 Apply

- 12. In the *Output* box:
 - a. From the Format drop-down list, select GPX XML.

🛦 GPSBabel	
File Help	
Input File O Device Format Garmin serial/USB protocol Device Name: usb:	~
Options	
Translation Options	More Options
Output	
File Device Format GPX XML Google Navigator Tracklines (.trl) GoPal GPS track log (.trk) Goplot5 GP5 TrackMaker GPSBabel arc filter file GpsDrive Format for Tracks	
GPSman GPSPilot Tracker for Palm/OS gpsutil GPX XML	
Close	Apply

- b. Click the *File name* button and navigate to the location you would like the data to be saved. Give the download data a name and then click save.
- c. Click Apply.

▲ GPSBabel	
File Help	
Input	
C File O Device Format Garmin serial/USB protocol	~
Device Name: usb:	
Options	
Translation Options	
🚦 🗹 Waypoints 🛛 🚦 🗹 Routes 🛛 🚦 🗹 Tracks 🛛 💞 🛛 Filters	More Options
Output	
File Device Format GPX XML	~
File Name test	
Options	
Close	🛃 Apply

13. A message will appear stating that the translation was successful.

A GPSBabel	
File Help	
Input File O Device Format Garmin serial/USB protocol	· · · · · · · · · · · · · · · · · · ·
Device Name: usb:	
Options	
Translation Options	
🖁 🗹 Waypoints 📲 🗹 Routes 🚦 🗹 Tracks 💞 Filters	More Options
Output]
File O Device Format GPX XML	×
File Name test	
Options	
gpsbabel -w -r -t -i garmin -f usb: -o gpx -F test	
Translation successful	Output of GPSBabel translation process.
	Close S Apply

Convert .GPX to Shapefile (.shp)

Conversion of the previously created .GPX file to shapefile is carried out in QGIS. The plugin *OGR Layer Converter* must be turned on. Open QGIS and follow these steps to turn on *OGR Layer Converter*.

1. In the top menu bar click *Plugins>Manage plugins*. The QGIS Plugin Manager will open.



Q QGIS Plugin Manager		? 🔀
Eilter)
Georeferencer GDAL Georeferencing rasters using GDAL		
Interpolation plugin	ayer	
MapServer Export (Version 0.4.3) Export a saved QGIS project file to a MapServer map file	e	
NorthArrow Displays a porth arrow overlayed opto the map		\$\$\$
OGR Layer Converter Translates vector layers between formats supported by	OGR library	
OpenStreetMap plugin (Version 0.5) Viewer and editor for OpenStreetMap data Oracle Spatial GeoRaster		•
Plugin Directory: C:/OSGeo4W/apps/ggis/plugins		
ОК	<u>S</u> elect All <u>C</u> lear All Ca	ancel

- 2. Select the box next to OGR Layer Converter. Click ok. The plugin has been turned on.
- 3. Close the QGIS Plugin Manager.

To convert GPX to Shapefile:

4. From the top menu bar click *Plugins > OGR Converter > Run OGR Layer Converter*. The OGR Layer Converter will open.



- 5. In the Source box:
 - a. Select GPX from the Format drop-down list.
 - b. In the *Dataset* row, enter the path (or use browse) to locate where you saved the GPX files created using GPSBabel.

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Format AV AV Dataset CS Layer CS Target Gr	ACBin CEDIO CEDIO IA SN RI Shapefile 1L T
Dataset CS Layer ES Target GM	/CBin /CE00 IA W RI Shapefile 1L
Dataset CS Layer ES GM Target G	N N RI Shapefile 1L
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Format Ge	eoconcept
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Layer	
OGR Layer C	ionverter ?
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Format GF Dataset	File Directory Remote source Browse
Format Gr Dataset Layer	PX ▼ File ○ Directory ○ Remote source Browse
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Format Gr Dataset Layer Target Format Br	PX ▼ File O Directory O Remote source Browse ✓
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- 6. In the Target box:
 - a. From the Format drop-down list select ESRI Shapefile (see image over page).
 - b. In the *Dataset* row enter (or use browse) to locate where you would like the new shapefile layer to be saved.
 - c. In the Layer row specify what you would like the new shapefile to be named.

OGR Lay	er Converter	?
Source		
Format	GPX	-
	File Directory Remote source	
Dataset	/INNT/Profiles/geoscience/Desktop/GP5 QGI5_Kristen/test.gpx	vse
Layer	waypoints	-
Target Format	ESRI Shapefile	•
Format Dataset	ESRI Shapefile BNA CSV	-
Layer	DGN ESRI Shapefile GM	1111
	GMT GPX GeoJSON	
	Geoconcept Interlis 1 Interlis 2	÷

Source		
Format	GPX	-
	File Directory Remote source	
Dataset	/INNT/Profiles/geoscience/Desktop/GP5 QGI5_Kristen/test.gpx	Browse
Layer	waypoints	-
Target		
Format	ESRI Shapefile	+
Dataset	C:/WINNT/Profiles/geoscience/Desktop/GP5 QGIS_Kristen	Browse
Layer	test	

- 7. Click Ok. QGIS will create the shapefile layer of you data.
- 8. If the conversion was successful the following message will display.

Q OGR	Layer Converter 🛛 🛛
(į)	Successfully translated layer 'waypoints'
	ОК

9. Add the newly created shapefile to QGIS as a vector layer.

If your data does not display in the correct location please see the Coordinate Reference Systems in Quantum GIS guide.