Standard Operating Procedure

SOP code	SOP_GIS_001_v01
Title	Download data point from a GPS device using EasyGPS software
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Translated by Date & signature	

Date	Amendment	Approved by & signature	Reason of the amendment

1. OBJECTIVES

Provide the guidance both to download data points gathered from a handheld GPS receiver to a computer using the software *EasyGPS* and to store the data in a compatible format for any GIS platform.

2. DEFINITIONS

COM or serial port is a serial communication physical interface through which information transfers in or out one bit at a time. Throughout most of the story of personal computers, data transfer through serial ports connected the computer to devices such as terminals and various peripherals.

EasyGPS is a fast and easy way to upload and download waypoints, routes and tracks between your computer and your GPS receiver (e.g. GARMIN, MAGELLAN or LOWRANCE). You can use this software to back up and organize your GPS data, print maps, or load new waypoints onto your GPS.

GPS: Global Positioning System. It is a global navigation satellite system (GNSS) developed by the United States Department of Defence and managed by the United States Air Force 50th Space Wing.

USB: Universal Serial Bus is an industry standard developed in the mid-1990s that defines the cables, connectors and communication protocols used in a 'bus' for connection, communication and power supply between computers and electronic devices.USB was designed to standardize the connection of computer peripherals to personal computers.

3.   **APPLICABLE TO**

National Control Programme Managers and Data managers
Researchers involve in field data collection and working with a handheld GPS receiver


4.   **RESPONSIBILITIES**

Data managers and ultimately the National Control Programme managers are responsible of managing the data collected in the field. In this regard, they have to download the data (coordinates) gathered in the field from the GPS receivers to a computer periodically and to store these data in such a format that they can eventually be used in a GIS framework. These responsibilities can also be applied to researchers involve in field data collection and working with GPS receivers.

5.   **RELATED SOPS**

- SOP_FIELD_001_v01_EN ➔ Using a handheld GPS receiver model GARMIN GPS eTrex H in field data collection.
- SOP_FIELD_002_v01_EN ➔ Using a handheld GPS receiver model GARMIN GPS MAP in field data collection.
- Manual "Using a handheld GPS receiver in field data collection" GAHI - CNTDs


6.   **PROCEDURES**

1.   At first, you would have to install *EasyGPS* software which you can download from the **EasyGPS** official website; http://www.easygps.com/download.asp.
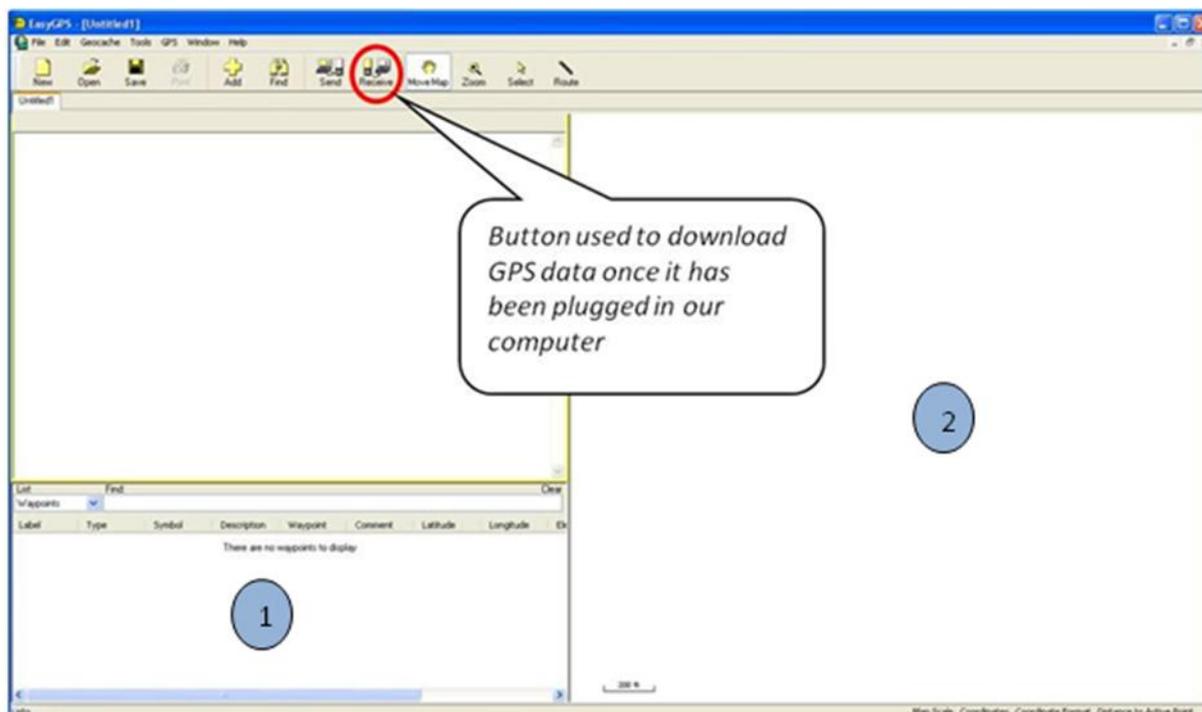
EasyGPS interface as example of software used to download data from a GPS handheld receiver

2. Secondly, you have to connect the GPS receiver to the computer (PC) using a special PC interface cable which should have been supplied by the manufacturer along with the GPS units. Otherwise, you would have to contact with some provider in order to get a PC interface cable compatible with your GPS receiver.

    As most of modern computers, mostly laptops, are currently provided only with USB connections, you might have to use a USB serial converter when the PC interface cable uses a serial port (RS-232).
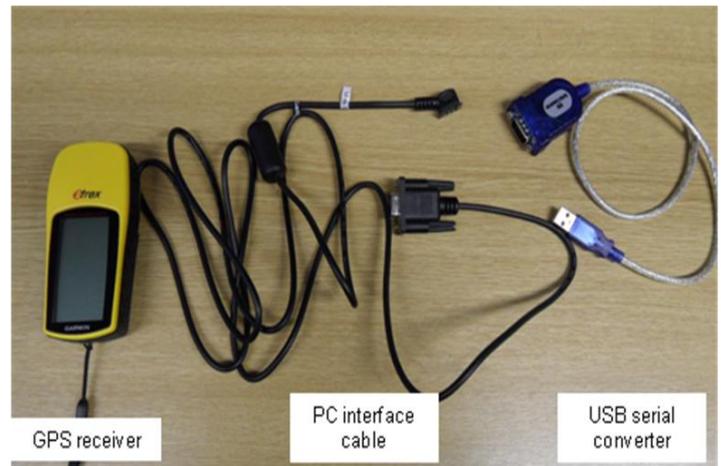
3. Upon connecting the GPS receiver to the computer, follow the next steps to download the data collected in the field to *EasyGPS*:

    Add and configure your GPS receiver in *EasyGPS* (see **Figures 1 & 2**).

    - Click '**Preferences**' on the Edit Menu in EasyGPS, and click on the '*My GPS receiver tab*' or directly click on '**Receive**' (GPS to Computer) button in the tool bar to open GPS receiver dialog box.

    - Select the manufacturer of your GPS receiver.

    - Find and click on your exact GPS model in the list to the right. Click OK.
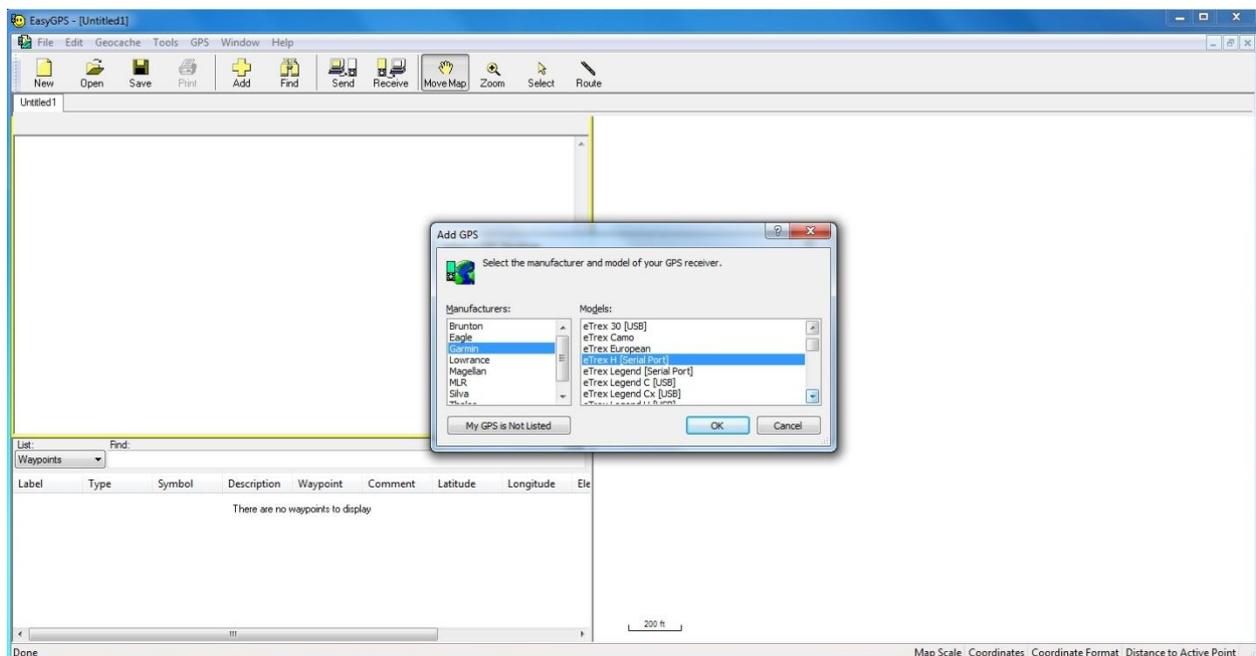

FIGURE 1. Click on 'Receive' button in the tool bar to open the **Add GPS** dialog box. *Select the manufacturer and your GPS receiver model.*
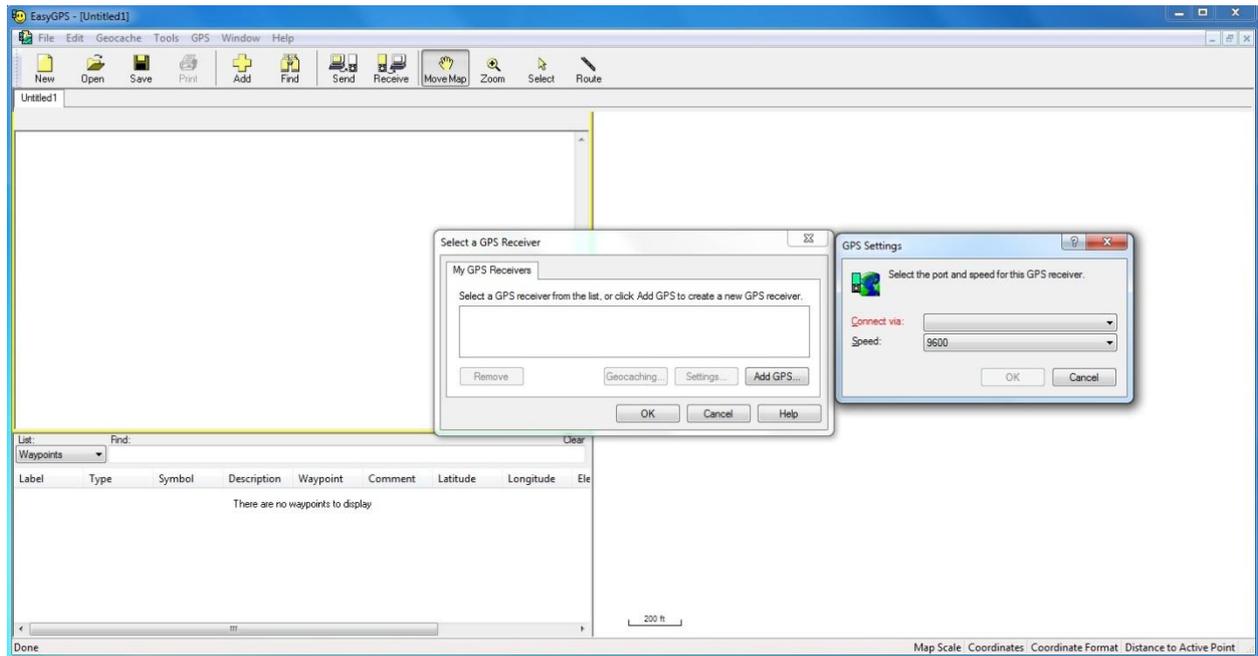
FIGURE 2. A new dialog box (GPS Settings) will be opened to select the port and speed for this GPS receiver

Configure Your GPS Receiver's Settings. If you have a new (2009 or later) Garmin GPS that uses a USB cable, just plug it in and make sure it is in USB Mass Storage Mode. If you have an older GPS with a serial port, find the Interface or COM Port setting on the GPS, and make sure the baud rate matches that in EasyGPS. Garmin GPS receivers always use 9600 baud. Magellan and Lowrance should use 4800 or 9600 baud.

4. Select in the '**Receive from GPS**' dialog box the type of data you want to download from your GPS receiver; waypoints, tracks and/or routes. For our purpose, we will select only the waypoints data (see **Figure 3**). The waypoints saved in your GPS receiver will automatically be displayed in the right side of the screen and a list of its attributes (lat, long, type of label, elevation, etc.) will appear in the left side.
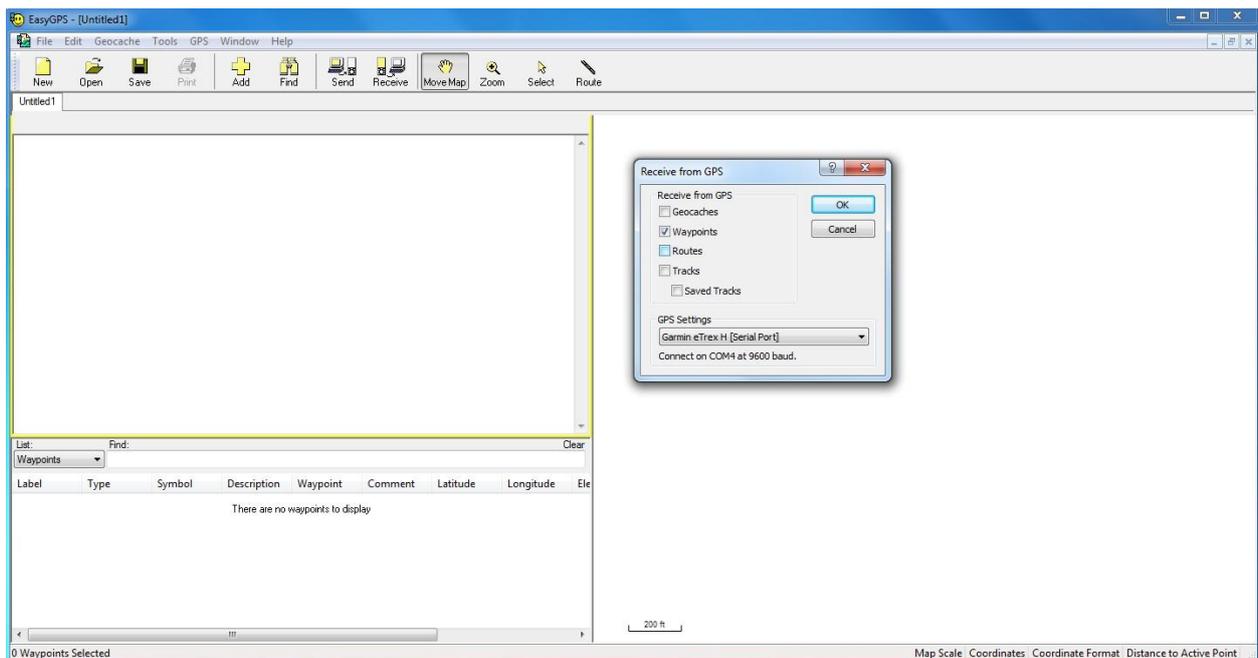

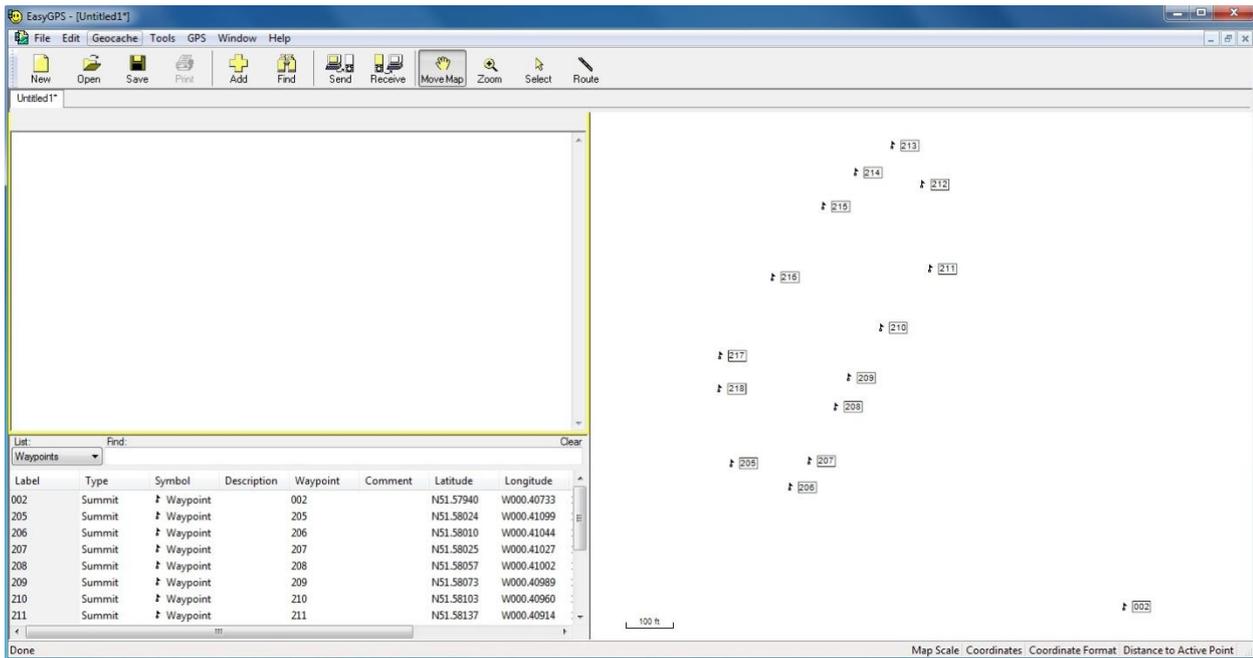FIGURE 3. Select Waypoints in the **Receive from GPS** dialog box.

FIGURE 4. GPS data will be plotted in the right side of the screen and data attributes will be displayed in the left

5. Save your data points as a GPX file from the Menu bar (File> Save as>) (see **Figure 5**). Select the pathway to save this new file and set the file name. GPX format (Exchange file) is compatible with most of widely used GIS platform as ArcGIS, MapInfo or QuantumGIS.
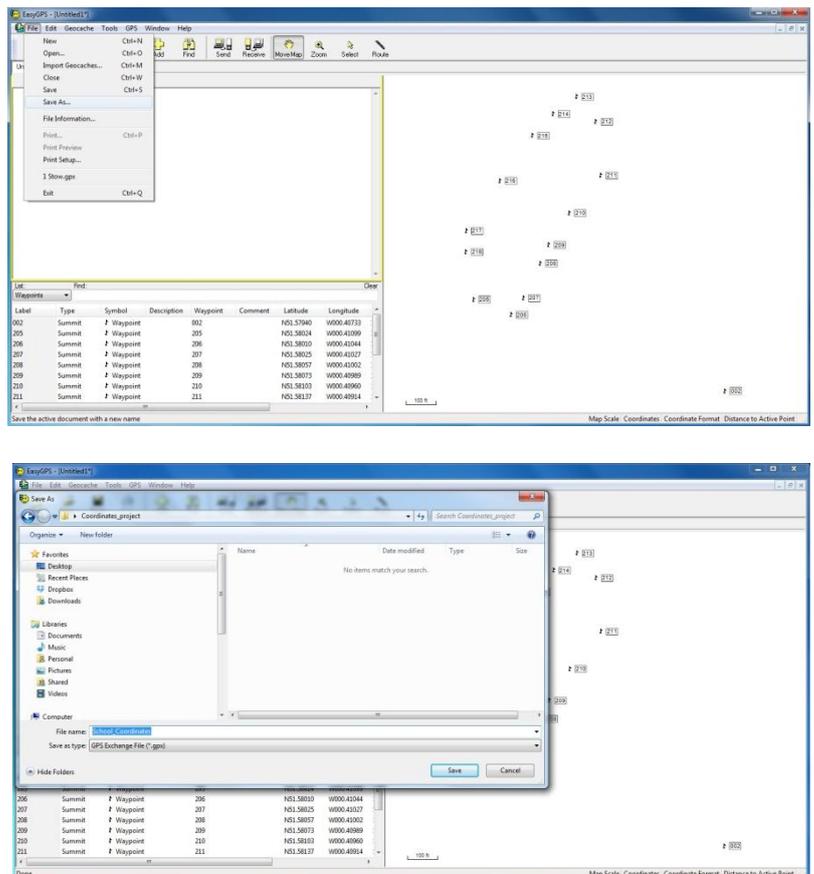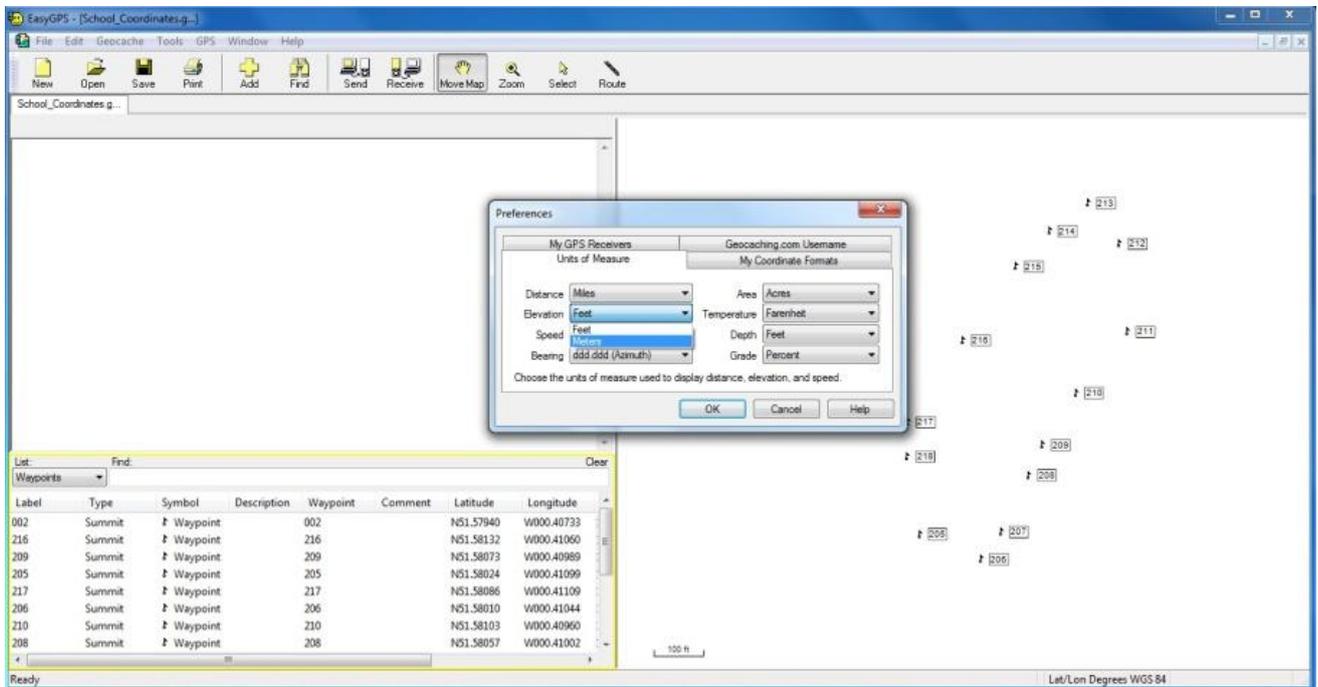

FIGURE 5. Save your list of data points or location as a .GPX file

6. From 'Preference' dialog box, you might change the format and units as the data points are displayed in the data list and will eventually be stored (Edit>Preferences> Units of Measure).

7.   **REFERENCES**

- Manual Using a handheld GPS receiver in field data collection

- *EasyGPS* download; http://www.easygps.com/download.asp