

FREE Software for Data Management:

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Garmin BaseCamp

This is a free software provided by Garmin. It allows you to download data from your GPS, and is also a useful software for simply viewing the GPS data on a map on your computer, or editing and organizing the data.

WRISC uses this to:

- View data on the GPS without downloading it.
- View more detailed information on GPS tracks, such as length.

Download at: <http://www.garmin.com/en-US/shop/downloads/basecamp>



DNR GPS

This is a free software developed by the Minnesota DNR and originally called DNRGarmin. The software was built to transfer data between Garmin handheld GPS units and GIS software, however it can also be used even if you don't use GIS.

This is a simple, easy to use software that is preferred by WRISC to take data off of our GPS units.

WRISC uses this to:

- Download data from a GPS unit into: spreadsheets, GIS shapefiles, GPX files
- Upload data to a GPS

Download at: <http://www.dnr.state.mn.us/mis/gis/DNRGPS/DNRGPS.html>



QGIS

Originally called Quantum GIS, this is a free open source software that allows you to have GIS capabilities in mapping data. Because it is open source, the coding is open for anyone to edit or create their own add-ons to the software. There are online communities to answer questions to QGIS questions, and tons of online tutorials and videos.

We have found this software to be very user friendly, and easier to use for simple mapping than ArcGIS. There are additional plugins that can be downloaded for added features for those looking for additional functions.

WRISC uses this to:

- Map or view existing shapefiles
- Map spreadsheet data and create shapefiles
- Create maps of invasive species distributions

Download at: <https://www.qgis.org/>



QGIS Notes

Notes

- qGIS Browser allows you to view files
- qGIS Desktop is used to add layers and create maps
- Shapefiles (.shp) are just the individual files (for example, a roads layer), you can also save qGIS projects to save an entire map with several layers just as you have edited them. BUT, in order for projects to be saved correctly, you cannot move where the shapefiles are stored on the computer.
- Coordinate system/projection is important. You can edit this under the Project tab, and select Project Properties. Under the CRS tab (Coordinate Reference System) you will be able to adjust the project's CRS. IMPORTANT, whatever CRS you choose, it is very wise to check the "Enable 'on the fly' CRS transformation." That way, when you add new layers to the project they are automatically converted to the correct CRS.
- Add a background to your map by going to the "Web" tab and selecting the OpenLayersPlugin. This allows you to add data from web sources like Google Maps. Note, you need to be connected to the internet to do this.

Useful Online Tutorials

General tutorials (note, some are from past versions of QGIS and may look different, but are still useful):

<http://www.qgistutorials.com/en/index.html>

https://www.youtube.com/watch?v=1v_DuL-wM2U

Also, search youtube for "QGIS in under 10 minutes."

To add spreadsheet data to your map:

http://www.qgistutorials.com/en/docs/importing_spreadsheets_csv.html

Create a new shapefile from a selection: You can create separate shapefiles from items selected in a layer (example, you might want a layer of just Japanese Knotweed plants, or just priority species). Go to

http://www.qgistutorials.com/en/docs/working_with_attributes.html for full instructions.