

Data Transfer Using the DNR Garmin Extension for ArcView: Garmin GPS to ArcView Shapefile

These instructions are for transferring data from a Garmin GPS unit into an ESRI Shapefile using the DNR Garmin Extension for ArcView, developed by the Minnesota DNR.

These instructions assume you are working in the CNR Advanced Computer Lab (ACL) and that you want your data to be in the Wisconsin Transverse Mercator (WTM 83/91) coordinate system.

These instructions are also for using the DNR Garmin extension in a standalone manner independent of ArcView. The DNR Garmin Extension for ArcView is free for download at:

<http://www.dnr.state.mn.us/mis/gis/tools/arcview/extensions/DNRGarmin/DNRGarmin.html>

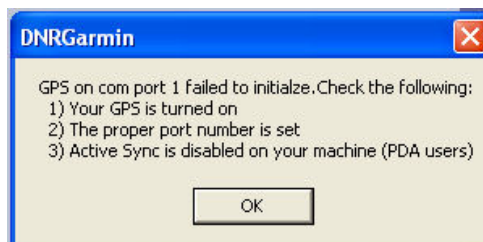
Please note that the Wisconsin Transverse Mercator (WTM83/91) coordinate system is **not** part of the program when it is downloaded from the Minnesota DNR. It had to be specifically added after the download. If you need to use this program outside of the ACL and need the WTM83/91 coordinate system, please feel free to contact Kevin Lawton at 715-346-3795, klawton@uwsp.edu for instructions on how to do this.

You may also use these instructions as a guide if you want to export data in a coordinate system other than WTM83/91.

Objective: Transfer location data (waypoints and/or tracks) from the Garmin GPS unit directly to an ArcView Shapefile format for use in the ArcView or ArcGIS software.

1. Connect the Garmin/PC interface cable to the serial port on the back of your computer and to the Garmin GPS unit. Turn the GPS unit ON.
2. Start the **DNRGarmin** program: **Start > All Programs > DNRGarmin > DNRGarmin**

Note: If at this point you receive the error shown below, it is most likely that the data format is set incorrectly on your Garmin GPS unit. On the GPS unit, go into the **Setup** menu, then the **Interface** tab and make sure that the **Serial Data Format** is set to **Garmin**.

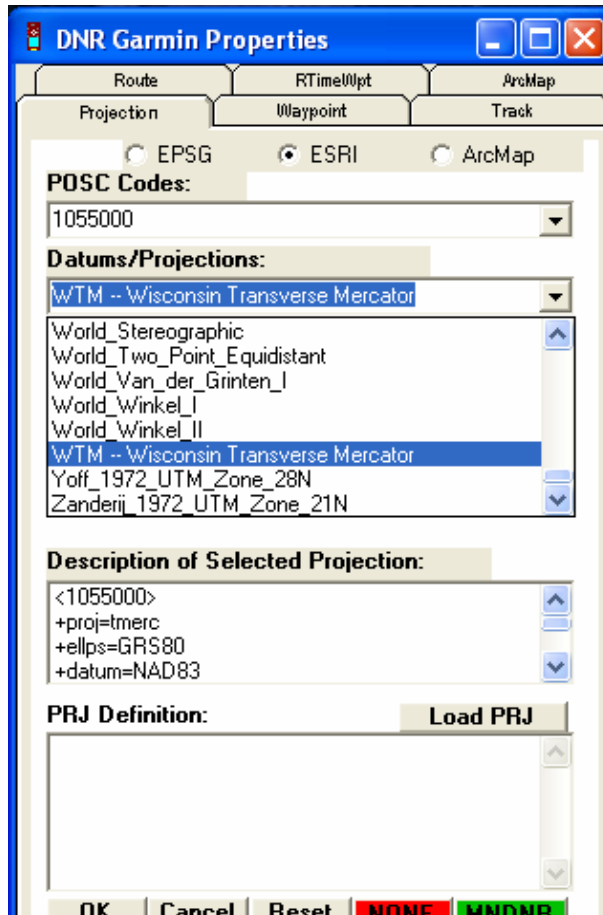


3. If it is the first time the program has been started it may ask you whether you want to use the default projection system – WGS84 UTM Zone 15N. If you select **NO** it will allow you to set a new projection system by going directly to the DNR Garmin Properties window as shown below:

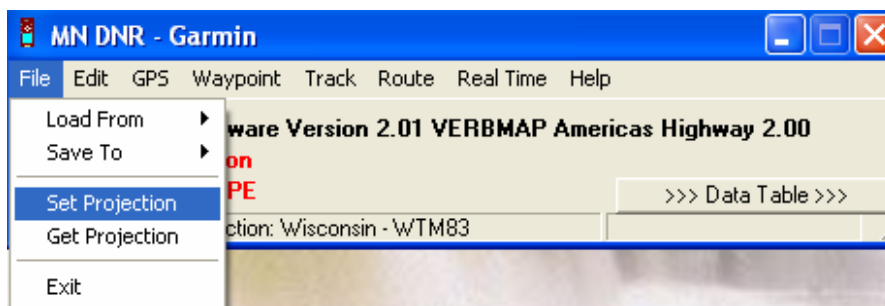
Set the **POSC Codes = ESRI**

Use the **Datum/Projections** drop-down arrow and select **WTM -- Wisconsin Transverse Mercator**

Click **OK** in the lower left-hand corner

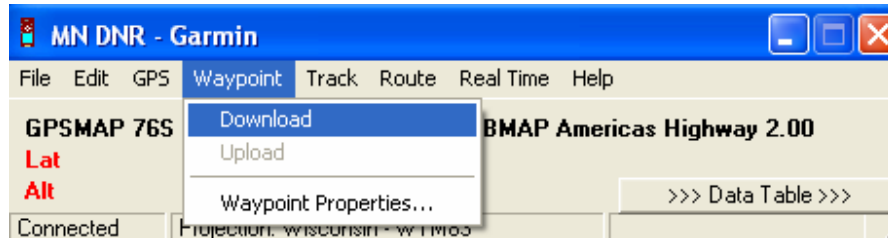


If the projection has been previously set, you may have to click on **File > Set Projection** on the main menu to display the **DNR Garmin Properties** window (see below)

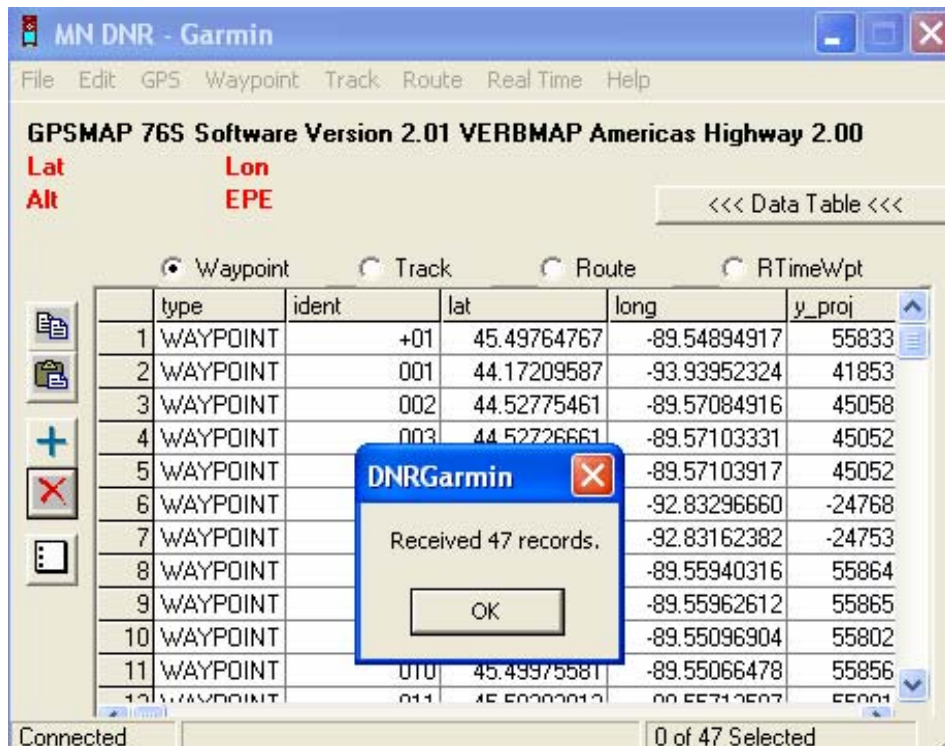


We are setting the projection to **Wisconsin – WTM83** because that is the coordinate system that the rest of our GIS data is in. We need to export this new data in the same projection so that we can use it with the existing data.

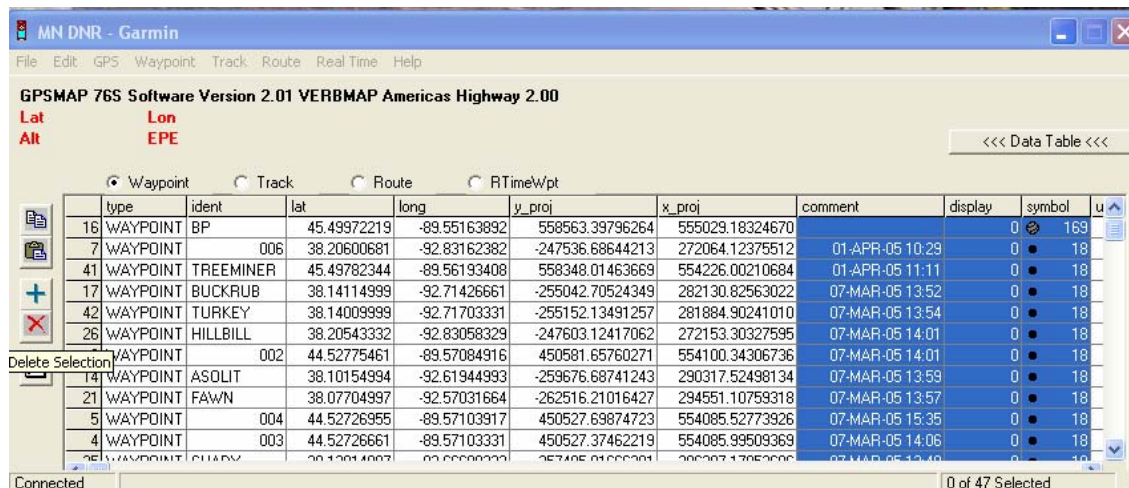
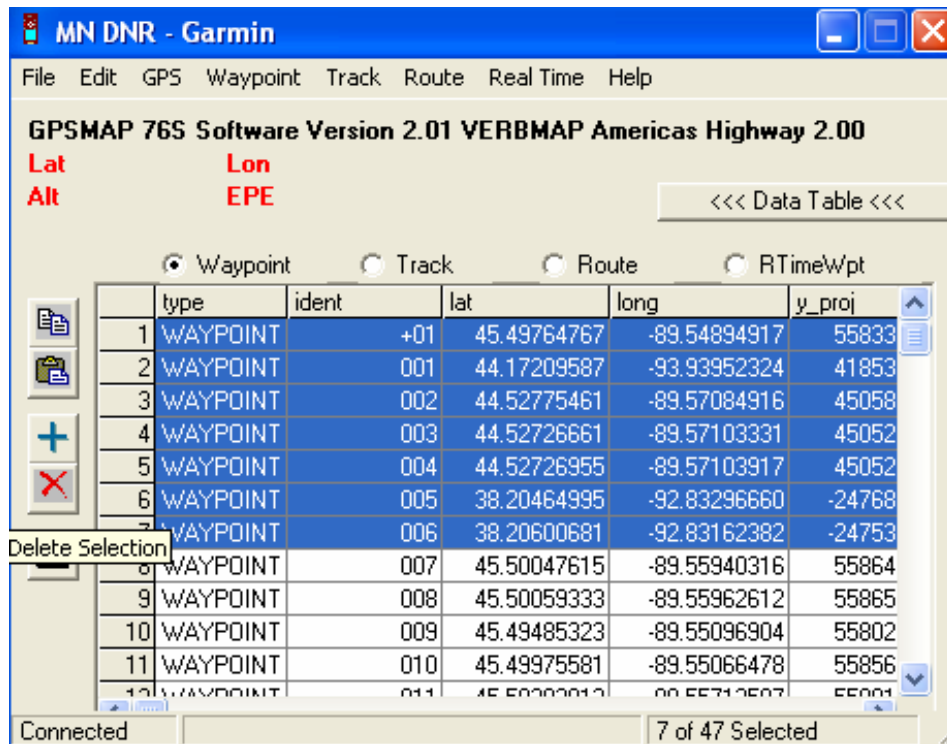
- Once the unit has connected and the projection has been set we are ready to download our data (waypoints and/or tracks). **Click Waypoint > Download**



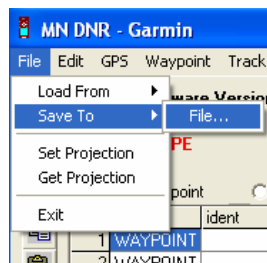
The waypoints from the GPS unit will be transferred to the program in the form of a table and you will get a message when the records have been received. (see below). **Click OK.**



- The program by default creates numerous attributes that may or may not be important to you. At this point you may delete waypoint records (rows) and/or attributes (columns) that you may not want exported by highlighting them and then using the red "X" (delete button) on the left side (see examples below).

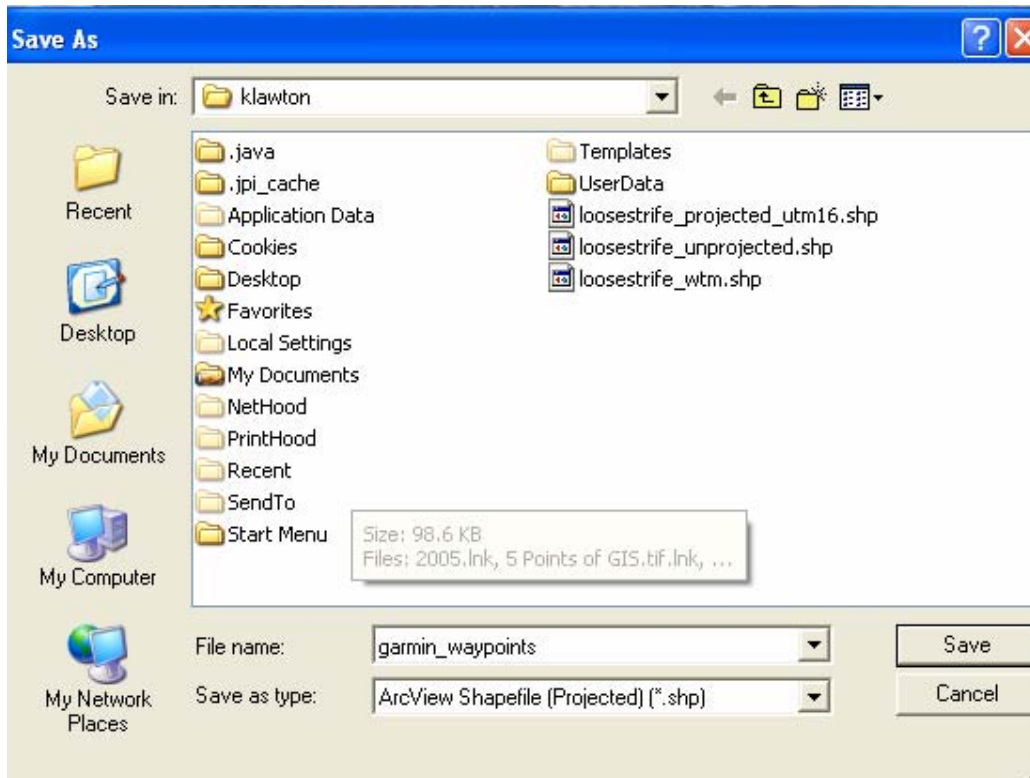


- Once you have removed any records or attributes (if necessary) you are ready to export the table data to an ArcView shapefile that can be used with ArcView. Click **File > Save To > File** from the main menu (shown below):

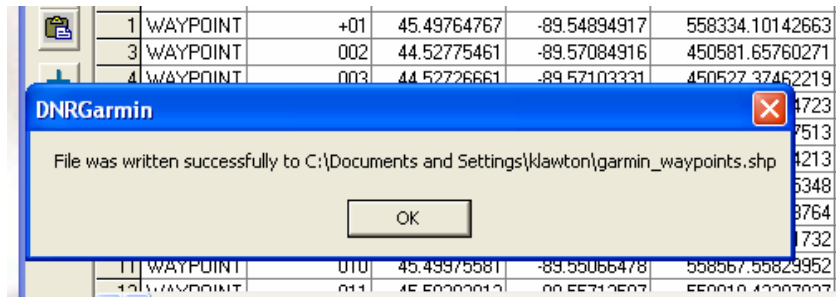


The **Save As** window will appear. For the **Save in:** field, navigate to the **C:\temp** folder. For the **File name:** field use any name you wish. For the **Save as type:** field, **select ArcView Shapefile (Projected)** then **click Save** (example below).

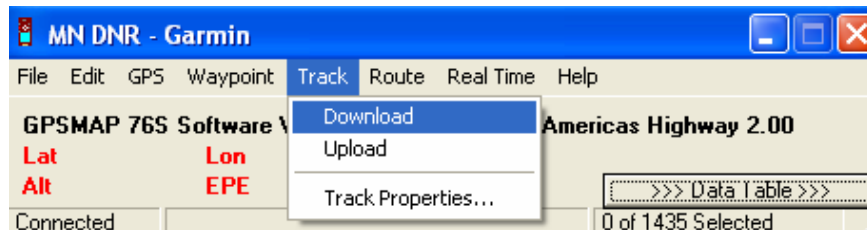
Note: For the **Save as type:** field, if you **select ArcView Shapefile (Unprojected)** your data will be saved in decimal degrees as latitude and longitude.



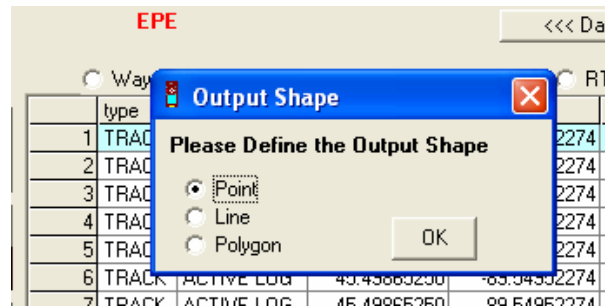
Once the file has been saved successfully a message will appear (see below). **Click OK.**



- Use the same process as in steps 4 thru 6 above to download the tracks by selecting **Track > Download** from the main menu



When prompted for the **Output Shape** for the “tracks”, **select Point** then **click OK** (see below). If you wish, you could export twice and select Line the next time and compare the two shapefiles (be sure to save with different names).



Bring your new Shapefile into ArcView and display it as you normally would.