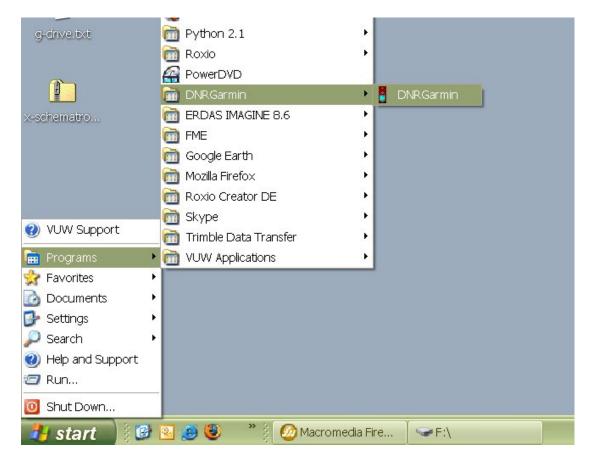
Downloading Waypoints from a Garmin GPS Unit

1. Plug the download cable into the GPS unit and into the com port of the computer. It is the green semi rectangular 9 pin plug at the back of the computer (cloest to the cables in the photo).



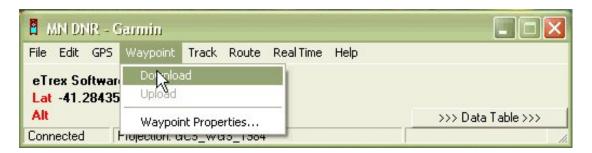
- 2. Turn on the GPS unit by pressing the PWR button on the side of the GPS unit.
- 3. Start the DNR Garmin software by clicking on the desktop shortcut.





Or from Start>Programs>DNR Garmin>DNR Garmin

4. From the menu click on Waypoint download.



- 5. The way points should now appear as a table in DNR Garmin. The GPS can now simply be unplugged and turned off.
- Select File from the menu then Save To then File... A dialog box will appear asking you where you want to save the waypoints.

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Get Proj			Track (Route(⊂ RTimeWpt	
Refresh	Apps	nt	lat	long	y_proj	x_proj
Set App	Refresh Rate	001	-41.28173327	174.76979996	-41.28173327	174.769
Exit		004	-41.27951659	174.77166661	-41.27951659	174.771
EXIL	-	005	-41.28084959	174.76988328	-41.28084999	174.769
	4 WAYPOINT	006	-41.28228329	174.76679999	-41.28228329	174.766
	5 WAYPOINT	007	-41.283966E3	174.76701667	-41.28396663	174.767
	m					Đ
1					0 of 5 Selected	
Connected					To or o selected	1.

7. In the Save as type in the dialog box that appears there are a number of formats to choose from in the Save as type: drop down box. Select ArcView Shapefile (Projected) (*.shp) and browse to where you want to save your shapefile and give it a name. This will save the waypoints in a shapefile with a WGS84 projection.

Save As				? 🔀
Save in: My Recent Documents Desktop My Documents	My Documents My Computer My Network Pla g-drive.txt			
My Network Places	File name: Save as type:	Text File (Comma delimited) (*.txt) ArcView Shapefile (Projected) (*.shp) ArcView Shapefile (Unprojected) (*.shp) DBase IV (*.dbf) Text File (Comma delimited) (*.txt) Text File (Semicolon delimited) (*.txt)	•	Save Cancel

8. The shapefile can now be used in ArcGIS or reprojected into another projection if required.

Uploading Waypoints from a Garmin GPS Unit

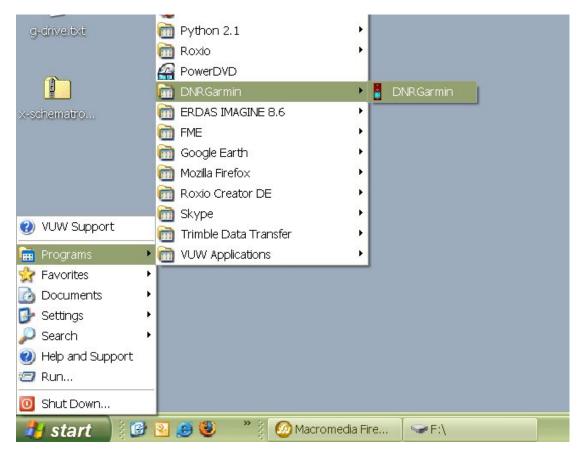
1. Plug the download cable into the GPS unit and into the com port of the computer.



- 2. Turn on the GPS unit by pressing the PWR button on the side of the GPS unit.
- 3. Start the DNR Garmin software by clicking on the desktop icon.



Or from Start>Programs>DNR Garmin>DNR Garmin



5. First check that your data is in WGS84 format, if it is not then reproject the data into the WGS84 projection. It is best to do this first as you can control which method is used to perform the transformation. By relying on the software to do the transformation for you may introduce errors of up to 100m. A check also needs to be made that the software has the WGS84 projection set. From the menu click on File Set Projection.



 A Dialog box should appear check the Datums/Projections: drop down box it should be set to GCS_WGS_1984 or WGS83 if it is not click on the red NONE button at the bottom of the dialog box.

	🚦 DNR: Garmin Properties 🛛 🔀	0
HIN DNR - Ga	Projection Waypoint Track Route RTimeWpt POSC Codes: C EPSG C ESRI 4326	
eTrex Software) —	
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C WAYP		69007 174.761
3 WAYP		89512 174.777:
+ 4 WAYP	Description of Selected Projection:	82209 174.771-
5 WAYP	<4326>	32584 174.756
	<pre><4325> *proj=longlat +ellps=WGS84 #datum=WGS84</pre>	36422 174.759
	PRJ File: Load PRJ	
Connected Lo	GEOGCS["GCS_WGS_1984",DATUM ["D_WGS_1984",SPHEROID ["WGS_1984",6378137,298.257223563]],PRIMEM	ected
	OK Cancel Reset NOME MNDNR	
	Nc Projection - WGS 84, Lat/Lon	

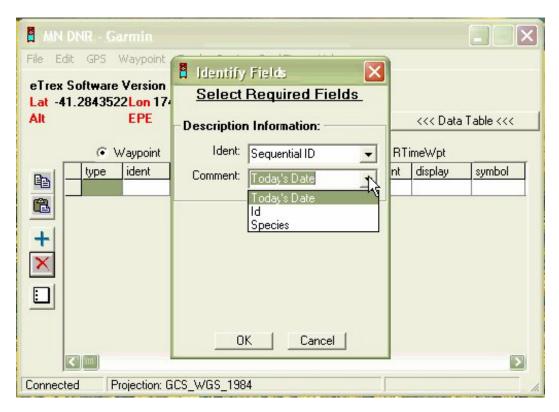
7. Once this setting has been checked you can then load a file by clicking on File>Load From File... from the menu.

e Edit GPS Waypoir Load From	nt Track Route RealTime Help	
Save To Set Projection	.76808829	>>> Data Table >>>
Get Projection	D_1949_New_Zealard_Map_Grid	
Refresh Apps Set App Refresh Rate		

8. A dialog should appear asking you to open the file to load into the software. The type of file to load can be selected in the drop down box.

Open							? 🔀
Look in:	iemp		•	↔ [•		.	
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My Computer							
	File name:				•		Open
My Network Places	Files of type:	Text File (*.txt) ArcView Shapefile (*.shp) DBase IV (*.dbf) Text File (*.:xt)			•		Cancel

9. Once a file is selected another dialog box will appear asking what information you want to import from the table. From the drop down boxes you can select the data from the table to load.



10. If only a few waypoints are required to be uploaded to the GPS unit select them first. Do this by clicking on the number at the left hand side while holding the shift key down.

-		IR - Garmin					_ 🗆 🗙
File	Edit	GPS Waypo	int Trac	k Route RealT	ime Help		
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B	1	2 WAYPOINT		-41.30169007	174.76179700	-41.30169007	174.761
_	Ĺ	WAYPOINT		-41.30889512	174.77736347	-41.30889512	174.777
+		A \$WAYPOINT	4	-41.29982209	174.77149268	-41.29982209	174.771
×		5 WAYPOINT	5	-41.28932584	174.75672678	-41.28932584	174.756
<u> </u>	6	WAYPOINT	6	-41.31236422	174.75957322	-41.31236422	174.759!
	<						>
Conne	ected					2 of 6 Selected	

Another alternative is to delete those way points not wanted by selecting the waypoints as above then and then deleting them by clicking the delete selection button (red cross).

ile Ed	dit	GPS Waypo	int Trac	k Route Real T	ime Help		
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-	Э	WAYPOINT	3	-41.00009512	174.77736347	-41.00009512	174.777
+	4	WAYPOINT	4	-41.29982209	174.77149268	-41.29982209	174.771
V	5	WAYPOINT	5	-41.28932584	174.75672678	-41.28932584	174.756
5	6	WAYPOINT	6	-41.31236422	174.75957322	-41.31236422	174.759
elete Se	electi	on]					

11. Once the data is loaded into the software it can then be uploaded to the GPS unit. From the menu select Waypoints>Upload. Note that the Garmin etrex only holds 499 points and will only load the first 499 waypoints. The GPS can then be unplugged from the download cable.

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File Eu	Jil GF	S Wayp	uint Tre	ick Rou	te RealT	ïme Help		
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	t)	/pe	Ident	lat		long	y_proj	x_proj
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	3 V	VAYPOIN1		3 -41	30889512	174.77736347	-41.30889512	174.777
+	4 V	VAYPOIN1		4 -41	29982209	174.77149268	-41.29982209	174.771
-	5 V	VAYPOINT		5 -41	28932584	174.75672678	-41.28932584	174.756
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