



## Real Time Tracking with DNRGPS

### Abstract

This guide explains how to use Real Time tracking features in DNRGPS. You can use this feature to display your current position in ArcMap 10.0 (not yet fully functional with ArcMap 10.1) and/or to write points to a shapefile based on a time or distance interval. These procedures work with both Garmin Oregon 550(t) and GPSMap 76(s) units. All procedures herein should never be performed by any operator of a vehicle.

*Steps: Set GPS unit interface appropriate to GPS type – Borrow an ArcGIS license – Setup ArcMap – Setup DNRGPS – Acquire GPS signal – Connect GPS unit to computer – Start Real Time Tracking*

### Details

#### Setup GPS Unit

1. If you are using an Oregon GPS unit, make sure the unit's interface mode is set to **Garmin Spanner**. If you are using a GPSMap 76(s) unit, make sure the unit's interface mode is set to **Garmin**. See the Indiana NRCS setup guides for either unit for details to make these settings.

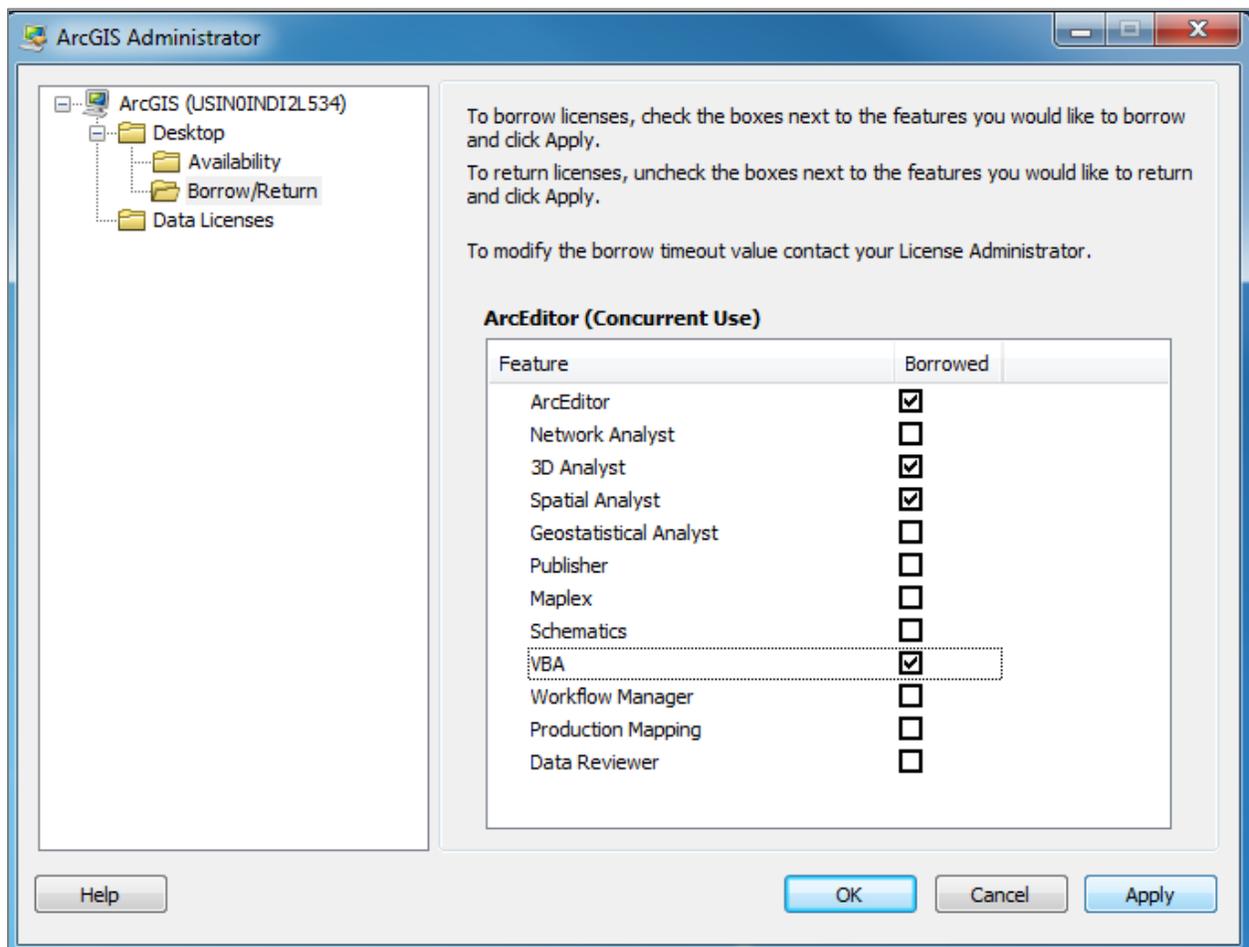


2. Once the GPS unit is setup for the proper interface mode, **exit** any menus and **turn off** the GPS.



### Borrow an ArcGIS License

1. If you will be using the computer off of the network, you need to Borrow an ArcMap license from the license server. The abbreviated steps are outlined here. Please see the full guide on Borrowing and Returning ArcMap licenses for additional details if you need them.
2. **Close** ArcMap if it is running. **Click Start → All Programs → ArcGIS → ArcGIS Administrator.** **Click** the **Borrow/Return** folder icon. **Check** the boxes for ArcEditor (or ArcInfo), Spatial Analyst, 3D Analyst, and VBA. **Click OK.** Wait for the process to finish. **Close** the window after license borrowing is complete.

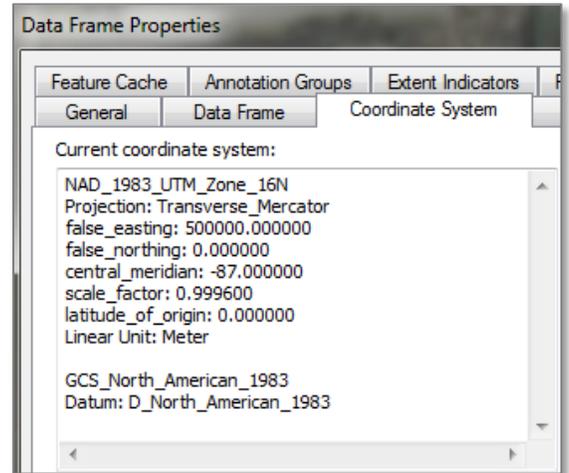


3. Once you've borrowed a license, you can run ArcMap while off of the network.



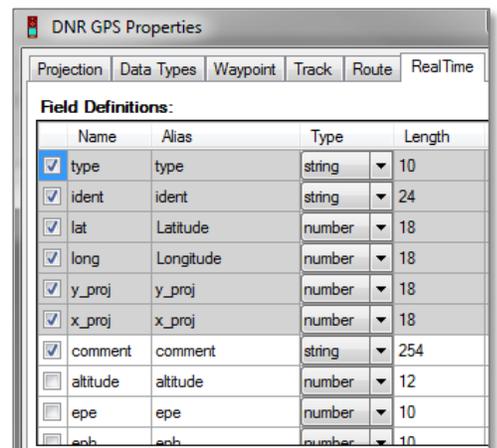
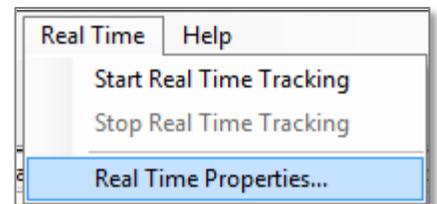
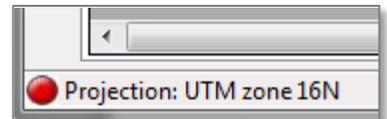
### Setup ArcMap

1. **Open** an *ArcMap project*. If you open a template, be sure to use **File → Save As...** to save a copy of the template with a different name. The particular name and location will depend on your current workflow. For Toolkit, you may be in a customer folder and may not need to rename the project if it is already unique. For other workflows, the location and name will vary.
2. If you are doing this for transect surveys, you can also add a shapefile of the transect points to display within your *ArcMap project*.
3. Zoom out to an extent that covers the region where you are working to collect data.
4. Click **View → Data Frame Properties**. Go to the *Coordinate System* tab. Verify that the current coordinate system is **NAD 1983 UTM Zone 16N**. If this is not the setting, contact the State GIS Coordinator for assistance to update the Coordinate System setting of the map frame.



### Setup DNRGPS

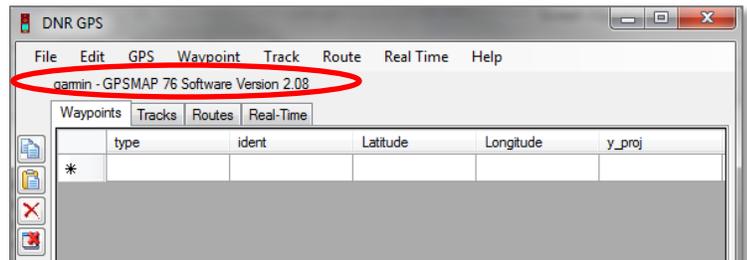
1. Open *DNRGPS*.
2. Confirm the projection in the lower left corner is set to “UTM zone 16N”. If it is at all different, even just with underscores, follow the DNRGPS Setup Guide to set the projection again.
3. Click **Real Time → Real Time Properties**.
4. **Uncheck** all the boxes for the rows that are not greyed out except for, “comment.” Then **click OK** at the bottom of the window.





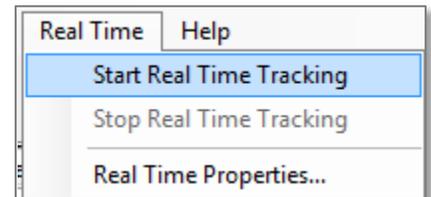
### Acquire GPS Signal and Connect the GPS Unit to the Computer

1. **Turn on** your GPS unit.
2. Acquire satellites with your GPS unit as normal.
3. Once you have good satellite signal, **connect** your GPS unit to the computer. If you are connecting with an Oregon 550 unit, be sure to press **No** for the prompt about Mass Storage on the unit's screen.
4. In *DNRGPS*, click **GPS** → **Find GPS** to get the GPS unit connected to *DNRGPS*.
5. When the unit connects, you will see its name and firmware version shown beneath the row of *DNRGPS* menus.
6. If you need detailed steps or if you are having any trouble making the connection work, please refer to the guide for *Connecting GPS Units to DNRGPS* for additional guidance and troubleshooting on the connection.

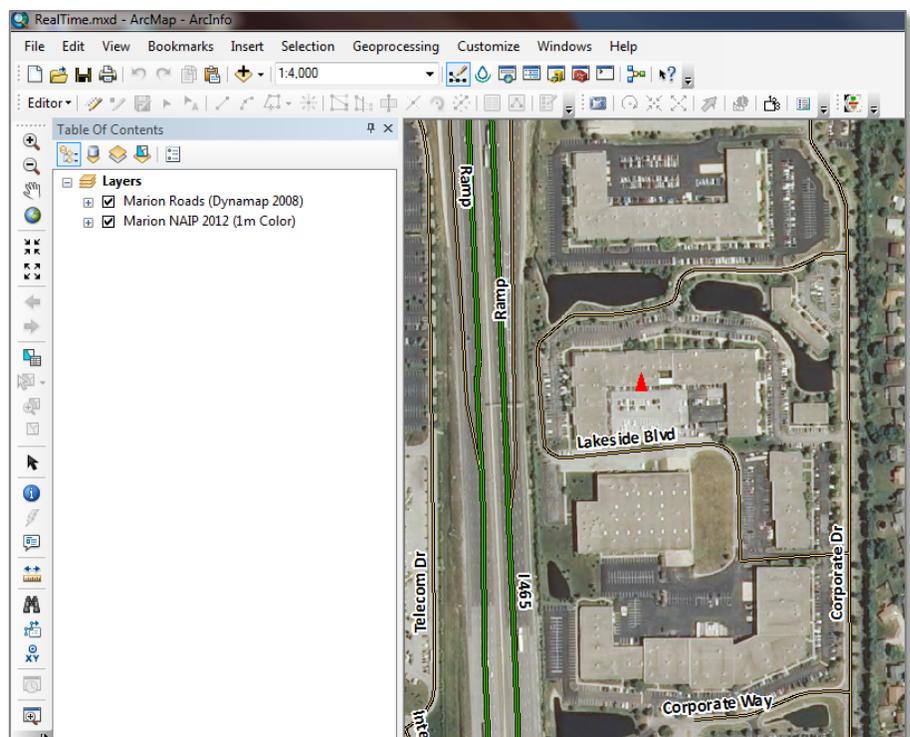


### Start Real Time Tracking

1. In *DNRGPS*, click **Real Time** → **Start Real Time Tracking**.
2. When you start tracking, the *Real Time Window* will open, which allows you to adjust settings for time and distance interval, if needed. If you are just tracking your current position, you do not need to adjust settings in the *Real Time Window*.

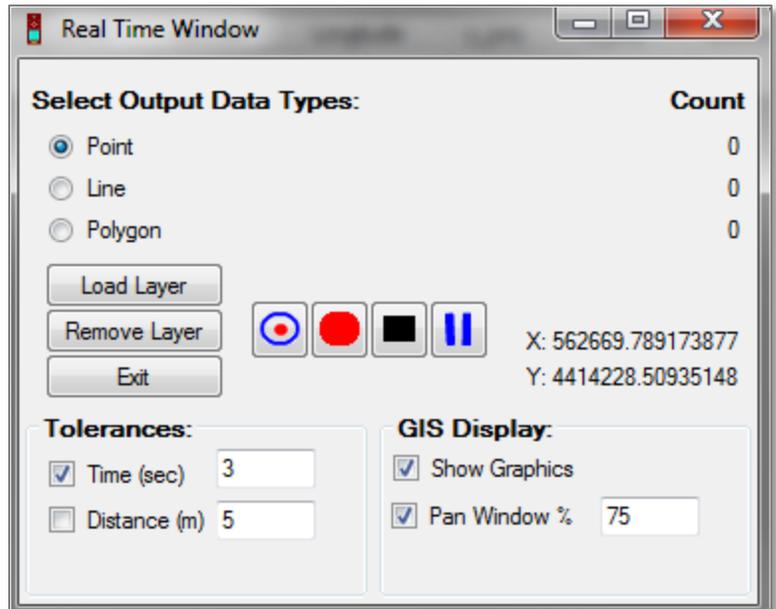


3. After a few moments, a graphic arrow should appear in ArcMap that shows your current position. Within ArcMap, you can adjust your zoom levels in or out as needed to better see your location. As you move, the arrow graphic should move on the map display. The map will also automatically pan to keep your position in frame.



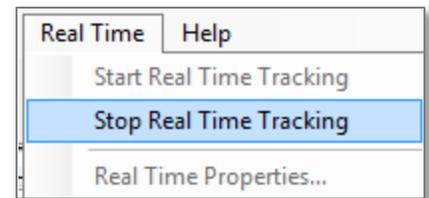


- You can adjust the real time track by changing the time interval or the distance interval in the *Real Time Window*. If you do so, you should probably start your track over by stopping the *Real Time* track, clearing the *DNRGPS Real-Time* table, and then restarting the *Real Time* track. This is only necessary if you are saving your real-time data collections to a file either by live-writing to a file or by saving your results when you are done.



### Stop Real Time Tracking

- In *DNRGPS*, click **Real Time** → **Stop Real Time Tracking**.



### Saving Results

- If you want to save the results of your track, you can use *DNRGPS* to save a file.
- Click the **Real-Time** tab in *DNRGPS* which should also show the number of recorded points.
- Click **File** → **Save To** → **File...**
- Navigate** to a folder on your computer to save the file.
- Change** the file type to *ESRI Shapefile*.
- Name** and **save** the file.

