TRIMBLE GPS PATHFINDER OFFICE

USERS GUIDE

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Illinois Natural History Survey – Wetlands Group

For GPS Pathfinder Office, Version 4.2
When used with Trimble Pro XR or XRS GPS receivers
This manual is designed to provide a step by step guide to downloading, correcting, and exporting GPS data using GPS Pathfinder Office. Words in bold correspond to labels, buttons and options within Pathfinder.

Open GPS Pathfinder Office.

**Select Project**

The **Select Project** dialog window opens at start-up. Setting the project is recommended if you will be working with the GPS data after downloading from the field computer as it automates organization of project data. To proceed without setting a project, close the dialog box.

If you have previously created a project it will be available from the drop down list. Otherwise to create a new project, click the **New** button at the bottom of the dialog window. The **Project Folders** window will open.
Enter a project name in the **Project Name** box. This name is only used within GPS Pathfinder Office on your computer to identify the project.

Click the **Browse** button to the right of the **Project Folder** box to navigate to the desired folder location. Once selected, click the **OK** button. Pathfinder may give a warning message that the folder already exists, click the **Yes** button to disregard this message. Folders called Backup, Export and Base will be automatically created within the selected project folder.

Click the **OK** button when finished with the **Select Project** dialog. The project has now been set.

### Downloading GPS Data

Turn the GPS field computer on and connect it to your computer using a USB cable. If Terra Sync is open on the field computer close the program before continuing.

If using Windows 7, Windows Mobile Device Center will open, select **Connect without setting up your device**.

![Windows Mobile Device Center](image)

If using Windows XP you will need to use Microsoft Active Sync to establish a connection with the field computer.

Return to Pathfinder Office.
From the Utilities drop down menu select Data Transfer.

The Data Transfer window will open.

Check that you are on the Receive tab (circled in red on image below) and click the Add button and select Data File from the drop down list.
The **Open** window will open. If you **did not** create or select a project when you opened Pathfinder Office you will need to select the destination folder for your files. If you did create or select a project a project then the **Destination** folder will be automatically set to the designated project folder. Select the project's GPS files to download and click the **Open** button. Multiple files can be selected by holding the control key while selecting.

Click the **Transfer All** button on the **Data Transfer** window. It may take a few moments to transfer all the data. A dialog window will open once the data has transferred successfully. Click the **Close** button to close the window. Click the **Close** button to close the **Data Transfer** window.

The GPS files have been successfully downloaded.
Correcting GPS Data

Although the GPS units are capable of performing real time differential corrections the accuracy of field collected data can be improved by post processing the data in the office.

Select Differential Correction from the Utilities drop down menu.

The Differential Correction Wizard will open. If you are performing this step after downloading data then the GPS file will be automatically added to the wizard. Otherwise you will need to click the add data button (circled in red in image below) to add the projects GPS file. You should only correct data for one project at a time. Once you have all GPS files added to the list click the Next button to continue.
From the next window in the wizard under **Processing Type** select **Automatic Carrier and Code Processing**. Click the **Next** button to continue.

On the next window in the wizard you should not need to make any changes. If the options selected do not match the image click the **Change** button to make changes.
In the next step of the wizard you will select the base station to be used to perform the correction. Click the Select button to the right of Base Provider Search (circled in red).

On the Select Base Provider window, begin by clicking the Update List button. This will refresh the list with the current status of the base stations. The window shows a list of base stations, the distance of stations from the project, and an integrity index. You should select the base station closest to the project with an integrity index greater than 85. Once you have selected the base station click the OK button.
The base station you selected should now appear in the box under **Base Provider Search** and in the box under **Use reference position from base provider**. The button to the left of **Use reference position from base provider** should be selected and the box to the left of **Confirm base data and position before processing** should be checked. Click **Next** to continue.

On the next window of the wizard the **Use the project folder** and **Create a unique filename based on the input file name** options should be selected. Click **Start** to continue.
It may take several minutes for the base station data to be downloaded. Check that you have 100% total coverage as shown in the image below. If you have 100% coverage, click the **Confirm** button to continue. If you do not have 100% coverage, go back and select a different base station.

![Differential Correction Wizard]

It may take several minutes for the GPS data to be corrected. Once completed click the **Close** button to exit the wizard, the data has been successfully corrected.

![Differential Correction Summary]
Exporting Data to ArcMap

Select Export from the Utilities drop down menu.

The Export window opens. If you have just corrected the GPS file then the corrected file will be automatically selected, otherwise click the Browse button to find your file. Uncorrected GPS files have the file extension 'ssf', differentially corrected GPS files will have the file extension 'cor'. If you selected or created a project when you started Pathfinder then the output folder will be automatically set to the Export folder within the project folder that you designated. If not click the Browse button to select the output folder where your shapefiles will be saved.

If this is your first time exporting data click the New button at the bottom of the window. If you have previously created and export setup you can select it from the Choose an Export Setup drop down list.
The **New Setup** window opens. You will need to name your setup, it is recommended that you identify it as a shapefile and specify the projection used. Select the button to the left of **New setup** and select **ESRI Shapefile** from the drop down list. Click the **OK** button to continue.

The **Export Setup Properties** window opens. On the 'Coordinate System' tab select the button next to **Use Export Coordinate System** and then click the **Change** button.

The **Export** window opens. You will need to set the **System**, **Zone** and **Datum** parameters. Most often the **System** will be **US State Plane 1983**, the **Zone** will be **Illinois East 1201** or **Illinois West 1202**, and the **Datum** will be **NAD 1983 (Conus)**. Refer to a map of Illinois UTM zones to determine if the project is located in zone 15 or 16. For UTM the **Coordinate Units** and **Altitude Units** should both be set to **US Survey Feet**. Click the **OK** button to accept changes and close the window.
Back on the **Coordinate System** tab of the **Export Setup Properties** you will need to set the **Projection File**. Click the **Browse** button to navigate to the folder containing the ESRI projection files. These are most likely found in: \Program Files (x86)\ArcGIS\Desktop10.0\Coordinate Systems\Projected Coordinate Systems. Select the projection file corresponding to the coordinate system selected in the previous step.

On the **Data** tab: for **Type of Data to Export**, select **Features - Positions and Attributes** and set the drop down list to **Export All Features**
If GPS data has been differentially corrected: on the Position Filter tab, select **Filter by GPS Position Info**. In the **Include Positions That Are** portion of the window, all boxes should be checked except for **Uncorrected**. If the GPS data has not been differentially corrected this step may exclude some positions if a correction signal was lost while in the field. Click the **OK** button to finish and close the window.
The newly created export setup should be listed in the **Choose an Export Setup** drop down list. Click the **OK** button to export the GPS data. A new window will open to notify you that the export has been completed. Click the **Close** button.

![Export Completed](image)

You are now finished and can exit Pathfinder Office.