Exercise 2 - Differentially Correcting ArcPad Exchange Files (AXF) using Pathfinder Office

Session Objectives – At the conclusion of this session you will be able to:

- ❑ Perform differential correction in Pathfinder Office
- ❑ Run ShapeCorrect to post-process AXF files

Material Created By: Todd Sutherland (April 2005)

Revision: Eric Kelchlin, January 2012

Software: Pathfinder Office Professional 5.10

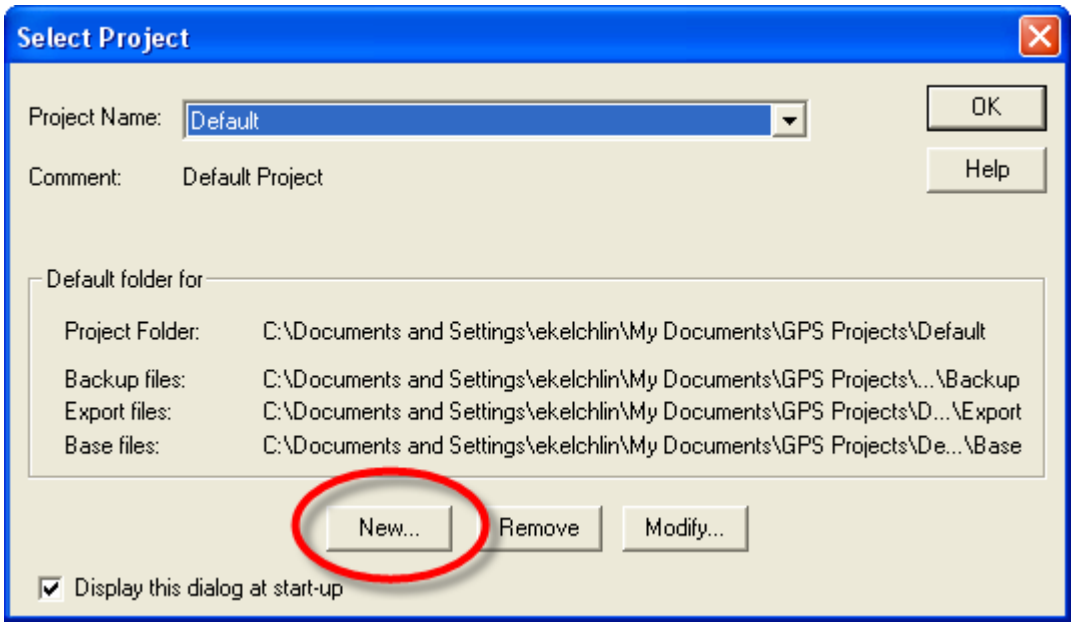
Directory Path: D:\CSP7301\Exercise1 *and* Corrected_Data

Base Stations: _____

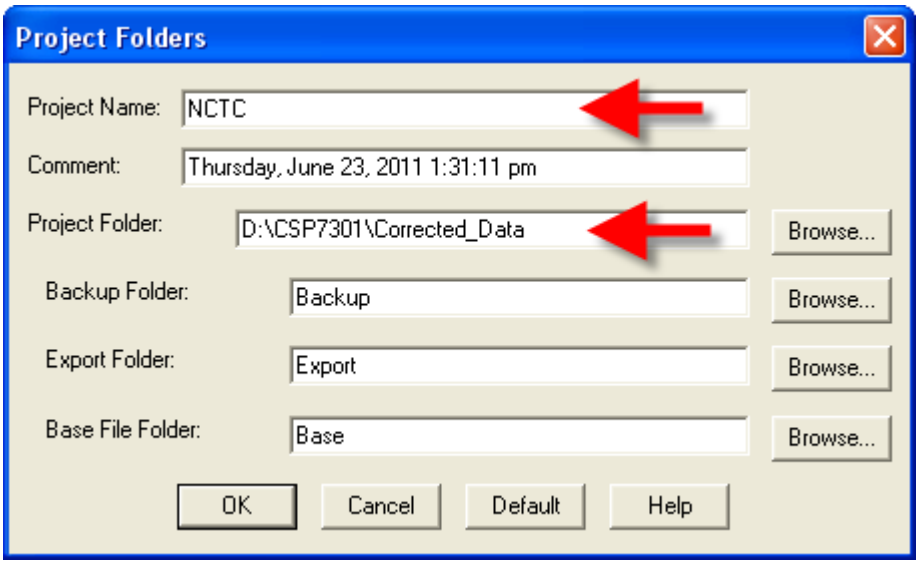
SECTION 1 – Setup Pathfinder Office

1. Open Pathfinder Office .

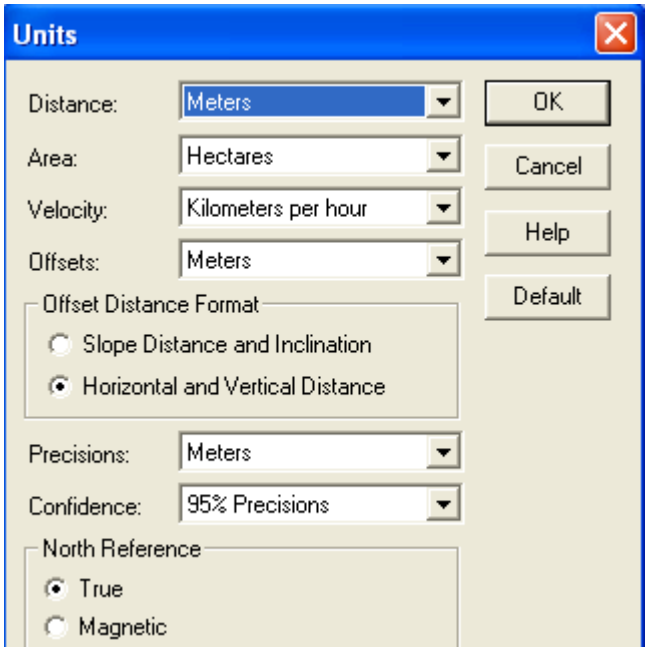
2. Click **New** on the **Select Project** dialog.



3. Name the project **NCTC** and save it in the **D:\CSP7301\Corrected_Data** project folder. Click **OK** twice.



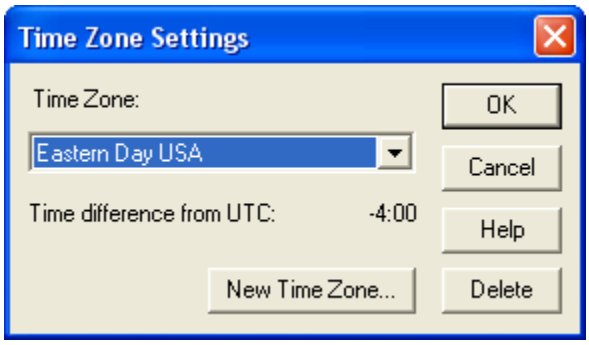
4. Before we work with our GPS data we need make sure our settings are correct. Click on the **Options** button on the main menu and select **Units**. Set all units as shown below.



5. Click on the **Options** button again and select **Coordinate System**. Set your coordinate system to what_____?

6. Change the altitude reference to **Height Above Ellipsoid (HAE)**.

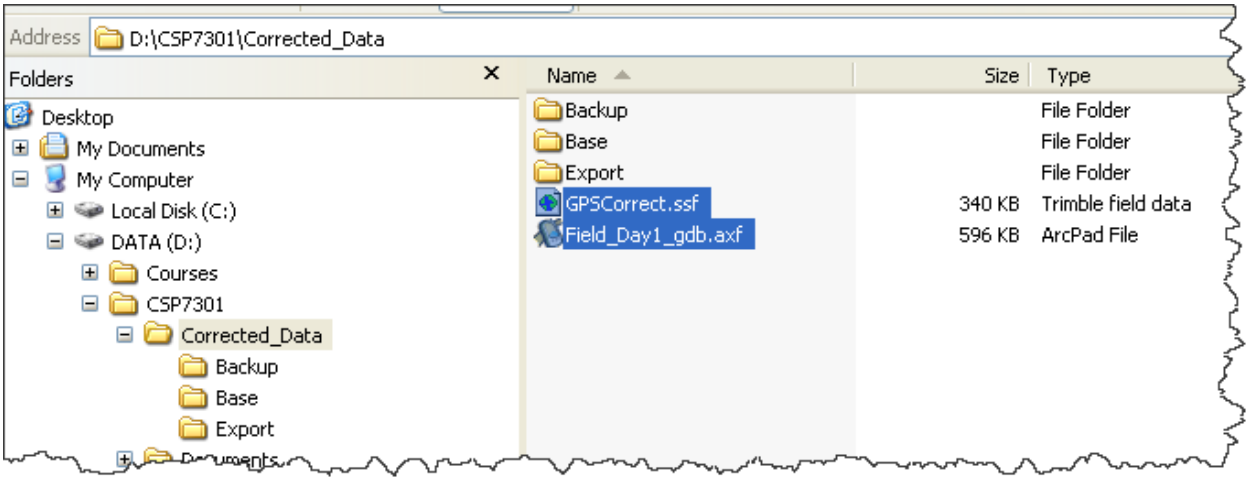
7. Click **Options** one more time and select **Time Zone**. Change the Time Zone to ***Eastern Day USA*** as shown below. Type "E" in the list to find it quickly. Click **OK**.



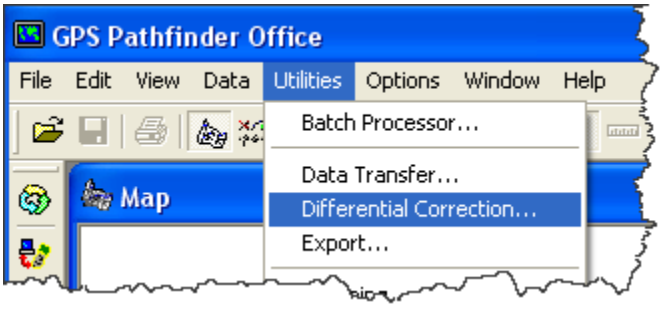
8. Minimize Pathfinder Office.

SECTION 2 – File Transfer and Differential Correction

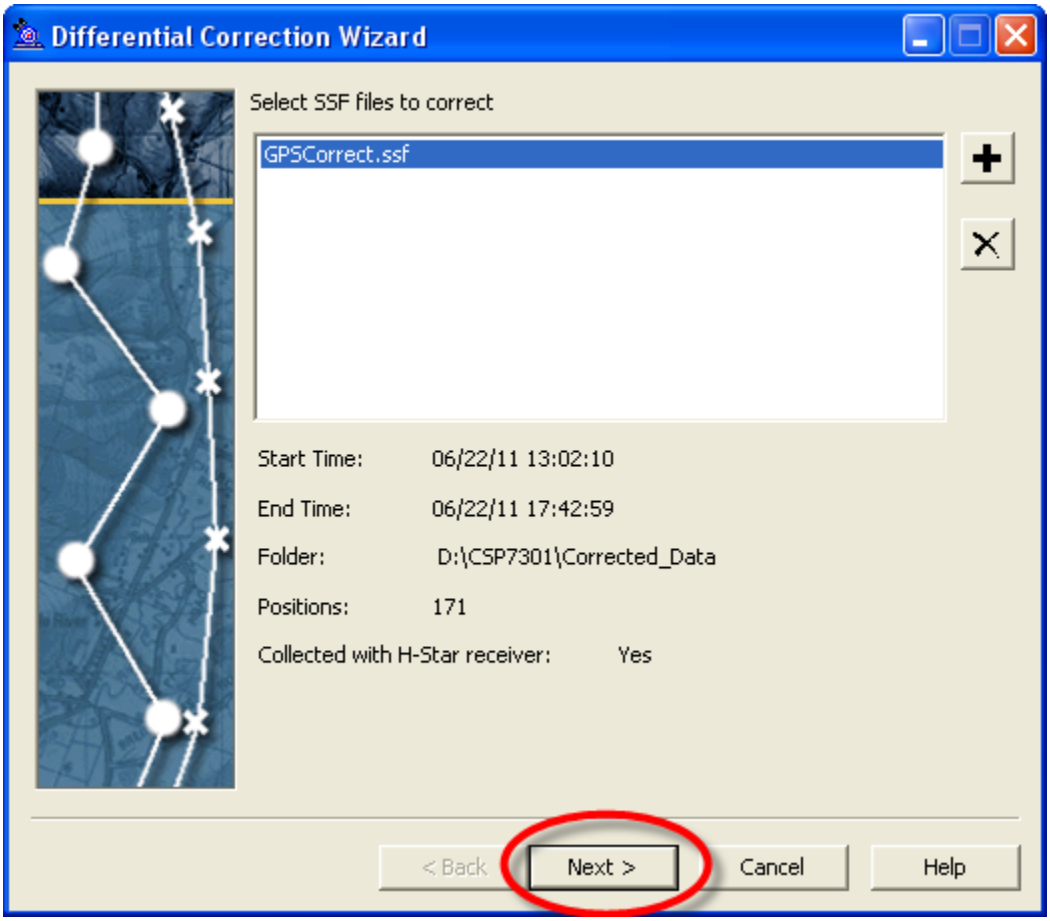
1. Using ActiveSync, copy the **GPSCorrect.ssf** and the **Field_Day1_gdb.axf** file from your ArcPad Project folder and paste in the **Corrected_Data** folder.



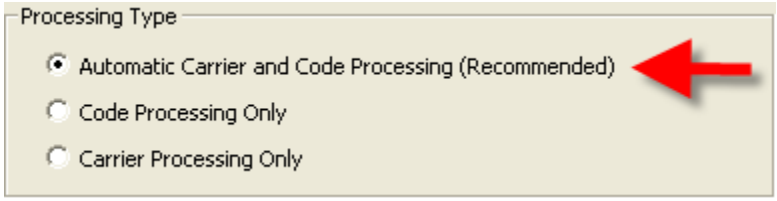
2. From the Pathfinder Office **Utilities** menu, choose **Differential Correction.**

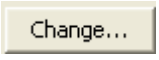


3. Click on the browse button and select the **GPSCorrect.ssf** file. This is the default file name for all GPSCorrect rover files. Click **Open** and **Next**. Note: You can select more than one .ssf file for differential correction.



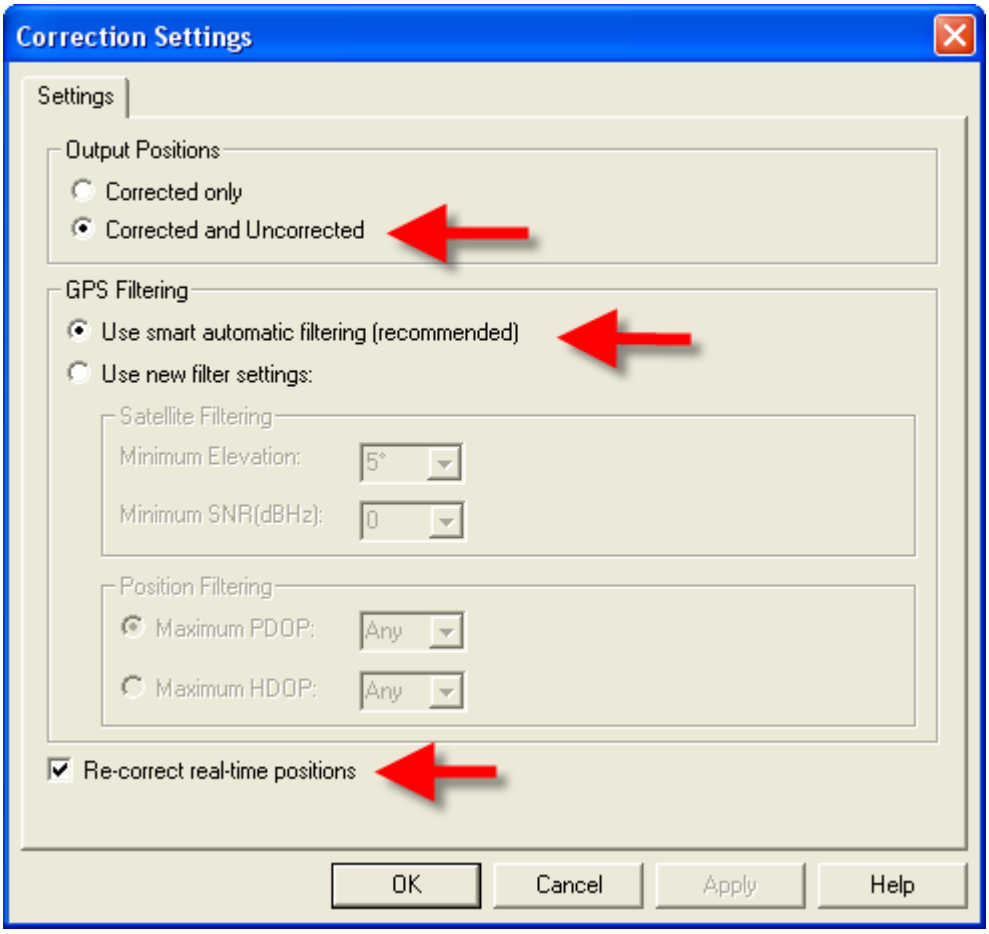
4. Ensure that the Automatic Carrier and Code Processing are checked. Click **Next**.



5. Click the **Change** 

button on the **Correction Settings** dialog.

6. Establish the following setting in the **Settings** tab. Make sure to check the box to Re-correct real-time positions.



7. Click **Apply**, and then **OK** to accept any changes and return to the **Differential Correction Wizard** dialog.

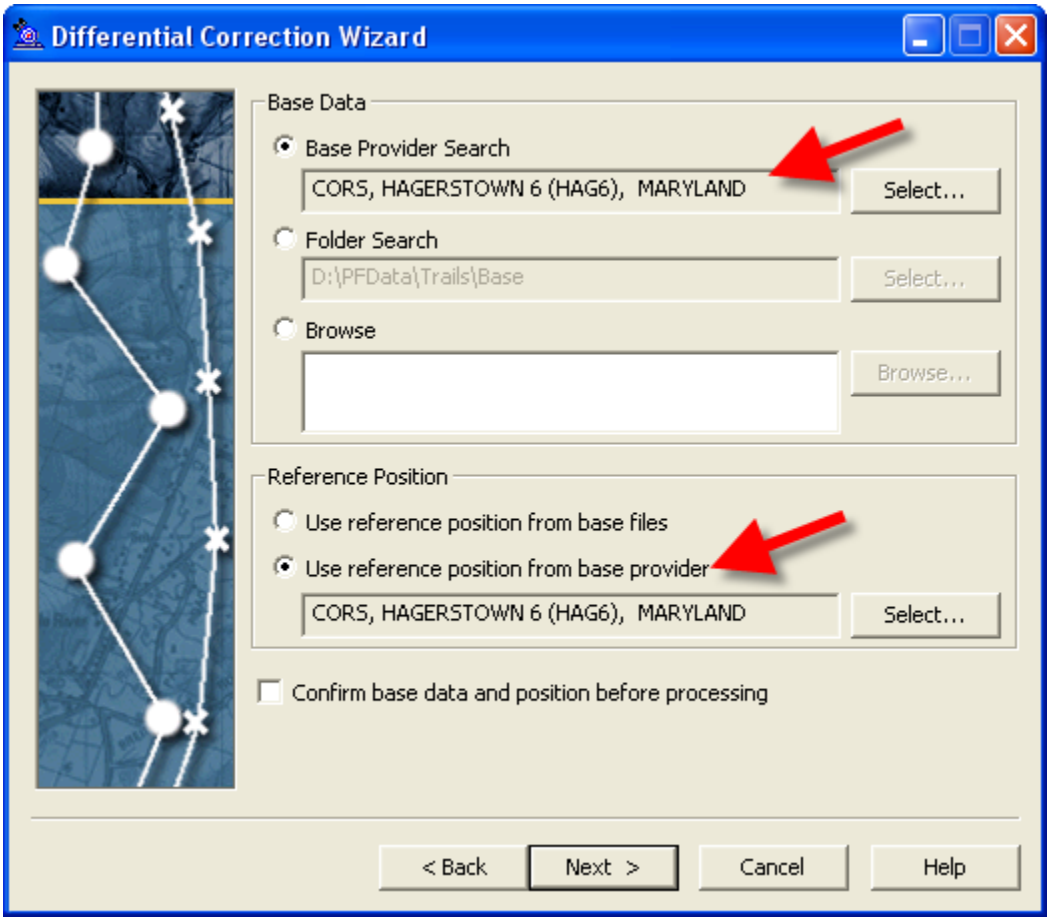
8. Click **Next** to go to the **Base Provider** dialog.

9. Click the **Select**. [Select...] button.

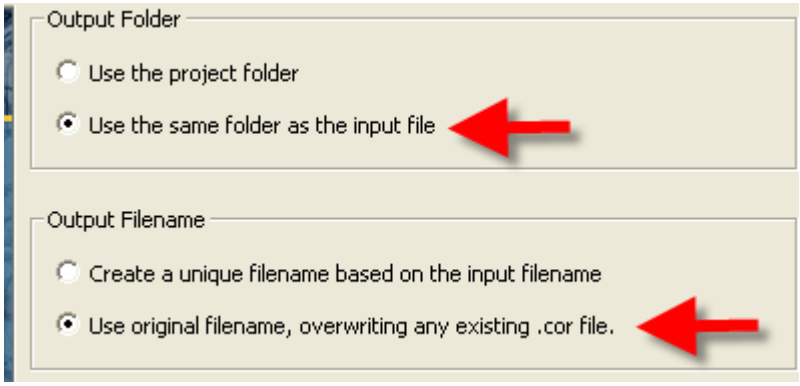
10. Click the **Update List** [Update List] button to download a list of base providers.

11. After the download is complete, select the closest or most reliable base station. For NCTC, this is HAG6. What will you be using_____?

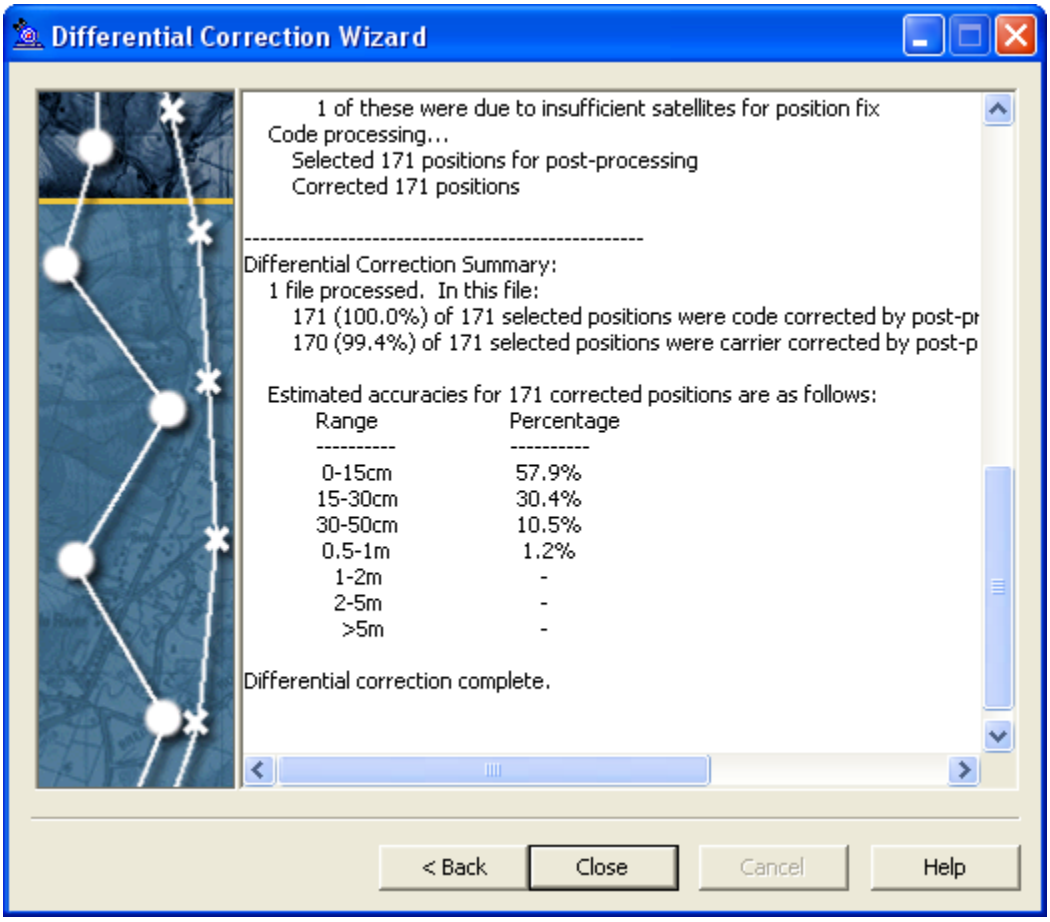
12. Also, make sure to use the reference position from the base provider. See the example on the next page.



13. Click **Next.** Ensure that you're settings for **output folder** and **filename** matches the screen below.



14. Click the [Start] button at the bottom of the dialog. You are notified of the processing results. You should have 100% of the positions code corrected. If not 100%, try a different base station or wait and try again latter. Generally, a base station will post the data on their server 10 minutes after each hour, but some wait as long a day to post the data. System wide outages can also occur. Visit http://www.ngs.noaa.gov/CORS/ to check the status of all CORS base stations.



15. Highlight the text in the Differential Correction Window. Copy (Ctrl C) and Paste (Ctrl V) the text into a word document. Save the document in the Exercise 1 folder. We'll be using all this great GPS metadata in the metadata exercise.

16. Click **Confirm** and [Close].

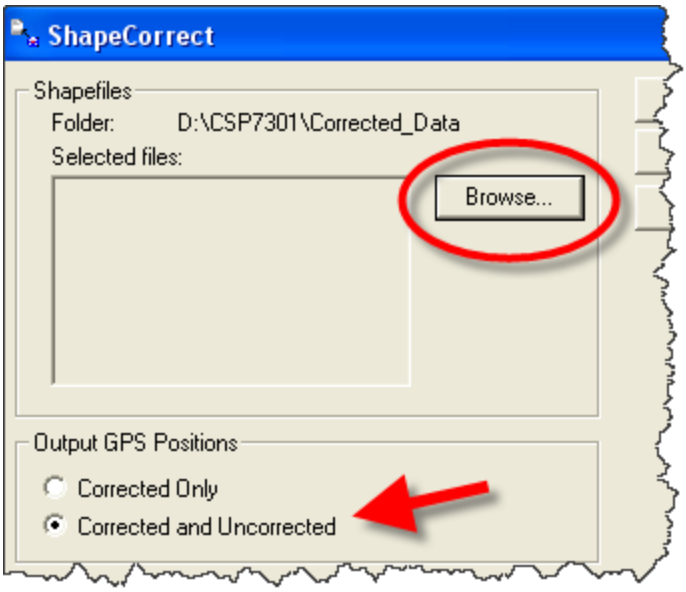
    Note: not all base stations are created equal! You need to find the most reliable and accurate station near you field site, which requires testing over a survey monument to be sure. If your data is WAAS corrected, you may not need to post-process your data. Data collected with sub-meter GPS units that utilize the L1 and/or L2 frequencies benefit the most with post-processing.

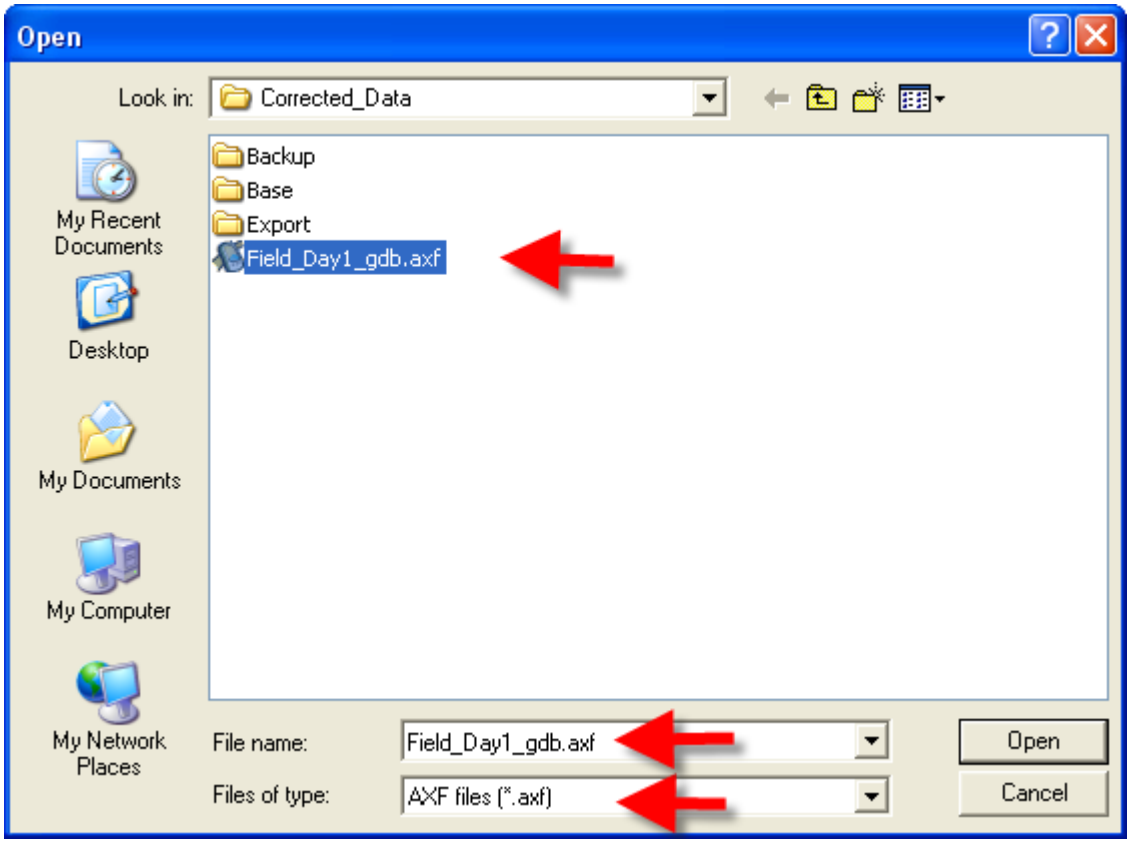
SECTION 3 – Run ShapeCorrect

1. From the Pathfinder Office main menu select **Utilities > Other > ShapeCorrect**.

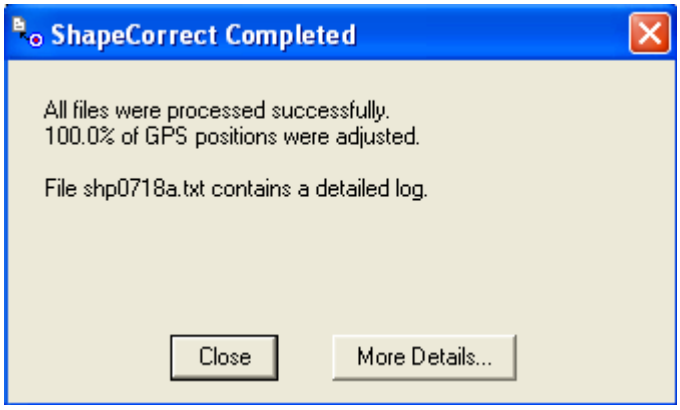
2. Choose **Corrected and Uncorrected** for output GPS Positions. Click the **browse** button.

3. Change the File Type to **.AXF files**. Select your file and click **Open** and **OK**.

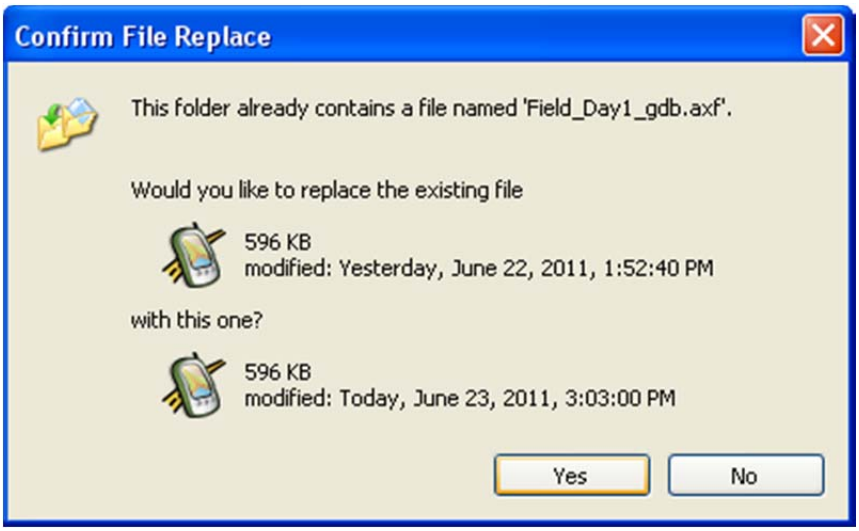




4. You are notified with the results of your operation. If problems were encountered check the More Details button to view the log. Click **Close**.



5. **Important step→** using ActiveSync, navigate to the **Corrected_Data folder**, copy the .axf file and paste back into the **Exercise1\ "your gps project folder"**. Replace the file.



6. Open your project mxd in ArcMap. Start an editing session and Check In the data as before. Refer to Exercise 1 if you need a refresher.