

## Exporting GPS Features to ARC/INFO Coverages

(Revised 5/31/00 by Annette Fredette)

These step-by-step instructions are specifically designed for use on the Gila National Forest. They are for bringing GPS data into ARC/INFO. The primary purpose for doing so is to include your data in the corporate GIS database, as new or replacement data in forest-wide coverages. This allows your GPS data to be used by others and eliminates the need for someone else to re-collect GPS data because they don't know it has already been collected, saving time and money.

In order for GPS data to be used in these coverages, it must meet certain minimum standards. It must have been collected using the recommended critical settings for the datalogger (see Dave Wiest for the GeoExplorer Configuration Instructions) and be differentially corrected and edited. It is preferable to use the new Pathfinder Office software rather than PFINDER. To maintain the quality of the corporate GIS database, it is very important that you let the appropriate resource data steward and the Forest GIS Coordinator know if you are submitting data either collected with different critical settings on the datalogger or exported with different settings than those enumerated here!

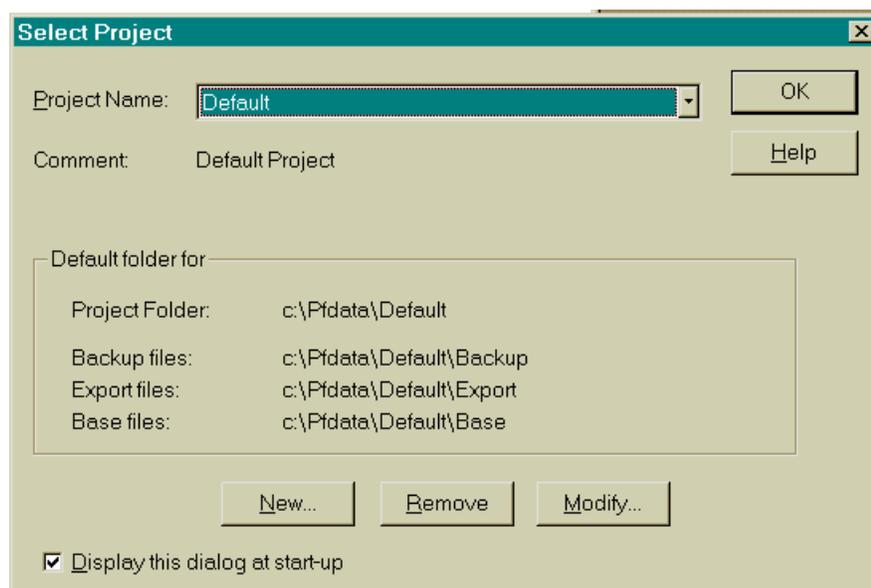
### Make directory for exported GPS files

If it doesn't exist already, you need to create a directory for exported GPS files. This directory needs to be an ARC/INFO workspace, so it needs to be created in ARC, with the createworkspace command: `cw /fsfiles/unit/<district name>/gis/gps/cor_files`.

### Create .arc file in your home space

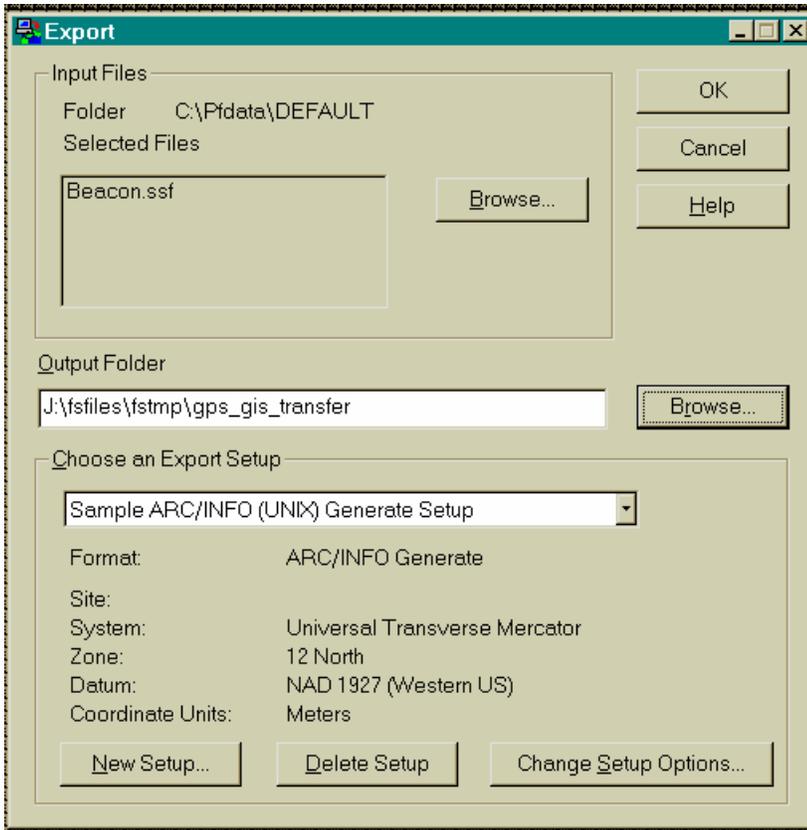
You also need to have a .arc file in your home space. If you don't have one yet, copy the sample.arc file from /fsapps/fsother/gis/officetoolset/aml to your home space by opening an AIX terminal window and typing the following commands: `cd /fsapps/fsother/gis/officetoolset/aml`  
`cp sample.arc /fsfiles/unit/<district name>/home/<your name>/.arc`

### Export corrected and edited GPS files in Pathfinder Office



Open **Pathfinder Office** and select the **Project** containing the .cor files to be exported.

Click **Utilities – Export...** on the **Pathfinder Office** menu bar.



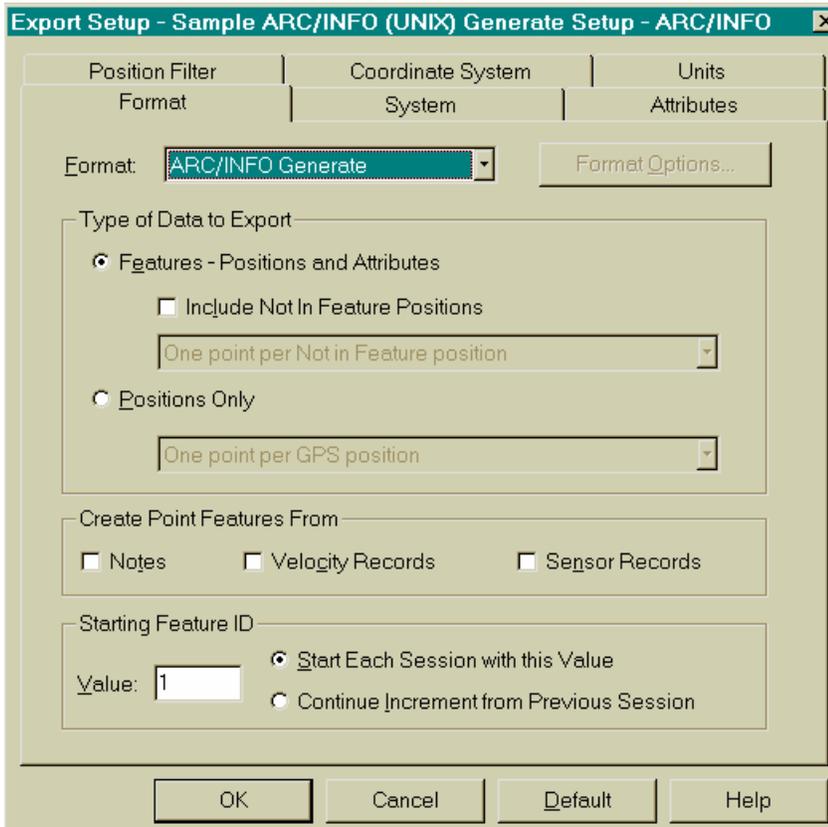
Under **Input Files**, use the **Browse** button to select the .cor files for export.

Under **Output Folder**, type in the name or use the **Browse** button to identify the directory/ARC workspace you created for exported files, i.e. /fsfiles/unit/<district name>/gis/gps/cor\_files).

Under **Choose an Export Setup**, select **ARC/INFO (UNIX) Generate Setup**.

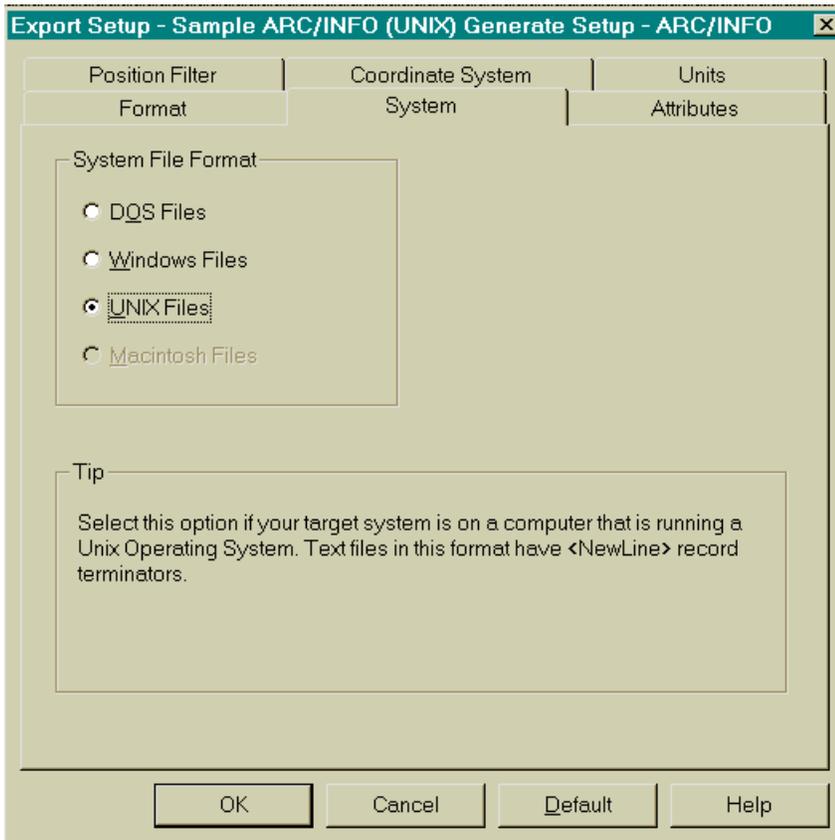
Click **Change Setup Options...**

Set the 6 export tabs as follows.

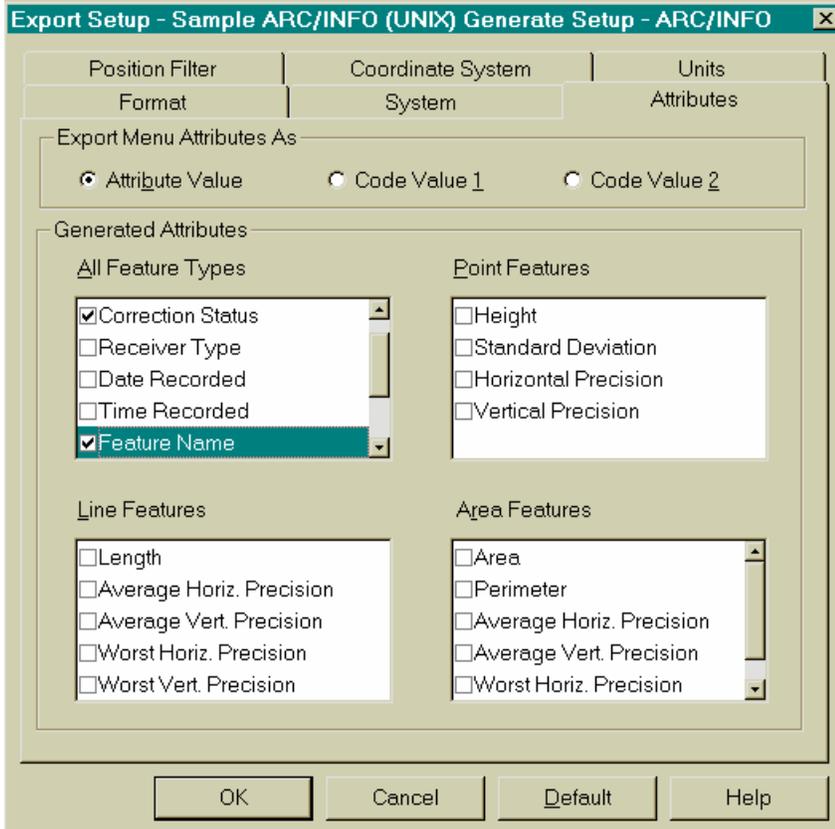


On the **Format** tab, under **Format**, select **ARC/INFO Generate**.

Under **Type of Data to Export**, select **Features – Positions and Attributes**.

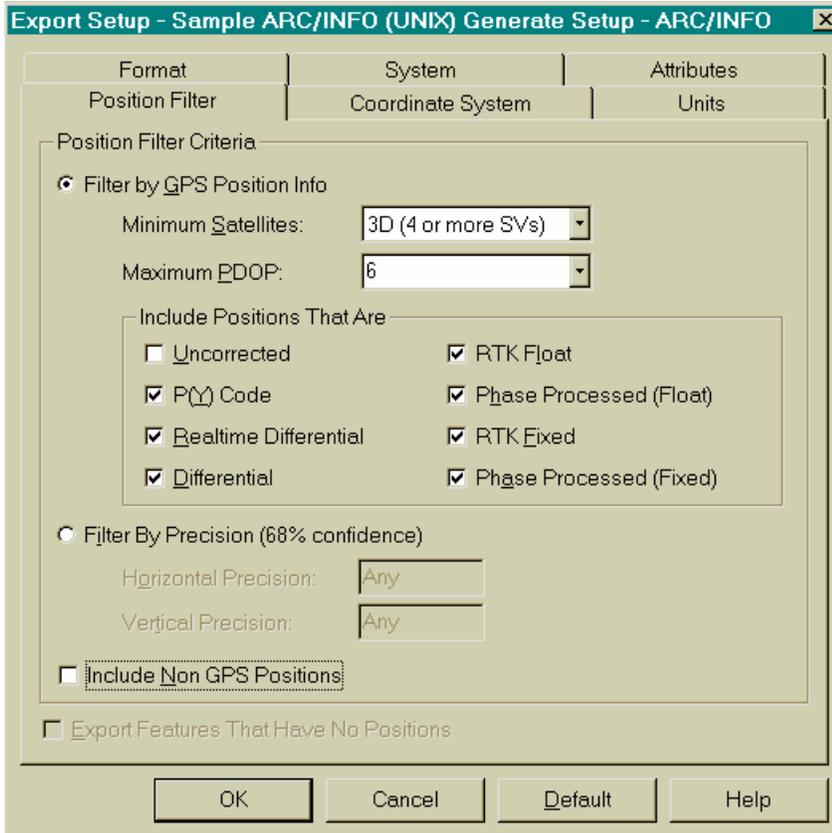


On the **System** tab, under **System File Format**, select **UNIX Files**.

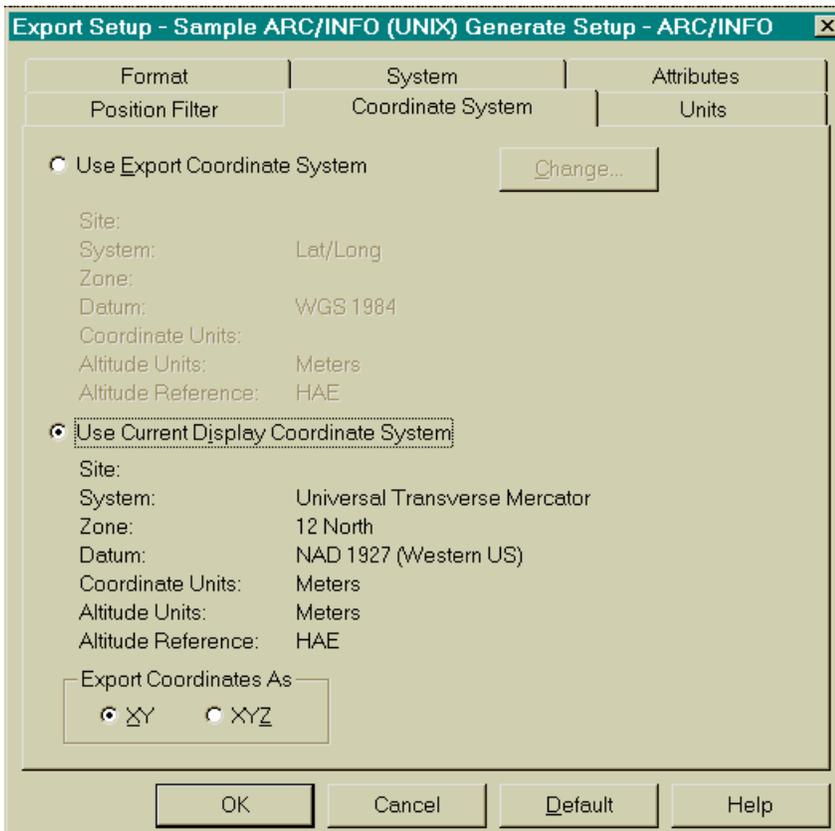


On the **Attributes** tab, under **Export Menu Attributes As**, select **Attribute Value**.

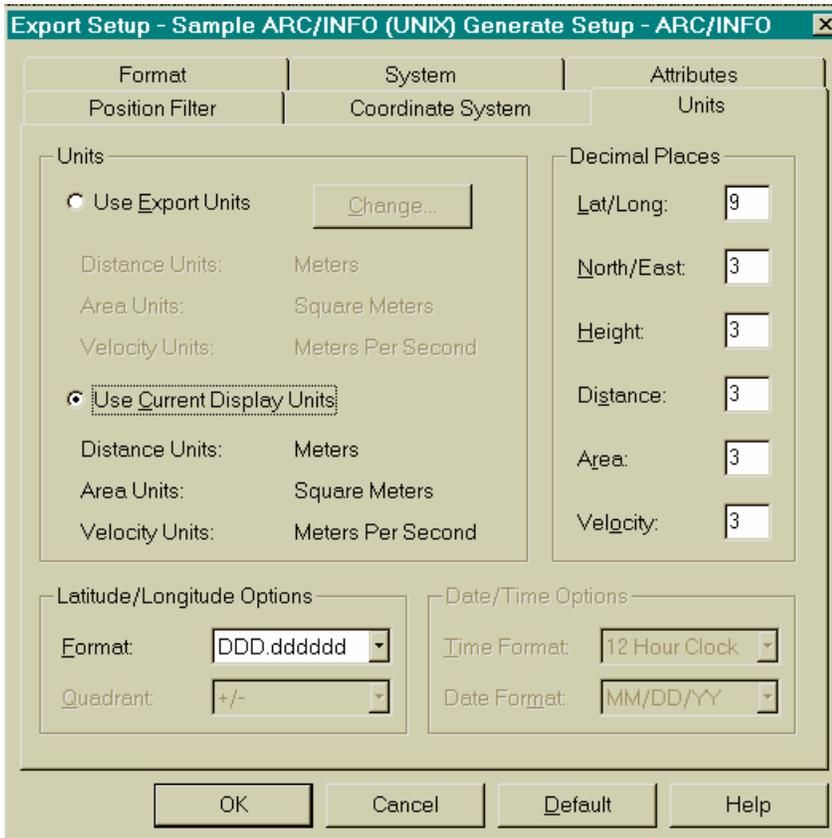
Under **Generated Attributes**, select **Correction Status** and **Feature Name**.



On the **Position Filter** tab, under **Position Filter Criteria**, select **Filter by GPS Position Info**, **3D (4 or more SVs)** for **Minimum Satellites**, and **6** for **Maximum PDOP**. For **Include Positions That Are**, check all boxes except **Uncorrected**.

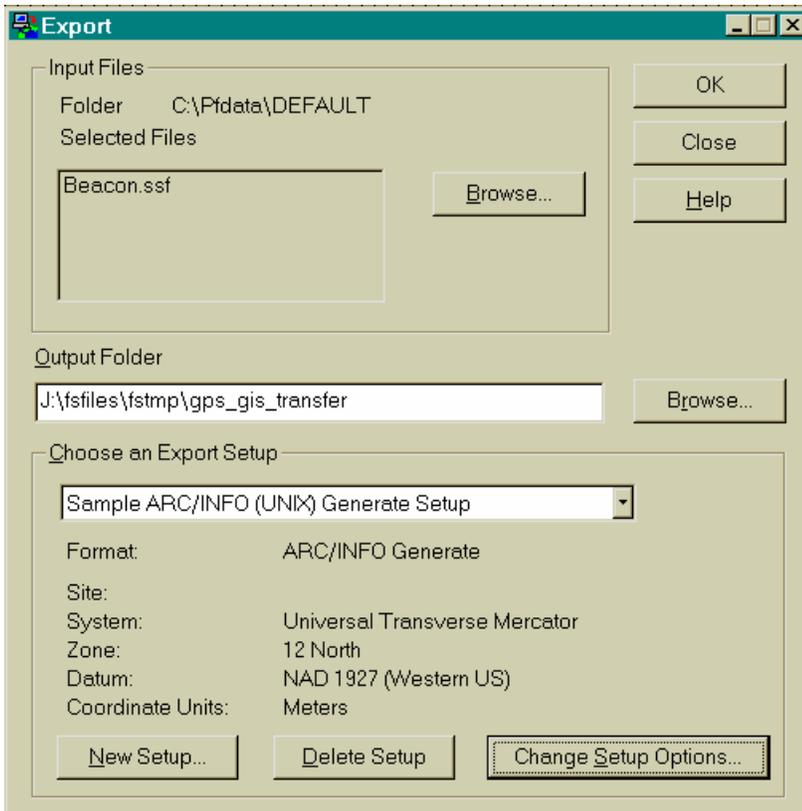


On the **Coordinate System** tab, settings should be: **Universal Transverse Mercator**, **12 North**, **NAD 1927 (Western US)**, **Meters**, **Meters**, and **HAE**. Change if necessary by selecting **Export Coordinate System** and **Change**.



On the **Units** tab, settings should be Meters, Square Meters, and Meters Per Second. If not, change these units by selecting **Use Export Units** and **Change**.

Click **OK** to return to the **Export** form.



Click **OK** when all **Setup Options** are set.



A progress bar appears tracking the status of the export process. When the export is complete, an **Export Completed** window appears.

### Move exported files to IBM via network, FTPing, or diskette (if necessary)

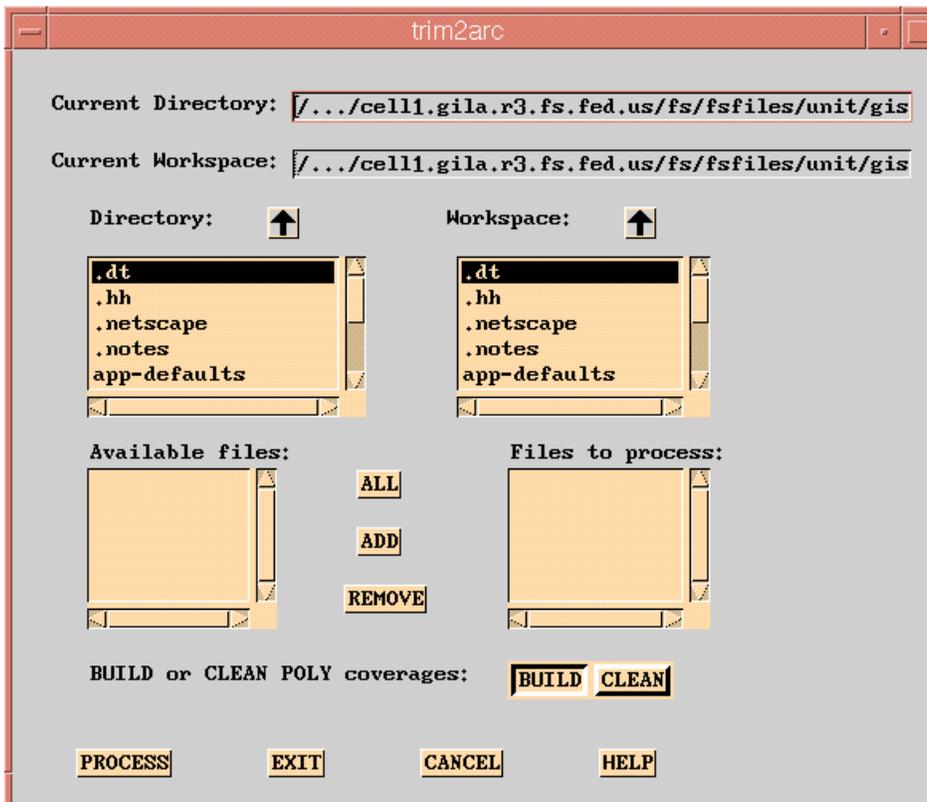
If your PC is networked, you can set up Pathfinder Office to export directly to your IBM directory (see Pathfinder Office instructions above).

Several export-related files are generated for each GPS feature in your data dictionary. These files are automatically directed to the Output Folder (the directory/ARC workspace you created for exported files, i.e. /fsfiles/unit/<district name>/gis/gps/cor\_files) you selected during the Export setup process in Pathfinder Office. Make sure you get all the files for your exported GPS file that have the following extensions: .aa, .aml, .gen, .inf, .pa, and .pts. The .inf file will have the same name as the GPS file you exported. The other files will be named after the feature name(s) they contain. Export GPS files one at a time to avoid additional confusion here! Also, it is advisable to process polygon coverages (area features) separately from line and point coverages.

### Run aml to convert exported GPS files into ARC/INFO coverages

On IBM: make sure you are in the subdirectory/workspace containing the GPS-exported files (/fsfiles/unit/<district name>/gis/gps/cor\_files).

In ARC/INFO: &run trim2arc init



In pop-up window, select files by highlighting them in **Available files:** list and click **ADD** button to write each to **Files to process:** list. Select all of the files except the .inf file.

If you want to put coverages in a different directory, select a new workspace under **Workspace:** (click Up Arrow button to move up one directory level).

Make sure the **BUILD** button is depressed, not the **CLEAN** button. Click **PROCESS** button. When finished, click **EXIT** button.

If you get an error message when processing a polygon coverage (area features) saying the BUILD didn't work, let the GIS shop know.

### Rename files and clean out cor\_files subdirectory

Created coverage(s) will have the same name as their .aml files.

In ARC/INFO, in workspace containing coverages:

- lc (lists coverages)
- rename <old coverage name> <new coverage name>
- w /fsfiles/unit/<district name>/fs/gps/cor\_files (changes workspace)
- rm \*.aa \*.aml \*.gen \*.pa \*.pts

### Make coverage(s) available to the GIS shop

In ARC/INFO, in workspace containing coverages, copy coverage(s) to the transfer directory and open the permissions on both the coverage(s) and the info directory:

- chmod -R o+rx <coverage name> (repeat this step for each coverage)
- chmod -R o+rx info
- copy <coverage name> /fsfiles/fstmp/gps\_gis\_transfer/<coverage name>

Let the GIS shop know what you have available. Send a message to Annette Fredette giving the name(s) of the coverage(s) available, a description of the data, and what you would like done with it, i.e. what data layer or forest-wide coverage you feel it should go in. If you got an error message when processing a polygon coverage (area features) saying the BUILD didn't work, make sure to let the GIS shop know.

**PLEASE!!!** GPS equipment and software are expensive, as are the collection and processing of GPS data. Avoid turning your GPS labors into “throw-away data” by:

- Using the recommended critical settings on your datalogger
- Using a data dictionary to attribute GPS features in the field
- Organizing, documenting, and archiving your GPS files
- Having your GIS Coordinator incorporate your GPS data into forest-wide GIS coverages so it can be shared with others