

**I. To Convert From Oregon State Plane North (ft) to UTM (m)**

Start ArcView - Open a New View

File- Extensions - check the Projection Utility Wizard box

File - ArcView Projection Utility (cancel any PC needs to install WordPerfect 2000)

**WARNING:** even under the best of circumstances the projection utility extension is relatively slow to process, be patient and wait for all actions-responses to be completed

Select the shape files you wish to reproject (use the browse button to find your data folders / files) (once you've selected your file(s) wait for ArcView to maneuver the network and place the file on the list) -- NOTE: you can reproject single or multiple files, but remember that all have to be in the same original projection!

click the next button

What is the current coordinate system? - Dialogue Box

- Make sure you have the "Show Advanced Option" box checked

-click on the "name" folder tab

-click the "projected" radio button in the Coordinate System Type box

- from the "Name" pull down list, find and select the "NAD\_1983\_Oregon\_North (32126)" projection from the list

-from the units pull down list, select the "Foot\_US (9003)" option

-click on the "parameters" folder tab, examine the default parameters and compare to the metadata that you were given, familiarize yourself with the types of projection parameters used.

-click on the "datum" tab, in the geographic transformation box, set the transformation to "NAD\_1983 to NAD\_1927". (Remember: we are going from NAD1983 in OR State Plane North to NAD1927 in the UTM system)

-click on the "ellipsoid" tab, familiarize yourself with the ellipsoid data

click on the next button, you should now move to the following dialogue box: "select the new coordinate system for your shape files"

-click on the "projected" radio button, make sure that the "show advanced option" box is checked

- choose the "NAD\_1927\_UTM\_Zone\_10N (26710)" option from the names list

-set the units to "meter (9001)"

-click on the parameters tab, familiarize yourself with the projection parameters and compare to your metadata for the UTM projection

-click on the datum tab, note that the Geographic Transformation box is grayed out, you have already specified to transform from the NAD\_1983 to NAD\_1927 datum in the previous dialogue box

-click on the ellipsoid tab, familiarize yourself with the data

-click on the next button, you will now be asked to browse to the folder where you want the new file to be saved, and asked to give it a new name - remember, if you use the same name for the output shape file, you will overwrite the original, don't do that!

-click the next button (this may take a while to process as ArcView navigates the WOU network drives)

-You should now see a summary window, explaining the projection criteria that you have specified. Check all of the information and make sure that you have not made a mistake.

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You should see something like the following in the dialogue window:

Input directory and file name(s):

h:\taylors\projection data  
roads.shp

Input Coordinate System:

Name: Custom  
POSC: -1  
Unit: Foot\_US  
Geographic CSYS: GCS\_North\_American\_1983  
Datum: D\_North\_American\_1983  
Prime Meridian: Greenwich  
False Easting: 8202083.33333333  
False Northing: 0  
Base Projection: Lambert\_Conformal\_Conic  
Central\_Meridian: -120.5  
Central\_Parallel: 43.6666666666667  
Standard\_Parallel\_1: 44.3333333333333  
Standard\_Parallel\_2: 46.0

Input Geographic Transformation:

NAD\_1983\_To\_NAD\_1927\_NADCON [108001]

Output Geographic Transformation:

none

#### Output Coordinate System:

Name: NAD\_1927\_UTM\_Zone\_10N  
POSC: 26710  
Unit: Meter  
Geographic CSYS: GCS\_North\_American\_1927  
Datum: D\_North\_American\_1927  
Prime Meridian: Greenwich  
False Easting: 500000  
False Northing: 0  
Base Projection: Transverse\_Mercator  
Central\_Meridian: -123.0  
Central\_Parallel: 0.0  
Scale\_Factor: 0.9996

#### Output directory and/or file name(s):

h:\taylors\projection data  
road\_utm.shp

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- click "Finish" to complete the transformation (NOTE: the arc projection box will disappear from your screen, but it takes a while to process, after many seconds, or minutes(?) you will see and "arcview projection progress" window pop-up. The window will tell you when the shape files have finished processing)

When you see the dialogue Box "do you want to add your projected data" - if you click yes, the new reprojected shape file will be added to your view.

Final Check: overlay the reprojected layer on top of the USGS DRG (which is in UTM), the layers should now properly align with one another in georeference space.

## **II. To Convert from UTM (m) to Oregon State Plane North (ft)**

Follow the directions in section I above in reverse. Pay attention to your metadata and class notes on the projection parameters of each.

## **III. To Convert From Custom Oregon Lambert (ft) to UTM (m)**

Start ArcView - Open a New View

File- Extensions - check the Projection Utility Wizard box

File - ArcView Projection Utility (cancel any PC needs to install WordPerfect 2000)

WARNING: even under the best of circumstances the projection utility extension is relatively slow to process, be patient and wait for all actions-responses to be completed

Select the shape files you wish to reproject (use the browse button to find your data folders / files) (once you've selected your file(s) wait for ArcView to maneuver the network and place the file on the list) -- NOTE: you can reproject single or multiple files, but remember that all have to be in the same original projection!

click the next button

What is the current coordinate system? - Dialogue Box

- Make sure you have the "Show Advanced Option" box checked

-click on the "name" folder tab

-click the "projected" radio button in the Coordinate System Type box

- from the "Name" pull down list, find and select the "Custom" projection at the bottom of the list

-from the units pull down list, select the "Foot (9002)" option

-click on the "parameters" folder tab, hand-enter the following information

Geographic Coordinate System: GCS\_North\_American\_1983 (4269)

False Easting: 1312335.958

False Northing: 0.0

Prime Meridian: Greenwich (8901)

Base Projection: Lambert\_Conformal\_Conic (43020)

Central Meridian: -120.5

Central Parallel: 41.75

Standard Parallel 1: 43

Standard Parallel 2: 45.5

-click on the "datum" tab, in the geographic transformation box, set the transformation to "NAD\_1983 to NAD\_1927". (Remember: we are going from NAD1983 in OR Lambert to NAD1927 in the UTM system)

-click on the "ellipsoid" tab, familiarize yourself with the ellipsoid data

click on the next button, you should now move to the following dialogue box: "select the new coordinate system for your shape files"

-click on the "projected" radio button, make sure that the "show advanced option" box is checked

- choose the "NAD\_1927\_UTM\_Zone\_10N (26710)" option from the names list

-set the units to "meter (9001)"

-click on the parameters tab, familiarize yourself with the projection parameters and compare to your metadata for the UTM projection

-click on the datum tab, note that the Geographic Transformation box is grayed out, you have already specified to transform from the NAD\_1983 to NAD\_1927 datum in the previous dialogue box

-click on the ellipsoid tab, familiarize yourself with the data

-click on the next button, you will now be asked to browse to the folder where you want the new file to be saved, and asked to give it a new name - remember, if you use the same name for the output shape file, you will overwrite the original, don't do that!

-click the next button (this may take a while to process as ArcView navigates the WOU network drives)

-You should now see a summary window, explaining the projection criteria that you have specified. Check all of the information and make sure that you have not made a mistake.

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You should see something like the following in the dialogue window:

Input directory and file name(s):

h:\taylors\projection data  
stateveg.shp

Input Coordinate System:

Name: Custom  
POSC: -1  
Unit: Foot

Geographic CSYS: GCS\_North\_American\_1983

Datum: D\_North\_American\_1983

Prime Meridian: Greenwich

False Easting: 1312335.958

False Northing: 0

Base Projection: Lambert\_Conformal\_Conic

Central\_Meridian: -120.5

Central\_Parallel: 41.75

Standard\_Parallel\_1: 43.0

Standard\_Parallel\_2: 45.5

Input Geographic Transformation:

NAD\_1983\_To\_NAD\_1927\_NADCON [108001]

Output Geographic Transformation:

none

Output Coordinate System:

Name: NAD\_1927\_UTM\_Zone\_10N

POSC: 26710

Unit: Meter

Geographic CSYS: GCS\_North\_American\_1927

Datum: D\_North\_American\_1927

Prime Meridian: Greenwich

False Easting: 500000

False Northing: 0

Base Projection: Transverse\_Mercator

Central\_Meridian: -123.0

Central\_Parallel: 0.0

Scale\_Factor: 0.9996

-click "Finish" to complete the transformation (NOTE: the arc projection box will disappear from your screen, but it takes a while to process, after many seconds, or minutes(?) you will see and "arcview projection progress" window pop-up. The window will tell you when the shape files have finished processing)

When you see the dialogue Box "do you want to add your projected data" - if you click yes, the new reprojected shape file will be added to your view.

Final Check: overlay the reprojected layer on top of the USGS DRG (which is in UTM), the layers should now properly align with one another in georeference space.

#### **IV. To Convert from UTM Zone 10 N (m) Custom Oregon Lambert (ft)**

Follow the directions in section III above in reverse. Pay attention to your metadata and class notes on the projection parameters of each.