

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.

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

- 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.

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.