Conservation Applications of LiDAR

Basics of Using LiDAR Data

Exercise #4:
Converting LiDAR Data to County Coordinates

2013

Based on a presentation by Tim Loesch and Shelly Sentyrz, 10/5/11,
"Accessing and Using Minnesota LiDAR Data Packets", available on the MnGeo Lidar page:
http://www.mngeo.state.mn.us/chouse/elevation/lidar.html#education

This exercise was developed as part of the "Conservation Applications of LiDAR" project – a series of hands-on workshops and online resources designed to help Minnesota GIS specialists effectively use LiDAR-derived data to address natural resource issues. The project was funded by a grant from the Environment and Natural Resources Trust Fund, and was presented by the University of Minnesota Water Resources Center with expertise provided from the University of Minnesota, MN Department of Natural Resources, MN Board of Water and Soil Resources, and USDA Natural Resources Conservation Service. More information is at http://tsp.umn.edu/lidar.

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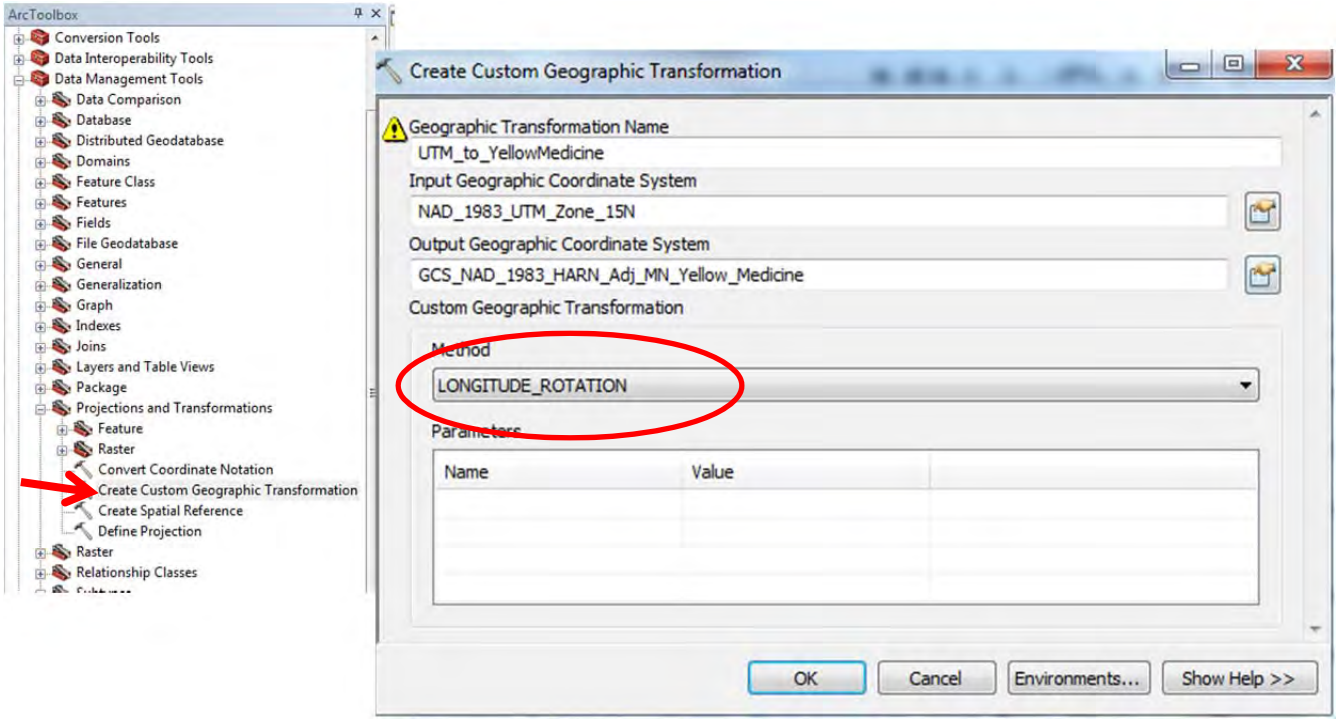
Exercise 4: Converting LiDAR Data to County Coordinates

Most county governments store spatial data projected to MN County Coordinates based on GCS_NAD_1983_HARN, while the LiDAR data collected during the state Elevation Mapping project is in UTM Z15N, based on GCS_NORTH_AMERICAN_1983.

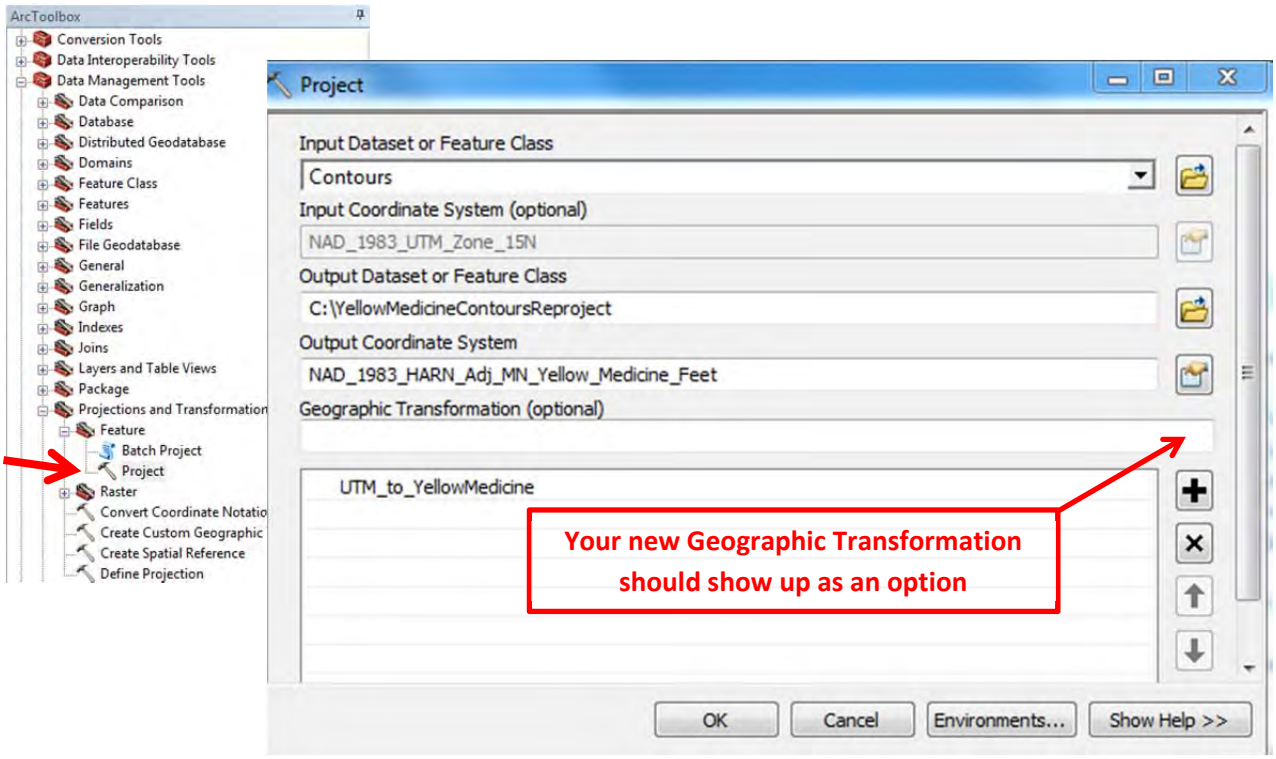
Converting the data normally requires a Custom Transformation using the Longitude Rotation option.

1. From ArcToolbox, select Projections and Transformations > Create Custom Geographic Transformation



Once you have a Geographic Transformation, then you need to project.

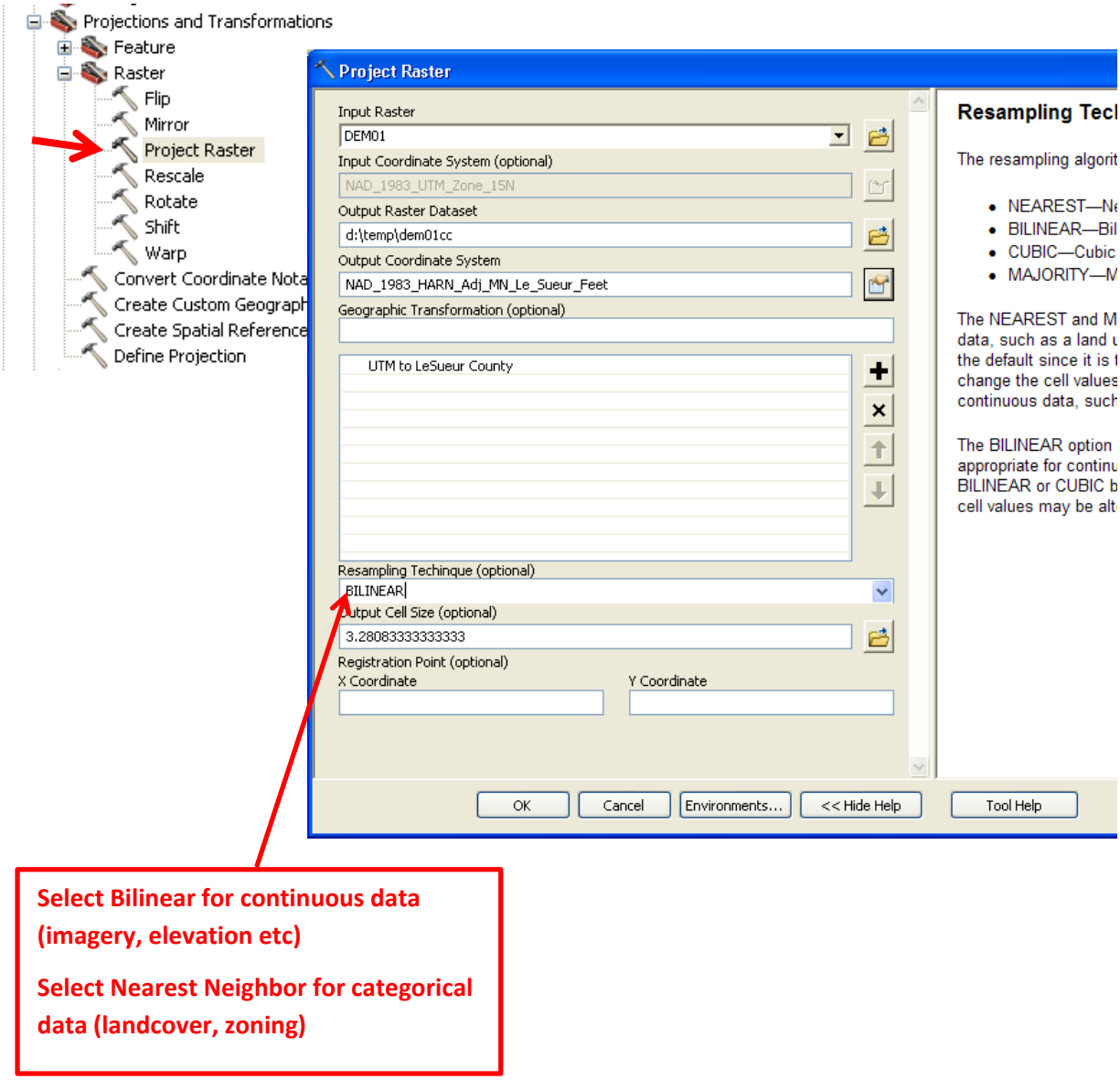
2. From ArcToolbox select: Projections and Transformations > Feature > Project



That's it for a vector projection.

When projecting Raster data you also need to specify Resampling Technique and Output Cell Size

3. From ArcToolbox select: Projections and Transformations > Raster > Project Raster



Select Bilinear for continuous data (imagery, elevation etc)

Select Nearest Neighbor for categorical data (landcover, zoning)