**Geographic Information Science Exercise 6**

**Vector Data Management**

These questions will require you to use the skills and information you learned in chapter 5, the tutorial, and the associated lectures.

This exercise will further your familiarity with vector data in ArcGIS Pro.

Items to keep in mind:

1. Create a new project before beginning the exercise.
2. General location of data files will be provided (see below). You will have to determine exactly which file to use, but the folders you should be working with are identified.
3. Any questions requiring the acquisition of data online will be your responsibility to find the data and download it.
4. Any new tasks required will be described. Otherwise, the tools and techniques required to answer the questions will have been introduced in the tutorials for this lab and any prior labs.

To answer the questions, you will need to use the data in the following folders:

**mgisdata\Usa**

**Online data**

**-----------------------------------------------------**

**Step 1:** Create a new project in your *gisclass* folder (Or whatever folder you have your GIS data stored within). Name it for your birth state (e.g., *OH\_Project*).

**Step 2:** Open a new map and set the coordinate system to an appropriate State Plane zone in the *State Plane > NAD 1983 (meters)* folder. If there is more than one zone for your state, just pick one, preferably the central one. List what your state is and which State Plane zone you chose to use.

**Step 3:** Export each of the vector feature classes from the *USdata* geodatabase to your birth state geodatabase (you can skip the *CD110 - CD113* feature classes. Only the *CD114* needs to be exported). **\*\*\*** Only export the features within your birth state**\*\*\***

**\*\*\*** Each feature class should be in the new coordinate system. **\*\*\***

**Step 4:** Update the Item Description (metadata) for each feature class. (Update thumbnail, description, and credits).

**Step 5:** Find at least 2 additional feature classes for your state that you find interesting. Find them from either ArcGIS Online or a website. Import them into your geodatabase (**NOTE:** They must be a feature class that allows you to export the data). Make sure they are all in the new coordinate system.

**Step 6:** Create a map of your state, including at least 5 of the layers from your birth state geodatabase, plus the two layers found online. All layers should be appropriately symbolized and limited to the extent of the state. Follow all map best practices and include all standard features

* Title
* Legend
* Scale bar
* Locator map
* Source info
* North arrow

**Step 7:** Export map to a PDF and submit to Blackboard

**Deliverables**:

* PDF of finished map
* Screen captures (insert into Word doc. Or PDF)
  + **Contents pane** showing all feature classes from geodatabase (even if not in the finished map)
  + **Coordinate Systems window** in the map properties (as in Fig. 5.20) showing the expanded Layers folder. This displays the coordinate systems for all feature classes in the map (should all be the same)
  + **Map display** showing only the downloaded data
  + **Metadata** showing the updated citations, description, and thumbnail for each of the feature classes.