

## Exercise 10 (Alternative): Intermediate Cartographic Design

### Deliverables

You will be asked to deliver four maps for this assignment. Please deliver them as PDF files. Before you begin, we would suggest the following:

1. Make a new project in which to create your maps.
2. Create the four maps in four separate map layouts.
3. Insert maps for each of the required map frames for the layouts.
4. Save your work often.

### Map Exercise 1: Fernow Experimental Forest Geology (30 Points)

Data for this map have been provided in the [Exercise\\_10\\_Alt\\_Map1.gdb](#) file geodatabase in the [Exercise\\_10\\_Alt](#) folder downloaded from <https://www.wvview.org/>. You will need the following files: [folds](#), [fernow\\_boundary](#), [geology\\_fernow](#), and [hillshade](#).

**Your Task:** Create a map of the geology around the Fernow Experimental Forest near Parsons, WV.

Grading Rubric:

1. Use the provided layer files to symbolize the geology and folds layers ([geology\\_legend.lyr](#) and [fold\\_legend.lyr](#)). (3 points)
2. The Fernow boundary should be displayed as hollow with an outline. (3 Points)
3. The geologic layer should be displayed with a transparency over the hillshade. (3 Points)
4. The legend should include only the folds, Fernow boundary, and geology. No file or field names should appear in the legend. Do not include the hillshade in the legend. (6 points)
5. Include a north arrow and scale bar. They should be well formatted and placed. (3 points)
6. Include the following citation on the map as text: "Matchen, D.L., Fedorko, N., Blake, Jr., B.M. 1999. OF9902 – Geology of Canaan Valley, West Virginia Geologic Survey Open File Map (Digital Data)" (3 Points)
7. A descriptive title and your name are provided. (3 points)
8. The map is overall very neat and well organized. Space is utilized well, and the data are well presented (6 Points)

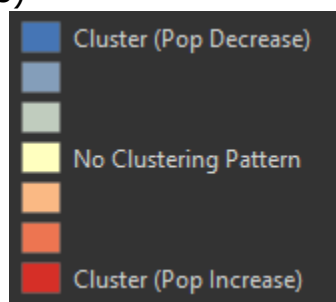
## Map Exercise 2: US Population Change Hot Spot Map (30 Points)

Data for this map have been provided in the [Exercise\\_10\\_Alt\\_Map2.gdb](#) file geodatabase in the [Exercise\\_10\\_Alt](#) folder downloaded from <https://www.wvview.org/>. You will need the following files: [hot\\_spot\\_00\\_10](#) and [states](#).

**Your Task:** Create a map showing hot spots and cold spots of population change between 2000 and 2010. Using the provided symbology, red indicates clusters of counties that have seen a population increase, blue indicates clusters of counties that have seen a population decrease, and tan represents no clustering pattern.

Grading Rubric:

1. Symbolize the county-level hot spot data using the provided layer file ([hot\\_spot\\_00\\_10.lyr](#)). (3 points)
2. Include the state boundaries as hollow with a thick border over the county-level data. (3 Points)
3. Use the Lambert Conformal Conic Projection and state the projection on the map as text. (3 Points)
4. Include a well formatted and placed north arrow and scale bar. (3 Points)
5. Include a citation for the US Census. (3 Points)
6. Include your name and a descriptive title. (3 Points)
7. The legend should include only the county-level hot spot information. No file or field names should appear in the legend. Change the labels as shown below (6 Points)



8. The map is overall very neat and well organized. Space is utilized well, and the data are well presented (6 Points)

### Map Exercise 3: Germany Reference Map (30 Points)

Data for this map have been provided in the **Exercise\_10\_Alt\_Map3.gdb** file geodatabase in the **Exercise\_10\_Alt** folder downloaded from <https://www.wvview.org/>. You will need the following files: **major\_cities**, **major\_rivers**, **states**.

**Your Task:** Create a general reference map of Germany that shows the following: major rivers (Rhine, Danube, Elbe, and Odra), major cities, and German states.

Grading Rubric:

1. Symbolize the German state boundaries using the "NAME" field. Each state should be assigned a color using a nominal color scheme. Do not label the states on the map. (3 Points)
2. Label the major cities on the map. Use the "CITY\_NAME" field. The labels should be easy to read. (3 points)
3. Label the major rivers using the "NAME" field. The labels should be easy to read. (3 points)
4. Find a picture of the German flag and add it to the map. (3 Points)
5. Include a well formatted and placed north arrow and scale bar. (3 Points)
6. Include your name and a descriptive title. (3 Points)
7. The legend should include the states, rivers, and city symbology. Make sure the state names are in the legend. No file or field names should appear in the legend. (3 Points)
8. Include graticules (latitude and longitude grid). Make sure the labels are large enough to be easily read. Make sure the markings, lines, and ticks are not too dense. (3 Points)
9. The map is overall very neat and well organized. Spaced is utilized well, and the data are well presented (6 Points)

## Map Exercise 4: New Jersey Land Cover (30 Points)

Data for this map have been provided in the [Exercise\\_10\\_Alt\\_Map4.gdb](#) file geodatabase in the [Exercise\\_10\\_Alt](#) folder downloaded from <https://www.wvview.org/>. You will need the following file: [nj\\_nlcd\\_2011](#).

**Your Task:** Create a layout from the 2011 NLCD land cover for New Jersey

Grading Rubric:

1. Symbolize the raster grid by using a different color for each land cover class that seems appropriate for that class. The NLCD legend can be found here: <https://www.mrlc.gov/data/legends/national-land-cover-database-2011-nlcd2011-legend>. No file or field names should appear in the legend. (6 Points)
2. Include an inset map that shows the land cover in more detail over a selected section of New Jersey. Add an extent indicator on the main map to show where the inset map is located in the state. (6 Points)
3. The legend should include a label for each land cover class. Do not include the raster grid codes. Use the names of each class. (3 Points)
4. Cite the National Land Cover Database 2011 on the layout. (3 Points)
5. Include a well formatted and placed north arrow and scale bar. (3 Points)
6. Include your name and a descriptive title. (3 Points)
7. The map is overall very neat and well organized. Spaced is utilized well, and the data are well presented (6 Points)

## Deliverables

For this lab, provide your four maps in PDF format. They will be graded against the rubrics above.