GST 104: Cartographic Design Lab Series

Lab 5: Data Classification

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Introduction

This lab is part of a series of lab exercises designed through a grant initiative by the National Information, Security & Geospatial Technologies Consortium (NISGTC), funded by the United States Department of Labor in partnership with the Department of Education under the Trade Adjustment Assistance Community College and Career Training Grant Program (TAACCCT).

In this lab, the student will create five choropleth maps using a single data set, but with each map showing the data set classified using different data classification methods. Additionally, the maps should show proper cartographic design principles using all knowledge learned up to this point.

Your instructor may require that you provide screen captures, lab reports and/or exported files. Please check with your instructor for the requirements specific to your class.

This lab includes the following task: Create Five Choropleth Maps with Different Data Classifications

Objective: Compare Five Data Classification Methods

Choosing the appropriate data classification method for a particular dataset and map is an extremely important choice to make. The characteristics of the data, the purpose of the map, and the aesthetics of the map must all be taken into account when choosing the best data classification method. In this lab, you will make one map, but five different copies, each with a different data classification method. You will then critically evaluate the data classification methods and write a report reflecting on your observations.

Lab Settings

Required Virtual Machines and Applications

Windows Machine User Account	Train
Windows Machine User Password	Train1ng$

1 Create Five Choropleth Maps with Different Data Classifications

Create five choropleth maps using the same data and same attribute. For each map, change only the data classification method (and associated legend, and color choices). Write a report discussing your overall map design decisions and compare how the different data classification schemes performed on this dataset and identify your preferred classification(s) and why.

1. Log into the computer, using the information provided in the Lab Settings section.
2. The data for this lab is located on the lab machine at: *Shared Drive\GST 104\Lab 5. Copy this lab folder to your C:\GST 104 folder.* This dataset is the agricultural census data from 2002.
3. Read the metadata file to familiarize yourself with the data. Metadata will be displayed in the HTML format and can be viewed in a web browser or in Notepad.
4. Create a choropleth map using data in field M135_02. Refer to the metadata to know what the attributes in this field represent (you may have to scroll down quite a bit). The intended audience for the maps is high school students.
5. **Create 4 <u>additional</u> choropleth maps**. Each map should use one of the following classification schemes:
    a. Natural Breaks (Jenks)
    b. Equal Interval
    c. Quantile
    d. Geometric Interval
    e. Standard Deviation
6. Each map should mention, in an appropriate location, which classification scheme it used.

Conclusion

In this lab, you have worked with a single dataset, but classified it using five different data classification methods. Each data classification method produces drastically different results. Some methods hide data by aggregating too much and ignoring the character of the data, while other methods do not ignore the character of the data and provide a more useful visualization. No matter which data classification method you select, you should always critically evaluate the map to make sure that the data classification method accurately represents the underlying data and meets the goal of the purpose of the map.