

Exploring Spatial Patterns of Ancestry and Identity in US Counties

Before you begin using this module, you will need to know about using a Web-based GIS viewer. You can do this by watching the tutorial video or working through the tutorial. The tutorial video, student activity, and Web-based GIS Tutorial Viewer can be found at <http://gis.lanecol.edu> → “Modules” tab → “Tutorial” link. The activity works best with a high speed Internet connection.

Prior Skills: You will need to know how to turn layers on and off, use the ID tool and, zoom in and out of the map, toggle from layers to the legend, and perform a search (Boolean) query.

Objectives:

Remember, computer steps are indicated by a ► symbol and questions you need to answer are numbered.

Keep in Mind:

- County layers cover each other. To see a religion layer listed below another layer, you have to uncheck the upper layers and refresh the map.
- This map shows counties but not county lines. The lines make it difficult to see the color values especially in the small counties. With a layer Active, you can choose the “I” button and click on any county to get a pop-up window with county information.
- This is a huge file and will take a few minutes to redraw each time you select a Layer. Slow and patient clicking will make the entire experience more enjoyable.

Read the guide to understanding ethnic diversity and identity

<http://www.pc.maricopa.edu/departments/library/guides/DiversityEthnic.html>

The MAPS-GIS US Ancestry map shows the results of two 2000 US Census categories. People were asked to identify their ancestry and they were asked to identify their race. The categories you see on this map are normalized to show the number of people per 1,000 of population who self-identified in specific race or ancestry categories. For example, a Native American ancestry value of 10 means that 10 out of every 1000 people self-identified as Native American in that county.]

Objective: For this exercise you will describe the spatial distribution pattern of several ancestry groups and then explore the data to look for correlations between ancestry and medium income.

- Access the Web-based GIS viewer by going to either of the links below.
<http://gis.lanecol.edu> → Modules → scroll down to → Ancestry and Identity in the U.S. → The link to the Web-based map.
- Or go directly to the map viewer at <http://arcgis.lanecol.edu/website/ancestry/viewer.htm>

The map opens to the ancestry identification for Native Americans and Alaskan natives.

1. What three states in the continuous U.S. account for the highest Native American identity?

- ▶ Make “Cajun” Active and Visible. Uncheck “Native American” and Refresh the map.

2. Describe the location of high Cajun ancestry. Is it concentrated, spread out, continuous, or discontinuous? Is it in the middle, north, west, east, or south of the country? These aspects of the location pattern describe the spatial distribution.

3. What is the upper range of the legend for “Cajun?”

- ▶ Make “English” Active and Visible, uncheck “Cajun” and Refresh. It looks like English is much more prevalent than Cajun.

4. What is the upper range of the legend for English ancestry? Describe the spatial distribution of English ancestry.

- ▶ Make “Italian” Active and Visible, uncheck “English” and Refresh.

5. What is the upper range of the legend for Italian ancestry? Describe the spatial distribution of Italian ancestry.

- ▶ Select another ancestry.



6. Describe the upper data range and then describe its spatial distribution.

- ▶ Look at the map for English ancestry and then for Scottish ancestry.

7. Which is more represented in the Oregon?

8. Now look at the data ranges for each. Do you still support your answer in question 7?

Why or Why not? How do the different ranges bias the visual impact of the map?

Looking for Correlations

A correlation is the relationship between two variables. Correlations can be positive or negative. For example, there is a positive correlation between crime and a cities population. In general, the larger the population, the higher the crime rate. There is a negative correlation between education and obesity– the higher the education the fewer incidents of obesity. In general, the more education people have the less obese they are. However, it is important to remember that a correlation does not necessarily indicate cause; it is a co-occurrence. Lack of education does not cause obesity, these two variable co-occur.

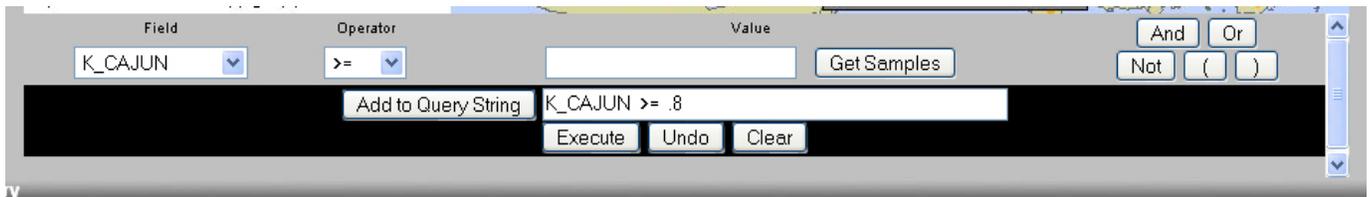
You are going to explore correlations between ancestry and income.

- ▶ Make “Medium Income” Active and Visible,
- ▶ Refresh the map. Make sure none of the other ancestry layers are visible.

9. Describe the spatial distribution of counties with the lowest medium income, and then describe the spatial distribution of counties with the highest medium income.

Use the Query Tool to look for correlations between income and Cajun ancestry

- ▶ Click on the query tool  → Click the “Field” dropdown menu →
- ▶ Select K_Cajun → Click the “Operator” and choose the “greater than or equal to” symbol (\geq)
- ▶ Choose Add to Query String → Type in .8 → Click Execute.



All the counties that meet your criteria will be high lighted in blue and shown in a data table below the map.

10. Is there a positive, a negative, or no correlations between Cajun ancestry and a specific income range?

11 -12. Repeat this method to look for correlations using two other ancestries and report your findings.

13. Describe your family ancestry. Do you have information about where your family first settled in the United States?

Terms of Use – Authors license this work under the Creative Commons-Attribution-Noncommercial Share Alike 3.0 Unported License. To view a copy of the license visit: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

