Making Maps I:
Mapping GIS Data

Part 1: Readings/lectures

Question 1: For the following examples, identify whether the data is Nominal, Categorical, Ordinal, Interval or Ratio:

Gender: **Nominal**
How satisfied are you with your service (1=very satisfied, 5=very unsatisfied)? **Ordinal**
Date (year): **Interval**
Height: **Ratio**
Temperature (celsius): **Interval**
Student ID numbers: **Nominal**
Grades (A, B, C, D): **Ordinal**
Distance: **Ratio**
Elevation: **Interval**

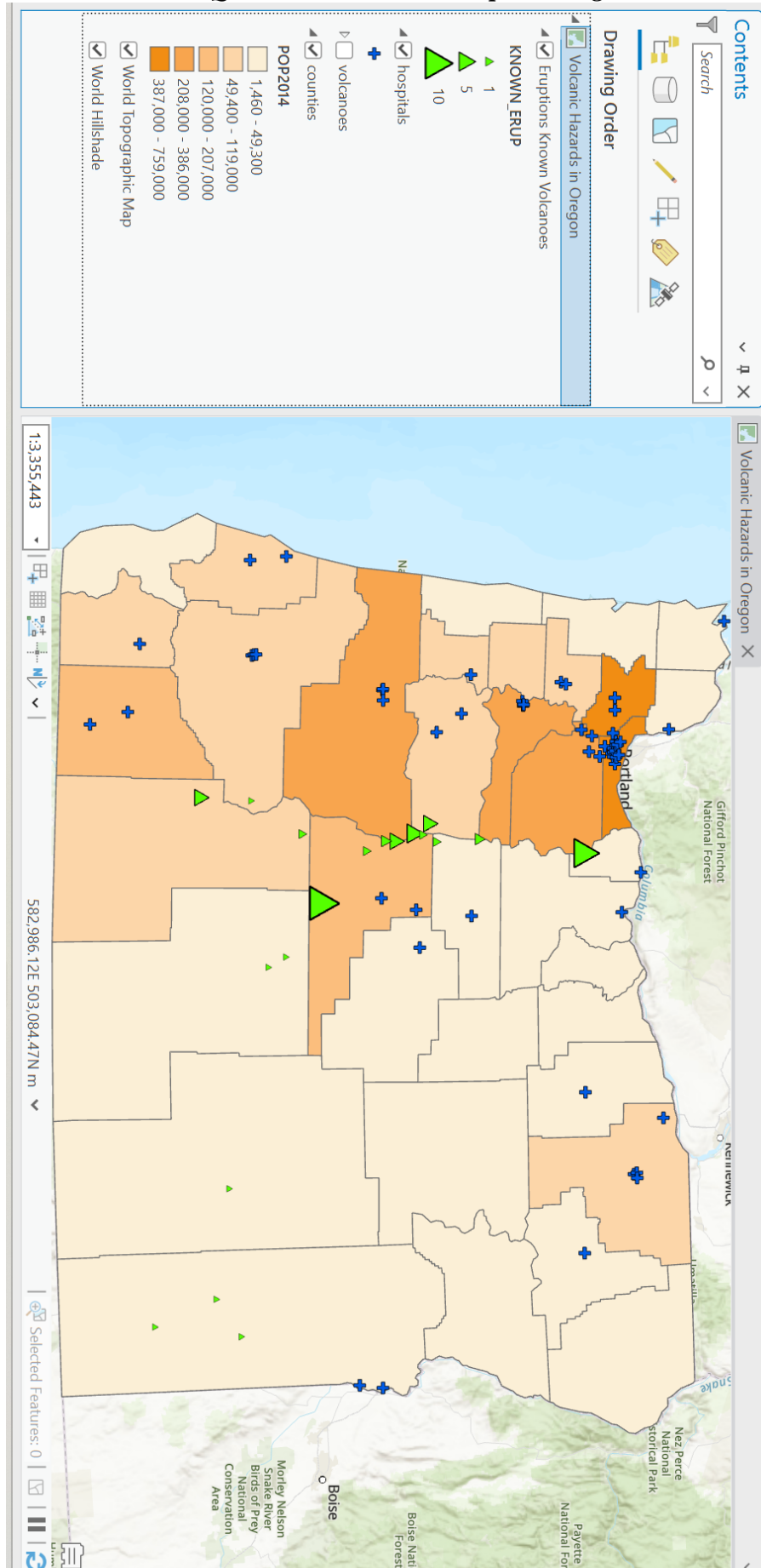--

Figure 1: Volcanic Hazards in Oregon

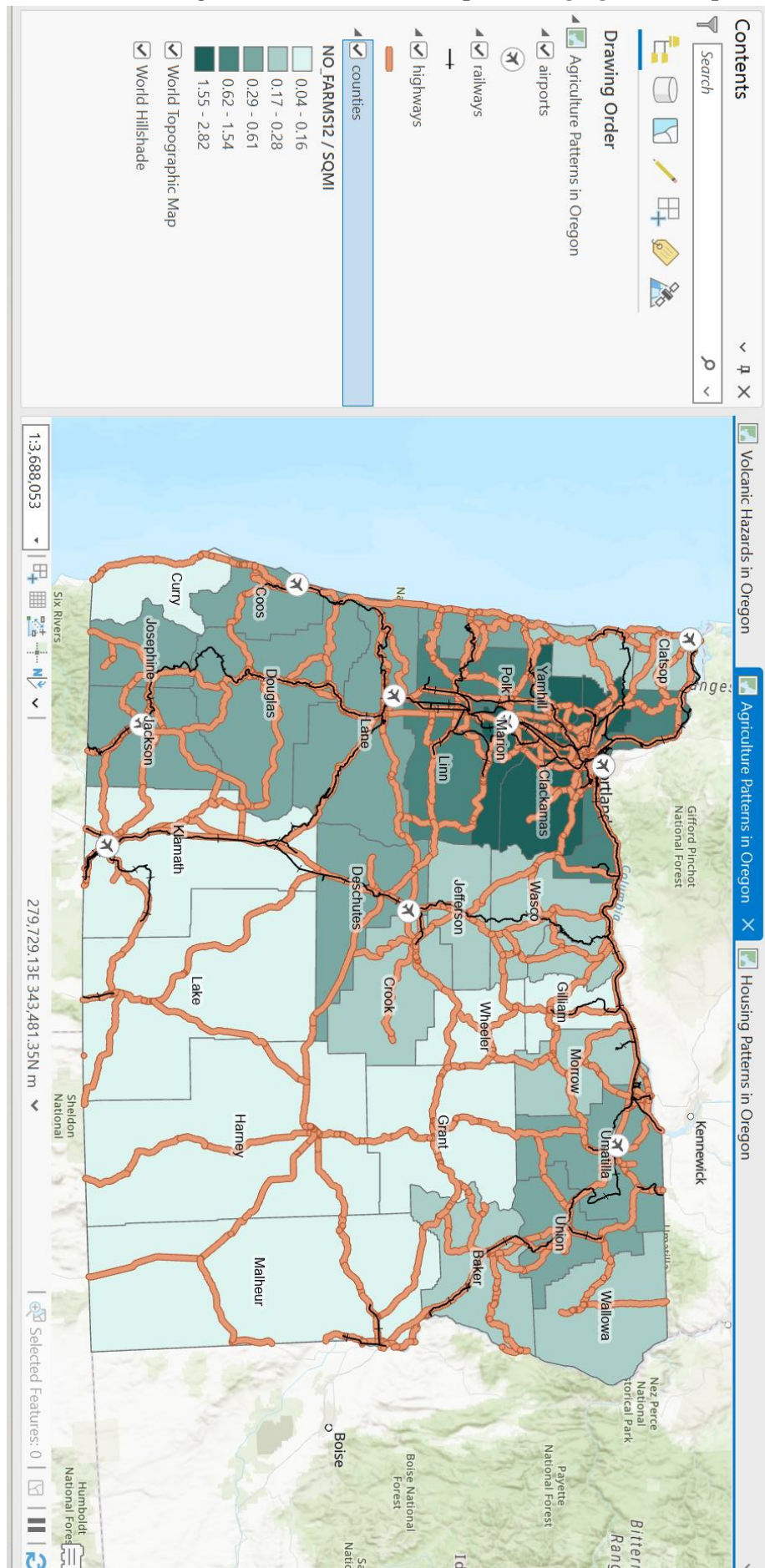*Question 3: Create a map showing agriculture patterns in Oregon*

Figure 2: Agriculture Patterns in Oregon

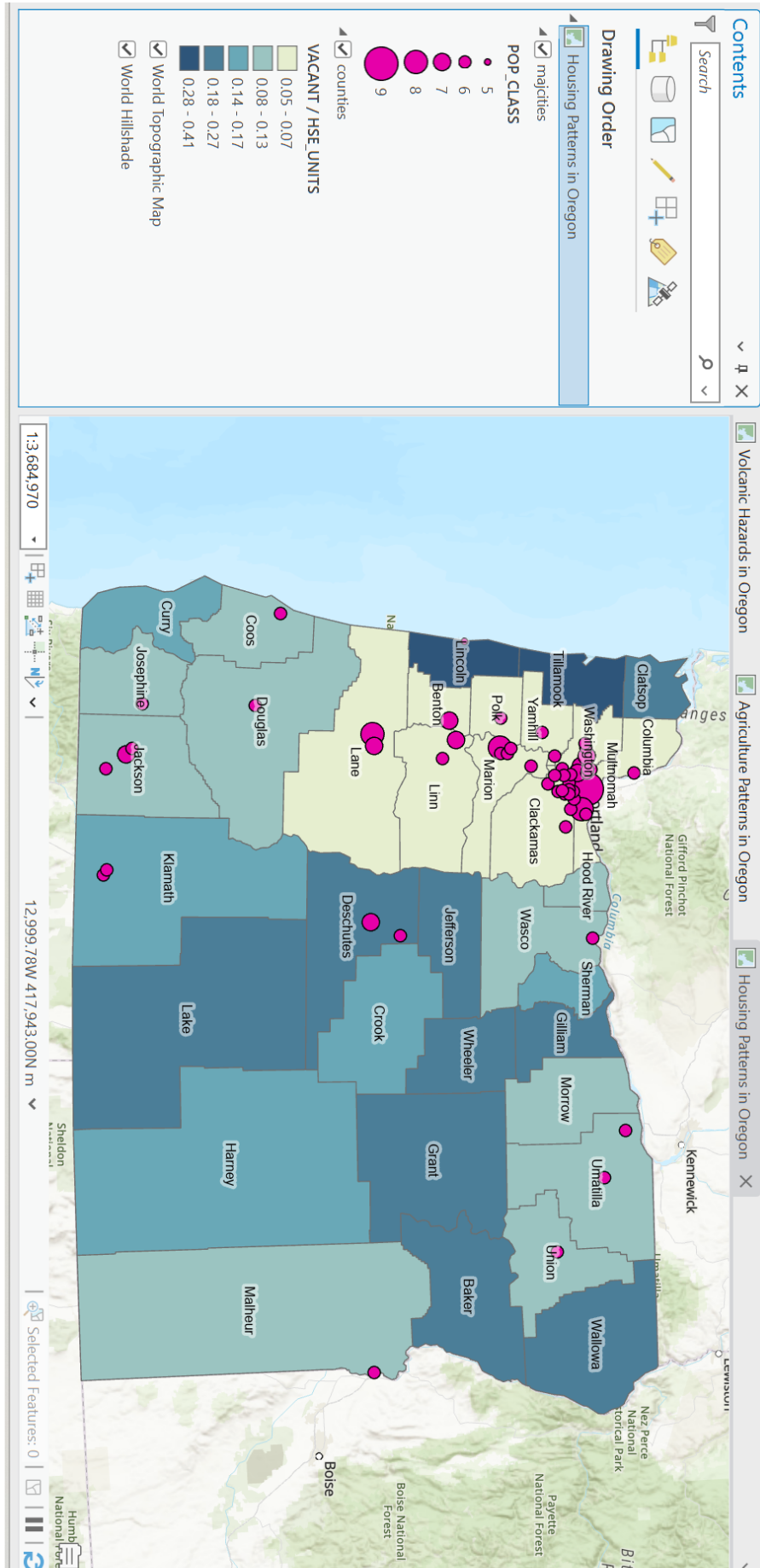**Question 4: Create a map showing housing patterns in Oregon**

Figure 3: Housing Patterns in Oregon

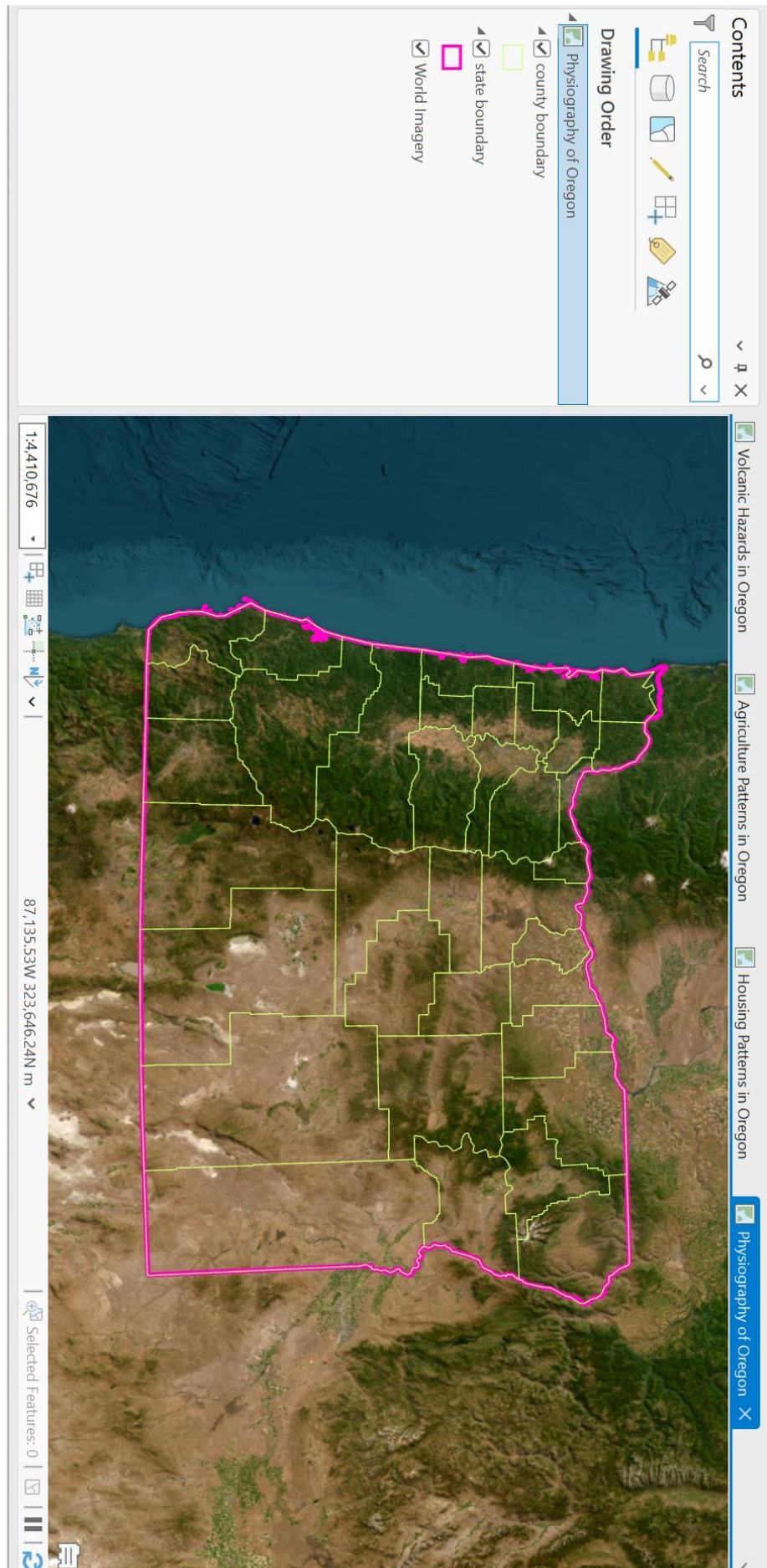*Question 5: Create a map showing the physiography of Oregon*

Figure 4: Physiography of Oregon

Question 6: Create a map using a Jenks (Natural Breaks) classification.

Figure 5: Jenks Classification

Question 7: Create a map using an Equal Interval classification
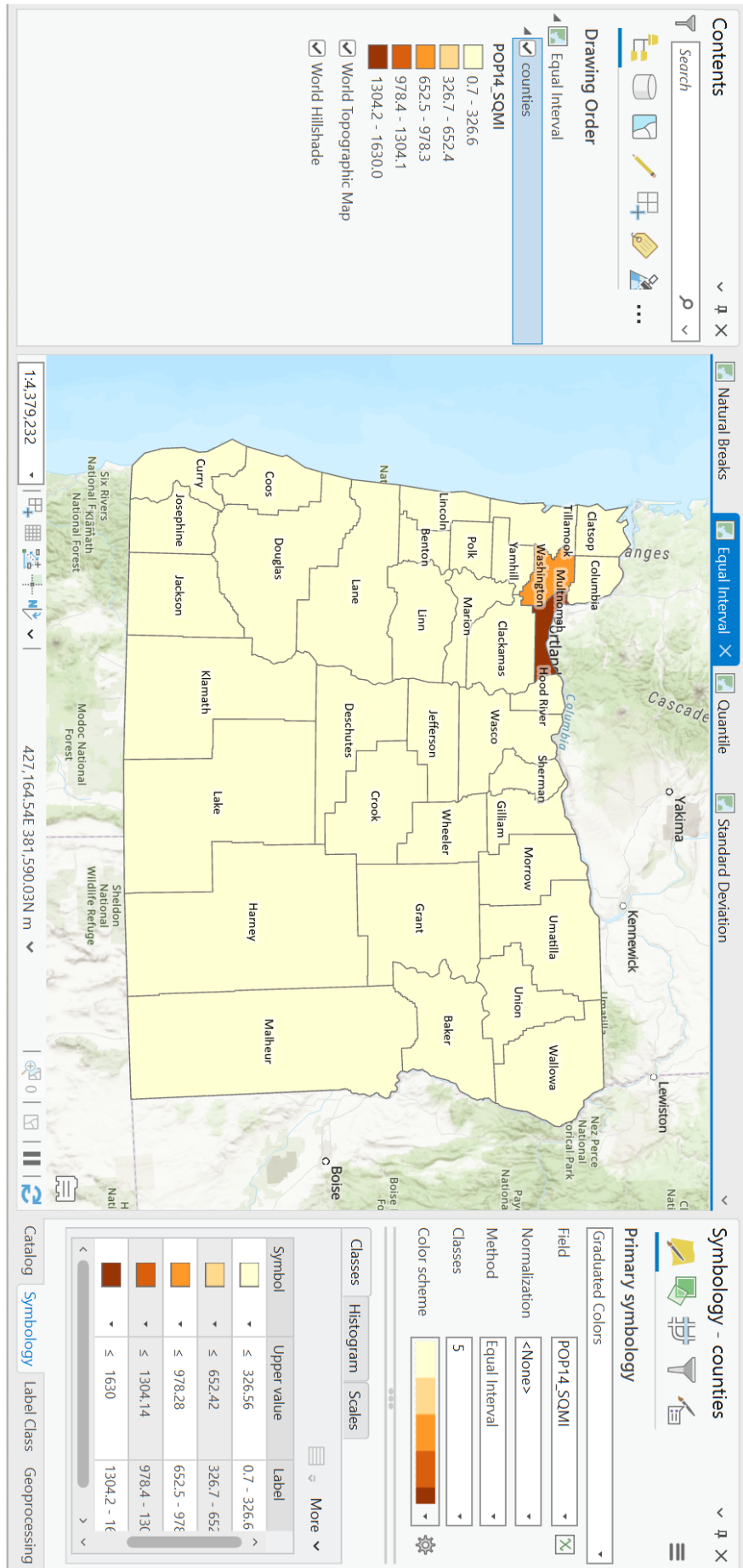

Figure 6: Equal Interval Classification

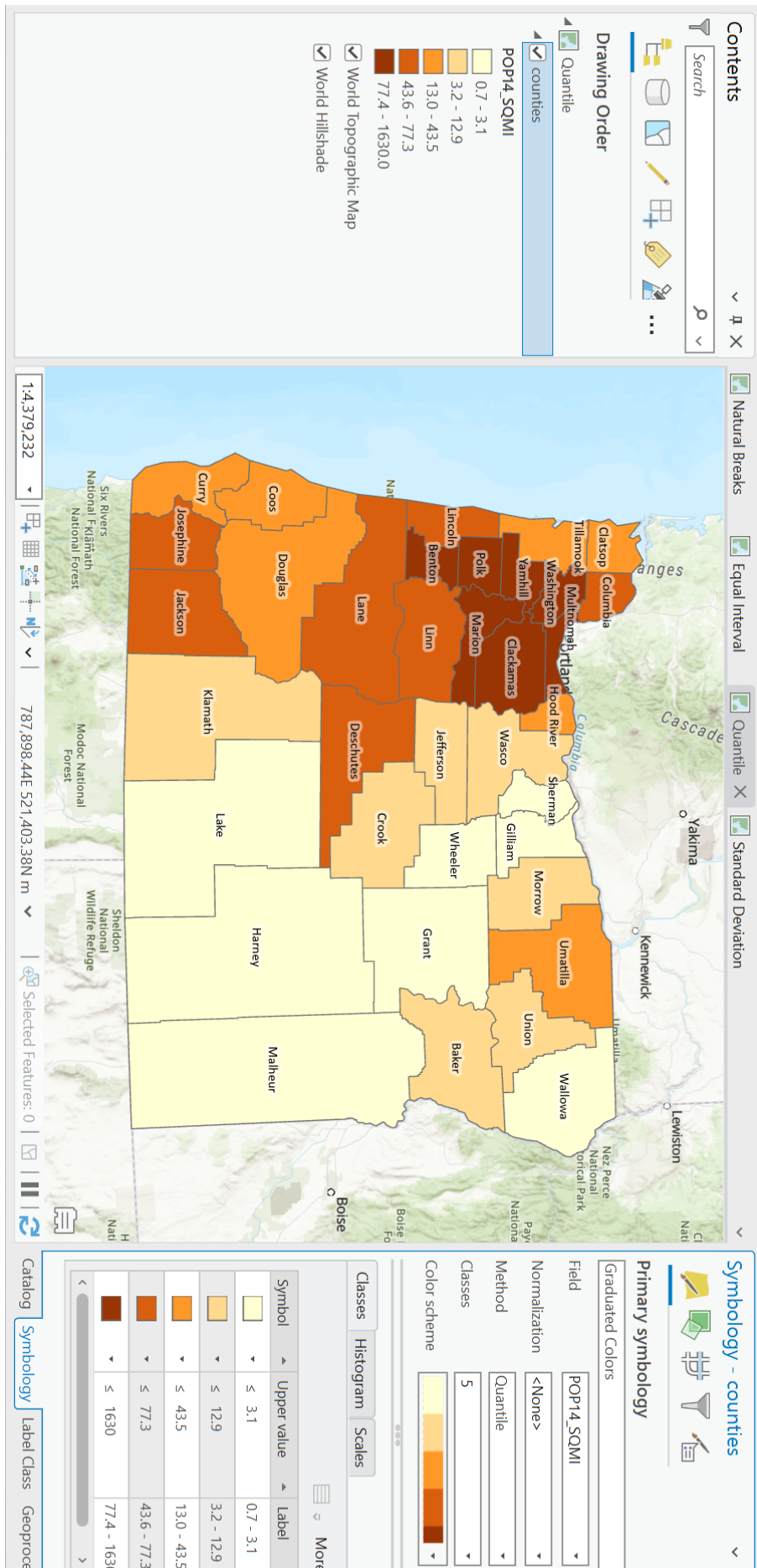*Question 8: Create a map using a Quantile classification.*

Figure 7: Quantile Classification

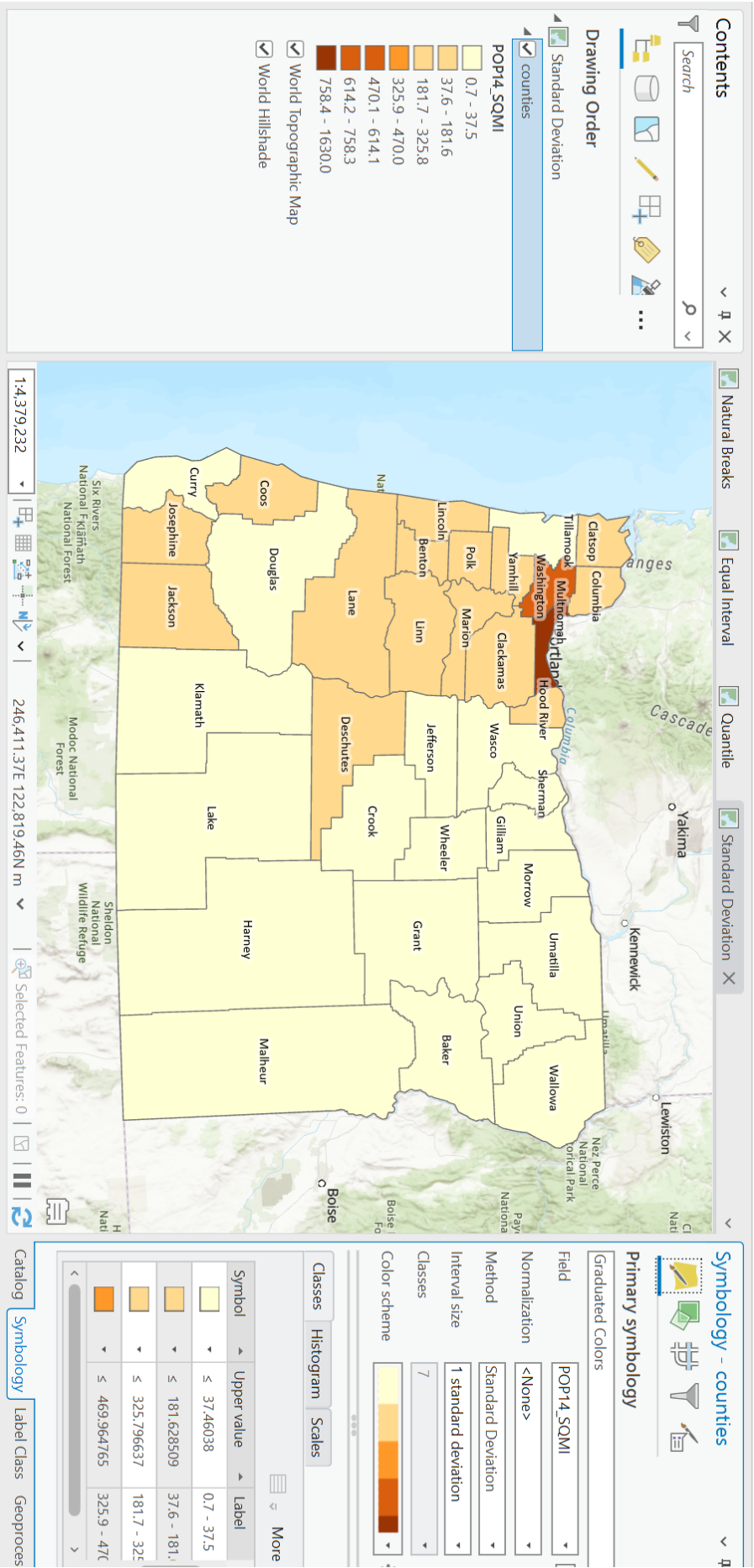**Question 9: Create a map using a Standard Deviation classification.**

Figure 8: Standard Deviation Classification

Question 10: Look at the four maps you created for Questions 6-9. Which classification scheme do you think is the most helpful in understanding the data? Why? Which classification do you think is the least helpful/most confusing and why?

Which classification is the most helpful, and which is not, depends on how the map will be used and the purpose of the map. It varies from person to person based on his perspective. If we look only at the population data from county to county, it only gives a number. Otherwise, if we look at the distribution by normalizing it with the area of the corresponding county, it makes more sense. It provides a clear understanding of the population's distribution or concentration compared to its area. That's why I chose **POP14_SQMI** data to represent different classifications that don't require normalization as it is already normalized.

In my opinion, the Natural Breaks (Jenks) method is a more suitable choice as this method focuses on finding the most significant breaks in the data- where values may not be uniformly distributed- by effectively grouping similar values and emphasizing the natural clusters present in the population distribution.

On the other hand, in such cases, the equal interval classification could be the most confusing one as many classes are skipped as the data is not uniformly distributed. Also, the Quantile classification method could be less suitable as it is focused more on creating classes by maintaining an equal number of observations in each class, ignoring actual differences in population distribution.