**Test 2 – Practicum**

Due tomorrow, October 24, 2023 at 3:45pm

**What you will create:**

For this applied portion of Test 2, you will **calculate the percentage of sheep in each county of Massachusetts in relation to the total number of sheep in this state**. You will make a *choropleth map displaying the percentage of sheep in each county using the “Natural Breaks” classification with 4 classes.* You will also need to add in the CSV file of County Names as point coordinates, using it to create a label of each county name and changing the symbology of each point to the .SVG sheep symbol I have included in this data folder. Your point symbol (the sheep SVG) should be proportional in size to the population of sheep. You should include all the appropriate map features, including a title, a legend, a scale bar, a north arrow, and your name.

**Directions:**

1. Using the data in “MA\_Sheep\_population.csv”, normalize the number of sheep in each county by the total population of sheep in the state of Massachusetts.
2. Prepare the data in “MA\_Sheep\_population.csv” for a join by removing any unnecessary information and making sure that it’s ready for import into QGIS. Also identify which column you will be using to make the join with the shapefile “MA\_Counties”.
3. Import “MA\_Sheep\_population.csv” into QGIS and join it to “MA\_Counties.shp”.
4. Create a choropleth map of the sheep population percentage by county using the “Natural Breaks” classification scheme to display 4 classes. The **color gradient of the map should not be red or blue.**
5. Now bring in the “MA\_County\_names.csv” as point coordinates using the X and Y columns provided. Using this data, display each county name attribute as a label and change the point symbology to be the “Sheep.svg” file provided. Make the “Sheep.svg” symbol proportional to number of sheep in each county also using the “Pretty Breaks” classification scheme. The county of Norfolk has three different polygons, for this county only display a label and sheep symbol on its largest polygon. If you would like to use another .SVG symbol instead of the “Sheep.svg” I provided, you can.
6. Add the appropriate map features. Your map should include a title, a legend, a scale bar, a north arrow, and your name. Make sure that your legend does not have the default name, but rather set an appropriate one on your own.
7. Have fun!

**How to submit:**

Submit your map as a **.PNG** on Sakai. We will give 1 extra point on this assignment if you submit your map by the end of class time today at 3:45pm.

**How you will be graded:**

What you turn in includes the following:

* 1 choropleth map displaying the percentage of sheep per county that used Natural Breaks with 4 classes.
* The color gradient you picked for your map is not red or blue.
* You successfully display labels of the county names included in the “MA\_County\_names.csv” file, and only display the label for Norfolk County once.
* Your map includes sheep symbology (the one I provided or one you selected yourself) that is proportional to the number of sheep in each county. You are only displaying the sheep symbol for Norfolk County once.
* Your map has appropriate map features. Your map includes a title, a legend, a scale bar, a north arrow, and your name. Your legend does not have the default name, you have set an appropriate name on your own. The legend includes both the choropleth symbology as well as the sheep proportions symbology.