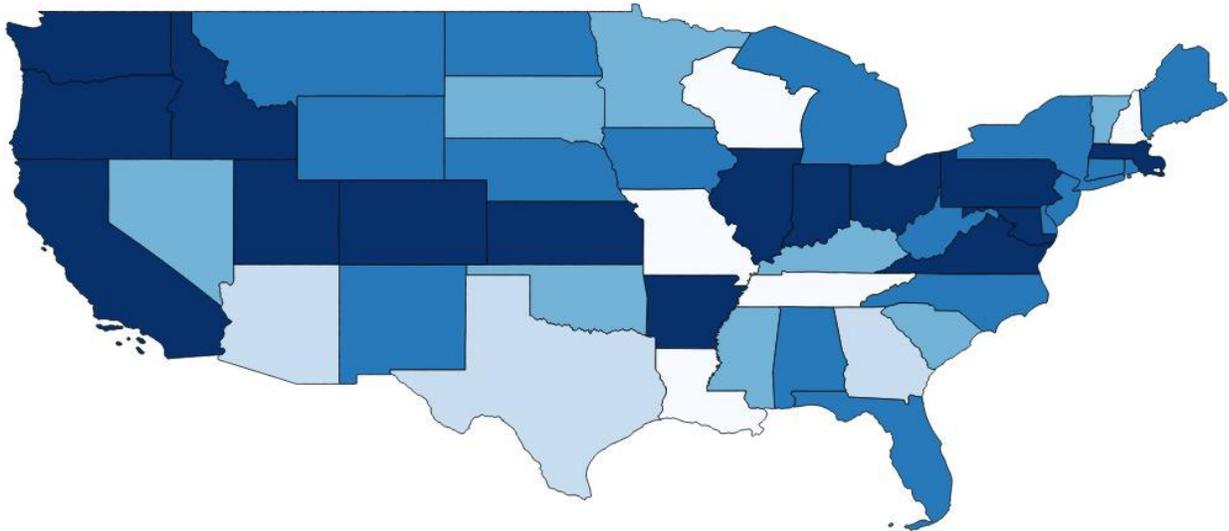


Exercise 2: Mapping Pleasantness and Correctness in the U.S.

Sample of the map we will be making:

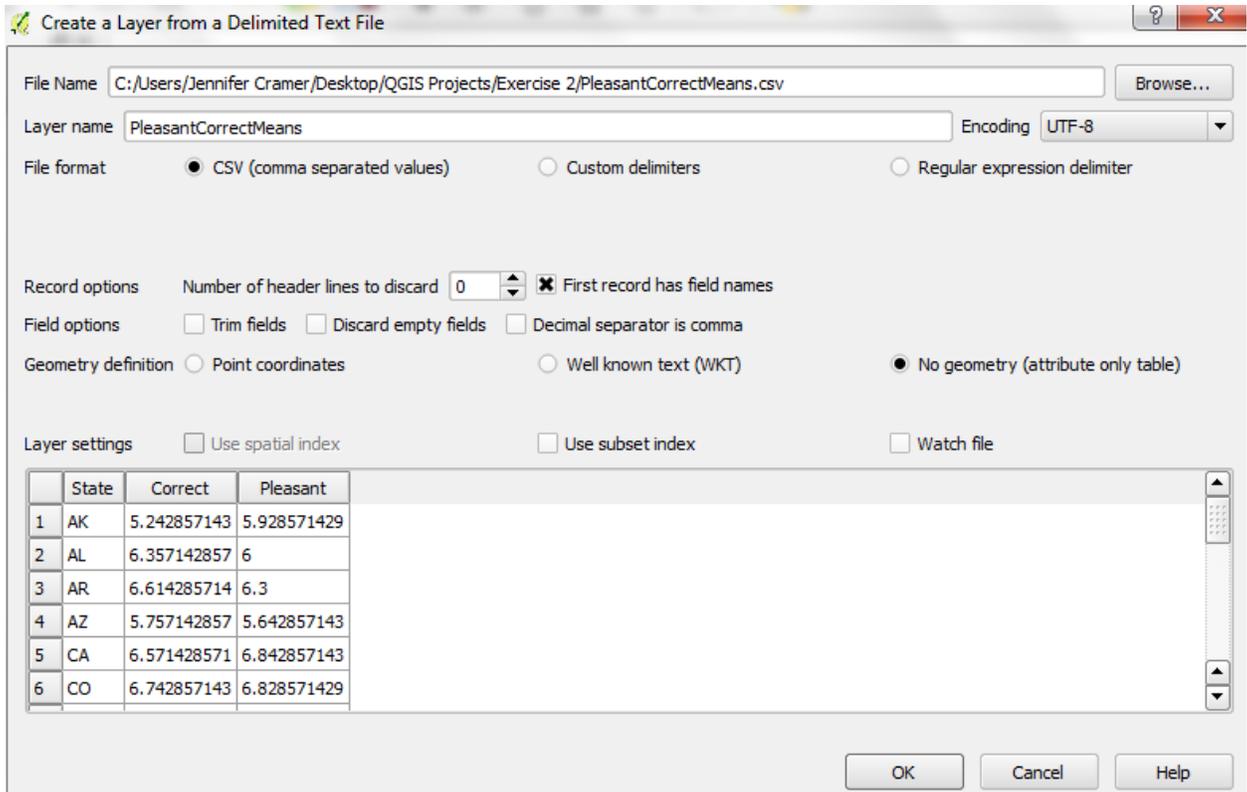


Preliminaries

- As with Exercise 1, make sure you start QGIS, begin a new project (blank interface), and have the correct coordinate system.
- For this exercise, we will be mapping **perceptual dialectology** data of the pleasantness and correctness evaluation type.
- The type of maps we'll be creating are called **choropleth maps**; these maps involve shading areas based on some variable, showing higher or lower levels of that variable, and serve as “an easy way to visualize how a measurement varies across a geographic area or it shows the level of variability within a region.”
(https://en.wikipedia.org/wiki/Choropleth_map)

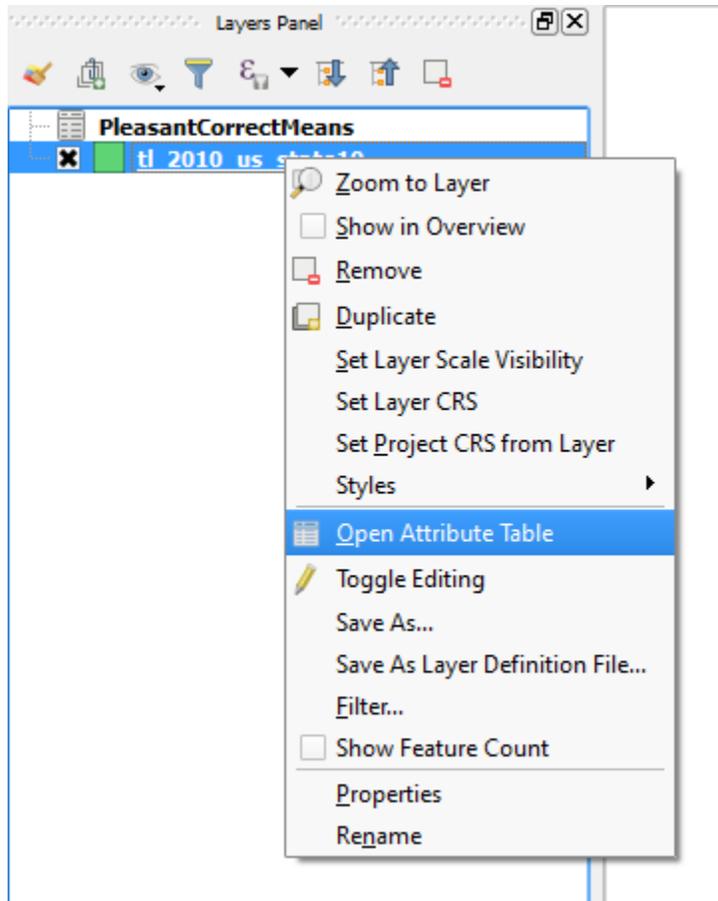
Adding and Analyzing Data

1. Unzip the All_US.zip folder into whatever folder you are using for your QGIS projects.
2. Click the  button to add the vector layer called “tl_2010_us_state10.shp” (make sure it is of the SHP type; there may be two files with the same file name, but the other is an XML file). You'll be able to add this file by clicking “Browse” next to the Source > Dataset textbox and by navigating to the place where you unzipped the file.
3. Click the  button to add the comma delimited dataset (without geometry). When you click it, you will see a dialog box like this:

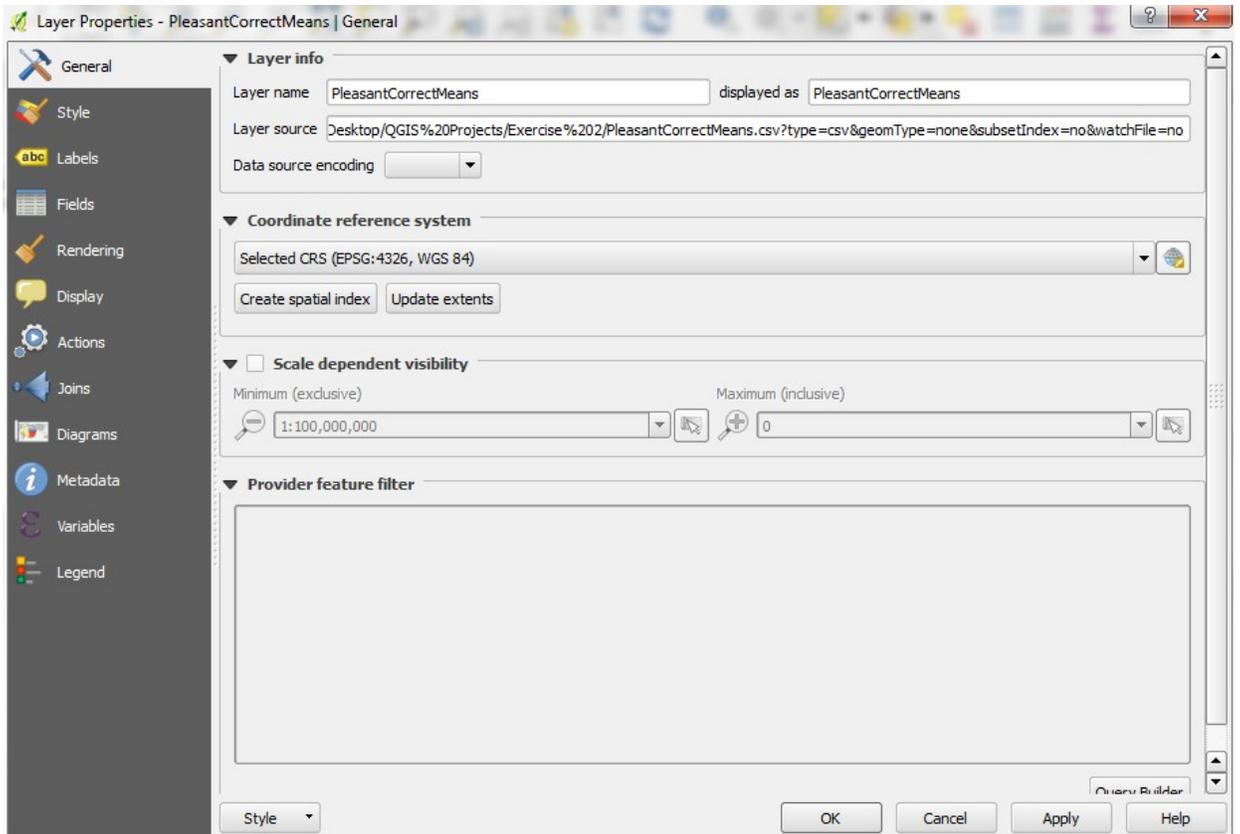


Click “Browse” to find the PleasantCorrectMeans.csv file. Then select “CSV” and “No geometry” and click “OK”.

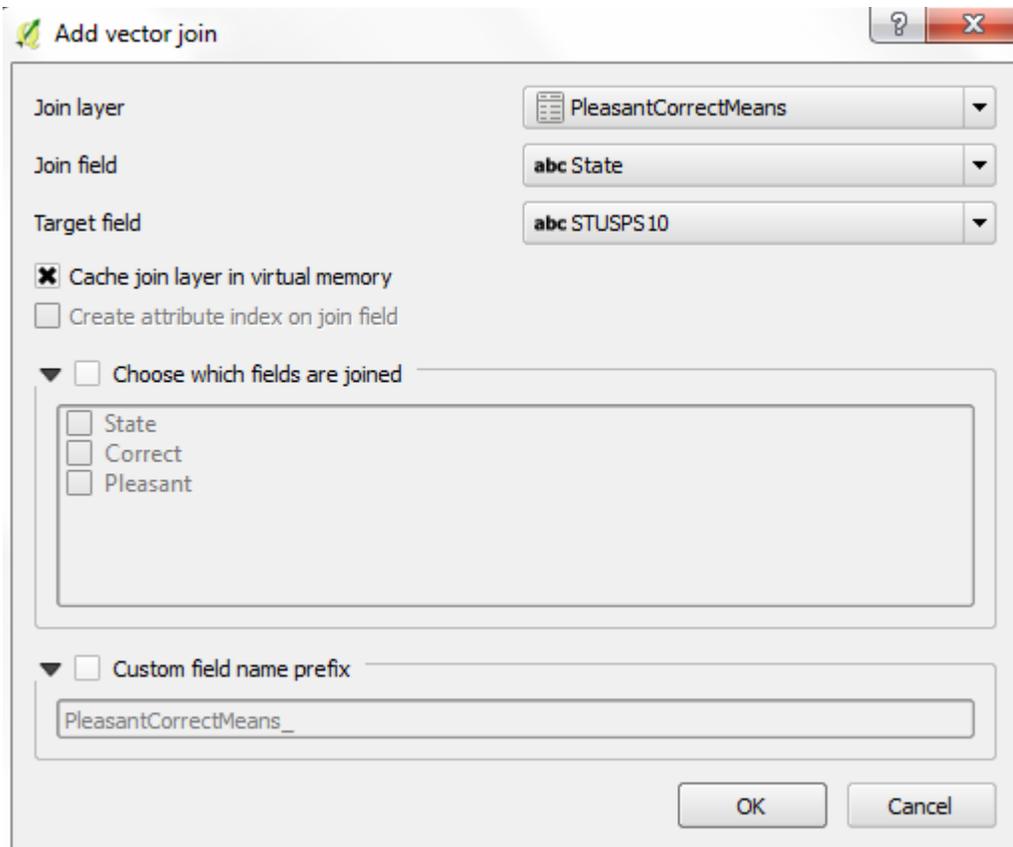
4. Next, we want to look at the attribute table for the shapefile. To do this, right-click the shapefile in the table of contents and select “Open Attribute Table”. It will look like this:



5. We want to edit this table because it has a lot of extra info that we won't be using. To begin edit mode, click the  icon in the top left corner of the box. Then click the  icon to delete unneeded fields. We'll show you which ones can go, but you can also leave it as is. The main things we need are the geographic coordinate info and the STUSPS10 (aka the USPS state codes). We can also delete info about PR, since it does not appear in our dataset. You do this by selecting the row containing this info and clicking the  icon. This will remove the shape from the map as well. If save your edits by clicking the  icon, it will not simply save them to the project; it will change the file itself. That's ok because we still have the original zipped file!
6. Next, we want to check out the properties of the CSV file. To do so, right-click on the file in the table of contents and select "Properties". It will give you a box that looks like this:

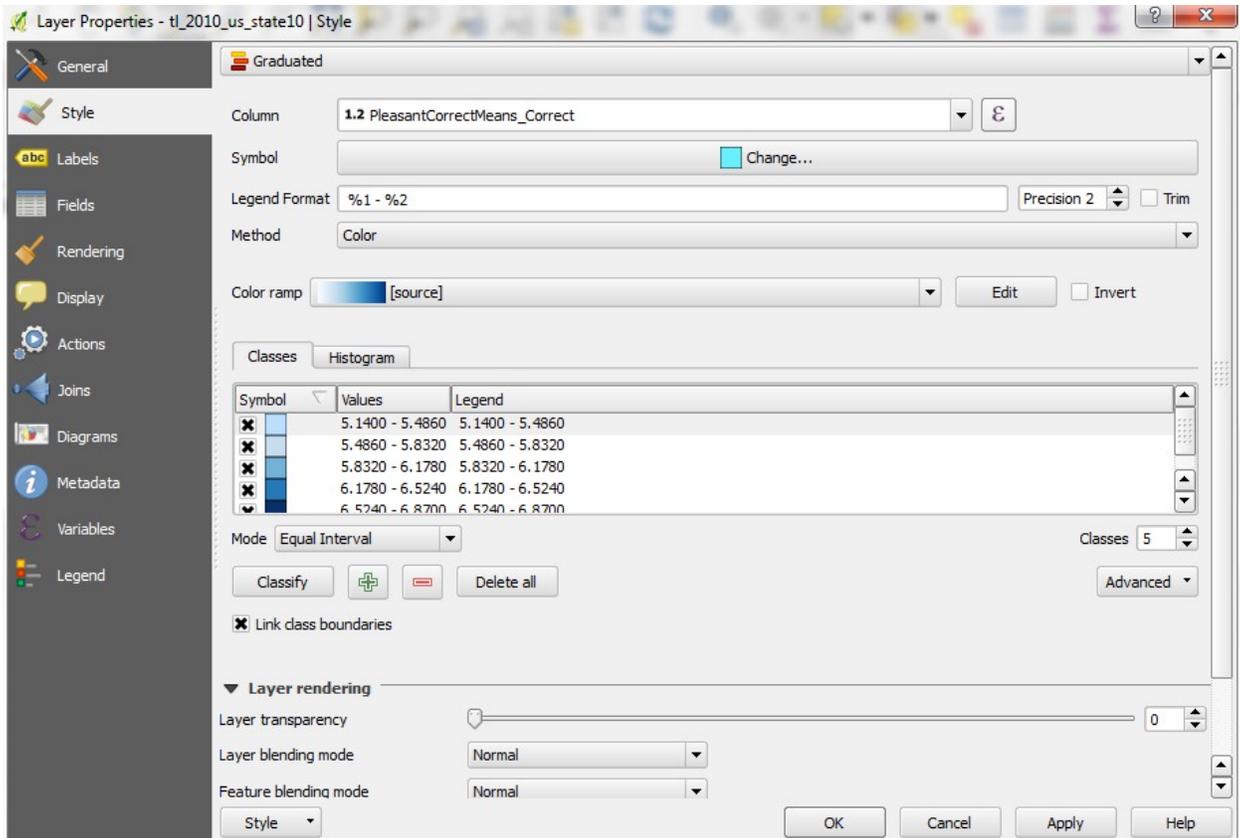


From here, we want to click “Joins”, followed by the  icon in the bottom left of the box. This is how we will connect our pleasantness and correctness data to the state data in the shapefile. You should get a box that looks like this:



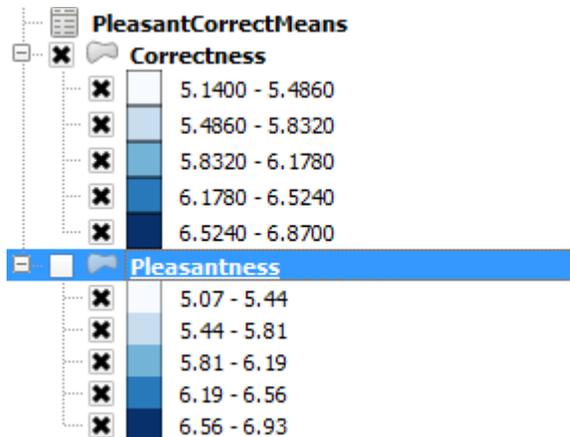
Make sure you have “PleasantCorrectMeans” in the “Join layer” drop-down, “State” in the “Join field” drop-down, and “STUSPS10” in the “Target field” drop-down. Click “OK” (twice).

7. Now let’s try to visualize the data. Right-click the shapefile again in the table of contents and select “Properties”. In the Properties box, click “Style”, then you will see the following box:



First, click the top-most drop-down and select “Graduated”. Under “Column”, select “PleasantCorrectMeans_Correct” (we’ll do the same thing for pleasantness later). It should default to “Equal Interval” and five classes, but make sure those appear correctly. Once you click “Classify”, it will automatically sort your data into five equal classes, which will appear in the box in the middle. You can change the color ramp if you like, or you can change the individual colors for each class by right-clicking. Click “Apply” and “OK”. Now you should see the states colored differently, based on the means for correctness.

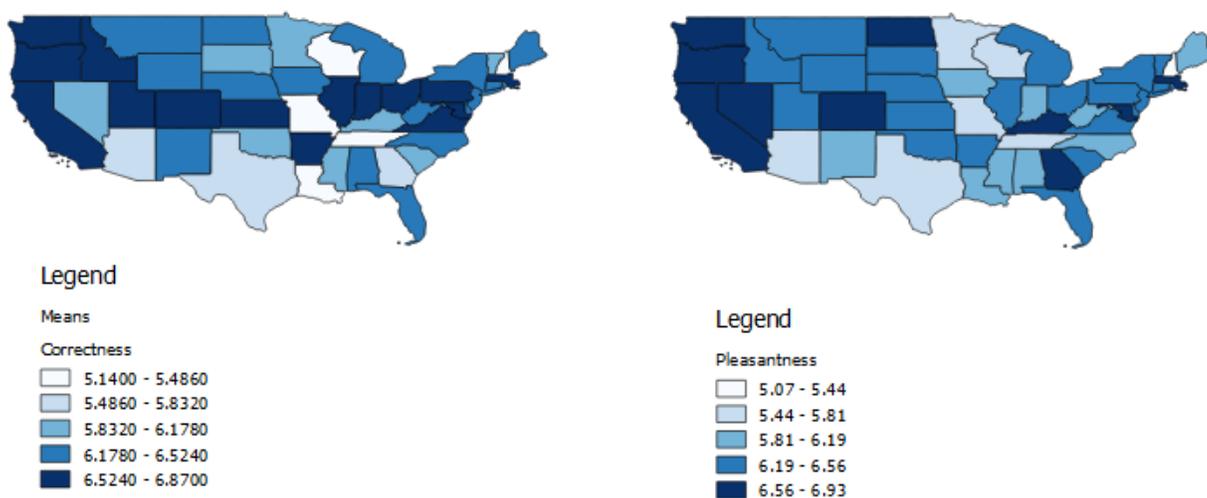
8. We want to create a side-by-side map comparison of correctness and pleasantness, so we’ll duplicate this layer so that we can map both features. Simply right-click the shapefile layer and select “Duplicate”. It will create (in the table of contents) and exact copy of the correctness data (called “tl_2010_us_state10 copy”).
9. These are terrible names (both generally and for clarity). Let’s rename them! Right-click on each layer, select “Rename” at the very bottom, and change the original to “Correctness” and the copy to “Pleasantness”.
10. Now we need to update the “Pleasantness” one to have the pleasant data. Right-click the file, select “Properties”, and go back to the “Style” menu. Here, just change the column to “PleasantCorrectMeans_Pleasant”, then click “Classify”. You’ll notice, once you click “Apply” and “OK” that nothing has changed. This is because you have to toggle between the two versions to see them. If the table of contents looks like this, it is showing the correctness map. Simply unselect it by clicking the ‘x’ next to it and clicking the empty box next to the Pleasantness one.



Exporting our data as a map image

1. In order to make a side-by-side comparison, we need the print composer feature that we used in Exercise 1.
2. We'll follow those same directions, but because we have two maps to put on the same print composer, we'll have to alternate between the print composer interface and the QGIS one.
3. Note: because Alaska and Hawaii are so far out there (sorry), I have chosen to zoom into the contiguous states only. In the QGIS interface, use the zooming feature to get the map to look as you like. We'll start with correctness, so make sure that map is the one selected.
4. In print composer, click "Add new map", drag the box on the composer, and lock the map. Go back to the QGIS interface and toggle to the pleasantness map. Repeat the adding/dragging/locking for this map.
5. In print composer, click "Add new legend". You can customize what appears there by clicking off "Auto update" and by clicking the  icon to remove the one you don't need in the item properties for the legend. Do the same thing for pleasantness.
6. Add a title by selecting "Add new label". Then you'll have something like this (hopefully you are better at aligning things than I am...):

Perceptions of correctness and pleasantness in varieties of English spoken in the United States



7. We can now export our map as an image file by using the “Export as Image” button.