

## QGIS Lab 0

The goal of this lab exercise is to help you get comfortable with QGIS. You'll be exploring it in a relatively freeform way, without the goal of producing a map. Take advantage of the tooltips (the information that comes up when you mouse over a tool). Answers can be in a format that's useful to you: phrases, sentences, sketches, screenshots, maps, etc.

The first 20 minutes of this will be on your own. Then, we'll set up Zoom rooms for each cohort to help each other troubleshoot. Instructors will be on call.

If you're already pretty familiar with QGIS, use this time to experiment with features you don't already know well -- answer the questions, but try to find different ways to do so. Also use this time to support others in your cohort (in fact, we're relying on you for this!).

Prepare: Download the data.

- a. If you haven't already downloaded the "southern counties" data (used in the QGIS homework), download it now from our [Trainings](#) page, by scrolling to the "southern\_counties data" link in the Exercises section, downloading, and unzipping.
  - b. Download the [Georgia shapefile](#) from mggg-states, by selecting download and then unzipping. It's recommended that you put everything in the same folder (say, a GDBC folder).
1. What are two ways you can open the data in QGIS? (hint: one involves dragging). Bring in both sets of data (southern\_counties and GA\_precincts16).
  2. How do you zoom and pan to navigate your map?
  3. There are at least two ways to select objects in QGIS. What are they?
  4. If you don't know the name of a county, what tool might help you identify it (hint: you might need to change the "mode" of the menu that appears)?
  5. For Precinct 10B in Fulton County, how many people...
    - a. Voted Democratic in the 2016 presidential election?
    - b. Voted Republican in the 2016 presidential election?
    - c. Live in this precinct (hint: what's the value of TOTPOP?)
  6. What precinct, in what county, has the largest population of...
    - a. Black people?
    - b. Asian people?
    - c. Hispanic people?
    - d. White people?

7. What are two ways to make a set of features disappear from the map? (Bonus: find a third)
8. If all you can see are the counties, and you want to see the Georgia precincts, or vice versa, how might you reorganize the layers?
9. What are two ways to change the color of something on your map?
10. Do the Georgia precincts nest neatly into counties? How did you figure this out?
11. How do you know what scale you are viewing your map at? (Scales are usually written like this: 1:8,000,000.) How can you specify what scale you want?
12. Where can you look if you want to find the latitude and longitude of a point on the map?
13. Change the projection for the map (not the individual files) to something centered on part of Georgia.
  - a. How did you do this?
  - b. What projection did you use? Include the description and the EPSG number.
  - c. Why do the Southern counties now look rotated?
14. Navigate to Vector→Geoprocessing Tools→Buffer. Using the Georgia precincts as the input layer, and .01 degrees as the distance, run the tool to create a buffer. Then, set the new layer that appears to be hollow, or have no fill. Using what you see, what did the tool do?
15. Review: for folks who did the QGIS exercise, explain below and to your cohort how you joined data on race to counties. For folks who didn't do the QGIS exercise, put their explanation in your own words below.
16. How can you create a layout of your map for printing or sharing with others?
17. ...and how can you add information to this print layout, including:
  - a. Data from the map itself
  - b. A title
  - c. A legend