SOC 4650/5650: Lab-07 - Accessing Demographic Data

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Directions

Using data accessed from `tidycensus` and `tigris`, create `.csv` and `.shp` files describing SNAP benefit useage in Missouri and St. Louis County. Your entire project folder system, including data and notebook output, should be uploaded to GitHub by **Wednesday, March 21st** at 5:00pm.

Part 1: Analysis Development (Review from Lectures 01 and 02)

The goal of this section is to create a self contained project directory with all of the data, code, map documents, results, and documentation a project needs.

1. In your course folder system, find the `Labs/Lab-07` subdirectory and add all necessary subfolders.
2. Open RStudio and add an R project, notebook, and the `README` file to your assignment. Make sure these are stored in the appropriate places in your assignment.
3. The `README` should contain addition details on both the source of your data and how you have modified different elements. Update this as you progress through the assignment.[1]

[1] Think of this as writing a letter to your future self - what information would you need to create this process?

Part 2: Download Census Data

The goal of this section is to be able to create two `.csv` files, one with SNAP benefit data for counties in Missouri and one for SNAP benefit data for census tracts in St. Louis.

4. Download the list of variables for the 2016 American Community Survey, and find the variable `B19058_002E` - what is its description?[2]
5. Download the data for variable `B19058_002` for each county in Missouri, and write these data to a `.csv` file.[3]

[2] *Hint:* Hover your mouse over the field if some of the text is obscured, and the full text will appear as a "tooltip".

[3] *Hint:* See lecture prep 07!

6. Download the data for variable `B19058_002` for census tracts in St. Louis County (FIPS code is 189), and write these data to a `.csv` file.

Part 3: Download Geometric Data

The goal of this section is to be able to create two `.shp` files that correspond to the SNAP benefits data we downloaded above.

7. Download a shapefile of all counties in Missouri that *is not* generalized. Convert these data to an sf object and write them to a `.shp` file.

8. Download a shapefile of all census tracts in St. Louis County (FIPS code is 189) that *is not* generalized. Convert these data to an sf object and write them to a `.shp` file.

Where We're Headed

Next week, we'll cover techniques for "joining" spatial data together. This will include a technique for combining our county-level SNAP benefits data with the corresponding shapefile, and also similarly combining our tract-level data and shapefile.