SOC 4650/5650: Lab-08 - St. Louis County Council Districts

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Directions

Using data accessed from the `module-3-dissolve` repository, create the maps below related to the boundaries of St. Louis County Council Districts. Your entire project folder system, including data and RMarkdown output, should be uploaded to GitHub by **Monday, March 29th** at 4:15pm.

Analysis Development

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. Please ensure **all** required elements are present. You will need both shapefiles included in the `data/lab-data/` subfolder in the `module-3-dissolve` repository.

Part 1: Data Preparation

The goal of this section is combine two separate shapefiles of St. Louis County Council precincts, dissolve these precincts into districts, and then remove any holes created by the dissolve process. Using `R`, complete the following steps:

1. Make sure your data are properly projected in the same, appropriate coordinate system.
2. Prepare the data for precincts in unincorporated parts of St. Louis County (i.e. areas not part of a municipality) by modifying it to match the variable names and formats used in the data showing precincts in incorporated parts of the County. Specifically, you need to modify the unincorporated precinct data to ensure the columns themselves, their format (numeric or character), and their names match the incporated precinct data.
3. Merge the newly cleaned unincorporated precinct data with the pre-existing incorporated precinct data.

4. Inspect the merged/bound data to see if a geometry collection was created. If it has been, extract it to polygon data.

5. Dissolve precincts into the seven County Council Districts. Preview these data to see if they contain holes as a result of the dissolve process.

6. If needed, remove holes from the dissolved data and then preview them again to ensure they display correctly.

7. Calculate the centroid for Council District 3 and then calculate a buffer of 1,000 meters around it. Preview this change to make sure it appears correctly.