GEOG 491/891: Special Topics - Spatial Analysis in R

Week 16: Course refleciton and wrap-up

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Reflection activity (3-5 min)

1. **WRITE DOWN** 2-3 things you can *now* do that you couldn't when the semester started
2. On the first day, you were asked what "success would look like" at the end of the semester. Were you successful?

Pair-and-share (find a buddy)

Share:

- your new skills
- your favorite thing about the course (e.g., new skills, activities, labs, demos)
- your measure of success *and* how well you did

Report out

From the syllabus (and labs)

- Basic R functions/processes/interfaces
- The tidyverse
- Data structures
- Plots
- VCS
- Functions
- Code reproducibility
- Point pattern analysis
- Spatial attribute analysis
- EDA

More

- Spatial operations
- Proxmity analysis
- Queries
  - Tabular
  - Spatial
- How geometries work, creation, analysis
- Raster manipulation
- Raster math
- Autocorrelation
- Static maps
- Interactive maps

Part 2:

- Open source Python spatial data analysis and frameworks
- What's a data frame, what's a geodataframe
- ESDA
- How to make a map programmatically
- Multilayer mapping
- Spatial weights matrices, formalization of space, *W*
- Spatial autocorrelation, global, local, LISAs
- Aspatial clustering (kmeans)

And whatever you're doing for your projects...

(so, a LOT!)

Learning objectives (from the syllabus)

By the end of the term, students will be able to successfully:

- Demonstrate a familiarity with the R programming language in the context of geospatial analysis
- Write self-contained functions to automate geospatial tasks
- Analyze model workflows and describe computer code and algorithms in plain language
- Create small-scale programs that interface with web-based tools
- Practice good programming practices
- Plan, develop, and execute a programmatic analysis of a dataset

How did you do?