Final Project

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My research question focused on educational achievement and educational funding. I looked at how both of those variables changed over time, and how they differed across the US.

Data

The data used for this project come from the KIDS COUNT Study, which is conducted by the Annie E. Casey Foundation (https://datacenter.kidscount.org/). Data is collected at both the national level and the state level within the US. The KIDS COUNT project contains data related to a number of different aspects of child development and well-being, including education, health, risky behavior, and family/community relationships.

For my project, I looked at 8th grade achievement in math and science, as well as per-student educational spending. Data were available at the state and national level for all variables. Funding data was collected every year, and achievement data were collected about every two years.

Visualization 1: Maps

Goal: Create maps showing state-level differences in educational achievement

Issues & Improvements:

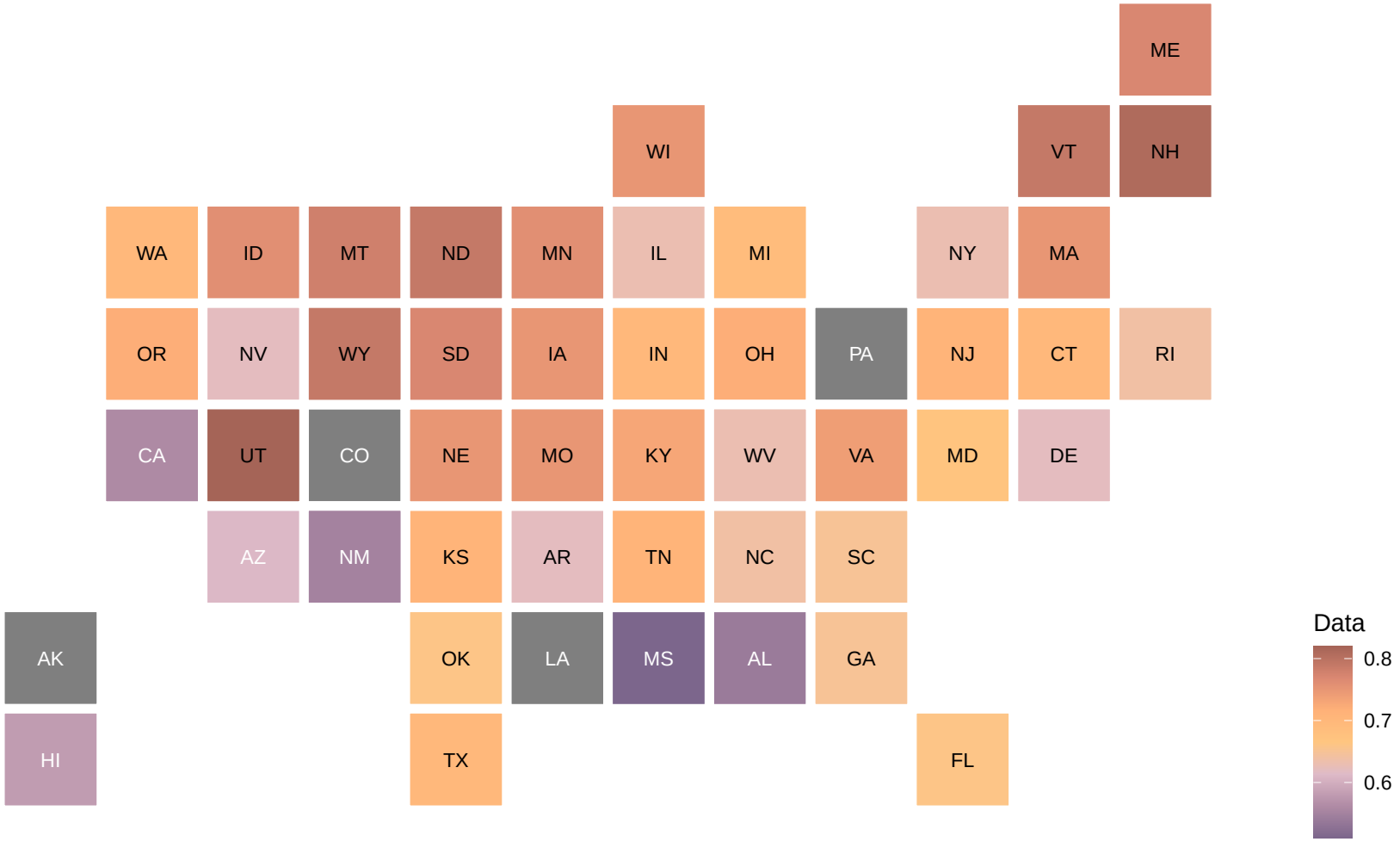
- Loading times
- Unnecessary printing
- Visibility w/ faceting

Successes:

- Statebins package

Map Plot

Science Achievement, Basic (2019)



Map Plot Code

```
state_plot <- statebins(science_2015 %>% filter(Achievement
state_col = "NAME",
value_col = "Data") +
  scale_fill_gradientn(colors=met.brewer("Morgenstern")) +
  labs(title="Science Achievement, Basic (2019)") +
  theme_statebins("right")
```

Visualization 2: State Funding

Goal: Show average per-student funding for all states in one readable plot.

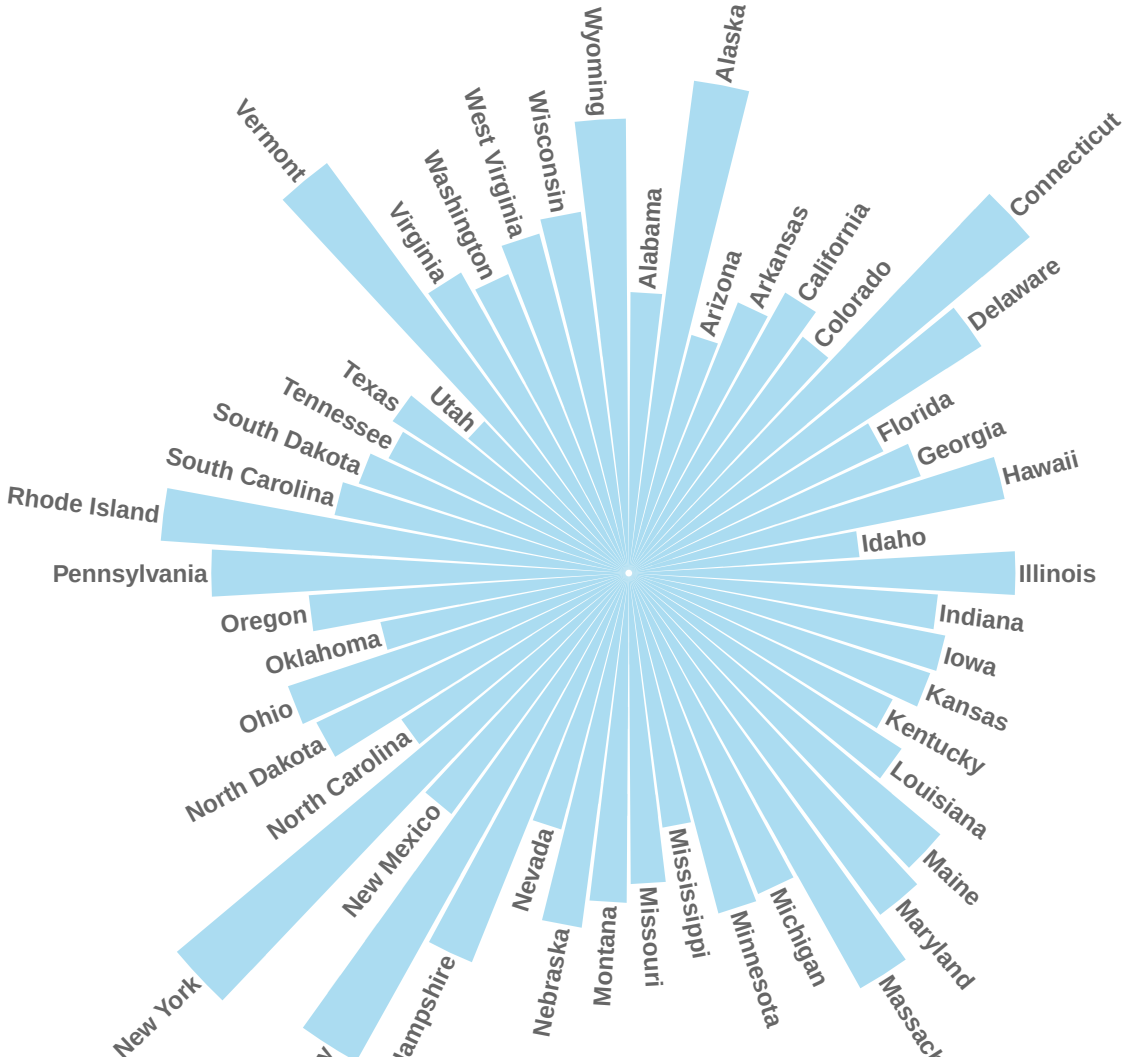
Issues & Improvements:

- Readability
- Label alignment
- Sorting & Grouping

Original Version

Per−student expenditures

Averaged over 1999−2019



Improved Version

Per−student expenditures

Averaged over 1999−2019