

ISA 401: Business Intelligence & Data Visualization

20: Charts Used for Spatial and Spatiotemporal Data

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 Automated Scheduler for Office Hours

Fall 2025

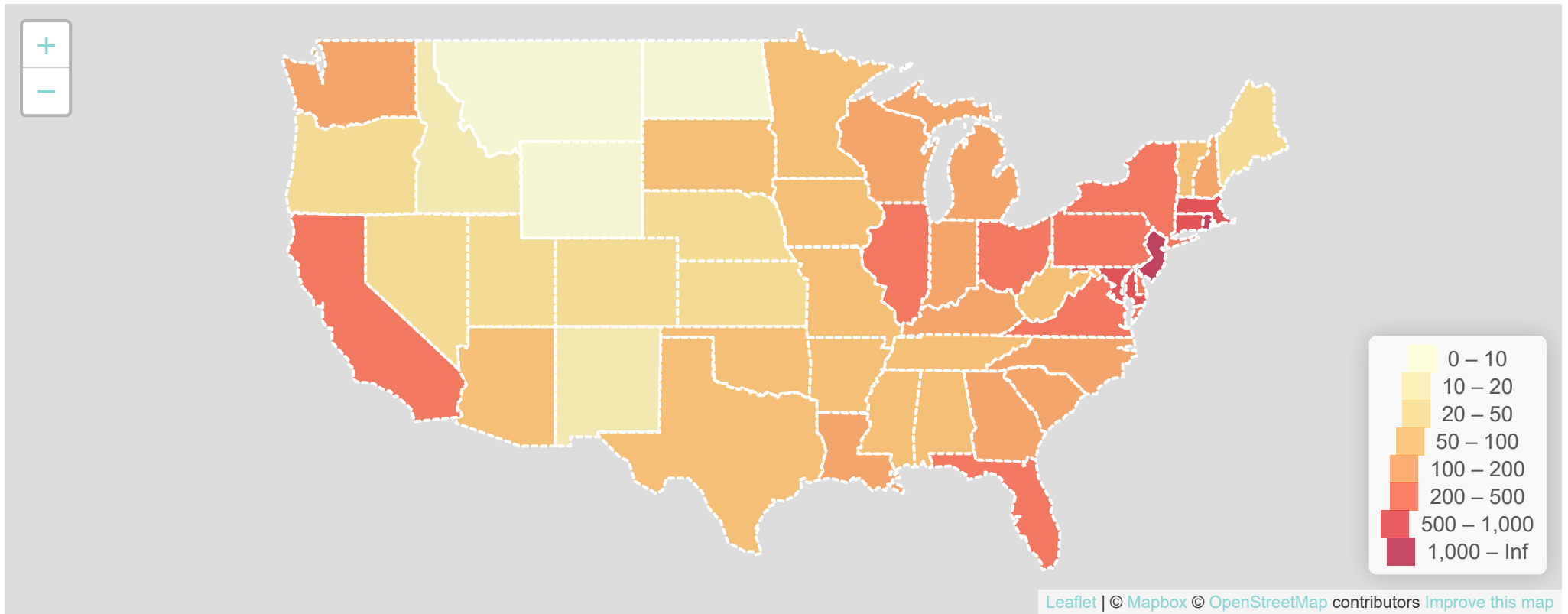
Learning Objectives for Today's Class

- Explain the different types of spatial plots
- Select suitable spatial graphs for different scenarios
- Understand how spatiotemporal plots can help in storytelling (what makes BI special)

Spatial Plots

Choropleth Maps

Maps where areas are **shaded, colored, or patterned** relative to a data attribute value.



Population Density in U.S.

Cartograms

A cartogram is a map in which **areas are scaled and distorted relative to a data attribute value**

U.S. House Election Results

Republicans have won a majority in the House, but some of those seats could become vacant as members join the Trump administration.

215
Democrats

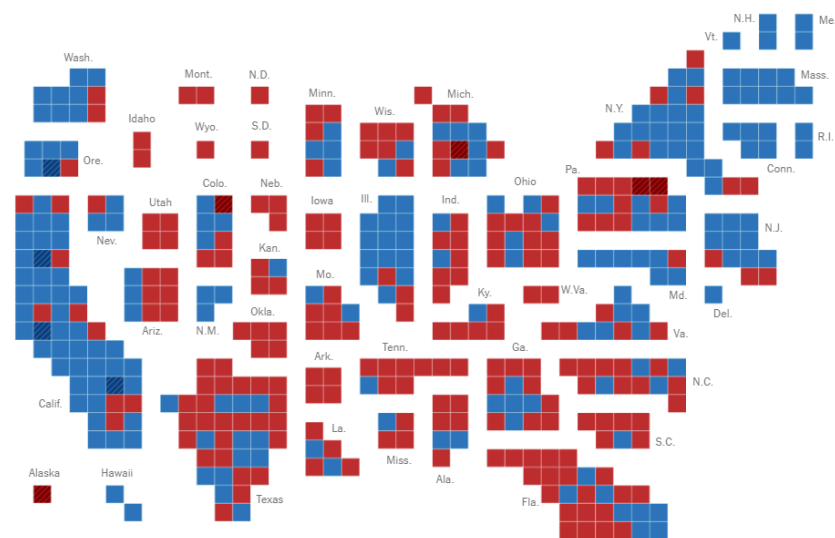
220
Republicans

+2 net gain

218
FOR CONTROL



Dem. Win Flip Rep.
Flips are not shown for states with new district boundaries.



The NYT's U.S. House Election Results 2024

Proportional Symbols Map

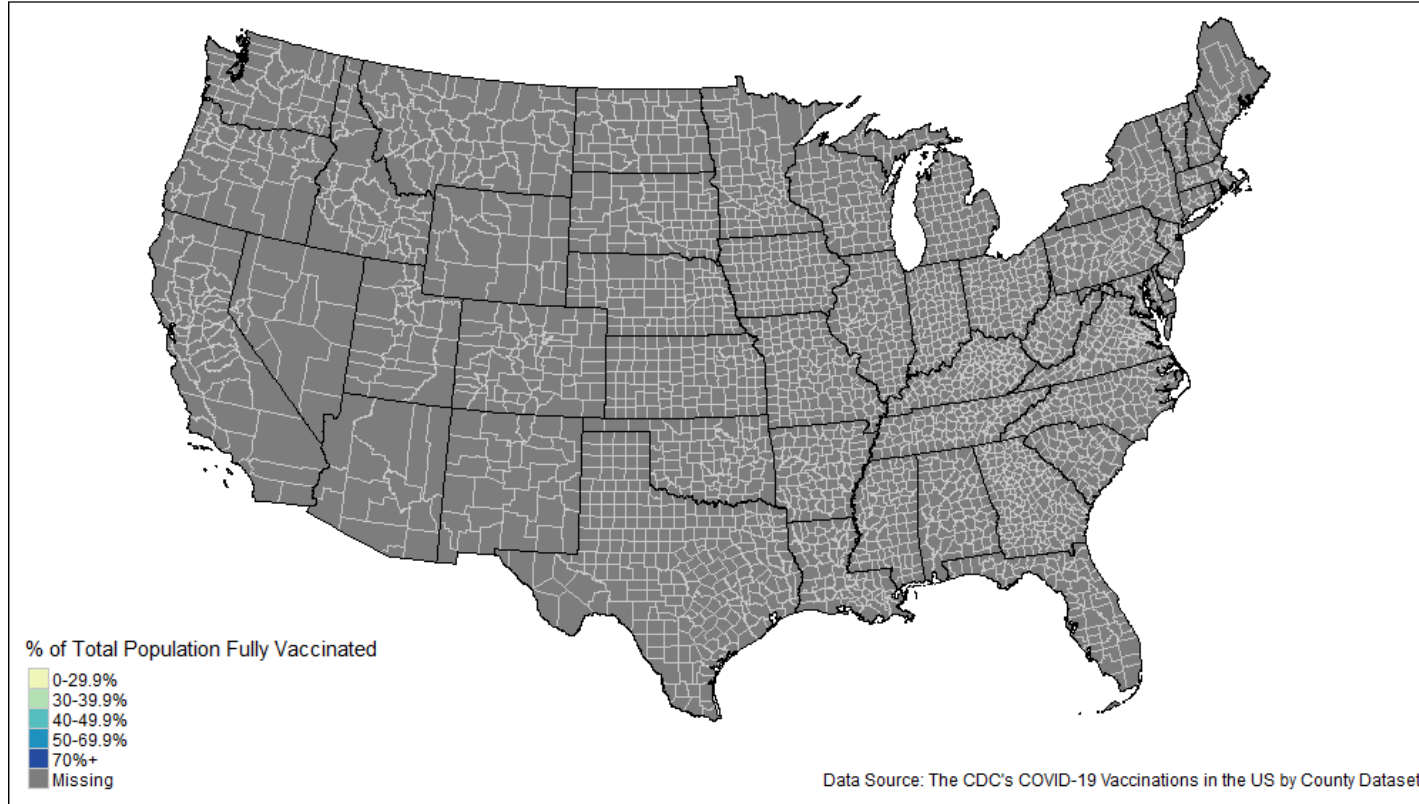


The NYT's U.S. Coverage of 2009 Super Bowl

Spatiotemporal Maps

Spatiotemporal Maps

2020-12-13



Software Demo

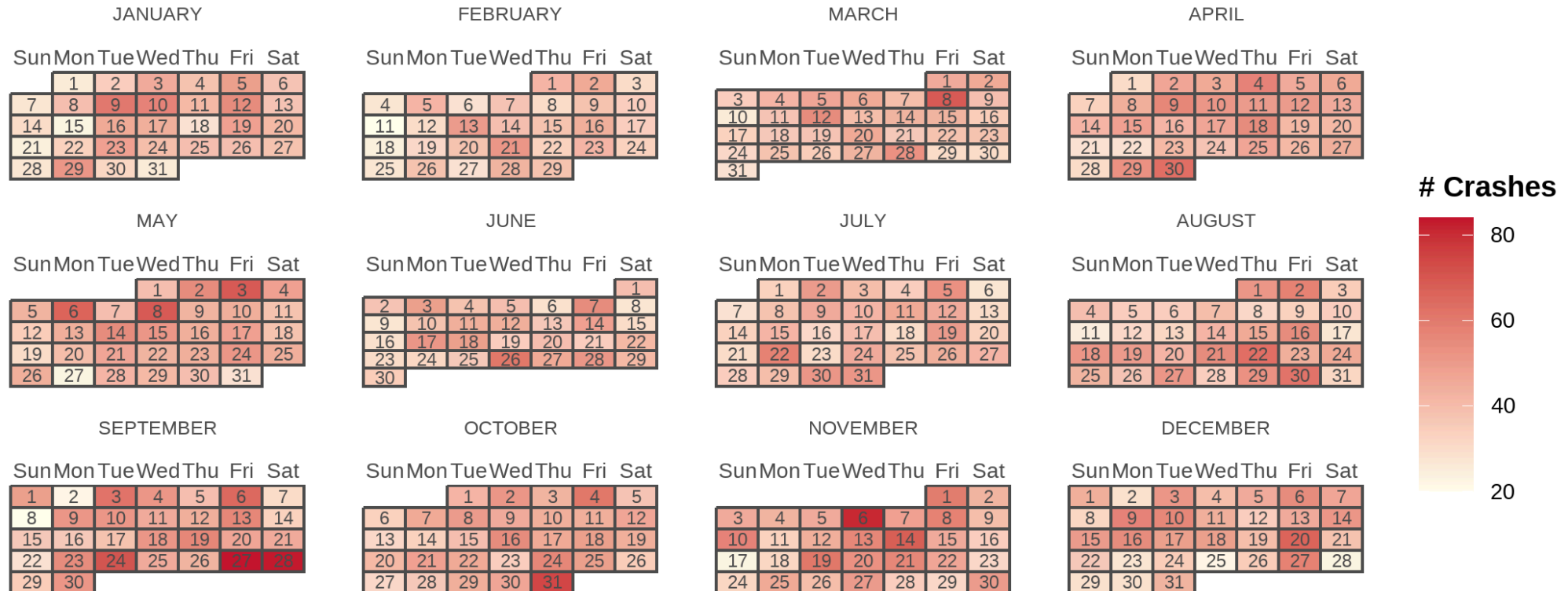
Exploring the Cincy Crashes Dataset

Let us use Tableau to explore the [cincy_2024_crashes.csv](#), where we will create the following:

- A calculated field titled `unique_count`
- A plot of the total number of unique crashes per day
- A table of number of unique crashes by week day
- A table of number of unique crashes by week day
- An animated symbols map

Bonus: A Calendar Plot in PowerBI

Let us use  inside Power BI to create this based on [cincy_daily_crashes_2024.csv](#).



Created by: Fadel Megahed | Data source: City of Cincy Open Data Portal (rvmt-pkmg)

Recap

Summary of Main Points

- Explain the different types of spatial plots
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- Understand how spatiotemporal plots can help in storytelling (what makes BI special)