

Data Visualization & Design

Week 8

1. Introduction to **Mapping**
2. Studio: **QGIS & CARTO**

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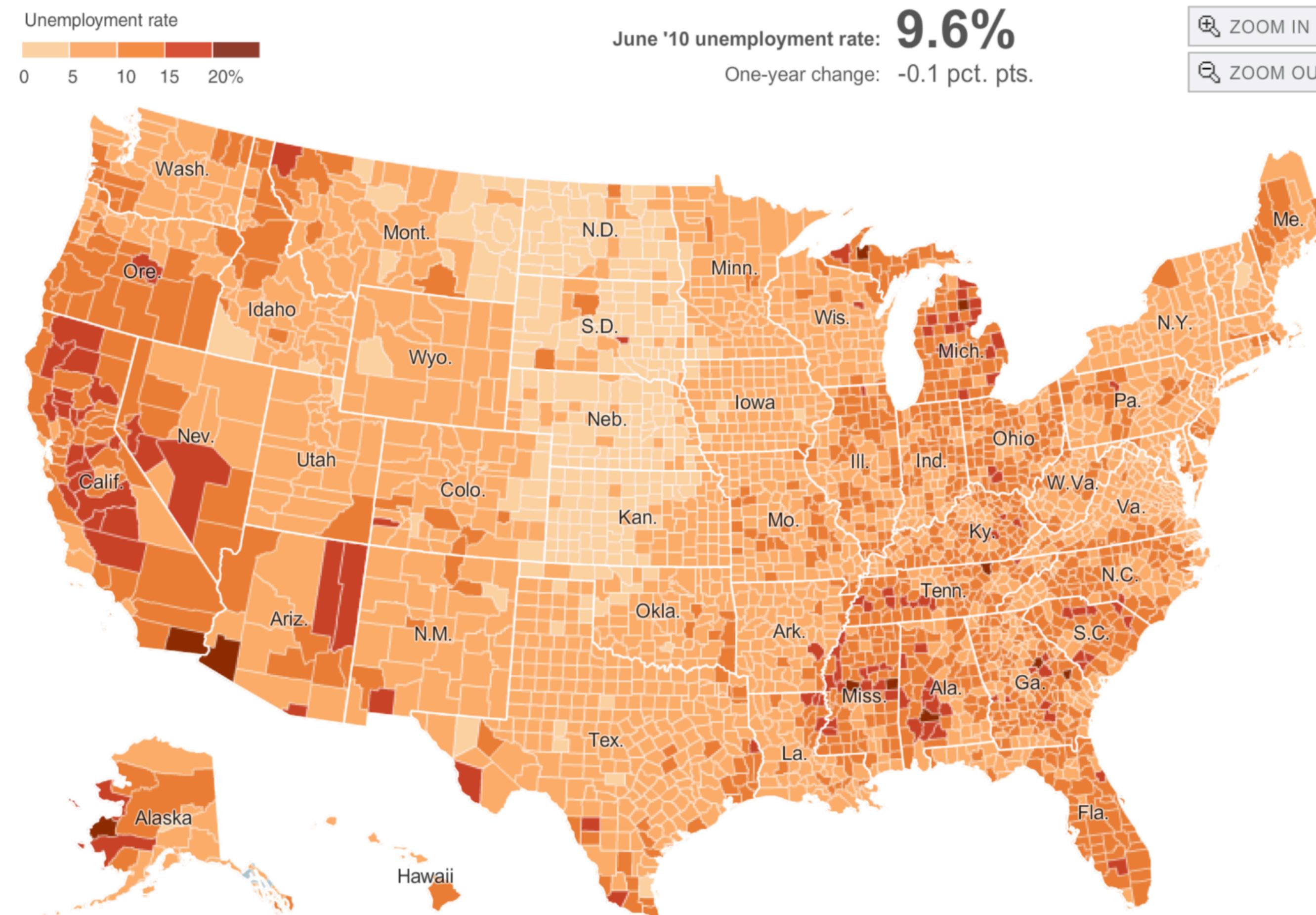
Map types

- **Reference** – Spatial without emphasis
 - (ex. Topographic features, transportation routes)
- **Thematic** – Special theme or focus
 - (ex. Precipitation)
- **Special purpose** – Industry-specific
 - (ex. Navigation map)

Elements of a thematic map

- Scale
- Base map & thematic data
- Cartographic generalization
 - Selection
 - Classification
 - Simplification
 - Symbolization
- Qualitative or quantitative

Choropleth



[Source](#)

Choropleth

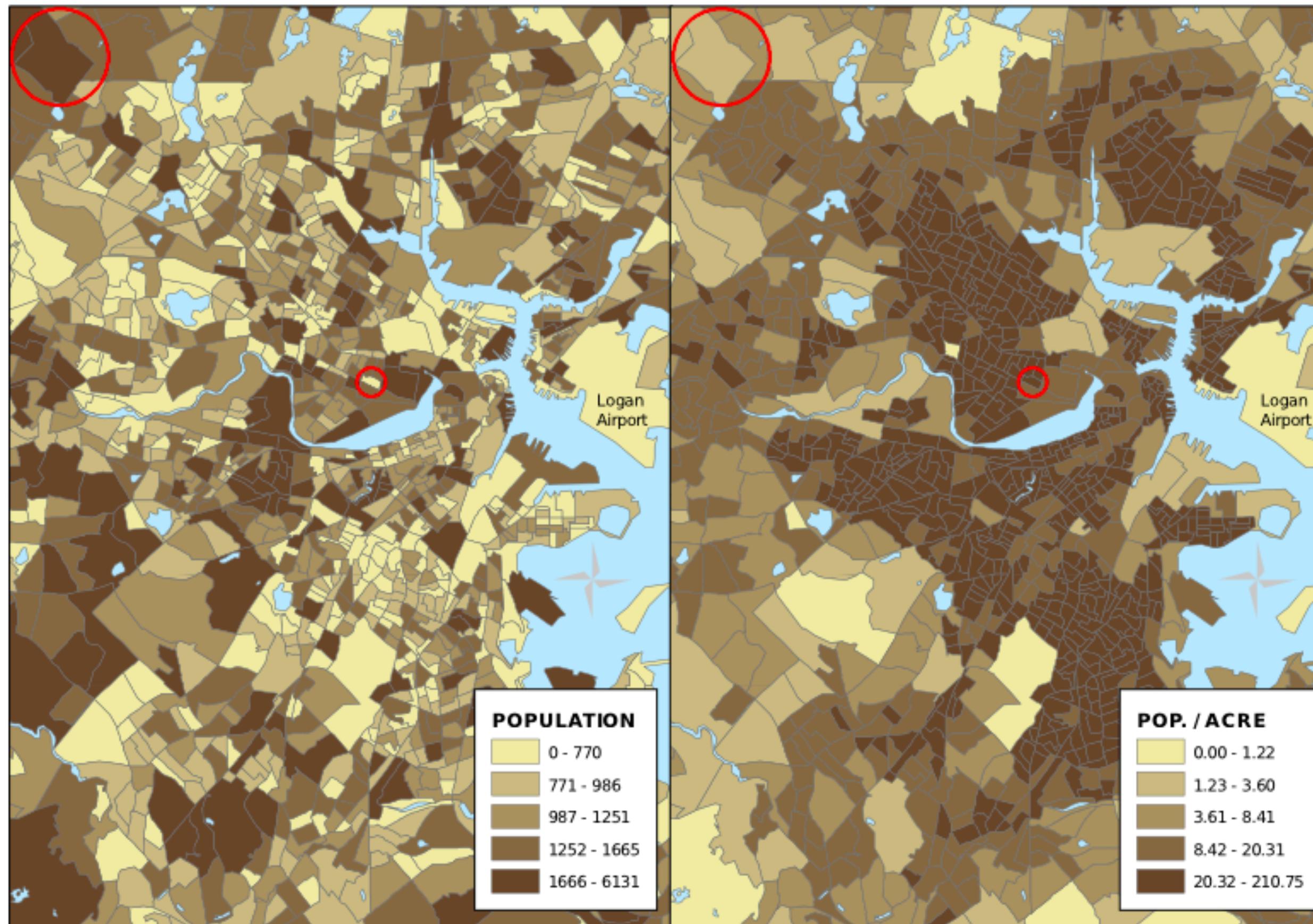
- Polygon
- Shaded regions
- Variability and difference
- Predefined boundaries

Considerations

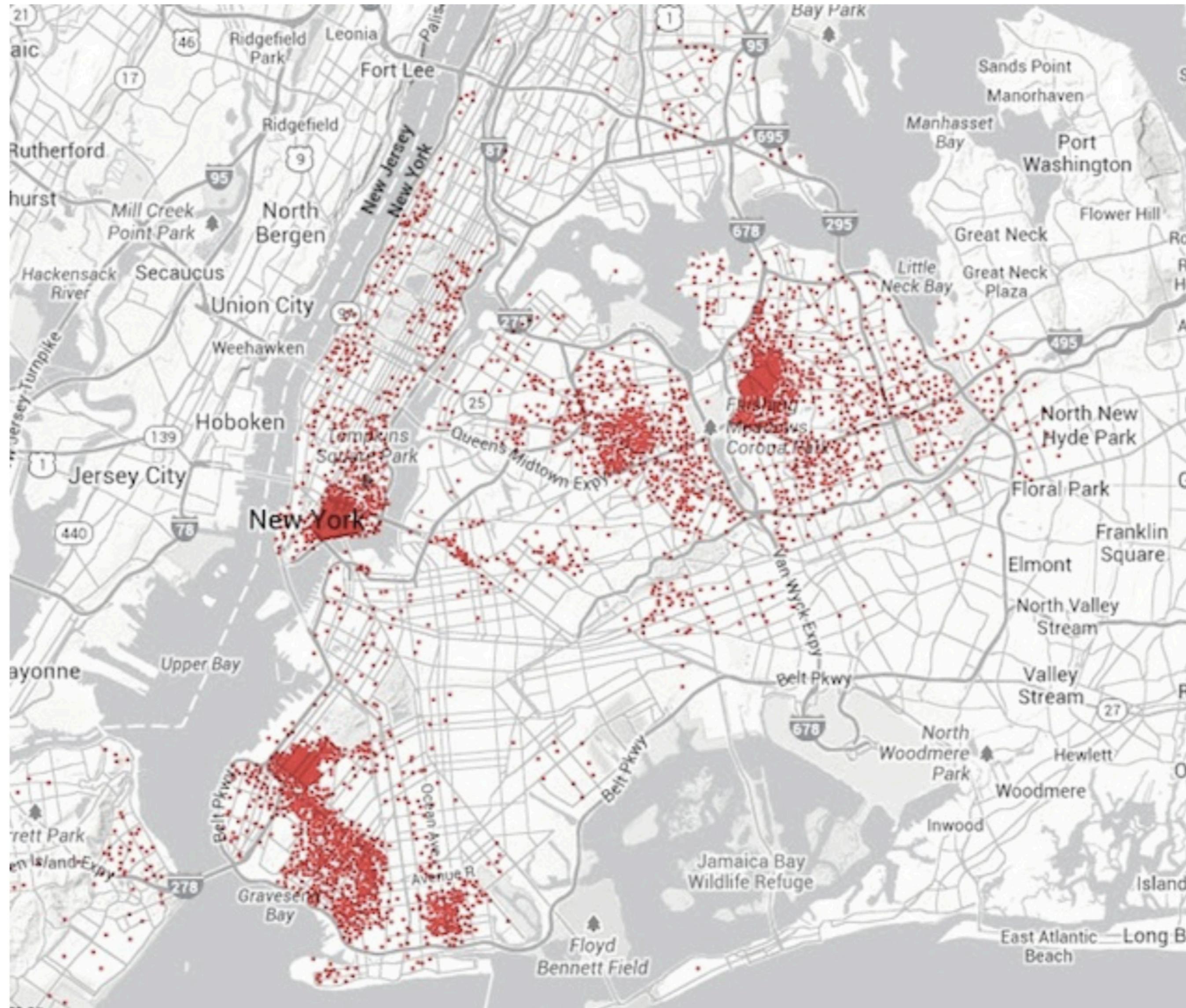
- Bucketing
- Level of abstraction
- Modifiable area unit problem (MAUP)
- Can overemphasize difference

Choropleth

Total Population of 2000 Census Block Groups Population Density of 2000 Census Block Groups



Dot



[Source](#)

Dot

- Point
- Spatial density

Considerations

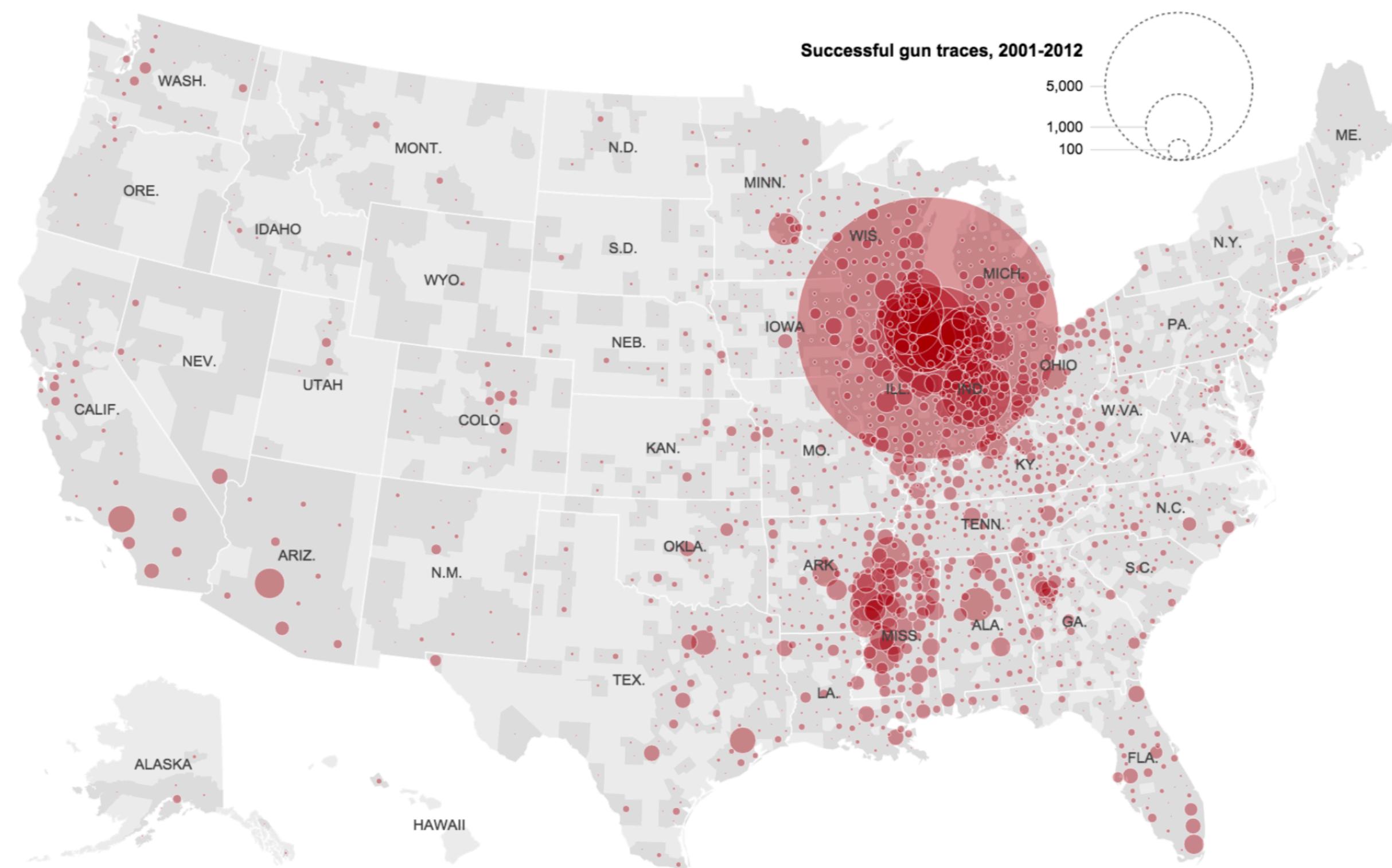
- Especially reductive – isolated events
- High-density areas make comparisons difficult

Proportional Symbol

Where 50,000 Guns Recovered in Chicago Came From

The Chicago Police Department traced the origins of about 50,000 guns that it recovered between 2001 and March 2012.

More than half of those guns came from outside the state. [Related Article »](#)



[Source](#)

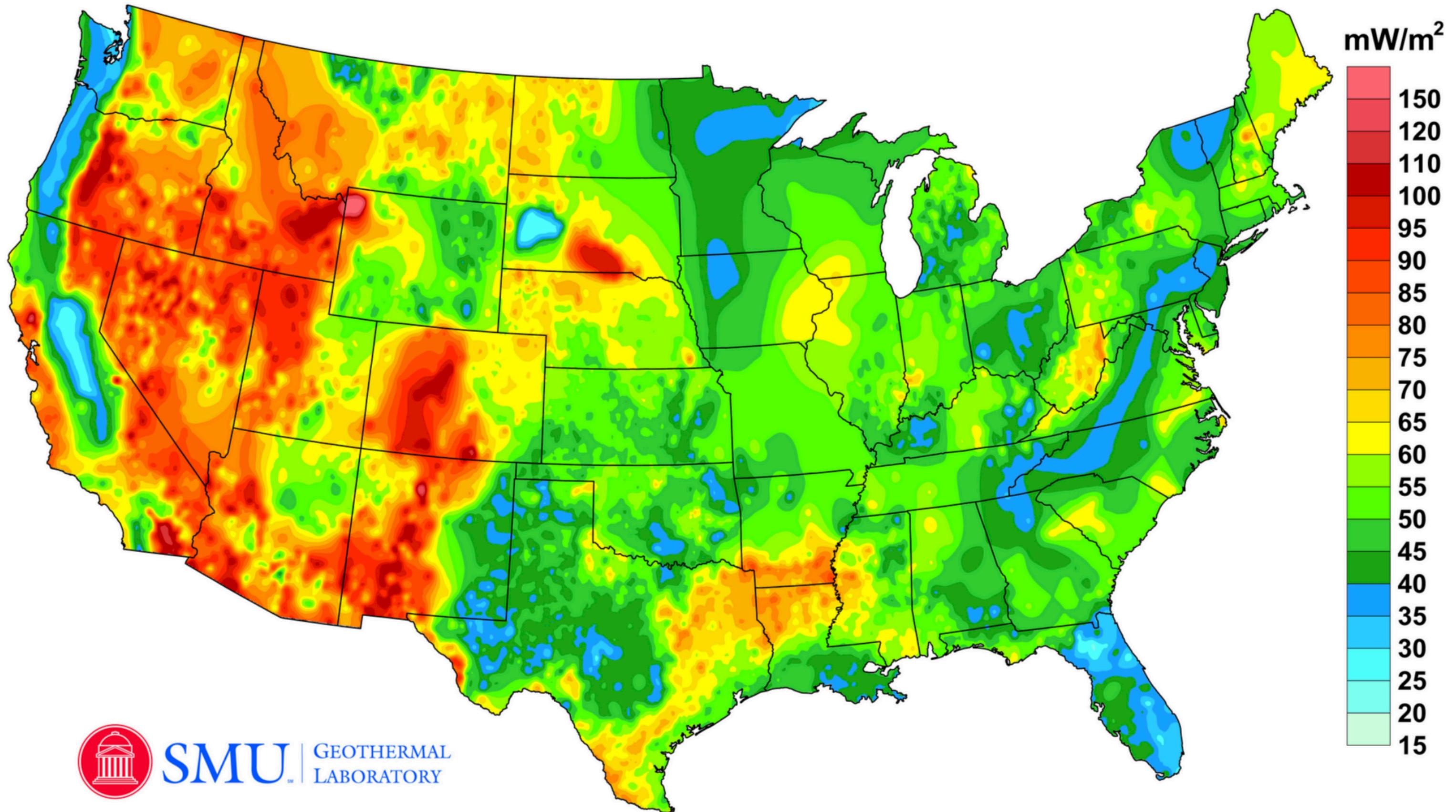
Proportional Symbol

- Point
- Larger symbol = more at location
- Most often, area of proportional 2D symbol encodes data
- Possible to create compound symbols

Considerations

- Overlapping symbols
- Ambiguous centers
- Can get congested

Isopleth (Contour)



[Source](#)

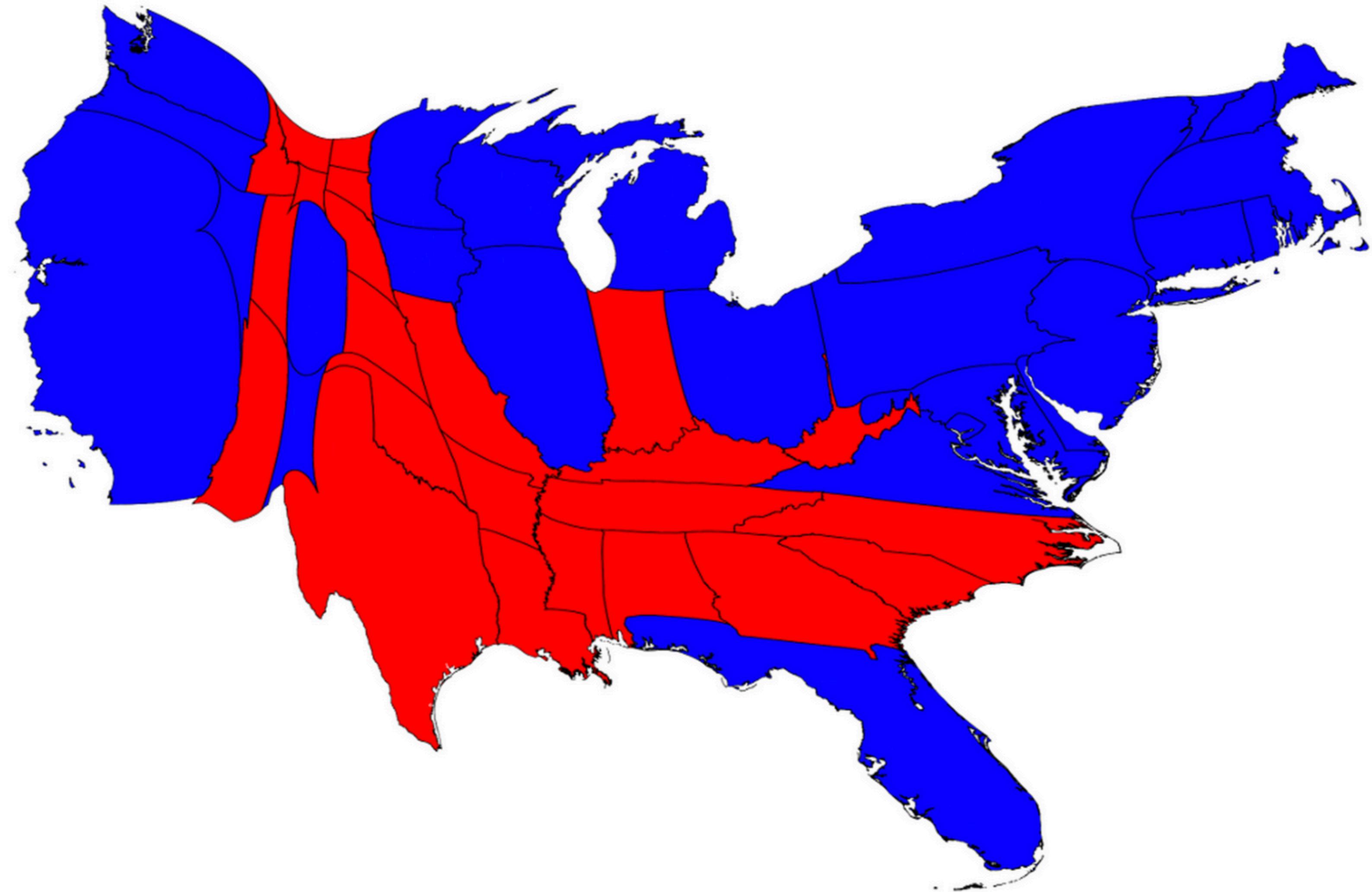
Isopleth (Contour)

- Data not grouped into predefined boundaries
- Good for showing gradual change between areas

Considerations

- Not good for showing discontinuous distributions
- Need lots of data

Cartogram



[Source](#)

Cartogram

- Substitutes thematic mapping variable for land area
- Tries to preserve general features

Considerations

- Distortion

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**[https://github.com/emilyfuhrman/datavis_design/
blob/master/2018_Summer/Studios/
04_Introduction_to_Mapping_with_QGIS_and_CARTO.md](https://github.com/emilyfuhrman/datavis_design/blob/master/2018_Summer/Studios/04_Introduction_to_Mapping_with_QGIS_and_CARTO.md)**

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