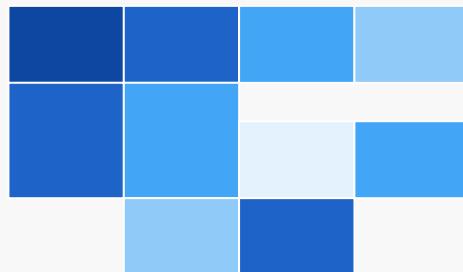


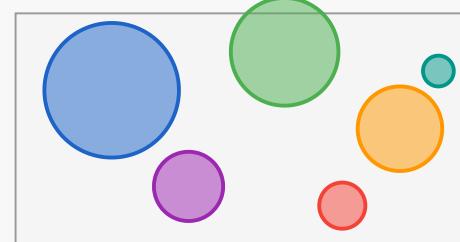
Geographic Data Visualization

Choropleth Map & Bubble Map

Choropleth Map



Bubble Map



Features

Choropleth

- Color-encode regions
- Sequential/diverging scales

Bubble Map

- Size at coordinates
- Combine size + color

Best Practices

- ▶ Normalize by population/area
- ▶ Consider projection distortion
- ▶ Add borders & labels
- ▶ Use appropriate color scale

When to Use

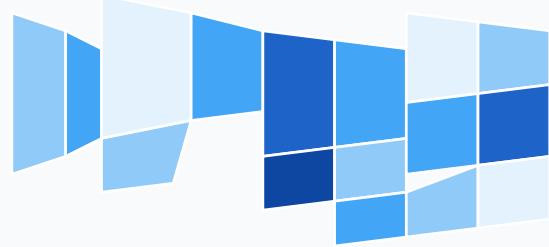
- ✓ Spatial patterns
- ✓ Regional comparison
- ✓ Location-based insights

Real-World Examples



Choropleth: US Unemployment Rate

2024 Unemployment Rate by State



>8%
6-8%
4-6%
2-4%
<2%

Use Case

This choropleth map visualizes unemployment rates across US states using color intensity. Darker blues indicate higher unemployment rates.

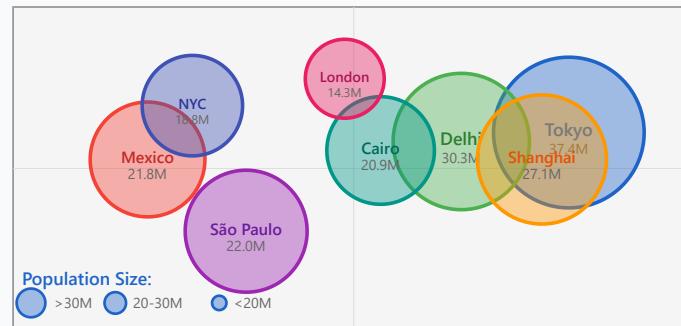
Key Insight: Regional patterns show economic disparities

Color Scale: Sequential (light to dark blue)



Bubble: Global City Populations

Metropolitan Area Population (2024)



Use Case

This bubble map displays population sizes of major cities worldwide. Bubble size represents population, and colors distinguish different cities.

Key Insight: Asia dominates with largest urban centers

Encoding: Size = population, Position = geography

Advantage: Shows both location and magnitude

Data Type: Normalized percentages