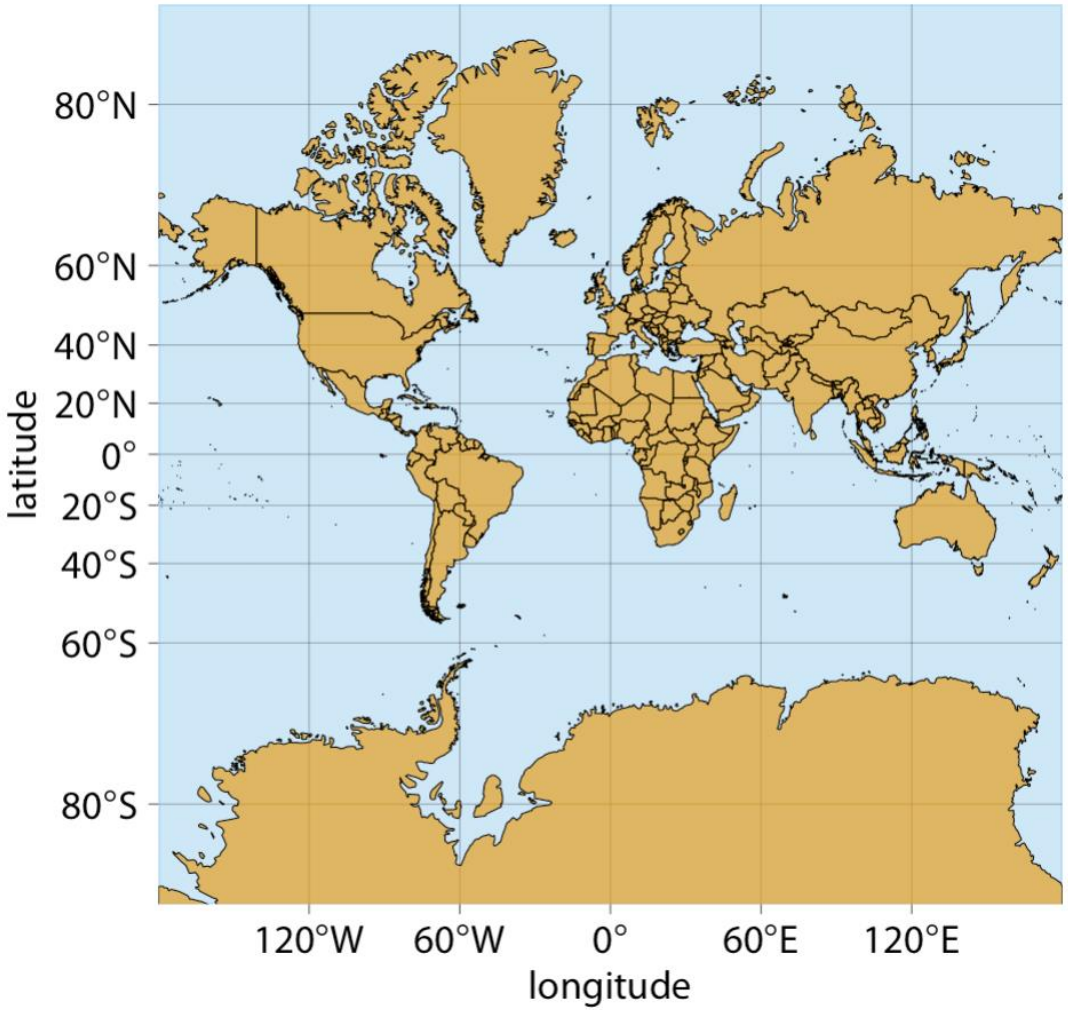
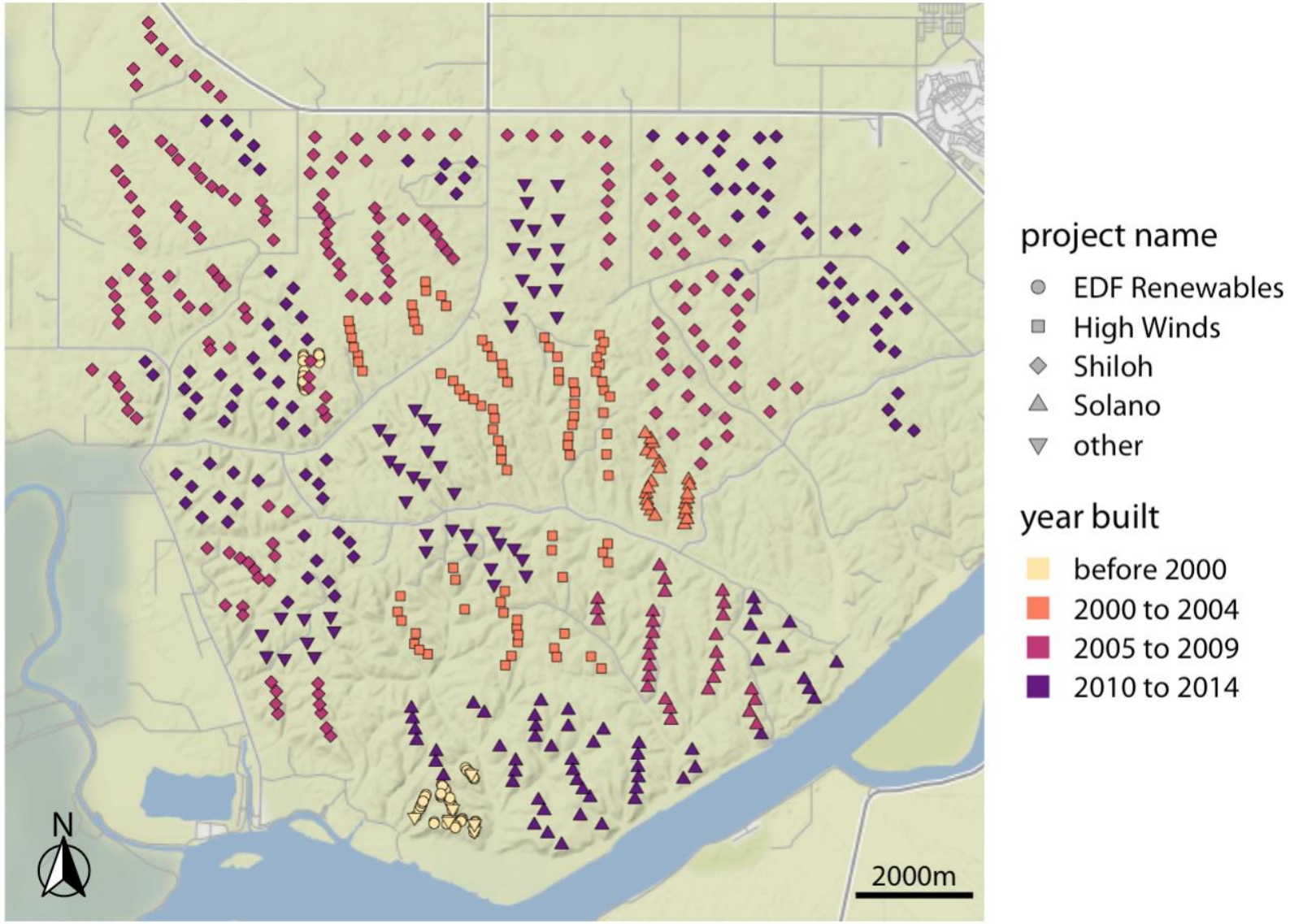
Data Visualization

Unit IV

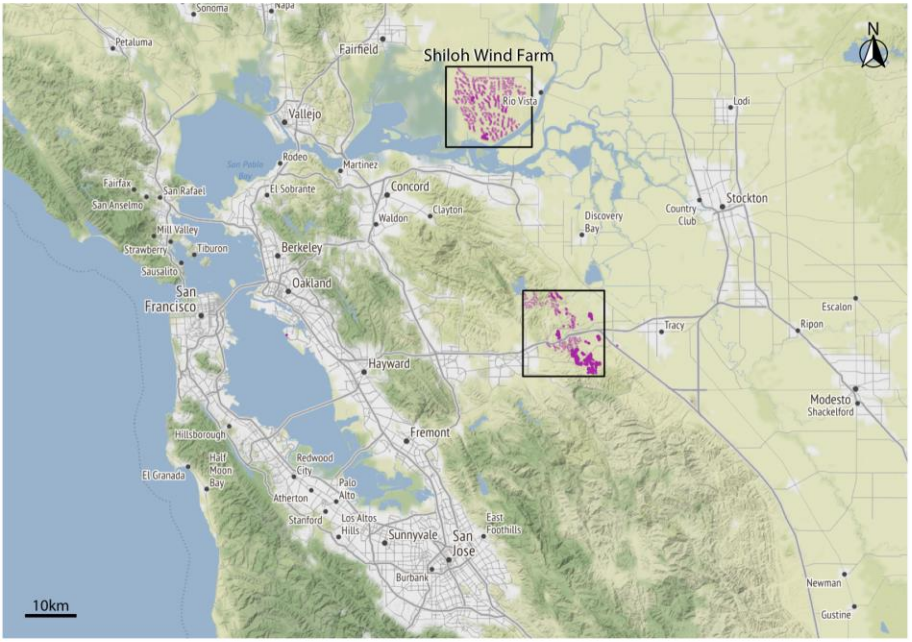
Visualizing Geospatial Data



Data labelling with Geo-Spatial



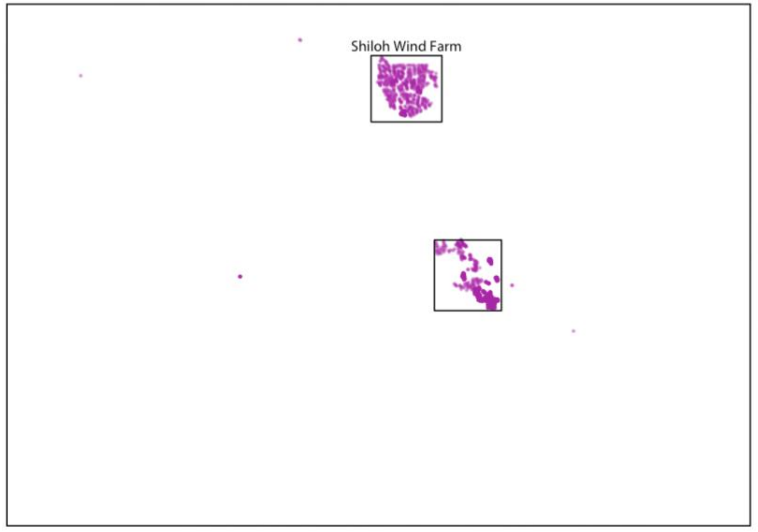
Layers



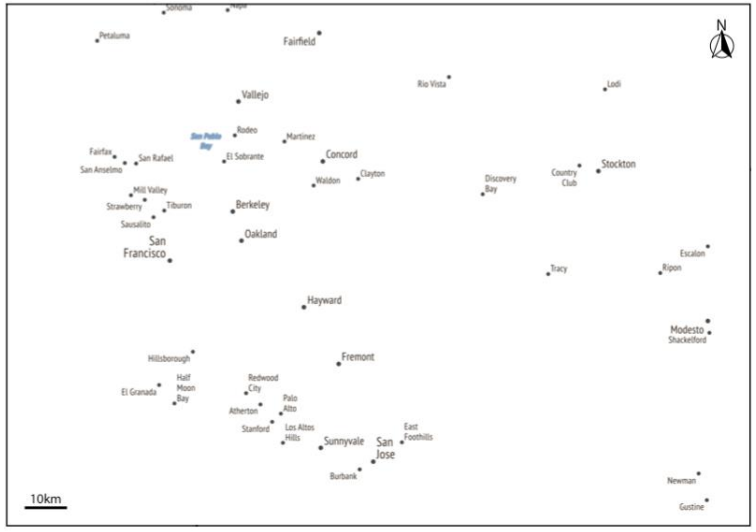
terrain

roads

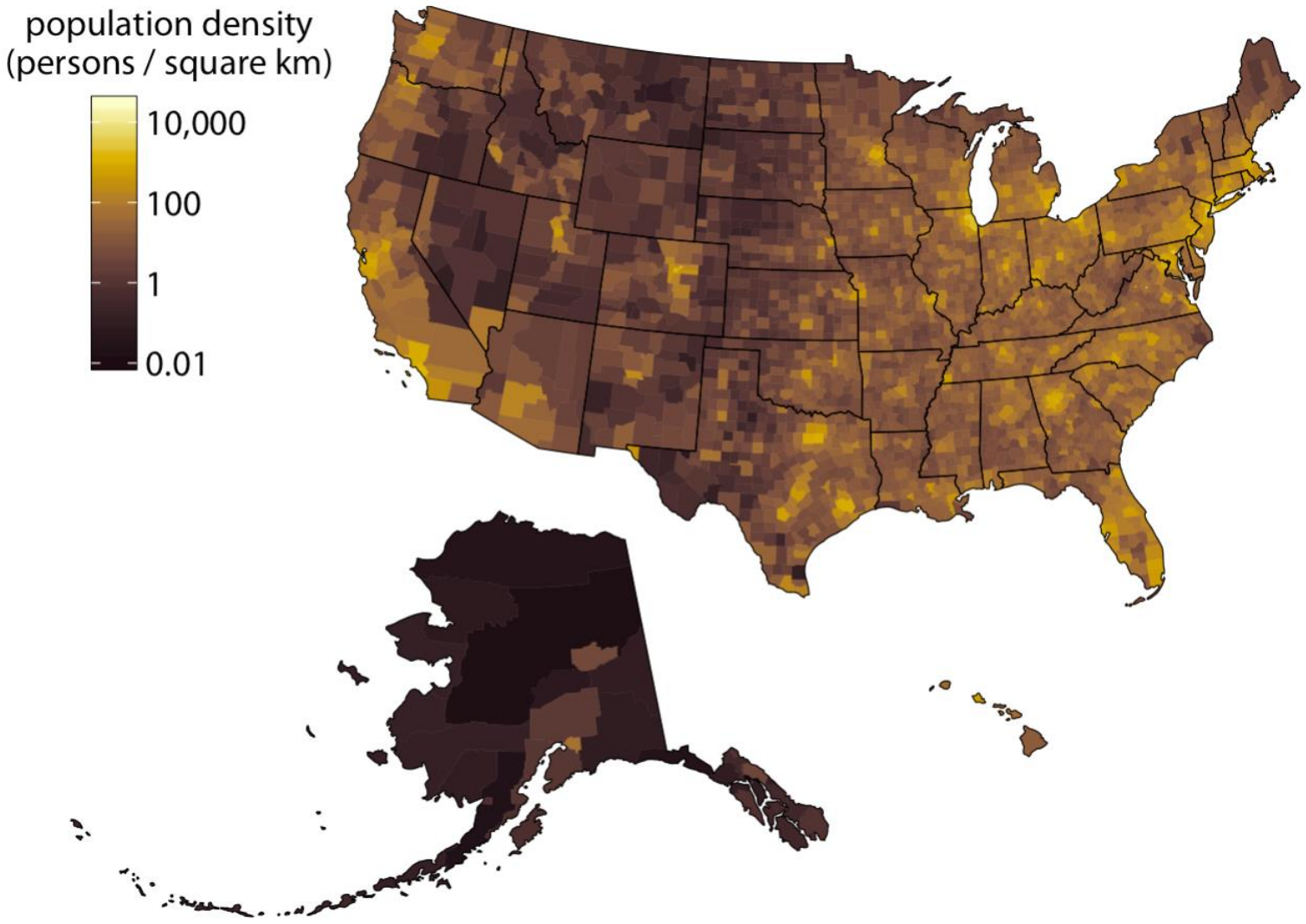
wind turbines



city labels, scale bar



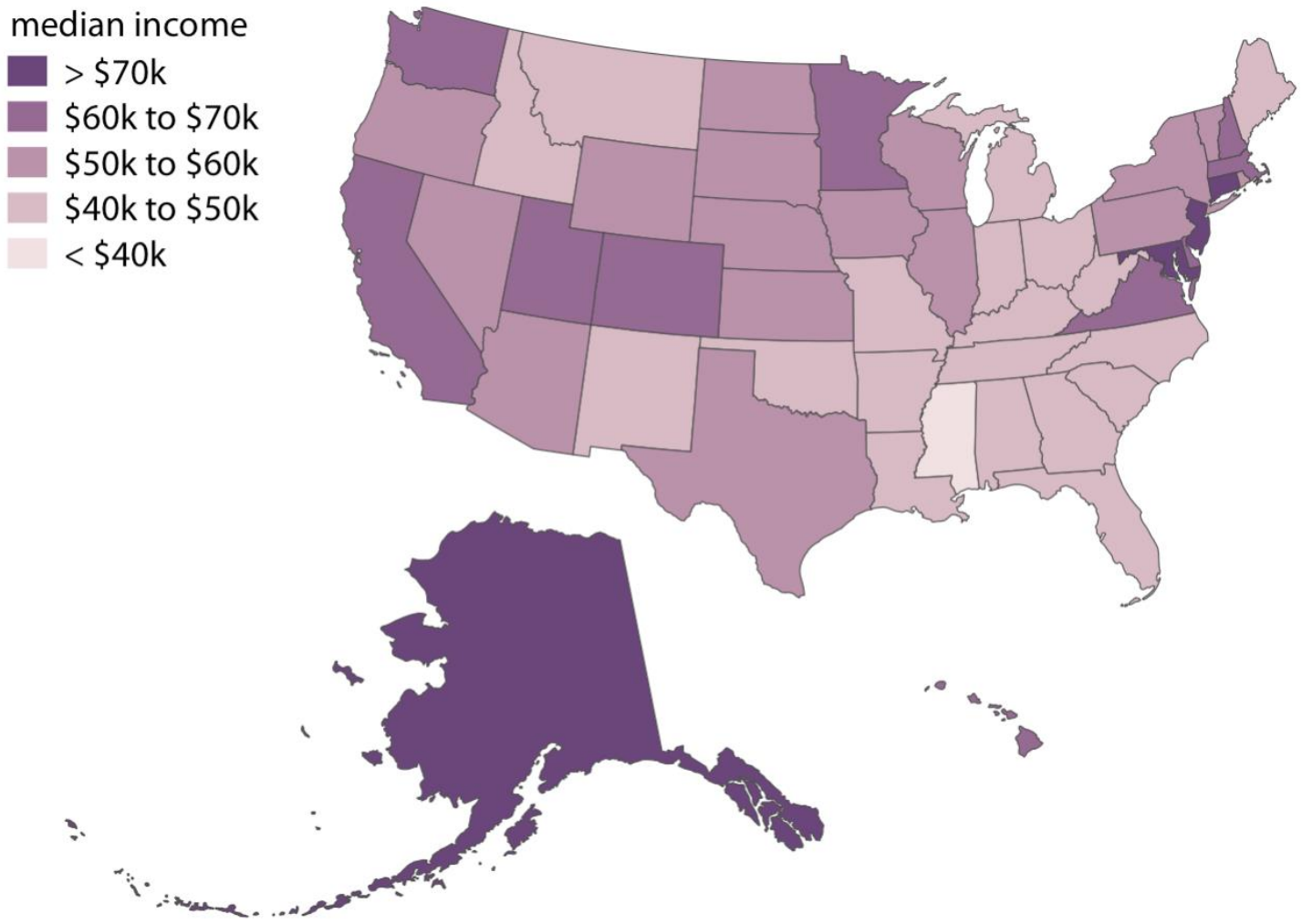
Choropleth Mapping



Showing quantitative data with specific colors.

Same as that of heat map

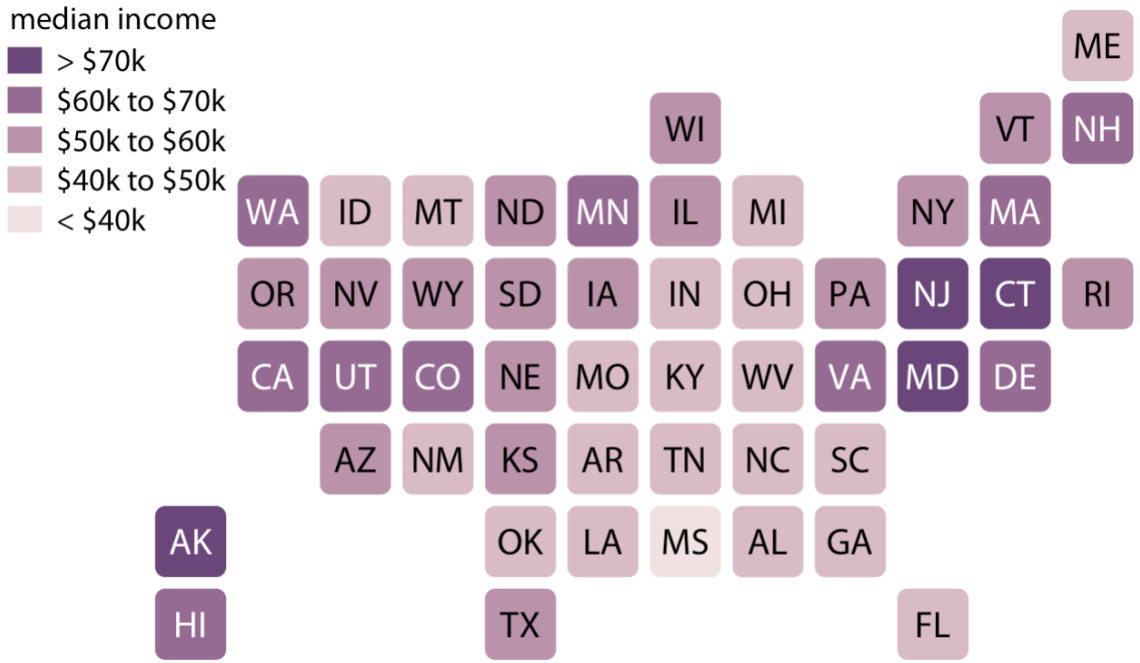
Choropleth Mapping

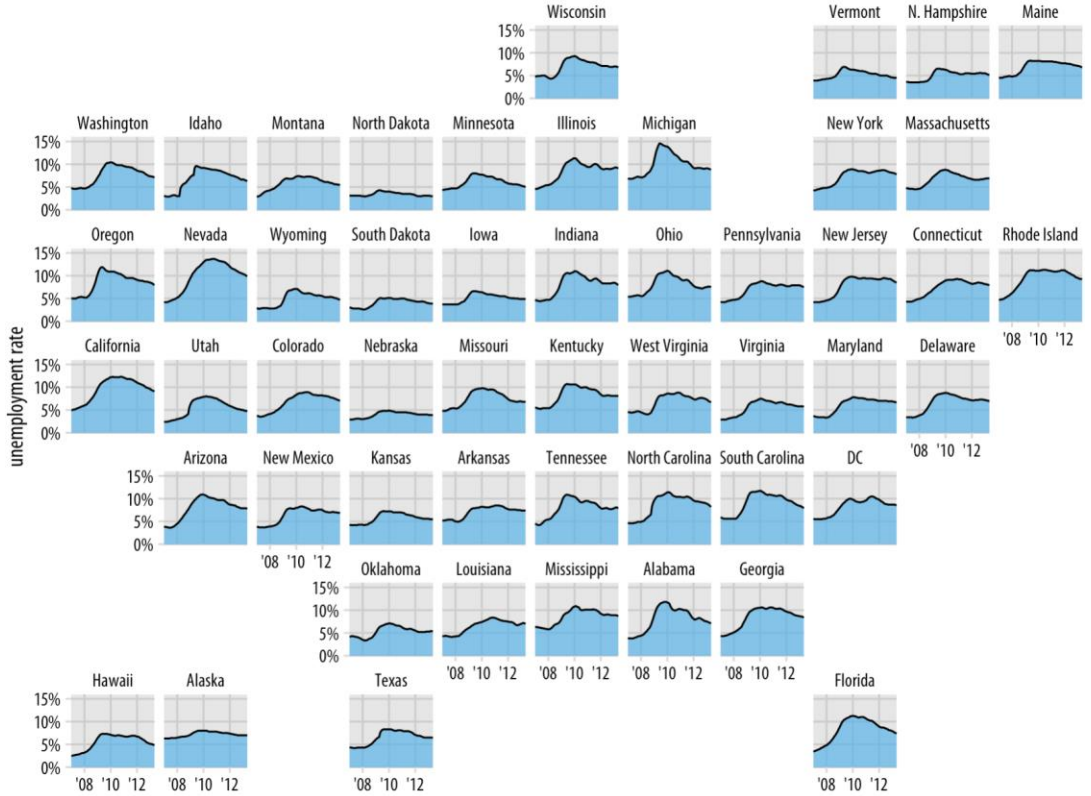


Showing quantitative data with specific colors.

Same as that of heat map

Cartograms

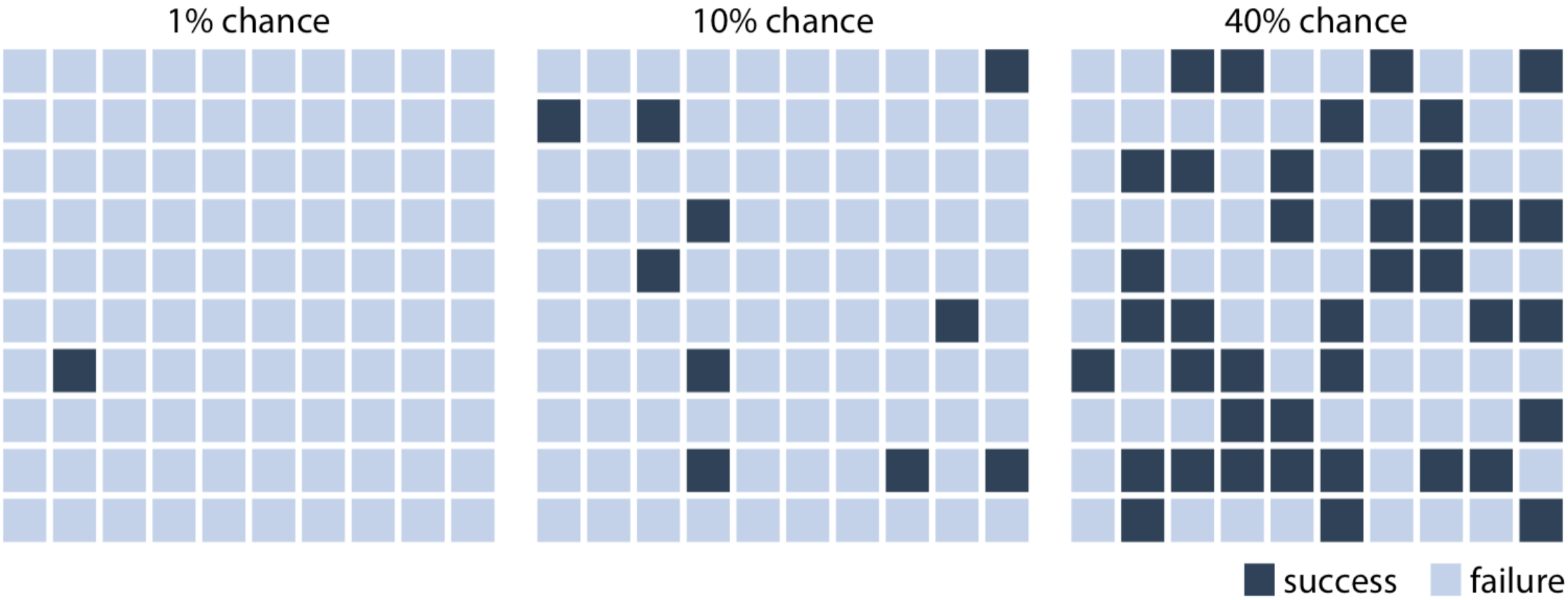

median income
> $70k
$60k to $70k
$50k to $60k
$40k to $50k
< $40k
ME
WI
VT
NH
WA
ID
MT
ND
MN
IL
MI
NY
MA
OR
NV
WY
SD
IA
IN
OH
PA
NJ
CT
RI
CA
UT
CO
NE
MO
KY
WV
VA
MD
DE
AZ
NM
KS
AR
TN
NC
SC
AK
OK
LA
MS
AL
GA
HI
TX
FL


unemployment rate
Wisconsin
Vermont
N. Hampshire
Maine
Washington
Idaho
Montana
North Dakota
Minnesota
Illinois
Michigan
New York
Massachusetts
Oregon
Nevada
Wyoming
South Dakota
Iowa
Indiana
Ohio
Pennsylvania
New Jersey
Connecticut
Rhode Island
California
Utah
Colorado
Nebraska
Missouri
Kentucky
West Virginia
Virginia
Maryland
Delaware
Arizona
New Mexico
Kansas
Arkansas
Tennessee
North Carolina
South Carolina
DC
Oklahoma
Louisiana
Mississippi
Alabama
Georgia
Hawaii
Alaska
Texas
Florida
15%
10%
5%
0%
'08
'10
'12

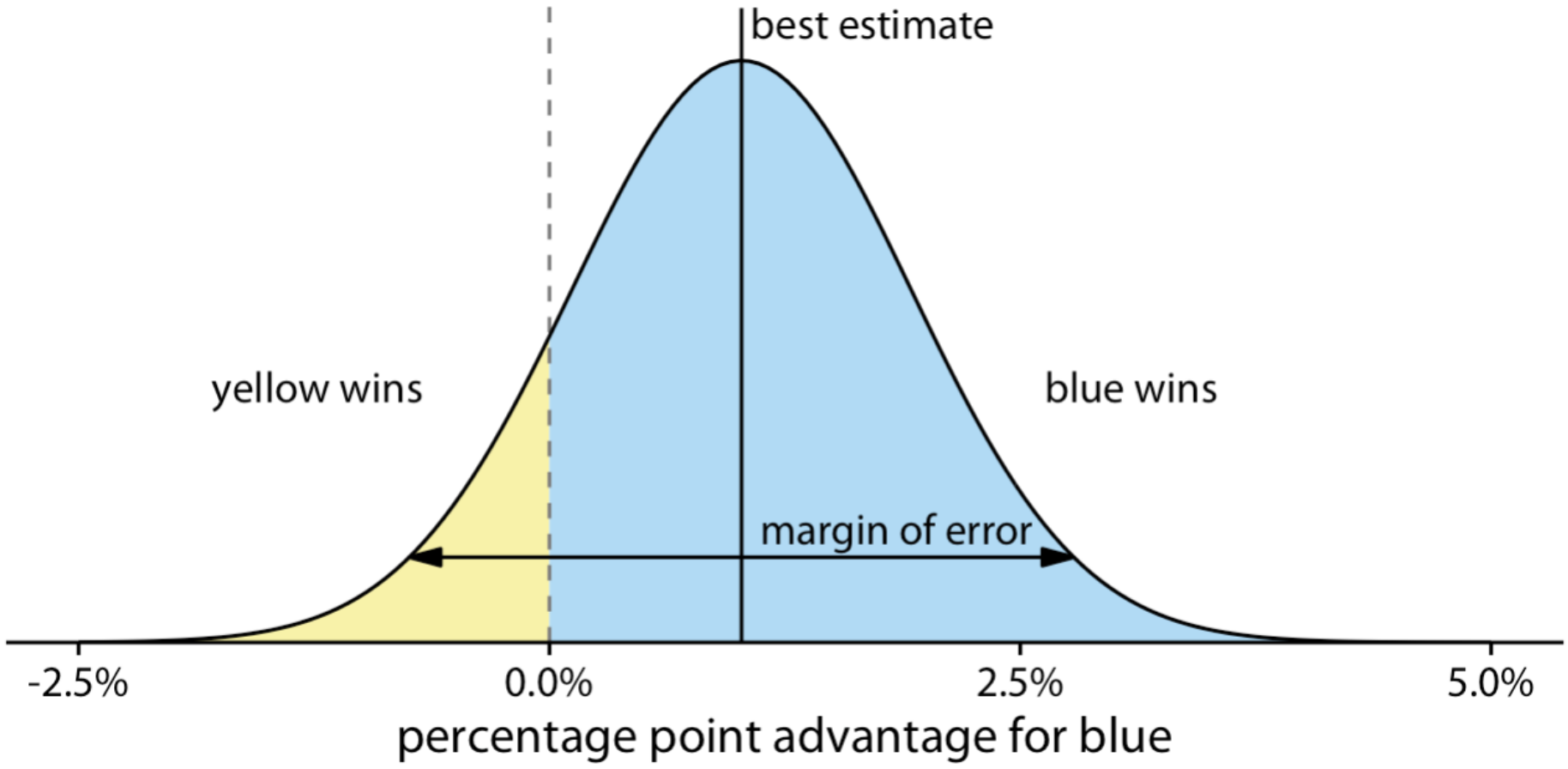
Visualizing Uncertainty

- Graphical representation of uncertainty or variability in data or predictions.
- It is a technique used to convey the level of confidence or range of possible outcomes associated with a particular data point or estimate.
- Different ways to represent Uncertainty
  - Error Bars:
  - Confidence Intervals:
  - Probability Density Plots:

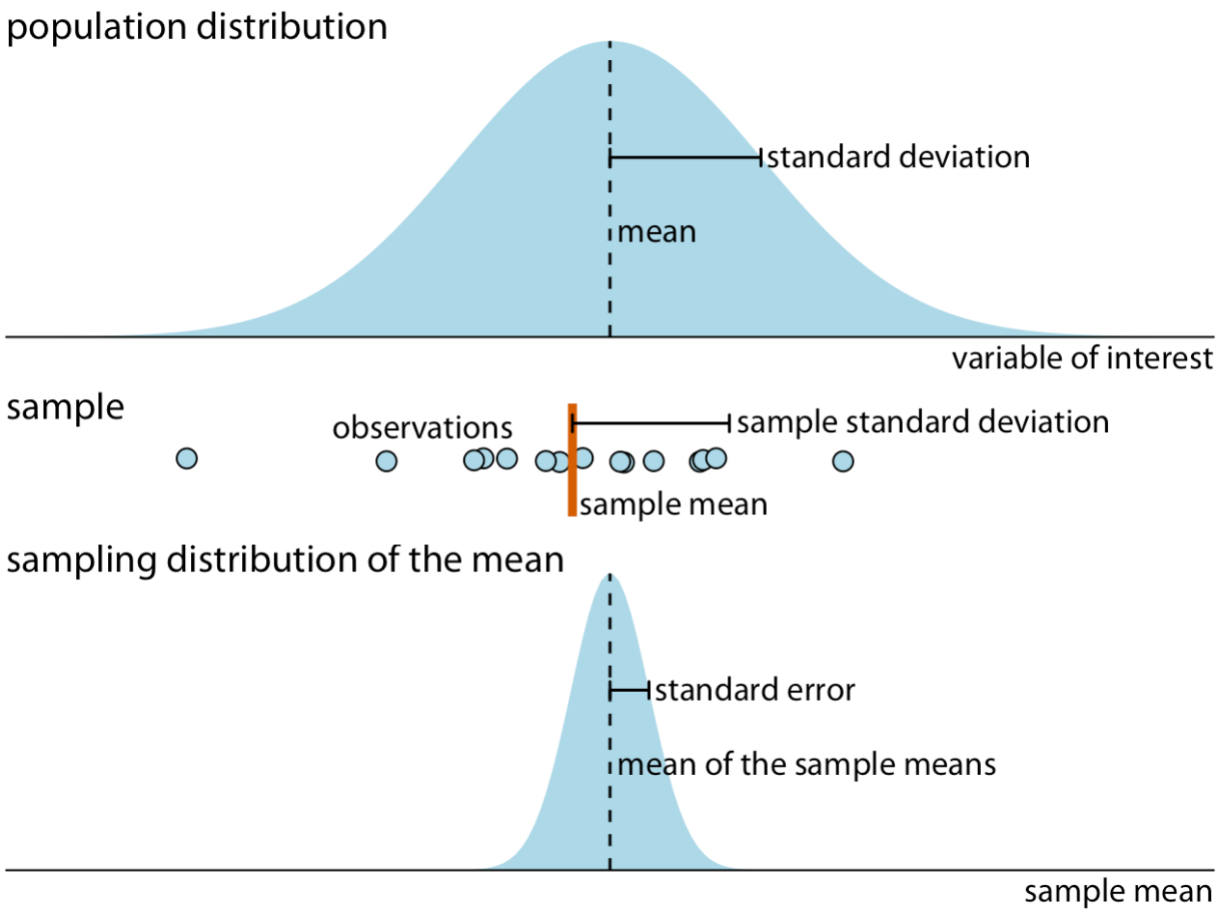
Basic’s of Uncertainty with probability



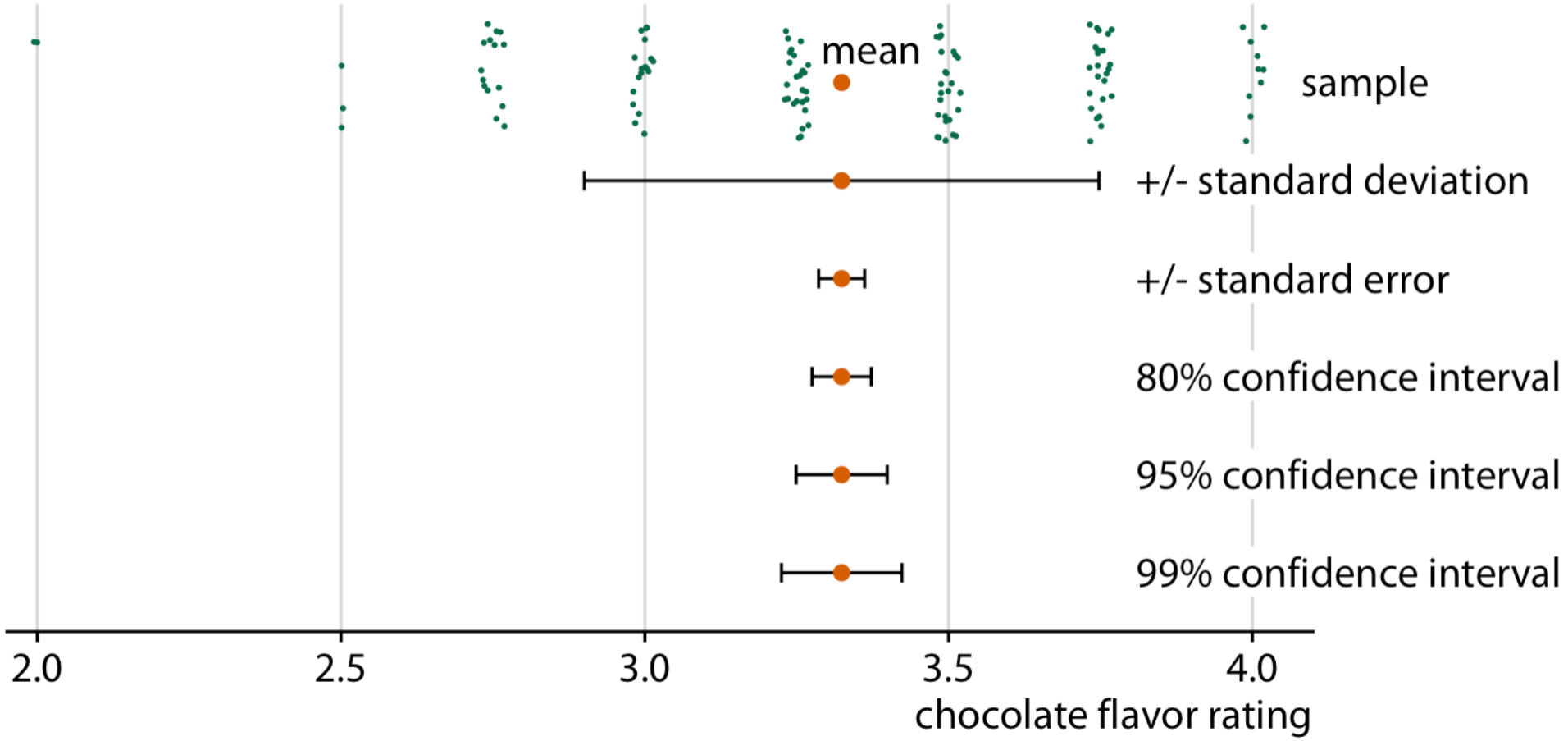
Confidence interval



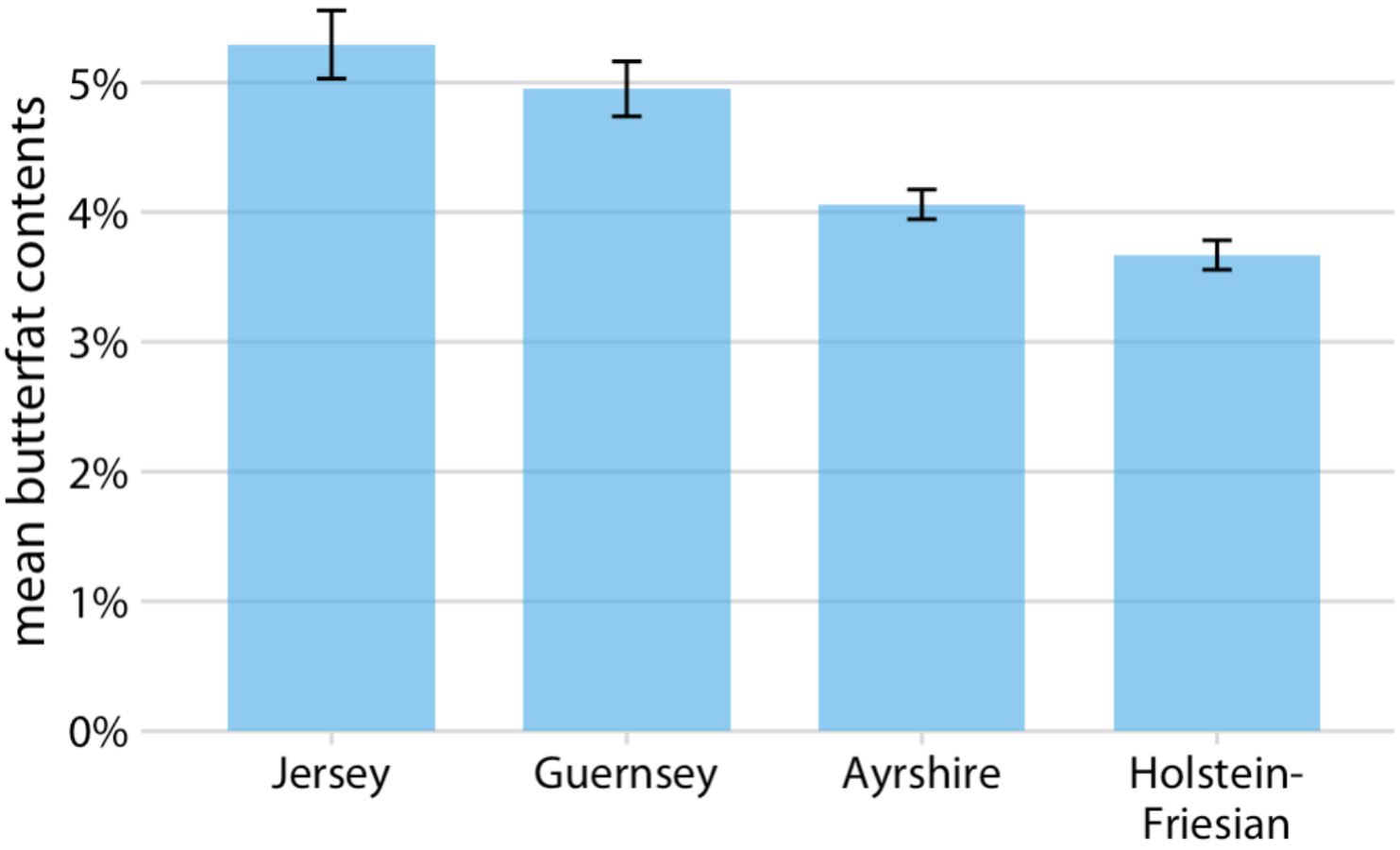
Visualizing the Uncertainty of Point Estimates



Visualizing the Uncertainty of Point Estimates

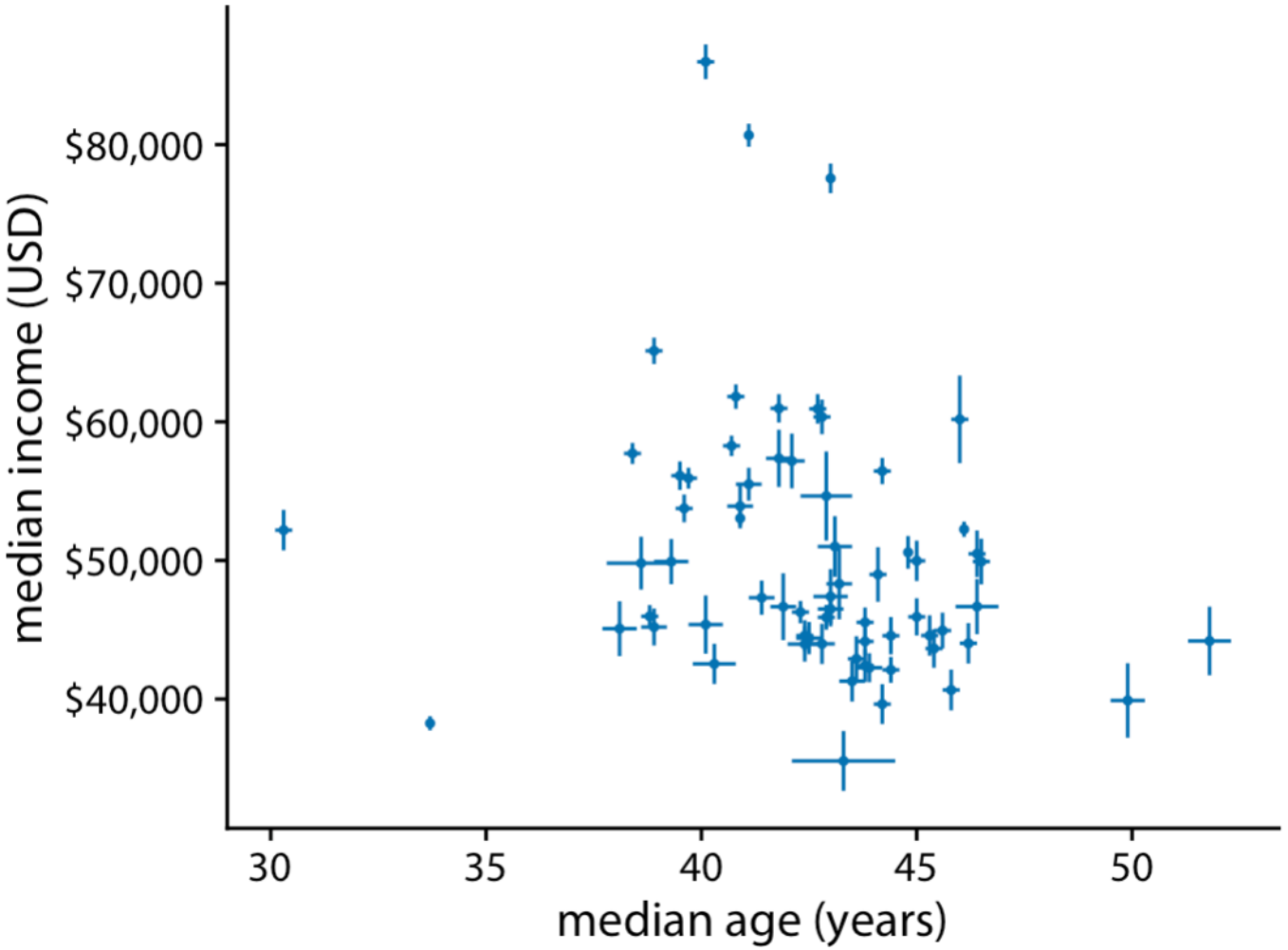


Error Bars



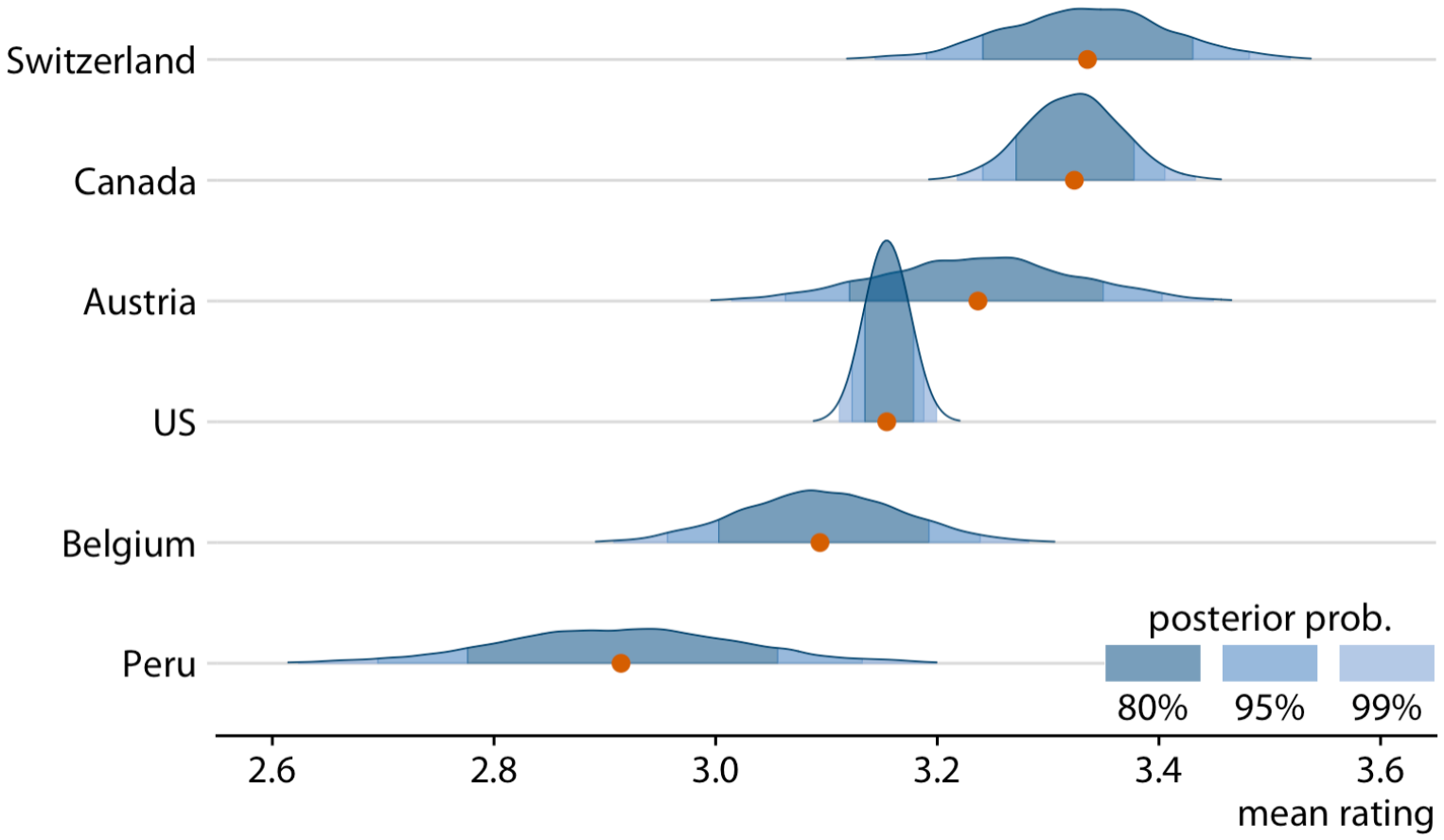
Mean butterfat contents in the milk of four cattle breeds.

Error Bars



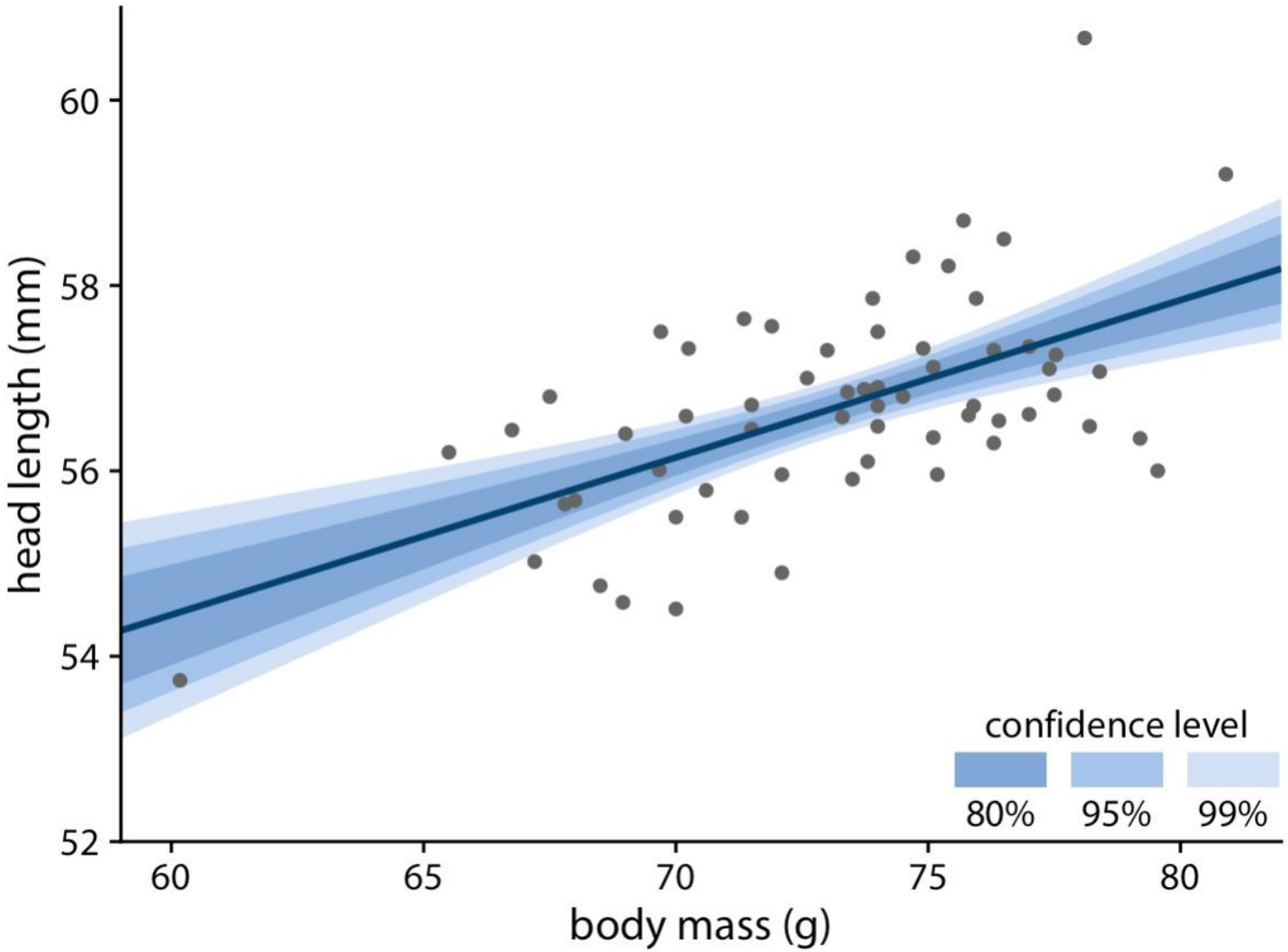
Median income versus median age for 67 counties in Pennsylvania

Probabilities/distributions



Bayesian posterior distributions of mean chocolate bar ratings, shown as a ridgeline plot.

Visualizing the Uncertainty of Curve Fits



Hypothetical Outcome Plots