

Fundamentals of Data Visualization

Chapter 4

April 25, 2023

Uses of color

- Color to distinguish one value from another
- Color to represent magnitude
- Color to highlight

Color as a tool to distinguish

- Discrete items that do not have an intrinsic order.
 - countries on a map
 - manufacture of a product
- A finite set of specific colors chosen to:
 - look clearly distinct from each other, but
 - not stand out from each other, and
 - not create the impression of an order.

Okabe Ito

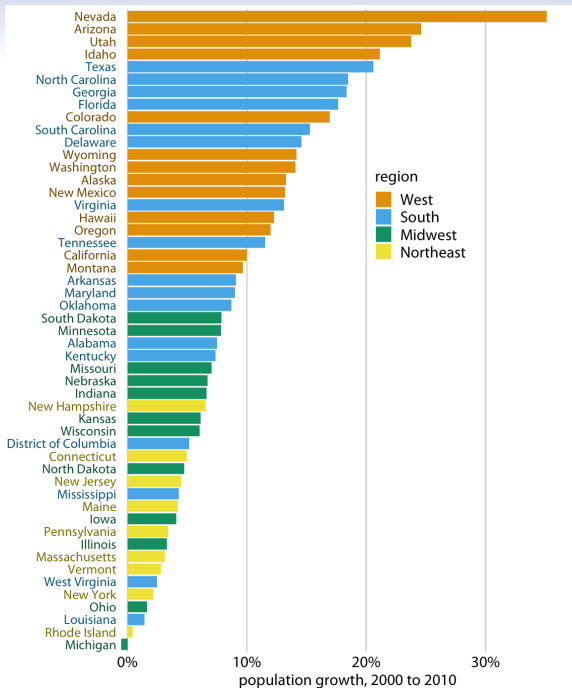


ColorBrewer Dark2



ggplot2 hue





Color to represent data values

- Sequential color scale
- Which values are larger or smaller
- How distant the values are from each other
 - scale needs to be perceived to vary uniformly
- Can be based on single hue or multiple hues

ColorBrewer Blues

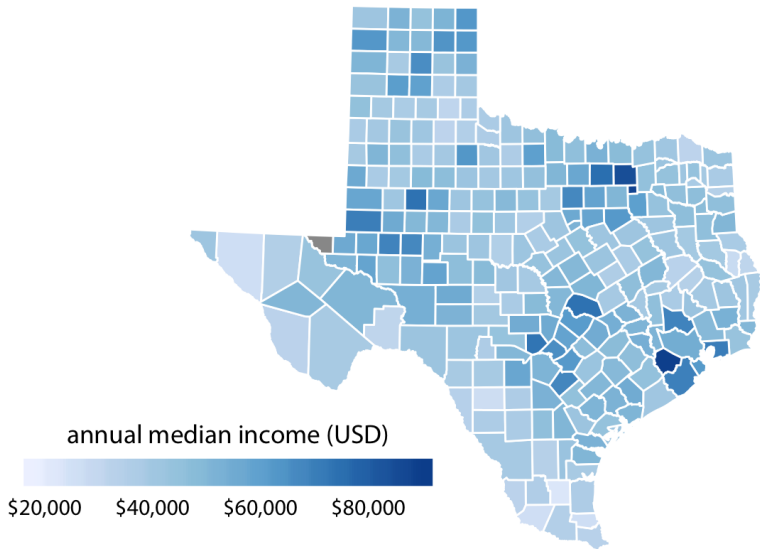


Heat



Viridis





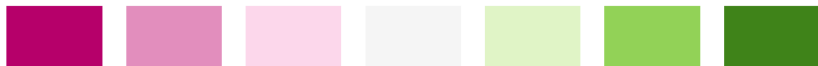
Color to represent deviation from norm

- Diverging color scale
- Neutral is usually a light color
- Two extremes are contrasting colors
- Extremes should be balanced in value

CARTO Earth

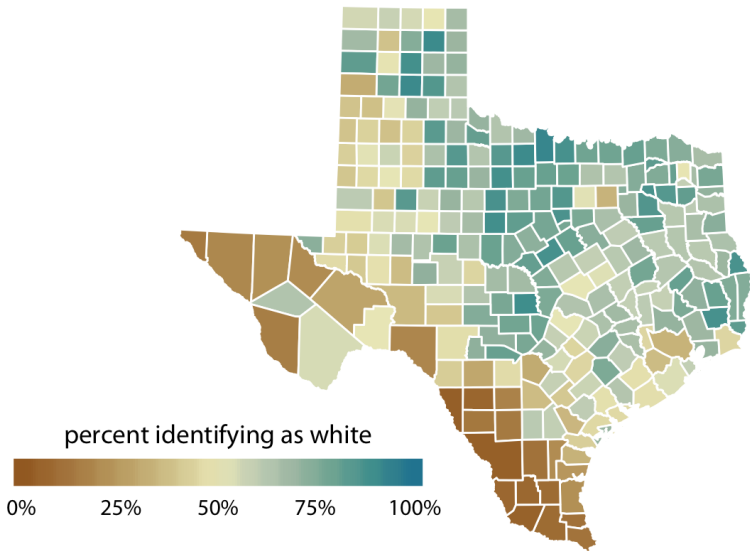


ColorBrewer PiYG



Blue-Red





Color as a tool to highlight

- Some colors vividly stand out
- Accent color scales
 - a set of subdued colors
 - a matching set of stronger, darker, more saturated colors

Okabe Ito Accent

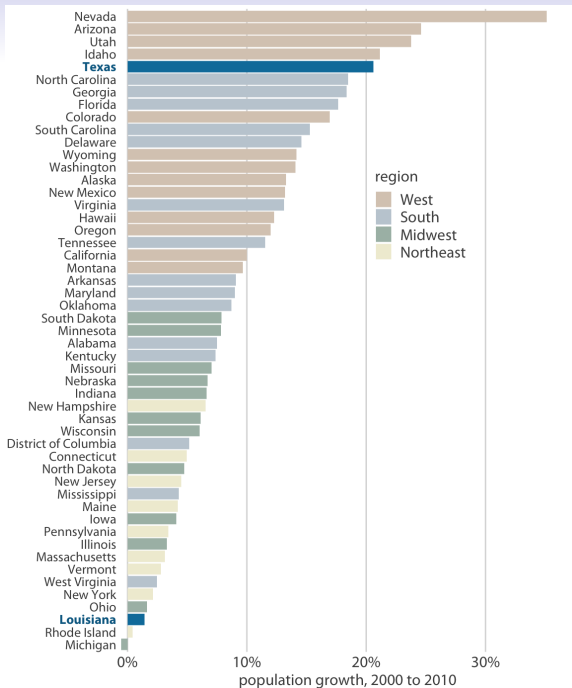


Grays with accents



ColorBrewer Accent





Baseline colors should not compete for attention

- Pick drab colors
- Pick no color

