Commonly used map type: Choropleth

Choropleth maps use different shading and coloring to display the quantity or value in defined areas.
Choropleth map choices

Number of Classes

- Aggregates data for display
- More classes = more variation (best to have no more than 7)

Classification Method

- Data classification is how data is arranged into separate classes.
- Major types
  - Equal Intervals
  - Quantile (Equal Count)
  - Natural Breaks
  - Defined Intervals
Quantile (Equal Count) Classification

Quantile tries to arrange for classes to have equal counts

- A quantile classification is well suited to linearly distributed data.
- However, quantile maps can often be misleading due to features with widely different values being put into the same class since it is not taking into account the natural peaks and valleys in the histogram.
- You can minimize this distortion by increasing the number of classes.

Natural Breaks (Jenks) classification optimizes the data to have less variation in each class.

- Classes are made to best group similar values and to maximize the differences in the data values.
- However, because this approach is data-specific it is not useful for comparing multiple maps built from different underlying information.

Standard Deviation Classification

Standard deviation uses a statistical technique based on how much the data differs from the mean, where each standard deviation is a class

- This also is a data-specific approach (like natural breaks) and so is not ideal for comparing multiple maps built from different underlying information.

Equal Interval Classification

- Equal interval **divides the data into equal-sized subranges**.
- This is ideal for familiar data ranges, such as percentages and temperatures, aka a simple ascending/descending trend.
- It is the easiest legend to read.
Manual Interval Classification

• Manual allows the user to arrange the classes.

• It is best suited for a user with expert knowledge of the data
  › e.g. you did a literature review and found that data above/below certain value(s) exhibit significantly different behavior, then you would set breaks at those value(s).
COMPARISON OF CLASSIFICATION METHODS
Percentage of US Population Age 85 or Older, by County

- Equal Interval
- Natural Breaks
- Quantile

Distributions of Counties

- Equal Data Intervals
- Jenks Natural Breaks Classification
- Equal Number of Counties in Each Category