2. Symbolize your Data Correctly

‘Rainbow’ color schemes are great for exploring your data in the lab but are inappropriate for presentation. The human eye-brain system has no logical ordering for different colors (e.g., is green more or less than purple?) and maps that use such a scheme force the map reader to refer back and forth to the legend. A scheme of light-to-dark within one hue is a natural system to a map reader (e.g., light red is less than dark red) and displays the patterns in your data intuitively, without need to refer to the legend.

Rainbow map: Can you tell higher values from lower values without looking at the legend?

Intuitive color schemes: Higher and lower values are obvious without looking at the legend

Using two hues is appropriate for symbolizing your data when showing divergence/change.

See colorbrewer.org for many well-vetted color schemes.

3. Use ‘Visual Hierarchy’ and ‘Figure-Ground’

Your study area is (probably) not an island. Don’t map it as if it were. Maps are about showing context. Emphasize your study area using visual cues, but show the area around it.

The map on top shows the study area as it were an island, with nothing else around it. The inset map does not distinguish between land and water. The white background of the main map, the inset map and the legend are monotonous and visually unappealing.

The map on the bottom shows the region around the study area but dims it, making the study area pop out. The inset map uses shades of grey to distinguish Washington state, other land areas, and water.

4. Finishing Touches

Balance
• Use graphic elements such as title, legend, inset map, north arrow, scale bar, etc. to visually balance your map

Borders and Neatlines
• Place a border around your map to provide visual stability and closure
• Use neatlines to separate map elements in complex map layouts

Legends and labels:
• Use descriptive terms as well as (or instead of) numbers to aid interpretation.
• Numbers should be in round numbers and include units.
• The legend need not have a description for every item on the map.
  • Properly symbolized, many features such as boundaries and water bodies are self-evident.
• Other items can often be labeled directly on the map.
  • Place labels judiciously to avoid overwhelming the map with less important information.

Latitude/longitude grid (graticule)
• A graticule can help the map reader place the study area on the globe
• Maps of North America often do not require a graticule as state and provincial boundaries are a good substitute
• The graticule should be de-emphasized in the visual hierarchy
  • This can be done by hiding the graticule behind land areas so it only shows over the ocean.

North arrows and scale bars
• North arrows should not appear on any map where north is not a constant direction
  • e.g., maps where meridians converge, or maps at scales less than 1:200,000
• Do not use a scale fraction in place of a scale bar as your map may be resized
• Use round numbers in your scale bar
• North arrows and scale bars should be simple, not ornate or complicated.
  • No one is going to use your map to navigate
• They should be placed low in the visual hierarchy and not be distracting.

5. Consider your venue

When designing a map, plan ahead for where it will appear. Maps accompanying journal articles have many more constraints (primarily page size and use of color) than maps in a presentation or a website. When reusing a map in a different venue, redesign it to look its best given the setting.