

# GIS Cartography

## Layers of Effective Map Design



### 1 LAYOUT

When planning your layout, first consider all possible elements to include on it like: north arrow, legend, authorship and so on. Question every element's purpose: is it necessary? **Say no to clutter.** Logos can be garish. The map title should state your main point. Consider including metadata like date and network path; use small gray italic text for them. **To arrange elements, start with a sketch or emphasis map.** Don't dumb-down your map but do make it readable. Balance is still in but blocky is out.

### 2 FONTS

The intended viewing distance is the key to choosing a letter point size. Long-range viewing guidelines: 18 point minimum for body text; 90-120 point for title text; 12-14 point for metadata elements. Expanded character spacing provides emphasis. **Use script or italics for hydrographic feature labels.** Red text connotes poor, bad or important. Mountain range labels should be in upper case and follow the range. The distance between a point and its label should be about half the size of the lettering. **Posters for long-range viewing need left-justified text and double-spacing.**

### 3 COLOR

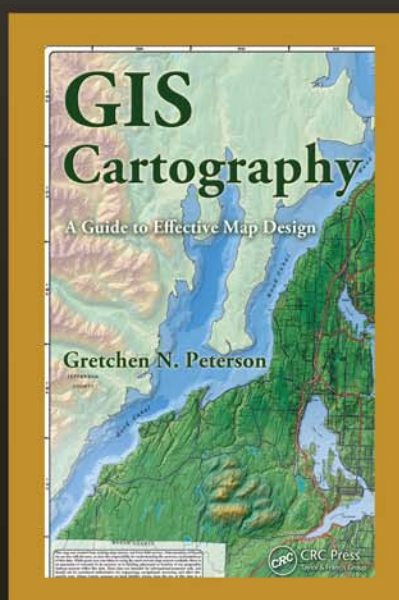
Everyone will have something to say about your color choices – don't take it personally. **Analogous colors create a subdued, quiet effect.** Complementary colors are ostentatious and attention grabbing. Polychrome colors need to be chosen carefully to make sure they don't clash. Neutrals are in right now. Seek color palette inspiration in unique places: book covers, website designs, photographs, painter's leaflets and so on. Our eyes can't distinguish more than 5 shades of the same hue.

### 4 FEATURES

Learn the conventions for your most-displayed features and then **decide whether those conventions need innovation.** Water-related features are usually, but not always, blue. Population center points are displayed using symbol levels: **larger, more prominent symbols for the bigger cities.** Features with non-static geographic boundaries can be displayed with **squiggly lines, colors that fade toward the edges or dotted lines.** **Use thicker lines for every fifth or tenth contour on contour maps.** Hypsometric tinting creates a color gradient that follows contours. Look up standard symbols for land use, land cover, soils, and geology features before creating your own.

### 5 MEDIA

**Avoid clutter** on slides under most circumstances. **Research the latest slide presentation styles prior to giving a presentation if it has been a while.** Text in reports should flow around maps. Report maps don't need borders unless they are full page maps. Always place the map on the same page as the text that references it unless it is a full page map. Web maps range from static images to full information systems. JPEGs use a compression algorithm that **lowers the file size but also lowers to image quality.** TIFF and EPS files have **high image quality but also have large file sizes.**



FIND THESE PLUS OTHER GREAT MAPPING TIPS IN:

**GIS Cartography: A Guide to Effective Map Design**

by Gretchen N. Peterson, GISP  
2009, CRC Press

*"If those of us in the geographic information system (GIS) realm have disregarded design in the past, we are now coming to realize that the elegant display of geographic data is as important as the data itself."*

<http://www.gretchenpeterson.com>