Stat645: Week 7

Colour.

Remember to work in pairs

Download and install color oracle, http://colororacle.cartography.ch/. Use this through the session to inspect how your graphics look for colour blind viewers. You may want to read http://bit.ly/gFgYsn for more advice on designing for colour blind readers.

If you've wondered why exactly we have only three cones, and why they seem so poorly designed, read http://bit.ly/f2wDIX.

Heatmaps are a common presentation of microarray results in bioinformatics. They show up regulated genes in red and down regulated genes in green, e.g. http://www.biomedcentral.com/1471-2164/8/3/ (or just search google images for heatmap). What is one major problem with this type of display?

Cynthia Brewer used the basic principles outlined in these papers to create colour palettes useful for maps. She also tested them to see which ones worked for colour blind viewers, photocopiers and desktop colour printers. The results of her work are available from http://colorbrewer2.org/, are accessible from within R in the RColorBrewer package, and within ggplot2 as `scale_colour_brewer` and `scale_fill_brewer` (use the `pal` parameter to select which palette you want to use).

What features of the map help to choose between different colour scales?

When I first wrote ggplot2, I hoped to use colourbrewer scales by default. However, the majority of the palettes do not work well for scatterplots and line plots. Why? Do some experimentation.