Syllabus for BIOL 669: Advanced Ecological Statistics with R Spring 2017
Meeting time: Th 1:00-2:40
Location: Wilson 310

Instructor

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Description

In this course we will be investigating the design and practice of visualizing data. Visualizing data is an art and science that is an important tool in describing relationships among variables, allowing for exploration of patterns and summarizing complex analyses. It is among the most important ways to communicate scientifically. This course will start with an investigation of the theory of designing scientific graphics and then we will take a closer look at how to implement these design principles using the ggplot2 package in R. Finally, students will share their own analyses and work to improve their scientific visualizations.

Prerequisites

I expect you all to have a fairly strong background in R– the equivalent to BIOL/ENEC 562 or 563.

Text

We will be using two books in this course:

Grading

Course grade will be determined on weekly assignments and a take home final exam.
Class presentation: 40%
Final project: 40%
Class participation: 20%

Students receiving above 80% will receive a P in the course.
Course schedule

Jan 19: Reproducible research using Rmarkdown.
Jan 26: Chapters 1-2 Tufte
February 2: Chapters 3-4
February 9: Chapters 5-7
February 16: Chapters 8-9
February 23: Wickham 4-5
March 2: Wickham 6-9
March 9 Student presentation and other topics (including missing data and generalized linear mixed models).