

# Ecological Analysis with R

**Location:** Harvard Forest, Seminar Room

**Instructors:**

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**Goal:** learn how to use the R programming language for ecological analysis.

## Course Outline

- Thursday, June 2 (8:30-10am): [Why R?] + [Getting setup] + [R as a second language] + [R Community = Packages + help?]
- Thursday, June 9 (8:30-10am): [Coding basics] + [Analysis overview] + [Data entry] + [Data manipulation] + [Data Visualization]
- Friday, June 17 (8:30-10am): [Stats and science] + [Results: organization and reporting] + [Life-long leaRning]
- TBD: Optional Hacker Session 1 and 2 (e.g. GIS and mapping, iterative functions, accessing the Harvard Forest Archives, linear algebra, making Shiny or Leaflet apps)

**Pre-requisites:** experience with using basic computer software

**Required Materials:** laptop or access to some computing device

## Readings

- [Getting started with R](#) is a great, guided introduction to R. We recommend reading through this if you would like to get comfortable with some of the concepts beforehand.
- [Noble 2009 PLoS-CB](#) gives a solid overview of how to organize the computer based part of a project.

**!DISCLAIMER!** *This be not a statistics class!* But, here are several great books and resources for learning statistics:

- [Ecological Models and Data in R \(pdf\)](#)
- [A Primer of Ecological Statistics](#)
- [The Ecological Detective](#)

## Resources

- R Cheat Sheet
- <http://cran.r-project.org/doc/contrib/Short-refcard.pdf>
- Plots with ggplots
- <https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf>
- Version Control
- <https://guides.github.com/activities/hello-world/>
- <https://help.github.com/articles/good-resources-for-learning-git-and-github>
- Code for America
- <https://www.codeforamerica.org>