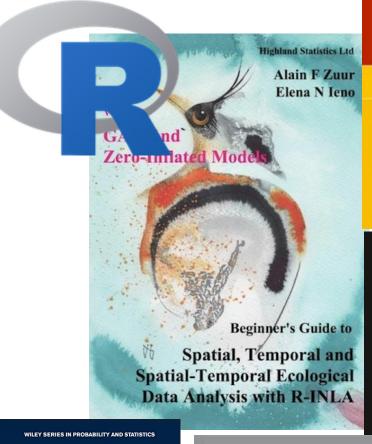
Basic statistics in R

Fundamentals in Ecology



What is statistics?

- Mathematical science tool including methods of collecting, organizing and analyzing data in such a way that meaningful conclusions can be drawn from them.
- Descriptive statistics: processing of data without attempting to draw inferences (plots, tables)
- Inferential statistics uses mathematical tools to make forecasts and projections based on existing data.
 - Difference between statistical inference and biological inference!
- Hypothesis testing, experimental design



ADVANCED

STATISTICS WITH

APPLICATIONS IN R

EUGENE DEMIDENKO

WILEY

Roger S. Bivand Edzer Pebesma Virgilio Gómez-Rubio

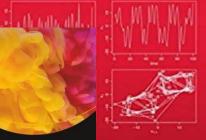
Applied Spatia Data Analysis

Spr

Texts in Statistical Science

Nonlinear Time Series

Theory, Methods, and **Applications with R Examples**

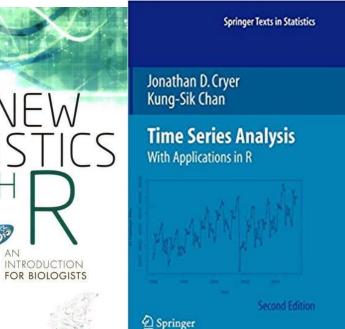


Douc oulines Stoffer

PROBABILITY & **STATISTICS** with R for Engineers and Scientists



MICHAEL AKRITAS



Statistical Programming and Data Models

DISCOVERING STATISTICS USING R

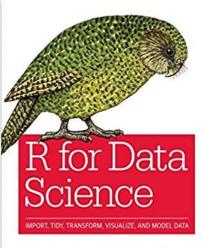


Analysis, Machine Learning, and Visualization

Matt Wiley Joshua F. Wiley

Advanced R

apress*



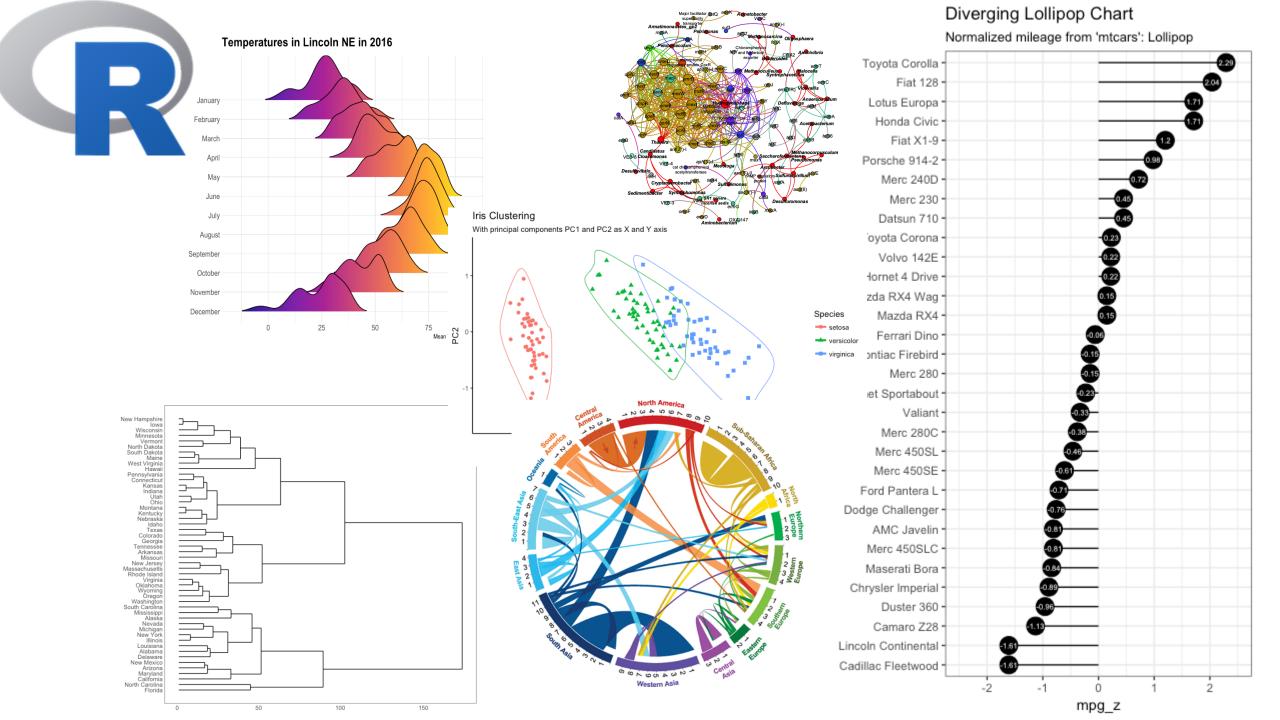
THE NEW

ANDY HECTOR

Hadley Wickham & **Garrett Grolemund**



Pearson Modern Classic



First steps

- Descriptive statistics
- Correlation
- Comparison of groups (iris dataset)
 - 2 groups: t-test
 - more than 2 groups: ANOVA
- Linear models (regression, mtcars dataset)

Iris flower data set







Iris setosa

Iris versicolor

Iris virginica

