

R tools for a code-based data workflow

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Webinar Information

Description

After a brief review of the advantages of a code-based workflow for ecological survey data, we introduce participants to some useful tools available via the R programming language for moving data along the data life cycle. We suggest some accessible tools in R for each step of the life cycle, and conclude with a walk through of how the functionality available in R can increase the reliability, efficiency, and transparency of scientific data management.

Presenters

- [McCrea Cobb](#) (Refuge Inventory and Monitoring Program, Alaska) and [Adam Smith](#) (Refuge Inventory and Monitoring Program, IR2/4)

When

June 24, 2020 (3:00-4:30 EST)

Location

Webinar link

Additional resources

[GitHub repository](#)

Outline

Introduction (*McCrea, 10 min*)

Planning (*McCrea, 10 min*)

Documenting (*Adam, 10 min*)

Acquiring (*Adam, 10 min*)

Processing (*Adam, 10 min*)

Analyzing (*Adam, 5 min*)

Sharing (*McCrea, 10 min*)

Archiving (*McCrea, 5 min*)

An example R project / Live demo (*10 min*)

Questions (*10 min*)

Resources (Links)

Introduction to R

- [An Introduction to R book](#)
- [R for Excel Users](#)

Resources for Teaching R

- [DataCamp's tidyverse course](#)
- [learnr package](#)
- [RStudio teaching resources](#)
- [Data Wrangling, Exploration and Analysis with R "STAT 545"](#)

R Resources

- [Why learn R](#)
- [What they forgot to teach you about R](#)
- [R cheatsheets](#)
- [Project-oriented workflow](#)

Style Guides - [Tidyverse style guide](#) - [DataNovia R style guide](#)

R Packages

- [Packaging your reproducible analysis](#)
- [R packages](#)
- [Packaging data analytical work reproducibly using R \(and friends\)](#)

Project management

- [Stop working directory insanity!](#)
- [A minimal project tree in R](#)
- [Organizing the project directory](#)
- [Designing projects](#)
- [Project management with RStudio](#)
- [File structure for data management](#)
- [Organizing files for data analysis](#)
- [A meaningful file structure for R projects](#)
- [An introduction to Docker for R users](#)

Project Directory Templates

- [MakeProject package](#)
- [rrtools package](#)
- [prodigenr package](#)

General Coding Best Practices

- [What's in a name? The concepts and language of replication and reproducibility](#)
- [Best practices for scientific computing](#)
- [Good enough practices in scientific computing](#)
- [Ten simple rules for documenting scientific software](#)
- [Art of README - see examples and checklist](#)
- [Introduction to roxygen2 vignette](#)

Version Control

- [Happy Git with R](#)

Other

- [How to share your data with a statistician](#)
- [Tools for reproducible research](#)
- [Reproducibility vs. replicability: a brief history of a confused terminology](#)