Reproducible Documents with {rmarkdown}
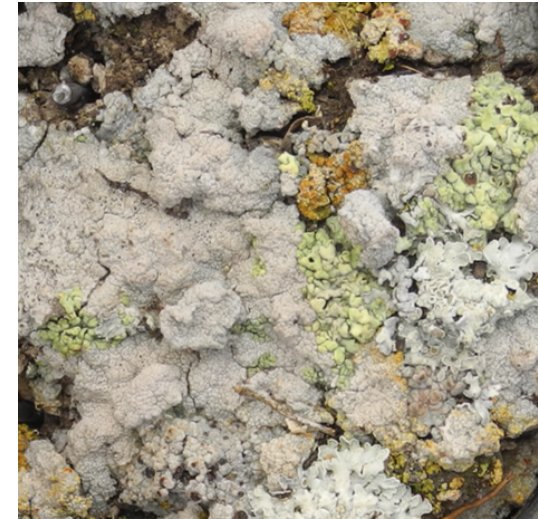
Instructor: Selina Baldauf

Freie Universität Berlin - Theoretical Ecology

2022-22-03 (updated: 2022-03-29)

Who am I?

- Scientific modeller with ecology background

- Working in the theoretical ecology group at Freie Universität

- PhD student at Freie Universität Berlin

  - Topic: Modelling the impact of biological soil crusts on dryland hydrology

Teaching R

- Statistics with R for Biology Master students
- Workshop "Introduction to Data analysis with R"
- Workshops on R packages, R development, ...

The Workshop: Topics

- Day 1: Introduction to the R Markdown package

  - What is it?
  - What can you do with it?
  - Basic functionality

- Day 2: More advanced features and other document types

  - Citations
  - Additional output types
  - Format tables

- Day 3: Bring your own data

  - Optional

Artwork by Allison Horst

The Workshop: Schedule and Organization

🕐 1 p.m. - 5 p.m.

📍 We will meet in the `General` meeting on Webex

Organization

- Input sessions

  - Presentation and demonstration of a topic
  - Some examples

- **Tasks** regarding this topic

  - Two groups: Only chat or meeting

- **Joint discussion** of tasks and additional questions

The Workshop: Material

- All material can be found on the workshop's website

    - Presentations
    - Tasks
    - Solutions
    - Additional resources

Bring your own data

Learning by doing

- Create your own documents

  - Use methods learned in the course
  - Try something new
  - Create the document that you actually need or want to learn

- It is optional

  - Think about it and let me know tomorrow afternoon if you want to participate
  - If you already know: add your name to the joint document

- If you want to try something specific: Let me know and I can check for resources/packages/examples etc. before

Before we get started I

Any feedback and questions are very welcome.

I am curious to know

- What you liked/disliked
- If the time was enough for the tasks
- If you missed some topics
- ...

Before we get started II

I assume that you already know things like:

- Creating new projects or documents in RStudio

- Basic functionality of RStudio e.g. Console vs. Script, etc.

- Basics of R: concept of variables, functions, packages, ...

- Also, I will use some (but very few) code examples with functions from the `tidyverse` packages (`ggplot2`, `dplyr`)

But we probably have very different R skills and levels in the group, so **please ask if anything needs more explanation**

Before we get started III

Did anyone have problems installing the R Markdown?