

Introduction to Data Analysis with R

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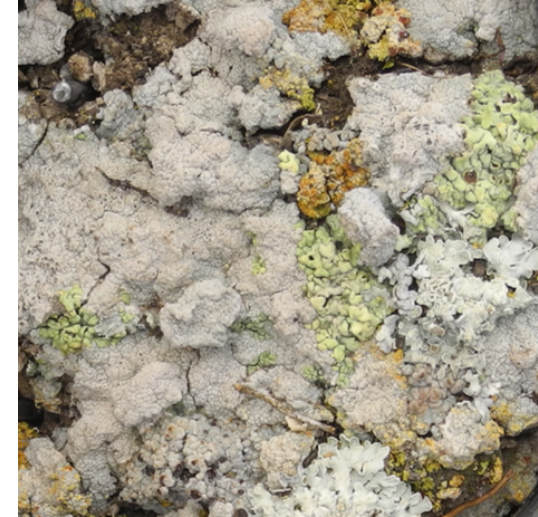


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Artwork by [Allison Horst](#)

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

- Statistics with R for Biology Master students
- Workshops on R packages, R development, ...



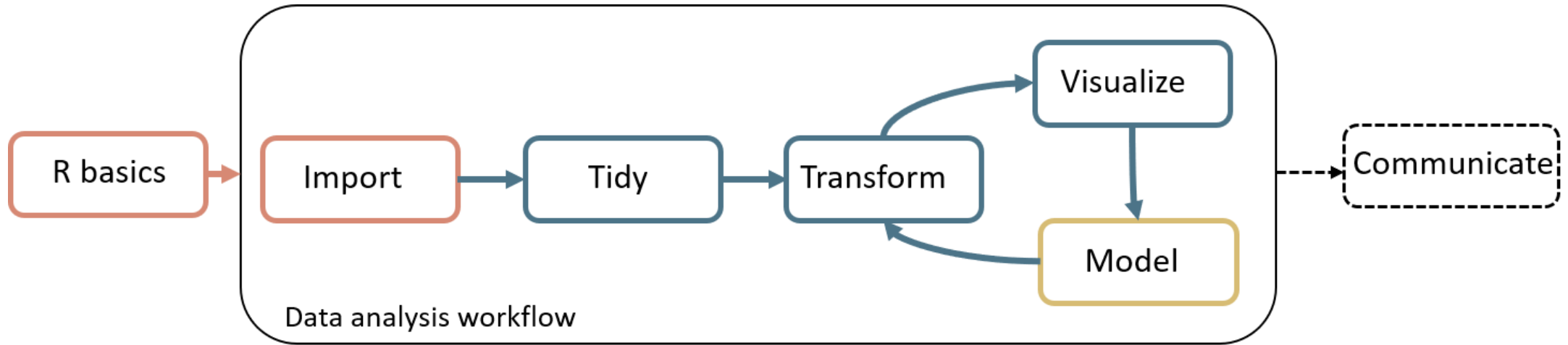
What do I use for?

- Short answer: everything
- Long answer:
 - Cleaning data
 - Visualizing data
 - Wrangling data
 - Performing statistical analyses
 - Modelling biocrusts
 - Writing documents
 - Presentations
 - Workflow automation
 - ...

Who are you?

Results of questionnaire

The Workshop: Topics



Day 1: Introduction to R and RStudio and data import

Day 2: Data analysis with the tidyverse

Day 3: Statistical tests and models with R

Day 4: Bring your own data

The Workshop: Schedule and Organization

 9 a.m. - 4 p.m. ( ~ 12 a.m. - 1 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
 - Solve them in small groups
- **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
- The complete material can be downloaded from the website after the workshop

Bring your own data

On the last workshop day, you can work with your own research data. I will also provide some real life data sets from different topics.

Learning by doing

- Get started on using R for your analyses
- Use any of the methods from the course or try new things, ...
- Present/discuss your results, questions and problems at the end of the day

Bring your own data - preparation

- Keep the last workshop day in mind during the next days
 - Remember if you learn something that might be applicable to your data
 - Think of questions that you would like to answer for your data set
- Add your name and the methods that you would like to use to the **joint document**

Before we get started I

Any feedback and questions are very welcome.

I am curious to know

- What you liked/disliked
- Which topics or methods you missed
- Which tasks were too easy/too difficult or just right
- ...

You can give feedback by

- Telling me
- Adding it to the feedback section of the **joint document**
- Remember it until the end of the workshop and put in in the evaluation

Before we get started II

Did anyone have problems installing R and RStudio?



Download and install R from <https://cran.r-project.org>



Download and install RStudio from <https://www.rstudio.com>

Before we get started III

How to use Webex teams

- Different groups for the tasks later
- Use the chat in the groups for questions
- Meet in your groups and solve the tasks jointly (if you want)