

# R for Geocomputing

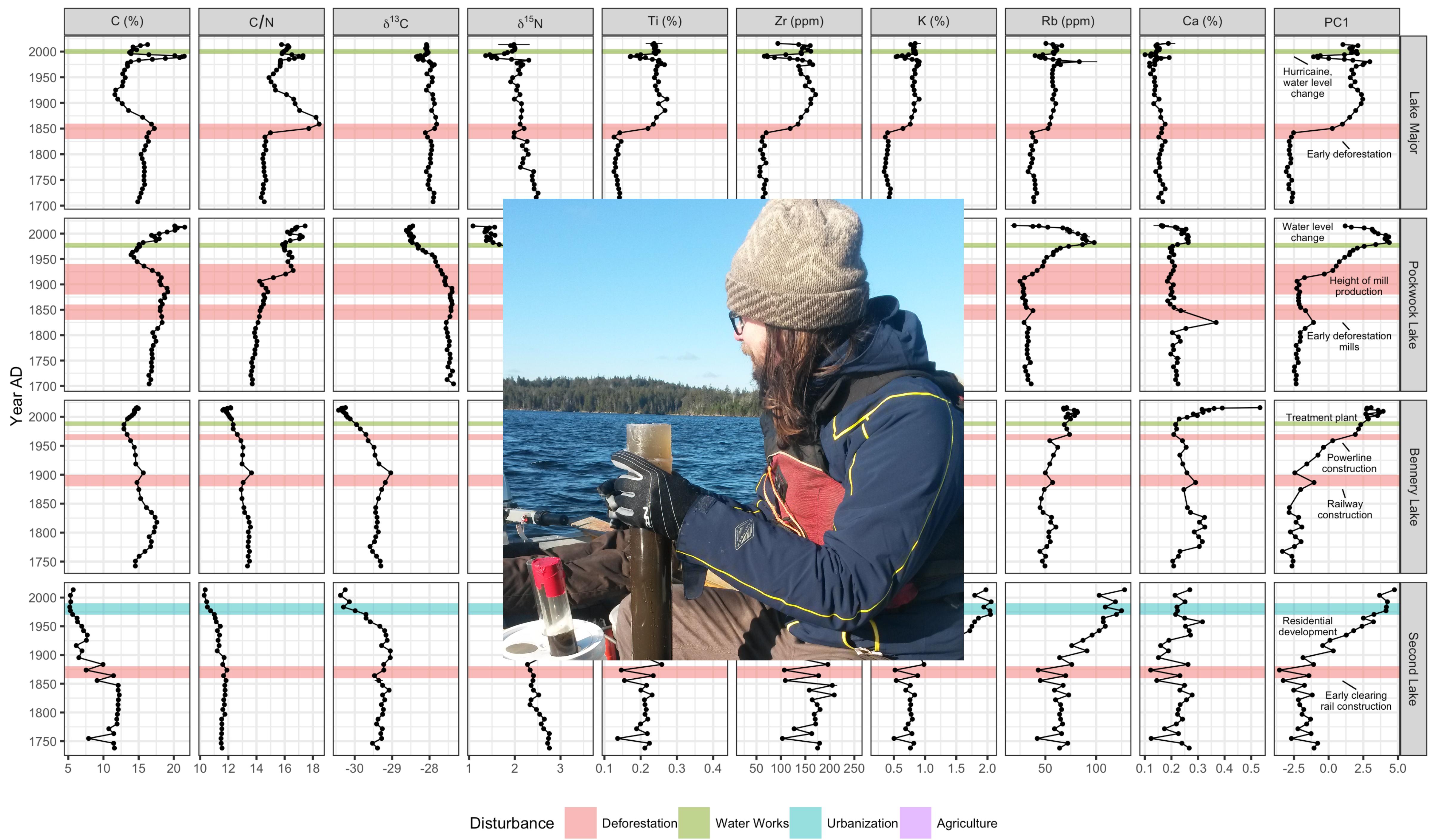


Dewey Dunnington  
Ph.D., P.Geo.

**HELLO**  
my name is

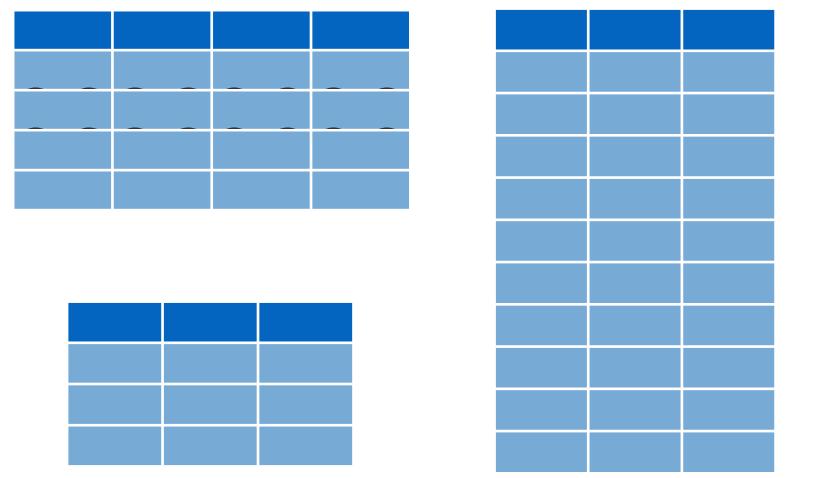
**Dewey**

@paleolimbot

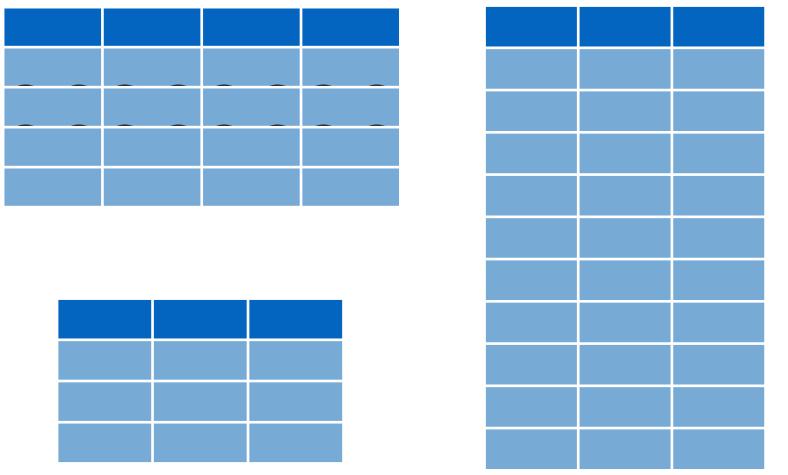


# R Packages

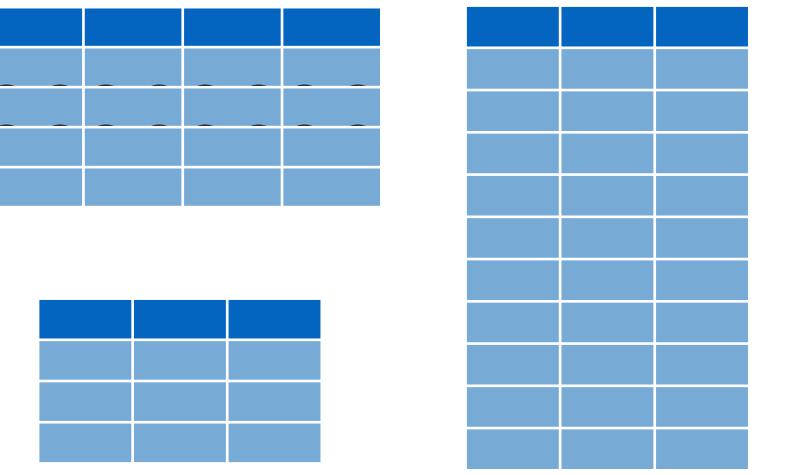




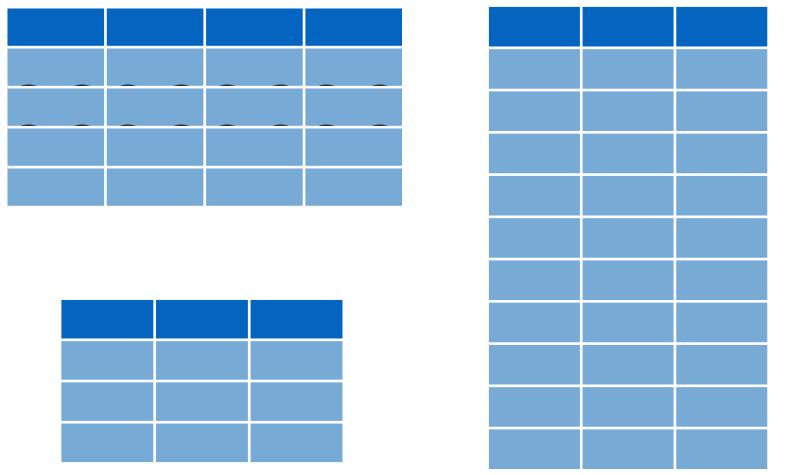
function1()  
function2()  
function3()  
function4()



function1()  
function2()  
function3()  
function4()



function5()  
function6()  
function7()  
function8()

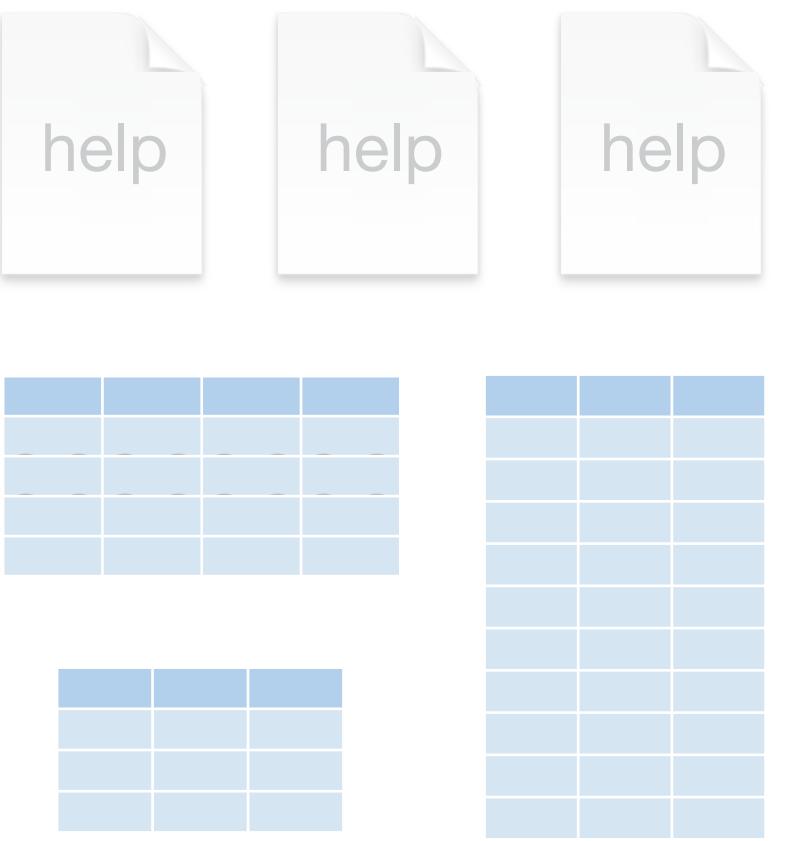


function9()  
functionA()  
functionB()  
functionC()

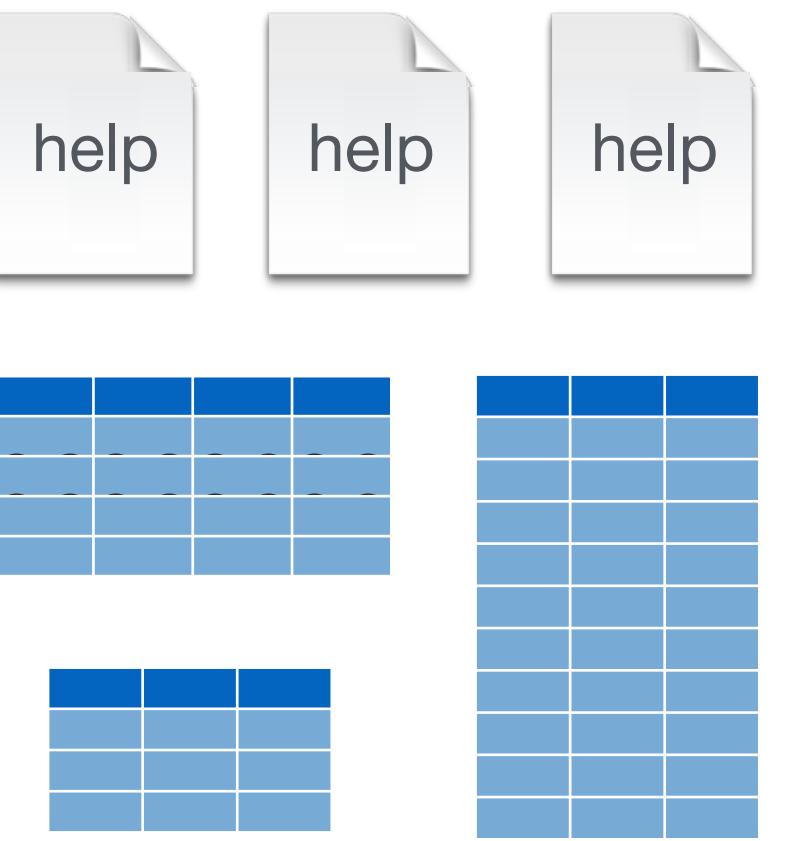


functionD()  
functionE()  
functionF()  
functionG()

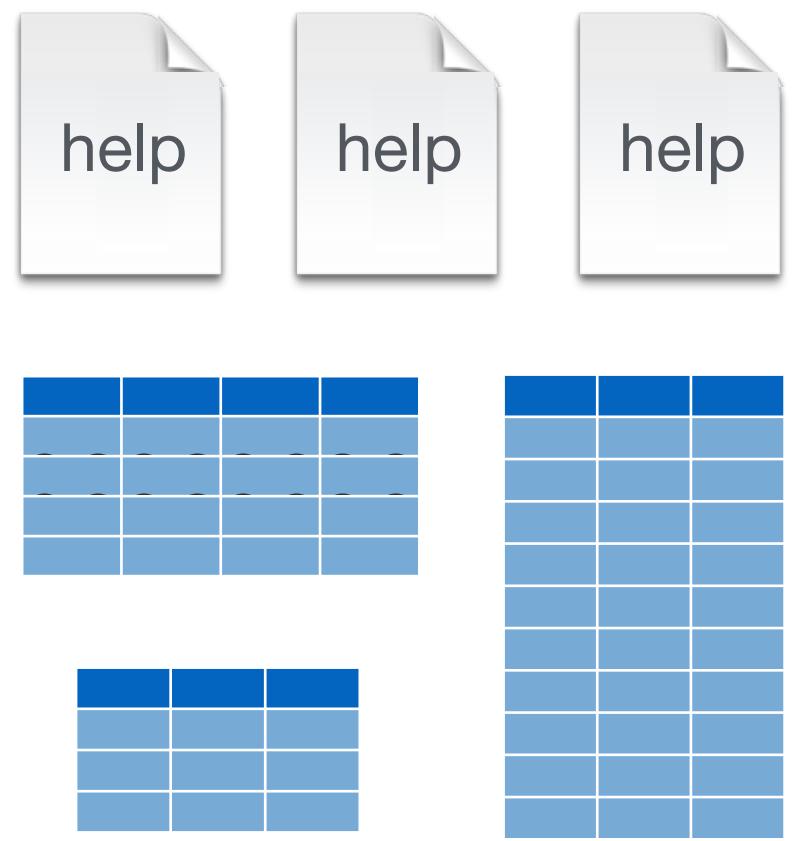
Base R



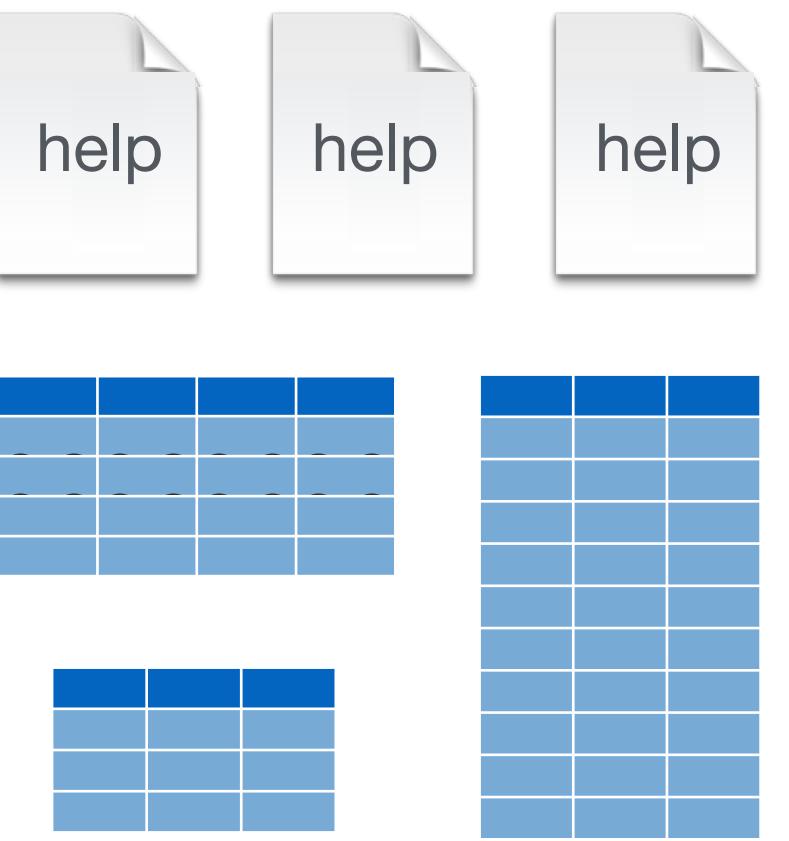
function1()  
function2()  
function3()  
function4()



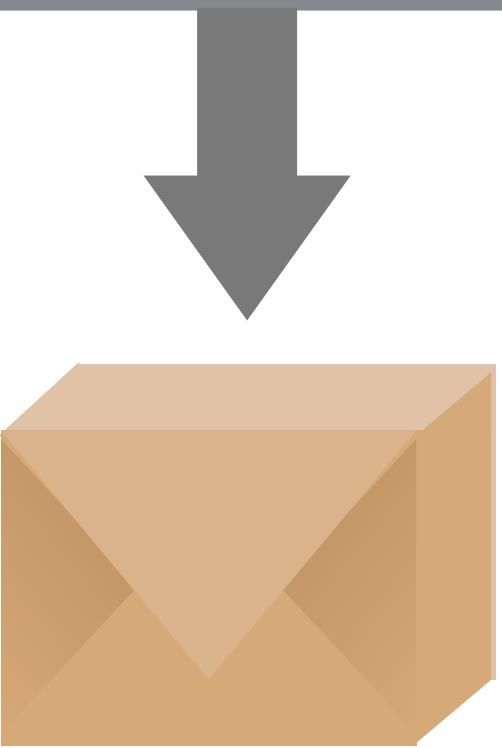
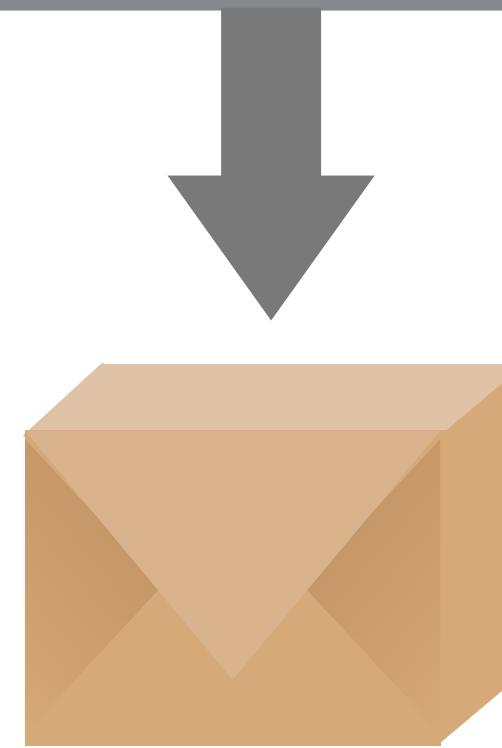
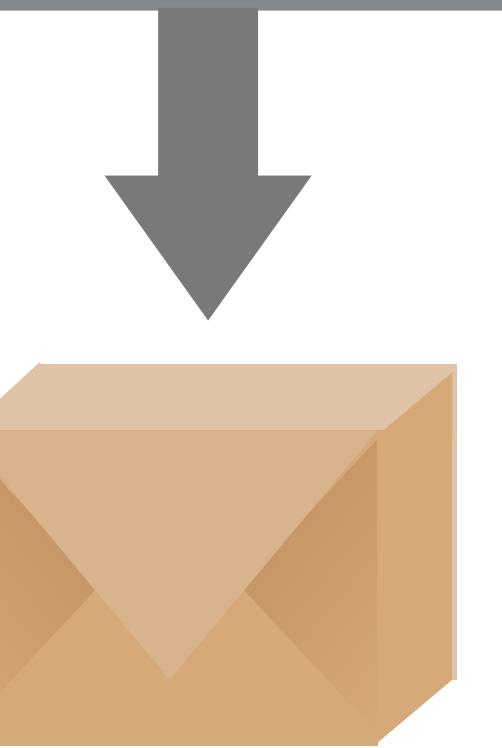
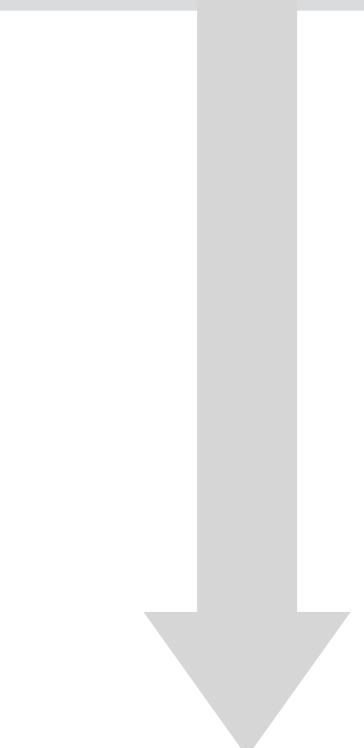
function5()  
function6()  
function7()  
function8()



function9()  
functionA()  
functionB()  
functionC()



functionD()  
functionE()  
functionF()  
functionG()



Base R

R Packages

# Using packages

**1**

```
install.packages("foo")
```

Downloads files to computer

**1 x per computer**

**2**

```
library("foo")
```

Loads package

**1 x per R Session**

# The Tidyverse



# tidyverse.org

The screenshot shows the homepage of tidyverse.org. At the top, there's a navigation bar with links for Packages, Articles, Learn, Help, and Contribute. Below the navigation, there's a large heading "Tidyverse". To the right of the heading, there's a brief description: "R packages for data science. The tidyverse is an opinionated collection of R packages designed for data science. All packages share an underlying philosophy and common APIs." Below this text, there's a code block with the command "install.packages("tidyverse")". On the left side of the page, there's a graphic featuring six hexagonal icons representing different tidyverse packages: dplyr (orange, with a pliers icon), ggplot2 (grey, with a line plot icon), readr (blue, with a document icon), purrr (white with a cat icon), tibble (dark blue, with a grid icon), and tidyr (orange, with a circular arrow icon).

Tidyverse

Packages Articles Learn Help Contribute

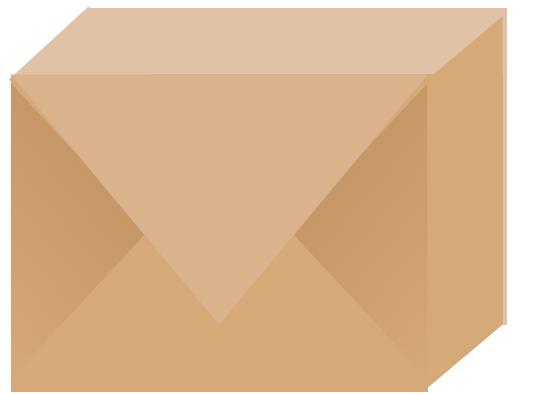
R packages for data science

The tidyverse is an opinionated **collection of R packages** designed for data science. All packages share an underlying philosophy and common APIs.

Install the complete tidyverse with:

```
install.packages("tidyverse")
```

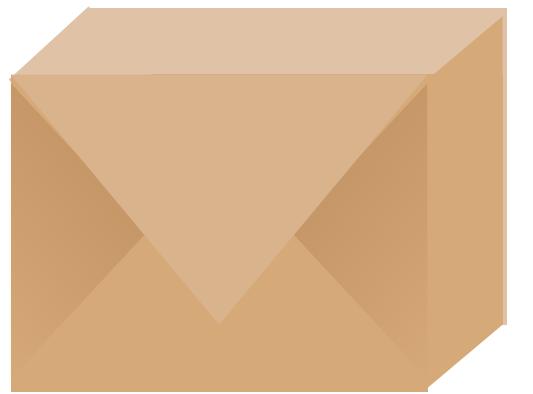
# tidyverse



An R package that serves as a short cut for installing and loading the components of the tidyverse.

```
install.packages("tidyverse")
```

# tidyverse



An R package that serves as a short cut for installing and loading the components of the tidyverse.

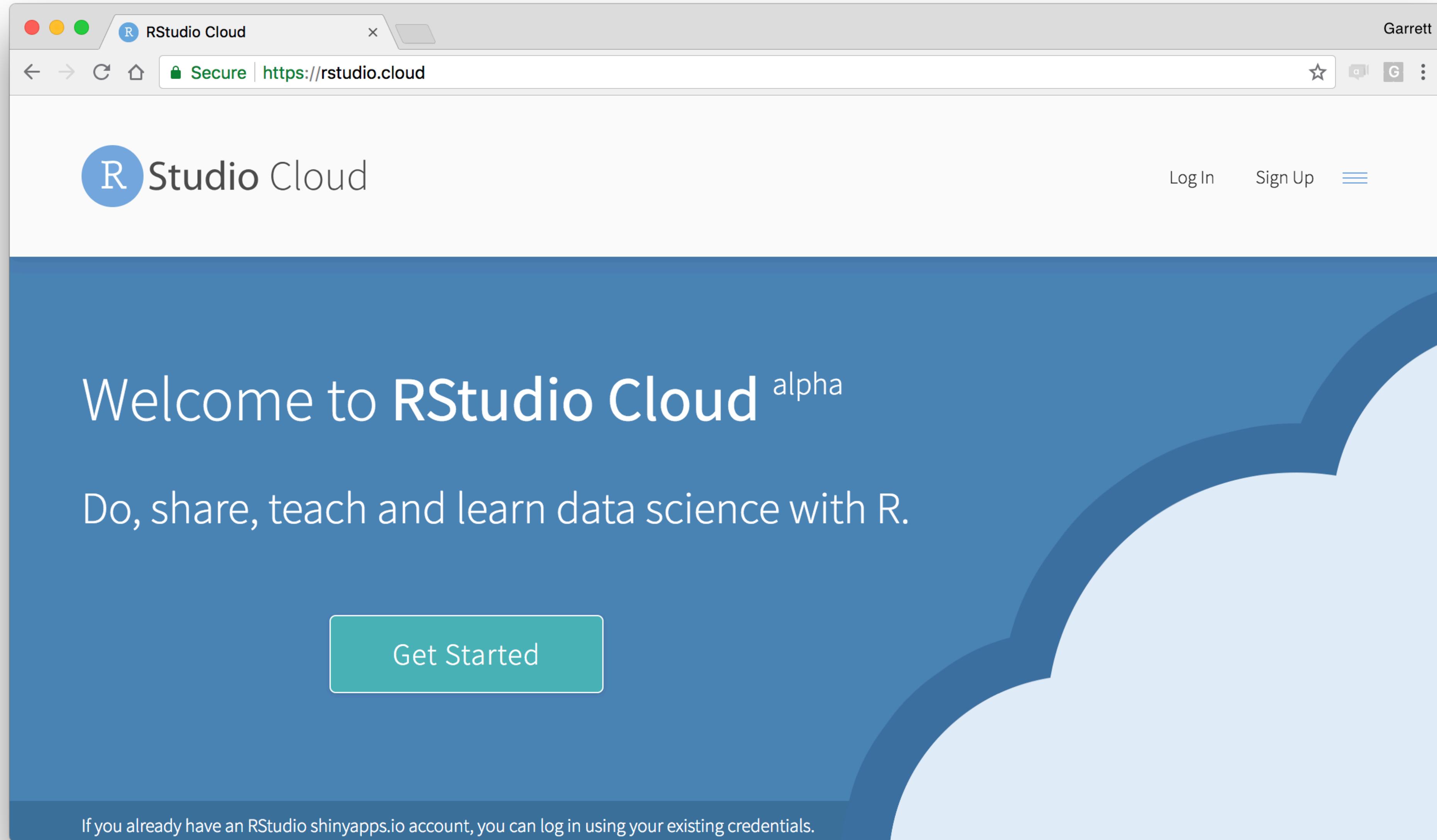
```
library(tidyverse)
```

# R Notebooks

(Let's start!)



[https://github.com/paleolimbot/  
r4transform2021](https://github.com/paleolimbot/r4transform2021)



# Your Turn

Go to **0-Introduction.Rmd**. Read through the notebook and do everything it tells you to do.



# R Notebooks

An authoring format for Data Science.

The screenshot shows the RStudio interface with an R Notebook file open. The notebook contains the following content:

```
1 ---  
2 title: "R Notebook"  
3 output: html_notebook  
4 ---  
5  
6 Text written in **markdown**  
7  
8 ```{r}  
9 # code written in R  
10 (x <- rnorm(7))  
11 ````  
12  
13 Text written in _markdown_  
14  
15 ```{r}  
16 # code written in R  
17 hist(x)  
18 ````  
19  
20 (Top Level) ◊
```

The interface includes a toolbar at the top with icons for File, Edit, Code, Preview, Insert, and other tools. Below the toolbar is the main editor area where the R Notebook code is written. A small preview window is visible below the editor. At the bottom is the R Console window displaying the output of the R code, which is a vector of seven random numbers: [1] -1.2 1.0 -0.5 0.9 -0.6 -1.1 -1.5.

Three callout boxes highlight specific features:

- A light gray callout box points to the green triangle icon in the toolbar, labeled "Click to run all code chunks above".
- A medium gray callout box points to the green triangle icon in the chunk header bar, labeled "Click to run code in chunk".
- A dark gray callout box points to the console output, labeled "Code result".

# Outro



# Your Turn

In RStudio Cloud, Click on  
**1-Visualize-Data.Rmd**

