

Welcome!

Please input this command into R:

```
usethis::use_course("https://bit.ly/2L95hCb")
```

Introduction to



and



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Based on a work at <https://github.com/hadley/data-science-in-tidyverse>

Schedule

- Getting Started (1:00 – 1:45)
- Intro to tidyhydat (1:45 – 2:15)
- Transforming data (2:15 – 3:00)
- Break (3:00 – 3:30)
- Dates and Joins (3:30 – 3:45)
- Visualizations (3:45 – 4:50)
- How to ask for help – Where do you go next? (4:50 – 5:00)

Introductions

Introductions

Sam Albers

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Strategy

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Introductions

Joel Trubilowicz

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Jon Goetz

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What this workshop is not...

A comprehensive course on all of R

Important Not going to talk importing data – only WSC data



What this course is...

A specific starting point in R

A chance for you to code

A chance for you to think about data analysis differently

Your turn

Introduce yourself

- Who are you?
- Why are you here?
- What is your experience with R?

Your turn

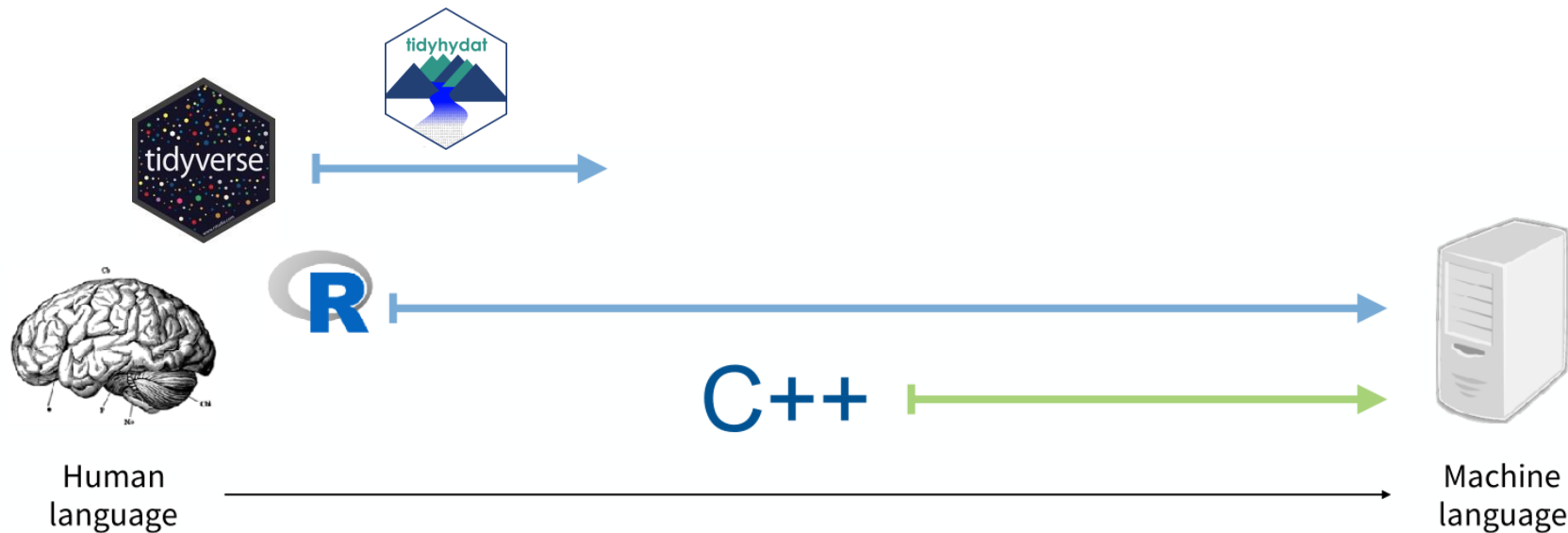
I'm done



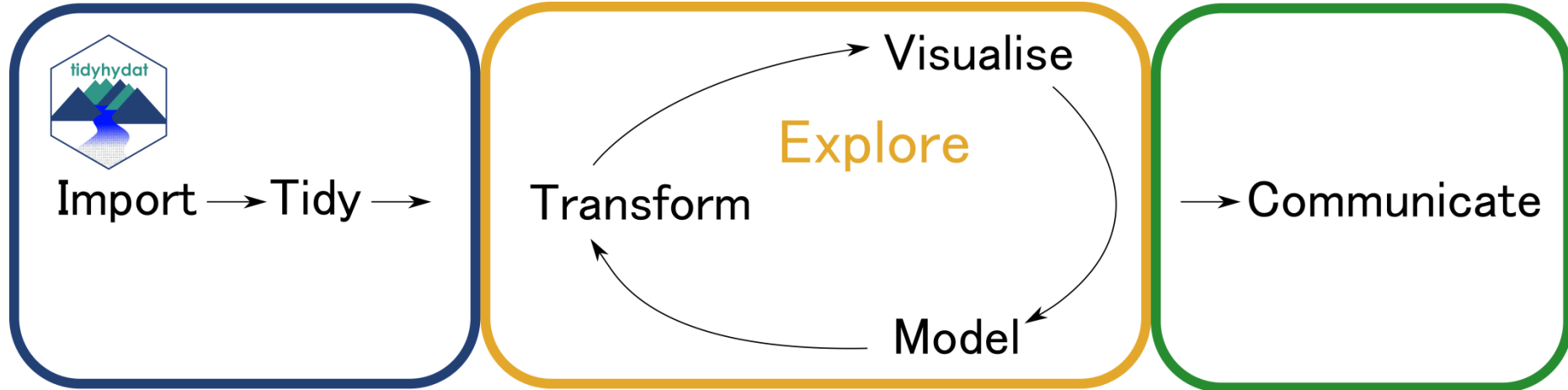
I'm stuck



R – A programming language for data

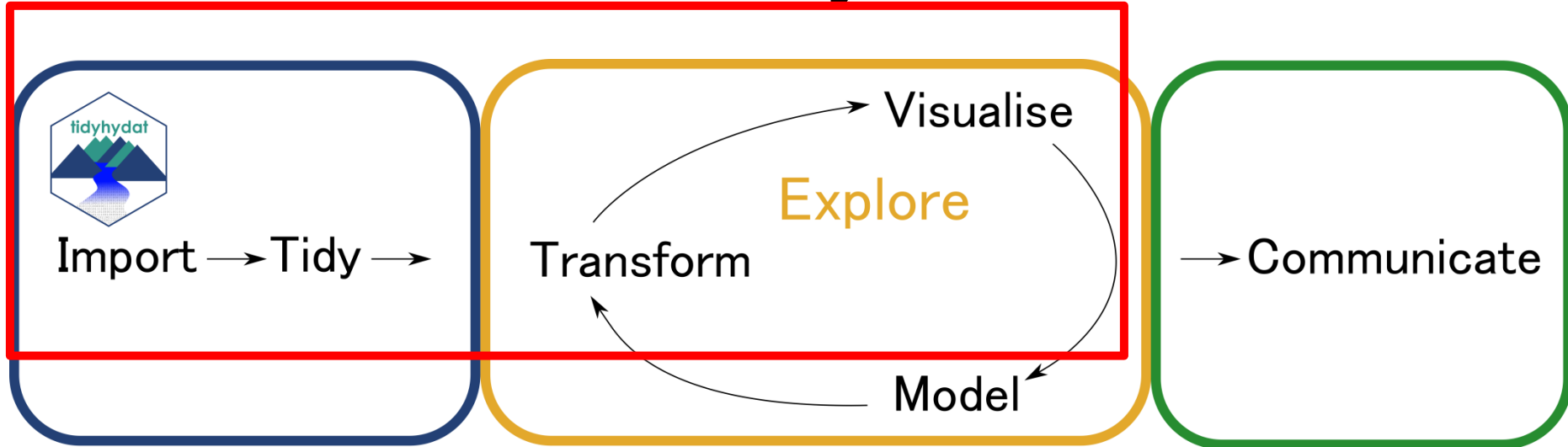


The Data Analysis Process



Adapted from Wickham and Grolemund 2017

The Data Analysis Process



Adapted from Wickham and Grolemund 2017

Focus less time of coding and more
time on data analysis

Why use R?

- Free
- Efficient
- Reproducible
- Scalable





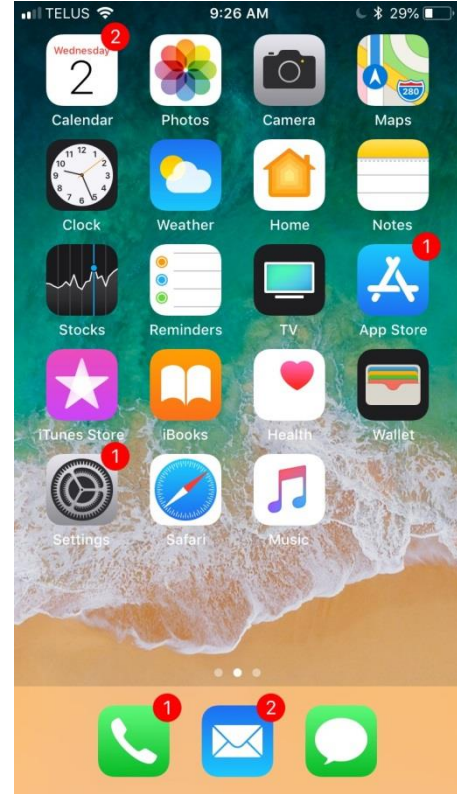
Base R



Packages



RStudio



Anatomy of an R function

```
fraser <- hy_daily_flows(station_number = "08MF005")
```



Object

Function

Argument

Value

Anatomy of an R function

```
fraser <- hy_daily_flows(station_number = "08MF005")
```



Object

Function

Argument

Value

“To understand computations in R, two slogans are helpful:

Everything that **exists** is an **object**.

Everything that **happens** is a **function** call.”

— John Chambers

RStudio

The image shows a screenshot of the RStudio IDE interface. The main editor window displays an R script file named `fraser_flow_script.R` with the following code:

```
1 library(tidyhydat)
2
3 fraser_flows <- hy_daily_flows(station_number = "08MF005")
4
```

The bottom-left pane shows the R console output, which includes the R version (3.5.0), copyright information, and a list of help topics.

Four red annotations are overlaid on the image:

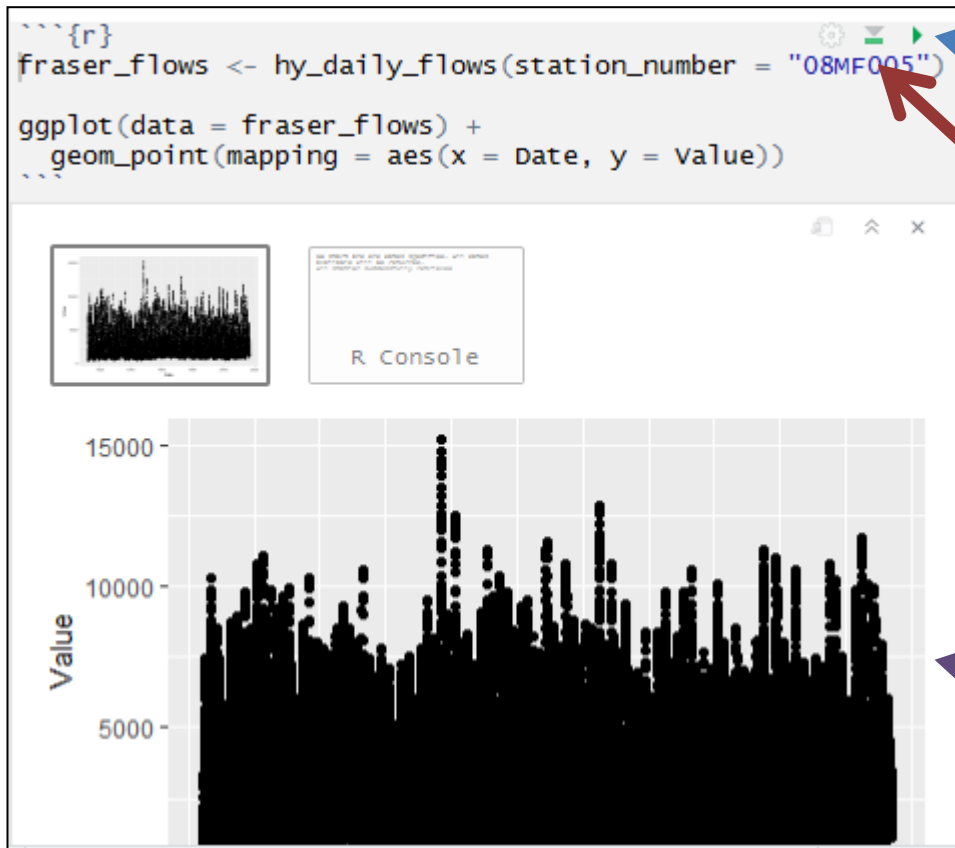
- A) This is where you type and save code** points to the main script editor.
- B) This is where you run code** points to the R console.
- C) These are the objects you've loaded in R** points to the Environment pane, which shows the `.Last.value` object with a value of `TRUE`.
- D) This is where you get help, see output and interact with files** points to the Files pane, which shows the project structure including `rstudio_ide.Rproj` and `fraser_flow_script.R`.

Your turn

- Open the file intro-to-tidyhydat-and-tidyverse.Rproj
- Open 00-Getting-started.Rmd and start doing analysis!

A quick word on Notebooks

- Integrates:
 - Code
 - Text
 - Output



Click to run
code in chunk

Click to run all
code chunks
above

Code output