Day 3, Session 1: Installing R and RStudio

Jessica Williams-Nguyen and Brian D. Williamson

26 September 2017

R is a free software package that can be used for data analysis, graphics, and programming.

Why R?

R has many advantages, including:

- Free!

- Active group of contributors (anyone!)

- Flexible

However, this comes with some challenges:

- Sometimes packages don't do what they say they do...
    - ...but you can trust basically anything written by the R Core Team, the RStudio Team, Hadley Wickham, or Yihui Xie

Why RStudio?

Why two programs?

R is a programming software, prepackaged with a graphical user interface (GUI). However, R programs can be executed from the command line without an interactive interface.

RStudio is a GUI, and is a helpful tool for working in R. Using RStudio makes it easier to:

- write R scripts to save your work, along with comments for what your code does

- write reports with code embedded (using Rmarkdown)

- organize your data analysis workflow (e.g., reading in data, access help files)

Why two programs?

At the end of the day: you are executing commands/programs in R, but using RStudio as an intuitive interface to the software (much like your operating system is a GUI to the machine language that your computer understands).
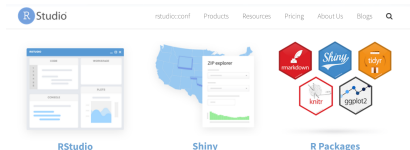
Installing R

1. Go to `https://cran.r-project.org/`

2. Choose the correct link under <u>`Download and Install R`</u>

   - Windows users, select
     <u>`install R for the first time`</u>

   - Mac users, click the
     <u>`R-[replace with most recent version number].pkg`</u>
     link and install

   - Linux users, I assume you know what you are doing

Installing RStudio

1. Go to `https://www.rstudio.com/`

2. Scroll down until you see the headers for `RStudio`, `Shiny`, and `R Packages` (see figure)

3. Click Download

4. Click the green download button in the column for `RStudio Desktop`

5. Choose the correct installer for your operating system and click the link

R and Windows

R and Mac/Linux