

EEB R Bootcamp

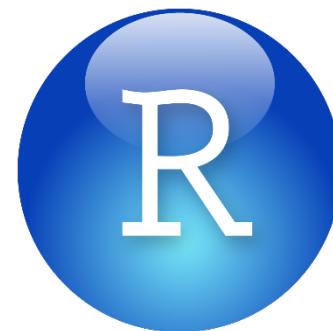
basic stats and plotting

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What have you learned so far?

- Command line vs script
- Getting help in R
- Installing and loading packages/libraries
- Reading data
- Assigning variables
- Subsetting data
- Control flow (for, if, while...)
- Functions

R resources



- <https://cran.r-project.org/>
- R studio (<https://www.rstudio.com/>)
- R for biologists (<https://cran.r-project.org/doc/contrib/Martinez-RforBiologistv1.1.pdf>)
- Springer series 'Use R!' is available free through UCLA library
- R for Data Science <http://r4ds.had.co.nz/>
- Quick R: <http://www.statmethods.net/>
- R reference card: <ftp://cran.r-project.org/pub/R/doc/contrib/Short-refcard.pdf>
- R colors: <http://research.stowers-institute.org/efg/R/Color/Chart/ColorChart.pdf>
- Other grad students (Hacky hour)
- Stats consulting on campus
- Collaboratory and IDRE workshops
- Google!



Plan for today

- Running statistical tests
- Plotting

Basic statistics

- T-tests
- ANOVA
- Correlation
- Other linear models
- More advances statistics – EEB202C

Some advice about script layout

1. Setup (e.g., clean workspace, load packages)

```
# set up  
rm(list=ls()) # clean workspace  
graphics.off() #close all figures
```

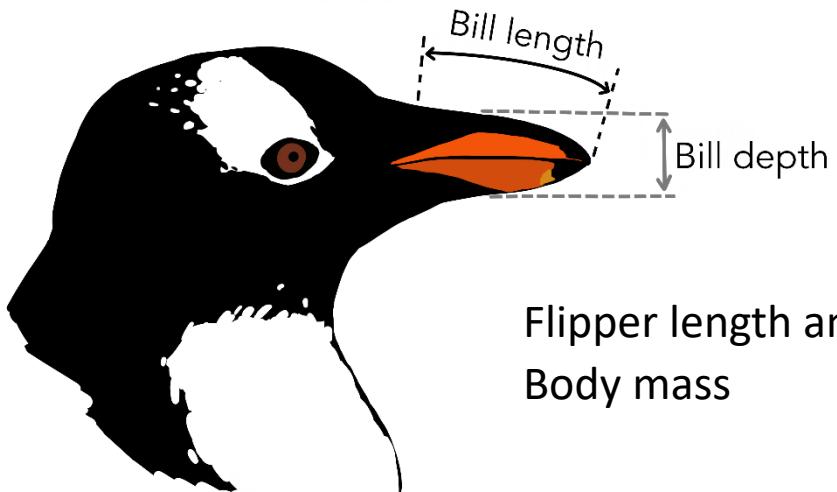
```
#load packages  
library('igraph')
```

2. Load data and prepare it for analysis (e.g., subset, assign data type...)
3. Perform analysis
4. Display results (plot, save output etc...)

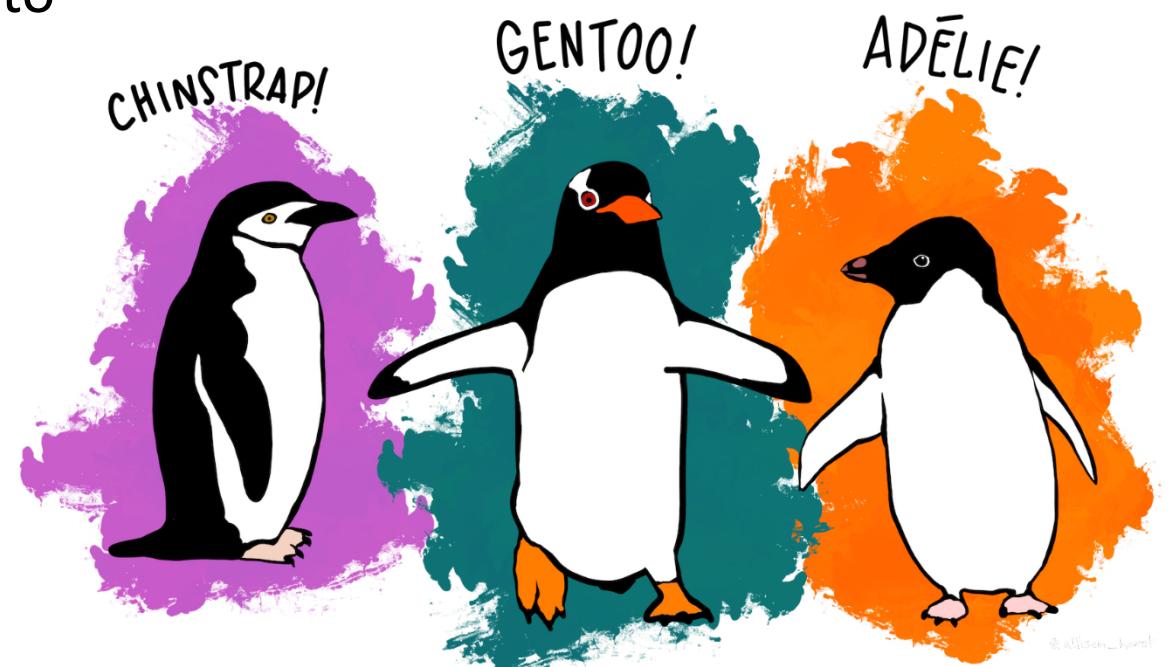
Dataset to work on today

```
library(palmerpenguins)
```

There are two data sets in the package, we will use 'penguins' which is the simplified data frame of the raw data (which is also available for those into penguins...)



Flipper length and
Body mass



Working remotely together....

- Download worksheet from Rbootcamp webpage ('in class worksheet')

<http://michaelalfaro.github.io/eeb201/>

- We will meet in gather.town to allow 'organic' social interactions for joint work
- What is gather.town?



Outdoors

Noa

upgrade to premium



Advanced plotting

- Color palettes
- Heatmaps
- The R graph gallery:

<http://www.r-graph-gallery.com/all-graphs/>

- ggplot2...