

Topic 2: Manipulating data

Data Structures in R

- R is object oriented
- All objects are members of one or more classes
- Class declaration is not necessary
- Don't have to declare length of vectors

Data Types

- Numeric `a <- 1`
- String `b <- "spaghetti"`
- Factor `a <- factor("A")`
- Logical `d & !e`
- Missing `a <- c(11,NA,13)`

Structures of Data

- Vector `a <- c(11,12,13)`
- Dataframe `trees <- data.frame(tree = c(1, 2), species = c("WH", "WL"))`
- Matrix/Array `mat.1 <- matrix(c(1,0,1,1), nrow=2)`
- List `my.list <- list("one", TRUE, 3)`

Data Processing

- Subsetting `ufc[1:5,]`
- Sorting `ufc[order(ufc$height.m),]`
- Summarizing `sapply(ufc[,4:7], mean)`
- Merging `trees <- merge(trees, params)`
- Reshaping `trees.long <- reshape(trees,...)`