

# Introduction to R

Marine Ecosystem Dynamics

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## Plan for today's lecture

- The R syntax
- The R studio software
- Variables, functions and vectors
- Importing data using the readr package

## Why using R?

### Pro

- Free
- Open source
- Reproducible science

```
# You can keep track of all the
# data analysis steps
2 + 2 + 3          # step 1
#> [1] 7
log(2 + 2 + 3)    # step 2
#> [1] 1.94591
```

### Cons

- Scary
- Syntax

```
# This can be scary
library(ggplot2) ; library(dplyr) ; set.seed(123)
tibble(Month = sample(month.abb, 100,
  replace = TRUE),
  Genus = sample(c("Acartia", "Temora", "Cercaria"),
  replace = T),
  Abundance = rnorm(100, 12, 7))
|>
group_by(Month, Genus) |>
summarise(Avg_abundance = mean(Abundance,
  na.rm = T)) |>

ggplot(aes(x = Genus, y =
  Avg_abundance)) +
  geom_boxplot()
```