

## Intro to R for Oceanographers

**Course Objectives:** Give new programmers at SIO basic tools for data analysis and presentation in R. Course format will be tutorial-based and adapted to the level of the enrolled students. Students will complete a final project of their choice and present their results to the class. Meeting time TBD, two hours per week.

**Week 1:** Basics of R programming, including data types, syntax, functions and figures  
Task: Read [style guide](#), identify a project or a personal programming goal

**Week 2:** Importing and working with larger data sets, indexing, and if/else statements

**Week 3:** Writing for loops in combination with if statements and alternatives to for loops

**Week 4:** Writing and calling functions

**Week 5:** Working with date/time data, data manipulation

**Week 6:** Making figures and maps using ggplot

**Week 7:** Leslie matrices and population models

**Week 8:** Designing surveys and sampling strategies, generating synthetic data sets

**Week 9:** Packages and functions relevant to oceanography

**Week 10:** Student project presentations