

### **I. Red Crab Stable Isotope Case Study**

1. Edit a scatterplot and boxplot so that they are publication standard
2. Explain the results in terms of ecology and food availability (1 paragraph, with citations)

Graphs should include, at a minimum

1. Axis labels
2. Horizontal axis numbers
3. Appropriate legend (i.e., no background, sites are named rather than listed as 1 or 2)
4. Clear backgrounds, no guidelines on the graph
5. Appropriate marker shapes and colours for black and white publication
6. An appropriate caption for each graph or plot.

#### Resources and Further Reading

For graph editing: **cookbook-r.com** or any of the blogs/websites mentioned in class

Lutz, M. J., et al. (2007). Seasonal rhythms of net primary production and particulate organic carbon flux to depth describe the efficiency of biological pump in the global ocean. *Journal of Geophysical Research: Oceans*, 112(C10).

### **II. Fin whale isotopic niche width**

1. Include the two graphs we produced in class. Make sure to add a figure legend.
2. Make a hypothesis to explain a differences you observe between the isotopic values or isotopic niche width of western North Atlantic and Mediterranean fin whales. Suggest a possible experiment to test this hypothesis. (1 paragraph, with citations)

#### Resources and Further Reading

Bentaleb, I., et al. (2011). Foraging ecology of Mediterranean fin whales in a changing environment elucidated by satellite tracking and baleen plate stable isotopes. *Marine Ecology Progress Series*, 438, 285-302.

Tinker, M. T., et al. (2008). Food limitation leads to behavioral diversification and dietary specialization in sea otters. *Proceedings of the National Academy of Sciences*, 105(2), 560-565.

Newsome, S. D., et al. (2007). A niche for isotopic ecology. *Frontiers in Ecology and the Environment*, 5(8), 429-436.

### **II. Please give us some feedback by filling out this short anonymous survey**

[https://duke.qualtrics.com/jfe/form/SV\\_cURYdIpUX1acrKR](https://duke.qualtrics.com/jfe/form/SV_cURYdIpUX1acrKR)