

Project Proposal

Our project partner is Andreas Fahlman. He is a comparative physiologist whose research projects revolve around the central question of how animals function in challenging environments. Mission: To investigate the dive behavior from 4 pelagic bottlenose dolphins based on time-depth and satellite data over a number of months.

Our goals of the project will be to look at these four questions: 1) Look at how dive behavior changes with time a) day/night b) temporally). If there are days or weeks when they dive deeper and/or longer, we could look at location in the ocean where they were

- 2) Look to see if surface duration changes before or after different dive durations or dive depths
- 3) See if there is a certain dive duration where dive depth changes (could do a broken stick model to see “break” point)
- 4) Look at the distribution of dive depths and duration

Deliverables: GIS modelling? Regressions models (Poisson?) Prediction Plots Box plots Histograms

Data: We were given excel documents with the data.

Data Prep: We do not know how to do this. Help would be greatly appreciated.

Background: Academic journals on marine biology <https://seaworld.org/animals/all-about/bottlenose-dolphin/> National Geographic about dolphins

Current Skills: Jonathan- Excel, Determination Grace- organization, Excel Trevor- Excel, and tableau?

Work Plan: Communicate via text at the beginning of each week to see what work needs to be done and how to divide or delegate that work. Set up a normal meeting time with our project partner biweekly.

Requests: Help with R studio How to implement our data into R Potentially GIS modelling?