

Emilio Puga, Marine Biologist



Skills

- Master Scuba Diver (Nitrox, First Aid, Rescue, Science Surveys)
- Knowledge of Excel Spreadsheets
- Writing up Environmental Data
- Underwater Photography
- CPR Certified
- Instructor of both Diving Techniques and First Aid

Science Experience

Emilio Puga

Project Scientist

B.S. Marine Biology

University of Hawaii at Manoa, 2022

Master Scuba Diver

Nauai, 2021

Scientific Diver

AAUS, 2019

DAN Instructor

Divers Alert Network, 2022

Eagle Scout

Boy Scouts of America, 2016

Focused Experience

- Interpreting Environmental Data
- Underwater Ecological Surveying techniques
- Rescue Diver
- Creating and Interpreting Environmental Data on Excel
- Teaching Surveying techniques while Scuba Diving
- Microscope Photography
- Handling Live Specimens



Quantitative Ecological Surveying Techniques

During my Freshman Year of College, I spent two weeks on the island of Hawaii learning how to take Environmental Data. The data varied from fish counting, coral health surveys, water sampling, and photo sampling. Once all of our data was created, my group and I were tasked to make our own project with what we learned. Specifically, my group decided to do a health survey on the coral species *Pocillopora meandrina* or commonly known as the cauliflower coral. We used a benthic grid method where we count all of the cauliflower coral, we can find on a laid out transect line. Then using the R program, we randomly selected certain points on the transect line and counted as many as we could find.



499 Senior College Project

During my senior year of college, I had the honor of studying under Dr. Amy Moran. She has a PHD in Invertebrates, and has a lab located in the Antarctic studying Pycnogonids or commonly known as Sea Spiders. During my study, I was tasked to create a senior project where I conduct my own study on a certain species. The species I choose for my project was *Tripneustes gratilla* or commonly known as the collector urchin. What I did was to study the nauplius larva (sea urchin larva) and understand how long it could survive in the water column with no nutrients. In order to do so, I went out to the field (or in this case ocean) and found several male and female urchins and injected them both with potassium chloride in order to make them spawn. Once they spawned, I waited for three days in order for the larva to form. After formation was completed I collected 36 individual larva and photographed each one until the last larva died. I found out after this study that the average freshly spawned larva can live for roughly 32 days without any nutrients provided.