

# *Darimar Dávila Ortiz*

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## EDUCATION

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### **M. Sc. in Biological Oceanography**

August 2021 - Present

Department of Marine Sciences

University of Puerto Rico, Mayaguez campus

NCAS-M Fellow

### **B. Sc. in Environmental Sciences**

August 2013 – May 2019

Department of Natural Sciences

University of Puerto Rico, Río Piedras campus

### **2016 Fall Semester – Program Exchange**

August – December 2016

Undergraduate Scholarship in Marine Science

Duke Marine Lab, Duke University, NC

### *Academic Research Interests*

Remote sensing of seagrass beds and coral reefs, marine ecology, coral reef restoration and conservation, geographic information systems, spatial data analysis, and landscape ecology.

## RESEARCH EXPERIENCE

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### **NSF REU Intern**

May – July 2017

Interdisciplinary REU in Hyperspectral Imaging (IDREHSI)

University of Northern Iowa, IA

Mentors: Dr. Maureen Clayton and Dr. Bingqing Liang

- o Obtained spectral signatures and identified unique characteristics in the spectra of plastic microfibers.
- o Compared spectra of microfibers using the Headwall Hyperspectral Camera and the Analytical Spectral Device Backpack Field Spec (ASD).
- o Created and presented project proposal and results.

### **NSF REU Intern**

June – August 2016

Ocean Sciences Research Experience for Undergraduates

California State University, Monterey Bay (CSUMB) – Marine Landscape Ecology Lab

Mentors: Dr. Corey Garza and Mr. Dan Orr

- o Studied the relationship between variations in species diversity and landscape characteristics across scales.
- o Studied rocky shore intertidal community interactions.

- o Created Digital Elevation Models (DEMs) to derive raster surfaces and represent landscape characteristics.
- o Created and presented project proposal and results.

### **Research Independent Study**

August – December 2016

Duke Marine Lab, Duke University, NC

Mentor: Dr. Humberto Díaz

- o Created a species report for three interlocked tropical habitats (coral reefs, seagrasses, and mangroves) in Bocas del Toro, Panama.
- o Identified sponges, corals, algae, and other marine invertebrates.

### **Undergraduate Research Assistant**

August 2014 – May 2015

University of Puerto Rico, Rio Piedras Campus

Laboratory of Tropical Ecology & Center for Applied Tropical Ecology and Conservation (CATEC)

Lead Investigators: Dr. Elvira Cuevas and Abimarie Otaño (M.S.)

- o Learned about the connectivity of coastal ecosystems by assessing the impact of sedimentation on the near-shore coral reef ecosystem of Culebra Island.
- o Maintained growing units of Staghorn Coral (*Acropora cervicornis*), gathered data, monitored coral reef benthic community using photo-transect, and changed sediment traps.

### **Summer Research Field Assistant**

May – June 2014

Natural Resources Career Tracks Program

Program for Belize Archaeological Project, Orange Walk District, Belize

Lead Investigator: Dr. Brokaw

- o Re-censused trees in four 1-hectare plots in the Rio Bravo Conservation Area (RBCMA). Measured DBH (diameter at breast height), mapped, tagged, and identified to species all self-supporting, woody stems  $\geq 10\text{cm}$  DBH. Recorded recruitments of new stems, mortality of previously recorded stems, and diameters of surviving stems.
- o Learned general aspects of field archaeology. Excavated, identified, and analyzed ceramics and lithics of Maya sites.

### **Undergraduate Research Assistant**

August 2013 – May 2015

University of Puerto Rico, Rio Piedras Campus

Laboratory of Tropical Ecology and Center for Applied Tropical Ecology and Conservation (CATEC)

Lead Investigators: Dr. Elvira Cuevas and Dr. Wilmer Rivera

- o Studied variations in salinity and flooding in urban wetlands and applications for ecological restoration purposes.
- o Identified, weighted, and granulated leaf litter of species *Avicennia germinans*, *Laguncularia racemosa*, *Rhizophora mangle*, and *Pterocarpus officinalis*.
- o Supervised students in the collection of data and measurements, such as salinity, and pH. Motivated and educated middle, and high school students, and the community about urban wetlands, salinity, and environmental issues around Reserva Natural de la Ciénaga las Cucharillas, Cataño.

## PROFESSIONAL EXPERIENCE

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### **Intern**

August 2022 – Present

Puerto Rico Sea Grant, UPRM, Programa de Coral

Supervisor: Maria Vega

- o Created an ArcGIS Dashboard showing response efforts to the Stony Coral Tissue Loss Disease (SCTLD) allowing an interactive way to visualize the data and inform the community..
- o Improved SCTLD website using Elementor and WordPress.

### **Environmental Specialist**

August 2020 – February 2022

Arcadis Caribe, Guaynabo, Puerto Rico

Supervisor: Abner Hernandez

- o Created an aerial imagery mosaic from Puerto Rico improving the process and speed of results.
- o Collaborated to complete hundreds of infrastructural assessments, for the Puerto Rico Department of Housing (PRDOH), enabling repair, reconstruction, and/or relocation of houses after catastrophic events in Puerto Rico.
- o Created year-built analysis of structures from Puerto Rico using aerial imagery.

### **Junior Instructor**

December 4 – 11, 2019

National Hispanic Environmental Council Minority Youth Training Institute (NHEC), New Jersey

Supervised by Roger Rivera and Juan Rodriguez

- o Gave workshops on Resume Building, Career journey, and Introduction to GIS.
- o Assisted with logistics, in charge of ordering and picking up food for students, transportation to the airport, and helped students with final presentations.

### **Geographical Information Systems Intern**

January – May 2019

Geographic Mapping Technologies, Corp., San Juan, Puerto Rico

Digital Cartography Internship, University of Puerto Rico

Supervised by Ingrid Ramos

- o Digitized agriculture and hydrology objects of interest in aerial imagery from Bangladesh for Harris Corporation, within a collaborative project.
- o Created maps of landslides and flood zone areas in Puerto Rico for an NGO law firm.

### **Eco Diver**

May 2016 – Present

Reef Check Foundation, Caribbean

Supervised by Joel Melendez.

- o Performed yearly surveys of coral reef benthic communities around Puerto Rico.
- o Identified key indicator fish species, invertebrates, coral diseases, and substrate.

### **Translator**

September – December 2016

Duke Marine Lab in Duke University, North Carolina, U.S.A.

Supervised by Dr. Mateja Nenadovic and Dr. Xavier Basurto.

- o Translated and organized variables, databases, and documentation related to the governance of small-scale fisheries from English to Spanish.

**Natural Resources Intern**

July 15 – August 10, 2015

U.S. Forest Service (USFS), White Mountain National Forest, New Hampshire.

Supervised by Jon Morrissey

- o Participated in an outreach program to campers and visitors to the forest on improper food storage prevention and keeping bears wild in their natural state.
- o Conducted electrofishing, flow monitoring, water quality monitoring, and stream mapping.
- o Collaborated with a botanist on invasive species removal and soil nutrient sampling.
- o Accompanied district ranger, GIS analyst, and other professionals in their daily tasks to understand their roles in the USFS.

**Youth Environmental Leadership (YEL) Crew Member**

July – August 2014

U.S. Forest Service, White Mountain National Forest, New Hampshire.

Supervised by Jon Morrissey

- o Created and improved hiking/skiing trails and camping sites, removed invasive species, sampled water quality, streamflow monitoring, and analyzed samples in the laboratory.
- o Participated in the restoration of old structures with HistoriCorps.

**VOLUNTEER EXPERIENCES**

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**Coral Reef Rehabilitation Program**

August 2014 – 2021

Sociedad Ambiente Marino (SAM), Culebra Island, Puerto Rico

- o Maintained coral farming units and assisted in rehabilitation techniques.

**Memberships***Student Chapter of the Marine Society (CESAM) – University of Puerto Rico, Rio Piedras*

President

August 2015 – May 2017

Secretary

August 2013 – May 2014

- o Participated in sea turtles beach patrol, coordinated beach clean-ups and workshops for elementary school, led meetings, and advised students on internship opportunities.

*USDA Natural Resources Career Tracks (NRCT)*

August 2014 – May 2017

University of Puerto Rico, Rio Piedras campus

- o Participated in career-building activities such as workshops, seminars, internships, field trips, field classes, and program retreats.
- o Gained awareness of career opportunities with the US Department of Agriculture (USDA).

**CONFERENCE PRESENTATIONS**

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**Dávila-Ortiz, D.**, Clayton, M. *Identifying plastic microfibers in the marine environment using Hyperspectral Imaging*. American Association of Geographers (AAG), Chicago, IL. April 2018 (poster)

**Dávila-Ortiz, D.,** Orr, D., and Garza, C. *Multi-scale landscape effects on biodiversity*. Western Society of Naturalists (WSN), Monterey, CA. November 10-13, 2016 (poster)

## RELEVANT COURSEWORK

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*University of Puerto Rico, Mayaguez Campus*  
Oceanographic Remote Sensing I and II

August 2021 - December 2022

*NASA's Applied Remote Sensing Training Program*  
Remote Sensing of Coastal Ecosystems

Aug 25th, Sep 1st, and Sep 8th, 2020

*University of Puerto Rico, Rio Piedras Campus*  
Introduction to Geographic Information Systems, Advanced GIS,  
Remote Sensing, Management of Coastal Resources

August 2013 – May 2019

*Duke University, Duke Marine Lab*  
Marine Ecology, Marine Invertebrate Zoology, Marine Tropical Ecology

August – December 2016

*Codetrotters Academy, San Juan, Puerto Rico*  
Introduction to Web Development.

February 17 – April 22, 2016

## WORKSHOPS AND SHORT PROGRAMS

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### **National Hispanic Environmental Council Minority Youth Training Institute (NHEC)**

NHEC – Albuquerque, New Mexico

Aug. 1-10, 2013

NHEC- Staten Island/Long Island, New York

June 26 - July 13, 2014

Student Participant

- o Received talks from Federal Agencies like USFW, NPS, USFS, and NRCS.
- o Selected by the District Ranger to work at the U.S. Forest Service (USFS) during the summer of 2014 after being interviewed.
- o Learned about using scientific equipment such as clinometers, Hanna multiparameter, seine nets, flow meters, GPS, compass, and electrofishing backpack equipment, among others.
- o Determined the conditions of a natural area by analyzing water quality, benthic macroinvertebrates diversity, soil quality, and surroundings by using soil pH kits, and water quality test kits.

### **SEEDS National Field Trip, Trout Lake Field Station**

May 8 – 11, 2014

Center for Limnology at the University of Wisconsin in Boulder Junction, WI.

Student Participant

- o Studied the difference in water quality and lake composition around the Field Station.
- o Toured the Art Oehmcke Hatchery and learned about the hatching and rearing of Muskellunge, Walleye, Lake Trout, and Suckers.
- o Attended a career panel on career options and pathways in the field of ecology.

### **Puerto Rico Weather Camp**

June 24 – 30, 2012

NOAA Center for Atmospheric Sciences & Caribbean Coastal Ocean Observing System (CariCOOS) program at Magueyes Island, University of Puerto Rico, Mayaguez campus.

#### **Student Participant**

- o Explored the diverse academic and professional opportunities in the fields of meteorology, atmospheric sciences, coastal, and oceanography.
- o Introduced to meteorological instruments, forecast guidelines, and weather maps.

## **SKILLS**

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### **Languages:**

Spanish – Native  
English - Fluent  
Portuguese – Intermediate

### **Software:**

ArcGIS Pro, ArcGIS Online  
ENVI Software, SNAP,  
Microsoft Office,  
PowerPoint, Excel.  
Exposed to GitHub, R,  
HTML, and CSS.

### **Additional Skills:**

Scientific Diving  
Fieldwork experience  
Identification of benthic coral  
reef communities.

## **LICENSES AND CERTIFICATIONS**

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Reef Check Eco Diver – Scientific Diver	2016
PDIC International Diver – Advanced	2016
PDIC International Diver – Open Water	2014

## **AWARDS AND HONORS**

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NCAS-M Fellow (NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology	2021
The Wade Family Scholarship - Fall Undergraduate Scholarship Duke Marine Lab	2016
ESA Scholarship to attend the National Field Trip	2014
Environmental Scholarship from Fundación Fonalledas	2013
Recognized as an outstanding student from the Department of Education in Puerto Rico	2011
“Tolerance and phytoremediation capacity of used motor oil by <i>Phaseolus vulgaris</i> ”.	2011

- Best Environmental Project - \$1,000 recognition from the Interamerican Association of Sanitary Engineering and Environmental Sciences (AIDIS).
- Three 1st places in the category of Environmental Management.

## REFERENCES

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Available upon request.