

ERIN THARP

PHD STUDENT

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PROFILE

Erin is a PhD student in the Voss Coral Reef Health and Ecology Lab at Florida Atlantic University. Her research focuses on mesophotic coral reefs within Flower Garden Banks National Marine Sanctuary, combining ecological, physiological, molecular, and social science approaches to better understand reef function and resilience. The goal of her research is to support adaptive, stakeholder-informed management of the Sanctuary.

WORK EXPERIENCE

Graduate Research Assistant

August 2024 - PRESENT

Harbor Branch Oceanographic Institute- Florida Atlantic University, Fort Pierce, FL

Coral Reef Health and Molecular Ecology Lab, Dr. Joshua Voss

- Conducting interdisciplinary research on mesophotic coral ecosystems (30–150 m) at the Flower Garden Banks National Marine Sanctuary
 - Utilizing ROV surveys to quantify reef fish assemblages and benthic habitats
 - Analyzing depth-related variation in coral physiology (lipid and fatty acid profiles)
 - Characterizing coral–algal symbioses using molecular
 - Measuring coral symbiont densities and chlorophyll content across shallow and mesophotic depths
- Conduct quarterly health status monitoring of coral reefs along the Southeast Florida Reef

July 2025

Flower Garden Banks National Marine Sanctuary, MV Fling

Scientific Diver Long-Term Monitoring Cruise

- Aided in the scientific dive long-term monitoring operations at East and West Flower Garden Banks, including underwater photography, fish surveys, site maintenance, and coral post sample processing.

July 2025

Flower Garden Banks National Marine Sanctuary, RV Manta

Safety and Scientific Diver

No Activity Zone (NAZ) Cruise led by Joshua Voss

- Aided as safety support for mesophotic CCR divers
- Assisted in the collection of coral samples for genomic analysis

EDUCATION

2024 - Current

FLORIDA ATLANTIC UNIVERSITY

- **Ph.D.** Integrative Biology

2022 - 2024

UNIVERSITY OF CALIFORNIA, IRVINE

- **M.S.** Conservation and Restoration Science
- GPA: 4.0

2018 - 2022

UNIVERSITY OF SOUTHERN CALIFORNIA

- **B.S.** Environmental Studies, Emphasis on Oceans, People, and Life, University of Southern California, Class of 2022
- Minor in Marine Biology
- GPA: 3.6 / Major GPA: 3.7

SKILLS

- Programming: R Studio, MeshLab, ArcGIS Pro, Microsoft Office Suite, Adobe Acrobat, ImageJ
- Photography: 3D Photogrammetry, Remote Operated Vehicle Operations
- Scuba Diving: Scientific Diver, Advanced Open Water
- Certifications: BoatUS California Boater, CPR, Diving First Aid for Professionals, Motorboat Operator Certification Course
- Lab Skills: DNA Extraction and Purification, Nanodrop and Qubit DNA quantification, Gel electrophoresis
- Field Skills: Coral Sampling, Roving Diver Surveys, Tropical Coral, Fish, and Algal Species Identification, Belt Transect Surveying, Underwater Photo Transects, Scleractinian Coral Disease Identification and Intervention Techniques, Seine Net Sampling, Plankton Tows, Electrofishing, and Gillnetting Skills

WORK EXPERIENCE

June 2025

Flower Garden Banks National Marine Sanctuary, RV Nancy Foster

Research Aid

No Activity Zone (NAZ) Remote Operated Vehicle Cruise

- Assisted in operating a remotely operated vehicle (ROV) to survey benthic habitats and assess fish biodiversity within Flower Garden Banks National Marine Sanctuary.
 - Involved in-depth knowledge of fish and coral identification

May 2025

Dry Tortugas, Florida, MV Makai

Coral Disease Biologist and Scientific Diver

DRT0 Research Cruise led by Dr. Karen Neely

- Stony Coral Tissue Loss Disease (SCTLD) Intervention on the Dry Tortugas National Park reefs, Funded by the National Park Service
 - Treated and reported over 5,000 coral colonies impacted by SCTLD by applying amoxicillin and base 2B to disease lesions, 30+ scientific dives.
 - Conducted post coral treatment processing, such as data entry, photo organization, and created maps using GPS data.

Field Biologist

Summer 2023

Sequoia and Kings Canyon National Park

National Park Service

- Worked as a field technician with the National Parks Service in the backcountry of Sequoia and Kings Canyon National Parks, to eradicate non-native trout in an effort to protect the endangered yellow-legged frog.
 - Using skills such as gill netting, electrofishing, and biodiversity surveys.
 - Received the **STAR award** (Staff Appreciation and Recognition), which recognized work on the project for going above and beyond the normal scope of an employee's regular job scope.

Researcher

December 2023-May 2024

Lamb Lab, UC Irvine

- 11,000-paper meta-analysis on reef fish pathogenic diseases

REU Student

Summer 2021-Spring 2022

National Science Foundation

Paid Internship

- Designed and implemented an independent research project on sea cucumber populations in Big Fisherman's Cove, Catalina Island, CA, addressing the lack of population data since 1997.
- Conducted a literature review and collaborated with mentors to develop hypotheses on species abundance and environmental drivers.
- Utilized Scientific Diver training to lay transects at multiple depths and recorded abundance, substrate type, and habitat associations.
- Deployed temperature loggers and flow meters for 24-hour periods to measure environmental variables influencing distribution.
- Investigated seasonal population shifts of the Warty Sea Cucumber and compared abundances inside vs. outside a Marine Protected Area.
- Presented results in a poster presentation at the Western Society of Naturalists Conference (2021).

TEACHING EXPERIENCE

Graduate Student Mentor

2024

UC Irvine

MCRS Program

- Provided guidance and support to younger Master's students in the Conservation and Restoration Science program. Assisted with academic development, research projects, and professional growth by sharing fieldwork experience, technical skills, and career insights. Fostered collaboration, problem-solving, and confidence through one-on-one mentorship and group discussions, helping students navigate both coursework and applied conservation challenges.

Water Polo Coach

2022-2024

Newport Harbor High School

- Taught water polo to athletes aged 8-18,
- Designed and led engaging practices for children, teaching fundamental water polo skills, teamwork, and sportsmanship.
- Emphasized discipline, confidence, and fun to help kids grow both as athletes and individuals.

Joint Education Project

Teacher

Fall 2018, Fal 2019

University of Southern California

- Taught science class to 1st and 3rd graders once a week at various schools around South Central, Los Angeles.
 - Taught one lesson per week on different basic scientific concepts to elementary classes, tailored to their grade level.

HONORS AND AWARDS

National Park Service STAR award (Staff Appreciation and Recognition)

Summer 2023

NCAA Women's Water Polo National Champions

Spring 2021

MPSF Water Polo All-Academic Team

Spring 2021

Kappa Alpha Theta Academic Honors

Spring 2020, Fall 2021

David X. Marks Scholar Athlete Award

2020, 2021

National Society of Leadership and Success Member

2020-2021

Collegiate Water Polo Association All Academic Honor

Spring 2020, 2021

Scientific Diver Summer 2020

Scripps Institute of Oceanography, Tel Aviv University, University of Southern California

Underwater Excavation

- Invited to participate in a 1-month underwater excavation in Tel Aviv, Israel, but due to COVID-19 it was canceled.

Data Collector April 2019

Reef Check California

Volunteer

- Participated in fish transect surveys in Big Fisherman's Cove, Catalina Island, CA, by using scientific dive skills to run 30-meter transects and evaluate the different types of organisms and fish along those transects.

Girl Scout Gold Award Recipient

August 2018

Girl Scouts

- Awarded for designing calcium hydroxide discs attachable to fishing nets to mitigate coral reef depletion by locally neutralizing acidity and reducing coral bleaching.
- Conducted a literature review on calcium hydroxide as an acid neutralizer and applied findings to practical reef conservation methods.
- Developed and implemented a community education program, including a website, pamphlets, and interactive activities with Orange County Girl Scout Troops and Newport Aquatic Center camps, to raise awareness of coral reef health and reef-safe practices.

Research Assistant

September 2017-May 2018

Orange County Coast Keepers

Living Shorelines Project

- Tracked and recorded oyster populations in different habitats in the Newport Beach Back Bay as part of an effort to combat their dwindling numbers with the Living Shorelines Project.
- Evaluated how the reintroduction of eelgrass affected the oyster population through data collection and analysis using quadrats to see the number of oysters in different substrate types at different locations around the Newport Beach Back Bay.
- Worked with Katie Nichols from OC Coast Keepers and a team of researchers from Cal State Fullerton on this project.

Data Collector Spring 2017

Koh Tao, Thailand

New Haven Reef Conservation

- Worked to transplant micro fragments of coral onto bio rocks to help them fuse in order to aid in the restoration of the reef system
- Gained valuable skills in Scientific Diving, knowledge of how micro fragmenting corals works, and hands-on experience in attaching the coral fragments to biorocks by aiding with the project for a week.

Data Collector Spring 2016

Ambergris Caye, Belize

Bacal Chico Reserve

- Collected ecological field data for a Manatee Restoration Project at Bacalar Chico Reserve, Belize, assessing turtle grass (eelgrass) health and density using quadrats.
- Conducted manatee counts across multiple sites to evaluate correlations between seagrass condition and manatee presence.
- Participated in high school as part of a collaborative project with a chemistry teacher, sparking an early passion for marine science and field research.

USC Pac12 Sustainability Representative

Spring 2021-Spring 2022

University of Southern California

- Represented USC student-athletes as a part of Pac12 sustainability work.
 - Worked with one student-athlete from every school in the Pac12 to implement changes within the League that will benefit the environment and be more sustainable
 - These included Zero Waste Games, where there is no trash produced at the game, creating challenges for the schools to participate in, finding corporate partners that highlight our sustainability goals, and participating in Pac12 Working group discussions, where we provide guidance to other members on how to lead our campuses in ways that advance our sustainability goals.

Student Leader

Spring 2021-Spring 2022

University of Southern California

USC Athletic Sustainability Operations

- Work with Athletics to create a more eco-friendly and sustainable community within all aspects of Athletic Services
- Led USC's Athletics department in a more sustainable way
 - This includes reducing our plastic at our athlete fueling station and dining hall by switching to compostable Tupperware and using paper bags instead of plastic, finding ways to curb food waste, adding a Powerade dispenser to use instead of single-use bottles, starting a sustainability club for athletes, working with the zero waste games USC takes part in, along with a plethora of other tasks as they present themselves.

Climate Change Activist

October 2020

Club of Rome

Summit Participant

- Participated in the Club of Rome Climate Summit to speak about climate change, its effects on the world, and the Climate Planetary Emergency Plan.
 - Participated in roundtable discussions where we explored the impacts of climate change on all aspects of the world, including environmental, economic, and mental health. We then developed potential solutions to raise awareness, initiate discussions, capture the attention of world leaders, and explore new scientific studies that can help mitigate climate change.