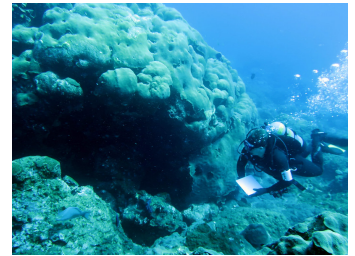




IAN R. COMBS

Large Area Imaging, Structure-from-Motion photogrammetry,
Coral Restoration, Coral Reef Ecology








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EDUCATION

- 2019
|
2017
- M.Sc. in Biological Sciences**
Florida Atlantic University  Boca Raton, FL
Thesis: Characterizing the impacts of stony coral tissue loss disease on coral in southeast Florida using 3D photogrammetry
Advisor: Dr. Joshua Voss
- 2014
|
2010
- B.Sc. in Marine Science**
University of Delaware  Newark, DE

RESEARCH EXPERIENCE

- Present
|
2022
- Senior Biologist, Coral Reef Ecosystems**
Mote Marine Laboratory  Summerland Key, FL
Coral Restoration Program
Supervisor: Dr. Jason Spadaro
- 2021
|
2020
- Staff Biologist, Coral Reef Ecosystems**
Mote Marine Laboratory  Summerland Key, FL
Coral Restoration Program
Supervisor: Dr. Erinn Muller
- 2020
|
2019
- Research Technician**
FAU, Harbor Branch Oceanographic Institute  Ft. Pierce, FL
Coral Reef Health and Molecular Ecology Lab
Supervisor: Dr. Joshua Voss
- 2019
|
2017
- Graduate Research Assistant**
FAU, Harbor Branch Oceanographic Institute  Fort Pierce, FL
Coral Reef Health and Molecular Ecology Lab
Supervisor: Dr. Joshua Voss
- 2014
- Research Assistant**
University of Delaware  Lewes, DE
Team Benthic Habitat Mapping
Supervisor: Dr. Douglas Miller

CONTACT

 1220 3rd Street
Downstairs, Key West, FL
33040
 +1 (301) 704-9605
 combsi9892@gmail.com
 [ScleractinIan_](#)
 [icombs2017](#)
 [Ian R Combs](#)




SKILLS

Structure-from-Motion
photogrammetry
Large-Area Imagery
Coral Restoration Ecology
Coral Reef Ecology
Coral Health and Disease
650+ Scientific Dives
Multivariate Data Analysis

LANGUAGE SKILLS

R
Bash
Python

TEACHING EXPERIENCE

- 2018 **Graduate Teaching Assistant**
FAU, Harbor Branch Oceanographic Institute  Fort Pierce, FL
Marine Biodiversity
- 2017 **Research-based After-school Program for Students**
Mote Marine Laboratory  Summerland Key, FL
- 2015 **Alumni Service Corps**
|
2014 Gonzaga College High School  Washington, D.C.

STUDENTS MENTORED

- 2023 **Amber Morera**
Mote REU Intern
Quantifying changes in biodiversity in an experimentally outplanted reef site in the Florida Keys, FL
- 2023 **Lily Gullett**
Mote REU Intern
Assessing coral restoration success and changes in benthic community composition following the removal of non-protected organisms within Eastern Dry Rocks, Key West, FL
- 2022 **Kamryn Blake**
Mote REU Intern
Assessing if microfragmentation promotes accelerated growth in massive stony corals using Structure-from-Motion photogrammetry
- 2021 **Gabrielle D'Alonzo**
Coral Restoration Intern
Assessing coral restoration's impacts on herbivorous fish communities.
- 2021 **Ryan Rogers**
Mote REU Intern
Does microfragmentation enhance the tissue growth and skeletal deposition of brain corals?
- 2021 **Briana Matthews**
Coral Restoration Intern
Assessing changes in microfragmentation on skeletal deposition and tissue growth.
- 2020 **Ashley Carreiro**
Coral Reef Health and Ecology Lab
Determining stony coral tissue loss disease intervention success on *Montastraea cavernosa* using 3D photogrammetry
- 2019 **Mckenna Rayburn**
Link Fellowship Intern
Intervention methods and rate of tissue loss on stony coral tissue loss disease-affected *Montastraea cavernosa* in the Florida Reef Tract
- 2018 **Diana Perez**
Link Fellowship Intern
Zooxanthellae characterization and connectivity in *Montastraea cavernosa*

REFEREED PUBLICATIONS

- 2021 **2. Quantifying impacts of stony coral tissue loss disease on corals in Southeast Florida through surveys and 3D photogrammetry**
PLoS ONE (2021). doi:10.1371/journal.pone.0252593
Combs IR, Studivan MS, Eckert RJ, Voss JD
- 2021 **1. Assessing the effectiveness of two intervention methods for stony coral tissue loss disease on *Montastraea cavernosa***
Scientific Reports (2021). doi:10.1038/s41598-021-86926-4
Shilling EN, Combs IR, Voss JD

Citations: 67

h-index: 3

i10-index: 3

MANUSCRIPTS IN PREPARATION

- 2023 **1. Large-area imaging in tropical shallow water coral reef monitoring, research and restoration: A practical guide to survey planning, execution, and data extraction**
NOAA Technical Memorandum NOS NCCOS 313. (2023).
Edwards CB, Viehman TS, Battista T, Bollinger MA, Charendoff J, Cook S, Combs IR, Couch C, Ferrari R, Figueira W, Gordon S, Kuester F, Gleason ACR, Greene W, McCarthy O, Oliver T, Pedersen NE, Petrovic V, Rojano S, Runyan H, Sandin SA, Zgliczynski BJ

PRESENTATIONS

- 2023 **Assessing coral restoration's effects on benthic community composition using Structure-from-Motion photogrammetry**
Association of Marine Labs of the Caribbean 40th Scientific Meeting
St. Kitts & Nevis
Combs IR, D'Alonzo GL, Muller EM, Bartels E, Spadaro AJ
Oral Presentation
- 2022 **Does microfragmentation accelerate the grow-out phase of asexually propagated brain corals?**
Reef Futures 2022
Key Largo, FL
Combs IR, Hamlyn SB, Matthews B, Rogers R, Muller EM
Oral Presentation
- 2019 **Characterizing impacts of scleractinian tissue loss disease on corals in southeast Florida with photogrammetry and 3D modeling**
48th Annual Benthic Ecology Meeting
St. John's, NL, Canada
Combs IR, Beal J, Voss JD
Oral Presentation
- 2019 **Characterizing the impacts of scleractinian tissue loss disease on corals in southeast Florida**
ASLO Aquatic Sciences Meeting
San Jaun, PR
Combs IR, Beal J, Voss JD
Poster Presentation

2019	Impacts of scleractinian tissue loss disease on corals in southeast Florida Indian River Lagoon Symposium Ft. Pierce, FL Combs IR, Beal J, Voss JD Poster Presentation Outstanding Presentation Award
2019	Undersatnding coral disease through 3D modeling HBOI Ocean Discovery Visitor Center Marine Science Fridays Ft. Pierce, FL Combs IR Oral Presentation
2018	Eulogy for the St. Lucie Reef 3MT-Three Minute Thesis Competition Ft. Pierce, FL Combs IR OralPresentation Heat 7 Runner-Up, 4th Place Overall
2018	White blotch disease impacts on corals in southeast Florida 47th Annual Benthic Ecology Meeting Corpus Christi, TX Combs IR, Beal J, Voss JD Poster Presentation

FUNDING

2023 2023	Mote Marine Laboratory POR Grant Program \$30,691
2019 2018	Indian River Lagoon Graduate Research Fellowship \$7,947
2019 2018	FAU GPSA Travel Awards \$1,600

CERTIFICATIONS

AAUS Scientific Diver

PADI Enriched Nitrox Certification

DAN Oxygen Delivery, First Aid, and CPR for SCUBA diving injuries

USFWS Motorboat Operator Certification Course



SKILLS

Large-Area Imaging, Structure-from-Motion photogrammetry, Agisoft Metashape

Analysis of LAI and SfM products using Viscore, TagLab, MeshLab, and Rhinoceros 3D

Field research planning, logistics, and execution

Data visualization using R statistical software and R Markdown

Data mangement using GitHub

Coral sampling, benthic surveys, photography, navigation and mapping

Caribbean Coral ID, Caribbean Fish ID

Multivariate statstical analyses

Scientific SCUBA diving



REFERENCES

Dr. Jason Spadaro

Program Manager of Mote's Coral Reef Restoration Research Program

+1 305-745-2729 ext. 713

📍 Mote Marine Laboratory
jspadaro@mote.org

Dr. Erinn Muller

Associate Vice President for Research, Program Manager for Coral Health & Disease, and Senior Scientist

+1 (947) 388-4441 ext. 310

📍 Mote Marine Laboratory
emuller@mote.org

Dr. Joshua Voss

Associate Research Professor, CIOERT Executive Director

+1 (772) 242-2538

📍 Florida Atlantic University
jvoss2@fau.edu

*This curriculum vitae was made
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