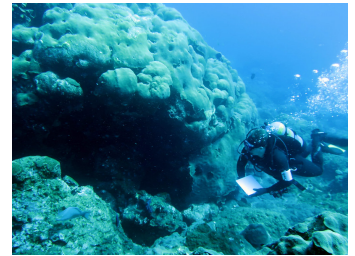


IAN R. COMBS

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
|
2024

Senior Biologist, Lower Keys Coral Restoration Operations Coordinator

Mote Marine Laboratory

📍 Summerland Key, FL

Coral Restoration Program

Supervisor: Dr. Jason Spadaro

2024
|
2023

Senior Biologist, Coral Nursery Manager

Mote Marine Laboratory

📍 Summerland Key, FL

Coral Restoration Program

Supervisor: Dr. Jason Spadaro

2023
|
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

CONTACT

📍 1220 3rd Street

Downstairs, Key West, FL

33040

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✉️ combsi9892@gmail.com

🐦 [ScleractinIan_](https://twitter.com/ScleractinIan_)

🌐 [icombs2017](https://www.instagram.com/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

2014

Research Assistant

University of Delaware

Team Benthic Habitat Mapping

Supervisor: Dr. Douglas Miller

📍 Lewes, DE



TEACHING EXPERIENCE

2018

Graduate Teaching Assistant

FAU, Harbor Branch Oceanographic Institute

Marine Biodiversity

📍 Fort Pierce, FL

2017

Research-based After-school Program for Students

Mote Marine Laboratory

📍 Summerland Key, FL

2015

Alumni Service Corps

Gonzaga College High School

📍 Washington, D.C.

2014



STUDENTS MENTORED

2024

Ashley Binstock

Mote URE Intern

Comparing fusion spacing of microfragmented coral using Structure-from-Motion Photogrammetry

2024

Alana Boirie

Mote URE Intern

Comparing fusion spacing of microfragmented coral using Structure-from-Motion Photogrammetry

2024

Nathaniel Hand

Mote URE Intern

Comparing fusion spacing of microfragmented coral using Structure-from-Motion Photogrammetry

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

2023

3. 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). doi:10.25923/5n6d-kx34

Edwards, C. B., Viehman, T. S., Battista, T., Bollinger, M. A., Charendoff, J., Cook, S., **Combs, I.**, Couch, C., Ferrari, R., Figueira, W., Gleason, A. C. R., Gordon, S., Greene, W., Kuester, F., McCarthy, O., Oliver, T., Pedersen, N. E., Petrovic, V., Rojano, S., Runyan, H., Sandin, S. A., and Zgliczynski, B. J.

Citations: 100

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

h-index: 3

i10-index: 3

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



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

📍 Mote Marine Laboratory

+1 305-745-2729 ext. 713

jspadaro@mote.org

Dr. Erinn Muller

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

📍 Mote Marine Laboratory

+1 (947) 388-4441 ext. 310

emuller@mote.org

Dr. Joshua Voss

Associate Research Professor, CIOERT Executive Director

📍 Florida Atlantic University

+1 (772) 242-2538

jvoss2@fau.edu

*This curriculum vitae was made with the R package **pagedown**.*

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