

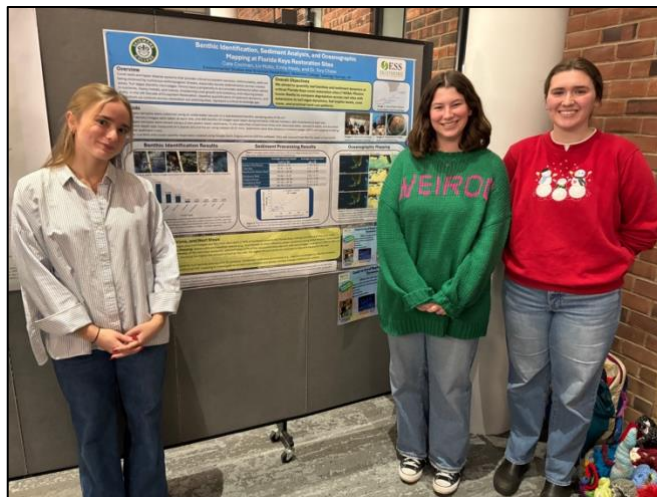
Coast to Coral Reefs Environmental Dynamics Lab

(CCREDL) **SPRING 2025 UPDATES**

CURRENT EVENTS

BTCIS Poster Presentation

Team takes on the End-of-Semester Winter 2024 science poster session, with the trio-poster “Benthic Identification, Sediment Analysis, and Oceanographic Mapping at Florida Keys Restoration Sites.” ESS projects spanning soil, renewable energy, and freshwater conductivity excelled during the poster session. Initial results indicate: (1) strong positive correlation between sediment mass (g) and sediment depths (mm) at target restoration sites, (2) >60% of Florida Keys reef benthos is comprised of algae turfs and macroalgae, with gorgonians and zooanthids as the 3rd and 4th most abundant cover categories, and (3) NOAA: Mission Iconic Reefs sites, close to the coast, are situated in a prevailing southern current, with lower salinity in the spring, summer and fall annually. As a footnote, Dr. Chase won best dessert with his “Death by Chocolate Trifle”.



Fieldwork along Florida's Reef Track

Back to the reef - Dr. Chase conducted fieldwork in collaboration with the Nova Southeastern University (NSU) REEFS Lab, funded by the State of Florida

Department of Environmental Protection, on algae turf sediment dynamics at sites in Broward County, FL. These reefs represent priority areas, with high proximal population

densities and very low levels of coral cover. Ongoing trips to Florida and sample processing will take place Spring/Summer 2025. The question his Skidmore students want to know is, “when will Dr. Chase take them to Florida already!?”



Synthesis Research Discussions

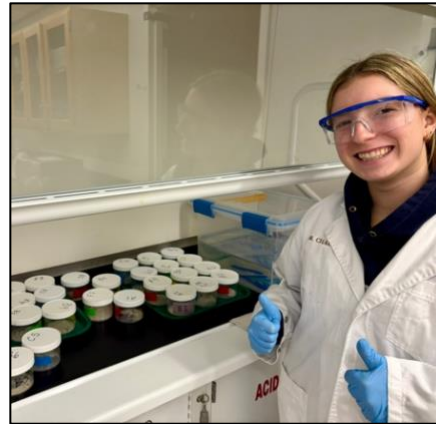
This semester the lab will read and evaluate current publications pertaining to each of the student projects and CCREDL grant work - algae turfs, reef sediments, and marine science communication. The team will work on discussions to identify key knowledge gaps, and present evaluations applicable for outreach and conservation objectives.



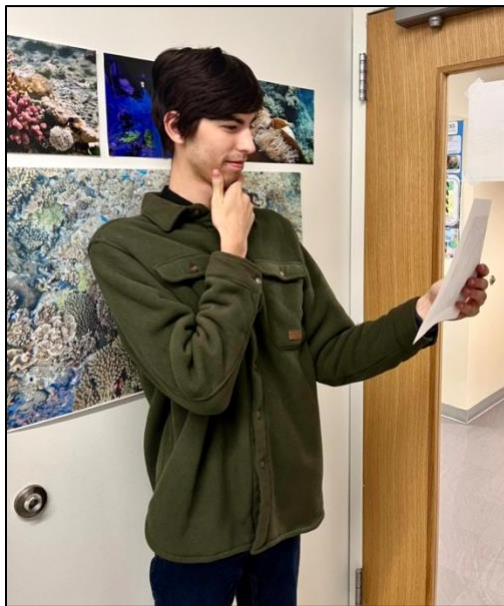
NEW CCREDL TEAM MEMBERS – Spring 2025

Hannah Fetzer (Skidmore ESS '27)

Hannah is jumping into the fast-paced, cut-throat world of reef sediment processing and will be focusing on organic vs. inorganic comparisons of turf algae from seven NOAA: Mission Iconic Reef sites. She maintains over 20L of hydrogen peroxide in her chemistry kit and plans to “bleach” sediments to get fine-scale measurements of sediment organic composition. To make coral reef research more dimensional, Hannah will also be continuing Emily Healy’s protocol for 3D printing reef components, and will focus on linking 3D printed reefs with coral ID and demographic labels.



Fun facts: Drinks Starbucks every single day and won the “Best shell smasher award” in ES252



Luke Kretschmann (Skidmore ESS '27)

Inspired by his semester in ES252 Marine Ecology and Conservation, Luke will be taking on the role of a marine educational developer, with plans to design and pilot new educational activities including a virtual reality coral reef exercise, database of science organizations in the northeast USA, and more. Apart from educational activities, Luke plans to be a “TA-DA” (not like a magic trick...), but a “Turf Algae-Density Analyser”; with over 70 turf density photos, he is soon realizing that reefs with turf algae are more like a mosaic of turfs, sponges, macroalgae, and CCA – with complex community composition.

Fun facts: Went snorkelling on Belize’s coral reefs over winter break and won “Best shell-dropper award” in ES252.

External Members

(NSU Master’s students with Dr. Chase as an external member of their committees.)

Manu Ploner (REEFS Lab, Nova Southeastern University)

If there was anyone who dreams about tiny <5mm algae turf on Florida’s reefs, it’s Manu. As a PADI scuba instructor and member of the NSU REEFS lab, he’s earned the nickname “the housekeeper of the reef” for numerous hours vacuuming sediment underwater. Manu’s master’s research focuses on tackling multiple protocol techniques to comprehensively record, for the first time, algae turf dynamics across Florida’s reef offshore gradient and developing critical comparisons with patterns reported on Australia’s Great Barrier Reef.

Fun facts: Has been scuba diving in his authentic Austrian lederhosen, and has tried over 25 types of key lime pie.

Nicole Messerlian (REEFS Lab, Nova Southeastern University)

Even though she isn't a fan of heavy metal music, part of Nicole's NSU Master's research focuses **on** heavy metals – the type stuck to reef sediments! Nicole is pioneering new ways to sample algae turfs on tiny scales, across Broward County's sediment-laden reefs. As she finishes her master's degree this year, you'll see her in power-multitasking mode – writing, extracting algae DNA, processing samples, analysis, and more!

Fun facts: Finds plucking algae off reef substrate therapeutic and can decant sediment samples faster than anyone on the planet.

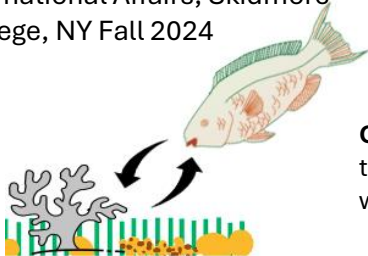


CCREDL MEMBERS AT LARGE

- Liv Mollo (Panama Study Abroad, Spring 2025)
- Carolyn Scott (class of 2024)
- Micaiah Ocalvey (class of 2024)

RECENT SCIENCE OUTPUTS, AWARDS, AND COMMUNICATIONS

- Student Opportunity Award - Cochran, C (2024) Substrate analysis on Atlantic coral reefs – Benthic Identification
- Student Opportunity Award – Mollo, L (2024) Turf algae density sediment dynamics at coral reef restoration sites, and 3D educational printing
- Chase TJ (2024) Marine conservation affairs and ocean justice (Guest Lecturer). IA101 Introduction to International Affairs, Skidmore College, NY Fall 2024



CCREDL 2025 Group Photo representing (1) that even in snowy Upstate NY, we think about corals (!), and (2) with a snowy landscape and white coral skeletons, we aid in bringing attention to global bleaching crises across coral reefs.

><(((°> Stay tuned for more lab work, fieldwork, and summer research updates! ><(((°>

- ESS Instagram: @northwoodess
- ESS Newsletter: https://www.skidmore.edu/environmental_studies/newsletter/index.php
- CIS ESS video screen announcements
- NSU Reefs Lab Instagram: @reef_researchgroup

For more information about the team, check out the **ESS Skidmore web pages:**

https://www.skidmore.edu/environmental_studies/faculty/chase.php