

Emma Reed

Ph.D. Candidate

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Education

Ph.D., Geosciences

University of Arizona (advisor: Dr. Diane Thompson) 2018 – present
Boston University (advisor: Dr. Diane Thompson) 2016 – 2018

M.S., Geosciences

University of Arizona (advisor: Dr. Julia Cole) 2014 – 2016

B.A., Science of Earth Systems • English

Cornell University 2010 – 2014
Geology concentration, Science in Literature concentration, Marine Biology minor
Magna cum laude • Dean's List

Fellowships

NSF Graduate Research Fellowship 2016 – 2021
Boston University Dean's Fellowship 2016
NASA/University of Arizona Space Grant Fellowship 2015 – 2016
NSF East Asia & Pacific Summer Institute Fellowship 2015

Awards

Galileo Circle Scholarship 2016, 2020
ChevronTexaco Geology Scholarship 2019
Best Overall Presentation, GeoDaze Symposium, U. Arizona 2019
First Place Lightning Talk, Earth Week, U. Arizona 2019
Carson Scholarship in Science Communication 2019
Australia-Americas PhD Research Internship Program 2018
Geological Society of America Student Research Grant 2017
R. Wilson Thompson Scholarship 2015
AGI Harriet Evelyn Wallace Scholarship 2015 – 2016
Paul S. Martin Scholarship 2014
Einhorn Discovery Grant Spring, Fall 2013
Arts & Sciences Undergraduate Research Fund Spring, Fall 2013
Michael W. Mitchell Prize 2013

Martijn Zwart Prijs 2013
New York State Scholarship for Academic Excellence 2010 – 2014

Research Experience

Tropical Climate & Coral Reefs Lab Boston University; University of Arizona
Graduate Assistant 2016 – present

Australian Institute of Marine Science Townsville, QLD, Australia
Visiting Researcher 2015, 2018

Paleoclimate Variability Lab University of Arizona
Graduate Assistant 2014 – 2016

Makauwahi Cave Reserve Kaua'i, HI
Honors Thesis Research Summer 2013, 2014

Paleontological Research Institution Ithaca, NY
Assistant to the Director of Collections 2012 – 2014

Alaskan Glacier Research Cornell University
Undergraduate Research Assistant Fall 2013

Publications

Reed E.V., Thompson D.M., Cole J.E., Dettman D., Vetter L., McGee D., Snyder M., Sayani H., Tudhope A.. *Reconstructing the Pacific Intertropical Convergence Zone during the 20th Century*. In preparation for submission.

Thompson D.M., McCulloch M., Cole J.E., **Reed E.V.**, D'Olivo J., Dyez K., Lofverstrom M., Lough J.M., Cantin N.E., Tudhope A.W., Cheung A.H., Vetter L., Edwards R.L. Marginal reefs under stress: physiological limits render Galápagos corals susceptible to warming and acidification. Submitted.

Reed E.V., Thompson D.M., Lough J.M., Cole J.E., Cantin N.E., Cheung A.H., Tudhope A., Vetter L., Jimenez G., Edwards R.L. *Impacts of Coral Growth on Geochemistry: Lessons from the Galápagos Islands*. In review at *Paleoceanography and Paleoclimatology*.

Reed E.V., Cole J.E., Lough J.M., Cantin N.E. 2019. *Linking climate variability and growth in coral skeletal records from the Great Barrier Reef*. *Coral Reefs* 38 (1): 29-43. DOI: <https://doi.org/10.1007/s00338-018-01755-8>

Presentations

- (invited) **Reed E.V.** *Extracting climate variability from coral archives through improved interpretations of geochemical proxies.* Brown University Department of Earth, Environmental and Planetary Sciences, October 2020.
- (poster) **Reed E.V.**, Thompson D.M., Cole J.E., Vetter L., Dettman D., McGee D., Snyder M., Sayani H., Tudhope A. *ENSO's Impact on the Pacific Intertropical Convergence Zone: New Insights from a Network of Pacific Coral Records.* AGU Fall Meeting, December 2019.
- (poster) **Reed E.V.**, Thompson D.M., Cole J.E., Vetter L., Dettman D., McGee D., Snyder M., Sayani H., Tudhope A. *The Pacific Intertropical Convergence Zone reconstructed from coral paleoclimate records.* US CLIVAR Workshop on Water Isotopes and Climate, October 2019.
- (talk) **Reed E.V.**, Thompson D.M., Vetter L., Lough J.M., Cantin N.E., Snyder M. *West Pacific rain belt variability recorded in corals from the Marshall Islands.* GeoDaze Symposium, University of Arizona, Spring 2019.
- (poster) **Reed E.V.**, Thompson D.M., Cole J.E., Lough J.M., Vetter L., Snyder M., Jimenez G., Tudhope S., Larry Edwards R., Cantin N.E. *Improving coral climate reconstructions using density records: a case study from the Galápagos Islands.* AGU Fall Meeting, December 2018.
- (talk) **Reed E.V.**, Thompson D.M., Cole J.E., Lough J.M., Vetter L., Snyder M., Jimenez G., Tudhope S., Larry Edwards R., Cantin N.E. *The good, the bad, and the ugly: assessing impact of skeletal density and transect quality on geochemistry in sub-fossil corals from the Galápagos Islands.* Goldschmidt, August 2018.
- (poster) **Reed E.V.**, Cole J.E., Lough J.M. *Linking climate variability and coral health through Great Barrier Reef Coral Records.* Poster presented at the International Coral Reef Symposium, June 2016.
- (talk) **Reed E.V.**, Cole J.E., Lough J.M. *Linking climate variability and coral health through Great Barrier Reef Coral Records.* GeoDaze Symposium, University of Arizona, 2016.
- (poster) **Reed E.V.**, Dietl G.P., Burney D.A., Pigott Burney L. *Invasive rat predation recorded in fossil endemic snails at Makauwahi Cave, Kaua'i.* GSA Annual Conference, 2014.
- (poster) **Reed E.V.**, Dietl G.P., Burney D.A., Pigott Burney L. *Invasive rat predation recorded in fossil endemic snails at Makauwahi Cave, Kaua'i.* Island Biology, 2014.

Teaching Experience

Oceanography (GEOS 212) Teaching Assistant	University of Arizona Fall 2020
Introduction to Climate & Earth System Science (ES 107) Teaching Fellow Grader	Boston University Spring 2017 Fall 2017
Ocean Science (GEOS 412A,B) Teaching Assistant	University of Arizona Spring 2015
Life on Earth (GEOS 170C) Teaching Assistant	University of Arizona Fall 2014
Introduction to Dutch (DUTCH 1210) Teaching Assistant, Pilot Distance Learning Program	Cornell University/Yale University Fall 2012

Outreach & Communication Experience

Science Café: “What can corals tell us about climate change?” Speaker	U. Arizona November 2019
Association for Women Geoscientists, Southern Arizona Chapter Vice President	U. Arizona 2019 – 2020
Department of Geosciences Outreach Program Volunteer	University of Arizona 2014 – 2016, 2018 –
Biosphere 2 Ocean Sciences Volunteer Curriculum Developer, Teacher, and Writer	Biosphere 2, AZ 2020 – 2015 – 2016
Earth & Environment Science Communication Workshop Lead Organizer	Boston University Spring 2018
NSF Expert Witness Training Academy Participant	Mitchell Hamline School of Law, MN Summer 2016
Makauwahi Cave Reserve Volunteer	Kaua’i, HI Summer 2013, 2014

ReefTeach
Volunteer

Kona, HI
Spring 2013

Expanding Your Horizons
Project Coordinator

Cornell University
2011, 2012

Popular Science Writing

Reed, E. V. “Yokwe to the Marshall Islands.” submitted to *Terrain.org*.

Reed, E. V. “Unearthing the Life in Soils at Biosphere 2.” Dec. 17, 2015. [Planet Experts](#).

Reed, E. V. “How we live forever.” Sep. 30, 2015. [Zocalo Magazine](#).

Reed, E. V. “No, the ‘hiatus’ doesn’t disprove global warming.” [SciView Fall 2015](#).

Field Experience

Fossil coral coring and water sampling, Marshall Islands	2018
CTD instrumentation and water sampling, Stellwagen Bank NMS (MA)	2016
Coral ecology surveys and marine instrumentation, Marshall Islands	2016
ReefCheck ecology surveys, Catalina Island (CA) and Boston (MA)	2016
Paleoecological excavations, Makauwahi Cave, Kaua’i (HI)	2013, 2014
Biogeochemistry sampling and monitoring, Kamuela (HI)	2013
Field program in Earth and Environmental Systems, Hawai’i	2013

Additional Skills

- AAUS Scientific Diver, PADI/NAUI Rescue Diver, NAUI Nitrox certification
- First Aid, CPR & O₂ certified
- Python (preferred), MATLAB, R, Java, Photoshop, Illustrator