Ryan H. Glaubke, Ph.D.

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RESEARCH INTERESTS

Paleoceanography • Paleoclimatology • Abrupt Climate Change • Ocean Circulation Change • Carbon Cycling • Climate Dynamics • Ocean/Atmosphere Interaction • Foraminiferal Geochemistry • Proxy Calibration • Proxy System Modeling • Data/Model Comparison • Data Science and Applied Statistics

EDUCATION

Ph.D. Oceanography **2024**
Rutgers University, New Brunswick, NJ, 08901

M.S. Ocean and Earth Sciences **2019**
Old Dominion University, Norfolk, VA, 23529

B.S. Ocean and Earth Sciences **2016**
Old Dominion University, Norfolk, VA, 23529

PROFESSIONAL APPOINTMENTS

Postdoctoral Research Associate **2024 - present**
Paleo^2 Laboratory (The University of Arizona)

PUBLICATIONS:

* denotes shared first authorship

Published:

(5) **Glaubke, R. H.**, M. W. Schmidt, J. E. Hertzberg, L. G. Ward, F. Marcantonio, D. Schimmenti, K. Thirumalai (2024). Divergent ENSO Responses to Northern Hemisphere Stadials during the Last Deglaciation. *Geophysical Research Letters*, *51*(12), https://doi.org/10.1029/2023gl107634

(4) **Glaubke, R. H.***, A. J. Wagner*, and E. L. Sikes (2024). Characterizing the Stable Oxygen Isotopic Composition of the Southeast Indian Ocean. *Marine Chemistry*, *262*, 104397. https://doi.org/10.1016/j.marchem.2024.104397 [Corrigendum (2024), *267*, 104460. https://doi.org/10.1016/j.marchem.2024.104460]

(3) **Glaubke, R. H.** (2022). Taking the Temperature of Ancient Oceans with Foraminiferal Mg/Ca. *Nature Reviews Earth & Environment*. https://doi.org/10.1038/s43017-022-00294-9

(2) Williams, T.J., E. E. Martin, E. L. Sikes, A. Starr, N. E. Umling, **R. Glaubke** (2021). Neodymium Isotope Evidence for Coupled Southern Ocean Circulation and Antarctic Climate Throughout the Last 118,000 Years. *Quaternary Science Reviews*, *260*, 106915. https://doi.org/10.1016/j.quascirev.2021.106915

(1) **Glaubke, R. H.**, K. Thirumalai, M. W. Schmidt, J. E. Hertzberg (2021). Discerning Changes in High-Frequency Climate Variability using Geochemical Populations of Individual Foraminifera. *Paleoceanography and Paleoclimatology*, *36*(2), e2020PA004065. https://doi.org/10.1029/2020PA004065

Submitted or In Review:

(2) **Glaubke, R. H.**, E. L. Sikes, S. M. Sosdian, N. E. Umling, A. Starr, P. L. Moffa-Sanchez, M. W. Schmidt. A Deep Ocean Contribution to Upper Indian Ocean Salinity during the Last Deglaciation. In review at *Nature Geoscience*.

(1) Cresswell, J., S. M. Sosdian, P. L. Moffa-Sanchez, N. E. Umling, **R. H. Glaubke**, E. L. Sikes, A. Starr. Shifts in the Southern Indian Ocean Subtropical Front across the Last Deglaciation. In review at *Paleoceanography and Paleoclimatology*.

In Preparation:

(2) **Glaubke, R. H.**, E. L. Sikes, N. E. Umling, A. Starr, E. E. Martin. Regional Heterogeneity in the Pace and Timing of Deglacial Deep-Sea Ventilation across the Southern Ocean. For *Geophysical Research Letters* — Spring 2025 submission.

(1) **Glaubke, R. H.**, E. L. Sikes, N. E. Umling, K. A. Allen. Core-top Constraints on the Ecology and Paleothermometry of Planktic Foraminifera in the Indian Ocean. For *Palaeogeography, Palaeoclimatology, Palaeoecology* — Fall 2024 submission.

INVITED TALKS

The University of Arizona, Geosciences Colloquium (upcoming Spring 2025)
Woods Hole Oceanographic Institution, Climate and Paleoceanography Seminar (April 2023)
American Museum of Natural History, Dept. of Earth and Planetary Sciences Weekly Seminar (October 2022)
Rutgers University, Dept. Marine and Coastal Sciences Weekly Seminar (September 2019)

CONFERENCE PROCEEDINGS:

* denotes first-author abstracts given as an oral presentation at a meeting/conference

(18) **Glaubke, R. H.**, E. L. Sikes, N. E. Umling, A. Starr and E. E. Martin. Pan-Southern Ocean Compilation of Foraminiferal $\delta^{13}C$ reveals Regional Heterogeneity in the Pace and Timing of Deglacial Deep Sea Ventilation. Goldschmidt, Chicago, Ill, 2024.

(17) Sikes, E. L., **R. H. Glaubke**, N. E. Umling, A. Starr, and E. E. Martin. Evidence that Deep Gateway Effect Delayed Resumption of AMOC in the Southern Ocean relative to Deglacial CO_2 Release. AGU Fall Meeting, San Francisco, CA, 2023.

(16) Clexton, C., H. Vo, A. J. Wagner, J. Kaiser, E. L. Sikes, **R. H. Glaubke**, T. Sowers. Tracing South Pacific Water Masses using Stable Oxygen Isotopes from GEOTRACES GP17-OCE. AGU Fall Meeting, San Francisco, CA, 2023.

(15) Uy, M. A., M. Berke, J. Cresswell, Z. Chase, A. Starr, N. Umling, **R. H. Glaubke**, R. Williams, E. L. Sikes, and S. Sosdian. Productivity in the Indian Sector of the Southern Ocean since the Last Glacial Maximum. AGU Fall Meeting, San Francisco, CA, 2023.

(14) **Glaubke, R. H.**, E. L. Sikes, N. E. Umling, S. M. Sosdian, A. Starr, C. Stirpe, K. A. Allen, M. W. Schmidt. The (Salty) Blob: The Deep Indian Ocean as a Salt Source to the Atlantic during the Last Deglaciation. AGU Fall Meeting, Chicago, IL, 2022.

(13) Sikes, E.L., N. E. Umling, **R. H. Glaubke**, A. Starr, E. E. Martin. Evolution of $\delta^{13}C$ of Surface Water Masses in the Southeast Indian Ocean over the last 50,000 years. AGU Fall Meeting, Chicago, IL, 2022.

(12) Wagner, A. J., **R. H. Glaubke**, and E. L. Sikes. High-precision measurements of Southern Indian Ocean seawater isotopes ($\delta^{18}O$) using laser adsorption spectroscopy. AGU Fall Meeting, Chicago, IL, 2022.

(11) **Glaubke, R. H.**, N. E. Umling, S. M. Sosdian, E. L. Sikes, A. Starr, N. F. Goodkin. Changes in Upper Ocean Stratification of the Southeast Indian Ocean linked to Frontal Migration across the Last Deglaciation. 14th International Conference on Paleoceanography, Bergen, Norway, 2022.

(10) Sikes, E. L., **R. H. Glaubke**, N. E. Umling, T. J. Williams, A. Starr, and E. E. Martin. Deglacial CO_2 Release and Ventilation in the Indian Ocean sector attributed to a Southern Ocean Deep Gateway Effect. Goldschmidt (virtual), 2021.

(9) ***Glaubke, R. H.**, E. L. Sikes, N. E. Umling, T. J. Williams, and E. E. Martin. Evidence for Deglacial Venting of CO_2 from the deep Southeast Indian Ocean using Planktic and Benthic Stable Isotopes. AGU Fall Meeting (virtual), 2020.

(8) Hertzberg, J. E., M. W. Schmidt, **R. H. Glaubke**, D. Vaughn, T. S. Bianchi, and F. Marcantonio. Reduced ENSO Variability during Marine Isotope Stage 3. AGU Fall Meeting, San Francisco, CA, 2019.

(7) **Glaubke, R. H.,** M. W. Schmidt, J. E. Hertzberg, L. G. Ward, and F. Marcantonio. Millennial-Scale Variations in ENSO Activity across the Last Deglaciation: Insights from Individual Foraminiferal Analysis. 13th International Conference on Paleoceanography, Sydney, Australia, 2019.

(6) Hertzberg, J. E., **R. H. Glaubke**, and M. W. Schmidt. Reconstructing El Niño – Southern Oscillation Variability over the last 60 kyr using Individual Foraminiferal Analyses. GSA Southeastern Section Meeting, Charleston, SC, 2019 (*invited talk*).
(5) **Glaubke, R. H.,** M. W. Schmidt, J. E. Hertzberg, L. Warner, F. Marcantonio, and T. S. Bianchi. Utilizing Individual Foraminiferal Analysis to investigate the history of the El Niño – Southern Oscillation. 2018 International Symposium on Foraminifera, Edinburgh, Scotland, UK, 2018.
(4) **Glaubke, R. H.,** M. W. Schmidt, L. Warner, J. E. Hertzberg, F. Marcantonio, and T. S. Bianchi. Changes in Eastern Equatorial Pacific Thermocline Structure across the Last Deglaciation: Evidence from the Carnegie Ridge. AGU Fall Meeting, New Orleans, LA, 2017.
(3) **Glaubke, R. H.** and D. B. Rodgers. The Pale Blue Dot: Utilizing Real World Globes in High School and Undergraduate Oceanography Classrooms. AGU Fall Meeting, New Orleans, LA, 2017.
(2) **Glaubke, R. H.** and M. W. Schmidt. Tropical North Atlantic Subsurface Temperatures: A Proxy for AMOC Variability. AGU Fall Meeting, San Francisco, CA, 2016.
(1) Einarsson, S. E., **R. H. Glaubke**, and C. Lightner. Benthic Oxygen and Nutrient Dynamics in the Lafayette River, Norfolk, VA. Dept. Ocean, Earth and Atmospheric Sciences Undergraduate Research Symposium, Norfolk, VA, 2016.

TEACHING EXPERIENCE

Teaching Assistant – *Field Studies in Ocean and Earth Sciences* (OEAS 441/442W) **2017 - 2019**
Dept. Ocean, Earth and Atmospheric Sciences, Old Dominion University
Upper-level capstone research course w/ lectures and lab/field components; ~10-14 students

Teaching Assistant – *Introduction to Physical Geology* (OEAS 111) and *Earth Sciences* (OEAS 110) **2016 - 2017**
Dept. Ocean, Earth and Atmospheric Sciences, Old Dominion University
Three 2.5-hour lab sections per week w/ lecture component; ~25-30 students/section

Curricula Developed:

How to Build a Habitable Planet (Rutgers 11:628:311) **2023**
Upper-level undergraduate course on Earth History and Earth Systems Science
(Materials available upon request)

Guest Lectures:

Paleoclimatology (Utah Tech GEOG 3410) – Dirty Jobs: An Introduction to Paleoceanography and Sediment Coring
Climate Politics: A Deep History (Rutgers 01:506:249) – Tapping into Earth's Memory: Reconstructing Climate History
Field Studies in Ocean and Earth Science (Old Dominion OEAS 441/442W) – Communicating Science
Introduction to Physical Geology (Old Dominion OEAS 111) – Marine sediments; Paleoclimatology

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FIELD EXPERIENCE

R/V *Atlantis* (13 days) – Cruise AT49: North Atlantic Ocean (Woods Hole, MA to Woods Hole, MA). Jumbo piston and gravity coring; multi-core deployment and post-processing; CTD operations.

R/V *Thomas G. Thompson* (46 days) – Cruise TN362: South Indian and Southern Oceans (Fremantle, Australia to Fremantle, Australia). Jumbo piston and gravity coring; multi-core deployment and post-processing; CTD operations; RNA/DNA and alkenone extraction.

R/V *Fay Slover* (4 days) – Chesapeake Bay mouth (Norfolk, VA to Norfolk, VA). CTD operations; pigment and particle extraction; LIDAR operations.

R/V *Skiff* (3 days) – Lafayette River system (Norfolk, VA to Norfolk, VA). YSI operations; water collection; sediment coring.

AWARDS, FELLOWSHIPS, AND SCHOLARSHIPS

Research and Travel Award, Rutgers School of Graduate Studies ($1000) **2022**
Student Support Fund, Rutgers Climate Institute ($250) **2022**
ICP Travel Award, PAGES and the International Conference on Paleoceanography ($1000) **2022**
Joseph A. Cushman Award for Student Travel, The Cushman Foundation ($1500) **2018**
Neil and Susan Kelley Endowed Scholarship, Old Dominion University ($5000) **2017**
Dorothy Brown Smith Scholarship, Old Dominion University ($3000 w/ renewal) **2016**
MetLife Foundation Pathways Scholarship, The MetLife Foundation ($4000) **2013**

PROFESSIONAL DEVELOPMENT

The Inclusive STEM Teaching Project: a short course on evidence-based, student-centered strategies for cultivating an inclusive learning environment (October 2024)

PaleoHack: a workshop on emerging data standards and computational tools in the paleosciences offered by the LinkedEarth project (October 2021)

Catalyzing Advocacy in Science and Engineering (CASE): a workshop on the role of science in the federal policy-making process offered by the American Association for the Advancement of Science (September 2021)

The Community Earth System Model Tutorial: a workshop on simulating the climate system using the CESM offered through the National Center for Atmospheric Research (August 2021)

Sharing Science: a workshop on effective science communication offered through the American Geophysical Union, New York, NY (October 2019)

Entering Mentoring: a workshop on student mentoring offered through the College of Sciences, Old Dominion University, Norfolk, VA (March 2019)

SERVICE AND OUTREACH

Department-level:

Member of the Dept. Marine and Coastal Sciences Diversity, Equity, and Inclusion Committee (Fall 2023 – Spring 2024)

Mentor for the Dept. Marine and Coastal Sciences Graduate Ambassador program (Fall 2022 – Spring 2024)

Vice President of the Dept. Marine and Coastal Sciences Oceanography Graduate Student Association (*elected*; Fall 2021 – Spring 2023) --- Recognized as "Graduate Student Organization of the Year" by Rutgers GSA both years in office

Chair of the Dept. Marine and Coastal Sciences Seminar Organizing Committee (*elected*; Spring 2020 – Spring 2022)

Coordinator of the Dept. Marine and Coastal Sciences "Beyond Academia" seminar and workshop series (Spring 2020 – Spring 2022)

President of the Dept. Ocean, Earth and Atmospheric Sciences Graduate Student Organization (*elected*; Spring 2017 – Spring 2018)

Founding Coordinator of the Dept. Ocean, Earth and Atmospheric Sciences graduate development workshop series (Fall 2017 – Spring 2018)

Assistant Project Coordinator (Summer 2018) and Near-Peer Mentor (Summer 2017 & 2018) for the Old Dominion University Research Experience for Undergraduates (REU) Program

Program Co-organizer and Instructor for the Old Dominion University Building Leaders to Advance Science and Technology (BLAST) STEM program (Summer 2016 & 2017)

University-level:

Grant proposal reviewer for the University of Arizona Office of Postdoctoral Affairs (Fall 2024 – present)

Broader Scientific Community:

Manuscript reviewer: *Climate of the Past*, *Nature Communications*, *Paleoceanography and Paleoclimatology*
Conference Session Convener: Goldschmidt (2024)
Outstanding Student Paper Award (OPSA) Judge for the American Geophysical Union Fall Meeting (2020, 2022)

Public Engagement:

Lead Coordinator (2023 - 2024) and Public Speaker (2020 - 2024) for the Dept. Marine and Coastal Sciences Retention, Outreach, and Accessibility in Marine Sciences (DMCS ROAMS) program

Participant in Rutgers University's annual "Rutgers Day" community outreach initiative (2019 - 2024)

Participant in the "Skype a Scientist" outreach initiative (2018 - present)

Volunteer for the National Ocean Sciences Bowl Competition – Shore Bowl and Blue Crab Bowl Divisions (2016 - 2020)

Assistant Coordinator for the "Measure the Muk" Citizen Science Coastal Flood Mapping Project (2017 - 2018)

Lead Judge of the 67th Annual Tidewater Science and Engineering Fair (2018)

Lesson Plan Author for Real World Globes© (2017)

Public Talks:

"The Motion of the Ocean" – Late Night at the Rutgers Geology Museum

"What Can Mud Tell Us About Our Future?" — BridgeUP STEM Program at the American Museum of Natural History

"Unnatural: How the Climate of the Past compares to the Climate of the Present" – Science Pubs Outreach Initiative by Old Dominion University

"When Oceans and Climate Collide: A Day in the Life of a Paleoceanographer" – AP Environmental Science Classes at Cape Henry Collegiate

"Life as a Scientist" – Suburban Park Elementary School's STEM Career Development Camp

In the News:

Ryan H. Glaubke – US Antarctic Interview Series by the US Scientific Committee for Antarctic Research (US SCAR)

DIVERSITY, EQUITY, AND INCLUSION

Initiatives:

DMCS ROAMS — Student-led outreach arm of the Rutgers Dept. Marine and Coastal Sciences committed to engaging students in the New Jersey community college system about ocean science, four-year and post-graduate educational opportunities, and potential career paths.

DMCS Graduate Ambassador Program — Student-led one-on-one mentorship program pairing senior undergraduate students with graduate mentors to help guide them through the final year of their degree and applying for jobs/graduate programs.

Personal Development:

Participant – The Inclusive STEM Teaching Project (Fall 2024)
Workshop – Experiences of Underrepresented Groups in Academia (Fall 2022)
Workshop – Equity Fundamentals (Fall 2021)
Participant – Unlearning Racism in Geoscience Education (Summer 2021)

STUDENT MENTORING

* denotes undergraduate research assistants from university or federal work-study programs
† denotes NSF-supported REU summer research scholars co-advised alongside a primary faculty advisor
‡ denotes undergraduate students mentored through the Rutgers Dept. Marine and Coastal Sciences Graduate Ambassador program

Rutgers University:

Therese Apuzzo (B.S. Marine Science) *
Dhruv Champaneri (B.S. Biotechnology) *
Alexus Crespo (B.S. Marine Science) *
Clara Danhof (via. RIOS program at Rutgers; winner of Best Poster Presentation) †
Shiwei Deng (Undeclared) *
Mohail Girgis (B.S. Marine Science) *
Sena Kim (B.S. Marine Science) ‡

Ryan Minor (B.S. Marine Science) *
Sarah Montalvo (B.S. Animal Science) *
Sara Reinelt (via RIOS program at Rutgers) †
Ivy Stempkovski (B.S. Environmental Science) * ‡

Old Dominion University:
Megan Agee (via REU Program at ODU) †
Makayla Brown (B.S. Ocean and Earth Sciences) *
Darcy Caja (B.S. Ocean and Earth Science) *
Mayanni McCourty (via REU Program at ODU) †
Lenzie Ward (B.S. Ocean and Earth Science) *

Gender: 13% M, 81% F, 6% NB **Ethnicity:** 44% W, 25% B, 25% API, 6% ME **Orientation:** 19% LGBTQIA+

PROFESSIONAL AFFILIATIONS

American Geophysical Union
Geochemical Society