AIDAN W. BURDICK

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EDUCATION

Northwestern University — Evanston, IL
Ph.D. Candidate, Earth, Environmental, & Planetary Sciences — *2027 (expected)*
Advisor: Y. Axford
Committee: B.B. Curry (*Illinois State Geological Survey*), W.W. Oswald (*Emerson College*), B.B. Sageman

Western Washington University — Bellingham, WA
M.S., Geology — *2022*
Advisor: D.H. Clark
Committee: A.M. Pfeiffer, B.Z. Foreman

Carleton College — Northfield, MN
B.A., *with honors*, Geology — *2018*
Advisors: E. Hyland (*N.C. State University*), D.P. Maxbauer
Foreign Study: Earth & Environment in Italy *(2016)*

PUBLICATIONS

3. Puleo, P.J.K., Drinko, D., **Burdick, A.W.**, Axford, Y., Scott, W.P. (2026). Intensified soil erosion and increased productivity from European settlement revealed in the Holocene sediments of a lake in southeast Wisconsin. Journal of Paleolimnology *(In Review)*.

2. Burdick, A.W., Axford, Y., Kelly, M.A., Oswald, W.W., Kitchel, N.R., Stroup, J.S., Gerstler, K.M., McFarlin, J.M., Shuman, B.N., Randall, A.H., Dieffenbacher-Krall, A.C. (2026). Pleistocene-Holocene summer warming in New England was gradual and began during the Younger Dryas. Communications Earth & Environment *(In review)*.

1. Saitta, E.T., Sereno, P.C., Vidal, D., Real, M.C., Keillor, T.M., Bop, L., Baumgart, S.L., **Burdick, A.W.**, Radermacher, V., Kaye, T.G., Dussubieux, L., Maxey, E., Filatov, A., Chen, X. (2026). Dinosaur 'mummification': Clay templating in a fluvial setting preserves three-dimensional integument renderings after carcass desiccation. Acta Palaeontologica Polonica. *(Accepted for publication, June 2026)*.

PUBLISHED THESES

2. Reconstructing deglacial and Holocene climatic and environmental change in the Snowy Mountains of southeast Australia, 2022. M.S. Thesis, Western Washington University. Download

1. Paleoecological phytolith investigation of anthropogenic vegetation change in Umstead State Park, North Carolina, 2018. B.A. Thesis, Carleton College. Download

TEACHING EXPERIENCE

Northwestern University

Reflective and Effective Teaching Certificate — *2026-27*

Participating in a year-long certificate program exploring pedagogical foundations, course design and assessment, and learning facilitation and evaluation.

Teaching Assistant
Physical Earth Science (EARTH 214; 1 quarter) — *2026*
Earth Systems Revealed (EARTH 201; 2 quarters) — *2024/25*

Contemporary Energy and Climate Change (EARTH 342) *2022*

Western Washington University

Teaching Assistant

Honors Geology Colloquium (Honors 212) *2021*
Physical Geology (GEOL 211) *2021*
Geomorphology (GEOL 310; 2 quarters) *2020*
Introduction to Geology (GEOL 101; 4 quarters) *2019/20/21*

MENTORING EXPERIENCE

David Drinko (B.S. Thesis, *Integrated Science Program, Northwestern University*) 2025

PRESENTATIONS

16. Puleo, P.J.K., Drinko, D., **Burdick, A.W.**, Scott, W.P., Axford, Y. (2026). Reconstructing the eutrophication of Gass Lake near Manitowoc, WI since European settlement using lake sediment chemistry. Wisconsin AWRA 2026 Annual Meeting, Brookfield, Wisconsin.

15. Burdick, A.W., Gerstler, K.M., Stroup, J.S., Randall, A., Oswald, W.W., Cwynar, L.C., Dieffenbacher-Krall, A.C., McFarlin, J.M., Shuman, B.N., Kelly, M.A., Kitchell, N.R., Axford, Y. (2026). Gradual Summer Warming Prior to the Pleistocene-Holocene Transition in New England (USA) Inferred from Chironomids and GDGTs. 61st Annual Meeting of the GSA Northeastern Section, Hartford, Connecticut.

14. Whiting, M.O., Stroup, J.S., Randall, A., **Burdick, A.W.**, Axford, Y., Kitchel, N.R., Oswald, W.W., Drindak, A., Lowell, T.V., Kelly, M.A. (2026). Interrogating the nature and timing of the clastic-organic transition in lake sediment cores as an indicator of landscape stabilization in New England. 61st Annual Meeting of the GSA Northeastern Section, Hartford, Connecticut.

13. Drindak, A., Stroup, J.S., Clark, H., Axford, Y., **Burdick, A.W.**, Kitchel, N.R., Oswald, W.W., Randall, A., Kelly, M.A. (2026). Late Pleistocene-Holocene environmental change from May Pond sediment cores and upland ^{10}Be ages. 61st Annual Meeting of the GSA Northeastern Section, Hartford, Connecticut.

12. Burdick, A.W., Gerstler, K., Stroup, J.S., Randall, A.H., Oswald, W.W., Cwynar, L.C., Dieffenbacher-Krall, A.C., McFarlin, J.M., Kelly, M.A., Kitchel, N.R., Axford, Y. (2025). Magnitude of warming at the Pleistocene-Holocene transition in New England (USA) and Atlantic Canada from chironomids in a network of seven lakes. American Geophysical Union Fall Meeting, New Orleans, Louisiana.

11. Gerstler, K., **Burdick, A.W.**, Oswald, W.W., Shuman, B.N., Stroup, J.S., Kelly, M.A., Randall, A.H., Kitchel, N.R., Axford, Y., McFarlin, J.M. (2025). A multi-proxy perspective on temperature reconstructions for the Pleistocene-Holocene transition from Sky Pond, New Hampshire. American Geophysical Union Fall Meeting, New Orleans, Louisiana.

10. Burdick, A.W., Curry, B.B., Drinko, D., Garla, S., Scott, W.P. Axford, Y. (2024). High-resolution validation of lakewater δ^{18}O reconstructions from δ^{18}O measurements of lacustrine authigenic calcite and ostracodes in a 1200 year surface sediment core, Crystal Lake, Illinois, USA. American Geophysical Union Fall Meeting, Washington, D.C.

9. Randall, A.H., Kelly, M.A., Stroup, J.S., Oswald, W.W., **Burdick, A.W.**, Gerstler, K., Axford, Y., Kitchel, N.R. (2024). A multi-proxy record of Termination 1 paleoclimate conditions from lake sediments in central New Hampshire. American Geophysical Union Fall Meeting, Washington, D.C.

8. Burdick, A.W., Curry, B.B., Drinko, D., Garla, S., Scott, W.P. Axford, Y. (2024). A 1200 year high-resolution record of δ^{18}O of authigenic calcite at Crystal Lake, Illinois, USA, with implications for longer-term isotopic climate reconstructions. American Quaternary Association 28th Biennial Meeting, Salt Lake City, Utah.

7. Saitta, E.T., Sereno, P.C., Real, M.C., Vidal, D., Keillor, T.M., Baumgart, S.L., Myhrvold, N., **Burdick, A.W.**, Kaye, T.G., Erikson, M. (2024). Exceptional preservation on integumnetal structures in Hadrosaur 'mummies' via clay templating. The Society of Vertebrate Paleontology 84th Annual Meeting, Minneapolis, Minnesota.

6. Randall, A.H., Kelly, M.A., Stroup, J.S., Oswald, W.W., **Burdick, A.W.**, Kitchel, N.R, Axford, Y. (2024). Developing a record of upland deglaciation at Termination 1 from Smith and Sky Ponds, New Hampshire. Geological Society of America Northeastern Section Meeting, Manchester, New Hampshire.

5. Mickelson, E., Clark, D.H., **Burdick, A.W.**, Culhane, N., Mackenzie, L., McCallum, A., Shulmeister, J., Clark, J. (2023). Deglacial and Holocene environmental change recorded in lake sediments from the Snowy Mountains, Kosciuszko National Park, southeastern Australia. Geological Society of America Cordilleran Section Meeting, Reno, Nevada.

4. Culhane, N., Clark, D.H., Mickelson, E., **Burdick, A.W.**, Mackenzie, L., McCallum, A., Shulmeister, J., Clark, J. (2023). Late Holocene environmental change from high-resolution lake sediments in the Snowy Mountains, Kosciuszko National Park, southeastern Australia. Geological Society of America Cordilleran Section Meeting, Reno, Nevada.

3. Clark, D.H., **Burdick, A.W.**, Mickelson, E., Culhane, N., Mackenzie, L., McCallum, A., Clark, J., Shulmeister, J. (2023). Post-glacial environmental change in the Snowy Mountains, Australia, recorded in a suite of high-resolution lake sediment cores. XXI INQUA Congress, Rome, Italy.

2. Thomas, A.M., Davis, T.C., Alonzo, B., Bausch, H., **Burdick, A.W.**, Camilleri, S., Puleo, P., Selensky, M., Wan, C., Woods, S.E., van der Lee, S. (2022). NU-Geopaths: Engaging Mentees and Mentors in an Inclusive Internship Experience. American Geophysical Union Fall Meeting, Chicago, Illinois.

1. Clark, D.H, **Burdick, A.W.**, Mickelson, E., Culhane, N. (2022). Testing post-glacial environmental change in the Snowy Mountains, Australia, with a suite of new lake sediment cores. Geological Society of America Annual Meeting, Denver, Colorado.

INVITED TALKS

Wildcats in Water Seminar, *Northwestern Center for Water Research* *2026*
Colloquium: Climate Change, *Northwestern Pritzker School of Law* *2026*
Colloquium: Climate Change, *Northwestern Pritzker School of Law* *2025*
Contemporary Climate Change, *Northwestern University* *2024*
Honors Geology Colloquium, *Western Washington University* *2021*

GRANTS & FELLOWSHIPS

Graduate Student Research Grant, *Geological Society of America* ($2,300) *2026*
Graduate Student Research Grant, *Geological Society of America* ($2,500) *2022*
Nasaw Family Fund Award, *Trienens Institute, Northwestern University* ($3,500) *2022*
Geology Department Advance for Research, *Western Washington University* ($800) *2020*
Rahm Memorial Endowment, *Western Washington University* ($632) *2020*
Visting Graduate Student Program, *National Lacustrine Core Facility* ($1,000) *2020*
Kolenkow-Reitz Fellowship for undergraduate research, *Carleton College* ($2,000) *2017*

AWARDS

Distinction in Senior Integrative Exercise, *Carleton College* *2018*
Honors in the Geology Major, *Carleton College* *2018*

OUTREACH

Medill Journalism Student Lab Visits *2022-present*

I have assisted with several Northwestern Medill journalism class visits to the Quaternary Sediment Lab space. During these visits, I have provided an overview of my research, discussed lake sediment proxy records, shown students sediment cores and proxy materials, and answered students' questions for journalism pieces.

NU-Geopaths *2022-2025*

I worked as a mentor for a three-week internship program for high school students aimed at encouraging a diverse group of students to consider geosciences as a college major and career path. I also worked as an organizer for the 2023 program and attended recruitment events at local Chicago high schools.

PROFESSIONAL DEVELOPMENT

Assistant Chair, Slivka Residential College *(Northwestern University)* *2024-25*

My responsibilities include facilitating academic and community programming, hosting weekly office hours for Slivka residents, advising the College's Executive board, and assisting with programming for Northwestern's Residential and Academic Engagement program.

paleoCAMP Summer School *2023*

I was a participant in a two-week summer school for graduate students in paleoclimate at the Sierra Nevada Aquatic Research Laboratory. The program's topics included proxy system modeling, model-proxy data comparison, isotope-enabled general circulation models, and data assimilation.

FIELD EXPERIENCE

New England lake coring, Northwestern QSL *2023-present*

Assisting in a large-scale coring effort that will enable a study of human-climate interactions in New England during the Pleistocene-Holocene transition. Fieldwork includes winter and summer lake coring using the Livingstone and Bolivian coring systems.

Illinois lake coring, Northwestern QSL *2022-present*

Leading an effort to extract sediment cores from Crystal and Hastings Lakes in northeastern Illinois for PhD research. Coring has involved Nesje and Unicore coring systems, most recently including a successful surface sediment core from Crystal Lake. Field work also includes water isotope sampling and surface sediment collection.

Northwestern QSL South Greenland field season *2022*

Participated in a seventeen-day field season that involved collecting lake sediment cores using Nesje and Unicore coring systems at two lakes in South Greenland, as well as collecting water samples, surface sediment samples, and plant samples for modern proxy calibration work.

PROFESSIONAL MEMBERSHIPS

American Geophysical Union *2022-present*
American Quaternary Association *2022-present*
Geological Society of America *2019-present*