

Hannah Miller

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Education

- University of Colorado Boulder**, Boulder, CO August 2019 – Present
PhD candidate, Environmental Studies and INSTAAR
- Fulbright U.S. Student Program**, University of Lausanne, Switzerland. August 2017-August 2018
- Bowdoin College**, Brunswick, ME
BA, Earth & Oceanographic Science and Environmental Studies (with honors), 2013-2017
Major GPA 3.94; Overall GPA 3.882; Phi Beta Kappa; Cum Laude
Senior Honors Thesis: Seasonal carbonate chemistry variability in a Kennebec Estuary soft-shell clam mudflat.
- Bowdoin Marine Science Semester**, Harpswell ME; Canada; Baja CA Sur Fall 2016
Immersive experience in marine fieldwork, lab work, scientific writing, and independent research
- University Centre in Svalbard (UNIS)**, Svalbard, Norway Fall 2015
Bachelor-level Arctic Geology

Work and Research Experience:

- University of Colorado, Boulder**, Environmental Studies Program August 2019 - Present
Teaching Assistant
- Teach class, prepare laboratories, and lead field work for a Field Methods in Ecosystem Sciences course.
- University of Colorado, Boulder**, INSTAAR October 2018 - Present
Research/Lab Technician
- Working in the Amino Acid Geochronology laboratory prepping and running samples. Prepare and run lake sediment samples for elemental analyses and shell samples for amino acid analyses.
 - *Advisors*: Gifford Miller, Chris Florian
- Boulder Nordic Sport**, Boulder, CO October 2018 - 2019
Website Coordinator and Customer Service Lead
- Developing and preparing new website, keeping inventory and visuals up-to-date.
 - Help customers on the phone and over email with orders, returns, and general questions.
- University of Lausanne**, Institute of Earth Surface Dynamics August 2017-August 2018
Fulbright Student Research Fellowship
- Investigate vegetation, microbial, and soil development and their biogeomorphic feedbacks in glacial forefields. Use vegetation surveys, soil analyses and remote sensing techniques (drone flights, ArcGIS, Matlab).
 - Conducted the two field campaigns (the first 4 days long, the second 3 weeks long) at a remote glacier in the Swiss alps hiking in all required equipment, food, and camping gear.
 - *Advisor*: Stuart N. Lane
- University Centre on Svalbard (UNIS)** August 2018
Research/field assistant

- Investigating the impact of contaminants (total mercury, methyl mercury, organic pollutants, hexachlorobenzene, and polychlorinated biphenyls) in Arctic coastal ecosystems.
- Two-week field campaign measuring river and fjord water chemistry, sediments, and biota. Methods include water sample collection, CTD casts, zooplankton identification and analyses, and laboratory sample prep and analyses for biomarkers.

University of Lausanne, Institute of Earth Surface Dynamics

February 2018-June 2018

Teaching Assistant for R

- Assisted and taught bachelor-level R studio statistic course (in French language).

Bowdoin College, Earth and Oceanographic Science Department

January 2016-May 2017

Freedman Summer Research Fellow; Grua/O'Connell Fellowship (Senior Thesis)

- Conducted bi-monthly sampling to investigate seasonal variability of carbonate chemistry in a softshell clam mudflat. In addition to fieldwork, conducted titrations; saturation state calculations; and sediment analyses.
- *Advisors:* Michèle LaVigne (Bowdoin College), Ruth Indrick (Kennebec Estuary Land Trust)

Bowdoin College, Earth and Oceanographic Science Department/WHOI

May–August 2015

WHOI guest student

- Generated radiocarbon-based growth estimates and chronologies for deep-sea bamboo coral samples at the National Ocean Sciences Mass Spectrometry (NOSAMS) Facility.
- *Advisors:* Michèle LaVigne (Bowdoin College), Ann McNichol (NOSAMS)

Publications

Miller, H.R., Lane, S.N., 2018. Biogeomorphic feedbacks and ecosystem engineering of recently deglaciated terrain. *Progress in Physical Geography*. DOI: 10.1177/0309133318816536

Frenkel, M.M, LaVigne, M, **Miller, H.R.**, Hill, T.M., McNichol, A., Lardie Gaylord, M., 2017. Quantifying bamboo coral growth rate nonlinearity with the radiocarbon bomb spike: A new model for paleoceanographic chronology development. *Deep Sea Research Part 1: Oceanographic Research Papers* 125, pg 26-39.

Conference Abstracts

Miller, H.R., Lane, S.N., (April 2018) The ecology of deglaciated terrain revisited. European Geoscience Union, Vienna, Austria.

Miller, H.R., Indrick, R., LaVigne, M.G. (March 2017) Seasonal carbonate chemistry variability in a Kennebec Estuary soft-shell clam flat. Maine Water Conference, Augusta, ME.

Miller, H.R., Jurcic, B., Indrick, R., LaVigne, M.G. (Dec. 2016) Carbonate chemistry in a Kennebec Estuary softshell clam flat: Seasonal variability and implications for blue carbon mitigation. American Geophysical Union Fall Meeting, San Francisco, CA.

Freiberger, M., **Miller, H.R.** ('17), Hill, T., McNichol, A., Lardie, M., LaVigne, M., (June 2016) Growth Rate Nonlinearity in Bamboo Corals. International Sclerochronology Conference, Portland, ME.

Miller, H.R., LaVigne, M., Indrick, R., *and students of EOS 2525 Marine Biogeochemistry* (March 2016) Seasonal variability in carbonate chemistry on Kennebec Estuary clamflats. Benthic Ecology Meeting, Portland, ME

Freiberger, M., **Miller, H.R.**, Hill, T., McNichol, A., Lardie, M., LaVigne, M., (Dec. 2015)
Reconnaissance ¹⁴C Dating and the Evaluation of Mg/Li as a Temperature Proxy in Bamboo Corals from
the California Margin. American Geophysical Union Fall Meeting, San Francisco, CA.

Grants/Awards:

- NSF GRFP
- Fulbright Student Research Grant (\$23,400), Fall 2017
- Phi Beta Kappa, Spring 2017
- NCAA women of the year (nominated), Spring 2017
- AGU general student travel grant (\$500), Fall 2016
- Grua/O’Connell research grant (\$1,400), Fall 2016
- Freedman Summer Research Fellow in Coastal/Environmental Studies (\$4,250), Summer 2016
- Sarah and James Bowdoin Scholar (Dean's List) all eligible years
- Polar Bear Award (Bowdoin’s fastest female Nordic skier), 2015-2017

Research Skills

Alkalinity Titration · ArcGIS · HPLC · Matlab · Microsoft (Word, PowerPoint, and Excel) · Next
Generation Sequencing · Mass Spectrometry · Phantom Drone IV · Pix4D · Radiocarbon Dating · R/R
studio · Scanning Electron Microscopy (SEM) · Sedimentology · Transect analysis (terrestrial and
aquatic)

Leadership and Service

Bowdoin Varsity Nordic Skiing – <i>Captain, NCAA All-American</i>	2013-2017
Bowdoin Outing Club – <i>Trip Leader</i>	2013-2017
Bowdoin Earth and Oceanographic Science Club – <i>Founder and President</i>	2016-2017
Midcoast Hunger Prevention Program - <i>Volunteer</i>	2016-2017
Common Good Garden - <i>Volunteer</i>	2016-2017
School for International Training - <i>Facilitator</i>	2012-2014

Miscellaneous

Languages – French, Arabic (elementary)

Hobbies – cross country and telemark skiing, trail running, birding, wood carving, accordion

Interview on CBS discussing climate change: <https://www.cbsnews.com/video/scientists-believe-melting-polar-ice-could-speed-climate-change/>.