

Megan E. Thompson-Munson (she/her)

University of Colorado Boulder
Department of Atmospheric and Oceanic Sciences

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(a) Education and Research

University of Colorado, Boulder, CO

May 2025 (expected)

PhD in Atmospheric and Oceanic Sciences (ATOC) | GPA: 4.0/4.0

Advisor: Dr. Jan T.M. Lenaerts

Research: Firn processes and interactions between ice sheets and the climate

University of Wyoming, Laramie, WY

May 2020

MS in Geology | GPA: 4.0/4.0

Advisor: Dr. Neil F. Humphrey

Thesis: *Observations and implications of three-dimensional deformation in the Greenland Ice Sheet*

University of Massachusetts, Amherst, MA

May 2017

BS in Geology, BS in Environmental Science | GPA: 3.8/4.0

Commonwealth Honors College Scholar with Greatest Distinction, *cum laude*

Advisor: Dr. Isla S. Castañeda

Thesis: *Understanding the Environments in which Early Humans Lived: Insights from Organic Geochemical Analyses of East African Rift Valley Paleolakes*

(b) Field and Laboratory Experience

Late Agnes Rock Glacier Field Work

Oct 2019

Field Assistant | State Forest State Park, CO | Duration: 1 day

- Collected seismic refraction data on an active region of a rock glacier

Southern Sierra Nevada Critical Zone Observatory Field Work

Jul 2018, Jul 2019

2019: Field Assistant | Sierra Nevada, CA | Duration: 11 days

2018: Field Assistant | Sierra Nevada, CA | Duration: 14 days

- Collected seismic refraction data in the southern Sierra Nevada foothills
- Assisted with soil and saprolite core recovery from a Geoprobe
- Surveyed vegetation while mentoring high school students in the Hands on the Land program

Cold Regions Analysis Group Field Work

May–Jun 2018, May–Jan 2019

2019: Field Assistant | Ilulissat, Greenland | Duration: 31 days

2018: Field Assistant | Kangerlussuaq, Greenland | Duration: 32 days

- Established first two years of a new firn project in the Greenland Ice Sheet's percolation zone
- Hot-water drilled boreholes, extracted firn cores from boreholes, and logged cores
- Traveled several kilometers by ski and snowmobile to collect data along a transect

University of Massachusetts Biogeochemistry Laboratory

May 2015–May 2017

Undergraduate Research Technician | Amherst, MA

- Prepared 369 paleolake sediments for geochemical analysis to detect biomarkers
- Quantified biomarker abundances to infer paleoenvironmental conditions in east Africa

University of Massachusetts Soil Science Laboratory

Sep–Dec 2013

Undergraduate Research Technician | Amherst, MA

- Evaluated the role of biochar in sustainable agriculture by monitoring field and greenhouse growth of crops grown in nutrient-rich and nutrient-poor soils

(c) Publications and Conferences

Peer-Reviewed Publications:

- [1] Lam, A., Bauer, J.E., Fraass, S., Sheffield, S., Limbeck, M.R., Borden, R.M., **Thompson-Munson, M.E.**, Fraass, A.J., Hills, J.M., Muskelly, C.E., Hartshorn, K.R., and Bryant, R. (2019). Time Scavengers: An Educational Website to Communicate Climate Change and Evolutionary Theory to the Public through Blogs, Web Pages, and Social Media Platforms. *The Journal of STEM Outreach*, 2(1)

Theses:

- [2] **Thompson-Munson, M.E.** (2020). Observations and implications of three-dimensional deformation in the Greenland Ice Sheet. Master's thesis, University of Wyoming.
- [1] **Thompson-Munson, M.E.** (2017). Understanding the Environments in which Early Humans Lived: Insights from Organic Geochemical Analyses of East African Rift Valley Paleolakes. Bachelor's thesis, University of Massachusetts.

Datasets and Tools:

- [1] **Thompson-Munson, M.E.**, Lenaerts, J.T.M., Koenig, L., and Montgomery, L. (2021). Surface Mass Balance and Snow Depth on Sea Ice Working Group (SUMup) snow density subdataset, Greenland and Antarctica, 1950-2018. Arctic Data Center. doi:10.18739/A2W08WH6N.

Conference Abstracts and Presentations:

- [11] **Thompson-Munson, M.E.**, Wever, N., Lenaerts, J.T.M., Stevens, C.M., Medley, B., and Keenan, E. (2021). Simulated and Observed Firn Properties Across the Greenland Ice Sheet. AGU Fall Meeting.
- [10] **Thompson-Munson, M.E.**, Humphrey, N.F., Harper, J.T., and Meierbachtol, T.W. (2020). In-Situ Measurements of Three-Dimensional Deformation in the Greenland Ice Sheet. AGU Fall Meeting.
- [9] Dunmire, D.R., **Thompson-Munson, M.E.**, Lenaerts, J., Wever, N., Keenan, E., Banwell, A.F., and Datta, R. (2020) Improving Understanding of Future Antarctic Ice-Shelf Vulnerability to Atmospheric Warming. AGU Fall Meeting.
- [8] **Thompson-Munson, M.E.**, Humphrey, N.F., Harper, J.T., and Meierbachtol, T.W. (2019). Multi-day summer speed-up events in western Greenland's ablation zone driven by non-local ice sheet motion. AGU Fall Meeting, San Francisco, CA.
- [7] **Thompson-Munson, M.E.** (2019). Evidence of cross-flow deformation in the Greenland Ice Sheet's ablation zone. Northwest Glaciologists Conference, Corvallis, OR.
- [6] Castañeda, I.S., **Thompson-Munson, M.E.**, Gilchrist, S., Lupien, R., Russell, J.M., Salacup, J., Feibel, C.S., and Cohen, A.S. (2018). Early Pleistocene temperature history of Paleolake Lorenyang, West Turkana Basin (Kenya). AGU Fall Meeting, Washington, D.C.
- [5] Lam, A.R., Bauer, J., Sheffield, S.L., Muskelly, C.E., **Thompson-Munson, M.E.**, Limbeck, M., Hills, J.M., Hartshorn, K.R., Fraass, A., Fraass, S., Borden, R. (2018). Time Scavengers: A Website to Disseminate Climate Change and Evolutionary Principles to Increase Public Literacy. AGU Fall Meeting, Washington, D.C.
- [4] **Thompson-Munson, M.E.** and Castañeda, I.S. (2017). Understanding the Environments in which early humans lived: Insights from organic geochemical analyses of East African Rift Valley paleolakes. Massachusetts Undergraduate Research Conference, Amherst, MA.
- [3] **Thompson-Munson, M.E.**, Castañeda, I.S., Lupien, R., and Russell, J.M. (2017). Evaluation the potential for isoprenoid and branched GDGT temperature reconstructions in West Turkana and Northern Awash Basin sediments. Hominin Sites and Paleolakes Drilling Project Annual Meeting, Tempe, AZ.

- [2] **Thompson-Munson, M.E.** and Castañeda, I.S. (2015). Late Pliocene and Early Pleistocene temperature reconstructions from paleolakes of the West Turkana and North Awash basins, East Africa. GSA Annual Meeting, Baltimore, MD.
- [1] Castañeda, I.S., **Thompson-Munson, M.E.**, Lupien, R., Russell, J.M. (2015). Late Pliocene and Early Pleistocene temperature reconstructions from paleolakes of the West Turkana and North Awash Basins, East Africa. AGU Fall Meeting, San Francisco, CA.

(d) Teaching Experience

ATOC REU Python Bootcamp	June 2021
Lesson Developer and Instructor University of Colorado 17 students	
ATOC 1070: Weather and Atmosphere Lab	Aug–Dec 2020
Teaching Assistant University of Colorado Fall 2020: 64 students	
GEOG 1010: Physical Geography	Aug 2019–May 2020
Teaching Assistant University of Wyoming Fall 2019: 60 students, Spring 2020: 45 students	
GEOG 3600 Earth and Mineral Resources	Aug–Dec 2018
Teaching Assistant University of Wyoming Fall 2018: 31 students	

Attended Teaching Workshops:

Teaching about Our Changing Climate , GETSI	26 Jan 2021
Teaching in the Era of COVID-19 , University of Colorado	9 Sep 2020
Universal Design for Learning , University of Colorado	20 Aug 2020
Using Dialogue in the Classroom , University of Colorado	20 Aug 2020
How to Be an Anti-Racist in the Classroom , University of Colorado	19 Aug 2020
Classroom Management , University of Colorado	19 Aug 2020

(e) Research Mentorship

Beth Mason , BS Student, University of Colorado	July 2021–present
Project: Examining snow water equivalent at Niwot Ridge, Colorado	

(f) Outreach, Service, and Other Employment

Interviews and Articles:

- [3] **Thompson-Munson, M.E.** 29 March 2021. *Icebergs*. AntarcticGlaciers.org. <http://www.antarcticglaciers.org/glacier-processes/glacier-types/icebergs/>
- [2] Interviewed for the article: Amos-Landgraf, I. 12 March 2021. *How Does an Iceberg Really Float?* GlacierHub. <https://blogs.ei.columbia.edu/2021/03/12/iceberg-really-float/>
- [1] Interviewed about icebergs for *Breakfast with Sammy J* on ABC Radio Melbourne. 2 March 2021.

Outreach:

Eagle Crest Elementary School , Visiting Scientist	22 & 27 Apr 2021
Colorado STEM Academy , Visiting Scientist	9 Apr 2021
Laramie Middle School , Visiting Scientist	5 Mar 2020

Time Scavengers Science Outreach Blog , Collaborator, Writer	2017–2019
University of Minnesota Paleoclimate Class , Virtual Presenter	Apr 2019
Girls Inc. Eureka! STEM Career Development , Activity Developer	Jun 2015

Service:

University of Colorado Graduate Mentorship Program , Mentor	Aug 2021–present
ATOC First-Year Graduate Student Mentorship Program , Mentor	Aug 2021–present
Colorado State Science Fair , Judge	9 Apr 2021
ATOC Outreach Committee , Member	Aug 2020–present
ATOC Justice, Equity, Diversity, and Inclusion Committee , Member	Aug 2020–May 2021
ATOC Forum Committee , Member	Aug 2020–May 2021
AGU Flash Freeze Competition , Judge	Dec 2010
ATOC Graduate Application Mentorship Program , Mentor, Developer	Aug–Dec 2020
Research Lunch Seminar Series , Lead and Co-Organizer	Jan 2018–Dec 2019
Wyoming State Science Fair , Judge	Mar 2018, Mar 2019
Virtual Climate Scientist Project , Ice Sheet Consultant	Dec 2018

Other Relevant Employment:

Mount Rainier National Park , Park Ranger Intern	May–Sep 2016
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(g) Awards

Best Graduate Student ESSS Poster , University of Colorado, \$100	2021
AntClimNow Dataset Development and Stewardship Grant , SCAR, \$2500	2021
EarthCube Learning Communities Fellow , EarthCube, \$1000	2021
Fall 2020 Lab Teaching Assistant Award , University of Colorado ATOC, \$250	2021
2020 Outstanding Master's Student , University of Wyoming Geology & Geophysics, \$100	2021
Women in Quaternary Science Award , Shlemon Center for Quaternary Studies, \$5,761	2019
Outstanding Student Award , Association for Women Geoscientists	2019
Anne Kirtland Selden Lowe Scholarship , University of Wyoming, \$1,500	2019
Page Jenkins Memorial Scholarship , University of Wyoming, \$2,200	2019
Geology & Geophysics Meritorious Graduate Research Grant , University of Wyoming, \$1,260	2018
Walter Harrison and Constance Chatterton Spears Fellowship , University of Wyoming, \$2,500	2018
Bozanic Student Support , University of Wyoming, \$1,000	2018
S H Knight Geology Scholarship , University of Wyoming, \$900	2018
Outstanding Geology Senior Award , University of Massachusetts	2017
Linda G. Lockwood Environmental Science Scholarship , University of Massachusetts	2017
Education Award , AmeriCorps, \$1,500	2016
New York Farmers Scholarship , University of Massachusetts, \$1,000	2016
Angelo Tagliacozzo Memorial Geological Scholarship , NEAIPG, \$2,000	2016
Ascension Farms Scholarship , University of Massachusetts, \$1,000, \$7,000	2014, 2016
Dean's Award , University of Massachusetts, \$2,000	2013–2016
John & Abigail Adams Tuition Waiver , University of Massachusetts	2013–2016

(h) Organizations and Affiliations

American Geophysical Union , Student Member	2019–present
Association for Women Geoscientists , Student Member	2019
American Institute of Professional Geologists , Student Member	2017
Phi Kappa Phi , Student Member	2017
University of Massachusetts Geosciences Club , Vice President	2015–2017
Phi Sigma Pi , Student Member, Education Chair, Regional Delegate	2014–2017
Geological Society of America , Student Member	2014–2017