Jed E. **Lenetsky**

PhD Candidate, Department of Atmospheric and Oceanic Sciences (ATOC), University of Colorado - Boulder
Polar and Paleoclimate Research Group, Institute of Arctic and Alpine Research (INSTAAR)

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Education

PhD, Atmospheric and Oceanic Sciences — *Aug. 2021 - May 2026*
University of Colorado - Boulder — *Boulder, Colorado, USA*

- Thesis - Mechanisms and impacts of present and future ocean change in Baffin Bay
- Supervisor - Alexandra Jahn

Master of Arts, Geography — *Aug. 2019 - May. 2021*
University of Colorado - Boulder — *Boulder, Colorado, USA*

- Thesis - Understanding Bering Strait ocean heat transport variability for seasonal sea ice forecasting in the Chukchi Sea
- Supervisor - Mark Serreze

Bachelor of Arts and Science with First Class Honors, Environmental Science — *Aug. 2015 - May. 2019*
McGill University — *Montreal, Quebec, Canada*

- Thesis - The Variability and Predictability of the Bering Strait Ocean Heat Flux and Arctic Ocean Sea Ice Extent
- Supervisor - Bruno Tremblay

Refereed Publications

* denotes mentee

Published

2. **Lenetsky, J. E.**, & Serreze, M. C. (2021). Statistical modeling of the Bering Strait throughflow for operational sea ice forecasting in the Chukchi Sea. *Geophysical Research Letters, 48*, e2021GL092939. DOI: 10.1029/2021GL/092939.
1. **Lenetsky, J. E.**, Tremblay, B., Brunette, C., & Meneghello, G. (2021). Sub-seasonal predictability of Arctic Ocean sea ice conditions: Bering Strait and Ekman-driven ocean heat transport. *Journal of Climate, 34*(11), 4449-4462. DOI: 10.1175/JCLI-D-20-0544.1.

Under-Review

2. **Lenetsky, J. E.**, Jahn A., Ugrinow*, P., Wyburn-Powell, C. R., Patel*, R., & Zanowski, H. Future Sea Ice-Ocean and Biological Productivity Changes in the North Water Polynya Region under Policy Relevant Warming Levels. *Journal of Climate*. Preprint available at DOI: 10.31223/ X55X6J.
1. Leist, L. G. T., Castrillejo, M., Azetsu-Scott, K., Lee, C. M., **Lenetsky, J. E.**, Ringuette, M., Vockenhuber, C., Pérez-Tribouillier, H., & Casacuberta, N. Radionuclide tracers reveal new Arctic pathways shaping water mass mixing and formation in Baffin Bay and Labrador Sea. *Ocean Sciences*. Preprint available at DOI: 110.5194/egusphere-2025-4178.

In-Preperation

2. **Lenetsky, J. E.**, Lee, C. M., Richards, C., Drushka, K., & Jahn, A. Davis Strait temperature, salinity, and ocean transport variability from 18 years of mooring observations. *Journal of Physical Oceanography*.
1. Fredriksen, H., de Steur, L., McPherson, R., Ingvaldsen, R., Bacon, S., **Lenetsky, J. E.**, Lee, C. M., & Woodgate, R. Volume, heat and freshwater transports through the Arctic gateways from an inverse model. *Journal of Physical Oceanography*.

Research Appointments

Institute of Arctic and Alpine Research, University of Colorado - Boulder — *Boulder, CO*
Research Assistant — *July 2021 - Present*

- Reprocessed and conducted quality control for 17 years of temperature of salinity measurements (∼415 instrument records) from the Davis Strait mooring array.
- Produced an improved gridded product of Davis Strait temperature, salinity, and velocity, which has been used to update the timeseries of Davis Strait ocean transports (currently in preparation for submission to *Journal of Physical Oceanography*).
- Analyzing the Baffin Bay ocean and sea ice circulation in observations and climate models. Publication on North Water Polynya undergoing 3rd round of review at *Journal of Climate* with additional manuscripts in planning and preparation.

Department of Geography, University of Colorado - Boulder *Boulder, CO*

Research Assistant *May 2020 - August 2020*

- Developing an operational statistical forecast of sea ice advance and retreat date in the Chukchi Sea. Published in *GRL* at DOI: 10.1029/2021GL/092939

National Snow and Ice Data Center, University of Colorado - Boulder *Boulder, CO*

Sea Ice Analyst *October 2019 - May 2021*

- Perform monthly reviews and scientific analysis of Arctic sea ice conditions and their associated atmospheric and oceanic conditions.
- Lead science writer for the February 2020 and 2021 reviews of sea ice conditions (available here and here).

Department of Atmospheric and Oceanic Science, McGill University *Montreal, Quebec, Canada*

Research Assistant and Honors Student *May 2018 - August 2019*

- This independent research project examined subseasonal sea ice predictability in the western Arctic Ocean supervised by Prof. Bruno Tremblay.
- Received an undergraduate research awards from the National Science and Engineering Council of Canada (NSERC) and Fonds de Recherche du Quebec.
- Key findings published in the *Journal of Climate* at DOI: 10.1175/JCLI-D-20-0544.1.

Fellowships & Awards

Governmental

2021	**Honorable Mention, Graduate Research Fellowship Program**, National Science Foundation	*N/A*
2019	**Undergraduate Science Research Award (USRA) in Atmospheric and Oceanic Sciences**, National Science and Engineering Research Council of Canada	*$7000 CAD*
2019	**Provincial Supplement for USRA in Atmospheric and Oceanic Sciences**, Fonds de Recherche du Quebec	*$2000 CAD*

Institutional

2026	**Fellowship in Atmospheric and Oceanic Sciences**, University of Colorado - Boulder	*$2475 USD*
2026	**Dissertation Completion Fellowship**, University of Colorado - Boulder	*$14,985 USD*
2024	**Lead Teaching Assistant Fellowship**, University of Colorado - Boulder	*$2500 USD*
2024	**ATOC Department Service Award**, University of Colorado - Boulder	*$200 USD*
2024	**University of Colorado Summer Scholars Fellowship (Declined)**, University of Colorado - Boulder	*$6000 USD*
2024	**INSTAAR Diversity, Equity, and Inclusion Summer Scholars Fellowship**, University of Colorado - Boulder	*$9237 USD*
2023	**Fellowship in Atmospheric and Oceanic Sciences**, University of Colorado - Boulder	*$2635 USD*
2022	**Fellowship in Atmospheric and Oceanic Sciences**, University of Colorado - Boulder	*$3875 USD*
2018	**Dr. Olav Loken Undergraduate Geography Award for Northern Research**, McGIll University	*$800 CAD*
2018	**Irene Woods Field Study Award**, McGill University	*$1000 CAD*
2018	**Mobility Award**, McGill University	*$3000 CAD*
2018	**Laboratories Without Borders Award**, McGill University	*$2500 CAD*

Meetings

2022	**Early Career Travel Award**, Arctic Sub-Arctic Ocean Fluxes (ASOF) Meeting, Hafnarfjörður, Iceland	*$680 USD*
2018	**Best Earth Science Poster**, McGill Faculty of Science Undergraduate Research Conference, Montreal, Quebec	*$300 CAD*

Skills

Scientific Programming	MATLAB, Xarray, Numpy, matplotlib, LaTeX, NETCDF4, CDO, Git/GitHub, bash/shell scripting, R, and Java
Spatio-temporal Statistics	Gaussian Process Regression, Principal Component Analysis, uncertainty quantification
Time series analysis	Spectral and harmonic analysis, digital filtering, complex demodulation
Modeling	Running and modifying CESM code
Software	ArcMap, ENVI, QGIS, and Office Suite

Academic Presentations

* denotes mentee

Invited

Lenetsky, J. E.. (2024, Sep.) *Present and Future Ocean Changes in Baffin Bay: Insights from Models and Observations*. NSIDC Cryosphere Seminar.

Contributed

Weaver*, C., Jahn, A., Li, L., **Lenetsky, J. E.** (2025, Aug.) *Trapped in the Beaufort Gyre: Is the Arctic Ocean Becoming a Plastic Sink?* [poster presentation]. NSF NCAR, UCAR, UCP, and CIRES summer student research poster symposium.

Lenetsky, J. E., Lee, C. M., Richards, C., Drushka, K., Jahn, A. (2025, May) *An updated observational record of Davis Strait ocean transports, 2004-2024* [oral presentation]. Arctic Sub-Arctic Ocean Fluxes (ASOF) Meeting.

DeHaas*, B., Cohen*, A., Mendelssohn*, J., Sticker, A., **Lenetsky, J. E.**, Jahn, A. (2024, Dec.) *For warming above 2°C , the average time to lose the last 1 million km^2 of Arctic sea ice is shorter for higher emission scenarios* [poster presentation]. 18th annual Earth and Space Science Poster conference.

Lenetsky, J. E., Jahn, A., Ugrinow*, P., Wyburn-Powell, C., Patel*, P., Zanowski, H. (2024, June) *Large future changes in the North Water Polynya are most likely if global warming exceeds 2°C* [oral presentation]. CESM Workshop.

Lenetsky, J. E., Lee, C. M., Richards, C., Drushka, K., Jahn, A. (2024, May) *An updated observational record of Davis Strait ocean transports, 2004-2017* [oral presentation]. Arctic Sub-Arctic Ocean Fluxes (ASOF) Meeting.

Lenetsky, J. E., Lee, C. M., Richards, C., Drushka, K., Jahn, A. (2024, February) *An updated observational record of Davis Strait ocean transports, 2004-2017* [oral presentation]. Ocean Sciences Meeting.

Lenetsky, J. E., Jahn, A., Ugrinow*, P., Wyburn-Powell, C., Patel*, P., Zanowski, H. (2024, February) *Large future changes in the North Water Polynya are most likely if global warming exceeds 2°C* [oral presentation]. CESM Polar Working Group Meeting.

Lenetsky, J. E., Lee, C. M., Richards, C., Drushka, K., Jahn, A. (2023, May) *An updated observational record of Davis Strait temperature and salinity, 2004-2017* [oral presentation]. Arctic Sub-Arctic Ocean Fluxes (ASOF) Meeting.

Lenetsky, J. E., Lee, C. M., Richards, C., Drushka, K., Jahn, A. (2023, April) *An updated observational record of Davis Strait temperature and salinity, 2004-2017* [poster presentation]. Annual European Geophysical Union (EGU) Meeting.

Lenetsky, J. E., Jahn, A., Myers, P. G., Lee, C. M. *Understanding Davis Strait freshwater flux variability using observations and models* [oral presentation]:

- Aug. 2022: 17th Conference on Polar Meteorology and Oceanography.
- May 2022: Arctic Sub-Arctic Ocean Fluxes (ASOF) Meeting.
- Mar. 2022: NCAR Polar Climate Working Group Meeting.
- Mar. 2022: Ocean Sciences Meeting.

Lenetsky, J. E., Jahn, A., Myers, P. G., Lee, C. M. (2021, Dec.) *Understanding Davis Strait freshwater flux variability using observations and models* [poster presentation]. CU Boulder Earth & Space Science Symposium.

Lenetsky, J. E. (2021, Sep.) *The Bering Strait and Seasonal Sea Ice Prediction* [oral presentation]. CU Boulder ATOC Colloquium.

Lenetsky, J. E.. (2021, June.) *Understanding Bering Strait ocean heat transport variability for seasonal sea ice forecasting in the Chukchi Sea* [oral presentation]. McGill University Sea Ice Group meeting.

Lenetsky, J. E., & Serreze, M. C. (2021, Apr.) *On the interanual variability of spring Bering Strait water temperatures* [e-lightning talk]. INSTAAR 50th International Arctic Workshop.

Lenetsky, J. E., & Serreze, M. C. (2020, Dec.) *Towards an Operational Seasonal Sea Ice Forecast System for the Chukchi Sea* [e-lightning talk]. AGU Annual General Meeting.

Lenetsky, J. E., Tremblay, B., Brunette, C. (2018, Oct.). *The interannual variability and predictability of the Bering Strait heat flux and sea ice extent in the Chukchi Sea* [poster presentation]. McGill Faculty of Science Undergraduate Research Conference. **Award Winner**

Mentoring

Cecilia Weaver, Co-advisor, Summer 2025	Community college summer research intern
Blake DeHaas, Research mentor, Fall 2024	ATOC 3700 undergraduate student
Abbey Cohen, Research mentor, Fall 2024	ATOC 3700 undergraduate student
Jake Mendelssohn, Research mentor, Fall 2024	ATOC 3700 undergraduate student
Patrick Ugrinow, Co-advisor, Spring 2022	Undergraduate research assistant
Rajan Patel, Co-advisor, Spring 2022	Undergraduate research assistant

Teaching Experience

ATOC 3700: Undergraduate Research Experience *CU Boulder*

Teaching Assistant *Fall 2024*

- Multiple guest lectures on topics such as statistical analysis techniques and the scientific method.
- Mentored students throughout the course on their independent research projects.

GEOG 4271/5271: The Arctic Climate System

CU Boulder

Teaching Assistant

Spring 2021

- Guest lectured approx. 25 students on sea ice variability, rheology, and ocean-ice-atmosphere interactions
- Assisted the instructor in teaching topics in advanced Arctic science ranging from sea ice dynamics, oceanography, meteorology, permafrost, and glaciology.
- Helped develop homework and exam material.
- Mentored students throughout the course.

GEOG 2271: Arctic Environment

CU Boulder

Teaching Assistant

Fall 2019, 2021

- Assisted the instructor in teaching topics in advanced Arctic science ranging from sea ice dynamics, oceanography, meteorology, permafrost, and glaciology.
- Helped develop homework and exam material.
- Mentored students throughout the course.

GEOG 1001: Climate and Vegetation

CU Boulder

Teaching Assistant

Spring 2019

- Led two 30-person lab sections in which I taught material ranging from atmospheric composition and circulation patterns, climate change, basic meteorology, and introductory ecology.
- Helped develop homework and exam material.
- Mentored students throughout the course.

Field Work

R/V Neil Armstrong, Baffin Bay, Fall 2024 Mooring recovery and deployment; CTD operations; Water sampling

R/V Neil Armstrong, Baffin Bay, Fall 2022 Mooring recovery and deployment; CTD operations

McGill High Arctic Research Station, Summer 2018 Permafrost and glacial monitoring

Academic Service

2022-present	**Committee member and co-lead**, Student Concerns Committee	*CU Boulder*
2022-2024	**ATOC REU**, Cohort mentor and executive committee member	*CU Boulder*
2021-present	**Journal Reviewer**, Reviewer for peer-reviewed publications in Journal of Climate and Journal of Geophysical Research: Oceans	——
2021	**Mentor**, Graduate Student Peer Mentorship Program	*CU Boulder*
2021	**Mentor**, Graduate Application Mentorship Program	*CU Boulder*
2021	**Committee Member**, Technology Committee	*CU Boulder*
2021	**Committee Member**, Awards Committee	*CU Boulder*

Representation and Outreach

INSTAAR Directorate

University of Colorado - Boulder

Graduate Student Representative

February 2022 - September 2023

- Advocated for graduate students on INSTAAR directorate, working to build a more equitable and inclusive research community
- Re-envisioning and re-designing graduate student work spaces on the INSTAAR safety and inclusion committee

Academic Senate

McGill University

Senator

September 2017 - August 2018

- Represented undergraduate students on McGill academic senate, advocating for student rights, equity, and increased student input in University decision-making.
- Sat on Bachelor of Arts and Science Integrative Council Assembly, providing a link between the McGill administration and students in the faculty.
- Worked with other undergraduate representatives and the Student Society of McGill University to advance student body goals.