

# 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

UNIVERSITY OF COLORADO - BOULDER

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

Aug. 2021 - Present

Boulder, Colorado, USA

### Master of Arts, Geography

UNIVERSITY OF COLORADO - BOULDER

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

Aug. 2019 - May. 2021

Boulder, Colorado, USA

### Bachelor of Arts and Science with First Class Honors, Environmental Science

MCGILL UNIVERSITY

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

Aug. 2015 - May. 2019

Montreal, Quebec, Canada

### Associates Degree, Liberal Arts

BARD COLLEGE

Sep. 2013 - Jun. 2015

Annondale-on-Hudson, NY, USA

## Refereed Publications

### 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: [10.1029/2021GL092939](https://doi.org/10.1029/2021GL092939)
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](https://doi.org/10.1175/JCLI-D-20-0544.1)

### UNDER-REVIEW

1. **Lenetsky, J. E.**, Jahn A., Ugrinow, P., Wyburn-Powell, C. R., Patel, R., & Zanoski, H. Future Sea Ice and Ocean Changes in the North Water Polynya under Policy Relevant Warming Levels. *Journal of Climate*.

## Research Appointments

### Institute of Arctic and Alpine Research, University of Colorado - Boulder

RESEARCH ASSISTANT

- Analyzing the Baffin Bay ocean and sea ice circulation in observations and climate models.
- Developing a gridded product of Davis Strait temperature, salinity, and velocity measurements.
- Updating observational record of Davis Strait ocean transports.

Boulder, CO

July 2021 - Present

### Department of Geography, University of Colorado - Boulder

RESEARCH ASSISTANT

- Developing an operational statistical forecast of sea ice advance and retreat date in the Chukchi Sea.

Boulder, CO

May 2020 - August 2020

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

SEA ICE ANALYST

- 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](#))

Boulder, CO

October 2019 - May 2021

### Department of Atmospheric and Oceanic Science, McGill University

RESEARCH ASSISTANT AND HONORS STUDENT

- The independent research project examined subseasonal sea ice predictability in the western Arctic Ocean supervised by Prof. Bruno Tremblay
- Received an undergraduate research award from the National Science and Engineering Council of Canada (NSERC) and Fonds de Recherche du Quebec

Montreal, Quebec, Canada

May 2018 - August 2019

## Fellowships & Awards

### GOVERNMENTAL

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

### INSTITUTIONAL

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

### MEETINGS

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

## Grant Experience

### NSF AGS-2150262: REU in Atmospheric, Oceanic, and Cyrospheric Sciences

\$524,512

UNIVERSITY OF COLORADO - BOULDER

2022 - 2025

- Lead organizer on programming committee for overall logistics, mentoring, teaching, and social activities
- Served as REU cohort co-mentor, leading weekly group meetings.
- Taught introductory workshops on coding in python.

## Academic Presentations

### INVITED

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

### CONTRIBUTED

**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.,** & Serreze, M. C. (2021, Apr.) *On the interannual 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**

## 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.

### 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.

## Skills

|                           |  |
|---------------------------|--|
| <b>Programming</b>        | High proficiency in MATLAB, Python (Xarray, Numpy, matplotlib), LATEX, NETCDF4, CDO, bash/shell scripting; experience in R, and Java |
| <b>Statistics</b>         | Time Series and Principal Component Analysis, Spectral Filtering, Monte Carlo Simulations  |
| <b>Ocean Observations</b> | Quality control and objective mapping of mooring and glider data, uncertainty quantification   |
| <b>Modeling</b>           | Running and modifying CESM code  |
| <b>Software</b>           | ArcMap, ENVI, QGIS, and Office Suite   |

## Field Work

|   |   |
|---|---|
| <b>R/V Neal Armstrong, Baffin Bay, Fall 2024</b>        | Mooring recovery and deployment; CTD operations; Water sampling |
| <b>R/V Neal Armstrong, Baffin Bay, Fall 2022</b>        | Mooring recovery and deployment; CTD operations                 |
| <b>McGill High Arctic Research Station, Summer 2018</b> | Permafrost and glacial monitoring                               |

# Academic Service

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|              |   |            |
|--------------|---|------------|
| 2022-present | <b>ATOC REU</b> , Cohort mentor and executive committee member  | CU Boulder |
| 2021-present | <b>Journal Reviewer</b> , Reviewer for peer-reviewed publications in Journal of Climate and Journal of Geophysical Research: Oceans | —          |
| 2021         | <b>Mentor</b> , Graduate Student Peer Mentorship Program (INSTAAR)  | CU Boulder |
| 2021         | <b>Mentor</b> , Graduate Application Graduate Application Mentorship Program (ATOC)   | CU Boulder |
| 2021         | <b>Committee Member</b> , Technology Committee  | CU Boulder |
| 2021         | <b>Committee Member</b> , Awards Committee  | CU Boulder |

# Representation and Outreach

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**INSTAAR Directorate**

GRADUATE STUDENT REPRESENTATIVE

University of Colorado - Boulder

February 2022 - September 2023

- Represented graduate students on INSTAAR directorate, working to build a more equitable and inclusive research community
- Working to re-envision and redesign graduate student work spaces on the INSTAAR safety and inclusion committee

**Academic Senate**

SENATOR

McGill University

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.