

# Lily C. Hahn

lihahn@ucsd.edu | <https://lchahn.github.io> | +1 (207) 651-1994

---

## EDUCATION

**University of Washington**, Seattle, WA 2018-2023  
Ph.D., Atmospheric Sciences

**Yale University**, New Haven, CT 2013-2017  
B.S., Geology & Geophysics: Atmosphere, Ocean and Climate with Distinction in the Major, *summa cum laude*, Phi Beta Kappa

## AWARDS AND HONORS

NOAA Climate & Global Change Postdoctoral Fellowship 2023-2025  
Wagner Memorial Award for Women in Atmospheric Sciences 2022  
Advanced Climate Dynamics Course Participant in Rondane, Norway 2022  
Graduate Student Distinguished Service Certificate, UW Atmospheric Sciences 2022  
National Science Foundation (NSF) Graduate Research Fellowship 2018-2021  
Achievement Rewards for College Scientists (ARCS) Fellowship 2018-2021  
Belknap Prize in Geology & Geophysics, Yale 2017  
Summer Student Fellowship, Woods Hole Oceanographic Institution 2016  
Von Damm Research Fellowship in Geology & Geophysics, Yale 2016  
J. Edward Meeker Freshman English Prize, Yale 2014

## RESEARCH EXPERIENCE

**Scripps Institution of Oceanography** September 2023-present  
NOAA Climate & Global Change Postdoctoral Fellow: Impacts of the Atlantic Meridional Overturning Circulation on Global and High-Latitude Warming  
*Hosted by* Nick Lutsko and Ian Eisenman

**University of Washington, Atmospheric Sciences Department** 2018-2023  
Mechanisms of polar-amplified warming  
*Advised by* David Battisti and Kyle Armour

**University of Oslo, Department of Geosciences** Spring 2018  
Role of topography for Greenland cloud response to atmospheric circulation  
*Advised by* Trude Storelvmo

**Woods Hole Oceanographic Institute** Summer 2016, Summer-Fall 2017  
Atmospheric circulation variability and extreme Greenland Ice Sheet melt  
*Advised by* Caroline Ummenhofer

## PEER-REVIEWED PUBLICATIONS

Hofer, S., **Hahn, L.C.**, Shaw, J.K. *et al.* (2024). Realistic representation of mixed-phase clouds increases projected climate warming. *Communications Earth & Environment*, 5, 390. <https://doi.org/10.1038/s43247-024-01524-2>

Armour, K. C., Proistosescu, C., Dong, Y., **Hahn, L. C.**, Blanchard-Wrigglesworth, E., Pauling, A. G. *et al.* (2024). Sea-surface temperature pattern effects have slowed global warming and biased warming-based constraints on climate sensitivity. *Proceedings of the National Academy of Sciences*, 121, e2312093121. <https://doi.org/10.1073/pnas.2312093121>

**Hahn, L. C.**, Armour, K. C., Battisti, D. S., Donohoe, A., and Fajber, R. (2023). Seasonal changes in atmospheric heat transport to the Arctic under increased CO<sub>2</sub>. *Geophysical Research Letters*, 50, e2023GL105156. <https://doi.org/10.1029/2023GL105156>

Bonan, D. B., Feldl, N., Zelinka, M.D., and **Hahn, L. C.** (2023). Contributions to regional precipitation change and its polar-amplified pattern under warming. *Environmental Research: Climate*, 2, 035010. <https://doi.org/10.1088/2752-5295/ace27a>

**Hahn, L. C.**, Armour, K. C., Battisti, D. S., Eisenman, I., and Bitz, C. M. (2022). Seasonality in Arctic Warming Driven by Sea Ice Effective Heat Capacity. *Journal of Climate*, 35, 1629-1642. <https://doi.org/10.1175/JCLI-D-21-0626.1>

**Hahn, L. C.**, Armour, K. C., Zelinka, M. D., Bitz, C. M., and Donohoe, A. (2021). Contributions to Polar Amplification in CMIP5 and CMIP6 Models. *Frontiers in Earth Science*, 9, 710036. <https://doi.org/10.3389/feart.2021.710036>

Sagoo, N., Storelvmo, T., **Hahn, L. C.**, Tan, I., Danco, J., Raney, B., and Broccoli, A. J. (2021). Observationally Constrained Cloud Phase Unmasks Orbitally Driven Climate Feedbacks. *Geophysical Research Letters*, 48, e2020GL091873. <https://doi.org/10.1029/2020GL091873>

**Hahn, L. C.**, Armour, K. C., Battisti, D. S., Donohoe, A., Pauling, A. G., and Bitz, C. M. (2020). Antarctic elevation drives hemispheric asymmetry in polar lapse-rate climatology and feedback. *Geophysical Research Letters*, 47, e2020GL088965. <https://doi.org/10.1029/2020GL088965>

**Hahn, L. C.**, Storelvmo, T., Hofer, S., Parfitt, R., and Ummenhofer, C. C. (2020), Importance of orography for Greenland cloud and melt response to atmospheric blocking. *Journal of Climate*, 33, 4187–4206. <https://doi.org/10.1175/JCLI-D-19-0527.1>

Donohoe, A., Armour, K. C., Roe, G. H., Battisti, D. S., and **Hahn, L. C.** (2020), The partitioning of meridional heat transport from the Last Glacial Maximum to CO<sub>2</sub> quadrupling in coupled climate models. *Journal of Climate*, 33, 4141–4165. <https://doi.org/10.1175/JCLI-D-19-0797.1>

**Hahn, L. C.**, Ummenhofer, C. C., and Kwon, Y.-O. (2018), North Atlantic natural variability modulates emergence of widespread Greenland melt in a warming climate. *Geophysical Research Letters*, 45, 9171–9178. <https://doi.org/10.1029/2018GL079682>

## **PUBLICATIONS SUBMITTED AND IN PREPARATION**

**Hahn, L. C.**, Lutsko, N. J., Eisenman, I., Luongo, M., and Xie, S. P., Contribution of AMOC Decline to Uncertainty in Global Warming via Ocean Heat Uptake and Climate Feedbacks. Submitted to *Journal of Climate*, 2024.

**Hahn, L. C.**, Armour, K. C., Battisti, D. S., and Bitz, C. M., Interseasonal dependence of Arctic warming on radiative heating. Anticipated submission, 2025.

Mackay, B., **Hahn, L.C.**, Eisenman, I., and Xie, S. P., How sea ice warms the Arctic. Anticipated submission, 2025.

## **OTHER WORKS**

Forster, P., Storelvmo, T., Armour, K., Collins, W., Dufresne, J.-L., Frame, D., ... , **Hahn, L. C.**, et al., 2021: The Earth's Energy Budget, Climate Feedbacks, and Climate Sensitivity. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 923–1054. [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Chapter07.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter07.pdf)

Zinetti, S., Meyer, M., **Hahn, L.**, Kulik, K. M., Matossian, M., and Scherer, N. (2020). Feasibility Study for a Potential Community Choice Aggregation in Arlington County. Prepared as a volunteer scientist with the American Geophysical Union's Thriving Earth Exchange. <https://www.virginiacleanenergy.org/cca-feasibility-study.html>

## TEACHING AND MENTORSHIP

<b>Guest Lecturer</b> , Scripps Institution of Oceanography, UC San Diego Numerical Modeling of the Climate System <i>Model Workshop: Using Simple Models and Analyzing GCM Output</i>	Spring 2024
Dynamics of the Atmosphere and Climate <i>Polar Amplification</i>	Spring 2024
<b>Guest Lecturer</b> , University of Washington, Atmospheric Sciences Exploring the Atmospheric Sciences <i>Ice and Climate</i> <i>Climate feedbacks and polar warming</i>	Spring 2023 Fall 2022
<b>Instructor</b> , University of Washington, Atmospheric Sciences Exploring the Atmospheric Sciences	Summer 2021
<b>Teaching Assistant</b> , University of Washington, Atmospheric Sciences Climate and Climate Change (Professor: Kat Huybers)	Fall 2019
<b>Research Advising</b> Ben Mackay, Scripps Institution of Oceanography, PhD student Zaria Cast, CU Boulder, MA Student, NSF SOARS Program Elinor Kay, Smith College, Undergraduate Intern Benjamin Buchovecky, Princeton University, HMEI Undergrad. Intern Madeleine Burns, Princeton University, HMEI Undergraduate Intern	2023-present Summer 2024 Summer 2023 Summer 2022 Summer 2022
<b>Mentoring Program for Undergraduates at Scripps</b> <i>Program Co-Lead, Mentor</i>	2024-present
<b>UW Graduate Student Peer Mentoring Program</b> <i>Mentor</i>	2022-2023
<b>UW Graduate-Undergraduate Mentor Program</b> <i>Program Co-Lead</i> <i>Mentor (5 undergraduate students)</i>	2019-2023 2018-2023
<b>UW Odegaard Writing and Research Center</b> <i>Writing Tutor</i>	2019-2020
<b>Yale Science and Quantitative Reasoning Tutoring Program</b> <i>Chemistry and Calculus Tutor</i>	2014-2016

## COMMUNITY ENGAGEMENT

### **AGU Thriving Earth Exchange**

*Community Science Fellow* 2023-present  
Facilitate collaborative projects co-developed by communities and scientists

*Volunteer Scientist, Environmental Benefits Chapter* 2019-2020  
Feasibility Study for Community Choice Aggregation of Renewable Energy Options

### **UW Program on Climate Change (PCC) ACORN Program**

*Co-Founder and Co-Lead* 2020-2023  
Actionable Community-Oriented Research eNgageMENT connects graduate students with community leaders to address community climate and energy priorities

*Volunteer Scientist* 2020-2022  
Emissions Impacts of Demand Response Implementation in Washington State

### **Project Bright**

*West Campus Installation and Outreach Co-Lead, Treasurer* 2013-2017  
Received New England Grassroots Environmental Fund Grow Grant and Yale Landscape Lab Seedling Award for solar installation design and environmental outreach programs at Yale's West Campus Farm

## UNIVERSITY AND PROFESSIONAL SERVICE

### **Department Service**

NCAR Postdoctoral Fellows Networking Committee 2023-present  
First Annual Great Atmos Bake-Off Organizer 2022  
UW Atmospheric Sciences Part-Time Lecturer Search Committee 2021

### **UW Program on Climate Change Graduate Steering Committee** 2019-2021

Launched the Program on Climate Change (PCC) Undergraduate Research Cohort  
Facilitated the Spring Symposium and Climate Science on Tap: The Schooner Series

### **Conference Activities**

*Scientific Organizing Committee, US CLIVAR Polar Amplification Workshop* 2023-2024  
*Co-Convener, Innovative Initiatives in Conducting Community-Based Science and Training the Next Generation of Practitioners, AGU Fall Meeting* 2021  
*Executive Committee Co-Chair, Graduate Climate Conference* 2021  
*Executive Committee Member, Graduate Climate Conference* 2020, 2022

### **Grant Reviewer**

National Science Foundation: Climate and Large-Scale Dynamics

## Journal Reviewer

Atmospheric Chemistry and Physics, Climate Dynamics, Communications Earth & Environment, Environmental Research: Climate, Geophysical Research Letters, Journal of Climate, Journal of Geophysical Research – Atmospheres, Nature Communications, npj Climate and Atmospheric Science

## PRESENTATIONS

### *Invited Talks*

American Geophysical Union (AGU) Fall Meeting	December 2024
UW-Madison, Dept. of Atmospheric and Oceanic Sciences Seminar	October 2024
UC Irvine, Department of Earth System Science Seminar	May 2024
US CLIVAR Workshop on Polar Amplification of Climate Change	January 2024
Scripps Institution of Oceanography, Climate, Atmospheric Sciences, and Physical Oceanography Seminar	October 2023
UW Program on Climate Change Summer Institute	September 2023
University of Washington, Odegaard Writing and Research Center	June 2023
Desert Research Institute, Wagner Award Seminar	November 2022
Paleoclimate Advances Webinar Series	July 2022
Polar Amplification Model Intercomparison Project Webinar Series	June 2022
Columbia University, Department of Earth and Environmental Sciences, Seminar in Race, Climate Change, and Environmental Justice	February 2021
European Polar Science Week	October 2020

### *Contributed Talks*

California Geophysical Fluid Dynamics Conference (CalGFD)	September 2024
NOAA Climate and Global Change Summer Institute	July 2024
AGU Fall Meeting	December 2023, 2021, 2020, 2019, 2018
Polar Friday, Applied Physics Laboratory, University of Washington	November 2020
Graduate Climate Conference	November 2019
European Geophysical Union (EGU) General Assembly	April 2018

### *Contributed Posters*

Cloud Feedback Model Intercomparison Project Workshop	June 2024
AGU Fall Meeting	December 2024, 2022
Graduate Climate Conference	October 2022, 2021, 2020
US CLIVAR Pattern Effect Workshop	May 2022
EGU General Assembly	April 2018
American Meteorological Society Annual Meeting	January 2017
Geoengineering Model Intercomparison Project (GeoMIP) Meeting	June 2016