

VINCENT T. COOPER

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RESEARCH INTERESTS

Coupled climate dynamics • climate variability • atmosphere-ocean-ice interactions • radiative feedbacks • paleoclimate • hydrologic cycle • climate reconstruction and data assimilation • climate predictability • atmospheric general circulation

EDUCATION

UNIVERSITY OF WASHINGTON

Ph.D., Atmospheric and Climate Science
M.S., Atmospheric Sciences

Seattle, WA
2019–Winter 2025 (expected)
2019–2022

HARVARD UNIVERSITY

A.B., Statistics, Highest non-thesis honors

Cambridge, MA
2011–2015

ACADEMIC & PROFESSIONAL EXPERIENCE

UNIVERSITY OF WASHINGTON

Graduate Research Assistant & NDSEG Fellow, Department of Atmospheric and Climate Science

Seattle, WA
2019–Present

- Advised by Professors K.C. Armour, G.J. Hakim, and C.M. Bitz
- Ph.D. Thesis: Radiative Feedbacks and Climate Sensitivity in the Paleoclimate Record
- M.S. Thesis: Wind Waves in Sea Ice of the Western Arctic and a Global Coupled Wave-Ice Model

AMERICAN SECURITIES

Associate, Private Equity Investment Team (\$27 billion of assets under management)

New York, NY
2017–2019

- Investment highlight: lead associate on ~\$1.5B acquisition of BELFOR, the largest transaction in firm history; BELFOR is the world's largest damage reconstruction provider, rebuilding homes and businesses after extreme weather and hurricanes

EVERCORE

Investment Banking Analyst, Mergers & Acquisitions Advisory, Technology & Communications Industry

New York, NY
2015–2017

- Transaction highlight: advised Equinix, a data center provider, on the \$3.6B acquisition of 29 data centers from Verizon

AWARDS & HONORS

- Early Career Scientist Award, CFMIP/CLIVAR Conference on Clouds, Circulation, and Climate 2024
- Schmidt Science Fellows Nominee (application under review) 2024
- National Defense Science & Engineering Graduate (NDSEG) Fellowship, US Department of Defense 2020–2023
- Outstanding Student Presentation Award, AGU Fall Meeting 2023
- Outstanding Student Presentation Award (3rd place poster), Polar AMS Meeting 2021
- Outstanding Student Presentation Award, AGU Fall Meeting 2020
- Graduate Provost Fellowship, University of Washington (declined for NDSEG Fellowship) 2020
- Top Scholar Award, Department of Atmospheric Sciences, University of Washington 2020
- Harvard College Scholar Award (top 10% of class) 2011–2015

PUBLICATIONS

* Indicates publication in preparation, submitted, in review, or in press.

- [7] *Cooper, V., K. Armour, and G. Hakim. Historical pattern effects and climate sensitivity revisited with novel constraints on past warming patterns. *To be submitted to Geophysical Research Letters.*
- [6] *Cooper, V., G. Hakim, and K. Armour. Coupled Atmosphere-Ocean Reconstruction of Globally Resolved Sea-Surface Temperature, Sea Ice, and Sea-Level Pressure from 1850–2023. *To be submitted to Journal of Climate.*

- [5] ***Cooper, V.**, K. Armour, G. Hakim, J. Tierney, N. Burls, C. Proistosescu, M. Dvorak, Y. Dong, T. Andrews, J. Zhu, J. King, M. Osman, W. Dong, and Y. Ming. Pliocene pattern effects indicate stronger constraints on modern-day climate sensitivity. *To be submitted to Nature Geoscience*.
- [4] ***Dvorak, M.**, K. Armour, R. Feng, **V. Cooper**, J. Zhu, N. Burls, and C. Proistosescu. Mid-Pliocene climate forcing, sea-surface temperature patterns, and implications for modern-day climate sensitivity. *In review, Journal of Climate*.
- [3] ***Tierney, J.**, J. King, M. Osman, J. Abell, N. Burls, E. Erfani, **V. Cooper**, and R. Feng. Pliocene warmth and patterns of climate change inferred from paleoclimate data assimilation. *In revision, AGU Advances*.
- [2] **Cooper, V.**, K. Armour, G. Hakim, J. Tierney, M. Osman, C. Proistosescu, Y. Dong, N. Burls, T. Andrews, D. Amrhein, J. Zhu, W. Dong, Y. Ming, and P. Chmielowiec (2024). Last Glacial Maximum pattern effects reduce climate sensitivity estimates. *Science Advances*. 10, eadk9461. doi.org/10.1126/sciadv.adk9461. [[Carbon Brief Article](#)]
- [1] **Cooper, V.**, L. Roach, J. Thomson, S. Brenner, M. Smith, M. Meylan, and C. Bitz (2022). Wind waves in sea ice of the western Arctic and a global coupled wave-ice model. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 380:20210258. doi.org/10.1098/rsta.2021.0258.

PRESENTATIONS

- Cooper, V.** Paleoclimate Pattern Effects Lead to Stronger Constraints on Modern-day Climate Sensitivity. *AGU Fall Meeting (upcoming, December 2024)*. Invited talk.
- Cooper, V.**, G. Hakim, and K. Armour. Historical Pattern Effects and Climate Sensitivity Revisited with Novel Constraints on Past Warming Patterns. *AGU Fall Meeting (upcoming, December 2024)*.
- Cooper, V.** The Last Glacial Maximum Pattern Effect. *NOAA GFDL Climate Sensitivity Journal Club (upcoming, December 2024)*. Invited talk.
- Cooper, V.** Overview of Paleoclimate Pattern Effects and Paleoclimate Constraints on Modern-day Climate Sensitivity. *NSF workshop on climate evolution from early Eocene to mid-Pliocene (August 2024)*. Invited talk.
- Cooper, V.**, K. Armour, G. Hakim, J. Tierney, N. Burls, C. Proistosescu, M. Dvorak, Y. Dong, T. Andrews, J. Zhu, D. Amrhein, J. King, M. Osman, W. Dong, and Y. Ming. Paleoclimate Pattern Effects and Revised Estimates of Modern-day Climate Sensitivity. *CFMIP/CLIVAR Conference on Clouds, Circulation, and Climate (June 2024)*. Talk. **Received CFMIP Early Career Scientist Award.**
- Dvorak, M., K. Armour, R. Feng, J. Zhu, N. Burls, **V. Cooper**, C. Proistosescu. Mid-Pliocene climate forcing and sea-surface temperature pattern effects in CESM. *CESM Paleoclimate Working Group Meeting (February 2024)*. Talk.
- Cooper, V.**, K. Armour, G. Hakim, J. Tierney, N. Burls, C. Proistosescu, M. Dvorak, Y. Dong, T. Andrews, J. Zhu, D. Amrhein, J. King, M. Osman, W. Dong, and Y. Ming. Paleoclimate Pattern Effects and Climate Sensitivity. *CESM Paleoclimate Working Group Meeting (February 2024)*. Talk.
- Cooper, V.**, K. Armour, G. Hakim, J. Tierney, N. Burls, C. Proistosescu, M. Dvorak, Y. Dong, T. Andrews, J. Zhu, J. King, M. Osman, W. Dong, and Y. Ming. Pliocene Pattern Effects and Constraints on Climate Sensitivity. *AGU Fall Meeting (December 2023)*. Talk.
- Cooper, V.**, G. Hakim, and K. Armour. Variability in Sea-Surface Temperature and Sea Ice Patterns from Coupled Data Assimilation, 1850–present. *AGU Fall Meeting (December 2023)*. Poster. **Received OSPA (Outstanding Student Presentation Award).**
- Dvorak, M., K. Armour, R. Feng, J. Zhu, N. Burls, **V. Cooper**, C. Proistosescu. Mid-Pliocene climate forcing, sea-surface temperature pattern effects, and implications for modern-day climate sensitivity. *AGU Fall Meeting (December 2023)*. Talk.
- Cooper, V.**, K. Armour, G. Hakim, J. Tierney, M. Osman, C. Proistosescu, Y. Dong, N. Burls, T. Andrews, D. Amrhein, J. Zhu, W. Dong, Y. Ming, and P. Chmielowiec. Last Glacial Maximum pattern effects reduce climate sensitivity estimates. *ECS & Cloud Feedback Symposium (Oct. 2023)*. Invited talk ([recording available](#)).
- Cooper, V.**, K. Armour, C. Proistosescu, Y. Dong, G. Hakim, J. Tierney, M. Osman, N. Burls, D. Amrhein, T. Andrews, Y. Ming, W. Dong, and P. Chmielowiec. SST pattern effect in the Last Glacial Maximum reduces climate sensitivity estimates. *AGU Fall Meeting (December 2022)*. Talk.
- Cooper, V.**, K. Armour, C. Proistosescu, P. Chmielowiec, J. Tierney, M. Osman, Y. Dong, G. Hakim, D. Amrhein, N. Burls, and S. Knapp. The Last Glacial Maximum Pattern Effect. *CFMIP (June 2022)*. Poster.

- Cooper, V.**, L. Roach, J. Thomson, S. Brenner, M. Smith, M. Meylan, and C. Bitz. Wind waves in sea ice of the western Arctic and a global coupled wave-ice model. *National Defense Science & Engineering Graduate Fellowship Conference (July 2022)*. Poster.
- Cooper, V.**, K. Armour, C. Proistosescu, P. Chmielowiec, J. Tierney, M. Osman, Y. Dong, G. Hakim, D. Amrhein, N. Burls, and S. Knapp. The Last Glacial Maximum Pattern Effect. *Pattern Effect Workshop (Boulder, CO, May 2022)*. Poster.
- Thomson, J., S. Wahlgren, **V. Cooper**, S. Brenner, M. Smith, S. Swart, L. Biddle, and C. Bitz. Waves observed far (>100 km) within sea ice. *Waves in Shallow Water Environment (WISE) Meeting (May 2022)*. Poster.
- Cooper, V.**, L. Roach, J. Thomson, S. Brenner, M. Smith, M. Meylan, and C. Bitz. Wind waves in sea ice and a global coupled wave-ice model. *Antarctic Sea Ice and Southern Ocean Seminars, hosted by The University of Texas at San Antonio (April 2022)*. Invited talk.
- Cooper, V.**, L. Roach, J. Thomson, S. Brenner, M. Smith, and C. Bitz. Waves in the Marginal Ice Zone: Insights from Observations and Modeling. *Polar Meteorology and Oceanography Conference, American Meteorological Society (Polar AMS, June 2021)*. Poster. **Received Third Place OSPA (Outstanding Student Presentation Award)**.
- Cooper, V.**, L. Roach, J. Thomson, S. Brenner, M. Smith, and C. Bitz. Waves in the Marginal Ice Zone: Insights from Observations and Modeling. *Sea State Meeting, hosted by Plymouth Marine Laboratory (March 2021)*. Poster.
- L. Roach, C. Bitz, E. Blanchard-Wrigglesworth, **V. Cooper**, C. Horvat. Sea ice at the edge: Seasonal Arctic sea ice in coupled climate models and satellite observations. *AGU Fall Meeting (December 2020)*. Talk.
- Cooper, V.**, L. Roach, J. Thomson, S. Brenner, M. Smith, and C. Bitz. Towards Validating Wave-Ice Interactions in Climate Models Using In Situ Observations. *AGU Fall Meeting (December 2020)*. Poster. **Received OSPA (Outstanding Student Presentation Award)**.

TEACHING & SERVICE

UNIVERSITY OF WASHINGTON

Seattle, WA

Teaching Experience

- Lead Teaching Assistant, Department of Atmospheric and Climate Science: 2022–2023
Selected based on teaching performance to serve as the central resource for all graduate teaching assistants; Trained, evaluated, and provided teaching feedback; added new training on equity and inclusion to TA orientation.
- Teaching Assistant, ATM S 100 *Climate, Justice, and Energy Solutions* (Prof. Dargan Frierson): 2022
Taught four weekly sections of 20–30 students each, held weekly office hours, created and graded course assignments; Developed new teaching materials for the course (first offered in 2021) with emphasis on equity and inclusion; 4.85/5.00 “Teaching Effectiveness” rating with reviews highlighting enthusiasm, classroom environment, and explanations.
- Guest Lecturer: ATM S 101 *The Atmospheric General Circulation Parts I & II*, ATM S 220 *Ice & Climate* 2022–2023

Service and Outreach

- Guest Author (invited), *Carbon Brief* ([link to article](#)) 2024
- Student Representative on Faculty Search Committee for Department of Atmospheric and Climate Science 2024
- Equity, Diversity, and Inclusion (EDI) Committee, Student Representative (2 students selected) 2023–present
- Diversity and Inclusion Group (DIG): Member of student-led group 2021–present
- Mentor, Graduate-Undergraduate Mentor Program for Atmospheric Sciences 2021–present
- Discussion on Climate with Governor Jay Inslee (3 students selected from department) 2023
- Convener, Session on Climate Dynamics at UW Program on Climate Change Summer Institute 2023
- Student representative for Fleagle Endowed Lecture Committee with Invited Lecturer Myles Allen 2023
- Guest Author (invited), *The Drift* ([link to article](#)) 2022
- Student member of Welcome Committee for New Students 2021–2022
- Undergraduate Environmental Job Fair 2022
- UW Outreach Program: Lecturer on Climate Change and Impacts on the Pacific Northwest 2020–2021
- Peer reviewer for *Journal of Climate* (x6) and *Geophysical Research Letters* (x2)

FAIR OPPORTUNITY PROJECT

Seattle, WA

Mentor

2019–2021

- One-on-one mentorship for high-school students from underrepresented backgrounds during college application process

BUCKINGHAM BROWNE & NICHOLS SCHOOL

Math Team Head Coach

- Led competitive math program: weekly lessons, mock tests, and travel to regional competitions

Cambridge, MA

2013–2015

BOSTON PROJECT TEACH

Mentor, College & Career Awareness Program

- Present and discuss college options and career paths with students from low-income neighborhoods

Cambridge, MA

2012–2015

ACADEMIC REFERENCES

Prof. Kyle Armour

Ph.D. Advisor

Department of Atmospheric and Climate Science and School of Oceanography

University of Washington

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