**Dr. Christopher Horvat**
group website: www.polar-oceans.com

horvat@brown.edu
research: google scholar

## CURRENTLY

**Brown University,** Providence, RI, USA.
*Department of Earth, Environmental, and Planetary Sciences*
Assistant Professor (2024-present).

## RESEARCH FOCUS

I lead the Antipodal Oceanography group (APOG), a multi-disciplinary group of researchers who study and report on emergent and rapidly evolving features of Earth's climate. We focus on three main topics: (**i**) coupled modeling of Earth's ice and ocean systems, (**ii**) remote sensing of change to ecosystems under ice and in the tropics, and (**iii**) novel machine learning solutions to the impact of extreme weather on human systems.

## SYNERGISTIC EFFORTS

**South Pacific Commission,** Noumea, New Caledonia.
Modeling lead, Technical Advisory Group on Climate Change and Health.

***Beneath the Polar Sun*** (film). Scientific lead, principal subject. Link.

## PREVIOUS EMPLOYMENT

**University of Auckland**, Auckland, NZ
*Department of Physics*
Glavish-Buckley Senior Lecturer in Climate Physics (2022-2024).
Co-Director, Climate Systems Laboratory (2022-2024).

**Brown University**, Providence, RI, USA.
*Institute at Brown for Environment and Society*
Assistant Professor (Research) (2020-2023)
Voss Postdoctoral Fellow (2019-2020)
NOAA Climate and Global Change Postdoctoral Fellow (2017-2019)

**Harvard University** and **NIWA**, Wellington, NZ.
Frank Knox Memorial Fellow (2017-2018)

## EDUCATION

Ph.D in Applied Mathematics, **Harvard University**, 2017.
S.M. in Applied Mathematics, **Harvard University**, 2013.
B.S. in Mathematics, B.S. in Physics, **University of Pittsburgh**, 2011.

## TEACHING

**EEPS0070**. Intro to Oceanography. 2026.
**EEPS1700**. Climate Modeling II. 2025,2026.
**EEPS1530**. Polar Oceanography. 2025.

*At U. Auckland:*

**PHYS 120** (University of Auckland): Advancing Physics (2022, 2023). Lecturer, course coordination, lab coordination.
**ENVPHYS 200** (University of Auckland): Earth Observations and Models (2022, 2023). Lecturer, course coordination.

*As a teaching fellow:*
**AM 201** (Harvard University): Applied Mathematical Modelling (2012, 2016)
**EPS 134** (Harvard University): Intro to Physical Oceanography (2014, 2016)
**EPS 231** (Harvard University): Climate Dynamics (2015).

## RESEARCH SUPPORT (Amounts in $USD unless specified, supervision underlined)

### Active Awarded Grants

*Schmidt Futures Foundation*. PI. A. Alberello, V. Dansereau, **C. Horvat**, E. Olason, P. Rampal. The Scale Aware Sea Ice Project. $10.4m ($3.1m to CH group). 2020-2026.

*NSF Collaborations in Artificial Intelligence and Geosciences*. PI. ***C. Horvat*** and S. Salap-Ayca. EAGER: Site-Specific Climate Risks to South Pacific Health and Health Infrastructure. *US$*300,000 to Brown. 2025-2027.

NASA FINESST. PI. **C. Horvat**. The impact of cyclones on coupled Antarctic sea-ice-ocean processes using a brittle sea ice modeling framework. $150,000 to Brown. 2025-2027.

*NASA Cryospheric Sciences*. PI. C. Horvat and A. Tavri. Investigating the impact of ocean surface waves on passive microwave retrievals of sea ice concentration. US$484,000 to Brown. 2026-2029.

*NASA Proposals with ICESat-2*. Co-I. M. Hell and **C. Horvat**. Observing the marginal ice zone with ICESat-2: Improving estimates of sea ice freeboard and storm impacts. $440,000 to Brown. 2024-2027.

*New Zealand Ministry for Business, Innovation, and Employment*. N. Bertler et al [incl **C. Horvat**]. Antarctic Sea-Ice Switch - Preparing for New Threats. NZD$15.6m (USD $120,000 to Brown). 2025-2032.

*NSF Arctic Program*. PI. **C. Horvat**, E. Tziperman. Beyond albedo: the scope and impact of the Arctic surface feedback in models and observations. 2026-2028. $750,000 to Brown.

*CHAIRS-C Pilot Grant***.** PI. **C. Horvat,** B. Zhao, C. Kosar. Robust Associations between Multi-type Compound Extreme Events and Older Adult Health. 2026-2027. $30,000 to Brown.

*NASA RI EPSCoR FY26 Seed Grant*. Co-I. J. Cooke, N. Pizzo, M. Freilich, **C. Horvat.** $35,000. 2026-2027.

### Submitted Grants

*NSF Human and Environmental Geography***.** Co-I. S. Salap-Ayca, **C. Horvat**. Space-Time Decision Support Systems for Climate Risk and Adaptation in Pacific Island Countries and Territories. $500,000 to Brown.

*NSF Arctic Program*. Testing climate model accuracy with the geologic record of Arctic sea ice. 2026-2029 JB Novak, J. Russell, Y. Huang, **C. Horvat**. $1.5m to Brown.

*NSF Antarctic Program*. PI. **C. Horvat**, A. Tavri A. Nguyen, and P. Heimbach. 2026-2029. $1.5m ($700k to Brown).

*NSF Arctic Program*. PI. **C. Horvat**, A. Siddiqui. The Arctic Sea Ice Feedback: Understanding the Source and Pathways of Sea-Ice-Related Alterations of the Arctic Ocean. $750,000 to Brown.

**Past Awarded Grants**

*NSF Arctic Program*. PI. B. Pearson, **C. Horvat**. Surface Wave-energized Mixing, Sea Ice and the Arctic Ocean. 2022-2025. $600,000. 2023-2026.

*MOSAiC International Arctic Drift Experiment*. Partner. **C. Horvat** with Hwang and Ren, Floe-scale observation and quantification of Arctic sea ice breakup and floe size during the autumn-to-summer transition (MOSAiCFSD). $0 to Brown.

*NSF Navigating the New Arctic*. Collaborator. J. Ryan, A.Lynch, L. Smith, B.Dale. Co-production of shorefast ice knowledge in Uummannaq Bay, Greenland. $830,000 to Brown. 2019-2022.

*New Zealand Antarctic Science Platform*. R. Santana, **C. Horvat**. High-resolution modeling of the Ross Sea Region. NZD$100,000 to Auckland. 2024-2025.

*NASA Proposals with ICESat-2*. PI. **C. Horvat** and E. Blanchard-Wrigglesworth. Waves in sea-ice: detection, attenuation and floe size impacts with ICESat-2. $355k ($175k to Brown). 2020-2024.

*University of Auckland*. PI. **C. Horvat.** Investigating Tropical Cyclone Impacts on People and Ecology in the South Pacific. NZD$20,000 to Auckland. 2023.

*South Pacific Commission: Public Health*. PI. **C. Horvat**, B. Kafoa, C. Forbes, A. Naus, S. Juran, C. McClain, L. McLeod. Seed Grant: Pacific Climate Futures: Impacts of Climate Change for Surgery and Healthcare Infrastructure. NZD$40,000 to Auckland. 2023

*Brown OVPR Seed Grant*. Testing sea ice models using multi-proxy reconstructions during past global warm periods. co-I with Y. Huang, B. Kim**.**
*Microsoft Climate Change AI Innovation Grants*. PI. **C. Horvat,** B. Kafoa, M. McCrystall, E. Mcleod, C. McClain. EMPIRIC_AI. US$150k to UoA. 2023-2024.

*NSF Office of Polar Programs*. Postdoctoral Fellowship: OPP-PRF: Bolstering sea ice models using novel quantitative proxy reconstructions for "warmer-than-present" Marine Isotope Stages 5 and 11. co-I with B. Kim, Y. Huang.

## SUPERVISION + GROUP (publications in brackets)

**Current:**

*Post-doctoral Researchers*
Aikaterini Tavri (Brown University) 2023-present. Postdoc.
Bingjie Zhao (Brown University) (2024-present). Postdoc.
Paul Hall (Brown University) 2021-present. Senior Research Software Engineer.
Ali Siddiqi (Brown University) 2025-present. Postdoc.

*Graduate Students*
Samantha Cheng (Brown University). 2026-present. PhD.
Abrielle Mannino (Brown University). 2025-present. PhD.
Anu Raghunathan (Brown University). 2025-present. PhD.

Kimia Mohammadnezhad (Brown University). 2024-present. PhD.
Gillian Cheong (Brown University). 2024-present. PhD.

*Undergraduate Students*
Konstantin Dichev. UTRA. 2025-present.
Dhruv Jain. UTRA. 2025-2026.
Qizhi Sun. UTRA. 2025-present.
Katie Liu. UTRA. 2025-present.
Ava Schoening. UTRA. 2026-present.
Jeffrey Gao. UTRA. 2026-present.
Brian Wei. UTRA. 2026-present.
Aydos Kitaybekov. UTRA. 2026-present.
Laken Wright. FYRE. 2026-present.
Ziqi Deng. UTRA. 2026.
Ethan Farber. UTRA. 2026-present.
Victoria Ortiz (Community College of Rhode Island). SIMCoast SURF. 2026.

**Previous:**
*Postdoctoral Researchers*
Melanie Lauer (Brown University) 2024-present. Postdoc. Now U. Frankfurt.
Sam Brenner (Brown University) 2022-present. Postdoc. Now Caltech.
Michelle McCrystall (University of Auckland) 2022-2024. Postdoc. Now lecturer, U. Maynooth.
Bum Soo Kim (Brown University) 2023-2024. Co-advised with Y. Huang. Now NASA.
Erica Rosenblum (Brown University) 2021-2023. Now Asst. Prof., University of Toronto.
Rafael Santana (University of Auckland) 2022-present. Now Coastal Scientist, NIWA.
Momme Hell (Brown University) 2021-2023. Postdoc. Now Assistant Scientist, WHOI.
Guillaume Boutin (Nansen Center) 2021-2025. Postdoc. Now Scientist, NERSC.

*Graduate Students*
Yanan Wang (University of Huddersfield, UK). 2019-2023. PhD. Now Oceans China.
Anna Lo Piccolo (Brown University). 2019-2026. Co-advised w/ B Fox-Kemper. Masters + PhD.

*Post-Bac Researchers*
Eli Winkelman (Brown University). 2024-present. Co-advised with M. McCrystall**.**

*Undergraduate Researchers*
Ashton Glover (Brown University) 2025. UTRA.
Hudson Fagan (Tufts University). 2025. DEEPS-Leadership Alliance REU.
Abrielle Mannino (Rollins College). 2024-2025. Undergraduate Research.
Allison Cavallo (Brown University). 2023-2024. Undergraduate Research.
K'vaan Valabh (University of Auckland) 2022-2024. Undergraduate Research.
Claire Taylor (ESPCI, France) 2022-2023. Undergraduate Internship.
Madelyn Stewart (Yale University) 2022-2023. Undergraduate Research.
Jordyn Hartzell (Brown University). 2021. Undergraduate Research.
Ding Wei (Brown University) 2021-2022. Undergraduate Research.
Lydia Stone (Harvey Mudd College) 2021-2023. Undergraduate Research.
Lucas Washburn (Brown University) 2020-2022. Undergraduate Research.
Poom Yoosiri (Brown University) 2022. Undergraduate Research.
Jacinta Clay (Brown University). 2018-2019. Senior Thesis.
Carlyn Chrabaszcz (Brown University). Undergraduate Research. 2019.
Jarrett Valenti (Roger Williams University). Undergraduate Research. 2019.
Radha Mastandrea (MIT). Undergraduate Research. 2016

PUBLICATIONS [Supervision italicized and underlined]

49. A. Fraser, N. Day, Z. Wang, L. Bennetts, **C. Horvat**, et al. Revealing the Antarctic marginal ice zone with a decade-long wave-in-ice climatology. Nature Communications. 2026.
48. S. Salap-Ayca, *A. Mannino*, **C. Horvat**, et al. Geospatial Data in Loss and Damage in Pacific Small Island Developing States: Insights, Gaps and Opportunities. Proceedings of PSIDS 2025, Springer Nature. 2026.
47. *E. Winkelman* [et. al.,], and **C. Horvat**. EMPIRIC_TC: A site-specific AI-based emulator for tropical cyclone hazards using Fourier Neural Operators. JAMES. 2026.
46. Langmuir Turbulence in the Arctic Ocean: Insights From a Coupled Sea Ice –Wave Model. *Aikaterini Tavri*, **Chris Horvat**, Brodie Pearson, *Guillaume Boutin*, Anne Hansen, and Ara Lee. The Cryosphere, 20(5), 3073-3089. 2026.
45. Impact of Surface Waves on Mixing and Circulation in a Summertime Lead. Ara Lee, Jennifer K. Hutchings, **Chris Horvat**, *Aikaterini Tavri,* and Brodie Pearson. The Cryosphere. 2026.
44. B. Zhao**,** **C. Horvat**, C. Pearson, D. Shah, H. Gao. Regional Variations in Drivers of Extreme Reference Evapotranspiration across the Contiguous United State. Weather Resources Research. 2025.
43. *B. Zhao*, **C. Horvat**, H. Gao. An Optimal Path Threshold Method for Rigorously Identifying Extreme Climate Events. Environmental Research Letters. 2025.
42. **C. Horvat**, E. Buckley, *M. Stewart*. Sea Ice Concentration Estimates from ICESat-2 Linear Ice Fraction. Part 2: Bias Estimation and Gridded Product Generation. The Cryosphere. 2025.
41. E. Buckley, **C. Horvat**, *P. Yoosiri*. Sea Ice Concentration Estimates from ICESat-2 Linear Ice Fraction. Part 1: Multi-sensor Comparison of Sea Ice Concentration Products. The Cryosphere. 2025.
40. *R. Santana*, *G. Boutin*, **C. Horvat**, et al., Modeling Antarctic sea ice variability using a brittle rheology. *J Adv Mod. Earth Sys*. 2025.
39. E Blanchard-Wrigglesworth, S Brenner*, M Webster, **C Horvat**, O Foss, C. Bitz. Model Biases in Simulating Extreme Sea Ice Loss Associated With the Record January 2022 Arctic Cyclone. GRL. 2024.
38. *M. Hell*, **C. Horvat**. A method for constructing directional surface wave spectra from ICESat-2 altimetry. T*he Cryosphere. 2024.*
*37. A lo Piccolo*, **C. Horvat**, B. Fox-Kemper. Energetics and transfer of submesoscale brine driven energy at a sea ice edge. J. Phys. Oceanogr. 2024.
36. *S. Brenner*, **C. Horvat,** et al. Scale-dependent air-sea exchange in the polar oceans: floe-floe and flow-flow coupling in the generation of ice-ocean boundary layer turbulence. GRL. 2023.
35. E. Natuzzi, L. McLeod, S. Taylor, **C. Horvat**, B. Kafoa. Pacific Island Hospital Infrastructure. 14th Pacific Heads of Health Meeting, Nadi, FJ. 2023.
34. P. Russell, **C. Horvat***. Extreme South Pacific Phytoplankton Blooms Induced by Tropical Cyclones. Geophys Res. Lett. 2023.
33. R. Gorman, S. Dean, L. Roach, **C. Horvat**, A Kohout. Making navigation in Antarctic waters safer through coupled wave-ice forecasting. *Australasian Coasts & Ports 2021: Te Oranga Takutai, Adapt and Thrive: Te Oranga Takutai, Adapt and Thrive*. 2022.
32. E. Blanchard-Wrigglesworth, M. Webster, L. Boisvert, C. Parker, **C. Horvat**. Record Arctic cyclone of January 2022: characteristics, impacts, and predictability. *J Climate*. 2022.
31. **C. Horvat**, S. Seabrook, A. Cristi, L. Matthes, K. Bisson. Phytoplankton Blooms Under Antarctic Sea Ice. *F. Mar. Sci.* 2022. doi: 10.3389/fmars.2022.942799
30. **C. Horvat.** Floes, the Marginal Ice Zone, and Coupled Wave-Sea-Ice Feedbacks. Proceedings of the Royal Society A. 2022. doi: 10.1098/rsta.2021.0252
*29. Y. Wang*, P. Hwang, A. Bateson, Y. Aksenov, **C. Horvat**. Summer sea ice floe size distribution in the Arctic: High-resolution optical satellite imagery and model evaluation. *The Cryosphere Discuss*. 2022. doi: 10.5194/tc-2022-130

28. *G. Boutin*, T. Williams, **C. Horvat**, L. Brodeau. Modelling of the wave-affected sea ice region using a coupled model: evaluation using ICESat-2 and potential impact on sea ice dynamics. Proceedings of the Royal Society A. 2022.
27. M. Ardyna [et al., incl **C. Horvat**]. Wildfire aerosol deposition amplifies Arctic sea-ice loss and phytoplankton production. *Nat. Comms Earth and Env*. 2022.
26. J. Brouwer, A. Fraser, D. Murphy, P. Wongpan, A. Alberello, A. Kohout, **C. Horvat**, S. Wotherspoon, R. Massom, J. Cartwright, G. Williams. Altimetric observation of wave attenuation through the Antarctic marginal ice zone using ICESat-2. The Cryosphere, 2022.
25. **C. Horvat**, L. Roach. WIFF1.0: A hybrid machine learning parameterization of Wave-Induced sea-ice Floe Fracture. Geophys. Mod. Dev. 2022.
24. **C. Horvat**. Marginal ice zone fraction benchmarks sea ice and climate model skill. *Nature Communications*. 2021. doi: 10.1038/s41467-021-22004-7
23. M. Meylan, **C. Horvat**, C. Bitz. A Floe Size Dependent Scattering Model in Two and Three dimensions for Wave Attenuation by Ice Floes. *Ocean Modeling*. 2021.
22. A. Petty [et a., incl **C. Horvat**]. Assessment of ICESat-2 sea ice surface classification with Sentinel-2 imagery: implications for freeboard and new estimates of lead and floe geometry. *Earth and Space Science*. 2021.
21. M. Ardyna [et al., incl **C. Horvat**]. Under-ice phytoplankton blooms: shedding light on the 'invisible' part of Arctic primary production. Fron. Mar. Sci. 2020.
20. **C. Horvat,** E Blanchard-Wrigglesworth, A. Petty. Observing Waves in Sea Ice with ICESAT-2. *Geophys Res. Lett*. 2020. doi: 0.1029/2020GL087629
19. K. Golden [et al., incl. **C. Horvat**]. Modeling Sea Ice. *Notices of the American Mathematical Society*. 2020.
18. E. Chassignet [et al., incl. **C. Horvat**]. Impact of horizontal resolution on global ocean-sea-ice model simulations based on the experimental protocols of the Ocean Model Intercomparison Project phase 2. *Geoscientific Model Development*. 2020. doi:10.5194/gmd-2019-374
17. S. Cooley, J. Ryan, L. Smith, **C. Horvat**, B. Pearson, et al., Coldest communities face greatest reductions in Arctic shorefast ice. *Nature Clim. Change*. 2020.
16. **C. Horvat**, D. Flocco, D. Rees Jones, L. Roach, and K. Golden. The effect of melt pond geometry on the distribution of solar energy under first-year sea ice. *Geophys. Res. Lett*. 2020. doi:10.1029/2019GL085956
15. **C. Horvat**, L. Roach, R. Tilling, B. Fox-Kemper, C. Bitz, K. Hill, C. Guider. Sea Ice Floe Size Reconstructed From Satellite Altimetry: Theory, Climatology, and Model Comparison. *The Cryosphere*. 2019. doi: 10.5194/tc-2019-134
14. L. Roach, C. Bitz, **C. Horvat**, S. Dean. Advances in modelling interactions between sea ice and ocean surface waves. *J. Adv. Mod. Earth Sys*. 2019.
13. E. Kyzivat, L. Smith , L. Pitcher , J. Fayne, S. Cooley, [et al., incl. **C. Horvat**]. A high-resolution airborne color-infrared camera water mask for the NASA ABoVE campaign. *Remote Sensing*. 2019. Doi: 10.3390/rs11182163
12. J-E. Lee, B. Fox-Kemper, **C. Horvat**, Y. Ming. The response of the East Asian monsoon to the precessional cycle: A new study using the Geophysical Fluid Dynamics Laboratory model. *Geophys. Res. Lett*. 2019. Doi: 10.1029/2019GL082661
11. A. Roberts, E. Hunke, S. Kamal, W. Lipscomb, **C. Horvat**, and W. Maslowski. A Variational Model for Sea Ice Ridging in Earth System Models, Part I: Theory. *J. Adv. Model Earth Sys*. 2019. Doi: 10.1029/2018MS001395
10. **C. Horvat** and E. Tziperman. Understanding melting due to ocean eddy heat fluxes at the edge of sea-ice floes. *Geophys. Res. Lett*. 2018. doi:10.1029/2018GL079363.
9. L. Roach, **C. Horvat**, S. Dean, and C. Bitz. An emergent sea ice floe size distribution in a global coupled ocean-sea ice model. *J. Geophys. Res. Oceans*. 2018. doi:10.1029/2017JC013692
8. C. Cuevas, N. Maffezzoli, J. Corella, A. Spolaro, P. Vallelonga, [et al., incl. **C. Horvat**]. Rapid increase in atmospheric iodine levels in the North Atlantic since the mid-20th century. *Nature Communications*, 2018. doi:10.1038/s41467-018-03756-1
7. **C. Horvat**, D. Rees Jones, S. Iams, D. Schroeder, D. Flocco, D. Feltham. Prediction and timing of

sub-ice phytoplankton blooms in the Arctic Ocean. *Science Advances*, 2017. doi:10.1126/sciadv.1601191
6. **C. Horvat** and E. Tziperman. The evolution of scaling laws in the sea ice floe size and thickness distribution. *J. Geophys. Res. Oceans*. 2017, doi:10.1002/2016JC012573
5. B. Hwang, J. Wilkinson, E. Maksym, H.C. Graber, A. Schweiger, **C. Horvat**, et al..
Winter-to-summer transition of Arctic sea ice breakup and floe size distribution in the Beaufort Sea. *Elem Sci Anth*, 2017. doi:http://doi.org/10.1525/elementa.232
4. **C. Horvat,** E. Tziperman, and J.M. Campin. Effects of the floe size distribution on ocean eddies and sea ice melting. *Geophys. Res. Lett*. 2016, doi:10.1002/2016GL069742.
3. **C. Horvat** and E. Tziperman. A prognostic model of the sea-ice floe size and thickness distribution, The Cryosphere. 2015, doi:10.5194/tc-9-2119-2015..
2. M. Tronzo, J. Barber, **C. Horvat**, et al. A three-dimensional mathematical and computational model of necrotizing enterocolitis. J. of Theor. Biology. 2013, doi:10.1016/j.jtbi.2012.11.018.
1. **C. Horvat** and M. Stoffregen. A solution to the lonely runner conjecture for almost all points. arXiv:1103.1662, 2011.

## AWARDS + HONORS

**At *Brown University***

NOAA Climate and Global Change Postdoctoral Fellowship, (2017-2019).
Voss Postdoctoral Fellowship, (2019-2021).
Royal Canadian Geographic Society Expedition of the Year, (2017).
Finalist, Brown University Innovation of the Year, (2026).

**At *Harvard University:***

Knox Memorial Fellowship, (2017-2018)
COMNAP/SCAR Antarctic Research Fellowship (2017)
Graduate Climate Conference SCRIM Fellowship, (2016)
Butler Conservation Fund Frenchboro Residency, (2016)
National Defense Science and Engineering Graduate (NDSEG) Fellowship, (2013-2016)
HUCE Graduate Consortium Fellowship (2014-2016)
Smith Fellowship in Applied Mathematics (2011-2013)

**At *University of Pittsburgh*:**

Culver Prize in Mathematics (2010)
Blumberg Award in Mathematics (2010)

## PATENTS

**US20220128357A1**. Method and system for determining a floe size distribution. Granted 2022.
**US63/877,856.** Ai-Based Method For Predicting Site-Specific Climate And Weather Estimates For Islands And/Or Coastlines. Filed September 2025.

## PROFESSIONAL SERVICE

Editor: *Geophys. Mod. Devel.*
Service on: Brown DEEPS Diversity Inclusivity Action Committee (DIAC), Auckland Dept. of Physics Equity Committee. Co-Director of Auckland Climate Physics Laboratory. Brown DEEPS Colloquium

Committee 2025-present). Brown undergraduate advising and College First-Year advising (2025-present). APMA+X postdoctoral search (2026). Honors thesis reader, B. Kao, W. Sieminski, L. Bryce (2026).
Reviewer: Cryosphere, Ann. Glaciology, Journal of Geophysical Research, Elementa, Frontiers, Ocean Modeling, Journal of Advances in Modeling Earth Systems, Journal of Physical Oceanography, Communications Earth and Environment, IEEE JSTARS, etc.
Proposals: National Science Foundation, NASA Cryosphere.
Committees: NASA ROSES Physical Oceanography, NASA Surface Water and Ocean Topography.

**As a committee member/team member:**
NASA IceSat-2 science team (2020-present).
IARPC Sea Ice Collaboration Team (2019-present).
IARPC Physical Oceanography Self-Formed Team (2019-present).
NASA cryosphere Surface Deformation and Change working group (2020-pres).
Executive Committee, Arctic in Rapid Transition (2016-2018).
Council, Assoc. Of Polar Early Career Sciences (APECS) (2016-2017)
Council, APECS U.S. Branch (2016-2017)
Associate Editor, Contributor, EGU Cryosphere Blog (2016-2018)
Expert, Applied Math and Climate Change, Science in the News (2015-present)
UCAR Member Representative, Brown University (2025-present).
CORDEX Pacific Island Flagship Pilot Study (2025-present).
US CLIVAR Small-Scale Processes Working Group (2026).
WMO Scientific Advisory Panel, workshop on AI for climate change (2026).
Leadership Alliance SR-EIP mentor (2025-present);
SIMCoast SURF mentor (2026).