Katherine (Katie) Dagon (she/her)

National Center for Atmospheric Research
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EDUCATION

Harvard University — Cambridge, MA
Ph.D., Earth and Planetary Sciences — 2017
A.M., Earth and Planetary Sciences — 2015

Brown University — Providence, RI
B.S., Mathematics-Physics — 2010

PROFESSIONAL APPOINTMENTS

National Center for Atmospheric Research — Boulder, CO
Project Scientist II, Climate and Global Dynamics — 2022-present
Project Scientist I, Climate and Global Dynamics — 2019-2022
Advanced Study Program (ASP) Postdoctoral Fellow — 2017-2019

Harvard University — Cambridge, MA
Graduate Research Assistant, Department of Earth and Planetary Sciences — 2011-2017

State of Connecticut Department of Energy and Environmental Protection — Hartford, CT
Seasonal Resource Assistant — 2010-2011

United Technologies — South Windsor, CT
NASA-UTC Internship Program — 2010

Brown University — Providence, RI
Undergraduate Research Assistant, Department of Physics — 2009-2010

AWARDS & FELLOWSHIPS

NCAR Early Career Scientists Assembly Travel Award — 2023
NCAR Accelerated Scientific Discovery Computation Award (Lead: M.J. Molina) — 2022-2023
Radiant Earth Foundation Leading Women in ML4EO — 2022
NCAR CISL Special Recognition Award for AI4ESS — 2020
Andrew Slater Award, NCAR Land Model Working Group Meeting — 2019
Earth Educators' Rendezvous Travel Grant — 2018
NCAR Advanced Study Program Postdoctoral Fellowship — 2017-2019
Presidential Management Fellowship Finalist — 2017
NCAR CESM Workshop Travel Grant — 2016
Certificate of Teaching Excellence, Bok Center for Teaching & Learning — 2014, 2016
Duff Family Endowed Graduate Support Fund, Harvard University — 2013-2014
Graduate Consortium Fellowship, Harvard University Center for the Environment — 2012-2013
Joseph J. Loferski Award, Brown University Engineering — 2010
Brown University Undergraduate Research and Teaching Award — 2009

PUBLICATIONS [*student/post-doc lead author]

Submitted

*Pérez-Carrasquilla, J.S., M.J. Molina, K.J. Mayer, **K. Dagon**, J.T. Fasullo, and I.R. Simpson (Under Review), Observed and modeled amplification of the frequency, duration, and extreme heat impacts of the Pacific trough regime, https://doi.org/10.22541/essoar.175537104.48825400/v1.

*Kim, H., F. Lehner, **K. Dagon**, D.M. Lawrence, S. Swenson, and A.W. Wood (Under Review), Constraining climate model projections with observations amplifies future runoff declines, https://doi.org/10.21203/rs.3.rs-5867679/v1.

Raoult, N., N. Douglas, N. MacBean, J. Kolassa, T. Quaife, A.G. Roberts, R. Fisher, I. Fer, C. Bacour, **K. Dagon**, *et al.* (Under Review), Parameter estimation in land surface models: challenges and opportunities with data assimilation and machine learning, https://doi.org/10.22541/essoar.172838640.01153603/v1.

Peer-Reviewed

Mayer, K.J., **K. Dagon**, and M.J. Molina (In Press), Can transfer learning be used to identify tropical state-dependent bias relevant to midlatitude subseasonal predictability?, *Artificial Intelligence for the Earth Systems*, https://doi.org/10.1175/AIES-D-24-0091.1.

Kennedy, D., **K. Dagon**, D.M. Lawrence, R.A. Fisher, B.M. Sanderson, N. Collier, *et al.* (2025), One-at-a-time parameter perturbation ensemble of the Community Land Model, version 5.1, *Journal of Advances in Modeling Earth Systems*, 17, e2024MS004715, https://doi.org/10.1029/2024MS004715.

Ullrich, P.A., E.A. Barnes, W.D. Collins, **K. Dagon**, S. Duan, J. Elms, *et al.* (2025), Recommendations for Comprehensive and Independent Evaluation of Machine Learning-Based Earth System Models, *Journal of Geophysical Research: Machine Learning and Computation*, 2, e2024JH000496, https://doi.org/10.1029/2024JH000496.

*Elkouk, A., Y. Pokhrel, B. Livneh, E. Payton, L. Luo, Y. Cheng, **K. Dagon**, S. Swenson, A.W. Wood, D.M. Lawrence, and W. Thiery (2024), Towards understanding parametric controls on runoff sensitivity to climate in the Community Land Model: A case study over the Colorado River headwaters, *Water Resources Research*, 60, e2024WR037718, https://doi.org/10.1029/2024WR037718.

*Zarakas, C.M., D. Kennedy, **K. Dagon**, D.M. Lawrence, A. Liu, G. Bonan, C. Koven, D. Lombardozzi, and A.L.S. Swann (2024), Land processes can substantially impact the mean climate state, *Geophysical Research Letters*, 51, e2024GL108372, https://doi.org/10.1029/2024GL108372.

Eyring, V., W.D. Collins, P. Gentine, E.A. Barnes, M. Barreiro, T. Beucler, M. Bocquet, C.S. Bretherton, H.M. Christensen, **K. Dagon**, *et al.* (2024), Pushing the frontiers in climate modelling and analysis with machine learning, *Nature Climate Change*, 14, 916-928, https://doi.org/10.1038/s41558-024-02095-y.

Molina, M.J., T.A. O'Brien, G. Anderson, M. Ashfaq, K.E. Bennett, W.D. Collins, **K. Dagon**, J.M. Restrepo, and P.A. Ullrich (2023), A review of recent and emerging machine learning applications for climate variability and weather phenomena, *Artificial Intelligence for the Earth Systems*, 2, 220086, https://doi.org/10.1175/AIES-D-22-0086.1.

*Touma, D., J.W. Hurrell, M. Tye, and **K. Dagon** (2023), The impact of stratospheric aerosol injection on extreme fire weather risk, *Earth's Future*, 11, e2023EF003626, https://doi.org/10.1029/2023EF003626.

Molina, M.J., J.H. Richter, A.A. Glanville, **K. Dagon**, J. Berner, A. Hu, and G.A. Meehl (2023), Subseasonal representation and predictability of North American weather regimes using cluster analysis, *Artificial Intelligence for the Earth Systems*, 2, e220051, https://doi.org/10.1175/AIES-D-22-0051.1.

*Cheng, Y., K. Musselman, S. Swenson, D. Lawrence, J. Hamman, **K. Dagon**, D. Kennedy, and A.J. Newman (2023), Moving land models towards more actionable science: A novel application of the Community Terrestrial Systems Model across Alaska and the Yukon River Basin, *Water Resources Research*, 59, e2022WR032204, https://doi.org/10.1029/2022WR032204.

Dagon, K., J. Truesdale, J.C. Biard, K.E. Kunkel, G.A. Meehl, and M.J. Molina (2022), Machine learning-based detection of weather fronts and associated extreme precipitation in historical and future climates, *Journal of Geophysical Research: Atmospheres*, 127, e2022JD037038, https://doi.org/10.1029/2022JD037038.

Tye, M.R., **K. Dagon**, M.J. Molina, J.H. Richter, D. Visioni, B. Kravitz, and S. Tilmes (2022), Indices of Extremes: Geographic patterns of change in extremes and associated vegetation impacts under climate intervention, *Earth System Dynamics*, 13, 1233-1257, https://doi.org/10.5194/esd-13-1233-2022.

Ali, A.A., Y. Fan, M.D. Corre, M.M. Kotowska, E. Preuss-Hassler, A.N. Cahyo, F.E. Moyano, C. Stiegler, A. Röll, A. Meijide, A. Olchev, A. Ringeler, C. Leuschner, R. Ariani, T. June, S. Tarigan, H. Kreft, D. Hölscher, C. Xu, C.D. Koven, **K. Dagon**, R.A. Fisher, E. Veldkamp, and A. Knohl (2022), Implementing a new rubber plant functional type in the Community Land Model (CLM5) improves accuracy of carbon and water flux estimation, *Land*, 11, 183, https://doi.org/10.3390/land11020183.

Prabhat, K. Kashinath, M. Mudigonda, S. Kim, L. Kapp-Schwoerer, A. Graubner, E. Karaismailoglu, L. von Kleist, T. Kurth, A. Greiner, K. Yang, C. Lewis, J. Chen, A. Lou, S. Chandran, B. Toms, W. Chapman, **K. Dagon**, C.A. Shields, T. O'Brien, M. Wehner, and W. Collins (2021), ClimateNet: an expert-labelled open dataset and Deep Learning architecture for enabling high-precision analyses of extreme weather, *Geoscientific Model Development*, 14, 107-124, https://doi.org/10.5194/gmd-14-107-2021.

Dagon, K., B.M. Sanderson, R.A. Fisher, D.M. Lawrence (2020), A machine learning approach to emulation and biophysical parameter estimation with the Community Land Model, version 5, *Advances in Statistical Climatology, Meteorology and Oceanography*, 6, 223-244, https://doi.org/10.5194/ascmo-6-223-2020.

Xu, Y., L. Lin, S. Tilmes, **K. Dagon**, L. Xia, C. Diao, W. Cheng, Z. Wang, I. Simpson, and L. Burnell (2020), Climate engineering to mitigate the projected 21st-century terrestrial drying of the Americas: a direct comparison of carbon capture and sulfur injection, *Earth System Dynamics*, 11, 673-695, https://doi.org/10.5194/esd-11-673-2020.

*Cheng, W., D.G. MacMartin, **K. Dagon**, B. Kravitz, S. Tilmes, J.H. Richter, M.J. Mills, and I.R. Simpson (2019), Soil moisture and other hydrological changes in a stratospheric aerosol geoengineering large ensemble, *Journal of Geophysical Research: Atmospheres*, 124, 12773-12793, https://doi.org/10.1029/2018JD030237.

Kravitz, B., D.G. MacMartin, S. Tilmes, J.H. Richter, M.J. Mills, W. Cheng, **K. Dagon**, A.S. Glanville, J.-F. Lamarque, I.R. Simpson, J.J. Tribbia, and F. Vitt (2019), Comparing surface and stratospheric impacts of geoengineering with different SO_2 injection strategies, *Journal of Geophysical Research: Atmospheres*, 124, 7900-7918, http://dx.doi.org/10.1029/2019JD030329.

Dagon, K., and D.P. Schrag (2019), Quantifying the effects of solar geoengineering on vegetation, *Climatic Change*, 153, 235-251, http://dx.doi.org/10.1007/s10584-019-02387-9.

Dagon, K., and D.P. Schrag (2017), Regional climate variability under model simulations of solar geoengineering, *Journal of Geophysical Research: Atmospheres*, 122, 12106-12121, http://dx.doi.org/10.1002/2017JD027110.

Dagon, K., and D.P. Schrag (2016), Exploring the effects of solar radiation management on water cycling in a coupled land-atmosphere model, *Journal of Climate*, 29, 2635-2650, http://dx.doi.org/10.1175/JCLI-D-15-0472.1.

Tobias, S.M., **K. Dagon**, and J.B. Marston (2011), Astrophysical fluid dynamics via direct statistical simulation, *The Astrophysical Journal*, 727, 127, http://dx.doi.org/10.1088/0004-637X/727/2/127.

Non Peer-Reviewed

Mayer, K.J., **K. Dagon**, and M.J. Molina (2023), Identifying Tropical State-Dependent Bias Relevant to Midlatitude Subseasonal Predictability with Explainable Neural Networks, *Subseasonal-to-Seasonal Prediction Project Newsletter*, No. 23, http://s2sprediction.net/file/newsletter/Newsletter%2023_Aug%202023.pdf.

Molina, M.J., T.A. O'Brien, G. Anderson, M. Ashfaq, K.E. Bennett, W. Collins, S. Collis, **K. Dagon**, S. Klein, J.M. Restrepo, and P.A. Ullrich (2022), Climate Variability and Extremes, in Hickmon, N.L., C. Varadharajan, F.M. Hoffman, S. Collis, and H.M. Wainwright (Eds.), *Artificial Intelligence for Earth System Predictability (AI4ESP) Workshop Report*, https://doi.org/10.2172/1888810.

Dagon, K., M.J. Molina, *et al.* (2021), Machine learning to extend and understand the sources and limits of water cycle predictability on subseasonal-to-decadal timescales in the Earth system, DOE EESSD White Paper on AI4ESP, https://doi.org/10.2172/1769744.

INVITED TALKS & SEMINARS

- LEAP Summer Lectures in Climate Data Science, virtual, July 2025
- NCAR CISL Collaborate and Connect Talk, Boulder, CO, May 2024
- CU Boulder Earth Lab Earth Data Science Seminar, Boulder, CO, December 2023
- Univ. of Wyoming Department of Atmospheric Science Seminar, Laramie, WY, November 2023
- Univ. of Washington Department of Atmospheric Sciences Colloquium, Seattle, WA, November 2023
- ARC Centre of Excellence for Climate Extremes Attribution and Risk Webinar, virtual, April 2023
- Colorado School of Mines Women Earth Data Scientists Day Keynote, Golden, CO, April 2023
- NCAR CGD Seminar Series [joint with D. Kennedy], Boulder, CO, February 2023
- DOE Rubisco SFA Biogeochemistry Science Friday Webinar, virtual, November 2021
- Lewis University Department of Physics Weisenthal Colloquium Series, virtual, February 2021
- Lawrence Berkeley National Laboratory NERSC Seminar, Berkeley, CA, November 2019
- Penn State Dept. of Meteorology and Atmos. Sci. Colloquium, State College, PA, February 2019
- American University Department of Environmental Science, Washington, DC, February 2019
- Indiana Univ. Dept. of Earth and Atmospheric Sciences Colloquium, Bloomington, IN, January 2019
- Pennsylvania State University Department of Geography Seminar, State College, PA, January 2019
- Univ. of Washington Department of Atmospheric Sciences Seminar, Seattle, WA, July 2018

SELECTED CONFERENCE & WORKSHOP PRESENTATIONS [*invited]

Land Modeling with Machine Learning, *U.S. CLIVAR Summit*, Boulder, CO, July 2025 (*talk).

Machine Learning-Based Detection of Atmospheric Rivers and Regional Climate Impacts, *Gordon Research Conference on Machine Learning for Actionable Climate Science*, Smithfield, RI, June 2025 (poster).

Modeling the Climate Impacts of Solar Geoengineering on Land-Atmosphere Interactions, *CIREQ-CIRANO Interdisciplinary Day on Geoengineering*, virtual, April 2024 (*talk).

Systematic Parameter Calibration with Machine Learning-Based Emulation of a Global Land Model, *SIAM Conference on Uncertainty Quantification*, Trieste, Italy, February 2024 (*talk).

Building an Inclusive Earth System Data Science Community at NCAR/UCAR, *American Geophysical Union Fall Meeting*, San Francisco, CA, December 2023 (poster).

AI and Machine Learning for Climate Science and Modeling, *NSF Research Infrastructure Workshop*, virtual, June 2023 (*talk & panel).

Objective Calibration of Land Models, *American Meteorological Society Annual Meeting*, Denver, CO, January 2023 (*talk).

Machine Learning-Based Detection of Weather Fronts and Associated Extreme Precipitation in Historical and Future Climates, *American Geophysical Union Fall Meeting*, Chicago, IL, December 2022 (talk).

Changes in Extremes and Associated Vegetation Impacts under Climate Intervention, *Gordon Research Conference on Climate Engineering*, Newry, ME, June 2022 (poster).

Objective Calibration of Land Models, *Aspen Global Change Institute Workshop on Exploring the Frontiers in Earth System Modeling with Machine Learning and Big Data*, Aspen, CO, June 2022 (*talk).

NCAR Earth System Data Science, *NASEM Machine Learning and Artificial Intelligence to Advance Earth System Science Workshop*, virtual, February 2022 (*talk & panel), https://doi.org/10.5281/zenodo.6048010.

Machine Learning-Based Feature Detection to Associate Precipitation Extremes with Synoptic Weather Events, *American Geophysical Union Fall Meeting*, virtual, December 2021 (*talk).

Grand Challenges in AI4ESP: A Climate Modeling Perspective, *DOE Artificial Intelligence for Earth System Predictability (AI4ESP) Workshop*, virtual, November 2021 (*plenary).

Machine Learning and Earth System Modeling: From Parameter Calibration to Feature Detection, *Kavli Institute for Theoretical Physics Machine Learning for Climate Conference*, Santa Barbara, CA, November 2021 (*talk), https://doi.org/10.26081/K6334B.

Machine Learning-Based Feature Detection to Associate Precipitation Extremes with Synoptic Weather Events, *2nd Workshop on Knowledge Guided Machine Learning*, virtual, August 2021 (*talk).

Applying Machine Learning to Associate Precipitation Extremes with Synoptic-Scale Weather Events, *American Geophysical Union Fall Meeting*, virtual, December 2020 (talk).

Bayesian Calibration with Neural Network-Based Emulation of a Land Model, *American Geophysical Union Fall Meeting*, virtual, oral presentation, December 2020 (*talk).

A Machine Learning Approach to Quantify Land Model Parameter Uncertainty, *American Geophysical Union Fall Meeting*, San Francisco, CA, December 2019 (talk).

Machine Learning for Parameter Estimation in CLM5, *CESM Land Model Working Group Meeting*, Boulder, CO, February 2019 (talk).

Reducing Uncertainty in Land Surface Models, *American Geophysical Union Fall Meeting*, Washington, DC, December 2018 (talk).

Moving Towards a Global Biogeophysical Parameter Optimization for CLM5, *Community Earth System Model Workshop*, Boulder, CO, June 2018 (talk).

Effects of Solar Geoengineering on Vegetation: Implications for Biodiversity and Conservation, *American Geophysical Union Fall Meeting*, New Orleans, LA, December 2017 (talk).

Regional Climate Variability under Model Simulations of Solar Geoengineering, *Gordon Research Conference on Climate Engineering*, Newry, ME, July 2017 (poster).

Soil Moisture-Climate Coupling under Model Simulations of Solar Geoengineering, *Community Earth System Model Workshop,* Breckenridge, CO, June 2016 (talk).

Exploring the Effects of Solar Radiation Management on Water Cycling in a Coupled Land-Atmosphere Model, *Graduate Climate Conference*, Woods Hole, MA, November 2015 (talk).

OPEN DATA & CODE

Silwimba, K., L.R. Hawkins, **K. Dagon**, and D. Kennedy (2025), Global Total Projected Leaf Area Index Subset from the Community Land Model Version 5 (CLM5) Perturbed Parameter Ensemble Members, 1850-2015, Zenodo, https://doi.org/10.5281/zenodo.15170936.

Dagon, K. (2023), Machine learning-based detection of weather fronts with DL-FRONT in CESM1.3, Zenodo, https://doi.org/10.5281/zenodo.8306870.

Tye, M.R., and **K. Dagon** (2023), Data from: Indices of Extremes: Geographic patterns of change in extreme temperature and precipitation under climate intervention, Zenodo, https://doi.org/10.5281/zenodo.7552538.

Dagon, K., and M.J. Molina (2022), katiedagon/ML-extremes: Publication release (v1.0), Zenodo, https://doi.org/10.5281/zenodo.7126839.

Dagon, K., J. Truesdale, N. Rosenbloom, and S. Bates (2022), Machine learning-based detection of weather fronts and associated extreme precipitation in CESM1.3, NSF National Center for Atmospheric Research, https://doi.org/10.5065/q6t7-ta06.

Dagon, K. (2020), katiedagon/CLM5_ParameterUncertainty: Publication release (v1.0), Zenodo, https://doi.org/10.5281/zenodo.4302690.

Dagon, K. (2020), CLM5 Perturbed Parameter Ensembles, Zenodo, https://doi.org/10.5065/9bcc-4a87.

TEACHING

Tutorials and Workshops

- Community Earth System Model Tutorial, virtual, August 2021
- AGU Tutorial on Machine Learning and Deep Learning, virtual, December 2020
- Artificial Intelligence for Earth System Science (AI4ESS) Summer School, virtual, June 2020
- Community Terrestrial Systems Model Tutorial, Boulder, CO, February 2019

Guest Lectures

- "Climate Modeling Research at NCAR," Undergraduate/Graduate Environmental Journalism course, University of Colorado Boulder, Boulder, CO, April 2023
- "Modeling Land-Atmosphere Interactions in a Changing Climate," Masters of the Environment Graduate Program, University of Colorado Boulder, virtual, May 2021
- "Research on Climate Science and Modeling," Undergraduate Groundwater Hydrology course, Oglala Lakota Tribal College, virtual, April 2020

Teaching Assistantships

- The Consequences of Energy Systems (graduate), Department of Earth and Planetary Sciences, Harvard University, Fall 2015 and 2016
- The Climate-Energy Challenge (undergraduate), Department of Earth and Planetary Sciences, Harvard University, Fall 2014, 2015, and 2016
- The Fluid Earth (undergraduate), Department of Earth and Planetary Sciences, Harvard University, Spring 2013
- Introductory Calculus (undergraduate), Department of Mathematics, Brown University, Fall 2009

MENTORING

Ph.D. Committees

- Jhayron Steven Pérez-Carrasquilla, University of Maryland, 2023-present
- Hossein Kaviani, University of Virginia, 2023-2024
- John Landy, Stony Brook University, 2022-2025

Research Mentoring

- Sudhanshu Kumar, PhD student, Auburn University, LEAP Momentum Fellow, Summer 2025
- Isabella Lu, Undergraduate, Columbia University, LEAP REU Research Mentor, Summer 2025
- Sarah Ryu, Undergraduate UC Berkeley, LEAP REU Research Mentor, Summer 2025
- Jhayron Steven Pérez-Carrasquilla, PhD student, University of Maryland, NCAR ASP GVP Host, Summer 2024
- Kachinga Silwimba, PhD student, Boise State University, NCAR ASP GVP Co-Host, Spring 2024
- Hossein Kaviani, PhD student, University of Virginia, PhD Plus Research Mentor, Fall 2023

- Mark Irby-Gill, Undergraduate, Red Rocks Community College, UCAR SOARS/LEAP REU Research Mentor, Summer 2023
- Rebecca Porter, Undergraduate, University of Saint Mary, UCAR SOARS/LEAP REU Research Mentor, Summer 2023
- Linnia Hawkins, Postdoctoral Fellow, NCAR/Columbia, Research Mentor, 2022-2024
- Kirsten Mayer, Postdoctoral Fellow, NCAR, Research Mentor, 2022
- Tariq Walker, Undergraduate, Kennesaw State University, UCAR SOARS Writing Mentor, Summer 2021
- Gavin Blair, Kingston High School, Science Research Mentor, 2020-2021
- Lilly Jones, PhD student, South Dakota School of Mines & Technology, UCAR Next Generation Fellowship Research Mentor, 2019-2020
- William Meyers, Carmel High School, Science Research Mentor, 2019
- Sung Min Kim, Undergraduate, Cornell University, UCAR SOARS Community Mentor, Summer 2018
- Catarina Do, Undergraduate, Harvard College, WISTEM Mentor, 2016-2017
- Victoria Garito, Briarcliff High School, Intel Science Research Program Mentor, 2014-2015

Mentoring Programs

- Harvard Earth and Planetary Sciences Graduate Peer Mentoring, 2011-2015
- Harvard Graduate Women in Science and Engineering Mentoring Program, 2011-2013
- Brown University Women's Launch Pad Mentoring Program, 2009-2010

ACADEMIC SERVICE & LEADERSHIP

- Discussion Leader, Gordon Research Conference on Machine Learning for Actionable Climate Science, 2025
- NCAR AI Roadmap Working Group, 2025-present
- Session Organizer, Machine Learning Cross Working Group, CESM Workshop, 2025
- CalLMIP Organizing Committee, 2025-present
- NCAR CGD Communications Committee, 2024-present
- Rapporteur, ICAMS AI/ML Workshop, 2024
- Nucleus Team, International Summit to Consider a Special-Purpose Computational System for Frontier Earth System Science and Climate Simulation & Projection, 2024
- Leadership Committee, NCAR Earth System Data Science (ESDS) Initiative, 2020-2024
- Discussion Leader, Gordon Research Conference on Climate Engineering, 2024
- Session Convener, Perturbed Parameter Ensembles for Understanding Processes and Quantifying Uncertainty in Earth System Models, AGU Fall Meeting, 2023-2024
- Session Organizer, Parameter Estimation Cross Working Group, CESM Workshop, 2023
- Co-Chair, Gordon Research Seminar on Climate Engineering, 2022
- Session Co-Lead, Climate Variability and Extremes, DOE AI4ESP Workshop, 2021
- Session Organizer, Machine Learning Cross Working Group, CESM Workshop, 2021
- Panelist, ASP Postdocs Writing a Research Statement Workshop, 2021
- Coordinator, NCAR Climate and Global Dynamics Seminar Series, 2020-2021
- Executive Committee, Topical Group on Physics of Climate, American Physical Society, 2019-2021
- Postdoctoral Fellows Networking Committee, National Center for Atmospheric Research, 2017-2019
- Program Committee, Topical Group on Physics of Climate, American Physical Society, 2017-2018
- Organizer, Plants and Climate Seminar Series, Harvard University, 2015-2016
- Organizing Committee, Fourth Interdisciplinary Summer School on Geoengineering, Harvard University, 2013
- *Journal Reviewer:* Artificial Intelligence for the Earth Systems, Atmospheric Chemistry and Physics, Biogeosciences, Earth's Future, Earth System Dynamics, Environmental Data Science, Geophysical Research Letters, Geoscientific Model Development, Journal of Advances in Modeling Earth Systems, Journal of Hydrometeorology, Scientific Data

- *Proposal Reviewer:* The Degrees Initiative DECIMALS Fund and Modelling Fund, NSF Climate and Large-Scale Dynamics Program

PUBLIC ENGAGEMENT

- UCAR Center for Science Education Workshop for Denver Public Schools, 2025
- CU Boulder Investigate Careers in the Environment talk, Boulder, CO, 2022
- American Physical Society Congressional Visits Day, virtual, 2021
- WOW Children's Museum Girls in Science Night, Lafayette, CO, 2020
- NCAR Traveling Climate Exhibit Scientific Team, Boulder, CO, 2019
- USA Science and Engineering Festival, Washington, DC, 2018
- Project Bridge Colorado Science Day at the State Capitol, Denver, CO, 2018
- NCAR Super Science Saturday, Boulder, CO, 2017-2019
- There's a Scientist in My Classroom! Guest Lecturer, Danvers, MA, 2014
- Science in the News Event Organizer and Lecturer, Boston, MA, 2013-2016

SCIENCE WRITING

Analyzing and visualizing CAM-SE output in Python, *NCAR ESDS Blog*, 15 August 2023, https://ncar.github.io/esds/posts/2023/cam-se-analysis.

Sparse arrays and the CESM land model component, *NCAR ESDS Blog*, 24 February 2022, https://ncar.github.io/esds/posts/2022/sparse-PFT-gridding.

Engineering the Earth to Fight Climate Change, *Science in the News Blog*, 25 October 2016, http://sitn.hms.harvard.edu/flash/2016/engineering-earth-fight-climate-change.

Climate Change 2016: Make America Hot Again, *Science in the News Blog*, 9 August 2016, http://sitn.hms.harvard.edu/flash/2016/climate-change-2016-make-america-hot.

Science by the Pint, *The Plainspoken Scientist*, Student Blog Series, 18 July 2016, http://blogs.agu.org/sciencecommunication/2016/07/18/science-by-the-pint.

Pausing to Talk About Climate Change, *Science in the News Blog*, Special Edition on Climate Change, 30 June 2014, http://sitn.hms.harvard.edu/flash/2014/pausing-to-talk-about-climate-change.

MEDIA

"How Would SRM Affect Plants?" Reviewer, *SRM360*, 13 February 2025, https://srm360.org/article/how-would-srm-affect-plants.

"Understanding the Dynamic Climate System," Interviewee, *APS News*, May 2020, https://www.aps.org/publications/apsnews/202005/climate.cfm.

"Space Mirrors and Other Weird Ways to Fight Climate Change," Scientific Consultant, *ACS Reactions and PBS Digital Studios*, 25 September 2019, https://www.youtube.com/watch?v=9agoVDFJs8A.

"Ice Drove Past Indo-Pacific Climate Variance," Interviewee, *AGU EOS*, 2 April 2019, https://doi.org/10.1029/2019EO119709.

"A Disappointing New Problem With Geo-Engineering," Interviewee, *The Atlantic*, 8 August 2018, https://www.theatlantic.com/science/archive/2018/08/solar-geo-engineering-cant-save-the-worlds-crops/567017.

"Cow Burps are Warming the Planet," Scientific Consultant, *ACS Reactions and PBS Digital Studios*, 20 March 2018, https://www.youtube.com/watch?v=MnRFUSGz_ZM.

"Big Solutions for Big Problems," Interviewee, *Building a Greener Idaho Radio Show*, 31 August 2017, https://bgidaho.wordpress.com/2017/08/31/big-solutions-for-big-problems.

PROFESSIONAL DEVELOPMENT

- NCAR Early Career Leadership Program, Boulder, CO, 2023
- NVIDIA/NCAR GPU Hackathon, Boulder, CO, 2023

- Diversity, Equity, Inclusion & Belonging Foundational Training, Strata RMK, virtual, 2022
- UCAR/NCAR Equity and Inclusion (UNEION) 201 Training Series, virtual, 2020-2021
- Earth Science Women's Network Leadership Workshop, Boulder, CO, 2019
- Rising Voices 7 Workshop: Building relationships and practices for intercultural science, NCAR, Boulder, CO, 2019
- UCAR/NCAR Equity and Inclusion (UNEION) 101 Training Series, Boulder, CO, 2018
- Earth Educators' Rendezvous Preparing for an Academic Career Workshop, University of Kansas, Lawrence, KS, 2018
- Low Environmental Impact Solar Radiation Management Experiments Workshop, Institute for Advanced Sustainability Studies, Potsdam, Germany, 2016
- Active Learning in the Sciences Teaching Seminar, Derek Bok Center for Teaching and Learning, Cambridge, MA, 2015
- Community Land Model (CLM) Tutorial, NCAR, Boulder, CO, February 2014
- ComSciCon-local Communicating Science Workshop, Harvard University, Cambridge, MA, 2014
- Harvard Graduate Consortium on Energy and Environment, Cambridge, MA, 2012-2015
- Global Climate Coalition at UNFCCC COP15, University of Copenhagen, Copenhagen, Denmark, 2009

PROFESSIONAL AFFILIATIONS

American Geophysical Union, Earth Science Women's Network, 500 Women Scientists

TECHNICAL SKILLS

Languages: Bash, Fortran, HTML, LaTeX
Modeling Tools: NetCDF, HPC, Machine Learning, NCAR CESM/CLM
Development Tools: Git/GitHub, Conda, Jupyter Notebooks
Scientific Visualization & Analysis: Python, NCL/NCO, R, Keras, TensorFlow, PyTorch