## Zachary M. Labe

CONTACT
<b>INFORMATION</b>

Climate Central One Palmer Square, Suite 402 Princeton, NJ 08542, USA **1.609.924.3800** 

oxdots zlabe@climatecentral.org

https://zacklabe.com/

orcid.org/0000-0002-6394-7651

#### RESEARCH INTERESTS

large-scale climate variability • teleconnections • explainable AI • Arctic sea ice • data science methods • large ensembles • decadal prediction • extremes

#### **EDUCATION**

University of California, Irvine, Irvine, CA

Ph.D. in Earth System Science, June 2020

University of California, Irvine, Irvine, CA

M.Sc. in Earth System Science, December 2017

Cornell University, Ithaca, NY

B.Sc. in Atmospheric Science, May 2015, *Distinction in Research* Minor: Dyson Business Minor for Life Sciences

#### RESEARCH EMPLOYMENT

2025-Present	Climate Scientist
	Climate Central, Inc.
2024-2025	Research Physical Scientist (NOAA Federal)
	Geophysical Fluid Dynamics Laboratory (GFDL), Seasonal-to-Decadal Variability and Predictability Division
2024	Associate Research Scholar
	Princeton University AOS/CIMES and NOAA GFDL
2022-2024	Postdoctoral Research Associate
	Advisors: Drs. Thomas Delworth and Nathaniel Johnson, Princeton University AOS/CIMES and NOAA GFDL
2020-2022	Postdoctoral Researcher
	Advisor: Dr. Elizabeth Barnes, Atmospheric Science, Colorado State University
2015-2020	Graduate Research Assistant
	Advisor: Dr. Gudrun Magnusdottir, Earth System Science, University of California, Irvine
2014-2015	Undergraduate Research Assistant
	Advisor: Dr. Toby Ault, Earth and Atmospheric Science,

Cornell University

#### **PUBLICATIONS**

#### Refereed/Peer-Reviewed

- [33] Timmermans, M.-L. and **Z.M. Labe** (2024). Sea surface temperature [in "Arctic Report Card 2024"], *NOAA*, DOI:10.25923/9z96-aq19. [Article]
- [32] Kalashnikov, D.A., F.V. Davenport, **Z.M. Labe**, P.C. Loikith, J.T. Abatzoglou, and D. Singh (2024). Predicting cloud-to-ground lightning in the Western United States from the large-scale environment using explainable neural networks. *Journal of Geophysical Research: Atmospheres*, DOI:10.1029/2024JD042147. [Article]
- [31] Vanek S.B., **Z.M. Labe**, O. Lauter, K. Shionalyn, M.A. Shadab, E. Adasheva, A. Margevich, M.N. Schaberg, L. Ashokkumar, and J.N. Naoukin (2024). Exploring the past, present, and future of USAPECS: Lessons from a decade of supporting early career research across national and international polar networks. *Arctic Yearbook*, ISSN 2298-2418. [Article]
- [30] Labe, Z.M., T.L. Delworth, N.C. Johnson, and W.F. Cooke (2024). Exploring a data-driven approach to identify regions of change associated with future climate scenarios. *Journal of Geophysical Research: Machine Learning and Computation*, DOI:10.1029/2024JH000327. [Article]
- [29] Schreck III, C.M., D.R. Easterling, J.J. Barsugli, D.A. Coates, A. Hoell, N.C. Johnson, K.E. Kunkel, Z.M. Labe, J. Uehling, R.S. Vose, and X. Zhang (2024). A rapid response process for evaluating causes of extreme temperature events in the United States: the 2023 Texas/Louisiana heat wave as a prototype. *Environmental Research: Climate*, DOI:10.1088/2752-5295/ad8028. [Article]
- [28] Kretschmer, M., A. Jézéquel, **Z.M. Labe**, and D. Touma (2024). A shifting climate: new paradigms and challenges for (early career) scientists in extreme weather research. *Atmospheric Science Letters*, DOI:10.1002/asl.1268. [Article]
- [27] Timmermans, M.-L. and **Z.M. Labe** (2024). [The Arctic] Sea surface temperature [in "State of the Climate in 2023"]. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-24-0101.1. [Article]
- [26] Bushuk, M., S. Ali, D. Bailey, Q. Bao, L. Batte, U.S. Bhatt, E. Blanchard-Wrigglesworth, E. Blockley, G. Cawley, J. Chi, F. Counillon, P. Goulet Coulombe, R. Cullather, F.X. Diebold, A. Dirkson, E. Exarchou, M. Gobel, W. Gregory, V. Guemas, L. Hamilton, B. He, S. Horvath, M. Ionita, J. E. Kay, E. Kim, N. Kimura, D. Kondrashov, **Z.M. Labe**, W. Lee, Y.J. Lee, C. Li, X. Li, Y. Lin, Y. Liu, W. Maslowski, F. Massonnet, W.N. Meier, W.J. Merryfield, H. Myint, J.C. Acosta Navarro, A. Petty, F. Qiao, D. Schroder, A. Schweiger, Q. Shu, M. Sigmond, M. Steele, J. Stroeve, N. Sun, S. Tietsche, M. Tsamados, K. Wang, J. Wang, W. Wang, Y. Wang, Y. Wang, J. Williams, Q. Yang, X. Yuan, J. Zhang, and Y. Zhang (2024). Predicting September Arctic sea ice: A multi-model seasonal skill comparison. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-23-0163.1. [Article]
- [25] Zhang, Y., B.M. Ayyub, J.F. Fung, and Z.M. Labe (2024). Incorporating extreme event attribution into climate change adaptation for civil infrastructure: Methods, benefits, and research needs. *Resilient Cities and Structures*, DOI:10.1016/ j.rcns.2024.03.002. [Article]
- [24] Labe, Z.M., N.C. Johnson, and T.L Delworth (2024). Changes in United States summer temperatures revealed by explainable neural networks. *Earth's Future*, DOI:10.1029/2023EF003981. [Article] [GFDL Bulletin: Research Highlights]
- [23] Timmermans, M.-L. and **Z.M. Labe** (2023). Sea surface temperature [in "Arctic Report Card 2023"], *NOAA*, DOI:10.25923/e8jc-f342. [Article]
- [22] Timmermans, M.-L. and **Z.M. Labe** (2023), [The Arctic] Sea surface temperature [in "State of the Climate in 2022"]. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-23-0079.1. [Article]

- [21] Eischeid, J.K., M.P. Hoerling, X.-W. Quan, A. Kumar, J. Barsugli, Z.M. Labe, K.E. Kunkel, C.J. Schreck III, D.R. Easterling, T. Zhang, J. Uehling, and X. Zhang (2023). Why has the summertime central U.S. warming hole not disappeared? *Journal of Climate*, DOI:10.1175/JCLI-D-22-0716.1. [Article]
- [20] Witt, J.K., **Z.M. Labe**, A.C. Warden, and B.A. Clegg (2023). Visualizing Uncertainty in Hurricane Forecasts with Animated Risk Trajectories. *Weather, Climate, and Society*, DOI:10.1175/WCAS-D-21-0173.1. [Article]
- [19] **Labe, Z.M.**, E.A. Barnes, and J.W. Hurrell (2023). Identifying the regional emergence of climate patterns in the ARISE-SAI-1.5 simulations. *Environmental Research Letters*. DOI:10.1088/1748-9326/acc81a. [Article]
- [18] Timmermans, M.-L. and **Z.M. Labe** (2022). Sea surface temperature [in "Arctic Report Card 2022"], *NOAA*, DOI:10.25923/p493-2548. [Article]
- [17] Po-Chedley, S., J.T. Fasullo, N. Siler, **Z.M. Labe**, E.A. Barnes, C.J.W. Bonfils, and B.D. Santer (2022). Internal variability and forcing influence model-satellite differences in the rate of tropical tropospheric warming. *Proceedings of the National Academy of Sciences*, DOI:10.1073/pnas.2209431119. [Article]
- [16] Witt, J.K., Z.M. Labe, and B.A. Clegg (2022). Comparisons of perceptions of risk for visualizations using animated risk trajectories versus cones of uncertainty. Proceedings of the Human Factors and Ergonomics Society Annual Meeting, DOI:10.1177/1071181322661308. [Article]
- [15] Timmermans, M.-L. and **Z.M. Labe** (2022), [The Arctic] Sea surface temperature [in "State of the Climate in 2021"]. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-22-0082.1. [Article]
- [14] **Labe, Z.M.** and E.A. Barnes (2022), Comparison of climate model large ensembles with observations in the Arctic using simple neural networks. *Earth and Space Science*, DOI:10.1029/2022EA002348. [Article]
- [13] **Labe, Z.M.** and E.A. Barnes (2022), Predicting slowdowns in decadal climate warming trends with explainable neural networks. *Geophysical Research Letters*, DOI:10.1029/2022GL098173. [Article] [DOE Research Highlight]
- [12] Timmermans, M.-L. and **Z.M. Labe** (2021). Sea surface temperature [in "Arctic Report Card 2021"], *NOAA*, DOI:10.25923/2y8r-Oe49. [Article]
- [11] Timmermans, M.-L. and **Z.M. Labe** (2021), [The Arctic] Sea surface temperature [in "State of the Climate in 2020"]. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-21-0086.1. [Article]
- [10] **Labe, Z.M.** and E.A. Barnes (2021), Detecting climate signals using explainable Al with single-forcing large ensembles. *Journal of Advances in Modeling Earth Systems*, DOI:10.1029/2021MS002464. [Article]
- [9] Peings, Y., **Z.M. Labe**, and G. Magnusdottir (2021), Are 100 ensemble members enough to capture the remote atmospheric response to +2°C Arctic sea ice loss? *Journal of Climate*, DOI:10.1175/JCLI-D-20-0613.1. [Article] [CLIVAR]
- [8] Timmermans, M.-L. and **Z.M. Labe** (2020). Sea surface temperature [in "Arctic Report Card 2020"], *NOAA*, DOI:10.25923/v0fs-m920. [Article]
- [7] Timmermans, M.-L., **Z.M. Labe**, and C. Ladd (2020), [The Arctic] Sea surface temperature [in "State of the Climate in 2019"]. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-20-0086.1. [Article]
- [6] **Labe, Z.M.**, Y. Peings, and G. Magnusdottir (2020), Warm Arctic, cold Siberia pattern: role of full Arctic amplification versus sea ice loss alone, *Geophysical Research Letters*, DOI:10.1029/2020GL088583. [Article]
- [5] Thoman, R.L., U. Bhatt, P. Bieniek, B. Brettschneider, M. Brubaker, S. Danielson, Z.M. Labe, R. Lader, W. Meier, G. Sheffield, and J. Walsh (2020), The record low Bering Sea ice extent in 2018: Context, impacts and an assessment of the

- role of anthropogenic climate change [in "Explaining Extreme Events of 2018 from a Climate Perspective"]. *Bulletin of the American Meteorological Society*, DOI:10.1175/BAMS-D-19-0175.1 [Article]
- [4] Labe, Z.M., Y. Peings, and G. Magnusdottir (2019), The effect of QBO phase on the atmospheric response to projected Arctic sea ice loss in early winter, *Geo*physical Research Letters, DOI:10.1029/2019GL083095. [Article]
- [3] **Labe, Z.M.**, Y. Peings, and G. Magnusdottir (2018), Contributions of ice thickness to the atmospheric response from projected Arctic sea ice loss, *Geophysical Research Letters*, DOI:10.1029/2018GL078158. [Article]
- [2] **Labe, Z.M.**, G. Magnusdottir, and H.S. Stern (2018), Variability of Arctic sea ice thickness using PIOMAS and the CESM Large Ensemble, *Journal of Climate*, DOI:10.1175/JCLI-D-17-0436.1. [Article]
- [1] **Labe, Z.M.**, T.R. Ault, and R. Zurita-Milla (2016), Identifying Anomalously Early Spring Onsets in the CESM Large Ensemble Project, *Climate Dynamics*, DOI:10.10 07/s00382-016-3313-2. [Article]

#### **Publications Submitted**

- [7] Eayrs, C. and **Z.M. Labe** (2025). The future of sea ice. (submitted)
- [6] Labe Z.M., T.L. Delworth, N.C. Johnson, B-T. Jong, C.E. McHugh, W.F. Cooke, and L. Jia (2025). Large reductions in United States heat extremes found in overshoot simulations with SPEAR, *EarthArXiv*, DOI:10.31223/X5TX4P (submitted) [Preprint]
- [5] Joh, Y., S-W. Yeh, T.L. Delworth, **Z.M. Labe**, A.T. Wittenberg, W.F. Cooke, J. Lou, and Y-G. Park (2025). Evolving synchronization of Gulf Stream and Kuroshio-Oyashio Extension in a changing climate. (*submitted*)
- [4] Timmermans, M.-L. and **Z.M. Labe** (2025). [The Arctic] Sea surface temperature [in "State of the Climate in 2024"]. (Accepted)
- [3] Zhang, Y. and **Z.M. Labe** (2025). Adapting Infrastructure to a Changing Climate with Extreme Event Attribution Assessments. (*submitted*)
- [2] Kalashnikov, D.A., J.T. Abatzoglou, F.V. Davenport, **Z.M. Labe**, P.C. Loikith, D. Touma, and D. Singh (2025). Projections of Lightning-Ignited Wildfire Risk in the Western United States. (*submitted*)
- [1] Witt, J.K., **Z.M. Labe**, and B.A. Clegg (2025). An Alternative to the "Cone of Uncertainty" that is Flexible, Intuitive, and Desirable for Communicating Hurricane Forecasts. (*submitted*)

#### Non-refereed/Other

- [7] Labe, Z.M., May 2023: Pan-Arctic Ice Ocean Modeling and Assimilation System (PIOMAS). Expert Contributor. NCAR Climate Data Guide. [Article]
- [6] **Labe, Z.M.**, August 2021: Sharing data-driven stories of Arctic climate change. WMO/WWRP Year of Polar Prediction, PolarPredictNews. [Article]
- [5] Peings, Y., **Z.M. Labe**, and G. Magnusdottir, August 2021: How reproducible is the response to  $+2^{\circ}$ C Arctic sea-ice loss in a large ensemble of simulations? CLIVAR Research Highlight. [Article]
- [4] **Labe, Z.M.**, May 2020: The effects of Arctic sea-ice thickness loss and stratospheric variability on mid-latitude cold spells. University of California, Irvine. Doctoral dissertation. [PDF]
- [3] **Labe, Z.M.**, November 2019: Understanding Our Changing Arctic. Polar Bears International. Annual Magazine. [Article]
- [2] **Labe, Z.M.**, August 2017: Sea Ice Thickness Data Sets: Overview & Comparison Table. Expert Contributor. NCAR Climate Data Guide. [Article]

[1] **Labe, Z.M.**, April 2015: Anomalously Early Onset of Spring in the CESM Large Ensemble. Cornell University. Undergraduate Honors Thesis. [PDF]

## ORAL PRESENTATIONS

- [54] **Labe, Z.M.** Monitoring our changing climate through data-driven stories, 8th C3S General Assembly, Valencia, Spain (June 2025). (**Invited-Remote**)
- [53] **Labe, Z.M.** Utility of explainable machine learning for scenarios of climate change, Session III: Al Explainability and Climate Science Innovation, *Broadening Access to Climate Al Innovation Workshop*, University of Virginia, VA, USA (May 2025). (**Invited-Remote**)
- [52] **Labe, Z.M.** Using machine learning for understanding changes in U.S. summertime temperatures, *NOAA Booth, 105th AMS Annual Meeting*, New Orleans, LA, USA (Jan 2025).
- [51] **Labe, Z.M.** XAI for detecting scenarios of future climate change, Climate & Global Dynamics Machine Learning Group, NSF NCAR, Boulder, CO, USA (Nov 2024). (**Invited-Remote**)
- [50] **Labe, Z.M.** Timing of emergence of U.S. summer temperatures with explainable AI, Building AI-Ready workforce for heat resilience, 6th NOAA AI Workshop, USA (Sep 2024). (**Invited-Remote**)
- [49] **Labe, Z.M.** Machine learning for climate prediction at decadal and longer timescales, *Predictability, Predictions, and Applications Interface (PPAI) Panel*, US CLIVAR, Boulder, CO, USA (Aug 2024). (**Invited-Remote**)
- [48] **Labe, Z.M.** Reexamining future projections of Arctic climate linkages, *Atmospheric* and Oceanic Sciences Student/Postdoc Seminar, Princeton University, NJ, USA (May 2024).
- [47] **Labe, Z.M.**, T.L. Delworth, N.C. Johnson, and W.F. Cooke. Explainable AI for distinguishing future climate change scenarios, *EGU General Assembly 2024*, Vienna, Austria (Apr 2024). [Abstract].
- [46] **Labe, Z.M.** Explainable AI approach for evaluating climate models in the Arctic. *Modelers' Community of Practice Webinar*, IARPC Collaborations (Mar 2024). (**Invited-Remote**)
- [45] **Labe, Z.M.** Explainable neural networks for evaluating patterns of climate change and variability. *Sharing Science North American Webinar*, Young Earth System Scientists (YESS) Community (Mar 2024). (**Remote**)
- [44] **Labe, Z.M.** Applications of machine learning for climate change and variability. *Department of Environmental Sciences Seminar*, Rutgers University, New Brunswick, NJ (Feb 2024). (**Invited**)
- [43] **Labe, Z.M.**, T.L. Delworth, N.C. Johnson, and W.F. Cooke. A data-driven approach to identifying key regions of change associated with future climate scenarios, *23rd Conference on Artificial Intelligence for Environmental Science*, Baltimore, MD (Jan 2024). [Abstract]
- [42] **Labe, Z.M.**, N.C. Johnson, and T.L. Delworth. Distinguishing the regional emergence of United States summer temperatures between observations and climate model large ensembles, *23rd Conference on Artificial Intelligence for Environmental Science*, Baltimore, MD (Jan 2024). [Abstract]
- [41] **Labe, Z.M.** Revisiting projections of Arctic climate change linkages. *College of Surveying and Geo-informatics Seminar*, Tongji University, Shanghai, China (Nov 2023). (**Invited-Remote**)
- [40] **Labe, Z.M.** Using explainable machine learning to evaluate climate change projections. *Atmosphere and Ocean Climate Dynamics Seminar*, Yale University, CT (Oct 2023). (**Invited-Remote**)

- [39] **Labe, Z.M.** Creative machine learning approaches for climate change detection, *Resnick Young Investigators Symposium*, Caltech, NJ, USA (Apr 2023). (**Invited**)
- [38] **Labe, Z.M.** Using explainable AI to identify key regions of climate change in GFDL SPEAR large ensembles, *Lunchtime Seminar*, GFDL, Princeton, NJ, USA (Mar 2023).
- [37] **Labe, Z.M.** Using explainable machine learning for evaluating patterns of climate change, *Natural Sciences Group Seminar*, Washington State University Vancouver, WA, USA (Feb 2023). (**Invited-Remote**)
- [36] **Labe, Z.M.** Evaluating and communicating Arctic climate change projections, *Climate Change and Agriculture Guest Seminar*, Kansas State University, KS, USA (Feb 2023). (**Invited-Remote**)
- [35] **Labe, Z.M.** Exploring explainable machine learning for detecting changes in climate, *Department of Earth, Ocean, and Atmospheric Science Colloquium*, Florida State University, FL, USA (Feb 2023). (**Invited-Remote**)
- [34] **Labe, Z.M.** Forced climate signals with explainable AI and large ensembles, *Atmospheric and Oceanic Sciences Student/Postdoc Seminar*, Princeton University, NJ, USA (Feb 2023).
- [33] **Labe, Z.M.** Explainable AI for identifying regional climate change patterns, *Scientific Machine Learning Community*, University of Leeds, UK (Jan 2023). (**Invited-Remote**)
- [32] **Labe, Z.M.** and E.A. Barnes. Using artificial neural networks to predict temporary slowdowns in global warming trends, *22nd Conference on Artificial Intelligence for Environmental Science*, Denver, CO (Jan 2023). (Remote) [Abstract]
- [31] **Labe, Z.M.**, N.C. Johnson, and T.L. Delworth. Climate drivers of the recent spring-time cooling pattern in northern North America, *36th Conference on Climate Variability and Change*, Denver, CO (Jan 2023). (Remote) [Abstract]
- [30] **Labe, Z.M.** Machine learning for evaluating climate model projections, *Tech-Talks 2.0, IEEE-Student Branch IIT Indore*, India (Dec 2022). (**Invited-Remote**)
- [29] Labe, Z.M. and E.A. Barnes. Using neural networks to predict temporary slow-downs in decadal climate warming trends, 27th Annual CESM Workshop, Boulder, CO (Jun 2022). (Remote)
- [28] **Labe, Z.M.** Communicating Arctic climate change through data-driven stories, *Guest lecture for "Applications in Climate & Society"*, Columbia University, New York City, NY (Feb 2022). (**Invited-Remote**)
- [27] **Labe, Z.M.** Arctic climate change through the lens of data visualization, *Guest lecture for "Adaptation to Climate Change"*, North Carolina State University, Raleigh, NC (Jan 2022). (**Invited-Remote**)
- [26] **Labe, Z.M.** and E.A. Barnes. Using explainable neural networks for comparing climate model projections, *27th Conference on Probability and Statistics*, Virtual Attendance (Jan 2022). (Remote) [Abstract]
- [25] **Labe, Z.M.** and E.A. Barnes. Using neural networks to explore regional climate patterns in single-forcing large ensembles, *2021 American Geophysical Union Annual Meeting*, New Orleans, LA (Dec 2021). (**Invited-Remote**) [Abstract]
- [24] **Labe, Z.M.** and E.A. Barnes. Evaluating global climate models using simple, explainable neural networks, *2021 American Geophysical Union Annual Meeting*, New Orleans, LA (Dec 2021) (**Invited-Remote**) [Abstract]
- [23] **Labe, Z.M.** Exploring climate change signals with explainable Al. *Carbon Club*, NASA JPL, Pasadena, CA (Dec 2021). (**Invited-Remote**)
- [22] **Labe, Z.M.** and E.A. Barnes. Decadal warming slowdown predictions by an artificial neural network, *2021 Young Scientist Symposium on Atmospheric Research (YSSAR)*, Colorado State University, CO (Oct 2021).

- [21] **Labe, Z.M.** Assessing climate variability and change with explainable neural networks. *Lunchtime Seminar*, GFDL, Princeton University, NJ (Oct 2021). (**Invited-Remote**)
- [20] **Labe, Z.M.** and E.A. Barnes. Exploring climate model large ensembles with explainable neural networks, *WCRP workshop on attribution of multi-annual to decadal changes in the climate system*, Virtual Workshop (Sep 2021). (Remote)
- [19] **Labe, Z.M.** Learning new climate science by opening the machine learning black box. *Cognitive Brownbag Series*, Department of Psychology, Colorado State University, CO (Sep 2021). (**Invited**)
- [18] **Labe, Z.M.** and E.A. Barnes. Climate signals in CESM1 single-forcing large ensembles revealed by explainable neural networks, *26th Annual CESM Workshop*, Boulder, CO (Jun 2021). (Remote)
- [17] **Labe, Z.M.** Revealing climate change signals with explainable Al. *Spring Post-doctoral Research Symposium*, Colorado State University, CO (Mar 2021). (Remote)
- [16] **Labe, Z.M.** Communicating Arctic climate change through data-driven stories. *Arctic Science Summit Week 2021*, Lisbon, Portugal (Mar 2021). (**Invited-Remote**)
- [15] **Labe, Z.M.** The pan-Arctic impacts of thinning sea ice. Local Environmental Observer (LEO) Network, Anchorage, AK (Jan 2021). (**Invited-Remote**)
- [14] **Labe, Z.M.** and E.A. Barnes. Disentangling Climate Forcing in Multi-Model Large Ensembles Using Neural Networks. *20th Conference on Artificial Intelligence for Environmental Science*, Virtual Conference (Jan 2021). [Abstract]
- [13] **Labe, Z.M.** Why is it difficult to resolve future projections of Arctic-midlatitude linkages? *Atmospheric Dynamics Seminar*, Colorado State University, CO (Dec 2020). (Remote)
- [12] **Labe, Z.M.** Trends and regional variability of observed Arctic sea ice thickness. *ACCAP's Virtual Alaska Weather Symposia webinar series*, University of Alaska, Fairbanks, AK (Oct 2020). (**Invited-Remote**)
- [11] **Labe, Z.M.** Refining projections of the 'warm Arctic, cold Siberia' pattern in climate model simulations. *Atmosphere and Ocean Climate Dynamics Seminar*, Yale University, CT (Sep 2020). (**Invited-Remote**)
- [10] **Labe, Z.M.** Observations and climate model projections of Arctic climate change. Geography Department, Irvine Valley College, CA (May 2020). (**Invited-Remote**)
- [9] **Labe, Z.M.**,Y. Peings, and G. Magnusdottir. Detection of Signal in the Large-Scale Circulation Response to Arctic Sea-Ice Decline. *33rd Conference on Climate Variability and Change*, Boston, MA (Jan 2020). [Abstract]
- [8] **Labe, Z.M.** Melting Ice: Context, Causes, and Consequences of Polar Amplification. *Kavli Frontiers of Science, National Academy of Sciences*, Jerusalem, Israel (Sep 2019). (**Invited**)
- [7] **Labe, Z.M.** Projections of a future Arctic climate. Geography Department, Irvine Valley College, CA (May 2019). (**Invited**)
- [6] **Labe, Z.M.**, G. Magnusdottir, and Y. Peings. Linking the Quasi-Biennial Oscillation and projected Arctic sea-ice loss to stratospheric variability in early winter. *20th Conference on Middle Atmosphere*, Phoenix, AZ (Jan 2019). [Abstract]
- [5] **Labe, Z.M.,** Y. Peings, H.S. Stern, and G. Magnusdottir. Arctic sea ice thickness variability and its influence on the atmospheric response to projected sea ice loss. *Machine Learning and Physical Sciences (MAPS) Symposium*, University of California, Irvine (May 2018).
- [4] **Labe, Z.M.** Disentangling Arctic climate change and variability. Geography Department, Irvine Valley College, CA (Apr 2018). (**Invited**)

- [3] **Labe, Z.M.,** G. Magnusdottir, and H.S. Stern. Variability and future projections of Arctic sea ice thickness. *Understanding the Causes and Consequences of Polar Amplification Workshop*, Aspen Global Change Institute, Aspen, CO (Jun 2017).
- [2] **Labe, Z.M.** Communicating the future of Arctic climate change. Natural Sciences Division, Fullerton College, CA (Nov 2016). (**Invited**)
- [1] **Labe, Z.M.** Anomalously early onset of spring in the CESM Large Ensemble Project. *Earth and Atmospheric Science Undergraduate Research Symposium*, Cornell University, NY (May 2015).

## POSTER PRESENTATIONS

- [11] Labe, Z.M., T.L. Delworth, N.C. Johnson, L. Jia, W.F. Cooke, B.-T. Jong, and C.E. McHugh. Greater reduction in U.S. heat extreme days in overshoot simulations with GFDL SPEAR, 38th Conference on Climate Variability and Change, New Orleans, LA (Jan 2025). [Abstract]
- [10] Labe, Z.M., L. Jia, N.C. Johnson, C.E. McHugh, T.L. Delworth, and W.F. Cooke. Prediction, projection, and detection of U.S. heat extremes using data-driven approaches with the GFDL SPEAR modeling system, Extreme Heat Workshop: Emerging Risks from Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, Columbia University, New York City, NY (Jul 2024). [Poster]
- [9] **Labe, Z.M.**, N.C. Johnson, and T.L Delworth. Identifying the drivers of the observed springtime cooling trend in northern North America with large ensemble simulations, *2022 American Geophysical Union Annual Meeting*, Chicago, IL (Dec 2022). [Abstract] [Poster]
- [8] **Labe, Z.M.**, E.A. Barnes, and J. Hurrell. Detecting the regional emergence of climate signals with machine learning in a set of stratospheric aerosol injection simulations, *2022 American Geophysical Union Annual Meeting*, Chicago, IL (Dec 2022). [Abstract] [Poster]
- [7] Labe, Z.M. and E.A. Barnes. Temporary slowdowns in decadal warming predictions by a neural network, *CLIVAR Climate Dynamics Panel (CDP) annual workshop: External versus internal variability on decadal and longer time scales*, Virtual Workshop (Oct 2022). [Poster]
- [6] **Labe, Z.M.** and E.A. Barnes. Climate model evaluation with explainable neural networks, *3rd NOAA Workshop on Leveraging AI in Environmental Sciences*, Virtual Workshop (Sep 2021). [Poster]
- [5] **Labe, Z.M.** and E.A. Barnes. Using explainable neural networks for comparing historical climate model simulations, *2nd Workshop on Knowledge Guided Machine Learning (KGML2021)*, Virtual Workshop (Aug 2021). [Poster]
- [4] **Labe, Z.M.** Loss of Arctic sea ice thickness affects the large-scale atmosphere, *Arctic System Change Workshop* at NCAR, Boulder, CO (Apr 2018). [Poster]
- [3] Labe, Z.M., G. Magnusdottir, and H.S. Stern. Arctic Sea Ice Thickness Variability and the Large-scale Atmospheric Circulation Using Satellite Observations, PIOMAS, and the CESM Large Ensemble, 14th Conference on Polar Meteorology and Oceanography, Seattle, WA (Jan 2017). [Abstract] [Poster]
- [2] **Labe, Z.M.,** G. Magnusdottir, and H.S. Stern. Making the most of Arctic sea ice thickness observations, *Symposium on Recent Advances in Data Science*, University of California, Irvine (Oct 2016). [Poster]
- [1] **Labe, Z.M.** and T.R. Ault. Anomalously Early Onset of Spring in the CESM Large Ensemble Project, *14th Annual AMS Student Conference*, Phoenix, AZ (Jan 2015). [Poster]

## OTHER PRESENTATIONS

- [41] Kalashnikov, D.A., J. Abatzoglou, F.V. Davenport, **Z.M. Labe**, P.C. Loikith, D. Touma, and D. Signh. Projections of Lightning-Ignited Wildfire Risk in the Western United States, *15th Fire and Forest Meteorology Symposium*, Denver, CO (May 2025). [Abstract]
- [40] Jong, B.-T., T.L. Delworth, Z.M. Labe, W.F. Cooke, and H. Murakami. Attributing changes in extreme precipitation across the Northeast U.S. under different climate scenarios, EGU General Assembly, Vienna, Austria (Apr 2025). [Abstract]
- [39] Schreck, C.J., **Z.M. Labe**, D.R. Easterling, R. Vose, J.E. Uehling, X. Zhang, D.A. Coates, N.C. Johnson, and J.J. Barsugli. Updates on NOAA's rapid attribution capability: The July 2024 California heat wave, *38th Conference on Climate Variability and Change*, New Orleans, LA (Jan 2025). [Abstract]
- [38] Kalashnikov, D.A., J. Abatzoglou, F.V. Davenport, **Z.M. Labe**, P.C. Loikith, D. Touma, and D. Signh. Projecting cloud-to-ground lightning and wildfire ignition risk in the western United States, *12th Conference on the Meteorological Application of Lightning Data*, New Orleans, LA (Jan 2025). [Abstract]
- [37] Jong, B.-T., T.L. Delworth, **Z.M. Labe**, and W.F. Cooke. Reversal of extreme precipitation trend over the Northeast U.S. in response to rapid reductions in greenhouse gas concentrations, *38th Conference on Climate Variability and Change*, New Orleans, LA (Jan 2025). [Abstract]
- [36] Kalashnikov, D.A., J.T. Abatzoglou, F.V. Davenport, **Z.M. Labe**, P.C. Loikith, D.E. Touma, and D. Singh. Projecting cloud-to-ground lightning and wildfire ignition risk in the western United States, *2024 American Geophysical Union Annual Meeting*, Washington, DC (Dec 2024). [Abstract]
- [35] Bushuk, M., et al. (including **Z.M. Labe**). Predicting September Arctic Sea Ice: A Multi-Model Seasonal Skill Comparison, *2024 American Geophysical Union Annual Meeting*, Washington, DC (Dec 2024). [Abstract]
- [34] Schaberg, M.N., Z.M. Labe, M.A. Shadab, L. Ashokkumar, S. Vanek, O. Lauter, and K. Shionalyn. Empowering the Polar Science Community: A Decade of US-APECS in Supporting Early Career Researchers Globally, 2024 American Geophysical Union Annual Meeting, Washington, DC (Dec 2024). [Abstract]
- [33] Johnson, N.C., M. Park, J. Clark, T.L. Delworth, L. Jia, F. Lu, W. Cooke, C. McHugh, and Z.M. Labe. Progress in the seasonal prediction of extreme weather in GFDL's SPEAR, 2024 American Geophysical Union Annual Meeting, Washington, DC (Dec 2024). [Abstract]
- [32] Park, M., N.C. Johnson, J. Clark, D. Yoon, **Z.M. Labe**, C. McHugh, and L. Jia. A Linkage between atmospheric rivers, blocking and North American heatwaves in high resolution climate model simulations, *2024 American Geophysical Union Annual Meeting*, Washington, DC (Dec 2024). [Abstract]
- [31] Johnson, N.C., L. Jia, Z.M. Labe, C.E. McHugh, F. Lu, X. Yang, and T.L. Delworth. Diagnosing the predictability and simulation errors of seasonal extreme heat in the GFDL Seamless System for Prediction and EArth System Research (SPEAR), NOAA's Subseasonal and Seasonal Applications Workshop, College Park, MD, USA (Sep 2024). [Abstract]
- [30] Vanek, S., E. Adasheva, L Ashokkumar, M.N. Helmberger, **Z.M. Labe**, O. Lauter, and M.A. Shadab. Exploring the past, present, and future of USAPECS: Lessons from a decade of supporting early career research across national and international polar networks, *Arctic Congress* 2024, Bodø, Norway (Jun 2024). [Abstract]
- [29] Kalashnikov, D.A., F.V. Davenport, **Z.M. Labe**, P.C. Loikith, J. Abatzoglou, and D. Singh. Using deep learning to predict cloud-to-ground lightning in the western United States, *23rd Conference on Artificial Intelligence for Environmental Science*, Baltimore, MD (Jan 2024). [Abstract]

- [28] Schreck, C.J., J. Barsugli, D.A. Coates, D.R. Easterling, K.E. Kunkel, **Z.M. Labe**, J.E. Uehling, R. Vose, and X. Zhang. Comparing the causes and unusualness of the Texas heatwaves in 2022 and 2023, *37th Conference on Climate Variability and Change*, Baltimore, MD (Jan 2024). [Abstract]
- [27] Ashokkumar, L, Z.M. Labe, M.A. Shadab, O. Lauter and E.P. Schreiber. Advancing inclusion, diversity, equity, and accessibility (IDEA) in the polar sciences by USAPECS, 2023 American Geophysical Union Annual Meeting, San Francisco, CA (Dec 2023). [Abstract]
- [26] Meem, T.J., **Z.M. Labe**, W.F. Cooke, T.L. Delworth, and V. Ramaswamy. Role of anthropogenic aerosols on the South Asian summer monsoon in a high-resolution large ensemble, *2023 American Geophysical Union Annual Meeting*, San Francisco, CA (Dec 2023), [Abstract]
- [25] Kalashnikov, D.A., F.V. Davenport, Z.M. Labe, P.C. Loikith, J. Abatzoglou, and D. Singh. Using deep learning to predict cloud-to-ground lightning in the western United States, 2023 American Geophysical Union Annual Meeting, San Francisco, CA (Dec 2023). [Abstract]
- [24] Johnson, N.C., L. Jia, **Z.M. Labe**, T.L. Delworth, F. Lu, and C.E. McHugh. Sources of seasonal extreme heat predictability diagnosed from the GFDL seamless System for Prediction and EArth System Research (SPEAR), *2023 American Geophysical Union Annual Meeting*, San Francisco, CA (Dec 2023). [Abstract]
- [23] J.J. Barsugli, **Z.M. Labe**, N.C. Johnson, K.E. Kunkel, T. Zhang, D.E. Easterling, J.E. Uehling, J. Eischeid, M. Hoerling, A. Kumar, D. Coates, R. Vose, D. Arndt, C.J. Schreck, and T.L. Delworth. The Texas heat wave of 2022: La Niña, drought, and the emerging climate change signal, *36th Conference on Climate Variability and Change*, Denver, CO (Jan 2023). [Abstract]
- [22] Johnson, N.C., T.L. Delworth, **Z.M. Labe**, F. Lu, and C.E. McHugh. Accurate seasonal predictions of the 2022 Texas early summer extreme heat nine months in advance, *36th Conference on Climate Variability and Change*, Denver, CO (Jan 2023), [Abstract]
- [21] Ashokkumar, L., L. Weinberg, **Z.M. Labe**, E. Schreiber, A. Taitt, and M. Dryak. Progress and challenges by early career polar scientists (USAPECS) in addressing inclusivity, diversity, equity, and accessibility, *2022 American Geophysical Union Annual Meeting*, Chicago, IL (Dec 2022). [Abstract]
- [20] Po-Chedley, S., E.A. Barnes, C. Bonfils, J. Fasullo, **Z.M. Labe**, B. Santer, and N. Siler. Substantial contribution of internal variability to satellite-era tropospheric warming inferred from CMIP6 large ensembles, *2022 American Geophysical Union Annual Meeting*, Chicago, IL (Dec 2022). [Abstract]
- [19] Lehner, F., C. Deser, J. Fasullo, E. Fischer, P. Hitchcock, **Z.M. Labe**, S. Milinski, M. Röthlisberger, I. Simpson, S. Sippel, and J. Zscheischler. Emergence of multiple feedbacks in the extreme and persistent warmth over Siberia in 2020, *2022 American Geophysical Union Annual Meeting*, Chicago, IL (Dec 2022). [Abstract]
- [18] Bushuk, M., et al. (including **Z.M. Labe**). A multi-model comparison of September Arctic sea ice seasonal prediction skill, *2022 American Geophysical Union Annual Meeting*, Chicago, IL (Dec 2022). [Abstract]
- [17] Witt, J.K., **Z.M. Labe**, and B. Clegg. Comparisons of Perceptions of Risk for Visualizations Using Animated Risk Trajectories Versus Cones of Uncertainty, *Human Factors and Ergonomics Society (HFES) 66th International Annual Meeting* (Oct 2022).
- [16] Po-Chedley, S., E.A. Barnes, C. Bonfils, J. Fasullo, Z.M. Labe, B. Santer, and N. Siler. Internal Variability and Forcing Influence Model-satellite Differences in the Rate of Tropical Tropospheric Warming, Asia Oceania Geosciences Society 19th Annual Meeting (Aug 2022).

- [15] Myint, H. and **Z.M. Labe**. Predicting September Arctic sea-ice using a hierarchy of statistical models, *21st Annual Student Conference: Polar Meteorology*, Virtual Attendance (Jan 2022). [Abstract]
- [14] Witt, J.K., **Z.M. Labe**, B. Clegg, and A. Warden. An alternative to the "Cone of Uncertainty" that is flexible, intuitive, and desirable for communicating hurricane forecasts, *17th Symposium on Societal Applications: Policy, Research and Practice*, Virtual Attendance (Jan 2022). [Abstract]
- [13] Lehner, F., E. Fischer, **Z.M. Labe**, S. Milinski, M. Röthlisberger, I. Simpson, S. Sippel, and J. Zscheischler. Evaluating large ensembles for persistent extreme events such as the 2020 temperature anomaly over Siberia, *2021 American Geophysical Union Annual Meeting*, Virtual Attendance (Dec 2021). [Abstract]
- [12] Peings, Y., **Z.M. Labe**, and G. Magnusdottir. Arctic-midlatitude linkages: role of sea ice loss versus full Arctic amplification. *US CLIVAR PPAI Panel Webinar Series*, Virtual Talk (Apr 2021).
- [11] Peings, Y., **Z.M. Labe**, and G. Magnusdottir. Influence of internal variability: how to ensure results are robust? *Polar Amplification Model Intercomparison (PAMIP) Virtual Workshop*, Virtual Conference (Mar 2021).
- [10] Peings, Y., **Z.M. Labe**, and G. Magnusdottir. Arctic-midlatitude linkages: role of sea ice loss versus full Arctic Amplification. *Arctic Science Summit Week 2021*, Virtual Conference (Mar 2021).
- [9] Magnusdottir, G., **Z.M. Labe**, and Y. Peings. The midlatitude response to Arctic sea-ice decline, compared to the response to the full effects of Arctic amplification. *34th Conference on Climate Variability and Change*, Virtual Conference (Jan 2021). [Abstract]
- [8] Peings, Y., G. Magnusdottir, and **Z.M. Labe**. Are 100 ensemble members enough to capture the remote atmospheric response to +2°C Arctic sea ice loss? *34th Conference on Climate Variability and Change*, Virtual Conference (Jan 2021). [Abstract]
- [7] Magnusdottir, G., **Z.M. Labe**, and Y. Peings. How does the atmospheric response to Arctic sea-ice decline compare to the full effect of the Arctic Amplification? *2020 American Geophysical Union Annual Meeting*, Virtual Conference (Dec 2020). [Abstract]
- [6] Peings, Y., **Z.M. Labe**, and G. Magnusdottir. Are 100 ensemble members enough to capture the remote atmospheric response to +2°C Arctic sea ice loss? *2020 American Geophysical Union Annual Meeting*, Virtual Conference (Dec 2020). [Abstract]
- [5] Magnusdottir, G., Y. Peings, and Z.M. Labe. Response to sea-ice loss under the Polar Amplification MIP protocol in extended ensembles of simulations. 2019 American Geophysical Union Annual Meeting, San Francisco, CA (Dec 2019). [Abstract]
- [4] Peings, Y., G. Magnusdottir, and **Z.M. Labe**. Impact of the QBO on the response to Arctic sea ice loss. *Polar Amplification Model Intercomparison (PAMIP) Workshop*, Devon, UK (Jun 2019).
- [3] Holman, A., R. Thoman, **Z.M. Labe**, and J.E. Walsh. Not Just Chance: Ocean and Atmospheric Factors in the Record Low Bering Sea Ice Winter of 2017-2018 and effects on health and safety, *2018 American Geophysical Union Annual Meeting*, Washington, DC (Dec 2018). [Abstract]
- [2] Magnusdottir, G., **Z.M. Labe**, and Y. Peings. The role of the stratosphere, including the QBO, in Arctic to mid-latitude teleconnections associated with sea-ice forcing. *2018 American Geophysical Union Annual Meeting*, Washington, DC (Dec 2018). [Abstract]

[1] Thoman, R. and **Z.M. Labe**. 2017-18 Sea Ice in Western Alaska during the 2017-18 Season: Historical Context and Possible Drivers. *Western Alaska Interdisciplinary Science Conference and Forum*, Nome, AK (Mar 2018).

## **AWARDS AND FELLOWSHIPS**

Mar. 2025	Outstanding Reviewer Award - Environmental Research: Climate
Sep. 2023	Editors' Citation for Excellence in Refereeing - <i>Geophysical Research Letters</i>
Oct. 2022	Early Career Scientist Best Poster Award - CLIVAR CDP 2022 Workshop: External versus internal variability on decadal and longer time scales
May 2021	Editors' Citation for Excellence in Refereeing - <i>Geophysical Research Letters</i>
2020-2021	SoGES Sustainability Leadership Fellow, Colorado State University
Sep. 2019	Kavli Fellow, National Academy of Sciences
Jan. 2019	Outstanding Student Presentation Award - AMS Conference on Middle Atmosphere
Nov. 2018	Travel Award - AMS Conference on Middle Atmosphere
2016-2018	NSF NRT-DESE in Data Science and Physical Science Fellowship
Su. 2016	Data Science Initiative Fellowship, Department of Statistics,
	University of California, Irvine
Wi. 2016	Jenkins Family Graduate Fellowship in Earth System Science,
	Department of Earth System Science, University of California, Irvine
2014-2015	Fuerst Outstanding Library Student Employee Award Finalist,
	Cornell University

## TEACHING AND OUTREACH

#### Mentoring Experience

Su. 2023	Tasmeem Jahan Meem - CIMES Research Internship Program
	at Princeton University
Su. 2021	Hannah Myint - REU at Colorado State Univ. (Dept. of Atmos.)

#### University of California, Irvine

Fa. 2019	Teaching Assistant, Terrestrial Hydrology
Sp. 2019	Teaching Assistant, Earth System Physics
Wi. 2019	Teaching Assistant, Weather Analysis
Fa. 2016	Teaching Assistant, Fundamental Processes in Earth and Envi- ronmental Studies

#### **Cornell University**

Su. 2015	Guest Lecturer, Severe Weather Phenomena
Sp. 2015	Teaching Assistant, Programming and Meteorology Software (Python)
Fa. 2014	Teaching Assistant, Basic Principles of Meteorology Lab

#### **Related Educational Activities and Talks**

Related Educational Activities and Talks	
Jun. 2025	The Weather and Climate Livestream, Science in retreat: The consequences for the Arctic and our planet, Remote Presentation. (Invited Keynote)
Apr. 2025	EGU General Assembly 2025, Academic activism for urgent climate action: How to get started? Vienna, Austria. ( <b>Presenter-Invited</b> )
Apr. 2025	<i>Pennswood Village</i> , Our changing climate in the Northeastern United States, Newtown, PA. ( <b>Presenter-Invited</b> )
Feb. 2025	Rider University, Global Biogeochemistry Class Visit, The Arctic through the lens of data visualization, NOAA GFDL, Princeton, NJ. (Invited).
Feb. 2025	Guest lecture for "First-Year Innovation and Research Experience and Climate Computing", Using machine learning for understanding changes in the Earth system, University of Maryland, MD (Invited-Remote)
Feb. 2025	18th Annual Monmouth Junction Elementary School PTO Science Fair, Meet a scientist event, Dayton, NJ ( <b>Volunteer</b> )
Jan. 2025	Canadian Meteorological and Oceanographic Society, Virtual workshop for "How are technological and climate disruptions impacting education and careers in the weather and climate enterprise?" (Panelist-Invited-Remote)
Jan. 2025	NOAA Research, NOAA Constituent Briefing on the 2024 Arctic Report Card. ( <b>Panelist-Invited-Remote</b> )
Jan. 2025	NOAA Library, Two decades of the NOAA Arctic Report Card: history, reflections, and next steps. (Panelist-Invited-Remote)
Jan. 2025	Joint with 38th AMS Conference on Climate Variability and Change and 34th AMS Conference on Education, Session convener for "Communicating climate change uncertainty to the public," New Orleans, LA.
Oct. 2024	NOAA Climate Connections 2.0, Session convener for "Back-casting Climate Projection Services: Enhancing NOAA's Climate Services Culture," Washington, DC.
Aug. 2024	EOS Subject Matter Expert, Earth's atmosphere illustration for AGU publications
Jul. 2024	GFDL/AOS Summer Internship Lecture Series, Data Visualization Workshop, Princeton University, Princeton, NJ. ( <b>Presenter</b> )
May 2024	Arctic Congress 2024, Session chair for "Cross/Trans-Disciplinary Collaborations and Advancing Community, Equity, and Inclusion in Arctic Research."
May 2024	21st Annual New Jersey Ocean Fun Days, Volunteer for atmospheric and oceanic sciences outreach booth for CIMES, Island Beach State Park/Sandy Hook, NJ. ( <b>Presenter</b> )
Apr. 2024	United States Association of Polar Early Career Scientists (US-APECS) IDEA Training Course, Accessibility and disability in online spaces. ( <b>Presenter-Remote</b> )
Mar. 2024	GFDL Polar Climate Interest Group, Machine learning in the cryosphere, Princeton University, Princeton, NJ. ( <b>Presenter</b> )
Mar. 2024	Temple University, Climate Communication Workshop: Learn How To Make Your Research Matter, Using accessible data to communicate global climate change, Philadelphia, PA. (Invited Keynote)

Feb. 2024	17th Annual Monmouth Junction Elementary School PTO Science Fair, Meet a scientist event, Dayton, NJ (Volunteer)
Jan. 2024	AMS AI Conference - Student Competition, Poster Judge
Jan. 2024	37th AMS Conference on Climate Variability and Change, Session chair for "Frontiers in Earth System Modeling," Baltimore, MD.
Jan. 2024	ACCAP - IARC, University of Alaska Fairbanks, Arctic Report Card: Background and Key Finding. (Panelist-Invited-Remote)
Dec. 2023	NOAA Research, 2023 Arctic Report Card Stakeholder Briefing.
	(Panelist-Invited-Remote)
Dec. 2023	Mercer County Community College, Career pathways and research opportunities in the Earth sciences, West Windsor, NJ.
Nov. 2023	NJ State Museum Planetarium, Visualizing climate change through data, Trenton, NJ. (Invited)
Oct. 2023	Euronews, Climate Now debate: 2023 is set to be the hottest
	year on record, so why aren't we taking action? (Panelist-
	Invited-Remote)
Sep. 2023	Guest lecture for "Observing and Modeling Climate Change (EES 3506/5506)", Contrasting polar climate change in the past, present, and future, Temple University, PA. (Invited-Remote)
Sep. 2023	Hershey Horticulture Society, Climate change extremes by sea-
•	son in the United States, Hershey, PA. ( <b>Presenter-Invited</b> ).
Aug. 2023	Guest lecture for "Introduction to Global Climate Change (ESS 15)", Our changing Arctic in the past and future, University of Califor- nia, Irvine, CA. (Invited-Remote)
Jun. 2023	La Uni Climática, Monitoring indicators of climate change through data-driven visualization. (Presenter-Invited-Remote)
Jun. 2023	EUMET/Copernicus Earth Observation - Data Visualization Workshop Series, Climate Extremes: Heatwaves, Changes in Ice, Drought, Sea Ice Anomalies. (Presenter-Invited-Remote)
Apr. 2023	Mercer County Community College, Career pathways and research opportunities in the Earth sciences, West Windsor, NJ.
Feb. 2023	Rider University, Global Biogeochemistry Class Visit, Arctic cli-
	mate change through the lens of data visualization, NOAA GFDL, Princeton, NJ. ( <b>Invited</b> ).
Dec. 2022	AGU Fall Meeting 2022, Outstanding student presentation awards judge (OSPA)
Nov. 2022	GFDL Lunchtime Seminar Series, Using data visualization for ac-
	cessible science (communication), Princeton, NJ. ( <b>Presenter-Remote</b> ).
Oct. 2022	IEEEVis 2022, #Viz4Climate - Workshop on High-Impact Tech-
	niques for Visual Climate Science Communication, Oklahoma
	City, OK. ( <b>Panelist-Invited-Remote</b> )
Jul. 2022	REU Professional Development Series, Making effective and ac-
	cessible figures, Colorado State University, Fort Collins, CO.
	(Presenter-Invited-Remote)
Jul. 2022	Polar Bears International, 'State of the Arctic 2022' - Blog Post (Author) [Article]
Jun. 2022	GFDL/AOS Summer Internship Lecture Series, Learning new cli-
	mate science by thinking creatively with machine learning,
	Princeton University, Princeton, NJ. (Presenter)
Apr. 2022	Guest lecture for "Objective Analysis in Atmospheric Sciences (ATS 655)", Using data visualization for effective science (communication), Colorado State University, Fort Collins, CO. (Remote)

Nov. 2021	CASSINI Hackathon, Climate Change in the Arctic, Nordic
Jul. 2021	Startup School, Finland. ( <b>Presenter-Invited</b> )  REU Professional Development Series, Making effective figures,
Jul. 2021	Colorado State University, Fort Collins, CO. ( <b>Presenter-Invited</b> )
Jul. 2021	Polar Bears International, 'State of the Arctic' - Blog Post (Author) [Article]
Jun. 2021	US Climate Variability and Predictability, 2021 June CLIVAR Newsgram (Featured Graphics) [Article]
Jun. 2021	ABC News, Climate summit for the ABC network (Panelist-Invited-Remote)
May 2021	Guest lecture for "Objective Analysis in Atmospheric Sciences (ATS 655)", Using data visualization for effective science (communication), Colorado State University, Fort Collins, CO. (Remote)
Mar. 2021	Department of Atmospheric Science, Improving science (communication) through data visualization, Colorado State University, Fort Collins, CO. ( <b>Presenter-Remote</b> )
Feb. 2021	School of Global Environmental Sustainability - HumanNature Blog, 'Telling stories with data' - Blog Post ( <b>Author</b> ) [Article]
Jan. 2021	20th AMS Annual Student Conference, Poster Judge (Remote)
Oct. 2020	Cornell Chapter of the American Meteorological Society, Professional Series: Academic Sector ( <b>Panelist-Invited-Remote</b> )
Oct. 2020	AMS Early Career Leadership Academy, Session on Climate Change Communications ( <b>Panelist-Invited-Remote</b> )
Sep. 2020	Polar Bears International, 'A Sign of the Future: Summer 2020 in the Arctic' - Blog Post ( <b>Author</b> ) [Article]
Jul. 2020	Polar Bears International, 'State of the Arctic in 2020' - Blog Post (Author) [Article]
Mar. 2020	Climate, Literacy, Empowerment And iNquiry (CLEAN), The Cryosphere Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )
Feb. 2020	Irvine Unified School District's 39 <sup>th</sup> Annual Science Fair, Physical science project judge, Irvine, CA ( <b>Volunteer</b> )
Jan. 2020	100th American Meteorological Society Annual Meeting: Side Panel - Using Social Media to Communicate Climate Science, Boston, MA. (Chair) [Abstract]
Nov. 2019	Department of Earth System Science, Improving scientific graphics of climate (change) data, University of California, Irvine, CA. ( <b>Presenter</b> )
Oct. 2019	Irvine Unified School District, "Ask-A-Scientist/Engineer Night" at Creekside High School, Orange County, CA (Volunteer)
Sep. 2019	Geological Society of America Annual Meeting, Geoscience Communication in the Modern Age – "A Changing Arctic", Phoenix, AZ (Contributed Art)
Sep. 2019	UC Irvine Graduate Orientation, Session Title – Healthy Student Life – The Current Student Perspective, Irvine, CA (Panelist-Invited)
May 2019	College and Career Day Experience, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )
Apr. 2019	Vista Verde School, Weather and climate booth at an Earth Science Day fair, Irvine, CA ( <b>Presenter</b> )
Mar. 2019	Climate, Literacy, Empowerment And iNquiry (CLEAN), Weather and Climate Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )

Feb. 2019	Orange County Regional Science Olympiad, Climate Science-Meteorology exam writer and proctor, Irvine, CA (Event Super-
Feb. 2019	visor) Climate, Literacy, Empowerment And iNquiry (CLEAN), The Cryosphere Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA (Presenter)
Dec. 2018	NOAA, Arctic Report Card - Update for 2018. [Contributed Graphics]
Oct. 2018	Brews and Brains: TED-Style Talk, Our Changing Arctic, Fireside Tavern, Costa Mesa, CA. ( <b>Presenter-Invited</b> ).
Oct. 2018	Irvine Unified School District, "Ask-A-Scientist/Engineer Night" at Rancho San Joaquin Middle School, Orange County, CA (Volunteer)
Sep. 2018	UC Irvine Graduate Orientation, Session Title – Student Panel – Embracing Your New Graduate Life, Irvine, CA (Panelist-Invited)
May 2018	Vista Verde School, Weather and climate booth at an Earth Day fair, Irvine, CA ( <b>Presenter</b> )
Feb. 2018	Irvine Unified School District's 37 <sup>th</sup> Annual Science Fair, Physical science project judge, Irvine, CA ( <b>Volunteer</b> )
Feb. 2018	Climate, Literacy, Empowerment And iNquiry (CLEAN), Weather and Climate Outreach event, MacArthur Fundamental Intermediate School. Santa Ana. CA ( <b>Presenter</b> )
Feb. 2018	Orange County Regional Science Olympiad, Climate Science- Meteorology exam writer and proctor, Irvine, CA ( <b>Event Super-visor</b> )
Feb. 2018	Climate, Literacy, Empowerment And iNquiry (CLEAN), The Cryosphere Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )
Sep. 2017	Irvine Unified School District, "Ask-A-Scientist/Engineer Night" at Rancho San Joaquin Middle School, Orange County, CA (Volunteer)
Aug. 2017	Irvine Unified School District, "Ask-A-Scientist/Engineer Night" at Rancho San Joaquin Middle School, Orange County, CA (Volunteer)
Aug. 2017	NASA DIRECT-STEM Program, Assessing a changing Arctic (Presenter-Invited).
Apr. 2017	Climate Data Hackathon, Looking for clues to changes in Arctic sea ice, University of California, Irvine. ( <b>Presenter-Invited</b> ).
Feb. 2017	Irvine Unified School District's 36 <sup>th</sup> Annual Science Fair, Physical science project judge, Irvine, CA ( <b>Volunteer</b> )
Feb. 2017	Orange County Regional Science Olympiad, Severe Storms- Meteorology exam writer and proctor, Irvine, CA (Event Super- visor)
Wi. 2017	Seminar Course – Teaching Topics in Earth System Science ( <b>Training</b> )
Oct. 2016	Irvine Unified School District, "Ask-A-Scientist/Engineer Night" at Rancho San Joaquin Middle School, Orange County, CA (Volunteer)
Aug. 2016	NASA DIRECT-STEM Workshop, Data and Analysis of Arctic Climate Change in CMIP5 using Python (Instructor).

# PROFESSIONAL ACTIVITIES & SERVICE

Summary –	Conference Paper Referee - Al4Earth NeurlPS, ICML ML4ESM
	Hiring Committees - NOAA OAR
	Proposal Referee - NOAA (CPO/MAPP), NSF (GEO/AGS), NSF (ANS), Netherlands Organisation for Scientific Research (NWO)
2025-Present	Journal Manuscript Referee [Web of Science; >100 reviews] - Artificial Intelligence for the Earth Systems, Atmosphere-Ocean, Atmospheric Research, Atmosphere, Bulletin of the American Meteorological Society, Climatic Change, Climate Dynamics, Communications Earth & Environment, Environmental Data Science, Environmental Research: Climate, Environmental Research Letters, Geophysical Research Letters, Geosciences, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, International Journal of Climate, Journal of Climate, JGR: Atmospheres, JGR: Machine Learning and Computation, Journal of Advances in Modeling Earth Systems, Journal of Glaciology, Nature Climate Change, Nature Communications, Polar Geography, Remote Sensing, Science Advances, Scientific Data, Scientific Reports, Weather, Weather and Climate Dynamics  Task Team - WMO's World Weather Research Programme,
2023-Present	PCAPS ORCAS Member - Fresh Eyes on CMIP (WCRP Working Group)
	,
2023-Present	Associate Editor - Journal of Climate
2023-Present	Contributing Editor - Carbon Brief
2023-Present	NOAA GFDL Internal Reviewer
2021-Present	Guest Editor - Special Issue for Atmospheric Science Letters
2021-Present	Board Member - US Association of Polar Early Career Scientists
2020-Present	Board of Advisors for the NCAR Climate Data Guide
2024-2025	Board Member - NOAA GFDL Employees Association (GFDLEA)
2023-2025	Member - Diversity, Equity, Inclusivity, and Accessibility Committee (NOAA GFDL)
Jan. 2024	Assessment of the Algorithm Reviewer - EUMETSAT/OSI SAF Sea Ice Index (OSI-420)
Nov. 2023	Review Panel Member - NASA
Apr. 2023	Review Panel Member - NOAA
Nov. 2022	Data Requirement Review Panel Member - EUMETSAT/OSI SAF Sea Ice Index
Oct. 2022	Review Panel Member - NSF
2021-2022	Science Associate/Volunteer - Arctic Basecamp
2019-2021	Student Board Member, American Meteorological Society's Board on Societal Impacts
2017-2020	Vice President & Communications Chair, Student Chapter of the American Meteorological Society at the University of California, Irvine
2017-2020	Student Board Member, American Meteorological Society's Committee on Climate Variability and Change
2017-2018	Member, Student Communications Working Group, University of California, Irvine

Co-President, American Meteorological Society Student Chap-2014-2015 ter, Cornell University

#### Affiliations/Memberships

2023-Present	European Geosciences Union, Member
2021-Present	Interagency Arctic Research Policy Committee (IARPC), Member
2020-Present	American Association for the Advancement of Science (AAAS), Member
2016-Present	Association of Polar Early Career Scientists (APECS), Member
2015-Present	American Geophysical Union (AGU), Member
2014-Present	National Weather Association (NWA), Member
2009-Present	American Meteorological Society (AMS), Member

#### PROFESSIONAL Field Work **TRAVEL**

May 2017	INTPART	Arctic	Field	Summer	Schools:	Norway-Canada-
	USA colla	boratic	n, Uni	versity of	Tromsø, No	orway (Workshops);
	Longyear	byen, S	valbar	d (R/V <i>Lar</i>	<i>nce -</i> sea ic	e)

#### Workshops

Jun. 2025	AASC Climate Tools "Boot Camp," Blue Springs, MO. (Virtual)
May 2025	Broadening Access to Climate Al Innovation Workshop, University of Virginia, VA. (Virtual)
Feb. 2025	Arctic Report Card Planning Workshop, Seattle, WA. (Virtual)
Nov. 2024	Data-Driven Precision Health: Integrating Genomics, Climate, and the Environment Conference, Princeton, NJ
Oct. 2024	NOAA Climate Connections 2.0, Washington, DC. (Virtual)
Oct. 2024	PAMIP Phase 2 Workshop. (Virtual)
Jul. 2024	Extreme Heat Workshop: Emerging Risks from Concurrent, Compounding and Record-breaking Extreme Heat across Sectors, New York City, NY
Jun. 2024	Climate Risk Reduction ASCE-NOAA Workshop: Hazards and Process. (Virtual)
Aug. 2023	Princeton AOS's Paleo, present, and future: Leveraging the past to understand and predict our changing climate, Princeton, NJ
Oct. 2022	IEEE VIS 2022, Oklahoma City, OK. (Virtual)
Oct. 2022	CLIVAR Climate Dynamics Panel (CDP) annual workshop: External versus internal variability on decadal and longer time scales. (Virtual)
Sep. 2022	Leveraging Earth System Science and Modeling to Inform Civil Engineering Design: ASCE-NOAA. (Virtual)
Aug. 2022	Princeton AOS's Workshop on Attribution of Extreme Events to Climate Change, Princeton, NJ
Jul. 2022	The Reproducibility Crisis in ML-based Science, Princeton University. (Virtual)
Jun. 2022	2022 CESM Workshop, National Center for Atmospheric Research (NCAR), Boulder, CO. (Virtual)

Sep. 2021	WCRP Workshop on Attribution of Multi-Annual to Decadal Changes in the Climate System. (Virtual)
Sep. 2021	3rd NOAA Workshop on Leveraging AI in Environmental Sciences. (Virtual)
Aug. 2021	2nd Workshop on Knowledge Guided Machine Learning (KGML2021). (Virtual)
Jun. 2021	2021 CESM Workshop, National Center for Atmospheric Research (NCAR), Boulder, CO. (Virtual)
May 2021	NOAA Arctic Report Card Workshop 2021. (Virtual)
Jun. 2020	Artificial Intelligence for Earth System Science (AI4ESS) Summer School, UCAR/NCAR. (Virtual)
Oct. 2019	Transdisciplinary Research on the Changing Arctic and Its Global Impacts: Enhancing Capacity for Convergence Science, Beckman Center of the NAS, Irvine, CA
Apr. 2018	Arctic System Change Workshop, Mesa Lab, National Center for Atmospheric Research (NCAR), Boulder, CO
Jun. 2017	Understanding the Causes and Consequences of Polar Amplification, Aspen Global Change Institute, Aspen, CO

## TECHNICAL SKILLS

Programming: Python, MATLAB, R, Fortran, Unix, HTML,  $T_EX$ ,  $LAT_EX$ ,  $BIBT_EX$  Software/Tools: NCL, NCO, CDO, GrADS, Git, Scikit-learn, TensorFlow/Keras Modeling: NCAR's Yellowstone/Cheyenne, CESM, E3SM, CMIP5/6

#### Visit my GitHub (>300 followers) ♥!

### SELECTED NEWS AND MEDIA

Jun. 2025	ClimateGenn Podcast, "Zack Labe: Science Is being Silenced!" (Interview), [Podcast]
May 2025	High North News, "US Climate Researcher: "We Are at a Tipping Point"" (Interview). [Article]
May 2025	StudyFinds, ""Rapid Response System' Can Tell When Heat Waves Are Fueled By Climate Change" (Featured Study). [Article]
Mar. 2025	Silenced Science Stories, "Dr. Zachary Labe, Climate Scientist" (Interview). [Article]
Mar. 2025	<i>DW</i> , "Is climate science threatened as US slashes jobs, funding?" ( <b>Quoted</b> ). [Article]
Jan. 2025	Yorkshire Bylines, "Time to exit this climate "road to ruin", warns UN secretary general" ( <b>Quoted</b> ). [Article]
Oct. 2024	News Decoder, "Extreme weather makes climate change a reality now" (Quoted). [Article]
Oct. 2024	Carbon Brief, "Antarctic sea ice maximum in 2024 is 'second lowest' on record" (Quoted). [Article]
Aug. 2024	Carbon Brief, "IPCC meeting in Sofia fails to agree timeline for seventh assessment report" (Quoted). [Article]
Jul. 2024	Axios, "The seas are not alright: "Unusual warmth" hits nearly all of world's oceans" (Quoted). [Article]
Jun. 2024	USA Today, "Earth marks 12 straight months of record heat, a bewildering climate change milestone" ( <b>Quoted</b> ). [Article]

May 2024	Yorkshire Bylines, "Global levels of CO2 for 2023-24 break all records in human history" ( <b>Quoted</b> ). [Article]
Apr. 2024	Climate Quandaries Podcast, "S2E4: Zack Labe" (Interview).  [Podcast]
Mar. 2024	Temple Sustainability Blog, "Making Your Research Matter: Communicating for the Climate" (Quoted). [Article]
Mar. 2024	Carbon Brief, "Antarctic sea ice 'behaving strangely' as Arctic reaches 'below-average' winter peak" (Quoted). [Article]
Mar. 2024	Yorkshire Bylines, "The Arctic: The first ice-free summer could arrive in the next decade" (Quoted). [Article]
Mar. 2024	The Washington Post, Capital Weather Gang, "The groundhog was right: Spring is here ahead of schedule" (Quoted). [Article]
Feb. 2024	Planet NOAA Podcast, "Welcome to Planet NOAA!" (Interview). [Podcast]
Nov. 2023	Carbon Brief, "Q&A: Warming of 2°C would trigger 'catastrophic' loss of world's ice, new report says" ( <b>Quoted</b> ). [Article]
Oct. 2023	NBC News, "'Gobsmackingly bananas' September of extreme warmth alarms climate scientists" (Quoted). [Article]
Sep. 2023	Carbon Brief, "'Exceptional' Antarctic melt drives months of record-low global sea ice cover" (Quoted). [Article]
Sep. 2023	Wired, "The Mysterious 'Warming Hole' in the Middle of the US" (Quoted). [Article]
Aug. 2023	Wired, "This Brutal Summer in 10 Alarming Maps and Graphs" (Quoted). [Article]
Jul. 2023	USA Today, "The oceans are unusually hot and on track to get hotter. That's not good." (Quoted). [Article]
Jun. 2023	CNET, "The Arctic Sea Could Be 'Ice-Free' Within Decades. What That Means for Us" (Quoted). [Article]
Jun. 2023	Bulletin of the Atomic Scientists, ""Uncharted territory': Warming oceans and disappearing sea ice alarm scientists" (Quoted).  [Article]
May 2023	Wired, "Antarctic Sea Ice Is at Record Lows. Is It an Alarming Shift?" (Quoted). [Article]
May 2023	Carbon Brief, "Montreal Protocol has slowed loss of Arctic sea ice, say scientists" (Quoted). [Article]
Mar. 2023	Carbon Brief, "Arctic sea ice winter peak in 2023 is fifth lowest on record" (Quoted). [Article]
Feb. 2023	WFLA Tampa, "How certain is science that humans are warming the climate?" (Featured Graphics). [Article]
Nov. 2022	Princeton AOS & CIMES Newsletter, "Zack Labe in Conversation" (Interview). [Article]
Nov. 2022	Lawrence Livermore National Laboratory, "New analysis helps reconcile differences between satellites and climate models" (Press Release). [Article]
Nov. 2022	The Daily Beast, "What Happens When Even Scientists Get Doom-Pilled?" (Quoted). [Article]
Sep. 2022	Mongabay, "2022: Another consequential year for the melting Arctic" (Quoted). [Article]
Sep. 2022	Carbon Brief, "Arctic sea ice summer minimum in 2022 is 'joint-10th lowest' on record" ( <b>Quoted</b> ). [Article]
Sep. 2022	CBS News, "Alarming year for extremes": 2021 saw record-high greenhouse gas, ocean heat and sea levels rise, new report finds" (Quoted). [Article]

Aug. 2022	La Libre, "Cette statistique montre vraiment à quel point l'Arctique a changé, c'est spectaculaire" (Interview). [Article]
Aug. 2022	Financial Times, "Climate graphic of the week: Arctic warming four times faster than rest of the planet, study says" (Quoted).  [Article]
Jul. 2022	Forbes, "Yes, It's Getting Hotter - This Simple Graphics Explains" (Quoted). [Article]
Jul. 2022	Politico, "GIF of the Day - POLITICO's Power Switch" (Quoted). [Article]
Jul. 2022	Val 202 - Slovene radio station, "Točka preloma ali točka brez povratka?" (Interview). [Article]
Jul. 2022	Foresight, "Bringing Data Driven Stories to Life with Zack Labe" (Interview). [Article]
Mar. 2022	<i>Gizmodo</i> , "Record-Shattering Heat at Both Poles Is Freaking Scientists Out" ( <b>Quoted</b> ). [Article]
Mar. 2022	Vice, "'Never Supposed to Happen': North and South Poles See Unprecedented Heat" ( <b>Quoted</b> ). [Article]
Mar. 2022	Yahoo News, "'Not a good sign': Both of Earth's poles see temperatures 30C and 40C above normal" (Quoted). [Article]
Mar. 2022	Carbon Brief, "Arctic sea ice winter peak in 2022 is 10th lowest on record" (Quoted). [Article]
Jan. 2022	Data Skeptic Podcast, "Explainable climate science" (Interview). [Podcast]
Nov. 2021	EnergieWinde, "Zachary Labes Grafiken zum Klimawandel" (Interview). [Article]
Oct. 2021	Mashable, "Gaping hole opened up in 'Last Ice Area' of the Arctic, NASA images show" ( <b>Quoted</b> ). [Article]
Oct. 2021	CNN, "Antarctica's last 6 months were the coldest on record" ( <b>Quoted</b> ). [Article]
Sep. 2021	Blasting News, "From Carlos Nobre to Svein Tveitdal, 6 climate activists share ways to tackle climate change" (Interview). [Article]
Sep. 2021	Carbon Brief, "Arctic sea ice summer minimum in 2021 is '12th lowest' on record" (Quoted). [Article]
Sep. 2021	Arctic Today, "As it approaches its yearly minimum, Arctic sea ice extent its slightly greater than recent ultra-low years" ( <b>Quoted</b> ). [Article]
Sep. 2021	BreezoMeter, "Top 20 Leading Weather & Climate Voices to Follow in 2021" (Listed). [Article]
Aug. 2021	National Geographic, "Siberia's massive wildfires are unlocking extreme carbon pollution" ( <b>Quoted</b> ). [Article]
Jul. 2021	The Washington Post, Capital Weather Gang, "Arctic climate change may not be making winter jet stream weird after all" (Featured Study). [Article]
Jul. 2021	Sky News "A crisis of fire and ice: Deadly heatwaves and record ice melt tell a story of extreme weather that's here to stay" (Quoted). [Article]
Jun. 2021	ABC News, "It's Not Too Late: Extreme heat in the Arctic" (Interview). [Article]
Jun. 2021	ABC News, "Heat wave in Russia brings record-breaking temperatures north of Arctic Circle" (Quoted). [Article]

Jun. 2021	The Independent, "Merciless temperatures push Moscow to
Juli. 2021	hottest June day in 142 years, as heatwave hits Russia" ( <b>Quoted</b> ). [Article]
May 2021	Science Magazine, "Landmark study casts doubt on contro-
	versial theory linking melting Arctic to severe winter weather" (Featured Study). [Article]
Apr. 2021	Inverse, "What will the Earth look like in 2121? 10 young leaders
	give their predictions" (Interview). [Article]
Mar. 2021	Carbon Brief, "Arctic sea ice winter peak in 2021 is joint-seventh lowest on record" ( <b>Quoted</b> ). [Article]
Mar. 2021	Bloomberg, "Arctic Lightning Strikes Tripled in a Decade" (Quoted). [Article]
Feb. 2021	KCSU FM Radio, "Explaining the polar vortex, U.S. COVID-19 deaths pass 500,000" (Interview). [Radio]
Feb. 2021	Weather Geeks Podcast, "Arctic Report Card 2020" (Interview).
. 00. 2021	[Podcast]
Jan. 2021	Blasting News, "Zack Labe on Arctic climate change: It's impor-
	tant to communicate data in an accessible way" ( <b>Interview</b> ). [Ar-
Jan. 2021	ticle]  CBS News, "Sudden stratospheric warming could mean wild
Jan. 2021	winter storms ahead" ( <b>Quoted</b> ). [Article]
Jan. 2021	Inside Climate News, "Many Scientists Now Say Global Warm-
	ing Could Stop Relatively Quickly After Emissions Go to Zero"
	(Quoted). [Article]
Dec. 2020	Australian Broadcasting Corporation, "The vanishing Arctic"
Dec. 2020	( <b>Quoted</b> ). [Article] Cambridge Climate Lecture Series: Shaping the Future Podcast,
Dec. 2020	"Decoding NOAA's Arctic Report Card With Contributing Climate
	Scientist, Dr Zack Labe" (Interview). [Podcast]
Dec. 2020	The Guardian, "Greenhouse gas emissions transforming the Arc-
	tic into an entirely different climate" (Quoted). [Article]
Nov. 2020	CBS News, "Temperatures in the Arctic are astonishingly warmer
N. 2020	than they should be" ( <b>Quoted</b> ). [Article]
Nov. 2020	Cambridge Climate Lecture Series: Shaping the Future Podcast, "Laptev Sea Not Refreezing & Other Arctic Climate Notes With
	Dr. Zack Labe" (Interview). [Podcast]
Oct. 2020	High North News, "Large Parts of Arctic Ocean See Delayed Re-
	freeze With Sea Ice at Record Low" (Quoted). [Article]
Oct. 2020	Vox, "Why the record low Arctic sea ice this October is so alarm-
0 1 0000	ing" (Quoted). [Article]
Oct. 2020	The Guardian, "Alarm as Arctic sea ice not yet freezing at latest date on record" ( <b>Quoted</b> ). [Article]
Sep. 2020	National Geographic, "The jet stream is bringing fire weather to
30p. 2020	the West and a chill to the East" ( <b>Quoted</b> ). [Article]
Sep. 2020	ABC News, "2nd-lowest Arctic sea ice increases concerns
	about impact of climate change on Indigenous communities"
Con 2020	(Interview). [Video] The Washington Post Capital Weather Cana "Aretic see ice
Sep. 2020	The Washington Post, Capital Weather Gang, "Arctic sea ice slides to second-lowest level on record, thanks to Siberian heat
	waves" ( <b>Quoted</b> ). [Article]
Sep. 2020	Earth.com, "Arctic sea ice reached its second lowest extent this
	year" ( <b>Quoted</b> ). [Article]
Sep. 2020	High North News, "Arctic Sea Ice Shrinks to Second-Lowest Ex-
	tent Amid Record High Temperatures" ( <b>Quoted</b> ). [Article]

Sep. 2020	Earther, "Arctic Sea Ice Hit a Scary Milestone" (Quoted). [Article]
Sep. 2020	Mashable, "Arctic ice drops below a grim benchmark" ( <b>Quoted</b> ).  [Article]
Sep. 2020	Carbon Brief, "Arctic sea ice shrinks to second-lowest summer minimum on record" (Quoted). [Article]
Aug. 2020	Val 202 - Slovene radio station, "Globalne temperature v vzponu, Arktika kmalu brez ledu" ( <b>Interview</b> ). [Article]
Aug. 2020	Bloomberg, "The First Arctic Summer Without Ice Is Coming in Just 15 Years" (Quoted). [Article]
Aug. 2020	CBS News, "In just 15 years, the Arctic Ocean may be ice-free in summer, study says" (Quoted). [Article]
Jul. 2020	<i>E&amp;E News</i> , "Fires, heat and a cyclone. Arctic breaks melting record" ( <b>Quoted</b> ). [Article]
Jul. 2020	CSU Engineering Source News, "Five questions with Atmospheric Science climate scientist Zachary Labe" (Interview). [Article]
Jul. 2020	TBS eFM, "Live radio broadcast on "This Morning" show in Seoul, South Korea" (Interview).
Jul. 2020	Vice, "Siberia's Heat Wave Triggered an Arctic Sea Ice Melt Down" (Quoted). [Article]
Jul. 2020	Mashable, "Why Arctic sea ice just crashed to an extreme, record low" (Quoted). [Article]
Jul. 2020	<i>9News</i> , "Climate change: Siberian Arctic ice forming less, melting faster than any year since 1979" ( <b>Quoted</b> ). [Article]
Jul. 2020	The Hill, "Climate researcher details historic significance of recent warming in Siberia" (Interview). [Article]
Jul. 2020	Sustainability - CSU, "SHH! Sustainability Happy Hour with Dr. Zack Labe" (Interview), [Video]
Jul. 2020	Rising – Hill.TV, "Climate Scientist: Why You Should Worry About 100 Degree Temps In Siberia" (Interview). [Video]
Jul. 2020	National Geographic, "A heat wave thawed Siberia's tundra. Now, it's on fire" (Quoted). [Article]
Jul. 2020	CBS News, "100.4 degree Arctic temperature record confirmed as study suggests Earth is warmest in at least 12,000 years" (Quoted). [Article]
Jun. 2020	The Telegraph, "Siberia heatwave: Fears of 'irreversible' permafrost melt as Russian village sees record temperatures"
Jun. 2020	(Quoted). [Article]  Mashable, "How the Arctic Circle just eclipsed 100 degrees"  (Quoted). [Article]
Jun. 2020	CBS News, "2020 likely to be the warmest year on record globally" (Quoted). [Article]
Jun. 2020	UCI News, "Zack Labe cracks a cold case" (Interview). [Article]
May 2020	The Washington Post, Capital Weather Gang, "Parts of Siberia are hotter than Washington, with temperatures nearly 40 degrees above average" (Quoted). [Article]
May 2020	The Washington Post, Capital Weather Gang, "Unusual warmth pours over North Pole, potentially jump-starting melt season for Arctic ice" (Quoted). [Article]
Apr. 2020	Nightingale - The Journal of the Data Visualization Society, "Six Iconic Environmental Visualizations for Earth Day" ( <b>Listed</b> ). [Article]
Mar. 2020	Mashable, "Even after a frigid winter, Arctic sea ice is still really low" (Quoted). [Article]

Feb. 2020	You've Been Warmed Podcast, "The Power Of Visualizing Data In Climate Communication w/ Zack Labe" (Interview). [Podcast]
Dec. 2019	AGU Annual Meeting, "Department of Earth System Science, University of California, Irvine - promo" (Interview). [Video]
Nov. 2019	Euronews, "Arctic ice reached record low in October" ( <b>Quoted</b> ).  [Article]
Sep. 2019	Carbon Brief, "Arctic sea ice summer minimum in 2019 is 'joint-second lowest' on record" ( <b>Quoted</b> ). [Article]
Sep. 2019	Mashable, "Arctic sea ice plunges to dismal levels" (Quoted).  [Article]
Sep. 2019	Euronews, "How summer 2019 was hellish for the Arctic, the frontline of climate change and global warming" (Quoted). [Article]
Aug. 2019	The Guardian, "Alaska records warmest month ever in July with coastline barren of sea ice" (Quoted). [Article]
Aug. 2019	TIME, "Alaska's Sea Ice Has Its Lowest August Levels Ever" (Quoted). [Article]
Aug. 2019	Mashable, "Greenland's melting hits overdrive" (Quoted). [Article]
Jul. 2019	Motherboard, "Arctic Ice Is Crashing, and That's Bad News For Everyone" (Quoted). [Article]
Jul. 2019	Wunderground, "Heat Wave Heads North: Massive Week of Melting Likely in Arctic" (Quoted). [Article]
Jul. 2019	The Washington Post, Capital Weather Gang, "Europe's heat wave is about to bake the Arctic" (Quoted). [Article]
Jun. 2019	The Washington Post, Capital Weather Gang, "The Arctic Ocean and Greenland ice sheet have seen record June ice loss" (Quoted). [Article]
Jun. 2019	Axios, "Arctic melt goes into overdrive" (Quoted). [Article]
Jun. 2019	Mashable, "There's some really intense melting in the Arctic right now" (Quoted). [Article]
May 2019	Earther, "The Last of the Arctic's Old Sea Ice Is on the Verge of Vanishing" (Quoted). [Article]
Mar. 2019	Carbon Brief, "Arctic sea ice winter peak in 2019 is seventh lowest on record" (Quoted). [Article]
Mar. 2019	Axios, "Vanishing ice in the Bering Sea drops to lowest level since 1850" (Quoted). [Article]
Mar. 2019	Mashable, "The Bering Strait should be covered in ice, but it's nearly all gone" (Quoted). [Article]
Feb. 2019	CBS News, "Week of remarkable weather extremes: Is this the new normal?" (Quoted). [Article]
Feb. 2019	Mashable, "It's damn cold, but heat records in the U.S. still dominate" (Quoted). [Article]
Jan. 2019	Popular Science, "Record cold temperatures don't mean the planet isn't warming" (Quoted). [Article]
Oct. 2018	Mashable, "Things in the middle of the Arctic are getting really strange" (Quoted). [Article]
Oct. 2018	KUCI Radio, "Arctic Sea Ice and Meteorology with Zack Labe" (Interview). [Article]
Sep. 2018	Euronews, "Arctic heatwave could result in summer-like warmth for Alaska" (Quoted). [Article]
Sep. 2018	Carbon Brief, "Arctic sea ice summer minimum in 2018 is sixth lowest on record" (Quoted). [Article]

Aug. 2018	Val 202 - Slovene radio station "The Arctic is rapidly melting"
9. =	(Interview). [Article]
Jun. 2018	Earther, "There's Way Too Little Ice Around Svalbard Right Now" (Quoted). [Article]
May 2018	The Washington Post, Capital Weather Gang, "'Fallen off a cliff': Scientists have never observed so little ice in the Bering Sea in spring" (Quoted). [Article]
Mar. 2018	Earther, "Both Poles Are Having a Weird, Bad Year For Sea Ice So Far" (Quoted). [Article]
Mar. 2018	United States Senate – Senator Sheldon Whitehouse (D–RI), "Time to wake up: Climate Progress" (Supplied Graphic). [Speech]
Feb. 2018	PennLive, "Harrisburg-area grad, scientist fuels buzz behind news that North Pole temps surged past freezing" (Interview). [Article]
Feb. 2018	Mashable, "Drastic Arctic warm event stuns scientists, as record-breaking temperatures reach the North Pole" (Quoted). [Article]
Feb. 2018	The Washington Post, Capital Weather Gang, "North Pole surges above freezing in the dead of winter, stunning scientists" (Quoted). [Article]
Feb. 2018	Earther, "Bering Sea Ice Is Disappearing When it Should Still Be Growing" (Quoted). [Article]
Feb. 2018	USA Today, "Arctic sea ice at record low January levels" (Quoted). [Article]
Feb. 2018	UT Austin Geosciences, "Social media: changing the science communication landscape" (Interview). [Article]
Dec. 2017	USA Today, "It's cold outside, but that doesn't mean climate change isn't real" (Quoted). [Article]
Sep. 2017	The Sydney Morning Herald, "Attacked from two sides: Antarctic sea ice hits another record low" (Quoted). [Article]
Aug. 2017	The Verge, "This Artist's New Landscape Studies are of Melting Glaciers" (Quoted). [Article]
Jul. 2017	Climate Central, "Here's How Much Arctic Sea Ice Has Melted Since the '80s" (Quoted). [Article]
Jun. 2017	Climate Central, "We Couldn't Monitor Larsen C Without These Satellites" ( <b>Quoted</b> ). [Article]
Apr. 2017	Mashable, "Arctic ice in retreat: NASA's airborne survey shows how global warming is transforming the Arctic" ( <b>Quoted</b> ). [Article]
Apr. 2017	<i>UCI News</i> , "UCI Doctoral student is helping people visualize climate change and its impact on the entire planet" ( <b>Interview</b> ). [Article]
Mar. 2017	Carbon Brief, "Sea ice falls to record lows in both the Arctic and Antarctic" (Quoted). [Article]
Mar. 2017	Climate Central, "Arctic Sea Ice Continues Its Astonishing Streak of Lows" (Quoted). [Article]
Feb. 2017	The Washington Post, Capital Weather Gang, "'Beyond the extreme': Scientists marvel at 'increasingly non-natural' Arctic warmth" (Quoted). [Article]
Jan. 2017	UCI News, "Climate change champions" (Interview). [Article]
Dec. 2016	NPR, "North Pole Temperatures Expected To Rise 50 Degrees Above Normal" (Interview).
Dec. 2016	Yahoo News, "Bizarre North Pole temperatures cap off year of record-setting warmth" (Quoted). [Article]

Dec. 2016	The Washington Post, Capital Weather Gang, "Forecast: North Pole to warm 50 degrees above normal Thursday, near melting point" (Quoted). [Article]
Nov. 2016	American Geophysical Union Blogs, "A conversation with Zack Labe" (Interview). [Article]
Nov. 2016	The Washington Post, "The North Pole is an insane 36 degrees warmer than normal as winter descends" (Quoted). [Article]
Oct. 2016	The Sydney Morning Herald, "Polar heatwaves have ice in retreat at both ends of the planet" (Quoted). [Article]
Oct. 2016	The Washington Post, Capital Weather Gang, "Arctic sea ice is at a record low and could, in spurts, disappear within our lifetimes" (Quoted). [Article]
Oct. 2016	Climate Central, "This is What It's Like To Be a Young Climate Scientist" (Interview). [Article]
Sep. 2016	New York Times, Dot Earth, "Arctic Summer Sea Ice - Going Down, Down, Down" (Contributed). [Article]
Sep. 2016	<i>Mashable</i> , "Sailboat nears goal of circumnavigating the Arctic as sea ice plummets" ( <b>Quoted</b> ). [Article]
Aug. 2016	Cornell University, "Early-onset spring models may indicate 'nightmare' for ag" ( <b>Press Release</b> ). [Article]
Jul. 2016	The Weather Junkies Podcast, "The Science of Modeling Climate & Weather" (Interview).

Visit my Bluesky! (>100,000 followers across social media)

## PERSONAL INTERESTS

Vegetable gardening, travel, cooking, hiking, fishing, lighthouses, trains, winter synoptic storms, long-range and seasonal weather forecasting