

# Zachary M. Labe

## CONTACT INFORMATION

201 Forrestal Road  
Atmospheric and Oceanic Sciences  
NOAA GFDL and Princeton University  
Princeton, New Jersey 08540 USA

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🌐 <https://sites.uci.edu/zlabe/>  
🐦 @ZLabe  
🆎 [orcid.org/0000-0002-6394-7651](https://orcid.org/0000-0002-6394-7651)

## RESEARCH INTERESTS

large-scale climate variability • atmospheric teleconnections • stratospheric coupling • Arctic sea ice • data science methods • large ensembles • extremes

## EDUCATION

**University of California, Irvine**, Irvine, CA  
Ph.D. in Earth System Science, May 2020

**University of California, Irvine**, Irvine, CA  
M.Sc. in Earth System Science, Sep 2017

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

## ACADEMIC EMPLOYMENT

|              |                                                                                                                                           |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 2022-Present | <b>Postdoctoral Research Associate</b><br>Advisors: Drs. Thomas Delworth and Nathaniel Johnson,<br>Princeton University AOS and NOAA GFDL |
| 2020-2022    | <b>Postdoctoral Researcher</b><br>Advisor: Dr. Elizabeth Barnes, Atmospheric Science,<br>Colorado State University                        |
| 2015-2020    | <b>Graduate Research Assistant</b><br>Advisor: Dr. Gudrun Magnusdottir, Earth System Science,<br>University of California, Irvine         |
| Su. 2015     | <b>Research Assistant</b><br>Advisor: Dr. Toby Ault, Earth and Atmospheric Science,<br>Cornell University                                 |
| 2014-2015    | <b>Undergraduate Research Assistant</b><br>Advisor: Dr. Toby Ault, Earth and Atmospheric Science,<br>Cornell University                   |

## PUBLICATIONS

### *Refereed/Peer-Reviewed*

- [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. [\[Article\]](#) [\[DOE EESM\]](#)
- [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 AI 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/vOfs-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, *Geophysical 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:10.1007/s00382-016-3313-2. [\[Article\]](#)

#### ***Publications Submitted***

- [6] Timmermans, M.-L. and **Z.M. Labe** (2022). [The Arctic] Sea surface temperature [in "State of the Climate in 2021"]. (*accepted*)
- [5] 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. (*accepted*)
- [4] Po-Chedley, S., J.T. Fasullo, N. Siler, E.A. Barnes, **Z.M. Labe**, C.J.W. Bonfils, and B.D. Santer (2022). Internal variability and forcing influence model-satellite differences in the rate of tropical tropospheric warming. (*submitted*)

- [3] Witt, J.K., D.A. Szafir, **Z.M. Labe**, and E.A. Barnes (2022). Perceiving internal climate variability: signaling change through animation decreases performance. (*submitted*)
- [2] Witt, J.K., **Z.M. Labe**, and B.A. Clegg (2022). An Alternative to the “Cone of Uncertainty” that is Flexible, Intuitive, and Desirable for Communicating Hurricane Forecasts. (*submitted*)
- [1] Witt, J.K., **Z.M. Labe**, A.C. Warden, and B.A. Clegg (2022). Visualizing Uncertainty in Hurricane Forecasts with Animated Risk Trajectories. (*submitted*)

#### **Non-refereed/Other**

- [5] **Labe, Z.M.**, August 2021: Sharing data-driven stories of Arctic climate change. WMO/WWRP Year of Polar Prediction, PolarPredictNews. [\[Article\]](#)
- [4] Peings, Y., **Z.M. Labe**, and G. Magnusdottir, August 2021: How reproducible is the response to +2°C Arctic sea-ice loss in a large ensemble of simulations? CLIVAR Research Highlight. [\[Article\]](#)
- [3] **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. [\[PDF\]](#)
- [2] **Labe, Z.M.**, November 2019: Understanding Our Changing Arctic. Polar Bears International. Annual Magazine. [\[Article\]](#)
- [1] **Labe, Z.M.**, April 2015: Anomalous Early Onset of Spring in the CESM Large Ensemble. Cornell University. Undergraduate Honors Thesis. [\[PDF\]](#)

#### **ORAL PRESENTATIONS**

- [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*, Virtual Attendance (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*, Virtual Attendance (Dec 2021) (**Invited-Remote**) [\[Abstract\]](#)
- [23] **Labe, Z.M.** Exploring climate change signals with explainable AI. *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 AI. *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)** [\[Recording\]](#)
- [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). [\[Recording\]](#)

- [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

- [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

- [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).

## FELLOWSHIPS AND AWARDS

|           |                                                                                                |
|-----------|------------------------------------------------------------------------------------------------|
| 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,                                    |



## TEACHING AND OUTREACH

Department of Earth System Science, University of California, Irvine  
2014-2015 Fuerst Outstanding Library Student Employee Award Finalist, Cornell University

### **Mentoring Experience**

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 Environmental 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**

Jul. 2022 *REU Professional Development Series*, Making effective and accessible figures, Colorado State University, Fort Collins, CO. **(Presenter-Invited)**

Jul. 2022 *Polar Bears International*, 'State of the Arctic 2022' - Blog Post **(Author)** [\[Article\]](#)

Jun. 2022 *GFDL/AOS Summer Internship Lecture Series*, Learning new climate 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 Startup School, Finland. **(Presenter-Invited)**

Jul. 2021 *REU Professional Development Series*, Making effective figures, Colorado State University, Fort Collins, CO. **(Presenter-Invited)**

Jul. 2021 *Polar Bears International*, 'State of the Arctic' - Blog Post **(Author)** [\[Article\]](#)

Jun. 2021 *US Climate Variability and Predictability*, 2021 June CLIVAR Newsgam **(Featured Graphics)** [\[Article\]](#)

Jun. 2021 *ABC News*, Climate summit for the ABC network **(Panelist-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)**

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|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mar. 2021 | <i>Department of Atmospheric Science</i> , Improving science (communication) through data visualization, Colorado State University, Fort Collins, CO. ( <b>Presenter-Remote</b> )     |
| Feb. 2021 | <i>School of Global Environmental Sustainability - HumanNature Blog</i> , 'Telling stories with data' - Blog Post ( <b>Author</b> ) <a href="#">[Article]</a>                         |
| Jan. 2021 | <i>20th AMS Annual Student Conference</i> , Poster Judge ( <b>Remote</b> )                                                                                                            |
| Oct. 2020 | <i>Cornell Chapter of the American Meteorological Society</i> , Professional Series: Academic Sector ( <b>Panelist-Remote</b> )                                                       |
| Oct. 2020 | <i>AMS Early Career Leadership Academy</i> , Session on Climate Change Communications ( <b>Panelist-Remote</b> )                                                                      |
| Sep. 2020 | <i>Polar Bears International</i> , 'A Sign of the Future: Summer 2020 in the Arctic' - Blog Post ( <b>Author</b> ) <a href="#">[Article]</a>                                          |
| Jul. 2020 | <i>Polar Bears International</i> , 'State of the Arctic in 2020' - Blog Post ( <b>Author</b> ) <a href="#">[Article]</a>                                                              |
| Mar. 2020 | <i>Climate, Literacy, Empowerment And iNquiry (CLEAN)</i> , The Cryosphere Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )              |
| Feb. 2020 | <i>Irvine Unified School District's 39<sup>th</sup> Annual Science Fair</i> , Physical science project judge, Irvine, CA ( <b>Volunteer</b> )                                         |
| Jan. 2020 | <i>100th American Meteorological Society Annual Meeting</i> : Side Panel - Using Social Media to Communicate Climate Science, Boston, MA. ( <b>Chair</b> ) <a href="#">[Abstract]</a> |
| Nov. 2019 | <i>Department of Earth System Science</i> , Improving scientific graphics of climate (change) data, University of California, Irvine, CA. ( <b>Presenter</b> )                        |
| Oct. 2019 | <i>Irvine Unified School District</i> , "Ask-A-Scientist/Engineer Night" at Creekside High School, Orange County, CA ( <b>Volunteer</b> )                                             |
| Sep. 2019 | <i>Geological Society of America Annual Meeting</i> , Geoscience Communication in the Modern Age - "A Changing Arctic", Phoenix, AZ ( <b>Contributed Art</b> )                        |
| Sep. 2019 | <i>UC Irvine Graduate Orientation</i> , Session Title - Healthy Student Life - The Current Student Perspective, Irvine, CA ( <b>Panelist</b> )                                        |
| May 2019  | <i>College and Career Day Experience</i> , MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )                                                              |
| Apr. 2019 | <i>Vista Verde School</i> , Weather and climate booth at an Earth Science Day fair, Irvine, CA ( <b>Presenter</b> )                                                                   |
| Mar. 2019 | <i>Climate, Literacy, Empowerment And iNquiry (CLEAN)</i> , Weather and Climate Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )         |
| Feb. 2019 | <i>Orange County Regional Science Olympiad</i> , Climate Science-Meteorology exam writer and proctor, Irvine, CA ( <b>Event Supervisor</b> )                                          |
| Feb. 2019 | <i>Climate, Literacy, Empowerment And iNquiry (CLEAN)</i> , The Cryosphere Outreach event, MacArthur Fundamental Intermediate School, Santa Ana, CA ( <b>Presenter</b> )              |
| Dec. 2018 | NOAA, Arctic Report Card - Update for 2018. <a href="#">[Contributed Graphics]</a>                                                                                                    |
| Oct. 2018 | <i>Brews and Brains: TED-Style Talk</i> , Our Changing Arctic, Fireside Tavern, Costa Mesa, CA. ( <b>Invited Presenter</b> ). <a href="#">[Recording]</a>                             |
| Oct. 2018 | <i>Irvine Unified School District</i> , "Ask-A-Scientist/Engineer Night" at Rancho San Joaquin Middle School, Orange County, CA ( <b>Volunteer</b> )                                  |



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

## PROFESSIONAL ACTIVITIES & SERVICE

|              |                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------|
| 2021-Present | Guest Editor - Special Issue for <i>Atmospheric Science Letters</i>                                                        |
| 2021-Present | Board Member - US Association of Polar Early Career Scientists                                                             |
| 2020-Present | Conference Paper Referee - <i>AI4Earth NeurIPS</i>                                                                         |
| 2020-Present | Board of Advisors for the NCAR/UCAR Climate Data Guide                                                                     |
| 2020-Present | Proposal Referee - <i>NSF (GEO/AGS)</i> , <i>NSF (ANS)</i> , <i>Netherlands Organisation for Scientific Research (NWO)</i> |

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| 2018-Present | Journal Manuscript Referee <a href="#">[Publons]</a> - <i>Artificial Intelligence for the Earth Systems, Atmosphere-Ocean, Atmosphere, Climatic Change, Climate Dynamics, Geophysical Research Letters, Geosciences, International Journal of Climate, Journal of Climate, Journal of Geophysical Research: Atmospheres, Journal of Glaciology, Nature Climate Change, Nature Communications, Polar Geography, Remote Sensing, Scientific Reports, Weather and Climate Dynamics</i> |
| 2021-2022    | Science Associate - 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                                                                                                                                                                                                                                                                                                                                                                                                      |
| Aug. 2017    | Expert Contributor to the UCAR Climate Data Guide: "Sea Ice Thickness Data Sets: Overview & Comparison Table" <a href="#">[Website]</a>                                                                                                                                                                                                                                                                                                                                             |
| 2014-2015    | President, American Meteorological Society Student Chapter, Cornell University                                                                                                                                                                                                                                                                                                                                                                                                      |

### ***Affiliations/Memberships***

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| 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 TRAVEL**

### ***Field Work***

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|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 2017 | INTPART Arctic Field Summer Schools: Norway-Canada-USA collaboration, University of Tromsø, Norway (Workshops); Longyearbyen, Svalbard (R/V <i>Lance</i> - sea ice) |
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### ***Workshops***

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|-----------|--------------------------------------------------------------------------------------------------|
| 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)                          |

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| 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<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X, B<sub>I</sub>B<sub>T</sub>E<sub>X</sub>  
 Software/Tools: NCL, NCO, CDO, GrADS, Git, Scikit-learn, TensorFlow/Keras  
 Modeling: NCAR's Yellowstone/Cheyenne, CESM, E3SM, CMIP5/6

Visit my [GitHub](#) !

## NEWS AND MEDIA

|           |                                                                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jul. 2022 | <i>Forbes</i> , "Yes, It's Getting Hotter - This Simple Graphics Explains" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                               |
| Jul. 2022 | <i>Politico</i> , "GIF of the Day - POLITICO's Power Switch" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                             |
| Jul. 2022 | <i>Val 202 - Slovene radio station</i> , "Točka preloma ali točka brez povratka?" ( <b>Interview</b> ). <a href="#">[Article]</a>                                     |
| Jul. 2022 | <i>Foresight</i> , "Bringing Data Driven Stories to Life with Zack Labe" ( <b>Interview</b> ). <a href="#">[Article]</a>                                              |
| Mar. 2022 | <i>Gizmodo</i> , "Record-Shattering Heat at Both Poles Is Freaking Scientists Out" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                       |
| Mar. 2022 | <i>Vice</i> , "'Never Supposed to Happen': North and South Poles See Unprecedented Heat" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                 |
| Mar. 2022 | <i>Yahoo News</i> , "'Not a good sign': Both of Earth's poles see temperatures 30C and 40C above normal" ( <b>Quoted</b> ). <a href="#">[Article]</a>                 |
| Mar. 2022 | <i>Carbon Brief</i> , "Arctic sea ice winter peak in 2022 is 10th lowest on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                      |
| Jan. 2022 | <i>Data Skeptic Podcast</i> , "Explainable climate science" ( <b>Interview</b> ). <a href="#">[Podcast]</a>                                                           |
| Nov. 2021 | <i>EnergieWinde</i> , "Zachary Labes Grafiken zum Klimawandel" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                        |
| Oct. 2021 | <i>Mashable</i> , "Gaping hole opened up in 'Last Ice Area' of the Arctic, NASA images show" ( <b>Quoted</b> ). <a href="#">[Article]</a>                             |
| Oct. 2021 | <i>CNN</i> , "Antarctica's last 6 months were the coldest on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                     |
| Sep. 2021 | <i>Blasting News</i> , "From Carlos Nobre to Svein Tveitdal, 6 climate activists share ways to tackle climate change" ( <b>Interview</b> ). <a href="#">[Article]</a> |
| Sep. 2021 | <i>Carbon Brief</i> , "Arctic sea ice summer minimum in 2021 is '12th lowest' on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                 |

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|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sep. 2021 | <i>Arctic Today</i> , "As it approaches its yearly minimum, Arctic sea ice extent its slightly greater than recent ultra-low years" <b>(Quoted)</b> . <a href="#">[Article]</a>                             |
| Sep. 2021 | <i>BreezoMeter</i> , "Top 20 Leading Weather & Climate Voices to Follow in 2021" <b>(Listed)</b> . <a href="#">[Article]</a>                                                                                |
| Aug. 2021 | <i>National Geographic</i> , "Siberia's massive wildfires are unlocking extreme carbon pollution" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                               |
| Jul. 2021 | <i>The Washington Post</i> , <i>Capital Weather Gang</i> , "Arctic climate change may not be making winter jet stream weird after all" <b>(Featured Study)</b> . <a href="#">[Article]</a>                  |
| Jul. 2021 | <i>Sky News</i> "A crisis of fire and ice: Deadly heatwaves and record ice melt tell a story of extreme weather that's here to stay" <b>(Quoted)</b> . <a href="#">[Article]</a>                            |
| Jun. 2021 | <i>ABC News</i> , "It's Not Too Late: Extreme heat in the Arctic" <b>(Interview)</b> . <a href="#">[Article]</a>                                                                                            |
| Jun. 2021 | <i>ABC News</i> , "Heat wave in Russia brings record-breaking temperatures north of Arctic Circle" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                              |
| Jun. 2021 | <i>The Independent</i> , "Merciless temperatures push Moscow to hottest June day in 142 years, as heatwave hits Russia" <b>(Quoted)</b> . <a href="#">[Article]</a>                                         |
| May 2021  | <i>Science Magazine</i> , "Landmark study casts doubt on controversial theory linking melting Arctic to severe winter weather" <b>(Featured Study)</b> . <a href="#">[Article]</a>                          |
| Apr. 2021 | <i>Inverse</i> , "What will the Earth look like in 2121? 10 young leaders give their predictions" <b>(Interview)</b> . <a href="#">[Article]</a>                                                            |
| Mar. 2021 | <i>Carbon Brief</i> , "Arctic sea ice winter peak in 2021 is joint-seventh lowest on record" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                    |
| Mar. 2021 | <i>Bloomberg</i> , "Arctic Lightning Strikes Tripled in a Decade" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                               |
| Feb. 2021 | <i>KCSU FM Radio</i> , "Explaining the polar vortex, U.S. COVID-19 deaths pass 500,000" <b>(Interview)</b> . <a href="#">[Radio]</a>                                                                        |
| Feb. 2021 | <i>Weather Geeks Podcast</i> , "Arctic Report Card 2020" <b>(Interview)</b> . <a href="#">[Podcast]</a>                                                                                                     |
| Jan. 2021 | <i>Blasting News</i> , "Zack Labe on Arctic climate change: It's important to communicate data in an accessible way" <b>(Interview)</b> . <a href="#">[Article]</a>                                         |
| Jan. 2021 | <i>CBS News</i> , "Sudden stratospheric warming could mean wild winter storms ahead" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                            |
| Jan. 2021 | <i>Inside Climate News</i> , "Many Scientists Now Say Global Warming Could Stop Relatively Quickly After Emissions Go to Zero" <b>(Quoted)</b> . <a href="#">[Article]</a>                                  |
| Dec. 2020 | <i>Australian Broadcasting Corporation</i> , "The vanishing Arctic" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                             |
| Dec. 2020 | <i>Cambridge Climate Lecture Series: Shaping the Future Podcast</i> , "Decoding NOAA's Arctic Report Card With Contributing Climate Scientist, Dr Zack Labe" <b>(Interview)</b> . <a href="#">[Podcast]</a> |
| Dec. 2020 | <i>The Guardian</i> , "Greenhouse gas emissions transforming the Arctic into an entirely different climate" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                     |
| Nov. 2020 | <i>CBS News</i> , "Temperatures in the Arctic are astonishingly warmer than they should be" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                     |
| Nov. 2020 | <i>Cambridge Climate Lecture Series: Shaping the Future Podcast</i> , "Laptev Sea Not Refreezing & Other Arctic Climate Notes With Dr. Zack Labe" <b>(Interview)</b> . <a href="#">[Podcast]</a>            |


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|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oct. 2020 | <i>High North News</i> , "Large Parts of Arctic Ocean See Delayed Re-freeze With Sea Ice at Record Low" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                            |
| Oct. 2020 | Vox, "Why the record low Arctic sea ice this October is so alarming" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                               |
| Oct. 2020 | <i>The Guardian</i> , "Alarm as Arctic sea ice not yet freezing at latest date on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                          |
| Sep. 2020 | <i>National Geographic</i> , "The jet stream is bringing fire weather to the West and a chill to the East" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                         |
| Sep. 2020 | <i>ABC News</i> , "2nd-lowest Arctic sea ice increases concerns about impact of climate change on Indigenous communities" ( <b>Interview</b> ). <a href="#">[Video]</a>                         |
| Sep. 2020 | <i>The Washington Post</i> , <i>Capital Weather Gang</i> , "Arctic sea ice slides to second-lowest level on record, thanks to Siberian heat waves" ( <b>Quoted</b> ). <a href="#">[Article]</a> |
| Sep. 2020 | <i>Earth.com</i> , "Arctic sea ice reached its second lowest extent this year" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                     |
| Sep. 2020 | <i>High North News</i> , "Arctic Sea Ice Shrinks to Second-Lowest Extent Amid Record High Temperatures" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                            |
| Sep. 2020 | <i>Earther</i> , "Arctic Sea Ice Hit a Scary Milestone" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                                            |
| Sep. 2020 | <i>Mashable</i> , "Arctic ice drops below a grim benchmark" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                                        |
| Sep. 2020 | <i>Carbon Brief</i> , "Arctic sea ice shrinks to second-lowest summer minimum on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                           |
| Aug. 2020 | <i>Val 202 - Slovene radio station</i> , "Globalne temperature v vzponu, Arktika kmalu brez ledu" ( <b>Interview</b> ). <a href="#">[Article]</a>                                               |
| Aug. 2020 | <i>Bloomberg</i> , "The First Arctic Summer Without Ice Is Coming in Just 15 Years" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                |
| Aug. 2020 | <i>CBS News</i> , "In just 15 years, the Arctic Ocean may be ice-free in summer, study says" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                       |
| Jul. 2020 | <i>E&amp;E News</i> , "Fires, heat and a cyclone. Arctic breaks melting record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                    |
| Jul. 2020 | <i>CSU Engineering Source News</i> , "Five questions with Atmospheric Science climate scientist Zachary Labe" ( <b>Interview</b> ). <a href="#">[Article]</a>                                   |
| Jul. 2020 | <i>TBS eFM</i> , "Live radio broadcast on "This Morning" show in Seoul, South Korea" ( <b>Interview</b> ). <a href="#">[Recording]</a>                                                          |
| Jul. 2020 | <i>Vice</i> , "Siberia's Heat Wave Triggered an Arctic Sea Ice Melt Down" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                          |
| Jul. 2020 | <i>Mashable</i> , "Why Arctic sea ice just crashed to an extreme, record low" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                      |
| Jul. 2020 | <i>9News</i> , "Climate change: Siberian Arctic ice forming less, melting faster than any year since 1979" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                         |
| Jul. 2020 | <i>The Hill</i> , "Climate researcher details historic significance of recent warming in Siberia" ( <b>Interview</b> ). <a href="#">[Article]</a>                                               |
| Jul. 2020 | <i>Sustainability – CSU</i> , "SHH! Sustainability Happy Hour with Dr. Zack Labe" ( <b>Interview</b> ). <a href="#">[Video]</a>                                                                 |
| Jul. 2020 | <i>Rising – Hill.TV</i> , "Climate Scientist: Why You Should Worry About 100 Degree Temps In Siberia" ( <b>Interview</b> ). <a href="#">[Video]</a>                                             |
| Jul. 2020 | <i>National Geographic</i> , "A heat wave thawed Siberia's tundra. Now, it's on fire" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                              |
| Jul. 2020 | <i>CBS News</i> , "100.4 degree Arctic temperature record confirmed as study suggests Earth is warmest in at least 12,000 years" ( <b>Quoted</b> ). <a href="#">[Article]</a>                   |

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|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jun. 2020 | <i>The Telegraph</i> , "Siberia heatwave: Fears of 'irreversible' permafrost melt as Russian village sees record temperatures" <b>(Quoted)</b> . <a href="#">[Article]</a>                      |
| Jun. 2020 | <i>Mashable</i> , "How the Arctic Circle just eclipsed 100 degrees" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                 |
| Jun. 2020 | <i>CBS News</i> , "2020 likely to be the warmest year on record globally" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                           |
| Jun. 2020 | <i>UCI News</i> , "Zack Labe cracks a cold case" <b>(Interview)</b> . <a href="#">[Article]</a>                                                                                                 |
| May 2020  | <i>The Washington Post, Capital Weather Gang</i> , "Parts of Siberia are hotter than Washington, with temperatures nearly 40 degrees above average" <b>(Quoted)</b> . <a href="#">[Article]</a> |
| May 2020  | <i>The Washington Post, Capital Weather Gang</i> , "Unusual warmth pours over North Pole, potentially jump-starting melt season for Arctic ice" <b>(Quoted)</b> . <a href="#">[Article]</a>     |
| Apr. 2020 | <i>Nightingale – The Journal of the Data Visualization Society</i> , "Six Iconic Environmental Visualizations for Earth Day" <b>(Listed)</b> . <a href="#">[Article]</a>                        |
| Mar. 2020 | <i>Mashable</i> , "Even after a frigid winter, Arctic sea ice is still really low" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                  |
| Feb. 2020 | <i>You've Been Warmed Podcast</i> , "The Power Of Visualizing Data In Climate Communication w/ Zack Labe" <b>(Interview)</b> . <a href="#">[Podcast]</a>                                        |
| Dec. 2019 | <i>AGU Annual Meeting</i> , "Department of Earth System Science, University of California, Irvine - promo" <b>(Interview)</b> . <a href="#">[Video]</a>                                         |
| Nov. 2019 | <i>Euronews</i> , "Arctic ice reached record low in October" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                        |
| Sep. 2019 | <i>Carbon Brief</i> , "Arctic sea ice summer minimum in 2019 is 'joint-second lowest' on record" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                    |
| Sep. 2019 | <i>Mashable</i> , "Arctic sea ice plunges to dismal levels" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                         |
| Sep. 2019 | <i>Euronews</i> , "How summer 2019 was hellish for the Arctic, the frontline of climate change and global warming" <b>(Quoted)</b> . <a href="#">[Article]</a>                                  |
| Aug. 2019 | <i>The Guardian</i> , "Alaska records warmest month ever in July with coastline barren of sea ice" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                  |
| Aug. 2019 | <i>TIME</i> , "Alaska's Sea Ice Has Its Lowest August Levels Ever" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                  |
| Aug. 2019 | <i>Mashable</i> , "Greenland's melting hits overdrive" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                              |
| Jul. 2019 | <i>Motherboard</i> , "Arctic Ice Is Crashing, and That's Bad News For Everyone" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                     |
| Jul. 2019 | <i>Wunderground</i> , "Heat Wave Heads North: Massive Week of Melting Likely in Arctic" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                             |
| Jul. 2019 | <i>The Washington Post, Capital Weather Gang</i> , "Europe's heat wave is about to bake the Arctic" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                 |
| Jun. 2019 | <i>The Washington Post, Capital Weather Gang</i> , "The Arctic Ocean and Greenland ice sheet have seen record June ice loss" <b>(Quoted)</b> . <a href="#">[Article]</a>                        |
| Jun. 2019 | <i>Axios</i> , "Arctic melt goes into overdrive" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                                                    |
| Jun. 2019 | <i>Mashable</i> , "There's some really intense melting in the Arctic right now" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                                     |
| May 2019  | <i>Earthier</i> , "The Last of the Arctic's Old Sea Ice Is on the Verge of Vanishing" <b>(Quoted)</b> . <a href="#">[Article]</a>                                                               |



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| Mar. 2019 | <i>Carbon Brief</i> , "Arctic sea ice winter peak in 2019 is seventh lowest on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                              |
| Mar. 2019 | <i>Axios</i> , "Vanishing ice in the Bering Sea drops to lowest level since 1850" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                   |
| Mar. 2019 | <i>Mashable</i> , "The Bering Strait should be covered in ice, but it's nearly all gone" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                            |
| Feb. 2019 | <i>CBS News</i> , "Week of remarkable weather extremes: Is this the new normal?" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                    |
| Feb. 2019 | <i>Mashable</i> , "It's damn cold, but heat records in the U.S. still dominate" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                     |
| Jan. 2019 | <i>Popular Science</i> , "Record cold temperatures don't mean the planet isn't warming" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                             |
| Oct. 2018 | <i>Mashable</i> , "Things in the middle of the Arctic are getting really strange" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                   |
| Oct. 2018 | <i>KUCI Radio</i> , "Arctic Sea Ice and Meteorology with Zack Labe" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                                              |
| Sep. 2018 | <i>Euronews</i> , "Arctic heatwave could result in summer-like warmth for Alaska" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                   |
| Sep. 2018 | <i>Carbon Brief</i> , "Arctic sea ice summer minimum in 2018 is sixth lowest on record" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                             |
| Aug. 2018 | <i>Val 202 - Slovene radio station</i> "The Arctic is rapidly melting" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                                           |
| Jun. 2018 | <i>Earther</i> , "There's Way Too Little Ice Around Svalbard Right Now" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                             |
| May 2018  | <i>The Washington Post, Capital Weather Gang</i> , "'Fallen off a cliff': Scientists have never observed so little ice in the Bering Sea in spring" ( <b>Quoted</b> ). <a href="#">[Article]</a> |
| Mar. 2018 | <i>Earther</i> , "Both Poles Are Having a Weird, Bad Year For Sea Ice So Far" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                       |
| Mar. 2018 | <i>United States Senate – Senator Sheldon Whitehouse (D-RI)</i> , "Time to wake up: Climate Progress" ( <b>Supplied Graphic</b> ). <a href="#">[Speech]</a>                                      |
| Feb. 2018 | <i>PennLive</i> , "Harrisburg-area grad, scientist fuels buzz behind news that North Pole temps surged past freezing" ( <b>Interview</b> ). <a href="#">[Article]</a>                            |
| Feb. 2018 | <i>Mashable</i> , "Drastic Arctic warm event stuns scientists, as record-breaking temperatures reach the North Pole" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                |
| Feb. 2018 | <i>The Washington Post, Capital Weather Gang</i> , "North Pole surges above freezing in the dead of winter, stunning scientists" ( <b>Quoted</b> ). <a href="#">[Article]</a>                    |
| Feb. 2018 | <i>Earther</i> , "Bering Sea Ice Is Disappearing When it Should Still Be Growing" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                   |
| Feb. 2018 | <i>USA Today</i> , "Arctic sea ice at record low January levels" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                                    |
| Feb. 2018 | <i>UT Austin Geosciences</i> , "Social media: changing the science communication landscape" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                      |
| Dec. 2017 | <i>USA Today</i> , "It's cold outside, but that doesn't mean climate change isn't real" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                             |
| Sep. 2017 | <i>The Sydney Morning Herald</i> , "Attacked from two sides: Antarctic sea ice hits another record low" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                             |
| Aug. 2017 | <i>The Verge</i> , "This Artist's New Landscape Studies are of Melting Glaciers" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                    |
| Jul. 2017 | <i>Climate Central</i> , "Here's How Much Arctic Sea Ice Has Melted Since the '80s" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                 |

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|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jun. 2017 | <i>Climate Central</i> , "We Couldn't Monitor Larsen C Without These Satellites" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                    |
| Apr. 2017 | <i>Mashable</i> , "Arctic ice in retreat: NASA's airborne survey shows how global warming is transforming the Arctic" ( <b>Quoted</b> ). <a href="#">[Article]</a>                               |
| 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> ). <a href="#">[Article]</a>                          |
| Mar. 2017 | <i>Carbon Brief</i> , "Sea ice falls to record lows in both the Arctic and Antarctic" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                               |
| Mar. 2017 | <i>Climate Central</i> , "Arctic Sea Ice Continues Its Astonishing Streak of Lows" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                                  |
| Feb. 2017 | <i>The Washington Post</i> , <i>Capital Weather Gang</i> , "Beyond the extreme': Scientists marvel at 'increasingly non-natural' Arctic warmth" ( <b>Quoted</b> ). <a href="#">[Article]</a>     |
| Jan. 2017 | <i>UCI News</i> , "Climate change champions" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                                                                     |
| Dec. 2016 | <i>NPR</i> , "North Pole Temperatures Expected To Rise 50 Degrees Above Normal" ( <b>Interview</b> ). <a href="#">[Recording]</a>                                                                |
| Dec. 2016 | <i>Yahoo News</i> , "Bizarre North Pole temperatures cap off year of record-setting warmth" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                         |
| Dec. 2016 | <i>The Washington Post</i> , <i>Capital Weather Gang</i> , "Forecast: North Pole to warm 50 degrees above normal Thursday, near melting point" ( <b>Quoted</b> ). <a href="#">[Article]</a>      |
| Nov. 2016 | <i>American Geophysical Union Blogs</i> , "A conversation with Zack Labe" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                                        |
| Nov. 2016 | <i>The Washington Post</i> , "The North Pole is an insane 36 degrees warmer than normal as winter descends" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                         |
| Oct. 2016 | <i>The Sydney Morning Herald</i> , "Polar heatwaves have ice in retreat at both ends of the planet" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                 |
| Oct. 2016 | <i>The Washington Post</i> , <i>Capital Weather Gang</i> , "Arctic sea ice is at a record low and could, in spurts, disappear within our lifetimes" ( <b>Quoted</b> ). <a href="#">[Article]</a> |
| Oct. 2016 | <i>Climate Central</i> , "This is What It's Like To Be a Young Climate Scientist" ( <b>Interview</b> ). <a href="#">[Article]</a>                                                                |
| Sep. 2016 | <i>New York Times</i> , <i>Dot Earth</i> , "Arctic Summer Sea Ice – Going Down, Down, Down" ( <b>Contributed</b> ). <a href="#">[Article]</a>                                                    |
| Sep. 2016 | <i>Mashable</i> , "Sailboat nears goal of circumnavigating the Arctic as sea ice plummets" ( <b>Quoted</b> ). <a href="#">[Article]</a>                                                          |
| Aug. 2016 | <i>Cornell University</i> , "Early-onset spring models may indicate 'nightmare' for ag" ( <b>Press Release</b> ). <a href="#">[Article]</a>                                                      |
| Jul. 2016 | <i>The Weather Junkies Podcast</i> , "The Science of Modeling Climate & Weather" ( <b>Interview</b> ). <a href="#">[Recording]</a>                                                               |

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## PERSONAL INTERESTS

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