ZACHARY M. LABE, PH.D.

I am a climate scientist trying to visualize the signal from a lot of noise.

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BACKGROUND

- Interested in the role of climate change on prediction, extremes, & variability
- Published 31 peer-reviewed scientific articles (journals/technical reports)
- Contributor to several international annual climate assessments
- Experience in mentoring undergraduate summer research projects
- Presented >75 talks for both technical and non-specialist audiences
- >100 interviews with local to international media outlets on climate change
- Communicate climate data on X/Twitter (>1 million views per month)
- Selected as a Kavli Fellow of the National Academy of Sciences in 2019

RESEARCH & WORK EXPERIENCE

Research Physical Scientist (NOAA Federal)

Geophysical Fluid Dynamics Laboratory (GFDL)

June 2024 – Ongoing Princeton, NJ

- Applying explainable machine learning methods to output from Earth System Models for improving climate prediction and projection

Postdoc/Associate Research Scholar

Princeton University & NOAA GFDL

May 2022 – June 2024 Princeton, NJ

- Developing a framework to attribute extreme events in near real-time using climate models and other data-driven methods, like machine learning

Postdoc

Colorado State University

June 2020 – April 2022 Fort Collins, CO

- Leveraged new explainable machine learning methods for extracting patterns of forced climate change from internal variability
- Awarded a Sustainability Leadership Fellowship at Colorado State University with formal training in science communication, policy, and outreach

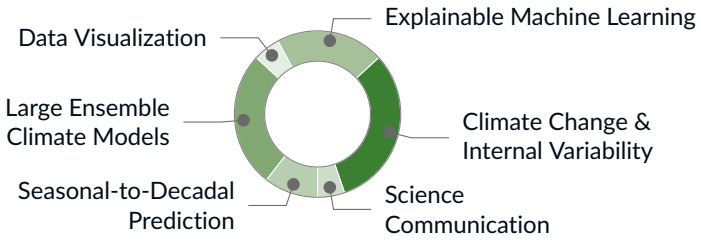
Graduate Research Assistant

University of California, Irvine

September 2015 – June 2020 Irvine, CA

- Assessed influences of Arctic amplification and Arctic sea ice on extreme weather by designing novel climate model experiments
- Awarded National Science Foundation NRT-DESE fellowship in the Machine Learning and Physical Sciences Program at the University of California, Irvine

INTERESTS



EDUCATION

Ph.D. in Earth System Science

University of California, Irvine

December 2017 – June 2020

- Thesis: The effects of Arctic sea-ice thickness loss and stratospheric variability on mid-latitude cold spells

M.Sc. in Earth System Science

University of California, Irvine

September 2015 – December 2017

B.Sc in Atmospheric Science

Cornell University

August 2011 – May 2015

- Distinction in Research
- Dyson Business Minor for Life Sciences

TECHNICAL SKILLS

Python ●●●●●
Matlab ●●●○○
bash ●●●○○
R ●●○○○

STRENGTHS

- Python Tools

Cartopy | Keras | Matplotlib | Numpy | Pandas | Seaborn | Scikit-learn | SciPy | Statsmodels | Tensorflow | Xarray

- Other Programming & Software

Git | HTML | NCL | NCO/CDO | LaTeX

- High-Performance Computing

NCAR's Cheyenne/Yellowstone | Linux | NOAA's RDHPCS | CMIP5/6 ESGF

BROADER SKILL SET

Data-driven Science | Visualization | Interdisciplinary | Kindness | Leadership | Machine Learning | Team Science | Communication | Blog/Technical Writing