

# 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 27 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

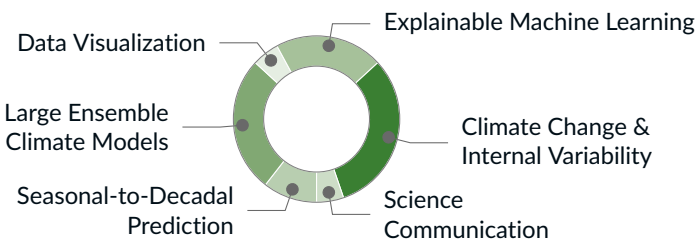
Graduate Research Assistant

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