

Yi Zhang

y.zhang@nyu.edu

909 Warren Weaver Hall, New York, NY 10012

- EMPLOYMENT **Assistant Professor of Mathematics and Atmosphere/Ocean Science** Jan 2024-
Courant Institute of Mathematical Sciences
New York University, New York, NY, USA
- Miller Postdoctoral Fellow 2021-2024** Jul 2021–Dec 2023
Miller Institute for Basic Research in Sciences
University of California, Berkeley, CA, USA.
Faculty host: William Boos
- EDUCATION **Ph.D. Atmospheric and Oceanic Sciences** Jun 2021
Princeton University, Princeton, NJ, USA.
Adviser: Stephan Fueglistaler
- M.A. Atmospheric and Oceanic Sciences** Sep 2018
Princeton University, Princeton, NJ, USA.
- B.S. Physics (major) and Economics (minor)** Jul 2016
Peking University, Beijing, China.
- PREPRINTS [1] Zhang, Y., et al. (2023). Forecasting Tropical Annual Maximum Wet-Bulb Temperatures Months in Advance from the Current State of El Niño. Authorea Preprints. <https://doi.org/10.22541/essoar.169904863.32131871/v1>
- PUBLICATIONS [2] Zhang, Y. and Boos, W. (2023). An upper bound for extreme temperatures over midlatitude land. *Proceedings of the National Academy of Sciences*, 120(12), e2215278120. <https://doi.org/10.1073/pnas.2215278120>.
(**Physics Magazine —"Predicting Heatwaves' Highest Temperatures"**)
- [3] Noyelle, R., Zhang, Y., Yiou, P., and Faranda, D. (2023). Maximal reachable temperatures for Western Europe in current climate. *Environmental Research Letters*, 18(9), 094061. <https://doi.org/10.1088/1748-9326/acf679>.
- [4] Zhang, Y., Held, I., and Fueglistaler, S. (2021). Projections of tropical heat stress under global warming constrained by atmospheric dynamics. *Nature Geoscience*, 14, 133–137. <https://doi.org/10.1038/s41561-021-00695-3>.
(**New York Times —"Global Warming's Deadly Combination: Heat and Humidity"**
The Guardian —"Global heating pushes tropical regions towards limits of human livability")
- [5] Raymond, C. et al. (2021). On the Controlling Factors for Globally Extreme Humid Heat. *Geophysical Research Letters*, 48(23), e2021GL096082. <https://doi.org/10.1029/2021GL096082>.
- [6] Zhang, Y., Jeevanjee, N., and Fueglistaler, S. (2020). Linearity of outgoing longwave radiation: From an atmospheric column to global climate models. *Geophysical Research Letters*, 47(2), e2020GL089235. <https://doi.org/10.1029/2020GL089235>.
- [7] Zhang, Y. and Fueglistaler, S. (2020). How tropical convection couples high moist static energy over land and ocean. *Geophysical Research Letters*, 47(2), e2019GL086387. <https://doi.org/10.1029/2019GL086387>.
(**Eos Editors' Highlight—"How Does Convection Work Over the Tropics?"**)
- [8] Zhang, Y. and Fueglistaler, S. (2019). Mechanism for increasing tropical rainfall unevenness

with global warming. *Geophysical Research Letters*, 46(24), 14836-14843. <https://doi.org/10.1029/2019GL086058>.

(Eos Editors' Highlight—"Understanding Tropical Rainfall Projections Under Climate Change")

INVITED
TALKS

- Atmospheric and Oceanic Science Departmental Seminar, McGill University, Feb 2024.
- Ocean and Climate Physics Seminar, Lamont-Doherty Earth Observatory, Feb 2024.
- Atmospheric sciences colloquia, University of Illinois Urbana-Champaign, Sep 2023.
- AGU Fall Meeting 2023, San Francisco, Dec 2023.
- Atmospheric sciences colloquia, University of Illinois Urbana-Champaign, Sep 2023.
- Continental Climate Workshop, Harvard University Center for the Environment (HUCE), Jun 2023.
- Center for Atmosphere Ocean Science (CAOS) Colloquium, Courant Institute, New York University, Mar 2023.
- American Physical Society (APS), March Meeting, Las Vegas, Mar 2023.
- Environmental Science and Engineering (ESE) Seminar, California Institute of Technology, Mar 2023.
- Department of Atmospheric and Oceanic Sciences, University of California, Los Angeles, Feb 2023.
- Climate Seminar, Program in Atmospheric and Oceanic Sciences, Department of Geosciences, High Meadows Environmental Institute, Princeton University, Feb 2023.
- American Geophysical Union (AGU) Fall Meeting 2022, Dec 2022.
- AGU Atmospheric Section Early-Career Seminar, online, Aug 2022.
- Continental Climate Change Workshop, University of St Andrews, UK, Jun 2022.
- Atmospheric and Oceanic Sciences Seminar, University of California, Los Angeles, Oct 2021
- Earth and Planetary Science Seminar, University of California, Berkeley, Oct 2021
- Yale-NUIST Center on Atmospheric Environment, May 2021.
- Atmosphere Ocean Climate Dynamics (AOCD) Seminars, Yale University, Mar 25, 2021
- American Geophysical Union Fall Meeting 2020, Dec 2020.
- "Tent and Tent Poles: Simple Theories to Understand Rainfall and Extreme Heat in the Tropics", Climate Seminar Series, Princeton University, Princeton, NJ, Feb 2020.

CONFERENCE
TALKS

- AGU Fall Meeting 2023, San Francisco, Dec 2023.
- CalGFD, La Jolla, Sep 2023.
- European Meteorological Society Annual Meeting 2022, virtual, Sep 2022.
- 2nd Model Hierarchy Workshop, Stanford, Aug 2022.
- European Geosciences Union General Assembly 2022, virtual, May 2022.
- American Meteorological Society's 102nd Annual Meeting, January 2022.
- American Geophysical Union Fall Meeting 2021, Dec 2021.
- American Meteorological Society's 34th Conference on Hurricanes and Tropical Meteorology, May 2021.
- European Geosciences Union General Assembly 2021, virtual, Apr 2021.
- American Geophysical Union Fall Meeting 2020, virtual, Dec 2020.
- "From Spectroscopy to Climate" Virtual Workshop, Princeton, NJ, Jun 2020.
- American Geophysical Union Fall Meeting 2019, San Francisco, CA, Dec 2019.
- 22nd Atmospheric and Oceanic Fluid Dynamics Conference, Portland, Maine, Jun 2019.

- POSTERS
- Gordon Research Conference on Radiation and Climate, Bates College, Jul 2023.
 - 23rd Conference on Atmospheric and Oceanic Fluid Dynamics, Breckenridge, CO, Jun 2022.
 - GFDL Poster Expo, May 2019.
 - American Geophysical Union Fall Meeting 2018, Washington D.C., Dec 2018.
- TEACHING
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| Teaching Assistant, EPS 198: Careers in the Earth and Planetary Sciences and Beyond, University of California, Berkeley | Spring 2023 |
| Teaching Assistant, ENV 367: Modeling the Earth System, Princeton University | Fall 2018 |
| Teaching Assistant, GEO 361: Earth's Atmosphere, Princeton University | Fall 2017 |
| Teaching Assistant, Methods of Mathematical Physics, Peking University | Spring 2016 |
- SERVICE
- Session chair** for the 23rd Conference on Atmospheric and Oceanic Fluid Dynamics, and the 2nd Model Hierarchy Workshop.
- Judge** of student presentations for the 23rd Conference on Atmospheric and Oceanic Fluid Dynamics and the 2022 Fall Meeting of the American Geophysical Union.
- Reviewer** for *Proceedings of the National Academy of Sciences*, *Nature Geoscience*, *Scientific Reports*, *Geophysical Research Letters*, *Mitigation and Adaptation Strategies for Global Change*, *Journal of Climate*, *Earth's Future*.
- Reader** for senior thesis in Department of Geosciences, Princeton University.
- Mentor** for junior graduate students in the Princeton Women in Geosciences Mentoring Program.
- Student-Faculty Representative** for AOS Program, Fall 2019-Spring 2020.
- Organizer** of 2019 AOS Workshop on "Machine Learning and Climate Modeling", Princeton, NJ.
- Organizer** of the 2018 weekly AOS student-postdoc seminar series, Princeton, NJ.
- Volunteer** for 2022 Fall El Cerrito Highschool outreach, El Cerrito, CA.
- Volunteer** for 2018 Young Women's Conference in STEM, Princeton Plasma Physics Laboratory, Princeton, NJ.
- AWARDS
- Wagner Award for Women in Atmospheric Sciences, 2021
- NOAA Climate & Global Change Fellowship 2021 (declined)
- Miller Research Fellowship 2021-2024, Miller Institute, UC Berkeley
- Outstanding Student and PhD candidate Presentation Award, European Geosciences Union, General Assembly 2021
- First Place Oral Presentation Award, 34th Conference on Hurricanes and Tropical Meteorology Virtual Meeting, 2021
- Outstanding Student Presentation Award, American Geophysical Union Fall Meeting 2019
- James and Teresa Mises '91 Graduate Fellowship, Princeton University, 2017