Jane W. Baldwin

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EDUCATION

Princeton University, Princeton, NJ
Ph.D. in Atmospheric and Oceanic Sciences (AOS) *2012 – 2018*
Doctoral Advisor: Gabriel A. Vecchi
Dissertation title: Orographic Controls on Asian Hydroclimate, and an Examination of Heat Wave Temporal Compounding

Harvard University, Cambridge, MA
B.A. in Earth and Planetary Sciences *2007 – 2012*
Summa Cum Laude. Cumulative GPA: 3.94.
Thesis Advisor: Peter Huybers
Thesis title: The Interactions of Precipitation and Temperature in Determining the Equilibrium of Glaciers (*awarded highest departmental honors*)
Secondary Field in East Asian Studies, Language Citation in Mandarin Chinese

APPOINTMENTS

Assistant Professor of Earth System Science, University of California Irvine *2021 – present*

Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory, Columbia University *2021 – present*

Postdoctoral Fellow, Lamont-Doherty Earth Observatory, Columbia University *2019 – 2021*

Postdoctoral Research Associate, Princeton Environmental Institute *2018 – 2019*

Applied Scientist Intern, Descartes Labs *Jun 2018 – Sep 2018*

Graduate Research Assistant, Princeton Climate Dynamics Group and NOAA Geophysical Fluid Dynamics Laboratory *2012 – 2018*

PEI-STEP Fellow, Princeton University, Woodrow Wilson School *2015 – 2018*

Undergraduate Research Assistant, Harvard Climate Dynamics Group *2010 – 2012*

PUBLICATIONS

**Denotes student advisee.*

Under Review

17. Vanos, J., G. Guzman-Echavarria, **J. Baldwin**, C. Bongers, K. Ebi, O. Jay. "A physiological approach for assessing human survivability and liability to heat in a changing climate." In review with *Nature Communications*.

16. Parks, R., V. Kontis, G. Anderson, **J. Baldwin**, G. Danaei, R. Toumi, F. Dominici, M. Ezzati, M. Kioumourtzoglou. "Excess mortality after tropical cyclones in the United States." In revision with *Science Advances*.

All Other Publications

15. **Baldwin, J.**, T. Benmarhnia, K. Ebi, O. Jay, N. Lutsko, and J. Vanos. "Humidity's Role in Heat-Related Health Outcomes: A Heated Debate." Accepted at *Environmental Health Perspectives*.

14. **Baldwin, J.**, C.-Y. Lee, B. Walsh, S. Camargo, and A. Sobel. "Vulnerability in a Tropical Cyclone Risk Model: Philippines Case Study." Accepted at *Weather, Climate, and Society*.

13. Wilson, K.*, **J. Baldwin**, and R. Young. "Estimating Tropical Cyclone Vulnerability: A Review of Different Open-Source Approaches." in *Hurricane Risk in a Changing Climate* (eds. Collins, J. M. & Done, J. M.) 255-281 (Springer International Publishing, 2022). doi:10.1007/978-3-031-08568-0_11.

12. Dee, S., E. Nabizadeh, C. Nittrouer, **J. Baldwin**, L. Gaviria, S. Guo, K. Lu, B. Saunders-Shultz, E. Gurwitz, G. Samarth, and K. Weinberger. "Increasing Health Risks During Outdoor Sports Due To Climate Change in Texas: Projections Versus Attitudes." *GeoHealth*, July 19, 2022. doi:10.1029/2022GH000595

11. **Baldwin, J.**, A. Atwood, G. Vecchi, and D. Battisti. "Outsize Influence of Central American Topography on Global Climate." *AGU Advances.*, June 9, 2021. doi:10.1029/2020AV000343
- Editor's Highlight (Top $< 2\%$ of AGU publications)

10. Ebi, K., J. Vanos, **J. Baldwin**, J. Bell, D. Hondula, N. Errett, K. Hayes, C. Reid, S. Saha, S. Spector, P. Berry."Extreme weather and climate change: population health and health system implications." *Annual Review of Public Health*, January 6, 2021. doi:10.1146/annurev-publhealth-012420-105026

9. Vanos, J., **J. Baldwin**, O. Jay, K. Ebi."Simplicity lacks robustness when projecting heat-health outcomes in a changing climate." *Nature Communications*, November 27, 2020. doi:10.1038/s41467-020-19994-1

8. Vecchi, G., T. Delworth, H. Murakami, S. Underwood, A. Wittenberg, F. Zeng, W. Zhang, **J. Baldwin**, K. Bhatia, W. Cooke, J. He, S. Kapnick, T. Knutson, G. Villarini, K. van der Wiel, W. Anderson, V. Balaji, J. Chen, K. Dixon, R. Gudgel, L. Harris, L. Jia, N. Johnson, S. Lin, M. Liu, C. Ng, A. Rosati, J. Smith, X. Yang."Tropical cyclone sensitivities to CO_2 doubling: roles of atmospheric resolution, synoptic variability and background climate changes." *Climate Dynamics*, August 13, 2019. doi:10.1007/s00382-019-04913-y. p1-35.

7. Lutsko, N., **J. Baldwin**, and T. Cronin. "The Impact of Large-Scale Orography on Northern Hemisphere Winter Synoptic Temperature Variability." *Journal of Climate*, August 13, 2019.

6. **Baldwin, J.**, J. Dessy*, G. Vecchi, and M. Oppenheimer. "Temporally Compound Heat Wave Events and Global Warming: An Emerging Hazard." *Earth's Future*, April 20, 2019. doi:10.1029/2018EF000989. p411-427.

5. **Baldwin, J.**, G. Vecchi, and S. Bordoni. "The Direct and Ocean-Mediated Influence of Asian Orography on Tropical Precipitation and Cyclones." *Climate Dynamics*, January 29, 2019. doi:10.1007/s00382-019-04615-5. p1-20.

4. Liao, W., X. Liu, D. Li, M. Luo, D. Wang, S. Wang, **J. Baldwin**, L. Lin, X. Li, K. Feng, K. Hubacek, and X. Yang. "Stronger Contributions of Urbanization to Heat Wave Trends in Wet Climates. " *Geophysical Research Letters*, October 5, 2018. doi:10.1029/2018GL079679. p1-8.

3. L. Zhao, M. Oppenheimer, Q. Zhu, **J. Baldwin**, K. Ebi, E. Bou-zeid, K. Guan., and X. Liu."Interactions Between Urban Heat Islands and Heat Waves." *Environmental Research Letters*, December 16, 2017. doi: 10.1088/1748-9326/aa9f73. p1-11.

2. **Baldwin, J.** and G. Vecchi. "Influence of the Tian Shan Mountains on Arid Extratropical Asia." *Journal of Climate*, July 27, 2016. doi:10.1175/JCLI-D-15-0490.1. p5741-5762.

1. Chou, C., J. Jhaveri, **J. Baldwin**, P. Hannam, K. Keller, W. Peng, S. Rabin, A. Ravikumar, A. Trierweiler, X. Wang, and R. Socolow. "Fusion Energy vis Magnetic Confinement: An Energy Technology Distillate." *Andlinger Center for Energy and the Environment*, Princeton University, May 13, 2016. p1-34.

GRANTS & FELLOWSHIPS

Title: Optimal Interpolation of Orography for Present and Future Climate Simulation
Period: Sep 2021 – Aug 2024
Principal Investigator: J. Baldwin
Collaborator: G. Elsaesser
Sponsor: NASA New Investigator Program
Obligated Amount: $375,000

Title: The Impact of Extreme Heat on Childrens Health in Africa Project
Period: Jun 2020 – May 2022
Principal Investigators: L. Stanberry and L. Saiman
Co-Investigators: J. Baldwin, R.M. Parks, P. LaRussa, W. James, J. Patterson, S. Marquez, and three African CHAMP collaborators
Sponsor: Columbia University - Presidents Global Innovation Fund
Obligated Amount: $45,000

Title: Cooperative Institute for Modeling the Earth System - Task III Urban impacts on compound heatwaves
Period: Sep 2019 – Aug 2020
Principal Investigators: J. Baldwin, M. Oppenheimer, and G. Vecchi
Sponsor: U.S. DOC - National Oceanic & Atmospheric Administration
Obligated Amount: $76,764

Lamont-Doherty Earth Observatory Postdoctoral Fellowship (2019 – 2022)

National Science Foundation Graduate Research Fellowship (2014 – 2018)

Princeton Environmental Institute- Science Technology Environmental Policy (PEI-STEP) Perkins Fellowship (2015 – 2018)

ThinkSwiss Travel Grant (2013)
To attend the 2013 NCCR climate summer school "From Climate Reconstructions to Climate Predictions" in Grindelwald, Switzerland.

Princeton University Centennial Fellowship (2012 – 2016)

Harvard Program for Research in Science and Engineering (PRISE) Summer Research Grant (2010)

Fung Foundation Scholarship (2009)
Grant for summer Chinese language study abroad.

National Merit Scholarship (2007)

AWARDS

Carbon Mitigation Initiative Best Paper Award for Postdoctoral Fellows (2020)
For Baldwin et al 2019 "Temporally Compound Heat Wave Events and Global Warming: An Emerging Hazard".

Finalist for University of California President's Postdoctoral Fellowship Program (2019)

Outstanding Student Presentation Award, AGU Fall Meeting (2017)

Top Student Paper Award, AMS 97th Annual Meeting, Eighth Conference on Environment and Health (2016)

Summa Cum Laude (2012)
Highest honors for both overall coursework and research within concentration (Earth and Planetary Sciences).

John Wood Prize (2012)
Awarded to top science student in Adams House (residential college) at Harvard.

Phi Beta Kappa (2011)
Elected fall of senior year, in recognition of being in top 5% of graduating class at Harvard.

TEACHING EXPERIENCE

Assistant Professor, University of California Irvine *2021 – present*
Courses: ESS 116 Introduction to Environmental Data Science (Winter '22, Fall '22, Winter '23).

Guest Lecturer, University of California Irvine *2021 – present*
Courses: ESS 154 Ecosystem Services (Winter '21), ESS First Year Graduate Seminar (Fall '21, Fall '22).

Guest Lecturer, Princeton University *2017 – present*
Courses: ENV 316 Climate Science and Communications (2018 – 2022), GEO 425 Introduction to Ocean Physics for Climate (2017 – 2018), Geo 368 Climate and Weather: Order in the Chaos (2018, 2019), FRS 118 "Life on Mars - Or Maybe Not" freshman seminar on science journalism (2017).

ADVISING & MENTORING

Supervising research projects

Karina Jhaj (undergrad. UCI) (Sep 2022 – Dec 2022)
Elena Bock (undergrad UCI) (Sep 2022 –)
Dervla Meegan Kumar (postdoc UCI) (Sep 2022 –)
Samantha Frucht (graduate student UCI) (Sep 2022 –)
· NSF Graduate Research Fellow.
Haley Staudmyer (graduate student UCI) (Sep 2022 –)
· UCI Environmental Racism and Health Equity Fellow.
Savannah Ferretti (graduate student UCI) (2022 – present)
· Co-advised with Michael Pritchard.
Jared Sexton (graduate student UCI) (2021 – present)
Katy Wilson (masters Columbia) research assistantship (2020 – 2021)
· First author of peer-reviewed book chapter on tropical cyclone vulnerability.
· Now PhD student at Yale University.
Sophia Lacambra (undergrad. Barnard) senior thesis (2020 – 2021)
· Co-advised w/ Robbie M. Parks.
Samuel Bartusek (undergrad. Princeton) fall and spring junior papers (2018 – 2019)
· Co-advised w/ Gabriel Vecchi.
· Now PhD student at Columbia University.
James Tralie (undergrad. Princeton) fall and spring junior papers (2017 – 2018)
· Co-advised w/ Gabriel Vecchi.
· Presented related poster at AGU fall meeting 2018.
Casey Ivanovich (undergrad. Princeton), summer research intern (2017)
· Co-advised w/ Gabriel Vecchi and Àngel Muñoz.
· Now PhD student at Columbia University.
Jay Dessy (undergrad. Princeton) senior thesis (2016 – 2017)
· Co-advised w/ Michael Oppenheimer.
· Co-author on related publication in journal *Earth's Future*.

EXTERNAL SERVICE

Journal Refereeing: *Climatic Change*, *Climate Dynamics*, *Communications Earth & Environment*, *Environmental Research Letters*, *GeoHealth*, *Geophysical Research Letters*, *Global and Planetary Change*, *Journal of Applied Meteorology and Climatology*, *Journal of Climate*, *Natural Hazards*, *Nature*, *Nature Communications*, *Proceedings of the National Academy of Sciences*, *Quarterly Journal of the Royal Meteorological Society*, *Science Bulletin*, *Weather and Climate Extremes*.

Proposal Refereeing: DOE Atmospheric System Research (panel, 2022); DOE Regional & Global Model Analysis/ Multi-Sector Dynamics Modeling (panel, 2022); NSF Climate and Large-Scale Dynamics (adhoc, 2022).

Academic Associations: American Geophysical Union (AGU), American Meteorological Society (AMS), International Society of Biometeorology.

Member, AMS Board on Environment and Health *2021 –*

Adviser on Tropical Cyclone Risk Assessment, Various NGOs *2019 –*

Member, UNCDF Climate Insurance Linked Infrastructure Finance *2020 –*

Co-convener, AGU Fall Meeting sessions
2017, 2019, 2020, 2022 (3 sessions).

Co-convener, AMS Annual Meeting sessions
2019 (2 sessions), 2020, 2022 (2 sessions).

Scientist representative, Climate Science Day on Capitol Hill *Mar 2017*

UNIVERSITY SERVICE

UCI Earth System Science departmental committee appointments *2021 – present*
Reeburgh Lecture (2022 – 2023), faculty search (2022 – 2023), graduate admissions (2021 – 2022), undergraduate curriculum (2021 –), inclusive excellence (2022 –)

Career Advising for UCI Graduates *2021 –*
Co-organized two panels on non-academic career opportunities for earth science PhDs (Jan 2022, Feb 2022); "Demystifying the Postdoc" panelist (Dec 2021)

INVITED PRESENTATIONS

University of Illinois Chicago Department of Earth and Environmental Sciences Seminar, Chicago, IL. Apr 2023.

Brown University Department of Earth, Environmental and Planetary Sciences Colloquium, Providence, RI. Apr 2023.

MIT Oceanography and Climate Sack Lunch Seminar, Cambridge, MA (delivered virtually). Dec 2022.

UCI Center for Occupational and Environmental Health Seminar, Irvine, CA. Nov 2022.

Institute for Mathematical and Statistical Innovation, University of Chicago, Chicago, IL. Oct 2022.

Keystone Symposium on Climate Change, Compounding Disasters, and Health (virtual). Oct 2022.

NOAA Climate & Global Change Summer Institute, Steamboat Springs, CO. Jul 2022.

Colorado State University, Department of Atmospheric Sciences Colloquium. Mar 2022.

American Geophysical Union Fall Meeting, New Orleans, LA. Dec 2021.

American Geophysical Union Fall Meeting, New Orleans, LA. Dec 2021.

University of Southern California, Department of Earth Sciences Colloquium. Nov 2021.

National Flood Conference, Virtual. Jun 2021.

UC Santa Barbara, Climate Seminar. Jun 2021.

National Autonomous University of Mexico (UNAM). May 2021.

Princeton University, Climate Seminar. Apr 2021.

UT Austin, Water, Climate, and Environment Seminar. Feb 2021.

CalTech, Environmental Science and Engineering Seminar. Jan 2021.

Florida State University, Meteorology Seminar. Oct 2020.

Stanford University, Atmosphere, Ocean, and Climate Dynamics Seminar Series. Aug 2020.

Webinar on Environmental Extreme Events and COVID-19 in 2020. National Academies. May 2020.

International Research Institute for Climate and Society, Columbia University. Apr 2020.

University of California, Irvine, Department of Earth System Science Seminar. Mar 2020.

University of Quebec in Montreal Department of Earth and Atmospheric Sciences Research Seminar, Montreal, Canada. Mar 2020.

University of Washington Department of Atmospheric Sciences Colloquium, Seattle, WA. Feb 2020.

Stony Brook University Topics in Atmospheric and Oceanic Sciences Seminar, Stony Brook, NY. Feb 2020.

MIT Oceanography and Climate Sack Lunch Seminar, Cambridge, MA. Dec 2019.

McGill Atmospheric and Oceanic Sciences Departmental Seminar, Montreal, Canada. Oct 2019.

Princeton Environmental Forum, Princeton, NJ. Oct 2019.

Lamont-Doherty Earth Observatory Divsion of Ocean and Climate Physics Seminar. Oct 2019.

Extreme Heat: Understanding and Reducing Human Health Risks. AMS Webinar Series. Jul 2019.

Climate, Archaeology and History in the Eurasian Middle Ages (workshop), Institute for Advanced Study, Princeton, NJ. May 2018.

Conversations about Environment, Responsible Energy and Life (CEREAL), Princeton University, Princeton, NJ. Feb 2018.

Andlinger Center for Energy and the Environment Opening Symposium, Princeton University. May 2016.

MEDIA

"China Extreme Heatwave" – *CNA* (live interview on Singapore's public news television station) (Aug 2022)

"Climate change-fuelled heat waves forecast a new global weather reality" – *The Globe and Mail* (Jul 2022)

"India Isn't Ready for a Deadly Combination of Heat and Humidity" – *Wired* (Jun 2022)

"Episode 5: Jane Baldwin" – *Deep Convection* (podcast interview by Adam Sobel) (Jun 2022)

Select appearances from prior years: CNN, Washington Post, National Geographic, Climate Central, The Hill, The Daily Beast, Grist, radio stations KQED, KPFA, and Radio Ecoshock.

Field Experience

The Organization of Tropical East Pacific Convection (OTREC) experiment, Sep 2019, Costa Rica. Tasks: Prepared and launched radiosondes, presented weather briefings, flew in two research flights.

Other Work Experience

Fashion Model, International *2010 – 2011*

Contracts in Athens, Milan, Tokyo, and New York doing editorial photo shoots, runway, and TV commercials.

Skills and Languages

Computers: Python (experienced esp. with numpy, matplotlib, xarray, cartopy, basemap, cdo, netCDF4, shapely), Matlab (experienced), Ferret (experienced), R (proficient), Fortran (beginner); LaTeX; Unix, Windows, and Mac operating systems; Microsoft Word, Powerpoint, and Excel.

Mandarin Chinese: Proficient reading, writing, and speaking. 7 years of study, including abroad in Beijing and Inner Mongolia.

Dance: Extensive training in ballet and modern dance. Performed with and directed the Harvard-Radcliffe Modern Dance Company and performed with the Harvard Ballet Company.

Winter Sports: Grew up training as a freestyle skier and taught ski school for a winter in Stratton Mountain, Vermont.