

## William R. Boos | Curriculum vitae

University of California, Berkeley  
Department of Earth and Planetary Science  
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### Professional appointments

Associate Professor, 2017–present  
Department of Earth and Planetary Science, University of California, Berkeley  
Faculty Scientist, 2017–present  
Climate and Ecosystem Sciences Division, Lawrence Berkeley National Lab

Associate Professor, 2015–2017  
Assistant Professor, 2010–2015  
Department of Geology and Geophysics, Yale University

Postdoctoral Fellow, 2008–2010  
Department of Earth and Planetary Sciences, Harvard University

Postdoctoral Associate, 2008  
Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology

Analyst, 1997–1999  
Andersen Consulting (now Accenture), New York, NY

### Education

Ph.D. in Atmospheric Science, Massachusetts Institute of Technology, 2008  
*Thesis:* Wind-evaporation feedback, angular momentum conservation, and the abrupt onset of monsoons. *Advisor:* Kerry Emanuel

Professional M.S. in Geosystems, Massachusetts Institute of Technology, 2002

B.S. with Honors in Physics, B.A. in Math, State University of New York, Binghamton, 1997

### Select Honors and Awards

Miller Professor, Miller Institute for Basic Research in Science, UC Berkeley, 2021

Jeremy Grantham lecturer, Indian Institute of Science (Bangalore), July 2016

Director's award, Yale MacMillan Center for International and Area Studies, 2014

National Science Foundation (NSF) CAREER Award, 2013

American Geophysical Union Citation for Excellence in Refereeing, 2013

Young Investigator Research Award, Office of Naval Research (ONR), 2011

James R. Holton Junior Scientist Award, American Geophysical Union, 2010

Reginald A. Daly Postdoctoral Fellowship at Harvard University, 2008-2010

John and Elaine French Fellowship, Harvard University Center for the Environment, 2008–2010

Martin Fellowship for Sustainability, MIT, 2004-2005

MIT Departmental Scholarship in Earth and Planetary Science, 2002

## Advising

Primary advisor for postdoctoral scientists: John Hurley, Xavier Levine, Naftali Cohen, Michael Diaz, Nandini Ramesh, Vishnu Nair, Marysa Laguë, Suhas D.L., Yi Zhang

Primary advisor for doctoral students: Jun Zhai, Ravi Shekhar, Varun Murthy, Quentin Nicolas

Primary advisor for student interns, M.Sc. students & undergraduate theses: Sarah Ditchek, Cole Citrenbaum, Siyu Zhao, Melody Lu, Alex Chang, Henry Peterson, Jake Yung, Ciara Dorsay, Ram Kripa, Salil Goyal, Medha Pallavali, Paul Nicknish

Thesis committee member or reader for doctoral students (university noted for students not at home institution): Alison Nugent, Dea Doklestic, Peter Douglas, Elizabeth Brown, Mengnan Zhao, Shineng Hu, Christopher Kruse, Yana Bebieva, Zachary McGraw, Wenwen Kong, Jiabin Liu, Chris Moeckel, Edward Molter, Mercedes Vasquez, Naomi Asimow, Mrinal Dursun, Ankur Mahesh, Michael Byrne (MIT), James Russell (North Carolina State), Wenchang Yang (Columbia University), Spencer Hill (Princeton), Arushi Pv (Indian Institute of Science), Ziwei Li (MIT), Jayesh Anand Phadtare (Indian Institute of Science), Pradeep Kushwaha (Indian Institute of Science)

## Service

Editor, *Journal of the Atmospheric Sciences*, 2020–present

Equity advisor, Department of Earth and Planetary Science, 2021–present

Creator and faculty advisor of UC Berkeley's Climate Science minor, 2021–present

Editorial board member of Nature Partner Journal *npj Climate and Atmospheric Science*, 2017–present

Impact Advisory Board member for Moka Origins, providing expertise on climate for their cooperative coffee and chocolate farms in equatorial Africa, 2019–present

Faculty search committee member, Department of Earth and Planetary Science, 2019–2020, 2021-2022

Graduate student advisor, Department of Earth and Planetary Science, 2019–2021

Steering committee member for the Environmental Resilience Accelerator, UC Berkeley and the Lawrence Berkeley National Lab, 2018–2020

Member of CLIVAR Working Group on the Asian-Australian monsoon, 2016–2020

Member of World Meteorological Organization Expert Team on Severe Monsoon Weather, 2015–2020

Co-organizer for Berkeley Atmospheric Sciences Center seminars and annual symposium, 2018–2019

Developed <http://WorldMonsoons.com> to provide education, current observations, and news about rain over tropical continents, as part of educational outreach component of an NSF CAREER grant, 2015-2019

Yale's Pathways to Science program, 2013–2017

Teaching weather, climate, and risk to high school students in summer program

Yale representative to the University Corporation for Atmospheric Research, 2011–2017

Member of Program Committee for American Meteorological Society's 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico, 2015

Organized and hosted *Tropical Extremes*, a workshop on extreme weather and climate events in Africa, South Asia, Australia, and the Americas, with sponsorship by the Yale Climate and Energy Institute and Yale's MacMillan Center, April 2015.

Reviewer for over 20 journals and 6 national funding institutions

Led hydrology team of MIT's FloodSafe Honduras, supporting flood warning system, 2005–2007

Club of Rome, Hamburg, Germany, member of “think tank 30,” a group of young advisors on global humanitarian issues, 2002–2005

Consultant to Institute for Civil Society, Newton, MA for presentation on climate, 2002–2004

## Grants and funding

Department of Energy, Office of Science (one of 23 co-PIs with PI Daniel Feldman), 2021–2023, Surface-Atmosphere Integrated field Laboratory (SAIL)

Department of Energy, Office of Science (PI), 2018–2022, Monsoon Extremes: Impacts, Metrics, and Synoptic-Scale Drivers

India's Monsoon Mission (PI), 2018–2022, Dynamical metrics for predicting genesis and growth of monsoon low pressure systems

Office of Naval Research (PI), 2015–2017, Assessing land surface albedo bias in models of tropical climate

NSF (PI), 2015–2019, Zonal asymmetries in the low-latitude hydrological cycle over a broad range of climates. Co-authored with Xavier Levine (Yale postdoc)

NSF (PI), 2013–2019, CAREER: The influence of desert heat lows on monsoon precipitation

NSF Campus Cyberinfrastructure (one of three co-PIs with PI Andrew Sherman), 2012–2014, The Future of Research and Collaboration — the Dedicated Science Network

Office of Naval Research (PI), 2011–2014, Young Investigator Program: Understanding the global distribution of monsoon depressions

Comer Science and Education Foundation (PI), 2011–2012, Theoretical scaling of the hydrological cycle in simulations of Holocene and last glacial maximum climates

## Publications

Complete publication list: <https://boos.berkeley.edu/publication>

Google Scholar profile:

<https://scholar.google.com/citations?user=AnKqc8UAAAAJ&hl=en&oi=ao>

## Presentations

### *Invited talks*

Institute for Climate and Atmospheric Science Seminar, University of Leeds, UK, April 2022

Atmospheric Dynamics & Climate session, American Geophysical Union Fall Meeting, New Orleans, December 2021

Geophysical Fluid Dynamics Laboratory seminar, Princeton, NJ May 2021

Department of Meteorology Seminar, University of Reading, UK, June 2020

Workshop on precipitation extremes in India, Indian Institute of Tropical Meteorology, Pune, India, December 2019

Session on monsoons in past, present, and future climates, American Geophysical Union Fall Meeting, San Francisco, December 2019

CERES Science Team Meeting, Berkeley, California, November 2019

Lecturer at the 2019 Summer School on Multiscale Convection of Severe Weather, Beijing, May 2019

Peking University, 90th anniversary of the Department of Atmospheric and Oceanic Sciences, May 2019

Berkeley Atmospheric Sciences Center, Annual Symposium (20th anniversary of BASC), April 2019

Universidad Nacional Autónoma de México, annual Panorama of the Atmospheric Sciences, July 2018

International Centre for Theoretical Physics (ICTP) Workshop on the ITCZ and Monsoons, Trieste, Italy, July 2018

MIT Lorenz Center Workshop, Water and Climate Change: Connecting the Paleoclimate Record to Future Projections, June 2018

Texas A&M Geography Department seminar, April 2018

Stanford Atmosphere, Ocean, and Climate Dynamics seminar, March 2018

World Meteorological Organization International Workshop on Monsoons, Singapore, November 2017

U.C. Berkeley Geography Department Colloquium, November 2017

Geological Society of America Annual Meeting, Seattle, October 2017

University of Washington Program on Climate Change Summer Institute, Friday Harbor, WA, September 2017

International Workshop on the Asian Monsoon in a Warmer World, Yunnan, China, August 2017

NCAR Advanced Study Program Colloquium on the Interaction of Precipitation with Orography, Boulder, CO, June 2017

University of Maryland, Department of Atmospheric and Oceanic Science seminar, October 2016

University of Rhode Island Graduate School of Oceanography seminar, October 2016

Yale Institute for Biospheric Studies seminar, September 2016

Invited speaker at Third Pole Environment meeting on Tibetan Plateau, Xining City, China, August 2016

Invited speaker in two sessions (on tropical circulations and on climate model improvements) at the Asia Oceania Geosciences Society, Beijing, August 2016

Indian Institute of Science (Bangalore), Jeremy Grantham lecturer, July 2016

Rutgers University, Department of Environmental Sciences Seminar, April 2016

University of California at Berkeley, Department of Earth and Planetary Sciences Colloquium, February 2016

University of California at Berkeley, Atmospheric Sciences Center Seminar, October 2015

Keynote speaker at Columbia University conference “Monsoons and the Intertropical Convergence Zone: the Annual Cycle in the Holocene and the Future”, September 2015

Invited speaker at Caltech Linde Center workshop “Monsoons — Past, Present and Future”, May 2015

Brown University, Department of Earth, Environmental and Planetary Sciences Colloquium, May 2015

George Mason University, Distinguished lecturer series at the Center for Ocean-Land-Atmosphere Studies, January 2015

Invited speaker at workshop on climate of the Indian Ocean and Arabian Peninsula, New York University Abu Dhabi, January 2015

Invited speaker in session on intraseasonal variability of Asian monsoon, American Geophysical Union, San Francisco, December 2014

Invited speaker at Fifth “Third Pole Environment” workshop on Tibetan Plateau, Berlin, Germany, December 2014

Stony Brook University (SUNY), School of Marine and Atmospheric Sciences seminar, October 2014

Stanford University, Environmental Earth System Science seminar, October 2014

Invited speaker at The Latsis Symposium, Atmosphere and Climate Dynamics: From Clouds to Global Circulations, Zurich, Switzerland, June 2014

Harvard University, Environmental Science and Engineering Seminars, May 2014

MIT Atmospheric Sciences Seminar, April 2014

Scripps Institution of Oceanography, Seminar in Climate, Atmospheric Sciences, and Physical Oceanography, April 2014

MIT Independent Activities Period lecture series on monsoons, January 2014

University of Toronto, Atmospheric Physics Group, Noble Seminar Series, November 2013

State University of New York at Albany, Department of Atmospheric and Environmental Sciences seminar, November 2013

Yale University, Department of Geology and Geophysics colloquium, September 2013

U.S. Naval Research Lab seminar, Monterey, CA, July 2013

Geophysical Fluid Dynamics Lab at Princeton University colloquium, June 2013

Invited speaker at Columbia University workshop on Abrupt Climate Change in a Warming World, May 2013

Invited speaker in tropical climate session of American Mathematical Society meeting, San Diego, January 2013

Invited speaker in tropical hydroclimate session, American Geophysical Union, San Francisco, Decem-

ber 2012

Invited speaker in climate change and landscape response session, American Geophysical Union, San Francisco, December 2012

Commonwealth Scientific and Industrial Research Organisation (CSIRO) seminar, Aspendale, Australia, November 2012

Monash University, Department of Atmospheric Science seminar, Melbourne, Australia, November 2012

Bureau of Meteorology seminar, Melbourne, Australia, November 2012

Keynote address at annual workshop of Center for Australian Weather and Climate Research, Melbourne, Australia, November 2012

MIT Atmospheric Science Seminar, October 2012

Purdue University, Department of Earth, Atmospheric, and Planetary Sciences colloquium, October 2012

Texas A&M, Department of Atmospheric Sciences seminar, September 2012

Invited speaker at New York University Abu Dhabi workshop on tropical convection, United Arab Emirates, March 2012

Yale University, Global Change Seminar Series, February 2012

Invited speaker in session on climate change in monsoon regions, American Geophysical Union, San Francisco, December 2011

Yale University, Society of Physics Students seminar, October 2011

Invited speaker at regional meeting of the American Mathematical Society, Worcester, MA, April 2011

Yale Institute for Biospheric Studies, Global Change Seminar, February 2011

Yale Climate and Energy Institute seminar, January 2011

Yale University, Atmosphere, Ocean, and Climate Dynamics seminar, October 2010

Western Connecticut State University, Department of Physics, Astronomy, and Meteorology seminar, October 2010

Courant Institute of Mathematical Sciences seminar, November 2009

Lamont-Doherty Earth Observatory at Columbia University seminar, October 2009

Scripps Institution of Oceanography colloquium, May 2009

Yale University, Department of Geology and Geophysics seminar, March 2009

Invited speaker in session on tropical meteorology, Society for Industrial and Applied Mathematics Annual Meeting, San Diego, CA, July 2008

Harvard University, Department of Earth and Planetary Sciences seminar, February 2008

University of Colorado at Boulder, Department of Atmospheric and Oceanic Sciences seminar, April 2007

*Other conference presentations (grouped by topic)*

Energy budget control of the regional ITCZ; W. R. Boos and R. L. Korty

talk at the 2019 American Meteorological Society Annual Meeting, Phoenix, Arizona

talk at the Fall 2016 Meeting of the American Geophysical Union, San Francisco

Near-linear response of mean monsoon strength to a broad range of forcings; W. R. Boos and T. Storelvmo

talk at the American Meteorological Society's 32nd Conference on Hurricanes and Tropical Meteorology, San Juan, Puerto Rico, April 2016

talk at the American Meteorological Society's 18th Conference on Atmospheric and Oceanic Fluid Dynamics, Minneapolis, MN, June 2015

talk at the Seventh Northeast Tropical Workshop, Dedham, MA, June 2015

Mechanisms of monsoon depression growth and propagation; W. R. Boos, J. V. Hurley, and V. S. Murthy

talk at the Eighth Northeast Tropical Workshop, Rensselaerville, NY, June 2017

talk at the American Meteorological Society's 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA, March 2014

talk at the American Meteorological Society's 17th Conference on Atmospheric and Oceanic Fluid Dynamics, Newport, RI, June 2013

talk at the Sixth Northeast Tropical Workshop, Rensselaerville, NY, May 2013

Thermodynamic bias in climate model monsoon simulations; W. R. Boos

talk at the Conference on Opportunities and Challenges in Monsoon Prediction, Indian Institute of Tropical Meteorology, Pune, India, February 2012

talk at the Workshop on Convection, Water Vapor, and Climate, Harvard University, March 2012

talk at the Comer Abrupt Climate Change Conference, Wisconsin, September 2011

Tropospheric response to tropical and subtropical zonally asymmetric torques; W. R. Boos and T. A. Shaw

poster at the Fall 2011 Meeting of the American Geophysical Union, San Francisco

Yale University, Geology and Geophysics Faculty Seminar, August 2011

talk at the American Meteorological Society's 18th Conference on Atmospheric and Oceanic Fluid Dynamics, Spokane, WA, June 2011

talk at the Fifth Northeast Tropical Workshop, Dedham, MA, May 2011

talk at the Pacific Institute for Mathematical Sciences, Banff, Canada, May 2011

Thermodynamic scaling of the hydrological cycle of the last glacial maximum; W. R. Boos

poster at the Fall 2010 Meeting of the American Geophysical Union, San Francisco

talk at the Comer Abrupt Climate Change Conference, Wisconsin, September 2010

Poleward propagating, intraseasonal convective anomalies in a model with explicit convection; W. R. Boos and Z. Kuang

talk at Yale University workshop on atmospheric convection, September 2010

talk at the American Meteorological Society's 29th Conference on Hurricanes and Tropical Meteorology, Tucson, Arizona, May 2010

talk at Workshop on Large-scale Circulations in Moist Convecting Atmospheres, Harvard University, October 2009

talk at the American Meteorological Society's 17th Conference on Atmospheric and Oceanic Fluid Dynamics, Stowe, VT, June 2009

Role of orography in the South Asian monsoon; W. R. Boos and Z. Kuang

poster at the American Meteorological Society's 29th Conference on Hurricanes and Tropical Meteorology, Tucson, Arizona, May 2010

talk at the Fourth Northeast Tropical Workshop, Rensselaerville, NY, June 2009

Effect of MIT convection and clouds on climate simulated by CAM 3.5; W. R. Boos, K. A. Emanuel, and M. J. Iacono

poster at the 13th Annual CCSM workshop, Breckenridge, Colorado, June 2008

Annual intensification of the Somali jet in a convective quasi-equilibrium framework; W. R. Boos and K. A. Emanuel

talk at the American Meteorological Society's 28th Conference on Hurricanes and Tropical Meteorology, Orlando, Florida, May 2008

talk at the Summer School on Tropical Multiscale Convective Systems, University of Victoria, Canada, August 2007

talk at the Third Northeast Tropical Workshop, Dedham, Massachusetts, June 2007

Wind-evaporation feedback and the transition to axisymmetric, angular momentum conserving Hadley flow; W. R. Boos and K. A. Emanuel

poster at the American Meteorological Society's 28th Conference on Hurricanes and Tropical Meteorology, Orlando, Florida, April 2008

talk at the American Meteorological Society's 16th Conference on Atmospheric and Oceanic Fluid Dynamics, Santa Fe, New Mexico, June 2007

talk at the American Meteorological Society's 27th Conference on Hurricanes and Tropical Meteorology, Monterey, California, April 2006

talk at the Second Northeast Tropical Workshop, Rensselaerville, New York, June 2005

Cloud-radiative interactions with upper-tropospheric circulations; W. R. Boos and S. Bony

poster at the Fall 2004 Meeting of the American Geophysical Union, San Francisco

Semi-Empirical Definition of the Galaxy-Quasar Transition Zone for 1.2m Schmidt Cameras; W. R. Boos, M. M. Chester, and P. D. Usher

Bulletin of the American Astronomical Society, 1996, 28, 1321