

Benjamin J. Moore

Department of Atmospheric and Environmental Sciences
University at Albany, State University of New York
1400 Washington Avenue
Albany, New York, 12222

phone: +1 507 398 7427
email: bjmoore@albany.edu

Education

Ph.D., Atmospheric Science, *in progress*

University at Albany/State University of New York, Albany, NY

Thesis: *Rossby wave breaking and extreme precipitation events in the central and eastern United States*

Advisors: Dr. Lance F. Bosart and Dr. Daniel Keyser

M.S., Atmospheric Science, December 2010

University at Albany/State University of New York, Albany, NY

Thesis: *Synoptic-scale environments and dynamical mechanisms associated with predecessor rain events ahead of tropical cyclones*

Advisors: Dr. Lance F. Bosart and Dr. Daniel Keyser

B.S., Atmospheric and Oceanic Sciences, May 2008

University of Wisconsin, Madison, WI

Professional experience

Graduate Research Assistant, August 2013–present

University at Albany/State University of New York, Albany, NY

- Conduct research on dynamics and predictability of extreme precipitation events in the U.S. linked to Rossby wave breaking

Associate Scientist, September 2010–August 2013

Cooperative Institute for Research in Environmental Sciences, University of Colorado, and NOAA/Earth System Research Laboratory/Physical Sciences Division, Boulder, CO

- Conducted research on the climatology, dynamics, and predictability of extreme precipitation events in the United States

Graduate Research Assistant, May 2009–August 2010

University at Albany/State University of New York, Albany, NY

- Conducted research on the climatology and dynamics of predecessor rain events associated with landfalling tropical cyclones in the U.S.

Graduate Teaching Assistant, August 2008–May 2010

University at Albany/State University of New York, Albany, NY

- Assisted in instructing undergraduate students in basic concepts of atmospheric science, statistics, and environmental instrumentation

Publications

- Bosart, L. F., B. J. Moore, J. M. Cordeira, and H. M. Archambault, 2017: Interactions of North Pacific tropical, midlatitude, and polar disturbances resulting in linked extreme weather events over North America in October 2007. *Mon. Wea. Rev.*, in press.
- Neiman, P. J., B. J. Moore, A. B. White, G. A. Wick, J. Aikins, D. L. Jackson, J. R. Spackman, and F. M. Ralph, 2016: An airborne and ground-based study of a long-lived and intense atmospheric river with mesoscale frontal waves impacting California during CalWater-2014. *Mon. Wea. Rev.*, **144**, 1115–1144.
- Moore, B. J., T. M. Hamill, E. M. Sukovich, T. Workoff, and F. E. Barthold, 2015: The utility of the NOAA reforecast dataset for quantitative precipitation forecasting over the coastal western United States. *J. Operational Meteor.*, **3** (12), 133–144.
- Moore, B. J., K. M. Mahoney, E. M. Sukovich, R. Cifelli, and T. M. Hamill, 2015: Climatology and environmental characteristics of extreme precipitation events in the southeastern United States. *Mon. Wea. Rev.*, **143**, 718–741.
- Neiman, P. J., G. A. Wick, B. J. Moore, F. M. Ralph, J. R. Spackman, and B. Ward, 2014: An airborne study of an atmospheric river over the subtropical Pacific during WISPAR: Dropsonde budget-box diagnostics, and precipitation impacts in Hawaii and California. *Mon. Wea. Rev.*, **142**, 3199–3223.
- Hughes, M., K. M. Mahoney, P. J. Neiman, B. J. Moore, M. Alexander, and F. M. Ralph, 2014: The landfall and inland penetration of a flood-producing atmospheric river in Arizona. Part II: Sensitivity of modeled precipitation to terrain height and atmospheric river orientation. *J. Hydrometeor.*, **15**, 1954–1974.
- Neiman, P. J., F. M. Ralph, and B. J. Moore, 2014: The regional influence of an intense Sierra barrier jet and landfalling atmospheric river on orographic precipitation in northern California: A case study. *J. Hydrometeor.*, **15**, 1419–1439.
- Cordeira, J. M., F. M. Ralph, and B. J. Moore, 2013: The development and evolution of two atmospheric rivers in proximity to western North Pacific tropical cyclones in October 2010. *Mon. Wea. Rev.*, **141**, 4234–4255.
- Neiman, P. J., M. Hughes, B. J. Moore, F. M. Ralph, and E. M. Sukovich, 2013: Sierra barrier jets, atmospheric rivers, and precipitation characteristics in northern California: A composite perspective based on a network of wind profilers. *Mon. Wea. Rev.*, **141**, 4211–4233.
- Moore, B. J., L. F. Bosart, D. Keyser, and M. L. Jurewicz, 2012: Synoptic-scale environments of predecessor rain events occurring east of the Rocky Mountains in association with Atlantic basin tropical cyclones. *Mon. Wea. Rev.*, **141**, 1022–1047.
- Kingsmill, D. E., P. J. Neiman, B. J. Moore, M. Hughes, S. E. Yuter, and F. M. Ralph, 2012: Kinematic and thermodynamic structures of Sierra barrier jets and overrunning atmospheric rivers during a land-falling winter storm in northern California. *Mon. Wea. Rev.*, **141**, 2015–2036.
- Neiman, P. J., F. M. Ralph, B. J. Moore, M. Hughes, K. M. Mahoney, J. M. Cordeira, and M. D. Dettinger, 2012: The landfall and inland penetration of a flood-producing atmospheric river in Arizona. Part 1: Observed synoptic-scale, orographic, and hydrometeorological characteristics. *J. Hydrometeor.*, **14**, 460–484.

Bosart, L. F., J. M. Cordeira, T. J. Galarneau, Jr., B. J. Moore, and H. M. Archambault, 2012: An analysis of multiple predecessor rain events ahead of tropical cyclones Ike and Lowell: 10–15 September 2008. *Mon. Wea. Rev.*, **140**, 1081–1107.

Moore, B. J., P. J. Neiman, F. M. Ralph, and F. E. Barthold, 2012: Physical processes associated with heavy flooding rainfall in Nashville, Tennessee, and vicinity during 1–2 May 2010: The role of an atmospheric river and mesoscale convective systems. *Mon. Wea. Rev.*, **140**, 358–378.

Bosart, L. F., T. J. Galarneau, Jr., J. M. Cordeira, and B. J. Moore, 2010: Extreme rainstorms in advance of tropical cyclones. *Conference Notebook, Bull. Amer. Meteor. Soc.* **91**, 854–856.

Recent conference presentations

Moore, B. J., L. F. Bosart, and D. Keyser, 2017: Skill of GEFS medium-range reforecasts for Rossby wave breaking associated with extreme precipitation in the central and eastern U.S. *28th Conference on Weather Analysis and Forecasting/24th Conference on Numerical Weather Prediction*, 22–26 January 2017, Seattle, WA.

Moore, B. J., D. Keyser, and L. F. Bosart, 2016: Rossby wave breaking and extreme precipitation in the central and eastern U.S. *2016 International Atmospheric Rivers Conference*, 8–11 August 2016, La Jolla, CA.

Moore, B. J., D. Keyser, and L. F. Bosart, 2016: Anticyclonic Rossby wave breaking and cool-season extreme precipitation events in the central and eastern United States. *41st Annual Northeastern Storm Conference*, 4–6 March 2016, Saratoga Springs, NY.

Moore, B. J., D. Keyser, and L. F. Bosart, 2015: Cool-season extreme precipitation events in the central and eastern United States. *16th Northeast Regional Operational Workshop*, 4 November 2015, Albany, NY.

Moore, B. J., D. Keyser, and L. F. Bosart, 2015: Cool-season extreme precipitation events in the central and eastern United States. *17th Cyclone Workshop*, 25–30 October 2015, Asilomar, CA.

Moore, B. J., L. F. Bosart, and D. Keyser, 2015: Dynamics and predictability of the downstream impacts of the extratropical transition of western North Pacific Tropical Cyclone Lupit during late October 2009. *7th Northeast Tropical Workshop*, 10 June 2015, Dedham, MA.

Moore, B. J., D. Keyser, and L. F. Bosart, 2015: Dynamical processes and forecast uncertainty associated with extreme rainfall over the southeastern U.S. during late October 2007. *Northeastern Storm Conference*, 7 March 2015, Saratoga Springs, NY.

Moore, B. J., L. F. Bosart, and D. Keyser, 2014: Dynamical processes and forecast uncertainty associated with an extreme-rain-producing atmospheric river over the southeastern U.S. during late October 2007. *American Geophysical Union Fall Meeting*, 14–19 December 2014, San Francisco, CA.

Moore, B. J., D. Keyser, and L. F. Bosart, 2014: Large-scale precursors of extreme weather over North America during late October 2007: The role of TC Kajiki. *10th International Conference on Mesoscale Meteorology and Tropical Cyclones*, 15–18 September 2014, Boulder, CO.

Moore, B. J., L. F. Bosart, and D. Keyser, 2014: Dynamical processes and forecast uncertainty associated with extreme weather over North America during October 2007. *World Weather Open Science Conference*, 17–21 August 2014, Montreal, QC.

Seminars and invited lectures

Moore, B. J., 2016: Extreme precipitation events in the northeastern United States: Atmospheric processes and forecast challenges. *Plymouth State University*, 17 February 2016.

Moore, B. J., 2012: Extreme precipitation events in the southeastern United States: Climatology, environmental characteristics, and forecast challenges. *Colorado State University*, 26 June 2012.

Moore, B. J., 2012: Physical processes associated with heavy flooding rainfall in Nashville, Tennessee, and vicinity during 1–2 May 2010: The role of an atmospheric river and mesoscale convective systems. *NOAA/National Weather Service Southern Region Teletraining Seminar*, 10 May 2012.

Moore, B. J., 2012: Physical processes associated with heavy flooding rainfall in Nashville, Tennessee, and vicinity during 1–2 May 2010: The role of an atmospheric river and mesoscale convective systems. *NOAA Earth System Research Laboratory*, 11 April 2012.

Field campaigns and experiments

NOAA Atmospheric Rivers Retrospective Forecasting Experiment, September 2012:

- Produced forecasts of heavy rainfall events along the U.S. west coast and evaluated experimental forecasting tools.

NOAA Hazardous Weather Testbed Spring Experiment, June 2011:

- Produced forecasts of warm-season convection and evaluated experimental forecasting tools.

CalWater field campaign, February–March 2011:

- Provided forecasting and nowcasting support for intensive observing periods over California and the eastern North Pacific.

NOAA Hydrometeorological Prediction Center Winter Weather Experiment, February 2011:

- Produced forecasts of hazardous winter weather and evaluated experimental forecasting tools.

Service

Educational service

- *UCAR COMET Program Atmospheric Rivers Training Module*, 2012: Contributed to the development of a training module for educating weather forecasters about atmospheric rivers.
- *NOAA Atmospheric Rivers Web Page*, 2011–2012: Developed material to educate the public and the scientific community about atmospheric rivers.

Reviewer for journals, 2011–present

- *Atmospheric Chemistry and Physics*, *Bulletin of the American Meteorological Society*, *Climate Dynamics*, *Geophysical Research Letters*, *Journal of Climate*, *Journal of Geophysical Research–Atmospheres*, *Journal of Hydrometeorology*, *Monthly Weather Review*, *Quarterly Journal of the Royal Meteorological Society*

Professional societies

American Meteorological Society, 2007–present
American Geophysical Union, 2011–present