

James A. Bradbury

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EDUCATION

Ph.D. Candidate, Geosciences University of Massachusetts (UMass), Amherst
M.S. Hydrology, 2001 University of New Hampshire (UNH), Durham
B.A. Geology, 1995 Colorado College, Colorado Springs

RESEARCH EXPERIENCE

- 2002- Present Research Assistant, UMass (Advisor: Raymond S. Bradley)
- Dissertation: “*Reconstructing the East Asian Monsoon Response to the 1815 Tambora Eruption; a Test of Model Skill with Paleoclimate Data*”
 - Conducting diagnostic assessments of both global and regional model skill with respect to the East Asian Monsoon and climate in China
 - Leading multi-institute, international research collaboration
 - Converting global climate model output to a format suitable to drive an MM5-based regional climate model
- 2005 - Present Contributor to multi-institute regional climate change assessment of Northeastern U.S.
- Validating the skill of a suite of global climate models with respect to regional synoptic climatology of the Northeastern U.S.
 - Considering monthly to decadal-scale changes in the East Coast trough position and the latitude of the regional Polar Front Jet
 - Examining the role of large scale teleconnections and synoptic-scale circulation patterns on past and future trends in regional climate variability and change
- 6/2001 - 12/2001 Research Staff, Climate Change Research Center, UNH
- Studied New England climatology and related teleconnection patterns
 - Developed new indices for assessing regional synoptic climatology
 - Performed data collection and analysis as well as web-site development
- 2000 - 5/2001 Research Assistant, Climate Change Research Center, UNH
- Evaluated statistical relationships between large-scale atmospheric circulation patterns and hydrologic drought in New England

GRANTS AND SCHOLARSHIPS

- 2002 - Present Research Assistantship, UMass, Amherst
U.S. Department of Energy, Climate Change Prediction Program,
Office of Energy Research
- 5/2004 Geography Alumni Award and Gloria Radke Prize (travel grant)

1/2000- 5/2001 Research Assistantship, UNH; Iola Hubbard Climate Change Endowment
1999 Scholarship, UNH Earth Science Department

PEER REVIEWED PUBLICATIONS

Bradbury, J. A., B. D. Keim, and C. P. Wake, 2003. "The influence of regional storm tracking and teleconnections on winter precipitation in the Northeastern United States." *Annals of the Association of American Geographers*, Vol. 93, No. 3, pp. 544-556.

Bradbury, J. A., B. D. Keim, and C. P. Wake, 2002. "U.S. East Coast Trough Indices at 500-hPa and New England Winter Climate Variability," *Journal of Climate*, Vol. 15, No. 23, pp. 3509-3517.

Bradbury, J. A., S. L. Dingman, and B. D. Keim, 2002: "Relation of New England Hydroclimate to Large-Scale Atmospheric Circulation Patterns," *Journal of the American Water Resources Association*, Vol. 38, No. 5, pp. 1287-1299.

NON-PEER REVIEWED PUBLICATIONS

Bradbury, J. A. 2005. "Book Review of: The Long Summer: How Climate Changed Civilization." *Bulletin of the American Meteorological Society*, Vol. 86, No. 5, pp. 709-710.

Bradbury, J. A. 2003: "Book Review of: Water and Climate in the Western United States." *Journal of the American Water Resources Association*, Vol. 39, No. 6, pp. 1568-1570.

Bradbury, J. A. 2001: "Climate Impacts on Regional Water. Case Study 3: The Relationship Between the Winter North Atlantic Oscillation (NAO) Index and Streamflow." In New England Regional Overview. New England Regional Assessment Group. *U.S. Global Change Research Program*, University of New Hampshire.

TEACHING & PUBLIC SPEAKING EXPERIENCE

Professional conferences:

Bradbury, J. A., 2004. "Recent Hydroclimate Variability in New England and Implications for Future Prediction." (*Invited*) Conference on Emerging Issues in Water Resources in the Northeast. University of Massachusetts, Amherst, MA, Oct. 22.

Bradbury, J. A., C. P. Wake and B. D. Keim, 2002. "Selecting Suitable Variables for Numerical Prediction Models of New England Winter Hydroclimate." Climate Prediction Assessments Workshop-Research and Applications on Use and Impacts, Alexandria, VA, Oct. 28-30.

Guest Lectures:

7/2005 "Global Warming and Climate Change." (*Invited*) The Northeast Sustainable Energy Association, Montague, MA.

- Prepared comprehensive lecture on the scientific basis for global warming, the history of the IPCC and the U.S. political debate
- Provided presentation materials to all attendees of a science & technology institute for Massachusetts's teachers, grades 7 - 10.

- 2002 - present Graduate-level lectures on topics including:
- Global teleconnection patterns and seasonal climate forecasting
 - Global and regional climate modeling and applications for paleoclimate research

FIELD RESEARCH EXPERIENCE

- 5/2002 – 6/2002 Field Assistant on Lake Tuborg, Ellesmere Island, Nunavut, Canada
- One month field season studying lacustrine sedimentation processes in both glacial- and nival-fed river delta systems
 - Maintained automated meteorological station and monitored the lake environment daily with sediment traps and Seacat measurements
- 1990-1995 Geology field trips while at Colorado College, CO.
- 5 days geologic mapping at Garden of the Gods, Colorado Springs, CO.
 - 3 weeks mapping and studying Basin and Range of southern California.
 - 5 days of structural mapping in Arches National Park, UT.
 - 3 weeks in Washington State on volcanic, glacial and structural history
 - 7 days conducting an independent survey of lichenometry and geomorphology on Spruce Creek Rock Glacier, near Breckenridge, CO.
 - 3 weeks in Hawaii studying volcanic and cultural history

COMPUTER SKILLS

Operating systems: PC, MAC and UNIX

Programs: MS Office, IDL, NCAR Command Language, Adobe Illustrator, ArcView, Matlab

ADDITIONAL COURSEWORK

- Econ 104 Macroeconomics (UMass)
Res-Econ 263 Resource Economics (UMass)
Econ 210 Topics in Economics: The Colorado River. (Colorado College)

LANGUAGE SKILLS

Proficient in English and French

PROFESSIONAL MEMBERSHIPS

American Geophysical Union (AGU)
American Meteorological Society (AMS)
American Quaternary Association (AMQUA)
American Water Resources Association (AWRA)

JOURNAL REVIEWS

Journal of Climate
Geophysical Research Letters
International Journal of Climatology

ABSTRACTS FROM PROFESSIONAL MEETINGS AND WORKSHOPS

Bradbury, J. A., R. S. Bradley, C. M. Ammann, W.-C. Wang, W. Gong, 2005. "East Asian Monsoon and Hadley Circulation Response to Major Volcanic Eruptions: a Test of Model Skill with Paleoclimate Data." CCSM 10th Annual Workshop, Breckenridge, CO, June 21-23.

Bradbury, J. A., R. S. Bradley, C. M. Ammann, W.-C. Wang, W. Gong, G. Quanshang, 2004. "Reconstructing the East Asian Monsoon Response to the 1815 Tambora Eruption; a Test of Model Simulations with Paleoclimate Data." NCCR Climate 3rd Annual Summer School, Monte Verità Switzerland, Aug. 29-Sept 3.

Bradbury, J. A., R. S. Bradley, C. M. Ammann, W.-C. Wang, W. Gong, 2004. "Volcanic Signals in the East Asian Monsoon; GCM Validation and General Circulation Response." CCSM 9th Annual Workshop, Santa Fe, NM, July 7-9.

Leonard, E. M., S. G. Weaver, **J. A. Bradbury,** and E. Langbecker, 2003. "Flow of the Spruce Creek Rock Glacier, Ten Mile Range, Colorado, U.S.A., over Annual to Millennial Timescales: Paleoclimatic Implications." The XVI INQUA Congress, Reno, NV, July 23-30.

Brigham-Grette, J., T. Rittenour, A. Clement, and **J. A. Bradbury,** 2003. "Expectations from lacustrine records documenting ENSO-like and NAO-like variability." Third International Limnogeology Congress Meeting. Tucson, AZ, Mar. 29-Apr. 2.

Vuille, M., R. S., Bradley, M. Werner, R. Healy, and **J. A. Bradbury,** 2002. "The Hadley Circulation and the Monsoon System Past and Present- A Stable Oxygen Isotope Modeling Perspective." Conference on the Hadley Circulation, Honolulu, HI, Nov. 12-15.

Bradbury, J. A., B. D. Keim and C. P. Wake, 2001. "East Coast Pressure Trough Indices and New England Winter Climate Variability." Eos. Trans. AGU, 82(47), Fall Meet. Suppl., Abstract A12A-0038.

Bradbury, J. A., S. L. Dingman, L. D. Meeker, and B. D. Keim, 2001. "Relations of Large-Scale Atmospheric Circulation Patterns to Streamflow Variability in New England." Eos. Trans. AGU, 82(20), Spring Meet. Suppl., Abstract H22D-05.