

JASON M. CORDEIRA

Address: NOAA, Attn: Jason Cordeira
325 Broadway / PSD2, Boulder, CO 80305

Phone: (518) 227-0384
Email: jason.cordeira@noaa.gov

EDUCATION

- 2011 Ph.D., Atmospheric Science**
Department of Atmospheric and Environmental Sciences, University at Albany, Albany, NY
Dissertation title: *Tropical–extratropical interactions and arctic–extratropical interactions conducive to intraseasonal variability of the North Pacific jet stream*
Advisors: Lance Bosart and Dan Keyser
- 2008 M.S., Atmospheric Science**
Department of Earth and Atmospheric Sciences, University at Albany, Albany, NY
Thesis title: *A Multiscale Analysis of the “Perfect Storms” of 1991*
Advisor: Lance Bosart
- 2005 B.S., Meteorology.** Technical Mathematics minor. *Summa Cum Laude*
Plymouth State University, Plymouth, NH

RESEARCH EXPERIENCE

- 2011– present Post-Doctoral Research Associate**
National Research Council Research Associateship
NOAA/ESRL Physical Sciences Division – Water Cycle Branch, Boulder, CO
Conducting research on extratropical precursors to atmospheric rivers, tropical–extratropical interactions, and meso–synoptic-scale extreme precipitation events over North America.
- 2005–11 Graduate Research Assistant**
Department of Atmospheric and Environmental Sciences, University at Albany, Albany, NY
Conducted research on multi-scale linked weather systems, extratropical jet stream variability, intraseasonal climate variability and high-impact weather, tropical–extratropical interactions, predecessor rain events, variability in atmospheric energetics, and the influence of high lapse rates over North America on severe weather and heat waves.
- 2005 Research Assistant**
Department of Geoscience, Hobart and William Smith Colleges, Geneva, NY
Conducted research on the influence of variable ice cover on lake-effect snowstorms. Work continued collaboratively 2005–2008 to publish results and initiate a diagnostic evaluation using the WRF model.

FIRST-AUTHOR REFEREED PUBLICATIONS

**Reprints available at <http://www.atmos.albany.edu/student/cordeira/reprints/>*

- Cordeira, J. M.** and L. F. Bosart, 2011: Cyclone interactions and evolutions during the “Perfect Storms” of late October and early November 1991. *Mon. Wea. Rev.*, **139**, 1683–1707. *(Cordeira.Bosart.2011.pdf)
- Cordeira, J. M.** and L. F. Bosart, 2010: The antecedent large-scale conditions of the “Perfect Storms” of late October and early November 1991. *Mon. Wea. Rev.*, **138**, 2546–2569. *(Cordeira.Bosart.2010.pdf)
- Cordeira, J. M.** and N. F. Laird, 2008: The influence of ice cover on two lake-effect snow events over Lake Erie. *Mon. Wea. Rev.*, **136**, 2747–2763. *(Cordeira.Laird.2008.pdf)

CO-AUTHOR REFEREED PUBLICATIONS

Bosart, L. F., **J. M. Cordeira**, T. J. Galarneau, Jr., B. J. Moore, and H. M. Archambault, 2011: An Analysis of Multiple Predecessor Rain Events Ahead of Tropical Cyclones Ike and Lowell: 10-15 September 2008. *Mon. Wea. Rev.*, *in press*.

Evans, C., and **Co-authors**, 2011: The PRE-Depression Investigation of Cloud-systems in the Tropics (PREDICT) field campaign: Perspectives of early career scientists. *Bull. Amer. Soc.*, *in press*.

OTHER PUBLICATIONS

Jones, S. C., and **co-authors**, 2010: New research and field experiments in extratropical transition. Seventh International Workshop on Tropical Cyclones. La Réunion, FR, WMO/WWRP (Available online at http://www.cawcr.gov.au/projects/iwtc/documentation/2_4.pdf).

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. Soc.*, **91**, 854–856.

Cordeira, J. M., L. F. Bosart, and D. Keyser, 2010: Tropical–extratropical interactions conducive to intraseasonal variability in Northern Hemisphere available potential energy. Preprints. *29th Conference on Hurricanes and Tropical Meteorology*. Tucson, AZ. Preprint at: http://www.atmos.albany.edu/student/cordeira/reprints/Cordeira.2010_preprint.pdf

Cordeira, J. M. and N. F. Laird, 2005: The impact of ice cover on two lake-effect snow events in the eastern Great Lakes region. Preprints, *11th Conference on Mesoscale Processes*, Albuquerque, NM.

PROFESSIONAL ACTIVITIES

- 2011** **Session Chair**, 14th Cyclone Workshop, Pacific Grove, CA
Session on *Fronts, Jets, and Airstreams*
- 2010** **Working group member**, 7th International Workshop on Tropical Cyclones, La Réunion, FR
Group: New Research and Field Experiments in Extratropical Transition
- 2010** **Forecaster**, Pre-Depression Investigation of Cloud-systems in the Tropics (PREDICT)
Provided forecast support, product development, and led weather discussions
- 2004** **Forecaster**, International Consortium for Atmospheric Research on Transport and Transformation
Provided forecast support for research vessel in the Gulf of Maine monitoring air quality
- 2004** **Intern Meteorologist**, Mount Washington Observatory, New Hampshire

TEACHING EXPERIENCE (Instructor of Record)

- 2010** **Synoptic Meteorology I** *(one fall semester)*
Senior-level course with 16 students focused on the application of dynamic meteorology and quasi-geostrophic theory to midlatitude weather systems. This course included regular forecast discussion, computer lab assignments utilizing Unix and GEMPAK, and a journal-style class project.
- 2007–09** **Introduction to the Atmosphere** *(three summer sessions)*
Survey course with ~25–30 students that focused on atmospheric composition, midlatitude and tropical weather systems, severe weather, climate, and global climate change.

TEACHING EXPERIENCE (Teaching Assistant)

- 2011 Synoptic Laboratory II** (one spring semester)
2006–08 Introduction to Weather Analysis and Forecasting (three spring semesters)
2005–07 Severe and Hazardous Weather (three fall semesters)
Responsibilities: led weather forecast discussions, lectured on course material, designed and graded assignments and projects, mentored students, held office hours, maintained course websites.

TEACHING DEVELOPMENT

- 2009–10 University at Albany Future Faculty Certification Program**
Three-semester series of courses that prepare graduate students for careers in higher education by discussing issues important to new faculty: effective college teaching techniques, course design, developing useful assessments, the university environment, service, and life as a faculty member.

TEACHING SERVICE

- 2011 Discussion Leader**, College Teaching Symposium for Graduate Students
- 2010–11 Member**, University at Albany Future Faculty Leadership Council
Council affiliated with the Institute for Teaching, Learning and Academic Leadership to provide guidance for graduate students in teaching roles and in preparing for entering the job market.
- 2010–11 Undergraduate research mentor/advisor**
A. Bentley: Assisted with honors thesis research and conference presentation on *A preliminary climatology of tropical moisture exports in the Southern Hemisphere*.
L. Gloeckler: Advised with independent research and conference presentation on *A multiscale investigation of the 12 December 1995 Pacific Northwest cyclone event*.

AWARDS AND DISTINCTIONS

- 2011 The Bernard Vonnegut Teaching Award**
Department of Atmospheric and Environmental Sciences, University at Albany, Albany, NY
In recognition of “extraordinary dedication to teaching by an atmospheric science graduate student.”
- 2009 Outstanding Student Oral Presentation**
23rd Weather Analysis and Forecasting Conference, Omaha, NE.
- 2005 American Meteorological Society 75th Anniversary Endowed Scholarship**
In recognition of “academic excellence and achievement.”

INVITED PRESENTATIONS

- 2011 Chesapeake Energy, Chicago, IL**
Downstream response to variability of the North Pacific jet stream
- 2010 Chesapeake Energy, Chicago, IL**
Diagnosing Northern Hemisphere intraseasonal variability using available potential energy
- 2010 Department of Geoscience, Hobart and William Smith Colleges, Geneva, NY**
A climatology of high lapse rates and their influence on severe weather and heat waves over the US

SELECT CONFERENCE PRESENTATIONS

Selection of 13 of 35 first-author presentations

Cordeira, J. M., H. M. Archambault, L. F. Bosart, and D. Keyser: Recurving tropical cyclone–jet stream interactions. Part 2: Case study and influence on the general circulation. *5th Tropical Workshop*, Dedham, MA. May 2011.

Cordeira, J. M., L. F. Bosart, and D. Keyser: Diagnosing intraseasonal variability of the North Pacific jet stream. *15th Cyclone Workshop*, Monterey, CA. March 2011.

Cordeira, J. M., D. Keyser, and L. F. Bosart: Tropical–extratropical interactions conducive to intraseasonal variability of Northern Hemisphere available potential energy. *23rd Conference on Climate Variability and Change*, Seattle, WA. January 2011.

Cordeira, J. M., T. J. Galarneau, Jr., and L. F. Bosart: The influence of the elevated mixed layer on record high temperatures and severe weather over the Northeast US in April and May 2010. *25th Conference on Severe Local Storms*, Denver, CO. October 2010.

Cordeira, J. M., L. F. Bosart, and D. Keyser: Far-upstream precursors of early seasonal cold-air outbreaks over the Northeast United States. *NOAA/NWS Northeast Regional Operational Workshop XI*, Albany, NY. October 2009.

Cordeira, J. M., T. J. Galarneau, Jr., and L. F. Bosart: A climatology of high lapse rates and their influence on the occurrence (or non-occurrence) of severe weather over the central US. *13th Conference on Mesoscale Processes*, Salt Lake City, UT. August 2009.

Cordeira, J. M., and L. F. Bosart: Intraseasonal climate variability and predictability: An extreme Arctic ridge from 27 Nov to 5 Dec 2007. *IAMAS-IAPSO-IACS Joint Assembly*, Montreal, QC, CA. July 2009.

Cordeira, J. M., and L. F. Bosart: Linkages between tropical heating anomalies, tropical cyclones, and high-latitude ridge events. *4th Northeast Tropical Workshop*, Rensselaerville, NY. June 2009.

Cordeira, J. M., T. J. Galarneau, Jr., and L. F. Bosart: A climatology of high lapse rates and their influence on heat waves east of the Rocky Mountains. *23rd Weather Analysis and Forecasting Conference*, Omaha, NE. June 2009.

Cordeira, J. M., A. F. Srock, and N. F. Laird: The influence of ice cover on lake-effect snowstorms over Lake Erie using the WRF-ARW. *3rd Lake Effect Conference*, Oswego, NY. October 2008.

Cordeira, J. M., and L. F. Bosart: Tropical–midlatitude interactions during the “Perfect Storms” of 1991. *28th Conference on Hurricanes and Tropical Meteorology*, Orlando, FL. April 2008.

Cordeira, J. M., and L. F. Bosart: The "Perfect Storms" of 1991: An intraseasonal example of a link between weather and climate. *19th Conference on Climate Variability and Change, and Climate Change Manifested by Changes in Weather*, San Antonio, TX. January 2007.

Cordeira, J. M., and N. F. Laird: The impact of ice cover on two lake-effect snow events in the eastern Great Lakes region. *11th Conference on Mesoscale Processes*, Albuquerque, NM. October 2005.

SELECT CO-AUTHOR CONFERENCE PRESENTATIONS

Selection of 7 of 20 co-author presentations

Bosart, L. F., **J. M. Cordeira**, T. J. Galarneau, Jr., B. J. Moore, and H. M. Archambault: An analysis of multiple predecessor rain events ahead of tropical cyclones Ike and Lowell: 10–15 September 2008. *5th Tropical Workshop*, Dedham, MA. May 2011.

Bentley, A. M., L. F. Bosart, and **J. M. Cordeira**: A preliminary climatology of tropical moisture exports in the Southern Hemisphere. *Undergraduate honors thesis presentation, University at Albany, Albany, NY*, May 2011.

Archambault, H. M., **J. M. Cordeira**, R. A. Lazear, L. F. Bosart, and D. Keyser: Reduced predictability and extreme weather events over North America following the recurvature of western North Pacific tropical cyclones. *15th Cyclone Workshop*, Pacific Grove, CA. March 2011.

Gloeckler, L. C., and **J. M. Cordeira**: A multiscale analysis of the 12 December 1995 Pacific Northwest cyclone event. *36th Northeastern Storms Conference*, Taunton, MA. March 2011.

Bosart, L. F., H. M. Archambault, and **J. M. Cordeira**: Extreme weather over parts of the Northern Hemisphere during winter 2009–2010. *24th Weather Analysis and Forecasting Conference*, Seattle, WA. January 2011.

Bosart, L. F., **J. M. Cordeira**, and H. M. Archambault: Linked extreme weather events: Disruptive wild fires in California and severe cold and record-breaking rains in Mexico in late October 2007. *IAMAS-IAPSO-IACS Joint Assembly*, Montreal, QC, CA. July 2009.

Bosart L. F., H. M. Archambault, and **J. M. Cordeira**: Flooding in southern Mexico, tropical cyclone Noel and intense European storms in late October and early November 2007: Linked weather systems? *28th Conference on Hurricanes and Tropical Meteorology*. April 2008.

PUBLICATIONS IN PREPARATION

Cordeira, J. M., L. F. Bosart, D. Keyser, and H. M. Archambault, 2012: Multiscale tropical–extratropical interactions associated with strong jet streams over the North Pacific. *To be submitted to Monthly Weather Review*.

Bosart, L. F., **J. M. Cordeira**, and H. M. Archambault, 2012: Linked extreme weather events over the Americas in October and November 2007. *To be submitted to Monthly Weather Review*.

Archambault, H. M., L. F. Bosart, D. Keyser, and **J. M. Cordeira**, 2012: A climatological analysis of the extratropical flow response to recurving western North Pacific tropical cyclones. *To be submitted to Monthly Weather Review*.

PROFESSIONAL AFFILIATIONS

American Geophysical Union
American Meteorological Society
New York Academy of Sciences