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## **EDUCATION**

- 2011 Ph.D.** Atmospheric Science  
Department of Atmospheric and Environmental Sciences, University at Albany  
Advisor: Lance Bosart  
Dissertation: *Persistence and Dissipation of Lake Michigan-Crossing Mesoscale Convective Systems*
- 2008 M.S.** Atmospheric Science  
Department of Atmospheric and Environmental Sciences, University at Albany  
Advisor: Lance Bosart  
Thesis: *Formation and evolution of intense mesoscale convective systems and their associated multiscale interactions during BAMEX*
- 2004 B.S.** Meteorology, *Summa Cum Laude*  
Minors: Mathematics and Political Science  
Department of Geography and Meteorology, Valparaiso University, Valparaiso, IN

## **TEACHING EXPERIENCE – INSTRUCTOR**

- 2009** ATM 400 – Synoptic Meteorology (Fall)  
Department of Atmospheric and Environmental Sciences, University at Albany  
• *Senior-level course that involves the derivation and application of quasi-geostrophic dynamics*
- 2006, 2010** ATM 100 – Introduction to the Atmosphere (Summers)  
Department of Atmospheric and Environmental Sciences, University at Albany  
• *Introductory course that provides an overview of meteorology and climatology*

## **ADDITIONAL COURSES PREPARED TO TEACH**

- Hydrometeorology (300 level)  
• *Junior level course that covers the hydrologic cycle, atmospheric impacts on hydrology, and water policy resource issues*
- Introduction to Dynamic Meteorology (200 or 300 level)  
• *Sophomore/junior level course that provides an introduction to the equations of motion and covers topics such as the Coriolis force, hydrostatic balance, geostrophic balance, and the thermal wind*

## **TEACHING EXPERIENCE – TEACHING ASSISTANT**

- 2010** ATM 401 – Synoptic Meteorology II (Spring)  
• *Co-wrote exams/homework assignments, helped students prepare for map discussion, graded exams/assignments, held office hours, maintained web page*
- 2007** ENV 327 – Meteorology and Environmental Measurement (Spring)  
• *Wrote and graded homework assignments, held office hours*
- 2006** GEO 105 – Introduction to Environmental Science (Fall)  
• *Graded homework assignments, proctored exams*
- 2005–2007** ATM 321 – Physical Meteorology (Springs)  
• *Graded homework assignments, held office hours, substituted occasionally for professor absence*
- 2005** ATM 333 – Mathematical Methods in Geophysics (Fall)  
• *Graded exams/homework assignments, held office hours*
- 2005** ATM 305 – Global Physical Climatology (Fall)  
• *Co-wrote exams/homework assignments, held office hours, maintained web page*
- 2004** ATM 100 – Introduction to the Atmosphere (Fall)  
• *Co-wrote exams, graded exams, held office hours, maintained webpage*

## **PROFESSIONAL DEVELOPMENT**

- 2011** Session Chair – 15th Cyclone Workshop, Pacific Grove, CA (March 2011)
- 2010** Future Faculty Development – Eight-Week Seminar in College Teaching, University at Albany (September–November 2010)
- 2008** 4th Annual Sharing Knowledge, Insight, and Lessons Learned Conference for Graduate Students in Teaching, University at Albany (March 2008)
- 2006** Advanced Study Program Summer Colloquium, The Challenge of Convective Forecasting, National Center for Atmospheric Research, Boulder, CO (July 2006)
- 2005** Educational Forum, A Primer on Radar Analysis Techniques Used in Mesoscale Meteorology, Albuquerque, NM (October 2005)

## **RESEARCH EXPERIENCE**

- 2008–2011** **Graduate Research Assistant**  
Department of Atmospheric and Environmental Science, University at Albany  
• *Great Lakes cutoff cyclone and severe weather development during May 2006*  
• *Northeastern U.S. flash-flooding events from cutoff cyclones*  
• *Ph.D. Dissertation: The maintenance and dissipation of mesoscale convective systems that cross Lake Michigan*

- 2007–2010 Collaborative Research Project**  
 Department of Atmospheric and Environmental Science, University at Albany  
 • *Preferred pathways for Southern Hemispheric cold surges*  
 • *Collaboration with Heather Archambault, Thomas Galarneau, and Alan Srock, Department of Atmospheric and Environmental Science, University at Albany*
- 2005–2007 Graduate Research Assistant (Summers)**  
 Department of Atmospheric and Environmental Science, University at Albany  
 • *Masters Thesis: Interactions among multiple mesoscale convective systems and their combined bulk upscale effects*
- 2003 Research Assistant (Summer)**  
 National Weather Center, Norman, OK  
 • *Non-classical frontal structure and resulting effects on severe weather distribution*  
 • *Research Advisors: David Schultz and Robert Johns*

## **AWARDS AND HONORS**

- 2010** Vonnegut award for excellence in teaching, University at Albany  
**2008** Outstanding student oral presentation, 17th Conference on Applied Climatology, Whistler, BC  
**2006** Outstanding student poster award, Severe Local Storms Special Symposium, Atlanta, GA  
**2004** Pi Gamma Mu, social sciences honor society  
**2003** Lumina award recipient, high academic average at Valparaiso University  
**2002** Chi Epsilon Pi, meteorology honor society

## **PROFESSIONAL AFFILIATIONS**

- 2004–Present** American Meteorological Society  
**2010–Present** American Geophysical Union  
**2010–Present** National Weather Association  
**2010–Present** New York Academy of Sciences

## **THESES AND TECHNICAL REPORTS**

- Metz, N. D.** 2011: Persistence and dissipation of Lake Michigan-crossing mesoscale convective systems. Ph.D. Thesis, Department of Atmospheric and Environmental Sciences, University at Albany, 237 pp.
- Metz, N. D.**, 2009: Maintenance and dissipation of mesoscale convective systems crossing Lake Michigan and associated marine layer interaction. Ph.D. Prospectus, Department of Atmospheric and Environmental Sciences, University at Albany, 38 pp.
- Metz, N. D.**, 2008: Formation and evolution of intense mesoscale convective systems and their associated interactions during BAMEX. M.S. Thesis, Department of Atmospheric and Environmental Sciences, University at Albany, 213 pp.

## **REFEREED PUBLICATIONS**

**Metz, N. D.**, H. M. Archambault, A. F. Srock, T. J. Galarneau Jr., and L. F. Bosart, 2011: A comparison of South American and African preferential pathways for extreme cold events. *Mon. Wea. Rev.*, in preparation.

**Metz, N. D.** and L. F. Bosart, 2010: Derecho and MCS development, evolution, and multiscale interactions during 3–5 July 2003. *Mon. Wea. Rev.*, **138**, 3048–3070.

**Metz, N. D.**, D. M. Schultz, and R. H. Johns, 2004: Extratropical cyclones with multiple warm-front-like baroclinic zones and their relationship to severe convective storms. *Wea. Forecasting*, **19**, 907–916.

## **OTHER PUBLICATIONS**

**Metz, N. D.** and L. F. Bosart, 2006: An examination of three derecho events during the first week of July 2003 concurrent with BAMEX, Severe Local Storms Special Symposium, Amer. Meteor. Soc., 29 January–2 February 2006, Atlanta, GA, CD-ROM, paper P1.31.

**Metz, N. D.**, D. M. Schultz, and R. H. Johns: Cyclones with multiple warm-front-like zones. *Nowcast, Bull. Amer. Meteor. Soc.*, **86**, 34–36.

**Metz, N. D.**, D. M. Schultz, and R. H. Johns, 2003: Extratropical cyclones with multiple baroclinic zones and their relationship to severe weather. National Weather Center Research Experience for Undergraduates, 2003 program publication.

## **SEMINAR PRESENTATIONS**

**Jul 2011**      **Department of Atmospheric and Environmental Science, University at Albany**  
**Title:** Persistence and dissipation of Lake Michigan-crossing mesoscale convective systems

**Sep 2009**      **Department of Atmospheric and Environmental Science, University at Albany**  
**Title:** Maintenance and dissipation of mesoscale convective systems crossing Lake Michigan and associated marine layer interaction

**Aug 2007**      **Department of Atmospheric and Environmental Science, University at Albany**  
**Title:** Derecho and MCS interactions during BAMEX

**Aug 2003**      **National Weather Center, Norman, OK**  
**Title:** Extratropical cyclones with multiple baroclinic zones and their relationship to severe weather

## **FIRST-AUTHOR CONFERENCE PRESENTATIONS**

**Aug 2011**      **14th Conference on Mesoscale Processes, Los Angeles, CA**  
**N. D. Metz**, L. F. Bosart, and A. F. Srock  
**Presentation:** A multiscale analysis of a severe-weather-producing Great Lakes cutoff cyclone: Part II – Vortex breakdown, mesoscale structure, and evolution

- Mar 2011**    **15th Cyclone Workshop, Pacific Grove, CA**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** Synoptic and mesoscale conditions associated with persisting and dissipating mesoscale convective systems that cross Lake Michigan
- Mar 2011**    **36th Annual Northeastern Storm Conference, Taunton, MA**  
**N. D. Metz**, H. M. Archambault, A. F. Srock, and L. F. Bosart  
**Presentation:** A multiscale analysis of the formation and evolution of a severe-weather-producing Great Lakes cutoff cyclone
- Nov 2010**    **12th Northeast Regional Operational Workshop, Albany, NY**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** Synoptic and mesoscale conditions associated with persisting and dissipating mesoscale convective systems that cross Lake Michigan
- Oct 2010**    **25th Conference on Severe Local Storms, Denver, CO**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** The effects of Lake Michigan on mature mesoscale convective systems
- Mar 2010**    **18th Great Lakes Operational Meteorology Workshop, Toronto, ON**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** The effects of Lake Michigan on mature mesoscale convective systems
- Mar 2010**    **35th Annual Northeastern Storm Conference, Saratoga Springs, NY**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** The effects of Lake Michigan on mature mesoscale convective systems
- Aug 2009**    **13th Conference on Mesoscale Processes, Salt Lake City, UT**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** Maintenance of mesoscale convective systems over Lake Michigan
- Jun 2009**    **23rd Conference on Weather Analysis and Forecasting, Omaha, NE**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** Maintenance of mesoscale convective systems over the Great Lakes
- Mar 2009**    **34th Northeastern Storm Conference, Springfield, MA**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** Maintenance of mesoscale convective systems over the Great Lakes
- Nov 2008**    **10th Annual Northeast Regional Operational Workshop, Albany, NY**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** Maintenance of a mesoscale convective system over Lake Michigan
- Oct 2008**    **24th Conference on Severe Local Storms, Savannah, GA**  
**N.D. Metz** and L. F. Bosart  
**Presentation:** Maintenance and dissipation of mesoscale convective systems that encounter the Great Lakes
- Sep 2008**    **14th Cyclone Workshop, Val Morin, QU**  
**N. D. Metz**, H. M. Archambault, A. F. Srock, T. J. Galarneau, Jr., and L. F. Bosart  
**Presentation:** Preferential pathways for Southern Hemisphere cold surges

- Sep 2008**     **14th Cyclone Workshop, Val Morin, QU**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** A severe weather outbreak associated with a Great Lakes cutoff cyclone
- Aug 2008**     **17th Conference on Applied Climatology, Whistler, BC**  
**N. D. Metz**, H. M. Archambault, A. F. Srock, T. J. Galarneau, Jr., and L. F. Bosart  
**Presentation:** Preferential pathways for Southern Hemisphere cold surges
- Mar 2008**     **33rd Northeastern Storm Conference, Springfield, MA**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** A severe weather outbreak associated with a Great Lakes cutoff cyclone
- Nov 2007**     **9th Annual Northeast Regional Operational Workshop, Albany, NY**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** A severe weather outbreak associated with a Great Lakes cutoff cyclone
- Aug 2007**     **12th Conference on Mesoscale Processes, Waterville Valley, NH**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** Derecho and MCS interactions during BAMEX
- Jun 2007**     **22nd Conference on Weather Analysis and Forecasting, Park City, UT**  
**N. D. Metz** and L. F. Bosart  
**Poster:** Derecho and MCS formation and interactions during BAMEX
- Nov 2006**     **23rd Conference on Severe Local Storms, St. Louis, MO**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** Two derecho events and MCS interactions during BAMEX
- Nov 2006**     **8th Annual Northeast Regional Operational Workshop, Albany, NY**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** Derecho formation, evolution, and MCS interactions during BAMEX.
- Oct 2006**     **13th Cyclone Workshop, Pacific Grove, CA**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** Derecho formation, evolution, and MCS interactions during BAMEX
- Mar 2006**     **31st Northeastern Storm Conference, Saratoga Springs, NY**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** An examination of three derecho events and MCS interactions during the first week of July 2003 concurrent with BAMEX
- Jan 2006**     **Severe Local Storms Special Symposium, Atlanta, GA**  
**N. D. Metz** and L. F. Bosart  
**Poster:** An examination of three derecho events during the first week of July 2003 concurrent with BAMEX
- Nov 2005**     **7th Northeast Regional Operational Workshop, Albany, NY**  
**N. D. Metz** and L. F. Bosart  
**Presentation:** An examination of three derecho events and MCS interactions during the first week of July 2003 concurrent with BAMEX

- Oct 2005**     **11th Conference on Mesoscale Processes, Albuquerque, NM**  
**N. D. Metz** and L. F. Bosart  
**Poster:** Radar representation of bow echo events during the first week of July 2003 concurrent with BAMEX
- Aug 2005**     **21st Conference on Weather Analysis and Forecasting, Washington, D.C.**  
**N. D. Metz** and L. F. Bosart  
**Poster:** Observed bow echo events during the first week of July 2003 concurrent with BAMEX
- Apr 2004**     **2nd Annual Great Lakes Meteorology Conference, Chesterton, IN**  
**N. D. Metz**, D. M. Schultz, and R. H. Johns  
**Poster:** Extratropical cyclones with warm sector baroclinic zones and their relationship to severe weather.
- Jan 2004**     **20th Conference on Weather Analysis and Forecasting, Seattle, WA**  
**N. D. Metz**, D. M. Schultz, and R. H. Johns  
**Presentation:** Extratropical cyclones with warm sector baroclinic zones and their relationship to severe weather

### **CO-AUTHORED CONFERENCE PRESENTATIONS**

- Aug 2011**     **14th Conference on Mesoscale Processes, Los Angeles, CA**  
L. F. Bosart, **N. D. Metz**, and H. M. Archambault  
**Presentation:** A multiscale analysis of a severe-weather-producing Great Lakes cutoff cyclone: Part I – Antecedent conditions and cutoff formation
- Jun 2010**     **Eastern Region Flash Flood Conference, Wilkes-Barre, PA**  
D. V. Mallia, **N. D. Metz**, and J. P. Villani  
**Poster:** Flash flood events associated with northeastern cutoff cyclones
- Mar 2010**     **35th Northeastern Storm Conference, Saratoga Springs, NY**  
D. V. Mallia and **N. D. Metz**  
**Presentation:** Flash flood events associated with northeastern cutoff cyclones