

Alicia M. Bentley, Ph.D.

National Centers for Environmental Prediction
Environmental Modeling Center | I. M. Systems Group
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Curriculum Vitae

EDUCATION

- Ph.D., Atmospheric Science** 2018
University at Albany, SUNY; Albany, NY
Dissertation: *Extratropical Cyclones leading to Extreme Weather Events over Central and Eastern North America*
- M.S., Atmospheric Science** 2014
University at Albany, SUNY; Albany, NY
Thesis: *Upper-Tropospheric Precursors Associated with Subtropical Cyclone Formation in the North Atlantic Basin*
- B.S., Atmospheric Science (Honors); Minor, Mathematics – Summa Cum Laude** 2011
University at Albany, SUNY; Albany, NY
Thesis: *A Preliminary Climatology of Tropical Moisture Exports in the Southern Hemisphere*

RESEARCH EXPERIENCE

- Support Scientist (I. M. Systems Group)** 2018–present
National Centers for Environmental Prediction | Environmental Modeling Center; College Park, MD
- Member of the Ensemble and Model Evaluation Groups
- Advanced Study Program (ASP) Graduate Student Visitor** Summer 2017
National Center for Atmospheric Research; Boulder, CO
- Assessed the skill with which extratropical cyclones leading to extreme weather events are forecast using the Global Ensemble Forecasting System (GEFS) reforecast dataset
- Research Assistant** 2014–2018
University at Albany, SUNY; Albany, NY
- Maintained a website of GFS analyses and real-time forecasts (www.AliciaMBentley.com)
 - Presented research at regional/national/international conferences and in refereed journal articles
- Teaching Assistant** 2011–2014
University at Albany, SUNY; Albany, NY
- Organized and produced figures for weekly *Friday Map Discussion* led by Lance F. Bosart
 - Presented research at regional/national/international conferences
- Research Assistant** Summer 2010
Hobart and William Smith Colleges; Geneva, NY
- Identified and classified lake-effect events over small lakes in California and Nevada
- Student Intern** 2009–2010
National Weather Service; Albany, NY
- Prepared, participated in, and collected data from weather balloon launches

TEACHING EXPERIENCE

Substitute Instructor	2016, 2017
• Taught undergraduate students for full class periods; created worksheets/presentations	
Teaching Assistantships	
• Atmospheric Thermodynamics (ATM 320 – Undergraduate Level)	Spring 2013, 2014
• Synoptic-Dynamic Meteorology I (ATM 510 – Graduate Level)	Fall 2012, 2013
• Dynamic Meteorology II (ATM 411 – Undergraduate Level)	Spring 2012
• Dynamic Meteorology I (ATM 410 – Undergraduate Level)	Fall 2011
• Synoptic Meteorology I (ATM 400 – Undergraduate Level)	Fall 2011
Faculty Interview Student Committee Member	2013, 2014
• Interviewed candidates for faculty positions and provided feedback to the department	
Moderator of “MetScholars: Connecting Students in Meteorology” Discussion Board	2013
• Facilitated discussion of scientific topics among undergraduate students from across the country	
• Answered questions concerned undergraduate students’ professional development	
University at Albany Teaching Symposium Attendee	2011
• Participated in workshops that provided strategies/techniques to become an better instructor	

HONORS AND AWARDS

First Place Oral Presentation Award	2016
28th Conference on Climate Variability and Change	
Travel Grant – World Weather Open Science Conference 2014	2014
National Science Foundation	
Outstanding Oral Presentation Award	2014
26th Conference on Weather Analysis and Forecasting/22nd Conference on Numerical Weather Prediction	
Outstanding Student Award	2011
Department of Atmospheric and Environmental Sciences; University at Albany, SUNY	
Best Forecaster Award	2011
Department of Atmospheric and Environmental Sciences; University at Albany, SUNY	
Class of 1905 Bazzoni Fellowship Award	2011
University at Albany, SUNY	
Presidential Award for Undergraduate Research	2011
University at Albany, SUNY	
Honorable Mention of an Oral Presentation Award	2011
8th Annual Undergraduate Research Conference; University at Albany, SUNY	
Karen Hauschild Friday Undergraduate Scholarship	2010
American Meteorological Society	

PROFESSIONAL SERVICE

Committees

- AMS Weather Analysis and Forecasting (WAF) Committee (1/16/2018–1/15/2021)
- Bulletin of the American Meteorological Society (BAMS) Task Force (10/24/2017–1/15/2020)

Reviewer

- *Quarterly Journal of the Royal Meteorological Society*
- *Journal of Geophysical Research - Atmospheres*

Session Chair

- 97th AMS Annual Meeting (WAF/NWP); Seattle, WA, January 2017

Poster Judge

- 97th AMS Annual Meeting (WAF/NWP); Seattle, WA, January 2017
- 15th AMS Annual Student Conference; New Orleans, LA, January 2016

Memberships

- American Meteorological Society
- American Geophysical Union

OUTREACH ACTIVITIES

- Volunteer at University at Albany “Earth Day”** 2017
University at Albany, SUNY; Albany, NY
- Spoke to children and parents about weather/climate and led lab demonstrations
- Volunteer at University at Albany Graduate School Fair** 2016
University at Albany, SUNY; Albany, NY
- Spoke to undergraduate students interested in going to graduate school for atmospheric science
- Volunteer at Hobart and William Smith Colleges’ Departmental Visit** 2013, 2016
University at Albany, SUNY; Albany, NY
- Spoke to visiting undergraduate atmospheric science students about academic journey
- Volunteer at *Flying Cloud Institute* Outreach Events** 2015, 2016
Pittsfield, MA, Public School District
- Assisted 4th–8th grade girls with atmospheric and environmental science lab experiments
- Volunteer at “Graduate School Preparation Night”** 2014, 2015
University at Albany, SUNY, Honors College; Albany, NY
- Spoke to undergraduate students about graduate school applications and time management
- Volunteer at “Research Experience for Undergraduates/Scholarship Night”** 2014
Capital Region Chapter of American Meteorological Society; Albany, NY
- Spoke to undergraduate students about research opportunities and scholarships

REFEREED PUBLICATIONS

Bentley, A. M., L. F. Bosart, and D. Keyser, 2017: Upper-tropospheric precursors to the formation of subtropical cyclones that undergo tropical transition in the North Atlantic basin. *Mon. Wea. Rev.*, **145**, 503–520. <http://journals.ametsoc.org/doi/pdf/10.1175/MWR-D-16-0263.1>

Bentley, A. M., D. Keyser, and L. F. Bosart, 2016: A dynamically based climatology of subtropical cyclones that undergo tropical transition in the North Atlantic basin. *Mon. Wea. Rev.*, **144**, 2049–2068. <http://journals.ametsoc.org/doi/pdf/10.1175/MWR-D-15-0251.1>

Bentley, A. M., and N. D. Metz, 2016: Tropical transition of an unnamed, high-latitude, tropical cyclone over the eastern North Pacific. *Mon. Wea. Rev.*, **144**, 713–736. <http://journals.ametsoc.org/doi/pdf/10.1175/MWR-D-15-0213.1>

Laird, N., **A. M. Bentley**, S. A. Ganetis, A. Stieneke, and S. A. Tushaus, 2016: Climatology of lake-effect precipitation events over Lake Tahoe and Pyramid Lake. *J. Appl. Meteor. Climatol.*, **55**, 297–312. <http://journals.ametsoc.org/doi/pdf/10.1175/JAMC-D-14-0230.1>

INVITED PRESENTATIONS

Bentley, A. M., 2015: Life as an atmospheric science graduate student: The good, the not-so-bad, and the ugly. *SUNY Oneonta's Annual Meteorological Banquet*, Oneonta, NY, SUNY Oneonta, 1–31.

FIRST-AUTHORED ORAL PRESENTATIONS

Bentley, A. M., L. F. Bosart, and D. Keyser, 2017: Noteworthy cool-season extreme weather events over central and eastern North America associated with strong extratropical cyclones. *18th Cyclone Workshop*, Sainte-Adele, QC, Canada, 1–61.

Bentley, A. M., D. Keyser, and L. F. Bosart, 2017: Strong extratropical cyclones leading to noteworthy cool-season extreme weather events over central and eastern North America. *42nd Northeastern Storm Conference*, Saratoga Springs, NY, Lyndon State College, 1–36.

Bentley, A. M., L. F. Bosart, and D. Keyser, 2017: Strong extratropical cyclones leading to noteworthy cool-season extreme weather events over central and eastern North America. *28th Conference on Weather Analysis and Forecasting/24th Conference on Numerical Weather Prediction*, Seattle, WA, Amer. Meteor. Soc., 3A.4.

Bentley, A. M., D. Keyser, and L. F. Bosart, 2016: Noteworthy cool-season extreme weather events over central and eastern North America associated with strong extratropical cyclones. *41st Northeastern Storm Conference*, Saratoga Springs, NY, Lyndon State College, 1–38.

Bentley, A. M., L. F. Bosart, and D. Keyser, 2016: Noteworthy cool-season extreme weather events over central and eastern North America associated with strong extratropical cyclones. *28th Conference on Climate Variability and Change*, New Orleans, LA, Amer. Meteor. Soc., 4B.2.

Bentley, A. M., D. Keyser, and L. F. Bosart, 2015: Noteworthy cool-season extreme weather events over central and eastern North America associated with strong extratropical cyclones. *17th Cyclone Workshop*, Pacific Grove, CA, 1–47.

- Bentley, A. M.**, and N. D. Metz, 2015: Tropical transition of an unnamed, high-latitude, tropical cyclone in the eastern North Pacific. *40th Northeastern Storm Conference*, Saratoga Springs, NY, Lyndon State College, 1–29.
- Bentley, A. M.**, D. Keyser, and L. F. Bosart, 2014: Upper-tropospheric precursors associated with subtropical cyclone formation in the North Atlantic basin. *The World Weather Open Science Conference*, Montreal, QC, Canada, World Meteor. Org., SCI-PS149.03.
- Bentley, A. M.**, 2014: Upper-tropospheric precursors associated with subtropical cyclone formation in the North Atlantic basin. *31st Conference on Hurricanes and Tropical Meteorology*, San Diego, CA, Amer. Meteor. Soc., 4C.8.
- Bentley, A. M.**, L. F. Bosart, and D. Keyser, 2014: Upper-tropospheric precursors associated with subtropical cyclone formation in the North Atlantic basin. *39th Northeastern Storm Conference*, Rutland, VT, Lyndon State College, 1–49.
- Bentley, A. M.**, D. Keyser, and L. F. Bosart, 2014: Upper-tropospheric precursors associated with subtropical cyclone formation in the North Atlantic basin. *26th Conference on Weather Analysis and Forecasting/22nd Conference on Numerical Weather Prediction*, Atlanta, GA, Amer. Meteor. Soc., 8.3.
- Bentley, A. M.**, D. Keyser, and L. F. Bosart, 2013: Upper-level precursors associated with subtropical cyclone formation in the North Atlantic basin. *16th Cyclone Workshop*, Sainte-Adele, QC, Canada, 1–53.
- Bentley, A. M.**, L. F. Bosart, and D. Keyser, 2013: Upper-level precursors associated with subtropical cyclone formation in the North Atlantic basin. *6th Northeast Tropical Workshop*, Rensselaerville, NY, 1–49.
- Bentley, A. M.**, L. F. Bosart, and D. Keyser, 2013: Upper-level precursors associated with subtropical cyclone formation in the North Atlantic basin. *38th Northeastern Storm Conference*, Rutland, VT, 1–48.
- Bentley, A. M.**, D. Keyser, and L. F. Bosart, 2013: Upper-level precursors associated with subtropical cyclone formation in the North Atlantic basin. *Special Symposium on the Next Level of Predictions in Tropical Meteorology: Techniques, Usage, Support, and Impacts*, Austin, TX, Amer. Meteor. Soc., 2.5.
- Bentley, A. M.**, L. F. Bosart, and J. M. Cordeira, 2011: A preliminary climatology of tropical moisture exports in the Southern Hemisphere. *8th Annual Undergraduate Research Conference*, Albany, NY, University at Albany, SUNY.
- Bentley, A. M.**, S. A. Ganetis, S. Santeiu, A. Stieneke, and N. F. Laird, 2011: Climatology of lake-effect precipitation in the Lake Tahoe, CA/NV region. *2nd Annual Great Lakes Atmospheric Science Symposium*, Oswego, NY, SUNY Oswego.
- Bentley, A. M.**, L. F. Bosart, and J. M. Cordeira, 2011: A preliminary climatology of tropical moisture exports in the Southern Hemisphere. *36th Northeastern Storm Conference*, Taunton, MA, Lyndon State College.
- Bentley, A. M.**, S. A. Ganetis, S. Santeiu, A. Stieneke, and N. F. Laird, 2010: Climatology of lake-effect precipitation in the Lake Tahoe, CA/NV region. *37th Annual Rochester Academy of Science Fall Paper Session*, Rochester, NY, Rochester Institute of Technology.

CO-AUTHORED ORAL PRESENTATIONS

Bosart, L. F., **A. M. Bentley**, T. Burg, Andrew C. Winters, 2018: The “Pi-Day” Coastal Storm of 14 March 2017. *43rd Northeastern Storm Conference*, Saratoga Springs, NY, Lyndon State College, 1–55.

Bosart, L. F., P. P. Papin, and **A. M. Bentley**, 2018: Extreme rainfall over coastal eastern Asia arising from interactions between a monsoon gyre, four tropical cyclones, and mobile midlatitude disturbances in late August 2016. *31st Conference on Climate Variability and Change*, Austin, TX, Amer. Meteor. Soc., 14B.1.

Bosart, L. F., T. Burg, and **A. M. Bentley**, 2018: Impactful rains in California and snow, ice, and cold in Oregon in early 2017. *Major Weather Events and Impacts of 2017*, Austin, TX, Amer. Meteor. Soc., 2.2.

Bosart, L. F., P. P. Papin, and **A. M. Bentley**, 2017: Distant and regional atmospheric circulation influences governing integrated water vapor transport and the occurrence of extreme precipitation events. *Utilizing Long-Term Precipitation Data Records for Understanding Climate Extremes*, New Orleans, LA, Amer. Geo. Union, H53Q-03.

Bosart, L. F., P. P. Papin, A. S. Levine, and **A. M. Bentley**, 2017: Did gap flow associated with a precursor Central American gyre contribute to the formation of Hurricane Patricia (2015)? *8th Northeast Tropical Workshop*, Rensselaerville, NY, 1–32.

Bosart, L. F., **A. M. Bentley**, P. P. Papin, and T. Burg, 2017: The West Virginia flood of 23 June 2016. *42nd Northeastern Storm Conference*, Saratoga Springs, NY, Lyndon State College, 1–32.

Bosart, L. F., **A. M. Bentley**, A. S. Levine, and P. P. Papin, 2016: The influence of a precursor Central American gyre and a northerly surge into the Gulf of Tehuantepec on the formation of Hurricane Patricia in October 2015. *Tropical Cyclones: Observations, Modeling, and Predictability*, San Francisco, CA, Amer. Geo. Union, A54F-07.

Bosart, L. F., P. P. Papin, A. S. Levine, and **A. M. Bentley**, 2016: The influence of a precursor Central American gyre and a northerly surge into the Gulf of Tehuantepec on the formation of Hurricane Patricia in October 2015. *Mesoscale & Microscale Meteorology Laboratory Seminar*, Boulder, CO, NCAR, 1–55.

Bosart, L. F., P. P. Papin, A. S. Levine, and **A. M. Bentley**, 2016: The influence of a precursor Central American gyre and a northerly surge into the Gulf of Tehuantepec on the formation of Hurricane Patricia in October 2015. *32nd Conference on Hurricanes and Tropical Meteorology*, San Juan, PR, Amer. Meteor. Soc., 2D.2.

Bosart, L. F., P. P. Papin, **A. M. Bentley**, and B. J. Moore, 2016: Large-scale antecedent conditions associated with 2014–2015 winter onset over North America and their impact on predictability. *28th Conference on Climate Variability and Change*, New Orleans, LA, Amer. Meteor. Soc., TJ10.3.

Bosart, L. F., P. P. Papin, **A. M. Bentley**, B. J. Moore, and A. C. Winters, 2015: Large-scale antecedent conditions associated with 2014–2015 winter onset over North America and mid-winter storminess along the North Atlantic coast. *17th Cyclone Workshop*, Pacific Grove, CA, 1–79.

Metz, N. D., and **A. M. Bentley**, 2015: Tropical transition of an unnamed, high-latitude, tropical cyclone in the eastern North Pacific. *17th Cyclone Workshop*, Pacific Grove, CA, 1–29.

Bosart, L. F., **A. M. Bentley**, P. P. Papin, and B. J. Moore, 2015: High-impact extreme weather over the CONUS associated with the extratropical transition of western Pacific STY Nuri (2014) and its explosive

reintensification as an extratropical cyclone. *40th Northeastern Storm Conference*, Saratoga Springs, NY, Lyndon State College, 1–49.

Bosart, L. F., **A. M. Bentley**, and P. P. Papin, 2015: Tropical moisture, Arctic anticyclones, and upper-level jets: An ice-storm recipe par-excellence. *Major Weather Events and Societal Impacts of 2014*, Phoenix, AZ, Amer. Meteor. Soc., 3.2.

Bosart, L. F., **A. M. Bentley**, and P. P. Papin, 2014: The uber jet and widespread destructive ice storm of 21–23 December 2013. *39th NWA Annual Meeting*, Salt Lake City, UT, Natl. Wea. Assoc., A3.3.

Bosart, L. F., **A. M. Bentley**, P. P. Papin, and C. N. Helms, 2014: Hurricane Sandy (2012): Growth through multiple trough interactions. *10th International Conference on Mesoscale Meteorology and Tropical Cyclones*, Boulder, CO, East Asia Wea. Research Assoc., 1.

Bosart, L. F., **A. M. Bentley**, P. P. Papin, and C. N. Helms, 2014: Hurricane Sandy (2012): A multiscale trough interaction perspective. *31st Conference on Hurricanes and Tropical Meteorology*, San Diego, CA, Amer. Meteor. Soc., S2.5.

Bosart, L. F., **A. M. Bentley**, and P. P. Papin, 2014: The uber jet and widespread destructive ice storm of 21–23 December 2013. *39th Northeastern Storm Conference*, Rutland, VT, Lyndon State College.

Keyser, D., **A. M. Bentley**, and K. MacRitchie, 2014: Teaching atmospheric dynamics on the education–research interface. *23rd Symposium on Education*, Atlanta, GA, Amer. Meteor. Soc., 3.5.

Metz, N. D., and **A. M. Bentley**, 2013: The development and tropical transition of an unnamed high latitude eastern North Pacific tropical cyclone. *38th Northeastern Storm Conference*, Rutland, VT, Lyndon State College.

FIRST-AUTHORED POSTER PRESENTATIONS

Bentley, A. M., L. F. Bosart, and D. Keyser, 2014: The relationship between upper-tropospheric disturbances and subtropical cyclone life cycles in the North Atlantic basin. *Tropical Cyclones: Observations, Modeling, and Predictability*, San Francisco, CA, Amer. Geo. Union, A33L-3371.

Bentley, A. M., L. F. Bosart, and D. Keyser, 2012: Upper-level precursors associated with subtropical cyclone formation in the North Atlantic basin. *25th Conference on Weather Analysis and Forecasting*, Montreal, QC, Canada, Amer. Meteor. Soc., 3D409.1.

Bentley, A. M., S. A. Ganetis, S. Santeiu, A. Stieneke, and N. F. Laird, 2011: Climatology of lake-effect precipitation in the Lake Tahoe, CA/NV region. *10th Annual AMS Student Conference*, Seattle, WA, Amer. Meteor. Soc., S32.

TECHNICAL SKILLS

Computer Languages: NCAR Command Language (NCL), Unix Shell Scripting, HTML, PHP
Storage: netCDF, GRIB, all text-based files (i.e., .csv, .txt)
Datasets: NCEP–CFS Reanalysis (CFSR), GFS analyses/forecasts, GEFS Reforecast, NCEP–NCAR Reanalysis, NCEP/CPC 4-km Global IR Dataset, AVHRR, ERA–Interim Reanalysis, NOAA-CIRES 20th Century Reanalysis

REFERENCES

Dr. Lance F. Bosart

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Dr. Daniel Keyser

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Dr. Christopher A. Davis

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Office: FL3-2012 | Phone: (303) 497-8990 | Email: CDavis@ucar.edu