

Alicia M. Bentley, Ph.D.
Physical Scientist

NOAA/NWS/NCEP/Environmental Modeling Center
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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*

EXPERIENCE

- Physical Scientist (GS-14)** 2023–present
NOAA/NWS/NCEP/Environmental Modeling Center; College Park, MD
- Performing the duties of the EMC Global Verification Project Lead
 - Coordinating scheduled upgrades of the operational EMC Verification System (EVS)
 - Leading the NWS Field Evaluations of GFSv17 and GEFSv13 operational upgrades
 - Comparing forecasts produced by the NCEP production suite during official model evaluations, as well as after high-impact weather events, as part of the EMC Model Evaluation Group (MEG)
- Physical Scientist (GS-12/GS-13)** 2020–2023
NOAA/NWS/NCEP/Environmental Modeling Center; College Park, MD
- Performed the duties of the EMC Global Verification Team Lead
 - Coordinated the development of version 1.0 of the operational EMC Verification System (EVS)
 - Compared forecasts produced by the NCEP production suite during official model evaluations, as well as after high-impact weather events, as part of the EMC Model Evaluation Group (MEG)
 - Upgraded and monitored EMC’s operational precipitation verification package
- Support Scientist** 2018–2020
I.M. Systems Group, Inc. | NOAA/NWS/NCEP/Environmental Modeling Center; College Park, MD
- Compared forecasts produced by the NCEP production suite during official model evaluations, as well as after high-impact weather events, as part of the EMC Model Evaluation Group (MEG)
- 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 2014–2017
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

LEADERSHIP TRAINING

NWS Mentoring Program 2023
• Selected by members of the NWS Mentoring Steering Committee to receive 2–4 hours of mentoring per month (specifically Leadership Training) during February–November 2023

Virtual NOAA Leadership Seminar 2022
• Listened to speakers present on their personal leadership journeys, experiences, and strategies

HONORS AND AWARDS

Quality Step Increase (QSI) 2024
National Centers for Environmental Prediction/Environmental Modeling Center

NOAA Silver Sherman Award (*EMC Verification System v1.0*) 2024
National Oceanic and Atmospheric Administration

Federal Peer Award (*EMC Verification System v1.0*) 2023
National Centers for Environmental Prediction/Environmental Modeling Center

NWS Director’s Award (*NCEP Strategic Implementation Plan*) 2022
National Weather Service

Quality Step Increase (QSI) 2022
National Centers for Environmental Prediction/Environmental Modeling Center

Federal Peer Award (*NCEP Strategic Implementation Plan*) 2022
National Centers for Environmental Prediction/Environmental Modeling Center

National Isaac M. Cline Award (*GEFSv12 Implementation*) 2020
National Weather Service/National Centers for Environmental Prediction

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

PROFESSIONAL SERVICE

Conference/Symposium Organizer

- *Daniel Keyser Symposium: A Celebration of Synoptic–Dynamic Meteorology, Past, Present, and Future* at the 104th AMS Annual Meeting (Baltimore, MD | 29 January 2024)
- 32nd Conference on Weather Analysis and Forecasting/28th Conference on Numerical Weather Prediction/20th Conference on Mesoscale Processes (Madison, WI | 17–21 July 2023)

Committees

- AMS Weather Analysis and Forecasting (WAF) Committee (2018–2024)
- NCEP Strategic Implementation Planning Committee (2021–2022)
- 101th AMS Annual Meeting–Symposium on Global- & Regional-Scale Models Planning Committee
- Tropical Cyclogenesis Working Group – WMO’s 9th International Workshop on Tropical Cyclones
- 99th AMS Annual Meeting–Symposium on Global- & Regional-Scale Models Planning Committee
- Bulletin of the American Meteorological Society (BAMS) Task Force (2018)

Reviewer

- *Monthly Weather Review*
- *Quarterly Journal of the Royal Meteorological Society*
- *Journal of Geophysical Research – Atmospheres*
- *Geophysical Research Letters*

Session Chair

- 105th AMS Annual Meeting (Community Modeling/Innovation); New Orleans, LA, January 2025
- 104th AMS Annual Meeting (Daniel Keyser Symposium; UFS); Baltimore, MD, January 2024
- 101st AMS Annual Meeting (WAF/NWP); Remote, January 2021
- 25th Conference on Numerical Weather Prediction; Denver, CO, June 2018
- 29th Conference on Weather Analysis and Forecasting; Denver, CO, June 2018
- 97th AMS Annual Meeting (WAF/NWP); Seattle, WA, January 2017

Student Presentation Judge

- 29th Conference on Weather Analysis and Forecasting; Denver, CO, June 2018
- 97th AMS Annual Meeting (WAF/NWP); Seattle, WA, January 2017
- 15th AMS Annual Student Conference; New Orleans, LA, January 2016

REFEREED PUBLICATIONS

Brown, V. M., A. W. Black, D. M. Hultstrand, W. D. Kappel, D. T. Thompson, **A. M. Bentley**, A. K. Sitzman, and B. D. Keim, 2024. Rainfall analysis of the May 2021 southeastern Texas and southern Louisiana flood. *Physical Geography*, **45**, 1–24. <https://doi.org/10.1080/02723646.2024.2384131>.

Bolinger, R. A., V. M. Brown, C. M. Fuhrmann, K. L. Gleason, T. A. Joyner, B. D. Keim, A. Lewis, J. W. Nielsen-Gammon, C. J. Stiles, W. Tollefson, H. E. Attard, and **A. M. Bentley**, 2022: An assessment of the extremes and impacts of the February 2021 south-central U.S. arctic outbreak, and how climate services can help. *Wea. and Climate Extremes*, **36**, 100461, <https://doi.org/10.1016/j.wace.2022.100461>.

Tang, B. H., J. Fang, **A. Bentley**, G. Kilroy, M. Nakano, M.-S. Park, V. P. M. Rajasree, Z. Wang, A. A. Wing, and L. Wu, 2020: Recent advances in research on tropical cyclogenesis. *Trop. Cyclone Res. Rev.*, **9**, 87–105, <https://doi.org/10.1016/j.tcr.2020.04.004>.

Bentley, A. M., L. F. Bosart, and D. Keyser, 2019: A climatology of extratropical cyclones leading to extreme weather events over central and eastern North America. *Mon. Wea. Rev.*, **147**, 1471–1490, <https://doi.org/10.1175/MWR-D-18-0453.1>.

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, <https://doi.org/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, <https://doi.org/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, <https://doi.org/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, <https://doi.org/10.1175/JAMC-D-14-0230.1>.

FIRST-AUTHORED ORAL PRESENTATIONS

Bentley, A. M., J. J. Levit, M. P. Row, S. R. Shields, Samira Ardani, L. G. Chen, B. Zhou, H. Huang, Y. Mao, O. Ostwald, A. Vashisht, P. C. Shafran, and S. Melchior, 2025: An Overview of Global Verification in the Environmental Modeling Center Verification System (EVS). *33rd Conference on Weather Analysis and Forecasting (WAF)/29th Conference on Numerical Weather Prediction (NWP)*, New Orleans, LA, Amer. Meteor. Soc., 13B.2.

Bentley, A. M., J. J. Levit, G. S. Manikin, L. C. Dawson, M. P. Row, B. Zhou, S. R. Shields, L. G. Chen, J. Peng, Y. Mao, S. M. Simon, S. Ardani, P. C. Shafran, and S. Melchior, 2024: An Overview of Global Verification at the Environmental Modeling Center. *Third Symposium on Community Modeling and Innovation*, Baltimore, MD, Amer. Meteor. Soc., 1.2.

Bentley, A. M., 2023: An Overview of Global Verification at the Environmental Modeling Center. *Pennsylvania State University Colloquium*, State College, PA, Pennsylvania State University, 1–51.

Bentley, A. M., G. S. Manikin, H. Wei, E. A. Aligo, M. J. Barlage, and F. Yang, 2023: Fixing Inconsistencies between GFS Snow Accumulations and Precipitation Type. *32nd Conference on Weather Analysis and Forecasting (WAF)/28th Conference on Numerical Weather Prediction (NWP)*, Madison, WI, Amer. Meteor. Soc., 8.2.

Bentley, A. M., 2023: An Overview of Global Verification at the Environmental Modeling Center. *University of Maryland*, College Park, MD, University of Maryland, 1–51.

Bentley, A. M., G. S. Manikin, and J. J. Levit, 2021: A new webpage for visualizing precipitation verification statistics from the National Centers for Environmental Prediction production suite. *37th Conference on Environmental Information Processing Technologies*, Remote, Amer. Meteor. Soc., 13.8.

Bentley, A. M., C. D. Logan, B. T. Blake, M. P. Row, L. C. Dawson, and J. J. Levit, 2020: A new webpage for visualizing verification statistics from the Environmental Modeling Center's numerical modeling suite. *30th Conference on Weather Analysis and Forecasting/26th Conference on Numerical Weather Prediction*, Boston, MA, Amer. Meteor. Soc., 1B.1.

Bentley, A. M., L. C. Dawson, T. A. Dorian, and G. S. Manikin, 2018: FV3GFS official results for the northeast U.S. *Northeast Regional Operational Workshop XIX*, Albany, NY, Natl. Wea. Service, 1–30.

Bentley, A. M., D. Keyser, and L. F. Bosart, 2018: Extratropical cyclones leading to extreme weather events over central and eastern North America. *29th Conference on Weather Analysis and Forecasting/25th Conference on Numerical Weather Prediction*, Denver, CO, Amer. Meteor. Soc., 5A.3.

Bentley, A. M., L. F. Bosart, and D. Keyser, 2017: Extratropical cyclones leading to extreme weather events over central and eastern North America. *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., 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.

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.

FIRST-AUTHORED POSTER PRESENTATIONS

Bentley, A. M., G. S. Manikin, H. Wei, E. A. Aligo, M. J. Barlage, and F. Yang, 2022: Inconsistencies between GFS Snow Accumulations and Precipitation Type. *47th NWA Annual Meeting*, Virtual Meeting, Natl. Wea. Assoc.

Bentley, A. M., M. P. Row, L. C. Dawson, and J. J. Levit, 2020: A new webpage for visualizing verification statistics from the National Centers for Environmental Prediction production suite. *International Verification Methods Workshop-Online (IVMWO)*, Virtual Meeting, World Meteor. Org.

Bentley, A. M., C. D. Logan, M. P. Row, B. T. Blake, L. C. Dawson, and J. J. Levit, 2020: A New Webpage for Visualizing Verification Statistics from the Environmental Modeling Center's Numerical Modeling Suite. *45th NWA Annual Meeting*, Virtual Meeting, Natl. Wea. Assoc.

Bentley, A. M., G. S. Manikin, L. C. Dawson, S. R. Shields, J. J. Levit, and Y. Zhu, 2020: An Overview of the Global Ensemble Forecast System (GEFS) Version 12 Official Evaluation. *45th NWA Annual Meeting*, Virtual Meeting, Natl. Wea. Assoc.

Bentley, A. M., L. C. Dawson, T. A. Dorian, G. S. Manikin, 2019: Evaluating the track and intensity forecasts of hurricanes Florence and Michael, 2018. *44th NWA Annual Meeting*, Huntsville, AL, Natl. Wea. Assoc., 75.

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

Software: (Expert) NCL, Unix Shell Scripting, HTML, PHP; (Learning) Python, MET/METplus

Storage: netCDF, GRIB, all text-based files (i.e., .csv, .txt)

Datasets: GFS analyses/forecasts, GEFS analyses/forecasts/reforecasts, NCEP–CFS Reanalysis (CFSR), NCEP–NCAR Reanalysis, NCEP/CPC 4-km Global IR Dataset, AVHRR, ERA–Interim Reanalysis, ERA5 Reanalysis, NOAA-CIRES 20th Century Reanalysis