

Dr. Jake P. Mulholland – C.V.

Assistant Professor, University at Albany (SUNY), Department of Atmospheric and Environmental Sciences

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PROFESSIONAL APPOINTMENTS

Assistant Professor, University at Albany (SUNY)	07/2024-Present
Assistant Professor, University of North Dakota	07/2022-07/2024
Research Faculty Associate, Naval Postgraduate School	09/2020-07/2022
National Research Council (NRC) Post-Doctoral Fellow, Naval Postgraduate School	08/2019-09/2020

EDUCATION

University of Illinois at Urbana-Champaign	<u>Graduation:</u> 08/2019
<i>Doctor of Philosophy Degree in Atmospheric Sciences</i>	08/2016-08/2019

- Advisors: Drs. Robert Trapp and Stephen Nesbitt
- Ph.D. Committee: Drs. Robert Trapp, Stephen Nesbitt, Robert Rauber, and Deanna Hence
- Dissertation Title: “How does terrain influence the upscale convective growth of orographic deep moist convection?”

University of Illinois at Urbana-Champaign	<u>Graduation:</u> 05/2016
<i>Master of Science Degree in Atmospheric Sciences</i>	08/2014-05/2016

- Advisor: Dr. Jeffrey Frame
- Thesis Title: “Observations of mesovortices within the 7 January 2014 long lake-axis-parallel lake-effect snow band during the Ontario Winter Lake-effect Systems Project”

State University of New York (SUNY) College at Oswego, Oswego, NY	<u>Graduation:</u> 05/2014
<i>Bachelor of Science Degree in Meteorology (Cum laude)</i>	08/2010-05/2014
<i>Minor in Mathematics</i>	

CURRENT AND PENDING GRANTS

Mulholland, J. P., and J. N. Marquis, 2025-2028: Constraining the impacts of environmental variability on deep convection initiation using targeted DOE observations across the Southeast U.S. *DOE ASR*, Submitted.

Peters, J. M., H. Morrison, G. S. Elsaesser, and **J. P. Mulholland**, 2022-2025: Using ARM observations and large eddy simulations to understand downdrafts in deep convection. *DOE ASR*, Sub-award to UAlbany of **\$90,000**.

PEER-REVIEWED PUBLICATIONS

Citations = 511; h-index = 14; i10-index = 14 (source: Google Scholar as of 12/31/2024)

Mulholland, J. P., C. J. Nowotarski, J. M. Peters, H. Morrison, and E. R. Nielsen, 2024: How does vertical wind shear influence updraft characteristics and hydrometeor distributions in supercell thunderstorms? *Mon. Wea. Rev.*, **152**, 1663–1687, <https://doi.org/10.1175/MWR-D-23-0166.1>

Hua J., M. Wu, **J. P. Mulholland**, J. D. Neelin, V. C. Tsai, and D. T. Trugman, 2023: High-resolution precipitation monitoring with a dense seismic nodal array. *Sci. Reports*, **13**, 1–15, <https://doi.org/10.1038/s41598-023-38008-w>

Marquis, J. N., Z. Feng, A. Varble, T. C. Nelson, A. Houston, J. M. Peters, **J. P. Mulholland**, and J. Hardin, 2023: Near-cloud atmospheric ingredients for deep convection initiation. *Mon. Wea. Rev.*, **151**, 1247–1267, <https://doi.org/10.1175/MWR-D-22-0243.1>

- Takahashi, H., Z. J. Luo, G. Stephens, and **J. P. Mulholland**, 2023: Revisiting the land-ocean contrasts in deep convective cloud intensity using global satellite observations. *Geophys. Res. Lett.*, **50**, 1–9, <https://doi.org/10.1029/2022GL102089>
- Naylor, J., and **J. P. Mulholland**, 2023: The impact of vertical wind shear on the outcome of interactions between squall lines and cities. *J. Geophys. Res. Atmos.*, **128**, <https://doi.org/10.1029/2022JD037237>
- Peters, J. M., B. E. Coffey, M. D. Parker, C. J. Nowotarski, **J. P. Mulholland**, C. J. Nixon, and J. T. Allen, 2022: Disentangling the influences of storm-relative flow and horizontal streamwise vorticity on low-level mesocyclones in supercells. *J. Atmos. Sci.*, **80**, 129–149, <https://doi.org/10.1175/JAS-D-22-0114.1>
- Steiger, S. M., M. Lynne, **J. P. Mulholland**, K. A. Kosiba, and J. Wurman, 2022: Snowband characteristics associated with lake-effect mesovortices during the OWLeS Project. *J. Geophys. Res. Atmos.*, **127**, <https://doi.org/10.1029/2022JD036855>
- Peters, J. M., H. Morrison, T. C. Nelson, J. N. Marquis, **J. P. Mulholland**, and C. J. Nowotarski, 2022: The influence of shear on deep convection initiation. Part 2: Simulations. *J. Atmos. Sci.*, **79**, 1691–1711, <https://doi.org/10.1175/JAS-D-21-0144.1>
- Peters, J. M., H. Morrison, T. C. Nelson, J. N. Marquis, **J. P. Mulholland**, and C. J. Nowotarski, 2022: The influence of shear on deep convection initiation. Part 1: Theory. *J. Atmos. Sci.*, **79**, 1669–1690, <https://doi.org/10.1175/JAS-D-21-0145.1>
- Peters, J. M., **J. P. Mulholland**, and D. R. Chavas, 2022: Generalized lapse rate formulas for use in entraining CAPE calculations. *J. Atmos. Sci.*, **79**, 815–836, <https://doi.org/10.1175/JAS-D-21-0118.1>
- Mulholland, J. P.**, J. M. Peters, and H. Morrison, 2021: How does LCL height influence deep convective updraft width? *Geophys. Res. Lett.*, **48**, 1–8, <https://doi.org/10.1029/2021GL093316>
- Mulholland, J. P.**, J. M. Peters, and H. Morrison, 2021: How does vertical wind shear influence entrainment in squall lines? *J. Atmos. Sci.*, **78**, 1931–1946, <https://doi.org/10.1175/JAS-D-20-0299.1>
- Mulholland, J. P.**, S. W. Nesbitt, R. J. Trapp, and J. M. Peters, 2020: The influence of terrain on the convective environment and associated convective morphology from an idealized modeling perspective. *J. Atmos. Sci.*, **77**, 3929–3949, <https://doi.org/10.1175/JAS-D-19-0190.1>
- Peters, J. M., H. Morrison, C. J. Nowotarski, and **J. P. Mulholland**, 2020: A formula for the maximum vertical velocity in supercell updrafts. *J. Atmos. Sci.*, **77**, 3747–3757, <https://doi.org/10.1175/JAS-D-20-0103.1>
- Peters, J. M., C. J. Nowotarski, and **J. P. Mulholland**, 2020: The influences of effective inflow layer streamwise vorticity and storm-relative flow on supercell updraft properties. *J. Atmos. Sci.*, **77**, 3033–3057, <https://doi.org/10.1175/JAS-D-19-0355.1>
- Nowotarski, C. J., J. M. Peters, and **J. P. Mulholland**, 2020: Evaluating the effective inflow layer of simulated supercell updrafts. *Mon. Wea. Rev.*, **148**, 3507–3532, <https://doi.org/10.1175/MWR-D-20-0013.1>
- Mulholland, J. P.**, S. W. Nesbitt, and R. J. Trapp, 2019: A case study of terrain influences on upscale convective growth of a supercell. *Mon. Wea. Rev.*, **147**, 4305–4324, <https://doi.org/10.1175/MWR-D-19-0099.1>
- Mulholland, J. P.**, S. W. Nesbitt, R. J. Trapp, K. L. Rasmussen, and P. V. Salio, 2018: Convective storm life cycle and environments near the Sierras de Córdoba, Argentina. *Mon. Wea. Rev.*, **146**, 2541–2557, <https://doi.org/10.1175/MWR-D-18-0081.1>

Mulholland, J. P., J. Frame, S. W. Nesbitt, S. M. Steiger, K. A. Kosiba, and J. Wurman, 2017: Observations of misovortices within a long-lake-axis-parallel lake-effect snowband during the OWLeS Project. *Mon. Wea. Rev.*, **145**, 3265–3291, <https://doi.org/10.1175/MWR-D-16-0430.1>

INVITED PRESENTATIONS

Mulholland, J. P. and J. M. Peters, 18 February 2020: Understanding the dynamics of supercell-to-MCS transitions. *Naval Postgraduate School* in Monterey, CA.

Mulholland, J. P., S. W. Nesbitt, and R. J. Trapp, 28 January 2019: Characterizing the deep convective storms of Argentina, South America. *Pacific Northwest National Laboratory* in Richland, WA.

Mulholland, J. P., 13 September 2019: Lessons learned as an early career atmospheric scientist. *State University of New York at Oswego* in Oswego, NY.

TEACHING EXPERIENCE

Assistant Professor, University at Albany (SUNY) 07/2024-Present

- AATM-321: Physical Meteorology (undergraduate level)
- AATM-418: Mesoscale Meteorology (undergraduate level)
- AATM-612: Atmospheric Convection (graduate level)

Assistant Professor, University of North Dakota 07/2022-07/2024

- ATSC-220: Extreme Weather and Climate (undergraduate level)
- ATSC-405: Numerical Methods in Meteorology (undergraduate level)
- ATSC-530: Numerical Weather Prediction (graduate level)
- Storm Chase Course (Spring 2024) - <https://aero.und.edu/atmos/we-offer/storm-experience.html>

Teaching Assistant, SUNY Oswego Storm Forecasting and Observation Program 05/2022-06/2022

- Assisted students with their daily convective outlooks.
- Guided students on how to properly prepare and launch rawinsondes.
- Performed manual hand analyses of surface and upper-air charts on a daily basis.

Substitute Teacher, Mesoscale Meteorology (MR-4241) 02/2020-03/2020

- Substitute taught course for main professor.
- Presented own research results to class in an hour-long seminar style.
- Had students read peer-reviewed journal articles, present main findings of the articles, and discussed together as a class.

Teaching Assistant, SUNY Oswego Storm Forecasting and Observation Program 05/2017-06/2017

- Assisted students with their daily convective outlooks.
- Guided students on how to properly prepare and launch rawinsondes.
- Performed manual hand analyses of surface and upper-air charts on a daily basis.

Teaching Assistant, Introduction to Meteorology (ATMS-100) Lab 08/2016-05/2017

- Prepared and presented lectures for ~100–150 undergraduate students.
- Graded homework and lab assignments.
- Held hour-long review sessions before exams.

- Teaching Assistant, University of Illinois at Urbana-Champaign Field Studies of Convection Program *05/2016-06/2016*
- Assisted professor/students with twice-daily convective outlooks.
- Teaching Assistant, Synoptic Weather Forecasting (ATMS-313) *01/2016-05/2016*
- Graded weekly assignments, such as forecast discussions and manual hand analyses.
 - Held hour-long review sessions before exams.
 - Received the 2016 *student voted* University of Illinois Ogura’s Teaching Assistant Award.
- Teaching Assistant, University of Illinois at Urbana-Champaign Field Studies of Convection Program *06/2015*
- Assisted professor/students with twice-daily convective outlooks.
- Teaching Assistant, Introduction to Meteorology (ATMS-100) Lab *08/2014-12/2014*
- Prepared and presented lectures for ~100–150 undergraduate students.
 - Graded homework and lab assignments.
 - Held hour-long review sessions before exams.
- Teaching Assistant for SUNY Oswego Storm Forecasting and Observation Program *05/2014-06/2014*
- Assisted students with their daily convective outlooks.
 - Guided students on how to properly prepare and launch rawinsondes.
 - Performed hand-analyses of surface and upper-air charts on a daily basis.

FIELD WORK AND PROFESSIONAL EXPERIENCE

- Participant, 2024 NOAA Hazardous Weather Testbed “Spring Experiment” *05/2021*
- Worked with fellow researchers and National Weather Service forecasters to evaluate both operational and experimental model guidance for real-time severe weather events across the United States.
- Mobile Sounding Member, CALifornia Investigation of Clouds over Ocean (CALICO) Project *02/2022-03/2022*
- Launched rawinsondes in the field.
- Lead Forecaster, CALifornia Investigation of Clouds over Ocean (CALICO) Project *02/2022-03/2022*
- Wrote and presented forecast discussions to CALICO leads and participants.
- Co-Chair, 2022 AMS Annual Meeting (Mesoscale Conference) *01/2022*
- Introduced speakers for an oral presentation session
- Participant, 2021 NOAA Hazardous Weather Testbed “Spring Experiment” *05/2021*
- Worked with fellow researchers and National Weather Service forecasters to evaluate both operational and experimental model guidance for real-time severe weather events across the United States.
- Mobile Sounding Member, Remote sensing of Electrification, Lighting, and Mesoscale/microscale Processes with Adaptive Ground Observations (RELAMPAGO) Project *11/2018-12/2018*
- Launched rawinsondes in the field.

Student Lead Forecaster, Remote sensing of Electrification, Lighting, and Mesoscale/microscale Processes with Adaptive Ground Observations (RELAMPAGO) Project *11/2018-12/2018*

- Wrote and presented forecast discussions to RELAMPAGO leads and participants.

NCAR ASP Summer Colloquium: Synthesis of Observations and Models in Studies of Shallow and Deep Clouds *06/2018*

- Combined observational and numerical model output to analyze a case study from the Plains Elevated Convection at Night (PECAN) Project.
- Attended daily seminars by NCAR staff and professors from outside universities.

Participant, UIUC Precipitation Physics Field Observation Course *01/2017-05/2017*

- Used the “System for Characterizing And Measuring Precipitation” (SCAMP) instrumentation truck.
- Designed experiments to study precipitation-related processes from ground-based instruments.
- Learned how to efficiently operate ground-based (vertically pointing) radar, particle spectrometers, disdrometer, precipitation gauge, aerosol counter, and a surface weather station.

Research Assistant, Ontario Winter Lake-effect Systems (OWLeS) Project *08/2014-05/2016*

- Analyzed mobile radar (Doppler-on-Wheels) data from the OWLeS Project.
- Manually edited mobile radar data and ran dual-Doppler analyses on the aforementioned edited data.

Student Lead Forecaster, Ontario Winter Lake-effect Systems (OWLeS) Project *12/2013-01/2014*

- Prepared written forecast discussions and post-evaluations for OWLeS leads and participants.
- Presented oral forecast discussions to OWLeS leads and participants.

Co-Director, Lake Effect Storm Prediction and Research Center (LESPaRC), SUNY Oswego *10/2013-04/2014*

- Recruited potential clients such as school districts, colleges, transportations offices, and the New York State Department of Transportation (NYS DOT).
- Hired and trained student forecasters.
- Held weekly forecast discussions with the LESPaRC team.

Member, Lake Effect Storm Prediction and Research Center (LESPaRC), SUNY Oswego *10/2011-04/2014*

- Submitted forecasts to our website and consulted school districts, colleges, transportations offices, and the New York State Department of Transportation (NYS DOT).
- Duties included: on-call forecasting during lake-effect snow events, maintaining a client website with a snowfall forecast map, and generating weekly forecast outlook products for the clients.

Co-President, Better Forecasting Bureau (BFB), SUNY Oswego *08/2012-05/2014*

- Taught students of all majors’ basics of weather forecasting.
- Presented PowerPoints at every meeting with a new forecasting topic.

Participant, SUNY Oswego Storm Forecasting and Observation Program *05/2013-06/2013*

- Prepared daily convective outlooks.
- Launched rawinsondes in pre-convective environments.

Participant, SUNY Oswego/EAGER Grant Lake-Effect Snow Field Research Project *12/2010-01/2011*

- Worked alongside a team of nine other undergraduate students to gather observations of lake-effect snow.
- Only freshman part of this field project.

- Operated the DOW (Doppler-on-Wheels) mobile radar.

PAST GRANTS RECEIVED

Conference Travel Grant Recipient, American Meteorological Society (\$300) 09/2016

- Received a \$300 travel grant to attend the American Meteorological Society's 28th *Conference on Severe Local Storms* in Portland, OR.

Conference Travel Grant Recipient, University of Illinois at Urbana-Champaign (\$250) 03/2015

- Received a \$250 travel grant to attend the American Meteorological Society's 16th *Conference on Mesoscale Processes* in Boston, MA.

Grant Recipient, "Optimizing the Numerical Simulations of Lake-Effect Snow Storms" (\$3200) 06/2013-08/2013

- Ran the Weather Research and Forecasting (WRF) Model on eight separate lake-effect events that occurred between 2008-2013.
- Tested different microphysical and planetary boundary layer schemes to see which performed best with lake-effect snow band placement and intensity.
- Created and presented a poster highlighting findings (SUNY Oswego Quest Day Conference).

FIRST-AUTHORED PROFESSIONAL CONFERENCE PRESENTATIONS/PAPERS/POSTERS

Mulholland, J. P., C. J. Nowotarski, J. M. Peters, H. Morrison, E. R. Nielsen, 2024: How does vertical wind shear influence hydrometeor characteristics in supercell thunderstorms? *Atmospheric Convection: Processes, Dynamics, and Links to Weather and Climate* in Washington, D.C., Amer. Geo. Union Fall Meeting.

Mulholland, J. P., C. J. Nowotarski, J. M. Peters, H. Morrison, E. R. Nielsen, 2024: How does vertical wind shear influence hydrometeor characteristics in supercell thunderstorms? Preprints, *31st Conference on Severe Local Storms* in Virginia Beach, VA, Amer. Meteor. Soc.

Mulholland, J. P., C. J. Nowotarski, J. M. Peters, H. Morrison, E. R. Nielsen, 2023: How does vertical wind shear influence hydrometeor characteristics in supercell thunderstorms? Preprints, *Convective Processes Working Group* in Rockville, MD, Joint ARM User Facility and ASR PI Meeting.

Mulholland, J. P., C. J. Nowotarski, J. M. Peters, and H. Morrison, 2023: The role of vertical wind shear in hydrometeor displacement in supercell thunderstorms. Preprints, *Third Symposium on Mesoscale Processes*, Denver, CO, Amer. Meteor. Soc. Annual Meeting.

Mulholland, J. P., H. Morrison, and J. M. Peters, 2022: Does vertical velocity influence entrainment in moist thermals? Preprints, *Convective Processes Working Group* in Rockville, MD, Joint ARM User Facility and ASR PI Meeting.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2022: Environmental factors regulating deep convective updraft width across a spectrum of convective modes. Preprints, *Convective Processes Working Group* in Rockville, MD, Joint ARM User Facility and ASR PI Meeting.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2022: Environmental factors regulating deep convective updraft width across a spectrum of convective modes. Preprints, *Understanding and Modeling Atmospheric Processes: Organization of Shallow and Deep Convection* in Monterey, CA, GEWEX PAN-GASS Meeting.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2022: Environmental factors regulating deep convective updraft width across a spectrum of convective modes. Preprints, *Advances in Cumulus Convection Measurements, Parameterization, and Modeling* held virtually, Amer. Meteor. Soc Annual Meeting.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2021: Environmental factors regulating deep convective updraft width across a spectrum of convective modes. Preprints, *Atmospheric Convection: Processes, Dynamics, and Links to Weather and Climate* in New Orleans, LA, Amer. Geo. Union Fall Meeting.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2021: Environmental factors regulating deep convective updraft width across a spectrum of convective modes. Preprints, *Student and Early Career Conference on Severe Local Storms Topics* held virtually, Amer. Meteor. Soc.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2021: Environmental factors regulating deep convective updraft width across a spectrum of convective modes. Preprints, *2021 Joint ARM User Facility and ASR PI Meeting* held virtually, Dept. of Energy.

Mulholland, J. P., J. M. Peters, and H. Morrison, 2021: How does vertical wind shear influence entrainment in squall lines? Preprints, *Mesoscale Processes Across Scales: Engaging with Communities in the Physical and Social Sciences* held virtually, Amer. Meteor. Soc Annual Meeting.

Mulholland, J. P., S. W. Nesbitt, and R. J. Trapp, 2019: Terrain influences on Upscale Convective Growth of Orographic Supercells into Mesoscale Convective Systems. Preprints, *Mountains, Weather, and Climate: Advances from Observations, Theories, and Models* in San Francisco, CA, Amer. Geo. Union Fall Meeting.

Mulholland, J. P. and J. M. Peters, 2019: Why do some supercells grow upscale at nightfall and others not? Preprints, *9th Annual Young Scientist Symposium on Atmospheric Science* in Fort Collins, CO.

Mulholland, J. P. and J. M. Peters, 2019: Why do some supercells grow upscale at nightfall and others not? Preprints, *10th Annual Great Lakes Atmospheric Science Symposium* in Oswego, NY.

Mulholland, J. P., S. W. Nesbitt, and R. J. Trapp, 2019: How does terrain impact upscale convective growth of orogenic deep moist convection? Preprints, *Special Symposium on Mesoscale Meteorological Extremes: Understanding, Prediction, and Projection* in Phoenix, AZ, Amer. Meteor. Soc Annual Meeting.

Mulholland, J. P., S. W. Nesbitt, and R. J. Trapp, 2018: Upscale convective growth of an orogenic supercell into a mesoscale convective system in Argentina, South America. Preprints, *29th Conference on Severe Local Storms* in Stowe, VT, Amer. Meteor. Soc.

Mulholland, J. P., S. W. Nesbitt, R. J. Trapp, K. L. Rasmussen, and P. Salio, 2018: Convective storm life cycle and environments near the Sierras de Córdoba, Argentina. Preprints, *29th Conference on Severe Local Storms* in Stowe, VT, Amer. Meteor. Soc.

Mulholland, J. P., S. W. Nesbitt, R. J. Trapp, and K. L. Rasmussen, 2018: Factors controlling convective storm mode and heavy rainfall production near the Sierras de Córdoba, Argentina. Preprints, *32nd Conference on Hydrology*, Austin, TX, Amer. Meteor. Soc Annual Meeting.

Mulholland, J. P., R. J. Trapp, and S. W. Nesbitt, 2017: Novel radar observations of convection near the Sierras de Córdoba, Argentina. Preprints, *8th Annual Great Lakes Atmospheric Science Symposium*, Oswego, NY, Oswego State College Chapter of Amer. Meteor. Soc.

Mulholland, J. P., R. J. Trapp, and S. W. Nesbitt, 2017: Novel radar observations of convection near the Sierras de Córdoba, Argentina. Preprints, *1st Midwest Student Conference on Atmospheric Research*, Urbana, IL, University of Illinois Chapter of Amer. Meteor. Soc.

Mulholland, J. P., R. J. Trapp, S. W. Nesbitt, P. Salio, L. Vidal, M. Runga, 2017: Novel polarimetric radar observations of upscale convective growth near the Sierras de Córdoba. Preprints, *38th Conference on Radar Meteorology*, Chicago, IL, Amer. Meteor. Soc.

Mulholland, J. P. and J. W. Frame, 2016: Misovortices within the 7 January 2014 long lake-axis-parallel lake-effect snow band during the Ontario Winter Lake-effect System Project. Preprints, *Symposium on Meteorological Observation and Instrumentation*, New Orleans, LA, Amer. Meteor. Soc Annual Meeting.

Mulholland, J. P. and J. W. Frame, 2015: Misovortices and boundaries within the 7 January 2014 long lake-axis-parallel lake-effect snow band during the Ontario Winter Lake-effect Systems (OWLeS) Project. Preprints, *37th Conference on Radar Meteorology*, Norman, OK, Amer. Meteor. Soc.

Mulholland, J. P., J. W. Frame, and S. M. Steiger, 2015: A numerical investigation into the presence of veer-back-veer vertical wind profiles in supercell environments: A case study of 30 and 31 May 2013. Preprints, *16th Conference on Mesoscale Processes*, Boston, MA, Amer. Meteor. Soc.

Mulholland, J. P. and J. W. Frame, 2015: Misovortices and boundaries within the 7 January 2014 long lake-axis-parallel lake-effect snow band during the Ontario Winter Lake-effect Systems (OWLeS) Project. Preprints, *16th Conference on Mesoscale Processes*, Boston, MA, Amer. Meteor. Soc.

Mulholland, J. P., J. W. Frame, and S. M. Steiger, 2015: Misovortices and boundaries within long lake-axis-parallel (LLAP) lake-effect snow bands during the 2013-2014 Ontario Winter Lake-effect Systems (OWLeS) Project. Preprints, *Conference on Air-Sea Interaction*, Phoenix, AZ, Amer. Meteor. Soc Annual Meeting.

Mulholland, J. P., J. Rabinowitz, and S. M. Steiger 2014: The causes and effects of outflow boundaries on lake-effect snow bands east of Lake Ontario during the OWLeS field campaign. *39th Annual Northeastern Storm Conference*, Rutland, VT, Lyndon State College Chapter of Amer. Meteor. Soc.

Mulholland, J. P., R. Schrom, and S. M. Steiger 2011: WRF verification of the 16 December 2010 event in comparison with the DOW and NEXRAD. Proceedings, *2nd Annual Great Lakes Atmospheric Science Symposium*, Oswego, NY, Oswego State College Chapter of Amer. Meteor. Soc.

Mulholland, J. P., R. Schrom, and S. M. Steiger 2011: WRF verification of the 16 December 2010 event in comparison with the DOW and NEXRAD. *36th Annual Northeastern Storm Conference*, Taunton, MA, Lyndon State College Chapter of Amer. Meteor. Soc.

PROFESSIONAL DUTIES/ACTIVITIES

- Co-host of the UAlbany's Career Fair Graduate Student Recruitment Booth (*AMS Annual Meeting*) 01/2025
- Co-chair and organizer of the *Atmospheric Convection: Processes, Dynamics, and Links to Weather and Climate* at the *AGU Fall Meeting* 12/2024
- Co-chair of the *31st Conf. on Severe Local Storms* 10/2024
- Co-developer of Univ. of North Dakota graduate student webpages 2023-2024
- Panel Review for Department of Energy (DOE) 03/2022-04/2023
- Associate Editor for Monthly Weather Review (MWR) 2022-Present
- Member of the Weather Research and Forecasting (WRF) Model Special Interest Group (NERSC) 2022-Present
- Hosts monthly meetings for active Department of Energy (DOE) project 2022-Present
- University of North Dakota's Alice T. Clark Mentorship Program 2022-2024
- University of North Dakota's Graduate Faculty Mentorship Program 2022-2024
- Co-chair of the *19th Conf. on Mesoscale Processes* at the *102nd AMS Annual Meeting* 01/2022
- Peer reviewer for: National Science Foundation (NSF), Department of Energy (DOE), Journal of the Atmospheric Sciences (JAS), Monthly Weather Review (MWR), Weather and Forecasting (WAF), Journal of Atmospheric and Oceanic Technology (JTECH), and Journal of Geophysical Research – Atmospheres (JGR)

AWARDS/AFFILIATIONS/PROFESSIONAL MEMBERSHIPS

- UAlbany Graduate Recruitment Committee 12/2024-Present
- Univ. of North Dakota Above and Beyond Award (*student/staff/faculty voted*) 08/2023
- Univ. of North Dakota Best Academic Advisor Award (*student voted*) 05/2023
- Univ. of North Dakota Library Committee 08/2022-07/2024
- Univ. of North Dakota Graduate Planning Committee 08/2022-07/2024
- Univ. of North Dakota Curriculum Committee 08/2022-07/2024
- American Geophysical Union (AGU) Member 07/2019-Present
- University of Illinois Ogura's 2nd place Student Research Paper Award (*faculty voted*) 04/2019
- University of Illinois SESE Research Review 3rd place poster winner 02/2018
- University of Illinois MSCAR conference external affairs committee president 02/2018-Present
- University of Illinois Ogura's Teaching Assistant Award (*student voted*) 04/2016
- American Meteorological Society (AMS) Member 09/2010-Present
- Outstanding Senior in Meteorology Award, SUNY Oswego Meteorology Dept. 04/2014
- Member of Sigma Xi, The Scientific Research Society 04/2014-Present
- Vice President, SUNY Oswego Meteorology Club 05/2013
- Taught MET 315 (Weather Disasters Course) for three days for Dr. Scott Steiger 11/2012

COMPUTATIONAL SKILLS

- Programming languages: Python, FORTRAN, JAVA, MATLAB, NCL, Linux/Unix
- Numerical weather modeling: Weather Research and Forecasting (WRF) Model, Cloud Model-1 (CM1)
- Radar: SOLO-II/III, dual-Doppler analyses, GR2Analyst
- Other: LaTeX, Microsoft Word/PowerPoint/Excel, Windows operating machines, GEneral Meteorological PAcKage (GEMPAK), Global Atmospheric Research Program (GARP), Integrated Data Viewer (IDV), BUFKIT, The Universal RAwinsonde OBServation (RAOB) Program, NCAR's VAPOR software, WRF's Read-Interpolate-Plot (RIP) software, Python parcel trajectory code

STUDENTS CURRENTLY ADVISING OR ON COMMITTEE

Alex Colgate (M.S. Student; University at Albany, SUNY)	08/2023-Present
Cole Hood (M.S. Student; University of North Dakota)	08/2023-Present
Levi Newell (M.S. Student; University of North Dakota)	08/2023-Present
Patrick Britt (M.S. Student; University of North Dakota)	08/2023-Present
James Klinman (M.S. Student; University of North Dakota)	08/2023-Present
Lynnlee Rosolino (M.S. Student; University of North Dakota)	08/2023-12/2024
Marisa Perez (Undergraduate Student; University of North Dakota)	08/2023-05/2024
Reece Wagner (Undergraduate Student; University of North Dakota)	08/2023-05/2024
David Brannon (Undergraduate Student; University of North Dakota)	08/2023-05/2024
Talia Kurtz (M.S. Student; University of North Dakota)	08/2022-12/2023
Ethan Weisberger (M.S. Student; University of North Dakota)	08/2022-08/2024
Claiborne Wooton (M.S. Student; University of North Dakota)	08/2022-12/2024
Charles Richie II (M.S. Student; University of North Dakota)	08/2022-Present
Nicholas Camp (Undergraduate Student; University of North Dakota)	08/2022-05/2024
Lucas Castro (Undergraduate Student; University of North Dakota)	08/2022-05/2023
Jessica Wasserman (M.S. Student; Naval Postgraduate School)	08/2022-12/2023
Daniel Bazemore (Ph.D. Student; Naval Postgraduate School)	08/2022-08/2024
Eight freshman undergraduate students (University of North Dakota)	08/2022-08/2024