

# Casey E. Davenport

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## EDUCATION

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### **Ph.D. in Atmospheric Sciences** (May 2013)

*Dissertation: "Observed and Simulated Supercell Demise Depicted by VORTEX2 Observations"*

Department of Marine, Earth & Atmospheric Sciences  
North Carolina State University  
Raleigh, NC, USA

### **M.S. in Atmospheric Sciences** (August 2009)

*Thesis: "Mesoscale Convective Systems Crossing the Appalachian Mountains"*

Department of Marine, Earth & Atmospheric Sciences  
North Carolina State University  
Raleigh, NC, USA

### **B.S. in Meteorology** (May 2007) *Summa Cum Laude*

Department of Geography and Meteorology  
Valparaiso University  
Valparaiso, IN, USA

## ACADEMIC POSITIONS

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### **Associate Professor** (July 2022 – present)

Department of Geography & Earth Sciences  
University of North Carolina at Charlotte  
Charlotte, NC, USA

### **Assistant Professor** (August 2014 – June 2022)

Department of Geography & Earth Sciences  
University of North Carolina at Charlotte  
Charlotte, NC, USA

### **Assistant Professor** (June 2013 – June 2014), **Lecturer** (June 2012 – May 2013)

Department of Physics  
United States Air Force Academy  
Colorado Springs, CO, USA

**Graduate Research Assistant** (August 2008 – May 2009; August 2010 – May 2012)

Department of Marine, Earth & Atmospheric Sciences

North Carolina State University

Raleigh, NC, USA

**Graduate Teaching Assistant** (August 2007 – May 2008; August 2009 – May 2010)

Department of Marine, Earth & Atmospheric Sciences

North Carolina State University

Raleigh, NC, USA

## RESEARCH

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### Peer-Reviewed Publications (\*denotes student co-author)

1. Handlos, Z., **C.E. Davenport**, and D. Kopacz, 2022: The “State” of Active Learning in the Atmospheric Sciences: Strategies Instructors Use and Directions for Future Research, *Bulletin of the American Meteorological Society*, E1197 – E1212. doi: 10.1175/BAMS-D-20-0239.1
2. **Davenport, C.E.**, 2021: Environmental Evolution of Long-Lived Supercell Thunderstorms in the Great Plains. *Weather and Forecasting*, **36**, 2187 – 2209. doi: 10.1175/WAF-D-21-0042.1
3. Gropp, M.E.\* and **C.E. Davenport**, 2021: A Python-Based Tracking Algorithm for Coarse Temporal Resolution WRF-Simulated Supercells, *Journal of Atmospheric and Oceanic Technology*, **38**, 1551 – 1559. doi: 10.1175/JTECH-D-20-0122.1
4. **Davenport, C.E.**, and A.J. French, 2020: The Fundamentals in Meteorology Inventory: Validation of a Tool Assessing Basic Meteorological Conceptual Understanding. *Journal of Geoscience Education*, **68**, 152 – 167. doi: 10.1080/10899995.2019.1629193.
5. Magee, K.M.\* and **C.E. Davenport**, 2020: An Observational Analysis Quantifying the Distance of Supercell-Boundary Interactions in the Great Plains. *Journal of Operational Meteorology*, **8**, 15 – 38.
6. **Davenport, C.E.**, C.L. Ziegler, and M.I. Biggerstaff, 2019: Creating a More Realistic Idealized Supercell Thunderstorm Evolution via Incorporation of Base-State Environmental Variability. *Monthly Weather Review*, **147**, 4177 – 4198. doi: 10.1175/MWR-D-18-0447.1

7. **Davenport, C.E.**, 2019: Using Worked Examples to Improve Student Understanding of Atmospheric Dynamics. *Bulletin of the American Meteorological Society*, **100**, 1653 – 1664. doi: 10.1175/BAMS-D-18-0226.1
8. Sherburn, K.D., M.D. Parker, **C.E. Davenport**, R.A. Sirico\*, J.L. Blaes, B. Black, S.E. McLamb, M.C. Mugrage, and R.M. Rackliffe, 2019: Partnering Research, Education, and Operations via a Cool Season Severe Weather Soundings Program. *Bulletin of the American Meteorological Society*, **100**, 307 – 320. doi: 10.1175/BAMS-D-17-0186.1
9. Gropp, M.E.\* and **C.E. Davenport**, 2018: The Impact of the Nocturnal Transition on the Lifetime and Evolution of Supercell Thunderstorms in the Great Plains. *Weather and Forecasting*, **33**, 1045 – 1061. doi: 10.1175/WAF-D-17-0150.1
10. **Davenport, C.E.**, 2018: Evolution in Student Perceptions of a Flipped Classroom in a Computer Programming Course. *Journal of College Science Teaching*, **47**, 30 – 35.
11. **Davenport, C.E.** and M.D. Parker, 2015b: Impact of Environmental Heterogeneity on the Dynamics of a Dissipating Supercell Thunderstorm. *Monthly Weather Review*, **143**, 4244 – 4277. doi: 10.1175/MWR-D-15-0072.1.
12. **Davenport, C.E.** and M.D. Parker, 2015a: Observations of the 9 June 2009 Dissipating Supercell from VORTEX2. *Weather and Forecasting*, **30**, 368 – 388. doi: 10.1175/WAF-D-14-00087.1.
13. **Davenport, C.E.**, C.S. Wohlwend, and T.L. Koehler, 2015: Motivation for and Development of a Standardized Introductory Meteorology Assessment Exam. *Bulletin of the American Meteorological Society*, **96**, 305 – 312. doi: 10.1175/BAMS-D-13-00157.1.
14. **Letkewicz, C.E.**, A.J. French, and M.D. Parker, 2013: Base-State Substitution: An Idealized Modeling Technique for Approximating Environmental Variability. *Monthly Weather Review*, **139**, 3062 – 3086. doi: 10.1175/MWR-D-12-00200.1.
15. **Letkewicz, C.E.** and M.D. Parker, 2011: Impact of Environmental Variations on Simulated Squall Lines Interacting with Terrain. *Monthly Weather Review*, **139**, 3163 – 3183. doi: 10.1175/2011MWR3635.1.
16. **Letkewicz, C.E.** and M.D. Parker, 2010: Forecasting the Maintenance of Mesoscale Convective Systems Crossing the Appalachian Mountains. *Weather and Forecasting*, **25**, 1179 – 1195. doi: 10.1175/2010WAF2222379.1.

Professional Conference Presentations and Proceedings (since 2013; \*denotes student co-author)

1. Decker, L.\* and **C.E. Davenport**, 2022: Quantifying Spatial Thinking Abilities in Meteorology Students Across the Curriculum. *Earth Educators' Rendezvous*, National Association of Geoscience Teachers, Twin Cities, MN, 11-15 July 2022. Abstract available at: [https://serc.carleton.edu/earth\\_rendezvous/2022/program/posters/friday/249481.html](https://serc.carleton.edu/earth_rendezvous/2022/program/posters/friday/249481.html)
2. Greco, J.\* and **C.E. Davenport**, 2022: Comparing High-Shear, Low-CAPE Supercell Weather Events in the Southeastern United States vs. the Great Plains. *UNC Charlotte Undergraduate Research Conference*, Charlotte, NC.
3. Riggin, R.\*, **C.E. Davenport**, and M.D. Eastin, 2022: A Numerical Study Investigating Idealized Supercell Thunderstorms Interacting with the Appalachian Mountains. *Southern Appalachian Weather and Climate Workshop*, Asheville, NC, 25-26 March. Abstracts available at: <https://vlab.noaa.gov/web/southern-appalachian-weather-and-climate-workshop/poster-presenter-abstracts>
4. **Davenport, C.E.**, 2022: Environmental Evolution of Long-Lived Supercells in the Great Plains. *Southern Appalachian Weather and Climate Workshop*, Asheville, NC, 25-26 March. Abstracts available at: <https://vlab.noaa.gov/web/southern-appalachian-weather-and-climate-workshop/oral-presenter-abstracts>
5. **Davenport, C.E.**, 2022: Environmental Evolution of Long-Lived Supercells in the Great Plains. *19<sup>th</sup> Conference on Mesoscale Processes, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January. Abstract available at: <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/392731>.
6. **Davenport, C.E.**, 2022: The Benefits and Challenges of Paired Programming in a Meteorological Computer Applications Course. *31<sup>st</sup> Conference on Education, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January. Abstract available at: <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/392743>.
7. Barlow, M., **C.E. Davenport**, W.J. Flynn, Z.J. Handlos, A.M. Klees, and E. Mullens, 2022: How Can We Make Teaching Atmospheric Dynamics More Dynamic? *31<sup>st</sup> Conference on Education, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January. Abstract available at: <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/398880>.

8. Eastin, M.D., K.E. McKeown\*, S.M. Purpura\*, R. Riggin\*, and **C.E. Davenport**, 2022: Radar-Based Evolution of Supercells Crossing Prominent Ridges in the Central and Southern Appalachians. *19<sup>th</sup> Conference on Mesoscale Processes, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January, Poster 558. Abstract available at: <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/390963>.
9. Eastin, M.D., S.M. Purpura\*, K.E. McKeown\*, R. Riggin\*, and **C.E. Davenport**, 2022: Synoptic-Mesoscale Conditions Associated with Supercells that Cross the Central and Southern Appalachians. *19<sup>th</sup> Conference on Mesoscale Processes, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January, Poster 559. Abstract available at: <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/390965>.
10. Riggin, R.\*, **C.E. Davenport**, Eastin, M.D., S.M. Purpura\*, and K.E. McKeown\*, 2022: A Numerical Study Investigating Idealized Supercell Thunderstorms Interacting with the Appalachian Mountains. *19<sup>th</sup> Conference on Mesoscale Processes, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January, Poster 562. Abstract available at: <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/392794>.
11. Brown, M.C., C.J. Nowotarski, **C.E. Davenport**, J.M. Peters, 2022: Impacts of the Early Evening Transition on Updraft Forcing and Evolution in Idealized Simulations of High-Shear, Low-CAPE Supercells. *19<sup>th</sup> Conference on Mesoscale Processes, 102<sup>nd</sup> Annual Meeting of the American Meteorological Society (virtual)*, American Meteorological Society, 23-27 January, Poster 561. Abstract available at <https://ams.confex.com/ams/102ANNUAL/meetingapp.cgi/Paper/392600>.
12. Riggin, R.\*, **C.E. Davenport**, and M.D. Eastin, 2021: A Numerical Study Investigating Idealized Supercell Thunderstorms Interacting with the Appalachian Mountains. *Student and Early Career Scientist Virtual Severe Local Storms Conference*, American Meteorological Society, 4-5 November 2021.
13. McKeown, K.\*, **C.E. Davenport**, S. Purpura\*, and M.D. Eastin, 2021: Radar Characteristics of Observed Supercell Thunderstorms Interacting with the Appalachian Mountains. *National Weather Association Annual Meeting*, National Weather Association, Paper 118. Abstract available at: <https://nwas.org/wp-content/uploads/2021/07/NWA-46th-Annual-Meeting-Poster-Presentation-Abstracts-2.pdf>
14. Purpura, S.\*, **C.E. Davenport**, K. McKeown\*, and M.D. Eastin, 2021: Environmental Evolution of Supercells Interacting with the Appalachian Mountains. *A National Weather Association Annual Meeting*, National Weather

- Association, Paper 136. Abstract available at: <https://nwas.org/wp-content/uploads/2021/07/NWA-46th-Annual-Meeting-Poster-Presentation-Abstracts-2.pdf>
15. Riggin, R.\*, **C.E. Davenport**, and M.D. Eastin, 2021: Idealized Simulations of Supercell Thunderstorms Interacting with the Appalachian Mountains. *National Weather Association Annual Meeting*, National Weather Association, Paper 138. Abstract available at: <https://nwas.org/wp-content/uploads/2021/07/NWA-46th-Annual-Meeting-Poster-Presentation-Abstracts-2.pdf>
  16. Hochstatter, L.N.\* and **C.E. Davenport**, 2021: The Temporal Evolution of Tornadic vs. Non-Tornadic High Shear Low CAPE Environments. *National Weather Association Annual Meeting*, National Weather Association, Paper 78. Abstract available at: <https://nwas.org/wp-content/uploads/2021/07/NWA-46th-Annual-Meeting-Poster-Presentation-Abstracts-2.pdf>
  17. Handlos, Z., **C.E. Davenport**, and D. Kopacz, 2021: The State of Active Learning in the Atmospheric Sciences: Strategies Instructors Use and Directions for Future Research. *Earth Educators' Rendezvous 2021 (virtual)*, National Association of Geoscience Teachers. Abstract available at: [https://serc.carleton.edu/earth\\_rendezvous/2021/program/talks/session6/242648.html](https://serc.carleton.edu/earth_rendezvous/2021/program/talks/session6/242648.html).
  18. **Davenport, C.E.**, 2021: Incorporating Pair Programming in a Meteorological Computer Applications Course. *Earth Educators' Rendezvous 2021 (virtual)*, National Association of Geoscience Teachers. Abstract available at: [https://serc.carleton.edu/earth\\_rendezvous/2021/program/posters/wednesday/session1/242737.html](https://serc.carleton.edu/earth_rendezvous/2021/program/posters/wednesday/session1/242737.html).
  19. Decker, L.\* and **C.E. Davenport**, 2021: Case Study of the EF-4 Tornado Produced in the 2 March 2012 Tornado Outbreak. *UNC Charlotte Undergraduate Research Conference*, Charlotte, NC.
  20. Hochstatter, L.\* and **C.E. Davenport**, 2021: The Temporal Evolution of Tornadic vs. Non-tornadic HSLC Environments. *20<sup>th</sup> Annual Student Conference, 101<sup>st</sup> American Meteorological Society Annual Meeting*, American Meteorological Society, Paper #111. Abstract available at: <https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/385213>.
  21. McKeown, K.E.\*, **C.E. Davenport**, S.M. Purpura\*, and M.D. Eastin, 2021: Radar Characteristics of Observed Supercell Thunderstorms Interacting with the Appalachian Mountains. *20<sup>th</sup> Annual Student Conference, 101<sup>st</sup> American Meteorological Society Annual Meeting*, American Meteorological Society, Paper

- #109. Abstract available at:  
<https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/385001>.
22. Purpura, S.M.\*, **C.E. Davenport**, K.E. McKeown\*, and M.D. Eastin, 2021: Environmental Evolution of Supercells Interacting with the Appalachian Mountains. *20<sup>th</sup> Annual Student Conference, 101<sup>st</sup> American Meteorological Society Annual Meeting*, American Meteorological Society, Paper #110. Abstract available at:  
<https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/385061>.
23. Handlos, Z., **C.E. Davenport**, and D. Kopacz, 2021: The “State” of Active Learning Implementation in the Atmospheric Sciences: What Strategies Do Instructors Use and What Can We Do to Improve?” *30<sup>th</sup> Conference on Education, 101<sup>st</sup> American Meteorological Society Annual Meeting (Virtual)*, American Meteorological Society, Paper 13.6. Abstract available at:  
<https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/382056>.
24. **Davenport, C.E.** and M. Gropp\*, 2020: “Comparing Idealized Simulations of Supercell Thunderstorms in Current vs. “Business as Usual” Future Environments. *American Geophysical Union Fall Meeting (Virtual)*, American Geophysical Union, Paper A160-03. Abstract available at:  
<https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/661446>.
25. Hochstatter, L.\* and **C.E. Davenport**, 2020: The Temporal Evolution of Severe vs. Non-Severe High Shear Low CAPE Environments. *American Geophysical Union Fall Meeting (Virtual)*, American Geophysical Union, Paper A121-0008. Abstract available at: <https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/684653>.
26. McKeown, K.\*, **C.E. Davenport**, S. Purpura\*, and M.D. Eastin, 2020: Radar Characteristics of Observed Supercell Thunderstorms Interacting with the Appalachian Mountains. *American Geophysical Union Fall Meeting (Virtual)*, American Geophysical Union, Paper A122-0008. Abstract available at:  
<https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/696847>.
27. Purpura, S.\*, **C.E. Davenport**, K. McKeown\*, and M.D. Eastin, 2020: Environmental Evolution of Supercells Interacting with the Appalachian Mountains. *American Geophysical Union Fall Meeting (Virtual)*, American Geophysical Union, Paper A122-0009. Abstract available at:  
<https://agu.confex.com/agu/fm20/meetingapp.cgi/Paper/697825>.
28. McKeown, K.E.\*, **C.E. Davenport**, S.M. Purpura\*, and M.D. Eastin, 2020: Radar Characteristics of Observed Supercell Thunderstorms Interacting with the Appalachian Mountains. *Midwest Student Conference on Atmospheric Research (Virtual)*, University of Illinois Urbana-Champaign Department of Atmospheric



- Sciences. Program booklet available at [https://atmos.illinois.edu/system/files/2020-09/FULL\\_PROGRAM\\_MSCAR2020\\_6.pdf](https://atmos.illinois.edu/system/files/2020-09/FULL_PROGRAM_MSCAR2020_6.pdf).
29. Purpura, S.M.\*, **C.E. Davenport**, K.E. McKeown\*, and M.D. Eastin, 2020: Environmental Evolution of Supercells Interacting with the Appalachian Mountains. *Midwest Student Conference on Atmospheric Research (Virtual)*, University of Illinois Urbana-Champaign Department of Atmospheric Sciences. Program booklet available at [https://atmos.illinois.edu/system/files/2020-09/FULL\\_PROGRAM\\_MSCAR2020\\_6.pdf](https://atmos.illinois.edu/system/files/2020-09/FULL_PROGRAM_MSCAR2020_6.pdf).
  30. **Davenport, C.E.**, Z.J. Handlos, and D. Kopacz, 2020: Characterizing Instructional Strategies within Atmospheric Science Courses. *Annual Meeting of the North Carolina Academy of Sciences*. Presentation fully prepared but not presented due to COVID-related issues.
  31. Handlos, Z., **C.E. Davenport**, and D. Kopacz, 2020: Characterizing Instructional Strategies within Atmospheric Science Courses. *29<sup>th</sup> Conference on Education, 100<sup>th</sup> American Meteorological Society Annual Meeting*, Boston, MA, American Meteorological Society, Paper 2.5. Extended abstract available at <https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/366986>.
  32. Gropp, M.\* and **C.E. Davenport**, 2020: The Impacts of “Business as Usual” Climate Change on Supercell Thunderstorms. *Severe Local Storms Symposium, 100<sup>th</sup> American Meteorological Society Annual Meeting*, Boston, MA, American Meteorological Society, Paper 2.6. Extended abstract available at <https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/367204>.
  33. Ising, J.\* and **C.E. Davenport**, 2019: Terrain Influence on Supercell Thunderstorms within the Appalachian Mountains. *UNC Charlotte Undergraduate Research Conference*, Charlotte, NC.
  34. Gropp, M.E.\* and **C.E. Davenport**, 2019: Storm-Scale Impacts of “Business as Usual” Climate Change on Supercell Thunderstorms. *Earth System Observations and Modeling Graduate Symposium*, Fairfax, VA, Center for Ocean-Land-Atmosphere Studies, George Mason University.
  35. **Davenport, C.E.**, 2019: Engaging Students with Theory and Real-World Data to Enhance Learning through Worked Examples. *28<sup>th</sup> Symposium on Education, 99<sup>th</sup> American Meteorological Society Annual Meeting*, Phoenix, AZ, American Meteorological Society, Paper 1.6. Extended abstract available at <https://ams.confex.com/ams/2019Annual/meetingapp.cgi/Paper/350918>.
  36. **Davenport, C.E.**, 2018: Environmental Evolution of Long-Lived Supercells. *29<sup>th</sup> Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society,



- Paper 8.2. Extended abstract available at  
<https://ams.confex.com/ams/29SLS/meetingapp.cgi/Paper/348358>.
37. Gropp, M.E.\* and **C.E. Davenport**, 2018: A Python-Based Tracking Algorithm for Coarse Temporal Resolution WRF-Simulated Supercells. *29<sup>th</sup> Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society, Paper 130. Extended abstract available at  
<https://ams.confex.com/ams/29SLS/meetingapp.cgi/Paper/348476>.
38. Mansfield, A.D.\* and **C.E. Davenport**, 2018: The Temporal Evolution of Tornadic and Non-Tornadic VORTEX2 Environments. *29<sup>th</sup> Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society, Paper 59. Extended abstract available at  
<https://ams.confex.com/ams/29SLS/meetingapp.cgi/Paper/348605>.
39. Sirico, R.A.\* and **C.E. Davenport**, 2018: Assessing Spatial and Temporal Changes in the Environment on the Evolution of Convection in a High Shear, Low Instability Event in North Carolina. *UNC Charlotte Undergraduate Research Conference*, Charlotte, NC.
40. **Davenport, C.E.**, 2018: Using Worked Examples in an Upper-Level Meteorology Class to Enhance Student Learning. *114<sup>th</sup> Annual Meeting of the North Carolina Academy of Science*, Raleigh, NC, North Carolina Academy of Science. Meeting website: <https://www.waketech.edu/about-wake-tech/divisions/mathematics-sciences-engineering/ncas>.
41. **Davenport, C.E.** and A.J. French, 2018: The Fundamentals in Meteorology Inventory: Results from the Development of a New Meteorology Education Tool. *27<sup>th</sup> Symposium on Education, 98<sup>th</sup> American Meteorological Society Annual Meeting*, Austin, TX, American Meteorological Society, Paper 5.5. Extended abstract available at  
<https://ams.confex.com/ams/98Annual/webprogram/Paper328680.html>.
42. **Davenport, C.E.**, 2018: Using Worked Examples to Teach Atmospheric Dynamics. *27<sup>th</sup> Symposium on Education, 98<sup>th</sup> American Meteorological Society Annual Meeting*, Austin, TX, American Meteorological Society, Paper 8.8. Extended abstract available at  
<https://ams.confex.com/ams/98Annual/webprogram/Paper328667.html>.
43. **Davenport, C.E.**, M.I. Biggerstaff, and C.L. Ziegler, 2017: Qualitative and Quantitative Comparisons of a Base-State Substitution Simulation with Dual-Doppler Observations of the 29 May 2012 Kingfisher Supercell. *17<sup>th</sup> Conference on Mesoscale Processes*, San Diego, CA, American Meteorological Society, Paper

- 10.1. Extended abstract available at  
<https://ams.confex.com/ams/17MESO/webprogram/Paper319728.html>.
44. Gropp, M.\* and **C.E. Davenport**, 2017: Assessing the Impact of the Evening Transition on the Evolution and Lifetime of Supercell Thunderstorms in the Great Plains. *17<sup>th</sup> Conference on Mesoscale Processes*, San Diego, CA, American Meteorological Society, Paper 46. Extended abstract available at  
<https://ams.confex.com/ams/17MESO/webprogram/Paper319916.html>.
45. Ledbetter, C.J.\* and **C.E. Davenport**, 2017: Analyzing Supercell Intensity Changes in a Heterogeneous Environment in the VORTEX2 Supercell Pair in Southeastern Colorado on 11 June 2009. *17<sup>th</sup> Conference on Mesoscale Processes*, San Diego, CA, American Meteorological Society, Paper 45. Extended abstract available at  
<https://ams.confex.com/ams/17MESO/webprogram/Paper319804.html>.
46. Magee, K.M.\* and **C.E. Davenport**, 2017: An Observational Study on Quantifying the Distance to Supercell-Boundary Interactions in the Great Plains. *17<sup>th</sup> Conference on Mesoscale Processes*, San Diego, CA, American Meteorological Society, Paper 38. Extended abstract available at  
<https://ams.confex.com/ams/17MESO/webprogram/Paper319834.html>.
47. **Davenport, C.E.**, 2017: The Fundamentals in Meteorology Inventory: Results from the Development of a New Meteorology Education Tool. *114<sup>th</sup> Annual Meeting of the North Carolina Academy of Science*, High Point, NC, North Carolina Academy of Science. Abstract available at  
<http://www.highpoint.edu/ncas2017/files/2017/03/book-of-abstracts.pdf>.
48. **Davenport, C.E.**, M.I. Biggerstaff, and C.L. Ziegler, 2016: Assessment of the Base-State Substitution Idealized Modeling Technique. *28<sup>th</sup> Conference on Severe Local Storms*, Portland, OR, American Meteorological Society, Paper 129. Extended abstract available at  
<https://ams.confex.com/ams/28SLS/webprogram/Paper300698.html>.
49. Gropp, M.\* and **C.E. Davenport**, 2016: Assessing the Impact of the Nocturnal Transition on the Lifetime and Evolution of Supercell Thunderstorms in the Great Plains. *28<sup>th</sup> Conference on Severe Local Storms*, Portland, OR, American Meteorological Society, Paper 32. Extended abstract available at  
<https://ams.confex.com/ams/28SLS/webprogram/Paper300965.html>.
50. Magee, K.M.\* and **C.E. Davenport**, 2016: Quantifying the Distance to Supercell-Boundary Interactions. *28<sup>th</sup> Conference on Severe Local Storms*, Portland, OR, American Meteorological Society, Paper 33. Extended abstract available at  
<https://ams.confex.com/ams/28SLS/webprogram/Paper300810.html>.

51. Bunker, E.\*, C. Ledbetter\*, **C.E. Davenport**, and M.D. Eastin, 2016: The Interaction of Supercell Thunderstorms with the Appalachian Mountains. *UNC Charlotte Undergraduate Research Conference*, Charlotte, NC.
52. **Davenport, C.E.**, 2016: Using Worked Examples to Improve Student Understanding and Problem-Solving Skills. *25<sup>th</sup> Symposium on Education, 96<sup>th</sup> American Meteorological Society Annual Meeting*, New Orleans, LA, American Meteorological Society, Paper 6.7. Extended abstract available at <https://ams.confex.com/ams/96Annual/webprogram/Paper280167.html>.
53. **Davenport, C.E.**, 2015: Addressing the Efficacy of the Base-State Substitution Technique: A Comparison of Simulations. *16<sup>th</sup> Conference on Mesoscale Processes*, Boston, MA, American Meteorological Society, Paper 25. Extended abstract available at <https://ams.confex.com/ams/16Meso/webprogram/Paper274326.html>.
54. Ledbetter, C.\*, E. Bunker\*, **C.E. Davenport**, and B.I. Magi, 2015: Arduino Weather Station. *UNC Charlotte Undergraduate Research Conference*, Charlotte, NC.
55. **Davenport, C.E.**, A.J. French, T.L. Koehler, and D.R. Vollmer, 2015: The Fundamentals in Meteorology Inventory: Motivation and Development of a New Meteorology Education Tool. *24<sup>th</sup> Symposium on Education, 95<sup>th</sup> American Meteorological Society Annual Meeting*, Phoenix, AZ, American Meteorological Society, Paper 7.2. Extended abstract available at <https://ams.confex.com/ams/95Annual/webprogram/Paper258622.html>.
56. **Davenport, C.E.**, C.S. Wohlwend, and T.L. Koehler, 2013: The Fundamentals in Meteorology Inventory. *U.S. Air Force Academy Scholarship of Teaching and Learning Forum*, Colorado Springs, CO.
57. **Letkewicz, C.E.** and M.D. Parker, 2012: Idealized Simulations of Supercell Demise Based on VORTEX2 Observations. *26<sup>th</sup> Conference on Severe Local Storms*, Nashville, TN, American Meteorological Society, Paper 167. Extended abstract available at <https://ams.confex.com/ams/26SLS/webprogram/Paper211728.html>.
58. **Letkewicz, C.E.** and M.D. Parker, 2011: Comparison of Supercell Maintenance and Dissipation Processes Observed During VORTEX2. *14<sup>th</sup> Conference on Mesoscale Processes*, Los Angeles, CA, American Meteorological Society, Paper 24. Extended abstract available at <https://ams.confex.com/ams/14Meso15ARAM/webprogram/Paper191044.html>.
59. **Letkewicz, C.E.** and M.D. Parker, 2011: Idealized Simulations of Supercell Demise Based on VORTEX2 Observations. *14<sup>th</sup> Conference on Mesoscale Processes*, Los Angeles, CA, American Meteorological Society, Paper 4.3. Extended

abstract available at

<https://ams.confex.com/ams/14Meso15ARAM/webprogram/Paper191043.html>.

60. **Letkewicz, C.E.** and M.D. Parker, 2010: Supercell Dissipation Observed by VORTEX2 on 9 June 2009. *25<sup>th</sup> Conference on Severe Local Storms*, Denver, CO, American Meteorological Society, Paper P8.9. Extended abstract available at [https://ams.confex.com/ams/25SLS/techprogram/paper\\_175916.htm](https://ams.confex.com/ams/25SLS/techprogram/paper_175916.htm).
61. Parker, M.D., A.J. French, **C.E. Letkewicz**, M.J. Morin, K. Rojowsky, D. Stark, and G.H. Bryan, 2009: Mobile Sounding Measurements of the Near-Storm Environment During VORTEX2. *5<sup>th</sup> European Conference on Severe Storms*, Landshut, Germany, European Meteorological Society, Paper 09.07. Extended abstract available at <https://www.essl.org/ECSS/2009/preprints/P09-07-parker.pdf>.
62. Parker, M.D., A.J. French, **C.E. Letkewicz**, M.J. Morin, K. Rojowsky, D. Stark, and G.H. Bryan, 2009: Mobile Sounding Measurements of the Near-Storm Environment During VORTEX2. *13<sup>th</sup> Conference on Mesoscale Processes*, Salt Lake City, UT, American Meteorological Society, Paper P1.3. Extended abstract available at [https://ams.confex.com/ams/13Meso/techprogram/paper\\_154936.htm](https://ams.confex.com/ams/13Meso/techprogram/paper_154936.htm).
63. **Letkewicz, C.E.** and M.D. Parker, 2009: Mesoscale Convective Systems Crossing the Appalachian Mountains. *13<sup>th</sup> Conference on Mesoscale Processes*, Salt Lake City, UT, American Meteorological Society, Paper 2.4. Extended abstract available at [https://ams.confex.com/ams/13Meso/techprogram/paper\\_154952.htm](https://ams.confex.com/ams/13Meso/techprogram/paper_154952.htm).
64. **Letkewicz, C.E.** and M.D. Parker, 2008: An Observational Investigation of Mesoscale Convective Systems Crossing the Appalachian Mountains. *24<sup>th</sup> Conference on Severe Local Storms*, Savannah, GA, American Meteorological Society, Paper P4.7. Extended abstract available at [https://ams.confex.com/ams/24SLS/techprogram/paper\\_141574.htm](https://ams.confex.com/ams/24SLS/techprogram/paper_141574.htm).

### Grants Awarded

1. **Characterizing the Growth of Spatial Thinking Abilities Across Meteorology Courses**  
 UNC Charlotte Scholarship of Teaching and Learning Grant  
 January 2022—June 2023  
 \$10,090  
 Principal Investigator: **C.E. Davenport**
2. **Characteristics and Evolution of Observed and Simulated Supercell Thunderstorms in the Central and Southern Appalachians**

- National Oceanic and Atmospheric Administration: Collaborative Science, Technology, and Applied Research  
June 2019—May 2022  
\$429,089  
Principal Investigators: **C.E. Davenport** and M. Eastin (UNC Charlotte)
3. **Quantifying the Impact of Climate Change on the Characteristics and Local Environments of Supercell Thunderstorms**  
UNC Charlotte Faculty Research Grant  
January 2019—May 2020  
\$8,000  
Principal Investigator: **C.E. Davenport**
4. **Using Worked Examples to Enhance Learning in an Upper-Level Meteorology Course**  
UNC Charlotte Scholarship of Teaching and Learning Grant  
January 2018—May 2019  
\$8,700  
Principal Investigator: **C.E. Davenport**
5. **Measuring Thunderstorm Environment Variability in North Carolina**  
UNC Charlotte Faculty Research Grant  
January 2015—May 2016  
\$5,814  
Principal Investigator: **C.E. Davenport**

**TEACHING & INSTRUCTIONAL ACTIVITY**Courses Taught (UNC Charlotte only)

<b>Semester</b>	<b>Course Title</b>	<b>Course Number</b>	<b>Enrollment</b>
Spring 2022	Dynamic Meteorology I (3 cr)	METR 3250	13 undergrad
	Meteorological Computer Applications (3 cr)	METR 4105/ESCI 5105	16 undergrad
	Independent Study (1 cr)	METR 4800	1 undergrad
Fall 2021	Advanced Dynamic Meteorology (3 cr)	METR 4250/ESCI 5250	9 undergrad
	Numerical Modeling of the Earth System (3 cr)	ESCI 6120/INES 8090	7 grad
	Independent Study (1 cr)	METR 4800	1 undergrad
Spring 2021	Dynamic Meteorology I (3 cr)	METR 3250	12 undergrad
	Meteorological Computer Applications (3 cr)	METR 4105/ESCI 5105	16 undergrad/1 grad
	Independent Study (3 cr)	METR 4800	1 undergrad
Fall 2020	Advanced Dynamic Meteorology (3 cr)	METR 4250/ESCI 5250	10 undergrad/2 grad
	Numerical Modeling of the Earth System (3 cr)	ESCI 6120/INES 8090	8 grad
Spring 2020	Dynamic Meteorology I (3 cr)	METR 3250	11 undergrad
	Meteorological Computer Applications (3 cr)	METR 4105/ESCI 5105	15 undergrad/3 grad
Spring 2019	Dynamic Meteorology I (3 cr)	METR 3250	8 undergrad
	Meteorological Computer Applications (3 cr)	METR 4105/ESCI 5105	15 undergrad/4 grad
	Independent Study (3 cr)	METR 4800	1 undergrad
Spring 2018	Dynamic Meteorology I (3 cr)	METR 3250	15 undergrad
	Meteorological Computer Applications (3 cr)	METR 4105/ESCI 5105	15 undergrad/2 grad
	Independent Study (3 cr)	METR 4800	1 undergrad
Fall 2017	Advanced Dynamic Meteorology (3 cr)	METR 4250	7 undergrad
	Numerical Modeling of the Earth System (3 cr)	ESCI 6000/INES 8090	5 grad
	Independent Study (3 cr)	METR 4800	1 undergrad
Spring 2017	Dynamic Meteorology I (3 cr)	METR 3250	10 undergrad
	Meteorological Computer Applications (3 cr)	METR 4105/ESCI 5105	15 undergrad
Spring 2016	Dynamic Meteorology I (3 cr)	METR 3250	14 undergrad
	Meteorological Computer Applications (3 cr)	METR 4000/ESCI 5000	10 undergrad/3 grad
	Independent Study (3 cr)	METR 4800	1 undergrad
Fall 2015	Advanced Dynamic Meteorology (3 cr)	METR 4250	14 undergrad
	Numerical Modeling of the Earth System (3 cr)	ESCI 6000/INES 8090	6 grad
Spring 2015	Dynamic Meteorology I (4 cr)	METR 3250	16 undergrad
	Independent Study (1 cr)	METR 4800	1 undergrad
Fall 2014	Advanced Dynamic Meteorology (3 cr)	METR 4250	8 undergrad

## Students Advised

### ***In Progress***

#### Advisor

1. Matthew Gropp, Ph.D. Infrastructure and Environmental Systems, Fall 2017 – present (currently ABD; final defense anticipated Summer 2022).  
*Dissertation: “Storm Scale Impacts of Business as Usual Climate Change on Supercell Thunderstorms”*
2. Roger Riggan, M.S. Earth Sciences, Fall 2020 – present.  
*Thesis: “Idealized Simulations of Supercell Thunderstorms Interacting with the Appalachian Mountains”*
3. Lauren Decker, M.S. Earth Sciences, Fall 2021 – present.  
*Thesis: “Characterizing Spatial Thinking in Meteorology Students”*
4. Jasen Greco, Office of Undergraduate Research Summer Research Scholar, B.S. Meteorology, Spring 2022.  
*Topic: “Idealized Simulations of High-Shear, Low-CAPE Severe Events in the Great Plains and Southeastern U.S.”*

#### Committee Member

1. Christian Boyer, Ph.D. Earth and Ecosystem Science (Central Michigan University; Committee Chair, J. Keeler), Fall 2019 – present (currently ABD; final defense anticipated Spring 2023).  
*Dissertation: “Observational and Numerical Analysis of the Inland-Advection Marine Atmospheric Boundary Layer and its Implications on Convection Initiation”*

### ***Completed***

#### Advisor

1. Jasen Greco, Independent study, B.S. Meteorology, Spring 2022.  
*Topic: “Comparison of High-Shear, Low-CAPE Severe Events in the Great Plains and Southeastern U.S.”*
2. Jasen Greco, Independent study, B.S. Meteorology, Fall 2021.  
*Topic: “Case Study of the 6 February 2020 Charlotte Region Tornadoes”*
3. Lauren Decker, Independent study, B.S. Meteorology, Spring 2021.  
*Topic: “Case Study of the 2 March 2012 Southern Indiana Tornado Outbreak”*



4. Lindsay Hochstatter, M.S. Earth Sciences, Fall 2019 – Spring 2021.  
*Thesis: “The Temporal Evolution of Tornadic vs. Non-Tornadic High Shear Low CAPE Environments”*
5. Katie McKeown, M.S. Earth Sciences, Fall 2019 – Spring 2021.  
*Thesis: “Radar Characteristics of Observed Supercell Thunderstorms Interacting with the Appalachian Mountains”*
6. Sarah Purpura, M.S. Earth Sciences, Fall 2019 –Spring 2021.  
*Thesis: “Environmental Evolution of Supercells Interacting with the Appalachian Mountains”*
7. Luke Rosamond, B.S. Meteorology, Summer 2020. *Topic: “Evaluation of Tornadoes in Hurricane Dorian”*
8. Richard Sirico, M.S. Earth Sciences, Fall 2018 – Spring 2020.  
*Thesis: “Investigation of the Environmental Influences Related to the Precipitation Structure of Supercell Thunderstorms and Their Evolution”*
9. Austin Mansfield, M.S. Earth Sciences, Fall 2017 – Spring 2019.  
*Thesis: “The Temporal Evolution of Tornadic and Non-tornadic VORTEX2 Near-storm Environments”*
10. Jan Ising, Honors Thesis, B.S. Meteorology, Fall 2018 – Spring 2019.  
*Thesis: “Investigating Causes for Crossing Potential of Supercell Thunderstorms Within the Appalachian Mountains”*
11. Cody Ledbetter, M.S. Earth Sciences, Fall 2016 – Fall 2018. *Thesis: “Analyzing Supercell Intensity Changes in a Heterogeneous Environment in the VORTEX2 Supercell Pair in Southeastern Colorado on 11 June 2009”*
12. Kathleen Magee, M.S. Earth Sciences, Fall 2015 – Spring 2017. *Thesis: “An Observational Study on Quantifying the Distance of Supercell-Boundary Interactions in the Great Plains”*
13. Matthew Gropp, M.S. Earth Sciences, Fall 2015 – Spring 2017. *Thesis: “Assessing the Impact of the Evening Transition on the Evolution and Lifetime of Supercell Thunderstorms in the Great Plains”*
14. Richard Sirico, Independent Study, B.S. Meteorology, Fall 2017 – Spring 2018.  
*Topic: “Assessing Spatial and Temporal Changes in the Environment on the Evolution of Convection in a High Shear, Low Instability Event in North Carolina”*
15. Cody Ledbetter, Honors Thesis, B.S. Meteorology, Fall 2015 – Spring 2016. *Thesis: “The Interaction of Supercell Thunderstorms with the Appalachian Mountains”*

16. Cody Ledbetter, Independent Study, B.S. Meteorology, Spring 2015. *Topic: "Arduino Weather Station"*

#### Committee Member

1. Xiaoyu Bai, Ph.D. Infrastructure and Environmental Systems (J. Scheff, Committee Chair), graduated May 2022. *Dissertation: "Energetic Theory and Hadley Cells at a Seasonal Scale: How Will ITCZ Respond to a Warming Climate"*
2. Matt Toadvine, M.S. Earth Sciences (M. Eastin, Committee Chair), graduated May 2022. *Thesis: "Comparing the Tornadoic Environments Among East Coast and Gulf Coast Landfalling Tropical Cyclones"*
3. Maya Robinson, M.S. Earth Sciences (J. Scheff, Committee Chair), graduated December 2021. *Thesis: "Constraining the Northern Hemisphere Mid-Latitude Jet Response to Climate Change in CMIP6 Using the Arctic Minus Subtropical Warming"*
4. Scott Dennstaedt, Ph.D. Infrastructure and Environmental Systems (M. Eastin, Committee Chair), graduated May 2021. *Dissertation: "Targeted Approach to Providing Weather Guidance to General Aviation Pilots Based on Estimated Time of Departure and Personal Weather Minimums"*
5. Anna Stuck, M.S. Earth Sciences (M. Eastin, Committee Chair), graduated December 2020. *Thesis: "Development of a Forecasting Technique for the Charlotte Urban Heat Island Intensity"*
6. Rachel Cucinotta, M.S. Earth Sciences (M. Eastin, Committee Chair), graduated August 2019. *Thesis: "Diagnosing Thunderstorm Induced Power Outages with the Rapid Refresh Model"*
7. Stephanie Edwards, M.S. Earth Sciences (B. Magi, Committee Chair), graduated May 2018. *Thesis: "Analyzing the Use of Satellite Microwave Remote Sensing Data for Lightning Estimations in the Southeastern United States"*
8. Ryan Hubler, M.S. Earth Sciences (M. Eastin, Committee Chair), graduated May 2016. *Thesis: "Initiation and Enhancement of Local Precipitating Convection by the Charlotte Urban Heat Island"*
9. Thomas Winesett, M.S. Earth Sciences (B. Magi, Committee Chair), graduated May 2015. *Thesis: "Using Microwave Remote Sensing to Estimate Cloud-to-Ground Lightning Over Land for the Contiguous United States"*
10. Brandy Stimac, M.S. Earth Sciences (M. Eastin, Committee Chair), graduated May 2015. *Thesis: "Structural Variation of Offshore Supercells in Outer Rainbands of Hurricane Rita (2005)"*

## **SERVICE**

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### Public and Community Service

#### **Invited Presentations**

1. Department of Atmospheric Sciences, Texas A&M University (March 2022): “Be the Storm: Perspective Taking and Quantifying Environmental Changes Experienced by Long-Lived Supercells”
2. Department of Mathematical Sciences, University of Wisconsin-Milwaukee (October 2020): “Environmental Evolution of Long-Lived Supercell Thunderstorms”
3. Department of Oceanography, United States Naval Academy (February 2020): “Enhancing Student Success in Quantitatively-Intensive Courses Through Worked Examples”
4. Department of Marine, Earth, & Atmospheric Sciences, North Carolina State University (August 2018): “Embracing an Evidence-Based Approach to Teaching Quantitatively-Intensive Geoscience Courses”
5. Carolinas Aviation Museum Girls STEM Camp (April 2018; December 2018): “My Journey to STEM”
6. Cabarrus-Kannapolis Early College High School (October 2017): “Hurricanes”
7. Greensboro Science Café (September 2017): “Severe Thunderstorms”
8. Charlotte Weather Fest (March 2015, 2016, 2017, 2018, 2019): “Severe Thunderstorms”
9. Department of Atmospheric Science, Colorado State University (March 2014): “Base-State Substitution: An Idealized Modeling Technique for Approximating Environmental Heterogeneity”
10. Females Learning About Science Here, Discovery High School, Colorado Springs, Colorado (January 2014): “How Weather Works”

#### **Television Interviews**

1. Spectrum News (April 2017): Potential benefits of installing a new National Weather Service radar in Charlotte
2. Time Warner Cable News (January 2017): Increase in tornado deaths in 2017

#### **Invited Guest Lectures**

1. UNC Charlotte Camps on Campus (June 2015): “Storm Chasers!”

*Note: This was a week-long camp, wherein I gave numerous lectures and led daily activities designed for middle-school students*

2. UNC Charlotte INES 8102 Infrastructure Systems (September 2014): “Structures and Severe Weather”
3. UNC Charlotte ESCI 6600 Earth Sciences Seminar (September 2014): “Supercell Evolution in a Temporally Varying Environment”

### **Other**

1. *Mentor*, National Weather Service Virtual Speed Mentoring Event (April 2022)
2. *Student Presentation Judge*, Final Project Presentations, MEA 507: Discipline-Based Education Research in the Geosciences, North Carolina State University (May 2021)
3. *Panel Participant*: Promoting Geoscience Research, Education, and Success Workshop, Charlotte, North Carolina (October 2015)
4. *Student Poster Judge*, Introduction to Meteorological Remote Sensing Final Project, North Carolina State University (April 2015)
5. *Volunteer*, UNC Charlotte STEM Day (October 2014)
6. *Volunteer*, Girls in the Middle Conference, Otero Junior College, La Junta, Colorado (March 2013, 2014)

### University, College, and Departmental Service

1. **Committee Member**: Graduate Advisory Committee, Department of Geography and Earth Sciences, UNC Charlotte (Fall 2021 – present)
2. **Committee Member**: Diversity, Equity, Inclusion Working Group, Department of Geography and Earth Sciences, UNC Charlotte (Fall 2020 – present)
3. **Committee Chair**: CLAS Teaching Awards Committee, College of Liberal Arts and Sciences, UNC Charlotte (Spring 2020)
4. **Committee Member**: CLAS Teaching Awards Committee, College of Liberal Arts and Sciences, UNC Charlotte (Spring 2019)
5. **Committee Member**: Faculty Advisory Committee, Department of Geography and Earth Sciences, UNC Charlotte (Fall 2017 – Spring 2018)
6. **Committee Member**: Search Committee for Hydrometeorologist/Ecohydrologist, Department of Geography and Earth Sciences, UNC Charlotte (Fall 2015 – Spring 2016)

7. **Committee Member:** Web and Internet Technology, Department of Geography and Earth Sciences, UNC Charlotte (Fall 2015 – Spring 2016)
8. **Committee Member:** McEniry Building Redesign (Computer Labs), Department of Geography and Earth Sciences, UNC Charlotte (Spring 2015)
9. **Committee Member:** Department Speaker Series, Department of Geography and Earth Sciences, UNC Charlotte (Fall 2014 – Spring 2016)

### Professional Service

#### **Journals**

1. Associate Editor, *Monthly Weather Review* journal, 2015 – present
2. Associate Editor, *Weather and Forecasting* journal, 2016 – 2019
3. Manuscript Reviewer, *Atmosphere*, *Journal of Geoscience Education*, *Journal of Astronomy and Earth Sciences Education*, *Bulletin of the American Meteorological Society*, *Quarterly Journal of the Royal Meteorological Society*, ad-hoc since 2018

#### **Committees**

1. Faculty Co-Chair, American Meteorological Society Student Conference, 2020 – present
2. Committee Member, Unidata User's Committee, 2018 – present
3. Committee Member, American Meteorological Society Committee on Severe Local Storms, 2018 – present
4. Committee Member, North Carolina Academy of Sciences Publications Committee, May 2015 – present

#### **Grants and Applications**

1. Grant Reviewer, National Science Foundation (Division of *Atmospheric and Geospace Sciences*), adhoc since 2016
2. Grant Reviewer, National Oceanic and Atmospheric Administration, ad-hoc since 2015
3. Scholarship Reviewer, American Meteorological Society, 2019
4. Application Reviewer, National Science Foundation (*Graduate Research Fellowship Program*), 2016

## Conferences and Other Meetings

1. Co-Convener, “Teaching Atmospheric Dynamics to Improve Learning and Engagement” mini-workshop, Earth Educators’ Rendezvous, July 2022
2. Co-Organizer, American Meteorological Society Severe Local Storms Virtual Conference for Students and Early Career Scientists, 2021
3. Poster Session Co-Chair, Earth Educators’ Rendezvous, July 2021
4. Co-Organizer, American Meteorological Society Special Collection on Atmospheric Science Education Research, 2021
5. Student Presentation Judge, American Geophysical Union Fall Meeting, December 2020
6. Session Chair, American Meteorological Society 29<sup>th</sup> Conference on Severe Local Storms, October 2018
7. Student Presentation Judge, North Carolina Academy of Science 114<sup>th</sup> Annual Meeting, March 2017
8. Session Co-Chair, American Meteorological Society 16<sup>th</sup> Conference on Mesoscale Processes, August 2015
9. Student Presentation Judge, American Meteorological Society 16<sup>th</sup> Conference on Mesoscale Processes, August 2015
10. Session Chair, American Meteorological Society 26<sup>th</sup> Conference on Severe Local Storms, November 2012

## RECOGNITION, HONORS, & AWARDS

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1. **Cover Page**, *Journal of Geoscience Education*, April 2020
2. **Editor’s Award**, *Weather and Forecasting*, American Meteorological Society (January 2020)
3. **“Papers of Note” Highlighted in *Bulletin of the AMS***: Creating a More Realistic Idealized Supercell Thunderstorm Evolution via Incorporation of Base-State Environmental Variability (November 2019)
4. **Integration of Undergraduate Teaching and Research Award**, College of Liberal Arts and Sciences, UNC Charlotte (April 2018)
5. **Dr. Tyrel Moore Mentorship Award**, Department of Geography and Earth Sciences, UNC Charlotte (May 2017)

6. **Faculty Appointment**, UNC Charlotte Honors program (May 2016 – present)
7. **Faculty Appointment**, UNC Charlotte Infrastructure and Environmental Systems Ph.D. program (December 2014 – present)
8. **Faculty Appointment**, UNC Charlotte Graduate Faculty (October 2014 – present)
9. **Award for Civilian Achievement**, Department of the Air Force (May 2014)
10. **Basic Sciences Division Team of the Year** (*Member of the Department of Physics STEM Outreach Team*), United States Air Force Academy (May 2013)
11. **Best Student Poster**, 24<sup>th</sup> Conference on Severe Local Storms, American Meteorological Society (October 2008)

## PROFESSIONAL MEMBERSHIPS

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1. National Association of Geoscience Teachers, 2017—present
2. North Carolina Academy of Science, 2015—present
3. National Science Teachers Association, 2015—present
4. American Geophysical Union, 2014—present
5. National Weather Association, 2013—present
6. American Meteorological Society, 2003—present