Curriculum Vitae
(valid September 21, 2024)

Vittorio (Victor) A. Gensini, Ph.D., CCM

Associate Professor
Department of Earth, Atmosphere, and Environment
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Northern Illinois University
DeKalb, IL 60115
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Northern Illinois University

Education

2014 **Ph.D., Geography**
University of Georgia, Athens, GA
Dissertation: *Hazardous convective weather in the U.S.: A dynamical downscaling approach*
Committee: T. L. Mote (advisor), H. E. Brooks, J. M. Shepherd, A. Grundstein

2010 **M.S., Geography**
Northern Illinois University, DeKalb, IL
Thesis: *Climatology of potentially severe convective environments from reanalysis*
Committee: W. S. Ashley (advisor), H. E. Brooks, D. Changnon, M. L. Bentley

2008 **B.S., Meteorology**
Magna Cum Laude w/ Upper-Division Honors
Northern Illinois University, DeKalb, IL

2006 **A.S.**
Cum Laude
Illinois Valley Community College, Oglesby, IL

Research Interests

Subseasonal-to-seasonal climate variability, hail, tornadoes, severe convective storms, climate change, extreme weather, regional climate modeling, statistical and dynamical downscaling, atmospheric angular momentum, friction torque, mountain torque, synoptic and mesoscale meteorology, applied climatology, numerical weather prediction, weather analysis and forecasting, machine learning and artificial intelligence, data visualization, GIS techniques, science communication, education, agriculture.

Certifications / Licenses

2020	American Meteorological Society Certified Consulting Meteorologist (#752)
2013	HA – Amateur Radio (Technician) license from the Federal Communications Commission — Call sign: KC9YXT — (expires 5-8-2033)
2008	Geographic Information Systems (GIS) certificate from Northern Illinois University
2006	Anticipating Hazardous Weather and Community Risk (IS-00271) certificate from the Federal Emergency Management Agency's Emergency Management Institute

Professional Appointments

2020–**present** **Associate Professor**
2017–2020 **Assistant Professor**
Department of Earth, Atmosphere, and Environment
Northern Illinois University, DeKalb, IL

2024–**present** **Director**
Center for Interdisciplinary Research on Convective Storms
NSF/NOAA IUCRC
Northern Illinois University, DeKalb, IL

2018–2024 **Guest Faculty Researcher**
Climate and Atmospheric Science Department
Environmental Science Division
Argonne National Laboratory, Lemont, IL

2015–2017 **Associate Professor**
2012–2015 **Assistant Professor**
Earth Science Program
College of DuPage, Glen Ellyn, IL

2010–2012 **Teaching / Research Assistant**
Department of Geography
University of Georgia, Athens, GA

2008–2010 **Teaching Assistant**
Department of Geographic and Atmospheric Sciences
Northern Illinois University, DeKalb, IL

2007 **Student Researcher**
CAPS/OU Research Experiences for Undergraduates
NOAA's National Severe Storms Laboratory, Norman, OK

Publications

*Author under the supervision or co-supervision of V. Gensini (e.g., student, post-doc)

Under revision, consideration, or preparation

Kaminski*, K., W. S. Ashley, A. M. Haberlie, **V. A. Gensini**, 2024: Future derecho potential in the United States. *J. Climate.* [under revision].

Stinnett*, S., **V. A. Gensini**, A. M. Haberlie, A. C. Michaelis, and W. S. Ashley, 2024: Historical and potential future climate of extreme daily precipitation over the contiguous United States using convection-permitting simulations. *J. Appl. Meteor. Climatol.* [under revision].

Bundy*, L. R., **V. A. Gensini**, and W. S. Ashley, 2024: United States pasture and rangeland conditions: 1995–2022. *Agron. J.* [under revision].

Fritzen*, R., and **V. A. Gensini**, 2024: Sensitivity of stochastic perturbations on a medium-range forecast of severe convective storms. *Q. J. R. Meteorol. Soc.* [submitted].

Hoogewind, K. A. , **V. A. Gensini**, and T. J. Galarneau, 2024: Early December 2021 severe weather events: Overview and antecedent large-scale conditions *Mon. Wea. Rev.* [under preparation].

Hoogewind, K. A. , **V. A. Gensini**, and H. E. Brooks, 2024: On the relationship between temperature and tornado frequency in the United States. *npj Clim. Atmos. Sci.* [under preparation].

Refereed

48) Wallace, B., A. M. Haberlie, **V. A. Gensini**, W. S. Ashley, and A. C. Michaelis, 2024: Cause and characteristics of changes in mesoscale convective systems within a convection-permitting regional climate model. *J. Climate* [accepted].

47) Straka, J. M., **V. A. Gensini**, K. M. Kanak, and J. Garner, 2024: Environmental conditions associated with long-track tornadoes. *Wea. Forecasting.* DOI: 10.1175/WAF-D-24-0021.1. 

46) **Gensini, V. A.**, W. S. Ashley, A. C. Michaelis, A. M. Haberlie, J. Goodin*, and B. Wallace, 2024: Hailstone size dichotomy in a warming climate. *npj Clim. Atmos. Sci.*, **7**, 185. DOI: 10.1038/s41612-024-00728-9. 

45) Marín, J. C., F. Gutiérrez, **V. A. Gensini**, B. S. Barrett, D. Pozo, M. Jacques-Coper, and D. Veloso-Aguila, 2024: Climatological aspects of notable tornado events in Chile. *Mon. Wea. Rev.* DOI: 10.1175/MWR-D-23-0249.1. 

44) Strader, S. M., **V. A. Gensini**, W. S. Ashley, and A. M. Wagner, 2024: Changes in tornado risk and societal vulnerability leading to greater tornado impact potential. *npj Nat. Hazards*, **1**, 20. DOI: 10.1038/s44304-024-00019-6. 

43) Haberlie, A. M., B. Wallace, W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2024: Mesoscale convective system activity in the United States under intermediate and extreme climate change scenarios. *Clim. Change.* DOI: 10.1007/s10584-024-03752-z. 

42) Thomas, M. A., A. C. Michaelis, N. S. Oakley, J. W. Kean, **V. A. Gensini**, W. S. Ashley, 2024: Rainfall intensification amplifies triggering conditions conducive to postfire debris flows in the American Southwest. *npj Nat. Hazards*, **1**, 14. DOI: 10.1038/s44304-024-00017-8. 

41) Bundy*, L. R., **V. A. Gensini**, W. S. Ashley, A. M. Haberlie, and D. Changnon, 2024: United States crop conditions: 1986–2022. *Agron. J.* DOI: 10.1002/agj2.21558. 

40) Zeeb*, A., W. S. Ashley, A. M. Haberlie, **V. A. Gensini**, and A. C. Michaelis, 2024: Supercell precipitation contribution to the United States hydroclimate. *Int. J. Climatol.* DOI: 10.1002/joc.8395. 

39) Andrews*, M. S., **V. A. Gensini**, A. M. Haberlie, W. S. Ashley, A. C. Michaelis, and M. Taszarek, 2024: Climatology of the elevated mixed layer over the contiguous United States and northern Mexico using ERA5: 1979–2021. *J. Climate.*, **37**, 1833–1851. DOI: 10.1175/JCLI-D-23-0517.1. 

38) Wallace, B., A. M. Haberlie, W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2023: Decomposing the precipitation response to climate change at convection-permitting scales over the continental United States. *Earth Space Sci.*, **10**, e2023EA003094. DOI: 10.1029/2023EA003094. 

37) Haberlie, A. M., W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2023: The ratio of mesoscale convective system precipitation to total precipitation increases in future climate change scenarios. *npj Clim. Atmos. Sci.*, **6**, 150. DOI: 10.1038/s41612-023-00481-5. 

36) Weickmann, K., E. Berry, **V. A. Gensini**, D. Gold, and T. Petroski, 2023: Changes in the global climate: Atmospheric angular momentum and Pacific Ocean temperatures. *J. Climate*, **36**, 6597–6611. DOI: 10.1175/JCLI-D-22-0322.1. 

35) Bundy*, L. R., **V. A. Gensini**, and M. Van Den Broeke, 2023: Tropical cyclone impacts on crop condition ratings and yield in the coastal southern United States. *Agric. For. Meteorol.*, **340**, 109599. DOI: 10.1016/j.agrformet.2023.109599. 

34) Miller*, D. E., and **V. A. Gensini**, 2023: GEFSv12 high- and low-skill day 10 tornado forecasts. *Wea. Forecasting*, **38**, 1195–1207. DOI: 10.1175/WAF-D-22-0122.1. 

33) Ashley, W. S., A. M. Haberlie, and **V. A. Gensini**, 2023: The future of supercells in the United States. *Bull. Amer. Meteor. Soc.*, **104**, E1–E21. DOI: 10.1175/BAMS-D-22-0027.1. 

32) **Gensini, V. A.**, A. Haberlie, and W. S. Ashley, 2023: Convection-permitting simulations of historical and possible future climate over the contiguous United States. *Clim. Dyn.*, **60**, 109–126. DOI: 10.1007/s00382-022-06306-0. 

31) Haberlie, A. M., W. S. Ashley, C. M. Battisto*, and **V. A. Gensini**, 2022: Intermediate and extreme warming scenarios modify future thunderstorm activity. *Geophys. Res. Lett.*, **49**, e2022GL098779. DOI: 10.1029/2022GL098779. 

30) Miller*, D. E., **V. A. Gensini**, and B. S. Barrett, 2022: Madden-Julian Oscillation influences on US springtime tornado and hail frequency. *npj Clim. Atmos. Sci.*, **5**, 37. DOI: 10.1038/s41612-022-00263-5. 

29) Bundy*, L. R., **V. A. Gensini**, and M. Russo, 2022: Insured corn losses in the U.S. from weather and climate perils. *J. Appl. Meteor. Climatol.*, **61**, 969–988. DOI: 10.1175/JAMC-D-21-0245.1. 

28) Bundy*, L. R., and **V. A. Gensini**, 2022: An assessment of USDA corn condition ratings across the U.S. Corn Belt. *Agron. J.*, **114**, 601–617 DOI: 10.1002/agj2.20973. 

27) **Gensini, V. A.**, C. Converse*, W. S. Ashley, and M. Taszarek, 2021: Machine learning classification of significant tornadoes and hail in the U.S. using ERA5 proximity soundings. *Wea. Forecasting*, **36**, 2143–2160. DOI: 10.1175/WAF-D-21-0056.1. 

26) Fritzen*, R., V. Lang*, and **V. A. Gensini**, 2021: Trends and variability of North American extratropical cyclones: 1979–2018. *J. Appl. Meteor. Climatol.*, **60**, 1319–1331. DOI: 10.1175/JAMC-D-20-0276.1. 

25) Taszarek, M., N. Pilguj, J. T. Allen, **V. A. Gensini**, H. E. Brooks, and P. Szuster, 2020: Comparison of convective parameters derived from ERA5 and MERRA2 with sounding data over Europe and North America. *J. Climate*, **34**, 3211–3237. DOI: 10.1175/JCLI-D-20-0484.1. 

24) Ashley, W. S., A. Haberlie, and **V. A. Gensini**, 2020: Reduced frequency and size of late 21st-Century snowstorms over North America. *Nat. Clim. Change*, **10**, 539–544. DOI: 10.1038/s41558-020-0774-4. 

23) **Gensini, V. A.**, A. Haberlie, and P. T. Marsh, 2020: Practically perfect severe convective storm hindcasts. *Bull. Amer. Meteor. Soc.*, **101**, E1259–E1278. DOI: 10.1175/BAMS-D-19-0321.1.

22) **Gensini, V. A.**, B. S. Barrett, J. T. Allen, D. Gold, and P. Sirvatka, 2020: The Extended Range Tornado Activity Forecast (ERTAF) project. *Bull. Amer. Meteor. Soc.*, **101**, E700–E709. DOI: 10.1175/BAMS-D-19-0188.1.

21) Tang, B. H., **V. A. Gensini**, and C. R. Homeyer, 2019: Trends in United States large hail environments and observations. *npj Clim. Atmos. Sci.*, **2**, 45. DOI: 10.1038/s41612-019-0103-7.

20) **Gensini, V. A.**, D. Gold, J. T. Allen, and B. S. Barrett, 2019: Extended U.S. tornado outbreak during late May 2019: A forecast of opportunity. *Geophys. Res. Lett.*, **46**, 10,150–10,158. DOI: 10.1029/2019GL084470.

19) Changnon, D. and **V. A. Gensini**, 2019: Changing spatiotemporal patterns of 5- and 10-day Illinois heavy precipitation amounts, 1900–2018. *J. Appl. Meteor. Climatol.*, **58**, 1523–1533. DOI: 10.1175/JAMC-D-18-0335.1.

18) **Gensini, V. A.**, and L. Bravo de Guenni, 2019: Environmental covariate representation of seasonal U.S. tornado frequency. *J. Appl. Meteor. Climatol.*, **58**, 1353–1367. DOI: 10.1175/JAMC-D-18-0305.1.

17) **Gensini, V. A.**, and M. K. Tippett, 2019: Global Ensemble Forecast System (GEFS) predictions of days 1–15 U.S. tornado and hail frequencies. *Geophys. Res. Lett.*, **46**, 2922–2930. DOI: 10.1029/2018GL081724.

16) **Gensini, V. A.**, and H. E. Brooks, 2018: Spatial trends in United States tornado activity. *npj Clim. Atmos. Sci.*, **1**, 38. DOI: 10.1038/s41612-018-0048-2.

15) Molina*, M. J., J. T. Allen, and **V. A. Gensini**, 2018: The Gulf of Mexico influence on subseasonal and seasonal CONUS winter tornado variability. *J. Appl. Meteor. Climatol.*, **57**, 2439–2463. DOI: 10.1175/JAMC-D-18-0046.1.

14) Allen, J. T., M. J. Molina*, and **V. A. Gensini**, 2018: Modulation of annual cycle of tornadoes by El Niño-Southern Oscillation. *Geophys. Res. Lett.*, **45**, 5708–5717. DOI: 10.1029/2018GL077482.

13) **Gensini, V. A.**, and J. T. Allen, 2018: United States hail frequency and the Global Wind Oscillation. *Geophys. Res. Lett.*, **45**, 1611–1620. DOI: 10.1002/2017GL076822.

12) **Gensini, V. A.**, and A. Marinaro, 2016: Tornado frequency in the United States related to global relative angular momentum. *Mon. Wea. Rev.*, **144**, 801–810. DOI: 10.1175/MWR-D-15-0289.1. (Paper of note in *Science*)

11) Tippett, M. K., J. T. Allen, **V. A. Gensini**, and H. E. Brooks, 2015: Climate and hazardous convective weather. *Curr. Clim. Change Rep.*, **1**, 60–73. DOI: 10.1007/s40641-015-0006-6.

10) **Gensini, V. A.**, and T. L. Mote, 2015: Downscaled estimates of late 21st century severe weather from CCSM3. *Clim. Change*, **129**, 307–321. DOI: 10.1007/s10584-014-1320-z.

9) **Gensini, V. A.**, and T. L. Mote, 2014: Estimations of hazardous convective weather in the United States using dynamical downscaling. *J. Climate*, **27**, 6581–6598. DOI: 10.1175/JCLI-D-13-00777.1.

8) **Gensini, V. A.**, T. L. Mote, and H. E. Brooks, 2014: Severe thunderstorm reanalysis environments and collocated radiosonde observations. *J. Appl. Meteor. Climatol.*, **53**, 742–751. DOI: 10.1175/JAMC-D-13-0263.1.

7) **Gensini, V. A.**, C. A. Ramseyer, and T. L. Mote, 2014: Future convective environments using NARCCAP. *Int. J. Climatol.*, **34**, 1699–1705. DOI: 10.1002/joc.3769.

6) Barrett, B. S., and **V. A. Gensini**, 2013: Variability of central U.S. April–May tornado day likelihood by phase of the Madden-Julian Oscillation. *Geophys. Res. Lett.*, **40**, 2790–2795. DOI: 10.1002/grl.50522.

5) Knox, J. A., J. A. Rackley, A. W. Black, **V. A. Gensini**, M. Butler, C. Dunn, T. Gallo, M. R. Hunter, L. Lindsey, M. Phan, R. Scroggs, and S. Brustad, 2013: Tornado debris characteristics and trajectories during the 27 April 2011 super outbreak as determined using social media data. *Bull. Amer. Meteor. Soc.*, **94**, 1371–1380. DOI: 10.1175/BAMS-D-12-00036.1.

4) **Gensini, V. A.**, and W. S. Ashley, 2011: Climatology of potentially severe convective environments from the North American regional reanalysis. *Electronic J. Severe Storms Meteor.*, **6**, DOI: 10.55599/ejssm.v6i8.35.

3) **Gensini, V. A.**, A. W. Black, D. Changnon, and S. A. Changnon, 2011: September 2008 heavy rains in Northeast Illinois: Meteorological analysis and impacts. *Trans. Ill. State Acad. Sci.*, **104**, 17–33.

2) **Gensini, V. A.**, and W. S. Ashley, 2010: Reply to "Rip current misunderstandings." *Nat. Hazards*, **55**, 163–165. DOI: 10.1007/s11069-010-9528-3.

1) **Gensini, V. A.**, and W. S. Ashley, 2010: An examination of rip current fatalities in the United States. *Nat. Hazards*, **54**, 159–175. DOI: 10.1007/s11069-009-9458-0.

Book Chapters/Encyclopedia Articles

4) **Gensini, V. A.**, K. Weickmann, and C. Roufa*, 2024: Global wind oscillation. Book chapter #12 in *Atmospheric Oscillations*. Editor B. Guan, Elsevier [in press].

3) **Gensini, V. A.**, and C. A. Doswell, 2024: Severe storms. Reference collection chapter in *Earth Systems and Environmental Sciences*, Elsevier. ISBN-13: 978-0-12-409548-9. DOI: 10.1016/B978-0-323-96026-7.00114-4.

2) **Gensini, V. A.**, 2021: Severe convective storms in a changing climate. Book chapter in *Climate Change and Extreme Events*. Fares, A. Ed., Springer. ISBN-13: 978-0128227008. DOI: 10.1016/C2019-0-04922-9.

1) Ashley, W. S., and **V. A. Gensini**, 2017: Weather, extreme. *The International Encyclopedia of Geography*. Richardson et al. Eds., Wiley-Blackwell. DOI: 10.1002/9781118786352.wbieg0068.

Conference Reports

2) Goebbert, K., J. T. Allen, **V. A. Gensini**, and M. Ramamurthy, 2019: Data driven scientific workflows: A summary of new technologies and datasets explored at the Unidata 2018 workshop. *Bull. Amer. Meteor. Soc.*, **100**, ES97–ES99. DOI: 10.1175/BAMS-D-18-0265.1..

1) Knox, J. A., J. A. Rackley, A. W. Black, **V. A. Gensini**, M. Butler, C. Dunn, T. Gallo, M. R. Hunter, L. Lindsey, M. Phan, R. Scroggs, and S. Brustad, 2013: Using social media data to analyze debris from the 2011 tornado superoutbreak. Invited conference report, *Bull. Amer. Meteor. Soc.*, **94**, 164–165.

Professional Conference Papers/Presentations and Popular Press (non-refereed)

82) Haberlie, A. M., B. Wallace, W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2024: Mesoscale convective system activity in the United States under intermediate and extreme climate change scenarios. *Annual Meeting*, Honolulu, HI, American Association of Geographers.

81) Ashley, W. S., K., Kaminski, A. M. Haberlie, and **V. A. Gensini**, 2024: Future windstorm and derecho potential in the United States. *Annual Meeting*, Honolulu, HI, American Association of Geographers.

80) Wallace, B., A. M. Haberlie, W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2024: Characteristics and Cause of Changes in Mesoscale Convective Systems within a Convection Permitting Regional Climate Model. *38th Conference on Hydrology*, Baltimore, MD, American Meteorological Society, J12B.3.

79) Corner, J. M., A. M. Haberlie, W. S. Ashley, A. C. Michaelis, **V. A. Gensini**, and S. M. Collis, 2024: Using Machine Learning and XAI techniques for Convective Mode in Future Climate Change Scenarios. *23rd Annual Student Conference*, Baltimore, MD, American Meteorological Society, S16.

78) Bundy, L. R., **V. A. Gensini**, and W. S. Ashley, 2024: Part II: Analysis of United States Pasture and Rangeland Conditions (1995—2022). *28th Conference on Applied Climatology*, Baltimore, MD, American Meteorological Society, 9.6.

77) Bundy, L. R., **V. A. Gensini**, W. S. Ashley, A. M. Haberlie, and D. Changnon, 2024: Part I: Analysis of United States Crop Conditions (1986-–2022). *28th Conference on Applied Climatology*, Baltimore, MD, American Meteorological Society, 9.5.

76) Thomas, M. A., A. C. Michaelis, N. Oakley, J. W. Kean, and **V. A. Gensini**, 2024: Climate Change Amplification of Short-Duration, High-Intensity Rainfall may Increase Postfire Debris-Flow Hazard in the Southwestern United States. *38th Conference on Hydrology*, Baltimore, MD, American Meteorological Society, 549.

75) Warren, B., A. C. Michaelis, L. M. Tomkins, S. E. Yuter, A. M. Haberlie, **V. A. Gensini**, and W. S. Ashley, 2024: A Climatology and Characteristics of Midwest U.S. Heavy Snowfall Events. *28th Conference on Applied Climatology*, Baltimore, MD, American Meteorological Society, 335.

74) Wawrzyniak, E., A. M. Haberlie, **V. A. Gensini**, W. S. Ashley, and A. C. Michaelis, 2024: Historical and Future Projections of Hail Produced by Supercells in the United States. *23rd Annual Student Conference*, Baltimore, MD, American Meteorological Society, S90.

73) Martinez-Buehrer, H., A. C. Michaelis, J. M. Corderia, A. Gershunov, **V. A. Gensini**, W. S. Ashley, and M. M. Ralph, 2024: Climate Change Effects on the December 2022–January 2023 High Impact Series of Landfalling Atmospheric Rivers Along the U.S. West Coast. *37th Conference on Climate Variability and Change*, Baltimore, MD, American Meteorological Society, J12B.4.

72) Hoogewind, K. A., T. J. Galarneau, **V. A. Gensini**, A. J. Clark, and A. C. Winters, 2024: Extended-range Predictability of Early December 2021 Severe Weather Events from the operational Global Ensemble Forecast System. *12th Symposium on the Weather, Water, and Climate Enterprise*, Baltimore, MD, American Meteorological Society, 215.

71) Leake, S., A. M. Haberlie, W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2024: Shifts in End of 21st Century CONUS Consecutive Dry (Wet) Days. *23rd Annual Student Conference*, Baltimore, MD, American Meteorological Society, S87.

70) Bundy, L. R., **V. A. Gensini**, W. S. Ashley, A. M. Haberlie, and D. Changnon, 2023: Trends and variability in crop conditions across the United States. *Joint annual meeting*, St. Louis, MO, American Society of Agronomy, the Crop Science Society of America, and the Soil Science Society of America, P1130.

69) **Gensini, V. A.** and D. E. Miller, 2023: Forecasting the forecast skill: GEFSv12 high- and low-skill day 10 tornado forecasts. *32nd Conference on Weather Analysis and Forecasting*, Madison, WI, American Meteorological Society, 1.1.

68) Hoogewind, K. A., T. J. Galarneau, **V. A. Gensini**, B. T. Gallo, E. D. Loken, A. J. Clark, H. E. Brooks, P. Skinner, K. H. Knopfmeier, B. C. Matilla, A. E. Reinhart, and P. C. Burke, 2023: Multiscale predictability of the severe weather outbreaks on 10–15 December 2021. *Special Symposium on Forecasting a Continuum of Environmental Threats (FACETs)*, Denver, CO, American Meteorological Society, 11.3.

67) Bundy, L., **V. A. Gensini**, and M. Van Den Broeke, 2023: Tropical cyclone impacts on crop conditions in the coastal southeast United States. *27th Conference on Applied Climatology*, Denver, CO, American Meteorological Society, 6.4.

66) Kaminski, K., W. S. Ashley, A. M. Haberlie, **V. A. Gensini**, and A. C. Michaelis, 2023: The future of derechos in the United States: Insights from new dynamically downscaled simulations. *36th Conference on Climate Variability and Change*, Denver, CO, American Meteorological Society, P63.

65) Hill, A., and **V. A. Gensini**, 2023: Extended range tornado forecasts using deep learning. *22nd Conference on Artificial Intelligence for Environmental Science*, Denver, CO, American Meteorological Society, 11A.3.

64) Stinnett, S., **V. A. Gensini**, W. S. Ashley, A. C. Michaelis, and A. M. Haberlie, 2023: Historical and potential future climate of extreme daily precipitation over the contiguous United

States using convection-permitting simulations. *22nd Annual Student Conference*, Denver, CO, American Meteorological Society, PS90.

63) Andrews, M., **V. A. Gensini**, A. M. Haberlie, and W. S. Ashley, 2023: A climatology of the elevated mixed layer over the contiguous United States from 1979 to 2021 using ERA5. *22nd Annual Student Conference*, Denver, CO, American Meteorological Society, PS97.

62) **Gensini, V. A.**, 2023: Progress in subseasonal severe convective storm forecasting. *Special Symposium on Forecasting a Continuum of Environmental Threats (FACETs)*, Denver, CO, American Meteorological Society, 11.1.

61) Zeeb, A., W. S. Ashley, A. M. Haberlie, **V. A. Gensini**, and A. C. Michaelis, 2023: Historical and future projections of supercell precipitation contributions to the hydroclimate of the United States. *37th Conference on Hydrology*, Denver, CO, American Meteorological Society, P352.

60) Changnon, D., and **V. A. Gensini**, 2023: Changing spatiotemporal patterns of 5- and 10-day Illinois heavy precipitation amounts, 1900–2018. *27th Conference on Applied Climatology*, Denver, CO, American Meteorological Society, 4.4.

59) Haberlie, A. M., W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2023: Mesoscale convective system activity under intermediate and extreme climate change scenarios. *36th Conference on Climate Variability and Change*, Denver, CO, American Meteorological Society, 4C.1.

58) **Gensini, V. A.** and D. E. Miller, 2022: Characteristics of GEFSv12 high and low skill day 10 forecasts for tornadoes in the United States. *30th Conference on Severe Local Storms*, Santa Fe, NM, American Meteorological Society, 12.1B.

57) Haberlie, A. M., W. S. Ashley, **V. A. Gensini**, and A. C. Michaelis, 2022: Mesoscale convective system activity under intermediate and extreme climate change scenarios. *30th Conference on Severe Local Storms*, Santa Fe, NM, American Meteorological Society, P188.

56) Ashley, W. S., A. M. Haberlie, **V. A. Gensini**, and A. C. Michaelis, 2022: The future of supercells over North America. *30th Conference on Severe Local Storms*, Santa Fe, NM, American Meteorological Society, 6.4.

55) Berrington, A., K. A. Hoogewind, A. J. Clark, M. Taszarek, D. E. Miller, and **V. A. Gensini**, 2022: Predictability of multi-day severe weather episodes. *30th Conference on Severe Local Storms*, Santa Fe, NM, American Meteorological Society, P36.

54) **Gensini, V. A.**, D. E. Miller, and B. S. Barrett, 2022: Cataloging Madden-Julian Oscillation influences on tornado and hail frequency. *30th Conference on Severe Local Storms*, Santa Fe, NM, American Meteorological Society, 9.1.

53) Wade, A., I. L. Jirak, **V. A. Gensini**, and J. Vancil, 2022: Using practically perfect intensity hindcasts to identify the environments of significant severe weather outbreaks. *30th Conference on Severe Local Storms*, Santa Fe, NM, American Meteorological Society, P180.

52) Adams-Selin, R., J. T. Allen, **V. A. Gensini**, and A. Heymsfield, 2022: ICECHIP: Closing critical observational gaps in hail research. *2nd North American Workshop on Hail and Hailstorms*, Boulder, CO.

51) **Gensini, V. A.**, J. Goodin, W. S. Ashley, A. Michaelis, and A. Haberlie, 2022: How do severe hail occurrences differ in past versus projected future climate regimes? *2nd North American Workshop on Hail and Hailstorms*, Boulder, CO.

50) Miller, D. M., and **V. A. Gensini**, 2022: Cataloging Madden-Julian Oscillation influences on tornado and hail frequency in the United States. *31st Conference on Weather Analysis and Forecasting / 27th Conference on Numerical Weather Prediction*, Virtual Meeting, American Meteorological Society, 5A.2.

49) Haberlie, A. M., W .S. Ashley, **V. A. Gensini**, and A. Michaelis, 2022: Projected Changes in Mesoscale Convective Systems over North America. *19th Conference on Mesoscale Processes*, Virtual Meeting, American Meteorological Society, 14.3A.

48) Ashley, W. S., A. M. Haberlie, **V. A. Gensini**, and A. Michaelis, 2022: Projected Changes in Snowstorms over North America: Updated Results from a New RCM. *35th Conference on Climate Variability and Change*, Virtual Meeting, American Meteorological Society, P266.

47) Ashley, W. S., A. M. Haberlie, **V. A. Gensini**, S. Eagan, and A. Michaelis, 2022: The Future of Supercells over North America. *35th Conference on Climate Variability and Change*, Virtual Meeting, American Meteorological Society, 14C.3.

46) Taszarek, M., N. Pilguj, J. T. Allen, **V. A. Gensini**, H. E. Brooks, and K. A. Hoogewind, 2022: Comparison of Convective Parameters Derived from ERA5 and MERRA-2 with Rawinsonde Data over Europe and North America. *21st Conference on Middle Atmosphere*, Virtual Meeting, American Meteorological Society, 6ii.5.

45) **Gensini, V. A.**, W. S. Ashley, A. M. Haberlie, and A. Michaelis, 2022: Convection-Permitting Simulations of Historical and Possible Future Climate over the Contiguous United States. *35th Conference on Climate Variability and Change*, Virtual Meeting, American Meteorological Society, 14C.2.

44) **Gensini, V. A.**, C. Converse, W. S. Ashley, and M. Taszarek, 2022: Machine Learning Classification of Significant Tornadoes and Hail in the United States Using ERA5 Proximity Soundings. *31st Conference on Weather Analysis and Forecasting / 27th Conference on Numerical Weather Prediction*, Virtual Meeting, American Meteorological Society, J8.1.

43) **Gensini, V. A.**, 2021: Forecasters don't need a review board to improve tornado warnings. *Op-ed*, The Washington Post, Washington, D.C.

42) Haberlie, A. M., W. S. Ashley, **V. A. Gensini**, and M. Karpinski*, 2021: SVRIMG: Radar Reflectivity Images Centered on Severe Weather Reports. *11th Symposium on Advances in Modeling and Analysis Using Python*, Virtual Meeting, American Meteorological Society, P1037.

41) **Gensini, V. A.** and B. M. Boustead, 2021: A Modern Look at the 28 August 1884 Tornado Outbreak. *19th History Symposium*, Virtual Meeting, American Meteorological Society, 11.8.

40) Baldwin, M. E., K. A. Hoogewind, H. E. Brooks, **V. A. Gensini**, and P. S. Skinner, 2021: Tornado Forecasts of 1884: Revisiting Finley's Forecasts with Modern Tools. *19th History Symposium*, Virtual Meeting, American Meteorological Society, 11.7.

39) Haberlie, A. M., W. S. Ashley, **V. A. Gensini**, and C. Battisto*, 2021: Performance of Continental-Scale Regional Climate Simulations for High-Impact Weather Events. *34th Conference on Climate Variability and Change*, Virtual Meeting, American Meteorological Society, 14B.10.

38) Boustead, B. M., and **V. A. Gensini**, 2020: A Modern Look at the 28 August 1884 Tornado Outbreak. *45th Annual Meeting*, (virtual), National Weather Association.

37) Fritzen*, R. C., **V. A. Gensini**, S. Collis, and R. Jackson, 2020: Distributed Workflow for WRF Processes and Visualization Using WRF-Python and Dask. *30th Conference on Weather Analysis and Forecasting (WAF)/26th Conference on Numerical Weather Prediction (NWP)*, Boston, MA, American Meteorological Society, J68.4.

36) Haberlie, A. M., W. S. Ashley, **V. A. Gensini**, and M. Karpinski*, 2020: Analysis and Application of Mesoscale Radar Scenes during Severe Weather Events. *19th Conference on Artificial Intelligence for Environmental Science*, Boston, MA, American Meteorological Society, 4.4.

35) Pittman*, K., A. Mahre, C. B. Griffin, D. Bodine, J. M. Kurdzo, and **V. A. Gensini**, 2020: Analysis of Tornadogenesis Failure Using Rapid-Scan Data from the Atmospheric Imaging Radar. *Severe Local Storms Symposium*, Boston, MA, American Meteorological Society, P919.

34) **Gensini, V. A.**, D. Gold, J. T. Allen, and B. S. Barrett, 2020: Extended U.S. Tornado Outbreak during Late May 2019: A Forecast of Opportunity. *30th Conference on Weather Analysis and Forecasting (WAF)/26th Conference on Numerical Weather Prediction (NWP)*, Boston, MA, American Meteorological Society, 8B.3.

33) **Gensini, V. A.**, A. M. Haberlie, and P. T. Marsh, 2020: Climatological Applications of Daily Practically Perfect Severe Weather Hindcasts. *Severe Local Storms Symposium*, Boston, MA, American Meteorological Society, P968.

32) **Gensini, V. A.**, A. M. Haberlie, W. S. Ashley, and R. S. Schumacher, 2020: Sensitivity of Simulated Summer MCS Activity to Select WRF Parameters. *Severe Local Storms Symposium*, Boston, MA, American Meteorological Society, P967.

31) Hoogewind, K. A., **V. A. Gensini**, R. J. Trapp, and H. E. Brooks, 2020: Are Multiday Tornado and Hail Events More Predictable? *Severe Local Storms Symposium*, Boston, MA, American Meteorological Society, 3.4.

30) Tang, B. H., **V. A. Gensini**, and C. R. Homeyer, 2020: Trends in U.S. Large Hail Frequency. *33rd Conference on Climate Variability and Change*, Boston, MA, American Meteorological Society, 9A.3.

29) Ungar*, M., G. Izzi, E. Lenning, **V. A. Gensini**, W. S. Ashley, and A. M. Haberlie, 2020: An Environmental Climatology of Quasi-Linear Convective System Mesovortices around Northern Illinois. *25th Conference on Applied Climatology*, Boston, MA, American Meteorological Society, 2.6.

28) Converse* C. M., K. Pittman*, L. R. Bundy*, B. Brock*, and **V. A. Gensini**, 2020: Environmental Discriminators for Significant Tornadoes and Hail in the Midwestern United States. *19th Annual Student Conference*, Boston, MA, American Meteorological Society, S159.

27) **Gensini, V. A.**, and M. K. Tippett, 2019: GEFS predictions of day 1–15 tornado and hail activity. *23rd Severe Storms and Doppler RADAR Conference*, Des Moines, IA, National Weather Association.

26) **Gensini, V. A.**, and H. E. Brooks, 2018: Spatial trends in United States tornado frequency. *29th Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society, 10B.1.

25) **Gensini, V. A.**, 2018: NARRCON: A high-resolution reanalysis for the severe storms community. *29th Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society, P6.

24) Allen, J. T., M. J. Molina*, **V. A., Gensini**, E. Faust, M. Steuer, and J. Eichner, 2018: ENSO-driven seasonal variability in hail, tornadoes, and losses. *29th Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society, 9.4.

23) Molina*, M. J., J. T. Allen, and **V. A., Gensini**, 2018: ENSO-driven seasonal variability in hail, tornadoes, and losses. *29th Conference on Severe Local Storms*, Stowe, VT, American Meteorological Society, P41.

22) **Gensini, V. A.**, 2018: Subseasonal and seasonal prediction of tornado and hail activity in the U.S. *22nd Severe Storms and Doppler RADAR Conference*, Des Moines, IA, National Weather Association.

21) **Gensini, V. A.**, and A. Marinaro, 2016: Tornado frequency in the U.S. related to the global wind oscillation. *28th Conference on Severe Local Storms*, Portland, OR, American Meteorological Society, 18.2.

20) **Gensini, V. A.**, and A. Marinaro, 2016: Spring tornado activity in the United States and the GWO. *Severe Convection and Climate Workshop*, Columbia, NY, Initiative on Extreme Weather and Climate.

19) Hoogewind, K. A., **V. A. Gensini** and R. J. Trapp, 2016: Climatology of severe convective environments from the 20th Century Reanalysis. *28th Conference on Severe Local Storms*, Portland, OR, American Meteorological Society, P.46.

18) **Gensini, V. A.**, and A. Marinaro, 2016: Spring tornado activity in the United States related to the GWO. *96th AMS Annual Meeting*, New Orleans, LA, American Meteorological Society, P.850.

17) Barrett, B. S., and **V. A. Gensini**, 2014: Efficiency of severe thunderstorm environments in the U.S.*27th Conference on Severe Local Storms*, Madison, WI, American Meteorological Society, 12B.1.

16) **Gensini, V. A.**, and T. L. Mote, 2014: A glimpse into modeled changes of severe thunderstorm occurrence using dynamical downscaling. *27th Conference on Severe Local Storms*, Madison, WI, American Meteorological Society, 4A.6A.

15) Hoogewind, K. A., and **V. A. Gensini**, 2014: Dynamical downscaling of major U.S. tornado outbreaks. *27th Conference on Severe Local Storms*, Madison, WI, American Meteorological Society, P.91.

14) **Gensini, V. A.**, C. Ramseyer, and T. L. Mote, 2013: Examining future severe weather environments using data from the NARCCAP. *25th Conference on Climate Variability and Change, 93rd Annual Meeting*, Austin, TX, American Meteorological Society, 3A.2.

13) Knox, J. A., A. W. Black, J. Rackley, **V. A. Gensini**, M. Butler, C. Dunn, T. Gallo, M. R. Hunter, L. Lindsey, M. Phan, R. Scroggs, and S. Brustad, 2012: Analysis of tornado debris trajectories during the 27 April 2011 super outbreak as determined using social media data. *26th Conference on Severe Local Storms*, Nashville, TN, American Meteorological Society.

12) Knox, J. A., A. W. Black, J. Rackley, **V. A. Gensini**, M. Butler, C. Dunn, T. Gallo, M. R.Hunter, L. Lindsey, M. Phan, R. Scroggs, and S. Brustad, 2012: Using social media for scientific research: Experiences from a tornado debris research project. *26th Conference on Severe Local Storms*, Nashville, TN, American Meteorological Society.

11) **Gensini, V. A.**, 2012: 2012 tornado season off to explosive start. *Popular Mechanics* (published online 6 March 2012).

10) **Gensini, V. A.**, M. Petro, G. Maier, and J. M. Shepherd, 2011: Characteristics of Atlantic Basin recurving hurricanes. *66th Annual Meeting*, Savannah, GA, Southeast Division of the Association of American Geographers.

9) Bedel, A., and **V. A. Gensini**, 2011: The tornado outbreaks of April 2011 in the Southeast U.S.: A Case Study. *66th Annual Meeting*, Savannah, GA, Southeast Division of the Association of American Geographers.

8) **Gensini, V. A.**, C. Ramseyer, and T. L. Mote, 2011: Examining future severe weather environments in the Southeast U.S. *6th International Conference on Wind and Trees*, Athens, GA, IUFRO Section 8.03.06.

7) **Gensini, V. A.**, 2011: Is this tornado season the worst ever? *Popular Mechanics* (published online 22 May 2011).

6) **Gensini, V. A.**, and W. S. Ashley, 2010: Climatology of potentially severe convective environments from reanalysis. *25th Conference on Severe Local Storms*, Denver, CO, American Meteorological Society, P2.4.

5) **Gensini, V. A.**, and J. M. Laflin, 2010: Trends in convection over the central United States. *25th Conference on Severe Local Storms*, Denver, CO, American Meteorological Society, P2.3.

4) Changnon, D., **V. A. Gensini**, and J. Prell, 2010: A common Midwestern question: Where have all our 90 °F days gone? *18th Conference on Applied Climatology, 90th Annual Meeting*, Atlanta, GA, American Meteorological Society.

3) **Gensini, V. A.**, and H. E. Brooks, 2008: Regional variability of CAPE and deep shear from reanalysis. *24th Conference on Severe Local Storms*, Savannah, GA, American Meteorological Society, P12.2.

2) **Gensini, V. A.**, and H. E. Brooks, 2008: Regional variability of CAPE and deep shear from the NCEP/NCAR reanalysis. *12th Annual Severe Storms and Doppler Radar Conference*, Des Moines, IA, Central Iowa Chapter of the National Weather Association.

1) **Gensini, V. A.**, and H. E. Brooks, 2008: Regional variability of CAPE and deep shear from reanalysis. *7th Annual AMS Student Conference*, New Orleans, LA, American Meteorological Society.

Professional Honors / Awards

2023 Northern Illinois University David W. Raymond Award for the Use of Technology in Teaching
2015 Paper of note in *Science* (vol. 350 issue 6267) for 10.1175/MWR-D-15-0289.1
2012 University of Georgia Outstanding Teaching Assistant
2010 Northern Illinois University Outstanding Teaching Assistant
2008 Northern Illinois University Deans Award for Meteorology
2008 Northern Illinois University Nancy C. Wick Outstanding Senior Meteorology Student
2008 Amer. Meteor. Soc. Undergraduate Scholar, (*Carl W. Kreitzberg Scholarship*)
2007 Northern Illinois University Junior Leadership Award
2004 Raymond A. Justi Outstanding Science Student Award

External Funding / Support

Only funds or compute core hours directed to V. Gensini as PI or Co-PI shown. 🖳 = Core hours.

Successful:

$3,868,290 National Science Foundation, *Collaborative Research: AGS-FIRP Track 3: In-situ Collaborative Experiment for the Collection of Hail In the Plains (ICECHIP)*. 2024–2027, Role: PI. Co-PI: W. Ashley (NIU), Co-I: J. Dodd (NIU). Gensini also one of four PI's for overall ICECHIP project. Total project request: $10,755,335.

🖳 10,000,000 NCAR/CISL Advanced Research Computing Request (**Derecho**), *Dynamically downscaled near-term climate change projections of meso-gamma hazards at convection-permitting scales.* 2024–2026, Role: Co-PI. PI: A. Michaelis (NIU), Co-PI: W. Ashley (NIU), Co-PI: A. Haberlie (NIU).

$19,574 Unidata Equipment Grant, *Building capacity and reducing barriers for geoscience students at Northern Illinois University.* 2024, Role: Co-PI. PI: A. Michaelis (NIU), Co-PI: A. Haberlie (NIU).

$20,000	National Science Foundation, *IUCRC Planning Grant Northern Illinois University: Center for Interdisciplinary Research on Convective Storms (CIRCS)* 2024–2025, Role: PI. Co-PI: W. Ashley (NIU), Co-PI: A. Haberlie (NIU), Co-PI: A. Michaelis (NIU).
500,000	NCAR/CISL Advanced Research Computing Request (**Derecho**), *Examining the severe weather climatology of South America.* 2023–2024, Role: PI.
$660,000	National Oceanic and Atmospheric Administration, *Understanding and mitigating future weather and climate risks to American agriculture.* 2023–2026, Role: Co-PI, PI: W. Ashley (NIU).
$11,793	National Science Foundation, Planning grant for: *In-situ Collaborative Experiment for the Collection of Hail In the Plains (ICECHIP)* 2021–2022, Role: Co-PI w/ R. Adams-Selin (AER), J. Allen (CMU), and A. Heymsfield (NCAR)
$46,000	Amazon Inc., Sustainability Data Initiative Computing Credits, *Dynamical downscaling of operational GEFS forecasts.* 2021–2022, Role: PI.
35,000,000	Center for Western Weather and Water Extremes (CW3E) (**Comet**), *Dynamical downscaling of precipitation over the contiguous United States.* 2021–2024, Role: Co-PI, PI: A. Michaelis (NIU), Co-PI: W. Ashley (NIU).
$474,682	National Science Foundation, *Advancing our understanding of intraseasonal U.S. severe convective storm variability.* 2021–2024, Role: PI.
$475,000	American Family Insurance, Inc., *Weather/Climate Modeling, Data Science and Analytics* 2020–2023, Role: Co-PI. PI: W. Ashley (NIU), Co-PI: A. Michaelis (NIU)
$20,000	Metlife, Inc., *Creation of automated severe weather guidance for operations.* 2019–2020, Role: PI.
$14,000	Northern Illinois University Research and Artistry Award, *Examining the impact of the Corn Belt on regional extreme high temperatures.* 2019–2020, Role: PI.
$19,652	Unidata Equipment Grant, *Bringing back weather.niu.edu: A multifaceted server at Northern Illinois University.* 2019, Role: PI.
$14,000	Northern Illinois University Research and Artistry Award, *Subseasonal Prediction of Severe Weather Across the United States.* 2018–2019, Role: PI.
$20,000	MetLife, Inc., *Extended range severe weather prediction.* 2018–2019, Role: PI.

25,000,000	NCAR/CISL Advanced Research Computing Request (**Cheyenne**), *Dynamical downscaling of mesoscale convective systems.* 2018–2022, Role: PI, Co-PI: W. Ashley (NIU), Co-PI: R. Schumacher (CSU).
$49,537	National Science Foundation, *Collaborative Research: Observed and Future Dynamically Downscaled Estimates of Precipitation Associated with Mesoscale Convective Systems.* 2017–2020, Role: Co-PI, PI: W. Ashley (NIU), Co-PI: R. Schumacher (CSU).
$20,000	Unidata Equipment Grant, *GOES-16 data server at College of DuPage.* 2017, Role: PI.
$19,733	State of Illinois Perkins STEM Grant, *Weather Balloon Activities at College of DuPage.* 2015, Role: PI.
$18,463	College of DuPage Presidential Grant, *Weather Station and SkyCam for the College of DuPage Meteorology Program.* 2013, Role: PI.

Total Successful: $5,770,724 — 70,500,000

Pending:

$340,393	National Science Foundation, *Collaborative Research: Intraseasonal Variability and Predictability of Convection Hazards with Artificial Intelligence* 2025–2027, Role: PI. Collaborative with PI A. Hill (OU).
$413,957	National Science Foundation, *Collaborative Research: Improving our understanding of urban and peri-urban future climate.* 2025–2028, Role: PI. Collaborative w/ PI A. Dessler (TAMU). Total project request: $761,726.

Total Pending: $754,350 — 0

Unsuccessful:

25,300,000	NCAR/CISL Advanced Research Computing Request (**Derecho**), *Dynamically downscaled near-term climate change projections of meso-gamma hazards at convection-permitting scales.* 2023–2025, Role: Co-PI. PI: A. Michaelis (NIU), Co-PI: W. Ashley (NIU), Co-PI: A. Haberlie (NIU).
$399,238	National Oceanic and Atmospheric Administration, *Tornado forecasts of opportunity: Extended-range predictions with artificial intelligence* 2023–2026, Role: co-PI. PI: A. Hill (CSU), Co-PI: R. Schumacher (CSU), Co-PI: K. Hoogewind (CIWRO), Co-PI: S. Strader (VU).

24,750,000	NCAR/CISL Advanced Research Computing Request (**Cheyenne**), *Climate change projections of meso-gamma hazards using dynamical downscaling.* 2023–2025, Role: PI. Co-PI: W. Ashley (NIU), Co-PI: A. Haberlie (NIU), Co-PI: A. Michaelis (NIU).
$248,768	National Science Foundation, *DISES: Testing an Integrated Socio-Environmental Systems Theory of Recurrent Acute Disasters* 2023–2026, Role: Co-PI. PI: G. Machlis (Clemson).
$1,038,585	National Science Foundation, *AGS-FIRP Track 3: In-Situ Collaborative Experiment for the Collection of Hail in the Plains (ICECHIP)* 2023–2026, Role: PI. Co-PI: W. Ashley (NIU), Co-I: J. Dodd (NIU). Gensini also Co-PI of overall ICECHIP project ($14,690,774).
$786,140	National Science Foundation, *Applying predictive cognitive processes to engineering intelligent software for accurate, robust perception.* 2023–2026, Role: Co-PI. PI: M. Rahimi (NIU).
$494,259	National Oceanic and Atmospheric Administration, *Improving day 4–8 severe convective weather guidance.* 2022–2025, Role: PI.
$482,227	National Oceanic and Atmospheric Administration, *Subseasonal hazardous convective weather prediction.* 2022–2025, Role: Co-PI.
$959,349	National Science Foundation, *MRI: Acquisition of a Computational Instrument to Enable Research and Training in Simulation, Data, and Learning.* 2021–2024, Role: Co-PI. PI: M. Papka (NIU), Co-PI: J. Insley (NIU), Co-PI: C. Nguyen (NIU), Co-PI: J. Tan (NIU).
$527,765	National Oceanic and Atmospheric Administration, *Improving extended range severe weather forecasts.* 2021–2023, Role: PI. Co-PI: R. Adams-Selin (AER), Co-PI: A. Haberlie (LSU).
$498,571	National Oceanic and Atmospheric Administration, *Developing severe weather guidance for weeks 3–4.* 2020–2022, Role: PI.
$582,025	National Oceanic and Atmospheric Administration, *Improving severe weather forecasts for days 4–8.* 2020–2022, Role: PI.
$477,076	National Science Foundation, *Collaborative Research: Advancing our understanding of intraseasonal variability in U.S. severe convective storms.* 2020–2023, Role: PI.
$797,627	National Science Foundation, *CAREER: Improving our understanding of climatic controls on hazardous convective weather.* 2020–2025, Role: PI.

$454,390	National Oceanic and Atmospheric Administration, *Improving severe weather forecasts for days 4–8.* 2019–2022, Role: PI.
$725,421	National Science Foundation, *CAREER: Improving our understanding of hazardous convective weather via dynamical downscaling* 2019–2024, Role: PI.
$317,065	National Oceanic and Atmospheric Administration, *Improving severe weather forecasts beyond day 4 via dynamical downscaling* 2019–2020, Role: PI.
$47,331	National Science Foundation, *Collaborative Research: Element: Software: Integrating Numerical Weather Prediction with Data Science* 2019–2022, Role: Co-PI. PI: R. Fovell (SUNY Albany), Co-PI: W. Cleveland (Purdue), Co-PI: W. Tung (Purdue), Co-PI: J. Wolff (NCAR), Co-PI: E. Page (NCAR).
$350,000	National Science Foundation, *GP-IMPACT: ATMOSJourney: Enhancing Pathways into Geoscience through Engagement* 2017–2020, Role: PI., Co-PI: W. Ashley (NIU), Co-PI: D. Changnon (NIU).
N/A	National Science Foundation and Center for Severe Weather Research, *Request for use of the NSF Facilities for Education at College of DuPage and Northern Illinois University: Lake Michigan Convective Systems (LMCS)* 2017, Role: Co-PI with W. Ashley (NIU).
$179,941	National Science Foundation, *Collaborative Research: Variability in Hail and Tornadoes on Subseasonal to Seasonal Time Scales* 2017–2020, Role: Co-PI., PI: B. Barrett (USNA), Co-PI: J. Trapp (Purdue), Co-PI: J. Allen (Columbia).
$149,245	National Science Foundation, *Collaborative research: Understanding and Predicting Severe Convective Storms on Seasonal and Sub-Seasonal Time Scales* 2016–2019, Role: Co-PI., PI: B. Barrett (USNA), Co-PI: J. Trapp (Purdue), Co-PI: J. Allen (Columbia).

Total Unsuccessful: $8,538,537 — 50,050,000

Formal Instruction

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Spring		b,c,c,d	b,c,c,d	b,c,c,d,i	b,c,d,f	c,c,d,f	c,d,f,g	h,j,k*	h,k*,m_1	h,k*,n
Summer		c*,e,e	c*,e,e	c*,e,e	c*,e,e	c*,e,e	c*,e,e	k*	k*	k*
Fall	a	b,c,c,d	b,c,c,d,h	a,b,d,e	c,c,d,f	c,c,d,f	k,l	k*,l	k*,l	k*,l*

	2021	2022	2023	2024
Spring	h*,n*	h, m_2	h, k*	h, k*
Summer		k*	k*	k*
Fall	k*	◇	k*, m_3	l

*denotes online delivery; ◇denotes sabbatical semester

a) University of Georgia, *Weather Analysis and Forecasting* (GEOG 3120)
b) College of DuPage, *Global and Climate Change* (EARTH 1111)
c) College of DuPage, *Introduction to Meteorology* (EARTH 1110)
d) College of DuPage, *Weather Analysis and Forecasting* (EARTH 1116)
e) College of DuPage, *Thunderstorm Laboratory* (EARTH 1800)
f) College of DuPage, *Weather Hazards and Preparedness* (EARTH 1119)
g) College of DuPage, *Mesoscale Meteorology* (EARTH 2115)
h) Northern Illinois University, *Advanced Synoptic Meteorology* (MET 421)
i) Northern Illinois University, *Synoptic Meteorology* (MET 320)
j) Northern Illinois University, *Cli. Change: Science, Impacts, and Mitigation* (EAE 368)
k) Northern Illinois University, *Weather, Climate, and You* (EAE 105)
l) Northern Illinois University, *Meteorology* (MET 300)
m) Northern Illinois University, *Advanced Seminar in Climatology* (EAE 790C)
   m_1) *Data Analysis and Visualization for Atmospheric Science in Python*
   m_2) *Weather and Climate Analytics*
   m_3) *Numerical Weather Prediction*
n) Northern Illinois University, *Programming for Geographic and Atmos. Sci.* (EAE 493)

Mentoring

NIU Department of Earth, Atmosphere, and Environment unless otherwise noted.

Postdoctoral Advisor for:

Douglas E. Miller 2021–2023

M.S./Ph.D. Advisor for:

Margo Andrews M.S. 2023; *Climatology of the elevated mixed layer over the contiguous United States and northern Mexico: 1979–2021*

	Ph.D. Student
Chris Battisto	M.S. 2021; *Trends in observed and simulated RADAR reflectivity for the 21st-century* (co-chair w/ W. Ashley)
Logan Bundy	Ph.D. Student
Cody Converse	M.S. 2020; *Environmental discriminators for significant tornadoes and hail in the U.S. using proximity soundings*
Robert Fritzen	Ph.D. Candidate
Jillian Goodin	M.S. 2023; *Convection allowing simulations of hail in historical and future climate epochs*
Caitlin Roufa	Ph.D. Student
Sylvia Stinnett	M.S. 2023; *Historical and potential future climate of extreme daily precipitation over the contiguous United States using convection-permitting simulations*
Kelly Swaney	M.S. 2021; *Midwestern U.S. diurnal temperature range: Spatial and temporal trends from 1900–2018* (co-chair w/ D. Changnon)
Sean Whelan	M.S. Student

M.S./Ph.D. Committee Member for:

Jeremy Corner	M.S. 2024
Emery Dhanens	M.S. 2020
James Digilio	M.S. Student
Kristie Kaminski	M.S. 2023
Jacinda Mayer	M.S. 2022
Alex McAvoy	M.S. Student
Maria Molina	Ph.D. 2019 (CMU Dept. of Earth and Atmospheric Sciences)
Kyle Pittman	Ph.D. Student
Nick Rodeo	M.S. Student
Bailey Stevens	M.S. 2021
Sylvia Stinnett	Ph.D. Student
Ben Warren	M.S. 2024
Andrew Wright	M.S. 2019 (NIU Dept. of Industrial and Systems Engineering)
Aaron Zeeb	M.S. 2023

Undergraduate Researchers & Forecasters (supported with funding):

Sean Phipps	2023–2024; *Evaluation of CPC 6–10 day analog forecasts*
Kelvin Hawthorne	2023–2024; *NIU campus forecasting*
Brandon Weart	2023–2024; *Evaluation of CPC 8–14 day analog forecasts*
James Digilio	2022–2023; *NIU campus forecasting*
Johnathan Verdi	2021–2022; *Quality control and computing of AAM from ERA5 reanalysis*
Luke Henderson	2021–2022; *NIU campus forecasting*
Billy Faletti	2020–2021; *NIU campus forecasting*
Kyle Pittman	2019–2020; *Tornadogenesis failure using rapid-scan data from the atmospheric imaging RADAR*

Daniel Kallianis	2018–2019; *Significant severe weather in the U.S.*
Logan Bundy	2018–2019; *Significant severe weather in the U.S.*

Independent Studies/Directed Readings:

Margo Andrews	FA 2020; *Automated detection, tracking, and climatology of the elevated mixed layer*
Billy Faletti	FA 2020; *Examining the impacts of the CIN on simulated supercells in CM1*
Samuel Carani	SP 2019; *UAV techniques for surveying severe weather damage*
Kelly Swaney	FA 2018; *Effects of the Corn Belt on Midwest temperatures*

Honors Course Contracts:

Sean Phipps	SP 2024, MET 421
Brandon Weart	SP 2024, MET 421
Kris Kasminski	SP 2019, MET 421; SP 2021, GEOG 493
Jacob Montesano	FA 2018, MET 300; SP 2021, MET 491

Research Rookies:

Joel Brinkman	SP 2021; Analyzing precipitation patterns in high-resolution future climate simulations

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Field Campaigns

2025–2026	In-situ Collaborative Experiment for the Collection of Hail in the Plains (ICECHIP). NSF Track 3 Field Campaign. PI w/ R. Adams-Selin (AER), J. Allen (CMU), and A. Heymsfield (NCAR)
2019	Coordinated (with W. Ashley) NIU student participation in the NCAR/FAA In-Cloud Icing and Large Drop Experiment (ICICLE) field campaign

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Professional Memberships

2020–**present**	American Geophysical Union
2014–**present**	National Weather Association (Lifetime Member)
2006–**present**	American Meteorological Society
2010	Gamma Theta Upsilon International Honor Society
2008	Mortar Board Senior National Honor Society
2006	Phi Theta Kappa International Honor Society

Professional Development

2024 Earth System Predictability Across Timescales Workshop: NSF NCAR: (virtual)
2022 6th Annual Convection-Permitting Climate Modelling Workshop: C. A. Buenos Aires
2022 2nd Mind the Gap Workshop (organizing committee) - Educating the Next Generation of Atmospheric Scientists for Industry Needs: Albany, NY
2020 International Workshop on Convection-Permitting Modeling (CPM) for Climate Research: Current and Future Challenges: (virtual meeting)
2020 AMS webinar on Artificial Intelligence and Machine Learning for Environmental Research and Applications: (virtual meeting)
2020 Hazardous Weather Testbed (HWT) Spring Forecast Experiment: Norman, OK
2019 Mind the Gap Workshop-Educating the Next Generation of Atmospheric Scientists for Industry Needs: Boulder, CO
2019 Hazardous Weather Testbed (HWT) Spring Forecast Experiment: Norman, OK
2019 NIU Principal Investigator (PI) Academy External Mentorship Program: DeKalb, IL
2018 NIU Principal Investigator (PI) Academy Network/Marketing Research Workshop: DeKalb, IL
2018 Hazardous Weather Testbed (HWT) Spring Forecast Experiment: Norman, OK
2018 NIU Principal Investigator (PI) Academy Media Training: DeKalb, IL
2018 Unidata Users Workshop: Boulder, CO
2017 Hazardous Weather Testbed (HWT) Spring Forecast Experiment: Norman, OK
2016 Blackboard online course development training: Glen Ellyn, IL
2015 Climate and Severe Weather Workshop: NCWCP College Park, MD
2015 William Mitchell College of Law Expert Witness Training Academy: St. Paul, MN
2014 College of DuPage Wilderness Training for field courses: Glen Ellyn, IL

Professional Appointments, Committees, & Panels

2024–**present** Non-Resident Scholar, Insurance Information Institute
2023–**present** Chair, AMS STAC Committee on Severe Local Storms
2022–**present** Member, NCAR MMM Advisory Committee
2021–**present** Editor, *Journal of Applied Meteorology and Climatology*
2021–**present** Member, AMS STAC Committee on Weather Analysis and Forecasting
2020–**present** Associate Editor, *Weather and Forecasting*
2023–2024 Chair, Unidata Strategic Advisory Committee
2020–2024 Member, US CLIVAR PPAI Panel
2018–2022 Representative, Unidata Strategic Advisory Committee
2021–2022 Vice Chair, AMS STAC Committee on Severe Local Storms
2019–2021 Member, Unified Forecast System (UFS) Post-Processing Working Group
2018–2021 Member, UFS Convection Allowing Model (CAM) Working Group
2020–2021 Associate Editor, *Journal of Applied Meteorology and Climatology*
2018–2020 Member, NOAA CPO Subseasonal-to-seasonal (S2S) Task Force
2015–2018 Representative, Unidata Users Committee
2015–2019 President, Chicago Chapter of the American Meteorological Society
2015–2018 Advisory Panel, University Corporation for Atmospheric Research COMET Program

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Invited Colloquia / Seminar / Presentations

2024 *Tornadoes and hailstorms: Past, present, and future*, Northwestern University Dept. of Earth and Planetary Sciences, Evanston, IL.

2024 *The past, present, and future of weather forecasting*, NWS Paducha, KY severe weather workshop, (virtual lecture).

2023 *Extended range severe weather forecasts*, AMS Committee on Emergency Management, (virtual lecture).

2022 *Tornado forecasts: A look through time*, University of Michigan Dept. of Climate and Space Sciences and Engineering, Ann Arbor, MI.

2022 *The latest in severe convective storms research*, International Business Machines (IBM) Corporation, (virtual lecture).

2022 *Severe convective storms: A look across space and time*, 2022 mini-European Conference on Severe Storms, (virtual lecture).

2022 *Climate change impacts on tornadoes and hailstorms*, Insurance Institute for Business and Home Safety Disaster Dynamics Academy, (virtual lecture).

2022 *Severe convective storms: Past, present, and future*, Iowa State University Dept. of Geological and Atmospheric Sciences, Ames, WI.

2021 *Tornado climatology and forecasting in the Southeast*, Southeast Climate Monthly Webinar series, (virtual lecture).

2021 *Subseasonal forecasts of severe weather*, Central Indiana Severe Weather Symposium, (virtual lecture).

2021 *Severe convective storms: Past, present, and future*, University of Wisconsin-Madison Dept. of Atmospheric and Oceanic Sciences, Madison, WI, (virtual lecture).

2021 *The past, present, and future of tornadoes*, Twin Cities Meteorological Society, Minneapolis, MN (virtual lecture).

2020 *Subseasonal forecasting of U.S. tornadoes and hail*, Central Mississippi Chapters of the AMS/NWA, Jackson, MS, (virtual lecture).

2020 *Extended range severe weather prediction*, Metro Atlanta Chapters of the AMS/NWA, Atlanta, GA, (virtual lecture).

2020 *Past, present, and future of severe convective storms*, Villanova University Dept. of Geography and the Environment Colloquium, Villanova, PA, (virtual lecture).

2020 *Sub-seasonal forecasting of severe weather*, National Weather Service Weather SOO Meeting, Paducah, KY.

2020 *Climate and Severe Convective Storms*, Keynote Address: 2020 Midwest Student Conference on Atmospheric Research, Champaign, IL.

2020 *Sub-seasonal to seasonal forecasting of severe weather*, National Weather Service Weather Forecast Office (KDVN), Davenport, IA.

2020 *Skills for the Field—Applying and Interviewing for Faculty Positions*, 19th Annual Student Conference, *American Meteorological Society*, Boston, MA.

2019 *Advances in severe weather prediction*, Keynote Address: National Weather Service Louisville / Western Kentucky University "KenTenn", Bowling ForestGreen, KY.

2019 *The potentially deadly shift in U.S. tornado activity*, National Association of Mutual Insurance Companies Commercial Lines Seminar, Chicago, IL.

2019 *Hail, wind, and tornadoes: Challenges and outlooks for the new $10B peril*, Cat Risk Management Conference; Reinsurance Association of America, Orlando, FL.

2018 *Using the Global Ensemble Forecast System to predict U.S. tornado and hail activity at day 1-15 leads*, Northern Illinois University Dept. of Geographic and Atmospheric Sciences Research Colloquium, DeKalb, IL.

2018 *Climate and Severe Convective Storms*, Keynote Address: 9th Annual Great Lakes Atmospheric Science Symposium, Oswego, NY.

2018 *Severe weather: Research and applications*, International Society of Catastrophe Managers Education Seminar, Chicago, IL.

2018 *Convection and hail in a changing climate*, Expert panel: North American Hail Workshop, Boulder, CO.

2018 *Tornadoes: Past, present, and future*, National Weather Center Colloquium, Norman, OK.

2018 *Severe storms: Past, present, and future*, Western Kentucky University Colloquium, Bowling ForestGreen, KY.

2017 *Tornadoes: Past, present, and future*, Waubonsee Community College, Sugar Grove, IL.

2017 *Tornadoes: Past, present, and future*, State University of New York at Albany, Albany, NY.

2017 *Moving beyond day 8: Long-range prediction of tornadoes across the U.S.*, National Tornado Summit, Oklahoma City, OK.

2016 *Tornadoes: Past, present, and future*, Central Michigan University Research Seminar, Mt. Pleasant, MI.

2016 *Hours to decades: The new world of long-range tornado science*, Weather and Climate Session, Society of Environmental Journalists, Norman, OK.

2016 *Extended range tornado prediction*, WGN/Femilab Tornado and Severe Storms Seminar, Batavia, IL.

2015 *Tornadoes: Past, present, and future*, Purdue University Research Seminar, West Lafayette, IN.

2015 *The Global Wind Oscillation and U.S. Tornadoes*, Climate and Severe Weather Workshop, College Park, MD.

2015 *Sub-seasonal forecasting of tornadoes*, National Weather Service Weather Forecast Office (KLOT), Romeoville, IL.

2014 *Hazardous convective weather in the U.S.: A dynamical downscaling approach*, Northern Illinois University Dept. of Geography Research Colloquium, DeKalb, IL.

2014 *Estimations of hazardous convective weather in the U.S. using dynamical downscaling*, Argonne National Lab, Argonne, IL.

2014 *Potential changes in late 21st Century severe weather*, Chicago Chapter of the American Meteorological Society, Glen Ellyn, IL.

2014 *Severe thunderstorms: Past, present, and future*, Omaha-Offutt Chapter of the American Meteorological Society, Omaha, NE.

2014 *Severe thunderstorms: Past, present, and future*, National Weather Service Weather Forecast Office (KOAX), Omaha/Valley, NE.

2014 *The potential vorticity framework*, National Weather Service Weather Forecast Office (KLOT), Romeoville, IL.

Sample of Interviews

Interview type: on camera, radio, print

2024 *Why hailstorms could get bigger and more damaging*, Pattrn (The Weather Channel), Atlanta, GA.
2024 *More damaging than tornadoes, hail may finally get the scientific attention it deserves*, Science, Washington, D.C. DOI: 10.1126/science.zozezp1
2024 *As Tornado Alley shifts east, bracing for impact in unexpected places*, Inside Climate News, Brooklyn, NY.
2024 *New study suggests climate chnage will make hail bigger and more costly*, The Washington Post, Washington, D.C.
2024 *Spatial trends of tornadoes and the impacts on the Midwest*, WQAD 8, Moline, IL.
2024 *Last Sunday was Earth's hottest day in all recorded history, European climate agency says*, The Associated Press, New York, NY.
2024 *As 'Twisters' hits theaters, experts warn of increasing tornado danger*, USA Today, McLean, VA.
2024 *What Twisters gets right—and wrong—about tornado science*, Nature, London, UK. DOI: 10.1038/d41586-024-02276-x
2024 *Will climate change put Wisconsin in tornado alley?*, Wisconsin State Journal, Madison, WI.
2024 *In a warmer world, tornado behaviour is changing – this is how we can prepare*, BBC World News, London, UK.
2024 *More tornadoes move into Mid-South as climate changes*, WREG CBS 3, Memphis, TN.
2024 *How might the next super tornado outbreak play out in tomorrow's world?*, Yale Climate Connections, New Haven, CT.
2024 *Meteorologists say this year's warm winter provided key ingredient for Midwest killer tornadoes*, The Associated Press, New York, NY.
2024 *Severe weather across northern Illinois on 2/27/2024*, Live hit on WFLD FOX 32, Chicago, IL.
2024 *US in deep freeze while much of the world is extra toasty? Yet again, it's climate change*, The Associated Press, New York, NY.
2023 *Climate change is increasing thunderstorm winds, study finds*, The Washington Post, Washington, D.C.
2023 *Point of no return: Pope challenges leaders at UN talks to slow global warming before it's too late*, The Associated Press, New York, NY.
2023 *Why tornadoes are more destructive than ever in the U.S.*, NBC News, McClean, VA.
2023 *Chicago weather: Illinois leads nation in number of tornadoes this year, NIU professor says*, WLS-TV ABC 7 "Our Chicago" segment, Chicago, IL.
2023 *Is climate change causing more record-breaking Hail?*, Scientific American, New York, NY.
2023 *Surge of tornadoes in Illinois this year raises questions*, Live hit on WFLD FOX 32, Chicago, IL.
2023 *Sick of hearing about record heat? Scientists say those numbers paint the story of a warming world*, The Associated Press, New York, NY.
2023 *Chicago tornadoes on 7/11/23*, Live hit on WFLD FOX 32, Chicago, IL.

2023 *The Tornado State: Illinois emerges as new hot spot for twisters, defying traditional patterns*, WFLD FOX 32, Chicago, IL.

2023 *Are more tornadoes coming to Ontario? Twister-trackers see signs the bull's-eye is shifting*, Toronto Star, Toronto, ON.

2023 *The changing landscape of tornado risk*, NBC Sunday Today With Willie Geist, Washington, D.C.

2023 *Tornado forecasts are more accurate. Why aren't they saving more lives?*, NPR, Boston, MA.

2023 *Experts say tornado season is getting longer. What does that mean for Illinois?*, Live hit on Illinois Public Media (The 21st) , Urbana-Champaign, IL.

2023 *Climate change and tornadoes*, Live hit on BBC radio, London, England.

2023 *U.S. tornadoes on 4/4/23*, Live hit on Fox Weather, New York, NY.

2023 *Tornadoes touching down in new areas; season is starting sooner and lasting longer, experts say*, The Chicago Tribune, Chicago, IL.

2023 *Tornado-spawning storms may get worse due to warming*, The Associated Press, New York, NY.

2023 *Tornadoes and climate change*, Live hit on The Weather Channel, Atlanta, GA.

2023 *U.S. tornadoes on 3/24/23* Live hit on CNN, Atlanta, GA.

2023 *La Nina, which worsens hurricanes and drought, is gone*, The Associated Press, New York, NY.

2023 *Inside the quest to develop long-range tornado forecasts*, Yale Climate Connections, New Haven, CT.

2023 *Tornado alley creeping into new territory*, NBC News, McClean, VA.

2023 *It's January, but tornadoes keep spinning up like it's April*, The Washington Post, Washington, D.C.

2023 *A stubborn La Niña and manmade warming are behind recent wild weather, scientists say*, The Associated Press, New York, NY.

2022 *Impacts of climate change on U.S. tornadoes*, live hit on CNN, Atlanta, GA.

2022 *EXPLAINER: Why court's EPA-climate change ruling matters*, The Associated Press, New York, NY.

2022 *Hints of a derecho-climate change link, ten years after 2012 storm*, The Washington Post, Washington, D.C.

2022 *Oppressive heat wave persists across large swath of Northern Hemisphere*, The Associated Press, New York, NY.

2022 *EXPLAINER: Why south gets more killer tornadoes at night*, The Associated Press, New York, NY.

2022 *Officials: 7 dead after tornadoes tore through central Iowa*, The Associated Press, New York, NY.

2022 *As winter storm moves across US, ice becomes bigger concern*, The Associated Press, New York, NY.

2022 *Two Rounds of Snow Heading for Chicago: Expect a Mess on Wednesday and a Question Mark on Thursday*, Chicago Tonight (WTTW), Chicago, IL.

2021 *U.S. tornadoes on 12/10/21* Live hit on BBC World News, London, U.K.

2021 *U.S. tornadoes on 12/10/21* Live hit on CNN, Atlanta, GA.

2021 *U.S. tornadoes on 12/10/21* Live hit on CBS News, New York, NY.

2021 *EXPLAINER: Was tornado outbreak related to climate change?*, The Associated Press, New York, NY.

2021 *The Tornado - Climate Change Debate Is Distracting - 5 Questions That Should Be Asked*, Forbes, Jersey City, NJ.

2021 *Did climate change play a role in the deadly weekend tornadoes?*, NBC News, McClean, VA.

2021 *How 'Goldilocks conditions' spawned rare December tornado outbreak*, NBC News, Washington, D.C.

2021 *Why we still don't fully understand the tornado-climate change relationship*, National Geographic, Washington, D.C.

2021 *Climate change likely played a role in this weekend's deadly tornadoes. The question is how*, CNN, Atlanta, GA.

2021 *Tornado alley is shifting eastward—and we're not ready*, Unsung Science episode 4 podcast w/ David Pogue, online.

2021 *The science behind the Delaware Valley's tornado summer*, WHYY, Philadelphia, PA.

2021 *Chicago area deals with tornadoes, heat warnings during week of extreme weather*, Chicago Tonight (WTTW), Chicago, IL.

2021 *Summer swelter trend: West gets hotter days, East hot nights*, The Associated Press, New York, NY.

2021 *Tornado warning: Twisters are hitting more frequently and dealing more deaths in the South*, USA Today, McLean, VA.

2021 *Father's Day tornado was a severe EF3, winds up to 165 mph: National Weather Service*, Chicago Tonight (WTTW), Chicago, IL.

2021 *Tornado Alley isn't living up to its name with near-record quiet activity this April*, CNN, Atlanta, GA.

2021 *What's up with 2021's weather?*, Discover magazine, Waukesha, WI.

2021 *Tornado Alley showing signs of shifting east*, WTVG 13, Toledo, OH

2021 *Yesterday's severe weather recap*, WGN 720 AM (Host: Anna Davlantes), Chicago, IL.

2021 *Severe weather outlook for 2021*, The Weather Channel: AMHQ Weekend and Weekend Recharge, Atlanta, GA.

2021 *Tornado safety: How to prepare for more dangerous seasons*, WLS-TV ABC 7, Chicago, IL.

2021 *It's time to start worrying about tornadoes, weather expert says*, WBBM 780AM/105.9FM CBS, Chicago, IL.

2021 *Busy tornado season projected across the southern U.S. this spring*, The Washington Post, Washington, D.C.

2021 *EXPLAINER: Topsy-turvy weather comes from polar vortex*, The Associated Press, New York, NY.

2020 *The year in weather: wildfires, hurricanes, a derecho and more*, Chicago Tonight (WTTW), Chicago, IL.

2020 *Migrating tornadoes are the nation's deadliest disasters*, E&E News Climate Wire, Washington, D.C.

2020 *Can the Midwest expect more derechos as the climate changes?*, MPR (KNOW-FM), St. Paul, MN.

2020 *In derecho's wake, more than 250,000 in Midwest struggle without power*, The New York Times, New York, NY.

2020 *Why derechos are so devilishly difficult to predict*, Wired, San Francisco, CA.

2020 *Powerful derecho leaves path of devastation across Midwest*, The Associated Press, New York, NY.

2020 *Local meteorologists blame "corn sweat" for recent humidity*, WQAD 8, Moline, IL.

2020 *Featured Guest*, WeatherBrains Podcast #737.

2020 *Two and three-week tornado outlooks can be skillful, new analysis finds*,The Weather Company (Weather Underground), Atlanta, GA.

2020 *A professor ran a weather prediction model on a $50 computer*, Forbes Magazine, Jersey City, NJ.

2020 *Why this winter's snow forecasts keep flummoxing meteorologists*, Daily Herald, Arlington Heights, IL.

2020 *Experts predict near- to above-average tornado activity this spring*, The Washington Post, Washington, D.C.

2019 *An Arctic blast is headed our way this week, and it's earlier than usual*, Popular Science, New York, NY.

2019 *Study says 'specific' weather forecasts can't be made more than 10 days in advance*, The Washington Post, Washington, D.C.

2019 *Huskie recalls Granville twister*, The Northern Star, DeKalb, IL.

2019 *Local Scientists Help Create 1st Long-Range Tornado Forecast*, Chicago Tonight (WTTW): Chicago, IL.

2019 *'A planet full of ifs': Young people express climate angst*, The Associated Press, New York, NY.

2019 *Climate change may be affecting tornadoes*, The Oklahoman, Oklahoma City, OK.

2019 *Forecasters accurately predict tornado outbreak of May 2019*, WBBM 780AM/105.9FM CBS, Chicago, IL.

2019 *Chicago is not tornado-proof. Here's why.*, The Chicago Tribune, Chicago, IL.

2019 *Is Chicago up next for tornado trouble?*, WLS 890 AM (Host: John Howell), Chicago, IL.

2019 *A twist on tornadoes*, Front page Sunday edition, The Chicago Tribune, Chicago, IL.

2019 *"Tornado Alley" moving closer to the Quad Cities*, WQAD 8, Moline, IL.

2019 *What Tornado Alley's eastward shift could mean for Dayton*, Dayton Daily News, Dayton, OH.

2019 *Climate change may not be the culprit for a record-setting spate of tornadoes*, LA Times, El Segundo, CA.

2019 *It's rare for a tornado to hit a big city — but that may not always be the case*, NBC News, New York, NY.

2019 *Tornado warnings are meant to save lives. Why do some people roll their eyes?*, USA Today, McLean, VA.

2019 *What's behind the recent rash of violent weather?*, PBS Newshour, Arlington, VA.

2019 *U.S. Tornadoes* BBC Beyond 100 Days program (Host: Katty Kay), BBC World News, London, U.K.

2019 *More than 100 tornadoes devastated the Midwest over 12 days. Why?*, Vox, Washington, D.C.

2019 *Study shows Alabama tornadoes are the deadliest in the U.S.*, WBRC FOX 6, Birmingham, AL.

2019 *What's fueling the spate of recent tornadoes across the US?*, NBC News, New York, NY.

2019 *What to do when tornadoes or microbursts are in the forecast*, The Chicago Tribune, Chicago, IL.

2019 *Featured Guest*, WeatherBrains Podcast #692

2019 *Changes in U.S. tornado occurrence*, WANE CBS 15, Fort Wayne, IN.

2019 *Tornadoes in the Southeast are getting worse — and they're often the deadliest*, CNN, Atlanta, GA.

2019 *What we know about tornadoes and climate change*, CBS News, New York, NY.

2019 *Is climate change causing more tornadoes?*, Pacific Standard, Santa Barbara, CA.

2019 *Tornado alley is shifting into the Natural State, research shows*, KNWA Fox 24, Rogers, AR.

2019 *Weather expert says Alabama's deadly tornado highlights a vulnerability in Southeast U.S.*, NPR's WBUR Here and Now program (Host: Robin Young), Boston, MA.

2019 *Is climate change making US tornadoes worse?*, PBS Newshour, Arlington, VA.

2019 *NIU meteorology students launching weather balloons*, WNIJ/WNIU, DeKalb, IL.

2019 *Meteorology students take part in aircraft icing research*, WIFR, Rockford, IL.

2019 *Why extreme cold doesn't dismiss climate change*, WGN-TV, Chicago, IL.

2019 *AP FACT CHECK: Global warming hasn't gone away despite cold*, The Associated Press, New York, NY.

2018 *Trends in tornado frequency*, The Weather Channel, Atlanta, GA.

2018 *Tornadoes are spinning up farther east in US, study finds*, The Associated Press, New York, NY.

2018 *Powerful tornadoes on the rise in Illinois*, WBBM 780AM/105.9FM CBS, Chicago, IL.

2018 *USA's infamous Tornado Alley may be shifting east*, USA Today, McLean, VA.

2018 *Holiday hazardous weather causes injuries and damage in Illinois*, Northern Public Radio, DeKalb, IL.

2018 *The tornado detectives*, Weather Channel WxGeeks Podcast, Atlanta, GA.

2018 *NIU professor hopes to give you weeks to prepare for tornadoes, hail*, Daily Herald, Arlington Heights, IL.

2018 *US tornado forecasting and warning trends*, WBBM 780/105.9FM CBS, Chicago, IL.

2018 *Tornado lead time trends*, The Weather Channel, Atlanta, GA.

2018 *Tornado forecasting*, WxGeeks: The Weather Channel, Atlanta, GA.

2018 *From blizzards to heat waves: Is it actually harder to predict weather in Chicago?*, WBEZ's Curious City Radio Program: Chicago, IL.

2017 *Chicago winter could be mild, wet... or neither*, Chicago Tonight (WTTW): Chicago, IL.

2017 *The debate over when to issue tornado warnings*, NPR's WBUR Here and Now program (Host: Robin Young), Boston, MA.

2017 *Tornado research: The past, present, and future*, WxGeeks: The Weather Channel, Atlanta, GA.

2017 *Tornadoes and the stories they tell*, WxGeeks: The Weather Channel, Atlanta, GA.

2017 *Americans are getting less advance notice for tornadoes, as researchers struggle to understand why*, The Washington Post, Washington, D.C.

2016 *Advance warning*, Meteorology Technology International, UKi Media and Events, London, UK.

2016 *Featured Guest*, WeatherBrains Podcast #529

2016 *Predicting tornadoes weeks in advance*, WxGeeks: The Weather Channel, Atlanta, GA.

2016 *Tornado forecasts at the College of DuPage are gaining national attention*, WGN-TV, Chicago, IL.

2016 *Meteorologists may be on the verge of forecasting tornadoes weeks in advance*, Forbes Magazine, Jersey City, NJ.

2016 *DuPage researcher trying to predict tornadoes weeks in advance*, WBBM 780AM/105.9FM CBS, Chicago, IL.

2016 *A mere one tornado has stuck the U.S. in November as yearly totals near historic lows*, The Washington Post, Washington, D.C.

2013 *Heavy snow blankets Chicago*, Chicago Tonight (WTTW), Chicago, IL.

2012 *The year's extreme weather*, Chicago Tonight (WTTW), Chicago, IL.

Community Service / Engagement

2023 *Weather patterns*, Putnam County Library, Hennepin, IL.

2021–2022 Member, Rep. L. Underwood (IL 14th) SAC for the 117th Congress

2021 *Illinois severe weather preparedness week Q & A session*; w/ NWS Chicago, virtual webinar.

2020 *Extreme weather forecasting*, Waubonsee Community College Lifelong Learning Institute, Sugar Grove, IL.

2019–2020 Member, Rep. L. Underwood (IL 14th) SAC for the 116th Congress

2019 *ForestGreen Lens Film Series: Rise of the Superstorms*, Egyptian Theatre, DeKalb, IL.

2019 *Stormchasing 101*, Sugar Grove Public Library, Sugar Grove, IL.

2018 *Severe weather lightning round*, 27th Annual DuPage County Advanced Severe Weather Seminar, Wheaton, IL.

2017 *Extreme weather*, Lisle Library, Lisle, IL.

2017 *Tools for anticipating severe weather events*, 26th Annual DuPage County Advanced Severe Weather Seminar, Wheaton, IL.

2016 *Moving beyond day 4–8: 2–3 week prediction of severe weather across the U.S.*, Indiana Storm Chasers Convention, Camby, IN.

2016 *Tornadoes: Past, present, and future*, The Contemporary Club of Chicago, Chicago, IL.

2016 *Chicago's tornado-proof delusion*, WBEZ's Curious City Live Event, Chicago, IL.

2016 *Storm Animation*, 25th Annual DuPage County Advanced Severe Weather Seminar, Wheaton, IL.

2015 *What's the weather like? A storm chasing perspective*, Sugar Grove Public Library, Sugar Grove, IL.

2015 *Tools of the trade*, 24th Annual DuPage County Advanced Severe Weather Seminar, Wheaton, IL.

2014 *Tornadoes: Past, present, and future*, Carol Stream Public Library, Carol Stream, IL.

2014 *An overview of severe weather events in 2013*, 23rd Annual DuPage County Advanced Severe Weather Seminar, Wheaton, IL.

2013 *Chicago's vulnerability to a violent tornado*, Indian Prairie Public Library, Darien, IL.

2013 *Characteristics of warm front tornadoes in Illinois*, 22nd Annual DuPage County Advanced Severe Weather Seminar, Naperville, IL.

University Service / Outreach Events

2024 *The Past, Present, and Future of Weather Forecasting*, NIU STEM Café, Sugar Grove, IL.

2024 Search committee for NIU Director of NICCS

2023 Presentation (w/ W. S. Ashley) to the NIU Presidential Advisory Council (PAC), Naperville, IL

2023 Farm-to-table dinner presentation in support of NICCS in conjunction with the NIU Foundation, Sycamore, IL

2023 Guest speaker for world's largest paper snowflake event, NIU Design and Media Arts Division, DeKalb, IL

2023 NIU Learning Spaces Shared Leadership Team

2023 Search committee for NIU Director of Federal Relations

2022 *Extreme weather and climate change*, NIU Alumni Association 'Meet a Huskie', The Villages, FL.

2022 *Science on a Sphere*, Demonstration for faculty welcome-back days, DeKalb, IL.

2021–2022 *Deputy Director*, NIU Center for Research Computing and Data

2022 *Beer on a Sphere*, Presentation for NIU Libraries Climate Change Series, DeKalb, IL.

2021 *Congressional meetings for CNSF advocacy*, Bustos; Kinzinger; Durbin; Duckworth; Foster; Casten, online.

2021 *Future Telling*, Northern Illinois University Libraries Series, DeKalb, IL.

2020 *Tornado prediction and artificial intelligence*, NIU Alumni Association 'Meet a Huskie', DeKalb, IL.

2019 *Using weather balloons to predict weather*, Northern Illinois University STEMFest, DeKalb, IL.

2019 *Extreme weather and climate*, DeKalb High School Day at NIU, DeKalb, IL.

2019 *Tornadoes: Past, present, and future*, NIU Lifelong Learning Institute, DeKalb, IL.

2019 *NIU congressional poster session and reception*, NIU Foundation, Washington, D.C.

2019 *Severe weather research at NIU*, NIU Foundation, Tampa, FL.

2019 *Severe weather research at NIU*, NIU Foundation, Bonita Springs, FL.

2018 *The science behind weather balloons*, NIU STEMFest, DeKalb, IL.

2018 *Tornadoes: Past, present, and future*, NIU Alumni Association Lunch and Learn, Chicago, IL.

2018 *Tornadoes: The science behind the storm*, NIU STEM Café, DeKalb, IL.
2018 *Tornadoes: Past, present, and future*, NIU Foundation, Golf, IL.

Department Service

2024–2025 Chair; Personnel Committee
2023–2024 Personnel Committee (alternate)
2023–**present** Department representative to the University Corporation for Atmospheric Research
2023 Chair; Third-year review for Assistant Professor
2023–**present** Meteorology Program Advisor
2021–**present** Curate users/packages for Triton Jupyterhub server (`https://triton.niu.edu`)
2021–**present** Undergraduate Committee
2021 Tenure Track Faculty Search Committee
2019–2022 Executive Committee
2019–2022 Graduate Application Committee
2019 Office Manager Hiring Interview Committee
2019 50th Anniversary Event Committee
2018–2021 STEM-Fest Committee
2020–2022 B.S. Meteorology Undergraduate Advisor
2017–2022 Equipment and Lab Safety Committee
2017–2022 Liaison to NIU Library
2017–2022 Faculty advisor, NIU Student Chapter of the American Meteorological Society
2017–**present** Local Manager, NIU WxChallenge Team

Professional Service

2023 Session chair for 2 Meso to Subseasonal Scale Meteorological Phenomena II, *32nd Conference on Weather Analysis and Forecasting*: Madison, WI
2023 Overall conference co-chair w/ S. Bieda, *Special Symposium on Forecasting a Continuum of Environmental Threats (FACETs)*: Denver, CO
2023 Panel Discussion 2.1 - FACETS: Past, Present, and Future (Co-chair w/ S. Bieda), *Special Symposium on Forecasting a Continuum of Environmental Threats (FACETs)*: Denver, CO
2023 Helped nominate a colleague for the AMS Edward N. Lorenz Teaching Excellence Award
2023 Led nomination of a colleague for the AGU Gilbert White F. Award
2023 Session co-chair for 11 Applications of Subseasonal-to-seasonal Forecasts, *Special Symposium on Forecasting a Continuum of Environmental Threats (FACETs)*: Denver, CO
2023 Session co-chair for 8 FACETs focus: Severe Convective Weather II, *Special Symposium on Forecasting a Continuum of Environmental Threats (FACETs)*: Denver, CO
2022 Session chair for 6-Severe convection in a warming climate, *30th Conference on Severe Local Storms*: Santa Fe, NM
2022 Workshop steering committee for the 2nd North American Workshop on Hail and Hailstorms: Boulder, CO
2022 Panel Moderator for The Future of Hail Forecasting, *2nd North American Workshop on Hail and Hailstorms*: Boulder, CO

2022 Invited Panelist for From Climatology to Climate Change: The Changing Picture of Hail and Hailstorms, *2nd North American Workshop on Hail and Hailstorms*: Boulder, CO

2022 Session chair for 14B-Forecasting Tools and Techniques across Weather Scales. Part II: Tools and Techniques across Phenomena, *31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP)*: Houston, TX

2022 Session chair for 5A-Advances in Subseasonal Forecasts for Weather, Water, and Climate. Part I, *31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP)*: Houston, TX

2022 Session chair for Joint J9-Convection-Permitting Simulations and/or Regional Climate Simulations of Mesoscale Extremes, *31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP)*: Houston, TX

2022 Session chair for Joint J7B-The Role of Hindcasts in Prediction and Studies of Predictability, *31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP)*: Houston, TX

2021 Invited presentation, AMS Weather Band webinar on the prediction of severe convective storms

2021 Invited panelist, AMS Policy Program Workshop on Assessing the Impacts of Technology on the future of the Weather, Water, Climate Workforce

2021 Helped nominate a colleague for the AMS Robert H. and Joanne Simpson Mentorship Award

2021 Led nomination of a colleague for the AMS Walter Orr Roberts Lecturer

2020 Session chair, AGU Fall Meeting session #108562, Understanding the Evolution and the Impact of Mesoscale and Severe Local Convective Storms II (virtual)

2020 Conference planning committee for the 31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP), Houston, TX

2020 Student poster judge, *30th Conference on Weather Analysis and Forecasting (WAF)/26th Conference on Numerical Weather Prediction (NWP)*: Boston, MA

2020 Panelist for "Negotiation: Maximizing Your Worth", *Eighth AMS Conference for Early Career Professionals*: Boston, MA

2019 Student career panel, *23rd Annual Severe Storms and Doppler RADAR conference*: Des Moines, IA

2018 Student poster judge, *29th Conference on Severe Local Storms*: Stowe, VT

2018 Co-Chair, *Unidata Users Workshop*: Boulder, CO

2016 Session chair for "The Scales of Prediction", *Severe Convection and Climate Workshop*: Columbia, NY

2014 Student poster judge, *27th Conference on Severe Local Storms*: Madison, WI

2012 Student poster judge, *26th Conference on Severe Local Storms*: Nashville, TN

Peer Review

Referred Journals:

Journal (# of reviews)

Atmospheric Research (1)

American Journal of Climate Change (8)
Applied Geography (6)
Bulletin of the American Meteorological Society (8)
Climate Research (5)
Climate Dynamics (7)
Climatic Change (8)
Computers, Environment and Urban Systems (1)
Earth Interactions (2)
Electronic Journal of Severe Storms Meteorology (1)
Geophysical Research Letters (8)
International Journal of Climatology (9)
Journal of Applied Meteorology and Climatology (9)
Journal of Climate (19)
Journal of Geophysical Research: Atmospheres (2)
Monthly Weather Review (5)
Natural Hazards (10)
Nature (1)
Nature Climate Change (1)
Nature Geoscience (1)
npj Climate and Atmospheric Science (3)
NWA Journal of Operational Meteorology (1)
Proceedings of the National Academy of Sciences (1)
Quarterly Journal of the Royal Meteorological Society (2)
Science Advances (2)
Scientific Reports (2)
Southeastern Geographer (2)
Weather and Climate Extremes (4)
Weather and Forecasting (18)

Grants:

Agency (# of reviews)

Austrian Science Fund (1)
National Science Foundation (6 ad-hoc; 3 panels)

Books:

The Atmospheric General Circulation by Wallace, Battisti, Thompson, and Hartmann (2023). Publisher: Cambridge University Press, ISBN: 9781108474245.

Fundamentals of Meteorology by Spiridonov and Curic (2020). Publisher: Springer International Publishing, ISBN: 9783030526559.

Understanding Weather and Climate: 7th Edition by Augado and Burt (2014). Publisher: Pearson. ISBN: 9780137521234.

Tenure and promotion cases:

Assistant to Associate (2)