

Curriculum Vitae
(valid 7 October 2021)

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

Associate Professor
Department of Geographic and Atmospheric Sciences
Davis Hall Room 118
Northern Illinois University
DeKalb, IL 60115
ph: +1 (815) 753-8696 — e: vgensini@niu.edu

Education

- 2014 **Ph.D., Geography**
University of Georgia, Athens, GA
Dissertation: *Hazardous convective weather in the United States: A dynamical down-scaling 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, extreme weather, regional climate modeling, statistical and dynamical downscaling, atmospheric angular momentum, severe convective storms, synoptic and mesoscale meteorology, applied climatology, numerical weather prediction, weather analysis and forecasting, machine learning and artificial intelligence, data visualization, GIS techniques.

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 5-8-2023)
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 Department of Geographic and Atmospheric Sciences Northern Illinois University, DeKalb, IL
2018–present	Guest Faculty Researcher Climate and Atmospheric Science Department Environmental Science Division Argonne National Laboratory, Lemont, IL
2017–2020	Assistant Professor Department of Geographic and Atmospheric Sciences Northern Illinois University, DeKalb, IL
2015–2017	Associate Professor Earth Science Program College of DuPage, Glen Ellyn, IL
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

*Denotes student author.

Refereed

- 30) **Gensini, V. A.**, A. Haberlie, and W. S. Ashley, 2021: Convection-permitting simulations of historical and possible future climate over the contiguous United States. *Clim. Dyn.*, [submitted]
- 29) Bundy*, L., and **V. A. Gensini**, 2021: USDA corn condition rating trends and variability across the U.S. Corn Belt. *J. Env. Qual.*, [submitted]
- 28) Miller*, D. E., **V. A. Gensini**, and B. S. Barrett, 2021: Subseasonal forecasts of opportunity for tornadoes: Cataloging events using MJO pentads. *J. Geophys. Res. Atmos.*, [submitted]
- 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*, 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. Pilguy, 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. Chang.*, **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 Climate and Atmos. Science*, **1**, 1–7. 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 Climate and Atmos. Science*, **1**, 1–5. 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. *Cur. Climate 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. *Climatic 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**, 1–40.
- 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

- 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
- 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)

- 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. Laffin, 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

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
2007–2008	Amer. Meteor. Soc. Undergraduate Scholar, (<i>Carl W. Kreitzberg Scholarship</i>)
2007	Northern Illinois University Junior Leadership Award
2004	Raymond A. Justi Outstanding Science Student Award

Record of Funding

Only funds directed to V. Gensini as PI or Co-PI shown.

Successful:

\$46,000	Amazon.com, Inc. Sustainability Data Initiative Computing Credits <i>Dynamical downscaling of operational GEFS forecasts</i> . 2021–2022, Role: PI.
\$474,682	National Science Foundation, <i>Advancing our understanding of intraseasonal U.S. severe convective storm variability</i> . 2021–2023, Role: PI.
\$475,000	American Family Insurance, Inc., <i>Weather/Climate Modeling, Data Science and Analytics</i> 2020–2023, Role: Co-PI. PI: W. Ashley (NIU), Co-PI: A. Michaelis (NIU)
\$20,000	Metlife, Inc., <i>Creation of automated severe weather guidance for operations</i> . 2019–2020, Role: PI.
\$14,000	Northern Illinois University Research and Artistry Award, <i>Examining the impact of the Corn Belt on regional extreme high temperatures</i> . 2019–2020, Role: PI.
\$19,652	Unidata Equipment Grant, <i>Bringing back weather.niu.edu: A multifaceted server at Northern Illinois University</i> . 2019, Role: PI.
\$14,000	Northern Illinois University Research and Artistry Award, <i>Subseasonal Prediction of Severe Weather Across the United States</i> . 2018–2019, Role: PI.
\$20,000	MetLife, Inc., <i>Extended range severe weather prediction</i> . 2018–2019, Role: PI.
\$49,537	National Science Foundation, <i>Collaborative Research: Observed and Future Dynamically Downscaled Estimates of Precipitation Associated with Mesoscale Convective Systems</i> . 2017–2020, Role: Co-PI, PI: W. Ashley (NIU), Co-PI: R. Schumacher (CSU).
\$20,000	Unidata Equipment Grant, <i>GOES-16 data server at College of DuPage</i> . 2017, Role: PI.
\$19,733	State of Illinois Perkins STEM Grant, <i>Weather Balloon Activities at College of DuPage</i> . 2015, Role: PI.
\$18,463	College of DuPage Presidential Grant, <i>Weather Station and SkyCam for the College of DuPage Meteorology Program</i> . 2013, Role: PI.

Total Successful: \$1,191,067

Pending:

\$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).

Total Pending: \$959,349

Unsuccessful:

\$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: \$5,106,457

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	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
Spring	h*,n*
Summer	
Fall	k*

*denotes online delivery

- 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* (GEOG 368)
- k) Northern Illinois University, *Weather, Climate, and You* (GEOG 105)
- l) Northern Illinois University, *Meteorology* (MET 300)
- m) Northern Illinois University, *Advanced Seminar in Climatology* (GEOG 790C)
- n) Northern Illinois University, *Programming for Geographic and Atmos. Sci.* (GEOG 493)

Mentoring

*NIU Department of Geographic and Atmospheric Sciences unless otherwise noted.

Postdoctoral Advisor for:

Douglas E. Miller Jan 2021 - present

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

Margo Andrews M.S. Student
Chris Battisto M.S. 2021; *Trends in observed and simulated RADAR reflectivity for the 21st-century* (co-chair w/ W. Ashley)
Cody Converse M.S. 2020; *Environmental Discriminators for significant tornadoes and hail in the U.S. using Proximity Soundings*
Robert Fritzen Ph.D. Candidate
Sylvia Stinnett M.S. Student
Kelly Swaney M.S. 2021; *Midwestern U.S. diurnal temperature range: Spatial and temporal trends from 1900–2018* (co-chair w/ D. Changnon)

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

Emery Dhanens	M.S. 2020
Jacinda Mayer	M.S. Student
Alex McAvoy	M.S. Student
Maria Molina	Ph.D. 2019 (CMU Dept. of Earth and Atmospheric Sciences)
Nick Rodeo	M.S. Student
Bailey Stevens	M.S. 2021
Andrew Wright	M.S. 2019 (NIU Dept. of Industrial and Systems Engineering)

Undergraduate Researchers (supported with funding):

Logan Bundy	2018–2019; <i>Significant severe weather in the U.S.</i>
Daniel Kallianis	2018–2019; <i>Significant severe weather in the U.S.</i>
Kyle Pittman	2019–2020; <i>Analysis of tornadogenesis failure using rapid-scan data from the atmospheric imaging RADAR</i>

Independent Studies/Directed Readings:

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

Honors Course Contracts:

Kris Kasminski	SP 2019, MET 421; SP 2021, GEOG 493
Jacob Montesano	FA 2018, MET 300; SP 2021, MET 491

Field Campaigns

2021	In-situ Collaborative Experiment for the Collection of Hail in the Plains (ICECHIP). Proposed field campaign to NSF in 2023–2024. Co-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 Project

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

- 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 Activities

- 2021–**present** Editor, *Journal of Applied Meteorology and Climatology*
- 2021–**present** Member, AMS Committee on Weather Analysis and Forecasting
- 2020–**present** Associate Editor, *Weather and Forecasting*
- 2020–**present** Member, US CLIVAR PPAI Panel
- 2018–**present** Representative, Unidata Strategic Advisory Committee
- 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

Invited Colloquia / Seminar / Presentations

- 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 Green, 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 Green, 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

- 2021 *The science behind the Delaware Valley's tornado summer*, WHYI, 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, Minnesota[◊].
- 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[†].
- 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[†].
- 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

- 2021–**present** 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 *Green 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

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

2021	Tenure Track Faculty Search Committee
2020–present	B.S. Meteorology Undergraduate Advisor
2019–present	Executive Committee
2019–present	Graduate Application Committee
2019	Office Manager Hiring Interview Committee
2019	50th Anniversary Event Committee
2018–present	STEM-Fest Committee
2017–present	Equipment and Lab Safety Committee
2017–present	Liaison to NIU Library
2017–present	Faculty advisor, NIU Student Chapter of the American Meteorological Society
2017–present	Local Manager, NIU WxChallenge Team

Professional Service

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
2020	Session chair, AGU Fall Meeting session #108562, Understanding the Evolution and the Impact of Mesoscale and Severe Local Convective Storms II
2020	Conference planning committee for the 2021 AMS WAF/NWP Conference
2020	Student poster judge, <i>30th Conference on Weather Analysis and Forecasting (WAF)/26th Conference on Numerical Weather Prediction (NWP)</i> : Boston, MA
2020	Panelist for “Negotiation: Maximizing Your Worth”, <i>Eighth AMS Conference for Early Career Professionals</i> : Boston, MA
2019	Student career panel, <i>23rd Annual Severe Storms and Doppler RADAR conference</i> : Des Moines, IA
2018	Student poster judge, <i>29th Conference on Severe Local Storms</i> : Stowe, VT
2018	Co-Chair, <i>Unidata Users Workshop</i> : Boulder, CO
2016	Session chair for “The Scales of Prediction”, <i>Severe Convection and Climate Workshop</i> : Columbia, NY
2014	Student poster judge, <i>27th Conference on Severe Local Storms</i> : Madison, WI
2012	Student poster judge, <i>26th Conference on Severe Local Storms</i> : 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 (3)
Climate Research (5)
Climate Dynamics (6)
Climatic Change (8)
Computers, Environment and Urban Systems (1)
Earth Interactions (2)
Electronic Journal of Severe Storms Meteorology (1)
Geophysical Research Letters (5)
International Journal of Climatology (9)
Journal of Applied Meteorology and Climatology (9)
Journal of Climate (13)
Journal of Geophysical Research: Atmospheres (2)
Monthly Weather Review (4)
Natural Hazards (10)
Nature (1)
NWA Journal of Operational Meteorology (1)
Quarterly Journal of the Royal Meteorological Society (2)
Scientific Reports (2)
Southeastern Geographer (2)
Weather and Climate Extremes (4)
Weather and Forecasting (15)

Grants:

Agency (# of reviews)

Austrian Science Fund (1)
National Science Foundation (5)

Books:

Fundamentals of Meteorology by Spiridonov and Curic (2020). Publisher: Springer International Publishing. 439 pp.

Understanding Weather and Climate: 7th Edition by Augado and Burt (2014). Publisher: Pearson. 608 pp.