John T. Allen – Curriculum Vitae

Associate Professor of Meteorology,
Department of Earth and Atmospheric Sciences,
Central Michigan University, MI, USA.

(*Mobile)* (+1) 845-664-2716*, (Office)* (+1) 989-774-1923
email: j.t.allen@cmich.edu or johnterrallen@gmail.com
ResearcherID: A-4483-2012
Personal Research Website: http://people.cst.cmich.edu/allen4jt/allen_homepage.html

Brooks Hall 326
Central Michigan University
Mt Pleasant, MI, 48858, USA.

PROFESSIONAL POSITIONS

- **Associate Professor of Meteorology (with Tenure),** Department of Earth and Atmospheric Sciences, Central Michigan University, Mt Pleasant, MI, (August 1st 2021 - Present).
- **Associate Director,** NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES), (1st September 2024 – Present).
- **Adjunct Associate Research Scientist,** Whiting School of Engineering, Johns Hopkins University (November 21st 2022 - Present).
- **Consultant,** Allen Weather Risk LLC, (20th May 2020 – Present).
- **Director,** Earth and Ecosystem Science Ph.D. Program, Central Michigan University, (August 1st 2019 – July 31st 2023).
- **Assistant Professor of Meteorology,** Department of Earth and Atmospheric Sciences, Central Michigan University, Mt Pleasant, MI. (July 1st 2016 – July 31st 2021).
- **Associate Research Scientist,** International Research Institute for Climate and Society, The Earth Institute, Columbia University, Palisades, NY. (Feb. 2016 – Jun. 2016).
- **Postdoctoral Research Scientist**, International Research Institute for Climate and Society, Columbia University, Palisades, NY. (Feb. 2013 – Feb. 2016)
- **Graduate Research Assistant**, School of Earth Sciences, University of Melbourne. (Oct. 2012-Feb. 2013)
- **Graduate Demonstrator**, School of Earth Sciences, University of Melbourne. (Mar. 2008-Nov. 2012)

QUALIFICATIONS

- **Doctor of Philosophy (Meteorology/Climate Research)**, University of Melbourne, Australia (Jan. 2009 - Aug. 2013) Dissertation: "*The Impacts of Climate Variability and Change on Severe Thunderstorms in Australia".* Adviser: Prof. David Karoly.
- **Bachelor of Science (Meteorology Honours, First Class)**, University of Melbourne, Australia. (Feb. 2008 - Nov. 2008). Research Thesis (Full research 4th year): *"A Climatological and Dynamic Investigation into Southern Hemisphere Explosive Cyclogenesis".* Adviser: Dr. Alexandre Pezza.
- **Bachelor of Science (Double Major in Meteorology, Applied Mathematics)** University of Melbourne, Australia. (Feb. 2005 - Nov. 2007).

EXTERNALLY FUNDED GRANTS

Awarded ($15.46M, Total Award to CMU: $4.02M):

- **Co-Principal Investigator (**PI Wendy Robertson, Co-PIs Daria Kluver, Roderick Lammers), Department of Energy, Climate Resiliency Center, '*Building Predictive Capacity to Enhance Stormwater Infrastructure and Flood Resilience'.* CMU Award: $999,687, *1st September 2024-31st August 2027.*
- **Project Co-Lead PI and Principal Investigator** (CMU Co-PI Jason Keeler) National Science Foundation, Physical and Dynamic Meteorology *'Collaborative Research: AGS-FIRP Track 3: In-situ Collaborative Experiment for the Collection of Hail In the Plains (ICECHIP)'.* Total Award: $10,982,178, CMU Award: $1,043,909, *1st September 2024-31st August 2028.*

- **Senior Personnel** (CMU PI), NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES). CMU Award: *$8,494. 1st September 2024-31st August 2025.*
- **Principal Investigator,** National Institute of Standards in Technology (NIST) '*Quantifying Non-stationary Tornado Risk in a Warming Climate'.* CMU Award: $138,810. *1st October 2023 – 30th September 2025*
- **Co-Principal Investigator** (PI Matthew Van Den Broeke), National Science Foundation, Physical and Dynamic Meteorology, *'Developing a Structural, Morphological, and Microphysical Understanding of Left-moving Supercells'* Total Award: $473,485, CMU Award: $201,141. *1st August 2022 – 31st July 2025.*
- **Co-Principal Investigator** (PI Wendy Robertson, Co-PIs Daria Kluver, Roderick Lammers), Department of Energy, Research and Development and Partnership Pilot, '*Expanding Collaborative Capacity to Address Climate Resiliency in the Great Lakes Region*'. Total Award: $93,304. *15th August 2022 – 14th May 2024.*
- **Co-Principal Investigator (**PI Jeff Trapp), AON Reinsurance, *'Geospatial predictive analysis of damaging hail and wind occurrences in the lower 48 states and Canada.* Total Award: $418,991, CMU Award: $212,180. *16th March 2022 to 30th June 2023.*
- **Principal Investigator,** National Institute of Standards in Technology (NIST) Disaster Resilience, *'Quantifying the Risk & Impact of Wind and Hail Storms in a Warming Climate.'* CMU Award: $340,364. 1st June 2022 – 31st May 2025
- **Co-Principal Investigator** (PI Rebecca Adams-Selin, Co-PIs Andrew Heymsfield, Vittorio Gensini) National Science Foundation Physical and Dynamic Meteorology, Large Field Campaign, Sponsored Program Overview, AGS-2117273. 'In situ Collaborative Experiment for the Collection of Hail In the Plains (ICECHIP). Total Award: $11,793. CMU Award: $0. *1st August 2021 – 31st July 2022.*
- **Principal Investigator**: '*CAREER: Toward a Global Understanding of Severe Convective Environments*' NSF CAREER award AGS-1945286, Climate and Large-Scale Dynamics Program. Total Award: $659,360. *1st June 2020 – 31st July 2025.*
- **Co-Principal Investigator** (PI: Amy McGovern): '*Deep Learning for Operational Identification and Prediction of Synoptic-Scale Fronts*'. NOAA Joint Technology Transfer Initiative (JTTI) NA20OAR4590347. Total Award: $333,952. Subcontract to CMU: $63,147. *1st Sep 2020 – 31st Aug 2023.*
- **Co-Principal Investigator (**lead PI: Rebecca Adams-Selin, Co-PIs: Matthew Kumjian, Conrad Ziegler): NSF-AGS1855054. **'***PREEVENTS Track 2: Collaborative Research: Improving High-Impact Hail Event Forecasts by Linking Hail Environments and Modeled Hailstorm Processes'.* NSF PREEVENTS – Geosciences. Total Award: $991,105. CMU Award: $248,093. *1st August 2019 – 31st December 2023.*
- **Principal Investigator,** (Co-PI Martin Baxter) NSF Subaward, Unidata Community Equipment Awards, 'Enhancing Undergraduate Python and Modelling Skills: A Jupyter Notebook Multi-Core Server at Central Michigan University'. Award: $15,046, *1st June 2017 – 30th May 2018.*
- **Co-Principal Investigator**, National Geographic Expeditions Council Award EC0781-16 'Reap the Whirlwind: Measuring the fastest surface winds on Earth'. Award: $35,000. Non-salary research expedition funding grant for field program to observe near-surface tornadic winds using photogrammetrically derived particle image velocimetry. *1st May 2016-30th June 2017.*
- **Co-Principal Investigator**, National Geographic Expeditions Council Award EC0692-14 for the 'Requiem at El Reno' project. Award: $50,000. Non-salary research expedition funding grant for crowd-sourcing storm chaser observations. *1st August 2014 – 30th June 2015.*

INTERNALLY FUNDED GRANTS

- **Co-Investigator -** President's and Provost's Fund for Program Innovation and Excellence *'University-wide Data Science Program'* to support creation of an undergraduate program in Data Science with 9 minors. Role: Environmental Analytics Minor Development. Funded Amount: $323,813.
- Faculty Research and Creative Endeavors Premier Display Grant. Funded Amount: $1000

AWARDS

- 2022 American Made Solar Prize Round 6 - Semifinalist – Hail Cat team.
- 2022 American Meteorological Society STAC Outstanding Early Career Award, Weather Analysis & Forecasting Committee.

- 2022 American Meteorological Society Editor's Award for Reviews in service to the journals Weather and Forecasting, Monthly Weather Review, and Journal of Applied Meteorology and Climatology. Citation: *'For contributing an exceptional number of excellent reviews spanning a broad range of scientific areas and across several AMS journals.'*
- NSF CAREER Award, March 2020.
- 2019/2020 Central Michigan University Provost's Award for Outstanding Research and Creative Activity.
- 2019 Central Michigan University College of Science & Engineering Award for Outstanding Research.
- 2015 AGU Editors' Citation for Excellence in Refereeing - Geophysical Research Letters, appears in Hanson, B., and R. van der Hilst (2016), Recognizing 2015 reviewers for the American Geophysical Union, *Eos, 97,* doi:10.1029/2016EO050325. Published on 26 May 2016.
- 2015 Tooming Award at the European Conference on Severe Storms (Wiener Neustadt) as co-author of Keul et al. (2015), awarded for best research fostering European Collaboration.
- University of Oklahoma President's Travel Support, 2nd China-U.S. Symposium on Meteorology, Qingdao, China. (Jun. 2013)
- Student Oral Presentation 2nd Prize, AMS 26th Severe Local Storms, Nashville, Tennessee. (Nov. 2012)

SCHOLARSHIPS AND FELLOWSHIPS

- 2022-2025 National Institute of Standards & Technology (NIST) Professional Research Program (PREP) fellowship.
- Australian Postgraduate Award (Scholarship) to support PhD research. (Feb. 2009-Sep. 2012)

PEER-REVIEWED PUBLICATIONS

(65 total, 16 lead & 49 co-author, %/*/+ denotes postdoc/graduate/undergraduate authors respectively)
(Citations: Google Scholar: 3899, H-index: 37, I-10 Index: 56, Publons/ResearcherID: 2243)

1. Hosek, M. J, Hoogewind, K. A., Clark, A. J., Justin*, A. J., and **J. T. Allen**, 2025: A 16-year Climatology of WPC-Analyzed Drylines with and without Severe Convection. *In Press, Journal of Climate.*
2. Justin*, A. D., McGovern, A., and **J. T. Allen**, 2025: FrontFinder AI: Efficient Identification of Frontal Boundaries over the Continental United States and NOAA's Unified Surface Analysis Domain using the UNET3+ Model Architecture. *In Press, Artificial Intelligence for the Earth Systems.*
3. Das%, S. and **J. T. Allen**, 2024: Bayesian Estimation of the Likelihood of Extreme Hail Sizes over the United States. *NPJ Natural Hazards,* **1**, 47*, doi: 10.1038/s44304-024-00052-5*
4. Schmidt*, T. G., McGovern, A., **Allen, J. T.**, Potvin, C. K., Chase, R., Wiley, C., McGovern-Fagg, W., Flora, M. L., Homeyer, C., Williams, J. K., 2024: Gridded Severe Hail Nowcasting Using 3D U-Nets, Lightning Observations and the Warn-on-Forecast System. *Artificial Intelligence for the Earth Systems, **3**, 240026, doi: 10.1175/AIES-D-24-0026.1.*
5. Gopalakrishnan%, D., Cuervo-Lopez*, C. M., **Allen, J. T.**, Trapp, R. J, and E. Robinson, 2024: A comprehensive evaluation of thermodynamic and kinematic biases in CMIP6 models over the United States. *In Press, Journal of Climate. doi: 10.1175/JCLI-D-24-0165.1*
6. Bunkers, M. J., Van Den Broeke, M., S. and **Allen, J. T.**, 2024: An Update for Predicting Left-Moving Supercell Motion. *In Press, Weather and Forecasting. doi: 10.1175/WAF-D-24-0028.1*
7. Nixon*, C., **Allen, J. T.**, Wilson, M., Bunkers, M., 2024: Cell Mergers, Boundary Interactions and Convective Systems in Cases of Strong Tornadoes and Large Hail. *In Press, Weather and Forecasting.* doi: 10.1175/WAF-D-23-0117.1
8. Nixon*, C., **Allen, J. T.,** Taszarek, M. 2023: Hodographs and Skew-Ts of Hail-Producing Storms, *Weather and Forecasting,* , **38**, 2217–2236. doi: 10.1175/WAF-D-23-0031.1.
9. Dos Santos*, L. O, Nascimento, E., and **Allen J. T.**, 2023: Discriminant Analysis for Severe Storm Environments in South-central Brazil. *Monthly Weather Review,* **151**, 2659–2681, doi: 10.1175/MWR-D-22-0347.1.
10. Scarino, B., Itterly, K,,Bedka, K., Homeyer, C., **Allen, J. T.**, Bang, S., and D. Cecil, 2023: Deriving Severe Hail Likelihood from Satellite Observations and Model Reanalysis Parameters using a Deep Neural Network. *Artificial Intelligence for the Earth Systems,* **2**, 220042*, doi:* 10.1175/AIES-D-22-0042.1
11. Justin+*, A. D., Willingham+, C., McGovern, A., and **J. T. Allen**, 2023: Toward Operational Real-time Identification of Frontal Boundaries Using Machine Learning. *Artificial Intelligence for the Earth Systems,* **2**, e220052, doi: 10.1175/AIES-D-22-0052.1.

12. Peters, J., Coffer, B., Parker, M., Nowotarski, C., Mulholland, J., Nixon, C. and **J. Allen**, 2022: Disentangling the influences of storm-relative flow and horizontal streamwise vorticity on low-level mesocyclones in supercells. *Journal of the Atmospheric Sciences,* **80***,* 129-149 *doi:* 10.1175/JAS-D-22-0114.1
13. Robertson, W., Kluver, D., **J. T. Allen,** E. Anderson, 2022**:** Meteotsunami Events and Hydrologic Response in an Isolated Wetland: Beaver Island in Lake Michigan, USA. *JGR Oceans,* **127***,* e2022JC018611. doi: 10.1029/2022JC018611
14. Nixon*, C. J., **Allen, J. T.**, 2022: Distinguishing between Hodographs of Severe Hail and Tornadoes. *Weather and Forecasting,* **37**, 1761–1782. doi: 10.1175/WAF-D-21-0136.1
15. Elmore, K., **J. T. Allen** and A. Gerard, 2022: Sub-severe and Severe Hail. *Weather and Forecasting, 37*, 1357-1369. doi: 10.1175/WAF-D-21-0156.1
16. Pilguj, N., Taszarek, M., **Allen, J. T.**, Hoogewind, K., 2022: Comparison of trends in convective environments between ERA5, MERRA2 and rawinsonde data across Europe and the United States. *Journal of Climate,* 35, 3605-3626. doi: 10.1175/JCLI-D-21-0135.1
17. Zhou, Z., Q. Zhang, **J. T. Allen**, X. Ni and C. Ng, 2021: How many types of severe hailstorm environments are there globally? *Geophysical Research Letters,* 48, e2021GL095485. doi: 10.1029/2021GL095485
18. Lepore, C., Abernathy, R., Henderson, N., **Allen J. T.**, Tippett, M. K., 2021: Future Global Convective Environments in CMIP6 Models. *Earth's Future,* 9, e2021EF002277. doi: 10.1029/2021EF002277 *(Research Highlight EOS:* Stanley, S. (2022), Rising trend predicted for conditions linked to severe storms, *Eos, 103, doi:* 10.1029/2022EO220037.)
19. Taszarek, M., **Allen J. T.**, Marchio, M. and H. E. Brooks, 2021: Global Climatology and Trends in convective environments from ERA5 and rawinsonde data. *NPJ Climate and Atmospheric Science*, **4**, 1-11.
20. **Allen, J. T.,** E. R. Allen, H. Richter and C. Lepore, 2021: Australian Tornadoes in 2013: Implications for Climatology and Forecasting. *Monthly Weather Review,* **149**, 1211-1232.
21. Murillo*, E., Homeyer, C. and **J. T. Allen**, 2021: A 23-Year Severe Hail Climatology using GridRad MESH Observations. *Monthly Weather Review*, 149, 945-958.
22. Taszarek, M., Pilluj, N., **Allen J. T.**, Gensini, V. A. Brooks, H. E., and P. Szuster, 2021: Comparison of convective parameters derived from ERA5 and MERRA2 with sounding data over Europe and North America. *Journal of Climate,* **34**, 3211-3237.
23. Raupach, T. H, Martius, O., **Allen, J. T.**, Kunz, M., Lasher-Trapp, S., Mohr, S., Rasmussen, K. L., Trapp, R. J., and Q. Zhang, 2021: The effects of climate change on hailstorms. *Nature Reviews Earth and Environment,* **2**, 213-226.
24. Nixon*, C. J., **Allen, J. T.**, 2020: Anticipating Deviant Tornado Motion Using a Simple Hodograph Technique. *Weather and Forecasting,* **36**, 219-235.
25. Taszarek, M., **Allen, J. T.**, Groenemeijer, P., Edwards, R., Brooks, H. E., Chmielewski, V., Enno, S., 2020: Severe Convective Storms Across Europe and the United States. Part 1: Climatology of lightning, large hail, severe wind and tornadoes. *Journal of Climate,* **33**, 10239-10261. doi: 10.1175/JCLI-D-20-0345.1
26. Taszarek, M., **Allen, J. T.**, Pucik, T., Hoogewind, K., and H. E. Brooks, 2020: Severe Convective Storms Across Europe and the United States. Part 2: Environments accompanying lightning, large hail, severe wind and tornadoes. *Journal of Climate,* **33**, 10263-10286. doi: 10.1175/JCLI-D-20-0346.1
27. Taszarek, M., **Allen, J. T.**, Brooks, H., Czernecki, B., N.Pilguj, 2020: Differing trends in United States and European severe thunderstorm environments in a warming climate. *Bulletin of the American Meteorological Society,* 1-51. *doi:* 10.1175/BAMS-D-20-0004.1
28. Molina*, M., **J. T. Allen**, A. Prein, 2020: Moisture Attribution and Sensitivity Analysis of a Winter Tornado Outbreak. *Weather and Forecasting,* **35***,* 1263-1288 . doi: 10.1175/WAF-D-19-0240.1
29. Lagerquist, R., **J. T., Allen,** and A. McGovern, 2020: Climatology and Variability of Warm and Cold Fronts over North America from 1979-2018. *Journal of Climate,* **33**, 6531–6554, doi: 10.1175/JCLI-D-19-0680.1
30. Ni, X., A. Muehlbauer, **J. T. Allen**, Q. Zhang, and J. Fan, 2020: Climatology of Maximum Hail Size and Extreme Value Analysis in China. *Monthly Weather Review,* **148**, 1431–1447. doi: 10.1175/MWR-D-19-0276.1.
31. Gensini, V., Barrett, B., **Allen, J. T.,** Gold, D., and P. Sirvatka, 2020: The Extended-Range Tornado Acitivity Forecast (ERTAF) Project. *Bulletin of the American Meteorological Society,* **101**, E700-709. doi: 10.1175/BAMS-D-19-0188.1
32. Molina*, M., and **J. T. Allen**, 2020: Regionally-Stratified Tornadoes: Moisture Source Physical Reasoning and Climate Trends. *Weather and Climate Extremes,* **28**, 1-13. doi: 10.1016/j.wace.2020.1002
33. **Allen, J. T.,** Q. Zhang, I. Giammanco, M. Kumjian, P. Groenemeijer, K. Ortega, M. Kunz, H. Punge 2019: Understanding Hail in the Earth System. *Reviews of Geophysics,* **57**, doi: 10.1029/2019RG000665.

34. Piper, D., M. Kunz, **J. T. Allen**, and S. Mohr., 2019: Temporal variability of thunderstorms in Central and Western Europe is driven by large-scale flow and teleconnection patterns. *Quarterly Journal of the Royal Meteorological Society,* **145***,* 1– 23. doi: 10.1002/qj.3647
35. Gensini, V. A., Gold, D., **Allen, J. T.**, Barrett, B., 2019: Extended U.S. tornado outbreak during late May 2019: A forecast of opportunity. *Geophysical Research Letters,* **46**, 10150-10158. doi: 10.1029/2019GL084470
36. Molina, M. J.* and **J. T. Allen,** 2019: On the Moisture Origins of Tornadic Thunderstorms. *Journal of Climate*, **32**, 4321-4346. doi: 10.1175/JCLI-D-18-0784.1
37. Robertson, W. M**.**, **Allen, J. T.**, Wolaver, B. D., and J. Sharp, 2019: Aridland spring response to mesoscale precipitation: implications for groundwater-dependent ecosystem sustainability. *Journal of Hydrology,* **570**, 850-862*. doi: 10.1016/j.jhydrol.2018.12.074*
38. Taszarek, M., **Allen, J. T.**, Púčik, T., Groenemeijer, P., Czernecki, B., Kolendowicz, L., Lagouvardos, K., and V. Kotroni, 2019: A climatology of thunderstorms across Europe from a synthesis of multiple data sources. *Journal of Climate,* **32,** 1813-1837, *doi: 10.1175/JCLI-D-18-0372.1*
39. Molina, M. J.*, **Allen, J. T.**, V. Gensini, 2018: The Gulf of Mexico and ENSO Influence on Subseasonal and Seasonal CONUS Winter Tornado Variability. *Journal of Applied Meteorology and Climatology,* **57**, 2439-2463. *doi: 10.1175/JAMC-D-18-0046.1*
40. Witt, A., D. Burgess, A. Seimon, **J. T. Allen**, J. C. Snyder, H. B. Bluestein, 2018: Rapid-scan Radar Observations of an Oklahoma Tornadic Hailstorm producing extremely large hail. *Weather and Forecasting,* **33**, 1263–1282. *doi:* 10.1175/WAF-D-18-0003.1
41. Lepore, C., M. K. Tippett, **Allen, J. T.**, 2018: CFS seasonal short range forecasts for severe thunderstorms. *Weather and Forecasting,* **33**, 1283-1297. *doi* 10.1175/WAF-D-18-0054.1
42. Edwards, R., **J. T. Allen**, and G. Carbin, 2018: Estimated convective winds: Reliability and Effects on Severe Storm Climatology. *Journal of Applied Meteorology and Climatology,* **57**, 1825–1845. doi: 10.1175/JAMC-D-17-0306.1 **Highlighted as a Paper of Note:** *Bulletin of the American Meteorological Society*, **99**, 1990-1991.
43. **Allen, J. T.**, Molina, M. J.*, and, V. Gensini, 2018: Modulation of Annual Cycle of Tornadoes by El Niño-Southern Oscillation. *Geophysical Research Letters,* **45***,* doi: 10.1029/2018GL077482
44. **Allen, J. T.**, 2018: Climate Change and Severe Thunderstorms. *Oxford Research Encyclopedia of Climate Science. 67pp. doi:* 10.1093/acrefore/9780190228620.013. *Ed.: Dr. Harold Brooks*
45. Childs, S., Schumacher, R., and **J. T. Allen**, 2018: Cold-season Tornadoes: Climatological and Meteorological Insights. *Weather and Forecasting,* **33***,* 671-691. doi: 10.1175/WAF-D-17-0120.1
46. Keul, A.G., Brunner, B., Bowden, K.A., **Allen, J.T.**, Taszarek, M., Price, C., Soleiman, G., Sharma, S., Roy, P., Aini, M.S., Elistina, A.B., Ab Kadir, M.Z.A. and C. Gomes, 2018: The International Severe Weather Survey. *Weather Climate and Society.* **10***, 501-520, doi 10.1175/WCAS-D-16-0064.1*
47. Gensini, V. A. & **J.T. Allen**, 2018: United States Hail Frequency and the Global Wind Oscillation. *Geophysical Research Letters*, **45**, 1611–1620. https://doi.org/10.1002/2017GL076822
48. Bedka, K., **J. T. Allen**, H. Punge, M. Kunz, and D. Simanovic, 2018: A Long-Term Overshooting Convective Cloud Top Detection Database Over Australia Derived from MTSAT Japanese Advanced Meteorological Imager Observations. *J. Appl. Meteor. Climatol.* **57**, 937–951, doi:10.1175/JAMC-D-17-0056.1
49. **Allen, J. T.**, M. K. Tippett, Y. Kaheil, A.H. Sobel, C. Lepore, S. Nong, A. Muehlbauer, 2017: An Extreme Value Model for United States Hail Size. *Monthly Weather Review,* 145, 4501–4519, doi: 10.1175/MWR-D-17-0119.1
50. Lepore, C., M K. Tippett, and **Allen J. T.**, 2017: ENSO-based probabilistic forecasts of March-May U.S. tornado and hail activity. *Geophysical Research Letters,* **44.** *doi:* 10.1002/2017GL074781
51. **Allen, J. T.,** 2017: Atmospheric Hazards: Hail Potential Heating Up. *Nature Climate Change,* **7**, 474-475, doi:10.1038/nclimate3327
52. Molina, M.*, Timmer, R. and **J. T. Allen**, 2016: The Gulf of Mexico's contribution to United States Severe Thunderstorm Activity. *Geophysical Research Letters,* **43**, 12,295–12,304, doi:10.1002/2016GL071603.
53. Seimon, A., **Allen**, **J. T.,** Seimon, T., Talbot, S., and D. Hoadley, 2016: Crowd-sourcing the El Reno 31st May 2013 Tornado: Making Storm Chaser Visual Observations Scientific. *Bulletin of the American Meteorological Society,* **97**, 2069–2084. doi: 10.1175/BAMS-D-15-00174.1
54. **Allen, J. T.,** and E. R. Allen, 2016: A Review of Severe Thunderstorms in Australia. *Atmospheric Research.* **178-179**, 347-366 doi: 10.1016/j.atmosres.2016.03.011

55. Lepore, C., **Allen, J. T.,** M. K. Tippett, 2016: Understanding the relationship between Extreme Precipitation and Atmospheric Variables over the Contiguous United States. *Journal of Climate,* **29**, 3181-3197. doi: 10.1175/JCLI-D-15-0331.1
56. **Allen, J. T.** and M. K. Tippett, 2015: Characteristics of the United States Hail Observations Dataset 1955-2014. *Electronic Journal of Severe Storms Meteorology,* **10**, 1-31.
57. **Allen, J. T.,** M. Tippett and A. Sobel, 2015b: Influence of El Niño-Southern Oscillation on US hail and tornado frequency. *Nature Geoscience,* **8***,* 278-283. doi: 10.1038/NGEO2385
58. **Allen, J. T.,** M. Tippett and A. Sobel, 2015a: An empirical model relating United States monthly hail occurrence to large-scale meteorological environment. *Journal of Advances in Modeling of Earth Systems,* **7***,* 1-18*.* doi: 10.1002/2014MS000397
59. Tippett, M., **J. T. Allen**, V. A. Gensini, and H. E. Brooks, 2015: Climate and Hazardous Convective Weather. *Current Climate Change Reports,* **1**, 60-73*,* doi: 10.1007/s40641-015-0006-6*.* (Review Paper)
60. **Allen, J.**, D. Karoly, and K. Walsh, 2014b: Future Australian severe thunderstorm environments, Part II: The influence of a strongly warming climate on convective environments. *Journal of Climate*, **27**, 3848-3868. doi: http://dx.doi.org/10.1175/JCLI-D-13-00426.1
61. **Allen, J.**, D. Karoly, and K. Walsh, 2014a: Future Australian severe thunderstorm environments, Part I: A novel evaluation and climatology of convective parameters from two climate models for the late 20th century. *Journal of Climate*, **27**, 3827-3868. doi: http://dx.doi.org/10.1175/JCLI-D-13-00425.1
62. Tippett, M., A. Sobel, S. Camargo, and **J. Allen**, 2014: An empirical relation between U.S. tornado activity and monthly environmental parameters. *Journal of Climate,* **27,** 2983-2999. doi: http://dx.doi.org/10.1175/JCLI-D-13-00345.1
63. **Allen, J.** and D. Karoly, 2014: A Climatology of Australian Severe Thunderstorm Environments 1979-2011: Inter-annual Variability and the ENSO Influence. *International Journal of Climatology.* **34**, 81–97. DOI: 10.1002/joc.3667
64. **Allen, J. T.**, 2012: Supercell Storms: Melbourne's White Christmas 2011. *Bulletin of the Australian Meteorological and Oceanographic Society.* **25,** 47-51.
65. **Allen, J.,** D. Karoly, and G. Mills, 2011: A severe thunderstorm climatology for Australia and associated thunderstorm environments. *Australian Meteorological Oceanographic Journal*, **61**, 143-158.
66. **Allen, J. T.**, Pezza, A. B. and Black, M. T., 2010: Explosive Cyclogenesis: A Global Climatology Comparing Multiple Reanalyses*. Journal of Climate*, **23**, 6468–6484. doi: 10.1175/2010JCLI3437.1

CONDITIONALLY ACCEPTED/IN REVIEW PUBLICATIONS

(7 co-author, $^{\%}$/*/$^{+}$ denotes postdoc/graduate/undergraduate authors respectively.**)**

1. Homeyer, C., Bunkers, M., **Allen, J. T.**, and A. Murphy, 2025: United States Supercell Storms and Their Severity: A 12-year Radar-Based Climatology. *Conditionally Accepted, Journal of Applied Meteorology and Climatology.*
2. Cuervo-Lopez*, C. M., Taszarek, M., and **J. T. Allen**, 2025: Validating Atmospheric Profiles from the ERA5 Reanalysis over North America. *Submitted to Journal of Geophysical Research: Atmospheres.*
3. Taszarek, M., Pucik, T., Nixon, C., **Allen, J. T.**, Peters, J. M., Groenemeijer, P., Battaglioli, F., Dowdy, A., and H. E. Brooks, 2025: What do large hail, tornado and severe thunderstorm wind environments have in common across continents? *In Revision, Bulletin of the American Meteorological Society.*
4. Wang, S., Trapp, R. J, **Allen, J. T.**, Gopalakrishnan$^{\%}$, D., and E. Robinson, 2025: An ensemble of environment-informed, convection-permitting dynamical downscaling simulations for climate-change projections of hazardous convective weather. *In Revision for Journal of Geophysical Research: Atmospherics.*
5. Anderson-Frey, A., **Allen, J.,** Richardson, Y., and P. Markowski, 2025: Tornadoes: Genesis Mechanisms, Near-Storm Environments, and Climate. *Invited Review, Submitted to Nature.*
6. Zeeb, A., **Allen, J. T.** and M. Van Den Broeke, 2025: Understanding Left-Moving Supercells: Environmental Factors and Forecasting Challenges. *In Preparation for Weather and Forecasting.*
7. Zhang, S., Zhang, Q., **Allen, J. T.**, Lin, X., Ng C-P., and C. Liu, 2025: Shifting Hailstone Size Spectrum: Global Projections of Hailstorm Potential Damage Under Anthropogenic Climate Change. *In preparation for Earth's Future.*

OTHER PUBLICATIONS

Opinion/Editorial and Guest Blogs

1. **Allen, J. T.,** 2021: Tornadoes and climate change: What a warming world means for deadly twisters and the type of storms that spawn them. The Conversation – *Op-Ed.* Published: December 13th 2021. Republished at PBS.org, Scientific American, and many other outlets.
2. **Allen, J. T.,** 2021: I study tornadoes. We need to know more about how they're affected by climate change. *USA Today – Op-Ed.* Published: December 13th 2021.
3. McGovern, A. and **J. T. Allen**, 2021: Training the next generation of physical data scientists, *Eos, 102,* https://doi.org/10.1029/2021EO210536. Published on 6 October 2021.
4. **Allen, J. T.,** 2021: Where was tornado season 2021? *NOAA Climate.gov ENSO Blog.* Published: June 30th 2021.
5. **Allen, J. T.**, 2014: 'Australia faces a stormier future thanks to climate change'. The Conversation, OpEd Published 19th Dec. 2014.
6. Markowski, P., H. Brooks, Y. Richardson, R. J. Trapp, **J. Allen**, and N. Diffenbaugh, 2013: The real truth about tornadoes. Posted on Live Science on 2 December 2013 (http://www.livescience.com/41632-the-truth-about-tornadoes.html).
7. Markowski, P., H. Brooks, Y. Richardson, R. J. Trapp, **J. Allen**, and N. Diffenbaugh, 2013: A closer look at tornadoes in a human-heated climate. Posted on the New York Times Opinion Page on 9 December 2013 (http://dotearth.blogs.nytimes.com/2013/12/09/a-closer-look-at- tornadoes-and-global-warming).
8. Columbia University Earth Institute, State of the Planet Blog: 'Chasing tornadoes: Close call with a deadly storm'. Published June 2013.

Invited Research Highlight:

1. **Allen, J. T.**, I. M. Giammanco, M. R. Kumjian, H. J. Punge, M. Kunz, Q. Zhang, and P. Groenemeijer 2020: Ice from above: Toward a better understanding of hailstorms, *EOS, 101,* Published 11th September 2020. https://doi.org/10.1029/2020EO148818.

Journal Editorial:

1. Bunkers, M., Allen, J., Ashley, W., Bieda, S., Calhoun, K., Kirtman, B., Kosiba, K., Mahoney, K., McMurdie, L., Potvin, C., Pu, Z., & Ritchie, E. (2023). Comment–reply exchanges: Trends and suggestions. *Wea. Forecasting*, *38*(5), 633-636.
2. Bunkers, M., Lackmann, G., **Allen, J. T.**, Ashley, W., Bieda, S., Calhoun, K., Kirtman, B., Kosiba, K., Mahoney, K., McMurdie, L., Potvin, C., Pu, Z., Ritchie, E. 2023: Advantages to writing shorter articles. *Wea. Forecasting,* 38*,* 389-390.

Editor-Reviewed Conference Summaries

1. Goebbert, K., **Allen, J. T.**, Gensini, V. A., and M. Ramamurthy, 2018: Data driven scientific workflows: A summary of new technologies and datasets explored at the Unidata 2018 Workshop. *Bull. Amer. Meteor. Soc., 100*(2), ES97-ES99.
2. **Allen, J.**, M. Tippett, A. Sobel, and C. Lepore, 2016: Understanding the drivers of variability in Severe Convection: Bringing together the scientific and insurance communities. *Bull. Amer. Meteor. Soc.* 97, ES221–ES223, doi:10.1175/BAMS-D-16-0208.1

TEACHING

- Courses Prepared & Instructed at Central Michigan University (Fall 2016 – present): **[SOS Avg. 4.38/5.00]**
  - **MET 140** Severe and Unusual Weather (F 2016, 2017, 2018, SP 2019, 2020)
  - **MET 265** Professional Development (F 2018)
  - **MET 270** Weather Forecasting Practicum (SP 2021)
  - **MET 310** Atmospheric Thermodynamics (F 2018, 2019, SP 2021, 2022, 2023, 2024, 2025)
  - **MET 450** Mesoscale Meteorology (F 2016, 2017, 2018, 2019, 2020, 2021)
  - **MET 580WI** Atmospheric Modeling (SP 2017, 2018, 2019, 2020, 2021, 2022)
  - **EES 790 –** Applied Mesoscale Meteorology (F 2016, F 2019)
  - **EES 790 –** Advanced Atmospheric Modeling (SP 2017, SP 2019)
  - **EES 790 –** Advanced Climatological Statistics (F 2017)
  - **MET 497 –** Independent Study Advising (SP 2017, 2018, F 2019)
  - **HON 499 –** Honors Thesis Advising (F 2017, 2020)

RESEARCH MENTORSHIP

Postdoctoral Researchers:

- Dr. Deepak Gopalakrishnan (*Aug. 2022-Aug. 2024*).
- Dr. Subhadarsini Das *(June 2023-present).*

Graduate Students in Progress (Chair):

- *Ph.D.* – Carlos Mario Cuervo López, Ph.D. in Earth and Ecosystem Science, CMU (S2021-present).
- *Ph.D.* – Kaleb Clover, Ph.D. in Earth and Ecosystem Science, CMU (SU2023-present).
- *Ph.D.* – Aaron Zeeb, Ph.D. in Earth and Ecosystem Science, CMU (SU2023-present).

Graduate Students in Progress (Non-Chair):

- *Ph.D. (Co-Advising)* – Andrew Justin, University of Oklahoma (2024-present).
- *Ph.D. (Co-Advising)* – Amruta Vurakaranam, University of Freiburg (2025-present).
- *M.S. (Committee)* – Miles Epstein, University of Washington (2024-present).

Visiting Graduate Students:

- Letícia de Oliveira dos Santos, Ph.D student, Universidade Federal de Santa Maria, Visiting Fullbright Brazil Scholar (AY 21/22).

Graduate Students Completed:

- *Masters (Co-Advisor)* – Andrew Justin, M.S. in Meteorology, University of Oklahoma (2022-2024).
- *Ph.D. (Co-Advisor)* – Letícia de Oliveira dos Santos, U. Federal de Santa Maria, Brazil (2021-2024).
- *Ph.D. (Chair)* – Cameron Nixon, Ph.D. in Earth and Ecosystem Science, CMU (2019-2023).
- *Masters (Co-Advising)* – Tobias Schmidt, M.S. in Meteorology, University of Oklahoma (2021-2023).
- *Ph.D. (Committee)* – Christian Boyer, Ph.D. in Earth and Ecosystem Science, CMU (2019 - 2023).
- *Ph.D. (Chair)* – Maria Molina, Ph.D. in Earth and Ecosystem Science, CMU (2016 – 2019). *TT Faculty Member, University of Maryland.*
- *Masters of Geographic Information Science (Committee)* - Nicholas Bogen, Department of Geography and Environmental Studies, CMU (2019-2020).
- *Masters Thesis Advisor* – Maria Molina, Masters of Climate and Society, Department of Earth and Environmental Sciences, Columbia University (Summer 2015).

Former Students:

- *Ph.D.* – Alan Garcia Jesus Rosales, Ph.D. in Earth and Ecosystem Science, CMU (SU2021-SU2024).

Undergraduates (25 Students):

- *Honors Theses (HON499)*
  Emily Tinney (Fall 2017), Dennis Weaver (Fall 2020).
- *McNair Scholar Mentor*
  Anthony Wilson (Spring-Fall 2018)
- *Supervision of 17 CMU meteorology undergraduate students involved in research projects.*
  Matthew Tuftedal (MET497, S17), Brent Hewett (F16–S17), Jaris Dingman (MET497, S17), Cody Converse (MET497, S18), Emily Tinney (MET497, S18), Dan Butler (MET497, F18–S20), Olivia Vanbuskirk (F18–S20), Anthony Wilson (F18), Daniel Macha (S19 – F19), Brian Horan (F19 – S21), Dennis Weaver (F19 – SU21), Elizabeth Wawrzyniak (F19 – SU22), Scott Thomas (S21-F21), Ethan O'Neill (F21-SU23), Mitchell Green (SU22-F23), Kyle Gilette (SP23-SP24), Gregory Venarsky (F23-present).
- *Primary Mentor – 2 OU meteorology undergraduate students involved in NOAA research project.*
  Andrew Justin (NOAA/AI2ES - University of Oklahoma, S21 – SU22), Colin Willingham (NOAA/AI2ES - University of Oklahoma, SU21 – SU22).
- *Co-Mentor – 2 REU undergraduate students on IBM/AI2ES hail project.*
  Lydia Spychalla (UIUC, AI2ES - University of Oklahoma, SU21), Jordan Robinson (University of Tenessee, AI2ES - University of Oklahoma, SU21).

PROFESSIONAL MEMBERSHIPS

- Member of the American Meteorological Society (2012 – Present)
- General Member of the European Severe Storms Laboratory (*By Invitation*, 2016 – Present)
- Member of the Australian Meteorological and Oceanographic Society (2007 - Present)
- Member of the American Geophysical Union (2015 – Present)

PROFESSIONAL ACTIVITIES

Professional & Scientific Committees

- Unidata Strategic Advisory Committee (2022-2024)
- Unidata Users Committee (2016-2020, 2020-2022)
- AMS Severe Local Storms STAC Committee Member (2015 – 2020, 2023 - 2025)
- Scientific Steering Committee Member, 2nd North American Hail Workshop 2022, Boulder, CO.
- Scientific Steering Committee Member, 3rd European Hail Workshop 2021, Karlsruhe, Germany.
- Program Committee Member, AMS 2020 Centennial Symposium on Severe Local Storms, Boston, MA.
- Scientific Program Committee Member, 9th European Conference on Severe Storms, Pula, Croatia (September 2017).
- Scientific Program Committee Member, 29th AMS Conference on Severe Local Storms 2018, Stowe, VT.
- Organizing Committee '2nd Severe Convection and Climate' workshop at Columbia University, NY bringing together insurers, academics and operational meteorologists (9-10th March 2016).

Conference Chair

- Conference Co-Chair – 31st American Meteorological Society Conference on Severe Local Storms (To be held October 2024).
- Conference Co-Chair & Organizer, Unidata Triennial Workshop 'Reducing Time to Science: Evolving Workflows for Geoscience Research and Education.' (June 2018).
- Organizing Committee '2nd Severe Convection and Climate' workshop at Columbia University, NY bringing together insurers, academics and operational meteorologists (9-10th March 2016).
- Organizing Committee 'Workshop on Severe Convection and Climate' at Columbia University (March 2013).

Session Chair & Judge

- Judge, European Conference on Severe Storms 2023 awards for Oral and Poster Presentations.
- Session Chair, 30th Conference on Severe Local Storms
- Session Chair, 2nd North American Hail Workshop.
- Session Chair, Severe Local Storms Symposium, 100th AMS Annual Meeting.
- Session Chair, 10th European Conference on Severe Storms.
- Student Judging Coordinator and Judge, 29th AMS Severe Local Storms Conference.
- Session Chair, 29th AMS Severe Local Storms Conference '10A: Prediction'.
- Session Chair & Judge for Oral, Poster and Student Presentations, 9th European Conference on Severe Storms session 'Convective Storms and Tornado Dynamics'.
- Session Chair '2nd Severe Convection and Climate' workshop at Columbia University, NY bringing together insurers, academics and operational meteorologists (9-10th March 2016).
- Judge, European Conference on Severe Storms 2015 awards for Oral, Poster and Student Presentations.
- Session Chair at the World Weather Open Science Conference in Montreal, Canada (2014).
- Session Chair 'Workshop on Severe Convection and Climate' at Columbia University (March 2013).

Editorial Appointments

- Editor, *Weather and Forecasting* (October 2021 – present).
- Editor, *Artificial Intelligence for Earth Systems* (September 2021 – present).

- Associate Editor, *Journal of Climate* (July 2019 – August 2021)
- Associate Editor, *Weather and Forecasting* (February 2020 – October 2021).

Peer Review

- Peer reviewer for 32 Journals in the Atmospheric Sciences and over 200 reviews 2011-2024. Includes reviews in service to *Science, Nature, Nature Climate Change, Geophysical Research Letters, the Bulletin of the American Meteorological Society, Quarterly Journal of the Royal Meteorological Society, Journal of Climate, Monthly Weather Review, Weather & Forecasting and Journal of Applied Meteorology and Climatology.*
- Reviewer for the United States IPCC AR5 WGII Government Review (2013).
- Reviewer for proposals for the National Science Foundation, NASA, Department of Energy, Polish National Science Foundation, Austrian Science Fund, Swiss National Science Fund, DFG German Research Foundation, Unidata Equipment Awards.

DEPARTMENT, COLLEGE & UNIVERSITY SERVICE

- Program Director - Earth and Ecosystem Science Ph.D. program (*College:* Aug. 2019-Aug. 2022, (*Sabbatical Fall 2022*), Jan - August 2023)
- Academic Senate Representative for EAS Department (*University:* Sep. 2018-Aug. 2024), (*Sabbatical Fall 2022*))
- Council Member Earth and Ecosystem Science Ph.D. program (*College:* Aug. 2017-July 2019).
- Guest Speaker - Conversations That Matter: Climate Change and the Future of our Planet (29th Jan 2020)
- CSE Day July 2017, 2018, 2019, 2022 (*Department)*
- Earth and Ecosystem Science Ph.D. program faculty (2016-present).
- CMU Provost Search Committee (2021/2022).
- Faculty Searches (Appl. Geophysics Tenure Track, Meteorology Fixed Term, Meteorology Tenure Track).
- Department representative at SP2017, F2022, SP2023, Commencement.
- Faculty Advisor, Student Chapter of the American Meteorological Society (2017-2018).

SEMINARS AND INVITED PRESENTATIONS

- Allen, J. T., 2025: Crossing Scales: Severe Thunderstorms from the Ground to the Climate System. *Invited Panelist, 24th Student Conference, 105th AMS Annual Meeting, New Orleans, Louisiana.*
- Allen, J. T., 2024: Leveraging Machine Learning and AI in Hail Prediction and Forecasting. *Invited Keynote, 4th European Hail Workshop, Karlsruhe, Germany.*
- Allen, J. T., 2024: Severe Thunderstorm Hazards and PV: Assessing Risk Now and in the Future. *Invited Talk and Panelist, PVRW Workshop 2024, Denver, Colorado.*
- Allen, J. T., 2023: Statistical Downscaling for Global Relationships Between the Climate System and Severe Thunderstorms, *Invited National Weather Center Colloquium, School of Meteorology, University of Oklahoma. December 2023.*
- Allen, J. T., 2023: Perspectives of Hail: Observations, Risk and Forecasting. *Invited Seminar, Department of Atmospheric Sciences, University of North Dakota. September 2023.*
- Allen, J. T., 2023: Severe Convective Storms: Local Problems with Global Connections. *Stout Lecture, Department of Earth and Atmospheric Sciences, University of Nebraska. February 2023.*
- Allen, J. T., 2022: Severe Convective Storms: Local Problems with Global Connections. *Invited Seminar, Department of Geological and Atmospheric Sciences, Iowa State University (Virtual). November 2022.*
- Allen, J. T., 2022: Severe Convective Storms: Local Problems with Global Connections. *Invited Seminar, Department of Earth, Ocean and Atmospheric Science, Florida State University (Virtual). November 2022.*
- Allen, J. T., 2022: Global Perspectives on the Relationship between the Climate System and Severe Thunderstorms. *Invited Seminar, Department of Atmospheric Science, University of Wyoming. October 2022.*
- Allen, J. T., 2022: Moderator: Panel 'From Climatology to Climate Change: The Changing Picture of Hail and Hailstorms'. 2nd *North American Hail Workshop, August 13-15th 2018, Boulder CO.*
- Allen, J. T., 2022: Global Perspectives on Hail and Severe Thunderstorms. *Invited Keynote, Severe and Extreme Convective Storms, 2022 CMOS-CGU-ESC Joint Congress, Virtual. June 2022.*

- Allen, J. T., 2022: Global Perspectives on the Relationship between the Climate System and Severe Thunderstorms. *Invited Seminar, Purdue University EAPS. April 2022.*
- Allen, J. T., 2022: Climate Exchange and Extremes. Invited Panelist, *Verisk Envision* 2022, Miami Beach, FL, April 2022.
- Allen, J. T., 2020: Global Observations and Risk of Convective Storms. *Invited Presentation, ESSL Workshop on Convective Storms Risk. 24th November 2020.*
- Allen, J. T., 2019: 'Do You See What I See? Hail Observations and Climatology.' *NIU Geography Colloquium Speaker, 11th October 2019.*
- Allen, J. T., 2019: 'Hail Resiliency: How do we get there?' *Panelist, National Tornado Summit, Mar. 4-6th 2019, Oklahoma City, Oklahoma.*
- Allen, J. T., 2018: 'Hail Observations: Limitations, Oddities and Impacts'. *Keynote Speaker, North America Hail Workshop, Boulder, CO.*
- Allen, J. T., 2018: Moderator: Panel on Hail and Climate Change. *North American Hail Workshop, August 13-15th 2018, Boulder CO.*
- Allen, J. T., 2018: 'Severe Thunderstorms: The Highs, The Lows, But Where?'. *Distinguished Speaker, Michigan State University Geography Colloquium, 2nd February 2018, East Lansing, MI.*
- Allen, J. T., 2018: 'The Implications of Climate Variability on Weather'. *Invited Speaker, Michigan Agri-business 85th Annual Winter Conference, January 8th 2018, Lansing, MI.*
- Allen, J. T., 2017: 'Climate Change: Implications for Hail'. *Invited Speaker and Panelist, Session: 'Are We Ready for the Future of Hail', 2017 Casualty Actuarial Society Annual Meeting, November 7th 2018, Anaheim, CA.*
- Allen, J. T., 2017: 'Convective Parameters: Choosing the 'Right' Parameter for the Right Situation.' *Invited Expert Seminar, European Severe Storms Laboratory Testbed 2017, Wiener Neustadt, Austria.*
- Allen, J. T., 2017: 'What the Hail is Going On: Observations & Climatology' *Department Seminar, Department of Earth and Atmospheric Sciences, Central Michigan University, 6th April 2017.*
- 'An Upward Trend in Severe Weather? Observation Inhomogeneity, Beyond the Mean Statistics & Climate Variability' *Invited Speaker, Chicago Chapter of the American Meteorological Society, Glen Ilyn, Illinois, 16th November 2016.*
- 'Hail, Tornadoes, Climate: Understanding Natural Variability in Severe Thunderstorms.' *Invited Speaker, Storm Prediction Center Seminar, Norman, Oklahoma, 22nd January 2016.*
- 'Severe Thunderstorms: What observations, environments and climate interactions can tell us.' *Invited Speaker, National Center for Atmospheric Research, MMM Laboratory, 23rd October 2015.*
- 'Severe Thunderstorms: What observations, environments and climate interactions can tell us.' *Guest Seminar, Department of Atmospheric Science, Colorado State University, 22nd October 2015.*
- 'Severe Thunderstorms: What observations, environments and climate interactions can tell us.' *Invited Speaker, Division of Ocean and Climate Physics Seminar Series, Lamont-Doherty Earth Observatory of Columbia University, 16th October 2015.*
- 'Crowd-Sourcing the El Reno 2013 Tornado: Making Storm Chaser Observations Scientific.' *Invited Presentation, National Severe Storms Laboratory Seminar, National Weather Center, 11th December 2014.*
- 'Associating Hail and Tornadoes with Large Scale Environment: Climate Scale Interactions and Seasonal Forecasts.' *Invited Presentation, Yale University, Dept. Geology and Geophysics, 3rd April 2014.*

SELECTED MEDIA OUTREACH & VISIBILITY

Research Highlights and Press Releases

- Research Highlight – 'More damaging than tornadoes, hail may finally get the scientific attention it deserves'. Published: September 4th 2024.
- Research Highlight – 'Navigating Hailstorms'. PV Magazine. Published: 24th December 2022.
- Research Highlight – 'AON partners with academia to enhance severe convective storm modelling.' The Insurer. Published: 22nd March 2022.
- Research Mention – Here's why the US has more tornadoes than any other country. CNN.com. Published: 7th March 2021.
- Research Mention – The 2021 tornado season may be more destructive because of La Nina. Here's the forecast. 23rd February 2021.

- Research Highlight – Hail – Solving a Meteorological Mystery CMU News. Published 8th January 2021: Morning Sun
- Research Highlight – EOS Editor's Vox: Allen, J. T., I. M. Giammanco, M. R. Kumjian, H. J. Punge, M. Kunz, Q. Zhang, and P. Groenemeijer (2020), Ice from above: Toward a better understanding of hailstorms, *Eos, 101,* https://doi.org/10.1029/2020EO148818. Published on 11 September 2020.
- Research Highlight and Interview on Hail Research: Wissenschaft.de magazine (Loose Translation: Image of Science). July 2020.
- Research Highlights for Geophysical Research Letters paper 'Extended U.S. tornado outbreak during late May 2019: A forecast of opportunity.': Phys.org, AGU
- Research Highlights for Weather and Forecasting paper 'Cold-season Tornadoes: Climatological and Meteorological Insights': Weather Underground, The Oklahoman (NewsOK).
- Press Highlights Geophysical Research Letters Paper 'United States Hail Frequency and the Global Wind Oscillation': Phys.org , The MidWeek, Futurism, The Weather Network, Weather Nation, USA Today
- Research highlight: 'Tornado Environment Display – El Reno Tornado'. National Geographic News, published December 4th 2015.
- Research highlighted on Climate.gov: ENSO tornadoes and hail on Climate.gov
- Press Release on Influence of ENSO on U.S. Tornadoes and Hail, Including Seasonal forecast video.
- Press Highlights about Nature Geoscience paper 'Influence of ENSO on U.S. Tornadoes and Hail': Nature, Climate Central, Live Science, Washington Post, Science, NBC News, Risk Market News, Weather.com, USA Today, Carbon Brief, Bloomberg, Die Welt, Accuweather, Weather Underground

Documentaries

- National Geographic Television: 'Inside the Mega-twister'. *December 2015.* Scientific content consultant, provision of still images.
- RMC Decouverte: *'*Traqueurs de Tornades: L'America face au danger*'. Director: Christophe Asselin & Alesandar.* On camera interview concerning severe storm environments and climate change.

Live Interview, On Camera and Panels

- Fox 17 – 'A first in Michigan: explaining a 'tornado emergency' and other questions about storms.' May 8th 2024.
- NPR Here and Now: 'Weather experts still investigating last week's deadly tornadoes.' Dec. 15th 2021.
- Live – Radio Busan, Korea: 'US Tornado Outbreak'. Dec. 20th 2021.
- Live - South African Broadcasting Corporation News: 'US Tornado Outbreak'. Dec. 14th 2021.
- Live - ABC News Australia: 'US Tornado Outbreak'. Dec 12th 2021.
- Live - Al Jazeera English: 'US Tornado Outbreak'. Dec. 11th 2021.
- Weathernation.tv: 'La Nina Favors Increased Severe Weather'. Mar. 7th 2021.
- Live ABC Radio National (Aus.). Polar Vortex Puts American Midwest in a deep freeze. 1st February 2019.
- Fox 17 News: Grand Rapids. Hurricane Irma and Hurricane Season. 6th September 2017
- Live Radio Interview on Tornado Warnings: News Talk 770 Alberta, Canada, 10th July 2017.
- CBC News Now (CA) live on camera interview 'Tornadoes: El Niño may given Canada's twister season a boost', aired 4th August 2015.
- Weather Channel Live Interview 'How to Make a Tornado at Home', aired 28th May 2014.
- Interview on Storm Chasing safety by the NBC Today Show, aired Saturday 22nd June 2013.

Comments and Interviews on Current Affairs

- Gizmodo: 'The link between tornadoes and climate change is complicated'. Mar. 31st 2023.
- Washington Post: 'Why the size of the Mississippi tornado was remarkable'. Mar. 26th 2023.
- Washington Post: 'Hints of a derecho-climate change link ten years after 2012 storm.' Jun. 29th 2022.
- WILX: 'As Gaylord toll is counted, expert has tornado advice for Michiganders'. May 22nd 2022.
- NBC News: 'Streak of tornadoes, severe storms batter Southeast after 'extremely active' March'. Apr. 6th 2022.
- New York Times: 'Examining the role of climate change in a wild week of weather'. Dec. 17th 2021.
- Scientific American: 'Quad-State tornado may be longest lasting ever'. Dec. 14th 2021.
- The Verge: 'A tornado expert explains why last week's twisters were so devastating'. Dec. 14th 2021.
- CBS News: 'Historic tornadoes devastated multiple states in a single night. Climate change could make future tornado disasters even deadlier'. Dec. 14th 2021.

- Washington Post: 'Busy tornado season projected across the southern U.S. this Spring'. Feb. 25th 2021.
- Washington Post: 'Experts Predict Near to Above Average Tornado Activity This Spring'. Feb. 16th 2020.
- Scientific American: 'Possible Links between Warming and Tornadoes are Still Murky'. August 22nd 2019.
- NPR: 'Freak Summer Hail Storm Blankets Mexico's Guadalajara'. July 2nd 2019
- NBC News: 'What Explains Freak Hailstorm in Mexico? Here's What Scientists Say'. July 2nd 2019.
- Earther: 'Why are there so many tornadoes right now?'. May 30th 2019.
- US News and World Report: 'Here's Why May was Filled with Extreme Weather Like Tornadoes and Flooding'. June 3rd 2019.
- Washington Post: 'There will be 1,075 tornadoes: Weather vendor's bold prediction draws scrutiny for being very unscientific'. 28th February 2019.
- Weather Underground: US hail damage could hit eleventh straight year above 10 billion. 17th August 2018.
- National Geographic News (International): 'What Happens If You Drive Into a Tornado? Take a Look.' 22nd May 2018.
- Newsweek: Climate Change: Giant Hail Set to Batter North America. 27th June 2017.
- The Verge: Bigger Hail Might Pummel the US as Climate Change Gathers More Force. 26th June 2017.
- Washington Post (National): Tornadoes in Arkansas and Texas. 2nd May 2017.
- Popular Science: Tornadoes and Blizzards Over the Weekend. 1st May 2017.
- Accuweather: Why 2017's tornado season is off to such an active start. 17th April 2017
- Weather Underground: Tornado Risk Amping Up This Week and Beyond. 20th March 2017
- Capital Weather Gang, the Washington Post: Comment on low number of tornadoes in November. 23rd Nov. 2016.
- Commentary Capital Weather Gang for first ever tornado seasonal forecast. Appeared 11th Dec. 2015
- The Guardian (UK) Comment 'Great Plains tornadoes: meteorologists perfecting the science of getting it right. Appeared online 9th May 2015.
- NBC News Comment 'Feathered Forecasters? Tiny Birds Knew Killer Tornadoes were Coming' Appeared 19th Dec. 2014.
- Interview for the Wall Street Journal 'Metropolitan on Tornado Watch for NY', Oct. 2013.

CONFERENCE ORAL PRESENTATIONS (% postdoctoral, *graduate student, # undergraduate presentation)

(96 Oral and 62 Poster Presentations at National or International Meetings)

1. Cuervo-Lopez*, C., **Allen, J. T.**, Kluver, D. B., and M. Taszarek, 2025: Reconstructing Global Severe Hial Environmental Climatology Using Multiple Reanalyses. *29th Conference on Applied Climatology, 105th AMS Annual Meeting, New Orleans, LA.*
2. **Allen, J. T.**, Cuervo-Lopez*, C., M. Taszarek, 2024: Global Climatology of Convective Parameters: Similarity and Variability. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
3. Zeeb*, A., **Allen, J. T.**, Van Den Broeke, M., and M. Bunkers, 2024: Understanding Left-Moving Supercells: Environmental Factors and Forecasting Challenges. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
4. Taszarek, M., Pucik, T., **Allen, J. T.**, Nixon, C., Groenemeijer, P., Peters, J., Battagoli, F., and A. Dowdy, 2024: What do large hail, tornado and severe thunderstorm wind environments have in common across continents? *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
5. Adams-Selin, R., **Allen, J. T.**, et al., 2024: Introduction to the In-situ Collaborative Experiment for the Collection of Hail In the Plains (ICECHIP) Campaign. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
6. Nixon*, C., **Allen, J. T.**, Wilson, M., Bunkers, M., and M. Taszarek, 2024: Cell Mergers, Boundary Interactions, and Convective Systems in Cases of Significant Tornadoes and Hail. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
7. Hosek, M., Hoogewind, K., Clark, A., Justin*, A., and **J. T. Allen**, 2024: A 16-Year Climatology of WPC-Analyzed Drylines and their Association with Severe Convective Storms. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
8. Rosales, A. G., and **J. T. Allen,** 2024: Evaluation of Severe Local Storm Environments in Australia Using the Lapse Rate Tendency Equation. *37th Conference on Climate Variability and Change, 104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*

9. Gopalakrishnan[%], D., **Allen, J. T.**, Trapp, R. J, and E. Robinson, 2024: Future Changes in Severe Thunderstorm Environments Over the United States: A Synoptic-Scale Approach. *37th Conference on Climate Variability and Change, 104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*
10. Das[%], S., and **J. T. Allen,** 2024: Identifying Hotspots of Large Hail Size in the Continental U.S.: A Bayesian Approach. 28th Conference on Probability and Statistics, *104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*
11. Justin*, A. D., McGovern, A., **Allen**, **J. T.,** and J. Williams, 2024: An Improved Deep Learning Algorithm for Operational Detection of Frontal Boundaries. *14th Conference on Transition of Research to Operations, 104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*
12. Kluver, D. B., Robertson, W. M., Anderson, E., J., and **J. T. Allen**,, 2024: Meteotsunami on Lake Michigan: Trends and Teleconnections. *22nd Symposium on the Coastal Environment, 104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*
13. Gopalakrishnan[%], D., **Allen, J. T.**, Trapp, R. J, and E. Robinson, 2023: Evaluation of the skill of CMIP6 models in capturing severe thunderstorm environments over the United States. *AGU Fall Meeting 2023, Session A32H.*
14. **Allen, J. T.**, C. Nixon and K. Gillett, 2023: Synoptic and Mesoscale Variability of US Large Hail Environments. *20th AMS Conference on Mesoscale Processes, Madison, Wisconsin.*
15. **Allen, J. T.,** Nixon, C., Kumjian, M., and M. Taszarek, 2023: Environment and Regime Based Approach to Large Hail Predictors. *32nd AMS Conference on Weather Analysis and Forecasting, Madison, Wisconsin.*
16. Justin*, A. D., McGovern, A., and **J. T. Allen, 2023:** Improving the Prediction and Discernment of Frontal Boundaries with Deep Learning. *20th AMS Conference on Mesoscale Processes, Madison, Wisconsin.*
17. **Allen, J. T.**, Gopalakrishnan, D., Cuervo-Lopez, C., Trapp, R. J, and E. Robinson, 2023: Comparing CMIP6 Future Projections for Severe Convective Environments in a Warmed Climate over Australia, Europe, and North America. *11th European Conference of Severe Storms, Bucharest, Romania.*
18. Kumjian, D., Lombardo, K., Nixon, C., and **J. T. Allen**, 2023: Does low-level vertical wind shear matter for hail production? *11th European Conference of Severe Storms, Bucharest, Romania.* **Audience Choice Best Oral Contribution.**
19. Taszarek, M., **Allen, J. T.,** Nixon, C., Dowdy, A. and F. Battaglioli, 2023: Do severe storms across Australia, Europe, and the United States share similiarities? A comparison of atmospheric profiles and environmental predictors. *11th European Conference of Severe Storms, Bucharest, Romania.*
20. Bedka**,** K. Scarino, B., Itterly, K., Spangenberg, D., Homeyer, C., **Allen, J. T.**, Bang, S., and D. Cecil, 2023: Toward the development of hailstorm climatologies derived from reanalyses and infrared/passive Microwave Satellite Imagers. *11th European Conference of Severe Storms, Bucharest, Romania.*
21. Nixon*, C. J., and **J. T. Allen**, 2023: Hodographs and Skew-Ts of Hail Producing Supercells Using Self-Organizing Maps. *22nd Conference on Artificial Intelligence for Environmental Science, 103rd Annual Meeting of the American Meteorological Society, Denver, Colorado.* **AMS Student Presentation Award Winner (3rd Place)**
22. Justin*, A. D., McGovern, A., and **J. T. Allen**, 2023: Operational Analysis of Frontal Boundaries using U-Nets. *22nd Conference on Artificial Intelligence for Environmental Science, 103rd Annual Meeting of the American Meteorological Society, Denver, Colorado.* **AMS Student Presentation Award Winner (1st Place)**
23. Schmidt*, T. G., McGovern, A., **Allen, J. T.**, Chase, R., Williams, J. K., McGovern-Fagg, W., Wiley, C., Flora, M. L., Potvin, C. K., and N. A., Snook, 2023: 1-2 Hour Hail Nowcasting Using Time-Resolving 3-Dimensional UNets. *22nd Conference on Artificial Intelligence for Environmental Science, 103rd Annual Meeting of the American Meteorological Society, Denver, Colorado.*
24. Trapp, R. J., Baldwin, M. E., **Allen, J. T.**, Robinson, E., Bowen, S., Lasher-Trapp, S., Hoogewind, K. A., 2022: Convection-allowing dynamical downscaling for hazardous thunderstorm risk assessment under past and future climates. *AGU Fall Meeting 2022, Chicago, IL.*
25. Robertson, W. M., Kluver, D. B., Anderson, E., J., and **J. T. Allen**, 2022: What's in a Wave: Isolated wetland response to wave action along the Lake Michigan coastline. *AGU Fall Meeting 2022, Chicago, IL.*
26. **Allen J. T.**, Lepore, C., Abernathy, R., Henderson, N., Tippett, M. K., 2022: Global Climatology of Severe Storm Environments and Future Projections Under a Warming Climate. *30th AMS Conference on Severe Local Storms, Santa Fe, New Mexico.*

27. Peters, J., Coffer, B., Parker, M., Nowotarski, C., Mulholland, J., Nixon*, C. and **J. Allen**, 2022: Disentangling the influences of storm-relative flow, updraft width, and horizontal streamwise vorticity on low-level supercell mesocyclones. *30th AMS Conference on Severe Local Storms, Santa Fe, New Mexico.*
28. **Allen J. T.**, C. Nixon*, M. Kumjian, 2022: Searching for Predictability in the Environmental Conditions Preceding Large Hail. *2nd North American Hail Workshop, Boulder, Colorado.*
29. Nixon*, C. J., and **J. T. Allen**, 2022: Hodographs and Skew-Ts of Hail Producing Supercells Using Self-Organizing Maps. *2nd North American Hail Workshop, Boulder, Colorado.*
30. Scarino, B., Itterly, K., Bedka, K., Homeyer, C., **Allen, J. T.,** Bang, S., Cecil, D., 2022: Using a Deep Neural Network to Estimate Severe Hail Likelihood from Satellite Observations and Model Reanalysis Parameters. *2nd North American Hail Workshop, Boulder, Colorado.*
31. Adams-Selin, R., **Allen, J. T.,** Gensini, V., and A Heymsfield, 2022: ICECHIP: Closing Critical Observational Gaps in Hail Research. 2nd North American Hail Workshop, Boulder, Colorado.
32. **Allen J. T.**, C. Nixon*, M. Kumjian, R. Jewell, B.Smith, R. Thompson 2022: Predictors and Process Insights for the Generation of Large Hail. *31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP), 102nd Annual Meeting of the American Meteorological Society, Virtual.*
33. **Allen, J. T.** and P. Bostock, 2022: The Relationship between Hail Risk and Photovoltaic Installation Vulnerability. *13th Conference on Weather, Climate and the New Energy Economy, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
34. dos Santos*, L. O., Nascimento, E. and **J. T. Allen**, 2022: Convective Environments Associated with Severe Weather Reports in South-Central Brazil. *19th Conference on Mesoscale Processes, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
35. Weaver#, D., and **J. T. Allen**, 2022: Understanding the Connection between Hail Size and Physical Damage Using Storm Report and CoCoRaHS Data. *10th Symposium on Building a Weather-Ready Nation: Enhancing Out Nations Readiness, Responsiveness, and Resilience to High Impact Weather Events, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
36. Justin#, A., C., Willingham#, A. McGovern and **J. Allen**, 2022: Toward Operational Real-Time Identification of Frontal Boundaries Using Machine Learning: A 3D Model. *21st Conference on Artificial Intelligence for Environmental Science, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
37. L. Spychalla#, Chase, R. J., J. Robinson#, A McGovern, J. K. Williams, **J. Allen**, and N. Snook, 2022: Next-hour Hail Prediction from Numerical Weather Prediction Models using U-nets. *21st Conference on Artificial Intelligence for Environmental Science, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
38. Taszarek, M., Pilluj, N., **Allen J. T.**, Gensini, V. A. Brooks, H. E., and K. Hoogewind, 2022: Comparison of Convective Parameters Derived from ERA5 and MERRA-2 with Rawinsonde Data over Europe and North America. *21st Conference on the Middle Atmosphere, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
39. Chase, R. J., L. Spychalla#, J. Robinson#, A McGovern, J. K. Williams, **J. Allen**, and N. Snook, 2021: Near real-time hail forecasts using machine learning and convective allowing models. *3rd NOAA Workshop on Leveraging AI in Environmental Sciences, NOAA, Boulder, CO.*
40. **Allen J. T.**, C. Nixon*, M. Kumjian, R. Jewell, B.Smith, R. Thompson 2021: Forecast parameters for hail occurrence and size. *3rd European Hail Workshop, Virtual.*
41. Nixon, C. J.*, **Allen J. T.**, 2021: Hodographs for hailstorms in the United States. *3rd European Hail Workshop, Virtual.*
42. Raupach, T. H, Martius, O., **Allen, J. T.**, Kunz, M., Lasher-Trapp, S., Mohr, S., Rasmussen, K. L., Trapp, R. J., and Q. Zhang, 2021: Hail in a warming climate. *3rd European Hail Workshop, Virtual.*
43. Ni, X., **J. T. Allen**, J. Fan, A. Muehlbauer, and Q. Zhang, 2021: A climatology and extreme value analysis of large hail in China. *3rd European Hail Workshop, Virtual.*
44. Murillo, E., Homeyer, C. and **J. T. Allen**, 2021: United States hail climatology: How good can we get? *Invited Presentation, 3rd European Hail Workshop, Virtual.*
45. **Allen, J.T**., Taszarek, M., Marchio, M., Brooks, H., Pilguj, N., Lepore, C., 2021: Global decreases in favorable thunderstorms environments: Trends and variability. *Australian Meteorological and Oceanographic Society Annual Meeting 2021: Science for Impact, Virtual.*

46. Nixon, C. J.*, **Allen J. T.**, 2021: Distinguishing between Hodographs of Severe Hail and Tornadoes. *11th Conference on Transition of Research to Operations, 101st Annual Meeting of the American Meteorological Society, Virtual.*
47. **Allen, J. T.**, M. R. Kumjian, C. J. Nixon*, R. E. D. Jewell, B. T. Smith, and R. L. Thompson, 2020: Forecast Parameters for U.S. Hail Occurrence and Size. *30th Conference on Weather Analysis and Forecasting (WAF)/26th Conference on Numerical Weather Prediction (NWP), AMS 100th Annual Meeting, Boston, MA.*
48. **Allen, J. T**., R. A. Lagerquist, and A. McGovern, 2020: Climatology and Variability of Warm and Cold Fronts over North America. *33rd Conference on Climate Variability and Change, AMS 100th Annual Meeting, Boston, MA.*
49. VanBuskirk#, O.G. and **J. T. Allen**, 2020: A City-Based Analysis of the Likelihood of Extreme Hail Sizes over the United States. *26th Conference on Probability and Statistics, AMS 100th Annual Meeting, Boston, MA.* **AMS Student Oral Presentation Award Winner (3rd Place).**
50. Bogen*, N. R. **J. T. Allen** and B. W. Heumann, 2020: Spatial Analysis of U.S. Agriculture Losses Due to Hailfall over the Past 29 Years. *25th Conference on Applied Climatology, AMS 100th Annual Meeting, Boston, MA.*
51. Molina*, M. J., **J. T. Allen** and A. F. Prein, 2020: Sensitivity of a Winter Tornado Outbreak to Upstream SSTs. *30th Conference on Weather Analysis and Forecasting (WAF)/26th Conference on Numerical Weather Prediction (NWP), AMS 100th Annual Meeting, Boston, MA.*
52. Lagerquist, R. A., **J. T. Allen** and A. McGovern, 2020: Using Deep Learning to Create a Long-Term Climatology of Warm and Cold Fronts. *19th Conference on Artificial Intelligence for Environmental Science, AMS 100th Annual Meeting, Boston, MA.*
53. Murillo, E. M., C. R. Homeyer and **J. T. Allen**, 2020: A 22-Year Hail Climatology using GridRad MESH Observations. *20th Symposium on Meteorological Observation and Instrumentation, AMS 100th Annual Meeting, Boston, MA.*
54. Gensini, V.A., D. Gold, **J. 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), AMS 100th Annual Meeting, Boston, MA.*
55. **Allen, J. T.** and C. Lepore, 2019: The Global Distribution of Hail and Tornado Environments. *10th European Conference on Severe Storms, Krakow, Poland.*
56. Taszarek, M., **J. Allen**, H. E. Brooks, B. Czernecki, and N. Pilguj: 2019: Long-term changes in thunderstorm environments over Europe and the United States. *10th European Conference on Severe Storms, Kraków, Poland.*
57. Molina*, M., and **J.T. Allen**, 2018: Severe Convective Storms in the United States: Where Does the Moisture Come From? *2018 AGU Fall Meeting, Washington, DC.*
58. **Allen, J. T.**, Molina*, M., Gensini, V., E. Faust, M. Steuer, and J. Eichner, 2018: ENSO-driven Seasonal Variability in Hail, Tornadoes and Losses. *29th Conf. on Severe Local Storms, Stowe, VT.*
59. Molina*, M. and **J. T. Allen**, 2018: A Lagrangian Technique for Moisture Attribution of Winter and Spring Severe Local Storms over the Contiguous United States. *29th Conf. on Severe Local Storms, Stowe, VT.* **AMS Student Oral Presentation Award Winner.**
60. Tinney#, E., **J. T. Allen**, and D. Kluver, 2018: Dynamically-Downscaled Estimates of Favorable Convective Environments and Storms Over the Upper Midwestern U.S. *29th Conf. Severe Local Storms.*
61. Lepore, C., Tippett, M. K., and **J. T. Allen**, 2018: Seasonal and Monthly Forecasting of US Hail Activity. *North American Hail Workshop, Boulder, Colorado.*
62. Childs, S., Schumacher, R., and **J. T. Allen**, 2018: Tornadoes in Winter? Assessing the Climatological Trends and Meteorological Environments of Cold-Season Tornadoes. *98th AMS Annual Meeting, 13th Symposium Societal Applications: Policy, Research and Practice, Austin, TX.*
63. Houser, J., A. Seimon, K. J. Thiem, H. B. Bluestein, S. Talbot, J. C. Snyder, **J. T. Allen**, 2018: Novel Observations of the 2013 El Reno Tornado: Confirming Ground-Up Tornadogenesis through Coupled Rapid-Scan Radar Data and Crowd-Sourced Storm Chaser Videography. *98th AMS Annual Meeting, 19th Symposium on Meteorological Observation and Instrumentation, Austin, TX.*
64. Robertson, W.M., **Allen, J.T.**, Wolaver, B.D., Hewett*, B., and Sharp, J.M. Jr., 2017: Response of water quality in San Solomon Springs to mesoscale precipitation events: implications for groundwater sustainability and health of aquatic ecosystems in Trans-Pecos, TX, USA. *Geological Society of America National Meeting 2017.*

65. Molina, M.*, **J. T. Allen** and V. Gensini: Gulf of Mexico Influence on Sub-seasonal and Seasonal Severe Thunderstorm Frequency. *42nd Climate Diagnostics and Prediction Workshop, Norman, Oklahoma.*
66. **Allen, J.,** and E. R. Allen, 2017: Tornado Climatology of Australia. *9th European Conference on Severe Storms, 19-21st September, Pula, Croatia.*
67. **Allen, J. T.**, M. K. Tippett, C. Lepore, A.H. Sobel, 2017: Hail: What We Know Around the World. *2nd European Hail Workshop, 19-21st April, Bern, Switzerland.*
68. Tuftedal, M.* and **J. T. Allen**, 2017: 20 August 2016 Southwest MI Tornado Outbreak. *15th Annual Great Lakes Meteorology Conference in Valparaiso, IN.*
69. Tuftedal, M.* and **J. T. Allen**, 2017: 20 August 2016 Southwest MI Tornado Outbreak. *21st Annual Severe Storms and Doppler Radar Conference in Ankeny, IA.*
70. **Allen, J. T.,** Lepore, C. and M. K. Tippett, 2016: Beyond the Mean: Trends in United States Convective Environments, *28th AMS Conference on Severe Local Storms, Portland, OR.*
71. **Allen, J.,** M. Tippett, and A. Sobel 2016: The Contribution of ENSO to Hail and Tornado Seasonal Variability. *Oral Presentation, 2nd Workshop on Severe Convection and Climate, Columbia University, New York.*
72. **Allen, J.,** M. Tippett, and A. Sobel 2016: Seasonal Predictability of Severe Thunderstorms based on ENSO: Methodology and evaluation of the 2015 forecast. *Oral Presentation, 28th Conference on Climate Variability and Change, 96th AMS Annual Meeting, New Orleans, Louisiana.*
73. **Allen, J.**, A. Seimon, T. Seimon and S. Talbot, 2016: Crowd-Sourcing the Storm: A New Approach for Obtaining and Collating Scientific Tornado Observations. *18th Symposium on Meteorological Observation and Instrumentation, 96th AMS Annual Meeting, New Orleans, LA.*
74. **Allen, J.,** and E. R. Allen, 2016: Australian Tornadoes: Climatology 1795-2014 Compared to a 'Record' 2013. *22nd Conference on Applied Climatology, 96th AMS Annual Meeting, New Orleans, LA.*
75. **Allen, J.,** and M. Tippett, 2015: Seasonal Predictability of Severe Thunderstorms based on ENSO: Methodology and evaluation of the 2015 forecast. *Oral Presentation, 40th Climate Diagnostics and Prediction Workshop, Denver, Colorado.*
76. **Allen, J.,** M. Tippett, and A. Sobel 2015: Severe Hail Over the United States and its Relationship to the Climate System. *8th European Conference on Severe Storms, September 14-18, Wiener Neustadt, Austria.*
77. Keul, A.,Brunner, B., Korff, M.,Sharma, S., Roy, P., **Allen, J.,** Bowden, K. A., Aini, M. S., E., Abu B., Ab Kadir, M., Zainal A., Gomes, C., Taszarek, M., 2015: Severe weather and psychology: Analysis of international survey data. *Oral Presentation, 8th European Conference on Severe Storms, September 14-18, Wiener Neustadt, Austria.*
78. **Allen, J.,** Tippett, M. and A. Sobel, 2015: ENSO and Seasonal Severe Weather Predictability. *Oral Presentation, Climate and Severe Weather Workshop, March 11-12, 2015, College Park, MD.*
79. Tippett, M., **Allen, J.,** Brooks, H., Carmargo, S., Carbin, G., Gottschalk, J., Sobel, A., Weaver, S., and W. Wang, 2015: CFSv2 guidance for severe weather prediction. *Oral Presentation, Climate and Severe Weather Workshop, March 11-12, 2015, College Park, MD.*
80. **Allen, J.,** and E. R. Allen, 2014: The Tornado Climatology of Australia 1795–2013. *Oral Presentation, 27th AMS Conference on Severe Local Storms, Madison, Wisconsin.*
81. Seimon, A., **J. T. Allen,** T. Seimon, E. Edwards, S. Talbot and D. Hoadley, 2014: The El Reno Survey Project: Crowd-sourced Database Development, Synchronous Photogrammetric Observations and 3-D Mapping of the Largest Documented Tornado. *Oral Presentation, 27th AMS Conference on Severe Local Storms, Madison, Wisconsin.*
82. **Allen, J.,** and Seimon, A, 2014: Crowd-sourcing for obtaining data on an extreme tornado: A new model informing meteorological research. *Oral Presentation, World Weather Open Science Conference 2014, Montreal, QC, Canada.*
83. **Allen, J.,** and Tippett, M., 2014: Associating Hail Occurrence and Large Scale Environment for the Continental United States 1979-2012. *Keynote, World Weather Open Science Conf., Montreal, QC, CA..*
84. Tippett, M., Camargo, S., Sobel, A., and **Allen J. T.**, 2014: Toward seamless prediction of severe weather activity. *Oral Presentation, World Weather Open Science Conference 2014, Montreal, QC, Canada.*
85. **Allen, J.,** Tippett, M., Sobel, A., and S. Camargo, 2014: Associating Hail Occurrence and Large Scale Environment for the Continental United States 1979-2012. *Oral Presentation, 26th Conference on Climate Variability and Change, Atlanta, GA.*

86. Tippett, M., **Allen**, **J.**, Brooks, H., Carbin, G., Camargo, S., Sobel, A., Wang, W., and S. Weaver, 2014: Toward seamless prediction of severe weather activity. *Oral Presentation, 26th Conference on Climate Variability and Change, Atlanta, GA.*
87. **Allen, J.,** Tippett, M., Sobel, A., and S. Camargo, 2013: Associating Hail Occurrence and Large Scale Environment for the Continental United States 1979-2012. *Oral Presentation, 38th CDPW NCEP/NOAA, College Park, MD.*
88. **Allen, J.**, and M. Tippett, 2013: The Climatology of Severe Thunderstorms, Tornadoes and Associated Environments for Australia. *Australian BOM Science for Services: Improving forecasts of fire weather and deep convection. August 2013, Melbourne, Australia.*
89. **Allen, J.** and M. Tippett, 2013: A bridge to the climate scale: Empirical relationships between environmental parameters and US tornado activity. *Oral Presentation, 2nd China-U.S. Symposium on Meteorology, Qingdao, PR China.*
90. **Allen, J. T.**, 2013: Tornado Frequency: Can we point the finger at ENSO? *Oral Presentation, Workshop on Severe Convection and Climate, March 2013, Columbia University, Palisades, NY.*
91. Ramsay, H., **Allen, J.,** and J. Hall, 2013: The Australia Day 2013 Tornado Outbreak in Southeast Queensland Associated with Ex-Tropical Cyclone Oswald*. Oral Presentation, 10th Annual Meeting of the Asia Oceania Geosciences Society, Brisbane, Australia.*
92. **Allen, J.** and D. Karoly, 2012: Severe thunderstorm environments: What does the future hold for Australia? *Oral Presentation, 26th AMS Conference on Severe Local Storms, Nashville, Tennessee.*
93. **Allen, J**., and D. Karoly, 2012: A climatology of Australian severe thunderstorm environments 1979-2011. *Oral Presentation, AMOS National Conference 2012, Sydney, Australia.*
94. **Allen, J**., and D. Karoly, 2011: An assessment of Australian severe thunderstorm environments 1989-2010. *Oral Presentation, European Conference on Severe Storms 2011, Palma, Spain.*
95. **Allen, J**., Karoly, D. and Mills, G., 2011: An Observation-based 'Proximity' Climatology of Australian Severe Thunderstorm Environments. *Oral Presentation, Joint Conference of the Australian and New Zealand Atmospheric Societies 2011*, *Wellington, New Zealand.*
96. Black, M., Pezza, A. and **Allen, J.**, 2010: A comparison of Southern Hemisphere explosive cyclone development. *AMOS National Conference 2010, Canberra, Australia.*

CONFERENCE POSTERS (% postdoctoral, *graduate student, # undergraduate presentation**)**

1. Nixon*, C., **J. T. Allen**, Wilson, M., Bunkers, M., and M. Taszarek, 2025: Cell Mergers, Boundary Interactions, and Convective Systems in Cases of Significant Tornadoes and Hail. *Symposium on Radar Research to Operations, 105th AMS Annual Meeting, New Orleans, LA.*
2. Clover*, K. R., Das%, S., and **J. T. Allen**, 2025: A Machine Learning Approach to Smoothing Tornado Climatology Maps. *24th Conference on Artificial Intelligence for Environmental Science, 105th AMS Annual Meeting, New Orleans, LA.*
3. Das%, S., and **J. T. Allen**, 2025: Predicting Future Hail Risk under Climate Change: A Covariate-Based Model Leveraging Machine Learning. *38th Conference on Climate Variability and Change, 105th AMS Annual Meeting, New Orleans, LA.*
4. Stevermer, A., LaConte, K., **Allen J. T.**, Payo, R., Rummel, M., 2025: Increasing Student Understanding of Severe Storms in an Era of Climate Change: Online Interactives to Explore Observed and Projected Changes in Convective-Storm Related Hazards. *34th Conference on Education, 105th AMS Annual Meeting, New Orleans, LA.*
5. Neal#, C., Robertson, W., Kluver, D. B., **Allen, J. T.**, Lammers, R. and A. Suchy, 2025: How are Michigan Communities Preparing for Their Climate Future? Outcomes of a Document Analysis of Municipal and County Plans for Climate Change, Risks, Priorities. *24th Student Conference, 105th AMS Annual Meeting, New Orleans, LA.*
6. Oneill, E., Davenport, C., Nixon, C., and **J. T. Allen**, 2024: The Sensitivity of the Impact of Cell Mergers on Supercell Thunderstorms Before vs. After Sunset. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
7. Homeyer, C., Murphy, A., **Allen, J. T.**, and M. Bunkers, 2024: Supercell Storms in the CONUS - Insights from Analysis of 12 years of Radar Data. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
8. Das%, S., and **Allen, J. T.**, 2024: Environmental Covariates Surrogate for Modeling Extreme Hail Sizes. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*

9. Cuervo-Lopez*, C., **Allen, J. T.**, M. Taszarek, 2024: Comparative Assessment of Reanalyses Global Performance. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
10. Wang, S., Trapp, R. J, **Allen, J. T.**, Gopalakrishnan%, D and E. Robinson, 2024: Climate-Change Projections of Hazardous Convective Weather Using an Environment-Informed, Convection-Permitting Dynamical Downscaling Methodology. *31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
11. Gopalakrishnan%, D., **Allen, J. T.**, Trapp, R. J, and E. Robinson, 2024: Future Changes in Convective-storm Parameter Distributions in the United States. *E-Poster. 31st AMS Conference on Severe Local Storms, Virginia Beach, VA.*
12. Gopalakrishnan%, D., **Allen, J. T.**, Cuervo-Lopez*, C., Trapp, R. J, and E. Robinson, 2024: How Skillful are the CMIP6 Models in Capturing Severe Thunderstorm Environments Over the United States? 37th Conference on Climate Variability and Change, *104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*
13. Cuervo Lopez*, C. M., **J. T. Allen**, M. Taszarek, 2024: Comparative Analysis of ERA5 Model Levels and Pressure Levels Over the Continental U.S. *28th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Ocean, and Land Surface, 104th Annual Meeting of the American Meteorological Society, Baltimore, Maryland.*
14. Gopalakrishnan%, D., **Allen, J. T.**, Trapp, R. J, and E. Robinson, 2024: Future changes in severe thunderstorm environments over the United States from CMIP6 models. *AGU Fall Meeting 2023, Session A33R.*
15. Trapp, R. J, Wang, S., **Allen, J. T.**, Gopalakrishnan%, D., and E. Robinson, 2024: Environment-informed, convection-permitting dynamical downscaling for climate-change projections of hazardous convective weather. *AGU Fall Meeting 2023, Session A33R.*
16. Rosales*, A. G., **J. T. Allen**, 2023: "Evaluation of Severe Storm Environments through use of the Lapse Rate Tendency Equation". Poster and Extended Abstract. WCRP Open Science conference. Kigali, Rwanda. 23-27 October 2023.
17. Rosales, A.G., and **J. T. Allen**, 2023: Evaluation of the Evolution of Severe Storm Environments through Use of the Lapse Rate Tendency Equation. *20th AMS Conference on Mesoscale Processes, Madison, Wisconsin.*
18. **Allen, J. T.,** Nixon, C., Kumjian, M., and M. Taszarek, 2023: Will hail be severe? Elusive Environmental Predictors generating large hail. *11th European Conference of Severe Storms, Bucharest, Romania.*
19. Cuervo Lopez*, C. M., **J. T. Allen**, M. Taszarek, 2023: Evaluation of Reanalyses relative global performance for convective parameters using Self Organizing Maps (SOM). *2nd Symposium on Community Modeling and Innovation, 103rd Annual Meeting of the American Meteorological Society, Denver, Colorado.*
20. Rosales*, A. G., and **J. T. Allen**, 2023: Evaluation of Severe Storm Environments through use of the Lapse rate tendency equation. *3rd Symposium on Mesoscale Processes, 103rd Annual Meeting of the American Meteorological Society, Denver, Colorado.*
21. ONeill#, E., C. Nixon* and **J. T. Allen**, 2023: Environmental Influences on Hazards Produced by Long-Track Supercells. *13th Conference on Transition of Research to Operations, 103rd Annual Meeting of the American Meteorological Society, Denver, Colorado.* **AMS Student Poster Presentation Award Winner (1st Place).**
22. **Allen J. T.**, C. Nixon*, M. Kumjian, M. Taszarek, R. Jewell, B.Smith, R. Thompson 2022: The Elusive Environmental Predictors Generating Large Hail. *30th AMS Conference on Severe Local Storms, Santa Fe, New Mexico.*
23. Nixon*, C., and **J. T. Allen**, 2022: Hodographs and Skew-Ts of Hail-Producing Supercells Using Self-Organizing Maps. *30th AMS Conference on Severe Local Storms, Santa Fe, New Mexico.*
24. Cuervo Lopez*, C. M., **J. T. Allen**, M. Taszarek, 2022: Evaluation of Reanalyses relative global performance for convective parameters using Self Organizing Maps (SOM). *30th AMS Conference on Severe Local Storms, Santa Fe, New Mexico.*
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