

John T. Allen – Curriculum Vitae

*Associate Professor of Meteorology,
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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).
- **Director**, Earth and Ecosystem Science Ph.D. Program, Central Michigan University, (August 1st 2019 – Present)
- **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 (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. (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. (Nov. 2007).

EXTERNALLY FUNDED GRANTS

Awarded (2.77M, Total Award to CMU: \$1.37M):

- **Co-Principal Investigator** (PI Jeff Trapp), AON Reinsurance, ‘*Geospatial predictive analysis of damaging hail and wind occurrences in the lower 48 states and Canada*. 16th March 2022 – 15th March 2023.
- **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)*. 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. 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 (JTII) NA20OAR4590347. 1st Sep 2020 – 31st Aug 2022.
- **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 Division. 1st August 2019 – 31st July 2022.
- **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’. 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’. 1st May 2016-30th June 2017.
- **Co-Principal Investigator**, National Geographic Expeditions Council Award EC0692-14 for the ‘Requiem at El Reno’ project. 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. To support travel to the European Conference on Severe Local Storms to present ‘*The Tornado Climatology of Australia: Assessing Risk and Evolution through Time and Hail: What We Know Around the World*’. Funded Amount: \$1000

AWARDS AND SCHOLARSHIPS

- 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)
- Australian Postgraduate Award (Scholarship) to support PhD research. (Feb. 2009-Sep. 2012)

PEER-REVIEWED PUBLICATIONS (51 total, 16 lead & 35 co-author, graduate student denoted by *) (Citations: Google Scholar: 1663, H-index: 24, I-10 Index: 40, Publons/ResearcherID: 1019)

1. Pilguy, 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. *In Press, Journal of Climate*.
2. 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](https://doi.org/10.1029/2021GL095485)
3. 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](https://doi.org/10.1029/2021EF002277)

- (*Research Highlight EOS*: Stanley, S. (2022), Rising trend predicted for conditions linked to severe storms, *Eos*, 103, doi: [10.1029/2022EO220037](https://doi.org/10.1029/2022EO220037).)
4. 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.
 5. **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.
 6. 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.
 7. 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.
 8. 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.
 9. Nixon*, C. J., **Allen, J. T.**, 2020: Anticipating Deviant Tornado Motion Using a Simple Hodograph Technique. *Weather and Forecasting*, **36**, 219-235.
 10. 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
 11. 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
 12. Taszarek, M., **Allen, J. T.**, Brooks, H., Czernecki, B., N.Pilguy, 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
 13. 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
 14. 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
 15. 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.
 16. Gensini, V., Barrett, B., **Allen, J. T.**, Gold, D., and P. Sirvatka, 2020: The Extended-Range Tornado Activity Forecast (ERTAF) Project. *Bulletin of the American Meteorological Society*, **101**, E700-709. doi: 10.1175/BAMS-D-19-0188.1
 17. 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
 18. **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. **Editor's Vox Highlight, EOS:**
 19. 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
 20. 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
 21. 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
 22. 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
 23. Taszarek, M., **Allen, J. T.**, Púčík, 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 (**5th most read paper in 2020 for all AMS Journals, most read paper in Journal of Climate**).
24. 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
 25. 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
 26. 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
 27. 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.
 28. **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
 29. **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
 30. 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
 31. 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
 32. 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
 33. 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
 34. **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
 35. 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
 36. **Allen, J. T.**, 2017: Atmospheric Hazards: Hail Potential Heating Up. *Nature Climate Change*, **7**, 474-475, doi:10.1038/nclimate3327
 37. 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.
 38. 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
 39. **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
 40. 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
 41. **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.
 42. **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
 43. **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
 44. 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)

45. **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>
46. **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>
47. 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>
48. **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
49. **Allen, J. T.**, 2012: Supercell Storms: Melbourne’s White Christmas 2011. *Bulletin of the Australian Meteorological and Oceanographic Society*. **25**, 47-51.
50. **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.
51. **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 (4 co-author)

1. Nixon*, C. J., **Allen, J. T.**, 2022: Distinguishing between Hodographs of Severe Hail and Tornadoes. *Conditionally Accepted, Weather and Forecasting*.
2. Elmore, K., **J. T. Allen** and A. Gerard, 2021: Sub-severe and Severe Hail. *Conditionally Accepted, Weather and Forecasting*.
3. Robertson, W., Kluver, D., **J. T. Allen**: Meteotsunami Events and Hydrologic Response in an Isolated Wetland: Beaver Island in Lake Michigan, USA. *In Review, JGR Oceans*.
4. Peters, J., Coffey, B., Parker, M., Nowotarski, C., Mulholland, J., Nixon, C. and J. Allen, 2022: Is storm-relative helicity the optimal parameter for predicting supercell low-level mesocyclone intensity. *In Review, Journal of the Atmospheric Sciences*

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. Diffsenbaugh, 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. Diffsenbaugh, 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>.

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., In Press.*
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. 3.38/4.00**]
 - **MET 140** Severe and Unusual Weather (F 2016, 2017, 2018, SP 2019, 2020)
 - **MET 265** Professional Development (F 2018)
 - **MET 310** Atmospheric Thermodynamics (F 2018, 2019, SP 2021, 2022)
 - **MET 450** Mesoscale Meteorology (F 2016, 2017, 2018, 2019, 2020, 2021)
 - **MET 480WI** 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)

OTHER TEACHING

- *Guest Lecture for MET 355 - Synoptic Meteorology II, Mesoscale Convective Systems: Conceptual Structure, Propagation, and Dissipation, Central Michigan University (Spring 2017).*

RESEARCH STUDENTS ADVISED

Graduate Students in Progress (Chair):

- *Ph.D.* – Cameron Nixon, Ph.D. in Earth and Ecosystem Science, CMU (F2019-present).
- *Ph.D.* – Carlos Mario Cuervo López, Ph.D. in Earth and Ecosystem Science, CMU (S2021-present).
- *Ph.D.* – Alan Garcia Jesus Rosales, Ph.D. in Earth and Ecosystem Science, CMU (SU2021-present).

Graduate Students in Progress (Co-Advising):

- *Ph.D. (Committee)* – Christian Boyer, Ph.D. in Earth and Ecosystem Science, CMU (2019-present).

Visiting Graduate Students:

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

Graduate Students Completed:

- *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).

Undergraduates (24 Students):

- *Honors Theses (HON499)*
Emily Tinney (Fall 2017), Dennis Weaver (Fall 2020).
- *McNair Scholar Mentor*
Anthony Wilson (Spring-Fall 2018)

- *Supervision of 18 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 – present), Scott Thomas (S21-present), Ashley Elby (S21– present), Cassandra Isenberger (S21– present), Mykenzi Haney (S21– present), Jonathon Hittie (S21 – present), Katherine Scwalm (S21 – present).
- *Primary Mentor – 2 OU meteorology undergraduate students involved in NOAA research project.*
Andrew Justin (NOAA/AI2ES - University of Oklahoma, S21 – present), Colin Willingham (NOAA/AI2ES - University of Oklahoma, SU21 – present).
- *Co-Mentor – 2 REU undergraduate students on IBM/AI2ES hail project.*
Lydia Spychalla (UIUC, AI2ES - University of Oklahoma, SU21), Jordan Robinson (University of Tennessee, 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 Users Committee (2016-2020, 2020-present)
- AMS Severe Local Storms STAC Committee Member (2015 – 2020)
- 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 & 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

- 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 31 Journals in the Atmospheric Sciences and over 200 reviews 2011-2020. 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, 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-present).
- Academic Senate Representative for EAS Department (*University*: Sep. 2018-present)
- 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 (*Department*)
- Earth and Ecosystem Science Ph.D. program faculty (2016-present).
- Faculty Searches (Appl. Geophysics Tenure Track, Meteorology Fixed Term, Meteorology Tenure Track).
- Department representative at Spring 2017 Commencement.
- Faculty Advisor, Student Chapter of the American Meteorological Society (2017-2018).

SEMINARS AND INVITED PRESENTATIONS

- 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 Agribusiness 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 Ellyn, Illinois, 16th November 2016.*

Prior to 1 July 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 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](#)

Prior to 1 July 2016

- 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

- 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.

Prior to 1 July 2016

- [CBC News Now \(CA\)](#) live on camera interview ‘Tornadoes: El Niño may give 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

- 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.

Prior to 1 July 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 (*graduate student, # undergraduate presentation)

(65 Oral and 34 Poster Presentations at National or International Meetings)

1. **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.*
2. **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.*
3. 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.*

4. 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 Our Nations Readiness, Responsiveness, and Resilience to High Impact Weather Events, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
5. 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.*
6. L. Spychalla#, Chase, R. J., J. Robinson#, A McGovern, J. K. Williams, **J. Allen**, and N. Snook, 2021: 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.*
7. 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.*
8. 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.*
9. **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.*
10. Nixon, C. J.*, **Allen J. T.**, 2021: Hodographs for hailstorms in the United States. *3rd European Hail Workshop, Virtual.*
11. 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.*
12. 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.*
13. 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.*
14. **Allen, J.T.**, Taszarek, M., Marchio, M., Brooks, H., Pilguy, 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.*
15. 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.*
16. **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.*
17. **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.*
18. 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).*
19. 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.*
20. 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.*
21. 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.*

22. 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.*
23. 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.*
24. **Allen, J. T.** and C. Lepore, 2019: The Global Distribution of Hail and Tornado Environments. *10th European Conference on Severe Storms, Krakow, Poland.*
25. Taszarek, M., **J. Allen**, H. E. Brooks, B. Czernecki, and N. Pilguy: 2019: Long-term changes in thunderstorm environments over Europe and the United States. *10th European Conference on Severe Storms, Kraków, Poland.*
26. 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.*
27. **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.*
28. 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 Presentation Award Winner.*
29. 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.*
30. Lepore, C., Tippett, M. K., and **J. T. Allen**, 2018: Seasonal and Monthly Forecasting of US Hail Activity. *North American Hail Workshop, Boulder, Colorado.*
31. 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.*
32. 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.*
33. 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.*
34. 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.*
35. **Allen, J.**, and E. R. Allen, 2017: Tornado Climatology of Australia. *9th European Conference on Severe Storms, 19-21st September, Pula, Croatia.*
36. **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.*
37. Tuftedal, M.* and **J. T. Allen**, 2017: 20 August 2016 Southwest MI Tornado Outbreak. *15th Annual Great Lakes Meteorology Conference in Valparaiso, IN.*
38. 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.*
39. **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.*
40. **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.*
41. **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.*
42. **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.*

43. **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.*
44. **Allen, J.**, and M. Tippet, 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.*
45. **Allen, J.**, M. Tippet, 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.*
46. 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.*
47. **Allen, J.**, Tippet, 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.*
48. Tippet, M., **Allen, J.**, Brooks, H., Camargo, 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.*
49. **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.*
50. 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.*
51. **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.*
52. **Allen, J.**, and Tippet, 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.*
53. Tippet, 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.*
54. **Allen, J.**, Tippet, 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.*
55. Tippet, 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.*
56. **Allen, J.**, Tippet, 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.*
57. **Allen, J.**, and M. Tippet, 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.*
58. **Allen, J.** and M. Tippet, 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.*
59. **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.*
60. 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.*
61. **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.*
62. **Allen, J.**, and D. Karoly, 2012: A climatology of Australian severe thunderstorm environments 1979-2011. *Oral Presentation, AMOS National Conference 2012, Sydney, Australia.*
63. **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.*

64. **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.*
65. Black, M., Pezza, A. and **Allen, J.**, 2010: A comparison of Southern Hemisphere explosive cyclone development. *AMOS National Conference 2010, Canberra, Australia.*

CONFERENCE POSTERS (*graduate student, # undergraduate presentation)

1. Nixon, C. J.* and **J. T. Allen**, 2022: Hodographs and Skew Ts of Hail-Producing Supercells Using Self-Organizing Maps. *31st Conference on Weather Analysis and Forecasting (WAF)/27th Conference on Numerical Weather Prediction (NWP), 102nd Annual Meeting of the American Meteorological Society, Virtual.*
2. Cuervo Lopez*, C. M. and **J. T. Allen**, 2022: Objective Evaluation of Reanalysis-Derived Convective Profiles. *Kevin Trenbeth Symposium, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
3. Moxon, A., Roebber, P. J., A. Seimon, **J. Allen**, 2022: Simulating Self-Assembly of Tornado Storm Chasers Using Agent-Based Modeling. *21st Student Conference, 102nd Annual Meeting of the American Meteorological Society, Virtual*
4. J. Robinson#, Chase, R. J., L. Spychalla#, A McGovern, **J. Allen**, N. Snook and J. K. Williams, 2022: Next-hour Hail Prediction from Numerical Weather Prediction Models using U-nets. *21st Student Conference, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
5. Taszarek, M., **Allen, J. T.**, Pucik, T., Hoogewind, K., and H. E. Brooks, 2022: Severe Convective Storms across Europe and the United States. Part II: ERA5 Environments Associated with Lightning, Large Hail, Severe Wind and Tornadoes. *19th Conference on Mesoscale Processes, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
6. 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. *19th Conference on Mesoscale Processes, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
7. Peters, J., Coffey, B. E., Parker, M. D., Nowotarski, C. J., Nixon, C. J. and **J. T. Allen**, 2022: Controls on the Width and Rotation of Low-Level Mesocyclones in Simulated Supercells. *19th Conference on Mesoscale Processes, 102nd Annual Meeting of the American Meteorological Society, Virtual.*
8. Justin#, A., C., Willingham#, A. McGovern and **J. Allen**, 2021: Toward Operational Real-time Identification of Frontal Boundaries Using Machine Learning. *3rd NOAA Workshop on Leveraging AI in Environmental Sciences, NOAA, Boulder, CO.*
9. Woodward, A.*, McGovern, A., Allen J. T., Basara, J., 2021: Frontal Identification using a Machine Learning Model. *20th Conference on Artificial Intelligence for Environmental Science, 101st Annual Meeting of the American Meteorological Society, Virtual.*
10. Butler#, D., **J. T. Allen** and A. Seimon, 2020: An Automated Photogrammetric Approach to the Estimation of Near-Surface Tornadic Wind Speeds. *Severe Local Storms Symposium, AMS 100th Annual Meeting, Boston, MA.*
11. Taszarek, M., **Allen, J. T.**, Brooks, H., Czernecki, B., N.Pilgaj, 2020: Long-term changes in thunderstorm environments over Europe and the United States. *Severe Local Storms Symposium, AMS 100th Annual Meeting, Boston, MA.*
12. Taszarek, M., **Allen, J. T.**, Púčík, T., Groenemeijer, P., Czernecki, B., Kolendowicz, L., Lagouvardos, K., and V. Kotroni, 2020: A climatology of thunderstorms across Europe from a synthesis of multiple data sources. *Severe Local Storms Symposium, AMS 100th Annual Meeting, Boston, MA.*
13. **Allen, J. T.**, M. R. Kumjian, R. E. D. Jewell, B. T. Smith, and R. L. Thompson, 2019: Forecast Parameters for U.S. Hail Occurrence and Size. *10th European Conference on Severe Storms, Kraków, Poland.*
14. Molina, M. J.*, **J. T. Allen** and A. F. Prein, 2019: Moisture Attribution and Sensitivity Analysis of a Winter Tornado Outbreak. *10th European Conference on Severe Storms, Kraków, Poland.*
15. Houser, J., Bluestein, H. B., Seimon, A., Snyder, J., Thiem, K., **Allen, J. T.**, Talbot, S., 2018: Rapid-Scan Mobile Radar Observations of Tornadogenesis. *AGU Fall Meeting 2018, Washington D.C.*
16. **Allen, J. T.**, 2018: Global Convective Environments: Multiple Reanalysis Climatology. *29th Conf. on Severe Local Storms, Stowe, VT.*
17. Molina*, M., **J. T. Allen**, and V. Gensini, 2018: Winter Significant Tornado Variability in Relation to ENSO and the Gulf of Mexico. *29th Conf. on Severe Local Storms, Stowe, VT.*

18. Houser, J., A. Seimon, K. J. Thiem, H. B. Bluestein, S. Talbot, J. C. Snyder, **J. T. Allen**, 2018: Novel Confirming Ground-Up Tornadogenesis in the 2013 El Reno Tornado. *29th Conf. on Severe Local Storms, Stowe, VT.*
19. Seimon, A., L. Orf, J. B. Houser, **J. T. Allen**, S. Talbot, J. C. Snyder, and H. B. Bluestein, 2018: Genesis and Structure of the 2013 El Reno, Oklahoma Tornado: Comparison of Cloud Model Simulations and Ground-Truth Observations. *29th Conf. on Severe Local Storms, Stowe, VT.*
20. Gensini, V. and **J. T. Allen**, 2018: Global Wind Oscillation and Hail Activity in the US. *North American Hail Workshop, Boulder, Colorado.*
21. **Allen, J. T.**, M. K. Tippett, 2017: Hail: What We Know Around the World. *9th European Conference on Severe Storms, 19-21st September, Pula, Croatia.*
22. **Allen, J. T.**, Lepore, C. and M. K. Tippett, 2016: Beyond the Mean: Trends in United States Convective Environments, *Poster Presentation, 97th AMS Annual Meeting, 29th Conference on Climate Variability and Change, Seattle, Washington.*
23. **Allen, J. T** and M. K. Tippett, 2016: The Oddities of Hail Observations: Just How Big is a Golf Ball?, *Poster Presentation, 97th AMS Annual Meeting, Special Symposium on Severe Local Storms: Observation needs to advance research, prediction and communication, Seattle, Washington*
24. Seimon, A, S. Talbot, **J. T. Allen**, and T. Seimon, 2016: TED: The Tornado Environment Display, An Online Visualization Tool Utilizing Storm Chaser Imagery To Inform Severe Storm Research Poster Presentation, *28th AMS Conference on Severe Local Storms, Portland, Oregon.*
25. **Allen, J. T** and M. K. Tippett, 2016: The Oddities of Hail Observations: Just How Big is a Golf Ball?, *Poster Presentation, 28th AMS Conference on Severe Local Storms, Portland, Oregon.*
26. Timmer, M., **Allen, J. T.**, and R. Timmer, 2016: Impacts of the Gulf of Mexico on Severe Thunderstorm Activity. *Poster Presentation, 2nd Workshop on Severe Convection and Climate, Columbia University, New York.*
27. **Allen, J.**, and E. R. Allen, 2016: The Tornado Climatology of Australia 1795-2014. *Poster Presentation, 2nd Workshop on Severe Convection and Climate, Columbia University, New York.*
28. **Allen, J.**, and E. R. Allen, 2015: The Tornado Climatology of Australia 1795–2013. *Poster Presentation, 8th European Conference on Severe Storms, September 14-18, Wiener Neustadt, Austria*
29. Witt, A., Burgess, D. W., Seimon A. and **J. Allen**, 2015: Rapid-scan dual-polarization WSR-88D observations of an Oklahoma hailstorm producing extremely-large hail. *Poster Presentation, 8th AMS Conference on Radar Meteorology, September 14-18, Norman, Oklahoma.*
30. **Allen, J.**, Tippett, M., and A. Sobel, 2014: Hail, Tornadoes and the Climate System: Analyzing the Impacts of the El Nino Southern Oscillation on Interannual Variability. *Poster Presentation, 27th AMS Conference on Severe Local Storms, Madison, Wisconsin.*
31. **Allen, J.**, and E. R. Allen, 2014: A new historical tornado climatology for Australia. *Poster Presentation, Special Symposium on Severe Local Storms, 94th AMS Meeting, Atlanta, GA.*
32. **Allen, J.**, Karoly, D. and Mills, G., 2011: Verification of model-derived proximity soundings for convective environments in Australia. *Poster, European Conference on Severe Storms 2011, Palma, Spain.*
33. **Allen, J.**, Karoly, D. and Mills, G., 2010: An Observation-based ‘Proximity’ Climatology of Australian Severe Thunderstorm Environments. *Poster, AMOS National Conference 2010, Canberra, Australia.*
34. **Allen, J.T.**, Pezza, A.B., Barras, V. And Skinner, T., 2009: An Updated Climatology of Southern Hemisphere Explosive Cyclogenesis. *Ninth International Conference on Southern Hemisphere Meteorology and Oceanography, Melbourne, Australia.*

CONFERENCE CONTRIBUTIONS – PREPRINTS (4 - * Denotes student presentation)

1. Molina*, M., **J. T. Allen**, and V. Gensini, 2018: Gulf of Mexico Influence on Sub-seasonal and Seasonal Severe Thunderstorm Frequency. *Climate Prediction Science and Technology Bulletin, Special Issue, Proceedings of the 42nd NOAA Annual Climate Diagnostics and Prediction Workshop, 42-46* doi:10.7289/V5/CDPW-NWS-42nd-2018.

Prior to 1 July 2016.

2. Witt, A., Burgess, D. W., Seimon A. and **J. Allen**, 2015: Rapid-scan dual-polarization WSR-88D observations of an Oklahoma hailstorm producing extremely-large hail. *Conference Preprint, 8th AMS Conference on Radar Meteorology, Norman, Oklahoma. 6pp.*
3. Keul, A. G., Nunes, L. H., Sharma, S., Bowden, K. A., **Allen, J.**, 2014: The International Severe Weather Survey – an interim report. *Poster and Peer-reviewed Proceedings, 12th International Conference of Meteorology, Climatology and Physics of the Atmosphere, Vol 1, Pgs 561-565.*

4. **Allen, J. T.**, Pezza, A. B., Barras, V. and Skinner, T., 2009: An updated climatology of Southern Hemisphere explosive cyclogenesis. *Proceedings, 9th International Conference on Southern Hemisphere Meteorology and Oceanography, Melbourne, Australia*, 3pp.