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Professional Appointments

9/2020-Present Associate Professor, Department of Atmospheric Sciences,
Texas A&M University, College Station, Texas.

1/2014-8/2020 Assistant Professor, Department of Atmospheric Sciences,
Texas A&M University, College Station, Texas.

8/2013-12/2013 Postdoctoral Scholar, Department of Meteorology,
Pennsylvania State University, University Park, Pennsylvania.

Education

Ph.D. in Meteorology, Pennsylvania State University, 2013.
(Thesis: "Simulating Supercell Thunderstorms in a Convective Boundary Layer: Effects on Storm and Boundary Layer Properties")

M.S. in Meteorology, Pennsylvania State University, 2010.
(Thesis: "The Characteristics of Numerically Simulated Supercell Storms Situated over Statically Stable Boundary Layers")

B.S. in Meteorology (high distinction with honors), Pennsylvania State University, 2009.
(Honors Thesis: "The Effects of Varying Low-level, Environmental Stability on Low-level Rotation in Numerical Simulations of Elevated Supercells")

Research, Teaching, and Field Project Experience

TRACER Field Project Science Team, DOE, 8/2018-10/2022

Radiosonde Launch Coordinator and Planning Committee Member, NOAA/NSSL Meso18-19 Field Project; 8/2018-9/2019

Graduate Research Assistant, Department of Meteorology, Pennsylvania State University; 5/2009-8/2013

Graduate Lecturer, Department of Meteorology, Pennsylvania State University; 1/2011-5/2011

Visitor, National Center for Atmospheric Research, Boulder, Colorado; 7/2010

Mobile Mesonet Research Assistant, Second Verification of the Origins of Rotation in Tornadoes Experiment (VORTEX2); 5/2009-6/2009, 5/2010-6/2010

Undergraduate Research Assistant, Department of Meteorology, Pennsylvania State University; 5/2008-5/2009

Refereed Publications

** Denotes graduate student mentee, **Denotes undergraduate student mentee, [C]Denotes corresponding author*

26. Spotts, J.,* **C. J. Nowotarski,**[C] R. Edwards, P. Stevenson,** and M. Katzfuss, 2023: Automatically derived radar attributes of tropical cyclone tornadoes from 2013-2020. *Wea. Forecasting.*, In review.

25. Mulholland, J. P.,[C] **C. J. Nowotarski**, J. M. Peters, H. Morrison, and E. R. Nielsen, 2023: How does vertical wind shear influence hydrometeor characteristics in supercell thunderstorms? *Mon. Wea. Rev.,* In review.

24. MacDonald, L. M.,* and **C. J. Nowotarski**,[C] 2023: Verification of the Rapid Refresh and High-Resolution Rapid Refresh model variables in tornadic tropical cyclones. *Wea. Forecasting*, **38,** 655-675.

23. Peters, J. M.,[C] B. E. Coffer, M. D. Parker, **C. J. Nowotarski,** J. P. Mulholland, C. J. Nixon, and J. T. Allen, 2023: Disentangling the influences of storm-relative flow and horizontal streamwise vorticity on low-level mesocyclones in supercells. *J. Atmos. Sci.,* **80,** 129-149.

22. Peters, J. M.,[C] H. Morrison, T. C. Nelson, J. N. Marquis, J. P. Mulholland, and **C. J. Nowotarski**, 2022: The influence of shear on deep convection initiation. Part I: Theory. *J. Atmos. Sci*., **79,** 1669-1690.

21. Peters, J. M.,[C] H. Morrison, T. C. Nelson, J. N. Marquis, J. P. Mulholland, and **C. J. Nowotarski,** 2022: The influence of shear on deep convection initiation. Part II: Simulations. *J. Atmos. Sci.,* **79,** 1691-1711.

20. Brown, M. C.,*[C] **C. J. Nowotarski,** A. R. Dean, B. T. Smith, and R. L. Thompson, 2021: The early evening transition in Southeastern US tornado environments. *Wea. Forecasting,* **36,** 1431-1452.

19. **Nowotarski, C. J.,**[C] J. Spotts,** S. Overpeck, R. Edwards, and G. R. Woodall, 2021: Tornadoes in Hurricane Harvey. *Wea. Forecasting*, **36,** 1589-1609.

18. Ford, V.,*[C] O. W. Frauenfeld, **C. J. Nowotarski**, and R. J. Bombardi, 2021: Effective sea ice area based on a thickness threshold. *Climate. Dynamics.* https://doi.org/10.1007/s00382-021-05655-6.

17. Peters, J. M.,[C] H. Morrison, **C. J. Nowotarski,** J. P. Mulholland, and R. L. Thompson, 2020: A formula for the maximum vertical velocity in supercell updrafts. *J. Atmos. Sci.,* **77**(11), 3747-3757.

16. Peters, J. M.,[C] **C. J. Nowotarski,** J. P. Mulholland, and R. L. Thompson, 2020: The influence of effective inflow layer streamwise vorticity on supercell updraft properties. *J. Atmos. Sci.,* **77**(9), 3033-3057.

15. **Nowotarski, C. J.,**[C] J. M. Peters, and J. P. Mulholland, 2020: Evaluating the effective inflow layer of simulated supercell updrafts. *Mon. Wea. Rev.* **148,** 3507-3532.

14. Sun, J.,[*] S. Zhang,[C] **C. J. Nowotarski,** and Y. Jiang, 2020: Atmospheric Response to mesoscale oceanic eddies in the winter and summer North Pacific Subtropical Counter Current region. *Atmosphere.* **11,** 816.

13. Peters, J. M.,[C] **C. J. Nowotarski,** and G. Mullendore, 2020: Are supercells resistant to entrainment because of their rotation? *J. Atmos. Sci.* **77,** 1475-1495.

12. Brown, M.,*[C] and **C. J. Nowotarski,** 2020: Southeastern US tornado outbreak likelihood using daily climate indices. *J. Climate.* **33,** 3229-3253.

11. Vecellio, D. J.,*[C] **C. J. Nowotarski,** and O. W. Frauenfeld, 2019: The role of permafrost in Eurasian land-atmosphere interactions. J. *Geophys. Res. Atmos.* **124,** 11,644-11,660.

10. Peters, J. M.,[C] **C. J. Nowotarski,** and H. Morrison, 2019: The role of vertical wind shear in modulating maximum supercell updraft velocities. *J. Atmos. Sci.*, **76,** 3169-3189.

9. Brown, M.,*[C] and **C. J. Nowotarski,** 2019: The influence of lifting condensation level on low-level outflow and rotation in simulated supercell thunderstorms. *J. Atmos. Sci.,* **76,** 1349-1372.

8. Benoit, M. D.,* **C. J. Nowotarski,**[C] D. T. Conlee, and L. Wood, 2018: Impacts of a university-led, on-demand sounding program on human and numerical weather prediction model forecasts in an upper-air observation hole. *J. Oper. Meteor,* **6** (7), 76-86.

7. **Nowotarski, C. J.,**[C] and E. A. Jones,** 2018: Multivariate self-organizing map approach to classifying supercell tornado environments using near-storm, low-level wind and thermodynamic profiles. *Wea. Forecasting.* **33,** 661-670.

6. Guarriello, F. R.,* **C. J. Nowotarski,**[C] and C. C. Epifanio, 2018: Effects of the low-level wind profile on outflow position and near-surface vertical vorticity in simulated supercell thunderstorms. *J. Atmos. Sci,* **75,** 731-753.

5. **Nowotarski, C. J.**[C] and P. M. Markowski, 2016: Modifications to the near-storm environment induced by simulated supercell thunderstorms. *Mon. Wea. Rev.,* **144**, 273-293.

4. **Nowotarski, C. J.,**[C] P. M. Markowski, Y. P. Richardson, and G. H. Bryan, 2015: Supercell low-level mesocyclones in simulations with a sheared convective boundary layer. *Mon. Wea. Rev.,* **143,** 272-297.

3. **Nowotarski, C. J.,**[C] P. M. Markowski, Y. P. Richardson, and G. H. Bryan, 2014: Properties of a simulated convective boundary layer in an idealized supercell thunderstorm environment. *Mon. Wea. Rev*., **142**, 3955-3976.

2. **Nowotarski, C. J.**[C] and A. A. Jensen, 2013: Classifying proximity soundings with self-organizing maps toward improving supercell and tornado forecasting. *Wea. Forecasting,* **28,** 783-801.

1. **Nowotarski, C. J.,**[C] P. M. Markowski, and Y. P. Richardson, 2011: The characteristics of numerically simulated supercell storms situated over statically stable boundary layers. *Mon. Wea. Rev*., **139,** 3139-3162.

Awarded External Grants and Contracts

NSF AGS-2149354, 7/1/2022-6/30/2025, $375,539, "Collaborative Research: Understanding Downdrafts in Deep Convection." Role: TAMU PI (1.5 months effort/year), Co-Investigators: J. Peters (Lead-PI; Naval Postgraduate School), G. Elsaesser (Co-PI; Columbia University/NASA GISS), E. Nielsen (Co-PI; Texas A&M).

DOE ASR DE-SC0021047, 8/1/2020 – 7/31/2024, $1,040,741, "Targeted Mobile Measurements to Isolate the Impacts of Aerosols and Meteorology on Deep Convection." Role: Co-PI, Co-Investigators: A. Rapp and S. Brooks (Texas A&M).

UCAR/Unidata Community Equipment Award, 6/1/2020-5/31/2020, $13,645, "Building a Real-Time Running Archive EDEX Server for Meteorology Instruction." Role: Lead PI, Co-Investigators: D. Conlee and G. Gyarmati (Texas A&M).

NSF AGS-1928319, 9/1/2019-8/31/2024, $437,757, "Collaborative Research: Processes governing supercell updraft intensity in varied environments." Role: Lead PI (1.5 months effort/year), Co-investigators: J. Peters (Naval Postgraduate School; 1 month effort/year).

NOAA/NWS CSTAR NA19NWS4680007, 6/1/2019-5/30/2023, $406,335, "Investigation and forecast improvements of tornadoes in landfalling tropical cyclones." Role: Lead PI (1.5 months effort/year). Co-investigators: M. Katzfuss (Texas A&M; 0.5 months effort/year).

NOAA VORTEX-SE, 11/1/2018-9/1/2019, $34,589, "Performance of meteorological services to conduct soundings in four locations across the southern USA for the National Severe Storms Lab (NSSL)." Role: Lead PI (0.5 months effort). Co-investigators: D. Conlee (Texas A&M; 0.5 months effort).

NSF AGS-1446342, 3/1/2015-2/28/2019, $436,503, "The dynamical influences of low-level shear and lifting condensation level on supercell tornadoes." Role: Lead PI (2 months effort/year). Co-investigators: C. Epifanio (Texas A&M; 0.66 months effort/year).

Awarded Internal Grants & Resources

Triads for Transformation (T3) Grant, 2018, $36,793, "EducatAR: Supplementing the stem classroom experience." Texas A&M University, Role: Co-PI. Co-investigators: D. Hartl and R. Arroyave (Texas A&M).

Montague-CTE Scholar Grant, 2018, $6500, Center for Teaching Excellence, Texas A&M University. Role: Sole PI.

Atmospheric Science Department Chair Funds Grant, 2015-2018, $18,000, "Numerical investigations of observed surface-atmosphere feedbacks in the Arctic." Role: Co-PI. Co-investigators: O. Frauenfeld (Texas A&M).

High Performance Research Computing Allocations, 1.4 million core-hours from 2015-present. Role: Sole PI.

Invited Talks and Panels

"Supercell Updrafts during the Evening Transition" Department Seminar, University of North Dakota Department of Atmospheric Sciences, Grand Forks, North Dakota; 11/2022

"Careers in Academia" Severe Local Storms Early Career Workshop, American Meteorological Society, Virtual; 11/2021

"Job hunting experience in mesoscale meteorology" 16th Conference on Mesoscale Processes, American Meteorological Society, Boston, Massachusetts; 8/2015

"Assessing boundary layer influences on supercell thunderstorms through idealized simulations," Department of Atmospheric Sciences, Texas A&M University, College Station, Texas; 2/2013

"Improving the realism of idealized supercell simulations: starting from the ground up," Frank Talk, Department of Meteorology, Pennsylvania State University, University Park, Pennsylvania; 4/2012.

"A unique collaboration: VORTEX2 students and professionals-mobile mesonet," *AMS 9th Annual Student Conference*, Atlanta, Georgia; 1/2010.

Conference and Workshop Proceedings

** Denotes graduate student mentee, ** Denotes undergraduate student mentee*

D. P. Bissell*, **C. J. Nowotarski**, K. P. Bowman, and A. D. Rapp, 2023: "Using Idealized Simulations to Improve our Understanding of Convective Overshooting and Stratospheric Hydration". *AGU Fall Meeting*, San Francisco, California.

D. Topping* and **C. J. Nowotarski**, 2023: "The Influence of Relative Humidity on Cold Pools and Vertical Vorticity in Simulated Supercells with Realistic Environments". *AGU Fall Meeting*, San Francisco, California.

G. Van Patter* and **C. J. Nowotarski**, 2023: "The Effect of Free Tropospheric Relative Humidity on Downdraft Intensity, Origin Heights, and Forcing Mechamisms in Simulated Supercells". *AGU Fall Meeting*, San Francisco, California.

B. Chen, S. Thompson, B. Matthews, Z. Lei, M. Sharma, R. Li, **C. J. Nowotarski**, A. D. Rapp, S. D. Brooks, 2023: "Aerosol Vertical Profile Retrieval Based on Micropulse-lidar and Surface Aerosol Measurements during TRACER Campaign". *AGU Fall Meeting*, San Francisco, California.

Lei, Z. N., S. A. Thompson, B. Chen, R. Li, A. D. Rapp, **C. J. Nowotarski**, S. D. Brooks, B. H. Matthews, 2023: "Characterization of Aerosol Morphology and Chemical Composition During TRACER Campaign: A Case Study". *AGU Fall Meeting*, San Francisco, California.

Thompson, S., S. D. Brooks, A. D. Rapp, **C. J. Nowotarski**, B. Hendrickson, B. Chen, R. Li, 2023: "Characterization of Cloud-forming Properties for Maritime and Continental Aerosols across Houston during TRACER". *AGU Fall Meeting*, San Francisco, California.

Sharma, M., A. D. Rapp, and **C. J. Nowotarski**, 2023: "Does Meteorological Variability across Sea and Bay-Breeze Fronts Influence Thunderstorm Characteristics? Insights from the TAMU TRACER Field Campaign. *AMS 40th Conf. on Radar Meteorology,* Minneapolis, Minnesota.

Sharma, M., A. D. Rapp, S. D. Brooks, **C. J. Nowotarski**, S. A. Thompson, B. Chen, B. Hendrickson, and R. Li, 2023: "Spatiotemporal Variability in Convective Cells and their Thermodynamic and Aerosol Environments during TAMU TRACER." *DOE ASR Science Team Meeting*, Rockville, Maryland.

Nowotarski, C. J., D. Bissell,* J. M. Peters, and J. P. Mulholland, 2023: "Dry Air above the PBL as a Convection Initiation Failure Mode in Idealized Simulations." *AMS 20th Conf. on Mesoscale Processes*, Madison, Wisconsin.

Bissell, D.,* G. L. Mullendore, and **C. J. Nowotarski,** 2023: "Investigating the Model Representation of Cloud Tops: Toward a Better Understanding of Overshoot Dynamics." *AMS 20th Conf. on Mesoscale Processes*, Madison, Wisconsin.

Sharma, M., **C. J. Nowotarski**, A. D. Rapp, S. D. Brooks, S. A. Thompson, and B. Chen, 2023: "Spatiotemporal Variability in Convective Cells and their Thermodynamic and Aerosol Environments during TRACER." *AMS 20th Conf. on Mesoscale Processes*, Madison, Wisconsin.

Rapp, A. D., S. D. Brooks, **C. J., Nowotarski**, and M. Sharma , 2023: "An Overview of TAMU TRACER and Preliminary Results." *Aerosol, Cloud, Precipitation, and Climate (ACPC) Meeting*, Houston, Texas.

Chen, B., S. D. Brooks, A. D. Rapp, and **C. J. Nowotarski**, 2023: "Cross-comparison Between Mini-Micropulse Lidar and Drone-Based In-Situ Aerosol Measurement During TRACER Campaign." *Aerosol, Cloud, Precipitation, and Climate (ACPC) Meeting,* Houston, Texas.

Thompson, S. A., S. D. Brooks, A. D. Rapp, and **C. J. Nowotarski**, 2023: "Mobile Measurements of Aerosol Cloud-Forming Properties During the 2022 TRACER Campaign." *Aerosol, Cloud, Precipitation, and Climate (ACPC) Meeting,* Houston, Texas.

Sharma, M., A D. Rapp, **C. J. Nowotarski**, and S. D. Brooks, 2023: "Exploring the Influence of Meteorological Variability on Thunderstorm Updraft Characteristics across Sea and Bay-Breeze Fronts: Insights from the TAMU TRACER Field Campaign." *Aerosol, Cloud, Precipitation, and Climate (ACPC) Meeting*, Houston, Texas.

Mulholland, J. P., **C. J. Nowotarski,** J. M. Peters, and H. Morrison, 2023: "The Role of Vertical Wind Shear in Hydrometeor Displacement in Supercell Thunderstorms." *AMS Annual Meeting Third Symposium on Mesoscale Processes*, Denver, Colorado.

Sharma, M., A. D. Rapp, and **C. J. Nowotarski**, 2023: "Thermodynamic Variability across Sea-Breeze Fronts and Thunderstorm Updraft Characteristics during the TAMU TRACER Field Campaign." *AMS Annual Meeting 15th Symposium on Aerosol-Cloud-Climate Interactions*, Denver, Colorado.

Sabol, A. T.,** **C. J. Nowotarski**, and J. Spotts,* 2023: "Evolution of Southern Plains Supercells through the Early Evening Transition." *AMS 22nd Annual Student Conference,* Denver, Colorado.

Rose, K.,** **C. J. Nowotarski,** and E. R. Nielsen, 2023: " Environmental and Storm-Mode Characteristics of Severe Wind Producing Thunderstorms in the Central Plains and Southeastern US." *AMS 22nd Annual Student Conference,* Denver, Colorado.

Tomerlin, B.,** C. Hood,** M. Sharma, **C. J. Nowotarski**, and A. D. Rapp, 2023: "CSAPR Radar Cell Tracking Performance and Airmass Effects on Storms During TRACER." *AMS 22nd Annual Student Conference,* Denver, Colorado.

Hood, C.,** B. Tomerlin,** **C. J. Nowotarski**, M. Sharma, and A. D. Rapp, 2023: "Cataloging Parent Airmass of Convective Cells During Enhanced Operations of TRACER." *AMS 22nd Annual Student Conference,* Denver, Colorado.

Peters, J. M., H. Morrison, C. Nelson, J. Marquis, J. Mulholland, **C. J. Nowotarski**, 2022: "The Influence of Shear on Deep Convection Initiation." *AGU Fall Meeting*, Chicago, Illinois.

Rapp, A. D., S. D. Brooks, **C. J. Nowotarski**, M. Sharma, E. Nielsen, M. Etten-Bohm, S. Thompson, B. Chen, R. Li, and B. Hendrickson, 2022: "TAMU TRACER: A First Look." *DOE ASR Science Team Meeting*, Rockville, Maryland.

Collis, S., and **Co-Authors,** 2022: "Forecasting for Operations and Science: The TRACER+ Experience." *DOE ASR Science Team Meeting*, Rockville, Maryland.

Jensen, M., and **Co-Authors,** 2022: "An Overview of the Tracking Aerosol Convection interactions ExperRiment (TRACER)." *DOE ASR Science Team Meeting*, Rockville, Maryland.

Peters, J. M., B. E. Coffer, M. D. Parker, **C. J. Nowotarski**, J. P. Mulholland, C. J. Nixon, and J. T. Allen, 2022: "Disentangling the Influences of Storm-Relative Flow, Updraft Width, and Horizontal Streamwise Vorticity on Low-Level Supercell Mesocyclones." *AMS 30th Conf. on Severe Local Storms*, Santa Fe, New Mexico.

Spotts, J. R.,* **C. J. Nowotarski**, R. Edwards, and S. Overpeck, 2022: "Automatically Derived Radar Attributes of Tropical Cyclone Tornadoes: A Climatology from 2013-2020." *AMS 30th Conf. on Severe Local Storms*, Santa Fe, New Mexico.

Nowotarski, C. J., J. M. Peters, J. P. Mulholland, and E. R. Nielsen, 2022: "Effects of Vertical Wind Shear on Updraft Hydrometeor Loading and Downdraft Origin Heights." *AMS 19th Conf. on Mesoscale Processes*, Virtual.

Stevenson, P. B.,** **C. J. Nowotarski,** and J. Spotts,* 2022: "Near-Cell Environments of Tropical Cyclone Tornadoes from 2013 to 2020." *AMS 31st Conf. on Weather and Forecasting/27th Conf. on Numerical Weather Prediction,* Virtual.

J. Spotts,* **C. J. Nowotarski,** S. Overpeck, and R. Edwards, 2022: "Automatically Derived Radar Attributes of Tropical Cyclone Supercells." *AMS 31st Conf. on Weather and Forecasting/27th Conf. on Numerical Weather Prediction*, Virtual.

Brown, M. C.,* **C. J. Nowotarski,** C. Davenport, and J. M. Peters, 2022: "Impacts of the Early Evening Transition on Updraft Forcing and Evolution in Idealized Simulations of High-Shear, Low-CAPE Supercells." *AMS 19th Conf. on Mesoscale Processes*, Virtual.

Rapp, A. D., S. D. Brooks, **C. J. Nowotarski**, B. Chen, and S. Thompson, 2021: "TAMU TRACER: Targeted Mobile Measurements to Isolate the Impacts of Aerosols and Meteorology on Deep Convection." *DOE ARM/ASR Joint Meeting*, Virtual.

Jensen, M. P., and **Coauthors**, 2021: "An Overview of the Tracking Aerosol Convection Interactions ExpeRiment (TRACER) and Partner Field Campaigns." *DOE ARM/ASR Joint Meeting*, Virtual.

Ostaszewski, J. S.,** and **C. J. Nowotarski**, 2021: "Near-Storm Environment and Radar Analysis of a Long-lived Supercell's Evolution during the Evening Transition." *AMS Annual Meeting Mesoscale Symposium*, Virtual.

Brown, M. C.,* **C. J. Nowotarski**, A. R. Dean, B. T. Smith, R. L. Thompson, and J. M. Peters, 2021: "Investigating the Early Evening Transition of Southeast U.S. Storm Environments and its Consequences for Tornadogenesis." *AMS Annual Meeting Mesoscale Symposium*, Virtual.

MacDonald, L.,* and **C. J. Nowotarski**, 2021: "Verification of High-Resolution Models within Landfalling Tropical Cyclones toward the Improvement of Rainband Tornado Forecasting." AMS Annual Meeting Tropical Symposium, Virtual.

Bremenkamp, M.,* and **C. J. Nowotarski**, 2021: "Influences of Anvil Shading on the Supercell Environment and Updraft Strength during the Nocturnal Transition." *AMS Annual Meeting Mesoscale Symposium,* Virtual.

Alvarez, D.,** and **C. J. Nowotarski, 2021**: "Improving Tornado Warning False Alarm Rates Inside Tropical Cyclones. *AMS 20th Annual Student Conference,* Virtual.

Nowotarski, C. J., and J. M. Peters, 2020: "Evaluating the Effective Inflow Layer and Supercell Updraft Intensity in a Variety of Realistic Environments." *AMS Annual Meeting Severe Local Storms Symposium*, Boston, Massachusetts.

Peters, J. M., **C. J. Nowotarski**, and G. L. Mullendore, 2020: "Are Supercells Resistant to Entrainment because of their Rotation?" *AMS Annual Meeting Severe Local Storms Symposium*, Boston, Massachusetts.

Brown, M. C.,* and **C. J. Nowotarski**, 2020: "Identifying Teleconnections between Southeastern US Tornado Outbreaks and Daily Climate Indices." *AMS Annual Meeting Severe Local Storms Symposium*, Boston, Massachusetts.

Brown, M. C.,* and **C. J. Nowotarski**, 2020: "New Perspectives on the Influence of Lifting Condensation Level on Low-Level Outflow and Rotation in Simulated Supercells." *AMS Annual Meeting Severe Local Storms Symposium*, Boston, Massachusetts.

Bremenkamp, M.,* and **C. J. Nowotarski**, 2020: "Influences of Anvil Shading on the Evolution of the Supercell Environment and Updraft Accelerations During the Nocturnal Transition." *AMS Annual Meeting Severe Local Storms Symposium*, Boston, Massachusetts.

Spotts, J. R.,** **C. J. Nowotarski**, S. Overpeck, B. Filipiak,** and R. Edwards, 2020: "Analysis of Tornadic and Non-Tornadic Convective Cell Environments During Hurricane Harvey." *AMS Annual Meeting Tropical Meteorology and Tropical Cyclones Symposium*, Boston, Massachusetts.

Filipiak, B.,** **C. J. Nowotarski**, and J. R. Spotts,** 2020: "Diurnal and Spatial Variability of Tornadogenesis and Forecasting in Tropical Cyclones." *AMS 19th Annual Student Conference,* Boston, Massachusetts.

Riggin, R. R.,** M. C. Brown,* M. Bremenkamp,* and **C. J. Nowotarski**, 2020: "3D Analysis of Low-Level Shear and LCL Height Influences on Outflow and Surface Rotation in Simulated Supercell Thunderstorms." *AMS 19th Annual Student Conference,* Boston, Massachusetts.

Nowotarski, C. J., and J. M. Peters, 2019: "Evaluating the Effective Inflow Layer and Supercell Updraft Intensity in a Variety of Realistic Environments." *AGU 2019 Fall Meeting*, San Francisco, California.

Peters, J. M., **C. J. Nowotarski**, and H. Morrison, 2019: "What Gives Supercells the Most Intense Updrafts of all Modes of Convection?" *AGU 2019 Fall Meeting*, San Francisco, California.

Ford, V.,* O. W. Frauenfeld, **C. J. Nowotarski**, and R. J. Bombardi, 2019: "Atmospheric Boundary Layer Response to Varying Arctic Sea Ice Thicknesses." *AGU 2019 Fall Meeting*, San Francisco, California.

Nowotarski, C. J., and J. M. Peters, 2019: "Evaluating the Effective Inflow Layer and Processes Governing Supercell Updraft Intensity in a Variety of Near-Storm Environments." *AMS 18th Conf. on Mesoscale Processes*, Savannah, Georgia.

Peters, J. M., H. Morrison, W. Hannah, A. C. Varble, S. Giangrande, and **C. J. Nowotarski**, 2019: "Understanding the Building Blocks of Deep Convection: Moist Thermals." *AMS 18th Conf. on Mesoscale Processes*, Savannah, Georgia.

Ford, V.,* O. W. Frauenfeld, and **C. J. Nowotarski**, 2019: "The Influence of Arctic Sea Ice Thinning on the Atmospheric Boundary Layer." *AAG Annual Meeting*, Washington, D. C.

Nowotarski, C. J., R. Cheatham,** S. Overpeck, and R. Edwards, 2018: "Comparison of tornadic and nontornadic convective cells in Hurricane Harvey." *AMS 29th Conf. on Severe Local Storms,* Stowe, Vermont.

Edwards, R., S. Overpeck, G. R. Woodall, and **C. J. Nowotarski**, 2018: "Tornadoes in Hurricane Harvey: Documentation and environmental analysis." *AMS 29th Conf. on Severe Local Storms*, Stowe, Vermont.

Brown, M.,* and **C. J. Nowotarski**, 2018: "The influence of lifting condensation level on low-level outflow and rotation in simulated supercell thunderstorms." *AMS 29th Conf. on Severe Local Storms,* Stowe, Vermont.

Brown, M.,* and **C. J. Nowotarski**, 2018: "Influence of AO/NAO/PNA evolution on eastern and southeastern U.S. storm environment." *31st Conf. on Climate Variability and Change*, Austin, Texas.

Jones, E. A.,** **C. J. Nowotarski**, 2018: "Statistical comparison and simulations of supercells in environments with varying significant tornado parameters." *AMS 17th Annual Student Conference,* Austin, Texas.

Larson, K. C.,** E. A. Smith,** **C. J. Nowotarski**, R. E. Orville, and J. Marshall, 2018: "Spectral analysis of intracloud lightning," *AMS 17th Annual Student Conference*, Austin, Texas.

Nowotarski, C. J., 2017: "Effects of resolved boundary layer turbulence on near-ground rotation in quasi-linear convective systems (QLCSs)" *AGU 2017 Fall Meeting,* New Orleans, Louisiana.

Vecellio, D. J.,* **C. J. Nowotarski**, and O. W. Frauenfeld, 2017: "Simulated short term effects of permafrost degradation on surface, boundary layer, and synoptic-scale processes." *AGU 2017 Fall Meeting*, New Orleans, Louisiana.

Ford, V.,* O. W. Frauenfeld, and **C. J. Nowotarski**, 2017: "Determination of a critical sea ice thickness threshold for the Central Arctic Ocean." *AGU 2017 Fall meeting*, New Orleans, Louisiana.

Nowotarski, C. J., 2017: "Influence of boundary layer turbulence on near-ground rotation in quasi-linear convective systems (QLCSs)" *AMS 17th Conf. on Mesoscale Processes,* San Diego, California.

Vecellio, D. J.,* **C. J. Nowotarski**, and O. W. Frauenfeld, 2017: "Response of the atmospheric boundary layer and synoptic-scale circulation to varying permafrost conditions in Eurasia using WRF." *AAG Annual Meeting*, Boston, Massachusetts.

Brown, M.,* and **C. J. Nowotarski**, 2017: "Development of a predictive tool for tornadoes downwind of the Appalachian Mountains using AO and NAO indices," *Severe Local Storms Symposium*, Seattle, Washington.

Spencer, T. W.,** and **C. J. Nowotarski**, 2017: "Idealized simulations of supercells in environments with varying LCLs," *AMS 16th Annual Student Conference*, Seattle, Washington.

Cassel, A. L.,** E. D. Ragan, L. Wood, **C. J. Nowotarski**, and D. T. Conlee, 2017: "Virtual reality for collaborative weather briefings and education," *AMS 16th Annual Student Conference*, Seattle, Washington.

Larson, K. C. ,** E. A. Smith,** C. J. Schwartz,** **C. J. Nowotarski**, and R. E. Orville, 2017: "A spectral analysis of intracloud lightning," *AMS 16th Annual Student Conference*, Seattle, Washington.

Milton, J.,** E. K. Boynton,** D. Grabbs Jr.,** E.A. Smith,** D. Bonnette,** D. W. Koeritzer,** and **C. J. Nowotarski**, 2017: "Radar analysis of the May, 26 2016 Brazos Valley Tornadoes," *AMS 16th Annual Student Conference*, Seattle, Washington.

Toy, B. J.,** D. W. Koeritzer,** T. W. Spencer,** C. K. Landry,** D. Grabbs Jr.,** E. K. Boynton,** and **C. J. Nowotarski**, 2017: "Comparison of TAMU-WRF simulated lightning detectors against the HLMA (Houston Lightning Mapping Array)," *AMS 16th Annual Student Conference*, Seattle, Washington.

Nowotarski, C. J., and F. R. Guarriello, 2016: "Surface layer influences on simulated supercell thunderstorms." *AMS 28th Conf. on Severe Local Storms*, Portland, Oregon.

Serino, M. M.,* and **C. J. Nowotarski**, 2016: "Radar-detected mesocyclone tilt in tornadic and nontornadic supercells," *AMS 28th Conf. on Severe Local Storms*, Portland, Oregon.

Benoit, M. D.,* D. T. Conlee, and **C. J. Nowotarski**, 2016: "Sensitivity of high-resolution WRF forecasts to radiosonde observations over central TX," *AMS 20th Conf. on Integrated Observing and Assimilation Systems for the Atmosphere, Ocean, and Land Surface (IOAS-AOLS)*, New Orleans, Louisiana.

Serino, M. M.,* and **C. J. Nowotarski**, 2016: "Radar-detected mesocyclone tilt in tornadic and nontornadic supercells," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

Guarriello, F. R.,* and **C. J. Nowotarski**, 2016: "Effects of low-level vertical wind shear orientation on low-level rotation in simulated supercell thunderstorms," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

Bonnette, D. S.,** **C. J. Nowotarski**, and L. Wood, 2016: "Clear Lake Texas extreme rain event case study," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

Cassel, A. L.,** J. P. McCarthy,** and **C. J. Nowotarski**, 2016: "Comparison of Texas A&M WRF convection-allowing forecasts with other high-resolution models," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

McCarthy, J. P.,** S. Vaxter,** D. Bonnette,** D. Conlee, and **C. J. Nowotarski**, 2016: "Non-internet meteorological data reception for emergency and remote applications," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

Ruano, E. F.,** C. K. Landry,** T. W. Spencer,** and **C. Nowotarski**, 2016: "Aerosol optical depth measurements using a handheld sun photometer," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

Toy, B. J.,** T. W. Spencer,** C. K. Landry,** and **C. Nowotarski**, 2016: "Comparison of the TAMU-WRF simulated reflectivity to radar observations," *AMS 15th Annual Student Conference*, New Orleans, Louisiana.

Nowotarski, C. J., 2015: "Low-level shear in the near-storm environment of simulated supercells and impacts of shear orientation on outflow characteristics." *AMS 16th Conf. on Mesoscale Processes*, Boston, Massachusetts.

Nowotarski, C. J. and A. A. Jensen, 2014: **"**Objective classification of supercell environments using multivariate self-organizing maps for research and forecasting." Preprints, *AMS 27th Conference on Severe Local Storms.* Madison, Wisconsin

Nowotarski, C. J., P. M. Markowski, Y. P. Richardson, and G. H. Bryan, 2013: "Understanding the effects of horizontal convective rolls on the organization of low-level vorticity in simulated supercell thunderstorms," *7th European Conference on Severe Storms*, Helsinki, Finland.

Jensen, A. A. and **C. J. Nowotarski**, 2012: "Application of a self-organizing map statistical technique to a RUC supercell proximity sounding database." Preprints, *AMS 26th Conference on Severe Local Storms*. Nashville, Tennessee.

Nowotarski, C. J., P. M. Markowski, Y. P. Richardson, and G. H. Bryan, 2012: "The influence of horizontal convective rolls on the morphology of low-level rotation in idealized simulations of supercell thunderstorms," Preprints. *AMS 26thConf. on Severe Local Storms,* Nashville, Tennessee.

Nowotarski, C. J., 2012: "Simulating supercell thunderstorms in a convective boundary layer," *Croatian-USA Workshop on Mesometeorology*, Zagreb, Croatia.

Nowotarski, C. J., P. M. Markowski, Y. P. Richardson, and G. H. Bryan, 2011: "Interactions between simulated supercell thunderstorms and dry boundary layer convection," Preprints*. AMS 14th Conf. on Mesoscale Processes*, Los Angeles, California.

Nowotarski, C. J., P. M. Markowski, Y. P. Richardson, and G. H. Bryan, 2010: "Simulating supercell thunderstorms in a horizontally-heterogeneous convective boundary layer," Preprints. *AMS 25th Conf. on Severe Local Storms*, Denver, Colorado.

Nowotarski, C. J., and P. Markowski, 2008: "The effects of varying low-level, environmental stability on low-level rotation in numerical simulations of elevated supercells," Preprints. *AMS 24th Conf. on Severe Local Storms*, Savannah, Georgia.

Academic Courses Taught

Texas A&M University
Dynamics of Convective Clouds (ATMO 638, SP21)
Mesometeorology (ATMO 657; FA18)
Severe Weather and Mesoscale Forecasting (ATMO 352; SP15, SP16, SP17, SP19, SP20, SP22, SP23)
Radar Meteorology (ATMO 443; FA14, FA15, FA16, FA17, FA19, FA20, FA21, FA22, FA23)
Special Topics in Convective Storms Field Studies (ATMO 489; high impact; SP20, SP21)
High Impact Experiences in Meteorology – Convective Storms Field Studies (ATMO 370; high impact; SP23)
Student Operational ADRAD Project (ATMO 491; high impact; SU14; SU15; SU16)
TRACER Student Internships (ATMO 485/491; high impact; FA21, SP22, FA22)

Pennsylvania State University
Introductory Meteorology for Non-Majors (METEO 003, SP11)

Postdoctoral Scholars Mentored

Milind Sharma, 8/2022 – present (co-advised with A. Rapp)

Graduate Students Supervised

Devin Bissell, Ph.D., in progress
Grace Van Patter, M.S., in progress
David Topping, M.S., in progress
Justin Spotts, M.S., 2023
Leland MacDonald, M.S., 2022
Matthew Brown, M.S., 2018; Ph.D., 2021
Marc Bremenkamp, M.S., 2021
Michelle Serino, M.S., 2018
Mark Benoit, M.S., 2016
Felicia Guarriello, M.S., 2016

Other Graduate Student Committees

Seth Thompson, M.S., 2022; Ph.D., in progress
Ashley Sebok, Ph.D., in progress
Austin Buley, M.S., in progress
Dan Jellis, Ph.D., in progress
John Cole, M.S., 2022
Alex Smith, M.S., 2022
Kevin Smalley, Ph.D., 2020
John Cooney, M.S., 2016; Ph.D., 2019
Rodolpho Paras, M.S., 2019
Corey Howard, M.S., 2018
Adam Brainard, M.S., 2016
Keith White, M.S., 2015

Undergraduate Students Involved with Research

Austin Sabol, 5/2022-present
Kate Stapleton, 6/2023-present
Katelyn Rose, 6/2022-present

Brandon Tomerlin, 6/2022-1/2023
Cole Hood, 6/2022-1/2023
Shane Lewis, 5/2022-8/2022
Peyton Stevenson, 1/2021-12/2021
Joshua Ostaszewski, 5/2020-5/2021
Daniel Alvarez, 8/2019-1/2021
Justin Spotts, 5/2019-4/2020
Brian Filipiak (REU mentee), 6/2019-8/2019
Roger Riggin (REU mentee), 6/2019-8/2019
Kevin Larson, 1/2016-5/2019
Rebekah Cheatham (REU mentee), 6/2018-8/2018
Charles Sassaman, 5/2016-5/2018
Erin Jones (REU mentee), 6/2017-8/2017
Trenton Spencer, 1/2016-5/2017
David Bonnette, 6/2015-1/2016
Christine Paschal (REU mentee), 6/2015-7/2015
Cameron Batiste, 1/2015-5/2015
Liana Haddad (REU mentee), 6/2014-8/2014

University Service

Separation Appeals Panel, University Honor Council, 4/2022-present
University Honor Council, 8/2017-4/2022
Graduate Academic Appeals Panel, 11/2018-present
Atmospheric Sciences Undergraduate Recruitment Chair, 1/2020-present
Atmospheric Sciences Department Graduate Committee, 1/2014-present
Faculty Advisor, Texas A&M Student Chapter of the American Meteorological Society (TAMSCAMS), 9/2022-present
Chair, Atmospheric Sciences Instructional Faculty Search Committee, 4/2023-present
Chair, Atmospheric Sciences Research Faculty Search Committee, 4/2022-10/2022
Atmospheric Sciences Faculty Search Committee, 7/2019-2/2020, 11/2021-4/2022, 2/2023-3/2023, 8/2023-present
Atmospheric Sciences Department Seminar Coordinator, Spring 2015

Professional Society Membership

American Meteorological Society (AMS); 2006-present
American Geophysical Union (AGU); 2016-present

Service, Outreach, and Other Activities

Co-chair, AMS 18th Conference on Mesoscale Processes; 8/2019

Member, AMS Scientific and Technological Activities Commission (STAC) Committee on Mesoscale Processes; 1/2017-1/2023

Associate Editor, *Monthly Weather Review*; 2016-2020, 2022-present

Associate Editor, *Weather and Forecasting*; 2014-2016

Conference Session Chair
20th AMS Conference on Mesoscale Processes, Madison, Wisconsin; 7/2023
AMS Third Symposium on Mesoscale Processes, Denver, Colorado; 1/2023
19th AMS Conference on Mesoscale Processes, Virtual; 1/2022
17th AMS Conference on Mesoscale Processes, San Diego, California; 7/2017
28th AMS Conference on Severe Local Storms, Portland, Oregon; 11/2016
16th AMS Conference on Mesoscale Processes, Boston, Massachusetts; 8/2015
7th European Conference on Severe Storms, Helsinki, Finland; 6/2013

Planning Committee Member, Texas Weather Conference; 2015-2017

Faculty Mentor for Texas A&M Atmospheric Sciences High School Mentoring Program, FA20, FA21, FA22

Faculty Mentor for Texas A&M Atmospheric Sciences Summer REU program, 6/2014-8/2020

Substitute Member Representative at UCAR Annual Members Meeting, Boulder, Colorado; 10/2014

Workshop for Early Career Geoscience Faculty, On the Cutting Edge, NSF (participant) College Park, Maryland; 6/2014

Hazardous Weather Testbed Experimental Forecast Program (participant) Norman, Oklahoma; 5/2014, 5/2021

Graduate Advisory Committee, Department of Meteorology, Pennsylvania State University; 2010-2013 (Chair from 2011-2012)

Undergraduate Academic Programs Committee (graduate student representative), Department of Meteorology, Pennsylvania State University; 2010-2013

Proposal Ad-hoc Reviews
NSF Physical and Dynamic Meteorology Program

NSF Facilities for Atmospheric Research and Education (FARE)
NOAA Office of Weather and Air Quality
NSF Lower Atmosphere Observing Facilities

Review Panels

NSF Physical and Dynamic Meteorology Program (2)
NSF Lower Atmosphere Observing Facilities (2)
DOE Atmospheric System Research

Article Peer Reviews

Bulletin of the American Meteorological Society
Geophysical Research Letters
Journal of Atmospheric Science
Journal of Geophysical Research
Monthly Weather Review
Weather and Forecasting
Journal of Climate
Journal of Applied Meteorology and Climatology
Electronic Journal of Severe Storms Meteorology
Journal of Operational Meteorology
Atmosphere
International Journal of Climatology
Frontiers in Earth Science

Textbook Chapter Reviews

Halverson & Rabenhorst, 2016: Severe Storms and their Environmental Impacts.
Ahrens, 2016: Essentials of Meteorology, an Invitation to the Atmosphere. 8th Edition.

Educational Outreach

Aggieland Saturday, presenter, 2/2019, 2/2020, 2/2022, 2/2023
Texas Master Naturalist, Brazos Valley, guest instructor, 11/2017, 4/2018, 11/2018, 4/2019, 11/2019, 11/2021, 10/2022, 10/2023
GeoX Summer Program, guest instructor, 6/2015-6/2021
Texas A&M Youth Adventure Program (YAP), guest instructor, 7/2014, 7/2015, 7/2016, 7/2022
Texas Weatherfest, presenter, 2/2016
Mitchell Institute Physics Enhancement Program (MIPEP), guest instructor; 6/2014
~30 newspaper and TV interviews on severe weather and tornadoes since 2009

External Consulting/Expert Witness Testimony

Hanszen & Laporte Attorneys at Law, 11/2015-1/2016

Honors and Awards

Undergraduate Mentoring Award, College of Arts and Sciences, Texas A&M University; 2023.

Montague-CTE Scholar, Center for Teaching Excellence, Texas A&M University; 2018.

Association of Former Students Distinguished Achievement Award, College-Level Teaching Award, College of Geosciences, Texas A&M University; 2018.

Best Student Oral Presentation, AMS 26th Conference on Severe Local Storms; 11/2012

American Meteorological Society Industry/Governmental Graduate Fellowship; 2009-2010
Best Student Oral Presentation, AMS 24th Conference on Severe Local Storms; 10/2008

Matthew J. Wilson Honors Scholarship, Earth and Mineral Science College, Pennsylvania State University; 2007-2009

Hosler Scholarship for Meteorology, Pennsylvania State University; 2007-2008

Kruehoeffer Scholarship for Meteorology, Pennsylvania State University; 2008-2009

President's Freshman Award, Pennsylvania State University; 5/2006

Schreyer Honors Scholar, Pennsylvania State University; 2005-2009