

Dr. Timothy A. Coleman

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CURRICULUM VITAE

1. Education

Ph. D., M. S., The University of Alabama in Huntsville
Meteorology
Dissertation: The Effects of Atmospheric Waves on Tornadoes

B. S., Samford University
Physics and Mathematics, graduated *magna cum laude*

2. Relevant Work Experience

A. Research Meteorologist, Adjunct Professor, The University of Alabama in Huntsville (2005-Present)

- Research on the effects of friction, topography, and wind channeling on tornadoes, convective initiation, and rainfall amounts
- Research on the dynamics and effects of atmospheric wave phenomena, including internal waves, ducted waves, bores, and solitary waves
- Analysis of large tornado databases to assess tornado risk across the U.S. and the movement of it over time
- Research on non-traditional damaging winds (wake lows, waves, cold fronts)
- Research on hurricane boundary layer winds
- Research on snowstorms across the southern United States
- Research on streamflow hydrology and application to agriculture in the Southeast
- Served as aviation weather forecaster during major air pollution study
- Participate in field campaigns using mobile instrumentation in hurricane and tornado environments
- Served as long-range forecaster and nowcaster for field campaigns involving severe weather
- Interaction with numerous NWS offices and TV stations regarding the applications of UAH research to improve forecasts and warnings
- Development of BREAM software to correct reflectivity-based rainfall estimates for topographic beam blocking effects
- Development of software to produce airflow trajectories through two-dimensional, steady-state disturbances using Doppler radar data
- Use of various software platforms and programming languages
- Taught 6 graduate courses in Atmospheric Science
- Have served on the MS/PhD committees of 7 graduate students

- B. Consulting Meteorologist**, Coleman Knupp and Dice, LLC (2009–Present)
- Provide expert analysis and testimony to attorneys, insurers, engineers, and corporations
 - Research and consulting on ~205 cases, expert testimony in ~16 cases
 - Experience in cases involving rainfall/flooding, hurricanes, hail, fog, slip and fall, aviation and motor vehicle accidents, lightning, tornadoes, wind damage, building collapse, heat exposure, fog, winter weather
 - Provide weather forecasting and monitoring for sporting events
 - Development of method for determining rainfall rates and amounts using a combination of radar data calibrated using rain gauges
 - Development of method for determining surface visibility/fog in remote locations using multi-channel satellite data and nearby NWS observations
 - Research and numerical analysis on near-ground temperature profiles to find optimal heights for energy efficiency in outdoor HVAC units
 - Research on wind channeling on inland rivers and applications to the use of sails to improve energy efficiency on barges
 - Wrote 54-page manual on dual-polarization weather radar for the National Association of Broadcasters in 2015
 - More details at www.ckdweather.com
- C. Adjunct Professor**, Samford University, Physics Department (2012-2016)
- Taught Physics laboratory lectures
 - Assisted students with basic physics education, problems, and homework
- D. Severe Weather Expert**, WBRC-TV (2012-2018), WBMA-TV (2008-2012)
- Worked on-air as “Weather Expert” during severe/winter weather coverage
 - Writer and weather forecaster for weather blogs, including alabamawx.com (ABC) and myfoxtracker.com (FOX)
 - Worked as consulting weather forecaster to on-air staff
- E. On-Camera Meteorologist**, WIAT-TV 42 (CBS), Birmingham, Alabama (2001-2004)
- Weekend/part-time meteorologist, promoted to Chief Meteorologist in 2003
 - Prepared and delivered weather forecasts for 5:00, 6:00, and 10:00 pm newscasts
 - Severe weather coverage during tornado warnings
- F. Meteorologist**, NOAA/National Weather Service, (1991–2000)
- Wrote and broadcast forecasts and warnings on NOAA Weather Radio
 - Launched weather balloons and radiosondes
 - Prepared aviation weather forecasts, agricultural weather forecasts, and public weather forecasts
 - Involved in warning decision process for tornadoes, severe thunderstorms, flash floods, river floods, and winter storms
 - Worked during numerous severe weather outbreaks

3. Peer-Reviewed Publications

- **Coleman, T. A.**, and K. R. Knupp, 2023: A climatological study of changes in storm-relative helicity during the afternoon-to-evening transition (AET). *Wea. Forecasting*, in preparation.
- **Coleman, T. A.** and R. M. Thompson, 2023: An extensive analysis of the geographical shift in U.S. tornadoes since 1950. *J. Appl. Met. and Climatology*, in preparation.
- **Coleman, T. A.**, K. R. Knupp, and P. T. Pangle, 2021: The effects of heterogeneous surface roughness on boundary-layer kinematics and wind shear. *Electronic J. Severe Storms Meteor.*, **16**, 1–29.
- **Coleman, T. A.**, K. R. Knupp, J. P. Dice, K. Laws, and C. Darden, 2019: The Birmingham, Alabama snow “disaster” of 28 January 2014. *Elec. J. Severe Storms Meteor.*, **14** (4), 1–24.
- Weigel, A., R. Griffin, K. Knupp, A. Molthan, and **T. Coleman**, 2019: A spatial pattern analysis of land surface roughness heterogeneity and its relationship to the initiation of weak tornadoes. *Earth Interactions*, **23** (5), 1-28.
- **Coleman, T. A.**, A. W. Lyza, K. R. Knupp, W. Wyatt, and K. Laws, 2018: A significant tornado along a frontogenetical thermal boundary during VORTEX-SE. *Elec. J. Severe Storms Meteor.*, **13**, 1-25.
- **Coleman, T. A.**, and K. R. Knupp, 2016: Review and case studies of non-traditional severe local windstorms. *J. Oper. Meteor.*, **4**, 192-206.
- **Coleman, T. A.**, and P. G. Dixon, 2014: An objective analysis of tornado risk in the United States. *Wea. Forecasting*, **29**, 366-376.
- **Coleman, T. A.**, T. A. Murphy, R. A. Wade, K. R. Knupp, and L. D. Carey, 2014: Analysis of the transition region of a winter storm. *J. Oper. Meteor.*, **2**, 1-13.
- Knupp, K. R., T. A. Murphy, **T. A. Coleman**, R. A. Wade, S.A. Mullins, C.J. Schultz, E.V. Schultz, L. Carey, E. W. McCaul, B. Carcione, S. Latimer, A. Kula, K. Laws, P.T. Marsh, and K. Klockow, 2014: Meteorological overview of the devastating 27 April 2011 tornado outbreak. *Bull. American Meteorological Soc.*, **95**, 1041–1062.
- Mecikalski, J. R., X. Li, L. D. Carey, E. W. McCaul, Jr., and **T. A. Coleman**, 2013: Regional comparison of GOES cloud-top properties and radar characteristics in advance of first-flash lightning initiation. *Mon. Wea. Rev.*, **141**, 55-74.
- **Coleman, T. A.**, 2012: A long-lived nocturnal bore on radar: Diagnosis and relevance. *Electronic J. Operational Meteor.*, **13**, 103 - 107.
- **Coleman, T. A.**, and K. R. Knupp, 2011: A Review of Three Significant Wake Lows over Alabama and Georgia. *Wea. Forecasting*, **26**, 766-773.
- **Coleman, T. A.**, and K. R. Knupp, 2011: Radiometer and profiler analysis of the effects of a bore and a solitary wave on the stability of the NBL. *Mon. Wea. Rev.*, **139**, 211-223.

- **Coleman, T. A.**, K. R. Knupp, J. Spann, J. B. Elliott, and B. E. Peters, 2011: The history and future of tornado warning dissemination in the United States. *Bull. Amer. Met. Soc.*, **92**, 567-582.
- **Coleman, T. A.**, K. R. Knupp, and D. E. Herzmann, 2010: An undular bore and gravity waves illustrated by dramatic time-lapse photography. *J. Atmos. Oceanic Tech.*, **27**, 1355-1361.
- **Coleman, T. A.**, and K. R. Knupp, 2010: A nonlinear impedance relation for the surface winds in pressure disturbances: Theory and numerical simulations. *J. Atmos. Sci.*, **67**, 3409-3422.
- **Coleman, T. A.**, and K. R. Knupp, 2009: Factors affecting surface wind speeds in gravity waves and wake lows. *Wea. Forecasting.*, **24**, 1664-1679.
- **Coleman, T. A.**, K. R. Knupp, and J. T. Tarvin, 2009: Review and case study of sounds associated with the lightning electromagnetic pulse. *Mon. Wea. Rev.*, **137**, 3129-3136.
- **Coleman, T. A.**, and K. J. Pence, 2009: The proposed 1883 Holden tornado warning system: Its genius and its applications today. *Bull. Amer. Meteor. Soc.*, **90**, 1905-1912.
- **Coleman, T. A.**, and K. R. Knupp, 2008: The interactions of gravity waves with mesocyclones: Preliminary observations and theory. *Mon. Wea. Rev.*, **136**, 4206-4219.
- **Coleman, T. A.**, and K. R. Knupp, 2008: The spectacular undular bore in Iowa on 2 October 2007. *Mon. Wea. Rev.*, **137**, 495-503.
- Knupp, K. R., R. Ware, D. Cimini, F. Vandenberghe, J. Vivekanandan, E. Westwater, **T. A. Coleman**, and D. Phillips, 2008: Ground-based passive microwave profiling during dynamic weather conditions. *J. Atmos. Oceanic Tech.*, **26**, 1057-1073.

4. Selected Invited Presentations

- **Coleman, T. A.**, 2022: Weather Impacts in Litigation: The Case for Forensic Analysis. *Shelby County Bar Association, Columbiana, AL.*
- **Coleman, T. A.**, 2022: The Advantages of Hiring a Professional Meteorologist in Litigation Involving Weather. *9th Annual Construction Law Summit, Mobile, AL.*
- **Coleman, T. A.**, 2018: Using Radar Data to Generate High-Resolution Rainfall Estimates. *27th Annual Southeastern Environmental Law & Regulation Conference, Destin, FL.*
- **Coleman, T. A.**, 2017: Using High-Resolution Radar Rainfall Estimates in Project Planning and Claims Management. *Birmingham Environmental Professionals Association Annual Meeting, Birmingham, AL.*
- **Coleman, T. A.**, 2016: The Effects of Weather on Construction Claims and Contracts. *3rd Annual Construction Law Summit, Birmingham, AL.*
- **Coleman, T. A.**, 2014: Potential novel methods of tornado sheltering in the home. *City of Birmingham, Department of Community Development.*
- **Coleman, T. A.**, 2012: A review of the 27 Apr 2011 tornado outbreak. *NASA Marshall Space Flight Center, Huntsville, AL.*
- **Coleman, T. A.**, 2010: Current research on severe weather at UAH. *The University of Alabama, Tuscaloosa, AL.*
- **Coleman, T. A.**, 2006-2009: Atmospheric waves and their effects on the sensible weather. *Presented at NOAA/National Weather Service Forecast Offices in Mobile, AL; Atlanta, GA; Jackson, MS; Huntsville, AL; Birmingham, AL; Knoxville, TN; Nashville, TN; Chicago, IL; Indianapolis, IN.*
- **Coleman, T. A.**, and R. T. McNider, 2009: White paper on streamflows and potential water withdrawals for agriculture in Alabama. Prepared for Alabama Department of Environmental Management.
- **Coleman, T. A.**, 2009: External mesoscale factors influencing mesocyclones and tornadoes. *National Severe Storms Laboratory Colloquium, Norman, OK.*
- **Coleman, T. A.**, 2008: Atmospheric waves and their effects on the sensible weather. *The Weather Channel, Atlanta, GA.*
- **Coleman, T. A.**, 2008: Gravity waves and their effects on the sensible weather. *The University of South Alabama, Mobile, AL.*
- **Coleman, T. A.**, 2007: Gravity waves and their effects on the sensible weather. *NSSTC Brownbag Seminar Series, Huntsville, AL.*
- **Coleman, T. A.**, 2005: Gravity waves and their interactions with tornadoes and thunderstorms. *Physics Seminar Series, Samford University, Birmingham, AL.*

5. Conference Presentations

- **Coleman, T. A.**, 2022: Spatiotemporal variability in wind shear and helicity due to various processes. *AMS 30th Conference on Severe Local Storms, Santa Fe, NM.*
- **Coleman, T. A.**, 2022: Updating the Long-Term West-to-East Translation of Tornado Frequency in the United States. *American Meteorological Society (AMS) 35th Conf. on Climate Variability and Change, Virtual, Houston, TX.*
- **Coleman, T. A.**, and K. R. Knupp, 2022: Spatiotemporal variability in wind shear and helicity due to various processes. *AMS 19th Conference on Mesoscale Processes, Virtual, Houston, TX.*
- **Coleman, T. A.**, and M. Anderson, 2022: Lake-Effect Snowfall Events on a Small Lake in Northwest Alabama. *AMS 19th Conference on Mesoscale Processes, Virtual, Houston, TX.*
- Anderson, M., and **T. A. Coleman**, 2021: Analysis of Two Lake Enhanced Snow Events Along the Tennessee River. *National Weather Association (NWA) 46th Annual Meeting, Tulsa, OK.*
- **Coleman, T. A.**, and K. R. Knupp, 2021: Dramatic Near-Surface Lapse Rates at a Grassy Berm: Implications for HVAC and Energy Industries. *AMS 21st Symposium on Meteorological Observation and Instrumentation, Virtual, Boston, MA.*
- **Coleman, T. A.**, and J. P. Dice, 2021: Extreme Low-Level Wind Shear in Propagating Pressure Disturbances: Hazards to Aviation. *AMS 21st Conference on Aviation, Range, and Aerospace Meteorology, Virtual, Boston, MA.*
- **Coleman, T. A.**, and A. M. Weigel, 2019: The Effects of Differential Friction on BL Kinematics and Influences on Tornadoes. *AMS 18th Conf. on Mesoscale Processes, Savannah, GA.*
- **Coleman, T. A.**, and K. R. Knupp, 2019: Increases in Low-Level Wind Shear and Storm-Relative Helicity during the Afternoon-to-Evening Transition (AET) Period. *American Meteorological Society (AMS) 18th Conf. on Mesoscale Processes, Savannah, GA.*
- **Coleman, T. A.**, and J. P. Dice, 2019: Extreme Low-Level Wind Shear in Propagating Pressure Disturbances. *American Meteorological Society (AMS) 18th Conf. on Mesoscale Processes, Savannah, GA.*
- Knupp, K. R., B. Goudeau, **T. A. Coleman**, and A. W. Lyza, 2019: Observational Analyses of Boundary Layer Variability Preceding QLCSs. *American Meteorological Society (AMS) 18th Conf. on Mesoscale Processes, Savannah, GA.*

- **Coleman, T. A.**, and J. P. Dice, 2019: Extreme Low-Level Wind Shear in Propagating Pressure Disturbances. *National Weather Association 44th Annual Meeting, Huntsville, AL*.
- **Coleman, T. A.**, and J. P. Dice, 2018: The 28 January 2014 “Snowmageddon” in the Southeastern U.S. *American Meteorological Society (AMS) 29th Conference on Weather Analysis and Forecasting, Denver, CO*.
- **Coleman, T. A.**, and K. R. Knupp, 2018: Shear Available Potential Energy (SHAPE): A Quantitative Measure of the Effect of Wind Shear on Convective Updraft Potential. *AMS 29th Conference on Weather Analysis and Forecasting, Denver, CO*.
- **Coleman, T. A.**, A. W. Lyza, K. Knupp, K. B. Laws, and W. Wyatt, 2018: A Significant Tornado in a Heterogeneous Environment During VORTEX-SE. *AMS 29th Conference on Weather Analysis and Forecasting, Denver, CO*.
- **Coleman, T. A.**, K. R. Knupp, and P. N. Gatlin, 2017: High-Resolution Doppler Radar and Radiometer Analysis of a Cold Front Topped with Atmospheric Waves. *38th Conference on Radar Meteorology, Chicago, IL*.
- **Coleman, T. A.**, 2017: Using Single- and Dual-Doppler Analysis to Examine the Vorticity and Convergence Along Gradients in Roughness Length. *38th Conference on Radar Meteorology, Chicago, IL*.
- **Coleman, T. A.**, and A. M. Weigel, 2016: The Effects of Differential Friction on PBL Kinematics and Possible Influences on Mesocyclones and Tornadoes. *AMS 28th Conference on Severe Local Storms, Portland, OR*.
- **Coleman, T. A.**, A. W. Lyza, R. Wade, K. Knupp, and W. Wyatt, 2016: A Significant Tornado Near a Frontogenetical Boundary During VORTEX-SE. *AMS 28th Conference on Severe Local Storms, Portland, OR*.
- **Coleman, T. A.**, 2016: Increases in Wind Shear and Helicity During the AET Period. *AMS 28th Conference on Severe Local Storms, Portland, OR*.
- Knupp, K. R., and **T. A. Coleman**, 2016: External Controls on Tornadogenesis and Evolution: Potential Significance and Current State of Knowledge. *AMS 28th Conference on Severe Local Storms, Portland, OR*.
- Lisauckis, C. A., K. R. Knupp, T. A. Murphy, **T. A. Coleman**, and A. W. Lyza, 2016: Investigating Tornadogenesis Events Within the ARMOR Domain. *15th Annual American Meteorological Society Student Conference, New Orleans, LA*.
- **Coleman, T. A.**, and K. R. Knupp, 2015: Mapping the Impact of Surface Roughness on the Kinematics of the 3D Wind Field. *37th Conference on Radar Meteorology, Norman, OK*.

- Wade, R. A., **T. A. Coleman** and K. R. Knupp, 2015: Preliminary Profiling and Polarimetric Radar Analysis of Convective Snowbands and Atmospheric Waves during the 25 February 2015 Southeastern U.S. Heavy Snow Event. *37th Conference on Radar Meteorology, Norman, OK.*
- **Coleman, T. A.**, and K. R. Knupp, 2013: Analysis of the effects of wind channeling and gradients in roughness length on environmental vorticity and helicity. *36th Conference on Radar Meteorology, Breckenridge, CO.*
- Murphy, T. A., **T. A. Coleman**, and K. R. Knupp, 2013: Observations and Analysis of Atmospheric Waves during the Historic April 27, 2011 Tornado Outbreak. *36th Conference on Radar Meteorology, Breckenridge, CO.*
- Lyza, A. W., T. A. Murphy, R. A. Wade, **T. A. Coleman**, and K. R. Knupp, 2013: Multiple Doppler Radar Analysis of External Environmental and Topographical Influences on a QLCS Tornado Event. *36th Conference on Radar Meteorology, Breckenridge, CO.*
- Murphy, T., **T.A. Coleman**, and K.R. Knupp, 2013: Observations and analysis of atmospheric waves during the historic April 27, 2011 tornado outbreak. *11th Annual Southeast Severe Storms Symposium, Starkville, MS.*
- Murphy, T., T.A. Coleman, and K.R. Knupp, 2013: Observations and analysis of atmospheric waves during the historic April 27, 2011 tornado outbreak. *38th Annual Meeting of the National Weather Association, Charleston, SC.*
- **Coleman, T. A.**, K. R. Knupp, and T. A. Murphy, 2012: The Dynamics and Morphology of Two Long-Track Tornadic Supercells on 27 April 2011. *Special Symposium on the Tornado Disasters of 2011, New Orleans, LA.*
- Murphy, T. A., R. A. Wade, **T. A. Coleman**, and K. R. Knupp, 2012: Radar Overview and Visual Documentation of the 27 April 2011 Tornadic Outbreak. *AMS Special Symposium on the Tornado Disasters of 2011, New Orleans, LA.*
- Mullins, S., K. R. Knupp, **T. A. Coleman**, T. A. Murphy, A. Sherrer, and R. A. Wade, 2012: Recent Afternoon-Evening Transition (AET) and Nocturnal Convective Initiation Events Studied as Part of the UAHuntsville ABIDE Field Project. *AMS 26th Conference on Severe Local Storms, Nashville, TN.*
- Knupp, K. R., T. A. Murphy, S. Mullins, R. A Wade, and **T. A. Coleman**, 2012: The Devastating 27 April 2011 Tornado Outbreak: Initial Scientific Assessment. *AMS 26th Conference on Severe Local Storms, Nashville, TN.*
- Sherrer, A., R. A. Wade, T. A. Murphy, S. Mullins, **T. A. Coleman**, D. Phillips, and K. R. Knupp, 2012: Observations of a Thermal Boundary and its Interaction with the 27 April 2011 EF-5 Hackleburg Tornado. *AMS 26th Conference on Severe Local Storms, Nashville, TN.*
- Murphy, T. A., **T. A. Coleman** and K. R. Knupp, 2012: Observations and Analysis of Atmospheric Waves During the Historic April 27, 2011 Tornado Outbreak. *AMS 26th Conference on Severe Local Storms, Nashville, TN.*

- Mullins, S. A., K. R. Knupp, **T. A. Coleman**, T. A. Murphy, D. Phillips, A. Sheerer, and R. Wade, 2012: Recent Afternoon-Evening Transition (AET) and nocturnal convective initiation events as part of the UAHuntsville ABIDE field project. *AMS 26th Conference on Severe Local Storms, Nashville, TN.*
- **Coleman, T. A.**, 2012: Sudden re-intensification of storms due to synoptic effects. *9th Southeastern Coastal and Atmospheric Processes Symposium, Mobile, AL.*
- Murphy, T.A., R.A. Wade, **T.A. Coleman**, and K.R. Knupp, 2012: Analysis and recent observations of wave interactions in North Alabama. *9th Southeastern Coastal and Atmospheric Processes Symposium, Mobile, AL.*
- **Coleman, T. A.**, and K. R. Knupp, 2011: The rare synoptic and mesoscale setup leading to the 27 Apr 2011 tornado outbreak. *36th Annual Meeting of the National Weather Association, Birmingham, AL.*
- Kula, A, S. Latimer, K. R. Knupp, and **T. A. Coleman**: Evolution and Impacts of the 27 April 2011 Early Morning Quasi-Linear Convective System. *36th Annual Meeting of the National Weather Association, Birmingham, AL.*
- Murphy, T., **T. A. Coleman**, and K.R. Knupp, 2011: Preliminary observations of convective initiation and mesocyclone interactions with atmospheric waves on 27 April 2011. *36th Annual Meeting of the National Weather Association, Birmingham, AL.*
- **Coleman, T. A.**, and K. R. Knupp, 2011: Topographic and land cover effects on mesocyclones and tornadoes. *35th Conference on Radar Meteorology, Pittsburgh, PA.*
- Knupp, K. R., D. W. Phillips, E. V. Schultz, R. A. Wade, T. A. Murphy, C. J. Schultz, W. A. Petersen, L. D. Carey, and **T. A. Coleman**, 2011: Preliminary assessment of the 27 April 2011 tornado outbreak using dual polarimetric and vertically pointing radar. *35th Conference on Radar Meteorology, Pittsburgh, PA.*
- Murphy, T. , R. A. Wade, **T. A. Coleman**, and K. R. Knupp, 2011: Recent radar observations of wave-like features interacting with quasi-linear convective systems. *35th Conference on Radar Meteorology, Pittsburgh, PA.*
- **Coleman, T. A.**, 2010: The Effects of Topography and Friction on Mesocyclones and Tornadoes. *AMS 25th Conference on Severe Local Storms, Denver, CO.*
- **Coleman, T. A.**, and K. R. Knupp, 2010: Examination of an intense wake low event as a severe local storm. *AMS 25th Conference on Severe Local Storms, Denver, CO.*
- Knupp, K. R., and **T. A. Coleman**, 2010: Detailed observations of severe heat bursts: microbursts, intense microscale vortices, and high amplitude gravity waves. *AMS 25th Conference on Severe Local Storms, Denver, CO.*
- Knupp, K. R., **T. A. Coleman**, and E. W. McCaul, 2010: The 21 January Huntsville tornado: Storm and mesoscale characteristics inferred from combined high-resolution dual-polarization radar data and video images. *AMS 25th Conference on Severe Local Storms, Denver, CO.*
- **Coleman, T. A.**, and J. A. Westland, 2010: Underestimation of QPE in a flash flood situation due to partial radar beam blocking: Correction using the BREAM model. *AMS 24th Conference on Hydrology, Atlanta, GA.*

- **Coleman, T. A.**, 2010: The history (and future) of tornado warning dissemination in the United States. *8th Presidential History Symposium, American Meteorological Society, Atlanta, GA.*
- **Coleman, T. A.**, D. Phillips, and K. R. Knupp, 2009: Radar, profiler, and radiometer analysis of the effects of multiple bores/solitary waves on the stability of the NBL and associated CI. *34th Conference on Radar Meteorology, Williamsburg, VA.*
- **Coleman, T. A.**, and K. R. Knupp, 2009: Radar analysis of the airflow over geographic features that may affect mesocyclone intensity and tornadogenesis. *34th Conference on Radar Meteorology, Williamsburg, VA.*
- Knupp, K. R., and **T. A. Coleman**, 2009: Multiple Doppler radar and profiler analysis of an intense wake low event. *34th Conference on Radar Meteorology, Williamsburg, VA.*
- Gatlin, P. N., K. R. Knupp, and **T. A. Coleman**, 2009: Observations of atmospheric waves that moved across northern Alabama on 4 December 2008 using the ARMOR Doppler radar and the Mobile Integrated Profiling System. *34th Conference on Radar Meteorology, Williamsburg, VA.*
- Knupp, K. R., **T. A. Coleman** and D. Phillips, 2009: Fine-scale kinematic structure of a gravity wave within a midlatitude cyclone. *34th Conference on Radar Meteorology, Williamsburg, VA.*
- Phillips, D. W., K. R. Knupp, and **T. A. Coleman**, 2009: Observations of Tropical Storm Fay. *34th Conference on Radar Meteorology, Williamsburg, VA.*
- **Coleman, T. A.**, 2009: Mesoscale Processes that may Impact Mesocyclone Intensity and Tornadogenesis. *6th Southeastern Coastal and Atmospheric Processes Symposium, Mobile, AL.*
- **Coleman, T. A.**, and K. R. Knupp, 2008: BREAM: A simple but effective model to allow better radar QPE in flash flood situations for radars with partial beam blocking. *AMS 22nd Conference on Hydrology, Atlanta, GA.*
- **Coleman, T. A.**, 2008: The 1883 Holden tornado warning system and its applications today. *6th Presidential History Symposium, American Meteorological Society, Atlanta, GA.*
- **Coleman, T. A.**, K. R. Knupp, and C. Crowe, 2008: Mesoscale phenomena affecting the Alabama EF-4 tornadoes during the Super Tuesday Tornado Outbreak of 5-6 February 2008. *AMS 24th Conference on Severe Local Storms, Savannah, GA.*
- Knupp, K. R., **T. A. Coleman**, W. Petersen, and L. Carey, 2008: The 2008 Super Tuesday Tornado Outbreak: Overview of the tornadoes and their parent storms. *AMS 24th Conference on Severe Local Storms, Savannah, GA.*
- Knupp, K. R., **T. A. Coleman**, L. W. Carey, W. Petersen, and C. Elkins, 2008: The 2008 Super Tuesday Tornado Outbreak: Synthetic dual Doppler analysis of contrasting tornadic storm types. *AMS 24th Conference on Severe Local Storms, Savannah, GA.*
- **Coleman, T. A.**, and K. R. Knupp, 2007: Doppler Radar Observations of the Interactions of Gravity Waves with Mesocyclones. *33rd Conference on Radar Meteorology, Cairns, Queensland, Australia.*

- Knupp, K. R., and **T. A. Coleman**, 2007: The dependence of modes of propagation of quasi-linear convective systems on the boundary layer: A multi-sensor analysis. *33rd Conference on Radar Meteorology, Cairns, Queensland, Australia.*
- **Coleman, T. A.**, and K. R. Knupp, 2007: A closer look at damaging surface winds associated with gravity waves. *AMS 12th Conference on Mesoscale Processes, Waterville Valley, NH.*
- **Coleman, T. A.**, and K. R. Knupp, 2007: Convective initiation via outflow boundary interaction with quasi-stationary thermal circulations. *AMS 12th Conference on Mesoscale Processes, Waterville Valley, NH.*
- **Coleman, T. A.**, 2007: Gravity waves as severe local storms. *6th Annual Southeast Severe Storms Symposium, Starkville, MS.*
- **Coleman, T. A.**, 2007: Propagation modes in QLCS's: Density Currents, Bores, and Gravity Waves. *Midwest Bow Echo Workshop, Louisville, KY.*
- **Coleman, T. A.**, and K. R. Knupp, 2006: The interactions of gravity waves with mesocyclones and tornadoes: Theories and Observations. *AMS 23rd Conference on Severe Local Storms, St. Louis, MO.*
- Barbre Jr., R. E., C. R. Hain, T. A. Martin, **T. A. Coleman**, C. Elkins, and K. R. Knupp, 2006: Single Doppler radar observations of an intense bowing phase of a cold season bow echo in a high shear, low CAPE environment. *AMS 23rd Conference on Severe Local Storms, St. Louis, MO.*
- Hain, C. R. Hain, K. R. Knupp, R. E. Barbre, C. Elkins, **T. A. Coleman**, and T. A. Martin, 2006: A cold season bow echo in a high shear, low CAPE environment: Synoptic-scale environment and mesoscale evolution. *AMS 23rd Conference on Severe Local Storms, St. Louis, MO.*
- **Coleman, T. A.**, 2006: Topographic Beam Blocking and its effects on radar rainfall estimates: The BREAM model. *1st Annual UAH College of Science Conference, Huntsville, AL.*

6. Teaching experience

A. Graduate (UAH)

- ATS 551, Atmospheric Fluid Dynamics I
- ATS 651, Atmospheric Fluid Dynamics II
- ATS 690, Atmospheric Waves

B. Undergraduate

- PHYS 101L, 102L, Physics Laboratory (Samford University)
- GEOG 150, Physical Geography (Samford University)
- Non-credit courses in Severe Storms (Jefferson State Community College)

7. Other academic service

- Service on the committees of 7 M.S./Ph.D. students
- Serve as reviewer for the following journals:
 - The Quarterly Journal of the Royal Meteorological Society*
 - Bulletin of the American Meteorological Society*
 - Journal of the Atmospheric Sciences*
 - Monthly Weather Review*
 - The Journal of Applied Meteorology and Climatology*
 - The Journal of Atmospheric and Oceanic Technology*
 - The Journal of Hydrometeorology*
 - The Journal of Climatology*
 - The Electronic Journal of Operational Meteorology*
 - Climate Research*
 - Weather Climate and Society*

8. Media Coverage of Research

The Weather Channel Live Interviews, April 2010, October 2013

The Birmingham News (front page), *The Tuscaloosa News*, *The Cleburne Times*

Science@NASA national newsletter

Interviewed by American Institute of Physics about dissertation work for nationally-syndicated

TV news story, to be distributed to 62 local TV stations in the U. S. and Canada

Physorg.com, terradaily.com, talkweather.com, nwas.org, al.com, newsrx.com, newswise.com, wvua.com, myfoxny.com, myfoxla.com

9. Honors and Professional Memberships

Member, American Meteorological Society

Member, National Weather Association

Member, Marquis Who's Who in America

Howard College of Arts and Sciences Advisory Board, Samford University

Phi Kappa Phi, academic honor fraternity

Pi Mu Epsilon, mathematics honor society

Physics Achievement Award, Samford University

NOAA/U. S. Dept. of Commerce Bronze Medal

Winner, NWS BMX forecast contest (1995)

Winner, National Science Olympiad Meteorology Event (8th grade)