

Dr. Matthew D. Eastin

Department of Geography and Earth Sciences
The University of North Carolina at Charlotte
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EDUCATION AND DEGREES

Ph.D. in Atmospheric Science
Department of Atmospheric Science, Colorado State University
August 2003

M.S. in Atmospheric Science
Department of Atmospheric Science, Colorado State University
August 1999

B.S. in Atmospheric Science
Department of Earth and Atmospheric Sciences, Purdue University
May 1996

ACADEMIC AND PROFESSIONAL POSITIONS

Associate Professor
Department of Geography and Earth Sciences
University of North Carolina at Charlotte
Charlotte, NC
July 2012 – present

M.S. Earth Sciences Graduate Program Coordinator
Department of Geography and Earth Sciences
University of North Carolina at Charlotte
Charlotte, NC
July 2012 – December 2014

Assistant Professor
Department of Geography and Earth Sciences
University of North Carolina at Charlotte
Charlotte, NC
August 2006 – June 2012

Assistant Research Professor
Departments of Math, Computer Science, and Environmental Science
Central College
Pella, IA
August 2004 – August 2006

Post-doctoral Research Associate
 National Research Council
 NOAA / AOML / Hurricane Research Division
 Miami, FL
 August 2003 – August 2004

Student Aide / Intern
 National Weather Service
 Indianapolis Forecast Office
 Indianapolis, IN
 May 1994 – August 1996

TEACHING

A. Courses Taught (credit hours):	(denotes independent study)	(** denotes new course)
<u>Fall 2022</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3) 15
	METR 4320 / ESCI 5320	Tropical Meteorology (3) 8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3) 11
<u>Spring 2022</u>	METR 3210	Atmospheric Thermodynamics (3) 21 students
	METR 4650	Meteorology Seminar (1) 8
	ESCI 4600-001	Earth Sciences Seminar (1) 10
	ESCI 4600-002	Earth Sciences Seminar (1) 10
	ESCI 6000	Urban Heat Islands (3) ** 4
	ESCI 6600	Earth Sciences Grad Seminar (1) 1
<u>Fall 2021</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3) 10
	METR 4320 / ESCI 5320	Tropical Meteorology (3) 10
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3) 8
	METR 4800	Atmospheric Rivers (3) 1
	ESCI 6000	Atmospheric Thermodynamics (3) 1
<u>Spring 2021</u>	METR 3210	Atmospheric Thermodynamics (3) 18
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3) 17
	METR 4650	Meteorology Seminar (1) 8
	ESCI 4600-001	Earth Sciences Seminar (1) 14
	ESCI 4600-002	Earth Sciences Seminar (1) 14
<u>Fall 2020</u>	<i>(No courses due to Re-assignment of Duties)</i>	
<u>Spring 2020</u>	METR 3210	Atmospheric Thermodynamics (3) 17
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3) 10
	METR 4650	Meteorology Seminar (1) 5
	ESCI 4600-001	Earth Sciences Seminar (1) 10
	ESCI 4600-002	Earth Sciences Seminar (1) 10
	INES 8090	Clouds along Flight Paths (3) 1
<u>Fall 2019</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3) 13
	METR 4320 / ESCI 5320	Tropical Meteorology (3) 8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3) 8
	INES 8090	MOS usage in General Aviation (3) 1

<u>Spring 2019</u>	METR 3210	Atmospheric Thermodynamics (3)	18
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	6
	METR 4650	Meteorology Seminar (1) **	7
	ESCI 4600-001	Earth Sciences Seminar (1)	10
	ESCI 4600-002	Earth Sciences Seminar (1)	10
<u>Fall 2018</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3)	14
	METR 4320 / ESCI 5320	Tropical Meteorology (3)	8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	9
	METR 4800	Urban Precipitation (3)	1
<u>Spring 2018</u>	METR 3210	Atmospheric Thermodynamics (3)	18
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	9
<u>Fall 2017</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3)	14
	METR 4320 / ESCI 5320	Tropical Meteorology (3)	8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	9
<u>Spring 2017</u>	METR 3210	Atmospheric Thermodynamics (3)	14
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	10
<u>Fall 2016</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3)	10
	METR 4320 / ESCI 5320	Tropical Meteorology (3)	8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	12
<u>Spring 2016</u>	METR 3210	Atmospheric Thermodynamics (3)	20
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	9
	METR 4800	Supercells in Mountains (3)	1
<u>Fall 2015</u>	METR 4110 / ESCI 5110	Atmospheric Instrumentation (3) **	17
	METR 4320 / ESCI 5320	Tropical Meteorology (3)	13
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	13
	ESCI 6600	Earth Sciences Grad Seminar (1)	17
	ESCI 6800	Scientific Programming (3)	1
<u>Spring 2015</u>	<i>(No courses due to FMLA leave)</i>		
<u>Fall 2014</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	6
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	7
	ESCI 6000 / GEOG 6005	Urban Meteorology (3) **	6
	ESCI 6600	Earth Sciences Grad Seminar (1) **	8
<u>Spring 2014</u>	METR 3210	Atmospheric Thermodynamics (3)	14
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	11
<u>Fall 2013</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	17
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3) **	20
<u>Spring 2013</u>	METR 3210	Atmospheric Thermodynamics (3)	22
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	14
	METR 4800	Hurricane Rainbands (2)	1
	ESCI 6800	Scientific Programming (3)	1
<u>Fall 2012</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	10
<u>Spring 2012</u>	METR 3210	Atmospheric Thermodynamics (3)	17
	ESCI 6000 / INES 8090	Convection Climate Society (3) **	5
	ESCI 6800	Radar Meteorology (3)	2
	ESCI 6800	Scientific Programming (3)	2

<u>Fall 2011</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	14
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	23
	METR 4800	Hurricane Rainbands (2)	1
<u>Spring 2011</u>	ESCI 6000 / INES 8090	Radar Meteorology (3) **	4
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	16
<u>Fall 2010</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	15
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	25
	METR 4800	Hurricane Rainbands (2)	1
<u>Spring 2010</u>	<i>(No courses due to Re-assignment of Duties)</i>		
<u>Fall 2009</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	15
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	17
	ESCI 6800	Scientific Programming (3)	3
<u>Spring 2009</u>	ESCI 6000 / INES 8090	Convective Dynamics (3) **	8
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	10
	METR 4800	Hurricane Rainbands (2)	2
<u>Fall 2008</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	8
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3)	22
<u>Spring 2008</u>	METR 3210 / ESCI 6800	Atmospheric Thermodynamics (3) **	32
	METR 4350 / ESCI 5350	Mesoscale Meteorology (3)	8
	ESCI 4600	Earth Science Seminar (1) **	12
	ESCI 6800	Scientific Programming (3)	2
<u>Fall 2007</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3)	8
	METR 4245 / INES 8090	Adv. Synoptic Meteorology (3)	14
	ESCI 6800	Statistics for Meteorology (3)	2
<u>Spring 2007</u>	METR 4350 / ESCI 5350	Mesoscale Meteorology (3) **	5
	METR 4245 / ESCI 5251	Adv. Synoptic Meteorology (3) **	11
	ESCI 6800	Tropical Convection (3)	1
<u>Fall 2006</u>	METR 4320 / ESCI 5320	Tropical Meteorology (3) **	6

B. Dissertation/Thesis Advisor – Ongoing

Roger Riggin M.S. Earth Sciences (co-advisor with Casey Davenport)
 “Idealized numerical simulation of supercells crossing Appalachian Mountains”
Status: Started in Fall 2020

C. Dissertation/Thesis Advisor – Completed

Matthew Toadvine M.S. Earth Sciences
 “Updated climatology of tornadoes spawned by landfalling tropical cyclones”
Status: Completed Spring 2022
Current Affiliation: Applications Developer at Commodity Weather Group

Scott Dennstaedt Ph.D. Infrastructure and Environmental Systems (INES)
 “Targeted approach to providing weather guidance to general aviation pilots”
Status: Completed Spring 2021
Current Affiliation: President of EasyWxBrief and AviationWx-Training

Katie McKeown M.S. Earth Sciences (co-advisor with Casey Davenport)
 “Radar characteristics of observed supercells in the Appalachian Mountains”
Status: Completed Spring 2021
Current Affiliation: Penn State University doctoral student

Sarah Purpura M.S. Earth Sciences (co-advisor with Casey Davenport)
 “Environmental evolution of supercells in the Appalachian Mountains”
Status: Completed Spring 2021
Current Affiliation: Software Developer with Xactware-Verisk

Anna Stuck M.S. Earth Sciences
 “Short-term Prediction of the Charlotte Urban Heat Island”
Status: Completed Fall 2020
Current Affiliation: GIS Analyst

Rachel Cucinotta M.S. Earth Sciences
 “Diagnosing thunderstorm-induced power outages”
Status: Completed Summer 2019
Current Affiliation: Lead Meteorologist at Theorem-Geo Associates

Cody Ledbetter M.S. Earth Sciences (co-advisor with Casey Davenport)
 “Supercell interactions in low-CAPE and high shear environments”
Status: Completed Fall 2018
Current Affiliation: Forecaster with NOAA National Weather Service

Warren Pettee M.S. Earth Sciences
 “A statistical method of fog forecasting in North Carolina”
Status: Completed Spring 2018
Current Affiliation: Meteorologist at the High Plains Climate Center

Megan Sirbaugh M.S. Earth Sciences
 “Spatiotemporal prediction of dengue fever across Colombia”
Status: Completed Summer 2017
Current Affiliation: Geoscience Lecturer at UA-Huntsville

Ryan Hubler M.S. Earth Sciences
 “Enhancement of local convection by the Charlotte urban heat island”
Status: Completed Spring 2016
Current Affiliation: Meteorologist for Charlotte-Douglas Airport

Brandy Stimac M.S. Earth Sciences
 “Miniature supercells in the outer rainbands of Hurricane Rita (2005)”
Status: Completed Spring 2015
Current Affiliation: Owner of The Icing and Cake Bakery

Adam Picard M.S. Earth Sciences
 “Miniature supercells in outer rainbands of Hurricane Gustav (2008)”
Status: Completed Spring 2014
Current Affiliation: Forecast Meteorologist at ATS Services

- Cameron Self M.S. Earth Sciences
 “Climatology of tornadic and non-tornadic cells in tropical cyclones”
Status: Completed Spring 2014
Current Affiliation: Forecast Meteorologist at Impact Weather
- Betsy Grim M.S. Earth Sciences
 “Thermodynamic structure of vertically sheared tropical cyclones”
Status: Completed Spring 2013
Current Affiliation: GIS Analyst with the Shopping Center Group
- Brett Odom M.S. Earth Sciences
 “IDF relationships for precipitation in Charlotte during 1989-2009”
Status: Completed Fall 2012
Current Affiliation: Self-Employed
- Brian Hays M.S. Earth Sciences
 “Environmental characteristics of tornadic tropical cyclones”
Status: Completed Fall 2011
Current Affiliation: Meteorological Analyst at Cyberdata Tech
- Chris Link M.S. Earth Sciences
 “Climatology and radar analysis of tornadoes in tropical cyclones”
Status: Completed Spring 2010
Current Affiliation: Meteorologist at Western Weather Group
- Kelly Smith M.S. Earth Sciences
 “Climatology and radar analysis of tornadoes in tropical cyclones”
Status: Completed Fall 2009
Current Affiliation: High School Science Teacher

D. Dissertation/Thesis Committee Member – Ongoing

- Andrew Robinson Ph.D. Geography (Katherine Idziorek – Advisor)
 “Something related to urban planning and urban heat islands”
Status: Started in Fall 2022
- Logan Twohey Ph.D. Geography (Casey Davenport – Advisor)
 “Supercell thunderstorms moving through elevated terrain”
Status: Started in Fall 2022
- Lauren Decker M.S. Earth Sciences (Casey Davenport – Advisor)
 “Improving pedagogical approaches to spatial thinking in meteorology”
Status: Started in Fall 2021
- Allison VanOrmer M.S. Earth Sciences (Brian Magi – Advisor)
 “Examining seasonal temperature changes around the world”
Status: Started in Fall 2021

Evan Blomquist M.S. Earth Sciences (Gang Chen - Advisor)
"Relationships between local land-cover and air pollution"
Status: Started in Fall 2021

Matthew Gropp Ph.D. INES (Casey Davenport – Advisor)
"Supercell structure and evolution in high-resolution climate models"
Status: Started in Fall 2017 – ABD

E. Dissertation/Thesis Committee Member – Completed

Xiaoyu Bai Ph.D. INES (Jacob Scheff – Advisor)
"Energetic theory and Hadley cells: ITCZ response in a warming climate"
Status: Completed in Spring 2022

Cody Burroughs M.S. Earth Sciences (Jacob Scheff - Advisor)
"Extreme dewpoints across the continental United States"
Status: Completed in Fall 2020

Nicholas Golden M.S. Earth Sciences (Jacob Scheff - Advisor)
"Correlation of polar jet and arctic-subtropical warming in CMIP5 models"
Status: Completed in Fall 2020

Eric Webb M.S. Earth Sciences (Brian Magi - Advisor)
"Reanalysis of the extended multivariate ENSO index"
Status: Completed in Fall 2020

Richard Sirico M.S. Earth Sciences (Casey Davenport - Advisor)
"Environmental influences on the precipitation structure of supercells"
Status: Completed in Spring 2019

Greg Docekal M.A. Earth Sciences (Eric Delmelle – Advisor)
"Shelter accessibility in North Carolina during Hurricane Florence"
Status: Completed in Fall 2019

Austin Mansfield M.S. Earth Sciences (Casey Davenport – Advisor)
"Comparison of tornadic and non-tornadic supercell environments"
Status: Completed in Spring 2019

Matthew Smith Ph.D. Nanoscale Sciences (Greg Gbur – Advisor)
"Optical vortices and coherence in nano-optics"
Status: Completed in Spring 2019

Stephanie Edwards M.S. Earth Sciences (Brian Magi – Advisor)
"Lightning variability over the Southeast United States"
Status: Completed in Spring 2018

Kathleen Magee M.S. Earth Sciences (Casey Davenport – Advisor)
"Evolution of supercells in close proximity to surface boundaries"
Status: Completed in Spring 2017

- Matthew Gropp M.S. Earth Sciences (Casey Davenport – Advisor)
 “Impact of nighttime transition on supercell evolution”
Status: Completed in Spring 2017
- Matthew Baber M.A. Geography (Sara Gagne – Advisor)
 “Effects of the Charlotte urban heat island on anuran abundance & diversity”
Status: Completed in Fall 2016
- Adrienne Boucher M.S. Earth Sciences (Sara Gagne – Advisor)
 “Effects of urban heat islands and local habitat quality on anurans”
Status: Completed in Spring 2016
- Aiken Small M.S. Earth Sciences (Scott Hippensteel – Advisor)
 “Foraminifers as bio-indicators of water quality”
Status: Completed in Summer 2015
- Thomas Winesett M.S. Earth Sciences (Brian Magi – Advisor)
 “Using microwave remote sensing to estimate cloud-to-ground lightning”
Status: Completed in Summer 2015
- Kelly Brawn M.A. Geography (Eric Delmelle – Advisor)
 “Using elevation data to improve accuracy of climate data interpolation”
Status: Completed in Spring 2015
- Heath Corder M.S. Earth Sciences (Manda Adams – Advisor)
 “Synoptic climatology of icing events on wind turbines farms”
Status: Completed in Spring 2015
- Dan Gilbert M.S. Earth Sciences (Manda Adams – Advisor)
 “Impact of wind energy infrastructure on nocturnal low-level jets”
Status: Completed in Summer 2014
- Josh Wexler M.S. Earth Sciences (Eric Delmelle – Advisor)
 “Impact of weather variability on increasing rates of dengue fever”
Status: Completed in Fall 2012
- Elliot Tardiff M.S. Earth Sciences (Manda Adams – Advisor)
 “Fine-Scale numerical weather prediction for NASCAR racetracks”
Status: Completed in Summer 2012
- Maher Haddad M.S. Earth Sciences (Walter Martin – Advisor)
 “Precipitation climatology North Atlantic tropical cyclones at landfall”
Status: Completed in Spring 2011
- Brad Johnson Ph.D. Infrastructure Environmental Systems (Missy Eppes – Advisor)
 “Alpine landscape response to post-glacial climate change”
Status: Completed in Fall 2010
- Stanton Lanham M.S. Earth Sciences (Brian Etherton – Advisor)
 “Correction of 48-hour temperature predictions using Fourier decomposition”
Status: Completed in Fall 2010

- Shelley Holmberg M.S. Earth Sciences (Brian Etherton – Advisor)
 “Assessing the impact of AIRS data in WRF model forecasts”
Status: Completed in Spring 2010
- Alex Lowag M.S. Atmospheric Science, University of Miami
 “External influences on the structure and intensity of Hurricane Bret (1999)”
Status: Completed in Summer 2008
- Chris Blanton M.S. Earth Sciences (Brian Etherton – Advisor)
 “Polygonal eyewalls in a numerical simulation of Hurricane Wilma”
Status: Completed in Spring 2008

F. Undergraduate Research Project Supervisor

- Taylor Grace B.S. Meteorology
 “Deep Convection Enhanced by an Urban Heat Island”
Status: Completed in Spring 2019
Honors Project
- Rachel Cucinotta B.S. Meteorology
 “Power outage density and warm season convection”
Status: Completed in Fall 2016
- Cody Ledbetter B.S. Meteorology (co-advised with Casey Davenport)
 “Interaction of supercell storms with the Appalachian Mountains”
Status: Completed in Spring 2016
Honors Project
- Eric Bunker B.S. Meteorology
 “Severe supercell outbreaks over the Southern Appalachians”
Status: Completed in Spring 2016
- Warren Pettee B.S. Meteorology (co-advised with Brian Magi)
 “Observations and Simulations of UNC Charlotte Weather”
Status: Completed in Summer 2014
Charlotte Research Scholars Program
- Brandy Stimac B.S. Meteorology (co-advised with Manda Adams)
 “Estimating the threat of offshore wind farms to tropical cyclones”
Status: Completed in Spring 2013
Honors Project
- Phillip Ware B.S. Meteorology
 “Structure of convective cells in an outer rainband of Hurricane Gustav (2008)”
Status: Completed in Spring 2013
- Emily Monroe B.S. Meteorology
 “Synoptic climatology of precipitation events in Onslow Bay (NC)”
Status: Completed in Summer 2013
Charlotte Research Scholars Program

Todd Hunter B.S. Meteorology
 “Relationships between surface weather and dengue fever in Cali Colombia”
Status: Completed in Spring 2012

Josef Decker B.S. Computer Science
 “Real-time data acquisition software for surface weather stations”
Status: Completed in Spring 2012

Angela Crowder B.S. Meteorology
 “Radar-derived cell motions in hurricane outer rainbands at landfall”
Status: Completed in Fall 2011

Elazar Silverman B.S. Meteorology
 “Radar analysis of a stratiform rainband in Hurricane Gustav”
Status: Completed in Fall 2010

Kenny Griffin B.S. Meteorology
 “Developing convective cells in outer rainbands of Hurricane Gustav”
Status: Completed in Spring 2010

Tiffany Gardner B.S. Meteorology
 “Evolution of surface observations in tropical cyclone rainbands”
Status: Completed in Spring 2010

Jennifer Edwards B.S. Meteorology
 “Mature convective cells in an outer rainband of Hurricane Gustav”
Status: Completed in Fall 2009

Thomas Hinson B.S. Meteorology
 “Structure and evolution of convective cells in Hurricane Jeanne”
Status: Completed in Spring 2009
Honors Project

Robert Manion B.S. Meteorology
 “Evolution of miniature supercells in Hurricane Ivan rainbands”
Status: Completed in Spring 2009

Kayla Holleman B.S. Earth Sciences (co-supervised with Anne Jefferson)
 “Precipitation variability in the North Carolina Piedmont”
Status: Completed in Spring 2009

Heather Anderson B.S. Meteorology
 “Radar signatures prior to tornadogenesis in Hurricane Frances”
Status: Completed in Spring 2008

Brett Odom B.S. Meteorology
 “Convective cell motions in hurricane eyewalls and rainbands”
Status: Completed in Spring 2008

Adam Baker B.S. Atmospheric Sciences, NC State (co-supervised with M. Parker)
 “Variability of vertical wind profiles in Hurricanes Ivan and Jeanne”
Status: Completed in Spring 2008

- Chris Link B.S. Meteorology, UNCC
 “Dual-Doppler analysis of offshore convection in Hurricane Ivan”
Status: Completed in Summer 2007
- Scott Sandberg B.A. Environmental Studies, Central College
 “A GIS perspective of hurricane eyewall convection”
Status: Completed in Spring 2006
- Stephen Kearney B.S. Meteorology, Iowa State University
 “Relationship between hurricane intensity change and eye diameter”
Status: Completed in Fall 2005

G. Internship Supervisor

- Brandy Stimac M.S. Earth Sciences
 National Weather Service Forecast Office, Charleston (SC)
Status: Completed Fall 2014
- Rob Gourley Honors Student at Mallard Creek High School
 “Design and deployment of weather balloons”
Status: Completed Spring 2013

H. Supervisor of Significant Student Activity

- Roger Riggins *Conference Presentations*
 “Idealized numerical simulation of supercells crossing Appalachian Mountains”
 AMS Severe Local Storms Conference – Virtual – November 2021
 AMS Annual Meeting – Virtual – January 2022
 Southern Appalachian Weather & Climate Workshop – Asheville – March 2022
 AMS Severe Local Storms Conference – Santa Fe – October 2022
- Matthew Toadvine *Conference Presentation*
 “Updated climatology of tornadoes spawned by landfalling tropical cyclones”
 AMS Annual Meeting – Virtual – January 2022
 Southern Appalachian Weather & Climate Workshop – Asheville – March 2022
- Katie McKeown *Conference Presentations*
 “Radar Characteristics of Observed Supercells in the Appalachian Mountains”
 AGU Fall Meeting – Virtual – December 2020
 AMS Annual Student Conference – Virtual – January 2021
 NWA Annual Meeting – Virtual – August 2021
- Sarah Purpura *Conference Presentations*
 “Environmental Evolution of Supercells in the Appalachian Mountains”
 AGU Fall Meeting – Virtual – December 2020
 AMS Annual Student Conference – Virtual – January 2021
 NWA Annual Meeting – Virtual – August 2021

- Anna Stuck *Conference Presentation*
 “Prediction of the Charlotte (North Carolina) Urban Heat Island”
 AMS Student Conference – Boston – January 2020
- Rachel Cucinotta *Conference Presentations*
 “Diagnosing thunderstorm-induced power outages”
 AMS Weather Climate & Energy Conference – January 2019 – **1st Place Award**
 Charlotte Graduate Research Symposium – March 2019 – **1st Place Award**
- Warren Pettee *Conference Presentation*
 “A Statistical Method of Fog Forecasting in North Carolina”
 Charlotte Graduate Research Symposium – March 2017
 AMS Student Conference – Phoenix – January 2015
- Warren Pettee *Conference Presentation*
 “Observations and Simulations of UNC Charlotte Weather”
 Charlotte Research Scholars Symposium – July 2014
- Megan Sirbaugh *Conference Presentation*
 “Spatiotemporal prediction of dengue fever in Columbia based on weather”
 Charlotte Graduate Research Symposium – March 2017
- Ryan Hubler *Conference Presentation*
 “Initiation and enhancement of convection by the Charlotte urban heat island”
 Charlotte Graduate Research Symposium – April 2016
- Brandy Stimac *Conference Presentations*
 “Evolution of convective cells in the outer rainbands of Hurricane Rita (2005)”
 Charlotte Graduate Research Symposium – April 2015
 Federal Alliance for Home Safety Conference – Orlando – Nov 2014
 AMS Weather/Climate Energy Conference – Atlanta – Feb 2014
 Charlotte Undergraduate Research Conference – April 2013 – **3rd Place Award**
- Adam Picard *Conference Presentations*
 “Miniature supercells in the rainbands of Hurricane Gustav (2008)”
 Charlotte Graduate Research Symposium – March 2014
 Federal Alliance for Home Safety Conference – Orlando – Nov 2013
- Cameron Self *Conference Presentations*
 “Climatology of tornadic and non-tornadic cell motions in tropical cyclones”
 Charlotte Graduate Research Symposium – March 2013
 AMS Student Conference – Austin – January 2013
 AMS Student Conference – New Orleans – January 2012
- Emily Monroe *Conference Presentation*
 “Synoptic climatology of precipitation events in Onslow Bay (NC)”
 Charlotte Research Scholars Symposium – July 2013
- Phillip Ware *Conference Presentation*
 “Structure of convective cells in an outer rainband of Hurricane Gustav 2008”
 Charlotte Undergraduate Research Conference – April 2013 – **1st Place Award**

- Brian Hays *Conference Presentation*
 “Offshore environmental characteristics of tornadic tropical cyclones”
 AMS Student Conference – New Orleans – January 2012
- Betsy Grim *Conference Presentation*
 “Thermodynamic structure of vertically sheared tropical cyclones”
 Charlotte Graduate Research Symposium – March 2011 – **1st Place Award**
- Kelly Smith *Conference Presentations*
 “Inner-core moisture evolution during pre-rapid intensification”
 AMS Tropical Meteorology Conference - Jacksonville - April 2012
 Sigma Xi Research Conference – Raleigh – October 2010 - **1st Place Award**
- Conference Presentations*
 “Role of vortical hot towers in the rapid intensification of hurricanes”
 AMS Tropical Meteorology Conference - Orlando - April 2010
 Charlotte Graduate Research Fair – March 2009 – **1st Place Award**
- Kenny Griffin *Conference Presentation*
 “Developing convective cells in outer rainbands in Hurricane Gustav”
 Charlotte Undergraduate Research Conference – April 2010 – **1st Place Award**
- Thomas Hinson *Conference Presentation*
 “Structure and evolution of convective cells in Hurricane Jeanne”
 Charlotte Undergraduate Research Conference – April 2009 – **1st Place Award**
- Kayla Holleman *Conference Presentation*
 “Precipitation variability in the Carolina Piedmont”
 Charlotte Undergraduate Research Conference – April 2009 – **3rd Place Award**
- Chris Link *Conference Presentation*
 “Environments of tropical cyclone tornadoes and miniature supercells”
 Charlotte Graduate Research Fair – March 2009 – **3rd Place Award**
- Heather Anderson *Conference Presentation*
 “Radar signatures prior to tornadogenesis in Hurricane Frances”
 Charlotte Undergraduate Research Conference – April 2008 - **2nd Place Award**

I. Undergraduate Advising

<u>Advisees:</u>	2023 – XX students	2022 – 28 students	<u>Majors:</u> B.S. Meteorology B.S. Earth Sciences B.S. Geology
	2021 – 28 students	2020 – 15 students	
	2019 – 18 students	2018 – 21 students	
	2017 – 24 students	2016 – 23 students	
	2015 – 21 students	2014 – 16 students	
	2013 – 18 students	2012 – 18 students	
	2011 – 23 students	2010 – 26 students	
	2009 – 42 students	2008 – 29 students	
	2007 – 20 students	2006 – 18 students	

J. Organizer/Host of Pedagogical Seminars

- Scott Dennstaedt Senior Forecaster, Inflight Weather
“Application of weather observations in private / commercial aircraft”
Spring 2016 – Attended by 27 students
- Pat Moore Lead Forecaster, NOAA / NWS / GSP
“Post-mortem analysis of the March 2012 Charlotte tornado”
Spring 2015 – Attended by 34 students
- Frank Alsheimer Science Operations Officer, NOAA / NWS / CHS
“Societal impacts of recent land-falling hurricanes in South Carolina”
Fall 2014 – Attended by 26 students
- Dr. Paula Hennon Deputy Director – NOAA National Climate Data Assessment
“The state of the climate in 2014”
Spring 2014 – **Departmental Seminar Speaker**
- Dr. Yuh-Lang Lin Professor, NC A&T University
“Impact of elevated terrain on tropical cyclone motion and intensity”
Fall 2012 – **Departmental Seminar Speaker**
- Dr. Chris Godfrey Assistant Professor, UNC Asheville
“Tornado wind field reconstruction”
Spring 2012 – Attended by 21 students
- Dr. Tim Reinhold Senior Vice President of Research and Lead Engineer, IBHS Inc.
“Residential construction techniques to withstand severe winds”
Fall 2010 – Attended by 21 students
- Dr. Les Lemon Senior Research Scientist, CIMMS
“Unique storm-scale structure observed in the Greensburg tornado”
Spring 2009 – Attended by 25 students
- Dr. Chris Hennon Assistant Professor, UNC Asheville
“Use of satellite data in forecasting TC structure and intensity”
Fall 2008 – Attended by multiple meteorology classes
- Dr. Matt Parker Associate Professor, NC State University
“Severe squall lines across the Carolinas”
Spring 2008 – **Departmental Seminar Speaker**
- Jason Dunion Research Scientist, NOAA Hurricane Research Division
“Role of the Saharan Air Layer in TC formation and evolution”
Spring 2008 – **Departmental Seminar Speaker**
- Pat Moore Lead Forecaster, NOAA / NWS / GSP
“Forecast challenges associated with tornado-producing squall lines”
Spring 2008 – Attended by several meteorology classes

Dr. William Gray Professor, Colorado State University
“Hurricanes and global climate change”
Fall 2007 – **Departmental Seminar Speaker**

Dr. Chris Landsea Science Operations Officer, NOAA / National Hurricane Center
“Detecting the global climate change signature in tropical cyclones”
Fall 2007 – Attended by 72 students

K. Other Educational Experiences and Professional Development

UNIDATA Users Workshop Spring 2020

This workshop discussed software tools and techniques useful for teaching computational concepts in geosciences.

GSP Integrated Warning Team Workshop Fall 2016

This workshop discussed best practices for effective communication of weather threats to first responders and the public. Topics discussed included the use of social media, standardized color schemes for threat conveyance, and deterministic snow forecasts.

IBHS Build-it-Better Leadership Forum Summer 2013

This workshop brought together experts in insurance, tropical meteorology, civil engineering, architecture, government, and social sciences to discuss the lessons learned from Hurricane Sandy (2012) and the needed steps for building more resilient coastal communities.

NOAA Storm Prediction Center (SPC) Spring Experiment Summer 2009

This workshop introduced severe weather forecasting techniques developed at SPC to academic faculty. Many of these methods have been incorporated into my Mesoscale Meteorology course and have benefitted my research on tropical cyclones.

Workshop for Early Career Faculty in the Geosciences Summer 2007

This NSF-sponsored workshop provides strategies for effective teaching, course design, establishing successful research programs, working with students, and time-management for sustaining an effective work-life balance.

<u>UNC Charlotte Workshops</u> (selected)	Spring 2021	Starting with a Fresh Canvas
	Fall 2019	Gradebook Management in Canvas
	Spring 2019	Introduction to Canvas
	Spring 2016	Diversity in Academia
	Fall 2012	Being an effective Graduate Program Director
	Fall 2011	Faculty-Designed Education Abroad Experiences
	Spring 2011	Professional and academic use of social media
	Spring 2009	Engaging the Millennial Student in Learning

RESEARCH

A. Refereed Publications – In Preparation

[Note: Students are underlined]

McKeown, K. E., C. E. Davenport, **M. D. Eastin**, S. M. Purpura, and R. R. Riggin, 20xx: Radar characteristics of observed supercell thunderstorms interacting with the Appalachian Mountains. To be submitted to *Weather and Forecasting*.

Riggin, R. R., C. E. Davenport, **M. D. Eastin**, K. E. McKeown, and S. M. Purpura, 20xx: idealized simulations of supercell thunderstorms interacting with the Appalachian Mountains. To be submitted to *Monthly Weather Review*.

B. Refereed Publications – In Press

Purpura, S.M., C. E. Davenport, **M. D. Eastin**, K.E. McKeown, and R. R. Riggin, 2023: Environmental evolution of supercell thunderstorms interacting with the Appalachian Mountains. *Weather and Forecasting*. – In Press

[Impact Factor = 3.374; Citations = 0]

C. Refereed Publications – In Print

[Citation counts from Google Scholar]

Desjardin, M., **M.D. Eastin**, P. Rajib, I. Casas, and E. Delmelle, 2020: Space-time conditional autoregressive modeling to predict neighborhood-level risk of dengue fever in Cali, Colombia. *American Journal of Tropical Medicine Hygiene*, 103(5), 2040–53.

[Impact Factor = 2.345; Citations = 7]

Eastin, M.D., M. Baber, A. Boucher, S. Di Bari, R. Hubler, B. Stimac, and T. Winesett, 2018: Temporal variability of the Charlotte (sub)urban heat island. *Journal of Applied Meteorology and Climatology*, **57**, 81-102.

[Impact Factor = 3.557; Citations = 24]

Eastin, M.D., E. Delmelle, I. Casas, J. Wexler, and C. Self, 2014: Intra- and inter-seasonal autoregressive prediction of dengue using local weather and regional climate for a tropical environment in Colombia. *American Journal of Tropical Medicine and Hygiene*, 91(3), 598-610.

[Impact Factor = 2.345; Citations = 115]

Hippensteel, S. P., **M.D. Eastin**, and W. Garcia, 2014: Reply to Comments - The geologic record of Hurricane Irene: Implications for fidelity of the paleo-storm record. *GSA Today*, 24:4, e30-31.

[Impact Factor = 2.220; Citations = 5]

Hippensteel, S.P., **M.D. Eastin**, and W. Garcia, 2013: The geologic legacy of Hurricane Irene: Implications for the fidelity of the paleo-storm record. *GSA Today*, 23(10), 4-10.

[Impact Factor = 2.220; Citations = 42]

Eastin, M.D., T. L. Gardner, M.C. Link, and K.C. Smith, 2012: Surface cold pools observed in outer rainbands of Tropical Storm Hanna (2008) at landfall. *Monthly Weather Review*, 140, 471-491.

[Impact Factor = 3.728; Citations = 29]

Reasor, P. D., and **M.D. Eastin**, 2012: Rapidly intensifying Hurricane Guillermo (1997). Part II: Resilience in shear. *Monthly Weather Review*, 140, 425-444.

[Impact Factor = 3.728; Citations = 114]

Eastin, M.D., and M.C. Link, 2009: Miniature supercells in an offshore outer rainband of Hurricane Ivan (2004). *Monthly Weather Review*, 137, 2081-2104.

[Impact Factor = 3.728; Citations = 56]

Reasor, P.D., **M.D. Eastin**, and J.F Gamache, 2009: Rapidly intensifying Hurricane Guillermo (1997). Part I: Low-wavenumber structure and evolution. *Monthly Weather Review*, 137, 603-631.

[Impact Factor = 3.728; Citations = 232]

Baker, A.K., M.D. Parker, and **M.D. Eastin**, 2009: Environmental ingredients for supercells and tornadoes within Hurricane Ivan. *Weather and Forecasting*, 24, 223-244.

[Impact Factor = 3.374; Citations = 66]

Lowag, A., M. L. Black, and **M.D. Eastin**, 2008: Structure and intensity changes of Hurricane Bret (1999). Part I: Environmental influences. *Monthly Weather Review*, 136, 4320-4333.

[Impact Factor = 3.728; Citations = 23]

Eastin, M.D., WM Gray, and PG Black, 2005a: Buoyancy of convective vertical motions in the inner core of intense hurricanes. Part I: General statistics. *Monthly Weather Review*, 133, 188-208.

[Impact Factor = 3.728; Citations = 84]

Eastin, M.D., WM Gray, and PG Black, 2005b: Buoyancy of convective vertical motions in the inner core of intense hurricanes. Part II: Case studies. *Monthly Weather Review*, 133, 209-227.

[Impact Factor = 3.728; Citations = 114]

Eastin, M.D., PG Black, and WM Gray, 2002a: Flight-level thermodynamic instrument wetting errors in hurricanes. Part I: Observations. *Monthly Weather Review*, 130, 825-841.

[Impact Factor = 3.728; Citations = 60]

Eastin, M.D., PG Black, and WM Gray, 2002b: Flight-level thermodynamic instrument wetting errors in hurricanes. Part II: Implications. *Monthly Weather Review*, 130, 842-851.

[Impact Factor = 3.728; Citations = 20]

Kossin, J. P., and **M.D. Eastin**, 2001: Two distinct regimes in the thermodynamic and kinematic structure of the hurricane eye and eyewall. *Journal of Atmospheric Science*, 58, 1079-1090.

[Impact Factor = 3.203; Citations = 205]

Eastin, M.D., and D. G. Vincent, 1998: A 6-yr climatology of vertical mean and shear components of kinetic energy for the Australian-South Pacific Jet Stream. *Journal of Climate*, 11, 283-291.

[Impact Factor = 5.380; Citations = 9]

D. Publications – Refereed (not Blind)

(Note: Students are underlined)

Schultz, D. M., J. Anderson, T. Benacchio, K. L. Corbosiero, **M. D. Eastin**, C. Evan, J. Gao, J. P. Hacker, D. Hodyss, D. Kleist, M. R. Kumjian, R. McTaggart-Cowan, Z. Meng, J. Minder D. Posselt, P. Roundy, A. Rowe, M. Scheuerer, R. S. Schumacher, S. Trier, and C. Weiss, 2022: How to be a more effective author. *Monthly Weather Review*, 150(11), 2819-2828

Eastin, M.D., 2020: Thunderstorm-induced power outages, Final Report to Duke Energy, 201 pp.

- Schultz, D.M., A Aksoy, J Anderson, T Benacchio, K Corbosiero, **M.D. Eastin**, C Evan, J Gao, A Gassmann, JP Hacker, D Hodyss, H.P Huntington, M.R. Kumijan, G.M. Lackmann, R McTaggart-Cowan, G Romine, P Roundy, A Rowe, E Satterfield, R.S. Schumacher, S Trier, and C Weiss, 2020: Data availability principles and practice. *Monthly Weather Review*, 148(12), 4701-4702.
- Dudda, V., S. Pulugurtha, **M.D. Eastin**, C. Godfrey, A. Mane, and J. Radford, 2017: Increasing utilization of weather data for safety applications and traveler information. *North Carolina Department of Transportation Research and Development*, 84 pp.
- Dunion, J.P., and **M.D. Eastin**, 2010: Tropical cyclone African easterly wave arc-cloud module, *NOAA Hurricane Research Division Annual Field Program*, 91-95.
- Eastin, M.D.**, 2009: Tropical cyclone landfall and inland decay experiment: Offshore intense convection module, *NOAA Hurricane Research Division Annual Field Program*, 36-42.
- Evans, J. L., E Atallah, L Avila, S.A. Braun, J Callahan, J.C.L. Chan, K Cheung, **M.D. Eastin**, K.A. Emanuel, J.R. Gyakum, E.A. Hendricks, J.A. Knaff, M E. Kucas, G.M. Lackmann, M.D. Leroux, L. M. Leslie, T Nakazawa, M.S. Peng, M Plu, E.D. Rappin, J Schendike, B Tang, K Tory, B Wang, and Y Wang, 2010: Chapter 1.1: Environmental impacts on tropical cyclone structure and intensity change, *Technical Report: 7th International Workshop on Tropical Cyclones*, 20 pp.
- M.D. Eastin**, 2008: An assessment of past and future North Carolina climate: Impacts of tropical cyclones and tornadoes, 29 pp.

E. Professional Conference Abstracts / Presentations

(Note: Students are underlined)

- Eastin, M.D.**, K. McKeown, S. Purpura, R. Riggin, and C. Davenport, 2022: Radar-based evolution of supercells crossing prominent ridges in the Central and Southern Appalachians. *30th Conference on Severe Local Storms*, Sante Fe, NM, American Meteorological Society, Paper 73
- Eastin, M.D.**, S. Purpura, K. McKeown, R. Riggin, and C. Davenport, 2022: Synoptic-mesoscale conditions associated with supercells crossing the Central and Southern Appalachians. *30th Conference on Severe Local Storms*, Sante Fe, NM, American Meteorological Society, Paper 72
- Eastin, M.D.**, K. McKeown, S. Purpura, R. Riggin, and C. Davenport, 2022: Radar-based evolution of supercells crossing prominent ridges in the Central and Southern Appalachians. *Southern Appalachian Weather and Climate Workshop*, Asheville, NC
- Eastin, M.D.**, S. Purpura, K. McKeown, R. Riggin, and C. Davenport, 2022: Synoptic-mesoscale conditions associated with supercells that cross the Central and Southern Appalachians. *Southern Appalachian Weather and Climate Workshop*, Asheville, NC
- Eastin, M.D.**, K. McKeown, S. Purpura, R. Riggin, and C. Davenport, 2022: Radar-based evolution of supercells crossing prominent ridges in the Central and Southern Appalachians. *19th Conference on Mesoscale Processes*, Virtual, American Meteorological Society, Paper 558
- Eastin, M.D.**, S. Purpura, K. McKeown, R. Riggin, and C. Davenport, 2022: Synoptic-mesoscale conditions associated with supercells that cross the Central and Southern Appalachians. *19th Conference on Mesoscale Processes*, Virtual, American Meteorological Society, Paper 559

- Eastin, M.D.**, 2021: A conditional multi-parameter model for predicting the spatial distribution of thunderstorm-induced power outages. *12th Conference on Weather Climate and the New Energy Economy*, Virtual, American Meteorological Society, Paper 937
- Eastin, M.D.**, 2020: Predicting the spatiotemporal distribution of thunderstorm-induced power outages. *11th Conference on Weather Climate and the New Energy Economy*, Boston, MA, American Meteorological Society, Paper 1465
- Eastin, M.D.**, and R. Cucinotta, 2019: Diagnosing and predicting thunderstorm-induced power outages. *10th Conference on Weather Climate and the New Energy Economy*, Phoenix, AZ, American Meteorological Society, Paper 247
- Eastin, M.D.**, 2018: TC composite studies: A Gray area. *33rd AMS Hurricanes and Tropical Meteorology Conference*, Ponte Vedra, FL, American Meteorological Society, Paper 14A.3
- Eastin, M.D.**, M. Baber, A. Boucher, and R. Hubler, 2017: Spatiotemporal variability in the Charlotte suburban heat island. *13th Symposium on the Urban Environment*, Seattle, WA, American Meteorological Society, Paper 4.3
- Eastin, M.D.**, A. Boucher, R. Hubler, M. Baber, and S. Gagne, 2016: Impacts of the Charlotte urban heat island on local precipitation, biodiversity, health, and energy use. *22nd AMS Conference on Applied Meteorology*, New Orleans, LA, American Meteorological Society, Paper 11.6
- Eastin, M.D.**, E. Delmelle, and I. Casas, 2014: Intra- and inter-seasonal autoregressive prediction of dengue outbreaks using local weather and regional climate for a tropical environment in Colombia. *5th AMS Symposium on Environment and Health*, Atlanta, GA, American Meteorological Society, Paper 5.3
- Eastin, M.D.**, and C. Self, 2014: Sounding-based prediction of supercell motions in tropical cyclones. *31st AMS Conference on Hurricanes and Tropical Meteorology*, San Diego, CA, American Meteorological Society, Paper 176
- Eastin, M.D.**, M.C. Link, and C. Self, 2014: An updated tropical cyclone tornado parameter for use in situational awareness forecasting. *31st AMS Conference on Hurricanes and Tropical Meteorology*, San Diego, CA, American Meteorological Society, Paper 177
- Eastin, M.D.**, and A. Picard, 2014: Analysis of miniature supercells observed in the outer rainbands of Hurricane Gustav (2008). *31st AMS Conference on Hurricanes and Tropical Meteorology*, San Diego, CA, American Meteorological Society, Paper 175
- Eastin, M.D.**, E. Delmelle, and I. Casas, 2013: Intra- and inter-seasonal autoregressive prediction of dengue outbreaks using local weather and regional climate for a tropical environment in Colombia. *SEDAAG Annual Meeting*, Roanoke, VA
- Eastin, M.D.**, and C. Self, 2013: Sounding-based prediction of supercell motions in tropical cyclones. *SEDAAG Annual Meeting*, Roanoke, VA
- Eastin, M.D.**, and P.D. Reasor, 2012: Evolution of mass transport between the eye and eyewall of Hurricane Guillermo (1997). *30th AMS Hurricanes & Tropical Meteorology Conference*, Jacksonville, FL, American Meteorological Society, Paper P2.38

- Eastin, M.D., B. Hays, and M.C. Link, 2012:** Discriminating between tornadic and non-tornadic soundings in tropical cyclones. *30th AMS Hurricanes & Tropical Meteorology Conference*, Jacksonville, FL, American Meteorological Society, Paper P1.6
- Eastin, M.D., B. Hays, and M.C. Link, 2012:** A tropical cyclone tornado parameter (TCTP) for use in situational awareness forecasting. *26th AMS Conference on Severe Local Storms*, Nashville, TN, American Meteorological Society, Paper 4A.6
- Eastin, M.D., 2011:** Doppler-derived thermodynamic structure of miniature supercells observed in the rainbands of Hurricanes Ivan and Gustav. *35th AMS Radar Meteorology Conference*, Pittsburgh, PA, American Meteorological Society, Paper 44
- Eastin, M.D., and P.D. Reasor, 2010:** Modulation of eyewall convection by eye mesovortices during the rapid intensification of Hurricane Guillermo (1997). *29th Conference on Hurricanes and Tropical Meteorology*, Tucson, AZ, American Meteorological Society, Paper 5C.5
- Eastin, M.D., T.L. Gardner, K.C. Smith, and M.C. Link, 2010:** Surface cold pools in the outer rainbands of Tropical Storm Hanna (2008). *29th Conference on Hurricanes and Tropical Meteorology*, Tucson, AZ, American Meteorological Society, Paper P2.46
- Eastin, M.D., 2010:** Miniature supercells in Hurricanes Gustav (2008) and Ivan (2004): Comparison of environments and cell structure. *25th Conference on Severe and Local Storms*, Denver, CO, American Meteorological Society, Paper P3.4
- Eastin, M.D., 2009:** UNCC / RENCi collaborative sensor efforts: Surface mesonet observations in Brunswick County during the landfall of Tropical Storm Hanna (2008). *North Carolina Sensor Workshop*, Chapel Hill, NC
- Eastin, M.D., 2009:** "Surface observations of landfalling rainbands in Tropical Storm Hanna (2008)", *Conference on the Inland Impacts of Tropical Cyclones*, Atlanta, GA
- Eastin, M.D., 2008:** Structural variability of miniature supercells in TC rainbands. *24th AMS Severe and Local Storms Conference*, Savannah, GA, American Meteorological Society, Paper P3.8
- Eastin, M.D., and M.C. Link, 2008:** Miniature supercells observed in an offshore outer rainband of Hurricane Ivan (2004). *28th Conference on Hurricanes and Tropical Meteorology*, Orlando, FL, American Meteorological Society, Paper 12C.1
- Eastin, M.D., and P.D. Reasor, 2008:** Evolving low-wavenumber flow and the distribution of deep eyewall convection during the rapid intensification of Hurricane Guillermo (1997). *28th Conference on Hurricanes and Tropical Meteorology*, Orlando, FL, American Meteorological Society, Paper P2F.4
- Eastin, M.D., M.C. Link, H.B. Anderson, and M. D. Parker, 2008:** Comparison of deep convection in the outer rainbands of landfalling hurricanes: Tornadic and non-tornadic cells and their local environments. *Special Symposium on Hurricanes and Tropical Meteorology*, New Orleans, LA, American Meteorological Society, JP1.16
- Eastin, M.D., M.C. Link, and H.B. Anderson, 2007:** Analysis of offshore deep convection within landfalling hurricanes just prior to tornadogenesis. *7th Conference on Coastal Processes*, San Diego, CA, American Meteorological Society, Paper P1.14

- Eastin, M.D.**, P.D. Reasor, D.S. Nolan, F.D. Marks Jr., and J.F. Gamache, 2006: Evolution of low-wavenumber vorticity during rapid intensification: Dual-Doppler analysis. *27th Hurricanes and Tropical Meteorology Conference*, Monterey CA, American Meteorological Society, Paper 4B.6
- Eastin, M.D.**, P.D. Reasor, F.D. Marks Jr., and J.F. Gamache, 2005: A dual-Doppler analysis of Hurricane Guillermo (1997): Interactions between the eye and eyewall during rapid intensification. *32nd Conference on Radar Meteorology*, Albuquerque, NM, American Meteorological Society, Paper J2J.4
- Eastin, M.D.**, P.D. Reasor, J.F. Gamache, F.D. Marks Jr., and M.L. Black, 2004: Observed evolution of eyewall convection and low-wavenumber flow in Hurricane Guillermo (1997). *26th Conference on Hurricanes and Tropical Meteorology*, Miami, FL, American Meteorological Society, Paper 11D.4
- Eastin, M.D.**, 2002: Observational analysis of buoyancy in the intense hurricane eyewalls. *25th Conference on Hurricanes and Tropical Meteorology*, San Diego, CA, American Meteorological Society, Paper 17A.2
- Eastin, M.D.**, 1999: The effects of instrument wetting errors on eyewall buoyancy in hurricanes. *23rd Conference on Hurricanes and Tropical Meteorology*, Dallas, TX, American Meteorological Society, Paper 13A.3
- Eastin, M.D.**, and D. G. Vincent, 1997: Climatology of barotropic and baroclinic components of kinetic energy for the Australian-South Pacific jet stream. *5th Conference on Meteorology and Oceanography of the Southern Hemisphere*, Pretoria, South Africa, American Meteorological Society, Paper 13A.3

F. Invited Research Presentations

Central North Carolina AMS Chapter, Charlotte, NC

“The Charlotte (North Carolina) Urban Heat Island”

Host: Elliot Tardiff, President

Date: 10 November 2020

Duke Energy, Charlotte, NC

“Diagnosing and predicting thunderstorm-induced power outages”

Host: Stanton Lanham, Meteorologist

Date: 27 November 2018

Upstate South Carolina AMS Chapter, Greer, SC

“A tropical cyclone tornado parameter for situational awareness forecasting”

Host: Larry Lee, President

Date: 21 May 2012

NOAA Southeast River Forecast Center, Atlanta, GA

“Documenting TC rainbands while providing real-time rainfall data to coastal communities”

Host: Christine McGehee, Hydrologist

Date: 9 June 2009

NOAA Hurricane Research Division, Miami, FL

“Miniature supercells in offshore outer rainbands: Environment, structure, and implications”

Host: Dr. Frank Marks, Director

Date: 10 June 2008

University of North Carolina at Asheville, Asheville, NC

“Observations of offshore miniature supercells within a rainband of Hurricane Ivan (2004)”

Host: Dr. Chris Hennon, Assistant Professor

Date: 9 November 2007

G. Grants – External

NOAA - CSTAR

“Evolution of observed and simulated supercells in the Central and Southern Appalachians”

Period: June 2019 to May 2023

Budget: **\$429,081** (Total/UNCC portion)

PIs: Davenport and **Eastin**

Duke Energy

“Diagnosing thunderstorm-induced power outages”

Period: August 2017 to December 2019

Budget: **\$104,728** (Total/UNCC portion)

PI: **Eastin**

NC Department of Transportation - FY15

“Increasing the utilization of weather data for safety applications and traveler information”

Period: August 2015 to July 2017

Budget: **\$138,261** (Total; UNCC portion = \$116,261)

PIs: Pulugurtha, **Eastin**, and Godfrey (UNCA)

WRRRI – North Carolina Sea Grant

“Influence of freshwater inputs on foraminiferal distributions in Carolina coastal environments”

Period: August 2012 to December 2013

Budget: **\$3950** (Total/UNCC portion)

PIs: Hippensteel and **Eastin**

National Science Foundation

“Impact of externally and externally modulated convection on tropical cyclone evolution”

Period: September 2005 to August 2009

Budget: **\$389,500** (Total; UNCC portion = \$151,418)

PIs: **Eastin**, Reasor (FSU), Nolan (Miami), and Marks (NOAA/HRD)

H. Grants – Internal

Faculty Research Grant

“Urban heat island effects on anuran breeding in the Charlotte Metropolitan Region”

Period: January 2014 to June 2015

Budget: **\$11,920**

PIs: Gagne and **Eastin**

UNC Charlotte Research Scholars Program

“Developing a webpage and data portal for UNC Charlotte weather observations”

Period: May 2014 to July 2014

Budget: **\$5000**

PIs: Magi and **Eastin**

UNC Charlotte Research Scholars Program

“Climatology and real-time extreme rainfall monitoring in Onslow Bay, North Carolina”

Period: May 2013 to July 2013

Budget: **\$4500**

PI: **Eastin**

Faculty Research Grant

“Modeling and visualizing the impact of weather on dengue fever outbreaks”

Period: January 2012 to June 2013

Budget: **\$11,855**

PIs: Delmelle and **Eastin**

Faculty Research Grant

“Surface observations near tornadic rainbands in landfalling hurricanes”

Period: July 2008 to December 2009

Budget: **\$6,000**

PI: **Eastin**

SERVICE

A. College and University Service – Standing Committees

Honors in Education Committee – Member – 2017-25

Faculty Information and Technology Services Committee – Member – 2017-19

Undergraduate Course and Curriculum Committee – Member – 2017-19

Faculty SOTL Grants Committee – Member – 2013-14

B. College and University Service – Ad Hoc Committees

Comprehensive Review Committee for GES Chair – **Chair** – 2014

Comprehensive Review Committee for GES Chair – Member – 2011

UNCC Football Emergency Evacuation and Egress Committee – Member – 2012

UNCC Storm Ready Committee – Member – 2012

Formed by the Chancellor after an un-warned tornado passed within 2-miles of campus in March 2012 and the university provided no formal notification to students and staff of the pending danger – worked with UNC Charlotte Risk Management, Police, and Public Safety to increase the university’s ability to forewarn students, faculty, and staff of threatening severe weather in a timely manner.

C. College and University Service – Other

Faculty Advisor, UNC Charlotte Chapter of Chi Epsilon Pi – ongoing since 2008

Chi Epsilon Pi is a national honor society that recognizes exceptional scholastic achievement among students with an academic emphasis in meteorology or the atmospheric sciences.

Faculty Advisor, Student Organization of Meteorology (STORM) – ongoing since 2006

The mission of STORM is to educate the UNC Charlotte community about weather and climate while providing a means for students to develop professional contacts and broaden their educational experience outside the classroom. As a faculty advisor since the organization's inception (the role has been shared with Terry Shirley since 2009), I have led or helped coordinate the following activities:

- UNC Charlotte Weather-Fest – 2015-20 – a large public outreach event designed to recruit students into atmospheric and geoscience careers. The annual event is regularly attended by 300+ students from local elementary and middle schools.
- Participation in the AMS Student Recruitment Fair – 2007-09, 2011, 2016-22
- Tour of the Greenville-Spartanburg National Weather Service forecast office in Greer (SC) – 2007, 2008, 2011, 2014, 2019
- Assisted with the Science Olympiad at UNC Charlotte – 2007, 2008, 2013, 2016
- Acquisition of “national chapter” status in the National Weather Association and the American Meteorological Society – 2013
- Trip to Shaw Air Force Base in Sumter, SC to tour the 20th Operations Support Squadron weather forecasting facilities – 2012
- Tour of the Duke Energy meteorology operations – 2011, 2018
- Participation in the UNC Charlotte balloon launch and recovery from the Monroe, NC airport (directed by John Chadwick) – 2008, 2010
- Tour of the broadcast meteorology studio at WCNC/36 – 2007, 2008, 2009, 2014
- Several community-wide SKYWARN severe weather spotter training sessions hosted by UNCC – 2007, 2008, 2012
- Several trips to other Carolina universities in the region to see meteorological presentations by international experts – 2007, 2008, 2010, 2012, 2014, 2015, 2019
- Development and revision of the STORM website for recruiting new members, documenting previous activities, and advertising upcoming activities – 2008, 2014
- Submission of student travel grants to provide partial support for students to attend (and present at) various national conferences, including the Annual AMS Student Conference and Career Fair – each year since 2007

Faculty Advisor, Geography & Earth Sciences Graduate Organization – 2014-18

Judge – UNC Charlotte Graduate Research Fair – 2008

Judge – UNC Charlotte Undergraduate Research Conference – 2011, 2019

Invited Contribution – UNC Charlotte Exchange Magazine, “Today’s forecast: Nothing but blue skies for new Meteorology Program” with Brian Etherton, Cover Story, Spring/Summer 2008 edition.

Invited Panel Member, UNC Charlotte Earth Club discussion on global warming – 2007

Invited Panel Member, UNC Charlotte Biology Department discussion on global warming – 2007

D. Departmental Service – Standing Committees

Departmental Review Committee (DRC) – Member – 2013-14 and 2018-20 and 2022-24

Undergraduate Curriculum Committee (UCC) – Member – 2022-24

Web and IT Committee – **Chair** – 2016-18

Graduate Program Director – M.S. Earth Sciences – 2012-14

Faculty Advisory Council (FAC) – Member – 2012-13

Graduate Advisory Council (GAC) – Member – 2010-14

Mentoring Committee – **Chair** – 2010-12

Budget Space and Equipment Committee – Member – 2007-09

Earth Sciences Graduate Admissions Committee – Member – 2007-09

E. Departmental Service – Ad Hoc Committees

METR-1102 Laboratory Development Working Group – Member – 2020

Developed several laboratory exercises related to synoptic weather and hurricanes.

METR Curriculum Revision Committee – **Chair** – 2015-16

In response to expected changes in the federal and AMS guidelines for an undergraduate meteorology program (adopted in June 2015), we pro-actively restructured the program to be congruent with the new guidelines.

Search Committee – Assistant Professor in Atmospheric Dynamics – **Chair** – 2012-13

Concluded with the successful hiring of Dr. Casey Davenport

Search Committee – Assistant Professor in Remote Sensing – **Chair** – 2011-12

Concluded with the successful hiring of Dr. Gang Chen

Search Committee – Assistant Professor in Regional Climate Modeling – **Chair** – 2010-11

Concluded with the successful hiring of Dr. Brian Magi

Search Committee – Assistant Professor in Atmospheric Dynamics – **Chair** – 2008-09

Concluded with the successful hiring of Dr. Amanda Adams

Department Awards Committee – Member – ongoing since 2018

Coordinate nominations and selection for four awards among the B.S. Meteorology majors

GEOL-ESCI-METR Lab Fee Scholarship Committee – **Chair** – ongoing since 2010

METR Curriculum Revision Committee – **Chair** – 2009-11

We expanded the number of elective course offerings, implemented a minimum grade requirement for required courses; and brought the program in-line with the federal and AMS guidelines for an undergraduate meteorology program.

Advising Worksheets Committee – **Chair** – 2008

Developed new advising worksheets for each major that clarified the required vs. elective coursework, provided a semester-by-semester outline, recommended elective courses based on the student's intended career path(s), and outlined the General Education program.

ESCI-1101 Laboratory Revisions Working Group – Member – 2011

Developed and/or improved several laboratory exercises related to weather and climate.

Mentoring Program Development Committee – Member – 2009-10

Initiated by the Chair, the committee was charged with the development, adoption, and implementation of a formal faculty mentoring program for the department.

Undergraduate Program Assessment Committee – Member – 2009-10

Initiated by a SACS review, the committee was charged with (a) clarification of specific learning goals/outcomes for each degree program, (b) assessment of those goals/outcomes via “exit exams”, and (c) development of strategic changes/improvements to course content and teaching methods to achieve the goals/outcomes.

Curriculum Revision Committee – Member – 2008-09

Initiated by the Dean, the committee was charged with (a) reviewing the department’s undergraduate curricula, (b) re-organizing the curricula to be consistent with our new mission statement, and (c) consolidating degree programs. Outcome was the creation of the B.S. in Earth and Environmental Sciences degree program.

F. Departmental Service – Other

Professional Mentor Dr. Casey Davenport – 2014-22
 Dr. Jacob Scheff – 2018-19
 Dr. Brian Magi – 2011-16
 Dr. Amanda Adams – 2009-14

Letters of Recommendation:

2023 – XX for XX students	2022 – 24 for 11 students
2021 – 19 for 9 students	2020 – 16 for 7 students
2019 – 28 for 10 students	2018 – 34 for 14 students
2017 – 39 for 11 students	2016 – 21 for 11 students
2015 – 12 for 6 students	2014 – 38 for 11 students
2013 – 55 for 15 students	2012 – 48 for 15 students
2011 – 52 for 10 students	2010 – 21 for 7 students
2009 – 38 for 16 students	2008 – 17 for 12 students

Contributed Lectures:

- *UNC Charlotte Weather-Fest* – March 2015-20 – Discussed how hurricanes are observed and predicted using observations collected “hurricane hunter” aircraft.
- *ESCI 2210 Field Methods* – 2014-17 – Discussed how daily balloon soundings are collected and used to forecast severe weather and initialize weather/climate prediction models. The presentation coincided with an in-class launch of a weather balloon.
- *Brown Bag Speaker Series* – November 2009 – Discussed the significance of surface cold pools in tropical cyclone outer rainbands to society. This speaker series was designed to promote interdisciplinary collaboration among the departmental faculty through informal research presentations.
- *ESCI 2000 Hurricane Katrina* – February 2007 – Discussed the structure, evolution, and impacts of hurricanes with emphasis on Hurricane Katrina. This course was collectively taught by multiple physical and social scientists within the department.
- *INES 8960 Seminar* – October 2006 – Discussed extreme wind events in hurricane eyewalls and their potential impacts at landfall.

G. Community Service

North Carolina Doppler Weather Radar Expansion Team – Member – ongoing since 2018

*Our mission is to bring together private businesses with government organizations to find an effective, low-cost solution to a prominent gap in the current Doppler weather radar coverage between Charlotte and Greensboro. Participating organizations include UNC Charlotte, local TV stations, Duke Energy, National Weather Service, Mecklenburg County, The City of Charlotte, and elected members of the U.S. Congress. My role involves expertise regarding Doppler radar beam propagation across complex terrain, identifying optimal sites for new radars, and helping with detailed justification and feasibility studies. Our efforts were summarized in a **final report sent to the NC House and Senate in May 2022***

Mecklenburg County (NC) Coordinator for the CoCoRaHS Network – ongoing since 2007

*The mission of CoCoRaHS is to coordinate citizen scientists in the daily collection and dissemination of precipitation observations. These measurements are then used by local forecasters, community officials, and organizations to assess a wide variety of community concerns, including the local precipitation climatology, community planning, and flooding vulnerability. County coordinators are charged with recruiting and training observers, maintaining regular participation, and data quality control. Over **340 observers** in the Charlotte metro region have been recruited and trained. Specific recruitment and training activities have included:*

- *Lake Norman Chamber of Commerce* – Promoted the program to monitor winter snowfall and drought conditions around local communities – June 2019 - Over 40 people attended the event.
- *Davidson Farmer Market* – Promoted the program as part of the World of Wonder (WOW) booth – June 2017 – Over 60 people visited the booth and expressed interest, and 20+ children made a simple rain gauge.
- *Drought Monitoring Training* – Fall 2016 – Coordinated three training sessions whereby local observers learned to properly complete drought monitoring forms recently added to the observation suite – over 50 people attended the sessions.
- *Monroe Farmers Market* – July 2016 – at least 40 people visited the booth and expressed interest, and over 15 children made (and decorated) a simple rain gauge as part of a hands-on activity.
- *South-End Farmers Market* – August 2016 – at least 70 people visited the booth and expressed interest, and over 25 children made a simple rain gauge.
- *Davidson Farmer Market* – Promoted the program as part of the World of Wonder (WOW) booth – June 2013 – At least 40 people visited the booth and expressed interest, and over 15 children made a simple rain gauge.
- *Matthews Farmers Market* – May 2013 – At least 70 people visited the booth and expressed interest, and over 25 children made a simple rain gauge.

Storm Spotter, WCNC Channel-36 First Warn Storm Team – ongoing since 2009

This team is a group of Charlotte-area citizens with extensive training in meteorology who can provide real-time severe weather spotting during storm passages. I am frequently contacted to confirm severe weather in the area.

School Presentations:

- *Ravenscroft School* – November 2022 – Spoke to high school seniors in the Government and Politics class about urban heat islands, including their development, spatiotemporal variability, impacts on human health, vulnerable populations, and mitigation methods.
- *McClintock Middle School* – December 2013 – Spoke with their robotics design team about how to improve their rooftop tornado detection device and mobile phone warning application. The class was part of a state-wide design competition aimed at enhancing student interest in the STEM fields. The McClintock team qualified for the state championships in 2014.
- *Elisabeth Traditional Elementary School* – September 2009 – Spoke with several classes of 5th grade students about severe weather and hurricanes.
- *Mount Pleasant High School* – September 2008 – Spoke with ~25 students about climate change and global warming.

Climate Panel Discussant – April 2014 – After viewing the movie “Chasing Ice” the panelists were asked to discuss the quality and correctness of the science presented in the movie. A lively discussion ensued between the 30-40 attendees and the panel members.

Media Interviews:

- *FOX-46 Charlotte* (Ted Phaeton, reporter) – August 2022 – Discussed the slow start to the Atlantic hurricane season, including the collective impact of La Nina, the African monsoon, and the Saharan Air Layer.
- *Charlotte Observer* (Hannah Lang, reporter) – July 2022 – Discussed the Charlotte urban heat island (UHI), including its development, spatiotemporal variability, impacts on human health, vulnerable populations, and mitigation methods.
- *FOX-46 Charlotte* (Ted Phaeton, reporter) – February 2022 – Discussed the idea of expanding the Saffir-Simpson hurricane scale to include a Category 6 that would account for increases in hurricane intensity expected from climate change.
- *FOX-46 Charlotte* (Ted Phaeton, reporter) – December 2021 – Discussed the recent tornado outbreak across the Midwest, the potential for a similar outbreak in the Carolinas, and how the public can best prepare their homes for severe weather.
- *FOX-46 Charlotte* (Ted Phaeton, reporter) – September 2021 – Discussed how recent technological advances have improved hurricane forecasts.
- *FOX-46 Charlotte* (Elisa Raffa, reporter) – September 2021 – Discussed urban heat island across Charlotte and its impact on human health.
- *Spectrum News* (Christian Noguera, reporter) – July 2021 – Discussed recent spatial variability in the Charlotte urban heat island means to mitigate urban heat.
- *Charlotte Observer* (Susie Webb, reporter) – July 2021 – Discussed the Charlotte urban heat island and its impact on human comfort and health.
- *WSOC-TV (ABC)* (Jon Ahrens, reporter) – August 2019 – Discussed the 30th anniversary of Hurricane Hugo’s passage across the Carolinas as well as similarities between Hugo and the Hurricane Dorian (which was devastating the Bahamas and approaching the U.S. coast at that time)

- *Raleigh News & Observer* (Martha Quillin, reporter) – September 2018 – Discussed the CoCoRaHS network, its ability to provide near-real-time monitoring of extreme rainfall associated with Hurricane Florence.
- *Charlotte Observer* (Brian Murphy, reporter) – August 2018 – Discussed causes, implications, and potential solutions to the poor Doppler radar coverage along the I-85 corridor between Charlotte and Greensboro.
- *WSOC-TV (ABC)* (Vikki Graf, reporter) – April 2018 – Discussed the Charlotte urban heat island including its potential to increase with population/urban growth and climate change.
- *Raleigh News & Observer* (Martha Quillin, reporter) – June 2017 – Discussed the potential impacts of climate change on how hurricanes and severe storms will alter vulnerability to coastal manufactured-home communities.
- *WSOC-TV (ABC)* (John Ahrens, reporter) – June 2016 – Discussed the early onset of the 2016 hurricane season.
- *Charlotte Observer* (Gary Smith, reporter) – May 2016 – discussed the annual Atlantic hurricane forecast and the likelihood of a landfall along the Carolina coast.
- *Preparing Future Faculty Program (FSU)*, Aaron Preston – March 2016 – discussed my preparation and experiences as a faculty member, including the advantages/disadvantages of being faculty at a smaller (undergraduate-only) institution versus a larger (undergraduate/graduate) institution.
- *WIRED Magazine* (Chelsea Liu, reporter) – October 2015 – Discussed hurricane forecasts, modeling, weather satellites, and the track of Hurricane Joaquin.
- *Charlotte Observer* (Steve Lytle, reporter) – September 2015 – Discussed the latest advances in hurricane track and intensity forecasts as well as the likelihood that hurricane impacts across the Carolinas will change due to climate change.
- *WSOC-TV (ABC)*, (John Ahrens, reporter) – May 2015 – Discussed reasons why tornadoes in the Southeast are often more dangerous and deadly than tornadoes in Tornado Alley, despite being less intense.
- *WSOC-TV (ABC)* (John Ahrens, reporter) – July 2014 – Discussed the reasons why Hurricane Arthur's intensity was under-forecast at landfall along the Outer Banks and the challenges associated with forecasting hurricane intensity hurricane track.
- *WSOC-TV (ABC)* (John Ahrens, reporter) – June 2014 – Discussed the potential for long-term forecasts across the Carolinas with an emphasis on how the NAO and ENSO will most likely produce above-average temperature and precipitation.
- *Fox-46 Carolinas* (Robin Kanady, reporter) – May 2014 – Discussed the 25th anniversary of Hurricane Hugo's impact across the Charlotte region and the forecasted activity during the upcoming 2014 Atlantic Hurricane season.
- *WSOC-TV (ABC)* (John Ahrens, reporter) – April 2014 – Discussed the potential for an early season hurricane in the Gulf of Mexico as well as the busted forecasts of the 2013 Atlantic Hurricane that were issued by NOAA and other organizations.
- *Fox-46 Carolinas* (Melissa LeFevre (reporter) – April 2014 – Discussed the Charlotte urban heat island, including its impact on local biodiversity and human health.
- *Charlotte Observer* (Steve Lytle, reporter) – March 2014 – Discussed the CoCoRaHS program, including its purpose, recent growth across the CMR, need for additional observers, and how the data is used on a regular basis.
- *Mecklenburg County Times* (Payton Guion, reporter) – August 2013 – Discussed the above-average rainfall in the Charlotte area and its impact on the local economy.

- *WSOC-TV (ABC)* (John Ahrens, reporter) – August 2013 – Discussed the slow start to the Atlantic hurricane season and the 1893 hurricane that passed over Charlotte.
- *WSOC-TV (ABC)* (John Ahrens, reporter) – June 2013 – Discussed the causes and implications of the 2012 Charlotte tornado.
- *WSOC-TV (ABC)* (Vicki Graf, reporter) – March 2013 – Discussed reasons for the late onset to the severe weather season across the Southeast, the climatology of severe weather in Charlotte, and the year-to-year variability.
- *Coastal Watch Magazine* (Sharon Settlage, reporter) – August 2012 – Discussed the scientific and socio-economic implications of the recent paleotempestology research conducted with Hippensteel and Garcia.
- *America Now* (Casey Roman, reporter) – July 2012 – Discussed the how to identify severe weather by viewing clouds from your backyard, as well as the benefits of the NOAA SkyWarn Network of storm spotters.
- *WSOC-TV (ABC)* (John Ahrens, reporter) – March 2012 – Discussed reasons for the early and significant tornado activity across the Southeast, including the likelihood of it continuing into the summer and producing a record season.
- *Gaston Gazette Newspaper* (Yael Olisawski, reporter) – February 2012 – Discussed the relationship between La Nina, global warming, and the lack of observed snowfall in the CLT area during the 2011-2012 winter season.
- *UNCC University Times* (Ashley Dorrell, reporter) – August 2011 – Discussed the potential impacts of Hurricane Irene in North Carolina and the 2011 season.
- *UNC Charlotte University Times* (Ann Simpson, reporter) – November 2010 – Discussed the collaborative efforts between STORM and Dr. John Chadwick to launch and track a weather balloon.
- *Charlotte Talks, WFAE 90.7 FM* (Mike Collins, interviewer) – September 2008 – Discussed all aspects of hurricanes including our efforts at UNC Charlotte to improve forecasts of hurricane-spawned tornadoes.
- *WBT Talk News 1110-AM* (Al Gardner and Stacey Simms, interviewers) – September 2008 – Discussed the deployment of weather stations across coastal NC, including student participation in the project.
- *Southport Pilot* (Jonathan Spires, reporter) – September 2008 – Discussed the deployment of weather stations across Brunswick County, NC for the collection of data in hurricane rainbands to improve hurricane tornado forecasts.
- *WWAY-3 Wilmington* (Andy Scherr, reporter) – August 2008 – Discussed the deployment of weather stations along the Carolina coast for data collection in hurricane rainbands to improve our ability to forecast tornado formation.
- *News-14 Carolina* (Ashley White, reporter) – August 2008 – Discussed the deployment of weather stations along the Carolina coast.
- *Charlotte Observer* (Steve Lyttle, reporter) – October 2007 – Discussed the impact of global warming on the hurricane climatology and the 2007 season.
- *Charlotte Observer* (Steve Lyttle, reporter) – April 2007 – Discussed the early success and rapid growth of the UNC Charlotte Meteorology program.
- *WCCB Fox News Charlotte* (Malachi Rodgers, reporter) – December 2006 – Discussed the contrast between the 2005 and 2006 Atlantic Hurricane Seasons as well as the forecast of the 2007 season.

H. Professional Service

Editor – Monthly Weather Review – ongoing since 2009

The peer-reviewed journal is internationally recognized in meteorology and atmospheric sciences and published by the American Meteorological Society. Subject matter focuses on the analysis and prediction of observed atmospheric circulations and physics, which includes severe weather and tropical cyclones. My responsibilities include identifying reviewers, making editorial decisions, and performing “fast” reviews for the Chief Editor.

Editorial Board Member – Atmosphere – ongoing since 2020

This peer-reviewed journal focuses on aerosols, air quality, land-atmosphere interactions, urban meteorology, and climatology. My responsibilities include reviewing manuscripts each year, performing editorial decisions, and promoting the journal.

Scientific Reviewer – Journals:

[Total = 225]

Atmosphere (3) **(Reviews since 2006)**
Atmospheric Environment (1)
Atmospheric Chemistry and Physics (2)
Biomedical and Environmental Sciences (2)
BMC Public Health (2)
Bulletin of the American Meteorological Society (7)
Computers, Environment, and Urban Systems (5)
Dynamics of Atmospheres and Oceans (1)
Earth Sciences History (1)
Electronic Journal of Severe Storms Meteorology (4)
Environmental Research and Public Health (8)
Geo-Health (2)
Geophysical Research Letters (11)
Hydrology (3)
International Journal of Climatology (1)
Journal of Applied Meteorology and Climatology (10)
Journal of Atmospheric Sciences (20)
Journal of Atmospheric and Oceanic Technology (3)
Journal of Basic and Applied Research (2)
Journal of Geophysical Research – Atmospheres (5)
Lancet Planetary Health (2)
Meteorology and Atmospheric Physics (2)
Monthly Weather Review (98)
Oceans (2)
Physical Geography (6)
PLOS Neglected Tropical Diseases (2)
Public Health (1)
Quarterly Journal of the Royal Meteorological Society (2)
Remote Sensing (4)
Scottish Geographical Journal (1)
Sustainable Cities and Society (2)
Water (2)
Weather and Forecasting (10)

Scientific Reviewer - Grants: National Geographic Society (1) (Reviews since 2006)
[Total = 25] NASA Postdoctoral Program (2)
National Science Foundation (22)

Southern Appalachian Weather & Climate Workshop – Planning Committee – ongoing since 2021

This annual workshop brings together a diverse group from the government, academic, and broadcast media sectors to share research, operations, and communication of weather, water, and climate events/impacts across the southern Appalachian region. My responsibilities have included advertising the workshop across the region, reviewing abstract submissions, organizing hotel blocks with discounted rates, optimizing the workshop registration fees so student attendees can pay a discounted rate, developing the workshop program, and chairing sessions throughout the workshop.

Panel Review for the National Science Foundation – 2015 – Interdisciplinary Research in Hazards and Disasters – Science, Engineering, and Education for Sustainability Program

*Initially, I served on two preliminary panels that reviewed a total of **20 proposals** for consideration by the final review panel. I then served on the final panel, which reviewed a total of **48 proposals** for funding consideration.*

Panel Review for the National Oceanographic Partnership Program (NOPP) – 2009

*Each panel member completed a detailed review of **27 proposals** focused on improving tropical cyclone intensity forecasting. NOPP was a collaborative funding opportunity between NOAA and the Office of Naval Research (ONR).*

Session Chair at Professional Meetings

- *Tropical Cyclone Intensity Change* – 30th AMS Hurricanes and Tropical Meteorology Conference – Jacksonville – April 2012
- *Tropical Cyclone Structure* – 35th AMS Radar Meteorology Conference – Pittsburgh – September 2011

North Carolina Climate Initiative – Member – 2008-12

The organization was formed by the UNC President to assess the current state of North Carolina climate as well as to develop strategies to cope with future climate change and climate variability.

Max Eaton Award Committee – **Chair** – 2004

This committee was charged with evaluating and selecting the best graduate student research paper and presentation at the 26th Conference on Hurricanes and Tropical Meteorology, sponsored by the American Meteorological Society.

AWARDS & RECOGNITIONS

Most Significant Educator Award – UNC Charlotte – 2012-2022

Graduating seniors are asked to identify the one person at UNC Charlotte who made the most significant positive contribution to their education. I have been identified by at least one student each year since the inception of the award.

Outstanding Editor – AMS Editorial Board – **Silver Medal** (2018) **Bronze Medal** (2017, 2019, 2020)

Awarded annually to the top Editors among the full contingent of Editors (100+ total) for all AMS journals (11 total). Awards are based on several metrics: (1) total number of manuscripts handled, (2) effectiveness at handling conflicts between authors and reviewers, (3) timeliness in first decision, and (4) timeliness in final decision. The award was discontinued in 2021.

Outstanding Scientific Paper Award – **Finalist** – NOAA/OAR – 2007

This national award recognizes the most significant peer-reviewed papers published in the category of “Weather and Climate” during the prior two-year period – I was recognized as finalist for my Eastin et al. (2005a) publication.

Max Eaton Award – **First Place** - American Meteorological Society – 2002

This national award recognizes the best graduate student research paper and presentation at the biennial Conference on Hurricanes and Tropical Meteorology.

Father James B. Macelwane Award – **First Place** – American Meteorological Society – 1997

This national award recognizes the best undergraduate honors thesis by an atmospheric science or meteorology student during the previous academic year.

PROFESSIONAL MEMBERSHIPS

American Meteorological Society (AMS) – since 1994

American Geophysical Union (AGU) – since 2001

British Royal Meteorological Society (RMS) – since 2005

National Weather Association – since 2009

Sigma Xi – since 2007

Phi-Beta-Kappa National Honor Society – since 1996

Golden Key National Honor Society – since 1996

Phi-Eta-Sigma National Honor Society – since 1993

Alpha-Lambda-Delta National Honor Society – since 1993