

Dr. Matthew D. Eastin

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Professional Preparation

Colorado State University	Atmospheric Science	Ph.D. – 2003
Colorado State University	Atmospheric Science	M.S. – 1999
Purdue University	Atmospheric Science	B.S. – 1996

Appointments

Associate Professor	University of North Carolina at Charlotte	2012 – present
Earth Sciences Graduate Coordinator	University of North Carolina at Charlotte	2012 – 2014
Assistant Professor	University of North Carolina at Charlotte	2006 – 2012
Assistant Professor	Central College	2004 – 2006
Postdoctoral Fellow	NOAA Hurricane Research Division	2003 – 2004
Graduate Teaching/Research Assistant	Colorado State University	1997 – 2003
Student Intern	NOAA National Weather Service	1994 – 1996
Undergraduate Research Assistant	Purdue University	1993 – 1996

Research Interests

Broad areas: Organized mesoscale weather systems and tropical meteorology with an emphasis on severe weather, urban heat islands, tropical cyclones, tropical epidemiology, and societal impacts.

Specific current topics: (1) Supercell evolution in elevated terrain; (2) Spatiotemporal prediction of thunderstorm-induced power outages; (3) Impacts of weather and climate variability on vector-borne disease outbreaks in urban environments; (4) Structure, prediction, and impact of urban heat islands; (5) Physical processes and favorable environments that promote offshore supercell formation and post-landfall tornadogenesis in tropical cyclones; (6) Internal and external processes responsible for the formation, structure, and evolution of tropical cyclone inner-core convection.

Selected Professional Honors

Most Significant Educator Award	UNC Charlotte	2012-2021
Outstanding Scientific Paper, Finalist	NOAA Office of Atmospheric Research	2007
Max A. Eaton Award	American Meteorological Society	2002
Herbert Riehl Memorial Research Award	Colorado State University	2001
Father James B. Macelwane Award	American Meteorological Society	1997

Selected Professional Service

Editor	Monthly Weather Review	2016 – present
Associate Editor	Monthly Weather Review	2009 – 2015
Editorial Board	Atmosphere	2020 – present
Peer Reviewer	AMS and AGU Journals	2003 – present
Peer Reviewer	National Science Foundation	2004 – present
Member	American Meteorological Society	1994 – present

Selected Publications

(Students underlined)

- Purpura, S. M., C. E. Davenport, **M. D. Eastin**, K. E. McKeown, and R. R. Rigg, 2023: Environmental evolution of supercell thunderstorms interacting with the Appalachian Mountains. *Weather and Forecasting* – in press
- 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.
- Eastin, M. D.**, M. Baber, A. Boucher, S. DiBari, R. Hubler, B. Stimac, and T. Winesett, 2018: Temporal variability of the Charlotte (sub)-urban heat island. *J. Appl. Meteor. Climatology*, **57**, 81-102.
- Eastin, M. D.**, E. Delmelle, I. Casas, J. Wexler, and C. Self, 2014: Intra- and inter-seasonal autoregressive prediction of dengue outbreaks using local weather and regional climate for a tropical environment in Colombia. *American Journal Tropical Medicine Hygiene*, **91**, 598-610.
- Eastin, M. D.**, T. L Gardner, M. C. Link, and K. C. Smith, 2012: Surface cold pools observed in the outer rainbands of Tropical Storm Hanna near landfall. *Monthly Weather Review*, 140, 471-491.
- 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.
- 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.
- Eastin, M. D.**, W. M. Gray, and P. G. Black, 2005: Buoyancy of convective vertical motions in the inner core of intense hurricanes. Part I: General statistics. *Monthly Weather Review*, 133, 188-208.
- Eastin, M. D.**, W. M. Gray, and P. G. Black, 2005: Buoyancy of convective vertical motions in the inner core of intense hurricanes. Part II: Case Studies. *Monthly Weather Review*, 133, 209-227.
- Eastin, M. D.**, P. G. Black, and W. M. Gray, 2002: Flight-level thermodynamic instrument wetting errors in hurricanes. Part I: Observations. *Monthly Weather Review*, 130, 825-841.
- 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.

Courses Taught

Advanced Synoptic Meteorology (2007 - present)	Introductory Statistics (2004-06)
Atmospheric Thermodynamics (2008 - present)	Scientific Programming (2008-09, 2012-15)
Atmospheric Instrumentation (2015 - present)	Hurricane Rainbands (2009-11, 2013)
Mesoscale Meteorology (2007 - present)	Tropical Convection (2007, 2009)
Tropical Meteorology (2006 - present)	Urban Meteorology (2012, 2014, 2022)
Graduate/Senior Seminar (2014 - present)	Radar Meteorology (2011)

Research Supervisor

Matt Toadvine (MS – 2022)	Megan Sirbaugh (MS – 2017)	Todd Hunter (BS – 2012)
Roger Rigg (MS – 2022)	Ryan Hubler (MS – 2016)	Brian Hays (MS – 2011)
Scott Dennstaedt (PhD – 2021)	Eric Bunker (BS – 2016)	Angela Crowder (BS – 2011)
Katie McKeown (MS – 2021)	Brandy Stimac (MS – 2015)	Chris Link (MS – 2010)
Sarah Purpura (MS – 2021)	Adam Picard (MS – 2014)	Tiffany Gardner (BS – 2010)
Anna Stuck (MS – 2020)	Cameron Self (MS – 2014)	Kelly Smith (MS – 2009)
Rachel Cucinotta (MS – 2019)	Betsy Grim (MS – 2013)	Jennifer Edwards (BS – 2009)
Taylor Grace (BS – 2019)	Emily Moore (BS – 2013)	Thomas Hinson (BS – 2009)
Cody Ledbetter (MS – 2018)	Phillip Ware (BS – 2013)	Robert Manion (BS – 2009)
Warren Pettee (MS – 2018)	Garon Odom (MS – 2012)	Heather Anderson (BS – 2008)