

Paul W. Miller

Department of Geography
University of Georgia
210 Field St, Room 304
Athens, GA 30602

phone: 540-642-2463
lab: 706-542-6060
email: paul.miller@uga.edu
website: www.paulmillergeo.com

EDUCATION

- 2017 **Ph.D.**, Geography, University of Georgia
Dissertation: *Anticipating thunderstorm intensity in low signal-to-noise ratio environments: Weakly forced thunderstorms in the Southeast United States*
Dissertation committee: Thomas Mote (adviser), Marshall Shepherd, John Knox, and Lynne Seymour
- 2014 **M.S.**, Geography, Virginia Tech
Thesis: *The utility of total lightning in diagnosing pulse-type thunderstorm severity in the Central Appalachian Mountains region*
- 2012 **B.S.**, Meteorology, Virginia Tech
- 2012 **B.A.**, Geography, Virginia Tech

ACADEMIC APPOINTMENTS

- 2018 Postdoctoral Research Associate, Department of Geography, University of Georgia
- 2014–2017 Presidential Fellow, Graduate School, University of Georgia
- 2016–2017 Graduate Research Assistant, Department of Geography, University of Georgia
- 2012–2014 Graduate Teaching Assistant, Department of Geography, Virginia Tech

RESEARCH AND TEACHING INTERESTS

Mesoscale climate science; Disorganized convection; Applied meteorology and climatology; Land-atmosphere interactions; Severe weather impacts; Operational meteorology

JOURNAL PUBLICATIONS

Published or forthcoming

- 2017 Mote, T. L., C. A. Ramseyer, and **P. W. Miller**: The Saharan Air Layer as an early rainfall season suppressant in the eastern Caribbean: The 2015 Puerto Rico drought event. *Journal of Geophysical Research*, **122**, 10966–10982.
- 2017 **Miller, P. W.**, and T. L. Mote: A climatology of weakly forced and pulse thunderstorms in the Southeast United States. *Journal of Applied Meteorology and Climatology*, **56**, 3017–3033.
- 2017 **Miller, P. W.**, and T. L. Mote: Standardizing the definition of a “pulse” thunderstorm. *Bulletin of the American Meteorological Society*, **98**, 905–913.
- 2017 Mattingly, K. S., P. L. Seymour, and **P. W. Miller**: Estimates of extreme rainfall frequency in urban areas derived from spatially dense rain gauge observations. *Annals of the American Association of Geographers*, **107**, 1499–1518.

- 2017 Debbage, N., **P. W. Miller**, S. E. Poore, K. Morano, T. L. Mote, and J. M. Shepherd: A climatology of atmospheric river interactions with the Southeastern United States coastline. *International Journal of Climatology*, **37**, 4077–4091.
- 2017 Williams, C. A., **P. W. Miller**, A. W. Black, and J. A. Knox: Throwing caution to the wind: National Weather Service wind products as perceived by a weather-salient sample. *Journal of Operational Meteorology*, **5**, 103–120.
- 2017 Grundstein, A. J., J. M. Shepherd, **P. W. Miller**, and S. E. Sarnat: The role of mesoscale-convective processes in explaining the 21 November 2016 epidemic thunderstorm asthma in Melbourne, Australia. *Journal of Applied Meteorology and Climatology*, **56**, 1337–1343.
- 2016 **Miller, P. W.**, A. W. Black, C. A. Williams, and J. A. Knox: Quantitative assessment of human wind speed overestimation. *Journal of Applied Meteorology and Climatology*, **55**, 1009–1020.
- 2016 Ellis, A. W., and **P. W. Miller**: The emergence of lightning in severe thunderstorm prediction and the possible contributions from spatial science. *Geography Compass*, **10**, 192–206.
- 2016 **Miller, P. W.**, A. W. Black, C. A. Williams, and J. A. Knox: Maximum wind gusts associated with human-reported nonconvective wind events and a comparison to current warning issuance criteria. *Weather and Forecasting*, **31**, 451–465.
- 2015 **Miller, P. W.**, A. W. Ellis, and S. Keighton: Spatial distribution of lightning associated with low-shear thunderstorm environments in the central Appalachians region. *Physical Geography*, **36**, 127–141.
- 2015 **Miller, P. W.**, A. W. Ellis, and S. Keighton: The utility of total lightning trends in diagnosing single-cell thunderstorm severity: Examples from the central Appalachians region. *Journal of Operational Meteorology*, **3**, 82–98.
- 2015 **Miller, P. W.**, A. W. Ellis, and S. Keighton: A preliminary assessment of using spatiotemporal lightning patterns for a binary classification of thunderstorm mode. *Weather and Forecasting*, **30**, 38–56.

Under review or in preparation

- In review **Miller, P. W.**, and T. L. Mote: Characterizing severe weather potential in synoptically weakly forced thunderstorm environments. *Natural Hazards and Earth System Sciences*. Revise and resubmit.
- In review **Miller, P. W.**, and T. L. Mote: The algorithmic detection of pulse thunderstorms within a large, mostly nonsevere sample. *Meteorological Applications*. Revise and resubmit.
- In prep. **Miller, P. W.**, T. L. Mote, C. A. Ramseyer, A. E. Van Buesekom, M. Scholl, and G. Gonzalez: A 42-yr Assessment of Cloud Base Height in the Luquillo Mountains of Eastern Puerto Rico. *Climate Research*. Submitted.

GRANT SUPPORT

- 2018 Miller, P. (PI), T. Mote, and D. Mishra. *Persistent Hydrological Consequences of Hurricane Interactions with the Georgia Coastline*. Georgia Sea Grant (\$10,000).
- 2017 Travel grant. Southeastern Division of the American Association of Geographers (\$1,000).
- 2017 Travel grant. University of Georgia Graduate School (\$825).
- 2016 Travel grant. University of Georgia Graduate School (\$900).
- 2013 Ellis, A., S. Keighton, and P. Miller. *The Utility of Total Lightning for Warning of Pulse-Type Thunderstorms within the Central Appalachian Mountains Region*. University Corporation for Atmospheric Research (\$15,000).

CONFERENCE ACTIVITIES

- 2018 **Miller, P. W.**, T. L. Mote, C. A. Ramseyer, A. E. Van Buesekom, and G. Gonzalez: A 42-yr Assessment of Cloud Base Height Trends in the Luquillo Mountains of Eastern Puerto Using Radiosonde Observations from San Juan. *98th Annual Meeting of the American Meteorological Society*. January 7–11, 2018, Austin, TX.
- 2017 **Miller, P. W.**, and T. L. Mote: A climatology of weakly forced and pulse thunderstorms in the Southeast United States. *113th Annual Meeting of the American Association of Geographers*. April 5–9, 2017, Boston, MA.
- 2017 **Miller, P. W.**, and T. L. Mote: A climatology of weakly forced and pulse thunderstorms in the Southeast United States. *97th Annual Meeting of the American Meteorological Society*. January 22–26, 2017, Seattle, WA.
- 2016 **Miller, P. W.**, and T. L. Mote: A climatology of weakly forced thunderstorms in the Southeastern U.S. *71st Annual Meeting of the Southeastern Division of the Association of American Geographers*. November 20–22, 2016, Columbia, SC.
- 2016 **Miller, P. W.**, and T. L. Mote: The utility of the term “pulse” within the thunderstorm mode nomenclature. *112th Annual Meeting of the American Association of Geographers*. March 28–April 2, 2016, San Francisco, CA.
- 2016 **Miller, P. W.**, and T. L. Mote: Applications of the term “pulse” as a thunderstorm mode descriptor. *96th Annual Meeting of the American Meteorological Society*. January 10–14, 2016, New Orleans, LA.
- 2016 **Miller, P. W.**, A. W. Black, C. A. Williams, and J. A., Knox: Estimating in “vane”: A quantitative description of wind speed overestimation by human observers versus instrument measurements. *96th Annual Meeting of the American Meteorological Society*. January 10–14, 2016, New Orleans, LA.
- 2014 **Miller, P. W.**, and T. L. Mote: Usage of the term “pulse” as a thunderstorm mode descriptor in Storm Prediction Center convective outlooks. *69th Annual Meeting of the Southeastern Division of the Association of American Geographers*. November 23–25, 2014, Athens, GA.

- 2013 **Miller, P. W.**, and A. W. Ellis: A meteorological application of cluster analysis: The identification of low-shear, high-instability environments using total lightning data. *68th Annual Meeting of the Southeastern Division of the Association of American Geographers*. November 24–26, 2013, Roanoke, VA.

INVITED PRESENTATIONS

- 2014 *The utility of total lightning in diagnosing pulse-type thunderstorm severity in the Central Appalachian Mountains region*, National Weather Service (NWS) Eastern Region Scientific Services Division nation-wide webinar, 7 May 2014

HONORS AND AWARDS

- 2018 John Russell Mather Paper of the Year Award, Climate Specialty Group, 114th Meeting of the American Association of Geographers
- 2014–2017 Presidential Fellow, Graduate School, University of Georgia
- 2017 Third place student paper, Climate Specialty Group, 113th Meeting of the American Association of Geographers
- 2017 First place student poster, Special Symposium on Severe Local Storms, 97th Meeting of the American Meteorological Society
- 2016 First place student paper, 71st Meeting of the Southeastern Division of Association of American Geographers
- 2016 Second place student paper, UGA Geography Graduate Research Symposium
- 2016 First place student paper, 11th Symposium on Societal Applications: Policy, Research, and Practice, 96th Meeting of the American Meteorological Society
- 2015 First place student paper, UGA Geography Graduate Research Symposium
- 2014 Outstanding Graduate Student, College of Natural Resources and Environment, Virginia Tech
- 2014 Outstanding Graduate Student, Department of Geography, Virginia Tech
- 2014 Outstanding Teaching Assistant, Department of Geography, Virginia Tech

TEACHING EXPERIENCE (* indicates instructor of record)

University of Georgia

- Weather Analysis and Forecasting* (Fall 2016)
- Synoptic Meteorology and Climatology (Fall 2014)

Virginia Tech

- Dynamic Meteorology II* (Spring 2014)
- Dynamic Meteorology I* (Fall 2013)
- Great Plains Storm Chase (Summer 2013)
- World Regions (Fall 2012, Spring 2013)
- Applied Climatology (Fall 2013)

RESEARCH EXPERIENCE

- 2018 Post-doctoral research associate, University of Georgia, NSF Luquillo Long-Term Ecological Research (LTER) project
- 2016–2017 Graduate Research Assistant, University of Georgia, NSF Luquillo Long-Term Ecological Research (LTER) project
- 2014 GIS Technician, Virginia Tech, USDA East Coast Vineyards Project
- 2013 Graduate Research Assistant, Virginia Tech, University Corporation for Atmospheric Research (UCAR) GOES-R Partners Project

SERVICE TO PROFESSION AND COMMUNITY

- 2015–present Community climate consultant for local agriculture interests
- 2015–present Student group facilitator, Georgia Junior Science & Humanities Symposium
- 2017 Lab mentor for student volunteer from local high school
- 2018 Reviewer, *Journal of Hydrometeorology*
- 2017 Reviewer, *Journal of Applied Meteorology and Climatology*
- 2016 Reviewer, *Physical Geography*
- 2016 Reviewer, *Natural Hazards*
- 2013 Conference volunteer, SEDAAG annual meeting
- 2013 Undergraduate research mentor, VT Department of Geography
- 2013 Field data collection volunteer, VT Department of Geography

PROFESSIONAL AFFILIATIONS

- 2015–present American Association of Geographers (AAG)
- 2015–present Climate Specialty Group of the AAG
- 2013–present Southeastern Division of the Association of American Geographers (SEDAAG)
- 2013–present American Meteorological Society (AMS)
- 2012–present Phi Beta Kappa