Kyle Mattingly

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EDUCATION

Doctor of Philosophy, Geography — August 2019 (expected)
University of Georgia, Athens, GA
Major study area: Synoptic climatology
Minor study area: Cryospheric processes
Cognate: Ocean-atmosphere interactions

Master of Science, Geography — August 2014
University of Georgia, Athens, GA
Concentration: Atmospheric sciences / climatology

Bachelor of Science, Meteorology — May 2012
Western Kentucky University, Bowling Green, KY
Honors College graduate (*summa cum laude*)
Minor: Mathematics

THESES AND DOCTORAL DISSERTATION

Mattingly, K. S., 2019 (expected): *Impacts of atmospheric moisture transport on the Greenland Ice Sheet.* Doctoral dissertation, Department of Geography, University of Georgia. In progress.

Mattingly, K. S., 2014: *Atmospheric circulation and moisture transport associated with large-scale organized convection over subtropical South America.* Master's thesis, Department of Geography, University of Georgia. 142 pp.

Mattingly, K. S., 2012: *Large, long-lived convective systems over subtropical South America and their relationships with atmospheric teleconnections.* Undergraduate honors thesis, Department of Geography and Geology, Western Kentucky University. 85 pp.

PEER-REVIEWED PUBLICATIONS

Mattingly, K. S., T. L. Mote, and X. Fettweis, 2018: Atmospheric river impacts on Greenland Ice Sheet surface mass balance. *Journal of Geophysical Research: Atmospheres*, In Press, doi:10.1029/2018JD028714.

Oliver, H., H. Luo, R. M. Castelao, G. L. van Dijken, **K. S. Mattingly**, J. J. Rosen, T. L. Mote, K. R. Arrigo, A. K. Rennermalm, M. Tedesco, and P. L. Yager, 2018: Exploring the potential impact of Greenland meltwater on stratification, photosynthetically active radiation, and primary production in the Labrador Sea. *Journal of Geophysical Research: Oceans*, **123**(4), 2570–2591, doi:10.1002/2018JC013802.

Mattingly, K. S., L. Seymour, and P. W. Miller, 2017: Estimates of extreme precipitation frequency in urban areas derived from spatially dense rain gauge observations: A case study of two urban areas in the Colorado Front Range region. *Annals of the American Association of Geographers*, **107**(6), 1499–1518, doi:10.1080/24694452.2017.1309961.

Mattingly, K. S. and T. L. Mote, 2017: Variability in warm-season atmospheric circulation and precipitation patterns over subtropical South America: relationships between the South Atlantic Convergence Zone and large-scale organized convection over the La Plata basin. *Climate Dynamics*, **48**(1), 241–263, doi:10.1007/s00382-016-3072-0.

Mattingly, K. S., C. A. Ramseyer, J. J. Rosen, T. L. Mote, and R. Muthyala, 2016: Increasing water vapor transport to the Greenland Ice Sheet revealed using self-organizing maps. *Geophysical Research Letters*, **43**, 9250–9258, doi:10.1002/2016GL070424.

Mattingly, K. S., B. D. Johnson, and A. Fischer, 2015: Characterization of atmospheric Saharan dust plumes using remote hyperspectral imagery for public health. *Papers in Applied Geography*, **1**(3), 286–293, doi:10.1080/23754931.2015.1014705.

Mattingly, K. S., J. T. McLeod, J. A. Knox, J. M. Shepherd, and T. L. Mote, 2015: A climatological assessment of Greenland blocking conditions associated with the track of Hurricane Sandy and historical North Atlantic hurricanes. *International Journal of Climatology*, **35**(5), 746–760, doi:10.1002/joc.4018.

RESEARCH PRESENTATIONS

Mattingly, K. S., and T. L. Mote, 2018: *Atmospheric river impacts on Greenland: A self-organizing map analysis.* Paper presented at POLAR 2018, Davos, Switzerland.

Ballinger, T. J., T. L. Mote, **K. S. Mattingly**, E. Hanna, A. C. Bliss, D. van As, M. Prieto, T. E. Cropper, M. H. Ribergaard, and J. L. Høyer, 2018: *Interconnectivity and drivers of Baffin Bay and Greenland melt/freeze onset.* Poster presented at POLAR 2018, Davos, Switzerland.

Mattingly, K. S., 2018: *Atmospheric river impacts on the surface energy budget of the Greenland Ice Sheet.* Paper presented at the 2018 Annual Meeting of the American Association of Geographers, New Orleans, LA.

Mattingly, K. S., L. Seymour, and P. W. Miller, 2018: *Estimates of extreme precipitation frequency derived from spatially dense rain gauge observations: A case study of two urban areas in the Colorado Front Range region.* Climate Specialty Group John Russell Mather Paper of the Year Presentation at the 2018 Annual Meeting of the American Association of Geographers, New Orleans, LA.

Mattingly, K. S., 2018: *Atmospheric river impacts on Greenland Ice Sheet surface mass balance.* Paper presented at the 4th Annual University of Georgia Geography Graduate Research Symposium, Athens, GA.

Mattingly, K. S., and T. L. Mote, 2017: *Atmospheric river impacts on Greenland Ice Sheet surface melt and mass balance.* Poster presented at the 2017 American Geophysical Union Fall Meeting, New Orleans, LA.

Mattingly, K. S., and T. L. Mote, 2017: *Atmospheric river impacts on the Greenland Ice Sheet.* Paper presented at the 2017 Annual Meeting of the American Association of Geographers, Boston, MA.

Mattingly, K. S., 2017: *Atmospheric river impacts on the Greenland Ice Sheet.* Paper presented at the 3rd Annual University of Georgia Geography Graduate Research Symposium, Athens, GA.

Mattingly, K. S., and T. L. Mote, 2017: *Impacts of atmospheric moisture transport on Greenland Ice Sheet melt and energy balance.* Paper presented at the 97th Annual Meeting of the American Meteorological Society, Seattle, WA.

Oliver, H., H. Luo, R. M. Castelao, G. van Dijken, **K. S. Mattingly**, J. J. Rosen, T. L. Mote, K. R. Arrigo, A. K. Rennermalm, M. Tedesco, and P. L. Yager, 2016: *Extreme surface melting of the Greenland Ice Sheet increases growth potential for light-limited phytoplankton in the Labrador Sea.* Paper presented at the 2016 American Geophysical Union Fall Meeting, San Francisco, CA.

Mote, T. L., R. M. Castelao, P. L. Yager, H. Luo, H. Oliver, **K. S. Mattingly**, J. J. Rosen, M. Tedesco, A. K. Rennermalm, S. Moustafa, K. R. Arrigo, and G. van Dijken, 2016: *From the Ice Sheet to the Sea: An interdisciplinary study of the impact of extreme melt on ocean stratification and productivity near West Greenland.* Poster presented at the 16th European Meteorological Society Annual Meeting, Trieste, Italy.

Mattingly, K. S. and T. L. Mote, 2016: *Atmospheric river impacts on the Greenland Ice Sheet.* Paper presented at the 2016 International Atmospheric Rivers Conference, Scripps Institution of Oceanography, La Jolla, CA.

Mattingly, K. S. and T. L. Mote, 2016: *Atmospheric rivers over the North Atlantic Ocean and their effects on the Greenland Ice Sheet.* Paper presented at the 2016 Annual Meeting of the American Association of Geographers, San Francisco, CA.

Oliver, H., H. Luo, **K. S. Mattingly**, J. J. Rosen, and P. L. Yager, 2016: *Modeling the sensitivity of coastal ocean primary production to extreme melting of the Greenland Ice Sheet.* Poster presented at the 2016 American Geophysical Union Ocean Sciences Meeting, New Orleans, LA.

Yager, P. L., H. Oliver, R. M. Castelao, H. Luo, **K. S. Mattingly**, J. J. Rosen, G. van Dijken, A. K. Rennermalm, M. Tedesco, and T. L. Mote, 2016: *Ice sheet meltwater impacts on coastal biological productivity – models and remote observations for southwest Greenland.* Paper presented at the 2016 Program for Arctic Regional Climate Assessment (PARCA) Workshop, NASA Goddard Space Flight Center, Greenbelt, MD.

Mattingly, K. S. and T. L. Mote, 2016: *Moisture transport regimes associated with large-scale organized convection over subtropical South America.* Paper presented at the 96th Annual Meeting of the American Meteorological Society, New Orleans, LA.

Mattingly, K. S., 2015: *Tracing the evaporative moisture sources of precipitation in subtropical South America.* Paper presented at the 1st Annual Geography Graduate Research Symposium, Athens, GA.

Mattingly, K. S., 2014: *Moisture transport regimes associated with large-scale organized convection over subtropical South America.* Paper presented at the 69th Annual Meeting of the SouthEastern Division of the American Association of Geographers, Athens, GA.

Mattingly, K. S., B. D. Johnson, and A. Fischer, 2014: *Characterization of atmospheric Saharan dust plumes using remote hyperspectral imagery for public health.* Paper presented at the 37th annual Applied Geography Conference, Atlanta, GA.

Mattingly, K. S., J. A. Knox, C. Davis, R. Hale, L. Lindsey, A. Long, R. Scroggs, J. Rackley, A. E. Stewart, L. Bloch, and J. McLeod, 2014: *Who's the King of PoP? Comparing the accuracy of NWS and NAM / GFS MOS precipitation forecasts for ten U.S. cities, 2003–2012.* Paper presented at the 94th Annual Meeting of the American Meteorological Society, Atlanta, GA.

McLeod, J. T., **K. S. Mattingly**, J. M. Shepherd, and J. A. Knox, 2014: *A climatological assessment of Greenland blocking during Hurricane Sandy and its influence on North Atlantic hurricane tracks.* Poster presented at the 94th Annual Meeting of the American Meteorological Society, Atlanta, GA.

Mattingly, K. S. and J. D. Durkee, 2012: *Large, long-lived convective systems over subtropical South America and their relationships with atmospheric teleconnections.* Poster presented at the 67th Annual Meeting of the SouthEastern Division of the American Association of Geographers, Asheville, NC.

Mattingly, K. S. and J. D. Durkee, 2012: *Characteristics of large, long-lived convective systems over subtropical South America derived from geostationary satellite imagery.* Paper presented at the 37th Annual Meeting of the National Weather Association, Madison, WI.

Mattingly, K. S. and J. D. Durkee, 2012: *Characteristics of warm-season persistent elongated convective systems in subtropical South America.* Poster presented at the 92nd Annual Meeting of the American Meteorological Society, New Orleans, LA.

Mattingly, K. S. and D. P. St. Jean, 2011: *Sounding-derived parameters associated with New England tornadoes.* Poster presented at the 2011 NOAA Education Symposium, Silver Spring, MD.

Mattingly, K. S., 2010: *Analysis of the January 3, 2000 tornado in Owensboro, KY.* Poster presented at the 2010 Kentucky Academy of Sciences annual meeting, Bowling Green, KY.

AWARDS AND HONORS

Winner of 2018 American Association of Geographers Climate Specialty Group John Russell Mather Paper of the Year Award

Honorable mention (4th place) in Climate Specialty Group student paper competition at 2018 American Association of Geographers Annual Meeting

1st place in Climate Specialty Group student paper competition at 2017 American Association of Geographers Annual Meeting

Best Presentation Award, 3rd Annual University of Georgia Geography Graduate Research Symposium (February 2017)

NASA Earth and Space Science Fellowship, August 2016 – August 2019

Awarded $500 student scholarship to attend 2016 International Atmospheric Rivers Conference

2nd place in Climate Specialty Group student paper competition at 2016 American Association of Geographers Annual Meeting

WxChallenge national forecasting competition (2015–16): Finished 21st in cumulative regular season standings (out of 1836 participants)

WxChallenge national forecasting competition (2015–16): Trophy winner for Islip, NY forecast site (2nd place in Graduate Student category)

Master's student honors paper finalist, 69th Annual Meeting of the SouthEastern Division of the American Association of Geographers

2012 winner of National Weather Association's Meteorological Satellite Applications Award ($500 grant)

One of five students invited to give oral presentation at 2012 National Weather Association annual meeting

University of Georgia Graduate School Assistantship (2012–2014)

2nd place in poster category at 2011 NOAA Hollings Scholar Education Symposium

NOAA Hollings Scholar, class of 2010

"Pass with distinction" highest rating on Western Kentucky University undergraduate honors thesis (2012)

3rd place in Geography poster presentation competition at 2010 Kentucky Academy of Sciences annual meeting

Western Kentucky University President's List for Fall 2008, Spring 2009, Fall 2009, Spring 2010, Fall 2010, Fall 2011, and Spring 2012 semesters

Western Kentucky University Presidential Scholarship (2008–2012)

TEACHING EXPERIENCE

Spring 2015: Geography 1112 — Introduction to Weather and Climate (*Instructor of Record*). Department of Geography, University of Georgia

Spring 2014, Fall 2014, Summer 2015, Spring 2016: Geography 1112L — Introduction to Weather and Climate Lab. Department of Geography, University of Georgia

Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016: Geography 3120L — Weather Analysis and Forecasting Lab. Department of Geography, University of Georgia

Summer 2012: Teacher / Counselor, Upward Bound at Western Kentucky University

WORK AND OTHER PROFESSIONAL ACTIVITIES

Manuscript reviewer for *Nature*, *Scientific Reports*, *The Cryosphere*, *Journal of Geophysical Research: Atmospheres*, and *Physical Geography*

Contributed graphics to CNN story on Greenland melt (November 2017)

Interviewed for *Popular Science* story on Greenland blocking (November 2017)

Reviewer for NOAA Climate.gov summary of 2017 Greenland melt season (September 2017)

Member, American Geophysical Union (2017–present)

Poster competition judge, 16th Annual Geography Undergraduate Conference, University of Georgia (April 2015)

Graduate Student Representative to University of Georgia student chapter of the American Meteorological Society (2013–2014)

University of Georgia Atmospheric Sciences representative at the 2014 American Meteorological Society career fair

Member of University of Georgia planning committee for the 2014 American Meteorological Society annual meeting (2013–2014)

Beta test participant in experimental National Forecaster weather forecasting contest (Fall 2013)

Member, American Association of Geographers (2013–present)

Member, SouthEastern Division of the American Association of Geographers (2013–present)

Member, University of Georgia student chapter of the American Meteorological Society (2012–present)

Participant in WxChallenge national weather forecasting contest (2010–present)

Student volunteer, 2012 Kentucky Weather Conference

Student volunteer, 2012 Tennessee Severe Weather Awareness Workshop

NOAA Hollings Scholarship program summer intern at NWS Gray, Maine (Summer 2011)

Quality Assurance Technician, Kentucky Mesonet (2009–2011)

Co-Author, WKU Meteorology Blog (2010–2012)

Member, WKU student chapter of the American Meteorological Society (2008–2012)

Member, American Meteorological Society (2009–present)

Field Spotter, WKU StormTopper Network (2009–2012)

Attended 2010 and 2011 National Severe Weather Workshop (Norman, OK)

Trained Weather Spotter, National Weather Service (2008–present)

PROGRAMMING SKILLS

Python, R, MATLAB, GrADS, NCL, Unix, Fortran, ArcGIS / ArcPy