

Bradley F. Lamkin

National Weather Center
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EDUCATION

The University of Oklahoma, Norman, OK

Doctor of Philosophy, Meteorology, Expected May 2027

Area of Study: Using CERES, Oklahoma Mesonet, and MODIS measurements to build a radiative transfer model.

The University of Oklahoma, Norman, OK

Master of Science, Meteorology, July 2023

Area of Study: Comparing CERES shortwave surface radiative fluxes to Oklahoma Mesonet.

Virginia Polytechnic Institute and State University, Blacksburg, VA

Bachelor of Science, Meteorology, May 2021

Minors in Geography, Geographic Information Science, and Mathematics

RESEARCH EXPERIENCE

The University of Oklahoma

July 2021 - Present

School of Meteorology

(CL)²EAR: Cloud Climate Aerosol Radiation Research Group

Graduate Research Assistant

Advisor: Jens Redemann, Ph.D.

Co-Advisor: Ian Chang, Ph.D.

- Studying how atmospheric aerosols and clouds affect downward shortwave radiative fluxes.
- Comparing Oklahoma mesonet radiative flux observations with CERES: TERRA and AQUA satellite observations.

Virginia Polytechnic Institute and State University

January 2021 - May 2021

Department of Geography

Advisor: Craig A. Ramseyer, Ph.D.

- Determined atmospheric river types in the Central and Eastern United States by using self-organizing maps.
- Analyzed changes in moisture transport using a 40-year time series.
- Confirmed that mid-latitude cyclones are the primary drivers of moisture transport, especially in the "cool season."
- Looked at implications for flash flooding in the densely populated Northeast and Mid-South regions of the U.S.

National Weather Service Baltimore/Washington

May 2020 - August 2020

Student Volunteer

Advisor: Jason Elliott, M.S.

Co-Advisors: Daniel Hofmann, M.S. and Brian LaSorsa

- Developed a threat matrix based on the analysis of Storm Prediction Center convective outlook probabilities, 500 hPa height falls, moist-unstable convective available potential energy, and surface to 500 hPa shear.
- Created a Python program to create threat area maps for the forecast office based on the matrix and to extract and analyze BUFKIT soundings.
- Studied meso-beta element velocity, moist-unstable convective available potential energy, and warm cloud layer depth to enhance the current assessment and predict potential severity in advance of major flash flood events.
- Presented results to the National Weather Service Baltimore/Washington forecast office.

Mountain Mesonet Installation

December 2017 - November 2018

Virginia Tech: Department of Geography

Advisor: David Carroll, M.S.

Co-Advisor: Michael Sporer, M.S.

- Work included station mast installations, plumbing/leveling the stations, sensor attachments, and station testing.

JOURNAL PUBLICATIONS

Ramseyer, C. A., and Coauthors, 2022: Identifying Eastern US Atmospheric River Types and Evaluating Historical Trends. *JGR Atmospheres*, **127**, <https://doi.org/10.1029/2021JD036198>.

CONFERENCE PRESENTATIONS

Lead eLightning Presenter: 2023 AGU Annual Fall Meeting December 2023
Examining the Influence of Clouds on the CERES and Oklahoma Mesonet Downward Shortwave Surface Radiative Flux Regional Comparison in 2019-2021

Lead Poster Presenter: 2023 AMS Annual Meeting January 2023
Examining the Spatial Distribution of CERES Downwelling Shortwave Surface Radiative Flux Measurements in the Context of Surface Oklahoma Mesonet Measurements in 2019-2021

Lead Poster Presenter: 2022 AMS Collective Madison Meeting August 2022
Evaluating the CERES Downward Shortwave Surface Radiative Flux Retrievals in the Context of Surface Oklahoma Mesonet Measurements in 2019-2021

Lead Poster Presenter: 2021 American Meteorological Society Annual Meeting January 2021
Leveraging Sub-Synoptic Patterns and Ensemble Data to Localize Severe Weather Threat During the Days 3-7 Period in the Baltimore/Washington WFO Area of Responsibility

Poster Presenter: 2021 American Meteorological Society Annual Meeting January 2021
Utilizing Ensembles to Enhance Conveyance of Potential Flash Flood Severity in the Days 3-7 Flood Threat Matrix for the Baltimore/Washington WFO County Warning Area

Lead Poster Presenter: 2020 National Weather Association Annual Meeting September 2020
Leveraging Sub-Synoptic Patterns and Ensemble Data to Localize Severe Weather Threat During the Days 3-7 Period in the Baltimore/Washington WFO Area of Responsibility

Poster Presenter: 2020 National Weather Association Annual Meeting September 2020
Utilizing Ensembles to Enhance Conveyance of Potential Flash Flood Severity in the Days 3-7 Flood Threat Matrix for the Baltimore/Washington WFO County Warning Area

TEACHING EXPERIENCE

Graduate Teaching Assistant University of Oklahoma August 2023 - Present

METR 2004 - Atmospheric Circulations (August 2023 - Present):

Hosting review sessions, holding regular office hours, and grading homework assignments and exams. Material included stability, moisture, synoptic-scale flows, convection, boundary layer meteorology, and climate change.

Undergraduate Teaching Assistant Virginia Tech August 2018 - May 2020

GEOG 1524 - Into Earth's Climate (January 2020 - May 2020):

Taught, hosted review sessions, had regular office hours, and helped professor design presentations. Material included physical climatology, hydroclimatology, climate dynamics, paleoclimatology, and anthropogenic climate change.

LDRS 2014 - Principles of Peer Leadership (January 2020 - May 2020):

Taught future Resident Advisors important leadership skills for the role, graded student assignments, and

EXTRACURRICULAR ACTIVITIES

- OU Student Chapter of AMS/NWA: Graduate Student Representative (August 2021 - May 2022)
- Blue Ridge Chapter AMS/NWA: A student member of the Virginia Tech chapter of the American Meteorological Society and the National Weather Association (August 2017 - May 2021)
- Co-Chair: Housing and Residence Life Student Staff Counsel (September 2020 - May 2021)
- College Mentors for Kids: - Family Coordinator (September 2019 - December 2019, September 2020 - May 2021), Student Mentor (September 2017 - May 2020)
- WUVT 90.7 FM: Wrote meteorology broadcasts for WUVT News 90.7 FM. (January 2019 - December 2020)