

Caleb Thomas Blackburn

Research Resilience Coordinator - Appalachian State University
Boone, North Carolina
blackburnct@appstate.edu

EDUCATION

Master of Arts in Geography
Appalachian State University, Boone, NC
May 2026

Thesis:
Mental Health Impacts of Compounding Climate Events in the Southern United States: A Difference-in-Differences Analysis
Advisor: Dr. Maggie Sugg
Graduate GIScience Certificate

Bachelor of Science in Geography
Appalachian State University, Boone, NC
Minor: Planning
Certificate: Geographic Information Systems (GIS)

APPOINTMENTS

Research Resilience Coordinator
Research Institute for Environment, Energy, and Economics
Appalachian State University
May 2026 – Present

- Coordinate interdisciplinary climate, disaster, public health, and resilience research projects
- Manage day-to-day project operations, meetings, communications, and partner coordination
- Support research protocols, IRB documentation, study materials, and compliance processes
- Identify, acquire, clean, curate, and document quantitative and geospatial research datasets

- Assist with manuscript preparation, formatting, quality control, journal submissions, and revisions
- Contribute to reports, presentations, workshops, webinars, and research communication for scientific and community audiences
- Support grant administration, including progress reports, milestones, deliverables, budgets, and subawards

Graduate Research Assistant
 Department of Geography and Planning
 Appalachian State University
 August 2024 – May 2026

- Conduct quantitative and spatial analyses using large health and hazard datasets
- Support research on climate, disasters, and mental health outcomes
- Perform statistical modeling in R (difference-in-differences, regression, spatial methods)
- Develop GIS workflows and geospatial visualizations
- Contribute to manuscript preparation and revisions

RESEARCH INTERESTS

Climate and health
 Mental health geography
 Disaster impacts and recovery
 Spatial epidemiology
 GIScience
 Quantitative methods

PUBLICATIONS

Blackburn, C., Sugg, M.M., Ryan, S., & Runkle, J.D. (2026).
 Spatial Clustering of Adolescent Substance Use During Heatwaves and
 Coldwaves in North Carolina: A Bernoulli SaTScan Analysis (2008–2022).
Discover Public Health, 23, 462. <https://doi.org/10.1186/s12982-026-01678-8>

Sugg, M., **Blackburn, C.**, Ryan, S., Cardwell, J., Gohlke, J., & Runkle, J. (2025).
 Rural-urban disparities in Helene's disaster assistance in Western North
 Carolina. *Journal of the Appalachian Institute for Health and Wellness*, 5.
<https://jihhs.pubpub.org/pub/t94hm77m>

Blackburn, C., Sugg, M., Gohlke, J., & Runkle, J. (SUBMITTED). Health vulnerability and disaster recovery in Appalachia: Evidence from Hurricane Helene. *Journal of Appalachian Health*.

Blackburn, C., Guignet, D., Warner, J., Ryan, S., Runkle, J. D., & Sugg, M. M. (SUBMITTED). Sequential hurricane–heatwave exposure and acute mental health crisis responses in the southern United States. *GeoHealth*.

Sugg, M. M., **Blackburn, C.**, Guignet, D., Rao, D., & Runkle, J. D. (SUBMITTED). Hurricane Helene and suicide-related crisis help-seeking: An ARIMA interrupted time-series analysis of Crisis Text Line contacts. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*.

Blackburn, C., Guignet, D., Ryan, S., Runkle, J. D., & Sugg, M. M. (SUBMITTED). Recurrent tropical cyclone exposure and mental health-related crisis text conversations. *Environmental Advances*.

Sugg, M. M., **Blackburn, C.**, Runkle, J., Hardison-Moody, A., Grubb, C., & Gohlke, J. (SUBMITTED). Emergency department utilization patterns following Hurricane Helene in rural Appalachian North Carolina: An exploratory multilevel analysis. *Health & Place*.

PRESENTATIONS

Blackburn, C. (October 2025).

Spatial Disparities in Disaster Recovery: Assessing Flood Risk, Resilience, and Federal Aid Distribution in Western North Carolina After Hurricane Helene. North Carolina ArcGIS Users Group (NCAUG) Conference.

POSTERS

Blackburn, C., Sugg, M.M., & Ryan, S. (April 2025).

Spatial Disparities in Disaster Recovery: Assessing Flood Risk, Resilience, and Federal Aid Distribution in Western North Carolina After Tropical Storm Helene. Appalachian State University Student Research Day, Boone, NC
Selected for Graduate Poster Competition (Top 10).

Keefer, Q.G., Sugg, M.M., Ryan, S., & **Blackburn, C.** (April 2025).

Spatial Clustering of Gun Violence During Heatwaves in the United States (2015–2023): A Purely Spatial Bernoulli Analysis. Appalachian State University Undergraduate Research Presentation, Boone, NC.

Best Undergraduate Poster Award.

Blackburn, C., Sugg, M.M., & Ryan, S. (June 2025).

Spatial Clustering of Substance Use During Heatwaves and Coldwaves in North Carolina: A Bernoulli SaTScan Analysis (2008–2022).

Research Symposium: Human and Geographic Dimensions of Extreme Heat and Heat Risk, NSF NCAR Building, Boulder, CO.

Watkins, O., Sugg, M.M., **Blackburn, C.**, & Ryan, S. (October 2025).

Income and Coping: Understanding the Relationship Between Income and Coping Following Hurricane Helene.

Appalachian Translational Research Network (ATRN) Conference, Abingdon, VA.
Best Poster Award.

Blackburn, C., Keefer, Q.G., Sugg, M.M., & Ryan, S. (March 2026).

Compound Stressor Burden and Emergency Department Utilization after Hurricane Helene in Western North Carolina.

New River Symposium, Appalachian State University, Boone, NC.

Keefer, Q., Sugg, M., Ryan, S., & **Blackburn, C.** (April 2026). Post-disaster emergency department utilization among older adults following Hurricane Helene: A multilevel analysis in Western North Carolina.

Best Graduate Poster Award.

AWARDS AND HONORS

NC ArcGIS Scholarship, 2025 (\$3,000)

Domer Research Award, Cratis D. Williams Graduate School Appalachian State University, 2026 (\$1,275)

TECHNICAL SKILLS

ArcGIS Pro

R

SaTScan

Databricks