

Sarah E. Ulrich, M.A.

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Chapel Hill, NC

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EDUCATION

Ph.D., Geography and Environment | The University of North Carolina at Chapel Hill *Anticipated 2028*

M.A., Geography | Appalachian State University *August 2024*
Advisor: Dr. Maggie Sugg
Thesis: *Mental health disparities among maternal populations following heatwave exposure in North Carolina (2011 to 2019)*

B.A., Geography (with Honors) | The University of North Carolina at Chapel Hill *May 2022*
Minors: Urban and Regional Planning, Environmental Justice

EXPERIENCE

Graduate Research Assistant | Carolina Population Center *August 2024-Present*

GeoHealth Intern | NC Department of Health & Human Services, Division of Public Health *2023-2024*

- Lead the development of North Carolina's Climate Health Impacts StoryMap Compendium
- Lead authorship of analytic study examining spatial patterns of flood risk and sociodemographic polarization in North Carolina.

NSF CAREER Graduate Assistant | Appalachian State University *August 2022-Present*

- Develop geospatial mental health research under Dr. Maggie Sugg with NSF CAREER Award funding

Graduate Assistant - GHY3005 Climate & Health | Appalachian State University *Spring 2023*

Research Assistant to Dr. Elizabeth Shay | Appalachian State University *August 2022-August 2023*

- Render intersection models using SketchUp under NCDOT TSAP Project #1: Impacts of CAV-Ready Infrastructure on Vulnerable Road Users

Lab Instructor - GHY 1012 Global Change of the Biosphere | Appalachian State University *Fall 2022*

Community Research Intern | Inter-Faith Food Shuttle *April 2020-January 2021*

- Created map portfolio using ArcGIS Pro highlighting indicators of food security in the nonprofit's service area, intended for use in grant applications

PUBLICATIONS

Ulrich, S.E., Sugg, M.M., Runkle, J.D., and Guignet, D. (2024) "Mental Health Disparities among Maternal Populations Following Heatwave Exposure in North Carolina (2011 to 2019): A Matched Analysis", *The Lancet Regional Health-Americas* <https://doi.org/10.1016/j.lana.2025.100998>

Ulrich, S.E., Sugg, M.M., Hatcher, S.R., and Runkle, J.D. (2024) "Spatial analysis of flood risk, neighborhood characteristics, and chronic health conditions in North Carolina", *GeoHealth* (Under Review)

Ulrich, S.E., Sugg, M.M., Runkle, J.D., Guignet, D., and Fehlman, C.A. (2024) "Spatial Analysis of Environmental and Socioeconomic Factors Impacting Maternal and Infant Health Outcomes in North Carolina", *Journal of Environmental Studies and Sciences* (Under Review)

Ulrich, S.E., Sugg, M.M., Desjardins, M.R., and Runkle, J.D., (2024) "Disparities in Spatial Clustering of Perinatal Mental Health Conditions Before and During the COVID-19 Pandemic", *Health and Place* <https://doi.org/10.1016/j.healthplace.2024.103307>

Ulrich, S.E., Sugg, M.M., Ryan, S.C., and Runkle, J.D., (2023) "Mapping High-Risk Clusters and Identifying Place-Based Risk Factors of Mental Health Burden in Pregnancy", *Social Science and Medicine - Mental Health* <https://doi.org/10.1016/j.ssmmh.2023.100270>

Guignet, Dennis, Margaret Sugg, Caroline Fehlman, **Sarah Ulrich**. 2024. *The Effects of Air Pollution and Climate Change on Maternal and Child Health: A Scoping Study of Underserved Communities and Research Needs*. Alexandria, VA: National Science Foundation. Alexandria, VA: National Science Foundation.

Sugg, M.M., **Ulrich, S.**, Ryan, S., Runkle, J.D., Thompson M. (2024), "Structural Influences on Psychiatric Emergency Department Visits Among Racial and Ethnic Minority Youth in North Carolina: A Neighborhood-Level Analysis" *Health and Place* <https://doi.org/10.1016/j.healthplace.2024.103379>

AWARDS

Graduate Student Scholarship, North Carolina ArcGIS Users Group, Inc., **\$3,000** (2024)

Domer Research Award, Cratis D. Williams Graduate School Appalachian State University, **\$800** (2024)

GeoHealth Intern. National Science Foundation, Directorate of Geosciences. **\$54,965** (2023-2024)

Research/Travel Award, Graduate Student Government Association, **\$500** (2023)

Student and Faculty Excellence Fund (SAFE), "Disparities in Spatial Clustering of Perinatal Mental Health Conditions Before and During the COVID-19 Pandemic," Appalachian State University College of Arts and Sciences, **\$200** (2023)

Jennifer DeHart Scholarship in Geography, Appalachian State University Department of Geography and Planning, (2023)

Stephen S. Birdsall Award for Human Geography, University of North Carolina at Chapel Hill Department of Geography (2022)

PRESENTATIONS & CONFERENCES

Honors Poster Competition Presenter, "Mental Health Disparities among Maternal Populations Following Heatwave Exposure in North Carolina (2011 to 2019): A Matched Analysis," *Southeastern Division of the Association of American Geographers*, Greenville, South Carolina, November 2024

Graduate Scholarship Presenter, "Disparities in the Spatial Clustering of Perinatal Mental Health Conditions Before and During the COVID-19 Pandemic", *North Carolina ArcGIS Users Group Inc. Annual Conference*, Wilmington, NC, September 2024

Invited Speaker, "Mapping Climate, Health, and Environmental Injustice in North Carolina," *Western Carolina University*, Cullowhee, North Carolina, April 2024

Honors Poster Competition Presenter, "Disparities in Spatial Clustering of Perinatal Mental Health Conditions During the COVID-19 Pandemic," *Southeastern Division of the Association of American Geographers*, Norfolk, Virginia, November 2023

Poster Presentation Finalist, "Spatial Analysis of Maternal Mental Health Conditions in North Carolina: A Retrospective Birth Cohort Study," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2023

Student Research Poster Finalist & Presenter, "A Spatial Analysis of Maternal Mental Health Conditions in North Carolina: A Retrospective Birth Cohort Study." *NC BREATHE*, Charlotte, NC. April 2023

DEPARTMENT & COMMUNITY SERVICE

- Graduate Student Representative, UNC-Chapel Hill Department of Geography and Environment Undergraduate Committee

RELEVANT COURSEWORK

- Advanced GIS techniques, including use of ArcGIS Pro and web mapping in HTML
- Advanced quantitative methods and statistical analysis using R and RStudio
- Seminars in GIS application, geography, and planning theory