

Margaret (Maggie) Sugg

Department of Geography and Planning
Appalachian State University
Rankin Science West 359, Boone, NC 28608
Email: kovachmm@appstate.edu

PROFESSIONAL PREPARATION

Ph.D., 2015 Geography, University of North Carolina at Chapel Hill

MA, 2011 Geography, University of North Carolina at Chapel Hill

BS, 2008 Biology, Minors: Chemistry, Geography, University of North Carolina at Chapel Hill

APPOINTMENTS

2021-present **Associate Professor**, Department of Geography and Planning, Appalachian State University, Boone, North Carolina

2015-2021 **Assistant Professor**, Department of Geography and Planning, Appalachian State University, Boone, North Carolina

2014–2015 **Science to Achieve Results Fellow (STAR)** for Graduate Environmental Study in Public Health, Environmental Protection Agency

2009–2014 **Graduate Research Associate**, Southeast Regional Climate Center, University of North Carolina at Chapel Hill

2013–2014 **Graduate Research Assistant**, Carolinas Integrated Sciences and Assessments (CISA), University of South Carolina

2013–2014 **Teaching Fellow**, Department of Geography, University of North Carolina

2012 **Graduate Research Consultant**, University of North Carolina at Chapel Hill

2012 **Geographic Information System Assistant**, University of North Carolina

2010–2011 **Teaching Assistant**, Department of Geography, University of North Carolina

2009 **Climate-Human Health Internship**, National Oceanic and Atmospheric Administration's National Climatic Data Center

2007–2008 **Laboratory Technician**, Department of Psychology, University of North Carolina at Chapel Hill

AWARDS and HONORS

CAREER Award, Faculty Early Career Development Program, National Science Foundation (2021-2026)

Invited Distinguished Lecture Speaker, Directorate for Social, Behavioral, and Economic Sciences (SBE), National Science Foundation (2024)

Emerging Scholar Award, Health and Medical Geography Specialty Group (HMGS), Association of American Geographers (2023-2024)

Distinguished Graduate Faculty Award, Cratis D. Williams School of Graduate Studies, Appalachian State University (2022-2023)

Provost Award, Provost's Award for Excellence in Research, Scholarship and Creative Activity, Appalachian State University (2022)

Invited Panelist, National Academy of Sciences, The Interplay Between Environmental Exposures and Mental Health Outcomes (2021)

Invited Panelist, Howard Hughes Medical Institute, Department of Science Education's Connected Coastlines (2021)

William C. Strickland Outstanding Junior Faculty Award, College of Arts and Sciences, Appalachian State University (2019)

Undergraduate Research Mentorship Excellence Award, Office of Student Research, Appalachian State University (2019)

EPA Science to Achieve Results (STAR) Fellowship Award in Public Health, Environmental Protection Agency (2015)

Climate Specialty Group Student Paper Competition, 1st place, Association of American Geographers, Chicago, IL, (2015)

Graduate Education Advancement Board Impact Award, University of North Carolina at Chapel Hill Graduate School, (2015)

Innovative Use of Geographic Information Systems, 2nd place, University of North Carolina at Chapel Hill, (2014)

Graduate Student Mentoring Award, University of North Carolina at Chapel Hill, Office of Undergraduate Research (2014)

Best Student Poster Presentation, 65th Annual Meeting of the Southeastern Division of the AAG. Birmingham, AL., (2010)

PEER-REVIEWED PUBLICATIONS (*indicates student publication)

106 – peer-reviewed publications;

2 – peer-reviewed publications under review;

1 – peer-reviewed publications submitted

109 peer-reviewed publications

1. Ryan, S.C.*, **Sugg, M.M.**, Schwandt, V., Crespo, S., Lindzey, S. and Runkle, J.D (2026). Temperature Extremes Drive Suicide-Related Help-Seeking Through Multiple Pathways: Evidence from Crisis Hotline Data (2019-2023). *PLOS Mental Health*. (Accepted).
2. Ryan, S.C.*, Bengchi-Sen, S., Karp, D., Thompson, M.T., Runkle, J.D., and **Sugg, M.M.** (2026). Risk of substance use emergency department visits among young people: Effect modification by neighborhood context and COVID-19. *Journal of Community Psychology* (Submitted).
3. **Sugg, M.M.**, Ryan, S.C*, Erb, M., Bigelow, J., Holbein, A., and Runkle, J.D. (2026). The Hidden Crisis: Weather Extremes and Service Utilization Among Unhoused Populations. *Journal of Urban Health*. (Accepted).
4. **Sugg, M.M.**, Keefer, Q.*, Ryan, S., Desjardins, M., & Runkle, J. (2025). Community firearm violence during extreme temperatures in the continental United States: A spatiotemporal epidemiological analysis (2014–2024). *Environmental Challenges*, <https://doi.org/10.1016/j.envc.2025.101377>
5. Ryan, S. C.*, Runkle, J. D., **Sugg, M. M.**, & Thompson, M. P. (2026). Disparities in suicide risk trajectories among youth during the COVID-19 pandemic. *Journal of Research on Adolescence*. <https://doi.org/10.1111/jora.70132>
6. Ryan, S.C.*, **Sugg, M.M.**, Hefner, M., and Runkle, J.D. (2026). Warm season nighttime air temperature exposure and heat-related illness risk: A small area distributed lag non-linear approach in North Carolina, USA. *Population and Environment*. (Revise and Resubmit).

7. **Sugg, M.M.**, Blackburn, C.*, Ryan, S.*, Cardwell, J., Gohlke, J., and Runkle, J. (2026). Rural Disadvantage in FEMA Individual Assistance and Applications: Analyzing Short-Term IHP Disparities After Tropical Storm Helene in Appalachia. *Environmental Hazards*. (Revise and Resubmit).
8. Ryan, S.C.*, Runkle, J.D., Thompson, M., and **Sugg, M.M.** (2026). A quasi-experimental evaluation of mental health distress among transgender and gender nonconforming youth after Hurricane Ian (2022). *Journal of Gay and Lesbian Mental Health*. doi.org/10.1080/19359705.2025.2601174
9. Runkle, J. D., Herbst, K., Ryan, S. C., Thompson, M. P., & Sugg, M. M. (2026). Multiple marginalized identities: Multilevel analysis of COVID-19 impacts on youth mental and behavioral health. *Personalized Medicine in Psychiatry*, 55, 100178. <https://doi.org/10.1016/j.pmp.2026.100178>
10. Ulrich, S*, **Sugg, M.M.**, Hatcher, S., and Runkle, J.D., (2026). Spatial analysis of flood risk, neighborhood characteristics, and chronic health conditions in North Carolina. *GeoHealth*. <https://doi.org/10.1029/2024GH001295>
11. Ulrich, S. E.*, **Sugg, M. M.**, Roy, M., & Runkle, J. D. (2026). Temperature extremes and maternal health: differential risks of severe maternal morbidity during heatwaves and coldwaves in North Carolina. *International Journal of Biometeorology* 70, 45 (2026). <https://doi.org/10.1007/s00484-025-03079-z>
12. Reed, C., Tiger, K., Cawley, M., **Sugg, M.**, & Runkle, J. D (2025). Emergency department use for environmentally sensitive conditions among American Indian children exposed to air pollution and heat. *Environmental Research: Health*. <https://doi.org/10.1088/2752-5309/ae1ce1>
13. Runkle, J. D., Reed, C., Weidner, K., Rothschild, J., Chandrasekhar, T., & **Sugg, M. M.** (2025). Assessing the impact of heatwaves on emergency visits for major depression and suicidal ideation in youth with attention-deficit/hyperactivity disorder. *PLOS Mental Health*. <https://doi.org/10.1371/journal.pmen.0000444>
14. Ulrich, S*, **Sugg, M.M.**, Runkle, J.D, Fehlman, C., and Guignet, D..(2025) Spatial analysis of environmental and socioeconomic factors impacting maternal and infant health outcomes in North Carolina. *Journal of Environmental Studies and Sciences* <https://doi.org/10.1007/s13412-025-01060-1>
15. **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>
16. Witter, R., Woods, C. G., Legerton, M., Emanuel, R. E., White-Williamson, S., Chavis, D., ... & **Sugg, M. M.** (2025). Advancing an Environmental Justice-Centered Approach to Understanding Cumulative Impacts: Community-Engaged Analysis of Industrialized Biogas Development from Rural Eastern North Carolina. *Environmental Justice*. <https://doi.org/10.1089/env.2025.0009>
17. Runkle, J., Herbst, K., Ryan, S., Sewell, K., Mallare, A.*, Berry, I.*, ... & **Sugg, M.M** (2025) Eco-Anxiety, Climate Concern, and Fatalistic Outlooks: Insights from US Crisis Text Conversations on Climate Distress. *The Journal of Climate Change and Health*. <https://doi.org/10.1016/j.joclim.2025.100419>

18. Runkle, J., & **Sugg, M.M.**, (2025). Rebuilding Maternal Health Access in Western North Carolina: Addressing Critical Gaps Amplified by Hurricane Helene. *North Carolina Medical Journal*, 86(1). <https://doi.org/10.18043/001c.137497>
19. **Sugg, M.M.**, Ryan, S.C., H. Rankins*, Ulrich, S.E.*, & Runkle, J., D (2025). "Spatial Inequities in Greenspace: A Spatial Durbin Model Analyzing SocioDemographic Factors, Heat Risk, and Neighborhood Effects" *GeoJournal* <https://doi.org/10.1007/s10708-025-11328-2>
20. **Sugg, M.M.**, Shakya, S., Ulrich, S.*, Tyson, J., and Runkle, J.D., (2025), "Mapping Maternity Care Deserts: Driving Distance and Health Outcomes in North Carolina" *Journal of Rural Health*. <https://doi.org/10.1111/jrh.70020>
21. Ryan, S. *, Wertis, L. *, **Sugg, M.M.**, and Runkle J.D. (2025), "A Distributed Lag Non-linear Model of Acute Exposure to Extreme Cold and Hot Temperatures and Risk of Mood Behavioral Disorders in North Carolina" *International Journal of Biometeorology*. <https://doi.org/10.1007/s00484-025-02858-y>
22. Ulrich, S*., **Sugg, M.M.**, Guignet, D., and Runkle, J.D., (2025). Mental Health Disparities among Maternal Populations Following Heatwave Exposure in North Carolina (2011 to 2019) *Lancet - Americas* <https://doi.org/10.1016/j.lana.2025.100998>
23. Fehlman, C.A.* , Ryan, S.C.* , Lysne, K.G.* , Rundgren, Q.M.* , Spurlock, T.J.* , Orbison, R.O.* , Runkle, J.D., and **M.M. Sugg**. (2025). The Societal Impacts of Compounding Climate Events: A Scoping Review of Methods, Gaps, and Recommendations. *Discover Environmental*. <https://doi.org/10.1007/s44274-025-00185-y>
24. Spurlock, T.* , Guignet, D., Runkle, J., & **Sugg, M.M.** (2025). Examining Hurricane Exposure on Neonatal Outcomes in North Carolina: A Case Study of Hurricane Isabel in 2003. *International Journal of Disaster Risk Reduction*. <https://doi.org/10.1016/j.ijdr.2024.105075>
25. Lucero, C.* , **Sugg, M.M.**, Ryan, S., Runkle, J., & Thompson, M. (2024). Spatiotemporal patterns of youth isolation and loneliness in the US: A geospatial analysis of Crisis Text Line data (2016-2022). *GeoJournal*. <https://doi.org/10.1007/s10708-024-11253-w>
26. **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>
27. Tyson, J. S., Scalise, D., Hege, A., **Sugg, M.M.**, & Roy, M. (2024). Public Health Policy that Leads with Equity in Rural Appalachia: Recommendations to Confirm Vaccination Status in an Equitable Manner. *Disaster medicine and public health preparedness*, 18, e284. <https://doi.org/10.1017/dmp.2024.277>
28. 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 & Place*. <https://doi.org/10.1016/j.healthplace.2024.103307>

29. Runkle, J.D., Wertis, L. *, Reed, C., Ryan, S. *, Berry, A., and **Sugg, M.M.** (2024), "Prenatal Psychiatric Emergency Visits Attributable to Warm Ambient Temperature: A time-stratified case-crossover study" *Environmental Health Perspectives*. <https://doi.org/10.1289/EHP13293>
30. Herbst, K. *, Malmin, N., Paul, S., Williamson, T., **Sugg, M.M.**, Schreck C., and Runkle, J.D. (2024), "Examining recurrent hurricane exposure and psychiatric morbidity in Medicaid-insured pregnant populations" *Plos One Mental Health*. <https://doi.org/10.1371/journal.pmen.0000040>
31. Ryan, S.,* Wertis, L., Runkle, J.D., and **Sugg, M.M.** (2024), "Place-based differences in the association between greenspace and suicide-related outcomes among young people," *Journal of Adolescent Health*. <https://doi.org/10.1016/j.jadohealth.2024.03.014>
32. Williamson, T., **Sugg, M.M.**, Singh, D., Green, S., & Runkle, J. D. (2024). Crisis response in Texas youth impacted by Hurricane Harvey: A difference-in-differences analysis. *Journal of Affective Disorders*. <https://doi.org/10.1016/j.jad.2024.05.080>
33. Ryan, S.,* **Sugg, M.M.**, Runkle, J.D., and Thapa, B. (2024), "Advancing Understanding on Greenspace and Mental Health in Young People," *GeoHealth*. <https://doi.org/10.1029/2023GH000959>
34. Ryan, S. *, **Sugg, M.M.**, J.D., Runkle, L. Wertis*, D. Singh, and S. Greene (2024), "Short-term changes in mental health help-seeking behaviors following exposure to multiple social stressors and a natural disaster" *Social Science and Medicine*. <https://doi.org/10.1016/j.socscimed.2024.116843>
35. Sewell, K. *, Paul, S., De Polt, K., **Sugg, M. M.**, Leeper, R. D., Rao, D., & Runkle, J. D. (2024). Impacts of compounding drought and heatwave events on child mental health: insights from a spatial clustering analysis. *Discover Mental Health*, 4(1), 1. <https://doi.org/10.1007/s44192-023-00055-0>
36. Duncan, S., Reed, C., Spurlock, T.*, **Sugg, M.M.**, and Runkle, J.D. (2023), "Acute Health Effects of Wildfire Smoke Exposure During a Compound Event: A Case-Crossover Study of the 2016 Great Smoky Mountain Wildfires" *GeoHealth*. <https://doi.org/10.1029/2023GH000860>
37. Wertis, L.,* **Sugg, M.M.**, J.D. Runkle, and Rao, Y., (2023), "Socio-environmental Determinants of Mental and Behavioral Disorders in Youth: A Machine Learning Approach" *GeoHealth*. <https://doi.org/10.1029/2023GH000839>
38. Ulrich, S.,* **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>
39. Ryan, S*, Desjardins M., Runkle, J.D., Wertis, L*, **M M. Sugg**, (2023) "Evaluating Co-Occurring Space-Time Clusters of Depression and Suicide-Related Outcomes Before and During the COVID-19 Pandemic" *Spatial and Spatio-Temporal Epidemiology*. <https://doi.org/10.1016/j.sste.2023.100607>.
40. **Sugg, M.M.**, Runkle J.D., Ryan, S. *, and Wertis, L. *, (2023) "The Causal Effects of Maternal Health and Extreme Disasters: A Difference-In Difference Analysis of the South Carolina 2015 Floods" *International Journal of Disaster Risk Reduction*. <https://doi.org/10.1016/j.ijdr.2023.104037>

41. Spurlock*, T., Sewell, K*, **Sugg, M.M.**, Runkle, J.D., Mercado-Fernandez, R., Russell, J., and Tyson, J., (2023), "A Spatial Analysis of Power-Dependent Medical Equipment and Extreme Weather Risk in the Southeastern United States.", *International Journal of Disaster Risk Reduction*.
<https://doi.org/10.1016/j.ijdrr.2023.103844>
42. **Sugg, M.M.**, Ryan, S.*, Spurlock, T.,* et al.,(2023). Climate Change and Health in Rural Mountain Environments: Summary of a Workshop on Knowledge Gaps, Barriers, and Opportunities for Action. *GeoJournal*. <https://doi.org/10.1007/s10708-023-10916-4>
43. Ryan, S.*, **Sugg, M.M.**, and J.D., Runkle (2023), "Association between urban greenspace, tree canopy cover, and intentional deaths: An exploratory geospatial analysis" *Urban Forestry and Urban Greening*.
<https://doi.org/10.1016/j.ufug.2023.128015>
44. **Sugg, M.M.**, Wertis, L.* Ryan, S.*, Green, S., Singh, D., and J.D Runkle, (2023). Cascading Disasters and Mental Health: The February 2021 Winter Storm and Power Crisis in Texas, USA. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2023.163231>
45. Minor, T.*, **Sugg, M.M.**, Runkle J.D., (2023). "Examining the Mental Health and Temperature Relationship in North Carolina" *International Journal of Biometeorology*. <https://doi.org/10.1007/s00484-023-02436-0>
46. Wertis, L.*, Runkle, J., **Sugg, M.** and Singh, D., (2023). "Examining Hurricane Ida's Impact on Mental Health: Results from a Quasi-Experimental Analysis" *GeoHealth* <https://doi.org/10.1029/2022GH000707>
47. Runkle, J.D., K. Risley., Roy, M., and **Sugg, M.M.**, (2023) "Association between perinatal mental health and reproductive and neonatal complications: a retrospective birth cohort study" *Women's Health Issues*.
<https://doi.org/10.1016/j.whi.2022.12.001>
48. **Sugg, M.M.**, Runkle J.D., Ryan, S.*, Singh, D., Green, S., and Thompson, M., (2023) "A follow-up retrospective analysis of essential workers and their children throughout the COVID-19 pandemic: 2020 - 2021" *Public Health Reports* <https://doi.org/10.1177/00333549221148177>
49. Ryan, S*, **M M. Sugg**, J.D. Runkle and Matthews, J., (2023) "Ecological analysis of greenspace and mental health in North Carolina: Consideration of rural and urban neighborhoods" *Family and Community Health*. 46(3), 181-191.<https://doi.org/10.1097/FCH.0000000000000363>
50. **Sugg, M.M.**, Runkle J.D., Andersen, L.M., and Desjardins M., (2023) "Exploring Place-Based Differences in Suicide and Suicide-Related Outcomes among North Carolina Adolescents and Young Adults," *Journal of Adolescent Health*. <https://doi.org/10.1016/j.jadohealth.2022.06.013>
51. Ryan, S.*, Runkle, J., Andersen, L.M., **Sugg, M.M.** (2022) "Spatial analysis of mental health and completed suicide clustering among older adults in North Carolina: An exploratory analysis," *Social Science and Medicine - Mental Health* <https://doi.org/10.1016/j.ssmmh.2022.100162>

52. Ryan, S*, J.D. Runkle, **M M. Sugg**, D. Singh, S. Green, and L. Wertis.*, (2022) "Spatio-temporal clustering of adolescent bereavement in the United States during the extended response to COVID-19: A follow-up study" *Journal of Adolescent Health* <https://doi.org/10.1016/j.jadohealth.2022.08.021>
53. Lane, S. J., Spaulding, T. J., Hege, A., & **Sugg, M.M** (2022). Self-reported resilience of North Carolina long-term care organizations and public health agencies in the midst of the COVID-19 pandemic. *International Journal of Disaster Risk Reduction*, <https://doi.org/10.1016/j.ijdr.2022.103371>
54. **Sugg, M.M.**, Andersen, L.M., and Runkle J.D., (2022) "Trends in Spatial Disparities and Inequalities in Life Expectancy" *North Carolina Medical Journal*. 83 (5) 325-326; <https://doi.org/10.18043/ncm.83.5.325>.
55. Evans, S.G., Haberg, J.H., Crump, S.E., Raynolds, M.K., **Sugg, M.M.**, Brodie A.R.*, Miller, G.E., (2022) Control of short-stature vegetation type on shallow ground temperatures in permafrost across the eastern Canadian Arctic, *Journal of Geophysical Research: Biogeosciences* <https://doi.org/10.1029/2022JG006941>
56. **Sugg, M.M.**, Runkle J.D., Dow, K., Barnes, J., Stevens, S., Pearce, J., Bossak., B., and Curtis, S., (2022) "Individual Experienced Heat Index in a Coastal Southeastern US City among an Occupationally Exposed Population," *International Journal of Biometeorology*. <https://doi.org/10.1007/s00484-022-02309-y>
57. Thompson, M.P., **Sugg, M.M.**, Runkle J.D., (2022) "Adverse Childhood Experiences and their Impact on Suicidal Behaviors," *Journal of the Blue Cross Blue Shield North Carolina Institute for Health and Human Services: Adverse Childhood Experiences*. <https://issuu.com/appalachianstateuniversity/docs/ihhs-vol2final>
58. Hass, AL., McCanless, K.,* Cooper, W.*, Ellis, K., Fuhrmann, CM., Kintziger KW., **Sugg MM.**, and Runkle JD., "Heat Exposure Misclassification: Do current methods of classifying diurnal range in individually experienced temperatures and heat indices accurately reflect personal exposure?" *International Journal of Biometeorology*. <https://doi.org/10.1007/s00484-022-02280-8>
59. Runkle, J., Harden, S*. Handwerger, L*, Moreno, C.*, Michael, K. and **Sugg, M.M.**, (2022). "Socio-environmental drivers of adolescent suicide in the United States: A Scoping Review," *Journal of Rural Mental Health*. <https://doi.org/10.1037/rmh0000208>.
60. Lane, S. **Sugg, M**, Spaulding, T, Hege, A, Iyer, L. (2022) "Southeastern US Predictors of COVID-19 in Nursing Homes During Three Different Time Periods," *Journal of Applied Gerontology*. <https://doi.org/10.1177/07334648221082022>.
61. Moreno, C.*, Sugg, J., Runkle, J., Leeper, R., Perry, B., and **Sugg, M.M** (2022). "Examining Spatiotemporal Trends of Drought in The Conterminous United States Using Self-Organizing Maps." *Physical Geographer* <https://doi.org/10.1080/02723646.2022.2035891>
62. Harden, S.*, Runkle, J., **Sugg, M.M.** (2022). "The Impact of Environmental and Social Characteristics on Severe Maternal Morbidity: A Spatiotemporal Analysis in South Carolina," *Maternal and Child Health Journal*. <https://doi.org/10.1007/s10995-021-03330-0>

63. Mitchell, J.*, Runkle, J., Andersen, L., Shay, E. **Sugg, M.M.** (2022) "Health Disparities in Life Expectancy across North Carolina: A Spatial Analysis of the Social Determinants of Health and the Index of Concentration at Extremes," *Family and Community Health*.
<https://doi.org/10.1097/FCH.0000000000000318>.
64. Runkle, JD., JL. Matthews, L Sparks*, L McNicholas*, and **Sugg, M.M.** (2022) "Racial and ethnic disparities in pregnancy complications and the protective role of greenspace: A retrospective birth cohort study." *Science of the Total Environment* <https://doi.org/10.1016/j.scitotenv.2021.152145>
65. **Sugg, M.M.**, J.D. Runkle, Hajnos, S*, Green, S. and Michael, K., (2022) "Understanding the Concurrent Risk of Mental Health and Dangerous Wildfire Events in the COVID-19 Pandemic." *Science of the Total Environment* 806, 150391. <https://doi.org/10.1016/j.scitotenv.2021.150391>
66. Hege, A, Lane, S., Spaulding, T, **Sugg, M.M.**, Iyer, L (2022) "County-Level Social Determinants of Health and COVID-19 in Nursing Homes, United States, June 1, 2020–January 31, 2021" *Public Health Reports*.
<https://doi.org/10.1177/00333549211053666>
67. Runkle, J., Yadav, S.*, Michael, K., Green, S., Weiser, J., **Sugg, M.M.** (2022) "Crisis Response and Suicidal Patterns in U.S. Youth before and during COVID-19: A latent class analysis." *Journal of Adolescent Health*. 70(1), 48-56.<https://doi.org/10.1016/j.jadohealth.2021.10.003>
68. **Sugg, M.M.**, Runkle, J., Andersen, L, Weiser, J and Michael, K. (2021). "Crisis Response Among Essential Workers and their Children during the COVID-19 pandemic," *Preventive Medicine*.
<https://doi.org/10.1016/j.ypmed.2021.106852>
69. Runkle, J.D., **Sugg, M.M.**, Yadav, S. *, Harden, S. *, Weiser J., and Michael, K. (2021). Real-time Mental Health Crisis Response in the US to COVID-19: Insights from a National Text-based Platform. *The Journal of Crisis Intervention and Suicide Prevention*. <https://doi.org/10.1027/0227-5910/a000826>
70. Handwerger, L.,* **Sugg, M.M.**, and J.D Runkle (2021). "Present and Future Sea-level Rise at the Intersection of Race and Poverty in the Carolinas: A geospatial analysis" *The Journal of Climate Change and Health*. <https://doi.org/10.1016/j.joclim.2021.100028>
71. Harden, S.*, Runkle, J. Green, S. Weiser J., **Sugg, M.M.** (2021) "Spatial Clustering of Adolescent Bereavement in the U.S. During the COVID-19 Pandemic," *Journal of Adolescent Health*.
<https://doi.org/10.1016/j.jadohealth.2021.04.035>
72. Haas, A., Runkle, J., **Sugg, M.M.**, (2021), " The driving influences of human perception to extreme heat: A scoping review," *Environmental Research*. 111173. <https://doi.org/10.1016/j.envres.2021.111173>
73. Runkle, J.D., **Sugg, M.M.**, McCrory, S*, and Coulson, C,. (2021). "Examining the Feasibility of Blood Pressure Self-Monitoring: Advancing Remote Prenatal Care in Rural Appalachia," *Telemedicine and E-Health*, 2(1), 125-134. <https://doi.org/10.1089/tmr.2020.0021>
74. **Sugg, M.M.**, Andersen L., Shay, E., Tyson, J and Runkle, J., (2021) "Climate, Environment, and Public Health in Western North Carolina." *Sustainable Health*. <https://ihhs.appstate.edu/about/institute-journal>

75. Runkle, J.D., **Sugg, M.M.**, March, T., Vaughan E., Mullendore, J. Hodge, B., Tove, F., Salyers, M., Valeika, S., Graham, G., (2021). Participatory COVID-19 Disease Surveillance Tool in Rural Appalachia: Innovating Real-time Disease Monitoring and Regional Response. *Public Health Reports*. <https://doi.org/10.1177/0033354921990372>
76. **Sugg, M.M.**, Spaulding, T., Lane, S., Runkle, J., Harden, S*, Hege, A., Iyer, L., (2021) Mapping Community-Level Determinants of COVID-19 Transmission in Nursing Homes: A multi-scale approach. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2020.141946>
77. Andersen, L., Harden, S.* , **Sugg, M.M.**, Runkle, J. and Lundquist, T.* (2021). Analyzing the Spatial Determinants of Local Covid-19 Transmission In The United States. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2020.142396>
78. Runkle, JD, Michael, K, Stevens, S., and **Sugg, M.M** (2021). Quasi-Experimental Evaluation of Text-based Crisis Patterns in Youth following Hurricane Florence in the Carolinas, 2018. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2020.141702>
79. **Sugg, M.M.**, Woolard, S.* , Lawrimore, M.* , Michael, K., and Runkle, J. (2020) "Spatial Clustering of Suicides and Neighborhood Determinants in North Carolina, 2000 to 2017" *Applied Spatial Analysis and Policy*. <https://doi.org/10.1007/s12061-020-09364-1>
80. **Sugg, M.M.**, Runkle, J.D., Leeper, R., Bagli, H.* , Golden, A.* , Handwerger L.* , Magee, T.* , Moreno, C.* , Reed-Kelley, R.* Taylor, S.* , Woolard, S.* , (2020) "A Scoping Review of Drought Impacts on Health and Society in North America." *Climatic Change*. <https://doi.org/10.1007/s10584-020-02848-6>
81. Byrd, B., Richards, S., Runkle, J, and **Sugg, M.M.**, (2020) Vector-borne Diseases and Climate Change: North Carolina Policy Should Promote Resilience at Regional Scale. *North Carolina Medical Journal*. 81:324-330; <https://doi.org/10.18043/ncm.81.5.324>
82. Runkle, JD, **Sugg, M.M**, Ronald D. Leeper, Yuhan Rao, Jessica L Matthews, Jared J Rennie (2020). Short-term Effects of Specific Humidity and Temperature on COVID-19 Morbidity in select US cities. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2020.140093>
83. Nelson, K.* , J. D, Runkle, **Sugg, M.M.** (2020). Reporting back environmental health data among outdoor occupational workers in the cold season in North Carolina, USA. *Southeastern Geographer*, 60(2), 159-182. <https://doi:10.1353/sgo.2020.0013>
84. **Sugg, M. M.**, Fuhrmann, C. M., & Runkle, J. D. (2020). Geospatial Approaches to Measuring Personal Heat Exposure and Related Health Effects in Urban Settings. In *Geospatial Technologies for Urban Health* (pp. 13-30). Springer, Cham. https://doi.org/10.1007/978-3-030-19573-1_2
85. Wilson, M*, Lane, S, Mohan, R., and **Sugg, M.M** (2020). Internal and External Validation of Vulnerability Indices: A Case Study of the Multivariate Nursing Home Vulnerability Index. *Natural Hazards*. 1-24. <https://doi.org/10.1007/s11069-019-03837-4>

86. Bailey, E*, Fuhrmann, C., Runkle, J, Stevens, S, Brown, M., and **M. Sugg**. (2020). Wearable Sensors for Personal Temperature Exposure Assessments: A Comparative Study. *Environmental Research*, 180, 108858. <https://doi.org/10.1016/j.envres.2019.108858>
87. Osborne, Z.*, S. van de Gevel, M. Eck*, and **Sugg, M. M.** (2020). An Assessment of Geospatial Technology Integration in K-12 Education. *Journal of Geography*. <https://doi.org/10.1080/00221341.2019.1640271>
88. **Sugg, M.M.**, Fuhrmann, C.M, and J.D. Runkle. (2020). Perceptions and experiences of outdoor occupational workers using digital devices for geospatial biometeorological monitoring. *International Journal of Biometeorology*. <https://doi.org/10.1007/s00484-019-01833-8>
89. **Sugg, M.M.**, Michael, K. Stevens, S. Filbin, B., Weiser, J., and J. Runkle (2019). Crisis Events in Youth Following Celebrity Suicides and the Release of 13 Reasons Why Season 2: A Case Study of Summer 2018. *Preventative Medicine Reports* <https://doi.org/10.1016/j.pmedr.2019.100999>
90. Runkle, J.D., Cui, C.*, Fuhrmann. C.M., Stevens, S, Del Pinal, J. and **Sugg, M.M.** (2019) Evaluation of Wearable Sensors for Physiologic Monitoring of Individually Experienced Temperatures in Outdoor Workers in Southeastern US *Environmental International* <https://doi.org/10.1016/j.envint.2019.05.026>
91. Thompson, K., **Sugg, M. M.**, & Barth, M. (2019). The North Carolina Food Pantry Organizational Capability and Mapping Study. *Journal of Agriculture, Food Systems, and Community Development*, 9(1), 1-13. <https://doi.org/10.5304/jafscd.2019.091.031>
92. **Sugg, M. M.**, Stevens, S. S., & Runkle, J. D. (2019). Estimating Personal Ambient Temperature in Moderately Cold Environments for Occupationally Exposed Populations. *Environmental Research*. <https://doi.org/10.1016/j.envres.2019.03.066>
93. Andersen, L.M.*, and **M.M. Sugg** (2019). Geographic Multi-Criteria Evaluation and Validation: A Case Study of Wildfire Vulnerability in Western North Carolina, USA Following the 2016 Wildfires. *International Journal of Disaster Risk Reduction*. <https://doi.org/10.1016/j.ijdrr.2019.101123>
94. **Sugg, M.M.**, P. Grady Dixon, and J. Runkle (2019). Crisis Support-Seeking Behavior and Temperature in the United States: Is there an Association in Young Adults and Adolescents? *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2019.02.434>
95. Wilson, M.*, **M.M. Sugg** and S. Lane (2019). Identifying Multivariate Vulnerability of Nursing Home Facilities throughout the Southeastern United States. *International Journal of Disaster Risk Reduction*. <https://doi.org/10.1016/j.ijdrr.2019.101106>
96. Thompson, L.C.*, Michael, K., Runkle, J.D., and **M.M. Sugg**. (2019). Crisis Text Line Use Following the Release of Netflix Series 13 Reasons Why Season 1: Time Series Analysis of Help-Seeking Behavior in Youth. *Preventative Medicine Reports*, <https://doi.org/10.1016/j.pmedr.2019.100825>

97. Runkle, J.D., **Sugg, M.M.**, Boase, D.*, Galvin, and S., Coulson, C. (2019) Use of Wearable Sensors for Pregnancy Health and Environmental Monitoring: Descriptive Findings from the Perspective of Patients and Providers. *Digital Health*. <https://doi.org/10.1177/2055207619828220>
98. Andersen, L. M.*, Bonevac, A. N.*, Thompson, L. K.*, Dempsey, K. E., Shay, E. D., & **Sugg, M. M.** (2019). Understanding Key Informant Experiences and Perceptions of the 2016 Drought and Wildfires in Western North Carolina, USA. *Weather, Climate, and Society* <https://doi.org/10.1175/WCAS-D-18-0061.1>
99. Thompson, L.C.*, **Sugg, M.M.**, Runkle, J.D. (2018) Adolescents in Crisis: A Geographic Exploration of Help-Seeking Behavior Using Data from Crisis Text Line, *Social & Scientific Medicine*, 215, 69-79. <https://doi.org/10.1016/j.socscimed.2018.08.025>
100. **Sugg, M. M.**, (2018). Heat-Health Vulnerability in North Carolina. *North Carolina Medical Journal*, 79:320-321; <https://doi.org/10.18043/ncm.79.5.320>
101. **Sugg, M. M.**, Fuhrmann, C. M., & Runkle, J. D. (2018). Temporal and spatial variation in personal ambient temperatures for outdoor working populations in the southeastern USA. *International Journal of Biometeorology*, 1-14. <https://doi.org/10.1007/s00484-018-1553-z>
102. Thompson, L.C.*, **Sugg, M.M.**, and Runkle, J. D. (2018). Report-Back for Geo-referenced Environmental Data: A Case Study on Personal Monitoring of Temperature in Outdoor Workers. *Geospatial Health*, 13(1). DOI <https://doi.org/10.4081/gh.2018.629>
103. Fuhrmann, C. M., **Sugg, M. M.**, and Konrad, C. E. (2016). Airborne Pollen Characteristics and the Influence of Temperature and Precipitation in Raleigh, North Carolina, USA (1999-2012). *Aerobiologia*. 32(4), 683-696. <https://doi.org/10.1007/s10453-016-9442-6>
104. **Sugg, M.M.**, Konrad C.E., and Fuhrmann, C.M. (2016). Relationships between Maximum Temperature and Heat-Related Illness across North Carolina, USA. *International Journal of Biometeorology*, 1-13. <https://doi.org/10.1007/s00484-015-1060-4>
105. Fuhrmann, C. M., **Sugg, M. M.**, Konrad, C. E., and Waller, A. (2016). Impact of Extreme Heat Events on Emergency Department Visits in North Carolina (2007 to 2011). *Journal of Community Health*, 1-11. <https://doi.org/10.1007/s10900-015-0080-7>
106. **Kovach, M.M.**, Konrad C.E., and Fuhrmann, C.M. (2015). Area-level Risk Factors for Heat-Related Illness in Rural and Urban Locations across North Carolina, USA. *Applied Geography*, 60, 175-183. <https://doi.org/10.1016/j.apgeog.2015.03.012>
107. **Kovach, M. M.**, and C. E. Konrad (2014). The Spatial Distribution of Tornadoes and High Wind Impacts Associated with Inland-Moving Tropical Cyclones in the Southeastern United States. *Physical Geography*, 35, 245-271. <https://doi.org/10.1080/02723646.2014.909231>
108. Fuhrmann, C. M., Konrad, C. E., **Kovach, M. M.**, McLeod, J.T., Schmitz, W. G., and Dixon, P. G. (2014). Ranking of Tornado Outbreaks across the United States and their Climatological Characteristics. *Weather and Forecasting*, 29, 684-701. <https://doi.org/10.1175/WAF-D-13-00128.1>

109. Fuhrmann, C.M., Konrad C.E., **Kovach, M.M.**, Perkins, D.J. (2011). The August 2007 Heat Wave in North Carolina: Meteorological Factors and Local Variability. *Physical Geography*, 32, 217-240. <https://doi.org/10.2747/0272-3646.32.3.217>

GRANTS and FELLOWSHIPS (External)

- National Institute of Nursing Research, *Supporting flood recovery in rural, mountainous areas through health systems knowledge exchange and fine-scale healthcare utilization data analysis*. PI: Dr. Julia Gohlke, co-I: Dr. Maggie Sugg, Benjamin Zaitchik, Soghra Jarvandi **\$791,037** (2025-2026)
- National Science Foundation, Research, Innovation, Synergies and Education, *C2H2 RCN Collaborative Research: Appalachia Flood-Health Resilience Research Coordination Network*, **\$500,000**. PI: Maggie Sugg and Jennifer Runkle (2025-2030)
- National Academy of Science, Engineering and Medicine (NASEM)'s Gulf Research Program, *Assessing Mental Health Disparities in At-Risk Youth After Climate Disasters in Louisiana, USA*, **\$1,000,000** PI: Maggie Sugg, Jennifer Runkle co-I: American Foundation for Suicide Prevention and VIALINK (2024-2027)
- National Science Foundation, Human-Environmental and Geographical Sciences (HEGS) & Human Networks and Data Science (HNDS) *Mental Health Implications of Compounding Climate Events on Youth Populations*, **\$525,764** PI: Maggie Sugg and Jennifer Runkle, co-I: Dennis Guignet, Douglas Rao, Elizabeth Olsen (2024-2027)
- Public Health AmeriCorps program grant, *AppState Public Health Program*. **\$303,380** (2025-2026). PI: Jennifer Tyson co-I: Dr. Manan Roy, Dr. Adam Hege, Dr. Marite Thompson, Dr. Maggie Sugg
- NC Collaboratory at UNC-Chapel Hill, *Understanding and Addressing Opioid Remediation Activities in Three Appalachian Counties in Western North Carolina*, PI: Adam Hege and Martie Thompson, co-I: Maggie Sugg, Chris Quattro, Ben Alexander-Eitzman **\$198,000** (2024-2025)
- North Carolina Department of Health and Human Services, *Appalachian MRC Strong*, PI: Jennifer Tyson, co-I: Martie Thompson, Maggie Sugg **\$312,939** (2024-2026)
- Natural Hazards Center, *Mental Health of Community Volunteers in the Aftermath of Hurricane Helene*, PI: Sophie Ryan, co-I: Maggie Sugg, Jennifer Tyson **\$50,000** (2025)
- National Science Foundation and Environmental Protection Agency Equity Program Phase I, *The Effects of Toxic Air Pollution and Climate Change on Maternal and Child Health: A Scoping Study of Underserved Communities and Research Needs*. PI: Dr. Dennis Guignet, co-PI: Dr. Maggie Sugg **\$70,000** (2023-2024).
- National Institute of General Medical Sciences, *Impacts of Social Determinants of Health and COVID-19 Pandemic Factors on Suicide Risk among Youth*. PI: Dr. Martie Thompson, co-I: Dr. Maggie Sugg, Dr. Manan Roy, Dr. Jennifer Runkle. **\$529,637** (2023-2027).
- National Science Foundation, Directorate of Geosciences, *GeoHealth Intern*. PI: Dr. Maggie Sugg. **\$54,965** (2023 – 2024).
- National Institute of Environmental Health Science, *Impact of prenatal exposure to climate stressors and severe maternal morbidity: a retrospective birth cohort study*. PI: Dr. Jen Runkle, co-Investigator: Dr. Maggie Sugg **\$168,030** (2023-2025)
- National Institute of Environmental Health Sciences, *Climate Change Impacts on Maternal Health in a Southern Birth Cohort: A Causal Analysis*. **\$152,478** (2022-2024). PI(s); Dr. Jen Runkle & Dr. Maggie Sugg
- National Institute of Environmental Health Sciences, *A Causal Analysis of the Complex Mental Health Impacts of the Climate Crisis in Young People*. (2022-2025). PI(s); Dr. Jen Runkle & Dr. Maggie Sugg, Investigator: Dr. Kurt Michael **\$413,597**
- National Science Foundation, Human-Environmental and Geographical Sciences (HEGS), *CAREER: The Geography of Mental Health: Understanding contextual, compositional, and external stressors*. **\$413,769**

(2021 – 2026). PI: Dr. Maggie Sugg

- Public Health AmeriCorps program grant, *AppState Public Health Program*. **\$1,038,630** (2022-2025). PI: Jennifer Tyson co-I: Dr. Manan Roy, Dr. Adam Hege, Dr. Martie Thompson, Dr. Maggie Sugg
- American Foundation for Suicide Prevention, *Suicide, Suicide Attempts, and Help-Seeking: A Spatiotemporal Analysis of Potential Risk Factors for Identification of Vulnerable Locations and Populations in North Carolina*. **\$99,990** (2020-2022), PI(s): Dr. Jennifer Runkle & Dr. Maggie Sugg; (co-I) Dr. Kurt Michael
- National Hazards Center, Working Group for Public Health and Social Sciences Research. Supported by the National Science Foundation-funded Social Science Extreme Events Research (LukSEER) network and the CONVERGE facility at the Natural Hazards Center at the University of Colorado Boulder. Appalachian Regional COVID-19 Collaborative **\$1,000** (2020). Co-PI: Dr. Jennifer Runkle.
- Oak Ridge Associated Universities, Event Grant, *Early Career Faculty Collaboration on Wearable Sensors for Individual Temperature Monitoring in the Southeastern US* **\$4,000** (2020). Co-PI: Dr. Maggie Sugg, Dr. Jennifer Runkle, Dr. Christopher Fuhrmann, Dr. Kelsey Ellis, Dr. Alisa Hass.
- North Carolina Occupational Safety and Health Pilot Project, University of North Carolina Gillings School of Public Health, *Continuous Monitoring of Individual Exposure to Cold Work Environments*, **\$10,000** (2018). Co-PI: Dr. Maggie Sugg, Dr. Jennifer Runkle, Laura Thompson
- National Institute of Occupational Safety and Health Pilot Project, Sunshine Education and Research Center, *Continuous Monitoring of Individual Exposure to Cold Work Environments*, **\$13,497** (2016 –2018). Co-PI: Dr. Maggie Sugg and Dr. Jennifer Runkle
- Oak Ridge Associated Universities, Research, and Development Grant, *Developing a Novel Early Warning System Using Individually Experienced Temperature in Outdoor Workers: A Sensor-based Approach*, **\$456.66** (2018). Co-PI: Dr. Jennifer Runkle and Dr. Maggie Sugg
- Oak Ridge Associated Universities, Travel Grant, *Pilot Funds for Collaboration at North Carolina State University*, **\$800** (2016). PI: Dr. Maggie Sugg
- AAG Research Grant, Association of American Geographers, *A Multiscale Approach to Assessing Heat-Health Vulnerability*. **\$500** (2016). PI: Dr. Maggie Sugg
- Grant, Southeast Regional Climate Center (SERCC) and Carolina Integrated Science Assessment (CISA), *Development of Heat-Health Vulnerability Tool*. **\$10,355** (2016). PI: Dr. Maggie Sugg
- Science to Achieve Results Fellowships (STAR) for Graduate Environmental Study, Environmental Protection Agency, and Category: Human Health Risk Assessment: Public Health (No. F13D10708), *Identifying Climate Thresholds for Heat-related Illness in North Carolina*. **\$84,000** (2014-2016). PI: Dr. Maggie Sugg
- Doctoral Dissertation Research Improvement Grant (DDR), National Science Foundation, and Category: Geography and Spatial Science (No. 1434202), *Identifying Climate Thresholds for Heat-related Illness in North Carolina*, **\$10,603** PI(s): Dr. Charles E. Konrad and Dr. Maggie Sugg (2014 –2015).
- North Carolina ArcGIS User Group, Student Scholarship, *Using GIS to Evaluate Tornado Vulnerability*, **\$500** (2012).

GRANTS and FELLOWSHIPS (Internal)

- Chancellor's Innovation Scholars Program*, "Private Wells and Human Health: Building Resilience in Rural Communities of Western North Carolina," Appalachian State University, **\$24,674** (2025-2026). [Co-PI(s): Denny Guiget, Jennifer Tyson]
- Undergraduate Research Assistantship Awards*, "Hurricane Helene Data Analysis," Office of Student Research, Appalachian State University, **\$1,000** (Summer 2025).
- Undergraduate Research Assistantship Awards*, "Mental Health Provider Mapping," Office of Student Research, Appalachian State University, **\$1,000** (Summer 2024).

Undergraduate Research Assistantship Awards, "Cluster and cluster co-occurrence of opioid overdose in North Carolina," Office of Student Research, Appalachian State University, **\$1,000** (Summer 2023).

University Research Council, Office of Research, Appalachian State University, **\$5,000** (2023-2024).

Faculty Reassigned Time Pilot Program, Office of Research, Appalachian State University, **\$3,000** (Spring 2023).

Conducting Complex Research Together (CONCERT) Grants, "Help-seeking behaviors among underrepresented young people following tropical cyclone exposure: A case study of Hurricane Ian," Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE), **\$5,000** (2023-2024). [PI(s): Jennifer Runkle, Maggie Sugg, Sophie Ryan, Martie Thompson]

Undergraduate Research Assistantship Awards, "Cluster and cluster co-occurrence of opioid overdose in North Carolina," Office of Student Research, Appalachian State University, **\$1,000** (Summer 2023). [Co-PI: Dr. Jennifer Runkle]

Undergraduate Research Assistantship Awards, "Disparities in African American Mental Health During and After the Pandemic," Office of Student Research, Appalachian State University, **\$1,000** (Spring 2023). [Co-PI: Dr. Jennifer Runkle]

HIRSA awards, "Rural Maternal Health Disparities: A Retrospective Study of Severe Maternal Morbidity in North Carolina." Appalachian State University's Institute for Health and Human Services (IHHS), **Amount withheld**. (2022). [PI(s): Jennifer Runkle, Maggie Sugg, Manan Roy, Dani Nunnery]

University Speaker Series, "Climate Change in Rural Mountain Environments (CCRME)." Appalachian State University Speaker Series, **\$3,000**. (2022).

Conducting Complex Research Together (CONCERT) Grants, "The mental health effects of compounding disasters: A case study of the 2020 wildfire events in the context of the COVID-19 pandemic," Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE), **\$4,977** (2020-2021). [PI(s): Jennifer Runkle, Maggie Sugg, Kurt Michael]

Undergraduate Research Assistantship Awards, "Understanding the concurrent risk of mental health, poor air quality, and dangerous wildfire events in the COVID19 pandemic," Office of Student Research, Appalachian State University, **\$1,000** (Spring 2021). [Co-PI: Dr. Jennifer Runkle]

Conducting Complex Research Together (CONCERT) Grants, "Factors contributing to Nursing Home resilience in the face of COVID-19 for North Carolina," Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE), **\$9,553** (2020-2021). [PI: Sandi Lane, Co-PI: Dr. Adam Hege, Dr. Lakshmi Iyer, Dr. Trent Spaulding]

Graduate Research Assistant Mentoring Program, "Analyzing Mental Health Crisis Response in the U.S. to COVID-19," Cratis D. Williams School of Graduate Studies, **\$24,000**, (2021-2023) [Co-PI: Dr. Jennifer Runkle]

COVID-19 Research Clusters Funding Opportunity, "A spatiotemporal investigation of crisis events among adolescents and young adults following the COVID-19 pandemic in Rural Environments," The Office of Research, Appalachian State University, **\$4,000** (2020) [Co-PI: Dr. Jennifer Runkle, Dr. Kurt Michael]

COVID-19 Research Clusters Funding Opportunity, "Assessing and mapping the socioeconomic determinants of COVID-19 risk," The Office of Research, Appalachian State University, **\$3,510** (2020) [PI: Lauren Andersen, Co-PI: Dr. Jennifer Runkle, Dr. Elizabeth Shay, Dr. Rene Salinas]

COVID-19 Research Clusters Funding Opportunity, "Factors contributing to the spread of COVID-19 in nursing homes, The Office of Research, Appalachian State University, **\$8,000** (2020) [PI: Sandi Lane, Co-PI: Dr. Adam Hege, Dr. Lakshmi Iyer, Dr. Trent Spaulding]

Undergraduate Research Assistantship Awards, "Mapping Social Determinants of Health for North Carolina," Office of Student Research, Appalachian State University, **\$1,000** (Spring 2020).

Faculty Reassigned Time Pilot Program, Office of Research, Appalachian State University, **\$3,000** (Spring 2020).

Conducting Complex Research Together (CONCERT) Grants, "Climate Change and Mental Health," Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE), **\$5,000** (2020).

Summer Stipend for Writing A Grant (SWAG) Competition, "A Place-Based Approach to Temperature and Mental Health: Decoupling Social and Environmental Exposures of Mental Health and Well-Being," Office of Research, Appalachian State University, **\$3500** (2019).

Graduate Research Associate Mentor (GRAM) Program Award, "Southern Appalachian Mountain Vulnerability and Resilience," Cratis D. Williams School of Graduate Students, Appalachian State University, **\$24,000** (2018 –2020). [Co-PIs: Dr. Elizabeth Shay, Dr. Kara Dempsey]

University Research Council Grant, "Exposure to Thermal Extremes and Seasonal Trends in Hypertensive Complications during Pregnancy: A Retrospective Study of Women in North Carolina," Office of Research, Appalachian State University, **\$4997.85** (2017 –2018). [Co PI: Dr. Jennifer Runkle]

Undergraduate Research Assistantship Awards, "Using wearable sensor technology to quantify the health effects of cold work environments: A Participatory Sensing Study," Office of Student Research, Appalachian State University, **\$1,000** (Summer 2018).

Communication Grants, "Vulnerability and Resilience in the Southern Appalachian Mountains," Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE), **\$3,000** (Summer 2018).

Faculty Reassigned Time Pilot Program, Office of Research, Appalachian State University, **\$3,000** (2018).

Undergraduate Research Assistantship Awards, "Using wearable sensor technology to quantify the health effects of cold work environments: A Participatory Sensing Study," Office of Student Research, Appalachian State University, **\$1,000** (Spring 2018).

Conducting Complex Research Together (CONCERT) Grants, "Vulnerability and Resilience in the Southern Appalachian Mountains," Appalachian State University's Research Institute for Environment, Energy, and Economics (RIEEE), **\$5,000** (2018).

Sustaining Collaborative Opportunities for Research & Education (SCORE) Community of Practice Planning Awards, "Hazard Vulnerability Assessment for Nursing Home and Long-Term Care Facilities in the Southeastern US," Appalachian State University's College of Arts and Sciences, **\$999.00** (2017).

Graduate Research Associate Mentor (GRAM) Program Award, "Hazard Vulnerability Assessment for Nursing Home and Long-Term Care Facilities in the Southeastern US," Cratis D. Williams School of Graduate Students, Appalachian State University, **\$24,000** (2018 –2020). [Lead PI: Dr. Sandi Lane]

Summer Support, "Hazard Vulnerability Assessment for Nursing Home and Long-Term Care Facilities in the Southeastern US," Beaver College of Health Sciences, Appalachian State University, **\$5,000** (2017-2018). [Lead PI: Dr. Sandi Lane]

University Research Council Grant, "Hazard Vulnerability Assessment for Nursing Homes in the Southeastern US," Office of Research, Appalachian State University, **\$3686.04** (2017 –2018). [Lead PI: Dr. Sandi Lane]

Summer Grant, "Continuous Monitoring of Individual Exposure in Thermal Extreme Environments," Appalachian State University's College of Arts and Sciences, **\$2500** (2017).

Undergraduate Research Assistantship Awards, "Pregnancy Health and Environmental Monitoring in a Rural Mountain Environment," Office of Student Research, Appalachian State University, **\$1,000** (2017).

Student and Faculty Excellence Fund (SAFE), "Examining Relationships between Mental Stress and Climatic Extremes," Appalachian State University's College of Arts and Sciences, **\$2550** (2017).

Student and Faculty Excellence Fund (SAFE), “Pregnancy Health and Environmental Monitoring in a Rural Mountain Environment,” Appalachian State University’s College of Arts and Sciences, **\$650** (2017).

Conducting Complex Research Together (CONCERT) Grants, “Vulnerability and Resilience in the Southern Appalachian Mountains,” Appalachian State University’s Research Institute for Environment, Energy, and Economics (RIEEE), **\$4,916** (2017).

Undergraduate Research Assistantship Awards, “Individual Experienced Temperature among Ground Workers at Three Geographic Locations,” Office of Student Research, Appalachian State University, **\$1,000** (2016).

University Research Council Grant, “Personal Monitoring of Occupational Heat Exposure: An Environmental Participatory Sensing Study,” Office of Research, Appalachian State University, **\$3,394** (2016 –2017).

Graduate Research Associate Mentor (GRAM) Program Award, “Identifying Climate Vulnerability and Community Resilience in the Southern Appalachian Mountains,” Cratis D. Williams School of Graduate Students, Appalachian State University, **\$24,000** (2016 –2018).

Conducting Complex Research Together (CONCERT) Grants, “Vulnerability and Resilience in the Southern Appalachian Mountains,” Appalachian State University’s Research Institute for Environment, Energy, and Economics (RIEEE), **\$5,000** (2016).

Faculty Reassigned Time Pilot Program, Office of Research, Appalachian State University, **\$3,400** (2016).

Dissertation Completion Fellowship, “Climate Thresholds for Heat-Related Illness in North Carolina,” University of North Carolina at Chapel Hill Graduate School, **\$16,000** (2015). [Declined for EPA STAR fellowship]

Douglas Eyre Travel Grant, Department of Geography, University of North Carolina at Chapel Hill, **\$1,000** (2010-2011).

Burgess McSwain Travel Award, University of North Carolina at Chapel Hill, **\$1,000** (2008).

OTHER PUBLICATIONS (NON-PEER REVIEWED)

Guignet, D, **M. Sugg**, C. Fehlman, S. Ulrich. 2024. Exploratory Analysis – The Effects of Toxic Air Pollution and Climate Change on Maternal and Child Health: A Scoping Study of Underserved Communities and Research Needs. Alexandria, VA: National Science Foundation.

INVITED OFF-CAMPUS TALKS

2025	“A Roadmap to Early Career Faculty and Promotion”, American Meteorological Society, Webinar
2024	“Climate and Human Health in North Carolina,” Science, Teachers, and Research Summer (STaRS), National Institute of Environmental Health Sciences
2024	Emerging Scholar in Health and Medical Geography,” American Association of Geographers, Honolulu, Hawaii
2024	“Geospatial Insights into the Youth Mental Health Crisis,” Virginia Tech University, Geography Colloquium, Blacksburg, Virginia
2024	“Spatial and Temporal Trends in Adolescent Suicide, Suicidal Behaviors, and Help-Seeking Behaviors in the US,” Center for the Advancement of Youth (CAY) ECHO, University of Mississippi Medical Center
2024	“Spatial and Temporal Trends in Adolescent Suicide, Suicidal Behaviors, and Help-Seeking Behaviors in the US,” Directorate for Social, Behavioral and Economic Sciences (SBE), National Science Foundation
2024	“Insights into the Climate-Mental Health Connection,” Department of Geography, Texas A&M University
2023	“Geospatial Insights into the Youth Mental Health Crisis,” North Carolina State University’s Geospatial Lecture Series
2023	“The Association of High Temperatures on Mental Health Across North Carolina,” Statewide Heat Illness Meeting, Webinar

- 2023 "Impact of the Climate Crisis on Health During Pregnancy: A Closer Look at Maternal Mental Health," TEPHINET, Columbia University, Webinar
- 2023 "Exploring the Impact of High Temperatures on Mental Health Across Sub-Populations: Insights from North Carolina," Carolinas Heat-Health Coalition (CHHC), Webinar
- 2023 "Trends in Adolescent Suicides, Behaviors, and Help-Seeking in the Southeastern US," American Foundation for Suicide Prevention, Webinar
- 2023 "Geospatial Insights into the Youth Mental Health Crisis," John Hopkins University, Geographic Information Systems (GIS) Day, Webinar
- 2023 "Geospatial Insights into the Youth Mental Health Crisis," North Carolina State University's Geospatial Lecture Series
- 2023 "A Causal Analysis of the Complex Mental Health Impacts of Climate Disasters Among Youth and Adolescents" Center for Appalachian Research in Environmental Sciences, University of Kentucky, Webinar
- 2022 "Understanding the Complex Relationships Between Suicide Risk and Environmental, Geographic, Climate, and Contextual Factors: Implications for Help-Seeking and Clinical Care," American Foundation for Suicide Prevention (AFSP), Webinar
- 2022 "Climate change and mental health: What is the connection?" NC-Advancing Collaborative Research Excellence (NC ACRE) Webinar
- 2022 "Research at the intersection of geography, climate, and mental health," NC-DHHS's VDRS Group Call, Webinar
- 2021 "A Coalition Around Heat Research in Charleston, SC", CCRUN meeting at Drexel University, Webinar
- 2021 "Personal Monitoring of Temperature Exposure Using a Sensor-based Approach: A Case Study of Grounds Workers in the Southeast," Carolinas Heat-Health Coalition (CHHC) meeting, Webinar
- 2020 "Wearable Sensors and Heat Exposure," Charleston Medical District Heat Charrette, Webinar
- 2020 "Heat and Climate Change" North Carolina State Climate Office, Warming Temperatures and Heat Webinar for NC Cooperative Extension, Webinar
- 2020 "Orienting Oneself Around Climate Change in 2020" East Tennessee State University, Webinar
- 2020 "Rising Temperatures and its Effects on Humans and Animals" Environmental Defense Fund, Webinar
- 2020 "Climate Change and Your Health" Asheville Museum of Science Pub Series, Asheville, NC (canceled for COVID-19)
- 2018 "Continuous Monitoring of Individual Exposure in Thermal Extreme Environments: A Participatory Geo-Sensing Study," MPE 2013+ Workshop on Urban Environmental Sustainability in a Smart and Connected World, University of Georgia.
- 2017 "Continuous Monitoring of Individual Exposure in Thermal Extreme Environments: A Participatory Geo-Sensing Study," Department of Geography and Earth Sciences Seminar Series, University of North Carolina at Charlotte.
- 2017 "A Multi-Scale Investigation of Heat-Health Vulnerability" Department of Geography Colloquium, University of North Carolina at Greensboro.
- 2015 "Heat-Health Impacts in North Carolina across the Rural and Urban Continuum," Institute for the Environment's Brown Bag Lunch Seminar, University of North Carolina at Chapel Hill.
- 2014 "Heat-Health Vulnerability: Identifying Climate Thresholds for Heat-Related Illness in North Carolina" Colloquium: Graduate Research Celebration, University of North Carolina at Chapel Hill.

PAPER PRESENTATIONS (*indicates student presentation)

- Sugg, M.M.**, “Maternal health in North Carolina,” *Rural Health Equity Conference*, Boone, NC, May 2024.
- Ryan, S.,* **Sugg, M.M.**, Runkle, J.D., and Hefner M, “Place-based characteristics of the heat-related illness association in North Carolina” *Annual Meeting of the American Association of Geographers*, Honolulu Hawaii. April 2024
- Spurlock. T,* and **Sugg, M.M.**, Runkle, J.D.and D. Guignet, “Examining Hurricane Exposure on Neonatal Outcomes in North Carolina: A Case Study of Hurricane Isabel (2003),” *ASU’s Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2023
- Spurlock. T,* **Sugg, M.M.**, Runkle, J.D., and D. Guignet, “Examining Hurricane Exposure on Neonatal Outcomes in North Carolina: A Case Study of Hurricane Isabel (2003).” *NC BREATHE*, Charlotte, NC. April 2023
- Ulrich, S,* **Sugg, M.M.**, Runkle, J.D., and Guignet, “A Spatial Analysis of Maternal Mental Health Conditions in North Carolina: A Retrospective Birth Cohort Study.” *NC BREATHE*, Charlotte, NC. April 2023
- Sugg, M.M.**, Wertis, L, Ryan, S., and Runkle, J.D., Cascading Disasters and Patterns of Mental Health: The February 2021 Winter Storm and Power Crisis in Texas, USA, *Annual Meeting of the American Association of Geographers*, Denver, CO. March 2023
- Ryan, S.,* **Sugg, M.M.**, Runkle, J.D. and Thapa, B, “Investigation of the protective effects of greenspace on adolescent mental health” *Annual Meeting of the American Association of Geographers*, Denver, CO. March 2023
- Ryan, S.,* **Sugg, M.M.**, and Runkle, J.D., “Greenspace and Mental Health Relationships in Rural and Urban Neighborhoods of North Carolina.” *NC BREATHE*, Salisbury, NC. April 2022
- Hass, A.L, Montebianco, A., **Sugg, M.M**, Runkle, J and Ellis K., “Heat perception and adaptation among college students in the southeastern United States.” *Annual Meeting of the American Association of Geographers*, New York City, NY. March 2022
- Michael, M., **M. M. Sugg**, and J. D. Runkle. Crisis Help-Seeking Among Essential Workers and School-Aged Children of Frontline Workers during the COVID-19 Pandemic. Oral presentation at the *Society for Prevention Research Virtual 29th Annual Meeting on Addressing Racism and Disparities when Considering Biology and Context*, June 2021.
- Hass, A., **M.M. Sugg**. “Do the extreme heat and dryness resulting from flash droughts affect mortality in the Southeastern US?” *Annual Meeting of the Association of American Geographers*, Seattle, WA. April 2021.
- Lane, S., Hege, A., Spaulding, T, Iyer, L, and **Sugg, M.M.**, Covid-19 and nursing home care in the US: Regional differences associated with disparities in race, ethnicity, and community and facility characteristics.” *Research and Creative Activity at Appalachian State University (RECAAP)*. September 2020.
- Thompson, L.K*, Michael, M., Runkle JD., and **Sugg, M.M.**, Crisis Text Line Use Following the Release of Netflix Series 13 Reasons Why Season 1: Time Series Analysis of Help-Seeking Behavior in Youth. *52nd American Association of Suicidology*. April 2019
- Cotuna, A.*, Michael, K, Youngstorm, E, Chopin, G., Thompson, L, K. **Sugg, M.M.** Jameson JP, J Hersh “Using Wikiversity to Promote the Science of Suicide Prevention: Helping Give Away Psychological Science (HGAPS)” *52nd American Association of Suicidology*. April 2019
- Wilson, M.*, **Sugg, M.M.**, Lane, S. “Internal and External Validation of the Multivariate Nursing Home Vulnerability Index,” *Annual Meeting of the Association of American Geographers*, Washington, D.C. April 2019.
- Sugg, M.M.**, Dixon, G.P, Thompson, LC* and Runkle, J.R., Fuhrmann, C.M., and Stevens, S., “Crisis Support Seeking Behaviors: Is there an Association in Young Adults and Adolescents,” *Southeastern Division of the Association of American Geographers*, Johnson City, TN, November 2018.
- Sugg, M.M.**, Runkle, J.R., Fuhrmann, C.M., and Stevens, S., “Continuous Monitoring of Individual Exposure in Extreme Thermal Environments: A Participatory Geo-Sensing Study,” *Carolina Climate Resilience Conference*, Columbia, SC, November 2018.

- Wilson, M.*, **Sugg, M.M.**, Lane, S. "A Spatial Evaluation of Nursing Home Vulnerability in the Southeastern United States," *Carolina Climate Resilience Conference*, Columbia, SC, November 2018.
- Costa, M.*, Porter, J.*, Harden, S.*, Schroeder, J., Sugg, M, M., Shay, E, Bouldin, E, and Hege, A., "Water Crisis and Wildfire Communication in Appalachia: A local health department/university collaborative between AppHealthCare and Appalachian State University" *North Carolina Public Health Association Conference*, Charlotte, NC. September 2018.
- Thompson, L.C.*, **Sugg, M.M.**, Runkle, J.R., "Adolescents in Crisis: A Spatial Exploration of Mental Distress Using Data from Crisis Text Line," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2018.
- Sugg, M.M.**, Runkle, J.R., Fuhrmann, C.M., and Stevens, S., "Continuous Monitoring of Individual Exposure in Extreme Thermal Environments: A Participatory Geo-Sensing Study," *Annual Meeting of the Association of American Geographers*, New Orleans, LA, April 2018.
- Thompson, L.C.*, **Sugg, M.M.**, Runkle, J.R., "Adolescents in Crisis: A Spatial Exploration of Mental Distress Using Data from Crisis Text Line," *Annual Meeting of the Association of American Geographers*, New Orleans, LA, April 2018.
- Andersen, L.*, and **Sugg, M.M.**, "An Assessment of Wildfire Vulnerability in Western North Carolina, the USA Following the 2016 Wildfires," *Annual Meeting of the Association of American Geographers*, New Orleans, LA, April 2018.
- Fuhrmann, C.M., **Sugg, M.M.**, and J.R. Runkle, Assessment Of Personal Heat Exposure Among Grounds Management Workers In The Southeast USA. *Southeastern Division of the Association of American Geographers*, Starkville, MS, November 2017
- Runkle, J.R., **Sugg, M.M.** and Boase D. Galvin, S, and Coulson, C, "Wearable sensors for continuous pregnancy health and environmental monitoring: From a patient and provider perspectives.," *American Public Health Association*, Atlanta, GA, November 2017
- Runkle, J.R., **Sugg, M.M.**, Fuhrmann C.M., and Sevens, S, "Use of Wearable Sensor Technology as a Surveillance Tool to Measure Climate-related Changes in Heat Exposure among Outdoor Workers.," *American Public Health Association*, Atlanta, GA, November 2017
- Runkle, J.R., **Sugg, M.M.** and Fuhrmann C.M, "Personal Monitoring of Individual Temperature Experience in Outdoor Workers using Wearable Sensors" *Integrating Exposure Science Across Diverse Communities*, Raleigh, NC, October 2017
- Fuhrmann, C.M., **Sugg, M.M.**, Runkle, J.R., "Temporal and Spatial Variations in Personal Ambient Temperatures (PATs) for Outdoor Working Populations in the Southeast US," *International Congress of Biometeorology*, Durham, England, UK, September 2017
- Fuhrmann, C.M., **Sugg, M.M.**, Runkle, J.R., and Stevens, S., "Personal Monitoring of Occupational Heat Exposure among Grounds Management Workers: Preliminary Results from Three University Campuses," *American Meteorological Society*, Seattle, WA, January 2017
- Sugg, M.M.**, Runkle, J.R., Fuhrmann, C.M., and Stevens, S., "Individual Experienced Heat Exposure among Grounds Management Workers across Three Geographic Regions," *Southeastern Division of the Association of American Geographers*, Columbia, SC, November 2016.
- Sugg, M.M.**, Fuhrmann, C.M., and Konrad, C.E., "Spatiotemporal Patterns of Hypothermia," *Southeastern Division of the Association of American Geographers*, Pensacola, FL, November 2015.
- Kovach, M.M.**, Konrad, C.E., and Fuhrmann, C.M., "Heat-Related Illness in Rural and Urban Setting across North Carolina." *111th Annual Meeting of the Association of American Geographers*, Chicago, IL. April 2014.
- Konrad, C.E, **Kovach, M.M.** and Fuhrmann, C.M., "Relationships between Maximum Temperature and Heat-Related Illness," *Sixth Conference on Environment and Health*, American Meteorological Society, Phoenix, AZ January 2015.

- Kovach, M.M.**, "Relationships between Maximum Temperature and Heat-Related Illness," *Southeastern Division of the Association of American Geographers*, Athens, GA, November 2014.
- Kovach, M.M.** and Konrad, C.E., "Using Geographic Information Systems to Construct an Inland Track Following Coordinate System," *Innovative Use of Geographic Information Systems Graduate Student Competition*, Chapel Hill, NC, November 2014.
- Konrad, C.E., **Kovach, M.M.**, and Fuhrmann, C.M., "Relationships between Temperature and Heat-Related Illness across North Carolina," *20th International Congress of Biometeorology*, Cleveland, OH, September 2014.
- Fuhrmann, C.M., Konrad, C.E., and **Kovach, M.M.**, "Evaluation of Effectiveness of National Weather Service Heat Forecasts in North Carolina," *20th International Congress of Biometeorology*, Cleveland, OH, September 2014.
- Kovach, M.M.**, Konrad, C.E., and Fuhrmann, C.M., "Identifying Heat Vulnerability through Temperature Thresholds in North Carolina," *21st Conference on Applied Climatology*, Denver, CO. June 2014.
- Fuhrmann, C.M., **Kovach, M.M.**, and Konrad, C.E., "The Effect of Extreme Heat on Human Health in North Carolina," *21st Conference on Applied Climatology*, Denver, CO. June 2014.
- Kovach, M.M.**, Konrad, C.E., and Fuhrmann, C.M., "Connecting the Dots: Identifying Heat Vulnerability in North Carolina," *Carolina's Climate Resilience Conference*, Charlotte, NC. April 2014.
- Kovach, M.M.**, and Konrad C.E., "Temperature Thresholds for Heat-Related Illness in North Carolina," *110th Annual Meeting of the Association of American Geographers*, Tampa, FL. April 2014.
- Konrad, C.E., **Kovach M.M.**, and Fuhrmann, C.M., "Trends in Tornado Vulnerability across the United States," *110th Annual Meeting of the Association of American Geographers*, Tampa, FL. April 2014.
- Fuhrmann, C.M., **Kovach, M.M.**, and Konrad, C.E., "The Effect of Extreme Heat on Human Health in North Carolina," *110th Annual Meeting of the Association of American Geographers*, Tampa, FL. April 2014.
- Kovach, M.M.**, Suggs, J., and Konrad, C.E., "Fatalities, Directly and Indirectly, Related to Tropical Cyclones in the United States, 1970-2010," *Southeastern Division of the Association of American Geographers*, Roanoke, VA. November 2013.
- Fuhrmann, C.M., Their, L., **Kovach, M.M.**, and Konrad, C.E., "The Impact of Weather and Climate on Airborne Pollen Concentrations and Allergic Disease in Wake County, North Carolina," *Southeastern Division of the Association of American Geographers*, Roanoke, VA. November 2013.
- Konrad, C.E., **Kovach, M.M.**, and Fuhrmann, C.M., "Trends in Tornado Vulnerability across the United States," *Southeastern Division of the Association of American Geographers*, Roanoke, VA. November 2013.
- Fuhrmann, C.M., **Kovach, M.M.**, and Konrad, C.E., "Heat-Related illness in North Carolina: Who's at Risk?" *Annual Education Conference of the North Carolina Public Health Association*, New Bern, NC. September 2013.
- Kovach, M.M.**, and Konrad, C.E., "Climate-Health Vulnerability: Identifying Climate Thresholds for Heat-Related Illness in North Carolina," *109th Annual Meeting of the Association of American Geographers*, Los Angeles, CA. April 2013.
- Fuhrmann, C.M., Konrad, C.E., **Kovach, M.M.**, Boyles, R., and A. Hiatt., "Development of Web-Based Tool for Studying, Visualizing and Tracking the Public Health Impacts of Weather and Climate Events," *109th Annual Meeting of the Association of American Geographers*, Los Angeles, CA. April 2013.
- Konrad, C.E., **Kovach, MM**, Fuhrmann C.M., and J.T. McLeod., "Regional Variations in Tornado Vulnerability across the Eastern US," *109th Annual Meeting of the Association of American Geographers*, Los Angeles, CA. April 2013.
- Kovach, M.M.** and Harrison, C., "Heat-Related Illness and North Carolina: Linking Spatial Variations in Heat-Related Illness to Land Cover and Socioeconomic Patterns," *67th Annual Meeting of the Southeastern Division of the AAG*, Asheville, NC. November 2012. (Selected for Ph.D. Honor's Competition)

- Kovach, M. M.** and Konrad, C.E. "Regional Variations in Tornado Vulnerability in the Eastern United States," *AMS 26th Conference on Severe Local Storms*, Nashville, TN, November 2012.
- Kovach, M.M.** and Konrad, C.E., "Using Geographic Information Systems to Evaluate Tornado Vulnerability," *North Carolina ArcGIS Users Group Conference*, Carolina Beach, NC. October 2012.
- Fuhrmann, C.M., **Kovach, M.M.**, and Konrad, C.E., "Heat-Related Illness in North Carolina: Who's at Risk?" *Joint NOAA-CDC Symposium on Climate and Health*, Atlanta, GA, September 2013.
- Kovach, M.M.** and Konrad, C.E., "The Spatial Distribution of Meteorological Impacts from Inland Moving Tropical Cyclones," *108th Annual Meeting of the Association of American Geographers*, New York, NY. February 2012.
- Kovach, M.M.**, Fuhrmann, C.M., Konrad, C.E., and Harrison, C., "Community-Level Indicators of Heat-Related Morbidity in North Carolina," *American Meteorological Society 3rd Symposium on Environment and Health*, New Orleans, LA. January 2012.
- Kovach, M.M.**, Konrad, C.E., and Carlson, G., "The Societal and Meteorological Impacts of Inland-Moving Tropical Cyclones across the Southeastern US," *107th Annual Meeting of the Association of American Geographers* Seattle, WA. April 2011.
- Kovach, M.M.**, Carlson, G., and Konrad, C.E., "The Societal Impacts of High Winds that Accompany Inland-Moving Tropical Cyclones across the Southeastern US," *106th Annual Meeting of the Association of American Geographers*, Washington, D.C. April 2010
- Fuhrmann, C.M., Konrad, C.E., **Kovach, M.M.**, and Perkins, D.J., "Meteorological and Climatologically Perspectives on the August 2007 Heat Wave in North Carolina," *65th Annual Meeting of the Southeastern Division of the AAG*, Birmingham, AL. November 2010.
- Fuhrmann, C.M., Easterling, D.R., Houston, T.G., **Kovach, M.M.**, Lutz, J.T., and Robinson, P.J., "Current and Future Applications of Climate Data and Services for the Health Sector," *American Meteorological Society 1st Symposium on Environment and Health*, Atlanta, GA. January 2010.

POSTER PRESENTATIONS

- Watkins, O.*, Ryan, S., and **Sugg, M.M.**, "Income and Coping: Understanding the Relationship Between Income and Coping Following Hurricane Helene," *Appalachian Teaching and Research Network (ATRN) Conference*, Virginia, October 2025.
- Lynse, K.* and **Sugg, M.M.** A Spatial Analytic Approach to Maternal Health and Birth Outcomes Following Hurricane Florence (2018). *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2024
- Mallare, A.*, **Sugg, M.**, Berry, I.*, Getz, E*, & McKee, A*. Eco-Anxiety Among Youth in Response to the Climate Crisis: A Thematic Analysis, *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2024
- Berry, I.*, Guignet, D., and **Sugg, M.M.**, Understanding the Intersection of Neighborhood Factors and Proximity to Chemical Facilities: Implications for Policy and Equity, *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2024
- Fehlman, C*, **Sugg, M.M.**, Jennifer Tyson, Shishir Shakya, Mapping Maternal Health Care Access Disparities: A Fine-Scale Analysis, *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2024
- Ulrich, S*, **Sugg, M.M.**, Runkle, J.D, Desjardins, M., "Disparities in Spatial Clustering of Perinatal Mental Health SuConditions During the COVID-19 Pandemic," *Southeastern Division of the Association of American Geographers*, Norfolk, Virginia, November 2023

- Farrior, J.*, Nunnery, D., Roy, M., and **Sugg, M.M.**, "Using GIS Service Area Analysis to Identify Characteristics of WIC Inaccessible Regions," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2023
- Ulrich, S.*, and **Sugg, M.M.**, Runkle, J.D., "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
- Lucero, C.*, **Sugg, M.M.**, Ryan., S., "Disparities in African American Mental Health During the COVID-19 pandemic: A spatial clustering analysis of North Carolina, 2016-2021," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2023
- Ryan, S.*, and **Sugg, M.M.**, Runkle, J.D., "Greenspace and Adolescent Mental Health: Investigation of Socio-Demographic Effect Modifiers and Recommendations for Community-Level Mental Health Interventions," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2023
- Miles, L., Spurlock T.*, Livesay, Henry, **Sugg, M.M.**, Farris, A, Roy, A, and NunneryD. Spatial Analysis of Perinatal Food Assistance Resources in Relation to Food Deserts in North Carolina, Society for Nutrition Education and Behavior, July 2022
- Spurlock, T.*, Runkle, J.D., and **Sugg, M.M.**, "A Spatially Explicit Analysis of Extreme Weather Risk on Vulnerable Populations in the Southeastern US" *ASU's Energy Summit*, Boone, NC.
- Wertis, L.*, Runkle, J.D., and **Sugg, M.M.**, "Examining Hurricane Ida's Impact, Implications of the Effect of Concurrent Disaster on Mental Health" *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC.
- Spurlock, T.*, Runkle, J.D., and **Sugg, M.M.**, "A Spatially Explicit Analysis of Extreme Weather Risk on Vulnerable Populations in the Southeastern US" *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC.
- Ryan, S.*, and **Sugg, M.M.**, Runkle, J.D., "Greenspace and Mental Health Relationships in Rural and Urban Neighborhoods of North Carolina," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2022
- Sugg, M.M.**, Runkle, J.D., Andersen, L.M., Desjardins, "Exploring Place-Based Differences in Suicide and Suicide-Related Outcomes among North Carolina Adolescents and Young Adults." *Annual Meeting of the American Association of Geographers*, New York City, NY. March 2022
- Ryan, S.*, and **Sugg, M.M.**, "Greenspace and mental health: Is there an association?" *Annual Meeting of the American Association of Geographers*, New York City, NY. March 2022
- Hajnos, S*, **Sugg, M.M.**, and J.D. Runkle., (2021) "Understanding the Concurrent Risk of Mental Health and Dangerous Wildfire Events in the COVID-19 Pandemic." *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2021
- Runkle, J, **Sugg, M.M.**, J Rennie, J Matthews, Y Rao, and R Leeper. "Acute effects of meteorological parameters on COVID-19 morbidity in the US: a case-crossover study with a distributed lag nonlinear model," *World Meteorological Organization's Climatological, Meteorological, and Environmental Factors in the COVID-19 pandemic*, Published AGU Online.
- Mitchell, J. *, and **Sugg, M.M.**, "A Spatial Analysis of Social Determinants of Health in North Carolina," *Southeastern Division of the Association of American Geographers*, Online, November 2020. [Honor's poster presentation]
- Harden, S.*, **Sugg, M.M.**, and Runkle, J.D., "A Spatiotemporal Analysis of Severe Maternal Morbidity in South Carolina," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2020. [canceled for COVID-19]

- Woolard, S. *, **Sugg, M.M.**, and Runkle, J.D., "A Multi-Scale Analysis of Spatial and Temporal Suicide Patterns in North Carolina, 2000 to 2017," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2020. [canceled for COVID-19]
- Mitchell, J. *, Andersen, L.M, Shay E., **Sugg, M.M.**, "A Spatial Analysis of Social Determinants of Health in North Carolina," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2020. [canceled for COVID-19]
- Bailey, E. *, **Sugg, M.M.**, Fuhrmann, C.M., and Runkle J.D., "Personal Sensors for Temperature Exposure Assessments: A Validation Study," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2019.
- Wilson, M. *, **Sugg, M.M.**, Lane, S., "Identifying Statistical Precision and Accuracy of Vulnerability Indices for the Southeastern United States," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2019.
- Bailey, E. *, **Sugg, M.M.**, Fuhrmann, C.M., and Runkle J.D., "Personal Sensors for Temperature Exposure Assessments: A Validation Study," *Annual Meeting of the Association of American Geographers*, Washington, D.C. April 2019.
- Andersen, L. M. *, Bonevac, A. N. *, Thompson, L. K. *, Dempsey, K. E., Shay, E. D., and **Sugg, M.M.**, "An Assessment of Wildfire Vulnerability in Western North Carolina, USA Following the 2016 Wildfires," *Annual Meeting of the Association of American Geographers*, Washington, D.C. April 2019.
- Andersen, L. M. *, Bonevac, A. N. *, Thompson, L. K. *, Dempsey, K. E., Shay, E. D., and **Sugg, M.M.**, "An Assessment of Wildfire Vulnerability in Western North Carolina, USA Following the 2016 Wildfires," *International Mountain Studies Symposium*, Boone, NC, March 2019.
- Nelson, K. *, **Sugg, M.M.**, and Runkle J.D., "A Comparison Between Temperature Exposure and Physiological Risk Factors in an Occupational Setting," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2018.
- Boase, D. *, **Sugg, M.M.**, and Runkle J.D., "Wearable Sensors for Continuous Pregnancy Health and Environmental Monitoring: From a Patient and Provider Perspective," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2018.
- Bailey, E. *, and **Sugg, M.M.**, "Climate and Conflict Interactions: The Relationship Between Conflict Spikes and Climate Deviations in Northern Latin America," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2018.
- Andersen, L. *, and **Sugg, M.M.**, "An Assessment of Wildfire Vulnerability in Western North Carolina, USA Following the 2016 Wildfires," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2018.
- Wilson, M. *, Andersen, L. *, **Sugg, M.M.**, Lane, S., "A Socio-Ecological and Spatial Analysis of Nursing Home Vulnerability in the Southeastern United States," *ASU's Celebration of Student Research and Creative Endeavors*, Boone, NC, April 2018.
- Nelson, E. *, Wilson, M. *, **Sugg, M.M.**, Lane, S., "Hazard Vulnerability Assessment for Nursing Home Facilities in North Carolina," *Southern Gerontological Society*, Buford, GA, April 2018
- Wilson, M. *, Andersen, L. *, **Sugg, M.M.**, Lane, S., "A Socio-Ecological and Spatial Analysis of Nursing Home Vulnerability in the Southeastern United States," *Annual Meeting of the Association of American Geographers*, New Orleans, LA, April 2018
- Runkle, J.D., Thompson, L.C. *, and **Sugg, M.M.**, "Report-Back for Location-based Personal Monitoring Data on Individual Experienced Temperature in Outdoor Workers" *Integrating Exposure Science Across Diverse Communities*, Raleigh, NC, October 2017

- Thompson, L.C.*, **Sugg, M.M.**, Runkle, J.D., and Fuhrmann, C.M., "Reporting Back Environmental Exposures: A Case Study of Environmental Health Literacy and Individual Experienced Temperature among Ground Maintenance Workers," *Celebration of Student Endeavors*, Boone, NC, April 2017
- Stine, W.*, **Sugg, M.M.**, and Runkle, J.D., "Spatiotemporal Patterns of Mental Stress across the United States.," *Celebration of Student Endeavors*, Boone, NC, April 2017
- Thompson, L.C.*, **Sugg, M.M.**, Runkle, J.D., and Fuhrmann, C.M., "Reporting Back Environmental Exposures: A Case Study of Environmental Health Literacy and Individual Experienced Temperature among Ground Maintenance Workers," *Southeastern Division of the Association of American Geographers*, Columbia, SC, November 2016.
- Sugg, M.M.**, Fuhrmann, C.M., and Konrad, C.E., "Relationships between Patterns of Hypothermia and Minimum Temperature," *Association of American Geographers*, San Francisco, CA, April 2016.
- Silva, R.A., Thie, L.M., Rappold, A.G., **Sugg, M.M.**, and Smith J.S., "Mapping heat-related vulnerability to climate change in North Carolina," *North Carolina Breathe Conference*, Charlotte, NC, April 2016.
- Ross, A.*, and **Sugg, M.M.**, "Recreational Heat-Related Illness across North Carolina, 2007-2012 ," *Southeastern Division of the Association of American Geographers*, Pensacola, FL , November 2015.
- Hunter, J.M.*, Konrad, C.E., West JJ, and **Sugg, M.M.**, "Associations between precipitation and gastrointestinal illness: A spatial and temporal study in North Carolina State," *Water and Health Conference 2015 Where Science Meets Policy*, Chapel Hill, NC. November 2015
- Kovach, M.M.**, and Konrad, C.E., "Climate-Health Vulnerability: Identifying Relationships between Temperature and Heat-Related Illness," *17th Annual Graduate Student Recognition Celebration*, Chapel Hill, NC. April 2015
- Hunter, J.M.*, West J.J., Konrad, C.E., and **Kovach, M.M.**, "Spatial and Temporal Relationships between Precipitation Patterns and Waterborne Disease," *2nd Annual UNC Climate Change Symposium*, Chapel Hill, NC. April 2015
- Kovach, M.M.**, and Konrad, C.E., "Climate-Health Vulnerability: Identifying Relationships between Temperature and Heat-Related Illness," *2nd Annual UNC Climate Change Symposium*, Chapel Hill, NC. April 2015
- Konrad, C.E., **Kovach, M.M.**, McLeod, J.T., Fox, H., Fuhrmann, C.M., Schmitz, W.G., and Perkins, D.J., "Assessing the Magnitude and Societal Impacts of the April 25-28, 2011 Tornado Outbreak in the Southeastern US," *92nd Annual Meeting of the American Meteorological Society*, New Orleans, LA. January 2012
- Fuhrmann, C.M., Schmitz, W.G., Konrad, C.E., and **Kovach, M.M.**, "A Review of the 2009-2010 Winter Season across the Southeast United States," *Annual Meeting of the Eastern Snow Conference*, Hancock, MA. June 2010
- Kovach, M.M.**, "Societal and Meteorological Impacts of Inland Moving Tropical Cyclones," *65th Annual Meeting of the Southeastern Division of the AAG*, Birmingham, AL. November 2010
- Kovach, M.M.**, Fuhrmann, C.M., Lutz, J.T., Easterling, D.R., and Robinson, P.J., "Assessing the Climate Information Gap for the Health Sector," *64th Annual Meeting of the Southeastern Division of the AAG*, Knoxville, TN. November 2009

INVITED ON-CAMPUS TALKS

-
- Sugg, M.M.**, "Lunch and Learn: GIS in Public Health Analysis" Public Health AmeriCorps, Boone, NC January 2025
- Sugg, M.M.**, "Lunch and Learn: GIS in Public Health Analysis" Public Health AmeriCorps, Boone, NC May 2024
- Sugg, M.M.**, "Lunch and Learn: GIS in Public Health Analysis" Public Health AmeriCorps, Boone, NC May 2023
- Sugg, M.M.**, "Climate change and health in Rural Environments" Climate and Atmospheric Science: Appalachian State Leadership from Local to Global, Research Forum, May 2022

- Sugg, M.M.**, "Climate change and health in Rural Environments" Climate Change in Rural Mountain Environments (CCRME), Boone, NC, April 2022
- Sugg, M.M.**, Distributed Energy Resources for Rural Resilience: the Nexus of Energy and Health, *RIEEE Research Webinar* February 2022
- Sugg, M.M.**, "Climate and Public Health," Guest Lecture for *Climate Adaptation to Action Honors' Seminar*. February 2021
- Sugg, M.M.**, Runkle, J, Michael, K., Andersen, L, "Crisis Response among Essential Workers and Their Children During the COVID-19 Pandemic," *Appalachian State University's Research Forum*. February 2021
- Sugg, M.M.**, Runkle, J, Michael, K., Andersen, L. "COVID-19 at Appalachian State University," *Appalachian State University's Faculty Senate*. October 2020.
- Sugg, M.M.** "On-going COVID-19 Research," *Appalachian State University's CAS Summer Zoomers*. July 2020.
- Sugg, M.M.** and Lane, S., "Measures of Emergency Preparedness Contributing to Nursing Home Resilience," *Appalachian State University's SCORE Research Presentations*. September 2018
- Sugg, M.M.** and Lane, S., "Measures of Emergency Preparedness Contributing to Nursing Home Resilience," *Appalachian State University's SCORE Research Presentations*. March 2018
- Sugg, M.M.**, "Climate Change and Public Health," *Appalachian State University's Pre-Health Conference*, Appalachian State University. November 2017.
- Sugg, M.M.**, Sustainability Film Series Panelist, *Appalachian State University*. March 2017
- Sugg, M.M.**, Guest Lecturer for Medical Anthropology, *Appalachian State University* October 2016.
- Sugg, M.M.**, Guest Lecturer for Natural Hazards Seminar, *Appalachian State University* September 2016.
- Sugg, M.M.** and Konrad, C.E., "Predicting Heat-Health Vulnerability Across North Carolina using Heat-Health Vulnerability Tool," *Health-Health Vulnerability Tool Engagement Webinar*, University of North Carolina, Chapel Hill. July 2015
- Kovach, M.M** and Konrad, C.E., "Relationships between Temperature and Heat-Related Illness across North Carolina," *North Carolina Climate Change-Public Health Workgroup*, Department of Emergency Medicine, University of North Carolina, Chapel Hill. July 2014
- Kovach, M.M** and Konrad, C.E., "Relationships between Temperature and Heat-Related Illness across North Carolina," *Carolina Integrated Sciences and Assessments (CISA) Webinar*, University of South Carolina, Columbia. June 2014

MENTORING

Graduate Mentoring Experience (Appalachian State University) - Main Advisor

- 2024-2025**, Bella Van De Bloom, *Master's Thesis*, Department of and Planning, Temporal Trends and Thematic Patterns in Violence Risk Assessment Narratives During Multi-Hazard Disasters: A Mixed-Methods Analysis of Crisis Helpline Data
- 2024-2025**, Caleb Blackburn, *Master's Thesis*, Department of Geography and Planning, Compounding Climate Events and Tropical Cyclones in the US
- 2023-2025**, Caroline Fehlman, *Master's Thesis*, Department of Geography and Planning, Maternal Healthcare Access Disparities in North Carolina, 2016-2019: A Fine-Scale Geospatial Analysis
- 2022-2024**, Sarah Ulrich, *Master's Thesis*, Department of Geography and Planning, A Matched Analysis of Maternal Outcomes and Heatwaves.
- 2023-2024**, Kristen Lynse, *Master's Thesis*, Department of Geography and Planning, A Spatial Analytic Approach to Maternal Health and Birth Outcomes Following Hurricane Florence (2018).
- 2021-2023**, Sophie Ryan, *Master's Thesis*, Department of Geography and Planning, Greenspace and Adolescent Mental Health: Exploration of Greenspace metrics and Socio-demographic Effect modifiers

2021-2023, Luke Wertis, *Master's Thesis*, Department of Geography and Planning, Extreme Heat and heat-health-related outcomes: A Machine Learning Approach

2021-2023, Taylin Spurlock, *Master's Thesis*, Department of Geography and Planning, Maternal Impacts of Hurricane Irene

2021-2022, Tyler Minor, *Master's Thesis*, Department of Geography and Planning, Examining the Mental health and temperature connection in North Carolina

2019-2021, Leah Handwerger, *Master's Thesis*, Department of Geography and Planning, An Assessment of Social and Physical Vulnerability to Hydroclimate Extremes in Appalachia

2019-2021, Camila Moreno, *Master's Thesis*, Department of Geography and Planning, Patterns of Drought using Self-Organizing Maps

2019-2020, Stella Harden, *Master's Thesis*, Department of Geography and Planning, A Spatiotemporal Analysis of Severe Maternal Morbidity.

2018-2019, Matthew Wilson, *Master's Thesis*, Department of Geography and Planning, Internal and External Validation of Vulnerability Indices: A Case Study of the Multivariate Nursing Home Vulnerability Index

2017-2019, Elizabeth Bailey, *Master's Thesis*, Department of Geography and Planning, Wearable Sensors for Personal Temperature Exposure Assessments: A Comparative Study

2017-2018, Lauren Andersen, *Master's Thesis*, Department of Geography and Planning, Appalachian State University. Title: An Assessment of Wildfire Vulnerability in Western North Carolina

2016-2018, Laura Thompson, *Master's Thesis*, Department of Geography and Planning, Appalachian State University. Title: Adolescents in Crisis: A Spatial Exploration of Mental Distress Using Data from Crisis Text Line

2015-2017, Will Stine, *Master's Internship*, Providing Geographic Support for the Population Division, United States Census Bureau

2015-2017, Garry Raynor, *Master's Thesis*, Department of Geography and Planning, Appalachian State University. Title: Visualizations of Methandienone across North Carolina

2015-2016, Hayley Thompson, *Master's Internship*, Department of Geography and Planning, Appalachian State University. Title: Utilizing Geographic Information Systems to Digitize and Preserve the Legacy Maps of Dr. Douglas W. Rankin

2015-2016, Anna Ross, *Master's Thesis*, Department of Geography and Planning, Appalachian State University. Title: Recreational Heat-Related Illness: Heat Exposure Outside the Work Week (Main Advisor)

Master Student Committee Member (ASU)

2024-2025, Analee Monrreal (Thesis)

2023-2024, Quinn Rundgren (Thesis)

2021-2022, Harrison Brown (Thesis)

2018-2020, Alex O'Neill (Thesis)

2019-2020, Tatiana Magee

2018-2019, Tania Ita Vagas (Thesis)

2017-2018, Joshua Piercy (Thesis)

2017-2018, Frances Tucker

2016-2018, Zach Osborne

2016-2018, David Vines (Thesis)

2015-2016, Brielle Davidson

2015-2016, James Honeycutt

Undergraduate Mentoring Experience (ASU) - Main Advisor

2025-2025, Olivia Caldwell, *Undergraduate Research Assistant*
2025-2026, Owen Watkins, *Undergraduate Research Assistant*
2024-2025, Quinn Keefer, *Undergraduate Research Assistant*
2024-2025, Ian Berry, *Undergraduate Research Assistant*
2022-2024, Chris Lucreo, *Undergraduate Research Assistant*
2023-2024, Arden McKee, *Undergraduate Research Assistant*
2023-2024, Emma Getz, *Undergraduate Research Assistant*
2023-2024, Ashley Mallare, *Undergraduate Research Assistant*
2023-2024, Ian Berry, *Undergraduate Research Assistant*
2023-2024, Amanda Halbert, *Undergraduate Research Assistant*
2023-2024, Abbey Rankins, *Undergraduate Research Assistant*
2020-2021, Sarah Hajnos, *Undergraduate Research Assistant*
2019-2020, Jessica Mitchell, *Undergraduate Research Assistant*
2019-2020, Sarah Woolard, *Undergraduate Research Assistant*
2017-2018, Matt Wilson, *Undergraduate Research Assistant*
2017-2018, Kimberly Nelson, *Undergraduate Research Assistant*
2016-2017, Danielle Boase, *Undergraduate Thesis*, Honors College

Student Awards

Owen Watkins (2025) - Best Poster Award, Appalachian Teaching and Research Network (ATRN) Conference,
 Caleb Blackburn (2025) - NC ArcGIS Scholarship, \$3000
 Quinn Keefer (2025) - Best Poster at Appalachian State University's Research Day (Undergraduate Student)
 Caroline Fehlman (2025) - Best Poster at Appalachian State University's Research Day (Graduate Student)
 Caroline Fehlman (2025) - Zigli Award, Appalachian State University
 Kristen Lynse (2024) - Cratis Honors Society, Appalachian State University
 Kristen Lynse (2024) - Best Poster at Appalachian State University's Research Day (Graduate Student)
 Chris Lucreo (2024) - NC G. Herbert Stout Student Award in GIS
 Chris Lucreo (2024) - Best Poster at Appalachian State University's Research Day (Undergraduate Student)
 Sarah Ulrich (2024) - Domer Research Award, \$500.
 Sarah Ulrich (2024) - NC ArcGIS Scholarship, \$3000
 Sarah Ulrich (2024) - SEDAAG Honors Competition Finalist
 Sophie Ryan (2024) - Outstanding Thesis Award in Science and Technology category, \$500.
 Sophie Ryan (2023) - Domer Research Award, \$500.
 Sophie Ryan (2023) - Best Poster at Appalachian State University's Research Day (Graduate Student)
 Taylin Spurlock (2022) - Best Poster at ASU's Energy Summit
 Sophie Ryan (2022) - National Science Foundation's Research Experience for Graduate Students (REG), \$6000
 Luke Wertis (2022) - Best Poster at Appalachian State University's Research Day (Graduate Student)
 Sophie Ryan (2022) - AAG-GTU Travel Award, \$200.
 Sophie Ryan (2022) - Graduate Student Government Association {GSGA} travel award, \$500.
 Sophie Ryan (2021) - SAFE Grant, \$400.
 Stella Harden (2021) - Outstanding Thesis Award in the Social Science/Education category, \$500.
 Camila Moreno (2020) - SAFE Grant, \$350.
 Stella Harden (2020) - Cratis D. Williams Society Honor Society.
 Stella Harden (2020) - Graduate Student Government Association Travel Award, \$350.
 Stella Harden (2019) - Student and Faculty Excellence Fund, \$300.
 Sarah Woolard (2019) - Student and Faculty Excellence Fund, \$300.

Matthew Wilson (2019) - Zigli Research Award, \$500.
 Elizabeth Bailey (2019) - Graduate Student Government Association Travel Award, \$500.
 Matthew Wilson (2019) – NC G. Herbert Stout Student Award in GIS
 Elizabeth Bailey (2018)- SEDAAG Honors Competition Finalist
 Matthew Wilson (2018)- SEDAAG Honors Competition Finalist
 Matthew Wilson (2018) - Southern Gerontology Society (SGS) student poster competition – 1st place
 Lauren Andersen (2018) - Cratis Williams Society of Graduate Students
 Lauren Andersen (2018) - Best Poster at Appalachian State University's Research Day (Graduate Student)
 Laura Thompson (2018) - Zigli Research Award, \$300.
 Lauren Andersen (2018) - AAG-GTU Travel Award, \$200.
 Lauren Andersen (2017) - Student and Faculty Excellence Fund, \$500.
 Laura Thompson (2017) - Student and Faculty Excellence Fund, \$300.
 Lauren Andersen (2017) - NC G. Herbert Stout Student Award in GIS
 Garry Raynor (2017) - NC G. Herbert Stout Student Award in GIS
 Laura Thompson (2016) - SEDAAG Honors Competition Finalist

TEACHING

GHY4830: **Professional Development in Geography and Planning** (2026)
 GHY2050: **Climate Disasters and Public Health** (2026)
 GHY3005: **Global Health and Disease** (2021-present)
 GHY5025: **Climate and Society** (2015-2023)
 GHY3812: **Geographic Information Systems** (2015-2021)
 GHY4005: **Geography of Health and Disease** (2015-2021)
 GHY5150: **Seminar in GIScience** (2017-2019)
 GHY5800: **Advanced Quantitative Methods** (2017-present)
 GHY5800: **Advanced Quantitative and Qualitative Methods** (2015-2016)
 GHY5025: **Climate and Society** (2017-2020)
 HON4010: **Senior Honors Thesis and Project** (as needed)
 GHY 5550: **Independent Study** (as needed)
 GHY 4900/5900: **Internship in Geography** (as needed)
 GHY 5998: **Thesis Preparation** (as needed)
 GHY 5999: **Thesis** (as needed)
 GEOG111: **Weather and Climate** (at UNC-Chapel Hill)

PRODUCT DEVELOPMENT and APPLIED RESEARCH TOOLS

2014-2020: Southeast Regional Climate Center's North Carolina Heat-Health Vulnerability Web Prediction Tool.
 Available at: <https://www.sercc.com/hhvt/> [no longer in use]

 2011 - 2015 Southeast Regional Climate Center's North Carolina Disease Event Tracking and Epidemiological Collection Tool. Available at: https://www.sercc.com/nc_detect/ (*restricted access to public health researchers due to limitations of NC-DETECT data use agreement*) [no longer in use]

DEPARTMENTAL and UNIVERSITY SERVICE

2022-Present, Honor's Director, Department of Geography and Planning, ASU
 2022-Present, APT Committee, ASU
 2024-Present, Faculty Senate Awards Committee, ASU
 2024 - 2025, APT Committee Chair, Department of Geography and Planning ASU
 2024 - 2025, Graduate Student Awards Committee Cratis D. Williams School of Graduate School, ASU
 2024 - RIEEE Search Committee for Research Scientist ASU
 2023-2024, Committee Member - Cratis D. Williams School of Graduate School, ASU
 2023, Committee Member - GIS Search Committee, Department of Geography and Planning
 2022-2024, Judge, Health and Medical Specialty Group, American Association of Geographers
 2022, Judge, Office of Student Research, ASU
 2020-2021, Chair, Junior Strickland Awards Committee, ASU
 2021-2022, Committee Member - Department Rural Resilience Chair Search, ASU
 2016 - 2024, Committee Member - Graduate Student Committee, ASU
 2015 - 2024, Committee Member - GIS Curriculum Committee, ASU
 2017 - 2020, Committee Member - Departmental Personnel Committee, ASU
 2017 - 2020, Committee Member - Masters Comprehensive Exam Committee, ASU
 2017 - 2019, 2025=2028, Reviewer - Peer Assisted Review Enterprise, ASU
 2018-2019, Chair, Master's Comprehensive Exam Committee, ASU
 2016-2017, Committee Member - Department Chair Search Committee, ASU
 2015-2016, Alternative Committee Member - Departmental Personnel Committee, ASU

MANUSCRIPT REVIEWS

International Journal of Environmental Research and Public Health

Environmental Pollution

International Journal of Biometeorology

BMJopen

Health and Place

Physical Geographer

Southeastern Geographer

Environmental Research

International Journal of Disaster Risk Reduction

Science of the Total Environment

Environment International

Geographical Review

Suicide and Life-Threatening Behavior

Annals of Epidemiology

Journal of Adolescent Health

Family and Community Health

ADVISORY PANELS and REVIEW PANELS

American Foundation for Suicide Prevention - Scientific Advisor (2021-2025)

National Science Foundation (NSF) Panel - Human Environmental and Geographical Sciences (HEGS) (2021, 2022, 2023(2)), Growing Convergence (2024)

Center for Disease Control's Firearm Violence Prevention Project, RITI International (2020-2023)

National Science Foundation (NSF) - External Reviewer - Decision, Risk and Management Sciences (2022)

National Institute of Environmental Health Sciences (NIEHS) Panel (2022, 2023)

PROFESSIONAL DEVELOPMENT

Participant, LEAD-in3: Integrated, Intentional, and Inclusive Research Leadership, AtKisson Training Group.
January - May 2025

Delegate, American of Association Geographers (AAG), United Nations Climate Change Conference, Baku,
Azerbaijan, November 2024

Workshop organizer, Rural Health Equity Conference, Appalachian State University, May 2024.

Invited Panelist, Appalachian Faculty Grant Panel, Office of Research, Appalachian State University, June 2022.

Invited Panelist, Howard Hughes Medical Institute, Department of Science Education's Connected Coastlines,
Roundtable, April 2021.

Participant, NIDIS/NOAA Carolinas Drought and Human Health, Asheville, NC 2020 (moved online for COVID-19)

Facilitator, Oak Ridge Event, University of Tennessee Knoxville, February 2020

Facilitator, Health and Safety Workgroup, Southeast Urban Sustainability Summit, August 2019 Greensboro, NC

Panel Member, Women in STEM: A Panel Discussion, Women in Educational Leadership Symposium, October
2018, Boone, NC

Participant, Climate and Respiratory Health -Focus Asthma, The Collider, November 2017, Asheville, NC

Participant, Path to Promotion and Tenure, Center for Academic Excellence, Appalachian State University, March
2017, Boone, NC.

Participant, Geography Faculty Development Alliance, Association of American Geographers, University of
Connecticut, June 2015, Sors, CT

Participant, Introduction to QGIS and Grass, University of North Carolina at Chapel Hill, Odum Institute, March-
April 2015, Chapel Hill, NC

Participant, Mapping with Open Data in R, University of North Carolina at Chapel Hill, Institute for the
Environment, February 2014, Chapel Hill, NC

Participant, A Beginner's Look at Multilevel Analysis Short Course, University of North Carolina at Chapel Hill,
Odum Institute, October – December 2013, Chapel Hill, NC

Participant, Applied Spatial Regression Analysis Short Course, University of North Carolina at Chapel Hill, Odum
Institute, September – October 2013, Chapel Hill, NC

Workshop Assistant, Public Health and Climate Change Summit: Focusing North Carolina Forward, Research
Triangle Environmental Health Collaborative, October 2013, Raleigh, NC

Participant, Interactive Lecturing, University of North Carolina at Chapel Hill, Center for Faculty Excellence,
August 2013, Chapel Hill, NC

Participant, Teaching Your First Large Class, University of North Carolina at Chapel Hill, Center for Faculty
Excellence, July 2013, Chapel Hill, NC

Participant, NCAR/CDC Colloquium on Climate and Health, National Center for Atmospheric Research, July,
2013, Boulder, CO

Participant, Joint NOAA-CDC Symposium on Climate and Health, Center for Disease Control, September, 2013, Atlanta, GA

Workshop Assistant, NIDIS Carolinas Drought Early Warning System: Supporting Coastal Ecosystem Management, Carolinas Integrated Sciences & Assessments, July – August 2012, Wilmington, NC

Workshop Assistant, Climate and Public Health: Emerging Risk and Opportunities, Southeast Regional Climate Center, August 2011, Chapel Hill, NC

Participant, Climate Change Adaptation Workshop, North Carolina Interagency Leadership Team, March 2010, Raleigh, NC

Participant, 7th Annual One Medicine Symposium, December 2009, Durham, NC

Workshop Assistant, Climate Change and Human Health: Assessing the Climate Information Gap, National Climatic Data Center, September 2009, Asheville, NC

AFFILIATIONS

Association of American Geographers (AAG)

American Meteorological Society (AMS)

Southeastern Division of the Association of American Geographers (SEDAAG)

Western North Carolina Climate-Change Public Health Workgroup

PUBLIC MEDIA OUTREACH

- Podcast Interview, Rock Your Research. (July 1, 2015). Available at: <http://www.rockyourresearch.com/podcasts/dr-maggie-sugg-appalachian-state/>
- Feature Article, Endeavors Magazine. (April 24, 2015). "Beat the Heat." Available at: <http://college.unc.edu/2015/05/04/beattheheat/>
- Feature Article, Appalachian State University. (August 26, 2016). "Geography Professor Sugg received award for continued research on her North Carolina heat-health vulnerability tool." Available at: <http://www.news.appstate.edu/2016/08/26/margaret-sugg/>
- Feature Article, The Appalachian. (September 22, 2016). "Beat the Heat." Available at: <http://theappalachianonline.com/2016/09/22/beat-the-heat/>
- Feature Article, Watauga Democrat. (September 19, 2019). "Samaritan's Purse brings High Country relief to the Bahamas in wake of Dorian" https://www.wataugademocrat.com/mountaintimes/news/samaritan-s-purse-brings-high-country-hospitality-to-the-bahamas/article_01e26815-2cd5-5bf1-9073-d34b860bd0eb.html
- Feature Article, Experience. (November 13, 2019). "A suicide hotline powered by big data" <https://expmag.com/2019/11/a-suicide-hotline-powered-by-big-data/>
- Feature Radio Interview (February 17, 2020). "Climate City: WNC Researchers Delve Into Climate Change & Health" Blue Ridge Public Radio. <https://www.bpr.org/post/climate-city-wnc-researchers-delve-climate-change-health?fbclid=IwAR0kBzStsTFG7I5KaQuEkTKvLUcscDg2Cu3outdrowr6gxAq6LjTPeLMRjk#stream/0>
- Feature Article, The Laurel (May 2020). "Climate Change and Human Health " <https://thelaurelofashville.com/lifestyle/climate-city-2020/>
- Feature Article, CICS News (June 2020). "Humidity Identified as a Factor in COVID-19 Cases in Some US Cities" <https://ncics.org/cics-news/humidity-identified-as-a-factor-in-covid-19-cases-in-some-u-s-cities/>

- Feature Article, Appalachian Today (July 2020). "Meteorological factors may influence COVID-19 transmission and spread in the US, according to research by App State and NCICS" <https://today.appstate.edu/2020/07/02/covid-19-meteorological-factors>
- Feature Article, Mountain Xpress (July 2020), "Local researchers explore weather's role in COVID-19 spread" <https://mountainx.com/living/local-researchers-explore-weathers-role-in-covid-19-spread/>
- Television Interview, WLOS (July 2020), "What impact does weather have on COVID-19? Local scientists are searching for answers" <https://wlos.com/news/local/what-impact-does-weather-have-on-covid-19-local-scientists-are-searching-for-answers>
- Feature Article, The Appalachian (October 2020), "Faculty Senate discusses concerns over holidays, spring semester with COVID-19" <https://theappalachianonline.com/faculty-senate-discusses-concerns-over-holidays-spring-semester-with-covid-19/>
- Feature Article, The News and Observer (October 2020), "Climate change 'threat multiplier' means extra risk of heat illness in rural NC" <https://www.newsobserver.com/living/article246280455.html>
- Radio Interview, North Carolina News Service, (November 2020), "Heat Illness in Rural North Carolina"
- Feature Article, College of Arts and Sciences News (December 2020). "Researching the Spread of COVID-19 in Nursing Homes" <https://cas.appstate.edu/news/researching-spread-covid-19-nursing-homes?fbclid=IwAR3M9890702OhnLByfCjslXgfNDf42hdAgfAWqN6Q2tYJg0TahCtzvng4QE>
- Feature Article, Public News Service (December 2020). "Heat Illness Hits Rural NC; Climate Change Means More Risk" <https://www.publicnewsservice.org/2020-12-24/climate-change-air-quality/heat-illness-hits-rural-nc-climate-change-means-more-risk/a72566-1>
- Feature Article, CAS News (May 2021). "Dr. Maggie Sugg receives NSF's most prestigious award in support of early-career faculty" <https://cas.appstate.edu/news/dr-maggie-sugg-receives-nsf%E2%80%99s-most-prestigious-award-support-early-career-faculty>
- Feature Article, The Appalachian Today (June 2021), "App State's Dr. Maggie Sugg receives National Science Foundation award for mental health research" <https://today.appstate.edu/2021/06/04/sugg>
- Feature Article, Watauga Democrat, (June 2021) "Sugg receives National Science Foundation award for mental health research" https://www.wataugademocrat.com/news/sugg-receives-national-science-foundation-award-for-mental-health-research/article_57c93f4c-c5ef-588e-bdcb-c1d2a017caf3.html
- Feature Article, The Watauga Democrat (January 2022), "Wild Weather in the High Country Eases Drought App State Researchers Study Impact on Mental Health" https://www.wataugademocrat.com/news/local/wild-weather-in-the-high-country-eases-drought-app-state-researchers-study-impact-on-mental/article_927871e7-ac7b-53f4-9acd-9a4f02b490a1.html#comments
- Feature Article, The Appalachian Today (April 2022), "How does extreme weather impact mental health? App State research team awarded a grant to find answers" <https://today.appstate.edu/2021/06/04/sugg>
- Feature Article, The Appalachian (April 2022), "App State hosts workshop for rural climate change awareness" <https://theappalachianonline.com/app-state-hosts-workshop-for-rural-climate-change-awareness/>
- Feature Article, Appalachian Voices (May 2022), "Researchers Discuss How Climate Change Impacts Health in Rural Mountain Communities" <https://appvoices.org/2022/05/18/climate-health-rural-mountains/>

- Feature Article, NC Medical News (July 2022), “Heat wave — the deadliest weather event — blankets NC” <https://www.northcarolinahealthnews.org/2022/07/08/heat-wave-the-deadliest-weather-event-blankets-nc/>
- Feature Article, FiveThirtyEight (July 2022), “Why The Same Temperature Can Feel Different Somewhere Else” <https://fivethirtyeight.com/features/heat-index-temperature/?share=custom-1647362736&nb=1>
- Feature Article, The Atlantic (July 2022), “America is Going to Have a ‘Heat Belt’” <https://www.theatlantic.com/ideas/archive/2022/08/heat-index-model-climate-change/671152/>
- Feature Article, Blue Ridge Public Radio (October 2023), “WNC locals shine as climate science communications” <https://www.bpr.org/bpr-news/2023-10-04/wnc-locals-shine-as-climate-science-communicators>
- Feature Podcast, National Institute of Environmental Health Sciences (May 2024), “Climate Disasters and Mental Health in Youth” <https://www.niehs.nih.gov/research/supported/translational/peph/podcasts/2024/climate-and-mental-health>
- Feature Article (June 2024), New York Times, “Rural America Lags Cities in Helping People Beat the Heat” <https://www.nytimes.com/2024/06/20/climate/heat-wave-rural-america.html>
- Feature Article, “App State’s Dr. Maggie Sugg awarded over \$1.5 million to study climate disasters and youth mental health”, <https://today.appstate.edu/2024/09/10/sugg>
- Feature Article, “App State professor awarded over \$1.5 million to study climate disasters and youth mental health”, <https://today.appstate.edu/2024/09/10/sugg>
- Feature Article (April 2025), New York Times, “Climate Change Is Stressing the World’s Blood Supplies” <https://www.nytimes.com/2025/04/16/climate/climate-emergency-blood-supply.html>
- News Segment, Spectrum News, “Some Helene volunteers show signs of PTSD, professor says” <https://spectrumlocalnews.com/nc/charlotte/news/2025/07/15/helene-volunteers-ptsd-symptoms#:~:text=%222Anniversary%20events%20like%20the%20one,disasters%20is%20important%20as%20well.%22>
- Feature Article, Ashe Post and Times, “Dr. Maggie Sugg receives grant to establish Appalachia flood-health resilience research network” https://www.ashepostandtimes.com/news/dr-maggie-sugg-receives-grant-to-establish-appalachia-flood-health-resilience-research-network/article_e4bb0cbe-ce4d-4c3a-839c-c50766edb391.html
- Feature Article (August 2025), New York Times, “Hurricane Erin Is Heading Out to Sea. People Are Riveted Anyway.” <https://www.nytimes.com/2025/08/21/us/hurricane-erin.html>
- Feature Article (September 2025), Appalachian Today, “App State advances community-driven research for recovery and resilience.” <https://today.appstate.edu/2025/09/19/helene-research>

OTHER EXPERIENCE AND AWARDS

2002 NCHSAA North Carolina Cross Country 3A State Champion - Individual

2002 Times-News Runner of the Year Award

2003 NCHSAA North Carolina Track and Field 3A 3200-meter State Champion

2003 NCHSAA North Carolina Track and Field 3A 1600-meter State Champion Runner-up

2003 Western North Carolina Coca-Cola Olympic Athlete of the Year

International travel experience in Africa, South America, Europe, Asia, and Australia