JORDAN CLARK, PhD

Climatologist & Data Scientist | Co-Founder, Klimo Insights
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EDUCATION

University of North Carolina at Chapel Hill, Chapel Hill, NC

Ph.D., Geography, May 2023
Dissertation Title: *Wet Bulb Globe Temperature: Identifying Relationships with Morbidity and Determining the Impact of Microclimatic Variability on Estimates and Forecasts*

M.A., Geography, August 2019
Thesis Title: *Measures of Heat Stress and Their Relationship with Mortality across North Carolina*

B.A., Geography, May 2017
Specialization: Earth and Environmental Systems

B.A., Political Science, May 2017

RELEVANT WORK EXPERIENCE

Data Scientist and Climatologist (Consultant), Duke Global Health Institute (DGHI) at Duke University, 07/2025–Present.

- Climate-Health Data Systems: Built and maintained data pipelines to acquire, process, and analyze climate and weather datasets for public health research, ensuring high-quality inputs for interdisciplinary studies.
- Open Science & Best Practices: Created GitHub repositories and technical vignettes that document best practices, helping interdisciplinary teams use climate data correctly and reproducibly.
- Observatory Standardization: Supported DGHI observatory-based initiatives by standardizing climate and heat exposure metrics, improving documentation, and aligning analytic workflows across sites and regions to enable multi-site comparisons.
- Harmonization of Methods: Enabled cross-partner comparative studies by harmonizing datasets and methods so results could be compared credibly across diverse geographical locations.
- Strategic Research Development: Contributed technical methods, data strategies, and feasibility assessments to climate-health grant proposals and applied research outputs.

Climatologist (Consultant), Heat Policy Innovation Hub, Nicholas Institute for Energy, Environment & Sustainability at Duke University | 10/2025 – Present.

- Applied Policy Analysis: Executed applied climate and heat analyses to support policy-focused work spanning public health, housing, energy reliability, and social vulnerability, placing emphasis on clear exposure definitions and explicit assumptions for policy-facing settings.
- Climate Indicator Development: Processed gridded climate data over long historical periods into indicators and summaries (e.g., extreme heat days, warm nights, WBGT) usable by interdisciplinary teams, establishing reusable methods for summarizing extreme heat conditions across multiple time horizons.
- Cross-Sector Data Integration: Integrated climate metrics with external datasets relevant to policy analysis—such as housing characteristics, infrastructure stressors, and health-related outcomes—to support exploratory and comparative analyses across geographies.
- Reproducible Methodology: Authored transparent method guides and documentation to ensure reproducibility and usability for non-technical policy teams, maintaining method consistency to support defensible comparisons.
- National Air-Conditioning Analysis: Advanced a national analysis of residential air-conditioning access by designing and scaling large-volume data collection workflows.
- Infrastructure & Health Research: Contributed analytical groundwork for emerging studies examining relationships between extreme heat, infrastructure stressors, and domestic/intimate partner violence

Co-Founder and Chief Climatologist, Klimo Insights, 01/2022-Present.

- Partnered with North Carolina state agencies, including the NC Department of Health and Human Services and the NC Department of Environmental Quality, as well as the NC State Climate Office, to implement the North Carolina Heat Warning System.
- Founded Klimo Insights, establishing key operational frameworks, including business planning, pricing models, packaging options, and strategies that align with market demands and innovation goals.
- Designed and implemented patent-pending methodologies and custom climate models, leveraging microscale techniques for localized analysis. These models incorporate environmental factors, such as land cover, solar radiation, and surface roughness (e.g., vegetation density), to enhance the precision and applicability of heat stress assessments.
- Piloted a Software as a Service (SaaS) platform integrating weather stations and other hardware to provide real-time WBGT (Wet Bulb Globe Temperature) and advanced heat metrics. Optional hardware enables hyperlocal monitoring, offering tailored, actionable insights for diverse operational needs.
- Co-developed and launched a public-facing mobile application available on major app stores, offering hyperlocal, real-time heat stress insights tailored to diverse sectors, including athletics and public health.

- Worked directly with clients and stakeholders across sectors to beta test and customize climate resilience solutions, tailoring tools to address specific operational challenges and ensuring practical, actionable outcomes for improved heat adaptation strategies

Senior Policy Associate, Climatologist, Heat Policy Innovation Hub, Nicholas Institute for Energy, Environment & Sustainability at Duke University, 02/2024 - 06/2025.

- Partnered with North Carolina state agencies, including the NC Department of Health and Human Services and the NC Department of Environmental Quality, as well as the NC State Climate Office, to implement the North Carolina Heat Warning System, including developing a heat action plan template for municipalities.
- Serve on the NCDHHS Climate and Health Steering Committee, providing strategic input, facilitating collaborations across government, academia, and non-profit sectors, and supporting statewide climate-health adaptation initiatives.
- Developed health-based heat index thresholds for the North Carolina Heat Warning System using generalized additive models with mixed effects to analyze the relationship between heat index levels and heat-related illness emergency department visits, creating a data-driven foundation for community heat preparedness.
- Delivered expertise and strategic guidance to 10 North Carolina counties, fostering collaboration, sharing knowledge, and embedding data-driven insights into their heat adaptation initiatives.
- Collaborated with international agencies, including the World Meteorological Organization (WMO), World Health Organization (WHO), and United Nations Office for Disaster Risk Reduction (UNDRR), to establish key principles and approaches for a Common Framework for Heat Solutions.
- Designed a scoring schema to evaluate heat action plans, incorporating metrics that prioritize equity, feasibility, and long-term impact, providing a robust framework for assessing and scaling climate resilience strategies.
- Co-organized and presented at FEMA-hosted interdisciplinary workshops, translating research insights into actionable strategies for extreme heat preparedness and response.
- Initiated research into the long-term health impacts of chronic heat exposure in collaboration with Duke urologists, leveraging longitudinal health tracking via electronic health records (EHRs) and real estate data (InfoUSA) to deepen understanding of climate-health intersections and inform targeted interventions.
- Designed and presented parametric insurance models to address extreme heat impacts, including schemes to offset cooling costs for vulnerable households in partnership with utilities and risk coverage solutions tailored for outdoor laborers. Shared and refined these innovations at the Climate Insurance and Resilience Advancing Dialogue (CIRCAD) forum, convening industry leaders, insurers, and adaptation experts to explore equitable solutions.
- Contributed to multi-million-dollar grant proposals focused on equity-driven strategies to mitigate the impacts of extreme heat, advancing innovative approaches for resilience.

- Engaged with a range of media outlets, from local platforms like WRAL and CBS 17 to national and international outlets such as The New York Times, The Guardian, National Geographic, and NPR, to raise awareness of extreme heat challenges and advocate for evidence-based policy solutions tailored to diverse audiences.
- Created educational and communication resources, including infographics and explainer videos, to translate complex heat resilience science and strategies into actionable information for broad public audiences
- Researched water affordability challenges by analyzing how fixed water rates disproportionately impact lower-income households, leveraging CoreLogic housing data to explore intersections with housing values and regional economic disparities, and informing policy discussions on equitable utility pricing.
- Analyzed Bloomberg Terminal data to examine trends in defaults on municipal bonds tied to water and sewer systems, identifying systemic vulnerabilities and informing equity-driven policy strategies for resource allocation.
- Played a leading role in the organization of the HeatWise Policy Partnership Summit, a three-day, multi-sectoral forum convening public, private, community, and academics to address critical gaps in heat adaptation strategies.
- Managed partnerships between the Heat Policy Innovation Hub and campus researchers, streamlining academic collaborations to enhance interdisciplinary heat resilience research and innovation.
- Oversaw the handling of sensitive data for heat-health projects, ensuring adherence to IRB protocols, DUA requirements, and rigorous data security practices.

Postdoctoral Associate, Nicholas Institute for Energy, Environment & Sustainability at Duke University, 02/2023-01/2024.

- Instrumental in the development of the framework, foundation, and targeted goals for the creation of the Heat Policy Innovation Hub at the Nicholas Institute for Energy, Environment & Sustainability.
- Invited to speak at the inaugural FEMA Extreme Heat Summit, attended by the FEMA director and representatives from all regions, sharing research on heat-health impacts and tools like WBGT forecasting to support national policy discussions on extreme heat preparedness.
- Fostered partnerships across local, state, and federal levels, notably co-leading a 'Lunch and Learn' session on extreme heat for FEMA Region 5 and sharing work at the National Integrated Heat Health Information System (NIHHIS) National Conference.
- Played a foundational role in developing North Carolina’s heat action plan template, collaborating with state agencies and the National Weather Service on a successful pilot project in July 2023.
- Led a small team in creating a best-practices guidebook and strategic roadmap for data extraction tool development, emphasizing code quality, thorough documentation, and stakeholder feedback to ensure future effectiveness of tool development.

- Served as a subject matter expert on extreme heat and its broader implications, engaging with high-profile media outlets such as National Geographic, The Guardian, NPR, and WRAL.
- Assisted with the management of IRB approvals and related data use agreements for data acquisitions of hospital and emergency department datasets.
- Contributed research and technical expertise to the 2023 Durham County Community Health Assessment, highlighting extreme heat impacts and providing policy recommendations.
- Thought partner and collaborator in numerous conversations with researchers and professionals across Duke University and Duke Health to initiate interdisciplinary research and community-engagements related to extreme heat.
- Oversaw work of master's students on a project assessing extreme heat planning preparedness across the United States.
- Designed and developed a web-based tool to assist water utilities with lead service line inventories, leveraging tax parcels, address data, and historical satellite imagery for accurate assessments.
- Provided technical training and on-site demonstrations to under-resourced water utilities across North Carolina, equipping them with tools to digitize utility boundaries and fulfill EPA requirements on lead pipe inventories without the need for costly software.

Interim Regional Climatologist, Southeast Regional Climate Center (SERCC), University of North Carolina at Chapel Hill, 06/2022-08/2022.

- Authored monthly climate reports for NOAA, which are published publicly at NOAA.gov as historical governmental records. These reports serve as a public resource for future research and other purposes, covering the southeastern United States, Puerto Rico, and the US Virgin Islands.
- Designed monthly national NOAA-wide webinars that synthesized regional climate trends, extreme weather events, and short-term forecasts for the southeastern US.

Research Assistant, Carolinas Integrated Sciences and Assessments (CISA), Southeast Regional Climate Center (SERCC), University of North Carolina at Chapel Hill, 07/2017-12/2022.

- Developed the first forecast tool in the United States for wet bulb globe temperature (WBGT), a robust and comprehensive heat stress metric, leveraging numerical weather prediction models, which is now operational across the eastern two-thirds of the U.S., and validated these forecasts through extensive fieldwork.
- Consulted with the U.S. National Weather Service (NWS) on their development of a Wet Bulb Globe Temperature (WBGT) forecast parameter, which marked a landmark innovation in national-scale heat forecasting, including offering targeted recommendations for forecast enhancements and providing integral insight into forecast accuracy from collecting data across North Carolina.

- Conducted field work (2018-2022) to quantify microscale variations in extreme heat using WBGT meters and a mobile weather station, focusing on high schools and suburban environments across North Carolina and Charleston, SC to inform future improvements to the WBGT forecast tool.
- Collaborated with the North Carolina High School Athletic Association to leverage WBGT forecasting for athletic safety, including visiting several high schools in the Research Triangle to collect data and experience user needs directly in the field.
- Managed and optimized servers capable of handling terabytes of weather forecast model data, successfully navigating challenges around data volume and virtual hosting.
- Spearheaded innovative statistical modeling to assess the impacts of extreme heat on morbidity and mortality in North Carolina, informing the development of future heat-health warning systems.
- Developed and streamlined modeling of heat-health relationships for use in the Heat-Health Vulnerability Tool (HHVT), which is a web application predicting the daily number of heat-related illness emergency department visits for counties across NC based on forecasted Heat Index by the NWS.

Graduate Research Consultant, Environment and Ecology 201: Introduction to Environment and Society, 01/2019-05/2019.

- Lectured class on the multifaceted impacts of climate change, including extreme heat, on various sectors such as human health, agriculture, and water resources.
- Interdepartmental liaison to construct lectures that adequately communicate the climate crisis in tangible ways across disciplines.

Graduate Research Consultant, American Studies 291: The Ethics of Climate Change, 01/2018-05/2018.

- Delivered lectures on the science of climate change and the complex ethical dilemmas therein, with a focus on the impacts of extreme heat on society.
- Provided academic guidance for student projects identifying community vulnerabilities to climate hazards such as extreme heat, flooding, and drought.

GIS Team Lead, VSolvit LLC, 05/2016-08/2018.

- Directed a team of 10 employees responsible for core GIS tasks, including geocoding, creating Map Exchange Documents (MXDs), and organizing and optimizing data, foundational to the company's spatial analysis services for public and private partners.
- Spearheaded a research project to monitor health indicators at both the community and individual level within the U.S., focusing on identifying vulnerabilities and enhancing resilience to climate and other environmental stressors.
- Directed weekly team strategy sessions to develop new projects and oversee progress of ongoing work.

- Established and maintained a structured communication framework for weekly updates, enabling effective oversight and progress tracking for team members engaged in various GIS projects.

Intern, City of Raleigh Urban Design Center, 09/2016-12/2016.

- Conducted cost-benefit analyses to prioritize future greenway projects, aligning with the City of Raleigh's climate mitigation goals.
- Performed demographic analyses and projections and leveraged GIS tools to assess how parks meet community needs to facilitate improved health through outdoor recreation, shaping targeted policy interventions for optimizing linkages between parks and target populations.

PUBLICATIONS

REFEREED PUBLICATIONS

Noonan, D., Grenon, S., Swinkels, C., **Clark, J.**, Zaniolo, M., Peralta, J., ... & Abram, M. D. (2025). Intersecting Risk: Heat and Substance Use in Rural Communities. Substance Use & Misuse, 1–4. https://doi.org/10.1080/10826084.2025.2476765

Grundstein, A. J., Yeargin, S. W., Cooper, E. R., Cargile, L., **Clark, J.**, Lopez, R. M., ... & Stearns, R. L. (2025). Evaluating heat risk: Comparing on-site WBGT measurements versus smartphone application estimates. GeoHealth, 9(3), e2025GH001347. https://doi.org/10.1029/2025GH001347

Clark, J., Konrad, C. E., & Grundstein, A. (2024). The Development and Accuracy Assessment of Wet Bulb Globe Temperature Forecasts. *Weather and Forecasting*. https://doi.org/10.1175/WAF-D-23-0076.1

Clark, J., & Konrad, C. E. (2024). Observations and Estimates of Wet Bulb Globe Temperature in Varied Microclimates. *Journal of Applied Meteorology and Climatology*. https://doi.org/10.1175/JAMC-D-23-0078.1

Clark, J., Weintraut, B., Nagamoto, E., Wilson, M., Snyder, J., & Ward, A. (under review). A retrospective analysis of heat-related economic losses in the United States (2001–2022). Manuscript submitted for publication.

Noonan, D., Grenon, S., Swinkels, C., **Clark, J.**, Zaniolo, M., Peralta, J., ... Abram, M. D. (2025). Intersecting Risk: Heat and Substance Use in Rural Communities. *Substance Use & Misuse*, 1–4. https://doi.org/10.1080/10826084.2025.2476765

Ward, A., **Clark, J.**, Konrad, C., Woodul, R., McLeod, J. Moser, H. (2019). *The impact of chronic high-heat on reduced gestational age in pregnant women in North Carolina, 2011-2015*. International Journal of Biometeorology. 1-10. https://doi.org/10.1007/s00484-019-01773-3

Acknowledged Contributions:

Barnes, J., & Dow, K. (2022). Water and heat: intervening in adaptation hazard Bias. *Frontiers in Climate*, *4*, 868017. https://doi.org/10.3389/fclim.2022.868017

REPORTS AND POLICY PUBLICATIONS

Clark, J., Nagamoto, E., Hatcher, S. M., Williams, C. R., Locklear, A., Kothegal, N. P., & Ward, A. R. (2025). Modernizing Heat Alerts in North Carolina: A Health-Based Framework for Subregional Risk Communication (NI R 25-10). Durham, NC: Nicholas Institute for Energy, Environment & Sustainability, Duke University. https://nicholasinstitute.duke.edu/publications/modernizing-heat-alerts-north-carolina

Clark, J., Weintraut, B., Nagamoto, E., Wilson, M., Snyder, J., & Ward, A. (2025). Counting the Cost: Quantifying the Rising Impacts of Heat-Related Productivity Losses in the United States (2001–2023) (NI R 25-08). Durham, NC: Nicholas Institute for Energy, Environment & Sustainability, Duke University. https://nicholasinstitute.duke.edu/publications/counting-cost-quantifying-rising-impacts-heat-related-productivity-losses

Clark, J., Bouchard, F., & Ward, A. (2025). Insurance Innovation for Community Heat Resilience (NI R 25-07). Durham, NC: Nicholas Institute for Energy, Environment & Sustainability, Duke University. https://nicholasinstitute.duke.edu/publications/insurance-innovation-community-heat-resilience

Global Heat Health Information Network, UNDRR, WMO. (2025). An Assessment of Heat Action Plans: Global standards, good practices and partnerships. **(Author and Editor).**

Global Heat Health Information Network, UNDRR, WMO. (2025). Stocktake Report: Heat action across United Nations Entities and International Organizations. **(Author and Editor).**

Clark, J. (2024). *Development and deployment of a Lead Service Line Inventory Application for North Carolina Water Utilities.* Nicholas Institute for Energy, Environment & Sustainability, Duke University. https://hdl.handle.net/10161/31685

Clark, J. (2023). *A Game Plan for Heat Stress: Policy Recommendations for High School Sports.* NI PB 23-01. Durham, NC: Duke University. https://hdl.handle.net/10161/31695

Ward, A., & **Clark, J**. (2023). *Defining Extreme Heat as a Hazard: A Review of Current State Hazard Mitigation Plans.* https://hdl.handle.net/10161/27339**.**

PUBLIC-FACING PUBLICATIONS

Clark, J., & Ward, A. (2024, May 10). Wet bulb globe temperature, not heat index, should guide worker safety. *STAT News.* https://www.statnews.com/2024/05/10/wet-bulb-globe-temperature-heat-index-worker-safety/

Clark, J. (2024, August 7). Rising temperatures and the Paris Olympics: A call to action for climate resilience. *Climate Champions.* https://climatechampions.unfccc.int/rising-temperatures-and-the-paris-olympics/

Clark, J., Konrad C. (2020). Accuracy Assessment of Experimental Wet Bulb Globe Temperature Forecasts Across North Carolina and the Continental United States. https://www.cisa.sc.edu/Pubs_Presentations_Posters/Reports/2020_Clark%20and%20Konrad_WBGT%20Assessment.pdf

Clark, J. (2019). CISA Engagement with the North Carolina High School Athletic Association: Heat Safety Working Group. *Carolinas Climate Connection.* https://www.cisa.sc.edu/Newsletter/CCC%20Newsletter_2nd%20Quarter%202019.pdf

CONFERENCE PROCEEDINGS

Presentations

Evaluating and Predicting the Health Impacts of Extreme Heat in Present and Future Climate. Presented at the King's College London – University of North Carolina at Chapel Hill Climate Workshop. February 20, 2018. London, United Kingdom.

The use of Different Measures of Heat Stress to Model Mortality in Urban vs. Rural Regions of North Carolina. Presented at the MPE 2013+ Workshop on Urban Environmental Sustainability in a Smart and Connected World. August 6, 2018. Athens, GA.

Comparing the Relationships Between Heat Stress Indices and Mortality in North Carolina. 2018 Carolinas Climate Resilience Conference. October 30, 2018. Columbia, SC.

Identifying the Relationships Between Mortality and Wet-Bulb Globe Temperature across North Carolina. Presented at the North Carolina Public Health Association 2018 Fall Educational Conference. December 13, 2018. Charlotte, NC.

Identifying the Relationships between Mortality and Heat Stress Indices across North Carolina. Presented at the 99th American Meteorological Society Annual Meeting. January 8, 2019. Phoenix, AZ.

The Development and Validation of a Web-Based Tool to Forecast Wet-Bulb Globe Temperature. American Association of Geographers Annual Meeting. April 8, 2020. Denver, CO. (Conference canceled due to COVID-19).

The Development and Validation of a Web-Based Tool to Forecast Wet-Bulb Globe Temperature. Presented at the 2021 Carolinas Climate Resilience Conference. May 10, 2021. Durham, NC.

The Development and Validation of a Web-Based Tool to Forecast Wet-Bulb Globe Temperature. Presented at the Southern Appalachian Weather and Climate Workshop. March 26, 2022. Asheville, NC.

Defining Extreme Heat as a Hazard: A Review of Current State Hazard Mitigation Plans. Presented at the National Integrated Heat Health Information System (NIHHIS) National Conference. April 27, 2023.

Rising Temperatures, Rising Risks: Applications for Public Health Safety in Extreme Heat. Presented at the FEMA Extreme Heat Summit. May 10, 2023. Chicago, IL.

Pioneering Health-Informed Heat Action: North Carolina's Model for Climate Resilience. Presented at the 51st Conference on Broadcast Meteorology and Seventh Conference on Weather Warnings and Communication. June 14, 2024. Myrtle Beach, SC.

Innovative Insurance Solutions for Extreme Heat Risks. Presented at the Center for Innovation in Risk Analysis for Climate Adaptation and Decision Making (CIRCAD). September 2024. Atlanta, GA.

Presentations (Co-Author Contributions)

A Web-Based Tool to Forecast Wet-Bulb Globe Temperature (WBGT) for Outdoor Recreation. Presented at the North Carolina Recreation and Park Association Conference. December 4, 2019. Durham, NC. (Co-author, presented by F. Cochran)

Forecasting the Wet-Bulb Globe Temperature: A Web-Based Tool Designed for Populations Who Are Vulnerable to Heat-Related Illnesses. Presented at the American Meteorological Society 100th Annual Meeting. January 14, 2020. Boston, MA. (Co-author, presented by S. Rayne)

A Web-Based Tool to Forecast Wet Bulb Globe Temperature for Populations Who Engage in Exertional Outdoor Activities. Presented at the American Meteorological Society 99th Annual Meeting. January 7, 2019. Phoenix, AZ. (Co-author, presented by D. Bertrand)

Invited Keynotes and Distinguished Presentations

Understanding Extreme Heat Vulnerability: Strategies for Emergency Preparedness and Hazard Mitigation. FEMA Region 5 Climate and Resilience Workgroup Lunch and Learn September 6, 2023

Managing Heat Risk in a Warming World: Heat Policy and Opportunities for Public-Private Collaboration. Presented at the North Carolina Biotechnology Center. November 11, 2024. Durham, NC.

Managing Heat Risk in a Warming World: Heat Policy and Opportunities for Public-Private Collaboration. Presented at the Duke EDGE Board Meeting. November 14, 2024. Duke University, Durham, NC.

SELECTED MEDIA CONTRIBUTIONS

NATIONAL AND INTERNATIONAL MEDIA

Nonprofit Quarterly. Scott, R. L. (2025, December 22). How Climate Instability and Extreme Heat Could Upend High School Sports. https://nonprofitquarterly.org/how-climate-instability-and-extreme-heat-could-upend-high-school-sports/

The New York Times. (2024, August 13). Quote of the Day: Heat contributed to 47,000 deaths in Europe last year. https://www.nytimes.com/2024/08/13/pageoneplus/quotation-of-the-day-toll-in-europefrom-23-heat47000-deaths.html

The New York Times. (2024, August 12). Heat Contributed to 47,000 Deaths in Europe Last Year, but Relief Programs Helped. https://www.nytimes.com/2024/08/12/climate/excess-heat-deaths-europe.html

The Guardian. Noor, D. (2023, September 6). "A harrowing summer": Extreme weather costs hit us as 60m under heat alerts. https://www.theguardian.com/environment/2023/sep/06/a-relatively-new-challenge-why-us-heatwaves-dont-receive-disaster-funds

STAT News. (2024, May 10). Heat indexes fall short: Why wet-bulb globe temperature could be key for worker safety. *STAT News.* https://www.statnews.com/2024/05/10/wet-bulb-globe-temperature-heat-index-worker-safety/

NOAA Climate.gov. Lindsey, R. (2019, September 30). Extreme heat increases pregnant women's risk of pre-term delivery. https://www.climate.gov/news-features/featured-images/extreme-heat-increases-pregnant-women%E2%80%99s-risk-pre-term-delivery

The New Republic. Aronoff, K. (2023, July 20). This heat is a national disaster. Why won't the Biden administration say so? https://newrepublic.com/article/174450/heat-national-disaster-wont-biden-administration-say-so

Canadian Centre for Occupational Health and Safety. (2024, August 12). Coping with Extreme Heat on the Job. *OHS Canada.* https://www.ohscanada.com/features/coping-with-extreme-heat-on-the-job/

The News & Observer. Shelby Swanson. (2024, June 26). Experts discuss essential hydration tips for athletes during the North Carolina heat wave. https://app.cision.com/public/#!/news/O_7s41hNZRNGFtheKmiHORjNHIiYfLnAdPhCrVI9UZE

REGIONAL MEDIA

North Carolina Health News. Blythe, A. (2023, August 26). As climate change makes excessive heat more routine, NC schools forced to weigh student, athlete safety. https://www.northcarolinahealthnews.org/2023/08/22/climate-change-excessive-heat-schools-student-athlete-safety/

North Carolina Health News. Talton, T. (2023, June 2). States greatly underestimate extreme heat hazards: Study. https://www.northcarolinahealthnews.org/2023/06/02/states-underestimate-extreme-heat-hazards/

Triangle News Hub. Editor In Chief. (2023, August 22). It's too hot. How can schools protect students, athletes? https://trianglenewshub.com/lifestyle/its-too-hot-how-can-schools-protect-students-athletes/

Highlands News-Sun. (2023, August 22). Moody, K. Heat Surge Challenges Student Athletes. *Highlands News-Sun.* https://www.midfloridanewspapers.com:443/highlands_news-sun/heat-surge-challenges-student-athletes/article_791a229c-3dee-11ee-9583-e73bcf285856.html

Florida Phoenix. (2023, July 30). Henkel C. In a summer marked by extreme heat, is it time for a national cooling standard? *Florida Phoenix.* https://floridaphoenix.com/2023/07/30/in-a-summer-marked-by-extreme-heat-is-it-time-for-a-national-cooling-standard/

Cornelius Today. (2023, July 28). Duke experts say policies must change to address heat. *Cornelius Today.* https://www.corneliustoday.com/duke-experts-say-policies-must-change-to-address-heat/

HighSchoolOT.com. (2023, July 27). Duke expert echoes NCHSAA heat policies as fall sports begin. *HighSchoolOT.com.* https://www.highschoolot.com/duke-expert-echoes-nchsaa-heat-policies-as-fall-sports-begin/20974419/

HighSchoolOT.com. (2023, July 27). How to mitigate the risk of heat illness during hot weather. *HighSchoolOT.com.* https://www.highschoolot.com/how-to-mitigate-the-risk-of-heat-illness-during-hot-weather/20974504/

HighSchoolOT.com. (2023, July 27). Steps to make games safer during extreme heat.

HighSchoolOT.com. https://www.highschoolot.com/steps-to-make-games-safer-during-extreme-heat/20974507/

BROADCAST MEDIA

WRAL (NBC Affiliate). (2023, July 31). Duke Heat Policy Innovation Hub offers game plan to protect high school athletes. https://www.wral.com/video/duke-heat-policy-innovation-hub-offers-game-plan-to-protect-high-school-athletes/20980085/

CBS 17 (CBS Affiliate) (2024, August 1). Scorching temperatures prompt new monitoring by high school teams returning to practice for fall sports. https://www.cbs17.com/news/local-news/wake-county-news/scorching-temperatures-prompt-new-monitoring-by-high-school-teams-returning-to-practice-for-fall-sports/

WPTF-AM Radio Interview (2023, July 28). Discussed heat-related challenges and safety. *NewsRadio 680 WPTF.* https://us.vocuspr.com/ViewNewsOnDemand.aspx?ArticleID=522300_25188_348161216

WUNC Health. (2024, October 4). COMIC: How does extreme heat affect our bodies? *WUNC.* https://www.wunc.org/health/2024-10-04/comic-extreme-heat-bodies-health

WUNC Environment. (2024, October 2). 'An invisible threat:' Behind the push for heat safety rules in North Carolina. *WUNC.* https://www.wunc.org/environment/2024-10-02/heat-safety-standards-north-carolina-outdoor-workers

AWARDS AND FELLOWSHIPS

Weiss Urban Livability Doctoral Fellowship, University of North Carolina at Chapel Hill, 2017-2018.

TECHNICAL SKILLS

Programming and Software:

- Advanced: R, Python, ArcGIS, ENVI, SQL
- Intermediate: MATLAB, PHP, QGIS, HTML
- Advanced skills in mobile application design and development, including integration of secure user authentication protocols and database management using SQL.
- Proficient in building scalable SQL databases for handling extensive climate datasets, ensuring optimized data storage and performance.

Statistical and Data Analysis:

- Expertise in multivariate, logistic, and Poisson regression, as well as Cox proportional hazards models and Principal Component Analysis (PCA).
- Advanced proficiency in time-series analysis and spatial statistics, including kriging, interpolation, and cluster analysis.
- Extensive expertise in managing, processing, and analyzing large-scale climate datasets, including NetCDF, GRIB, HDF5, and CSV formats, optimizing workflows for efficient storage and computation.

Climate Modeling and Risk Assessment:

- Specialized in bias correction, downscaling, and the development of hyperlocal climate models, such as GFDL SHiELD, for fine-scale assessments of climate impacts.
- Advanced skills in climate risk assessment and vulnerability studies, integrating physical and socioeconomic data for actionable insights.

Remote Sensing and GIS:

- Advanced capabilities in remote sensing image analysis, including spectral unmixing, supervised/unsupervised classification, and vegetation index calculations.
- Proficient in geospatial data manipulation, including automated geocoding workflows, multi-layer MXD creation, and spatial interpolation.

Systems and Server Management:

- Expertise in deploying and managing web servers and databases on cloud platforms such as AWS, including system architecture for high-performance computing.
- Skilled in optimizing data storage systems for large-scale climate datasets, ensuring security, scalability, and efficient access.

PROFESSIONAL SOCIETIES

American Meteorological Society (AMS)
Association of American Geographers (AAG)