

Vincent M. Brown, Ph.D.
Department of Geography and Sustainability
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Interests

Physical geography, emphasizing the use of R and Python to research climatological processes, precipitation variability, and climate extremes.

Education

Ph.D. Geography, August 2019, Louisiana State University.

Dissertation Title: “Hourly Precipitation Climatology of the Southeast United States.”

Advisor: Dr. Barry D. Keim; Committee: Dr. Alan W. Black, Dr. Kristine L. DeLong, and Dr. Josh T. Copes.

M.S. Geography, May 2016, University of Tennessee.

Thesis Title: “Tennessee Tornado Frequency, Vulnerability, and Relation to Large-Scale Climate Variability.”

Advisor: Dr. Kelsey N. Ellis; Committee: Dr. Sally P. Horn and Dr. Nicholas N. Nagle.

B.S. Geography, May 2014, Salisbury University.

Concentration: Atmospheric Sciences and Applied Climatology.

Advisor: Dr. Brent R. Skeeter.

Positions Held

Assistant Professor. Department of Geography and Sustainability. University of Tennessee. 2026–present.

Assistant Professor-Research. Department of Geography and Anthropology. Louisiana State University. 2019–2026.

Climate Research Director. Southern Climate Impacts Planning Program – National Oceanic and Atmospheric Administration Funded Regional Integrated Sciences and Assessments Team. Louisiana State University. 2019–2026.

Staff Meteorologist/Consultant. Applied Weather Associates. Monument, CO. 2020–present.

Peer-Reviewed Publications

Brown, V.M., Thompson, D.T., DeFee, B.B., Osland, M.J., and Keim, B.D., 2026.

Tropicalization of the Temperate Zone: Spatiotemporal Variability of Winter Warming and Declining Freeze Days Across the United States. *International Journal of Climatology*.

[Accessible here.](#)

Jayasinghe, N., **Brown, V.M.**, Smiley, K.T. and Keim, B.D., 2026. Do climate change knowledge and risk perceptions drive flood preparedness? Evidence from New Orleans. *Climate Risk Management*, p.100852. [Accessible here.](#)

Thompson, D.T., **Brown, V.M.**, Reilly, A., Oral, E., Keim, B.D., and Gentimis, T., 2026. Analysis of Multiple Measures of Heat Stress on Morbidity and Mortality in Louisiana. *Weather, Climate, and Society*, 18, 777–795. [Accessible here.](#)

Thompson, D.T. and **Brown, V.M.**, 2026., A Climatology of Gridded Wet-Bulb Globe Temperature for the Southeastern United States. *Journal of Applied Meteorology and Climatology*. P.e250125. [Accessible here](#).

Brown, V.M., Haberlie, A.M., Thompson, D.T., and Keim, B.D., 2025. Using the Analysis of Record for Calibration to Estimate Sub-Daily Rainfall Characteristics Across Louisiana. *Journal of Hydrometeorology*. [Accessible here](#).

Sitzman, A.M., **Brown, V.M.**, Keim, B.D., and Spencer, J.N. 2025. Heavy Rainfall and New Orleans Neutral Ground Parking Decisions. *Urban Water*, 1–15. [Accessible here](#).

Keim, B.D., Hamilton, L.C., **Brown, V.M.**, Klotzbach, P.J., Lewis, A.B. and Thompson, D.T., 2024. Lengthening Atlantic Hurricane Seasons with Earlier Storm Formation Dates Including Implications from 2020. *Journal of Climate*, 37, 6699–6712. [Accessible here](#).

Brown, V.M., Black, A.W., Hultstrand, D.M., Kappel, W.D., Thompson, D.T., Bentley, A.M., Sitzman, A.K. and Keim, B.D., 2024. Rainfall analysis of the May 2021 Southeastern Texas and Southern Louisiana Flood. *Physical Geography*, 45, 626–649. [Accessible here](#).

Trepanier, J.C., Nielsen-Gammon, J., **Brown, V.M.**, Thompson, D.T. and Keim, B.D., 2024. Stalling North Atlantic Tropical Cyclones. *Journal of Applied Meteorology and Climatology*, 63, 1409–1426. [Accessible here](#).

Day, J.W., Xu, Y.J., Keim, B.D., **Brown, V.M.**, Giosan, L., Mann, M.E., and Stephens, J.R., 2024. Emerging climate threats to the Mississippi River Delta: Moving from restoration to adaptation. *One Earth*, 7, 558–571. [Accessible here](#).

Lavaud, R., La Peyre, M.K., Couvillion, B., Pollack, J.B., **Brown, V.M.**, Palmer, T.A. and Keim, B.D., 2024. Predicting Restoration and Aquaculture Potential of Eastern Oysters Through an Eco-Physiological Mechanistic Model. *Ecological Modelling*, 489, 110603. [Accessible here](#).

Thompson, D.T., Keim, B.D., and **Brown, V.M.**, 2024. Construction of a Tropical Cyclone Size Dataset using Reanalysis Data. *International Journal of Climatology*, 44, 3028–3053. [Accessible here](#).

Corkran, R., Trepanier, J. and **Brown, V.M.**, 2024. Spatiotemporal Climatology of Georgia Tropical Cyclones and Associated Rainfall. *Journal of Marine Science and Engineering*. [Accessible here](#).

Bolinger, R.A., **Brown, V.M.**, Fuhrmann, C.M., Gleason, K.L., Joyner, T.A., Keim, B.D., Lewis, A., Nielsen-Gammon, J.W., Stiles, C.J., Tollefson, W. and Attard, H.E., 2022. An Assessment of the Extremes and Impacts of the February 2021 South-Central US Arctic Outbreak, and how Climate Services Can Help. *Weather and Climate Extremes*, 100461. [Accessible here](#).

Brown, V.M., Keim, B.D., and Black, A.W., 2020. Trend Analysis of Multiple Extreme Hourly Precipitation Time Series in the Southeast United States. *Journal of Applied Meteorology and Climatology*, 59, 427–442. [Accessible here](#).

Brown, V.M., Keim, B.D., Kappel, W.D., Hultstrand, D.M., Peyrefitte, A.G., Black, A.W., Steinbilber, K.M., and Muhlestein, G.A., 2020. How Rare was the August 2016 South-Central Louisiana Heavy Rainfall Event? *Journal of Hydrometeorology*, 21, 773–790. [Accessible here](#).

Brown, V.M., Shirley, M.G., Keim, B.D., Marx, B.D. and Lutz, C.G., 2020. Effect of Meteorological Variables on Crawfish Harvest in Louisiana. *Climate Research*, 81, 15–28. [Accessible here](#).

Brown, V.M., Keim, B.D., and Black, A.W., 2019. Climatology and Trends in Hourly Precipitation for the Southeast United States. *Journal of Hydrometeorology*, 20, 1737–1755. [Accessible here](#).

Brown, V.M., Black, A.W. and Keim, B.D., 2019. Hourly Rainfall Climatology of Louisiana. *Theoretical and Applied Climatology*, 137, 2011–2027. [Accessible here](#).

Brown, V.M., Ellis, K.N. and Bleakney, S.A., 2016. Tennessee Tornado Climate: A Comparison of Three Cities. *Southeastern Geographer*, 56, 118–133. [Accessible here](#).

Ellis, K. N., Hathaway, J. M., Mason, L. R., Howe, D. A., Epps, T. H., and **Brown, V.M.**, 2015. Summer Temperature Variability Across Four Urban Neighborhoods in Knoxville, Tennessee, USA. *Theoretical and Applied Climatology*, 127, 701–710. [Accessible here](#).

Grants and Awards

Lively, J., **Brown, V.M.**, Keim, B.D., CREST: The Climate Resilient Skills Training Program. **Funded** by the National Oceanic and Atmospheric Administration Sea Grant for \$504,933 from August 2024–July 2027.

T. Douthat and **V.M. Brown**. Reversing Disproportionate Impacts of Hydroclimatic Extremes in Water-Rich Regions via Justice-Minded Research and Collaborative Adaptation Planning Under Current and Predicted Future Water Quality Conditions. **Funded** with NSF-EPSCOR for \$565,836 from September 2024–September 2028.

Brown, V.M., Keim, B.D., *Planning a Flood Resilient Future for New Orleans, LA*. **Funded** by the National Oceanic and Atmospheric Administration-Adaptation Sciences Program Advancing Climate Adaptation and Coastal Community Resilience for \$300,000. September 2021–August 2023.

Brown, V.M., Keim, B.D., *Southern Climate Impacts Planning Program Phase IV: Planning for Long Term Change in a Short-Term World*. **Funded** by the National Oceanic and Atmospheric Administration-Regional Integrated Sciences and Assessments Program for \$5,400,000. September 2021–August 2026.

Keim, B.D., and **Brown, V.M.** *A roadmap for developing resilient coastal shellfish populations: using spatial and process-based modelling for restoration under current and predicted future water quality conditions*. **Funded** by the South-Central Climate Adaptation Science Center for \$299,435 from August 2021–August 2023.

Keim, B.D., **Brown, V.M.**, and Lewis, A.B. *Filling the Gaps: Climate and Weather Information for Small- and Medium Sized Water Utilities*. **Funded** by the National Oceanic and Atmospheric Administration for \$20,000 from November 2019–September 2020.

Keim, B.D., Black, A.W., Edwards, J.R., Daigle, M.T., and **Brown, V.M.** *Building a More Resilient Coast: Understanding and Adapting to Extreme Events*. **Funded** by the National Oceanic and Atmospheric Administration-Coastal and Ocean Climate for \$400,000 from September 2018–August 2020.

Keim, B.D., Black, A.W., Edwards, J.R., and **Brown, V.M.** *Southern Climate Impacts Planning Program Phase III: Helping Communities Build Resilience to Weather and Climate Extremes.* **Funded** by the National Oceanic and Atmospheric Administration-Coastal and Ocean Climate Applications for \$823,986 from September 2018–August 2021.

Special Reports

Thompson, D.T and **Brown, V.M.** 2025. Preliminary Summary of Snowfall Depths and Minimum Temperatures from the January 21–22, 2025 Gulf Coast Winter Storm. Southern Climate Impacts Planning Program. [Accessible here.](#)

Babin, B., Metoyer, D., Reilly, A., Carter, C., **Brown, V.M.**, and Simson, C., 2024. Heat-Related Emergency Department Visits in Louisiana: Review of Syndromic Surveillance Data for April through October 2023. Louisiana Department of Health. [Accessible here.](#)

Brown, V.M. and Keim, B.D., 2019. Preliminary Report Summary of Hurricane Barry: July 10–17, 2019. *Southern Climate Monitor*, Southern Climate Impacts Planning Program. [Accessible here.](#)

Black, A.W. and **Brown, V.M.**, 2019. Inventory and Probabilistic Function of Natural Hazards in the United States. National Renewable Energy Laboratory (NREL). Subcontract Report NREL/SR-7A40-75493. [Accessible here.](#)

Selected Invited Presentations and Conference Proceedings

Brown, V.M. “Tropicalization – Changing Freeze Day Climatology” *Coastal Louisiana Chapter of the American Meteorological Society*. April 24, 2025.

Brown, V.M. “Enhancing Public Awareness of Heat Risk Through Weather/Climate Data Integration” *29th International Interdisciplinary Conference on the Environment*. Virtual. November 1, 2024.

Brown, V.M. “Transitioning to More Tropical Climates: Fewer Freezes” *Gulf of Mexico Alliance Webinar Series*. Virtual. October 2, 2024.

Brown, V.M. “Heavy Precipitation Changes in Louisiana” *National Postdoc Appreciation Week*. Baton Rouge, LA. September 18, 2024.

Brown, V.M. “Observed and Future Precipitation and Tropical Cyclone Changes” *Inland Marine Underwriters Association – Webinar*. Virtual. June 3, 2024.

Brown, V.M. “Tropicalization of the Temperate Zone” *Gulf of Mexico Conference (GOMCON)*. Tampa, FL. February 20, 2024.

Brown, V.M. “Climate Change: Impacts on Precipitation and Tropical Cyclones” *NOAA Sea Grant Seafood Leadership Workshop*. Houma, LA. March 20, 2024.

Brown, V.M. “North Atlantic Tropical Cyclones” *Inland Marine Underwriters Association – Quick Bites Micro-Learning Series*. Virtual. November 11, 2023.

Brown, V.M. “Natural Catastrophes and Climate Change.” *Inland Marine Underwriters Association 92nd Annual Meeting*. Tucson, Arizona. May 2, 2023.

Brown, V.M. and Simson, C., “A Database for the Largest Precipitation Events Across the United States.” *Texas Water Development Board Monthly Meeting*. Virtual. April 14, 2023.

Brown, V.M. “Adapting to Climate Change: A SCIPP Perspective.” *South Central Climate Adaptation Science Center Fall Meeting*. Baton Rouge, Louisiana. November 10, 2022.

Brown, V.M. “Moving Resilience Research to Action in the Gulf Region.” *National Science Foundation Workshop*. University of Texas-Austin, Texas. May 9, 2022.

Brown, V.M. “Climate Change and Potential Impacts.” *Mississippi River: Delta Blues*. Kurt Vonnegut Museum and Library. Virtual. May 5, 2021.

Brown, V.M., Keim, B.D. “Climatology and Trends in Hourly Precipitation for the Southeast United States.” 100th American Meteorological Society Annual Meeting. 34th Conference on Hydrology. Boston, Massachusetts. January 14, 2020.

Brown, V.M. “Southern Climate Impacts Planning Program Perspective.” *Forecast Informed Reservoir Operations Meeting*. Arlington, Texas. September 13, 2019.

Brown, V.M., Keim B.D. “Climate Change: Hurricanes and Precipitation.” *New Orleans Office of Homeland Security and Emergency Management*. New Orleans, Louisiana. August 8, 2019.

Brown, V.M., Keim B.D. “Climate Change and Extreme Events.” *New Orleans Clean Air Coalition Meeting*. New Orleans, Louisiana. April 30, 2019.

Brown, V.M. “Building Resilience Principles into Higher Education: Challenges and Opportunities.” *National Council for Science and the Environment Annual Meeting*. Washington D.C. January 8, 2019.

Brown, V.M. “The Baton Rouge Flood of 2016: What Happened, What We Did, What We Lost, and What We Learned, South-Central Louisiana Flooding Event: August 2016.” *The Louisiana Geological Survey*. Baton Rouge, Louisiana. August 13, 2018.

Teaching Experience

Weather, Climate, and Climate Change (University of Tennessee, GEOG 131).

Climatology (Louisiana State University; GEOG 4014).

Hazards, Disasters, and the Environment (Louisiana State University; GEOG 2200).

Graduate Advisory Committees

Ashlee M. Autore, M.S., LSU, 2020.

Mahala “Haley” Gambill, M.S., LSU, 2022.

Samantha Camarda, M.S., LSU, 2023.

Reilly Corkran, M.S., LSU, 2024.

Anna Sitzman, M.S., LSU, 2024.

Jordan Fazio, M.S., LSU, 2024.

Amy Wold, M.S., LSU, 2024.

Drake Petrunich, M.S., NIU, 2025.

Sadé Miller, M.S., LSU, 2026.

Derek Thompson, Ph.D., LSU, 2026.

Arielle Sutton, M.S., LSU, 2026.

Brad Jennings, Ph.D., LSU, expected 2028.

Service

State Hazard Mitigation Planning Committee. 2024. Louisiana State Hazards Mitigation Plan Update. [Accessible here](#).

Technical Advisory Group. 2024. Baton Rouge Climate Change Action Plan, Baton Rouge Metropolitan Planning Organization, Climate Pollution Reduction Grant.

Technical Contributor. 2018. Southeast: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II. [Accessible here](#).

Software Skills

R Program for Statistics.

ArcGIS Pro.

Python (Anaconda – Jupyter Notebook).

MATLAB.

Professional Memberships and Honors Societies

American Meteorological Society (AMS).

American Association of State Climatologists (AASC).

Association of American Geographers (AAG).

Southeastern Division of the Association of American Geographers (SEDAAG).

Gamma Theta Upsilon National Geography Honors Society (GTU).