

WANYUN SHAO

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Contact information:

Department of Geography

University of Alabama

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Appointment

Assistant Professor of Geography, Department of Geography, University of Alabama, 2018 - present

Assistant Professor of Geography and GIS, Department of Sociology, Anthropology, and Geography, Auburn University Montgomery, 2015 - 2018

Coastal Resources Scientist, Louisiana Coastal Protection and Restoration Authority (CPRA), 2013-2014

Fellowship

Early-Career Research Fellow, National Academies of Sciences, Engineering, and Medicine Gulf Research Program, 2017-2019

Fellow, National Science Foundation Enabling Next Generation of Hazards and Disasters Fellowship Program, 2019-2021

Associate Editor

Palgrave Communication in the subject area of Geography and Demography

Education

Ph.D, Geography, **Louisiana State University**, August 2012

M.P., Planning, **University of Wyoming**, May 2009

B.Sc., Geography, **Jilin University** (China), June 2006

Peer-Reviewed Publications

Khajehei, S., Ahmadalipour, A., **Shao, W.**, and Moradkhani, H. 2020 "A place-based assessment of flash flood hazard and vulnerability in the contiguous United States." *Scientific Reports* 10, 448
doi:10.1038/s41598-019-57349-z

Shao, W. and Hao, F. 2020 "Approval of political leaders can slant evaluation of political issues: evidence from public concern for climate change in the U.S." *Climatic Change* <https://doi.org/10.1007/s10584-019-02594-4>

- Shao, W.** and McCarthy, A. 2020 “Understanding Evangelical Protestant identity, religiosity, extreme weather, and American public perceptions of global warming, 2006-2016” *Geographic Review* DOI: 10.1080/00167428.2019.1702427
- Ha, H. and **Shao, W.** 2019 “A spatial epidemiology case study of mentally unhealthy days (MUDs): air pollution, community resilience, and sunlight perspectives” *International Journal of Environmental Health Research* DOI: 10.1080/09603123.2019.1669768
- Kim, S., **Shao, W.**, and Kam, J. 2019 "Spatiotemporal patterns of US drought awareness" *Palgrave Communications* 5 (1), 107 DOI: 10.1057/s41599-019-0317-7
- Shao, W.**, Feng, K., and Lin, N. 2019 “Predicting support for flood mitigation based on flood insurance purchase behavior.” *Environmental Research Letters* DOI: 10.1088/1748-9326/ab195a
- Shao, W.**, Jackson, N., Ha, H., and N., Winemiller, T. 2019 “Community vulnerability to floods and hurricanes in the U.S. Gulf Coast.” *Disasters* DOI: 10.1111/disa.12383
- Shao, W.**, Keim, B., Xian, S., and O'Connor, R. 2019 "Flood hazards and perceptions – a comparative study of two cities in Alabama" *Journal of Hydrology*, 569, 546-555.
- Shao, W.**, Gardezi, M., and Xian, S. 2018 "Examining the effects of objective hurricane risks and community resilience on risk perceptions of hurricanes at the county level in the U.S. Gulf Coast: An innovative approach" *Annals of the American Association of Geographers*, DOI: 10.1080/24694452.2018.1426436
- Shao, W.**, Xian, S., Lin, N., and Small, M. 2017 c “A sequential model relating risk exposure, perception and public support for coastal flood adaptation measures” *Water Research*. DOI: 10.1016/j.watres.2017.05.072
- Shao, W.**, Xian, S., Lin, N., Kunreuther, H., Jackson, N., and Goidel, K. 2017 b “Understanding the effects of past flood events, perceived and estimated flood risks on individuals' voluntary flood insurance purchase behaviors.” *Water Research*. DOI: 10.1016/j.watres.2016.11.021
- Shao, W.** 2017 “Weather, climate, politics or God? – determinants of American public opinions toward global warming” *Environmental Politics*. DOI: 10.1080/09644016.2016.1223190
- Shao, W.**, Xian, S., Keim, B. D., Goidel, K., and Lin, N. 2017 a “Understanding perceptions of changing hurricane strength along the U.S. Gulf Coast” *International Journal of Climatology*. DOI:10.1002/joc.4805
- Xu, Y., Liu, Y., Chen, T., **Shao, W.**, and Fu, Z. 2017 "A longitudinal analysis of environment and risk of obesity in the U.S." *Journal of Geoscience and Environment Protection*, 5, 204-220.
- Shao, W.**, Garand, J.C., Keim, B. D., and Hamilton, L.C. 2016 “Science, scientists, and local weather: understanding mass attitudes toward global warming,” *Social Science Quarterly*. DOI: 10.1111/ssqu.12317
- Shao, W.** and Goidel, K. 2016 “Seeing is believing? - An examination of perceptions of local weather conditions and climate change among residents in the U.S. Gulf Coast” *Risk Analysis*. DOI:10.1111/risa.12571.
- Ha, H., Rogerson, P., Olson, J., Han, D., Bian, L., and **Shao, W.** 2016 "Analysis of Pollution Hazard Intensity: A Spatial Epidemiology Case Study of Soil Pb Contamination,” *International Journal of Environmental Research and Public Health*. 13 (9), 915; DOI: 10.3390/ijerph13090915
- Shao, W.**, 2015, “Are actual weather and perceived weather the same?” *Journal of Risk Research*. 1-21.
- Shao, W.**, Keim, B. D., Garand, J.C., and Hamilton, L.C., 2014, “Weather, climate, and the economy: explaining risk perceptions of global warming, 2001-2010,” *Weather, Climate, and Society*. 6, 119-134.

Book Chapter

Shao, W. 2017. "Understanding Chinese environmental risk perceptions from 1995 - 2015," in Tang, Z. (ed.), *China's Urbanization and Socioeconomic Impact*, 125-144. Springer Nature.

Other Publications

Shao, W. December 7, 2018 "[Can 2018's extreme weather persuade skeptics that the climate is changing?](#)" *The Washington Post*

Shao, W. August 23, 2018. "[A year after Hurricane Harvey, some Texans are using outdated flood risk maps to rebuild.](#)" *The Conversation*

Shao, W. and Xian, S. September 9, 2017. "[The irrational way people calculate hurricane risks.](#)" *Vox*

Shao, W. and Xian, S. August 30, 2017. "[After Harvey, many Texans will think differently about hurricane risks.](#)" *The Conversation*

Shao, W. June 1, 2017. "[Trump's decision to withdraw from the Paris Accord cedes global leadership to China.](#)" *The Conversation*

Journal Reviewer

Climatic Change; Journal of Coastal Research; Weather, Climate, and Society; Environmental Politics; Cities; International Journal of Disaster Risk Reduction; Journal of Environmental Planning and Management; Natural Hazards Review; Plos One; Journal of Flood Risk Management; Water Resources Research; Computers, Environment, and Urban Systems; Journal of Geographic Systems; Risk Analysis; Environmental Research Letters; Environmental Research Communications; American Journal of Public Health; Science of the Total Environment; Journal of Risk Research; Case Studies on Transport Policy; Palgrave Communications; Natural Hazards; Atmosphere

Grants

Awarded

PI, (co-PI: YeongAe Heo and Christoph Aeppli) 2019 "Cascading Effects of Rising Coastal Risks for Petrochemical Facilities on Socio-Economic-Ecological Vulnerability and Risk Perceptions" 2019 National Academy of Sciences Gulf Research Program, Early-Career Fellowship Collaboration Grant (\$ 82,789)

PI, 2017 National Academy of Sciences Gulf Research Program, Early-Career Fellowship (\$76,000)

PI, 2016 Auburn University at Montgomery, Summer Research Grant (\$4,500)

PI, 2016 Auburn University at Montgomery, New Faculty Research Grant-in-Aid (\$3,750)

Conference/Workshop

2020 American Meteorological Society (Boston, MA): presentation

Retrospective and Prospective Evaluations of Droughts and Floods among Residents in the U.S. Gulf Coast

2019 Alabama Water Resources Conference (Orange Beach, AL): poster presentation

Perceptions of drought in two cities of Alabama

2019 Correlated Extremes workshop at Columbia University (New York, NY): poster presentation

Using Hurricane Harvey to Revisit Vulnerability and Resilience

2019 National Academies of Sciences Engineering Medicine Gulf Research Program Fellows Collaboration Workshop, Gulf of Mexico Oil Spill Ecosystem Science Conference (New Orleans, LA)

2018 American Geographic Society: Geography 2050 (New York, NY)

2018 Inter-university Consortium for Political and Social Research (ICPSR) Summer Program: Machine Learning for Analysis of Text as Data (University of North Carolina at Chapel Hill, NC)

2018 National Academies of Sciences Gulf Research Program Networking and Idea Development Workshop (Mobile, AL)

- Selected participant

2018 Gulf of Mexico Oil Spill and Ecosystem Science Conference (New Orleans, LA)

- Early-Career Research Fellows Collaboration Workshop

2018 National Science Foundation Grants Conference (Detroit, MI)

Society for Risk Analysis (SRA)

- 2019 Annual Conference (Arlington, VA): Presentation
Perceptions of climate extremes are amplifiers of perceptions of climate change
- 2017 Annual Conference (Arlington, VA): Presentation
Examining the effects of objective hurricane risks and community resilience on risk perceptions of hurricanes at the county level in the U.S. Gulf Coast: An innovative approach
- 2016 Annual Conference (San Diego, CA): Poster presentation
A sequential model relating risk exposure, perception and public support for coastal flood adaptation measures
- 2015 Annual Conference (Arlington, VA): Poster presentation
Seeing is believing? - An examination of perceptions of local weather conditions and climate change among residents in the U.S. Gulf Coast

Association of American Geographers (AAG) Conferences

- 2019 (Washington, DC): Paper presentation
Flood Hazards and Perceptions – A Comparative Study of Two Cities in Alabama
- 2018 (New Orleans, LA): Paper presentation
Environmental hazards, community characteristics, and mental health among Gulf Coast counties”
- 2018 (New Orleans, LA): Invited Research Presentation
Understanding human judgement on environmental hazards and risks in a spatial context
- 2013 (Los Angeles, CA): Paper presentation
Economy, weather, and climate: which affects risk perceptions of global warming?
- 2010 (Washington, DC): Poster presentation
Science, scientists, or weather?—determinants that affects public opinion towards global warming
- 2008 (Boston, MA): Paper presentation
An analysis of water quality policy and management in China

Midwest Political Science Association (MPSA) Conferences

- 2018 (Chicago, IL): Paper presentation
Religion and views towards climate change in the U.S., 2006-2013

2017 The 1st CHESS Workshop on Coupled Human-Earth System Solutions for Global Sustainability (Auburn, AL): Poster presentation

Examining the effects of objective hurricane risks and community resilience on risk perceptions of hurricanes at the county level in the U.S. Gulf Coast: An innovative approach

2015 International Symposium on China's Urbanization (Montgomery, AL): Paper presentation
Environmental Impacts of China's Urbanization

Proposal Reviewer: RESTORE Act Center of Excellence for Louisiana (2017)

Wisconsin Sea Grant Institute (2017)

Committee:

- Member of search committee of associate or full professor (Climate Modelling), Department of Geography, University of Alabama (Fall 2018; Fall 2019 and Spring 2020)
- Member of search committee of an open-rank professor (Sociology), Department of Sociology, Anthropology, and Geography, Auburn University Montgomery (Fall 2017 – Spring 2018)
- Member of University Scholarship Committee, Auburn University Montgomery (Spring 2017)
- Member of Marketing Committee for the College of Public Policy and Justice (2017)
- Interdisciplinary Programs and Initiatives Working Group, Auburn University Montgomery (Spring 2017)
- Member of search committee of tenure-track assistant professor (Sociology), Department of Sociology, Anthropology, and Geography, Auburn University Montgomery (Spring 2016)
- First Reader of master thesis: "GIS-based Mapping and Geospatial Analysis of Flooding and Hurricane Events along the U.S. Gulf Coast: its Potential Risk and Social Vulnerability" by Nida Jackson (Fall 2016)
- Second Reader of mater thesis: "Analysis of the Relationship between Various Factors in Urban Heat Island Effect, and Mitigation Considerations" by Dana Myrick (Fall 2017)

Invited lectures/talks

University of Alabama, Journey in Science in Rodgers Library – March 2019 (Invited talk): Weather, Climate, Politics, or God – What Determines American Perceptions of Climate Change?

University of Alabama, Center for Complex Hydrosystems Research – January 2019: Understanding Environmental Decision Making within A Geographic Context

Princeton University – June 2018 (Invited seminar research presentation at the Department of Civil and Environmental Engineering): Understanding Human Judgments on Environmental Risks and Hazards in a Geographic Context

Sierra Club Montgomery Group – May 2018 (Invited presentation): What Determines American Public Perceptions of Climate Change?

Auburn University - September 2017 (Invited seminar research presentation at the International Center for Climate and Global Change Research): After Harvey - Policy implications of understanding perceptions of hurricane risks

Auburn University Montgomery - April 2017 (Guest Speaker for Biology 4970: Environmental Crime): Understanding Changing American Public Opinions towards Climate Change

Auburn University Montgomery – April 2016 (Guest Speaker for Faculty Development Institute Graduation Luncheon): Teaching as an art of storytelling

Auburn University Montgomery – March 2016 (Guest Speaker for Lunch & Learn, Center for Excellence in Learning & Teaching): How to create an on-line class in four days

Auburn University Montgomery – March 2016 and October 2015 (Guest Speaker for MNGT 4800: Strategic Management): The impact of globalization

University of Oklahoma – December 2015 (Invited research presentation at the Center for Risk and Crisis Management): From global to local: understanding public perceptions of global warming and local weather

Auburn University at Montgomery – April 2015 (Research Presentation): Understanding public risk perceptions of global warming

George Mason University – January 2014 (Research Presentation at the Center for Climate Change Communication Weekly Seminar): The social aspects of global warming

Coastal Protection and Restoration Authority – June 2013 (Research Presentation): Understanding perceptions of global warming

Louisiana State University – March 2013 (Research Presentation for Political Science Department Brown Bag Forum): Science, scientists, and local weather: understanding mass perceptions of global warming.

Louisiana State University – November 2012 (Guest lecture for GEOG 4997: Global Environmental Change): Understanding risk perceptions of global warming.

Honors, Awards, and Notable Activities

National Science Foundation Enabling the Next Generation of Hazards Researchers Fellowship 2019 - 2021

National Academies of Sciences, Engineering, and Medicine Gulf Research Program 2017 Fellowship Orientation, Washington, DC, October 2017

Requested attendee of the 64th National Security Forum at Maxwell Air Force Base, Montgomery, AL, May 2017

Invited Guest, Air War College Seminar on China, Maxwell Air Force Base, Montgomery, AL, April 2017

The Honor Society of Phi Kappa Phi, 2012

National Committee on United States-China Relations Foreign Policy Colloquium, Washington DC, 2012

Graduate Student Travel Award to attend Annual Meeting of Association of American Geographers in Washington, DC, Louisiana State University, 04/2010

International-America Foreign Award of University of Wyoming, 2007-2008

Graduate Student Travel Award to attend Annual Meeting of Association of American Geographers in Boston, MA, University of Wyoming, 04/2008

Outstanding Student Scholarship, College of Earth Sciences, Jilin University, China, 2002-2004

Teaching Experience

GY 452/552: Environmental Decision Making – Assistant Professor – University of Alabama

GY 453/553: Environment and Society – Assistant Professor – University of Alabama

GY110: People, Place, and Environment – Assistant Professor – University of Alabama

GEOG 2150: Human Geography - Assistant Professor - Auburn University Montgomery

GEOG 3950: Introduction to GIS with lab - Assistant Professor - Auburn University Montgomery

GEOG 3971: Natural Hazards - Assistant Professor - Auburn University Montgomery

GEOG 2050: Geography of World Regions – Assistant Professor – Auburn University Montgomery

GEOG 1020: Introduction to Human Geography -Teaching Assistant - University of Wyoming

Quantitative Skills and Abilities

- **Geospatial Analysis Skills:** GIS-Based Trade Area Analysis, GIS-Based Measures of Spatial Accessibility, Density Function, Spatial Principal Components Analysis and Factor Analysis, Spatial Cluster Analysis, Spatial Discriminant Analysis, Zonal Analysis, Spatial Auto-correlation Analysis, Spatial Lag/Error Regression, Spatial Auto-regressive Models, Geographically Weighted Regression, Spatial Interpolation
- **Statistical Analysis Methods in Social Sciences:** Ordinary Least Squares Regression (OLS), Logit/Probit Regression, Multi-level Mixed Models, Bayesian Analysis, Machine Learning for Analysis of Text as Data
- **Statistical Analyses of Extreme Climate/Weather Events:** Construction of Time Series of Extremes - Annual Frequency Series, Annual Maximum Series, Partial Duration Series; Non-Parametric Tests for Trends, Parametric Tests for Trend, Non-Parametric Methods for Producing Quantile Estimates, Parametric Methods for Producing Quantile Estimates
- **Software:** ArcGIS, Stata, SPSS, R, Microsoft Office Suite

Memberships of Professional Organization

American Association of Geographers

American Geophysical Union

Society for Risk Analysis