

# QUICK RESPONSE

## SPECIAL CALL FOR HEALTH OUTCOMES AND DISASTER RESEARCH

*This research brief is part of a special call designed to address gaps in knowledge related to disasters—such as wildfires, floods, extreme heat, and severe storms—that pose significant health risks, particularly for populations already experiencing health challenges.*

### AWARD RECIPIENTS

**XIANG YAN**  
University of Florida

**SARA GARCE**  
University of Florida

**SHIH-KAI HUANG**  
Jacksonville State  
University

**KATELYN SOWELL**  
University of Florida

**CATHERINE CAMPBELL**  
University of Florida

**SHANGKUN JIANG**  
University of Florida

**ELIANA DUARTE**  
University of Florida

**XILEI ZHAO**  
University of Florida

## TRANSPORTATION AS A SOCIAL DETERMINANT OF HEALTH DURING HURRICANE IDALIA

### OVERVIEW

On August 30, 2023, Hurricane Idalia hit the Big Bend region in Florida, an expansive rural area with low population density. This study examined how vehicle ownership, disability, and other factors impacted residents' decision-making about evacuation and access to food and health care after the hurricane. This mixed methods study included a survey with a convenient and geographically stratified sample of people living in impacted counties (N=327) and semi-structured interviews with a subset of survey respondents (N=12).

### KEY FINDINGS

- Residents with previous evacuation experiences were the most likely to evacuate. The next most-likely-to-evacuate group were residents with high *operational risk perception*, which included measures of being concerned about expenses, transportation limitations, and traffic incidents.
- The positive influence of prior evacuation experience and risk perception on evacuation decisions was more pronounced among those with more frequent medical visits in the last year.
- Participants with transportation and food insecurity had less access to disaster aid provided by the Federal Emergency Management Agency, the Red Cross, and community-based organizations.



*August 2023: Cars plow through standing water in the aftermath of Hurricane Idalia. Photo Credit: Shutterstock.*

### RESEARCH IMPLICATIONS

Risk perception alone was not the primary driver of evacuation decision-making, suggesting that respondents may not be sufficiently aware of the risks they faced. Hurricane forecasting should share specific, localized hurricane-related information using a variety of communication channels to enhance awareness. There is also a need for targeted distribution of resources to address disparities in hurricane relief and recovery efforts. Emergency response teams must determine where and how to distribute resources to ensure access among vulnerable segments of the population, including those who face transportation barriers.

**Full Report:** Yan, X., Garces, S., Huang, S. K., Sowell, K., Campbell, C., Jiang, S., Duarte, D., & Zhao, X. (2024). *Transportation as a Social Determinant of Health During Hurricane Idalia*. (Natural Hazards Center Quick Response Research Report Series). Natural Hazards Center, University of Colorado Boulder. Available at: [hazards.colorado.edu/quick-response-report/transportation-as-a-social-determinant-of-health-during-hurricane-idalia](https://hazards.colorado.edu/quick-response-report/transportation-as-a-social-determinant-of-health-during-hurricane-idalia)