

# RESEARCH BRIEF SERIES

# WEATHER READY

*This research brief is part of a call on **Flood Ready Research and Data Publication** designed to help advance knowledge regarding how diverse community members perceive and prepare for inland flooding, understand observations and forecasts, receive alerts and warnings, make protective action decisions, and respond to and recover from the impacts of inland flood events.*

## AWARD RECIPIENTS

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**AWARD AMOUNT:**  
\$10,000

## STRENGTHENING DISASTER PREPAREDNESS: ASSESSING RISK PERCEPTION AND EARLY WARNING FOR FLASH FLOODING

### OVERVIEW

On July 18 and 19, 2023, Mayfield, Kentucky experienced flash flooding that washed out roads and inundated homes and businesses. This mixed-methods study—which included surveys of 112 Mayfield residents in affected areas and in-depth interviews with personnel responsible for risk communication during the event—examined how residents received and responded to warnings about flash flood risk. Its findings revealed how Mayfield’s rural context shaped its residents’ risk perceptions, preparedness, and communication needs.

### KEY FINDINGS

- Most participants relied on local television, the Weather Channel, and other traditional media for information about flash flood risk and how to respond.
- While many residents received alerts warning them of potential danger, they felt these messages came too late and left them with limited time to respond.
- Residents also said that the messages overemphasized the risks associated with driving and road safety during flash floods and failed to highlight the significant threat of water entering properties.
- Residents who took protective actions prior to the storm had more awareness about flash flood risk, greater access to

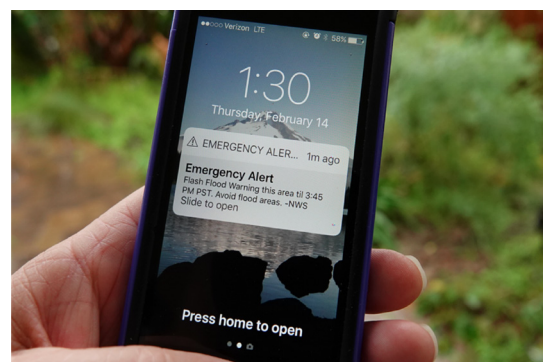


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diverse information sources, and spent more years living in their homes. In comparison to Non-Hispanic White residents, Hispanic residents were less likely to take protective actions.

### RESEARCH IMPLICATIONS

Early warning systems for flash flooding were generally effective in informing the public during the Mayfield event, but could be improved by disseminating alerts earlier and ensuring messages emphasize the risk of property flooding. Residents continue to use traditional media most frequently for risk information, but are growing more reliant on social media. Disparities in access to information and preparedness persist among certain demographic groups; more inclusive and targeted communication strategies, especially for Hispanic residents and those who recently moved to Mayfield, are needed.

**Full Report:** Ogunyiola, A., & Dada, O. (2025). *Strengthening Disaster Preparedness: Assessing Risk Perception and Early Warning for Flash Flooding*. (Natural Hazards Center Weather Ready Research Report Series, Report 16). Natural Hazards Center, University of Colorado Boulder. [hazards.colorado.edu/weather-ready-research/strengthening-disaster-preparedness](https://hazards.colorado.edu/weather-ready-research/strengthening-disaster-preparedness)