

# Social media provides critical information missed by FEMA

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Credit: Rice Kinder Institute

Social media sites can be a valuable tool for assessing the impact of natural disasters like Hurricane Harvey, but a new report indicates much of the critical information conveyed by those sites is overlooked by

federal authorities.

Rice University's Kinder Institute for Urban Research reports that almost half of Hurricane Harvey [damage](#) reports provided by social [media](#) users were not captured by Federal Emergency Management Agency (FEMA) estimates.

"Lessons from Harvey: Crisis Informatics for Urban Resilience" examines the use of social media and crowdsourced data sites during Hurricane Harvey. The study evaluates the efficacy of FEMA property damage estimates by comparing them to Twitter-sourced damage reports and water rescue records from [CrowdSource Rescue \(CSR\)](#), a platform set up during Hurricane Harvey. The study tracked more than a million tweets between Aug. 25 and Sept. 8, 2017.

"Social media, in particular Twitter, has been used to evaluate aspects of disaster related to public and private spaces and records," said Carlos Villegas, a staff researcher at Rice's Kinder Institute who co-authored the report along with Kinder Institute colleagues Matthew Martinez, a research scientist, and Matthew Krause, a GIS analyst.

The study's lead finding was that initial Harvey damage estimates based on FEMA models missed areas of heavy impact. The researchers said supplementing the models with real-time analysis of social media and crowdsourced information could help identify those overlooked areas. Forty-six percent of Twitter-sourced estimates—reports tweeted during the storm by impacted individuals as property damage occurred—were not captured by FEMA estimates.

"Social media accounts have become an essential tool for information and calls for assistance during storms and crisis situations, and we expect this to increase," Villegas said. "During Hurricane Harvey, CSR was able to collect over 15,000 records and 5,200 rescue requests."

But in order to take advantage of the information provided by [social media](#) and crowdsourcing, the report's authors said public agencies should proactively create structures and plans to include it in recovery analysis.

"Social media and emergency crowdsourced sites have the potential to support normal channels of emergency communication, such as the 911 system, which can become overwhelmed during large disaster events," Villegas said.

The report's authors said that data agreements between cities, businesses and research groups can help save time and create robust and accurate assessments of damage. They hope this report will encourage these types of groups to work together in the future.

**More information:** The report is available online at [kinder.rice.edu/research/lesso ... ics-urban-resilience](http://kinder.rice.edu/research/lesso...ics-urban-resilience)

Provided by Rice University

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