

Study shows little improvement in mandated disaster plans, despite required updates

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Damage from Hurricane Ian is shown in Florida. Credit: Wikimedia Commons

Hurricanes, floods, heat waves and other disasters are striking the United States with increased severity and frequency, and since 2000 the Federal Disaster Mitigation Act has required states and local jurisdictions to have plans in place to reduce damages from such events. A new study

from the University of Kansas has found little improvement over time to these plans, in spite of regularly required updates.

The study, by lead author associate professor of [public affairs](#) & administration at KU Ward Lyles, with co-authors Yiwen Wu and Kelly Overstreet, doctoral students in public affairs & administration; and Elaina Sutley, associate professor of civil, environmental & architectural engineering, all of KU, was published in the [Journal of Planning Education and Research](#).

Plans to mitigate risk from [natural hazards](#) hold the potential to help states and [local communities](#) proactively steer development into safer areas and reduce exposure of existing housing, businesses, roads and other vital assets. But an analysis of two waves of plans from 84 jurisdictions found a mediocre overall quality of plans and little overall improvement from the first wave adopted in the late 2000s to the second wave adopted in the mid-2010s.

"It's like a [homework assignment](#) that could be great for helping students learn, but sadly, most just aim for the minimum standard to get by," said Lyles. "Nationally, the evidence shows a tremendous increase in the amount of hazard planning since passage of the Disaster Mitigation Act 20 years ago. But we wondered if the plans get better over time, and the results unfortunately show us not really."

Lyles and colleagues analyzed disaster mitigation plans from jurisdictions in Florida, Georgia and North Carolina. The states share similar hazard exposures and recent disaster experiences, while state policy frameworks that shape local planning vary, the authors wrote. The plans were coded on four criteria: [public engagement](#), plan integration, land use policies and property protection policies.

For public engagement, scores showed improvement. Involving the

public in forming plans and communicating them to communities was the one area in which scores improved notably. Plan integration, or making mitigation plans work together with other types of plans like land use and transportation plans, showed only modest improvement.

"One of the most concerning findings is that too often planning for disasters occurs in a silo separate from other types of planning that shape our future risk," Lyles said. "As we see time and again, whether with hurricanes in the southeast, fires out west or in Hawaii, and even with [heat waves](#), communities make short-term choices to promote development in places that are known to be at high risk from devastating events."

In terms of land use and property protection, scores showed no marked improvement. The former is difficult to legislate as it is strongly influenced by local political will, he said.

"It may be easy to say 'don't build in a flood plain,' but the growth machine industry, which profits by developing and selling real estate, has been historically very influential on local governments," Lyles said. "It is in their interest to maintain maximum flexibility and prevent or reduce land-use controls. And, as we've seen tragically time and again, even the best warning systems and engineered protections like levees and dams have failure points."

The DMA requires disaster mitigation plans but leaves enforcement up to state and local governments, so requirements vary.

"It's less about knowledge and more about political will," Lyles said. "Floods do their worst damage in low-lying areas and fires in areas prone to burning. We are not compelled to allow development in high-risk areas that are cheap, scenic or otherwise desirable but ill-advised. But the Federal Emergency Management Agency—and the entire approach

to disaster management in the United States—fails to require the type of land-use planning needed in the 21st century."

The authors cite research that has found reducing risks due to natural disasters like floods and heat waves, especially through land use, can save \$1 for every \$6 invested and that higher plan quality is linked to lower hazard losses.

The findings help improve understanding of how top-down planning mandates influence local planning and suggest that plans cluster just above the minimum for jurisdictions to remain eligible for federal funding. They also provide insight into how state and federal officials can update the DMA of 2000 to meet increasingly complex demands of long-term risk reduction, especially in the face of climate change, the authors wrote.

"With proactive, pre-event hazard planning, the idea is to talk through hard decisions when you are not in crisis, commit to those decisions and then hold firm to those decisions when a disaster occurs," Lyles said. "Otherwise, the urgency to get back to normal as soon as possible after a disaster means repeating the same mistakes that created the disaster conditions in the first place."

More information: Ward Lyles et al, Is Time on Our Side? A Longitudinal Analysis of the Quality of Mandated Plans, *Journal of Planning Education and Research* (2023). [DOI: 10.1177/0739456X231197182](https://doi.org/10.1177/0739456X231197182)

Provided by University of Kansas

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