

# Migration from sea-level rise could reshape cities inland

17 April 2017, by Alan Flurry



Mathew Hauer is a demographer at the University of Georgia. Credit: UGA

When Hurricane Katrina struck Louisiana in 2005, cities inland saw an influx of evacuees escaping the storm and its aftermath. Now, a new University of Georgia study predicts that this could happen again as a result of sea-level rise.

In a paper published today in *Nature Climate Change*, researchers estimate that approximately 13.1 million people could be displaced by rising ocean waters, with Atlanta, Houston and Phoenix as top destinations for those forced to relocate.

The study is the first attempt to model the [destination](#) of millions of potentially displaced migrants from heavily populated coastal communities.

"We typically think about [sea level rise](#) as a coastal issue, but if people are forced to move because their houses become inundated, the migration could affect many landlocked communities as well," said the study's lead author, Mathew Hauer, who completed his doctoral degree in the Franklin College of Arts and Sciences department of

geography.

While [sea-level rise](#) assessments are numerous and may help plan for the development of critical infrastructure, few research studies have grappled with where displaced people and families will go. No previous studies model how migration caused by sea-level rise will affect population other than in the directly affected coastal areas.

Relationships between environmental stressors and migration are highly complex, as responses range from short-term, temporary migration to permanent, long-distance [migration](#). Sea-level rise is a unique environmental stressor because it permanently converts habitable land to uninhabitable water.

The new study combines estimates of populations at risk from sea-level rise within a migrations systems simulation to estimate both the number and destinations of potential sea-level rise migrations in the U.S. over the coming century.

"Some of the anticipated landlocked destinations, such as Las Vegas, Atlanta and Riverside, California, already struggle with water management or growth management challenges," Hauer said. "Incorporating accommodation strategies in strategic long-range planning could help alleviate the potential future intensification of these challenges."

**More information:** Mathew E. Hauer, Migration induced by sea-level rise could reshape the US population landscape, *Nature Climate Change* (2017). [DOI: 10.1038/nclimate3271](https://doi.org/10.1038/nclimate3271)

Provided by University of Georgia

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