

Coastal populations set to age sharply in the face of climate migration, researchers find

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As climate change fuels sea level rise, younger people will migrate

inland, leaving aging coastal populations—and a host of consequences—in their wake, a study by Florida State University researchers finds.

While destination cities will work to sustainably accommodate swelling populations, aging coastal communities will confront stark new challenges, including an outflow of vital human infrastructure such as [health care workers](#), said Associate Professor of Sociology Matt Hauer, lead author of the study.

The findings are [published](#) in the journal *Proceedings of the National Academy of Sciences*.

"In the destination communities where populations are increasing, you'll need more dentists, doctors, service workers, construction workers, etc.," Hauer said. "So by people moving, you affect other people's likelihood of moving. You get a demographic amplification."

Previous studies estimated where people are likely to move as a changing climate affects livability. Hauer's study also incorporates [demographic data](#) and secondary effects that revealed a host of challenges awaiting both the coastal "sender" communities and their destination counterparts.

"Imagine young families moving out of areas like Miami and moving to other locations and starting a family there," he said. "And just by the fact that there's more people who have moved there, these indirect population processes draw even more people."

The study concluded that these indirect processes could create 5.3 to 18 times the number of climate migrants as those directly displaced by rising seas. It also found that by 2100, [median age](#) in coastal communities could spike as much as 10 years.

"Think about who are more unlikely to move and who will be left behind in these communities; it tends to be the oldest," Hauer said. "Because migration is most likely to occur in more youthful populations, areas experiencing accelerated out-migration could face accelerated population aging."

Doctoral student Sunshine Jacobs and computational scientist Scott Kulp co-authored the study with Hauer.

The researchers developed a migration model that uses [sea level rise](#) data from Climate Central and information about migration patterns from the U.S. Internal Revenue Service. That tool allowed them to predict migration on a county-by-county basis across the country. Jacobs said the model can be adapted to research different hazards that go beyond encroaching seas.

"We only looked at sea level rise," she said. "Imagine other hazards that we know cause people to move, like heat events, wildfires and economic hazards. The future uses and implications of the model are amazing."

More information: Mathew E. Hauer et al, Climate migration amplifies demographic change and population aging, *Proceedings of the National Academy of Sciences* (2024). [DOI: 10.1073/pnas.2206192119](https://doi.org/10.1073/pnas.2206192119)

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