

'A very big problem': Rising sea levels will lead to significant displacement in coming decade

November 7 2019, by Brian McNeill



Andrea Simonelli, Ph.D., an assistant professor in the Department of Political Science, second from left, has conducted research in the Maldives, as well as other countries that are vulnerable to sea level rise. Credit: Courtesy photo

Because of climate change, rising sea levels could affect hundreds of millions more people in the coming decades than previously understood, with an estimated 150 million people currently living on land that will be below high tide by 2050, according to new research published in the journal *Nature Communications*.

Andrea Simonelli, Ph.D., an assistant professor in the Department of Political Science in the College of Humanities and Sciences, studies governance responses to [human migration](#), specifically legal and institutional frameworks to address internal and cross-border displacement due to climate processes.

The author of "Governing Climate Induced Migration and Displacement: IGO Expansion and Global Governance" (Palgrave Macmillan, 2015), Simonelli has conducted research in Maldives and Tuvalu, which are among the world's most vulnerable islands to [sea level](#) rise. The estimates, she said, underscore just how big of a problem the world is facing.

How big of a problem are rising sea levels brought about by climate change?

As the focus of my research, this is a very big problem.

Part of the problem is that we (as humans) continue to grow our largest cities near the coast, but in ways that assume permanence of our surroundings. As soon as scientists rang the alarm about this, city planning needed to adjust. We need to evaluate how well our current structures will handle this, divert growth farther away, and re-envision how we live with the natural world.

As for displacement, we live in a time of heightened xenophobia and this is

concerning. Many of those who need to move most immediately are those whose livelihoods are tied to the environment. They are not terrorists; they work in agriculture, fisheries and herding. Closing our borders to those in need only sets a poor precedent for the future.

What sort of climate displacement are we seeing already?

Families are beginning to relocate from Newtok, Alaska, just a few miles away for safety as their village has been battered by thawing permafrost and [coastal erosion](#) for years.

Indonesia recently announced that its capitol, Jakarta, will be relocated due to continual inundation.

Many of those most recently coming to the U.S. border and asking for asylum are from Honduras where drought has severely damaged crops and locals have lost their livelihoods. What we know is that climate impacts rainfall patterns and, thus, our ability to raise crops and herds. Many of those who depend on the seasonal rainfall for their livelihood may already be moving, but they will appear to be economic migrants although their underlying motivation for displacement is actually [climate change](#).

Others will be displaced due to hurricanes or typhoons, and without adequate resources to rebuild will not go back home and instead, go to a nearby city. Thus, climate displacees and their stories will vary.

Are there policies that could be enacted to limit the worst possibilities of climate displacement?

We've passed the point of limiting displacement. As the

[Intergovernmental Panel on Climate Change] special report told us, we've already warmed by 1 degree Celsius and stopping ALL emissions by 2020 would still leave a lag in the carbon accumulation. It's now a matter of management and adjusting our lives to a new normal.

But to be more specific, we need to decarbonize the economy as fast as possible and that means not just individual action, but preventing any new corporate investments into fossil fuels. We also need to overhaul how we operationalize capitalism, not trading a good for money, but in the way we've accepted continuous consumption and unsustainable growth.

Could you talk a bit about your research on this topic?

My book, "Governing Climate Induced Migration and Displacement," was the first comprehensive evaluation of what was preventing the international regimes that already governed migration from expanding to assist with climate displacement.

After working on the top-down politics of international migration and [displacement](#), my research has expanded to understand what exactly needs to be governed. I spent three years with a research group evaluating the perceptions of migration and climate change in the Maldives and Lakshadweep. There, we found that locals are very connected to place, would much prefer to stay in their home country, and rely on the strength of their communities to cope with environmental challenges.

From there, it seemed appropriate to see if this was the case in other areas where climate change was argued to be felt most acutely, the small island developing states in the Pacific.

Initial field visits to Western Samoa, Fiji, Tuvalu and the Republic of the Marshall Islands showed myriad climate issues, but also local awareness, initiative and focus on the future.

Noteworthy is that some of the most impactful projects and strongest communities were in Tuvalu—a place that is often first written off as impending "climate refugees." I was able to speak with the prime minister of Tuvalu and get a scope of the work he has done, not just for climate change but also for the well-being of his people, balancing of his national budget, and development of the fisheries sector.

I am currently in the process of organizing a second field visit to Samoa, Vanuatu, Kiribati and the Marshall Islands in January. I hope to learn how local governance affects [climate](#) resilience through its impact on human security. If a government is supporting poor development policies, but builds a seawall, locals will be able to stay longer in unfavorable conditions. However, good practices also can go unrecognized and unreplicated, if this interaction is not researched.

More information: Scott A. Kulp et al. New elevation data triple estimates of global vulnerability to sea-level rise and coastal flooding, *Nature Communications* (2019). [DOI: 10.1038/s41467-019-12808-z](https://doi.org/10.1038/s41467-019-12808-z)

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