

# Climate change will displace millions of people. Where will they go?

January 5 2018, by Tiffany Challe

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Credit: Columbia University Islands like Barbuda may seem like paradise now, but they face many challenges from climate change in the future. Credit: Tiffany Challe

Barbuda, the sister island of Antigua, is a small, low-lying Caribbean island. Most of its 1,700 residents lived in Codrington, the central location for stores and schools. The town is also the location for the Barbuda Research Complex, where I attended sustainability field school

in 2013.

What makes this island so unique? The beauty of the natural beaches untouched by tourism developments, the rich vegetation, diverse wildlife, fascinating archaeological sites and the people of Barbuda. During my three-week stay there, it became clear to me that Barbudans were a proud, happy and resilient people. Their community identity is heavily steeped in their food culture, which forges their intricate relationship with the environment. This entry in my field journal captures their spirit: "I admire how Barbudans respect and use all their resources on the island and understand their environment." Their livelihoods and culture center on fishing, hunting and farming. However, [climate change](#) has altered the island's food system and therefore their livelihoods. Droughts and rising seas that encroach on freshwater supplies are causing crop yields to decline, and Barbudans must increasingly rely on expensive imported foods.

Hurricane Irma hit Barbuda in September and decimated most of the island – 95 percent of the buildings and infrastructure were destroyed. One person died and countless animals were killed by debris or separated from their owners. For the first time in 300 years, the island was [rendered uninhabitable](#). All the residents were evacuated and temporarily relocated to Antigua, where they still remain today. Barbudans are eager to return to the island, as they have a strong sense of place-based identity. Rebuilding efforts are currently under way, though funds are sorely lacking and a bitter [dispute over land rights](#) has ensued. This story illustrates tragedy for the islanders, who are at the front lines of [climate change](#).

And they're not the only ones. This year, [hurricane season](#) hit U.S. coastal communities and islands in the Caribbean at an alarming scale, causing massive infrastructure damage and loss of life. Meanwhile, wildfires are wreaking havoc in Southern California. These natural

disasters are influenced by a warming climate. As the sea level rises and average temperatures continue to increase, these disasters will become more frequent and intense. Climate change is expected to displace millions of people in the coming decades, and countries will increasingly have to grapple with this issue.

When disaster strikes, what happens to the communities in harm's way? Where do the displaced people stay? Will they be able to return to their homes in areas that climate change may have rendered unlivable? Experts from Columbia University discussed these challenges and more at a recent event hosted by the Earth Institute.

Climate scientist Radley Horton from the Lamont-Doherty Earth Observatory moderated the panel. The speakers included: Lisa Dale, a lecturer in the undergraduate program in Sustainable Development; Alex de Sherbinin, a geographer at the Center for International Earth Science Information Network; and Michael Gerrard, director of the Sabin Center for Climate Change Law at Columbia Law School. The event was part of the Earth Institute's [Climate Adaptation Initiative](#)—a three-year project to enhance Columbia's impact on sustainability problem-solving. One of the themes of this initiative is climate-induced retreat to safer areas.

## **Where Will Climate Migrants Go?**

Some experts estimate that climate change could force between 150 and 300 million people to find a new place to live by the middle of this century, though there is considerable uncertainty about the amount. Finding suitable locations to house them will be a significant impediment. As Michael Gerrard explained, "part of the problem is scale. If we're talking about millions of people having to be on the move, it just doesn't work."

In the U.S., there are very few habitable places that aren't already

occupied by homes, businesses, or agriculture, or preserved as park lands or forests. Meanwhile, [rural areas](#) would provide few opportunities for migrants to find employment and rebuild their lives.

Instead, Gerrard suggested moving people from high-risk areas to cities whose populations are shrinking, such as Detroit, Michigan. He sees cities' potential for vertical development, energy-efficient buildings, and public transportation as a way to sustainably host climate migrants.

The [1951 Refugee Convention](#) defines a protected refugee as someone who leaves his or her home country due to racial, religious, or social persecution, or reasonable fear of such persecution. These refugees have the right to seek asylum and protection from participating members of the United Nations (though these countries are not obligated to take them in). However, people displaced by climate change do not fit this definition. At the international level, there is no legal mechanism in place to protect climate migrants' rights and to ensure assistance from other countries. In terms of cross-border migration, Gerrard said, "there is no international law that compels a country to take in people from other countries; it's wholly voluntary."

## **When Should Climate Migration Happen?**

Once a major disaster strikes with little or no warning, victims can become 'distressed' migrants—people who have lost their homes and are forced to flee with nothing but the shirts on their backs.

A better scenario would be to resettle people outside of at-risk areas before disaster strikes. That way, people would have some degree of choice in where to go and what to bring.

However, Alex de Sherbinin pointed out that the U.S. government has no policy mechanism designed to relocate people before a disaster strikes.

Not only does relocating people cost money, but governments miss out on tax revenues if land is left empty. "This is why there is an impetus to build up and grow in vulnerable coastal zones," said de Sherbinin.

But it's not impossible to be proactive about climate migration. China has 'ecological migration,' a relocation program designed to anticipate future disasters. The government has resettled large communities from rural areas damaged by climate change, industrialization, and other problems. The program is partly an effort to reduce dust storms produced by agriculture. It works out economically because it was no longer financially tenable for the Chinese government to support these communities in rural areas.

## **Where Would the Money Come From?**

Michael Gerrard views carbon pricing as an ideal solution to funding climate relocation. Displacement by sea level rise, hurricanes, and wildfires is, as he put it, "a negative externality of burning fossil fuels, so if you were to build that into the price and pay for some of this through a price on carbon, you would generate a whole lot of money that way." In this scenario, the money paid by carbon emitters could help fund climate relocation while creating a major economic incentive to move away from fossil fuels.

The panelists agreed that countries also need to be forward-looking. In order to avoid the US' reactive disaster planning, we must plan ahead for future damage and associated costs from natural disasters when thinking about how to manage the retreat from at-risk areas.

Unfortunately, U.S. disaster response is typically reactive instead of proactive. Lisa Dale explained how, much like flood planning, the federal fire budget is backward-looking. "The U.S. Forest Service's annual budget is based on the last 10 years of fire costs," she said, "so

they are always estimating too low." Meanwhile, the cost of suppressing fire has grown substantially, she added.

A more progressive approach would lead to better management of funds to add protective measures against climate-related catastrophes, build resilience, and in extreme cases relocate at-risk communities.

With a lack of finance, policy, and legal frameworks, managed retreat will be a huge challenge in the United States. So it is no wonder that developing nations are not receiving the financial and technical assistance they so desperately need to recover from disasters and to rebuild in a climate-resilient way. Gerrard pointed out that the U.S. is "one of the richest places on the planet and we're struggling to come up with resources to fund it."

### **Changing Climate, Changing Cultures**

For climate relocation to work, governments need to care and commit to international responsibility and burden-sharing. However, in the current global political context of fear of terrorism, an increased refugee influx into Europe, and an overall rise of xenophobia, countries are more likely to opt for stricter policies on cross-border migration. Rex Tillerson announced on December 3 that the U.S. is pulling out of the Global Compact for Migration, arguing (falsely, in Gerrard's view) that it was a threat to U.S. sovereignty.

"There is such an anti-immigrant fervor that it's hard to imagine the U.S. in the short-term taking in large numbers of people," Gerrard said.

According to Alex de Sherbinin, framing migration as a useful adaptation (and life- and cost-saving strategy), rather than a retreat, can encourage governments to take actions to support migration.



On the other hand, there is a human cost to any kind of permanent relocation: The threat of losing one's cultural heritage, particularly in native communities on coastal areas and islands such as Barbuda. Many islanders have a deep attachment to their homeland, which is inextricably linked to their culture and traditions.

Gaston Browne, the prime minister of Antigua and Barbuda, is pushing for tourism development and land ownership to regenerate Barbuda's economy and reduce the island's reliance on Antigua. The Barbuda Land Act of 2007 formally recognized that citizens communally own Barbuda's land—a practice dating back hundreds of years—and must consent to major developments. In its place, Browne proposes to institute a system in which Barbudans can buy their plots for \$1, opening up the possibility of securing bank loans for reconstruction. Many people and representatives in the Barbuda Council are opposed to this new system, as it would threaten their culture and would potentially open up their island to foreign investment and development.

As Alex de Sherbinin noted, "rebuilding homes is one thing, but also rebuilding communities and allowing the tissue of community to reform requires funds to facilitate."

There is a lot of work ahead of us to solve the climate migration issue, and as Michael Gerrard pointed out, "it's really a question of trying to find sufficient humanity."

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