



Cleveland, Ohio is no stranger to harsh winters, but the city faces little risk from drought, wildfires, and hurricanes—natural disasters expected to worsen as the planet warms.

PHOTO BY ANGELO MERENDINO, CORBIS/GETTY IMAGES

ENVIRONMENT

Which cities will still be livable in a world altered by climate change?

These northern U.S. communities may not be completely immune to a warming world, but they are well-placed to meet the needs of an influx of climate migrants.

BY STEPHEN STARR



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Before September 2017, Dianiz Roman and Wilfredo Gonzalez had never given a moment's thought to leaving Aguadilla, the couple's hometown in western Puerto Rico. But after Hurricane Maria struck that month, everything changed.

Both of their workplaces, a funeral home and a gas station, were destroyed in a storm that killed around 3,000 people and upended life on the island.

"We were struggling; trying to get supplies, water, and food," Gonzalez recalls of the months following the hurricane. There was nothing left to do, they say, than to try their luck thousands of miles north in Buffalo, New York, where Gonzalez's sister had moved a year earlier.

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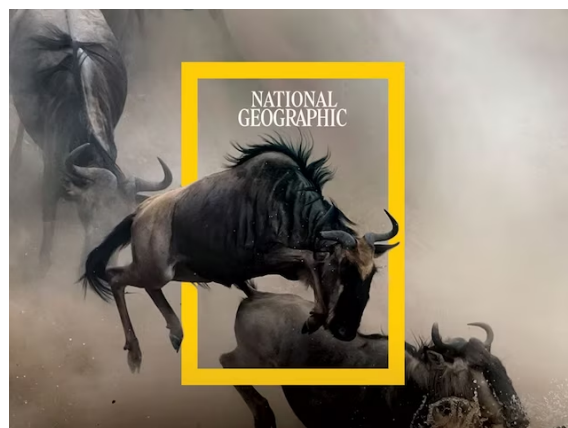


York state, already home to a large Puerto Rican community.

Immigrants tend to migrate to neighborhoods that meet their cultural and linguistic needs, but the exodus of climate migrants to Buffalo wasn't solely due to that established community. Months before Maria struck, the city's mayor declared Buffalo a "climate refuge city," noting that Buffalo has, "... a tremendous opportunity as our climate changes."

Since then, the city has launched a relocation guide advertising the advantages to living in Buffalo, including how its average July temperature is a comfortable 71° F. Anticipating a possible population uptick, the city revised zoning codes in 2017 to encourage development in existing city corridors and began upgrading its dated sewage infrastructure.

And Buffalo isn't alone. Planners in cities such as Cleveland, Ohio; Ann Arbor, Michigan; Duluth, Minnesota; and elsewhere are beginning to map out what a future with thousands more residents could—and should—look like.



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What makes a city safe from climate change?

The question of 'climate havens'—places where extreme weather events are rare and which tend to be located in the northern regions of the U.S. close to bodies of freshwater—has gained currency in recent years, as deadly wildfires, record heat, and damaging hurricanes increasingly affect day-to-day life in the southern and western parts of the country.

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[\(This summer's extreme weather is a sign of things to come. Read more here.\)](#)

Last year, 675,000 people in the U.S. were displaced from their homes by disasters, second only to Colombia among all 35 countries in the Americas, [according to the Internal Displacement Monitoring Center](#).

One [academic](#) has gone as far as labeling Buffalo and Duluth “climate proof” communities.

Many of these communities were once economically dependent on manufacturing, and are potentially well-placed to meet the needs of an influx of climate migrants: When factories started closed in the 1970s and residents moved elsewhere in search of work, they left behind homes and city spaces that today can be repurposed.

Cleveland, on the southern shore of Lake Erie, has around 30,000 vacant lots. Detroit, which has lost nearly two-thirds of its population since its industrial heyday in the 1950s, has more than 30 square miles of empty land inside its city limits. Duluth already has the infrastructure to accommodate tens of thousands more residents.

“We need to model various land use and development scenarios for population growth at the neighborhood, city-wide, county-wide, and regional scales,” says Terry Schwarz, director of the [Cleveland Urban Design Initiative](#). “But at this point, we’re only getting started.”

While available land may be an advantage for some, other cities are examining how to modernize existing housing stock by fortifying them against cold in winter and heat in summer.

“Thinking through ways of reinvigorating the urban core is going to be central to having a more climate-resilient region,” says Nicholas Rajkovich of the University at Buffalo’s School of Architecture and Planning.

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While many Great Lakes cities boast a temperate climate and plenty of space, some believe that doesn’t necessarily translate into climate haven status in the short-term.

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Puerto Rican hurricane survivors migrating to Buffalo aside, there's little evidence to show that U.S. climate migrants are already moving north on a mass scale. The populations of Cleveland, Duluth, and Buffalo have largely remained stagnant over the past decade.

“We learned from our research that [community resilience](#) is just as important as infrastructure or natural resources in predicting how well a city can adapt to climate change or increased migration levels,” says Monica Haynes, director of Duluth's Bureau of Business and Economic Research at the University of Minnesota Duluth.

Moreover, these communities are not immune to climate change. “We've had many days this summer with very poor air quality due to Canadian wildfires. So, the idea that Duluth is ‘climate proof’ is not accurate,” adds Haynes. “Our city, like everywhere else, will experience negative effects from climate change.”

Still, the seemingly relentless cycle of climate change-fueled tragedies continues to call into question what parts of the world will be livable in the decades to come.

([Learn more about how climate change is affecting mental health.](#))

Scientists say that [more intense, longer-lasting hurricanes](#) and rising sea levels—around [13 million people in the southeastern U.S. potentially displaced](#) by the end of the century—are likely to change life in Florida and beyond. Some researchers believe [tornadoes are moving east](#) into more densely populated regions of the South, possibly due to changing climate patterns. Wildfires are becoming a part of life in the West, and the recent devastation wrought on the Hawaii island of Maui illustrates the unpredictable nature of a changing climate.

Last September another devastating storm, Hurricane Fiona, ripped through Puerto Rico, killing more than two dozen people, cutting off power for millions and destroying crops.

But this time, Dianiz Roman and Wilfredo Gonzalez were nearly 2,000 miles north of the storm's destruction.

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After overcoming the initial shock of the Buffalo winter, they say they have settled well into their new lives. Both work in the local school system and are part of a thriving Puerto Rican community concentrated on Buffalo's westside.

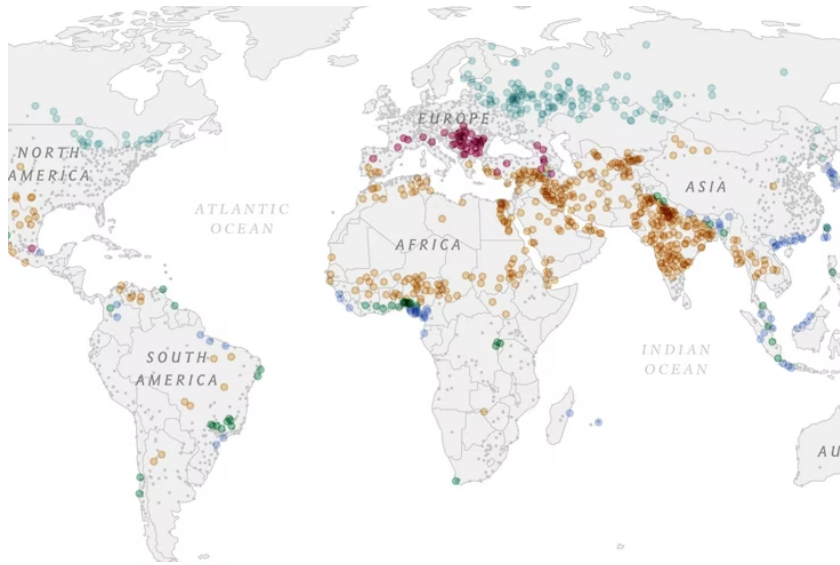
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“When you go into a store you hear people speaking in Spanish, saying ‘hi’ to you. It is nice,” says Roman.

“You don’t get the extreme heat here that you get in Puerto Rico,” says Gonzalez. “It took a while, but I got to like the snow.”



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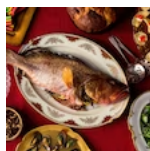
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