Source A:
https://www.washingtonpost.com/sf/national/2017/09/30/stormislands1001/?utm_term=.0c7bfb448d20&itid=lk_interstitial_manual_10

*This story is about Islands in the Caribbean*

In this, the cruelest season of storms that anyone alive has known, entire islands, such as Barbuda, have been wiped clear. There's no power across Puerto Rico, and it probably won't fully return for months. Dominica is devastated, with no commerce and hardly any usable homes. St. John and St. Martin — playgrounds for the affluent and homelands for the descendants of slaves, adventurers and colonizers — have been boomeranged back to a time before luxury resorts and timeshare condos.

The storms pushed the islands back to the primitive, basic state that made the sandbars of the Caribbean so alluring to European empires, pirates and tourists for half a millennium.

Investors, governments, visitors and the people who have called these islands home for generations now wonder: Has something elemental changed? Might paradise turn uninhabitable? Is it time to go?

Devastation is part of the natural cycle of life in the islands. During the past four decades, the region has been hit by more than 200 major storms, which killed more than 12,000 people and caused nearly $20 billion in damage, according to an International Monetary Fund study. About 1 percent of the Caribbean's gross domestic product is wiped out every year.

"Storms shape the history of these places," said Joshua Jelly-Schapiro, a geographer and author of "Island People: The Caribbean and the World." "And people have been leaving these islands for decades," heading for New York, London, Paris and other more stable places in countries that once colonized the Caribbean.

But in recent years, hurricane season has delivered more intense storms. "A person in the Caribbean generally would experience one Category 5 hurricane in a generation," said Tahseen Sayed, the World Bank's Caribbean country director. "In two weeks, we've had two Category 5 hurricanes."

The result is not only physical damage and economic strain.

"There's a new, strong consensus that storms are getting worse and climate change is to blame," Jelly-Schapiro said. "You didn't hear that even a few years ago. For the first time, people are saying, 'I love this place, but maybe it's not a place where we can live.' "

**Full text below:**

Jenita Cuffy rounded the old almond tree, its branches now snapped like twigs, as she headed toward her office at Barbuda's ruined hospital. The island's public-health nurse hadn't been back in nearly three weeks, since every soul was evacuated from this flat disk of an island laid waste by Hurricane Irma.
With the people gone, it was as though Barbuda had gone feral. Abandoned dogs had formed packs and were taking down livestock. From the hospital courtyard, Cuffy could smell death — animal carcasses rotting in the rubble. A corner of the roof had collapsed, the windows blown in. The medical dorms were a scrap heap. An ambulance was wedged into a tree.
"This doesn't look like my island," Cuffy said.
Before the storm, Barbuda was a forgotten Eden about the physical size of the District of Columbia. Its 1,800 inhabitants were family, literally. The descendants of African slaves brought centuries ago by the British, many

islanders were related. The workdays were short and the rock lobster — freshly caught and free — were sweet. They'd grill them up at picnics down by the caves at Two Foot Bay National Park. There were no street addresses. Collecting mail meant a call from Joyce Lynn Webber at the post office.

"Eh, you got mail down here, come by," she'd say.

That life was blown away.

Now Cuffy was back, just for a few hours, to help set up a temporary clinic — a step, she hoped, toward getting scattered Barbudans back to their island home.

But would they come back? Should they? Would she?

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Three hundred miles west of the devastation that was Barbuda, Maria Roman and her husband, George Matta, live on what feels like a new island within their island of Puerto Rico.

Hurricane Maria cut their neighborhood off from the rest of their mountain town, collapsing the bridge over a 200-foot-wide river. Roman and Matta were left marooned, without food stores, gas stations or emergency services. The only way out was to wade across the river or drive more than three hours around the mountains — nearly impossible with little to no gas.

"I call it lost in space," Roman said.

This is home, but it wasn't always so. Roman, 54, grew up in Jersey City, then moved to Puerto Rico in the mid-1980s, when her parents decided to retire to their native island. Roman met the man who became her husband, and he got a job running a ranch, and next thing they knew, they'd made a life on the island.

But Roman often has felt the pull of the mainland. She doesn't like the isolation of the countryside. And each time a hurricane has hit, each time her neighborhood of San Lorenzo lost power or water, she longed for the comfort of New Jersey.

After Hurricane Georges in 1998, she wanted to leave, but she needed to care for her wheelchair-bound mother and father, who have since died. And she felt connected to her neighbors. Her husband had a good job. And college was cheaper for her daughters than it would be on the mainland.

After Georges, "everything was calm for 19 years," Roman said. Until this year, until Irma, and then Maria.

"This is like a nuclear bomb was thrown at Puerto Rico," Roman said.

Roman has had it. As soon as her younger daughter graduates from nursing school in May, she said, the family will move to the mainland.

That daughter, Merari Matta, 24, longs for the better pay and quality of life up north. On the island, “the power always goes, hurricane or not,” she said. “The water always goes. There’s a lot of inconsistency.” If the storm had hit the mainland, she said, help would have arrived faster.

Like many people in the Caribbean, Roman and her family have a relatively easy way out. The Caribbean diaspora is vast and deeply connected. About as many Caribbean natives live in North America or Europe as in the islands; immigrants from the region make up 20 percent of the population in greater Miami and 7 percent of New York City. Half of Caribbean immigrants around the world send remittances to support relatives back home, and 70 percent belong to organizations on their islands, according to a World Bank study.

For Puerto Ricans, who are U.S. citizens, the back and forth is even more fluid.

Roman’s sister, Aurea Roman, lives in Jersey City. She can’t imagine living on the island. As a single parent on partial disability, she said, “all the convenience for me is here.” She can get food delivered to her home. She can use public transportation, such as buses, trains and taxis.

“I like the island to visit, but to so-called live? No,” she said. In Puerto Rico, “I panic.”

Aurea had not heard from her sister in Puerto Rico after the hurricane, and was relieved to learn from a reporter that she is okay. She now wants them to join her in the land of safety and comfort.

“If they want to come,” she said, “I’ll buy them a ticket right now.”

Hurricanes kill and destroy. Things small and large — toys and family photos and entire buildings — vanish in torrents of water and gusts of wind.

“Eden is broken,” Dominica Prime Minister Roosevelt Skerrit said at the United Nations after Hurricane Irma. “To deny climate change . . . is to deny a truth we have just lived.”

The tragedy storms wreak was powerful enough that William Shakespeare heard about it in England. “The sea that roar’d to us,” Prospero said in “The Tempest,” “did us but loving wrong.”

Hurricanes can also revive and renew. Crops come back stronger than before. People learn to build smarter. Storms also cement the bonds of people who share the intimate spaces of islands, which are, as Jelly-Schapiro put it, “both a world apart and connected to everywhere by the sea.”

Storms drive people out. “Hurricanes have been an important aspect of migration in the Caribbean at least since the late 19th century,” said Yale historian Stuart Schwartz, author of “Sea of Storms,” a history of hurricanes. People leave because they are dispirited or because the storm destroys their livelihood, wiping out sugar plantations or gutting resort hotels.

“Puerto Rico was already in an out-migration crisis before the storms,” Schwartz said. The island lost 10 percent of its population in the past two years, mainly because of deep financial woes. “This could make it much worse.”

But in a struggling economy, many people can’t leave. Gabriel De la Cruz, his wife, Luisa Rodriguez, and their son Ismael, lived in Loiza, one of the poorest suburbs of San Juan. It had already suffered extensive damage from Hurricane Irma when Maria ravaged the town on Sept. 20, destroying 90 percent of all residences. The family lost nearly everything.

De la Cruz, who works as a cook, might move to an area less prone to hurricane damage. Loiza “is going to be a desert town,” he said. But moving to the mainland is impossibly expensive, he said. He’s been there before, living in the Bronx for four years, paying more than $800 a month for a room in a shared apartment. In Loiza, the family’s three-bedroom house cost just $400 a month.

But it is gone and De la Cruz doesn’t know how it might be replaced. That work is months, maybe years, away. While $48 million already has flowed from an 18-nation insurance consortium to seven island governments to jump-start the buildback, the region’s U.S. territories, including Puerto Rico and the U.S. Virgin Islands, were in financial distress even before the storms. Now, their paralyzing debt crises have been compounded by a near-halt in commerce.

The World Bank has encouraged island nations to build in resiliency — put much of the electrical network underground, invest in drainage systems, pass stricter building codes, rebuild hospitals so they can double as

storm shelters. On islands that have taken such steps, recent storms have caused far fewer deaths than strong hurricanes did in the past, Sayed said.

“The whole thing is about cost-benefit analysis,” said Saurabh Dani, a disaster-risk-management specialist at the World Bank. “The social and economic cost of trying to recover from a devastating storm makes you realize that it might be worth the cost” to invest in expensive precautions such as moving electrical wires from overhead poles to underground trenches.

Major storms can paralyze production in agriculture and industry for years, Schwartz said, but “hurricanes bring benefits too — eliminating insects, renewing fields.” The difference between long-term devastation and quick recovery depends on “the willingness of the government to spend on preparation,” he said. “One dollar spent in preparation is worth four in recovery.”

Gaston Browne, prime minister of the former British colony of Antigua and Barbuda, views the storm as an opportunity. From the ruins of his country’s smaller island, he wants to build a Barbuda powered only by solar energy. Telephone lines could go underground. Houses and the hospital could be rebuilt to withstand monster storms.

Since Irma, Browne said he’s won commitments for grants, loans or other aid from China, Venezuela, the United Arab Emirates and Canada. He’s soliciting more.

Browne, an Antiguan, said Barbudans must learn to be more self-sufficient, and that means abandoning a centuries-old communal land system in which the descendants of slaves built houses on land they believed belonged to all. Browne wants to create modern property rights, allowing Barbudans returning home to their ravaged island to buy their land for $1. That would pave the way for them to win mortgages to rebuild and to buy insurance.

“We are trying to build an ownership class in Barbuda,” he said. “What is so bad about the government bringing Barbuda into the 21st century so that it’s not a giant welfare state?”

Some Barbudans smell a rat, a land grab that could lead to large-scale development. Indeed, the government is backing major tourism projects, including one led by actor Robert De Niro that would revive a long-shuttered resort once favored by Princess Diana.

Cuffy is among those who fear the government plan. Paying $1 for prime land near a Caribbean beach might seem like a gift. But Barbudans saw land as a birthright. You picked your parcel and you built. Nobody owned it. Everyone did.

That land is now barren, a mudpit of ruins.

“I’m not really ready to take it in, what’s happened,” Cuffy said. “It’s just, where do you start?” Her voice broke. “How do you start? Can you? I worry that it will never be the same. Everybody’s gone. Everybody. And I know some won’t come back. I don’t know if we will.”

She is decked out in her Sunday best, her husband, Peter, and son Garen by her side. They have come to worship at a small revival hall behind St. John’s Pentecostal House of Restoration on Antigua, 39 miles across sparkling turquoise waters. Their preacher from back home on Barbuda, Bishop Nigel Henry, offered solace and spirit to his displaced flock. By boat and airlift, Barbudans had found a temporary home on Antigua, in shelters and the homes of Antiguan families.

“Affliction,” Henry cried out, his voice echoing through the church. “My people, we have an affliction. It’s like a lawn mower took down our island, and it’s amazing that we’re still here, still alive. Our little island didn’t bother anyone. All we did was love to have fun. And yet still, we had it. A Category 5 plus plus plus.”

The old folks might go back, the bishop said, but “a lot of the younger ones, they’re going to find jobs, go to schools, here in Antigua. I don’t think they’re going back.”

It’s a question Cuffy and her family already are mulling. On Antigua, Garen, 9, swiftly acquired a taste for KFC and Big Banana Pizza — the kind of chains that never made it to Barbuda.

Last week, he was in the back seat of a family friend’s car when it suddenly started to rain. Garen curled up in a ball. The rain summoned memories of the bathroom cupboard where his parents had hid him as Irma tore at their Barbuda home.

“He says he won’t go back, ever,” Cuffy said. “It puts me of two minds, you know. I want to go back . . . but he’s my son.”

Later, in the small Antigua apartment a cousin has lent them, Cuffy’s 60-year-old mother, Junie John, wasn’t hearing any of it.

“We got to go back, it’s home,” she said, slapping her hands on her lap.

Lestroy John, Junie’s husband and Cuffy’s stepfather, chimed in: “Oh, we goin’ back. My people there. Gonna be there.”

Cuffy went silent. She recalled the 1995 storm, Hurricane Luis, which tore things up good, but not like Irma. Junie remembers the earthquake in 1974. It was bad, too. And it’s not like family never left. One sister moved to the District, the other to Antigua. But they left for work, not to escape the storms.

“We always rebuilt, we always stayed put,” Junie John said. “My mother always told me, ‘Junie, mind your land.’ We have done that. No gonna stop now.”

Source B:
https://www.washingtonpost.com/national/people-love-to-live-in-places-that-are-at-risk-for-disasters-and-this-is-what-happens/2017/10/15/ba50ed38-b03f-11e7-be94-fabb0f1e9ffb_story.html

Disasters such as wildfires, hurricanes and floods have been around forever, so we're familiar with them, he said. People tend to be worried about new, unfamiliar threats, he said — such as terrorism and the kind of mass shooting that took scores of lives in Las Vegas.

"Mother Nature isn't malicious," Slovic said. "We don't feel she is out to get us, whereas a terrorist is out to harm us, just for the pure hatred, desire to harm."

Some hazards have only recently been grasped by the scientific community. Researchers in the Pacific Northwest have discovered that every few hundred years, an offshore fault known as the Cascadia Subduction Zone ruptures in a manner that creates not only a powerful earthquake but also a devastating tsunami.

The odds of an 8-magnitude earthquake or stronger somewhere in the Cascadia region are between 30 and 40 percent during the next half-century, said Chris Goldfinger, a paleoseismologist at Oregon State University.
This year's rash of hurricanes or flooding might seem unprecedented, Goldfinger said, but such things have happened thousands of times before, back when there weren't any humans around to record them.
"Wherever we are in time, we're always between things most of the time, until your number comes up," he said.

Science and technology can limit the hazards that develop whenever that number comes up. For example, satellites monitor weather patterns in a way impossible 50 years ago — and people have more time to evacuate before a hurricane. Scientists such as Goldfinger can study prehistoric earthquakes and improve the nation's seismic hazard maps.

The Internet and smartphones give people instant access to emergency information. Facebook and other social media platforms helped organize rescues when intense flooding struck Houston. Police and fire officials can send out alerts to tell people to flee or take shelter from a shooter.

Full Text Below:

California was burning and emergency management officials in Sacramento were listing the latest statistics about the fires, the firefighters, the acres burned, the fatalities, the missing people, the number of tanker planes and helicopters deployed, and so on. To one side, in a suit and tie, stood the governor, Jerry Brown.
When he took the microphone, he offered the long view of this extraordinary year of natural disasters in the United States.
"It's just part of the facts of a highly developed society, is that you have a lot of people and a lot of assets in the face of floods and hurricane and fires," Brown (D) said at the Wednesday briefing. "And this is what happens."
That might have sounded detached and cerebral while in the middle of a crisis, but it's what everyone in the emergency management business knows to be true. As a people, we are consistently stepping into the path of destruction. "Natural" disasters have a heavily engineered element.
Recent months have delivered a steady pounding of misery, as flooding drowned Houston, hurricanes chewed through Florida, the U.S. Virgin Islands and Puerto Rico, and wildfires killed dozens of people in California. If it feels like these things are getting worse, experts say that's because, in some cases, they are.
*Their island homes wiped away in the hurricanes, Caribbean residents wonder: Should they go back?*

There are more people and property vulnerable to natural forces. And climate change doesn't help. Scientists know that global warming does not create a specific hurricane or a wildfire, but climate change, which has been driven significantly by the burning of fossil fuels, primes the pump for extreme weather.
A warmer atmosphere can hold more moisture and produce heavier deluges. On a hotter planet, droughts can be, and have been, more severe. Coastal flooding gets worse as seas rise.

The wildfire season has gotten longer in recent years, and the wildfires are bigger, said Shawna Legarza, director of Fire and Aviation Management for the U.S. Forest Service.
"We're seeing intense periods of longer, hotter summers," she said. "We saw that this summer in Montana where it didn't rain for 60 days."
*Massive wildfires turned prairies to ash, leading Montana's cowboys to weigh federal help*
Kerry Emanuel, a professor of meteorology at the Massachusetts Institute of Technology, said the kind of torrential rains that flooded Houston are far more likely than they were a generation ago.
"The underlying probability of a [Hurricane] Harvey-like rainfall in Texas was maybe 1 percent annual probability in 1990 and is 6 percent probability today because of climate change," Emanuel said.
The recent U.S. events have been catastrophic but hardly unimaginable. Engineers have long warned of the flood risks in Houston, which flooded in 2015 and 2016.

Florida, meanwhile, has historically been a magnet for hurricanes, getting hit by more than any other state between 1851 and 2015, according to the National Oceanic and Atmospheric Administration. Florida's population has quadrupled in half a century, to more than 20 million. At one point in September, the entire Florida peninsula was under a hurricane warning from Irma, which traveled up the state as if trying to drive up Interstate 75 and affected almost every one of Florida's major population centers.
Florida's booming coastal population might create its own herd mentality of collective safety rather than vulnerability. And psychologists say it's human nature to avoid thinking about natural disasters.
"Most of us evaluate risk based on our gut feelings," said Paul Slovic, a psychology professor at the University of Oregon. When we rank potential threats, "natural hazards tend to be relatively low considering the amount of damage that they pose and their frequency."
*Fear is in the water, spreading with new and viral efficiency*
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*The only California county that sent a warning to residents' cellphones has no reported fatalities*

There is an extensive disaster-management community that preaches the virtues of mitigation — essentially, planning ahead, making preparations, strengthening defenses, improving building codes.

But mitigation is often a budget line that gets scratched out during recessions or when a community or government agency is facing a fiscal crunch. The Forest Service repeatedly has exceeded its budget for firefighting and has had to dip into funds intended for fire risk reduction and other forest management programs.

What's unfolding nationally is a race between vulnerability and preparedness.

"It seems to me like we're losing," said Ken Hudnut, science adviser for risk reduction at the U.S. Geological Survey. "It seems to me like we're not figuring out strategies and implementing them rapidly enough to keep pace with all of the change that we are observing."

Carol Friedland, an associate professor of construction management at Louisiana State University, echoes that view: "I do not believe we're keeping pace with what we're facing from nature."

She noted that Louisiana's flood maps do not factor in land subsidence or sea level rise.

"Our elevations are lowering. And while sea level rise, at least down here, can be a controversial topic, everybody knows our land is sinking," she said.

Much of the country is settled around coastlines, in part because historically, before the age of railroads and airlines and interstate highways, people and cargo tended to travel by water and societies built up around ports. Those coastal cities are now exposed to storms and the threat of sea level rise. Moreover, port cities often have a great deal of reclaimed land, created with dredged material, and that can be shaky ground — as seen in the Marina District of San Francisco, which was heavily damaged by the 1989 Loma Prieta earthquake.

Human nature often doesn't help: People like a view of the ocean. And as the governor of California pointed out last week, people like being close to green places that are full of wildfire fuel.

According to researchers at the University of Wisconsin, in the Lower 48 in 1990 there were 30.8 million homes in the wildland-urban interface, or WUI. That's pronounced "WOO-ee" by researchers. The number increased to 43.4 million by 2010. California added 1.1 million of those homes.

The University of Wisconsin researchers last week studied three of the big California wildfires and compared them with the WUI database. Two wildfires, the Atlas and Adobe, fit the usual pattern: The overwhelming majority of the homes (upward of 80 percent) within the fire perimeter were classified as being in the wildland-urban interface.

But the Tubbs fire that devastated Santa Rosa was an anomaly. About 71 percent of the homes in the Tubbs fire perimeter were classified as being in the WUI, but most of the rest of the homes were in solidly urban neighborhoods. That includes homes in Coffey Park, a neighborhood tucked behind six-lane Highway 101.

The extreme winds showed how a wildfire can invade an urban area. Embers can be blown more than a mile from a hot fire. Then, when some homes in Coffey Park ignited, they became fuel for the urban fire, said Pam Leschak, a program manager for the Forest Service.

"People don't think of their homes as fuel for a wildfire," she said.

A 2004 analysis of fire danger in Santa Rosa described the city's location, surrounded by forested uplands, as "remarkably similar" to communities that have experienced "historic urban interface fires" in recent decades.

"In a major urban interface fire, the extensive annual grasslands in the Santa Rosa area would provide a receptive fuelbed for spotfires to occur resulting from long-range spotting in heavier fuels, rapidly expanding the fire front in more developed areas," the analysis said.

"My heart goes out to the people who lost homes, and lost friends and family. But what happened was not unforeseeable," Volker Radeloff, a professor of forest ecology and management at the University of Wisconsin, told The Washington Post. "Almost the exact same area burned in the 1960s."

That was in 1964 — the Hanley fire. It burned 52,000 acres, according to the Napa Valley Register, but destroyed only 150 structures.

There just weren't many people or homes there then. In 1960, there were 766 homes within the perimeter of the Tubbs fire, compared with 6,253 in 2010, an eightfold increase, according to University of Wisconsin researcher H. Anu Kramer.

Emergency managers talk about an "all-hazard" approach to their jobs. They say people need to be ready for whatever might happen. Calamity can come in many forms, often with no warning.

Legarza, the Forest Service official, poses simple questions for everyone.

"Are you ready?" she asks. "Do you have your bags packed?"

Source C: https://theweek.com/natural-disasters/1017898/rebuilding-after-climate-disasters

Two Parts:

**For Leaving:**

Why is rebuilding an issue?

As wildfires, powerful hurricanes, and flooding grow more frequent and severe, it makes less sense to spend billions to restore what was lost. Hurricane Ian inflicted at least $60 billion in damage on Florida's Gulf Coast last month, leveling several coastal communities and barrier islands. The storm left both homeowners and policymakers wondering at what point the risks of oceanfront property outweigh the benefits. It's a question now facing residents throughout the Eastern Seaboard as sea levels rise and storm surges become more commonplace. In California, taxpayers have spent billions rebuilding woodsy communities left in ashes by wildfires, but another 6,800 wildfires ravaged the state this year. Given a choice between moving or staying and adapting to a changing climate, most people prefer "to adapt," said Nadia Seeteram, a researcher at Columbia University's Climate School. But a growing number "recognize that moving might be something that they may need to consider in the long term."

Choosing to retreat

Some homeowners don't rebuild after disasters, either out of financial concerns or recognition of the futility of living in areas that climate change is making more vulnerable. But most of the available disaster aid focuses on rebuilding, so people have little support to move away from shore communities, low-lying floodplains, and fire-prone woods. In California's Mariposa County, frequent fires and a housing shortage are making relocating a challenge; by 2050, officials warn, wildfires will threaten an estimated 79.8 million homes. A strategy called managed retreat is slowly gaining traction, encouraging officials to relocate communities out of vulnerable areas, but this strategy is hampered by the fact that it also requires expensive investments in the public services on which residents rely. Some homeowners who've seen their property destroyed are becoming climate refugees, and are resettling in New England and the upper Midwest and other areas where disasters are less common. "Where people live is very sticky," said Beth Gibbons of the American Society of Adaptation Professionals. "They're reluctant to move. But the day is going to come that they are not going to be able to stay there."

**For Staying:**

Why do people keep rebuilding?

Sentimentality, combined with either extreme denial or extreme acceptance. In 2021, two-thirds of Americans polled said they would rather rebuild than relocate if their home were damaged. On the island of Nantucket, Massachusetts, where climate change is eroding the shoreline, homeowners are raising the foundations of their multimillion-dollar houses and moving them back a few dozen yards from the beach in hopes of escaping

the rising sea. Most municipalities encourage rebuilding, at least partly because a decrease in the number of houses and businesses shrinks the tax base. Charleston, South Carolina, is constructing a $1.1 billion seawall to protect against frequent hurricanes, but development in flood-prone areas continues, and the port city's population grew 25 percent from 2010 to 2020. Charleston just approved a development that would put 18,000 housing units in a floodplain near the coast. This disconnect points to a sense of fatalism: If storms, fires, droughts, flooding, and heat waves are making many parts of the country increasingly unlivable, why not enjoy a gorgeous setting while you can? "We all kind of pick our poison, don't we?" said Jonathan Kusel of the Sierra Institute for Community and Environment in fire-prone Northern California.

Who's footing the bill?

The government, mostly. Under the 1988 Stafford Act, the federal government provides aid with few restrictions once the president declares a federal disaster. This provides a strong incentive to rebuild devastated areas, even if it's likely they'll be devastated again. The government also spends billions every year on resilience projects to protect existing infrastructure, such as beach nourishment projects, which have been found to *increase* oceanfront development. Last year's infrastructure act allocated about $47 billion over several years for resilience projects, and communities that receive aid aren't required to strengthen their disaster planning or alter floodplain development. This creates a moral hazard: Why not take the risk of living on the coast when the government is picking up the tab?

What are other reasons?

Wealthier people are more likely to be able to afford national flood insurance, and are more likely to navigate bureaucracies to qualify for federal disaster aid. In addition, home values generally rebound more quickly in wealthier neighborhoods. In Fort Myers Beach, one of the areas hardest hit by Ian, Trixie Parkes' 1976 wood-frame cottage was completely wrecked, and since she had no flood insurance, Parkes, 59, plans to sell her property and move away. Five blocks away, Fernando Gonzalez's $2 million home barely suffered any damage. When he had it built in 2016, he went beyond building code requirements, raising the first floor 16 feet off the ground and digging a deep foundation with thick concrete walls that are vented to allow water to flow through them in a storm surge. "If you want the luxury of living near the ocean," Gonzalez said, "you have to pay."

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Why is rebuilding an issue?

As wildfires, powerful hurricanes, and flooding grow more frequent and severe, it makes less sense to spend billions to restore what was lost. Hurricane Ian inflicted at least $60 billion in damage on Florida's Gulf Coast last month, leveling several coastal communities and barrier islands. The storm left both homeowners and policymakers wondering at what point the risks of oceanfront property outweigh the benefits. It's a question now facing residents throughout the Eastern Seaboard as sea levels rise and storm surges become more

commonplace. In California, taxpayers have spent billions rebuilding woodsy communities left in ashes by wildfires, but another 6,800 wildfires ravaged the state this year. Given a choice between moving or staying and adapting to a changing climate, most people prefer "to adapt," said Nadia Seeteram, a researcher at Columbia University's Climate School. But a growing number "recognize that moving might be something that they may need to consider in the long term."

### Why do people keep rebuilding?

Sentimentality, combined with either extreme denial or extreme acceptance. In 2021, two-thirds of Americans polled said they would rather rebuild than relocate if their home were damaged. On the island of Nantucket, Massachusetts, where climate change is eroding the shoreline, homeowners are raising the foundations of their multimillion-dollar houses and moving them back a few dozen yards from the beach in hopes of escaping the rising sea. Most municipalities encourage rebuilding, at least partly because a decrease in the number of houses and businesses shrinks the tax base. Charleston, South Carolina, is constructing a $1.1 billion seawall to protect against frequent hurricanes, but development in flood-prone areas continues, and the port city's population grew 25 percent from 2010 to 2020. Charleston just approved a development that would put 18,000 housing units in a floodplain near the coast. This disconnect points to a sense of fatalism: If storms, fires, droughts, flooding, and heat waves are making many parts of the country increasingly unlivable, why not enjoy a gorgeous setting while you can? "We all kind of pick our poison, don't we?" said Jonathan Kusel of the Sierra Institute for Community and Environment in fire-prone Northern California.

### Who's footing the bill?

The government, mostly. Under the 1988 Stafford Act, the federal government provides aid with few restrictions once the president declares a federal disaster. This provides a strong incentive to rebuild devastated areas, even if it's likely they'll be devastated again. The government also spends billions every year on resilience projects to protect existing infrastructure, such as beach nourishment projects, which have been found to *increase* oceanfront development. Last year's infrastructure act allocated about $47 billion over several years for resilience projects, and communities that receive aid aren't required to strengthen their disaster planning or alter floodplain development. This creates a moral hazard: Why not take the risk of living on the coast when the government is picking up the tab?

### What about homeowners' insurance?

Most homeowners' policies don't cover damage from flooding. FEMA offers a National Flood Insurance Program, but after several massive hurricane payouts, premiums have risen to about $1,000 a year, and can be higher depending on a home's flood history. Only 1 in 5 homeowners in Hurricane Ian's evacuation area had national flood insurance. Federal emergency aid provided through the Stafford Act can help individual homeowners rebuild, but it often can take years for the money to trickle down through the bureaucracy. So, many residents rely on savings, charity, or loans. It can be very costly to rebuild, because they usually have to adhere to new building codes designed to makes structures better able to withstand extreme weather. After

Hurricane Charley hit Florida in 2004, rebuilt homes had to comply with some of the strictest building codes in the country. Those homes fared much better in Hurricane Ian than older houses constructed under laxer codes. This is one of the many reasons why natural disasters fuel inequality.

### What are other reasons?

Wealthier people are more likely to be able to afford national flood insurance, and are more likely to navigate bureaucracies to qualify for federal disaster aid. In addition, home values generally rebound more quickly in wealthier neighborhoods. In Fort Myers Beach, one of the areas hardest hit by Ian, Trixie Parkes' 1976 wood-frame cottage was completely wrecked, and since she had no flood insurance, Parkes, 59, plans to sell her property and move away. Five blocks away, Fernando Gonzalez's $2 million home barely suffered any damage. When he had it built in 2016, he went beyond building code requirements, raising the first floor 16 feet off the ground and digging a deep foundation with thick concrete walls that are vented to allow water to flow through them in a storm surge. "If you want the luxury of living near the ocean," Gonzalez said, "you have to pay."

### Choosing to retreat

Some homeowners don't rebuild after disasters, either out of financial concerns or recognition of the futility of living in areas that climate change is making more vulnerable. But most of the available disaster aid focuses on rebuilding, so people have little support to move away from shore communities, low-lying floodplains, and fire-prone woods. In California's Mariposa County, frequent fires and a housing shortage are making relocating a challenge; by 2050, officials warn, wildfires will threaten an estimated 79.8 million homes. A strategy called managed retreat is slowly gaining traction, encouraging officials to relocate communities out of vulnerable areas, but this strategy is hampered by the fact that it also requires expensive investments in the public services on which residents rely. Some homeowners who've seen their property destroyed are becoming climate refugees, and are resettling in New England and the upper Midwest and other areas where disasters are less common. "Where people live is very sticky," said Beth Gibbons of the American Society of Adaptation Professionals. "They're reluctant to move. But the day is going to come that they are not going to be able to stay there."

Source D:https://www.cnn.com/2022/12/08/us/americans-moving-to-areas-with-high-climate-risk/index.html

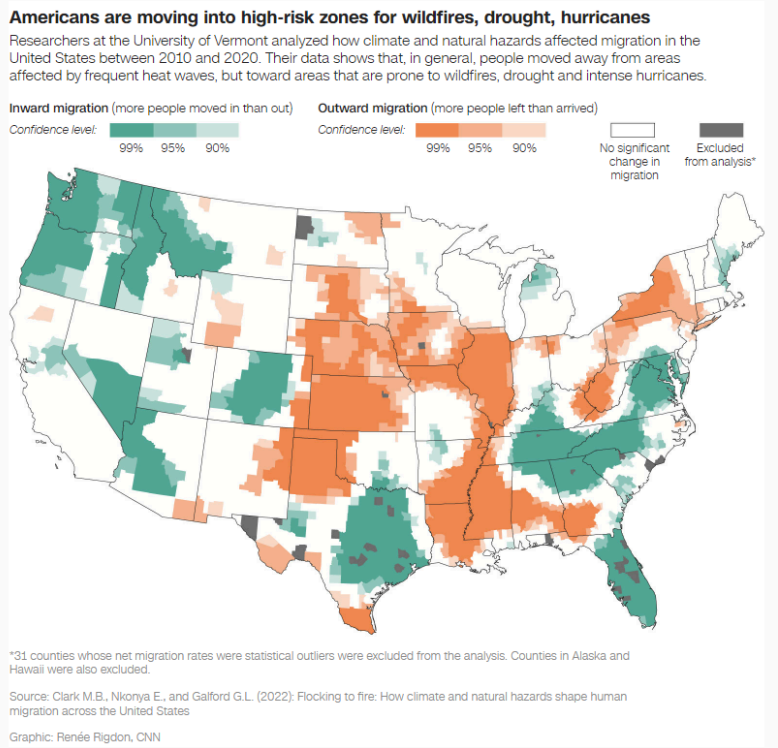
A study released Thursday by researchers from the University of Vermont found that over the past decade, Americans have moved out of some areas prone to scorching summer heat waves and hurricanes – like the Central US and Gulf Coast. Yet many are also migrating into regions afflicted by extreme wildfires, heat and worsening drought, researchers found.

“What I was quite surprised by is that a lot of these climate risks are not yet affecting people’s decision about where to move,” Mahalia Clark, lead author of the study and graduate fellow at the University of Vermont Gund Institute for Environment, told CNN. “It might be that (disasters) haven’t had as much time to start making their way into people’s minds to really affect them in terms of choices.”

Researchers found an alarming upward trend of people flocking to the wildfire-prone and drought-stricken West, where states are facing unprecedented water shortages. The study’s data shows an uptick in people moving to southern Nevada and parts of Arizona, both of which are struggling with dwindling groundwater and the Colorado River water crisis.

But Americans aren’t factoring those risks into their decision to move, researchers showed. The study highlighted other aspects such as mountains, beautiful scenery, lakes or ocean and outdoor recreation as key influences in the decision to move to the West.

“Decisions about migration is this very complex personal decision, where people weigh factors about job opportunities, where the family lives, and potentially also some environmental factors like a pleasant climate, nice weather, beautiful scenery, or potentially some risk factors,” Clark said.




Full Text Below:

People are moving in droves to places with a high risk of climate disasters, researchers say, despite extreme weather events increasing in frequency and intensity in recent years.

A study released Thursday by researchers from the University of Vermont found that over the past decade, Americans have moved out of some areas prone to scorching summer heat waves and hurricanes – like the Central US and Gulf Coast. Yet many are also migrating into regions afflicted by extreme wildfires, heat and worsening drought, researchers found.

They also saw an exceptional increase in people moving to hurricane-prone Florida, a growing trend in recent decades.

“What I was quite surprised by is that a lot of these climate risks are not yet affecting people’s decision about where to move,” Mahalia Clark, lead author of the study and graduate fellow at the University of Vermont Gund Institute for Environment, told CNN. “It might be that (disasters) haven’t had as much time to start making their way into people’s minds to really affect them in terms of choices.”

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They are also migrating into major cities like Nashville, Charlotte, DC and Atlanta as well as suburbs in the Pacific Northwest, where urban development is increasing along with climate risks.

Meanwhile, people are moving away from areas across much of the Great Plains, the Midwest, along the Mississippi River, as well as over large portions of New York State and West Virginia – regions where flooding is common.

And while Americans are less attracted to some areas where hurricanes are frequent – mostly along the Eastern Seaboard – coastal areas that are at high risk to the most destructive storms, like the coasts of Florida and Texas, remain key migration hot spots.

Clark said that’s because many people – particularly retirees in Florida – are attracted to the warm climate, beaches and other quality-of-life factors that outweigh the seemingly remote risk of a life-threatening hurricane.

Still, she said, when people choose between counties with similar population density and features within the state, they’re likely to opt for the county with lower hurricane risk.

The findings reflect a 2021 report by real estate company Redfin that found Americans are moving to places with high climate hazards such as heat, drought, fire and floods. And in some of these places, home prices are even increasing as demand surges.

Thursday's study "suggests that many people may be in for an unpleasant surprise when they move to a new part of the country and don't realize that the hazards in their environment have also changed dramatically," Jennifer Marlon, a climate scientist at the Yale School of Environment, who is not involved with the study, told CNN.

"I'm not surprised that wildfires and smoke don't weigh heavily in people's decisions to move because these events are often localized and are still relatively infrequent, even if they are becoming more common and more dangerous," she added.

Researchers gathered data on migration from the US Census Bureau, natural hazard frequencies from the Federal Emergency Management Agency, as well as forest cover data from the National Land Cover Database to consider several different factors that might affect people's decisions.

But Marlon points to existing gaps in some of this data that might impact the linkage the authors are trying to make. For instance, the FEMA heat wave data that the researchers use show large parts of the country, particularly in the Rocky Mountains, with missing heat ratings.

"(The authors) say mountainous areas tend to not have heat waves, but the missing (FEMA) data spans more than just mountainous counties," she said. "It can be difficult to measure weather and climate hazards that vary so much over space and time."

Researchers say they plan to delve more into this space to further understand how Americans are migrating within the country and what influences their decisions. For now, they say, city planners and policymakers need to find ways to stop adding new developments in climate-vulnerable places to protect the people that are moving in.

If they don't, the socioeconomic toll will only worsen as climate change advances.

"Moving more folks into high-risk areas is going to prove exceedingly costly," Marlon said. "The question just becomes a matter of who is going to pay for the damages."