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PLANNING MAGAZINE

Climate Change Pushes Fair Bluff to Higher Ground

How a North Carolina town, a tribal community, and others are rising from climate-caused ruin to create new beginnings.

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Road closure signs posted by local police warn drivers about the dangers of driving into flooded areas of Fair Bluff, North Carolina, after Hurricane Debby bore down on the Southeast in August. Photo courtesy of Fair Bluff Chamber of Commerce/Facebook.

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By JOE TEDINO

When Kaitlin Ashley Cox stepped into her hair salon on Fair Bluff's Main Street after Hurricane Matthew blew through North Carolina, what she found startled her. Her furniture, equipment, and supplies were floating in water just below hip level.

"It was very unreal to be walking around the salon in waders," says Cox of the 2016 storm that swamped Fair Bluff. Severe flooding and the pandemic brought economic hardship to a town that today has just 900 residents. "At that point, I was just trying to get as much as I could get out of there that was still usable." In the aftermath of Matthew, a few Main Street businesses reopened, but two years later Hurricane Florence brought more flooding as the Lumber River again rose out of its banks.

Fair Bluff is low and flat, part of the state's coastal plain near the South Carolina border. When the river swells up, the water spreads out in every direction. A 1977 effort to survey and map the floodplain showed the high and low points, which were clearly visible after the 2016 hurricane. The commercial strip along Main Street and nearby homes built before the remapping had water flowing through them; homes built afterward were dry. Driving around town after the storm, longtime town planner Al Leonard saw water that was shoulder-high in some places. "The homes built prior to [1977] had water flowing through the windows," he says. "But because of the survey work, the water was underneath those [newer] homes. [They] were not destroyed."

In all, 90 homes were lost. Unfortunately, of the businesses that were destroyed downtown, the vast majority closed permanently, says Leonard, who is now the redevelopment director at the town chamber of commerce.

As the risks of climate change escalate, low-lying towns like Fair Bluff are opting for [managed retreat](https://pas.quicknotes/106/managed-retreat/), a challenging and costly process of relocating to safer areas to avoid the dangers of rising waters and other impacts caused by extreme weather. This approach is becoming more common as the economic and social threats from climate change intensify.



Kaitlin Cox, whose Fair Bluff salon was destroyed by flooding in 2016, is one of nine business owners whose shops have found new life in the Uptown commercial district. Photo courtesy of Kaitlin Cox.



Built using Federal Emergency Management Agency disaster relief funding, the new Uptown district is just blocks from the downtown and sits about 69 feet above sea level. Photo courtesy Fair Bluff/Facebook.

Moving uptown and upstream

Today, Cox's River's Edge Hair Co. is one of nine businesses leasing space in "Uptown" Fair Bluff, the town's new commercial district built with Federal Emergency Management Agency (FEMA) disaster relief funding. Scheduled to open around the same time that the old downtown buildings were set to be razed, the 25,000-square-foot commercial building is just a couple of blocks from the old downtown and sits 69 feet above sea level, more than three feet higher than the new flood lines drawn in 2019, according to Bob Mitchell, the civil engineer on the project.

Nationally, municipalities like Fair Bluff have struggled for years with frequent floods from heavy rain, sea level rise, or other impacts of climate change. These cities face a hard choice: whether to rebuild and remain potentially in harm's way or relocate to higher ground. Economic stability, local traditions, and shared history are the connections that tie people to communities, making it difficult for people to leave, even as climate change-related disasters threaten their homes and businesses. Federal and state funds from multiple programs are essential because most municipal budgets cannot absorb the steep cost of dealing with recurring flooding from high tides or extreme weather events along rivers and shorelines.

Fair Bluff has collected more than \$50 million in government funding since Hurricane Matthew, Leonard says, with another \$20 million in outstanding grant applications. They used grant money to pay for everything from construction and equipment to staff salaries as the town recovered from the damage to its downtown and surrounding neighborhoods following Matthew and Florence.



Planning for Managed Retreat

Learn how communities are using this strategy to adapt to rising sea levels and mitigate climate change risks in [PAS QuickNotes 106 \(https://pas.quicknotes/106/managed-retreat/\)](https://pas.quicknotes/106/managed-retreat/).

Preserving a community while safeguarding it from potential climate-related disasters takes ingenuity. Fair Bluff officials intentionally used the term "uptown" to designate the new commercial district to convey a sense of safety. "The downtown that Fair Bluff has had for 100-plus years along the river is completely destroyed," Leonard says. "We wanted to indicate to folks that live here [that] there is no downtown anymore, but there is this new place called 'Uptown.' We are trying to signify that this is built on an area that did not flood during Matthew, did not flood during Florence, is not in the FEMA flood zone, and is up from the river."

Meanwhile, some 3,000 miles away on the Olympic Peninsula in Washington, the Quinault Indian Nation (QIN) is [moving Taholah Village uphill \(https://www.kuow.org/stories/quinault-tribe-builds-new-village-site-away-from-rising-seas\)](https://www.kuow.org/stories/quinault-tribe-builds-new-village-site-away-from-rising-seas), a process that officially began in 2017 when a master plan was adopted. The village has been inundated with constant flooding from winter storms, high water on the Quinault River, and tsunamis from earthquakes along the Pacific rim.

"We had multiple flooding issues, which were a rude wake-up call, and building a higher wall just wasn't the answer," says Michael Cardwell, FAICP, the planner for the QIN who plans to retire in fall 2024. "We are essentially following the salmon upstream."

The village has been working for years on plans to move its 800 residents away from the coast. Based on the shovel-readiness of its relocation plans, their "dreams are coming through," he says, with [an infusion of \\$25 million from the federal government \(https://www.seattletimes.com/seattle-news/environment/25m-from-feds-will-boost-quinault-indian-nations-climate-relocation-heres-how/\)](https://www.seattletimes.com/seattle-news/environment/25m-from-feds-will-boost-quinault-indian-nations-climate-relocation-heres-how/) that came in November 2022 to break ground for the move.

The money — a downpayment on the millions still needed — has enabled the village to "accelerate the difficult and expensive work to get our communities out of harm's way," QIN Tribal Council President Guy Capoeman told *Nugquam*, the QIN's monthly publication, in December. "Our very existence depends on it."



Sonny Curley looks out to the seawall separating his property from the Pacific Ocean at the home he shares with his children and parents on the Quinault reservation in Taholah, Washington. Photos by Lindsay Wasson/AP Photo.



Alyssa Johnston, project developer for the Taholah relocation, poses for a portrait in May at a site where 59 residential lots are being built a half mile away from the original village. The Quinault Indian Nation has been working for over a decade to relocate to a new site on higher ground.

Federal funds are often critical

Nearly 1,100 critical buildings and services along U.S. coastlines are at risk of flooding an average of 12 times a year by 2050, according to data released in June by the nonprofit [Union of Concerned Scientists](https://www.ucsusa.org/about/news/new-analysis-finds-rising-seas-threaten-us-infrastructure-critical-millions-people) (<https://www.ucsusa.org/about/news/new-analysis-finds-rising-seas-threaten-us-infrastructure-critical-millions-people>). Flooding of subsidized housing, wastewater treatment facilities, power plants, and hospitals can paralyze daily life, says Kristina Dahl, PhD, a climate scientist and the lead report author. "Communities don't have long to prepare before their vital coastal assets are routinely under threat from climate change-caused flooding."

While some potential flooding is being prevented by coastal defenses like raised buildings and seawalls, this patchwork is unlikely to completely stave off trouble, the group contends. A case in point is the Shaktoolik village on Alaska's Norton Sound that has its sights set on relocation. Shaktoolik is home to 250 Natives who live the subsistence lifestyle of their ancestors, living off a diet of fish, whale, hunted game, berries, and roots. But now the villagers' homes are under constant threat. The village was [hit hard by the remnants of Typhoon Merbok](https://www.ktoo.org/2022/09/18/storm-destroys-shaktooliks-berm-its-main-protection-from-the-sea/) (<https://www.ktoo.org/2022/09/18/storm-destroys-shaktooliks-berm-its-main-protection-from-the-sea/>) in September 2022, when its 28-foot-tall shoreline berm was completely destroyed by the waves that pounded the coast. FEMA later awarded the village \$5.9 million to rebuild the wall, but the village is using another \$2 million in U.S. Department of Transportation (USDOT) funding to design a new evacuation route and to begin planning the eventual relocation of the community.

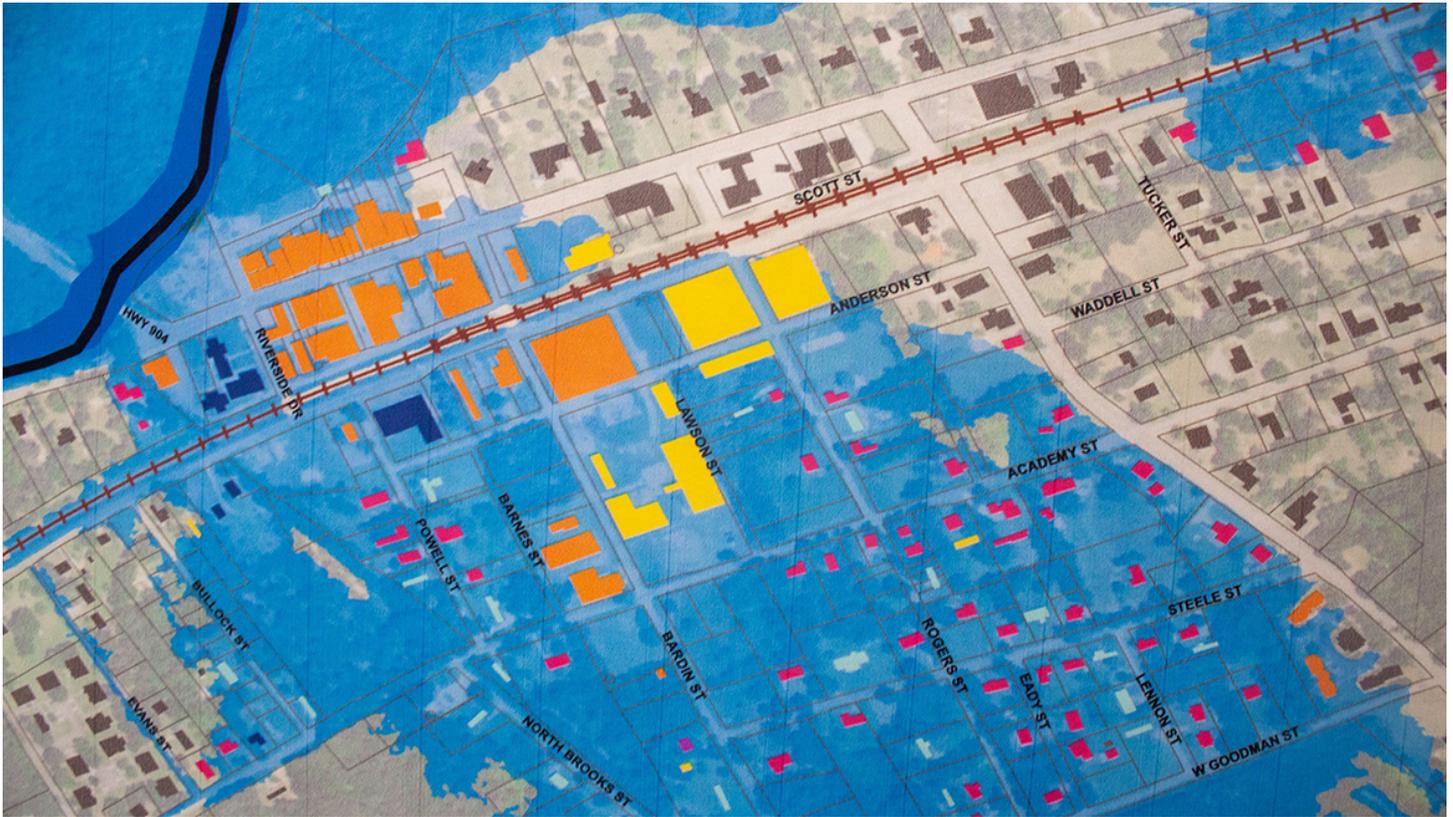
The Shaktoolik are among seven tribal nations that have received grants from a USDOT program called [Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation](https://www.fhwa.dot.gov/environment/protect/discretionary/grant_recipients/) (https://www.fhwa.dot.gov/environment/protect/discretionary/grant_recipients/). The intent of the program, which has provided almost \$830 million in grants to communities in 37 states over the past two years, is to make transportation infrastructure more resilient to climate change.

While finding resilience-related funding sources can be difficult and time-consuming, there's help from the Georgetown Climate Center when trying to navigate the Bipartisan Infrastructure Law. Researchers put together a tool to help planners, community members, and decision-makers find available grants. The [Resilience in the Infrastructure Investment and Jobs Act toolkit](https://www.georgetownclimate.org/adaptation/toolkits/resilient-infrastructure-investments/how-is-resilience-incorporated-in-the-infrastructure-investment-and-jobs-act-ijia.html) (<https://www.georgetownclimate.org/adaptation/toolkits/resilient-infrastructure-investments/how-is-resilience-incorporated-in-the-infrastructure-investment-and-jobs-act-ijia.html>) is based on a review of the law and details the funding that it can provide for new and existing programs that have resilience features.

One goal of the resource is to make it more likely that the infrastructure law is implemented in ways that maximize the potential for emissions reductions, resilience, and equity. The toolkit is organized into various categories such as transportation, energy, and natural resources. Among them is a section on managed retreat.

Staying local

In Fair Bluff, Leonard suggests that planners and elected officials dealing with disaster recovery urge residents to carefully consider their options in the wake of tragedy. "Sixty days after your natural disaster, FEMA will come into your community meeting and talk about the Hazard Mitigation Grant Program," he says. "They are talking to people who have just lost everything they have worked for their whole life. Many people are quick to take the check and move on."



The blue areas of the map, which hangs in Fair Bluff's rebuilt town hall, show the sections of town that flooded during Hurricane Matthew. The same homes and businesses flooded again during Hurricane Florence two years later. Photos by Brett Walton/Circle of Blue.



Mike Mike's, pictured in 2019, shows the debris left in the wake of major storms in 2016 and 2018. The computer repair shop is one of many businesses along Fair Bluff's Main Street that did not reopen.

But Leonard believes that more people might not take the buyout if they saw images of the homes that they could instead build locally with FEMA funding — modern two- and three-bedroom homes that are three to five feet off the ground to keep the waters at bay. "The houses look fantastic, and we have about 30 of them now," he says. "I believe that more people would have taken that option if they knew what was possible."

The town also used FEMA funds to hire local real estate agent Eric Hill to manage and lease the new Uptown retail space. He says that four of the 16 stores remain unfinished as they await additional grant money, and the new commercial district still needs stores that would benefit the community.

Communities faced with a similar opportunity to use FEMA funding to rebuild on higher ground would benefit from early consultation with all parties, from planning and design to construction. "Have an idea of the businesses that you want to attract," Hill says. "To the extent that you know that you want a sit-down restaurant as part of the plan, make sure that a commercial kitchen is in one of the spaces, so that the basics are covered."

Hill says some business owners washed out of downtown have been serving clients in their homes and are "glad to reopen in Uptown Fair Bluff" rather than move miles away.



Al Leonard, the former planner for five North Carolina communities including Fair Bluff, presents a park proposal for the flooded downtown area. He urges planners and decision makers to carefully consider their options after major events and tragedies. Photo by Mike Belleme/The New York Times.

But for Cox, a mother of two who was born and raised in and around Fair Bluff, moving away wasn't an option. She and her husband grow corn and soybeans and operate a poultry business there, and they have extended family all around them. When the opportunity arose to take one of the available spaces in the new commercial building, she grabbed it. While bulldozers are poised to begin demolishing the old downtown buildings to make way for parks and green space along the river, Cox is eager to get going in her new salon.

"The day is finally here," Cox says. "We're in a brand-new building, the rents are reasonable, and we're ready to go."

Joe Tedino is a Chicago-based writer and activist focusing on climate and sustainability.

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