

As climate change arrives in Connecticut, coastal towns face a precarious future

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Along the banks of the Mystic River in Groton, Zell Steever points to landmarks he doesn't expect to survive climate change.

A row of buildings across the water. A gleaming new structure at the end of Gravel Street. Handsome clapboard houses with wide lawns, many dating back to the mid-19th century. All are in danger, says Steever, a white-bearded environmentalist who chairs Groton's resilience and sustainability task force.

Around the corner, West Main Street bustles with New England charm. Visitors step into boutique clothing stores, shop for books and eat doughnuts in the September sun.

"Oh, by the way," Steever says, gesturing widely, "this will all be underwater."

Climate change has already arrived in Connecticut, as demonstrated this summer by scorching temperatures and punishing storms. In the coming decades, its effects will only accelerate.

While the entire state will face increasing impacts of [climate change](#), seaside communities like Groton will feel them most acutely and immediately. As greenhouse gas emissions continue to warm the planet, storms will become more frequent and more intense. Property will be damaged and people displaced. In many cases, the consequences will be particularly severe for vulnerable groups, including the poor and the elderly.

Meanwhile, rising sea levels, fueled by melting glaciers thousands of miles away, will alter everyday life in low-lying areas. According to one estimate, Long Island Sound could rise by as much as 20 inches by 2050, enough to submerge parts of Groton's shore and cause regular flooding in residential neighborhoods and along key roads. By 2100—within the lifetime of children born today—the Sound could rise by up to two meters, enough to submerge beaches, commercial areas, most of Groton-New London Airport, and parts of residential areas currently home to

thousands of people.

A 2011 study commissioned by the Town of Groton and partly funded by the U.S. Environmental Protection Agency warned that climate change could lead to coastal flooding, sewer overflows, loss of wetlands, reduced drinking water capacity, submerged Amtrak lines and a reduction in the "overall quality of life, esthetics and enjoyment of citizens."

And yet in Groton, as in many places threatened by climate change, public officials have yet to match the urgency of the crisis with concrete action. For years, local officials have hosted forums, commissioned studies, and floated ideas but implemented few meaningful solutions.

Environmentalists in Groton say something has to change.

"We've seen the effects of [sea level](#) rise. We're living with it, right now," says Frank Bohlen, an emeritus professor of marine sciences at UConn who also serves on Groton's resilience and sustainability task force. "We don't need to hypothesize about what's going to happen in 2050. It's going on."

'In the line of potential damage'

Groton, a town of about 38,000, sits in Connecticut's southeast corner, across the Thames River from New London and across the Mystic River from Stonington, bordered to the south by Long Island Sound.

According to models from the National Oceanic and Atmospheric Administration, it is one of the Connecticut towns most prone to sea level rise, among other effects of climate change.

"The coast is particularly vulnerable to the wind impacts as a hurricane comes ashore and the possibility of storm surge with ocean waves that

might be 20, 30 feet higher than usual," said Dan Esty, a Yale professor and former commissioner of the Connecticut Department of Energy and Environmental Protection. "That puts a number of coastal properties right in the line of potential damage."

Climate change has already imposed itself on Groton in large and small ways. Flooding has become more common. Docks have been raised as water levels have risen. Increased humidity has made summers less pleasant. The local lobster population has diminished, and the local bird populations have shifted. By the time of the 2011 study, Groton's shoreline had already eroded dozens of yards inland since 1888.

As a result, climate change has begun to seep into public awareness in Groton, more so than in inland parts of the state. Residents in at-risk areas worry about what coastal changes will mean for their homes, while [public officials](#) from both the Town of Groton and the City of Groton (two separate entities coexisting under an unusual governing structure) plot resiliency efforts.

"It used to be that if you had a hurricane or a nor'easter coming in, you had flooded streets and it was difficult to get in and out," Paul Fox, a homeowner in a particularly low-lying neighborhood, said in October. "Now you just live your life around the tides."

The risks are particularly serious for Groton's most vulnerable residents. Increased heat will endanger those without air conditioning, particularly in densely populated areas. Extended power outages will be the most damaging for people with nowhere else to go. Storms will threaten residents who can't easily evacuate.

Aundré Bumgardner, a member of the Groton Town Council and the city planning and zoning commission, points to Poquonock Bridge, a village within Groton with sizable Black and Latino populations and a

median income well below that of the broader town. While residents of Groton's wealthier neighborhoods can afford to raise their homes to guard against rising sea levels or rebuild following significant damage, renters and working-class homeowners have fewer options.

"A homeowner in Groton Long Point or Jupiter Point may have the capacity to raise their house," Bumgardner says. "Renters may not have that ability."

Local businesses in low-lying areas are threatened as well. In Mystic—a popular tourist village that spans Groton and Stonington—Bank Square Books owner Annie Philbrick knows all too well what a major storm can mean for her store, which sits at the bottom of a hill on the corner of West Main and Water Streets, about a block from the Mystic River.

During Hurricane Sandy in 2012, a combination of high tide and an immense tidal surge proved devastating. Although employees had secured the store with sandbags, water surging from the river rose up a few feet behind the building, seeped through its doors and walls, and pooled inside the bookstore.

Philbrick and others managed to save the vast majority of the books, but in the wake of the storm, they had to "tear the entire store apart." Walls were cut open to dry them out and all of the carpeting was ripped out. Three weeks later, the store reopened with tiled floors—in preparation for future storms.

In the decade since Sandy hit, the bookstore has thrived, expanding into a neighboring storefront. But the threat of another storm is never far from Philbrick's mind.

"I still sort of have PTSD about it when there's a high tide and it's pouring rain," she said.

Whenever a storm approaches, employees lay down sandbags and move merchandise off the floor. But since Philbrick doesn't own the building, there is only so much she can do to protect against flooding.

"Climate change is real and I don't have a solution for downtown Mystic," she said. "But I think people are growing more and more aware of it, and I think we'd be open to any discussions that are happening."

Groton's two largest employers—and two of the largest employers in all of southeastern Connecticut—are the submarine manufacturer Electric Boat and the Naval Submarine Base that sits along the Thames. Both employ thousands of residents of Groton and surrounding towns. Both could be impacted by sea level rise in the coming decades.

Much of the submarine base is located above the Thames River floodplain, which protects it from storm surges and sea level rise. But some key infrastructure is on the waterfront and could be vulnerable to surge flooding, a Navy representative said. The base has already begun shoring up older waterfront buildings, installing flood gates across doorways and garage bay openings and raising electrical equipment on concrete pedestals.

A representative for Electric Boat did not respond to requests for comment.

Other key businesses face even more immediate threats. Groton-New London Airport, which does not have commercial flights but is used frequently for private transport, sits along the water at sea level and is already prone to flooding. According to NOAA's models, 20 inches of sea level rise would imperil its runway, and more dramatic increases would submerge much of its airfield.

"We're looking at [the problem]," Kevin Dillon, executive director of the

Connecticut Airport Authority, said recently. "But I can't say that we have any reasonable answers at this point as to how to address it."

'I'm in trouble'

Steever, the chair of Groton's resilience and sustainability task force, stands on the deck of the Groton home he has owned since the mid-1960s and looks out onto his backyard.

Barely a football field away, Long Island Sound laps the shore. Steever points to a flower bed at the edge of his property, in the Noank section of town. That's where flood levels would reach in the event of what's classified as a 100-year storm, according to maps from the Federal Emergency Management Agency. Then he gestures downward, just below his deck. That's where the water would reach in the event of a 500-year storm.

The trouble is, climate change means 100-year storms have begun to occur more often than once every 100 years. Meanwhile, the sort of routine storms that Connecticut residents have learned to live with are becoming not only more frequent but also more intense.

This past summer may have offered a preview of what's to come. After a historically wet July, Connecticut dodged the worst of Tropical Storm Henri in late August only to be slammed days later by the remnants of Hurricane Ida. Much of the state experienced severe flooding.

"What's changed is that things that used to be not as bad as hurricanes—not devastating but impactful nonetheless, like things that occur every year or every five or 10 years—are going to occur much more frequently," says Jim O'Donnell, executive director of the Connecticut Institute for Resilience & Climate Adaptation, known as CIRCA. "My guess right now is that things that occurred maybe once

every 10 years in the last 100 years, by 2050 the risk will be a factor of five higher."

Increased frequency of storms isn't Steever's only cause for concern. The FEMA maps, he notes, don't reflect projections for sea level rise, and Connecticut's sea level is rising steadily. Already, several docks near Steever's home have had to be raised. If the water creeps up 20 inches by 2050, as CIRCA projects, it will flow that much closer to Steever's deck.

Trained as a wetlands biologist, with multiple stints in the federal government, including as a negotiator at the 1992 Earth Summit, Steever knows exactly what all of this means.

"I'm in trouble," he says.

'Why did anybody ever build that house?'

While Steever has some degree of buffer between his home and the encroaching Sound, Paul Fox isn't as lucky.

After living much of his adult life in the Hartford area, Fox and his wife Mary retired to Groton in 2006 and built a large home in the Willow Point neighborhood, along Mystic Harbor. It didn't take long before they began to understand what they were up against.

"The last 10 years is when we've really recognized that the water level is really rising," Fox said. "Low tide is close to what high tide used to be."

NOAA models show that Willow Point is one of the areas of Groton most exposed to sea level rise, and residents' experience bears that out. Already, they say, flooding in their community has gone from a periodic occurrence to a regular fact of life.

Susan Esslinger, who co-owns a summer house on Willow Point that has been in her family since the late 1930s, has watched the water begin to encroach on her property in ways it never used to.

"The water now comes up to the sea wall regularly and covers the little beach, whereas when I was younger, that was just a factor of a nor'easter or a particular storm," she said. "It was not a regular occurrence."

Fox has seen neighbors leave the area because of the flooding. He has seen others raise their homes to guard against it. And, to his bafflement, he has seen the town grant building permits along what he knows to be a significant floodplain.

Fox's house is elevated 13 feet off the ground, which keeps him dry at least for now. Even so, he questions why the town of Groton ever let him build in such a vulnerable area. At the time, he figured local officials knew best. Now, he's not so sure.

"I would have been much better off if they had said, 'This is not a good idea,' " he said. "You'll look at this place in 20 years and you'll ask, 'Why did anybody ever build that house?' "

Across town on Groton Long Point, the lone road in and out of the peninsula is lined with blue storm evacuation markers. The beachfront neighborhood is among the wealthiest in the area, with historic homes dating back to the early 20th century, and makes up a key chunk of Groton's tax base.

For years, development in low-lying areas like Groton Long Point was facilitated by a federal flood insurance system that failed to account for the increased frequency of severe storms due to climate change. That began to change in October, when FEMA unveiled a new insurance program that will use more nuanced risk assessments and raise insurance

rates for a vast swath of coastal properties across the country, potentially making places like Groton's seaside communities more expensive.

Still, concerns about climate change do not seem to have impacted the market for waterfront properties in the area. Viviana Penson-Rodriguez, a real estate broker and owner of Groton-based Leaf Realty Group, said discussions of climate change and sea level rise rarely come up during waterfront home purchases. For the past year and a half, she has seen "astronomical" sales of beachfront houses.

"People are just jumping into those waterfront properties," she said.

'Do you let it go back to nature?'

Jupiter Point, a neighborhood in the City of Groton, is the picture of seaside dreams. Situated a few miles down the coastline from Groton Long Point, on a narrow peninsula that juts out into Baker Cove, its houses have expansive views of the water. American flags fly above garages, basketball hoops decorate streets leading to cul-de-sacs, and residents walk their dogs on cloudless sunny days. Just down the road, regal white boats bob at the Pine Island Marina.

By the end of the century, the neighborhood could be almost entirely underwater.

According to NOAA's projections, the 20 inches of sea level rise expected by 2050 would submerge the far tip of Jupiter Point, sinking a private beach and threatening low-lying houses. The two meters—about six and a half feet—of sea level rise possible by 2100 would wipe out nearly the whole community.

City of Groton Mayor Keith Hedrick is not optimistic about Jupiter Point's future. A 62-year-old Republican-turned-Democrat, Hedrick said

he doesn't like to talk about "global warming" because he considers the term too divisive. But he can't deny the inexorable approach of the water.

"I have read scientific papers that have said we're going to get up to 20 inches of water in 30 years," he says. "That's all I care about."

So far, officials have identified key questions the City of Groton will face in the decades to come but have answered few of them. For now, Hedrick says his office is waiting for the results of a Community Resiliency Plan, which will include a climate change risk assessment and recommendations on how to best protect vulnerable areas.

Hedrick admits he isn't sure what to do about places like Jupiter Point. Should homeowners who build in flood zones be allowed to rebuild after a damaging storm? If they do rebuild, should they be required to raise the height of their home? And, crucially, who pays?

"I don't know the answer for Jupiter Point, honestly," he says. "At some point, somebody is going to need to ask the hard question. I don't know if it's going to be me under my administration or somebody else, but we need to ask it: Do you let it go back to nature?"

At her office in Groton's municipal building, city planner Leslie Creane keeps a striking image as her computer desktop background: a house on stilts, raised up at least 15 feet. She took the photo a few years ago in Biloxi, Miss., a city on the Gulf of Mexico, and now shows it to people as an example of a place that is already changing rapidly due to climate change. She says it serves as a warning for Groton.

"There needs to be a very disciplined way of looking at what we want our goals to be," she said. "Do we want people to be able to live here, on the same property as their families, in perpetuity? In which case, there's

an awful lot of expensive infrastructure work that's going to have to get done and then redone and done on top of what gets done."

Creane says climate change will raise a host of "very, very personal and very, very complicated" conversations in the years to come, including about the temporary or even permanent resettlement of residents of Groton's most vulnerable areas.

"We're going to be moving inland," she said. "So to the extent that Groton is right on the water—I don't think that that's going to be anytime really soon—but 30, 40 years from now? Sure."

Syma Ebbin, a professor of environmental policy and environmental science at UConn Avery Point, has had family on Jupiter Point for decades and has lived there herself since 1999, watching as the water rises and flooding becomes more frequent. Even so, she says, not all her neighbors seem to grasp what they're up against.

"There's a repetitive quality [to the flooding] that helps with getting people believing," she said recently. "But there's still a new house going up right here on my block, so obviously there are some people who are not believing or acting in accordance with potential threats."

'We have to do something'

At the national level, climate activism means a movement to reduce greenhouse gas emissions and allocate billions of dollars to resiliency efforts. At the state level, it has meant advocating for policies like the Transportation and Climate Initiative, a multi-state proposal aimed at cutting emissions and investing in green transportation that stalled in the state legislature this spring.

Locally, in Groton, climate activism has meant the formation of a

resilience and sustainability task force, assembled in 2019 by environmentalists frustrated by a decade of inaction from local officials. The goal, task force members say, is to generate specific plans to reduce Groton's carbon footprint and prepare for climate change impacts.

To reduce emissions in Groton, task force members say they hope to see a phased replacement of public vehicles with electric cars and incentives for the construction of solar panel arrays.

To prepare for rising sea levels and more frequent storms, they are exploring various short-term responses. Could Groton use scheduled repavings as an opportunity to raise road elevations? Can the town begin discouraging new development in areas most prone to sea level rise? How can state and federal funds be mobilized to help homeowners elevate their homes, away from the reach of the water?

Task force members say public awareness of climate change's devastating immediacy—as well as the political will to enact change—is growing. For many Connecticut residents, seeing skies hazy from California fires and confronting drought, flooding and storms in their own towns has caused the reality of climate change to hit home.

"We've really come to a point where the potential for action is much, much better," said Bohlen, the retired UConn professor.

To Mickey Weiss, a task force member, the core tension of climate change is no longer between environmentalists and climate deniers. It's now a financial tug-of-war, playing out in the U.S. Congress, where lawmakers are currently debating how much money to allot to fighting climate change, as well as locally, in towns like Groton.

"Everybody says, 'OK, climate change is real,' " says Weiss, founding director of Project Oceanology, a nonprofit marine sciences facility in

Groton. "And they're all saying, 'But we can't afford to do anything about it, or the economy is going to take a hit if we do something about it.' That's where I think the current battle is: to make sure people understand that in the long run, we're going to save money by taking action now."

Earlier this year, Groton's Town Council passed a resolution to "address climate change, resiliency and sustainability as a central management principle for all actions by the town government." The resolution affirms that climate change is a growing threat that has already impacted Groton and commits the Town Council to "becoming a leader in combating climate change and becoming a more sustainable community."

One of their first steps: hiring a resilience and sustainability manager, a process town officials say will begin soon.

The residents who built clapboard houses on the banks of the Mystic River nearly 200 years ago couldn't have known that climate change would one day bring the ocean to their doorsteps. Today, Groton officials say, the town must show that it knows better.

"We have to do something," says Patrice Granatosky, the mayor of the Town of Groton. "We can't keep sitting on it and not take any action."

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