

Step out on the road that connects the southern Louisiana towns of Pointe-Aux-Chenes and Isle de Jean Charles, and you'll see water stretching out in both directions. It wasn't always this way. A generation ago this area was covered by a dense marsh. That marsh provided protection from storms, a connection between communities, and habitat for shrimp and other economically-important seafood.

For a century or more, the Louisiana coastline has been eroding. Since the 1930s the water has claimed more than 2000 square miles of land.

Melissa Baustian, a coastal ecologist at the Water Institute of the Gulf, studies the impacts of climate change on coastal Louisiana, as well as the restoration efforts meant to help slow erosion.

MELISSA: "Our land is sinking and our seas are rising. We have a huge challenge of how we are going to protect people and the environment from rising sea levels."

So how, exactly, do you preserve an ailing coastline?

Louisiana's women are up to the task. Terrebonne Parish vice councilwoman Arlanda Williams says women of the bayou are at the front lines.

ARLANDA: "A bayou woman is a woman of strength and courage. When the floods come, we're the ones that stay up late at night to make sure when the water rises that the children are going to be okay. A bayou woman is someone who has resiliency."

According to researchers at Tufts University School of Medicine, women, people of color, and low-income communities are disproportionately affected by climate change and its effects, including coastal erosion and sea-level rise. Living at the very edge of the bayou, indigenous tribes like the Point-au-Chien tribe are in a particularly precarious position.

Point-au-Chien tribal member Teresa Dardar has lived through immense changes over the past few decades. Land has given way to water, with whole areas of their ancestral lands disappearing. Even growing a garden is proving to be difficult, though she still tries.

TERESA: "People are afraid to plant gardens because of saltwater intrusion. We have a levee now and we have a flood gate but so many people have stopped planting."

As the land subsides, areas with cultural significance are disappearing, too. Patty Ferguson-Bohnee is a member of the Point-Au-Chien Tribe and the director of the Indian Legal Clinic at Arizona State University.

PATTY: "Some of these areas are sacred sites, cemeteries, old village sites, or our homes and we people are very passionate about protecting them."

The United States Geological Survey estimates that in the last 25 years, the Louisiana coastline has been disappearing at an average rate of nearly a football field every hour. Up against extraordinary uncertainty, the women of the bayou and their families display immense resilience and are working to respond to future threats.

TERESA: "People here are fighters. They're determined to stay and they're determined to adapt to whatever way they need to. So I think they give each other hope."

In addition to leading community-based efforts, women like Baustian are at the forefront of understanding how coastal erosion will change the land and educating impacted communities.

MELISSA: "I think the environmental literacy is gaining popularity in coastal Louisiana because it's very real here -- we really depend on our coast and we need to defend and restore it."

Delaina Leblanc, a Louisiana native who conducts coastal bird research for the Barataria-Terrebonne National Estuary Program, knows her home state is up to the challenge of adaptation.

DELAINA: "I really do love this coast. I sometimes think of it as a family member. ... And it's a difficult place to be in, because it's a coast that's suffering. ... But I still have hope, and my goal is to do everything I can. ... Even a small solution is valuable."

Leblanc sees the Louisiana coast as a potential model for other areas facing sea-level rise. Denise Reed, a professor at the University of New Orleans, agrees.

DENISE: "We need to really kind of be that example for the rest of the country about how to do this ... If you write off coastal Louisiana, you write off South Florida, you write off low lying parts of North Carolina, you write off huge areas of the Gulf Coast and Texas and wherever."

DENISE: "These people are really creative, they have this ingenuity and that makes me optimistic that they can adapt and change and work out a way through this without just sitting there and going somebody's gotta help us or fix this or put it back the way it was. I think they can come through this or have a sustainable future. It just won't be like their past."

Parish councilwoman Arlanda Williams believes much of the future resiliency of the area depends on – and will be successful because of – the younger generation.

"In Terrebonne Parish, I see a positive future for us because most of us were born and raised here, our parents were born and raised here, we're raising our children here. But the difference is our children are leaving, learning, and then coming back and lending support to the vision and growth of this parish."

This story was created from OCEANDOTCOMM and supported by the Louisiana Universities Marine Consortium (LUMCON). It was produced by Michelle Barboza-Ramirez, Becca Burton, Melissa Cronin, M.B. Humphrey, Gabi Serrato Marks, and Elizabeth Weinberg.