

# Rising sea levels creating first Native American climate refugees

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Some tribal members in Dulac have elevated their houses to deal with the all-too-frequent flooding. But the cost is often prohibitive, and such housing creates new problems for people with limited mobility. Photo by Shirell Parfait-Dardar.  
Credit:Shirell Parfait-Dardar

Rising sea levels and human activities are fast creating a "worst case scenario" for Native Americans of the Mississippi Delta who stand to

lose not just their homes, but their irreplaceable heritage, to climate change.

"This took a long time to evolve," said Shirell Parfait-Dardar, Chief of the Grand Caillou/Dulac Band of Biloxi-Chitimacha-Choctaw Indians in Dulac, Louisiana. Canal construction, oil and gas extraction from the Gulf Coast, climate change and the routing of the Mississippi River and its land-building floods away from other delta areas have made the loss of land inevitable. "It's gotten so bad there is no way to repair it."

The landscape has gradually become more of a waterscape, resembling a "laced doily" of land when seen from the air. Sea-level rise and subsidence of the Mississippi Delta are causing large swaths of land to turn to marsh, then open water, leaving narrow strands of land barely above the muddy waters.

"It can be a bit deceiving. It's absolutely beautiful here," said Parfait-Dardar of what people see from the roads. "You can still see some trees in spots. But I'm on a sliver of land. Everything has changed."

The story of what this and other bands of Mississippi River Delta Native Americans are experiencing will be presented on Monday at the meeting of the Geological Society of America in Seattle, Washington. Presenting for Parfait-Dardar will be Williams College geoscientist Rónadh Cox, whose students have benefited from visiting Dulac and learning the plight of the Grand Caillou/Dulac Band of Biloxi-Chitimacha-Choctaw Indians from Parfait-Dardar.

Tribal members live 17 miles (27 kilometers) from the coast, but despite this the community has been losing land at an average of 1% per year between 1974 and 1990, according to previous research. A more recent analysis shows that subsidence rates in the Dulac area average 12.5 millimeters (one-half inch) per year—among the highest in southern

Louisiana.

Fields and woodlands in which Parfait-Dardar and tribal members wandered as children now have to be crossed by boat. In Dulac, areas that never flooded from the sea now do so regularly. It no longer takes a storm to flood the area: A strong south wind coinciding with a high spring tide is all that's needed.

"Younger people, they get out. They have to survive," she said. But that survival comes at a high cost. "We're losing our culture and our people. You don't just lose your home, you lose who you are."

Even ancestors are not spared. Coffins frequently come loose during floods and float away. Some are not recovered.

To mitigate the effects of flooding, many homes have been elevated 13 feet (4 meters) with stilts. There's even one that's 19 feet (5.8 meters) high, Parfait-Dardar said. But this poses yet another problem: Many of the people living in these elevated houses are Elders. Navigating stairs and being cut off from services is not safe for them. Many others, however, cannot afford to elevate their houses. A lot of properties have been abandoned due to repeated flooding, said Parfait-Dardar.

Relocating is not an easy option, since ties to traditional ways of life are strong and hard to leave behind and relocation require financial resources that are beyond the reach of many [tribal members](#).

The Grand Caillou/Dulac Band is not the only Native American group being threatened. Others include the Grand Bayou Atakapa tribe, whose homes are accessible only by boat. Another is the nearby Isle de Jean Charles band of Biloxi-Chitimacha-Choctaw who are currently undergoing federal resettlement, making them the first American "climate refugees."

**More information:** [gsa.confex.com/gsa/2017AM/webp...  
ram/Paper295019.html](https://gsa.confex.com/gsa/2017AM/webprogram/Paper295019.html)

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