Rural Population Research Network

A USDA supported multi-state research project on the causes and consequences of demographic change in rural America

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Land Loss is an Immediate Threat to Coastal Louisiana Communities

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The population of coastal Louisiana is under tremendous pressure from climate change. Rapid land loss is being driven by the combined effects of sea level rise and subsidence (sinking of land due to changes underground). Since the 1930s, Louisiana has lost over 2,000 square miles of land, an area roughly the size of Delaware. Moreover, it is expected to lose more than twice that amount of land by 2050.[1] Small towns and rural areas are on the front line in grappling with this threat.

KEY FINDINGS

- Louisiana has lost over 2,000 square miles of land—an area roughly the size of Delaware—since the 1930s.
- The state is projected to lose over 4,000 square miles more land by 2050.
- The problem poses major challenges for coastal rural communities on the front line, and urban areas further inland.

Lousiana's Population is Concentrated in the Coastal Zone

From 2010–2020, the population of Louisiana grew a modest 2.7%. But population change across the state was uneven. North Louisiana lost 3.1% of its population, while South Louisiana grew by 4.6%. Further, in the 20 parishes (county equivalents) in the state's Coastal Zone, the population grew by 5.8% over the decade. As of 2020, fully half (50.5%) of the state's population resided in Coastal Zone parishes.[2]

Most of the major population centers in Louisiana are located along the I-10 and I-12 corridors in the southern part of the state just inland from the coast (see Figure 1). But the areas located along the coast proper are largely rural in character. As coastal Louisiana grapples with the impacts of land loss, rural and small-town communities are on the front line in the fight.

The Louisiana coast is a "working coast" populated by people who make their living from the Gulf, including in fishing, ports and shipping, deep-water oil and gas extraction, and downstream petrochemical processing and transport. For example, the Louisiana coast produces about 25% (by weight) of continental U.S. commercial fisheries landings and 20% of its waterborne commerce. It also supports the infrastructure that supplies approximately 90% of the country's outer continental shelf oil and gas.[1] In short, the people of coastal Louisiana are not only under direct threat, but the problem is of national significance.

There are Major Consequences to Land Loss in Louisiana

Figure 1 shows a map based on data from NOAA and NASA projecting sea level rise of 2 feet by 2050, an intermediate-to-conservative scenario estimate. While rural and small-town areas are on the front lines today, the map makes clear that this is increasingly an issue at the rural-urban interface.

Rising and warming waters in the Gulf pose numerous threats to coastal populations. Hurricanes are getting bigger and stronger and dropping more rain. Barrier islands that used to act as "speed bumps" for storm surges are increasingly disappearing, as are critical wetland habitats. Two of the strongest storms in state history—Hurricane Laura (2020) and Hurricane Ida (2021)—have hit the Louisiana coast in just the last couple years. Recovery is still very much ongoing in storm-impacted communities. Beyond hurricanes, these trends also mean increased risks of flooding from high tides and intense rain events.

The impacts of climate change on the Louisiana coast go beyond what are commonly referred to as "natural" disasters. Due to the expansive petrochemical industrial complex in the region, "natech" disasters are also increasingly common (hybrid natural and technological disaster events). Petrochemical plants dot the landscape of rural South Louisiana and have long been an economic mainstay. But the threats of coastal environmental change elevate the risk of chemical spills and releases. Paradoxically, moves toward transitioning to a low-carbon economy to mitigate the damage of climate change also pose a threat to critical jobs along the Louisiana coast.

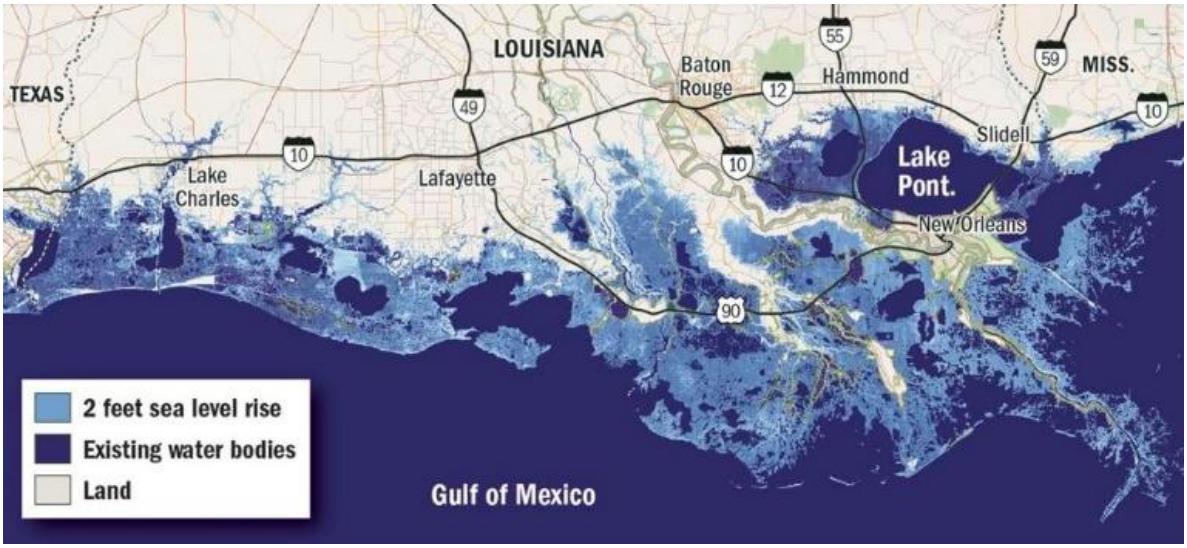

Figure 1. Sea Level Rise Projection for 2050

Note: This map shows coastal Louisiana land loss in 2050 with 2 feet of sea level rise, an intermediate-low rise scenario.

Data Source: NOAA and NASA. Source: The Advocate.

What Can Policymakers Do?

Dealing with these challenges will require federal, state, and public-private partnerships. Difficult policy choices will have to be made about what can be saved and what will be lost to the water. For the inhabitants of coastal Louisiana—where the land and marshes and open water are central to people's very identity—heart-wrenching decisions about whether to stay or go are at hand. Policy attention to both investing in community resilience and relocation will be needed, as will the consideration of the impacts of regional economic change amidst the energy transition.

References

1. State of Louisiana, Coastal Protection and Restoration Authority. 2022. https://coastal.la.gov/.
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Additional Resources

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