

**TESTIMONY BY
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TO THE
U.S. SENATE COMMITTEE ON THE BUDGET
ON**

Beyond the Breaking Point: The Fiscal Consequences of Climate Change on Infrastructure

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Thank you, Chairman Whitehouse and Ranking Member Grassley for inviting me to testify before the Senate Budget Committee on the impacts of climate change on infrastructure. I am pleased to see so many coastal champions on this Committee, including our own Senator, Senator Kennedy.

As Governor of Louisiana, I have devoted considerable time to what I view as one of the most pressing issues of our time: climate change. We have experienced significant devastation in our recent history from both acute shocks like hurricanes and flooding, and chronic stressors like sea level rise, subsidence, coastal land loss, habitat degradation, and extreme heat.

Because we have been tested more than anywhere else in the country, Louisiana has gone to great lengths to increase the resilience of people and communities. We have developed a strong vision for how to secure a prosperous, sustainable future for our people despite the risks and magnitude of our climate-driven challenges.

Today, I offer a snapshot of that vision and our efforts to meet the daunting challenges posed and exacerbated by climate change.

Louisiana's expertise is hard earned. The natural disasters we experience produce compounding and cascading challenges for infrastructure and for the people and services that rely on that infrastructure. Five storms made landfall in Louisiana in 2020 alone. Two of those, Hurricanes Laura and Delta, arrived on the same stretch of our southwestern coast just four weeks apart (Attachment 1), halting recovery and re-traumatizing communities. Hurricane Laura was both the strongest storm to hit Louisiana in over 160 years and the most costly storm since Hurricane Katrina. The next year in 2021, Hurricane Ida made landfall in Southeast Louisiana and tied Laura for its strength and intensity and surpassed it in terms of economic damages.

These storms wrought significant wind damage, storm surge, and flooding to homes, businesses, and infrastructure. They leveled the electric grid, slowing recovery and putting people at risk from the late summer heat. While our hurricane protection levees saved lives, the heat proved deadly.

Damage from these events cost the federal government billions. According to the National Oceanic and Atmospheric Administration (NOAA), 2022 tied 2017 and 2011 for the third highest number of billion-dollar disasters. 2022 carried a total price tag of at least \$165 billion and a human toll of 474 fatalities. What is tough to think about is that there were investments that could have been made that would have prevented much of the cost and human toll. We as a nation simply must make more of those types of investments. Louisiana learned this the hard way when

Hurricanes Katrina and Rita hit in 2005. Still among the costliest disasters in this country's history, Hurricane Katrina caused nearly 1,400 deaths and at least \$170 billion in damages.¹

In response, we reorganized state government to prioritize our coastal crisis, developing our first Comprehensive Master Plan for a Sustainable Coast in 2007. That plan laid out a vision for an integrated approach to ecosystem restoration and hurricane protection. In the 2012 plan, we paired that vision to specific projects while accounting for the constraints of a fixed budget and the limited resources of sediment and freshwater. We set an ambitious goal of investing \$50 billion in coastal preservation and restoration projects over fifty years. As a prioritization effort, our plan identified the projects and strategies that would best protect our coast (with all of its communities, ports, industrial assets, transportation systems, energy resources, and fisheries) over the next fifty years. That preparation paid off because before the plan was complete the *Deepwater Horizon* oil spill disaster occurred. While the devastation was unexpected and widespread, the developed plan showed a roadmap for recovery. Our proactive efforts provided agility in how we responded and better informed the recovery effort.

We have continued to reevaluate and improve our Coastal Master Plan. This year, we secured unanimous approval from our legislature for a fourth time. The plan reflects the best available science, accounting for changes on the ground and forecasting what is at risk in our future. The plan guides our efforts, so we can implement resilience projects *before* we have to rebuild. The plan also gives the federal government, partners, and the public confidence that we have a principled scientific approach for allocating scarce resources when rebuilding is necessary.

The plan shows how unacceptable a future without action can be, as we would lose thousands of square miles of land to the Gulf of Mexico and increase Louisiana's annual risk by \$24.7 billion. To put that in perspective, we forecast this year's state general fund to be \$11.9 billion.

Additionally, the plan shows that there is a tremendous difference between an intermediate level of climate-induced sea level rise versus a higher level of sea level rise. On the coast, inches matter. If our coastal master plan is fully implemented, we could have fewer communities and less infrastructure at risk after fifty years of change than we do today in Louisiana. That outcome could be realized under the intermediate sea level rise scenario forecast by NOAA, which underscores the need to reduce emissions to prevent higher sea levels.

Louisiana is not just planning but already building infrastructure to mitigate climate risk in ways that will serve our people and our economy. Louisiana's experience proves that major investments in adapting to climate risks pay off. The \$14.5 billion federal and state investment in the Greater New Orleans Hurricane & Storm Damage Risk Reduction System (HSDRRS) and the state's ecosystem restoration projects that complement the system have been put to the test. These investments were successful in protecting our residents in the face of Hurricanes Isaac, Barry, Zeta, and most powerful of all, Ida. HSDRRS has already saved the federal treasury billions of dollars to from averted disaster expenditures. This proves that large-scale resilience investments – even more urgently needed as a result of climate change – can pay for themselves and then some when completed. Hurricane Rita's 9 foot storm surge inundated 11,000 homes in 2005, yet thanks to state and local investments in the Morganza to the Gulf levee system, Hurricane Barry's 9-foot storm only inundated 11 homes in 2019.

We are also partnering with the U.S. Army Corps of Engineers on nonstructural projects and ecosystem restoration. Southwest Coastal is one such project that would benefit the area of

Louisiana that faced the devastating back-to-back storms in 2020. By elevating homes, flood proofing businesses, and restoring the marsh, the project would achieve a cost benefit ratio of over 5 to 1.

We also have to take on innovative projects of a major size to change the paradigm on our coast. The Mid-Barataria Sediment Diversion is our most significant ecosystem restoration project. We will reconnect the land-building might of the Mississippi River to our sediment-starved wetlands. Using a total of \$2.9 billion from *Deepwater Horizon* oil spill funding, the diversion will build thousands upon thousands of acres of land, while sustaining the lifespan of our other ecosystem restoration projects. After over five years of navigating the permitting process, we are set to break ground in August on this transformative restoration project that would improve the most rapidly degrading area of our coast.

Through our Office of Community Development, we utilized funds from the Department of Housing and Urban Development's National Disaster Resilience Competition to relocate the community of Isle de Jean Charles. This predominantly indigenous community saw their island shrink from 22,000 acres to just 320 acres from manmade and climate-induced factors but has now been relocated farther inland and into resilient housing. We are also utilizing \$87 million in flood disaster funding from HUD to conduct seven other buyouts across the state through our Watershed Initiative. These targeted programs can move residents out of harm's way, help preserve communities, direct assistance to low- to moderate-income residents, lower insurance premiums, and restore the natural function of flood plains.

LA-1 is another prime example of building infrastructure to mitigate climate risk in ways that will serve our people and our economy. This road is a vital evacuation route for Grand Isle and an essential transportation link for our energy sector. It connects Port Fourchon, which services more than 90% of the offshore oil and gas activity in the Gulf of Mexico, to the rest of Lafourche Parish, the state, and the nation. This road is so important that each day it is closed it costs the U.S. \$46 million in oil and gas production and \$528 million in total gross domestic product. Because of subsidence and sea level rise, LA-1 was experiencing not only flood events from major storms but also "sunny day" flooding from a strong southerly wind. The National Oceanic and Atmospheric Administration (NOAA) predicted that LA-1 would be under water 22 days annually by 2030 and 201 days annually by 2047. By 2070, it was predicted that LA-1 would be permanently under more than four feet of water. This flood risk was simply unacceptable, and we are now elevating a 19-mile stretch of the two-lane highway up 22 feet above the coastal marsh to avoid frequent inundation impacts and to meet the nation's energy needs even after a hurricane. While the \$850 million project budget may sound expensive, it pales in comparison to the cost of doing nothing.

With the accelerating impacts of climate change, future scenarios appear grim for our coastal landscape. Significant changes will continue to occur. Yet, our plan shows there is reason for hope and that our efforts are not futile. Our plan also shows that our resilience projects are more effective and the future of our coastal communities and infrastructure is brighter if we minimize the severity of climate change. In Louisiana, we are planning and preparing our infrastructure for the worst, but we are simultaneously working as hard as we can to reduce the state's greenhouse gas emissions that are driving climate change.

In the midst of our historic 2020 hurricane season, I created a Climate Initiatives Task Force to take on the climate crisis directly by developing a plan to achieve net zero carbon emissions by 2050. Addressing emissions in Louisiana is a formidable challenge. We have the fifth most carbon

intensive economy in the country. Unique among states, two-thirds of our emissions comes from industrial activity. For decades, Louisiana has been an energy state with its significant oil and gas resources providing essential energy for the nation. Even with intensifying storms and a degrading coast, the path of least resistance would have been to ignore the climate crisis and double down on business as usual.

Yet, we as a state prudently decided to invest in the energy transition. We are adding on renewable and clean energy sources that maintain Louisiana's historical position as an energy state even as a global transition away from fossil fuels is underway. Achieving buy-in to this vision took substantial community and stakeholder engagement. After fifteen months, forty-nine public meetings, and the input of nearly 150 stakeholders, the task force adopted unanimously a plan to reach net zero greenhouse gas emissions by 2050, the only net zero climate plan in the Gulf South.

We are already seeing results. With our Climate Action Plan as a powerful market signal, Louisiana has attracted \$26 billion in low-carbon economic development since its adoption in 2022. The plan has also shaped our priorities in time for the opportunities presented by the Bipartisan Infrastructure Law and Inflation Reduction Act, including electric vehicle charging infrastructure, grid resilience, updating and enforcing building and energy codes, and promoting emerging low-carbon energy hubs.

In Louisiana, climate-driven natural disasters with their compounding effects on infrastructure, services, and families has hastened the urgency with which we approach adaptation and has offered us many lessons:

- First, without a plan, it is impossible to overcome the scale of challenges brought to bear by climate change. In this age of extreme weather, states must plan for future conditions to avoid the worst and to capitalize on the opportunities to become more resilient. It has been true with our Coastal Master Plan and is proven true every day with our Climate Action Plan – first with the Bipartisan Infrastructure Law and now with the Inflation Reduction Act.
- Second, science provides the key foundation of trust. Only a clear and honest assessment of the problem and potential solutions can bring competing interests to the table and keep them there. By leading with science, we put politics in the back seat and engage the public around what is possible rather than what is politically expedient.
- Disasters have a huge opportunity cost. When communities are in recovery mode, reacting to the problems in front of them is more than enough to handle. It is hard to plan for the future, which leads to missed opportunities. But communities need to have a vision to strive toward; otherwise, the communities will remain just as vulnerable. Resilience planning helps to separate the immediate tasks of survival from the long-term, proactive work of adapting.
- Time is of the essence. Our communities have experienced the dire consequences of disasters that could have been avoided or minimized had projects on the books been constructed. It takes time to secure the permits and funding to implement solutions. It stings to see vulnerable communities fall victim to preventable harms.

- Finally, climate change requires infrastructure investments to protect the infrastructure that our communities and economies rely upon to thrive. Coastal infrastructure is infrastructure. Hard infrastructure such as storm surge levees, locks, and floodgates are vital to protect communities and industries on working coasts and natural infrastructure such as ecosystem restoration for marshes, wetlands, and barrier islands is just as important. These projects protect roads, water facilities, hospitals, businesses and homes, industrial plants, ports, transportation networks, the grid, pipeline networks, and more. All of these approaches must play a key role in climate adaptation strategies.

Of course, there is more to be done. We are using several strategies to combat our risk and rejuvenate our environment. We use a multiple lines of defense approach in Louisiana, as different strategies can reinforce each other.

States need more funding to achieve their unique resilience objectives. As I described earlier, we can make smart, scientifically driven investments that would position our state to be in a stronger position even after fifty years of change – but only if we secure the resources needed to act. Congress has game-changing proposals out there, including the Chairman’s Reinvesting in America’s Shoreline Economies and Ecosystems (RISEE Act). The model of linking federal revenues with the states hosting the activity through revenue sharing has been a proven concept for over 100 years. In Louisiana, we have constitutionally dedicated such funds to coastal restoration and protection. Applying revenue sharing more broadly to offshore activities is a tremendous way to allow coastal states to leverage the energy transition into something much more. Otherwise, we will be drawing down significant resources to repair and rebuild while never getting ahead of the problem because we are reacting to the latest emergency. Proactive, locally-informed investments, as would be funded by the RISEE Act example, are essential to combat the challenges from the changing climate.

Too many people in Louisiana can tell you that the impacts to infrastructure from extreme weather events are just the beginning. Thankfully, we have a path forward. We also know that without strategic, large-scale action, these risks will increase. This means more hardship, more disrupted lives, more economic loss, and lower quality of life. It means the adaptation investments we do make will become less effective or have a shorter shelf life. That situation is wholly unacceptable.

Louisiana is a vibrant, essential part of our country. We are the birthplace of Jazz, home to America’s Wetlands, a Sportsman’s Paradise, the epicenter of Mardi Gras, the Mighty Mississippi River, a shipbuilding center, an industrial powerhouse, an international tourism draw, a seafood destination, a place millions love, and where Louisianans call home. Louisiana is a place worth fighting for. I know each of you feels the same way about your home state. We cannot sit by and allow climate change to overpower us. Boldly and strategically investing in the infrastructure that our communities depend on will save money in the long run by avoiding the most devastating impacts of climate change to our citizens. As a nation, we need to identify the budget to tackle our challenges. Our homes are worth defending.

Attachment 1: Map of 2020 hurricane tracks in the Gulf of Mexico through October 27, 2020.
 Courtesy of The Advocate’s Dan Swenson.



ⁱ GAO-20-633r, “Natural Disasters: Economic Effects of Hurricanes Katrina, Sandy, Harvey, and Irma.” <https://www.gao.gov/products/gao-20-633r>; Schleifstein, “How many people died in Hurricane Katrina? Toll reduced 17 years later.” Nola.com. https://www.nola.com/news/hurricane/how-many-people-died-in-katrina-toll-reduced-17-years-on/article_e3009e46-91ed-11ed-8f2a-a7b11e1e8d34.html.