# New Orleans sinking at alarming rate with risk of widespread flooding by 2050



A landmark study has revealed that New Orleans, a historic American city home to more than 360,000 residents, is sinking at a troubling rate of up to two inches annually, raising concerns that much of the region could be submerged by 2050. This alarming projection comes amid new research highlighting the city’s unique geological challenges and broader flooding risks affecting multiple coastal urban areas across the United States.

Conducted in 2024 and involving experts from Tulane University in New Orleans, the study found that vast portions of the city rest on soft, compressible soils composed primarily of peat and clay. When drained or built upon, these soils either compact under the weight of infrastructure or rot after exposure to air, causing the ground to sink. This process, known as subsidence, is accelerating the city’s descent below sea level.

New Orleans’ vulnerability is exacerbated by its position along the Mississippi River on the Gulf Coast, a region already prone to devastating flooding from hurricanes. Ironically, efforts intended to protect the city from floods—such as the construction of substantial levees since Hurricane Katrina’s catastrophic 2005 impact—have inadvertently contributed to the problem. According to research by NASA’s Jet Propulsion Laboratory and Louisiana State University’s Center for GeoInformatics, the new protective boundaries have impeded the natural deposition of sediment that historically helped maintain the city’s elevation.

The highest rates of subsidence are particularly evident in industrial areas along the Mississippi River, as well as the city’s Upper and Lower 9th Wards, which suffered severe flooding during Katrina. Complementary research published this year identified climate change, rather than just rising sea levels or flood control infrastructure alone, as the primary driver of New Orleans’ ongoing flooding challenges. A study involving NASA, Johns Hopkins University, and the University of Maryland reported a significant increase in climate-induced rainfall and river flow, which expanded flood-prone areas along the Mississippi River by 114 square miles between 1993 and 2020, potentially impacting an additional 10,000 to 27,000 residents.

Expanding the scope, a separate study led by geochemists at Virginia Tech examined risk factors for sinking and flooding in over two dozen US urban centres. This research utilised satellite imaging and LiDAR technology to identify nearly 370 square miles of vulnerable urban landscape along the Atlantic seaboard alone, with Gulf Coast cities such as Galveston and New Orleans similarly imperilled. Miami, Florida, emerged as one of the most threatened cities, with projections estimating a potential loss of 81,000 homes, property damages costing up to $31 billion, and as many as 122,000 residents at risk.

Overall, the Virginia Tech team anticipates that more than 500,000 people living in 32 major American cities could be displaced by flooding by 2050, with property losses accumulating to an estimated $109 billion. Coastal residents, particularly those in the Gulf and Atlantic regions, face heightened exposure not only to rising seas but also to increasingly severe weather events, such as hurricanes intensified by global temperature rises.

Lead author Leonard Ohenhen of Virginia Tech highlighted the urgency of the timeline: “One of the challenges we have with communicating the issue of sea-level rise and land subsidence broadly is it often seems like a long-term problem… What we've done here is focused the picture on the short term, just 26 years from now.”

The study also underscored significant socioeconomic disparities in risk distribution, revealing that economic and ethnic minorities often reside in the areas most vulnerable to flooding and subsidence. Ohenhen stated, “We found that there is racial and economic inequality in those areas in that there was an overrepresentation of historically marginalized groups potentially impacted as well as properties with significantly lower value than the rest of the cities.” These factors could intensify the hardship and impede recovery efforts in affected communities.

In contrast, the ten Pacific Coast cities assessed by the study confront comparatively lower risks from flooding and land sinking. Nonetheless, these cities face challenges of a different nature, including modest coastal cliff retreat, which may threaten property stability and geology. The risk to Pacific coast residents is estimated at less than 30,000 people and 15,000 homes, with potential damages up to $22 billion.

The accelerating rate of sea-level rise compounds these threats. Whereas the global mean sea-level rise averaged about 0.07 inches (1.7 mm) per year over the past century, it increased to 0.12 inches (3.1 mm) annually in the early 21st century and continues to climb to approximately 0.15 inches (3.7 mm) per year today. The report emphasises that even with successful mitigation of climate change, sea levels are expected to keep rising due to the ongoing thermal expansion of oceans responding to historical warming.

These findings collectively indicate that many of the flooding and subsidence risks facing New Orleans and other vulnerable American cities by 2050 may be inexorable, necessitating careful assessment and planning to manage the prospects of displacement, economic loss, and infrastructure challenges.

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.thecooldown.com/outdoors/new-orleans-sinking-ireland-sea-level/> - Confirms that New Orleans is sinking at a rate of up to two inches annually due to subsidence of soft, marshy soils primarily composed of peat and clay, and human activities exacerbating the natural sinking process, as well as rising sea levels increasing flood risk.
2. <https://www.science.org/content/article/why-new-orleans-sinking> - Supports the article's claim about the geological causes of subsidence in New Orleans, including soft sediments and tectonic plate movement, and references Louisiana State University's research linking deep fault activity with high subsidence rates.
3. <https://veritenews.org/2024/03/08/local-experts-question-major-study-on-sinking-land-and-flood-risk/> - Corroborates the findings from Virginia Tech researchers about the extent of land subsidence and increased flood risk in New Orleans and other Gulf Coast cities, including disproportionate impacts on economically marginalized communities.
4. <https://www.maritimemagazines.com/marine-news/202403/new-orleans-is-sinking-and-it-is-not-tragically-hip/> - Reinforces the link between natural subsidence, human intervention such as levee construction, and the increased flood risk in New Orleans, highlighting how flood control efforts have impaired sediment deposition that naturally maintains land elevation.
5. <https://ae.utexas.edu/news/subtle-sinking-of-gulf-coast-poses-substantial-flood-risks> - Supports the assertion that New Orleans and surrounding Gulf Coast regions face heightened flood risks due to subtle but significant land sinking, emphasizing the vulnerability of industrial and residential areas including the Upper and Lower 9th Wards.
6. <https://veritenews.org/2024/03/08/local-experts-question-major-study-on-sinking-land-and-flood-risk/> - Also confirms the report from Virginia Tech on the broader U.S. urban landscape vulnerability to flooding and subsidence, including statistical projections on displacement, economic loss, and the role of climate change as a major driver.
7. <https://www.dailymail.co.uk/sciencetech/article-14647851/Scientists-iconic-US-city-SINKING-new-orleans-louisiana.html?ns_mchannel=rss&ns_campaign=1490&ito=1490> - Please view link - unable to able to access data