**Hurricane Katrina**

From <https://www.history.com/topics/natural-disasters-and-environment/hurricane-katrina>

Early in the morning on August 29, 2005, Hurricane Katrina struck the Gulf Coast of the United States. When the storm made landfall, it had a Category 3 rating on the Saffir-Simpson Hurricane Scale–it brought sustained winds of 100–140 miles per hour–and stretched some 400 miles across.

While the storm itself did a great deal of damage, its aftermath was catastrophic. Levee breaches led to massive flooding, and many people charged that the federal government was slow to meet the needs of the people affected by the storm. Hundreds of thousands of people in Louisiana, Mississippi and Alabama were displaced from their homes, and experts estimate that Katrina caused more than $100 billion in damage.

**Geography of New Orleans**

From <https://www.nationalgeographic.com/environment/natural-disasters/reference/hurricane-katrina/>

The city of New Orleans was at a disadvantage even before Hurricane Katrina hit, [something experts had warned about for years](https://www.npr.org/templates/story/story.php?storyId=13984564), but it had limited success in changing policy. The region sits in a natural basin, and some of the city is below sea level so is particularly prone to flooding. Low-income communities tend to be in the lowest-lying areas.

Just south of the city, the powerful Mississippi River flows into the Gulf of Mexico. During intense hurricanes, oncoming storms can push seawater onto land, creating what is known as a [storm surge](https://blog.nationalgeographic.org/2012/12/08/geography-in-the-news-storm-surge-threats/). Those forces typically cause the most hurricane-related fatalities. As Hurricane Katrina hit, New Orleans and surrounding parishes saw record storm surges as high as 19 feet.

**Levees**

Levees can be natural or manufactured. They are essentially walls that prevent waterways from overflowing and flooding nearby areas. New Orleans has been protected by levees since the French began inhabiting the region in the 17th century, but modern levees were authorized for construction in 1965 after [Hurricane Betsy flooded much of the city](https://www.nola.com/300/2017/05/hurricane_betsy_new_orleans_05312017.html). The U.S. Army Corps of Engineers then built a complex system of 350 miles of levees. Yet [a report by the](https://www.tulane.edu/~sanelson/New_Orleans_and_Hurricanes/overviewofleveefailures.pdf)

[Corps released in 2006](https://www.tulane.edu/~sanelson/New_Orleans_and_Hurricanes/overviewofleveefailures.pdf) concluded that insufficient funding, information, and poor construction had left the flood system vulnerable to failure.

Even before Katrina made landfall off the Gulf, the incoming storm surge had started to overwhelm the levees, spilling into residential areas. More than 50 levees would eventually fail before the storm subsided. While the winds of the storm itself caused major damage in the city of New Orleans, such as downed trees and buildings, studies conducted in the years since concluded that failed levees accounted for the worst impacts and most deaths.

