

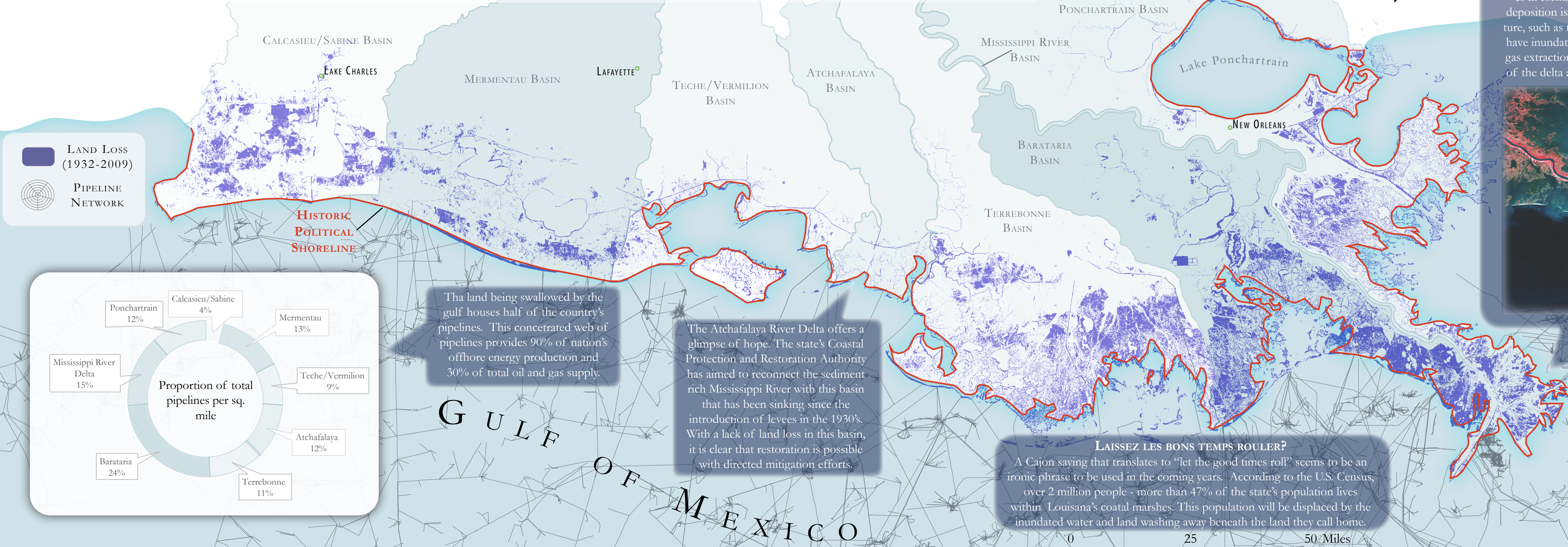
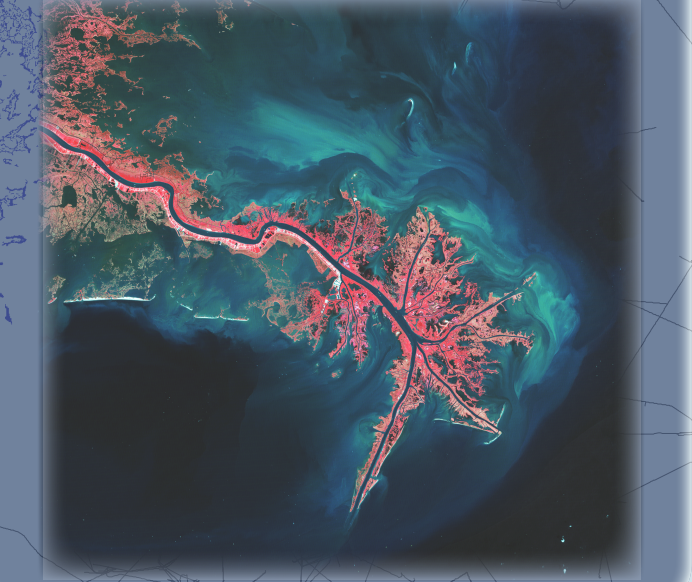
FROM BENEATH OUR FEET

THE COAST OF LOUISIANA is disappearing off the map. Every 48 minutes, the area equivalent to approximately one football field is lost to the Gulf and the shoreline is constantly being redrawn. Land loss has been a historic and ongoing event, but recent implementation of oil wells and pipelines in conjunction with rising sea levels resulting from global climate change has catalyzed the occurrence of land loss. The pipelines serve the purpose of transporting natural gas extracted deep beneath the ocean floor in the Gulf of Mexico to areas throughout the nation. These intricate networks of pipelines involve dredging which cause wetlands to sink below the impeding shoreline. These wetlands provide a multitude of ecosystem functions. With such sweeping losses of land within the past half-century and even more in the past couple decades, the question of how efficient and effective political action can be to resolve the problem is unknown on a coastal scale. Many fear the national economy is too dependent on the energy provided by the pipeline and that it is already too late to salvage a drowning coast.

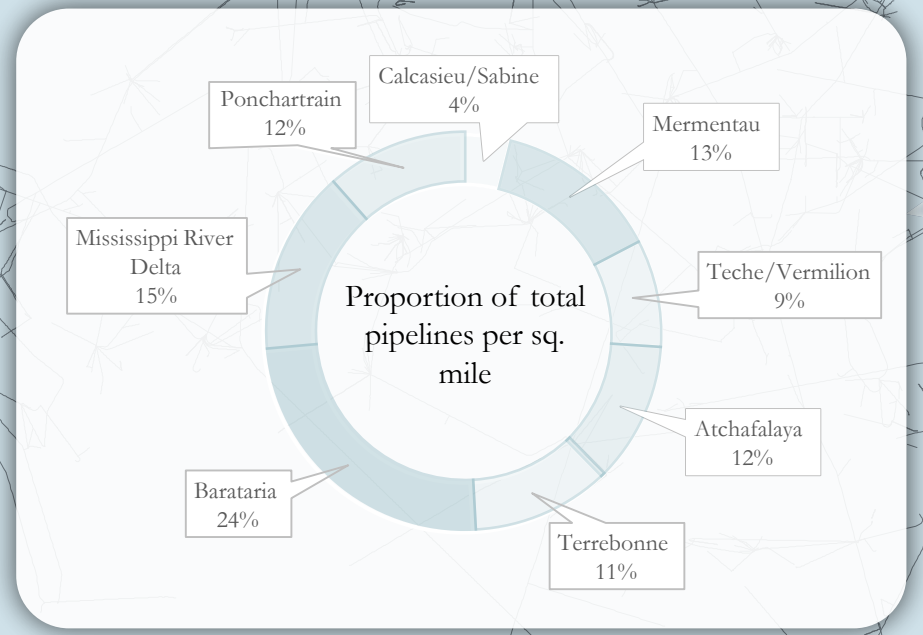


THE DELTA FROM ABOVE

This Landsat satellite image, taken in 2011, shows the largest river in United States entering into the Gulf of Mexico. In this false color composite, vegetation appears pink, water appears blue, and sediment deposited from the river is light blue. This delta has undergone transformations over millions of years as the amount of sediment deposition fluctuates naturally. The sediment deposited has created the wetlands along the coast. In recent decades though, the delta has undergone extreme changes in formation as the amount of sediment deposition is reduced by man-made infrastructure, such as the web of pipelines and wells that have inundated the coastline. Extensive oil and gas extraction has led to the major subsidence of the delta and further documented land loss.



LAND LOSS (1932-2009)
 PIPELINE NETWORK



The land being swallowed by the gulf houses half of the country's pipelines. This concentrated web of pipelines provides 90% of nation's offshore energy production and 30% of total oil and gas supply.

The Atchafalaya River Delta offers a glimpse of hope. The state's Coastal Protection and Restoration Authority has aimed to reconnect the sediment rich Mississippi River with this basin that has been sinking since the introduction of levees in the 1930's. With a lack of land loss in this basin, it is clear that restoration is possible with directed mitigation efforts.

LAISSEZ LES BONS TEMPS ROULER?

A Cajon saying that translates to "let the good times roll" seems to be an ironic phrase to be used in the coming years. According to the U.S. Census, over 2 million people - more than 47% of the state's population lives within Louisiana's coastal marshes. This population will be displaced by the inundated water and land washing away beneath the land they call home.



Authored by Hannah Friedrich, Dec 2014.
 Land Loss data come from USGS Publication Land Area Change in Coastal Louisiana from 1932 to 2010. Water Basin data from Eric Nost. Shoreline data came from Natural Earth. Pipeline data came from LOCO data catalogue. Landsat image from European Space Agency. Projection: Lambert Conformal Conic.