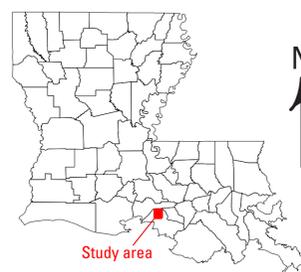


Base from United States Department of Agriculture
National Agriculture Imagery Program, 2015
Universal Transverse Mercator zone: 15
North American Datum of 1983
Central Meridian: -93 00
4-band, 1-meter

EXPLANATION

Sea level rise (SLR)

-  2 feet
-  4 feet
-  6 feet
-  **Chitimacha Tribal Lands**
-  **Elevation contours—In feet**



Introduction

Situated in the Mississippi Alluvial Plain of the Gulf Coast Prairie Landscape Conservation Cooperative (GCP LCC), the Chitimacha Tribe is one of four federally recognized tribes in Louisiana. The Tribal seat, trust lands/reservation, and adjacent Tribal owned lands are located near Charenton, Louisiana, totaling nearly 1,000 acres. The Chitimacha, with a population of approximately 1,400 people, are currently impacted by storm surge, which is expected to increase with climate change. The additional stress from storms will likewise increase the vulnerability to catastrophic impact in the event of a breach in the Atchafalaya Basin Spillway levee. A collaborative effort between the U.S. Geological Survey (USGS) and the Chitimacha Tribe has been initiated to provide resources and expertise to increase the Tribe's ability to prevent, plan, and prepare for these environmental challenges. By enhancing technical skills, providing access to environmental data, and increasing awareness of environmental issues, the Chitimacha will be better prepared to plan and adapt to the environmental impacts facing their lands related to land use and climate change.

For this project, USGS researchers asked how Chitimacha Tribal Lands might be impacted by future sea level rise scenario projections. These models illustrate some flooding within the northernmost boundary of Chitimacha Tribal Lands.

Methods and Data

This map of the Chitimacha Tribal Lands and surrounding area illustrates the magnitude of potential flooding resulting from future sea level rise at 2 feet, 4 feet, and 6 feet above current sea level. These projections do not account for unusual high tide and storm surge events, which could lead to increased flooding. Sea level rise data for this map display were downloaded from the National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management through the NOAA Sea Level Rise Viewer (NOAA, 2012; <https://coast.noaa.gov/slr>). Existing waterbodies visible in the imagery and derived from the high-resolution version of the USGS National Hydrography dataset (USGS, 2013), such as streams/rivers, canals/ditches, lakes/ponds, and so on, were removed from the NOAA sea level rise layers and appear in this map to delineate the sea level rise projections surrounding them. Contours were added to show elevation ranges at 10, 12, and 14 feet. These contours were created from a 15-meter bare-earth digital elevation model developed from the USGS 3D Elevation Program Coastal National Elevation Dataset (USGS, 2017) topographic model of the Northern Gulf of Mexico.

References

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Potential Sea Level Rise on Chitimacha Tribal Lands in Louisiana

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