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Adapting to Sea Level Rise in a Coastal Megacity

Los Angeles adapts to sea level rise



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Can you imagine Los Angeles without its iconic wide sandy beaches, coastal boardwalks, and flocks of tourists? All of these are jeopardized by sea level rise due to global climate change.

The L.A. economy is highly reliant on its coasts. The bustling tourist industry is centered on pristine beaches, and a sprawling boardwalk. The Port of L.A. is one of the busiest in the United States, responsible for over \$400 billion in trade. To keep a city this size running, the city maintains two power plants and two wastewater treatment plants, all of which sit approximately 10 feet above sea level. Some of these and other invaluable coastal assets are already vulnerable to flooding during high tides and severe storms. This flooding is expected to worsen, as higher sea levels exacerbate impacts from storm surge and wave run-up.

In an effort to safeguard valuable areas along the coastline, the City of L.A. engaged the [University of Southern California \(USC\) Sea Grant Program](#) to develop *AdaptLA*, a city-led science-based and stakeholder-supported adaptation planning process and vulnerability assessment. *AdaptLA* helps the City first to identify vulnerable assets, resources and communities, and then provides guidance for adaptation strategies.

The strength of *AdaptLA* comes from the unprecedented degree of stakeholder collaboration and interagency coordination. USC Sea Grant assembled a team of experts to help evaluate the extent of risk, examining physical, social, ecological and economic vulnerabilities to sea level rise. "USC Sea Grant assembled the strongest possible science team. With information being continually updated and improved, especially in the field of climate science, it is critical to connect decision-makers with the scientists working on these issues," said USC Sea Grant Associate Director Phyllis Grifman.



A sand dune protects a L.A. electrical generating plant. Credit: Marika Schulhof, USC Sea Grant



Beach goes enjoying Venice Beach where a breakwater was constructed too close to shore and now helps retain the sandy beach Credit: Marika Schulhof, USC Sea Grant

USC partnered with [the Los Angeles Regional Collaborative for Climate Action and Sustainability \(LARC\)](#), a network that is a catalyst for climate action in the region, and [ICLEI – Local Governments for Sustainability](#), California Region, to engage local businesses, industry experts, L.A. representatives, public utilities, and environmental organizations.

The process began through a coastal impact model developed by the U.S. Geological Survey, which incorporated impacts of rising seas with wave and storm surge. This assessment was used to look at the direct impact of sea level rise in the L.A. region.

Based on the findings from the coastal impact model, the study identified physical vulnerabilities in critical infrastructure and communities. These areas were further broken down into identifiable sections including: the