



NCCOS

NATIONAL CENTERS FOR
COASTAL OCEAN SCIENCE

Assessing the Geographic Variability in Vulnerability to Climate Change and Coastal Risks in Los Angeles County

What We Did

Coastal communities are increasingly vulnerable to climate effects, such as sea level rise and coastal erosion. To address these and other coastal risks in Los Angeles County, researchers at NOAA's National Centers for Coastal Ocean Science (NCCOS) extended their Integrated Vulnerability Assessment Framework to this densely populated and highly urbanized region.

The Framework considers a broad range of ecological, social, economic, and cultural components, and examines how these components might be impacted by specific coastal risks. Integration of a wide range of vulnerability and risk profiles enables users to more easily understand the complexities of overall vulnerability and risk within their region.



Why We Did It

Los Angeles County is one of the nation's largest and most populated counties, with 4,084 square miles and approximately 10 million residents. The County's geography, ecology, and communities are highly variable, as are its climate impacts and risks. The region is impacted by a variety of threats, such as bluff erosion, sea level rise, wildfire, saltwater intrusion, water availability, and water quality, amongst others. Similarly, L.A. County also faces extreme variation in social and economic factors, including disparities in income, education, and employment opportunities. This study examined these complexities across the County to indicate areas of overlapping vulnerability and risk to inform decision making within the region.



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Our Approach

First, we adapted NCCOS's Integrated Vulnerability Assessment Framework to Los Angeles County. The Framework measures social, structural, and natural resource vulnerability, and intersects those with coastal risks to identify areas of high vulnerability and high risk. The Framework was developed for the Town of Oxford and Talbot County in Maryland, and was then extended to NOAA's Choptank Habitat Focus Area in the Chesapeake Bay region. In both applications, local stakeholders identified coastal and stormwater flooding as risks of highest priority. In Los Angeles, however, partners and stakeholders identified additional climate risks to incorporate, such as erosion and wildfire.

Phase I of this project:

1. Engaged partners to identify aspects of vulnerability and climate-driven risk within the study area
2. Developed indicators and indices for each vulnerability and risk
3. Assessed vulnerabilities
4. Assessed risks
5. Intersected vulnerabilities with chosen risks
6. Reengaged partners for prioritization and implementation activities

Phase II utilized areas and priorities identified in Phase I, in concert with local expert knowledge and stakeholder engagement, to analyze further geographic variability within a specified coastal zone through exploration of flood insurance, access to green and cultural space, and further erosion and flooding impacts.

Both phases of this project provide invaluable science to decision makers, planners, and partners that will inform management decisions. Without these types of analyses, coastal communities and their economies are at a disadvantage in the face of climate change and related impacts. This work provides information to better protect, plan for, and manage climate and coastal impacts within Los Angeles County and its local communities.

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For More Information

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