NCCOS | NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

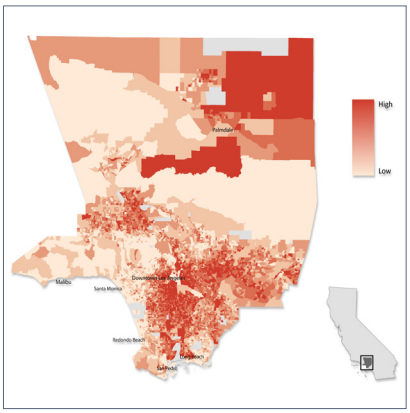
An Application of NOAA's Integrated Vulnerability Assessment Framework: Key Findings for Los Angeles County, CA

Project and Framework Overview

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) applied their Integrated Vulnerability Assessment Framework through the following steps:

1. Partner engagement to identify aspects of vulnerability and climate-driven risk within the study area
2. Indicator and index development
3. Assess vulnerabilities
4. Assess risks
5. Intersect vulnerabilities and risks
6. Reengagement, prioritization, and implementation

In Los Angeles County, the Framework integrated social, structural, and natural resource vulnerability components with coastal flooding, stormwater flooding, erosion, drought, heat, and wildfire risk for three assessment geographies: the County, urban areas, and a 10-mile coastal band.



Social vulnerability for L.A. County is shown to the right, with areas of highest vulnerability relative to other parts of the County shown in darker shades of red. Similar profiles were developed for the remaining vulnerabilities and risks prior to intersection and analysis.

Additional analyses were conducted in the coastal band that included exploration of National Flood Insurance Program claims, access to green and cultural space, impacts of erosion and flooding on critical infrastructure, and the relationship between erosion and blufftop development.

Highlighted Stories

Areas of high flood risk have fewer insurance claims

National Flood Insurance Program claims within 10 miles of the coast mostly occur in the northwestern region, despite flood risk being higher in south central L.A. This is perhaps driven by high erosion risk in the affected region. Further, south central L.A. has pockets of lower property values, lower claims paid out, and higher social vulnerability.

At-risk populations and areas lack green space

Within 10 miles of the coast, there is an uneven distribution of green space, with clusters of high social vulnerability and low greenness. These clusters also overlap with areas of moderate to high combined flood risk (coastal and stormwater).

Wildfire threatens rural and newly suburban areas

Wildfire risk is highest in rural areas, and is especially threatening to people and structures along the interface between natural and urban areas. Development boundaries have steadily expanded into historically natural areas that used to experience periodic burn events. Drought and extreme heat increase the risk of wildfire in these already at-risk areas.

Overlapping vulnerability and risk presents opportunity

Areas that share multiple vulnerabilities and/or risks create the need for adaptation action in the face of a changing climate, but they also present an opportunity to develop and implement innovative strategies that mitigate multiple concerns across multiple sectors at once.

Project Benefits and Collaboration

The integration of a wide range of vulnerability and risk profiles enables users to understand the complexities of overall vulnerability and risk within regional geographies. These assessments and underlying data can support the development of local sustainability and climate action plans.

This project was done in close collaboration with University of Southern California Sea Grant and NOAA's Office for Coastal Management. To download to final report, visit: https://coastalscience.noaa.gov/project/assessing-geographic-variability-vulnerability-climate-change-coastal-risks-los-angeles-county/.

For More Information

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