Coastal Resilience in Southern California

Phyllis Grifman, Executive Director
Sea Grant Program, University of Southern California

NOAA Science Advisory Board
July 26, 2023

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USC Sea Grant – The Urban Ocean Program

18 Million by the Sea:

- Water Quality
- Coastal Management
- Sea Level Rise & Coastal Impacts
- Aquaculture/Seafood
- Maritime Affairs
- Education & Science Literacy

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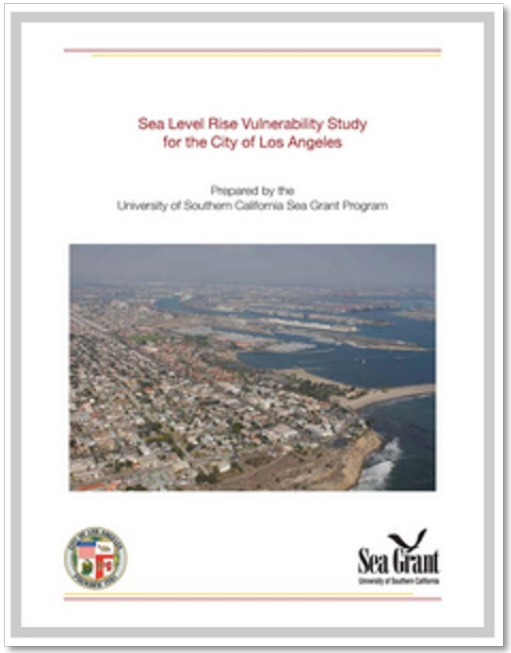
As a Boundary Organization Sea Grant Helps

Link scientific understanding with public policy and management

Ensure understanding of scientific principles, research, and applications

Participation from both science and policy worlds

Provide resources to scientific and practitioner communities



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AdaptLA

Regional Approach is essential

"Best of the best" coastal impact models for L.A. region

- USGS CoSMoS 3.0/HERA
- NOAA Sea Level Rise Viewer

Comprehensive Planning

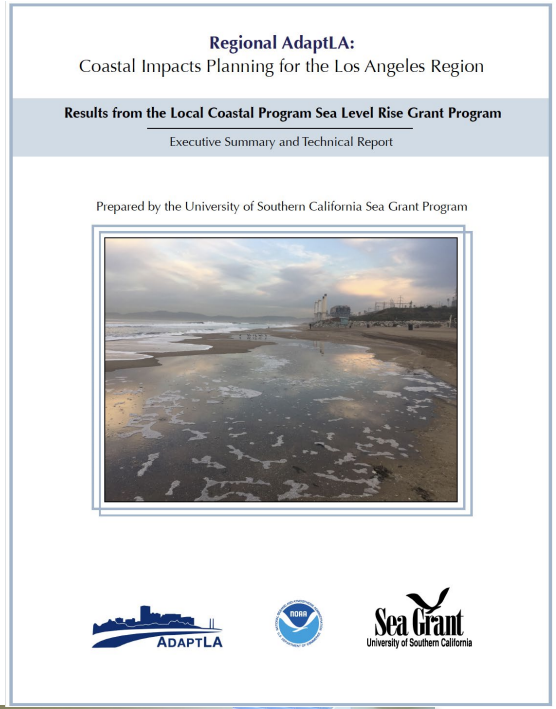
- Science-based and place-based
- Participatory and stakeholder supported

Capacity-Building and Outreach

- Trainings/Workshops
- Webinar series

Adaptive Management

- Helps communities progress without "perfect" information



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Community Engagement

Grassroots/community-based action can inspire **novel approaches**

Place-based boundary organizations help **establish trust** among stakeholders

Helps…"**interpret academic findings** and helps people digest the information, particularly for those who are not specialized and will benefit."

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Partnership/Collaboration Building

Collaborative approaches:

Ensure continuity of complex climate change messaging

Emphasize key messages provided by the scientific information across the range of decision makers and stakeholders

Help to ***build economies of scale***

Gain strength from ***shared experiences*** in other geographies and socioeconomic conditions

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NOAA NCCOS-Tailoring Products to Local Needs

Collaboration with National Center for Coastal Ocean Science

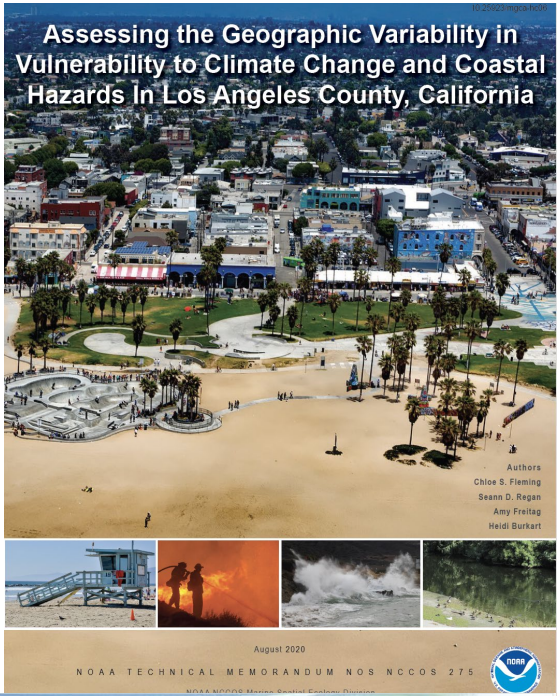
(Chloe Fleming, Seann Regan)

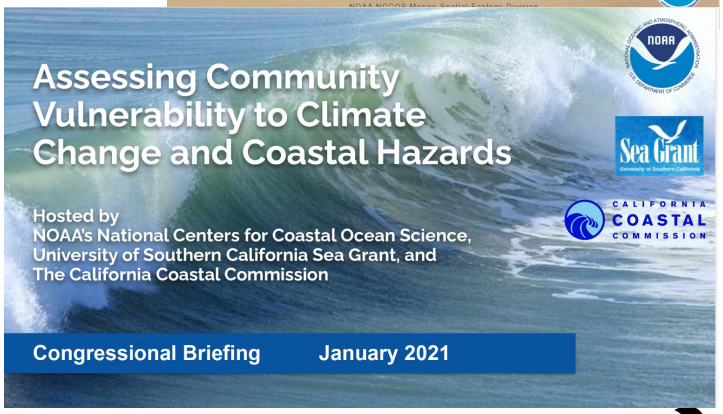
Integrated Vulnerability Framework – intersection of high risk with social, structural, natural resources vulnerabilities

Stakeholders from all sectors helped determine needs and project goals

Identified specific indicators using expert local knowledge

On-the-ground use of NOAA products





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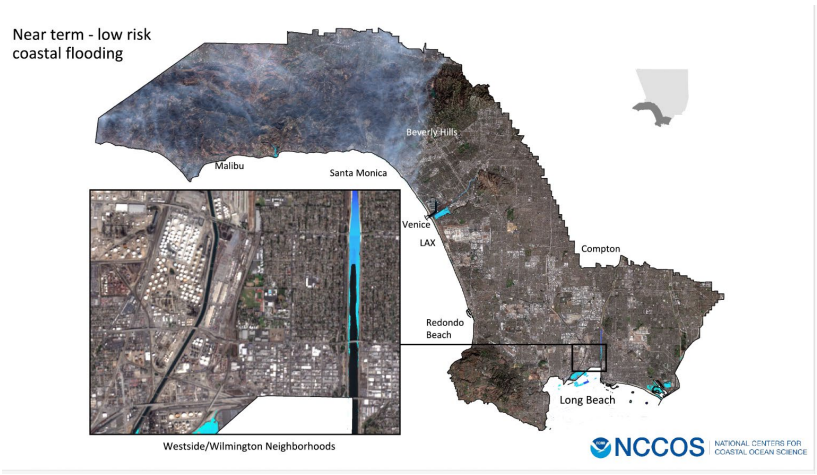
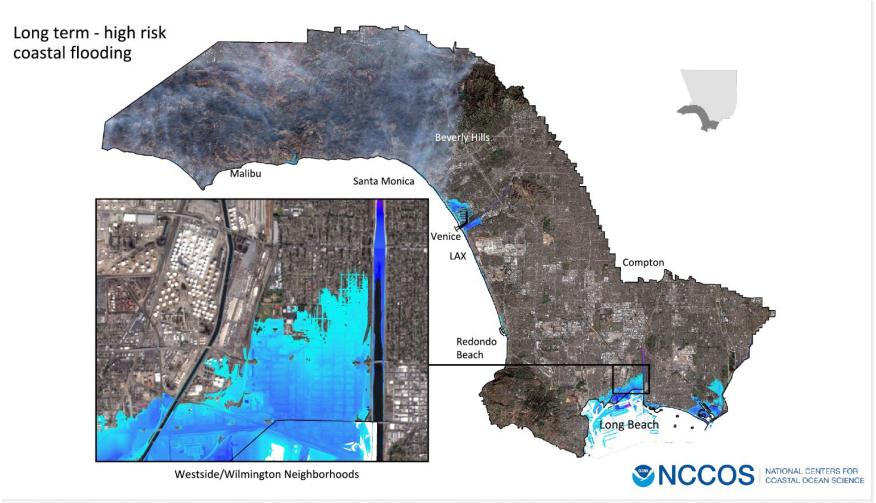
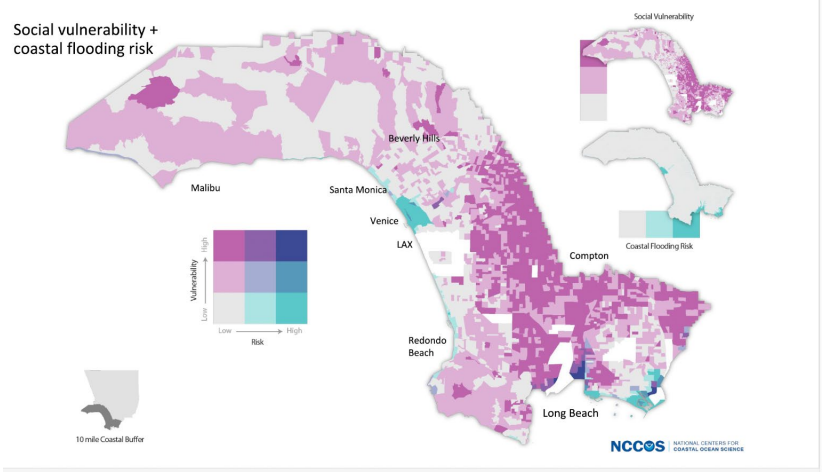
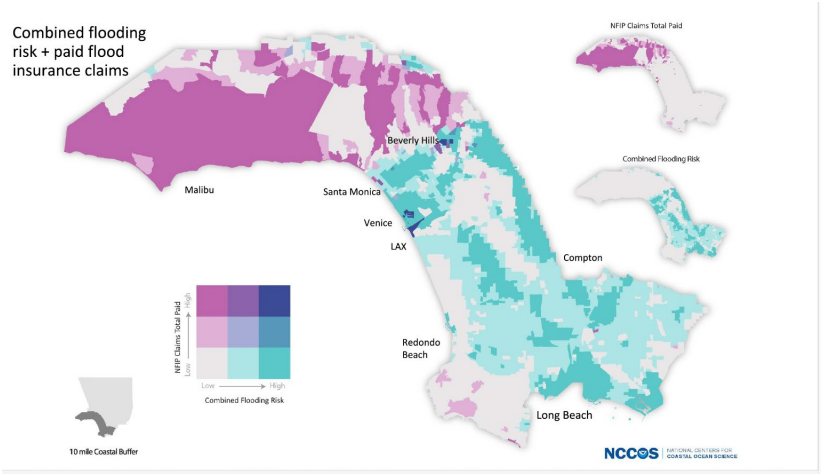
NOAA NCCOS – ID Local Vulnerabilities









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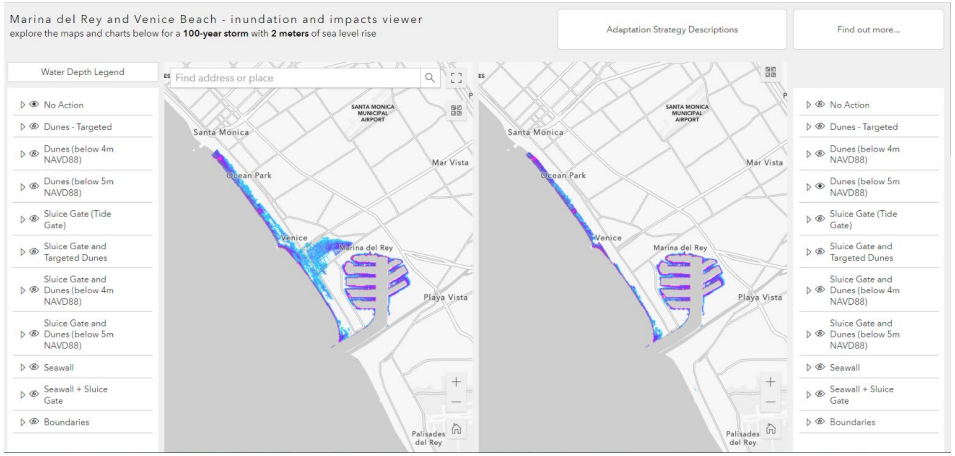
NCCOS - Environmental Effects of SLR

Effects of Sea Level Rise: Groundwater and Adaptation in Santa Monica Bay

Downscales models for local action



Effects of Sea Level Rise: Marshes on the Margin, Developing Tidal Wetlands Adaptation Strategies in Southern California

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Using Science for Regional Benefit

Jeroen Aerts, Lars de Ruig,
Institute for Environmental
Studies, University of Amsterdam

Economic evaluation of potential adaptation strategies

against sea level rise in Los Angeles County

Lars de Ruig, Jeroen Aerts, Juliette Hart,
Nick Sadrpour, Phyllis Grifman

IVM Institute for Environmental Studies

USGS science for a changing world

Sea Grant University of Southern California

https://nyti.ms/2toCgbO

The New York Times

World

Changing Climate, Changing Cities _207_

The Dutch Have Solutions to Rising Seas. The World Is Watching.

In the waterlogged Netherlands, climate change is considered neither a hypothetical nor a drag on the economy. Instead, it's an opportunity.

By MICHAEL KIMMELMAN, Photographs by JOSH HANER
JUNE 15, 2017

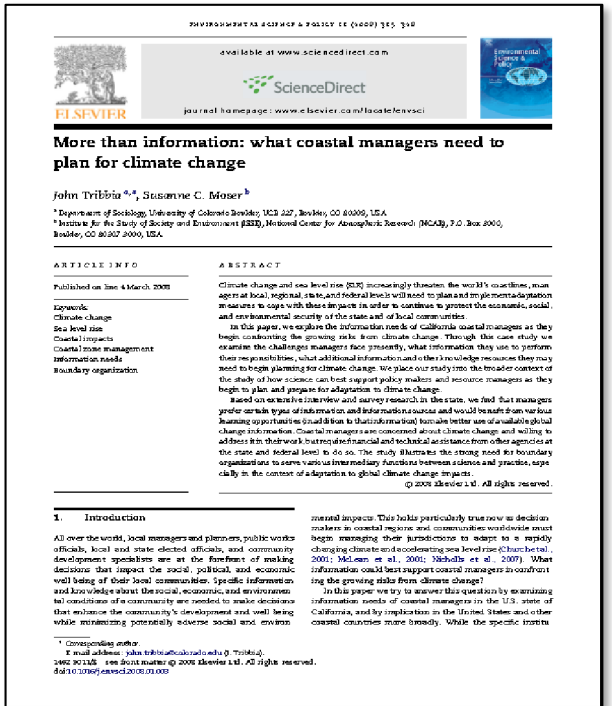
California Coastal Climate Adaptation Needs Assessments

Understand the changing coastal climate adaptation landscape

Understand regional and state needs and barriers to adaptation

Longitudinal study – 2005, 2011, 2016 and 2023 (forthcoming)

(current partners UCSB Ocean and Coastal Policy Center, NOAA OCM)



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More than information: what coastal managers need to plan for climate change

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ABSTRACT

Climate change and sea level rise (SLR) increasingly threaten the world's coastlines, managers at local, regional, state, and federal levels will need to plan and implement adaptation measures to cope with these impacts in order to continue to protect the economic, social, and environmental security of the states and of local communities.

In this paper, we explore the information needs of California coastal managers as they begin confronting the growing risks from climate change. Through this case study we examine the challenges managers face presently, what information they use to perform their responsibilities, what additional information and other knowledge resources they may need to begin planning for climate change. We place our study into the broader context of the study of how science can best support policy makers and resource managers as they begin to plan and prepare for adaptation to climate change.

Based on extensive interview and survey research in the state, we find that managers prefer certain types of information and information sources and would benefit from various learning opportunities (and dilution to the information) formulas better use of available global change information. Coastal managers are concerned about climate change and willing to address it in their work but need technical and technical assistance from other agencies at the state and federal level to do so. The study illustrates the strong need for boundary organizations to serve various intermediary functions between science and practice, especially in the context of adaptation to global climate change impacts.

1. Introduction

All over the world, local managers and planners, public works officials, local and state elected officials, and community development specialists are at the forefront of making decisions that impact the social, political, and economic well being of their local communities. Specific information and knowledge about the social, economic, and environmental conditions of a community are needed to make decisions that enhance the community's development and well being while minimizing potentially adverse social and environmental impacts. This holds particularly true now as decision makers in coastal regions and communities worldwide must begin managing their jurisdictions to adapt to a rapidly changing climate and decelerating sea level rise (Church et al., 2001; McLean et al., 2001; Nicholls et al., 2007). What information could best support coastal managers in confronting the growing risks from climate change?

In this paper we try to answer this question by examining information needs of coastal managers in the U.S. state of California, and by implication in the United States and other coastal countries more broadly. While the specific institu

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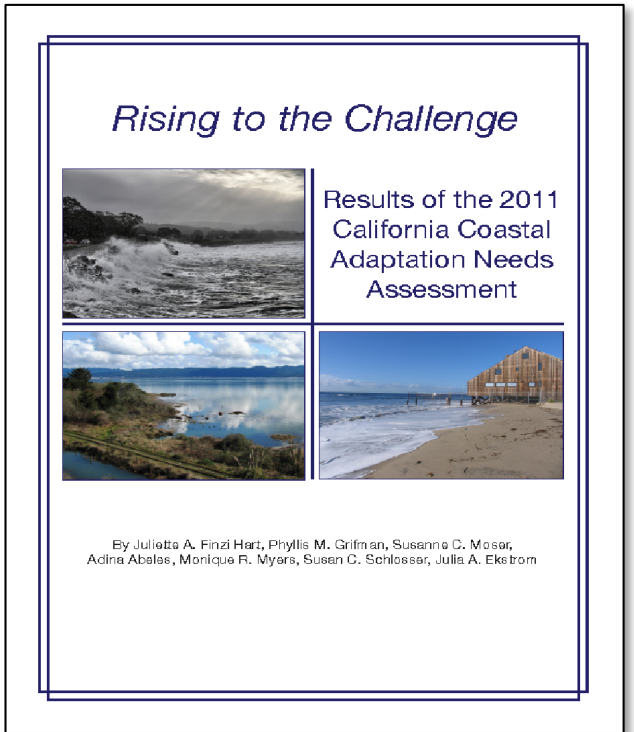
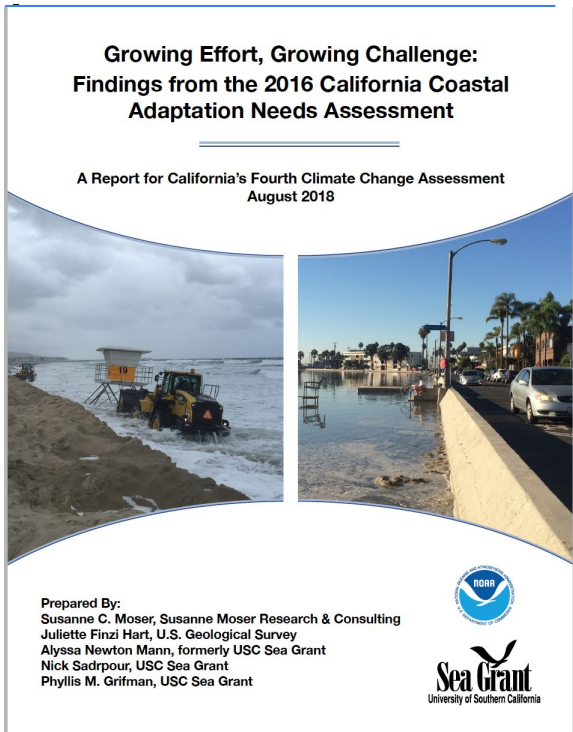


Rising to the Challenge

Results of the 2011 California Coastal Adaptation Needs Assessment

By Juliette A. Finzi Hart, Phyllis M. Grifman, Susanne C. Moser, Adina Abeles, Monique R. Myers, Susan C. Schlosser, Julia A. Ekstrom



Growing Effort, Growing Challenge: Findings from the 2016 California Coastal Adaptation Needs Assessment

A Report for California's Fourth Climate Change Assessment
August 2018

Prepared By:
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Sea Grant
University of Southern California

Lessons

- **Sea Grant facilitates links between local experiences and federal initiatives, helping connect NOAA with on-the-ground practitioners**
- Place-based boundary organizations are effective in **establishing trust among stakeholders**
- Importance of **state/federal support** – data, knowledge, tools, funding – in advancing community resilience
- **Multi-party partnerships** are an essential part of building the fabric of community resilience – regional collaboration and initiatives
- Funding may fluctuate but partnerships remain and create **opportunities and authorities** that extend beyond individual projects.

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Thank you!

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