



## Abstract

California's coastal communities face a difficult challenge in adapting to climate change-driven sea level rise (SLR) and increased threats from erosion, flooding, and other coastal hazards.

The UC Coastal Resilience and Climate Adaptation Initiative aims to enhance the research capacity and leadership of the University of California system to address adaptation to hazards along California's coast. The Initiative has four main objectives:

- Review understanding of coastal hazard impacts
- Convene scientific experts and stakeholders to discuss shoreline adaptation
- Identify what future UC research can most effectively help advance adaptation
- Better integrate up-to-date coastal science into policy and decision-making frameworks to build shoreline resilience to change

## Preliminary Findings

Coastal adaptation process in California:

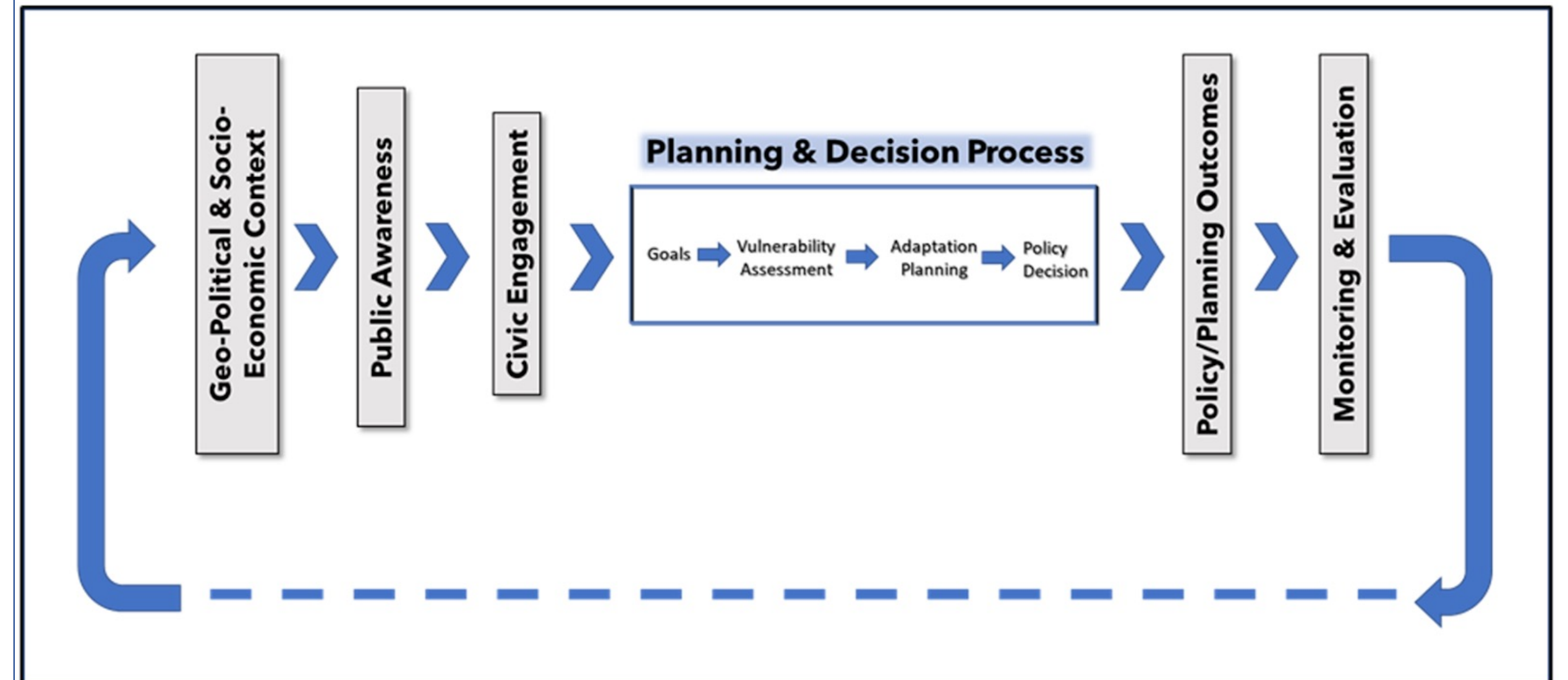


Figure 1. Decision process heuristic model for coastal adaptation inquiry

Six major research needs identified:

1. Modeling of climate change-related shoreline impacts across sectors, scales, and system-based connections
2. High-resolution data, observations, and monitoring systems for coastal change and tracking the effects of adaptation projects
3. Improved regional/local estimates of SLR projections and hazards driving coastal dynamics (vertical land motion, erosion, wave energy etc.)
4. Potential effects of SLR on groundwater, coastal aquifers, and contaminated sites
5. Analysis of non-environmental factors that influence SLR adaptation such as socioeconomic stressors
6. Further study of adaptation options, their cost benefit analyses, and their efficacy over time



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## Methods

The research methods for this pilot project had four major components:

- A high-level review of SLR science and modeling as applied to California
- An overview assessment of the status and trends of SLR adaptation planning and implementation at the regional level
- Closer examination of adaptation planning in three community case studies (Hayward, Santa Cruz, Del Mar)
- Convening two workshops to illicit input from coastal adaptation practitioners and the academic research community concerning the state of coastal adaptation in California

## Discussion

What is projected to happen in the coastal zone?

How can we better communicate this change?

How can we better engage communities and be more inclusive in responding to shoreline hazards?

How can we effectively implement adaptation planning pathways to address hazards and avoid maladaptation?

When should adaptation interventions be implemented and how can we evaluate intervention efficacy?

How can we better integrate researcher and practitioner goals and objectives to better support actionable adaptation plans?

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