Beach nourishment and living shorelines are some of the most cost effective strategies for promoting coastal resiliency.
Informing Decisions on Selection and Design of Nature-based Solutions for Coastal Resilience

Hybrid (green-gray) infrastructure projects for high energy shorelines are being promoted as a multi-benefit solution for coastal resilience.

Assessing relative benefits of each desired attribute (e.g. flood hazard reduction, habitat) is challenging.

Need an assessment framework to holistically evaluate project benefits and costs and how they change over time in light of shifting conditions (e.g. changing risk due to sea level rise).
Pilot Project between UCI and SCCWRP

- Create initial assessment framework
- Identify preliminary metrics
  - flood/erosion protection
  - ecological benefits
  - recreational use and aesthetics
- Develop approach to aggregating across individual indicators
- Assess how relative benefits change under different sea-level rise & storm event scenarios
- Apply these criteria to existing and proposed projects in Southern California → partnership opportunities
Expanding SCCWRP Research

- **Monitor**: Monitor performance over time

- **Identify**: Identify priority settings along the coast for implementation of green-gray infrastructure
  - Inform funding and management priorities

- **Develop and test**: Develop and test a series of metrics to evaluate different aspects of performance

- **Demonstrate**: Demonstrate an approach inform design aspects to optimize engineering and ecological function

- **Identify**: Identify a series of recently constructed or proposed living shorelines projects
<table>
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<th>Options and Opportunities</th>
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<tr>
<td><strong>Pursue research to inform design and siting decisions</strong></td>
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<tr>
<td><strong>Develop monitoring and assessment tools</strong></td>
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<td><strong>Support training and technology transfer</strong></td>
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