

Proactive Community Collaboration to Address Coastal Erosion Hazards and Increase Resiliency on the North Shore of Oahu

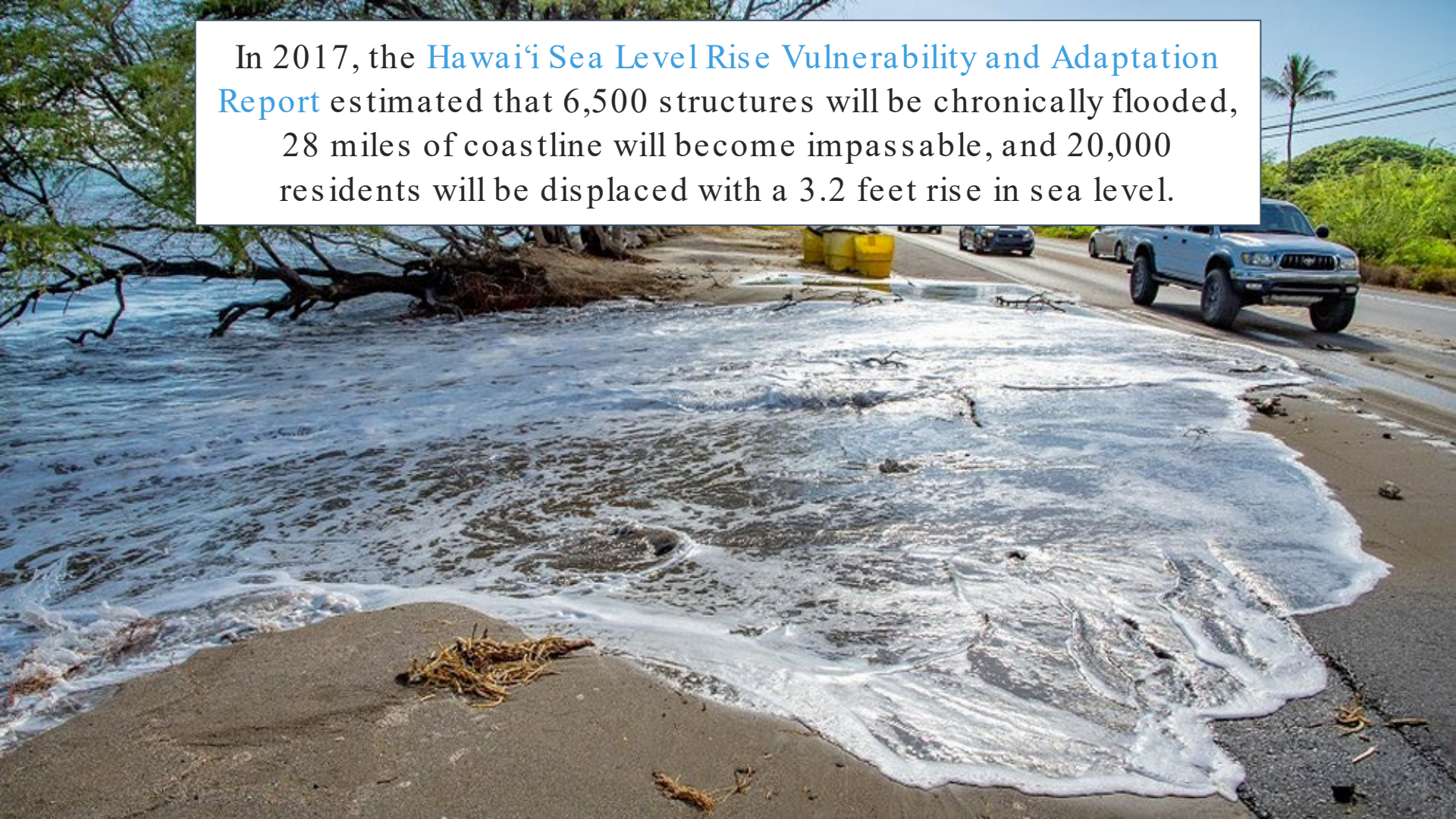
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70% of O'ahu, Kaua'i, and Maui beaches are chronically eroding.



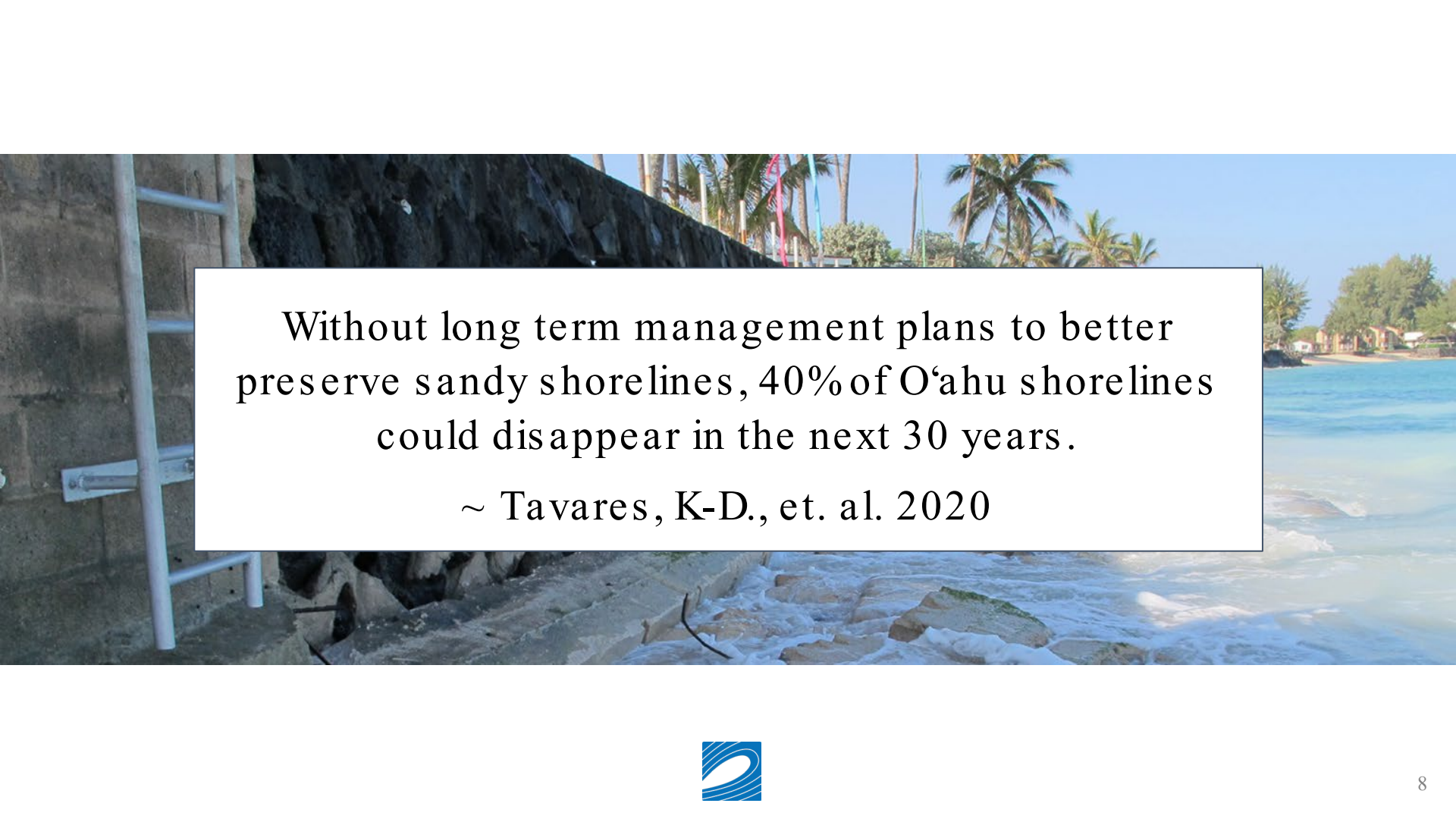
In 2017, the [Hawai'i Sea Level Rise Vulnerability and Adaptation Report](#) estimated that 6,500 structures will be chronically flooded, 28 miles of coastline will become impassable, and 20,000 residents will be displaced with a 3.2 feet rise in sea level.











Without long term management plans to better preserve sandy shorelines, 40% of O'ahu shorelines could disappear in the next 30 years.

~ Tavares, K-D., et. al. 2020



Protecting Public Beaches

- Beaches are a public trust in Hawai'i
- Erosion-based setbacks (Maui, 2008) - not yet adopted on O'ahu!
- Prohibition on seawalls and coastal hardening (Act 16, 2020)
- State of Hawai'i Sea Level Rise Viewer (SLR-XA)
- Sea level rise disclosure for coastal properties (May 2022)



Challenges

- Hawai'i has a bifurcated coastal zone - jurisdiction is split between state and county
- State owns land up to the highest wash of the waves
- No mechanisms (financial or legislative) for property buyouts or relocations





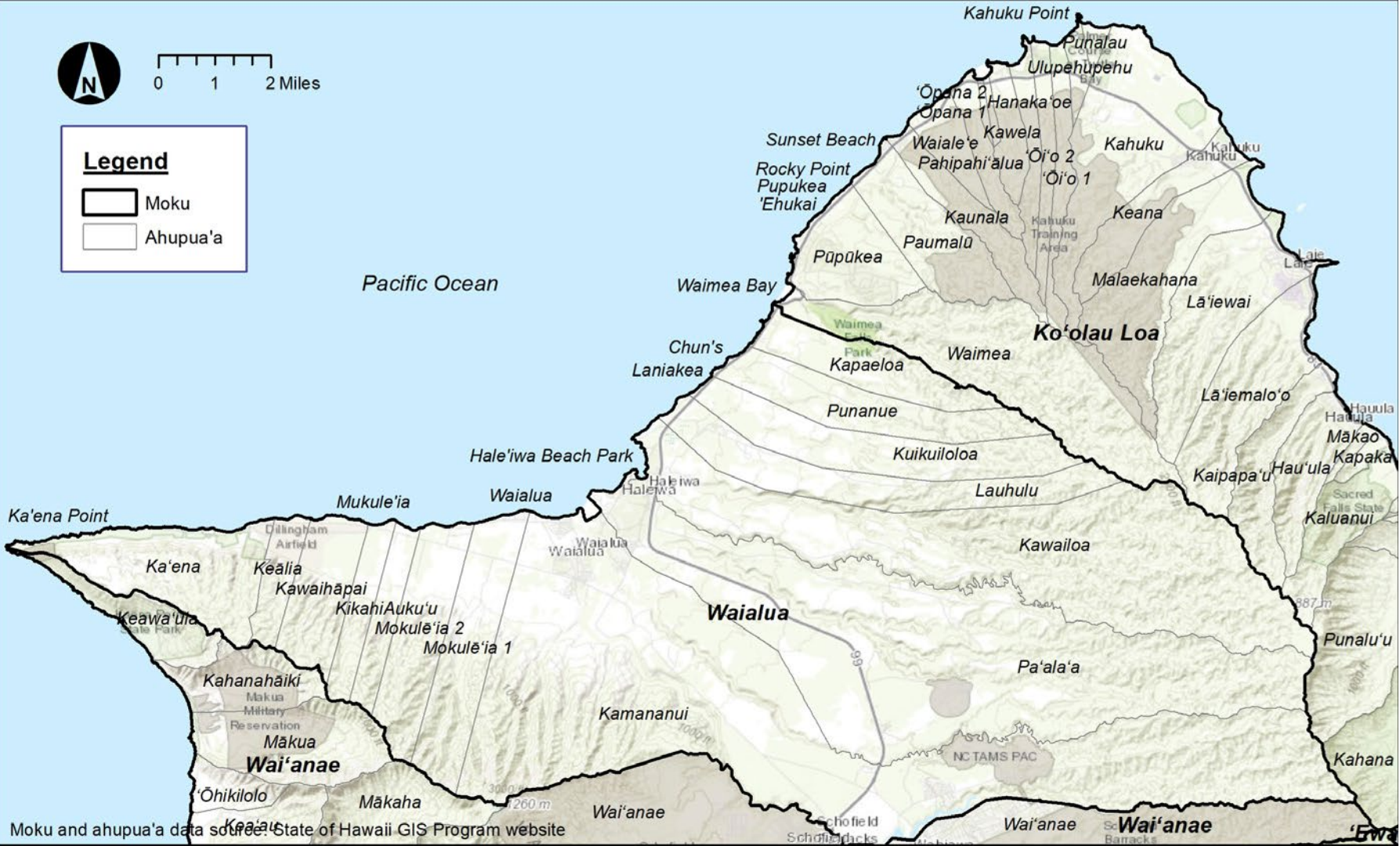






Legend

-  Moku
-  Ahupua'a



North Shore Coastal Resilience Working Group (NSCRWG)

- Surfrider Foundation + Sea Grant + SSFM International
- Goal: To discuss & evaluate possible options related to chronic coastal erosion and climate change adaptation in the North Shore planning district
- 30 invited stakeholders including
 - Homeowners
 - Community groups
 - State Dpt. of Land & Natural Resources
 - County Department of Planning
 - Scientists
 - State and County representatives



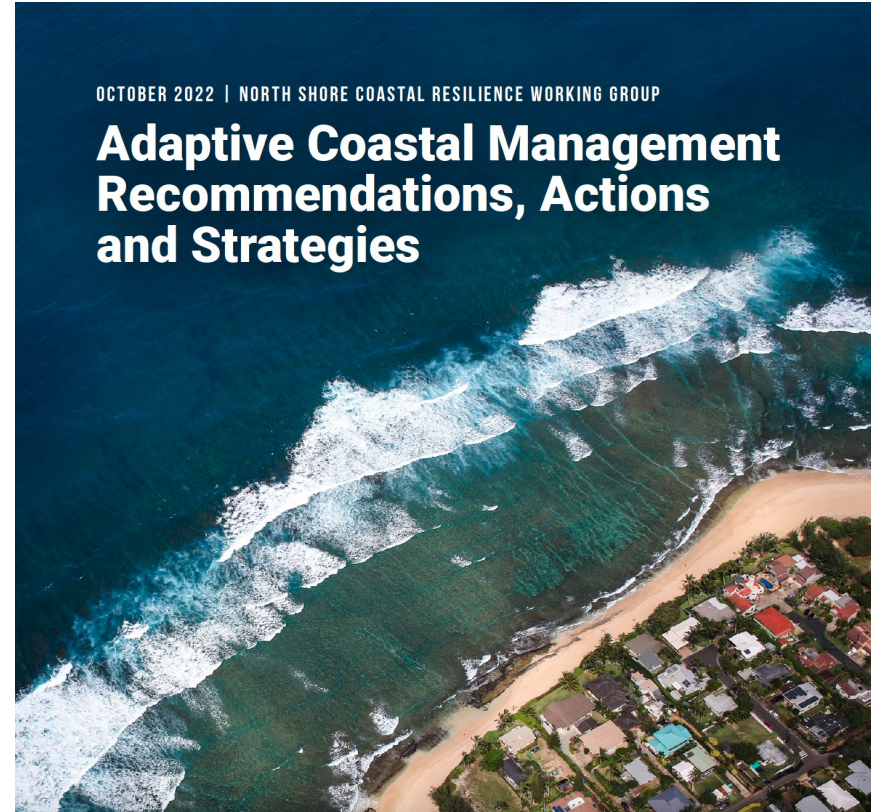
North Shore Coastal Resilience Working Group (NSCRWG)

- 6 meetings spread over 2021-2022. Mix of zoom and in-person
 - Framing the issues/shared understanding
 - Sunset Beach Field Trip
 - Hot Spots & Adaptation Solutions
 - [Adaptation Pathways](#)
 - [Adaptation Pathways Continued](#)
 - Implementation Steps
- Strong support for community collaboration & phased adaptation options (ranging from sand management/dune restoration to managed retreat)



Outcomes

- Final report
 - Identified 3 “hot spots”
 - Adaptation Pathways
 - Critical concerns
 - Recommendations



ADAPTATION PATHWAYS FOR NORTH SHORE

Current Term (Immediate)

Strategies	Needs and Next Steps
Improved Sand Management/Emergency Sand Pushing	<ol style="list-style-type: none">1. Develop a beach management plan based on the understanding of sand transport2. Evaluate the ability and funding for the city to push sand along the affected areas rather than property owners
Dune Restoration	<ol style="list-style-type: none">1. Dune restoration manual and permitting process2. Dune crest elevation investigation3. Pass dune protection ordinance to prevent new development on primary coastal dunes (Maui County has an ordinance)4. Allow vegetation of appropriate sections of dune5. Identify funding sources to support permitting and implementation of dune restoration projects
Policy Changes to Limit Shoreline Development and Plan for Climate Adaptation	<ol style="list-style-type: none">1. Adopt updated SMA requirements2. Adopt policies in North Shore Sustainable Communities Plan to limit development in vulnerable areas and conduct regional vulnerability assessment/climate adaptation plan3. Develop statewide climate adaptation framework4. Will require city initiative, political will, planning, funding

Critical Concerns of the NSCRWG Related to Community Vulnerability & Coastal Resource Management:

1. Immediate erosion threats and impacts to homes, highways and public infrastructure
2. Lack of options and transparent, publicly-shared guidelines for homeowners impacted by shoreline erosion
3. Increasing erosion and flood risks with climate change and sea level rise
4. Damaged and limited public beach access due to erosion, beach loss and inappropriate response measures
5. Environmental impacts of unauthorized and expired materials on the shoreline
6. Managed retreat is not yet a practicable option as it lacks a cohesive policy framework and financing mechanisms
7. Absence of a comprehensive coastal erosion strategy and long-term vision for the North Shore.



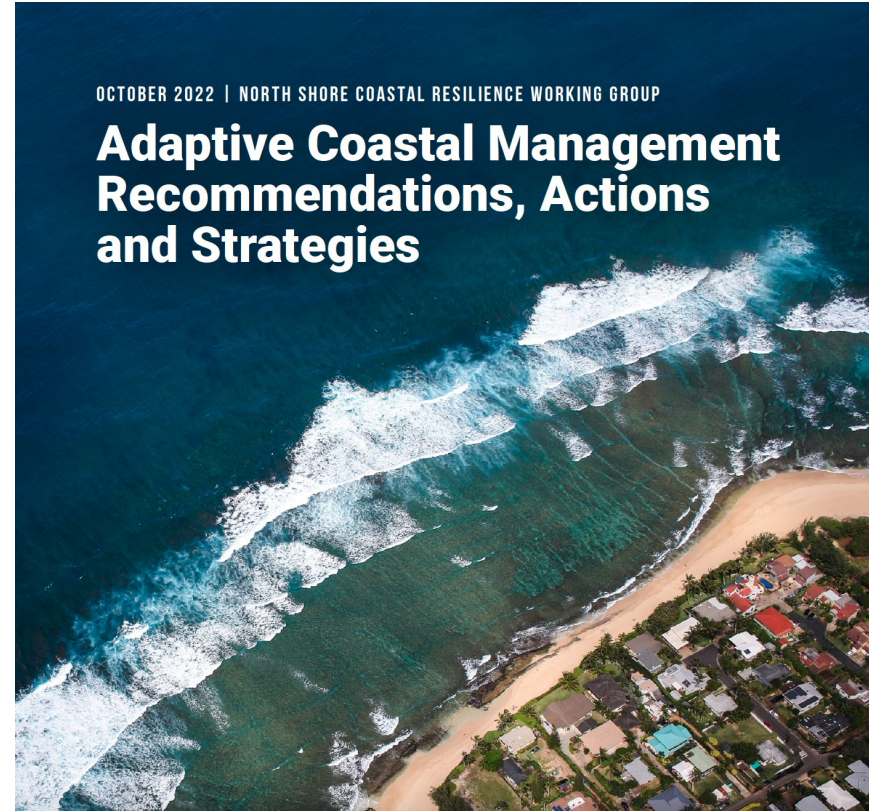
Recommendations for Immediate Action:

1. Improve guidelines and limitations for emergency shoreline erosion management and strengthen enforcement against unauthorized work and materials
2. Establish a statewide managed retreat program, with the North Shore as a pilot area, to provide a pathway for affected landowners to voluntarily vacate affected properties and utilize shoreline areas for public benefit
3. Improve interagency coordination for shoreline erosion and flood management, which overlaps jurisdictional and ownership boundaries
4. Develop a beach and dune management plan for North Shore beach parks and accessways; include guidelines that may be transferable to efforts fronting privately-owned lands
5. Develop a comprehensive climate change and sea level rise vulnerability assessment and adaptation strategy for the North Shore
6. Continue the NSCRWG and expand community discussions, engagement and outreach.



Outcomes

- Final report
 - Identified 3 “hot spots”
 - Adaptation Pathways
 - Critical concerns
 - Recommendations
- Informed community members
- Template for effort that could be expanded to other locales
- Starting point for more detailed evaluation and climate change adaptation planning for the North Shore



An aerial photograph of ocean waves crashing, with white foam and spray visible against a dark teal background. The text 'mahalo!' is centered in the upper half of the image.

mahalo!