

Adaptation Pathways Planning Framework



Dolan Eversole- University of Hawaii Sea Grant Program
LAC NDE FORUM 2026 - Session 5: System Transformation

PROTECTION

Hard Armoring to protect critical infrastructure



ACCOMODATION

Building on elevated posts, coastal setbacks



Adaptation Strategies

RESTORATION

Restoring natural ecosystems and processes



RETREAT

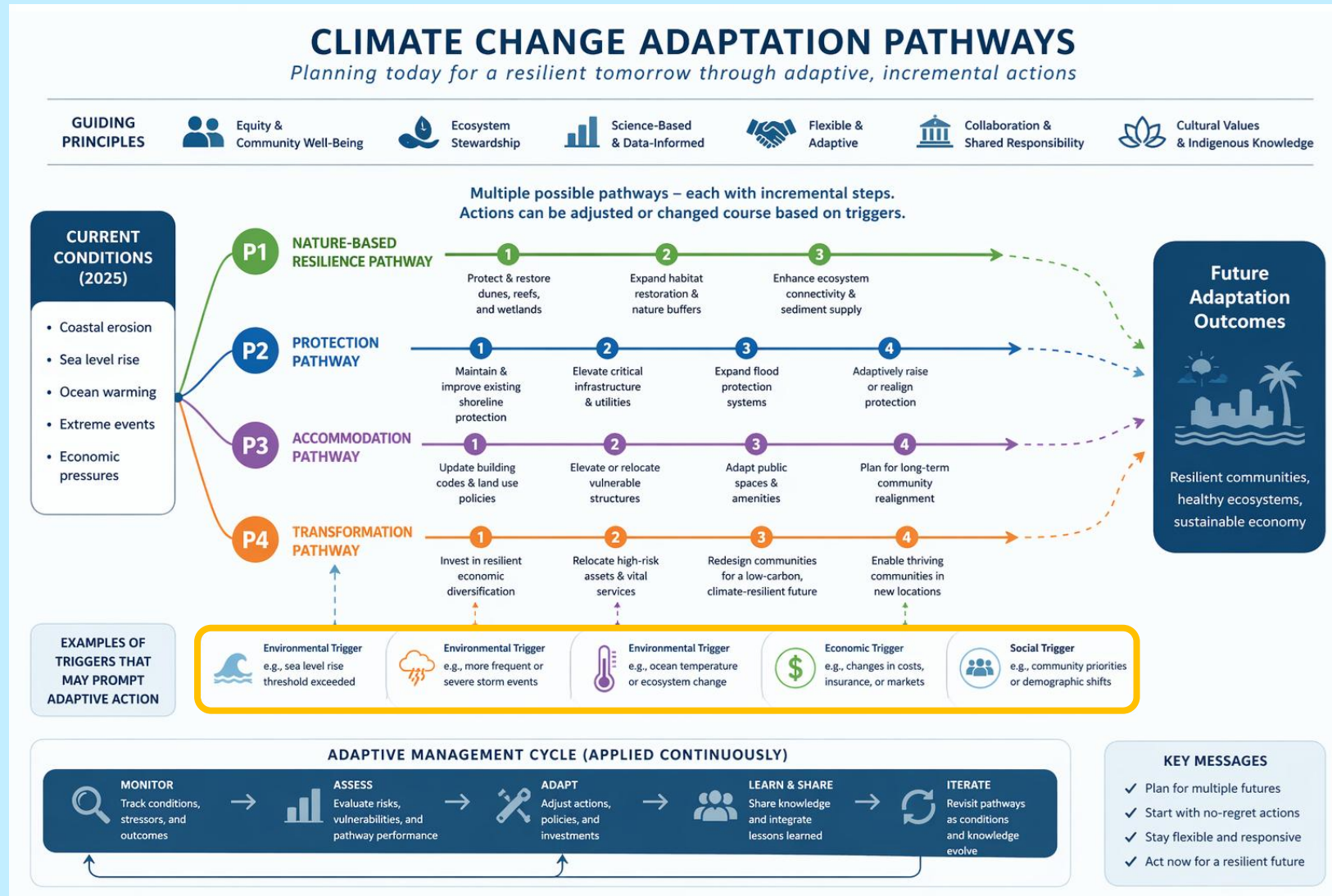
Proactive and equitable

Buy outs, land swaps, tax incentives, leaseback, etc...



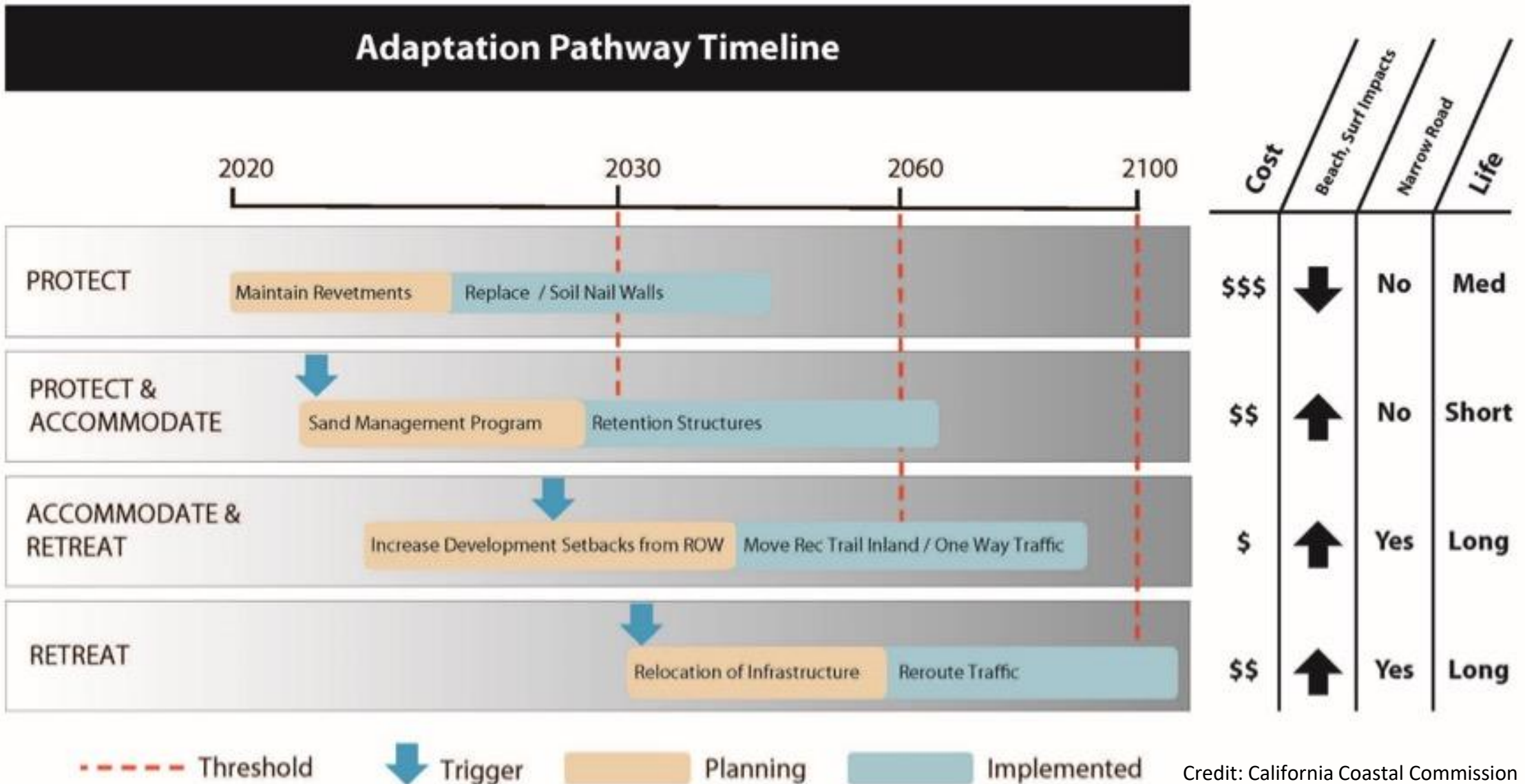
Adaptation Pathways Framework

Focus on sea level rise adaptation/accommodation



Adaptation Pathways and Triggers

Adaptation Pathway Timeline



Credit: California Coastal Commission



Waikīkī Resilience and SLR Adaptation Project



Waikīkī Resilience & SLR Adaptation Project [WRAP]

PROJECT WEBSITE



<https://www.uhcdc.manoa.hawaii.edu/work/wrap>



UHēDC
UNIVERSITY OF HAWAII
COMMUNITY DESIGN CENTER



STATE OF HAWAII
OFFICE OF PLANNING AND
SUSTAINABLE DEVELOPMENT



Hawaii CZM Program
Coastal Zone Management

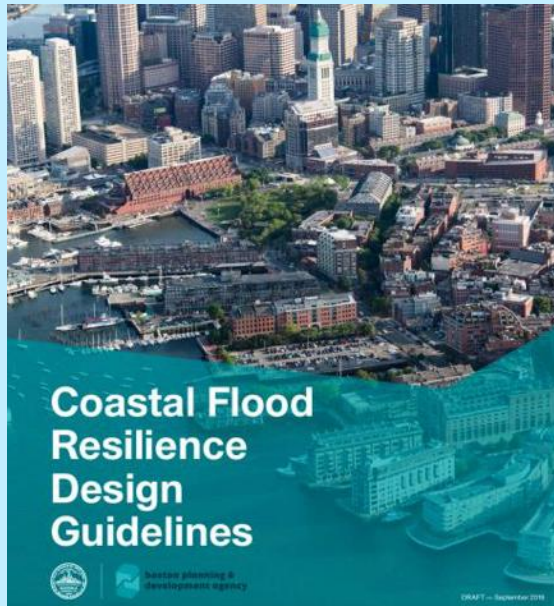
- Interdisciplinary
- Science-Driven
- Climate Change Focus
- 50-100 year timeframe
- Model framework

Adaptation Planning Precedents

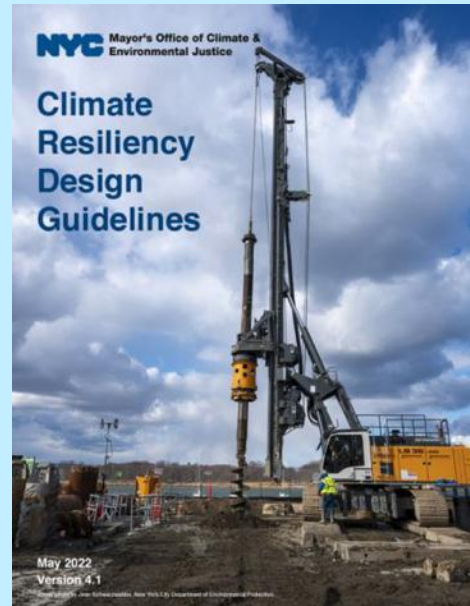
Focus on sea level rise projections and adaptation through accommodation

Adaptation planning efforts in Waikīkī benefit from the precedents in other coastal communities that have implemented innovative and holistic adaptation strategies.

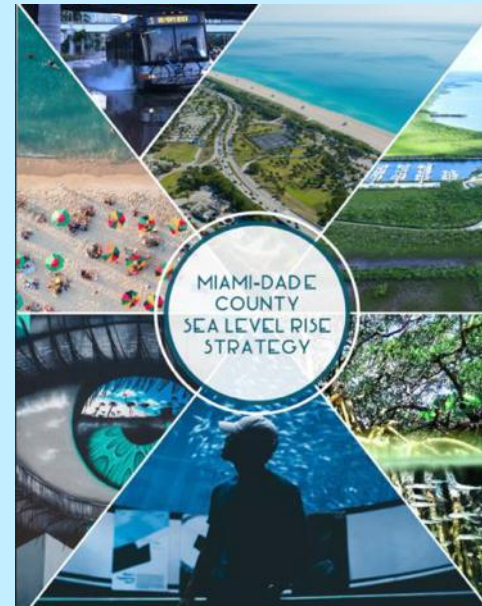
Boston



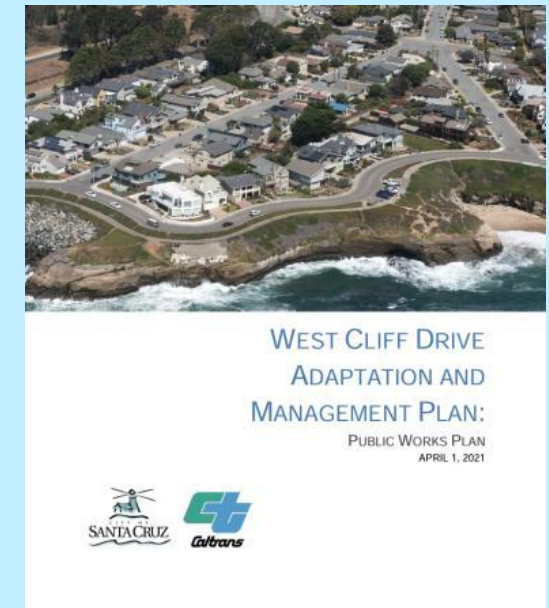
New York



Miami

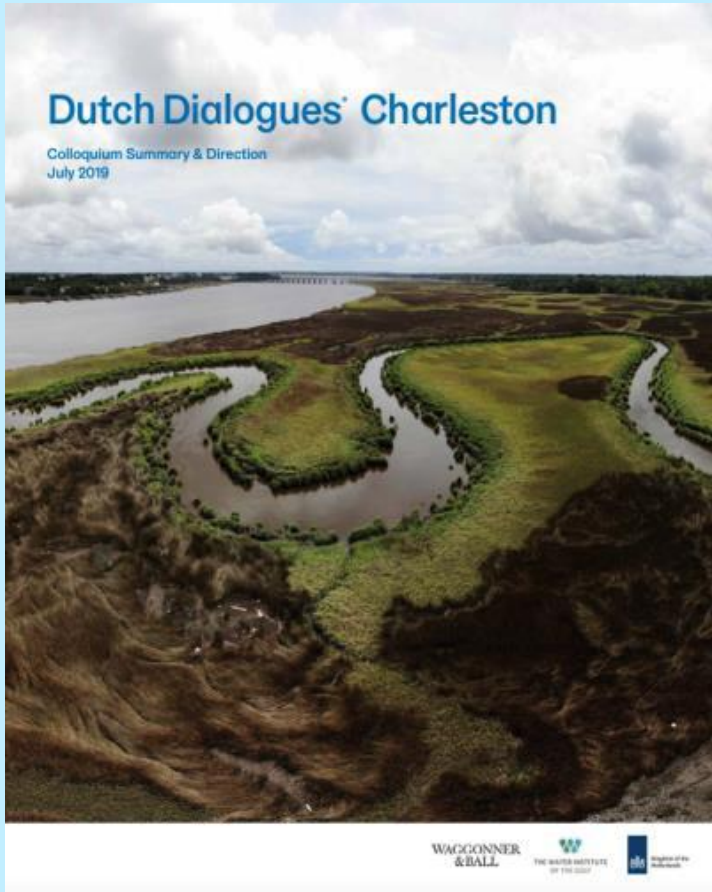


California

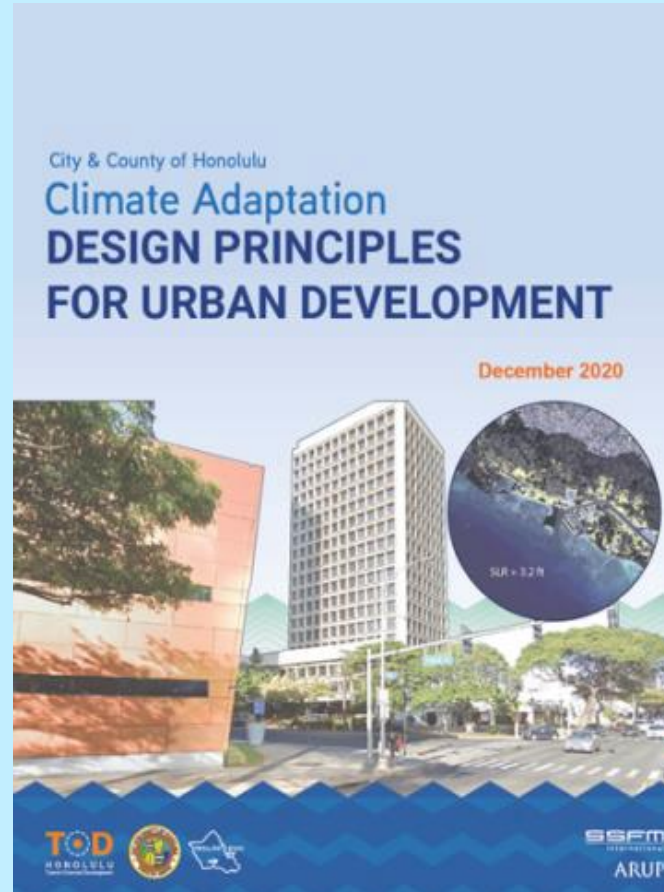


Adaptation Planning Precedents

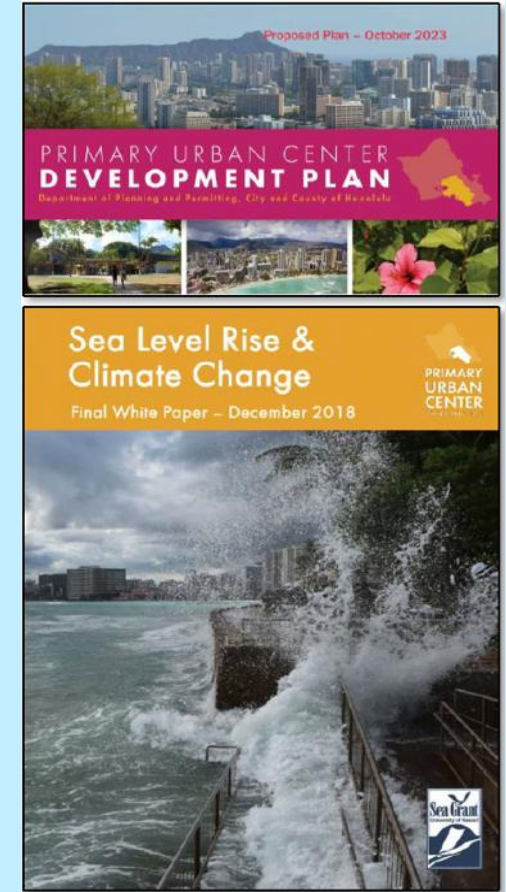
Charleston, South Carolina



Honolulu, Hawaii



Honolulu
Primary Urban Center





Hawaii State Legislature

Senate Bill 2401

(May, 2026)

RELATING TO REGIONAL SHORELINE MITIGATION DISTRICTS

Requires the State Office of Planning and Sustainable Development to plan and serve in a coordinating role to **develop shoreline adaptation pathways plans for regional shoreline mitigation districts.**

A BILL FOR AN ACT










RELATING TO REGIONAL SHORELINE MITIGATION DISTRICTS.

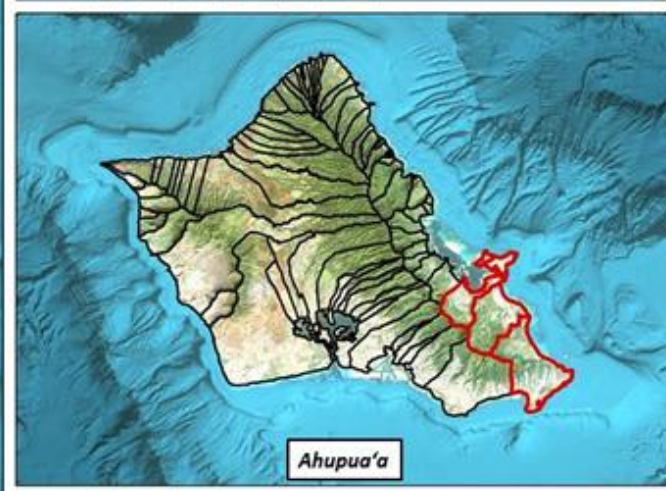
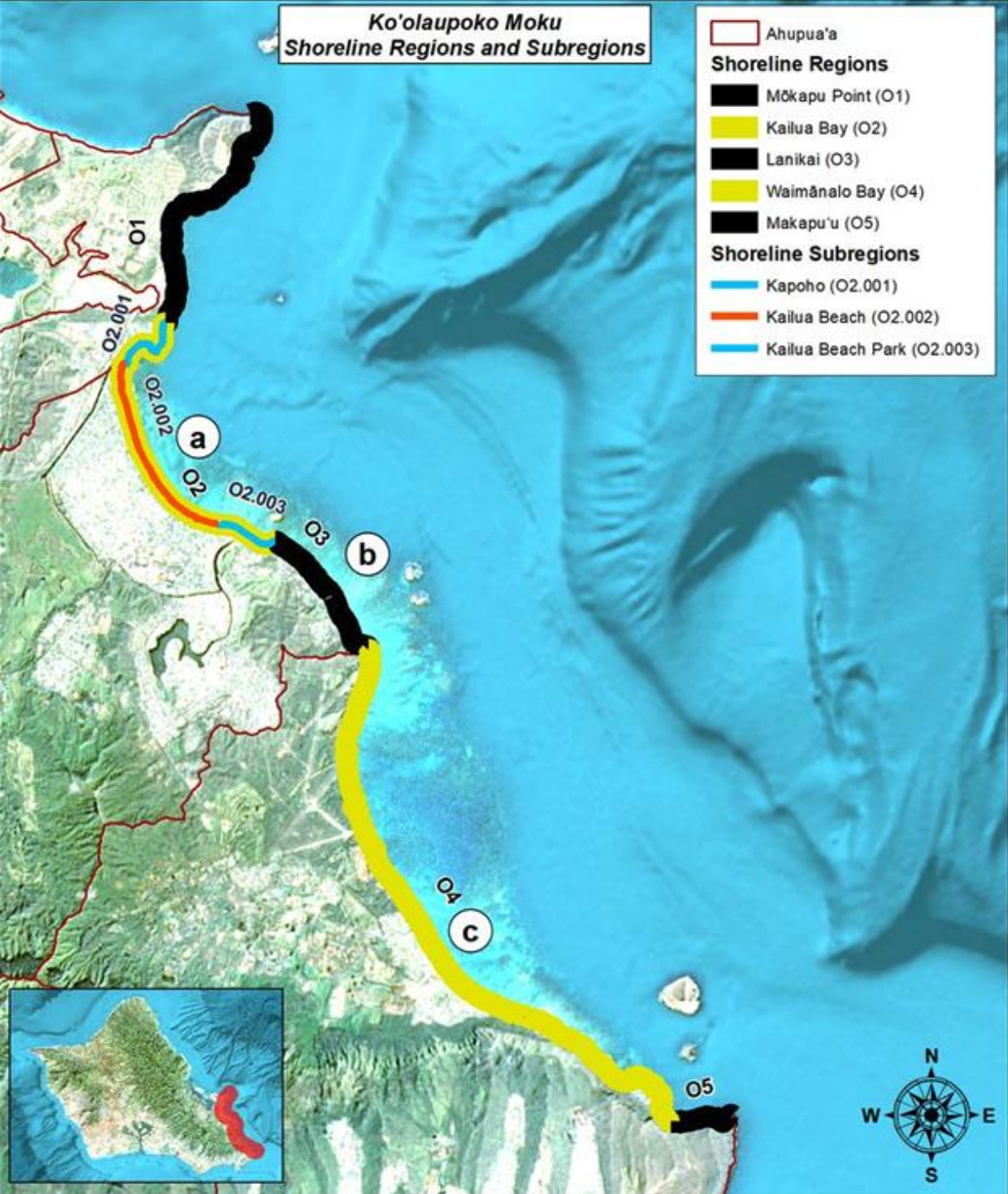
BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that Hawaii's beaches and
2 shorelines are some of the State's most critical public assets.
3 Public beaches often define their surrounding communities and
4 are invaluable assets at the center of Hawaii's economy and way
5 of life for local residents. However, accelerating shoreline
6 erosion, wave impacts, and coastal hazards are threatening
7 public beaches, shoreline properties, and infrastructure across
8 the State. Given these impacts, effective shoreline planning
9 for the short- and long-term will require collaboration among
10 communities and regional shoreline property owners and
11 interagency coordination.
12 The legislature further finds that the office of planning
13 and sustainable development serves a statewide planning and
14 coordination role and is well-positioned to facilitate
15 interagency coordination and regional shoreline planning
16 efforts.



Ko'olaupoko Moku
Shoreline Regions and Subregions

-  Ahupua'a
- Shoreline Regions**
-  Mōkapu Point (O1)
-  Kailua Bay (O2)
-  Lanikai (O3)
-  Waimānalo Bay (O4)
-  Makapu'u (O5)
- Shoreline Subregions**
-  Kapoho (O2.001)
-  Kailua Beach (O2.002)
-  Kailua Beach Park (O2.003)



Adaptation options for sea level rise

Protect (Armor)



Accommodate



Restore/Retreat (Setbacks)



No Action



Coastal Adaptation Policies

Coastal Land
Acquisition Programs

Shoreline
Setbacks

Coastal Dune Protection
and Restoration

Natural Resource
Conservation Funding

Coral Reef
Conservation/Restoration

Beach Protection

Limited shoreline
development and armoring

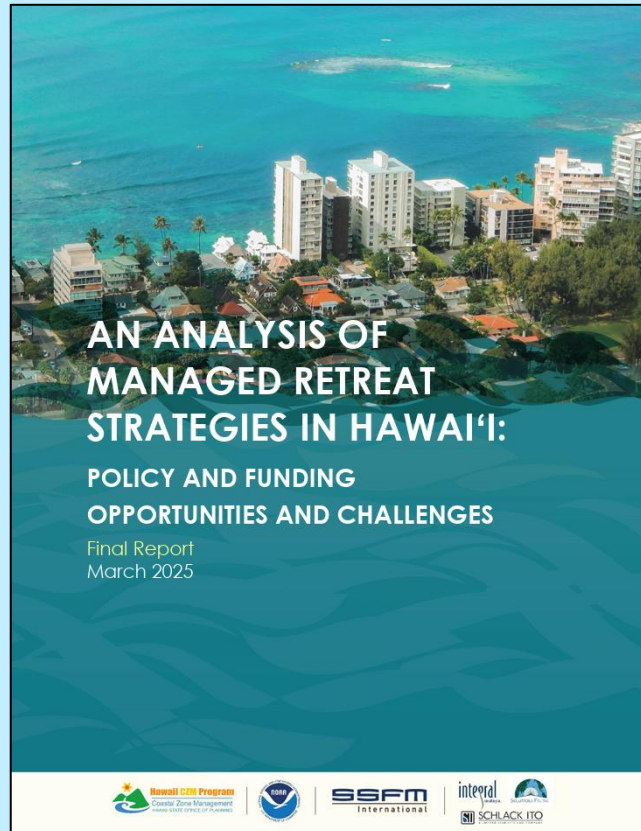
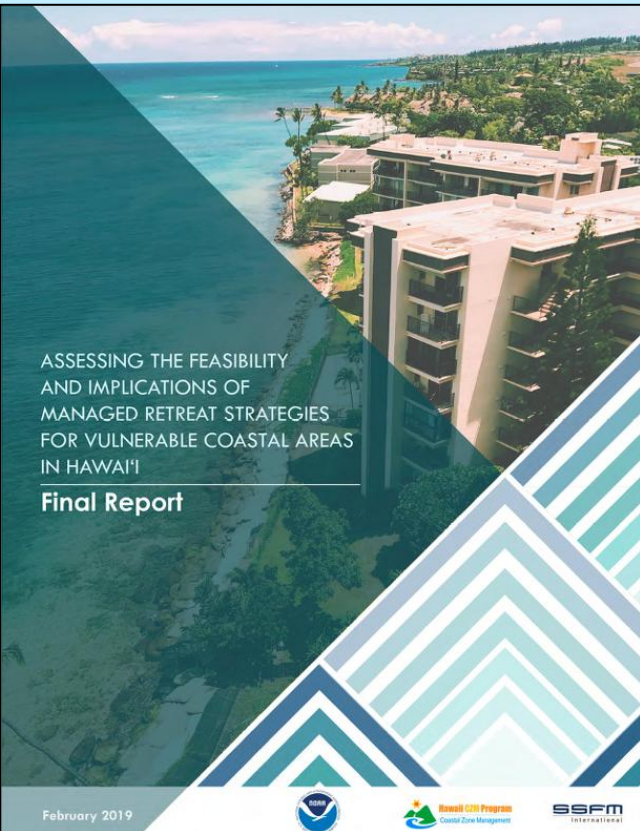


Accommodation

(Relocation- Managed Retreat)

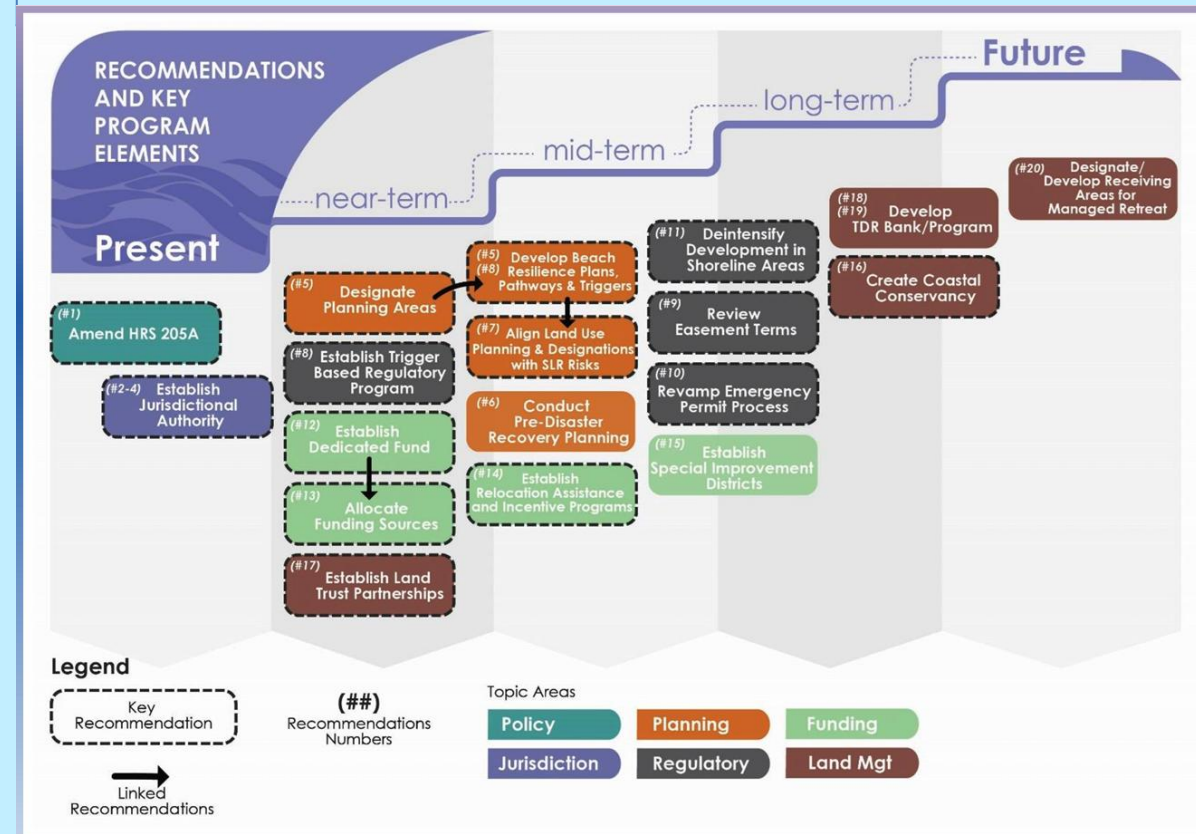
STATE REPORTS ON MANAGED RETREAT

(2019 & 2025)



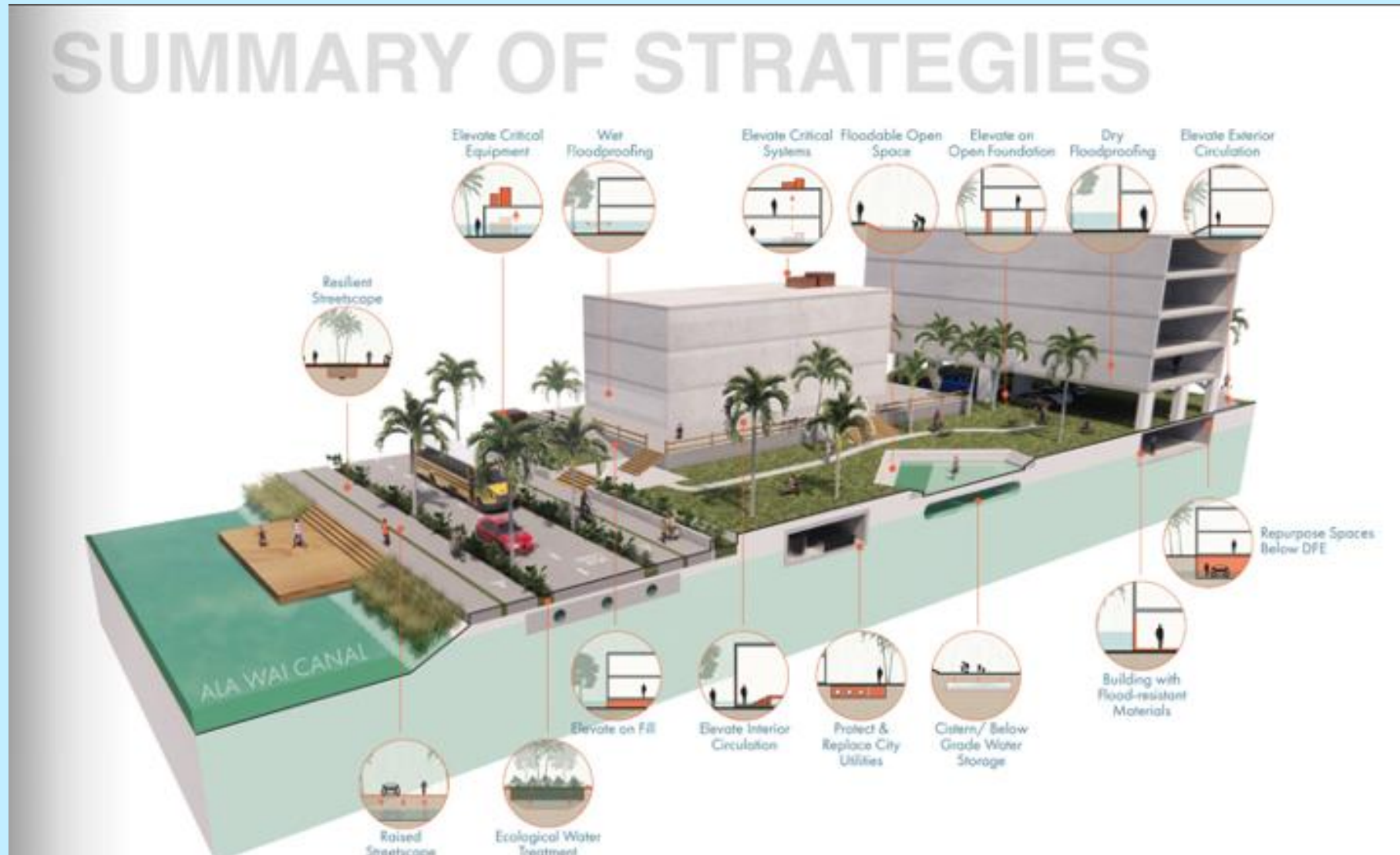
Selected Policy Recommendations- Managed Retreat

1. Need for a Proactive, Holistic, and Equitable Approach
2. Creation of a Beach Resilience Program (BRP) Using Adaptation Pathways.
3. Importance of Traditional Ecological Knowledge (TEK) and Community Engagement
4. Legal and Policy Foundations Support Managed Retreat, but Gaps Remain.
5. Funding, Incentives, and Land Management Mechanisms Are Essential.



Accommodation

(On-site Design Interventions)



Accommodation

(Land Use Design Interventions)

Terms & Definitions

Base Flood Elevation: The elevation of the base flood relative to the datum specified on a community's Flood Insurance Rate Map (FIRM). In any given year, there is a one-percent chance that the base flood will be equaled or exceeded. The BFE is the NFIP's minimum elevation used for design and construction of buildings. Areas affected by the base flood are shown as Special Flood Hazard Area (SFHAs) or FIRMs.

Design Flood Elevation: The elevation of the design flood relative to the datum specified on a community's flood hazard map. This elevation is the higher of the base flood or the value designated for a flood hazard area on a community flood map or otherwise designated.

Freeboard: An added margin of safety expressed in feet above a specific flood elevation, usually the BFE. Some States, Tribes, and many community regulations require freeboard. Freeboard can account for unknown factors, future development and floods higher than the base flood.

Source: FEMA Protecting Existing Utility Systems from Flood Damage

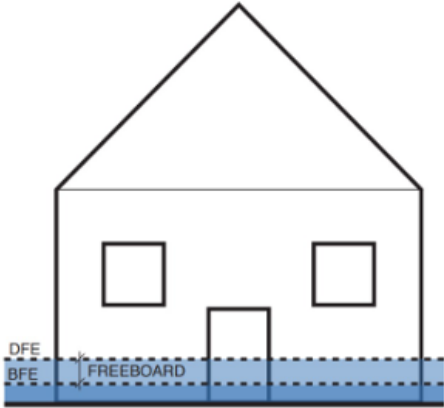
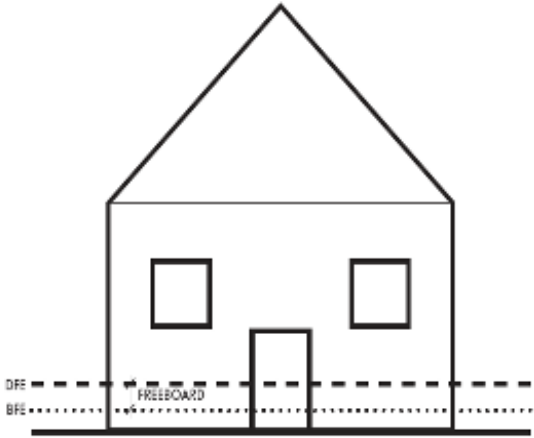
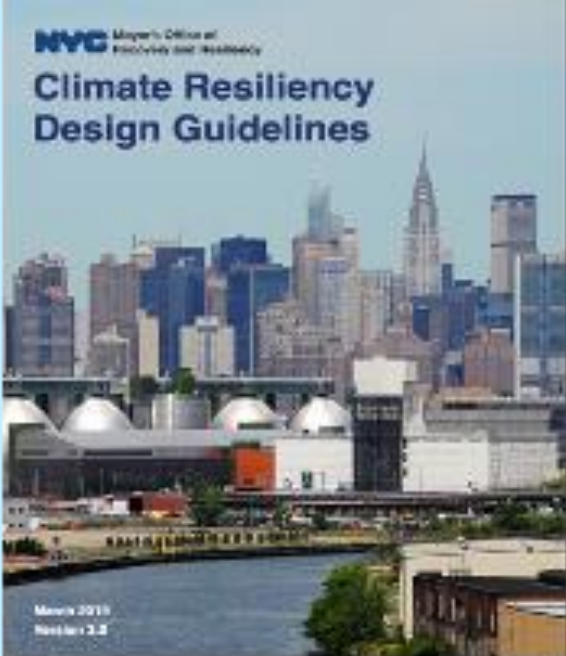


Figure 8. Graphic showing relationship of BFE, DFE & Freeboard

Design Elevations (all MHHW, Honolulu Tide Station) ¹				
NOAA RSLR Scenario	Intermediate		Intermediate High	
Year	2050	2100	2050	2100
MHHW ²	45 cm	131 cm	62 cm	205 cm
King Tide ³	19 cm	26 cm	19 cm	26 cm
Water Table ⁴	60.1 cm	60.1 cm	60.1 cm	60.1 cm
TOTAL	124.1 cm, 4.1 ft	217.1 cm, 7.1 ft	141.1 cm, 4.6 ft	291.1 cm, 9.6 ft

¹ Sileo et al. (2017) give three versions of each scenario corresponding to the 25th (low), 50th (medium), and 85th (high) percentile of the climate-related sea level projections consistent with the GMSL scenario. We use the 85th percentile due to low risk tolerance of community design.
² Relative to the year 2000.
³ 12 exceedances per yr.
⁴ Water table, 2-ft clearance to provide some dry depth.
 Table 2. Estimated sea level rise and king tide scenarios for Honolulu Tide Station at NOAA Intermediate & Intermediate-High scenarios.





DID YOU KNOW?

The NFIP refers to the Base Flood Elevation (BFE) for lowest floor elevation requirements, while the I-Codes and ASCE 24 refer to the Design Flood Elevation (DFE). The DFE will always be the BFE or higher. Additional height above the BFE is known as freeboard.

The NFIP, I-Codes, and ASCE 24 require the use of flood damage-resistant materials below the required lowest floor elevation (illustrated throughout this guide).

The historical response to erosion has been to armor the shoreline, which has led to beach loss and impacts to neighboring property.



End effects (“flanking erosion”)

Stabilized -
beach lost
land preserved

Unstabilized -
land lost
beach preserved

Avoidance: Coastal Setbacks



Certified Shoreline
(State-DLNR)

Coastal Setbacks
(Established by county)

Adaptation

Miami Beach, Florida

Miami Dade County Sea-level Rise Strategy



Florida’s Resilient Coastlines Program conceptual adaptation four-step planning process. Image Credit: FDEP, 2018.

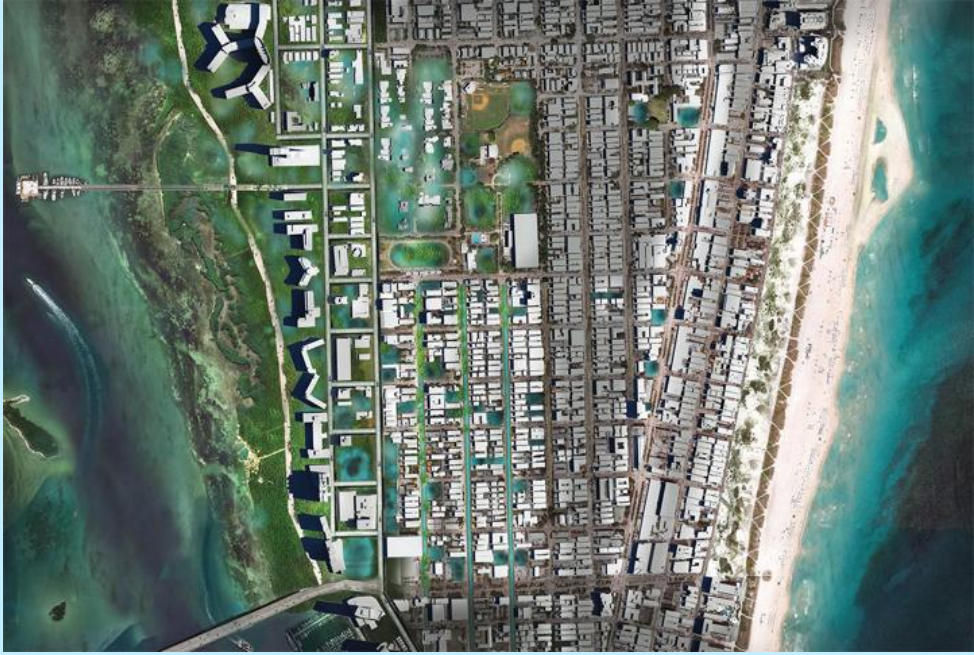
<https://miami-dade-county-sea-level-rise-strategy-draft-mdc.hub.arcgis.com/>

Accommodation

Miami Beach, Florida

MIAMI DROWNING

(Isaac Stein, University of Miami, 2015)



<https://www.vanityfair.com/news/photos/2015/11/miami-beach-rising-sea-levels-plan>

- Restored mangroves
- Raised walkways through mangroves
- Recreational waterways
- High rise towers sacrifice lower floors
- Raised roads
- Re-introduced trams
- Reduced reliance on automobiles

Adaptation Examples

Santa Cruz, California

West Cliff Drive



Adaptation Strategies Considered

- Emergency Armoring
- Coastal Recreation and Sand Backpass
- Protection Focused
- Managed Retreat

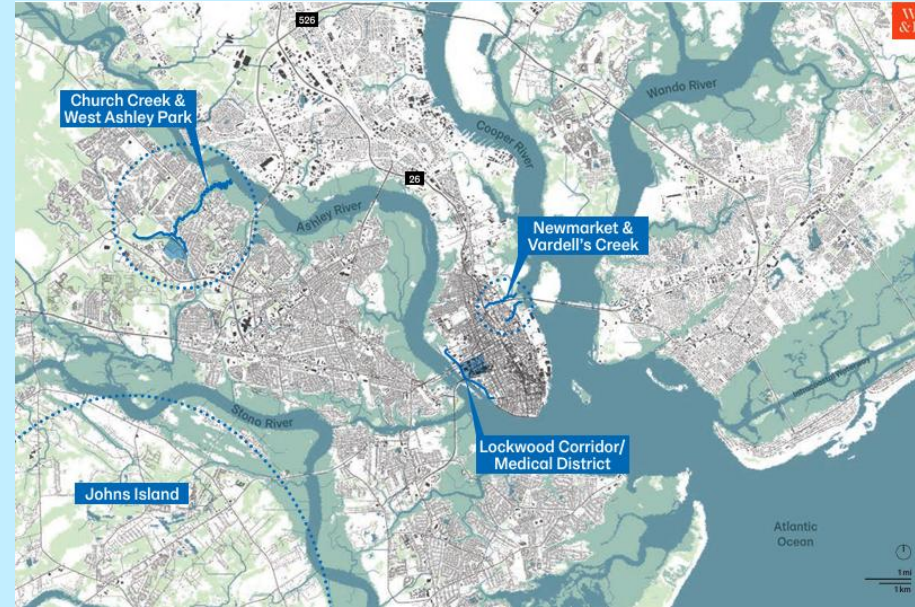


Adaptation Examples

Community Engagement

Charleston, South Carolina

“Dutch Dialogues”



Dutch Dialogues* Charleston

On May 1-2, 2019, the City of Charleston and the Historic Charleston Foundation hosted a Colloquium, the first public part of the Dutch Dialogues Charleston process. This document contains the Colloquium summary, key takeaways to guide the Dutch Dialogues Workshop in July 2019, and links to the Colloquium presentations.

For Dutch Dialogues history click [here](#), and for up-to-date Dutch Dialogues Charleston information visit dutchdialoguescharleston.org.



Acknowledgements

The Dutch Dialogues rely on the extensive collaboration of numerous experts, internationally, domestically and locally. Outside voices can challenge norms and suggest new opportunities to think differently about water, but ultimately the local eye is always required to connect ideas and ground them in place. For Dutch Dialogues Charleston, there are many leaders, funders, participants and advocates to thank for their contributions. The list is long and likely would be incomplete if itemized. Many hands are required to do this work.

The collaboration in leadership and funding from the Historic Charleston Foundation, The City of Charleston, The

Charleston Water System, the American Flood Coalition, the Medical University of South Carolina, and the Nature Conservancy, coupled with the team from Waggonner & Ball, The Water Institute of the Gulf, the Kingdom of the Netherlands and the many technical partners supporting those organizations, was essential. This includes the significant investment made by the Clemson Design Center in Charleston in hosting the event and engaging the students who will lead our resilient futures.

Thank you all so very much. This work would not happen without such strong collaboration.

Dutch Dialogues* Charleston
Grounded in Science. Driven by Design

The Charleston, SC “Dutch Dialogues” were a collaborative, multi-disciplinary effort in 2019 by local experts, government and community members to develop an integrated flood and stormwater management plan that incorporates key concepts of resiliency and economic vitality.

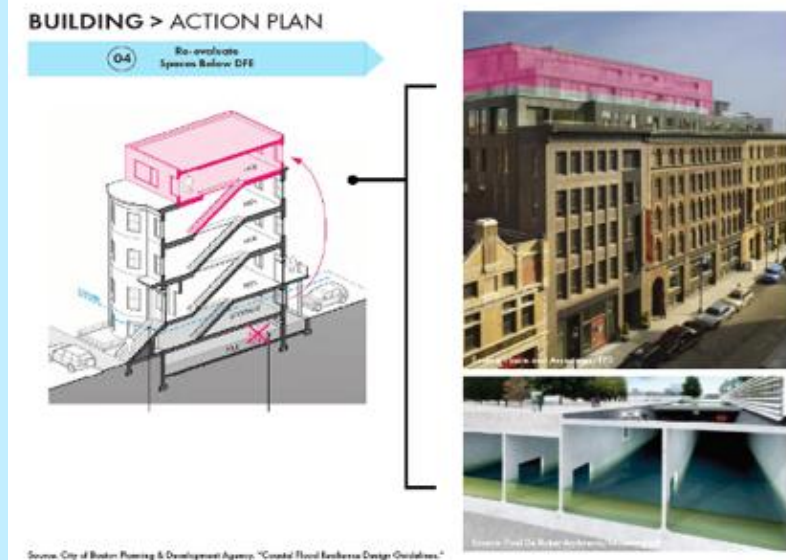
Accommodation

Boston, Massachusetts

Coastal Flood Resilience Design Guidelines

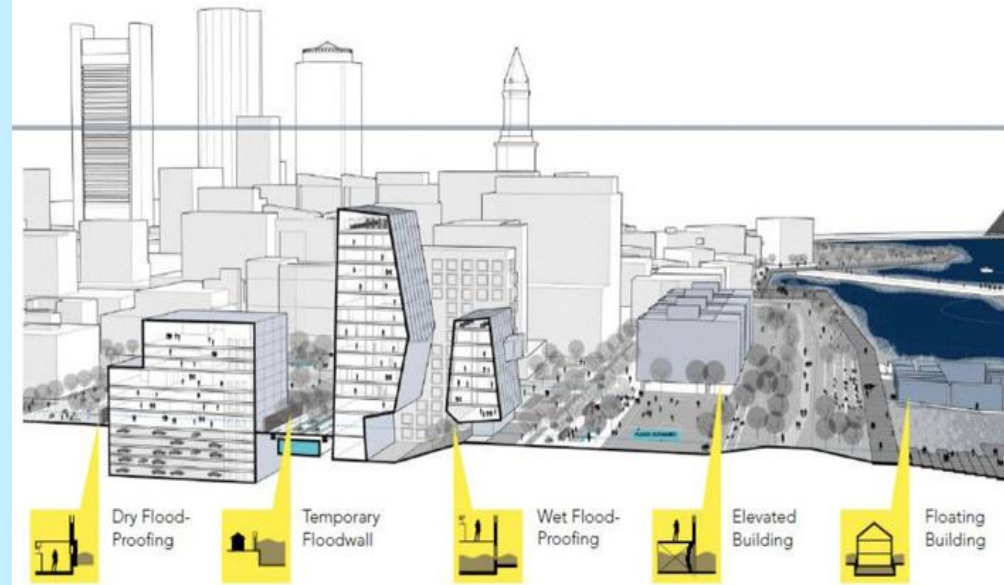


Figure 2. An example photo of a “Repurpose or Reuse Ground Floor Use” solution. Source: Boston Coastal Flood Resilience Design Guidelines.



BUILDING A NEW STANDARD IN BOSTON

BUILDINGS



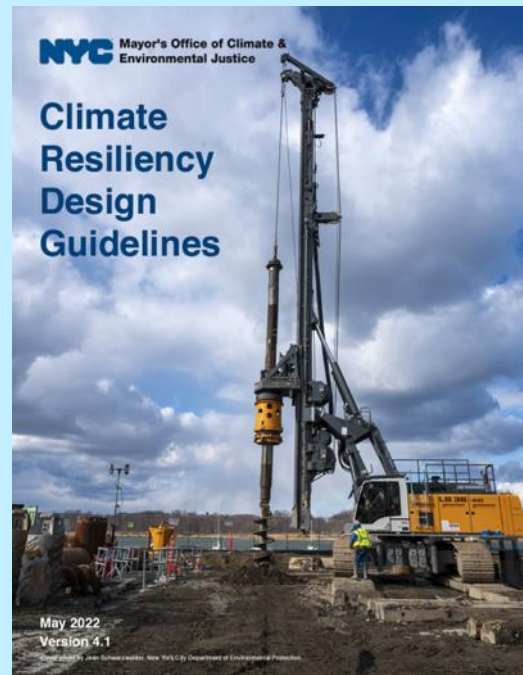
SETTING THE BAR: NEW ORLEANS, ROTTERDAM, SEOUL, PORTLAND



Case studies in Netherlands, Korean, Portland, and New Orleans for public space resiliency. Source: Sasaki Associates, Inc, 2014

Protection & Accommodation

New York



“If you wage war with water, you will lose.”

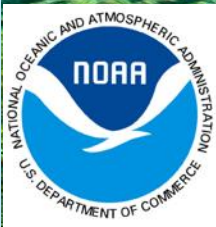


Manhattan, New York
The Big U, *Rebuild by Design*

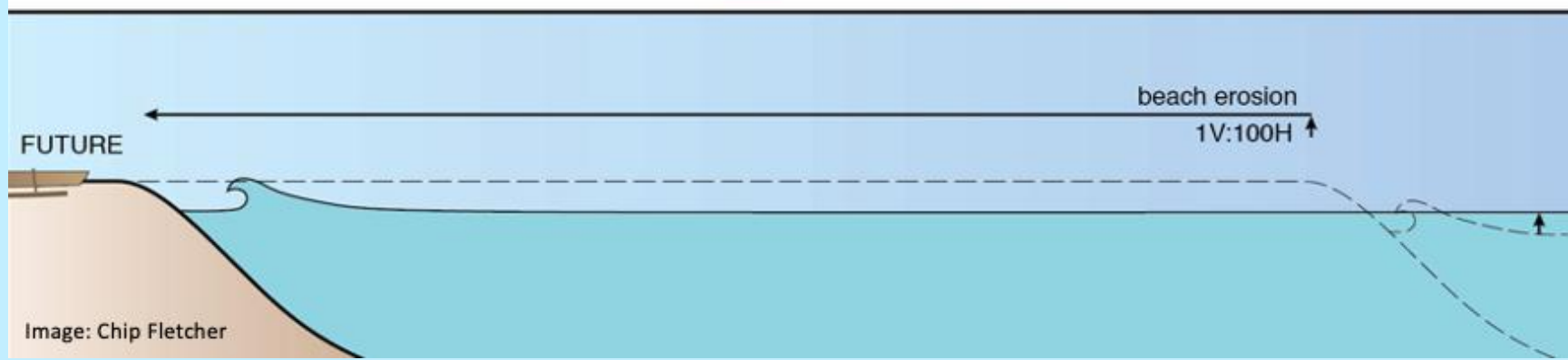
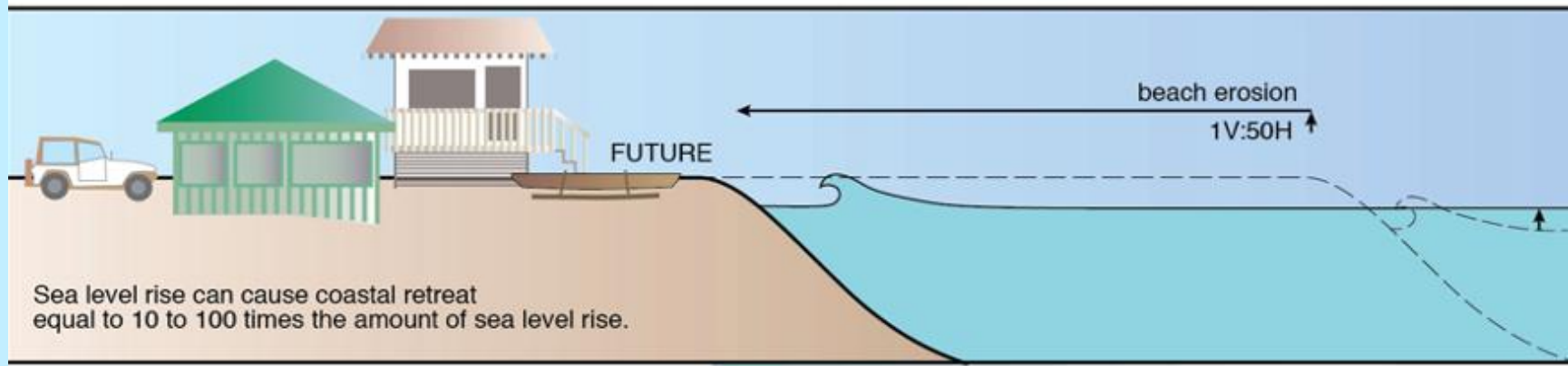


Aloha and Mahalo

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Adaptive Relocation (Managed Retreat)



NOAA DEFINITION:

“Managed retreat typically involves establishing thresholds to trigger the demolition or relocation of structures threatened by coastal hazards or sea level rise.”

https://web.archive.org/web/20150905055350/http://coastalmanagement.noaa.gov/initiatives/shoreline_ppr_retreat.html

Accommodation (Adapting In-place)



Waikīkī Special District



DESIGN GUIDELINES WAIKIKI SPECIAL DISTRICT



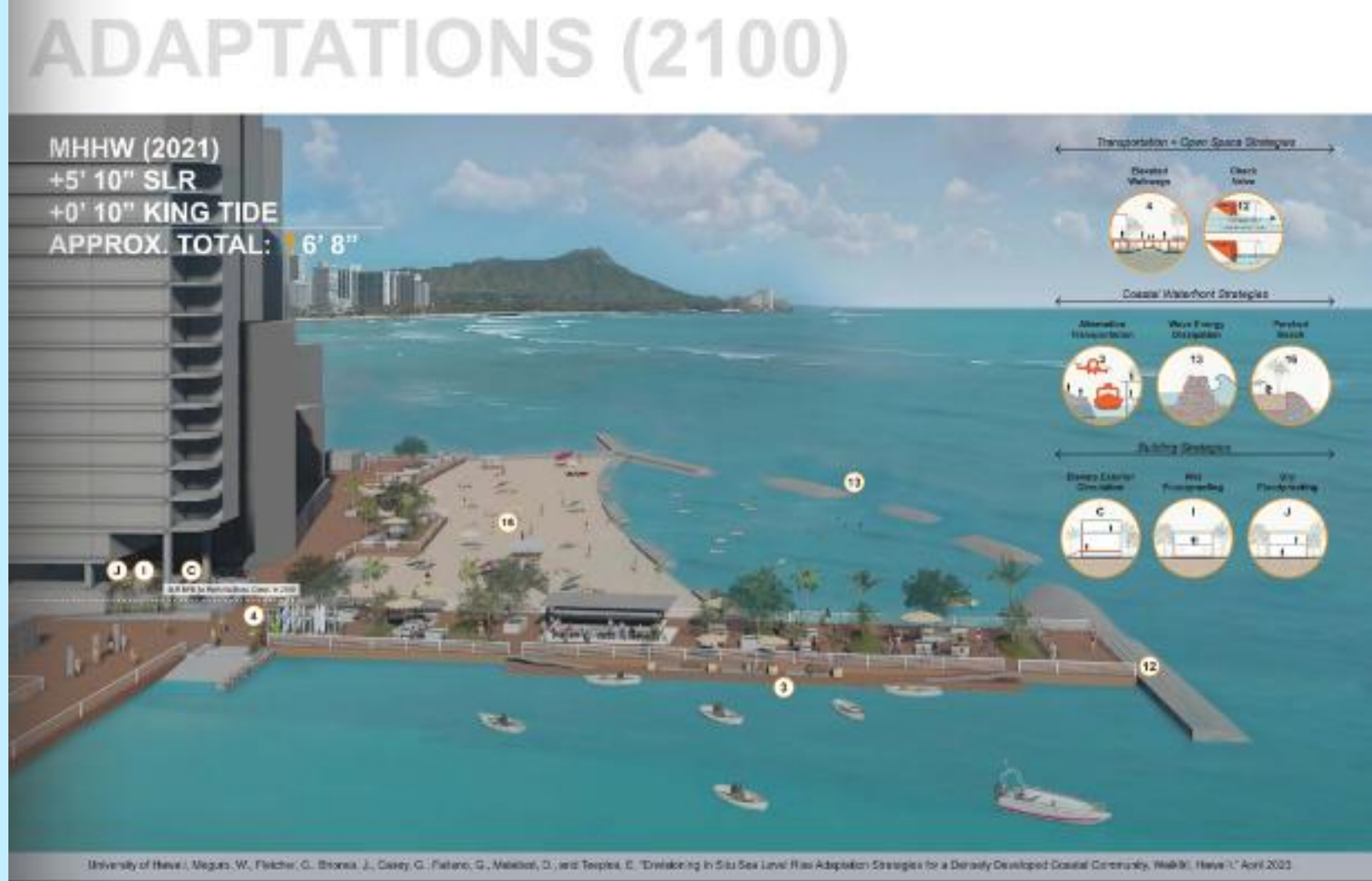
CITY & COUNTY OF HONOLULU
DEPARTMENT OF PLANNING AND PERMITTING
AUGUST 2021





Accommodation

(Design Interventions)



Envisioning *In Situ* Sea Level Rise Adaptation Strategies for a Densely Developed Coastal Community, Waikiki. April 2022.
<https://seagrant.soest.hawaii.edu/meguro-adapting-waikiki/#2022-mid-design>



Accommodation

(Design Interventions)

BUILDING > ACTION PLAN

04 Re-evaluate Spaces Below DFE

Source: City of Boston Planning & Development Agency, "Coastal Flood Resilience Design Guidelines."

Source: Paul O'Brien Architects/WordPress

"The City has adopted the 2012 International Building Code and International Residential Code, as incorporated into the Revised Ordinances of Honolulu Chapter 16.

The 2012 IBC requires new construction to be designed with one foot freeboard above current Base Flood Elevation in hazardous flood zones."

— City & County of Honolulu Climate Adaptation Design Principles for Urban Development

The American Institute of Architects (AIA) defines three key Mitigation Design concepts:

P

PROTECT

Robustly defend the building from the hazard and keep the hazard away.

Ac

ACCOMMODATE

Design for interaction with the hazard.

A

AVOID

Adjust the location within the site to reduce hazard exposure.

Adaptation Strategies Related to: BUILDINGS

Elevate on Open Foundation	Re-evaluate Spaces Below DFE	Wet Floodproofing
Elevate on Fill	Dry Floodproofing	Relocate Critical Systems
P — PROTECT		Ac — ACCOMMODATE
<p>Elevation Strategies</p> <ul style="list-style-type: none"> • Elevate on Open Foundation • Elevate on Fill 		<p>Wet Floodproofing</p> <p>Building w/ Flood-resistant Materials</p>
<p>Dry Floodproofing</p>		
<p>Relocate Strategies</p> <ul style="list-style-type: none"> • Re-evaluate Spaces Below DFE • Relocate Critical Systems 		



Accommodation

(Design Interventions)

BUILDING

At-grade Occupied Space(s)

Related Strategies:



OR

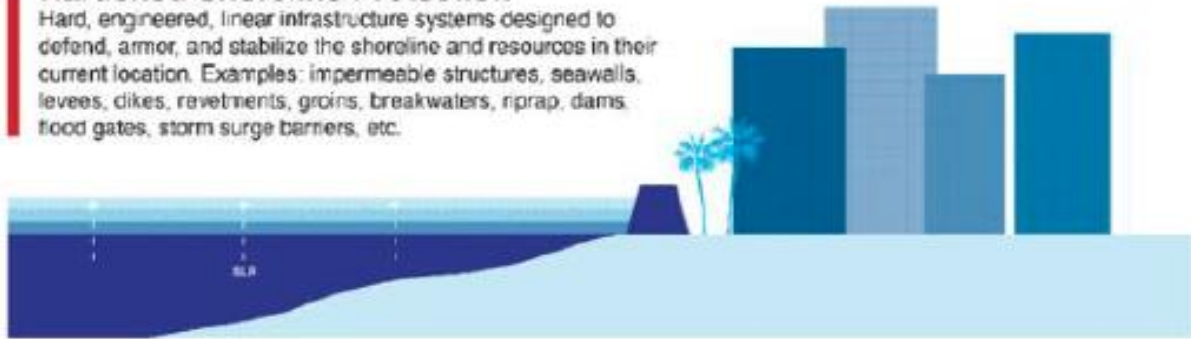


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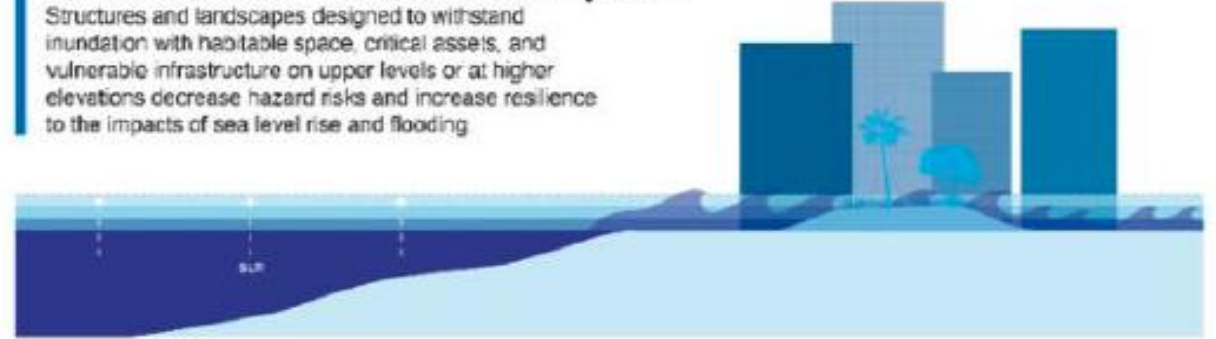
Hardened Shoreline Protection

Hard, engineered, linear infrastructure systems designed to defend, armor, and stabilize the shoreline and resources in their current location. Examples: impermeable structures, seawalls, levees, dikes, revetments, groins, breakwaters, riprap, dams, flood gates, storm surge barriers, etc.



Accommodation: Floodable Development

Structures and landscapes designed to withstand inundation with habitable space, critical assets, and vulnerable infrastructure on upper levels or at higher elevations decrease hazard risks and increase resilience to the impacts of sea level rise and flooding.



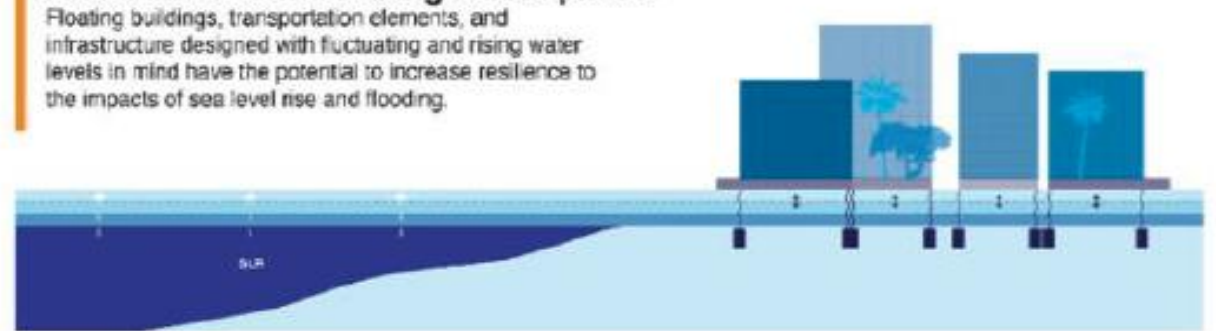
Nature-Based Adaptation and Living Shorelines

Soft blue-green infrastructure that relies on ecosystem services, increases the distance between water and development, retains and absorbs inundation, attenuates waves, slows erosion, provides habitat, and contributes to biodiversity. Examples: wetlands, tidal marshes, coral restoration, other living coastal buffers.



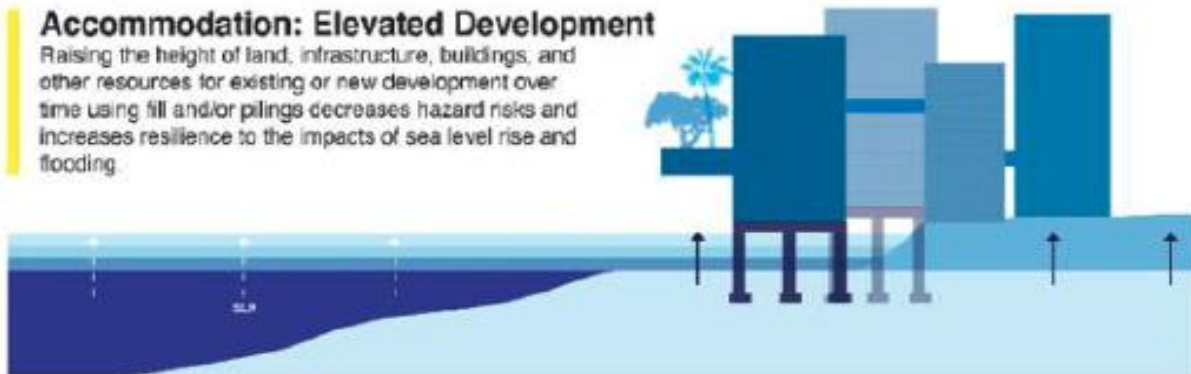
Accommodation: Floating Development

Floating buildings, transportation elements, and infrastructure designed with fluctuating and rising water levels in mind have the potential to increase resilience to the impacts of sea level rise and flooding.



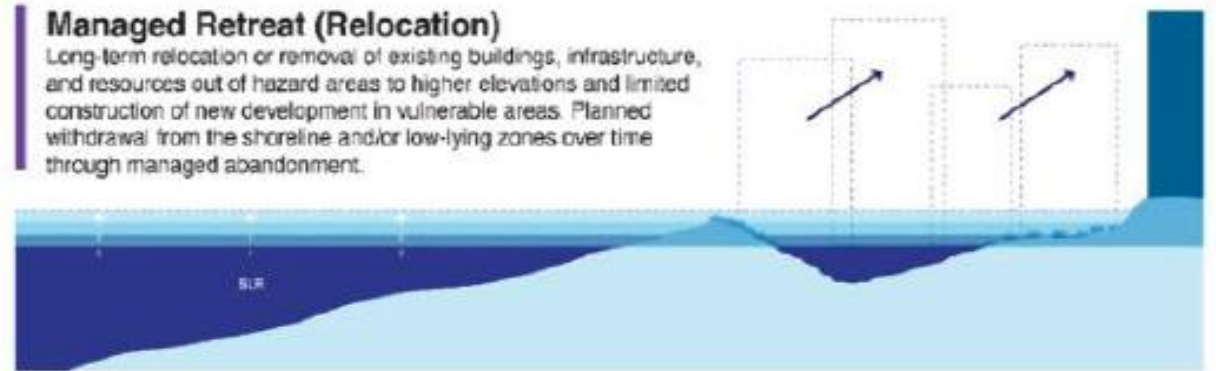
Accommodation: Elevated Development

Raising the height of land, infrastructure, buildings, and other resources for existing or new development over time using fill and/or pilings decreases hazard risks and increases resilience to the impacts of sea level rise and flooding.



Managed Retreat (Relocation)

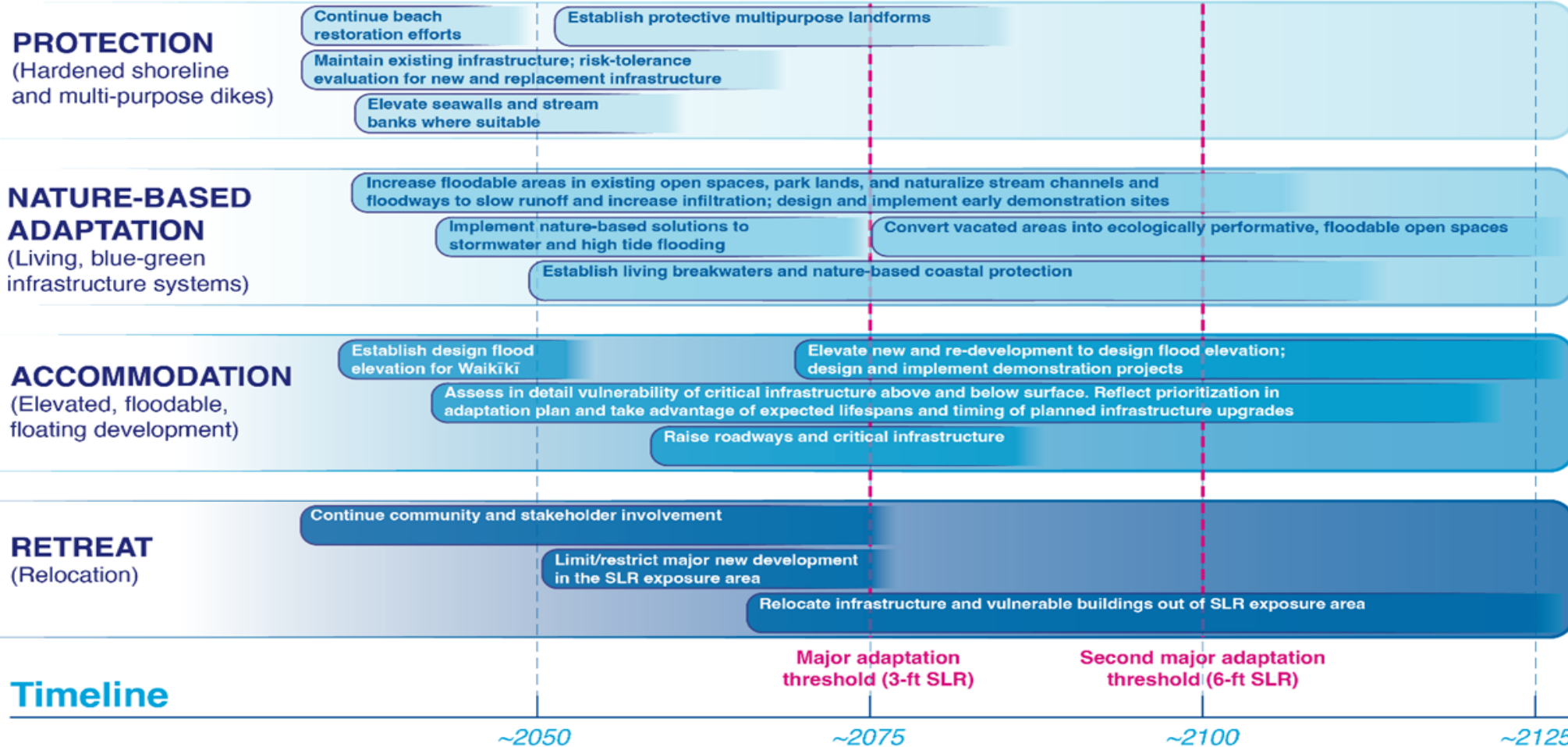
Long-term relocation or removal of existing buildings, infrastructure, and resources out of hazard areas to higher elevations and limited construction of new development in vulnerable areas. Planned withdrawal from the shoreline and/or low-lying zones over time through managed abandonment.



Waikīkī Resilience & Sea-Level Rise Adaptation Project (WRAP)

Preliminary Conceptual Adaptation Roadmap

Adaptation Strategies



Triggers*

- Near-term adaptation triggers:**
- Subsurface utilities saturation frequency exceeds tolerance levels.
 - Damage to subsurface utilities and transportation assets.
 - Beach restoration efforts in Waikīkī exceed the acceptable recurrence limits.
 - High tide and compound rain/tide flooding
 - Etc..
- Long-term adaptation triggers:**
- Flood frequency intolerable
 - Cost of accommodation exceeds relocation
 - Flood insurance premium increase
 - Disaster triggers (more than x times in x years)
 - Etc..
- A trigger initiates the process to a new pathway before a harmful adaptation-threshold is reached.
- *The triggers listed above are examples. Actual triggers to be determined during a subsequent project phase after adaptation pathways are established.

Adaptation References

U.S. and Abroad

1. ABC Waters, Design Guidelines. (2018). Singapore water Design Guidelines.
2. Boston Coastal Flood Resilience Design Guidelines, (Boston, 2019) *Climate Ready Boston*
3. Miami, 2021. February 2021. Miami Dade County Sea-level Rise Strategy. *Miami Dade County.*
4. New York Climate Resiliency Design Guidelines, (NYORR, 2020) .
5. Resilient Coasts California, Santa Cruz, California
6. Waggoner and Ball, 2019. The Dutch Dialogues, Charleston. City of Charleston

Honolulu

1. City & County of Honolulu Actions to Address Climate Changes and Sea Level Rise. (2018). Mayor's Directive 18-02
2. City & County of Honolulu. Climate Adaptation: Background Research, International Best Practices and Local Initiatives
3. City & County of Honolulu (C&C, 2020b). Climate Adaptation Design Principles for Urban Development. December, 2020. *City and County of Honolulu Transit Oriented Development.*
4. Climate Adaptation: Background Research, International Best Practices and Local Initiatives (2020).
5. O'ahu Resilience Strategy City and County of Honolulu, Office of Climate Change Sustainability and Resiliency. (2019).
6. Climate Change and Sea-Level Rise. *Honolulu Primary Urban Center Development Plan Update.* (2020).
7. City and County of Honolulu Climate Change Commission (2018). Climate Change Brief.
8. 2022 updated Sea Level Rise Guidance from the Honolulu Climate Change Commission

Hawaii

1. HAWAII MANAGED RETREAT STRATEGIES FOR VULNERABLE COASTAL AREAS IN HAWAI'I (2019)
2. State Regional Shoreline Management Plan

Climate Change References

Hawaii, U.S. and International

1. [The Intergovernmental Panel on Climate Change \(IPCC\) 6th Assessment](#)
2. [U.S. Fifth National Climate Assessment](#)
3. [U.S. Fifth National Climate Assessment \(Hawaii and Pacific Island Chapter\)](#)
4. [U.S. Interagency Sea Level Rise Scenario Tool](#)
5. [U.S. Interagency Global and Regional Sea Level Rise Scenarios \(Report\)](#)
6. [Honolulu Climate Ready Oahu](#)
7. [Oahu Climate Action Plan \(2020-2025\)](#)
8. [Hawai'i Sea Level Rise Vulnerability and Adaptation Report](#)
9. [Hawai'i Sea Level Rise Viewer](#)

Think Tank Events

PROJECT WEBSITE



As part of the preliminary research and analysis phases of the project, UH CDC hosted a series of "Think Tank" panel discussions aimed at soliciting subject expert input and identifying additional project needs and considerations that will inform subsequent WRAP scope of work items.

<https://www.uhcdc.manoa.hawaii.edu/work/wrap>

Keywords: "Waikiki, Resilience, Adaptation, Project"

<p>Waikīkī Resilience & SLR Adaptation Project [WRAP]</p> <p>THINK TANK #1 CHRIS REED Founding Director, STOGS Tuesday, January 24, 2023, 10 AM - 12 PM School of Architecture, Room 312</p>	<p>Waikīkī Resilience & SLR Adaptation Project [WRAP]</p> <p>THINK TANK #2 WATER LEVEL ASSUMPTIONS Dr. Chip Fletcher, UH Mānoa School of Ocean & Earth Science & Technology Dr. Kristina Hill, UC Berkeley College of Environmental Design Leah Laramée, Hawai'i Climate Change Mitigation & Adaptation Commission Alexander Yee, Office of Climate Change, Sustainability, and Resilience Monday, September 18, 2023, 2:00 PM - 3:30 PM Virtually, via Zoom</p>	<p>Waikīkī Resilience & SLR Adaptation Project [WRAP]</p> <p>THINK TANK #3 NATIVE HAWAIIAN SOCIO-ECOLOGICAL CONSIDERATIONS Keone Downing, Waterman, Surfer, Owner of Downing Hawai'i Justine Kihipani, OPSD/Hawaii Coastal Zone Management Program Dr. Kamika Winter, UH Mānoa, Biocultural Initiative of the Pacific Dr. Kawileu Wright, UH Mānoa, Kamehameha Center for Hawaiian Studies Monday, November 6, 2023, 1:00 PM - 2:30 PM Virtually, via Zoom</p>	<p>Waikīkī Resilience & SLR Adaptation Project [WRAP]</p> <p>THINK TANK #4 COMMUNICATING LONG-TERM RETREAT: SPATIAL AND TEMPORAL SCALES Laura Durgerian, Senior Associate, Mithun WRAP Team Discussants Monday, November 6, 2023, 1:00 PM - 2:30 PM Virtually, via Zoom</p>
<p>AGENDA</p> <ol style="list-style-type: none">1) Introductions2) WRAP goals and status3) Learning about...a) STOGS experience with coastal resilience workb) Background, development, and implementationc) Coastal Resilience Solutions for Sand Beaches and Overbeaches4) Identify WRAP needs and considerations	<p>AGENDA</p> <ol style="list-style-type: none">1. Welcome and introductions2. State and City & County SLR guidance3. UHM SOEST climate and SLR models4. San Francisco Bay Area SLR research5. Panel discussion (WRAP-organized/asked long-term water level assumptions)6. Q & A and next steps	<p>AGENDA</p> <ol style="list-style-type: none">1. Welcome and introductions2. GRMP process and outcomes3. Parallel presentations4. Panel discussion5. Q & A, talk story, and next steps	<p>AGENDA</p> <ol style="list-style-type: none">1. Welcome and introductions2. Laura Durgerian presentation3. Guided discussion4. Participant Q & A5. Next steps

<https://www.uhcdc.manoa.hawaii.edu/work/wrap>

Stakeholder and Community Outreach Events.

PROJECT WEBSITE



<https://www.uhcdc.manoa.hawaii.edu/work/wrap>

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Waikīkī
Resilience & SLR Adaptation Project [WRAP]

WAIKĪKĪ STAKEHOLDER MEETING
ENVIRONMENTAL & SOCIAL-CULTURAL FOCUS

Monday, December 4, 2023, 10:00 AM - 11:30 AM

Virtually, via Zoom
Register for the meeting [here](#).

You are invited to participate in this invitation-only stakeholder meeting for the Waikīkī Resilience and Adaptation Project. This meeting will provide an opportunity to ask questions and share your community values and concerns for the future of Waikīkī.

Share your mana'o on how to best protect and restore the natural and cultural resources of Waikīkī as part of the development of a long-range resilience and adaptation plan.

For more project information visit our project [website](#).
UHDCD.WRAP@gmail.com | 808.956.4704

Waikīkī
Resilience & SLR Adaptation Project [WRAP]

COMMUNITY OUTREACH & PROJECT BRIEFING

Monday, December 11, 2023, 11:00 AM - 12:30 PM

Ala Wai Golf Course Clubhouse, 2nd floor
404 Kapahulu Ave, Honolulu, HI 96815
and virtually, via Zoom

Are you concerned about climate change impacts to Waikīkī?
Are you interested in the future of Waikīkī as a resilient community?

You are invited to participate in the first community outreach meeting for the Waikīkī Resilience and Adaptation Project. This meeting will introduce the project and provide an opportunity to ask questions, share your community values and concerns for the future of Waikīkī.

Waikīkī
Resilience & SLR Adaptation Project [WRAP]

WAIKĪKĪ STAKEHOLDER MEETING
BUSINESS & GOVERNMENT FOCUS

Thursday, December 14, 2023, 10:00 AM - 11:30 AM

Virtually, via Zoom
Register for the meeting [here](#).

You are invited to participate in this invitation-only stakeholder meeting for the Waikīkī Resilience and Adaptation Project. This meeting will provide an opportunity to ask questions and share your expertise and vision for the future of Waikīkī.

Share your thoughts and ideas as part of the development of a long-range resilience and adaptation plan for Waikīkī.

For more project information visit our project [website](#).
UHDCD.WRAP@gmail.com | 808.956.4704

December, 2023

<https://www.uhcdc.manoa.hawaii.edu/work/wrap>

Participatory Visioning

PROJECT WEBSITE



<https://www.uhcdc.manoa.hawaii.edu/work/wrap>

Keywords: "Waikiki, Resilience, Adaptation, Project"

The image displays two posters for the Waikiki Resilience & SLR Adaptation Project (WRAP). Both posters feature the UH CDC and Sea Grant logos at the top. The left poster is titled "Waikiki Resilience & SLR Adaptation Project [WRAP]" and "Help Us Imagine The Waikiki Of The Future [RIDGE TO REEF SCALE]". It is for "DESIGN CHARRETTE #1" on Friday, February 23, 2024, from 2:00 - 3:30 PM at Ala Wai Community Park (Boathouse), 2015 Kapiolani Boulevard, Honolulu, HI 96826. The right poster is also titled "Waikiki Resilience & SLR Adaptation Project [WRAP]" and "Help Us Imagine The Waikiki Of The Future [NEIGHBORHOOD SCALE]". It is for "DESIGN CHARRETTE #2" on Monday, March 4, 2024, from 1:00 - 2:30 PM at Ala Wai Golf Course Clubhouse, 2nd floor, 404 Kapahulu Avenue, Honolulu, HI 96815. Both posters include contact information for more project information: visit our project website, UH CDC WRAP@gmail.com | 808.958.4704. Logos for the State of Hawaii Office of Planning and Sustainable Development and the Hawaii CZM Program Coastal Zone Management are at the bottom.

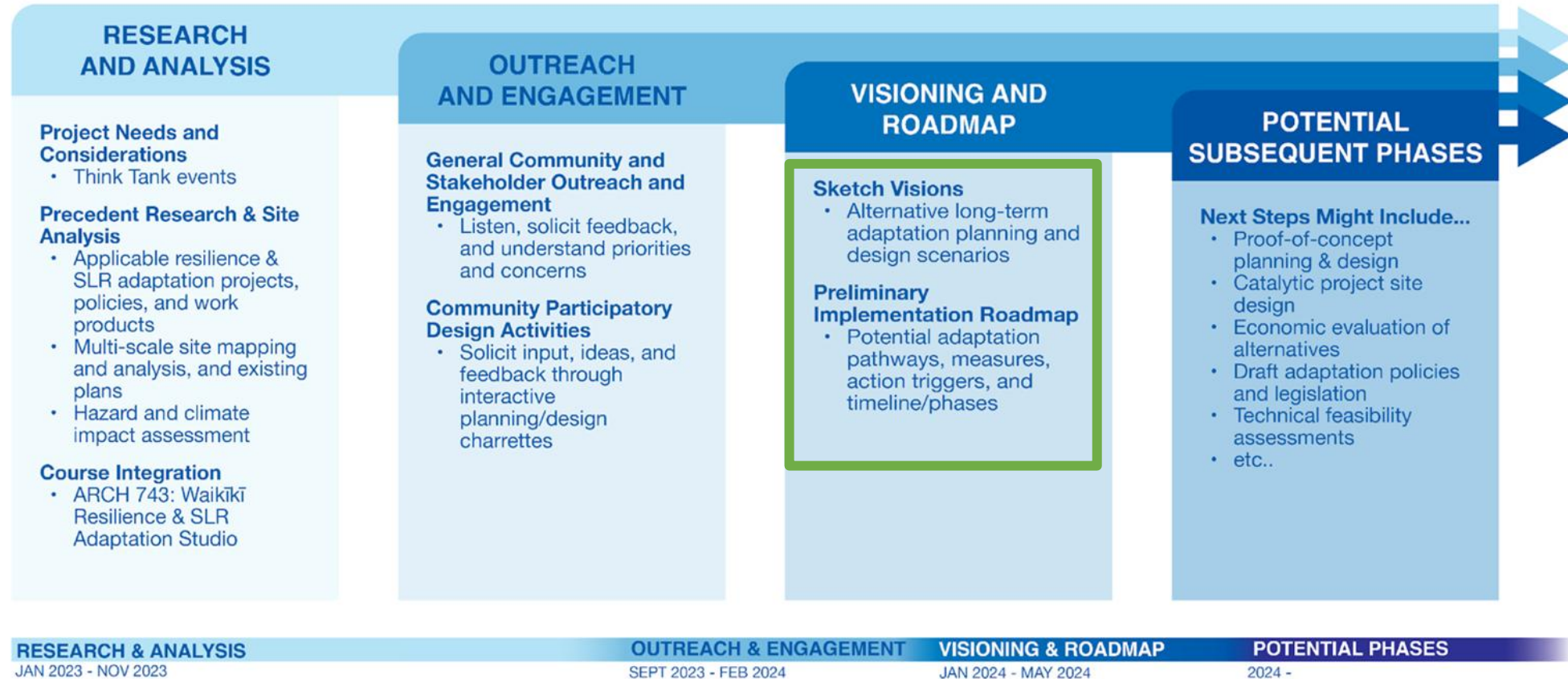
February-March, 2024

<https://www.uhcdc.manoa.hawaii.edu/work/wrap>

Community Feedback

Waikīkī Resilience & Sea Level Rise Adaptation Project (WRAP)

- 01 Agenda
- 02 Introduction
- 03 Background
- 04 Survey
- 05 Q & A



Coastal Armoring-Emergency



Sunset Beach, Oahu, Winter 2020

Accommodation vs Chronic Erosion

