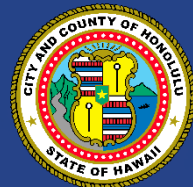




Climate Ready O'ahu

Climate Adaptation Planning



City and County of Honolulu
Office of Climate Change, Sustainability and Resiliency

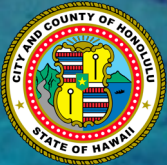


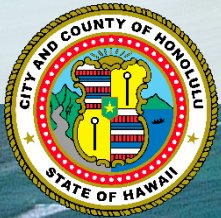
*Hawai'i Congress of Planning Officials
October 20, 2020*



We are dumping 110 million tons of manmade global warming pollution into the atmosphere every 24 hours.

Data: Intergovernmental Panel on Climate Change





Planning for HI's Climate Change Adaptation

2017

- [We Are Still In](#), Paris Climate Agreement
- [Act 32 \(2017\)](#), State Climate Change Mitigation and Adaptation [Commission](#)
- [Chicago Climate Charter](#)
- [Clean Transportation Commitment](#)
- State Sea Level Rise Vulnerability and Adaptation [Report and Data Viewer](#)

2018

- City Climate Change Commission [Brief and Guidance](#)
- [Directive 18-2](#), Climate Change and Sea Level Rise
- [Act 15 \(2018\)](#), State Carbon Neutrality Law (plus 100% Renewable in the Electricity Sector)
- [Res 18-221](#), 100% Renewable, Carbon Neutral Economy, Implement 2018 Global Climate Action Summit Goals

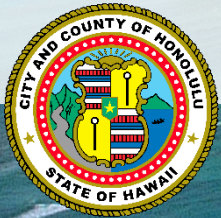
2019

- [City GHG Inventory](#)
- Climate Resilience added as Mayor priority
- [Resilience Strategy](#) released
- [Res 19-233](#), Resilience Strategy as City guiding policy
- [Res 19-283](#), Fossil Fuel Litigation
- [Multiple bills and ordinances](#)

2020

- [Multiple bills and ordinances](#)
- [Directive 20-14](#), Community Heat and Community Forestry
- [Hawai'i 2050 Sustainability Plan update](#)
- [Act 16 \(2020\)](#), Relating to Coastal Zone Management





Planning for HI's Climate Change Adaptation

2.1 - Planning and Implementation Structure

honoluluodpp.org/Portals/0/pdfs/planning/NB_Guide_Sept_2015.pdf

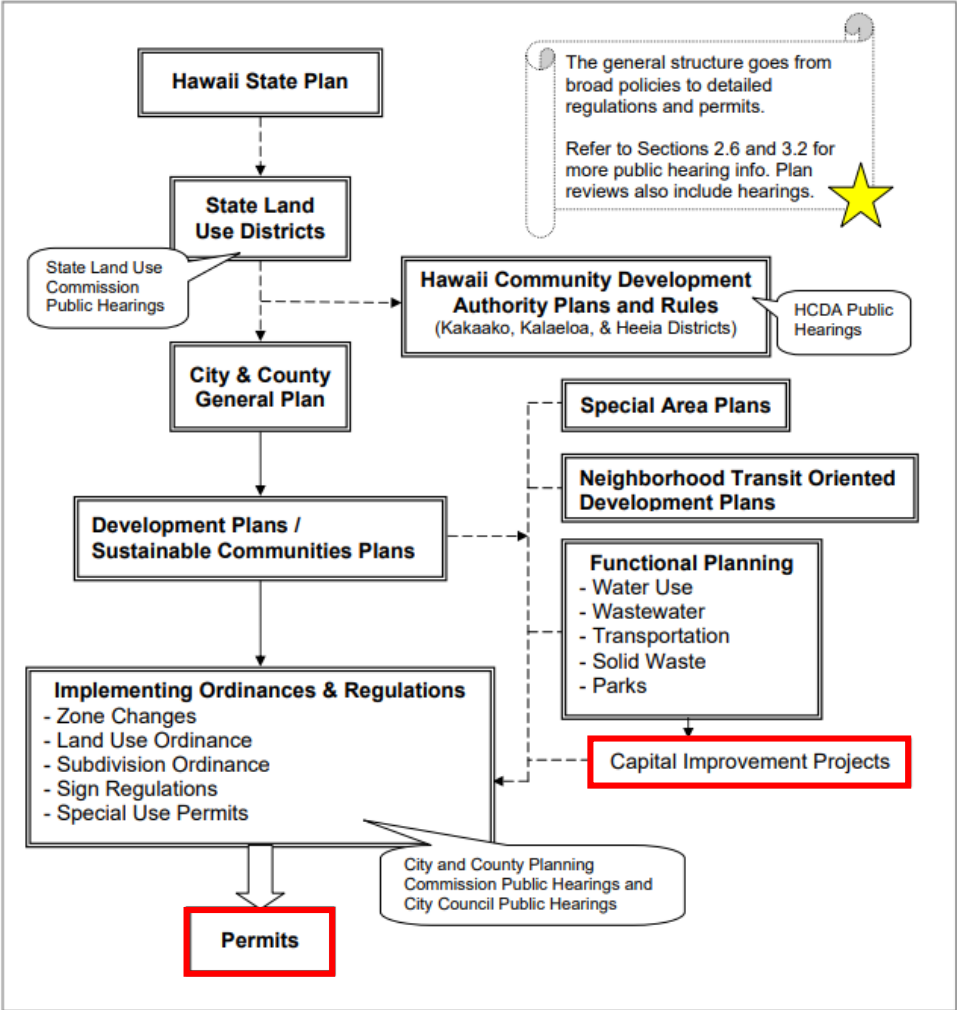
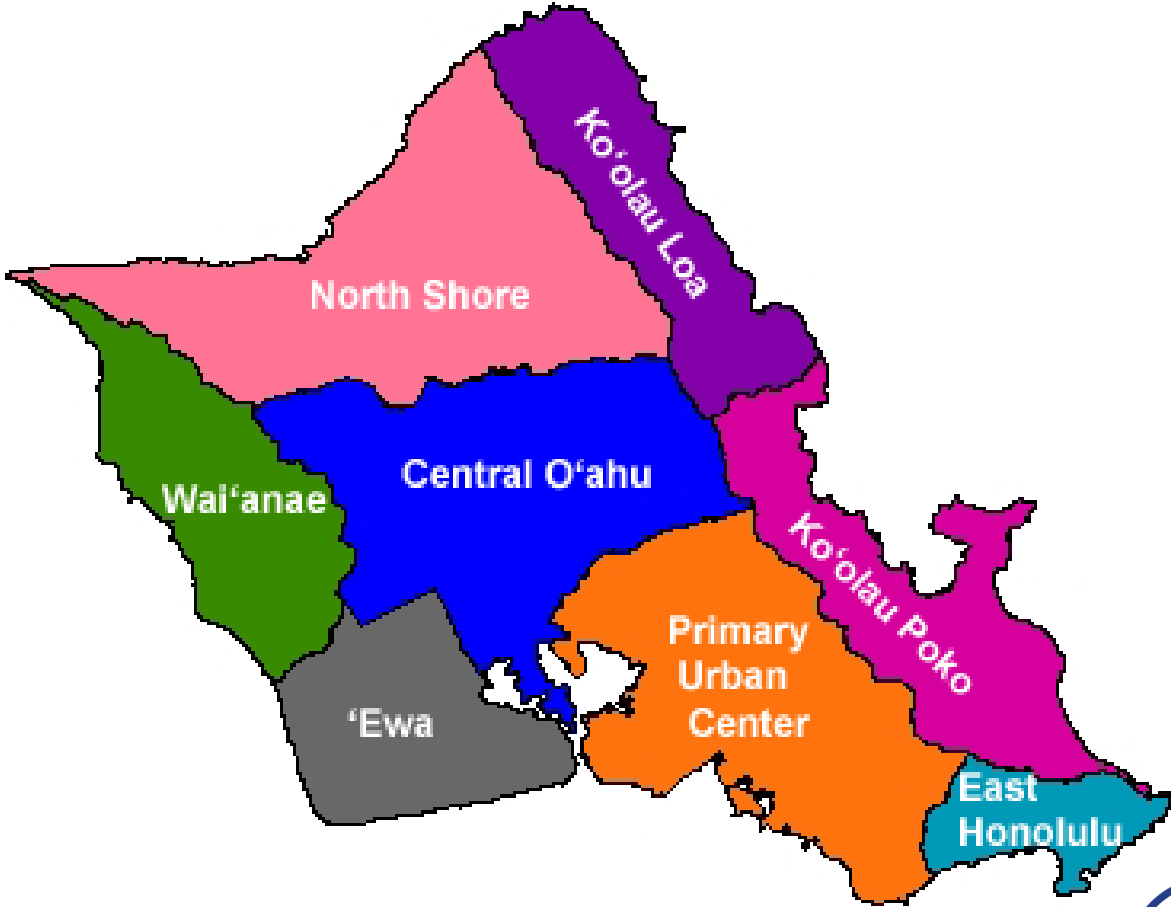
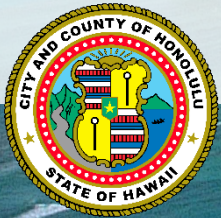


Figure 1 – Basic Components of Planning in Oahu



honoluluodpp.org/Planning/DevelopmentSustainableCommunitiesPlans





Climate Change Commission

Science for Local Decisions

CLIMATE CHANGE BRIEF

Summary of measured and expected impacts to O'ahu

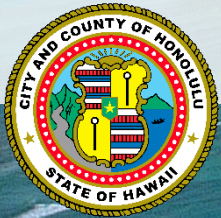
SEA LEVEL RISE GUIDANCE

3.2 feet rise by 2100 (80 years)

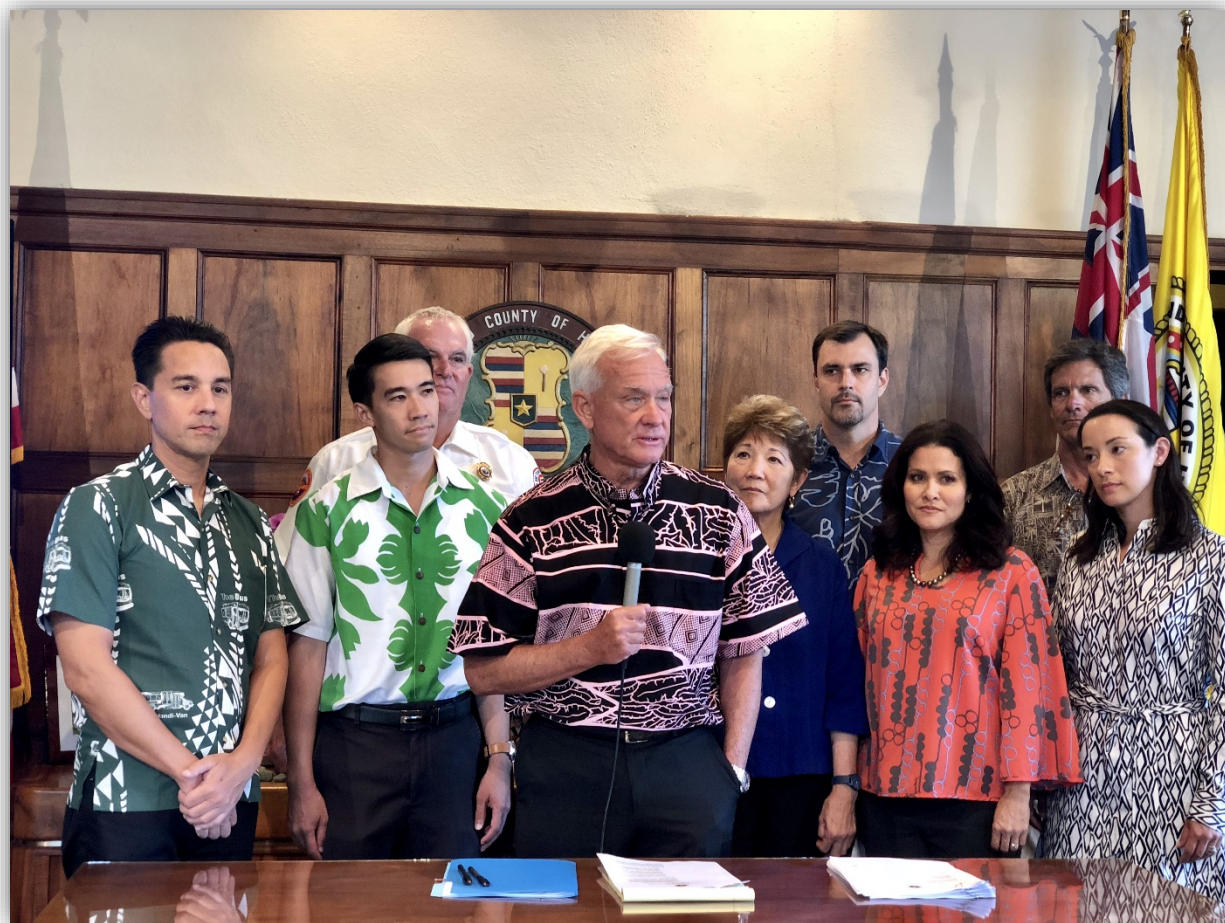
Periodic flooding by mid-century (30 years)

6.0 feet as planning benchmark for critical facilities





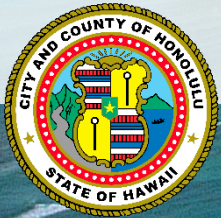
Mayor's Directive 18-2



July 16, 2018 Climate Change and Sea Level Rise

Mayor Caldwell issued an executive order in response to guidance issued by the City's Climate Change Commission.





DPP Primary Urban Center Development Plan

- Land Use & Zoning Recommendations
- Use of Data
- Community Engagement – 16 Pop-ups



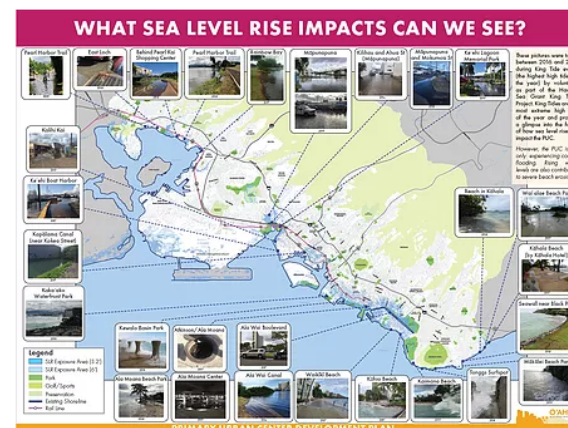
HOME ABOUT

SEA LEVEL RISE STRATEGIES SURVEY >

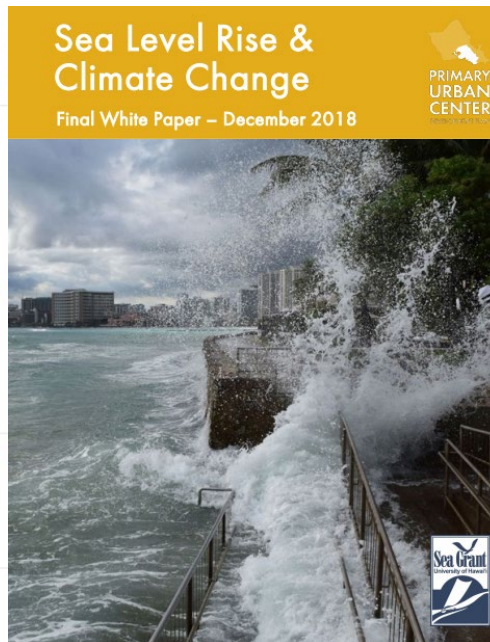
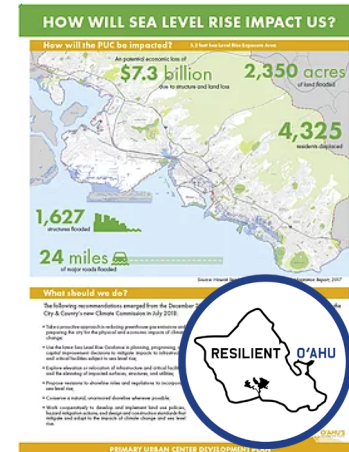
In late 2017 the State issued the Hawai'i Sea Level Rise Vulnerability and Adaptation Report which defined areas of exposure (SLR-XA) to the combined factors of sea level rise, wave action, and coastal erosion. Subsequently, Honolulu's Climate Change Commission issued Sea Level Rise Guidance that recommends a planning benchmark of 3.2' of sea level rise projected by the end of the century (however high tide flooding can appear decades earlier), and planning for up to 6' of sea level rise for long-life projects and critical infrastructure.

An important new component of the PUC DP is the incorporation of Sea Level Rise and Climate Change planning concepts and recommendations. **Please take time to complete our online survey below**, which includes an overview of some of the recognized approaches to sea level rise adaptation and asks participants to indicate which ones are favored as a potential response to this challenge. We value this input as a way to inform the ongoing planning process.

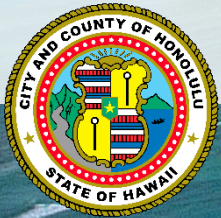
Take the Sea Level Rise Survey!



Interactive exercises available at our pop-ups and through the online survey

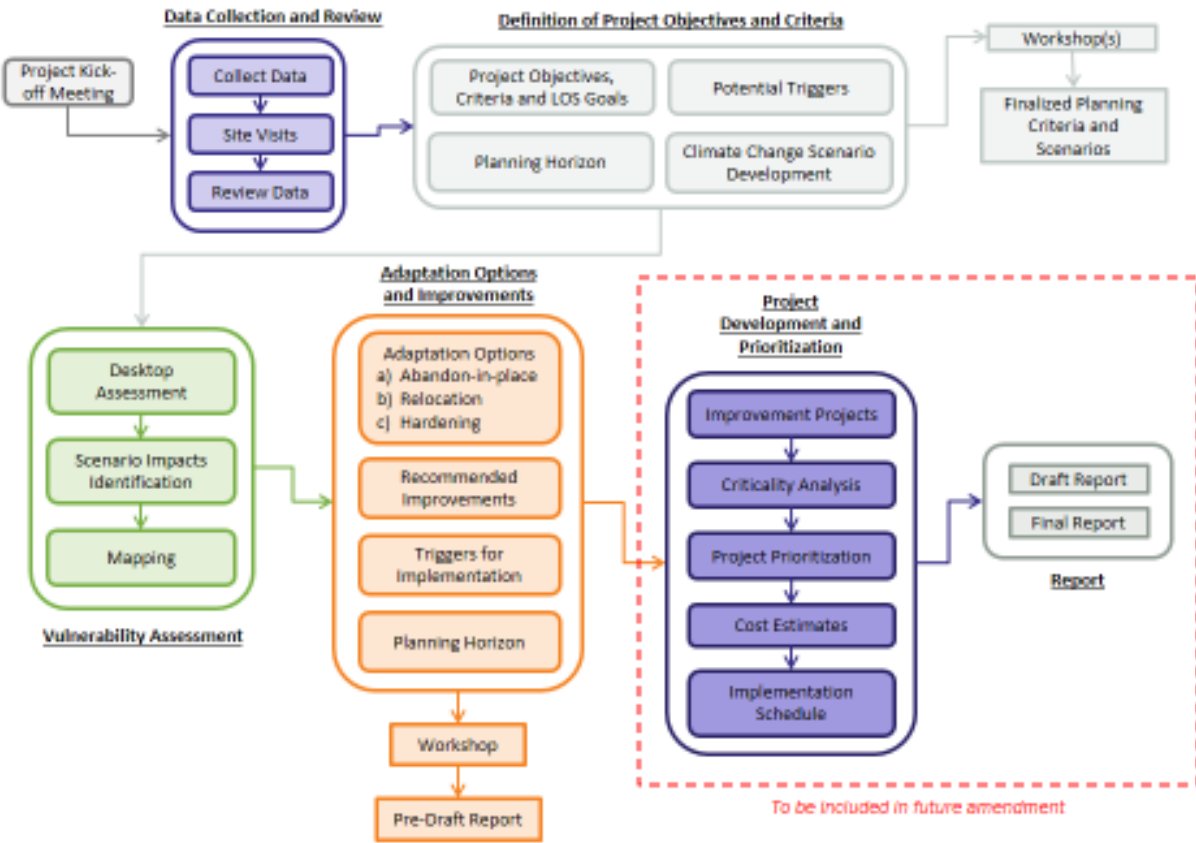


www.pucdp.com, puc_hnl (IG) & @HonoluluPUCDP (FB)



Environmental Services WW Facilities Planning

Waianae Fac Plan Climate Change Evaluation - Work Process and Flow Diagram



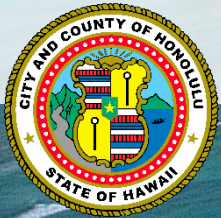
Preliminary Impact Results for the Proposed Scenarios

Asset	Sea Level Rise (SLR) = 3.2'			SLR = 6'	FEMA 100-year Flood
	Passive Flooding	Annual High Wave Flooding	Coastal Erosion	Passive Flooding	
Waianae WWTP	-	-	-	-	X
Lualualei WWPS	-	X	X	-	X
Nanakuli WWPS	-	-	-	-	X
Pipelines	15,000 LF	47,000 LF	16,000 LF	41,000 LF	63,000 LF
	3%	11%	4%	9%	14%

- The table provides the assets identified during preliminary analysis as potentially impacted by the listed SLR scenarios and associated hazards
- The WWTP and WWPSs are identified as either potentially impacted ("X") or not impacted ("-")
- For pipelines, the total linear footage (LF) and percentage that is potentially impacted is provided

Brown and Caldwell



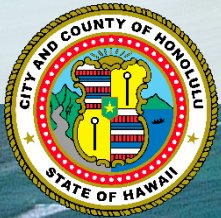


DPP Shoreline Regulations and Rules



Resilience Strategy Action 29:
Protect Beaches and Public Safety
With Revised Shoreline Management Rules





Climate Ready O'ahu



Learn Participate Connect

climateredyoahu.org

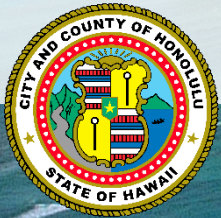
E komo mai and mahalo for charting a course toward a **Climate Ready O'ahu**

What is the climate adaptation strategy?

Resilience Strategy Action 28:

Chart a Climate Resilient Future
By Creating and Implementing
A Climate Adaptation Strategy

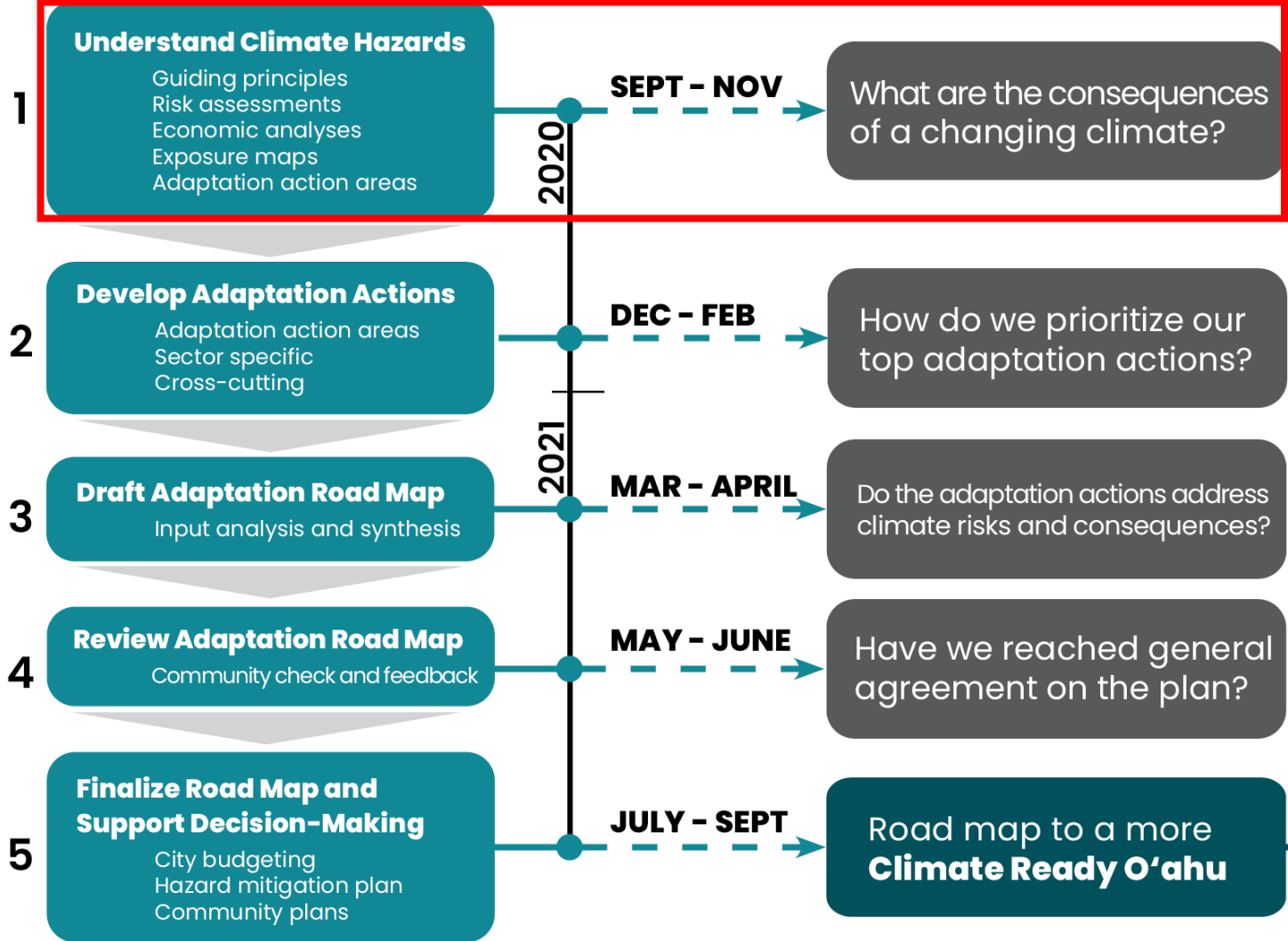




Timeline toward a Climate Ready O'ahu

Phase and Topics

Timeframe and Key Questions



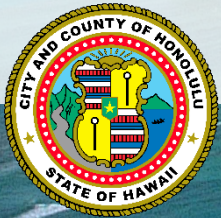
Tasks

- Climate Risk Assessment
 - Identify risks and understand exposure
 - Analyze and evaluate risks
 - Economic analysis
 - DP/SCP Climate Change Impacts Briefs (8)
- Adaptation Action Areas (5)
 - Sector-specific adaptation strategies
 - Cross-cutting adaptation strategies
- Recommendations for Decision-Making Alignment

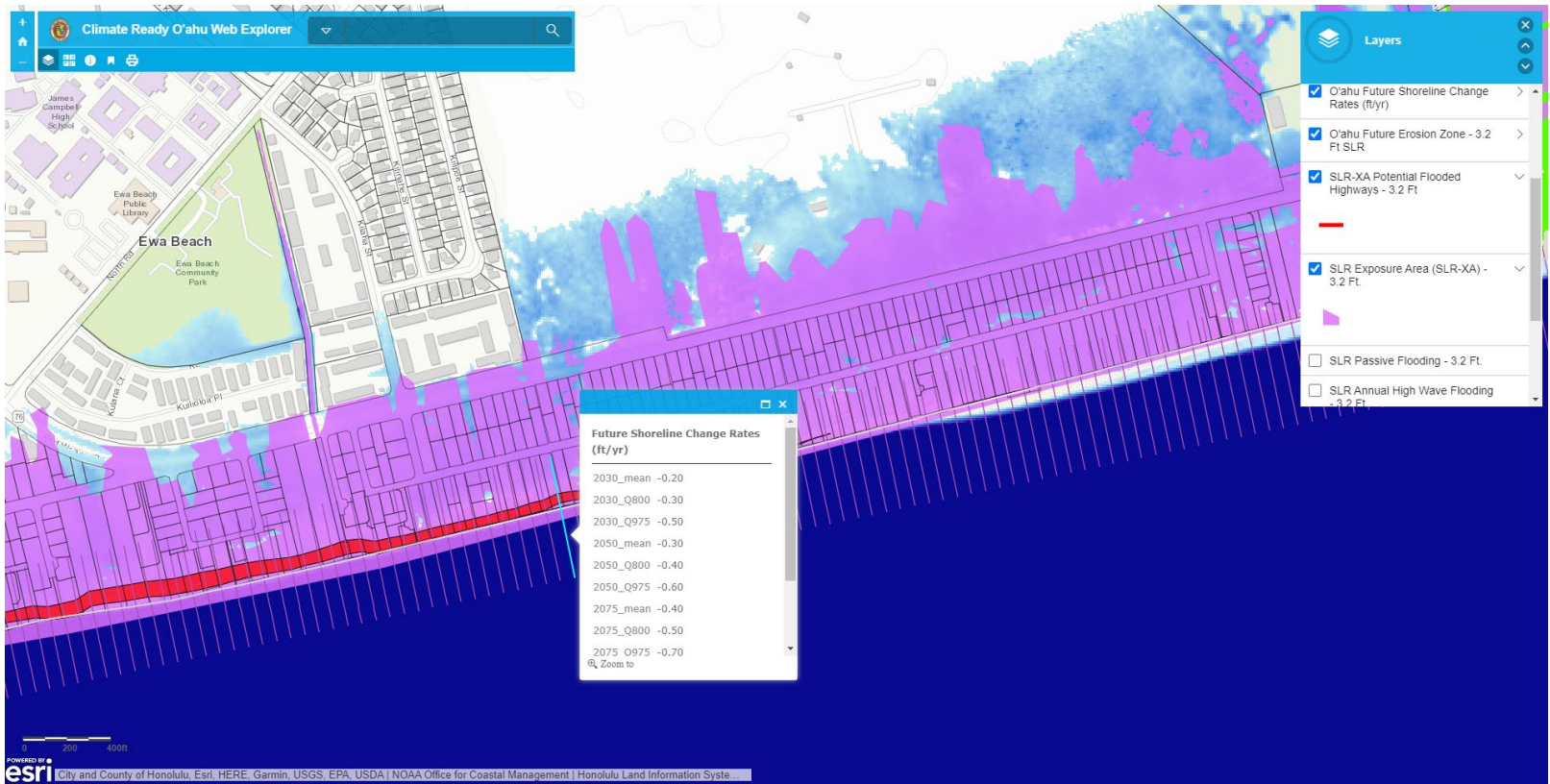
Towards a *Climate Resilience and Hazard Mitigation Plan*

climatereadyoahu.org





Mayor's Directive 18-2 | Climate Adaptation



Climate Ready O'ahu Web Explorer

Current Layers

- SMA
- TMKs
- Community Plan Areas
- Historical and Future Shoreline Change Rates
- State 3.2' SLR-XA, component hazards, and flooded highways
- O'ahu DFIRM
- NOAA 6' SLR
- Heat Index Afternoon
- Tree Canopy - Land Cover (2010)

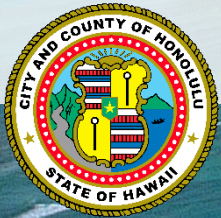
Additional Potential Layers

- Beach/dune geology
- "Future V Zone"
- Tsunami Zones
- Tree Inventory/Citizen Forester Data

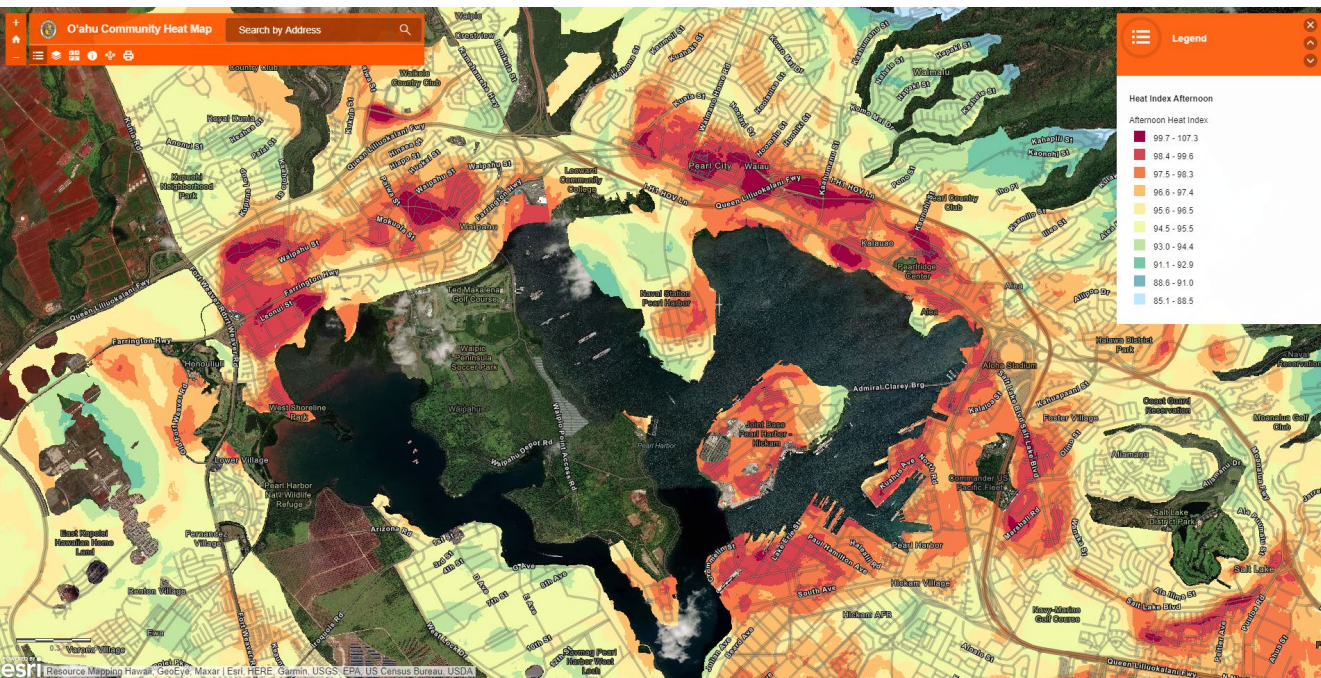
bit.ly/climatereadyoahumap

resilientoahu.org/s/MayorsDirective18-02.pdf





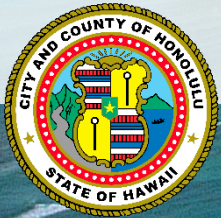
Mayor's Directive 20-14 | Temps and Trees



bit.ly/oahuheatmap

resilientoahu.org/s/Mayors-Directive-20-14.pdf





Implementing New Equity & Climate Practices Community and a Changing Climate

Defining Equity: PLACE- AND PEOPLE- BASED SOLUTIONS



PROCEDURAL EQUITY

Accessibility and inclusivity of decision making processes by those most impacted.

DISTRIBUTIONAL EQUITY

Benefits are distributed to prioritize those most in need.

STRUCTURAL EQUITY

Transparency and accountability are institutionalized, acted upon and regulated.

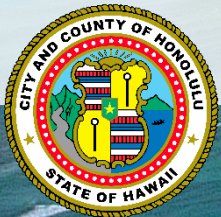
INTERGENERATIONAL EQUITY

Decisions prioritize the health and wellbeing of future generations.

CULTURAL EQUITY

The acknowledgement and undoing of racism with the concurrent construction of equitable multicultural norms.





Implementing New Equity & Climate Practices

Implementation

Implementing Resilience for O‘ahu

Producing a strategy is not the end of thinking about resilience –it’s the beginning.

- Functional Plans
- Stormwater Utility
- Integrated Infrastructure Planning & One Water
- Infrastructure Resilience Design Review
- Longer-term Capital and Financial Plans
- Hazard Mitigation Plan and CIP Alignment

Normalize
Organize
Operationalize

The Key Components for Action:



New Policies



Budget Alignment



Resilient Projects



City-Community Partnerships



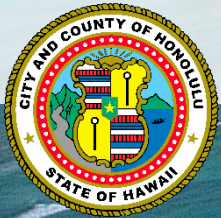


Opportunities Expectations



Obligations Risks





Who Pays the Climate Tab?

City sues fossil fuel businesses over climate change costs

By [Nina Wu](#) - March 10, 2020



CRAIG T. KOJIMA / CKOJIMA@STARADVERTISER.COM

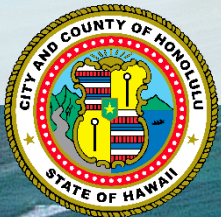
City leaders Monday discussed the filing of a lawsuit alleging that large fossil fuel companies are accountable for the costs and consequences of climate change that companies knowingly inflicted on Honolulu and its taxpayers. Department of Facility Maintenance Director Ross Sasamura, left; Council Budget Chairman Joey Manahan; Chief Resilience Officer and Executive Director of the Office of Climate Change, Sustainability and Resiliency Josh Stanbro; and Acting Corporation Counsel Paul Aoki held the news conference.

Resolution
19-283
Adopted Nov. 12, 2019



Authorize the Department of the Corporation Counsel to initiate legal action against fossil fuel companies to recover climate crisis-related costs





Climate Change Commission Guidance



Climate Change and Financial Risk Guidance

Adopted July 14, 2020

The purpose of this guidance document is to provide considerations of the emerging financial risks affiliated with climate change, particularly climate shocks and stressors relevant to the City & County of Honolulu. This prompts the need to critically examine the nature of hazards, current insurance information and mechanisms used by the City, as well as general practices of public finance. This guidance document highlights potential alternative risk transfer options to address climate change shocks as well as discusses City public finance in the context of climate change stressors.

[Download Guidance](#)

[Download Memo](#)





Mahalo



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[@ResilientOahu](https://www.instagram.com/ResilientOahu)

