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December 18, 2023

The Honorable Ronald D. Kouchi,  
President and Members  
of the Senate  
Thirty-Second State Legislature  
State Capitol, Room 409  
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki,  
Speaker and Members of the  
House of Representatives  
Thirty-Second State Legislature  
State Capitol, Room 431  
Honolulu, Hawaii 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

For your information and consideration, I am transmitting a copy of the Act 178: Relating to Sea Level Rise Adaptation 2023 Annual Report, as required by Act 178, SLH 2021.

In accordance with Section 93-16, Hawaii Revised Statutes, I am also informing you that the report may be viewed electronically at:  
<http://dbedt.hawaii.gov/overview/annual-reports-reports-to-the-legislature/>.

Sincerely,

James Kunane Tokioka

Enclosure

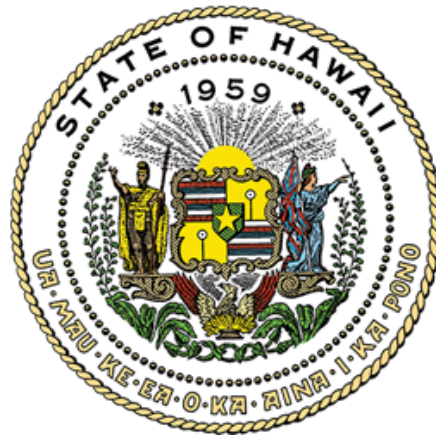
c: Legislative Reference Bureau

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# ACT 178, SLH 2021: RELATING TO SEA LEVEL RISE ADAPTATION

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2023 Annual Report  
Report to the Thirty-Second  
Legislature Regular Session of 2024



Prepared pursuant to Act 178, Session Laws of Hawai'i 2021

by

Office of Planning and Sustainable Development

Department of Business, Economic Development and Tourism

State of Hawai'i

December 2023

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## List of Acronyms

AGR	DEPARTMENT OF AGRICULTURE
B&F	DEPARTMENT OF BUDGET AND FINANCE
DAGS	DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DBEDT	DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM
DHHL	DEPARTMENT OF HAWAIIAN HOME LANDS
DHS	DEPARTMENT OF HUMAN SERVICES
DLNR	DEPARTMENT OF LAND AND NATURAL RESOURCES
DLNR-DAR	DEPARTMENT OF LAND AND NATURAL RESOURCES - DIVISION OF AQUATIC RESOURCES
DLNR-DOBOR	DEPARTMENT OF LAND AND NATURAL RESOURCES - DIVISION OF BOATING AND OCEAN RECREATION
DLNR-DOFAW	DEPARTMENT OF LAND AND NATURAL RESOURCES - DIVISION OF FORESTRY AND WILDLIFE
DLNR-OCCL	DEPARTMENT OF LAND AND NATURAL RESOURCES - OFFICE OF CONSERVATION AND COASTAL LANDS
DOD	DEPARTMENT OF DEFENSE
DOE	DEPARTMENT OF EDUCATION
DOE-HSPLS	DEPARTMENT OF EDUCATION – HAWAII STATE PUBLIC LIBRARY SYSTEM
DOH	DEPARTMENT OF HEALTH
DOT	DEPARTMENT OF TRANSPORTATION
GIS	GEOGRAPHIC INFORMATION SYSTEM
HHSC	HAWAII HEALTH SYSTEM CORPORATION
HI-EMA	HAWAII EMERGENCY MANAGEMENT AGENCY
JUD	HAWAII STATE JUDICIARY
NOAA	NATIONAL OCEAN AND ATMOSPHERIC ADMINISTRATION
OHA	OFFICE OF HAWAIIAN AFFAIRS
OPSD	OFFICE OF PLANNING AND SUSTAINABLE DEVELOPMENT
OPSD-CZM	OFFICE OF PLANNING AND SUSTAINABLE DEVELOPMENT – COASTAL ZONE MANAGEMENT PROGRAM
ORMP	HAWAII OCEAN RESOURCES MANAGEMENT PLAN
PSD	DEPARTMENT OF PUBLIC SAFETY
RCUH	RESEARCH CORPORATION OF THE UNIVERSITY OF HAWAII
SLH	SESSION LAWS OF HAWAII
SLR-XA	SEA LEVEL RISE EXPOSURE AREA
UH	UNIVERSITY OF HAWAII

# 1. Introduction

This report describes the Office of Planning and Sustainable Development (OPSD)'s activities and progress related to the implementation of Act 178, Session Laws of Hawai'i (SLH) 2021, Relating to Sea Level Rise Adaptation. This report includes a description of activities and progress to date, as well as a discussion of next steps.

This annual report fulfills the requirement in Act 178, SLH 2021 for the Office of Planning and Sustainable Development to report annually to the Governor, the Legislature, and the Hawai'i Climate Change Mitigation and Adaptation Commission regarding vulnerability and mitigation assessments for state facilities and progress in implementing sea level rise adaptation in future plans, programs, and capital improvement needs and decisions.

## 1.1 2023 Major Accomplishments & Takeaways

In 2023, the OPSD-CZM accomplished several tasks in continuing to move forward the Act 178, SLH 2021 initiative. Key accomplishments and takeaways include:

(Detailed descriptions of the completed activities can be found in **Section 3**)

### 1. Data Refinement for Updated Sea Level Rise Exposure Assessment

- The facilities inventory used in the sea level rise exposure assessment (2021 Annual Report) was updated to utilize more accurate spatial data (i.e. building footprints) and resulted in a more accurate depiction of at-risk state facilities. **The updated results show a decrease in the number of facilities located within each of the analyzed sea level rise projection scenarios.**
- The updated Sea Level Rise Exposure Assessment results informed the following key takeaways:

#### **Key Takeaway #1: O'ahu and DOE are the most impacted.**

- O'ahu and DOE have the most impacted facilities in the refined analysis.
- DLNR is the next agency with the most impacted facilities, comprised mostly of DOBOR and State Parks facilities.

#### **Key Takeaway #2: Exposure only provides partial insight into vulnerability.**

- The results of these analyses depict which facilities are *physically* located within a sea level rise exposure area; however, it does not represent a full understanding of vulnerability, which considers exposure, sensitivity and adaptive capacity.
- It should be noted that facilities not identified in this assessment can still be vulnerable to SLR exposure.
- Managing agencies can utilize analysis results as a starting point of facilities needing site-specific vulnerability assessments.

#### **Key Takeaway #3: The trend of impacted facilities grows as SLR-XA scenarios progress.**

- The number of impacted facilities increases as sea level rise scenarios progress.
- This incremental increase in risk allows time for critical pro-active planning to implement adaptive strategies for vulnerable facilities

## 2. Scoping for the development of standardized vulnerability assessments

- Actions were taken to move on recommendations from the Action Team (multi-agency stakeholder group) to develop a standardized vulnerability assessment that would be applicable to state managed facilities.
- During the 2023 legislative session, the legislature allocated funding from the State Budget to the OPSD-CZM to develop vulnerability assessments and associated guidance.

### 1.2 Act Summary

The State’s Thirty-First Legislature recognized that climate change and sea level rise “pose significant, dangerous, and imminent threats to the State’s social and economic well-being, public safety, nature and environment, cultural resources, property, infrastructure, and government functions and will likely have a disproportionate impact on low-income and otherwise vulnerable communities.” Act 178 was passed in order to begin the long-term planning needed to effectively address climate impacts.

The purpose of this Act is to:

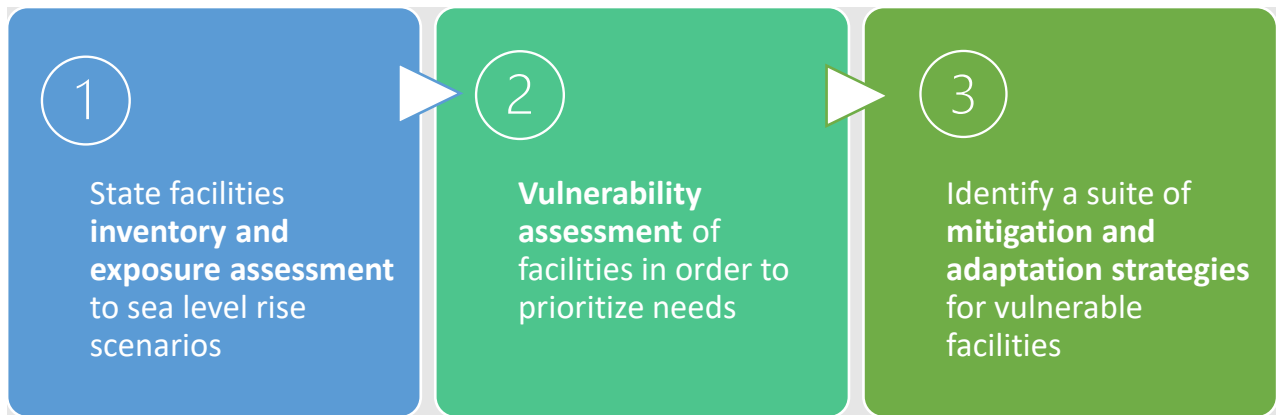
- (1) Require the OPSD, in coordination with state agencies with operational responsibilities over state facilities, to:
  - a. Identify existing and planned facilities that are vulnerable to sea level rise, flooding impacts, and natural hazards;
  - b. Assess options to mitigate the impacts of sea level rise to those facilities; and
  - c. Submit annual reports to the Governor, Legislature, and the Hawai’i Climate Change Mitigation and Adaptation Commission regarding vulnerability and mitigation assessments for state facilities and progress toward implementing sea level rise adaptation in future plans, programs, and capital improvement needs and decisions.
- (2) Update and reaffirm the role of the OPSD to coordinate climate change adaptation and sea level rise adaptation among all state agencies to improve the interagency coordination of these activities; and
- (3) Amend the Hawai’i State Planning Act to include sustainable development, climate change adaptation, and sea level rise adaption as objectives for facility systems.

### 1.3 Hawai’i CZM Program

Within the OPSD, the Coastal Zone Management Program (OPSD-CZM) has been charged with coordinating the objectives for Act 178, SLH 2021. This aligns with the OPSD-CZM’s role as the lead coordinating entity for the implementation of the *2020 Hawai’i Ocean Resources Management Plan: Collaborative Coastal Zone Management from Mauka to Makai* (ORMP), that similarly identifies the need to inventory and analyze critical facility assets threatened by chronic and episodic coastal hazards and future sea level rise projections.

## 2. Phased Approach

Adaptation planning takes place over decades and is constantly evolving as conditions change and progress. In order to move towards statewide, coordinated action, OPSD-CZM has identified an approach which includes three phases of implementation.



## 2.1 Past Accomplishments

Since 2021, the first year of the initiative, the OPSD-CZM completed the following tasks under Phases 1 and 2 of the implementation approach:

- State Facilities Inventory (2021): OPSD-CZM created a GIS layer identifying the physical locations of all facilities owned and managed by the state. Pursuant to the Act language, this initiative focuses on state-operated facilities (i.e., buildings).
- Sea Level Rise Exposure Assessment (2021): OPSD-CZM conducted an analysis to identify which state owned and managed facilities were located within various sea level rise scenarios.
- StoryMap webpage (2021): OPSD-CZM created an online resource to share activities and findings with the public. ([LINK](#))
- Literature Review (2022): OPSD-CZM evaluated guidance documents and tools from 11 different coastal states and municipalities to understand the range of strategies used to assess vulnerability to sea level rise.

The completed 2021 and 2022 Annual Reports can be found on the Act 178, SLH 2021 StoryMap. ([LINK](#))

## 3. 2023 Activities and Accomplishments

In 2023, the OPSD-CZM continued work under Phase 2 of the initiative and took action to move forward on recommendations made by the Act 178 Action Team and in the 2022 Annual Report. The following sections outline the completed activities-to-date.

### 3.1 Appropriations Request to the Legislature (HB993, SB1291)

During the 2023 Legislative session, the OPSD-CZM submitted a request through the administration's package: bills HB993 and SB1291 that requested \$400,000 to the OPSD-CZM to support the continued efforts of Act 178, SLH 2021. The funds would be used to develop guidance and a standardized process for assessing the vulnerability of state facilities to sea level rise. Ultimately, neither bill was passed; however, the legislature allocated \$400,000 to the OPSD-CZM through the State Budget as 'CIP in operating' funds. Due to budget reallocations in response to the 2023 Wildfires, 10% (\$40,000) of the funding was transferred to the Department of Budget & Finance for fire recovery needs.

### 3.2 Act 178 Action Team Meeting: July 18, 2023

The OPSD-CZM hosted an Act 178 Action Team virtual meeting on July 18, 2023. Twenty-two (22) individuals representing 12 different agencies participated (see **Table 1** for list of attending agencies/departments). The meeting agenda included:

- A summary of the 2023 Legislative Session and funding as related to Act 178, SLH 2021,
- A proposed 2023-2024 timeline of activities, a progress report on the refinement of data for the sea level rise exposure analysis, and
- A facilitated discussion seeking comments and feedback on the proposed timeline and approach.

**Table 1: July 18, 2023, Act 178 Action Team Meeting Attendees**

Department/Agency	
DBEDT, Office of Planning & Sustainable Dev (host)	Dept of Health
Dept of Accounting and General Services	Dept of Land and Natural Resources
Dept of Budget & Finance	Dept of Transportation
Dept of Business, Economic Development & Tourism	Hawai'i Health Systems Corp.
Dept of Defense, Hawai'i Emergency Management Agency	Hawai'i State Public Library System
Dept of Hawaiian Home Lands	Office of Hawaiian Affairs

Action Team members raised important considerations and questions that will need to be addressed in the development of a standardized vulnerability assessment process. Key discussion items included:

What is being assessed – function vs. structure

In developing the vulnerability assessment, it will be important to consider what is being assessed, whether it is the vulnerability of the *functions* of the state facility, or the *physical structure*. Are there ways to include both considerations into the vulnerability assessment? Should they be weighted equally? Is there need for a framework for determining cumulative impacts of vulnerability?

Various types of stakeholders

While state facilities have one managing agency, they could be occupied by another agency and/or multiple agencies (ex. DAGS managed facility that houses offices for DBEDT and its attached agencies). As the different stakeholders will be impacted in different ways, it is important to identify both sets of stakeholders to fully understand vulnerability and adaptation options. For impact assessments and potential damage claims, it is important to know *who is impacted* (both managing and occupying agencies). For understanding *who is responsible* for implementing mitigation and adaptation strategies, the focus will be on the agency charged with maintenance, repair and construction (managing agency).

Opportunities for alignment with concurrent initiatives

The Hawai'i State Climate Commission is preparing for the 10-year update to the 2017 Hawai'i Sea Level Rise Vulnerability and Adaptation Report. While the 2017 Report used hazard exposure to determine vulnerability, the 2027 Report aims to assess vulnerability more holistically. The progression of the Act 178, SLH 2021 initiative could align well with the report update, with respect to both timing and approach to assessing vulnerability.



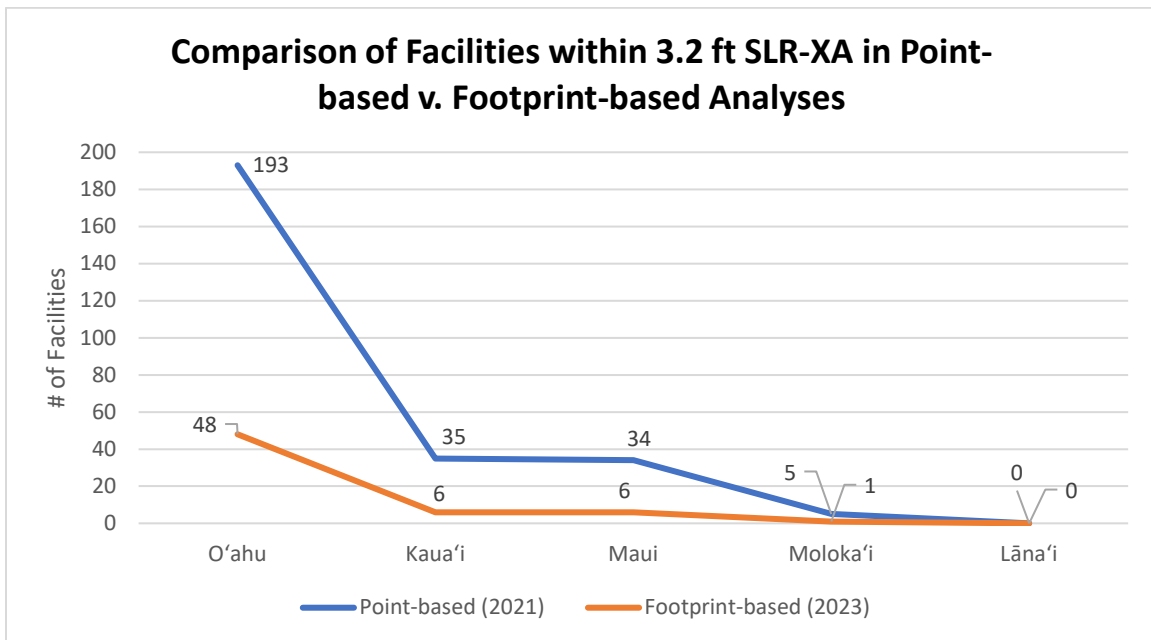
Additionally, five (5) volunteers from the Action Team were identified to provide feedback and advice to the OPSD-CZM on the drafting of the request for proposals (RFP) to procure services to develop guidance and a standardized vulnerability assessment process.

### 3.3 Data Refinement for Sea Level Rise Exposure Assessment & Updated Results

In the 2021 sea level rise exposure assessment, facilities were represented as points with a 200-foot buffer. In order to refine and improve the point-based assessment, the OPSD-CZM worked with county GIS programs to incorporate already existing building footprint data into the state facilities inventory. The improved state facilities inventory data set was then used to rerun the sea level rise exposure assessment in ArcGIS for a footprint-based analysis. The conversion of facilities represented by points to facilities represented by building footprints allowed for a more refined and nuanced exposure analysis as the point and buffer was an inadequate proxy for actually building size.

#### 3.3.a Comparison of 2021 Analysis and 2023 Analysis

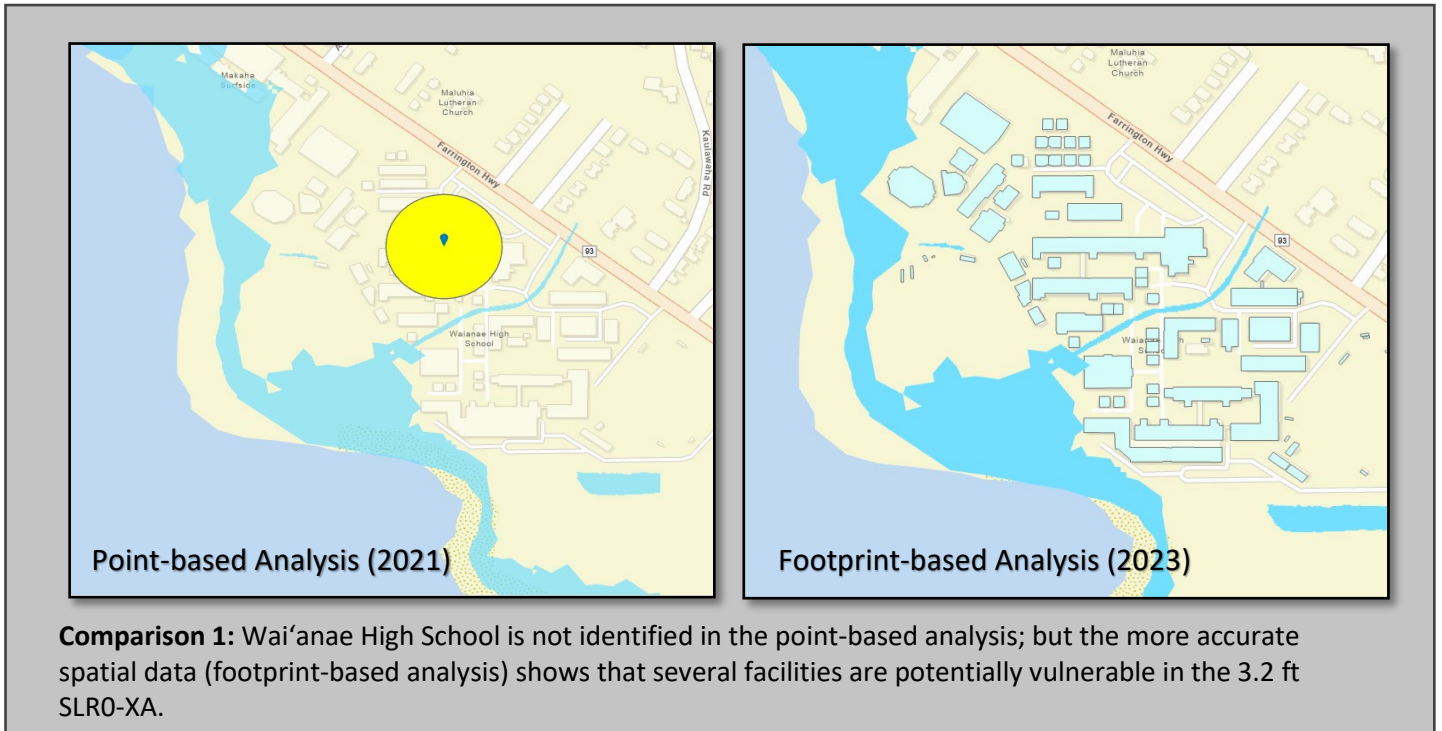
The process of updating the facilities inventory to utilize building footprints to represent facility location resulted in a more accurate depiction of at-risk state facilities in each of the projected sea level rise scenarios. Overall, the number of vulnerable facilities decreased. **Chart 1** displays the number of impacted state facilities within the 3.2 ft scenario from the Point-based Analysis (2021) and the Footprint-based Analysis (2023).



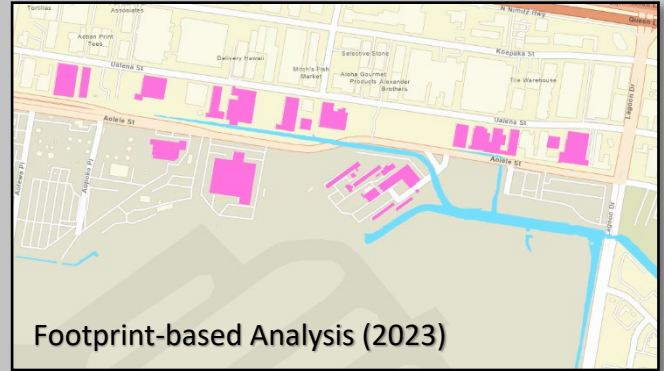
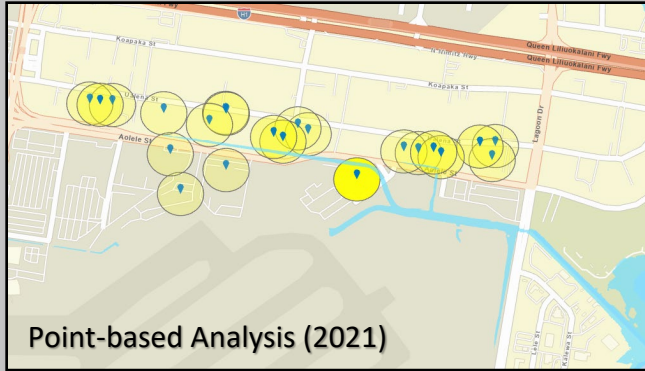
**Chart 1:** Comparison of state facilities within the 3.2 ft SLR-XA in the Point-based Analysis (2021) and the Footprint-based Analysis (2023).

As shown in **Chart 1** there is a significant difference in the number of affected vulnerable state facilities from the Point-based Analysis (2021) to the Footprint-based Analysis (2023). The difference can be attributed to several reasons, the most common of which are represented by the following examples:

1. **Inaccuracies with using 200 ft buffer (undercount).** The 2021 Analysis used 200 ft buffers around facility points to approximate building footprints. For campus style facilities, 200 ft does not sufficiently capture building locations. As seen in the example comparison below, the 2021 Analysis does not identify Wai'anae High School as being vulnerable in the 3.2 ft SLR-XA scenario. However, the 2023 Analysis using building footprints shows that several of the makai facilities are within the 3.2 ft SLR-XA scenario.

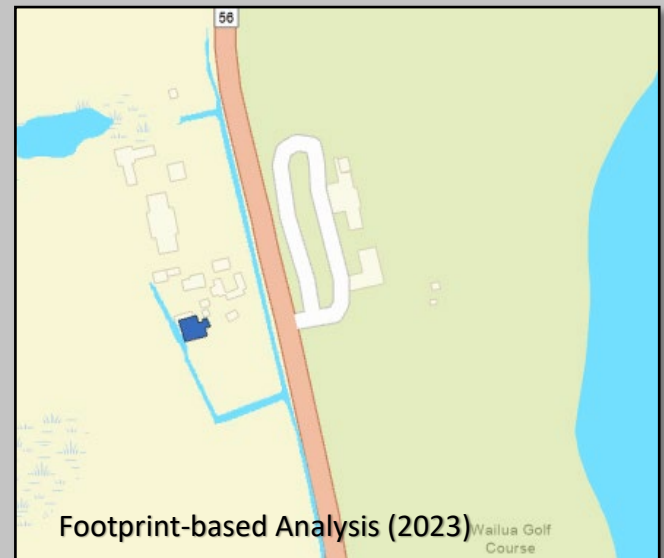
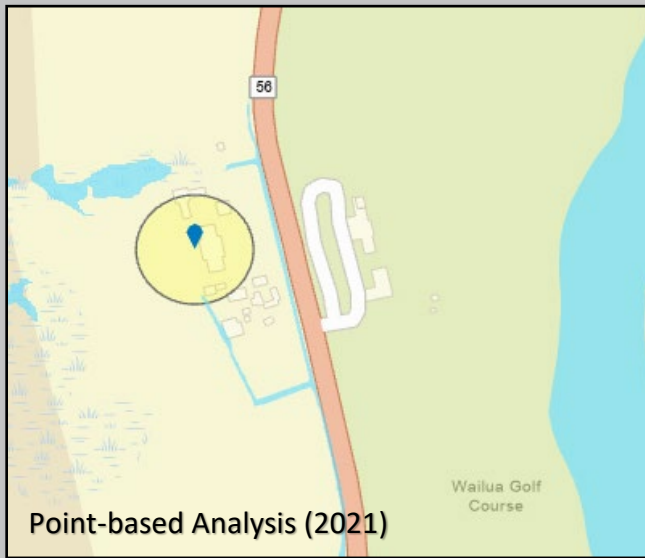


2. **Inaccuracies with using 200 ft buffer (overcount).** In other scenarios, the 200 ft buffer was an overestimation of the building footprint. This can be seen on O'ahu's Aolele Street, which houses several DOT-Airports' HNL Base Yard Facilities. The 2021 Analysis' 200ft buffers extended beyond the actual footprint of the facility and as a result, many were incorrectly classified as being within the 3.2 ft SLR-XA.



**Comparison 2:** Smaller facilities along Aolele Street (O’ahu) were incorrectly identified as vulnerable in the point-based analysis at 3.2 ft SLR-XA.

- Multiple facilities represented by one point (overcounted).** The 2021 Analysis used street addresses to geolocate the facility point locations. This resulted in campus style facilities all being represented by the same exact location, even if the facilities themselves were spread across the property. An example is the Kaua’i Community Correctional Facility (KCC), which due to low lying topography, is vulnerable to sea level rise. The 2021 Analysis identified all eleven KCC facilities as within the 3.2 ft SLR-XA. The 2023 Analysis and the more accurate depiction of building location, shows that only one of the eleven facilities is actually within the 3.2 ft SLR-XA.



**Comparison 3:** The footprint-based analysis allows for a more detailed understanding of which facilities within a campus are vulnerable, as seen in the above example of the Kaua’i Community Correctional Facility and the 3.2 ft SLR-XA.

### 3.3.b Discussion of 2023 Analysis Findings

The results of this 2023 refined spatial analysis have supported the findings of the 2021 Analysis, as well as provided a more nuanced overview of the state's vulnerable facilities. These takeaways describe important considerations when interpreting the results, as well as provide insight on how the data can inform next steps.

#### **Key Takeaway #1: O'ahu and DOE are the most impacted.**

- O'ahu and DOE have the most impacted facilities in the refined analysis.
- DLNR is the next agency with the most impacted facilities, comprised mostly of DOBOR and State Parks facilities.

#### **Key Takeaway #2: Exposure only provides partial insight into vulnerability.**

- The results of these analyses depict which facilities are *physically* located within a sea level rise exposure area; however, it does not represent a full understanding of vulnerability, which considers exposure, sensitivity and adaptive capacity.
- It should be noted that facilities not identified in this assessment can still be vulnerable to SLR exposure.
- Managing agencies can utilize analysis results as a starting point of facilities needing site-specific vulnerability assessments.

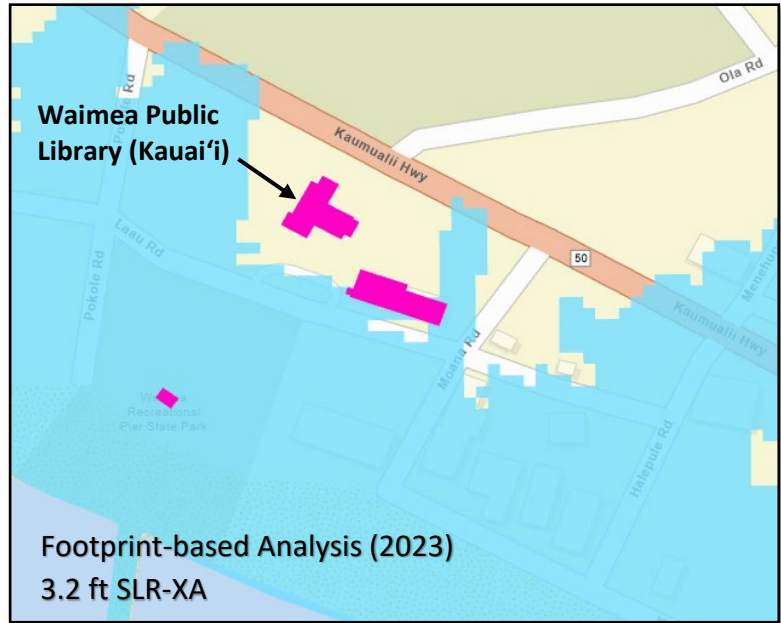
#### **Key Takeaway #3: The trend of impacted facilities grows as SLR-XA scenarios progress.**

- The number of impacted facilities increases as sea level rise scenarios progress.
- This incremental increase in risk allows time for critical pro-active planning to implement adaptive strategies for vulnerable facilities

It is important to note that this **exposure** analysis only identifies if the facility is located inside or outside of the SLR-XA. This is not a complete assessment or understanding of facility **vulnerability** as there are many ways in which sea level rise could impact a facility. This underscores the need for site-specific vulnerability assessments, which is supported by the legislature's appropriation to develop standardized guidance for state agencies to follow.

### Data Limitations & Considerations:

1. The GIS analysis only identifies building footprints that were within or intersect with the SLR-XA. Some state managed facilities were not counted as exposed but are located only a few feet away from the SLR-XA border.
2. In some scenarios, the state facility itself is outside of the SLR-XA; however, all major access roads to the facility are projected to be inundated. For example, the image on the right shows the Waimea Public Library (Kauai'i) in the 3.2 ft SLR-XA scenario.



### 3.4 Procurement for Services to Develop a Standardized Vulnerability Assessment Process

The OPSD-CZM has initiated the procurement process to acquire consultant services to develop guidance and a standardized process for assessing the vulnerability of state facilities to sea level rise.

#### Scope of Work Development

The OPSD-CZM met with staff from DAGS and HDOT (Harbors and Airports) that are familiar with facility asset management and/or climate adaptation planning for their respective agencies. These staff provided advice and guidance on the scope of work, to ensure that included tasks and final deliverables would be valuable to a variety of state agencies.

The OPSD-CZM met with City & County of Honolulu's Department of Design and Construction (DDC) to discuss concurrent and related initiatives. DDC is in the process of developing a Climate Change Design Guidelines Toolkit (Toolkit) for their capital projects, as they face impacts from climate change hazards such as sea level rise, storm surge, extreme precipitation, extreme heat, and drought. This Toolkit is intended to be inclusive of both climate change mitigation and adaptation considerations and includes the following tools to assist the project design team: Climate Change Hazard Exposure Screening Tool (CEST), Climate Change Design Guidelines Document (Guidelines), and Climate Change Planning, Design, and Strategy Checklist (Checklist) Tool. The CEST is an Excel-based tool used to guide project teams through relevant data, maps, and information sources for project-specific hazard information to assess an individual project's current and future exposure to climate hazards and identify the relevant action for use of the Guidelines. Guidance actions are split into two tiers, with a more risk averse guidance for projects which are more exposed, more costly, and critical. The Guidelines provide step-by-step procedures to assess the hazard-related exposure identified through the CEST and incorporate relevant climate change projections into the project design including application of design philosophies, modification of design criteria, and considerations for incorporating risk and emission reduction

strategies. The Checklist Tool is an Excel-based tool and will be used in tandem with the Guidelines and provide the project team with a menu of relevant design strategies and parameters to assist in selecting resilience and greenhouse gas emission reduction strategies for their projects. Benefit descriptions, cost considerations, and co-benefits are included in the Checklist Tool to aid project teams in their decision-making, allowing consideration of whether the strategies will effectively reduce climate hazard exposure or the consequences of exposure, and are feasible to incorporate given project constraints.

DDC and OPSD-CZM have been coordinating to ensure that components of the City & County's Toolkit and OPSD's State Facilities Vulnerability Assessment are aligned.

## 4. Next Steps & Anticipated Activities for 2024

As described in Section 2 (Phased Approach), this initiative is an on-going and dynamic process. Additionally, the process of adaptation is inherently continuous as conditions change and understanding evolves. With the anticipated funding support from the legislature, OPSD-CZM has a clear set of next steps for 2024 as it continues to carry out its charge from Act 178, SLH 2021.

### 4.1 Standardized Process for Conducting Vulnerability Assessments

OPSD-CZM will procure professional consultant services to develop a standardized process of conducting sea level rise vulnerability assessments, as well as accompanying guidance and training documents. The Act 178 Action Team will serve as an advisory body for the project team and will provide guidance and feedback on draft deliverables.

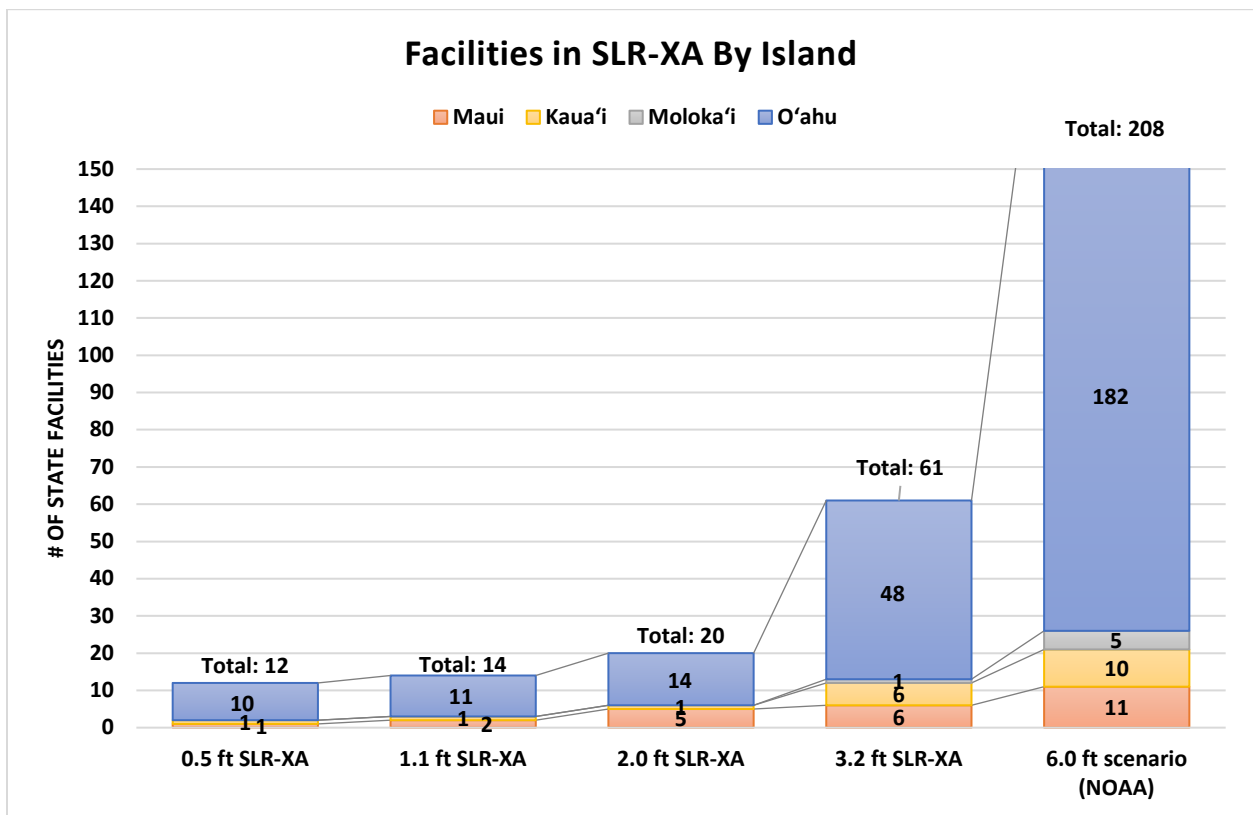
The project team will produce deliverables that include: (1) a standardized sea level rise vulnerability assessment form, (2) instructions on how to complete the assessment form, (3) recommended guidance on criteria to consider when ranking facilities' risk levels, and (4) recommended sea level rise scenarios and timelines to use for adaptation planning purposes.

OPSD-CZM anticipates that the procurement and contract execution process will take approximately three (3) months. The project itself is estimated to be completed within twelve (12) months. The OPSD-CZM is drafting the RFP so that the procurement process can begin upon release of the funds.

## Appendix: Building Footprint-Based Exposure Assessment Results

Utilizing the improved data, the following summary tables and charts identify the results of the refined spatial analysis and provide an overview of the scope of state facilities vulnerable to the sea level rise scenarios based on island and by managing agency.

**Chart 2** illustrates the changes in vulnerable state facilities by island as sea level rise scenarios progress. Statewide, there is an exponential growth in the number of impacted facilities as the scenarios advance with O’ahu seeing the most significant increases. Hawai’i Island is not included in this chart due to the lack of existing building footprint data. **Table 2** summarizes the number of state facilities located within each of the five sea level rise scenarios by island. Hawai’i Island is not represented in the table due to the lack of existing building footprint data. This table also includes a count of the total number of state facilities; however, it should be noted that the total number is an underestimate due to under reporting by agencies (see 2021 Annual Report on Data Limitations for details).



**Chart 2:** State facilities located within each of the sea level rise scenarios by island.



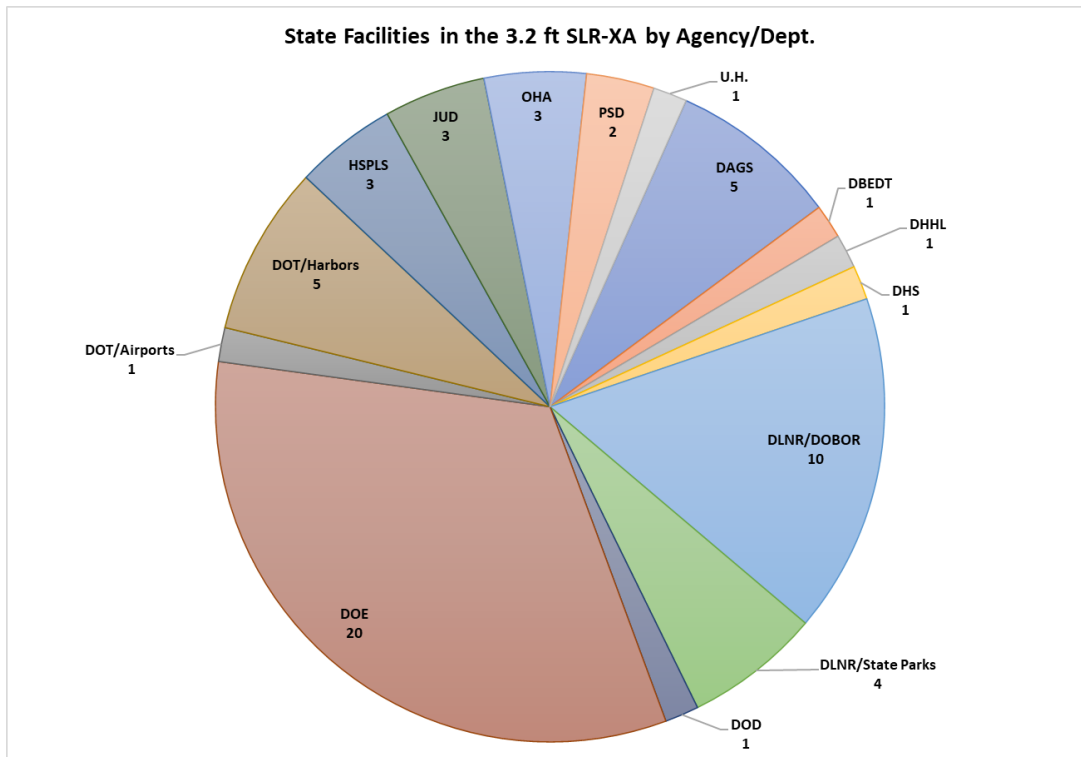
**Table 2:** State facilities located within each of the sea level rise scenarios by Island

Island	Total # of State Facilities*	# of State Facilities In 0.5 ft SLR-XA	# of State Facilities In 1.1 ft SLR-XA	# of State Facilities In 2.0 ft SLR-XA	# of State Facilities In 3.2 ft SLR-XA	# of State Facilities In 6.0 ft (NOAA)
Maui	653	1	2	5	6	11
Lānaʻi	39	0	0	0	0	0
Molokaʻi	69	0	0	0	1	5
Oʻahu	3,483	10	11	14	48	182
Kauaʻi	532	1	1	1	6	10
<b>Grand Total</b>	<b>6,135</b>	<b>12</b>	<b>14</b>	<b>20</b>	<b>61</b>	<b>208</b>

**Table 2:** State facilities located within each of the sea level rise scenarios by Island

\*Note: The total number of state facilities is an underestimate, see 2021 Annual Report on Data Limitations.

**Chart 3** breaks down vulnerable facilities within the 3.2ft SLR-XA scenario by Agency/Department. **Table 3** summarizes the number of state facilities located within each of the five sea level rise scenarios by managing Agency/Department. It should be noted that the total number of state facilities is an underestimate due to underreporting by agencies (see 2021 Annual Report on Data Limitations). DOE has the greatest number of vulnerable facilities in all the analyzed sea level rise scenarios, followed by DLNR. All but six agencies have vulnerable facilities in the 6.0 ft scenario. The decrease in U.H. managed facilities between the 2.0 ft SLR-XA and the 3.2 ft SLR-XA can be attributed to a slight shift in the modeling (see 2021 Annual Report on Data Analysis & Methodology).



**Chart 3:** State facilities in the 3.2 ft SLR-XA by Agency/Dept. (61 facilities total)



**Table 3: State facilities located within the sea level rise scenarios by State Dept/Agency**

Agency/Dept	Total # of State Facilities*	# of State Facilities in 0.5 ft SLR-XA	# of State Facilities in 1.1 ft SLR-XA	# of State Facilities in 2.0 ft SLR-XA	# of State Facilities in 3.2 ft SLR-XA	# of State Facilities in 6.0 ft (NOAA)
AGR	69	0	0	0	0	0
B&F	1	0	0	0	0	1
DAGS	79	0	0	0	5	10
DBEDT	57	0	0	0	1	4
DHHL	7	0	0	0	1	2
DHS	413	0	0	0	1	3
DLNR/DAR	4	0	0	0	0	0
DLNR/DOBOR	29	5	5	5	10	13
DLNR/DOFAW	9	0	0	0	0	0
DLNR/Engineering	2	0	0	0	0	0
DLNR/Land Div	6	0	0	0	0	0
DLNR/State Parks	65	2	3	3	4	5
DOD	123	0	0	0	1	1
DOE	4,055	1	1	4	20	98
DOE/HSPLS	52	0	1	2	3	7
DOH	34	0	0	0	0	2
DOT/Airports	127	1	1	1	1	1
DOT/Harbors	38	0	0	0	5	17
DOT/Highways	21	0	0	0	0	1
HHSC	70	0	0	0	0	0
JUD	33	0	0	1	3	2
OHA	17	1	1	2	3	8
PSD	153	0	0	0	2	2
RCUH	3	0	0	0	0	0
UH	688	2	2	2	1	31
<b>Grand Total</b>	<b>6,135</b>	<b>12</b>	<b>14</b>	<b>20</b>	<b>61</b>	<b>208</b>

\*Note: The total number of state facilities is an underestimate, see 2021 Annual Report on Data Limitations.

**Table 4** summarizes the state facilities located within each of the five analyzed sea level rise scenarios by island. Hawai'i Island is not represented in the table due to the lack of existing building footprint data. It should be noted that the total number of state facilities is an underestimate due to underreporting by agencies (see 2021 Annual Report on Data Limitations).

**Table 4:** State facilities located within the sea level rise scenarios by Island and State Dept/Agency

Agency/Dept	# of State Facilities in 0.5 ft SLR-XA	# of State Facilities in 1.1 ft SLR-XA	# of State Facilities in 2.0 ft SLR-XA	# of State Facilities in 3.2 ft SLR-XA	# of State Facilities in 6.0 ft (NOAA)
<b>Maui</b>	1	2	5	6	11
DLNR/DOBOR	0	0	0	0	1
DOE	1	1	3	3	5
DOE/HSPLS	0	1	2	2	0
DOT/Harbors	0	0	0	1	5
<b>Moloka'i</b>	0	0	0	1	5
DHHL	0	0	0	0	1
DHS	0	0	0	0	1
DOE/HSPLS	0	0	0	0	1
DOT/Harbors	0	0	0	1	1
U.H.	0	0	0	0	1
<b>O'ahu</b>	10	11	14	48	182
B&F	0	0	0	0	1
DAGS	0	0	0	5	10
DBEDT	0	0	0	1	4
DHHL	0	0	0	1	1
DHS	0	0	0	0	1
DLNR/DOBOR	5	5	5	10	10
DLNR/State Parks	1	2	2	3	5
DOD	0	0	0	0	1
DOE	0	0	1	17	93
DOE/HSPLS	0	0	0	0	4
DOH	0	0	0	0	1
DOT/Airports	1	1	1	1	1
DOT/Harbors	0	0	0	3	8
DOT/Highways	0	0	0	0	1
JUD	0	0	1	3	2
OHA	1	1	2	2	7
PSD	0	0	0	1	2
U.H.	2	2	2	1	30
<b>Kaua'i</b>	1	1	1	6	10
DHS	0	0	0	1	1
DOD	0	0	0	1	0
DLNR/DOBOR	0	0	0	0	2
DLNR/State Parks	1	1	1	1	0
DOE/HSPLS	0	0	0	1	2
DOH	0	0	0	0	1

<b>DOT/Harbors</b>	0	0	0	0	3
<b>OHA</b>	0	0	0	1	1
<b>PSD</b>	0	0	0	1	0
<b>Grand Total</b>	12	14	20	61	208