### Hawai'i Climate Adaptation Initiative Act (Act 83, 2014)



- "Climate change is the paramount challenge of this century."
- Address the effects of climate change to protect the State's economy, environment, and way of life.
- Establishes an Interagency Climate Adaptation Committee (ICAC)
- Initial focus of this act is to develop a Sea Level Rise Vulnerability and Adaptation Report for Hawai'i
- Authorizes the Office of Planning to coordinate development of a Statewide Climate Adaptation Plan



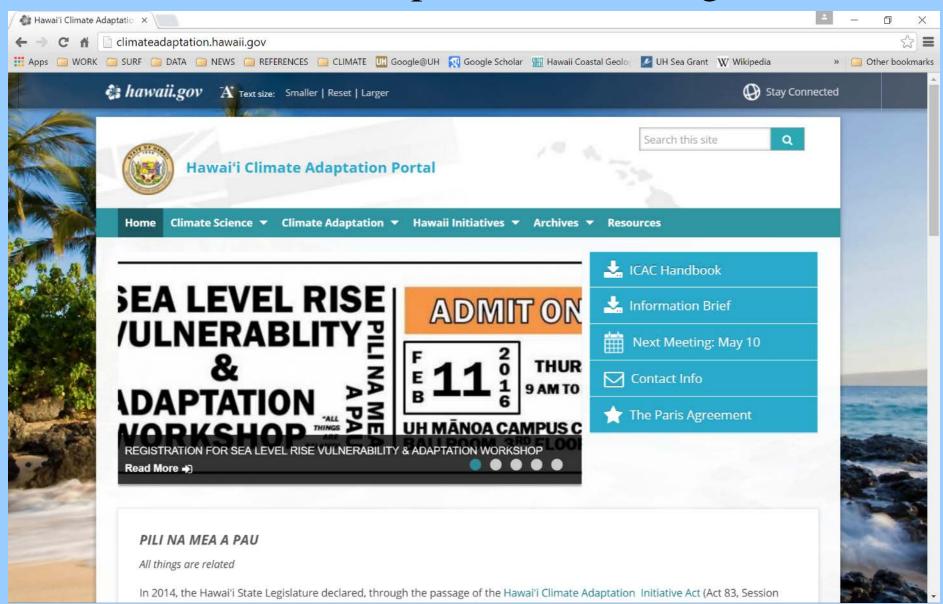
### Hawai'i Sea Level Rise Vulnerability and Adaptation Report (Act 83)



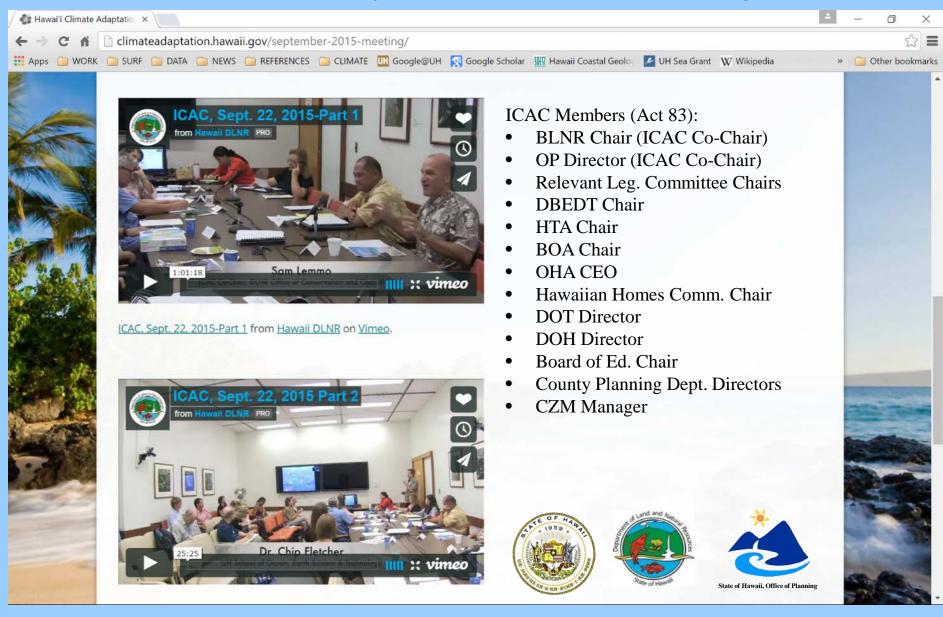
- Compiling the best science on climate change and sea-level rise.
- Projecting and modeling hazards exposure related to sea level rise.
- Assessing vulnerabilities to hazards related to sea level rise.
- Making recommendations for improving resilience to hazards.
- Providing a framework for further climate adaption planning.



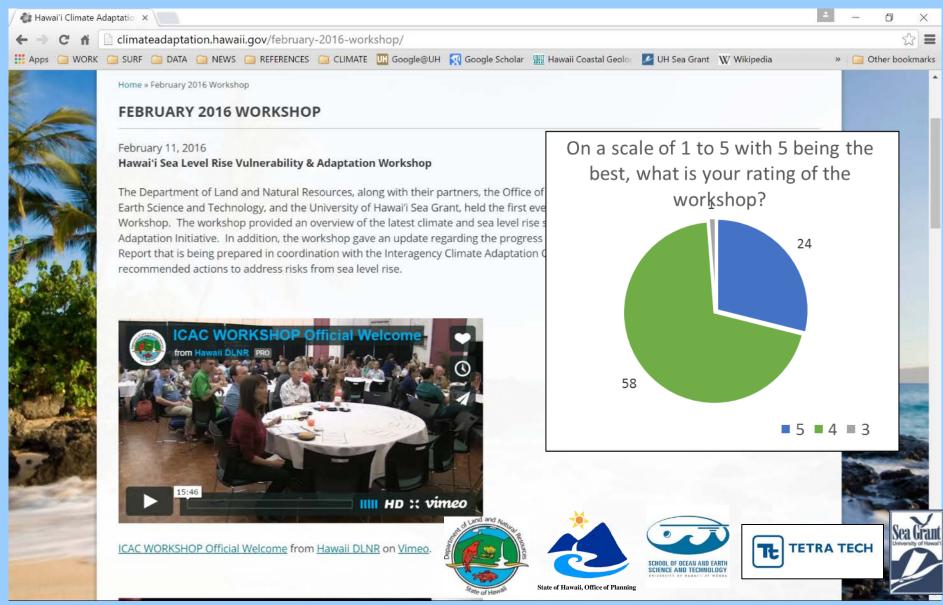
### Hawai'i Climate Adaptation Portal: climateadaptation.hawaii.org



# Quarterly ICAC Meetings



### Hawai'i Sea Level Rise Vulnerability and Adaptation Workshop



# **Modelling Future SLR Flooding**

Ala Moana –Waikiki: 4 ft of sea level rise

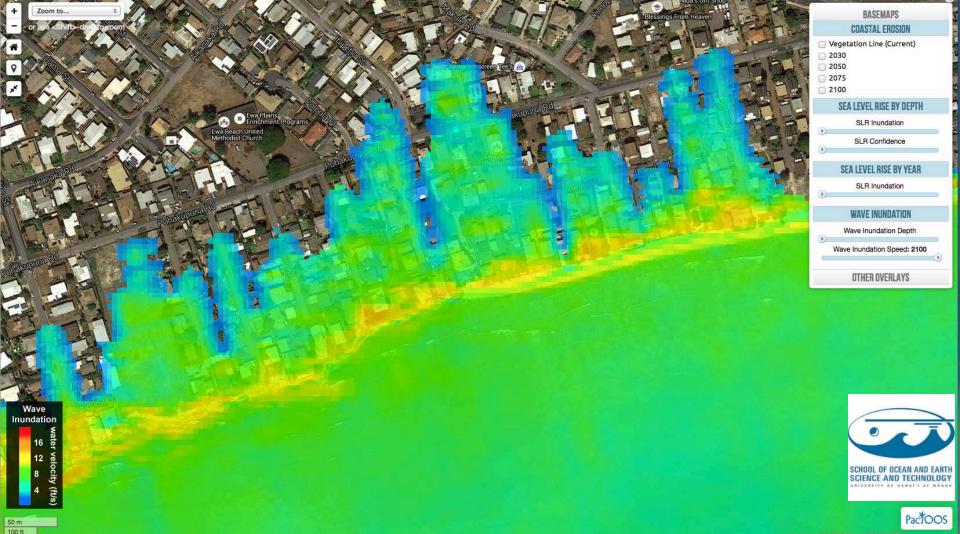


Zoom to: State or Territory

# **Modelling Future Erosion Hazards**



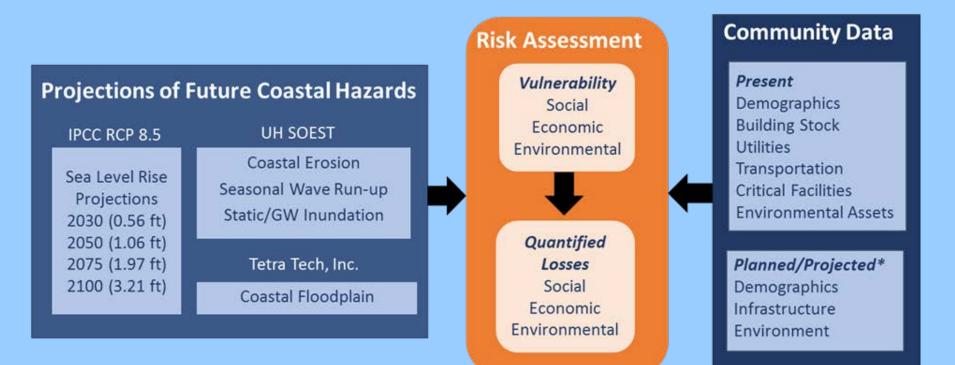
# Modelling Future Wave Overtopping (annual high wave event + 3 ft of SLR)



759%

Leaflet Data © UH/SOEST/CGG

# Sea Level Rise Hazard Exposure and Vulnerability Assessment





# **Reporting Scales and Sectors**

6	2030 2050	<b>TIME</b> 2075	2100	SCALE	SECTORS
HAZARDS	SLR/GW	Inundation		State	Critical Infrastructure
COASTAL HA	Coasta	l Erosion		County	Commercial Residential
	Seasor	al Waves		Community	Cultural
	100-year Co	astal Floodplai	n	connicity	Environmental



# Timeline, next steps

ID	Task Name																													
			1		I	2016	Ι.			1		I .	1	I	1	1	1	2017					I	1	I	I			1	2018
1	Task 1: Planning and Administration	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
2	Project coordination meetings																													
3	Work plan (draft/final)			ł																										
4	Task 2: ICAC Coordination and Outreach																								1					
5	SLR Workshop			1	1								-												1					
6	ICAC quarterly meetings			I 1	! !		I 1	I 1	1		I I	I I		I I		I I	I I													
7	PRiMO conference and focus groups					<b>I</b> I			<b>I</b> III)	<b>I</b> II																				
	Outreach materials																		 				 							
	Task 3: SLR VA & SEI Analysis																													
	GIS data compilation				 																							ļ		
	VA/SEI methodology																											ļ		ļ
	VA/SEI analysis test run					ŀ																						ļ		
13	DLNR/ICAC review								<b>-</b>																					
	VA/SEI analysis													, 																
	Task 4: SLR VA & Adaptation Report																											ļ		
16	Literature review													, 																
	SLR Stories			Į	 		<b> </b>																					ļ		
	Draft outline					۲	}																							
	DLNR/ICAC review					l		1																				ļ		
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	DLNR/ICAC review															-		L										ļ		
	90% draft report						ļ	ļ															(	9	<u> </u>			ļ		
	DLNR final review				ļ						Ļ			ļ		ļ	ļ						ļ	Ľ.		1		ļ		
24	Final report																												•	)





Bradley Romine, Extension Faculty, Hawaiʻi Sea Grant Darren Lerner, Director, Hawaiʻi Sea Grant Tara Owens, Extension Faculty, Hawaiʻi Sea Grant Sam Lemmo, Administrator, Hawaiʻi DLNR Office of Conservation and Coastal Lands Leo Asuncion, Director, Hawaiʻi State Office of Planning













- Developed in partnership between UH Sea Grant, DLNR, OP
- \$845,000 from NOAA Regional Coastal Resilience Grants Program
- Leveraging State Climate Adaptation Initiative funds (cost match)
- 3-year project: May, 2016 April, 2019











### **Overarching Goal**:

Increase community resilience to coastal hazards, climate change, and sea level rise in Hawai'i



Enhancing ongoing planning efforts under:

- The Hawai'i Climate Adaptation Initiative (Act 83, 2014):
  - Interagency Climate Adaptation Committee (ICAC)
  - Sea Level Rise Vulnerability and Adaption Report (Hawai'i SLR Report)
- The Hawai'i State Planning Act:
  - Climate Change Adaptation Priority Guidelines (HRS § 226-109);
- and other existing plans and policies.

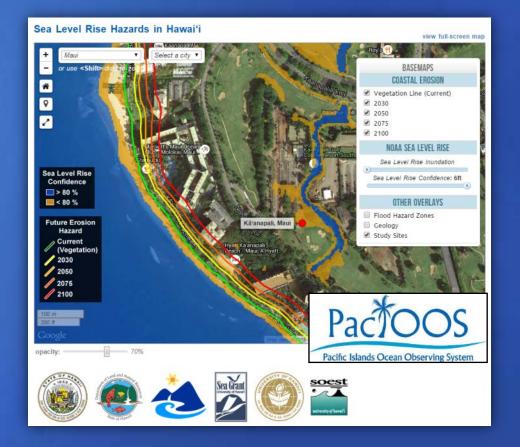
# Sub-Project 1: Web-based Hazard Exposure and Vulnerability Mapping Tool

#### Sub-project goal:

Build community resilience by providing access to critical hazard exposure data to support planning and sound, science-based decision-making.

#### Sub-project objectives:

- 1. Provide data visualization supporting the *Hawai'i SLR Report*
- 2. Develop a high-resolution sea level rise hazard assessment tool



### Sub-Project 2: Guidelines for Integrating Coastal Resilience into Existing Planning Frameworks

#### Sub-project goal:

Increase the number of state and county plans and policies that address risks from coastal hazards, climate change, and sea level rise.

#### Sub-project objectives:

- Identify gaps and opportunities for integrating coastal resilience into current planning frameworks
- Develop implementation guidance for Hawaii's *Climate Adaptation Priority Guidelines* and the *Hawaii SLR Report*







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### Sub-Project 3: Guidelines and Training for Post-Disaster Rebuilding and Recovery

#### Sub-project goal:

Increase the capacity of coastal communities in Hawai'i to **"bounce back" and** rebuild safer, stronger, and smarter after a coastal disaster.

#### Sub-project objectives:

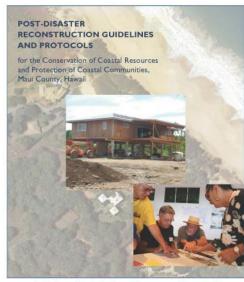
- Balancing permitting and recovery speed while protecting environmental resources
- Increase resilience to future hazards through the recovery process
- Conducting post-disaster recovery and resilience workshops and training courses
- Guidance document for implementing resilience-focused post-disaster recovery practices into existing plans and policies











Building Back Safer, Stronger, Smarter! JANUARY 2015





# Mahalo!

Brad Romine, PhD University of Hawai'i Sea Grant DLNR, Office of Conservation and Coastal Lands romine@hawaii.edu 808-587-0049

#### climateadaptation.hawaii.org









Funding from: NOAA NOS FY16 Regional Coastal Resilience Grants Program