

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

P.O. BOX 621
HONOLULU, HAWAII 96809

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

CIARA W.K. KAHAHANE
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Testimony of
DAWN N. S. CHANG
Chairperson

Before the Senate Committees on
HIGHER EDUCATION
&
AGRICULTURE AND ENVIRONMENT

Friday, January 31, 2025

1:50 p.m.

State Capitol, Conference Room 224 & Videoconference

In consideration of
SENATE BILL 657
RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

Senate Bill 657 proposes to appropriate funds for the School of Ocean and Earth Science and Technology within the University of Hawai'i to establish and operate a Center for Climate Resilient Development. **The Department of Land and Natural Resources (Department) supports this bill.**

The Department has a close working relationship with the School of Ocean and Earth Science and Technology (SOEST), and has used the sea level rise data and coastal erosion modeling to help develop the 2017 and 2022 State Sea Level Rise and Adaptation Reports as well as the resulting policies.

Currently, much of the work conducted at SOEST is funded by federal grants, which are subject to shifts in national priorities. Climate science and sea level rise modeling continue to advance. If the State wishes to continue to base its policies on science, the Department believes that we should invest directly in the development and support of scientific resources. Establishing a dedicated center for climate resilience will strengthen the state's capacity to respond to the challenges posed by climate change and rising sea levels.

Mahalo for the opportunity to provide testimony in support of this bill.



LATE

STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. BOX 3378
HONOLULU, HI 96801-3378

WRITTEN
TESTIMONY

**Testimony in SUPPORT of SB00657
RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT.**

COMMITTEE ON HIGHER EDUCATION
Senator Donna Mercado Kim, Chair
Senator Michelle N. Kidani, Vice Chair

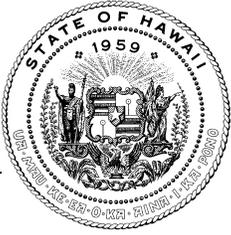
COMMITTEE ON AGRICULTURE AND ENVIRONMENT
Senator Mike Gabbard, Chair
Senator Herbert M. "Tim" Richards, III, Vice Chair

Hearing Date: 1/31/2025

Room Number: 224

- 1 **Fiscal Implications:** This measure will impact the priorities identified in the Governor's
2 Executive Budget Request for the Department of Health's (Department) appropriations and
3 personnel priorities.
- 4 **Department Testimony:** The Department supports bill SB0657 and recognizes that the
5 changing climate is a worldwide environmental health problem that directly impacts the health
6 and safety of Hawaii's people, communities, and natural environment. Potential human health
7 effects resulting from climate change are broad reaching and include dangers from increased
8 natural disasters and flooding, changing vector-borne infectious diseases and food related
9 infections, as well as impacts on mental health and well-being. Hawaii has been a national leader
10 in taking steps to increase resilience and mitigate the negative impacts of climate change.
11 However, much of these efforts have been directed at planning and infrastructure and have not
12 focused on preventing the illness and injuries that climate change will cause.
- 13
- 14 The need to build out further capacity throughout Hawai'i to address climate change impact to
15 the environment and community resiliency is of the utmost importance. SOEST has been an

1 integral partner to the Department for providing modeling on flooding projections, heat
2 projections, hurricane storm surge and various others that are utilized for data to action. The
3 creation of a center that provides education for the community and recommendations for projects
4 would bolster the state's efforts to further protect the community from climate change hazards.
5
6 Thank you for the opportunity to testify on this measure.



**STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT**

JOSH GREEN, M.D.
GOVERNOR

SYLVIA LUKE
LT. GOVERNOR

MARY ALICE EVANS
DIRECTOR

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
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Statement of
MARY ALICE EVANS, Director

before the
**SENATE COMMITTEES ON HIGHER EDUCATION & AGRICULTURE AND
ENVIRONMENT**

Friday, January 31, 2025, 1:50 PM
State Capitol, Conference Room 224

in consideration of
SB 657
RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT.

Chairs Kim and Gabbard, Vice Chairs Kidani and Richards, and Members of the Senate Committees on Higher Education & Agriculture and Environment:

The purpose of SB 657 is to appropriate funds for the University of Hawai'i, School of Ocean and Earth Science and Technology (SOEST) to establish and operate a Center for Climate Resilient Development which will provide climate data and modeling on coastal hazards such as sea level rise, coastal erosion and groundwater inundation.

The Office of Planning and Sustainable Development (OPSD) **supports** this bill as the availability of up-to-date and reliable information is a critical component to ensuring that decision making along the shoreline is informed by science. Building on SOEST's proven expertise in climate modeling, the Center will provide actionable data on sea level rise, coastal erosion, wave flooding, groundwater inundation, and more—already indispensable to Hawai'i's real estate, environmental review, and county resilience laws. With dedicated funding, the Center will be able to provide foundational data for planning and managing our coastal areas.

Thank you for the opportunity to testify on this measure.



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
Senate Committees on Higher Education and Agriculture & Environment
Friday, January 31, 2024 at 1:50 p.m.

By

Charles “Chip” Fletcher, PhD

Interim Dean

School of Ocean and Earth Science and Technology

And

Michael Bruno, PhD

Provost

University of Hawai'i at Mānoa

SB 657 – RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

Chairs Kim & Gabbard, Vice Chairs Kidani & Richards, and members of the committees:

The University of Hawai'i School of Ocean and Earth Science and Technology (SOEST) supports Senate Bill 657, which appropriates funds for SOEST to establish and operate a Center for Climate Resilient Development.

Senate Bill 657's proposal to establish a Center for Climate Resilient Development at the University of Hawai'i at Mānoa is a pivotal step toward safeguarding Hawai'i's future.

Building on the SOEST's proven expertise in climate modeling, the Center will provide actionable data on sea level rise, coastal erosion, wave flooding, groundwater inundation, and more—already indispensable to Hawai'i's real estate, environmental review, and county resilience laws. Further, laws that refer to the Sea Level Rise Exposure Area include the clause “or its successor,” contemplating updates to SOEST's modeling products that cannot be completed without adequate resources.¹

Research at SOEST is currently reliant on precarious federal grants and this critical work is at risk without stable funding. Just this week, the Trump Administration put in place a pause on all federal grants,² which is likely just the beginning for an administration with a limited appetite for funding climate change-related research.

¹ See e.g. Haw. Rev. Stat. § 508D-15(a)(5).

² Holly Honderich, James FitzGerald & Ana Faguy, *White House defends freezing funds as 'reasonable' while Democrats express 'extreme alarm'*, BBC News (Jan. 28, 2025).

With \$3 million annually, the Center will solidify Hawai'i's capacity to address evolving climate hazards, collaborate with communities statewide, and champion equitable, sustainable development to protect the islands' people, ecosystems, and future.

SOEST supports Senate Bill 657, provided its adoption does not impact priorities as indicated in our Board of Regents Approved Budget. Thank you for the opportunity to testify on this measure.



Email: communications@ulupono.com

SENATE COMMITTEES ON HIGHER EDUCATION & AGRICULTURE AND ENVIRONMENT
Friday, January 31, 2025 — 1:50 p.m.

Ulupono Initiative supports SB 657, Relating to Center for Climate Resilient Development.

Dear Chair Kim, Chair Gabbard, and Committee Members:

My name is Mariah Yoshizu, and I am the Government Affairs Associate at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food, renewable energy and clean transportation choices, and better management of freshwater resources.

Ulupono supports SB 657, which appropriates funds for the School of Ocean and Earth Science and Technology (SOEST) within the University of Hawai'i to establish and operate a Center for Climate Resilient Development.

Hawai'i faces unique and pressing challenges from climate change that require coordinated, science-based solutions. The proposed Center would fill a considerable gap by providing dedicated capacity for community-focused climate resilience planning.

SOEST is ideally positioned to house this Center, given its established expertise in climate modeling and track record of working directly with communities. Its existing modeling capabilities are already essential to the state's climate adaptation efforts, including:

- Mandatory sea level rise disclosure requirements for real estate transactions
- Environmental review processes
- County-level shoreline setback and special management area regulations

However, this vital research currently relies on vulnerable soft money funding. By providing stable state funding of \$3 million annually, this bill would protect and enhance Hawai'i's climate science capabilities at a time when federal support for climate research faces uncertainty.

Thank you for the opportunity to testify.

Respectfully,

Mariah Yoshizu
Government Affairs Associate

Investing in a Sustainable Hawai'i



**SENATE COMMITTEES ON HIGHER EDUCATION
and AGRICULTURE AND ENVIRONMENT**

JANUARY 31TH, 2025

SB 657, RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

POSITION: SUPPORT

Coalition Earth **supports** SB 657, relating to the Center for Climate Resilient Development, which appropriates funds for the School of Ocean and Earth Science and Technology within the University of Hawai'i to establish and operate a Center for Climate Resilient Development.

According to a report produced by the Hawai'i Climate Change Mitigation and Adaptation Commission, global sea levels could rise more than three feet by 2100, with more recent projections showing this occurring as early as 2060. In turn, over the next 30 to 70 years, approximately 6,500 structures and 19,800 people statewide will be exposed to chronic flooding. Additionally, an estimated \$19 billion in economic loss would result from chronic flooding of land and structures located in exposure areas. Finally, approximately 38 miles of coastal roads and 550 cultural sites would be chronically flooded, on top of the 13 miles of beaches that have already been lost on Kaua'i, O'ahu, and Maui to erosion fronting shoreline armoring.

As we work to reduce carbon emissions and stave off the worst consequences of climate change, we must begin preparing for the adverse impact of sea level rise on our shores. We are now quantifying the speed at which we must act. We cannot continue to develop the 25,800-acre statewide sea level rise exposure area—one-third of which is designated for urban use—without risking massive structural damage and, potentially, great loss of life.

Just two years ago, we witnessed the impact of the climate emergency on our shores. On August 8, 2023, wildfires swept across Maui and killed at least 100 people, making it one of the nation's deadliest natural disasters. The spread of the fires has been attributed to climate change conditions, such as unusually dry landscapes and the confluence of a strong high-pressure system to the north and Hurricane Dora to the south. The wildfires destroyed over 2,200 structures,

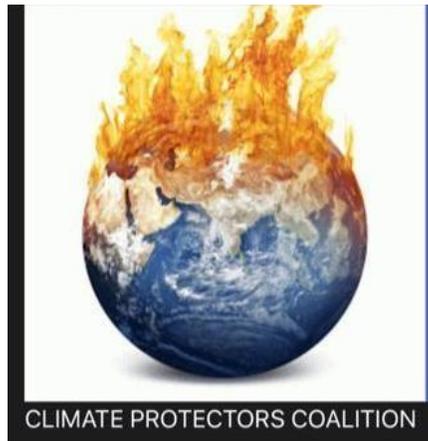
including numerous residential buildings, historic landmarks, and school facilities. In September 2023, a report from the United States Department of Commerce estimated the total economic damage of the wildfires to be roughly \$5.5 billion. Investing in renewable energy generation could not be more urgent, given the growing threat of climate catastrophes to our island home.

Therefore, **our state should take steps to accelerate our transition to a clean energy economy and continue our fight against climate change, including by uplifting strategies to reduce direct and indirect greenhouse gas emissions, support sustainable development with an emphasis on social equity for all communities, and augment socioeconomic systems to bolster climate resilience and public health.** Under the Trump administration, funding for climate resilience initiatives will likely be severely curtailed, leaving it to state officials to guarantee that our efforts to combat climate change can continue unabated.

Experts at the University of Hawai'i's School of Ocean and Earth Science and Technology (SOEST) work with communities to identify sea level rise vulnerabilities, hurricane storm surge models, heat projections, and wildfire hazards. SOEST's sea level rise models are utilized for the mandatory disclosure of sea level rise in real estate transactions and the analysis of sea level rise required by the state's environmental review process. SOEST's climate researchers also perform invaluable analyses of the impact of climate change on our state, as the worst effects of the climate crisis become more likely with each passing year.

As we invest more heavily in green infrastructure, climate readiness, emergency preparedness, and clean energy, it would be beneficial to have a research center to inform public policy and partner with individual communities on projects that address climate change. This is particularly true in light of the need to craft a socially equitable response to the climate emergency, in which our most marginalized populations—who are also those most susceptible to climate threats—are fully included.

Coalition Earth is a nongovernmental organization that works to preserve the well-being of people and our planet. We champion policies that advance climate resilience, clean energy, public health, and economic fairness for working families. Contact us at info@coalitionearth.org.



To: The Honorable Chairs Donna Mercado Kim and Mike Gabbard, the Honorable Vice Chairs Michelle Kidani and Herbert M. “Tim” Richards, III, and Members of the Committees on Higher Education and Agriculture and Environmental Protection.

From: The Climate Protectors Hawai‘i (by Ted Bohlen)

Re: Hearing **SB657 RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT**

Hearing: Friday January 31, 2025, 1:50 p.m. Rm. 224

Aloha Chairs Kim and Gabbard, Vice Chairs Kidani and Richards, and Higher Education and Agriculture and Environment Committee Members:

The Climate Protectors Hawai‘i seeks to educate and engage the local community in climate change action, to help Hawai‘i show the world the way back to a safe and stable climate.

The Climate Protectors Hawai‘i STRONGLY SUPPORTS SB657!

Hawai‘i is extremely vulnerable to hazards from climate warming, but no single agency or entity is responsible for developing climate resiliency plans.

The University of Hawaii School of Ocean and Earth Science and Technology (SOEST) has been working with communities to identify some of those vulnerabilities: flooding from hurricanes and sea level rise, heat projections, and wildfires, with expertise in ignition modeling. SOEST has developed modeling for the State’s mandatory disclosure of sea level rise in real estate transactions and for environmental reviews. Contracts and federal money that SOEST has used are likely to be unavailable in the next few years. Based on its experience, SOEST would appear to be the best single entity in Hawai‘i to develop climate resiliency plans.

This bill would establish a Center for Climate Resilient Development in UH SOEST. This Center would provide communities with guidance on climate hazards, risks, and vulnerabilities and recommend capital improvement projects and shovel-ready projects to build resiliency.

Climate Protectors Hawai'i is very concerned that Hawaii **minimize the future costs** of adapting for climate warming hazards and vulnerabilities. **Hawai'i can avoid a great deal of higher future costs of climate change by careful planning. It makes sense to have a single entity responsible for developing climate resiliency plans.** Based on its experience, **SOEST would appear to be the best single entity in Hawai'i to develop climate resiliency plans.**

Please pass this bill to establish a Center for Climate Resilient Development in UH SOEST.

Mahalo!

Hawai'i Reef and Ocean Coalition (by Ted Bohlen)



LATE

January 30, 2025

Senate Committee on Higher Education
Senate Committee on Agriculture and Environment
Hawai'i State Legislature
Via Electronic Transmission

Re: Testimony in SUPPORT of SB 657, Relating to the Center for Climate Resilient Development
Hearing: Friday, January 31, 2025, 1:50 pm CR224

To: The Honorable Chairs Kim & Gabbard, Vice Chairs Kidani & Richards, and Members of the Committees

Surfrider Foundation Hawai'i Region strongly supports Senate Bill 657 which proposes to establish a Center for Climate Resilient Development at the University of Hawai'i at Mānoa.

Surfrider Foundation is a grassroots activist network dedicated to the protection of our oceans, waves, and beaches. Surfrider Foundation Hawai'i Region supports SB657 because Hawai'i's coastal communities are particularly vulnerable to the impacts of climate change and sea level rise. Sea level rise threatens coastal communities, infrastructure, and ecosystems, including world-renowned beaches and surf breaks. Accurate projections of sea level rise impacts are crucial for developing effective adaptation strategies, such as managed retreat and infrastructure improvements.

Surfrider Foundation works closely with researchers at the School of Ocean and Earth Science and Technology (SOEST) to understand their modeling projects and interpret how to best advocate for the resilience for Hawai'i's beaches. SOEST research informs policy decisions and land management practices, helping to protect Hawaii's coastal resources for future generations.

As example, SOEST members play a key role in our North Shore Coastal Resilience Working Group (NSCRWG), a community-based effort to identify proactive solutions to combat chronic coastal erosion and beach loss along the North Shore of O‘ahu. In 2022, SOEST SLR-XA projections were a critical point of discussion and formed much of the recommended management strategies. We are reinstating the NSCRWG this year and SOEST will again be included and looked to for their expertise in climate modeling. The proposed Center will provide actionable data on sea level rise, coastal erosion, wave flooding, groundwater inundation, and more which will be instrumental knowledge to successful coastal management strategies.

Surfrider Foundation is concerned about the climate crisis in Hawai‘i because sea level is projected to rise by several feet in Hawai‘i by the end of the century, underscoring the urgent need to prioritize community resilience. In order to prepare our keiki for the climate of tomorrow, we need accurate projections of future sea level rise and climate impacts in Hawai‘i’s communities and SB657 does just that.

In summary, Surfrider Foundation strongly supports SB657 and appreciates the Committees’ thorough consideration of the bill and the positive impact it will have for Hawai‘i’s resilience.

Mahalo for your time and the opportunity to provide testimony.

Sincerely,

Hanna Lilley
Hawai‘i Regional Manager
Surfrider Foundation



LATE

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Natalie Urminska
Kaua'i

Aloha Chairs Kim & Gabbard, Vice Chairs Kidani & Richards, and Members of the Committees,

The Hawai'i Farmers Union is a 501(c)(5) agricultural advocacy nonprofit representing a network of over 2,500 family farmers and their supporters across the Hawaiian Islands. **HFUU supports SB657.**

Investing in the establishment of a Center for Climate Resilient Development at the University of Hawaii is a significant advancement for addressing the pressing challenges faced by Hawaii's agricultural community due to climate change. This initiative is not only essential for the present circumstances but is crucial for preparing our state's farmers for an unpredictable future. By focusing on resilience, the Center can develop innovative strategies and provide the necessary tools and resources to farmers, empowering them to adapt to diverse climate conditions and mitigate the adverse effects of climate events on their livelihoods.

Hawaii's unique ecosystem and geographical conditions demand tailored solutions in agriculture, which the Center could facilitate through dedicated research and collaborations. The Center will foster partnerships between scientists, policymakers, and farmers to develop informed, science-based practices that enhance productivity while prioritizing environmental stewardship. By integrating local wisdom with cutting-edge research, this initiative will ensure that agricultural practices remain sustainable and economically viable, ultimately strengthening Hawaii's food security and contributing positively to the broader global efforts in combating climate change. This integrated approach will equip our farmers with the resilience needed to thrive in the face of impending climatic shifts.

Mahalo for the opportunity to testify.

Hunter Heavilin
Advocacy Director
Hawai'i Farmers Union

SB-657

Submitted on: 1/28/2025 5:20:10 PM

Testimony for HRE on 1/31/2025 1:50:00 PM

Submitted By	Organization	Testifier Position	Testify
Jacqueline S. Ambrose	Individual	Support	Written Testimony Only

Comments:

YES to - Appropriates funds for the School of Ocean and Earth Science and Technology within the University of Hawaii to establish and operate a Center for Climate Resilient Development



Restore the Commons

Friday January 31, 2025, 1:50 pm

Senate Committees on Higher Education and on Agriculture and Environment

SENATE BILL 657 – RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

Position: Strong Support

Me ke aloha, Chairs Kim and Gabbard, Vice Chairs Kidani and Richards, and Members of the Committees on Higher Education and on Agriculture and Environment:

SB657 appropriates funds for the School of Ocean and Earth Science and Technology (SOEST) at the University of Hawai'i to establish and operate a Center for Climate Resilient Development.

Restore the Commons fully supports the creation of a Center for Resilient Development, and SOEST is perfectly suited to support it. SOEST houses some of the world's foremost scientists and thinkers about climate change, activists long trying to get the public to understand the gravity of climate change. It appears that they have been successful in helping the public understand our harsh reality.

It could not come at a more compelling time, as so little has been done to contain or curtail the cause of climate change – the emissions of greenhouse gases into the atmosphere, and the state of climate change has become more deadly and costly, as explained. More is to come, as we have yet to be sufficiently serious about reducing emissions. Emissions continue to increase, the limit for emissions before losing a chance for remediation has been breached, and the Earth's climate systems are beginning to change beyond the capacity of current models to keep up. SOEST has the advantage of an incredible network of data gatherers across the Pacific to help redefine the current nature of climate change.

Efforts to reduce the impact of devastating climate disasters are in their infancy, and an accelerated program to change perspectives and supercharge motivations to action would be the steady and principled work of this highly respected institution.

Mahalo for the opportunity to address this issue,

/s/ Charley Ice, Hoa'āina, Waimalu;

former O'ahu Democratic Party Region 5 Chair ('Aiea- Pearl City); Former Planner, DHHL (10 years); retired Hydrologist, Commission on Water Resource Management (25 years)

**Building the new normal with People and Land: Food Security Health Care Public Banking
Regenerating Soils Cutting Waste Eliminating GHG emissions**

SB-657

Submitted on: 1/29/2025 8:04:53 PM

Testimony for HRE on 1/31/2025 1:50:00 PM

Submitted By	Organization	Testifier Position	Testify
Denise E Antolini	Individual	Support	Written Testimony Only

Comments:

Aloha HRE Chair Kim, Vice Chair Kidani, and Members,

Aloha AEN Chair Gabbard, Vice Chair Richards, and Members,

I write in **strong support** of SB657, an appropriation for the School of Ocean and Earth Science and Technology within the University of Hawaii to establish and operate a Center for Climate Resilient Development.

I have worked on climate change law and policy issues for over twenty years. I am very familiar with deep expertise of SOEST on these issues. Our University also provides global leadership and cutting edge science for policymakers at a critical time for our warming planet.

Stable and consistent funding for a new center that would consolidate the expertise of the University in the area of climate resilient development would be a wise investment in Hawai'i's future given the increasing intensity and frequency of climate risks and disasters.

Mahalo for supporting this bill and the requested appropriation!

Denise Antolini

North Shore resident

Professor Emerita, William S. Richardson School of Law*

Member, Governor's Climate Advisory Team*

*noted for affiliation purposes only; this is individual testimony not testimony on behalf of the CAT or the Law School or the University of Hawai'i