

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
P.O. BOX 621
HONOLULU, HAWAII 96809

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CHAIRPERSON
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ENFORCEMENT
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

Testimony of
DAWN N. S. CHANG
Chairperson

Before the House Committee on
WATER & LAND

Tuesday, March 11, 2025
09:00 a.m.
State Capitol, Conference Room 411 & Videoconference

In consideration of
SENATE BILL 657, SENATE DRAFT 1
RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

Senate Bill 657 Senate Draft 1 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.

The work conducted at SOEST has largely been funded by federal grants, which can be subject to the influence of changing 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.

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



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
House Committee on Water and Land
Tuesday, March 11, 2025 at 9:00 a.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 SD1 – RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

Chair Hashem, Vice Chair Lamosao, and Members of the Committee:

The University of Hawai'i School of Ocean and Earth Science and Technology (SOEST) strongly supports Senate Bill 657 SD1, which appropriates funds for SOEST to establish and operate a Center for Climate Resilient Development.

The proposal set forth in SB 657 SD1 to create a Center for Climate Resilient Development at the University of Hawai'i at Mānoa represents a crucial step in safeguarding the future of Hawai'i.

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

The following is a list of laws and policies that depend on SOEST data.

- Mandatory disclosure of sea level rise in real estate transactions
 - Hawai'i Revised Statutes § 508D-15(5)
- Required analysis of sea level rise in the Hawai'i Environmental Policy Act
 - Hawai'i Revised Statutes Chapter 343
 - Hawai'i Administrative Rules §§ 11-200.1-13, -18, -21, -24
- Shoreline Setback Ordinances in Kaua'i County, Maui County, and the City & County of Honolulu
 - Hawai'i Revised Statutes § 205A-45
 - Maui County Administrative Rules, Title 12 Chapter 203
 - Revised Ordinances of Honolulu, Chapter 26
 - Kaua'i County Code, Title IV, Chapter 8, Article 27

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

- Special Management Area in Maui County and the City & County of Honolulu
 - Hawai'i Revised Statutes §§ 205A-21 et seq.
 - Maui County Administrative Rules, Title 12 Chapter 202
 - Revised Ordinances of Honolulu, Chapter 25
- Kaua'i County Sea Level Rise Constraint District
 - Kaua'i County Code, Title IV, Chapter 8, Article 12.5

In 2017, the Hawai'i Climate Change Mitigation and Adaptation Commission formally adopted the Hawai'i Sea Level Rise Vulnerability and Adaptation report based on SOEST research.² Since then, SOEST data and modeling have been utilized in many state and local reports and plans. City and County of Honolulu and Maui County Mayors have also issued proclamations requiring their respective departments to incorporate sea level rise considerations into their planning and decision making.³

Currently, research at SOEST relies heavily on unstable federal grants, putting this vital work at risk without consistent funding. Recently, the Trump Administration implemented a pause on all federal grants, indicating a concerning trend for an administration that has shown limited interest in funding climate change-related research.

While SB 657 SD1 requests a one-time appropriation for this legislative session, SOEST advocates for an ongoing funding mechanism.

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.

The utilization of general fund dollars for climate and sea level rise research offers significant long-term cost savings. While the initial investment may seem substantial, it pales in comparison to the future expenses that the state will inevitably face if it fails to adequately prepare for the impacts of climate change.

Investing in research now allows for the development of data-driven strategies to mitigate these impacts, protecting critical infrastructure and minimizing damage from severe weather events. Every dollar spent proactively on research can save the state significantly more in the form of avoided future infrastructure repairs, emergency services costs, and the immeasurable cost of human suffering during climate-related disasters. This proactive approach is not only fiscally responsible but also demonstrates a commitment to the safety and well-being of Hawai'i's residents.

In conclusion, passing SB 657 SD1 and funding climate and sea level rise research at SOEST, whether through general fund, or through some other means, is a strategic investment in the state's future. This vital research will help to protect the natural beauty that attracts tourists and generates significant revenue, while also mitigating future costs associated with climate change

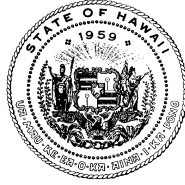
² Hawai'i Climate Change Mitigation and Adaptation Commission. 2017. Hawai'i Sea Level Rise Vulnerability and Adaptation Report. Prepared by Tetra Tech, Inc. and the State of Hawai'i Department of Land and Natural Resources, Office of Conservation and Coastal Lands, under the State of Hawai'i Department of Land and Natural Resources Contract No: 64064.

³ Off. of the Mayor, City and Cty. of Honolulu, Exec. Directive No. 18-2 (Jul. 16, 2018); Off. of the Mayor, Cty. of Mau Honolulu, Exec. Proclamation (Feb. 22, 2018).

impacts. This investment is not merely an expenditure, but a crucial step towards ensuring Hawai'i's environmental, economic, and social resilience in the face of an increasingly uncertain future.

We urge your passage of SB 657 SD1, 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.

JOSH GREEN, M.D.
GOVERNOR OF HAWAII
KE KIA'AINA O KA MOKU'AINA 'O HAWAII'



KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

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

WRITTEN
TESTIMONY

**Testimony in SUPPORT of SB0657
RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT.**

COMMITTEE ON WATER & LAND

Rep. Mark J. Hashem, Chair
Rep. Rachele F. Lamosao, Vice Chair

COMMITTEE ON PUBLIC SAFETY

Rep. Della Au Belatti, Chair
Rep. Kim Coco Iwamoto, Vice Chair

Hearing Date: 3/11/2025

Room Number: 411

- 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 negative impacts of climate change on the community.
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.



MAKAKILO/KAPOLEI/HONOKAI HALE NEIGHBORHOOD BOARD NO. 34

c/o NEIGHBORHOOD COMMISSION • 925 DILLINGHAM BLVD SUITE 160 • HONOLULU, HAWAII, 96817
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov>

RESOLUTION

SUPPORTING EFFORTS FOR INCREASED DISASTER PREPAREDNESS ESPECIALLY FOR HURRICANES

WHEREAS the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 ("Board") is a citizens' advisory board whose purpose is to "increase and assure effective citizen participation in the decisions of government" per the City and County of Honolulu's Neighborhood Plan of 2008; and

WHEREAS on December 1, 2021 a focused meeting on Hurricane preparedness was held by the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 under the leadership of the Environmental Justice Committee and Committee Chair Dr. Kioni Dudley; and

WHEREAS at that focused meeting the neighborhood and public was educated on the state of disaster "unpreparedness" with the following presentations: 1) "O'ahu Faces More Frequent and Stronger Hurricanes Due to Climate Change – Warning," by Meteorologist John Bravender, NOAA/National Weather Service WFO Honolulu and Central Pacific Hurricane Center; 2) "Select scenes on why no food may be available for weeks if a hurricane strikes," from the documentary *A Climate for Change* – by Anthony Aalto & Mike Hinchey, Green Island Films, featuring Owner/CEO Chad Buck, Hawai'i Food Service Alliance; Assistant Professor of Sustainable Community Food Systems Albie Miles, University of Hawai'i - West O'ahu; and Executive Officer David Lopez, Hawai'i Emergency Management Agency; 3) "Tremendous impacts of a Hurricane Hitting O'ahu" by Executive Officer David Lopez & Administrator Luke Meyer, Hawai'i Emergency Management Agency; 4) "Oahu Hurricane Shelters Should Be Your Last Resort" – Robert Harter Department of Emergency Management, and 5) "Prepare Your Home for Hurricanes," Specialist Dennis Hwang, Esq., University of Hawai'i Sea Grant, co-author of *Homeowner's Handbook to Prepare for Natural Disasters, 4th Edition*; and

WHEREAS O'ahu's communities are highly vulnerable to extreme natural disaster events beyond just hurricanes including tsunamis, floods, seasonal high waves, earthquakes, and sea level rise; and

WHEREAS disasters cause loss of life, disrupt people's lives, have long lasting economic effects, and damage environmental resources; and

WHEREAS climate change is expected to exacerbate the impacts of many natural hazards thereby increasing the risk of disaster at neighborhood, island, and state levels; and

WHEREAS emergency responders and government officials plan for, practice, and



respond to save lives and restore critical infrastructure immediately following a disaster;
and

WHEREAS county planners together with neighborhoods, communities, businesses, agencies and individuals must address how to prepare for long-term disaster recovery in a manner that is efficient, improves community resilience, and protects the environment;
therefore

BE IT RESOLVED that the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 supports the efforts for increased disaster preparedness especially for hurricanes; and

BE IT FURTHER RESOLVED that Neighborhood Board No. 34 supports the intent of H.B. 1976 (2022) establishing the safe home program to provide matching and nonmatching grants for installation of wind resistive devices to single-family, owner-occupied, residential properties in certain circumstances. Creates a permanent position within the insurance division of the department of commerce and consumer affairs to implement and administer the safe home program; and

BE IT FURTHER RESOLVED that Neighborhood Board No. 34 supports all efforts to incorporate into H.B. 1976 or other appropriate vehicle the sentiments of S.B. 953/H.B. 425 from the 2021 session on “Building Codes; Building Permits” which: 1) prohibits the issuance of building permits for all new building construction unless the applicant provides sufficient proof that the building will be able to withstand category four hurricanes and recommending a change to “category five hurricanes” and 2) requires building permits to be obtained for work performed for state government agencies on all new public buildings, and requires new public buildings to be designed to withstand category five hurricanes; and

BE IT FURTHER RESOLVED that Neighborhood Board No. 34 supports all efforts to incorporate into H.B. 1976 funding for “pre-covery pods” on various parts of the islands which will hold 15 million Ready-to-Eat meals that will last up to twenty-five years, in order to feed our people during the weeks that our ports and airports are anticipated to be shut down and unable to import food following a major hurricane; and

BE IT FURTHER RESOLVED that Neighborhood Board No. 34 supports the intent of H.B. 2302 (2022) appropriating moneys for the continued operation and disaster preparedness outreach efforts of the University of Hawai'i Sea Grant college program; and

BE IT FURTHER RESOLVED that copies of this resolution be transmitted to Hawai'i's Congressional Delegation, Governor, Senate President, Speaker of the House, Mayor of the City and County of Honolulu, Honolulu Council Members, Executive Officer of Hawai'i Emergency Management Agency, the Executive Director of Hawai'i Community Development Authority, and all Neighborhood Boards.

**Adopted by Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 at its
February 26, 2022 Regular Board Meeting, 7-0-0.**





MAKAKILO/KAPOLEI/HONOKAI HALE NEIGHBORHOOD BOARD NO. 34

c/o NEIGHBORHOOD COMMISSION • 925 DILLINGHAM BLVD SUITE 160 • HONOLULU, HAWAII, 96817
PHONE (808) 768-3710 • FAX (808) 768-3711 • INTERNET: <http://www.honolulu.gov>

RESOLUTION

**REQUESTING THE HAWAII LEGISLATURE TO ENHANCE HURRICANE
PREPAREDNESS FOR THE STATE**

Whereas, the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 (“Board”) is a citizens’ advisory board whose purpose is to “increase and assure effective citizen participation in the decisions of government” per the City and County of Honolulu’s Neighborhood Plan of 2008; and

Whereas, on December 1, 2021, a focused meeting on hurricane preparedness was held by the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34, led by the Environmental Justice Committee and Committee Chair Dr. Kioni Dudley, during which multiple experts shared insights that form the basis of hurricane related clauses in this resolution; and

Whereas, on February 26, 2022, the Board passed a resolution “Supporting Efforts for Increased Disaster Preparedness Especially for Hurricanes”; and

Whereas, climate change has caused sea temperatures to rise, resulting in the northward shift of hurricane spawning grounds previously located off Mexico’s coast, bringing storms directly toward Hawaii that once passed far to the south; and

Whereas, rising sea temperatures are causing hurricanes to grow stronger, with an increase in the frequency and intensity of Category 3, 4, and 5 storms; and

Whereas, Super Category 5 hurricanes with winds exceeding 200 mph occur approximately every eight years, and it is estimated that by 2080, one such storm is expected every year globally, with the northern Pacific, including Hawaii, predicted to be the most affected; and

Whereas, Hawaii used to be protected by cooler surrounding seas and by tradewinds at a lower level and strong winds in the opposite direction at a higher level which would tear approaching hurricanes apart, but those seas have now warmed and, having lost two days of tradewinds each year for fifty years, we now have their protection only on half of the days of the year; and

Whereas, Hawaii’s current shelters do not meet hurricane safety standards, and many refuge areas are only capable of withstanding up to a Category 2 hurricane; and

Whereas, there are only 32 designated refuge areas in Hawaii, capable of sheltering 100,000 people, but in the event of a Category 1 hurricane, up to 200,000 people may seek



refuge, leaving many without adequate shelter; and

Whereas, Hawaii is home to approximately 187,000 wooden homes, many of which would suffer significant damage or destruction even from a Category 1 hurricane, and there are no shelters currently capable of withstanding Category 3, 4, or 5 storms, leaving no safe places in the event of such a disaster; and

Whereas, the Board observes that the current government approach appears to rely on recovery efforts following a major hurricane, rather than prioritizing proactive measures to protect lives and property in advance, and therefore advocates for a shift toward such preventative actions; and

Whereas, the Board recognizes the profound moral obligation to future generations to begin fortifying buildings today, ensuring that all homes and structures are capable of withstanding 200 mph+ winds, which will likely become more frequent; and

Whereas, Neighborhood Boards are entrusted with the responsibility to convey the concerns and desires of the community to higher levels of government, and these concerns should be seriously considered by lawmakers; and

Resolved, that the Makakilo-Kapolei-Honokai Hale Neighborhood Board No. 34 formally requests the Hawaii State Legislature to consider:

1. Providing an income tax credit of up to \$20,000 for homeowners to retrofit their residences with wind-resistant features.
2. Allocating funding for low-income homeowners to retrofit their homes to withstand stronger storms.
3. Funding an office and staff to oversee the completion of home fortification projects, process funding applications, and approve tax credits.
4. Passing legislation requiring that all new homes in Hawaii be built to withstand at least a Category 3 hurricane, and include a connected safe room and bathroom capable of surviving Super Category 5 (200 mph+) winds.
5. Passing legislation mandating that all high-occupancy buildings in Hawaii be designed to withstand Super Category 5 hurricanes and serve as storm shelters.
6. Passing legislation requiring new schools that have been approved but not yet built to include rooms capable of withstanding Super Category 5 hurricane winds.
7. Providing additional staff to HI-EMA to secure military funding for fortifying off-base schools that serve military families.
8. Establishing a tourism green fee and allocating 20% of the revenue to fund the strengthening of classrooms and shelters in schools to withstand 200 mph+ hurricane winds; and

Resolved, that this Resolution, without further approval, should be submitted as formal testimony by the Board for all hearings related to these matters at the federal, state, and county levels; and



Ordered, that copies of this resolution be transmitted to the Mayor of the City and County of Honolulu, Honolulu Council Members, HI-EMA, Speaker of the House, President of the Senate, Area Legislators, and all Neighborhood Boards.

Adopted by the Makakilo/Kapolei/Honokai Hale Neighborhood Board No. 34 at its December 4, 2024 Regular Board Meeting, 9-0-0 (Aye: Bossler, Dudley, Ferreira, Kahele, Khan, Lidstone, Singleton, Taala, Paris; Nay: None; Abstain: None)



LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

OFFICE OF CLIMATE CHANGE SUSTAINABILITY AND RESILIENCY

KE KE'ENA LOLI ANIAU MĀLAMA 'ĀINA A ME KE OLA LOA

CITY AND COUNTY OF HONOLULU

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RICK BLANGIARDI
MAYOR
MEIA



BENJAMIN SULLIVAN
EXECUTIVE DIRECTOR &
CHIEF RESILIENCE OFFICER
PO'O HO'OKŌ & KAHU OLA LOA

KEALOHA FOX
DEPUTY DIRECTOR &
CHIEF RESILIENCE OFFICER
HOPE PO'O & HOPE KAHU OLA LOA

TUESDAY, MARCH 11, 2025, 9:00 A.M.

STATE OF HAWAII
HOUSE COMMITTEE ON WATER & LAND

**TESTIMONY ON SENATE BILL 657, SD1
RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT**

BY,

BENJAMIN SULLIVAN
EXECUTIVE DIRECTOR AND CHIEF RESILIENCE OFFICER
OFFICE OF CLIMATE CHANGE, SUSTAINABILITY AND RESILIENCY

Dear Chair Hashem, Vice Chair Lamosao, and Members of the Committee:

The City and County of Honolulu ("City") Office of Climate Change, Sustainability and Resiliency ("Resilience Office") **supports** SB657, SD1, which appropriates funds for the School of Ocean and Earth Science and Technology (SOEST) within the University of Hawai'i at Mānoa to establish and operate a Center for Climate Resilient Development.

The City has greatly benefited from the research, data, and modeling produced by SOEST, including those utilized in the City's recent update to shoreline setback and special management area regulations to better safeguard beaches and adjacent development in the face of increasing climate change impacts, including sea level rise and coastal erosion. Additionally, the City relies upon SOEST's partnership, data, and modeling in planning efforts to increase the climate resiliency of infrastructure in Waikīkī and Iwilei, as well as lower climate hazard risk for communities in the Ko'olaupoko region. Climate impacts will continue to increase, and SOEST remains a critical partner and resource in our ability to plan for and address these impacts on our communities. Secure investment in these scientific resources will be necessary to effectively do so into the future.

Mahalo for the opportunity to testify in support of SB657, SD1.



Email: communications@ulupono.com

HOUSE COMMITTEE ON WATER AND LAND
Tuesday, March 11, 2025 — 9:00 a.m.

Ulupono Initiative supports SB 657 SD 1, Relating to Center for Climate Resilient Development.

Dear Chair Hashem and Members of the Committee:

My name is Micah Munekata, and I am the Director of Government Affairs 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 SD 1, which appropriates funds for the School of Ocean and Earth Science and Technology (SOEST) within the University of Hawai'i at Manoa 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,

Micah Munekata
Director of Government Affairs

Investing in a Sustainable Hawai'i



Committee on Water and Land; Tuesday, March 11, 2025 9:00AM

Room 411

Testimony of the Hawai'i Climate Change and Health Working Group

In Support of SB 657 SD1 (SSCR942)

Aloha Chair Hashem, Vice Chair Lamosao and Members of the Committee,

The Climate Change and Health Working Group **strongly supports SB 657 SD1** for the proposed bill to establish and operate the Center for Climate Resilient Development at the School of Ocean and Earth Science and Technology (SOEST).

Climate change, as outlined in the bill, is one of the most pertinent challenges facing Hawaii and other Pacific islands. These regions are at the forefront and stand to lose the most due to rising sea levels, coastal flooding, increased hurricane strength and frequency, and wildfire devastations, all of which will be exacerbated by Climate Change. These events disproportionately impact vulnerable communities, whose livelihoods, identities, ancestry, and ways of life are intricately tied to the land, water, and natural resources that are at risk of being lost.

Further, climate hazards are health hazards. Sea level rise and flooding brings sewage, bacteria, and other pathogens into contact with people, causing infections. Wildfires and hurricanes cause immediate morbidity and mortality, but also continue to put vulnerable people at risk days and weeks after an event as they attempt to seek healthcare or refill prescriptions when roads and buildings are burned or flooded or moldy.

Establishing a Center for Climate Resilient Development at SOEST will allow for addressing these vulnerabilities and potential losses in a scientifically evidence-based way, while ensuring that approaches remain community-centered and community-specific. Leveraging the expertise at SOEST offers a solid foundation for finding solutions. Furthermore, SOEST's focus on equity is integral in ensuring that all vulnerable communities are acknowledged, accounted for, and protected in the face of growing solutions to Climate Change.

The CCHWG strongly supports this bill because the state is in critical need of solutions and models for addressing Climate Change, grounded in science, community, and equity for all.

Mahalo nui for your consideration of this important measure.

Sincerely,

The Climate Change and Health Working Group



To: The Honorable Chairs Mark Hashem and Della Au Belatti, the Honorable Vice Chairs Rachele Lamasao and Kim Coco Iwamoto, and Members of the Committees on Water and Land and Public Safety.

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

Re: Hearing **SB657 SD1 RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT**

Hearing: Tuesday March 11, 2025, 9:00 p.m. Rm. 411

Aloha Chairs Hashem and Au Belatti, Vice Chairs Lamasao and Iwamoto, and Members of the Committees on Water and Land and Public Safety. Members of the Committees on Water and Land and Public Safety.

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 SD1!

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 Hawai'i 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 Hawai'i **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)



HOUSE COMMITTEE ON WATER AND LAND

MARCH 11, 2025

SB 657, SD1, RELATING TO THE CENTER FOR CLIMATE RESILIENT DEVELOPMENT

POSITION: SUPPORT

Coalition Earth **supports** SB 657, SD1, 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.



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Aloha Chair Hashem, Vice Chair Lamosao, and Members of the House Water & Land Committee,

The Hawaii 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. **HFU 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
Hawaii Farmers Union

SB-657-SD-1

Submitted on: 3/8/2025 11:00:40 AM

Testimony for WAL on 3/11/2025 9:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Douglass Adams	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Hashem, Vice Chair Lamosao, and Members of the Committee on Water & Land,

Thank you for the opportunity to testify in SUPPORT of SB657 SD1, which appropriates funds for the School of Ocean and Earth Science and Technology (SOEST) within the University of Hawai‘i at Manoa to establish and operate a Center for Climate Resilient Development. Establishing a Center for Climate Resilient Development at SOEST will allow for addressing climate change vulnerabilities and potential losses in a scientifically evidence-based way, while ensuring that approaches remain community-centered and community-specific. Leveraging the expertise and experience at SOEST offers a solid foundation for finding solutions. Furthermore, SOEST’s focus on equity is integral in ensuring that all vulnerable communities are acknowledged, accounted for, and protected in the face of growing solutions to Climate Change.

I encourage the Committee to pass SB657 SD1 and move it forward with a favorable recommendation.

very respectfully

Douglass Adams

Hilo

SB-657-SD-1

Submitted on: 3/8/2025 6:45:59 PM

Testimony for WAL on 3/11/2025 9:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Eli Warren	Individual	Support	Written Testimony Only

Comments:

Testimony of Eli Warren

In Support of SB 657 SD1

Aloha Chair Hashem, Vice Chair Lamosao, and Members of the Committee,

My name is Eli Warren and I strongly support SB 657 SD1 for the proposed bill to establish and operate the Center for Climate Resilient Development at the School of Ocean and Earth Science and Technology (SOEST).

Climate change, as outlined in the bill, is one of the most pertinent challenges facing Hawaii and other Pacific islands. These regions are at the forefront and stand to lose the most due to rising sea levels, coastal flooding, increased hurricane strength and frequency, and wildfire devastations, all of which will be exacerbated by Climate Change. These events disproportionately impact vulnerable communities, whose livelihoods, identities, ancestry, and ways of life are intricately tied to the land, water, and natural resources that are at risk of being lost.

Further, climate hazards are health hazards. Sea level rise and flooding brings sewage, bacteria, and other pathogens into contact with people, causing infections. Wildfires and hurricanes cause immediate morbidity and mortality, but also continue to put vulnerable people at risk days and weeks after an event as they attempt to seek healthcare or refill prescriptions when roads and buildings are burned or flooded or moldy.

Establishing a Center for Climate Resilient Development at SOEST will allow for addressing these vulnerabilities and potential losses in a scientifically evidence-based way, while ensuring that approaches remain community-centered and community-specific. Leveraging the expertise at SOEST offers a solid foundation for finding solutions. Furthermore, SOEST's focus on equity is integral in ensuring that all vulnerable communities are acknowledged, accounted for, and protected in the face of growing solutions to Climate Change.

I strongly support this bill because the state is in critical need of solutions and models for addressing Climate Change, grounded in science, community, and equity for all.

The climate crisis is a health crisis.

Mahalo nui for your consideration of this important measure.

Sincerely,

Eli Warren

SB-657-SD-1

Submitted on: 3/9/2025 6:48:14 PM

Testimony for WAL on 3/11/2025 9:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Dr. Kioni Dudley	Individual	Support	In Person

Comments:

In spite of the fact that we all know that the spawning area for hurricanes over by Mexico has moved northward because of warming seas, and now Hawai'i is directly in the path of hurricanes crossing the Pacific, AND the fact that we all know that we have no hurricane shelters for *anyone* on the island to go to for a Cat 3, 4, or 5 hurricane, the legislature seems only concerned to pass bills that will allow more talk, rather than pass bills to build shelters.

This bill provides for more talk. But at least it is being done in the right place. SOEST is an action entity. They will talk, plan, and then do things to get action.

I support the bill. Please pass it.

I support it.

SB-657-SD-1

Submitted on: 3/9/2025 7:29:31 PM

Testimony for WAL on 3/11/2025 9:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Emily Werner	Individual	Support	Written Testimony Only

Comments:

In Support of SB 657 SD1

Aloha Chair Hashem, Vice Chair Lamosao, and Members of the Committee,

My name is Emily Werner and I **strongly support SB 657 SD1** for the proposed bill to establish and operate the Center for Climate Resilient Development at the School of Ocean and Earth Science and Technology (SOEST).

Climate change, as outlined in the bill, is one of the most pertinent challenges facing Hawaii and other Pacific islands. These regions are at the forefront and stand to lose the most due to rising sea levels, coastal flooding, increased hurricane strength and frequency, and wildfire devastations, all of which will be exacerbated by Climate Change. These events disproportionately impact vulnerable communities, whose livelihoods, identities, ancestry, and ways of life are intricately tied to the land, water, and natural resources that are at risk of being lost.

Further, climate hazards are health hazards. Sea level rise and flooding brings sewage, bacteria, and other pathogens into contact with people, causing infections. Wildfires and hurricanes cause immediate morbidity and mortality, but also continue to put vulnerable people at risk days and weeks after an event as they attempt to seek healthcare or refill prescriptions when roads and buildings are burned or flooded or moldy.

Establishing a Center for Climate Resilient Development at SOEST will allow for addressing these vulnerabilities and potential losses in a scientifically evidence-based way, while ensuring that approaches remain community-centered and community-specific. Leveraging the expertise at SOEST offers a solid foundation for finding solutions. Furthermore, SOEST’s focus on equity is integral in ensuring that all vulnerable communities are acknowledged, accounted for, and protected in the face of growing solutions to Climate Change.

I strongly support this bill because the state is in critical need of solutions and models for addressing Climate Change, grounded in science, community, and equity for all.

The climate crisis is a health crisis.

Mahalo nui for your consideration of this important measure.

Sincerely,

Emily Werner

SB-657-SD-1

Submitted on: 3/11/2025 6:39:03 AM

Testimony for WAL on 3/11/2025 9:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Frank Schultz	Individual	Support	Written Testimony Only

Comments:

I support this initiative.