



**STATE OF HAWAII  
HAWAII CLIMATE CHANGE MITIGATION & ADAPTATION  
COMMISSION  
POST OFFICE BOX 621  
HONOLULU, HAWAII 96809**

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Director, OPSD

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Director, Kauai DP  
The Adjutant General  
Manager, CZM

**Testimony of  
Leah Laramee  
Coordinator, Hawaii Climate Change Mitigation and Adaptation Commission**

**Before the Senate Committees on  
AGRICULTURE AND THE ENVIRONMENT  
&  
WATER AND LAND**

**Wednesday, March 22, 2023  
1:00 PM  
State Capitol, Via Videoconference, Conference Room 224**

**In support of  
House Bill 441 House Draft 1  
RELATING TO RELATING TO CLIMATE EQUITY**

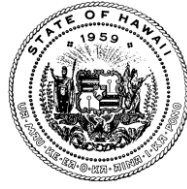
House Bill 441 HD1 appropriates funds for the development of a database and data portal from data sources detailed in the May 2022 report on social vulnerability to climate change in Hawaii'i, under certain conditions. Appropriates funds for the maintenance and updating of the data portal. **The Hawaii'i Climate Change Mitigation and Adaptation Commission (Commission) supports this measure.**

The Hawaii'i Climate Change Mitigation and Adaptation Commission consists of a multi-jurisdictional effort between 20 different departments, committees, and counties. It is co-chaired by the Department of Land and Natural Resources and the Office of Planning. The Commission's mission statement identifies equity as one of three primary considerations for all climate action. The Commission's 2019 statement on climate equity urges all government entities in Hawaii'i to use a vulnerability framework that is appropriate for Hawaii'i, and to incorporate cultural responsiveness, and reflect indigenous voices and customary law practices to identify any inequitable distribution of benefits, burdens and processes caused by climate change impacts and policy. Although climate change negatively affects all of us, some communities face disproportionate impacts through no fault of their own. Factors such as demographics, socioeconomic status, and limited access to resources can make it much harder to prepare for and recover from climate change. Because of these conditions, events such as extreme weather, sea level rise, heatwaves, flooding, and erosion might prove a hazard for some, but a disaster for others.

Federal equity tools do not sufficiently address local realities and are not refined enough to be used for local and state planning tools. To address this, the Hawaii'i State Climate Commission partnered

with the University of Hawai‘i at Mānoa, stakeholders, and community to produce the Social Vulnerability to Climate Change in Hawai‘i: Data, Indicators, and “Gap” Assessment. The Assessment identifies current research and tools to identify social vulnerability and climate hazard exposure. The project has resulted in two key recommendations. The creation of a comprehensive, user-friendly data portal on social vulnerability and climate change was one of these recommendations. Accessible information will support decision-makers, non-profits, and community leaders in addressing social vulnerability throughout their work and assist in uplifting communities impacted by climate change.

Mahalo for the opportunity to testify in support of this measure.



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

**Testimony in SUPPORT of HB0441-HD1  
RELATING TO CLIMATE EQUITY**

SENATOR MIKE GABBARD, CHAIR  
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

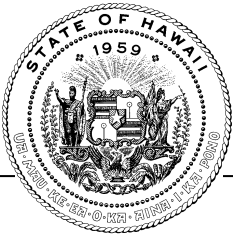
SENATOR LORRAINE INOUE, CHAIR  
SENATE COMMITTEE ON WATER AND LAND

Hearing Date: 3/22/2023

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 this measure which seeks to develop and
- 5 maintain a database and web portal tool to expand our understanding of social vulnerability to
- 6 climate change in Hawaii.
- 7 The Department recognizes the growing and alarming impacts of climate change on human
- 8 health and the environment and that those impacts will be greater in certain communities. As
- 9 programs within the Department expand their work related to climate change and plan adaptive
- 10 and mitigation strategies, improving the understanding of where these impacts will be most
- 11 severe and which communities are most susceptible to the impacts of climate change is very
- 12 valuable. A database and web portal tool such as the one proposed in this bill will provide
- 13 valuable information for the Department's programs for strategic planning and allocation of
- 14 resources.
- 15 In addition, with the development of the Federal Justice 40 Initiative and the requirement that
- 16 federal funds be significantly directed to disadvantaged or environmental justice communities,
- 17 this tool will provide the Department with a useful tool to identify, direct and document the work
- 18 done in these communities.
- 19 Thank you for the opportunity to testify on this measure





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

**JOSH GREEN, M.D.**  
GOVERNOR

**SCOTT J. GLENN**  
DIRECTOR

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

Telephone: (808) 587-2846  
Fax: (808) 587-2824  
Web: <https://planning.hawaii.gov/>

Statement of  
**SCOTT GLENN, Director**

before the  
**SENATE COMMITTEES ON AGRICULTURE AND ENVIRONMENT &  
WATER AND LAND**

Wednesday, March 22, 2023, 1:00 PM  
State Capitol, Conference Room 224

in consideration of  
**HB441 HD1**  
**RELATING TO CLIMATE EQUITY.**

Chairs Gabbard and Inouye, Vice Chairs Richards and Elefante, and Members of the Senate Committees on Agriculture and Environment & Water and Land:

The Office of Planning and Sustainable Development (OPSD) **supports and provides comments on HB441 HD1**, which appropriates funds to the University of Hawai'i for the development of a database and data portal to help ensure communities and agencies better understand the social impacts of climate change in the state; provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget.

OPSD recognizes that climate justice and equity for all communities in the State is key to ensuring statewide resilience. Climate policies and investments in climate adaptation must also consider and prioritize considerations for communities that are historically disadvantaged and at higher risk to climate change impacts.

The White House developed the [Climate and Economic Justice Screening Tool](#) (CEJST) to guide federal agencies to identify disadvantaged communities to fulfill the federal administration's "Justice40 Initiative." Upon early assessments, the CEJST **may not reflect** those communities that we know as a State to have a history of being disadvantaged. Without localized data that accurately reflects information and specifically identifies those areas as disadvantaged, the State and its communities are at risk of foregoing eligibility for federal funding opportunities particularly from the Bipartisan Infrastructure Law and the Inflation Reduction Act. Therefore, it is imperative that the State be able to provide federal agencies with justification and data-driven analysis via a Hawai'i-specific database and data portal that is more inclusive than the existing CEJST.

The OPSD Coastal Zone Management (CZM) Program has applied for and was awarded with a 2-year fellow through the NOAA Coastal Management Fellowship program to conduct its own climate equity analysis through August 2024. This [2-year project](#) is intended to utilize socio-economic data to identify at-risk communities and develop an understanding of Hawai'i's coastal communities to inform equitable policy and projects. This work will augment the activities in the proposed measure, and we look forward to working with the University of Hawai'i to further ensure that Hawai'i maximizes its ability to utilize federal funding opportunities.

Thank you for the opportunity to testify on this measure.



Environmental Caucus of  
The Democratic Party of Hawai'i

## Energy & Climate Action Committee

Wednesday, March 22, 2023, 1:00 pm

Senate Committees on Agriculture and Environment and on Water and Land

HOUSE BILL 441 – RELATING TO CLIMATE EQUITY

Position: Strong Support

Me ke Aloha, Chairs Gabbard and Inouye, Vice-Chairs Richards and Elefante, and members of the Senate Committees on Agriculture and Environment and on Water and Land:

HB441 appropriates funds for the development of a database and a data portal, as recommended in the Climate Commission/University of Hawaii report of May 2022 on social vulnerability to climate change in Hawai'i. <https://climate.hawaii.gov/social-vulnerability-framework/>

The Energy & Climate Action Committee finds this bill ably and insightfully prescient in understanding a cataclysmic change in the way climate change must be faced. Current society and its leaders probably imagine a sort of linear change in conditions, thanks to climate change: higher sea levels, more storms, more droughts, worse situations, etc.. However, climate scientists and ecologists have been warning about a situation far more vexing: that the most basic conditions and expectations for our livelihoods and survival are about to be upended.

The term “Anthropocene” is shallowly understood in the same linear context – that human activity is simply changing our situation, typically in ways we dislike. But the deeper meaning of a geologic transformation is described in more frightening dimensions in such examples as the Stockholm Resilience Center’s modeling.

Current ecological models note that multiple sectors of our Earth systems now exceed our evolved planetary equilibrium, with more having been added in the last fifteen years. This spells unprecedented cascading effects on other sectors, creating conditions for “black swan events” – never before seen conditions that we are unprepared for. We are seeing ecological and climate collapse around the world, assuring an irreversable transformation of conditions from those we evolved in to a wholly new set of conditions we cannot survive – toxic lands, oceans, and atmosphere, as well as climate disruption, human habitats rendered uninhabitable due to drought, heat waves, flood, sea levels, wildfires, storms, and plagues. Feedback loops we did not anticipate are pushing this situation to points of no return, out of our control.

Life on Planet Earth today is a cautionary tale for our survival, and this bill awakens us to the first things we must do to preserve the best qualified to aid survival, regardless of social station. It calls forth the Aloha Spirit, given so much lip service, and a consciousness that our islands are successful only as family with the 'āina. No one is expendable in our society, contrary to institutional arrogance, as the pandemic revealed, and unequal and inequitable impacts from climate change need to be overcome.

Our Committee and the broader Environmental Caucus of 7,500 members appreciate the appropriation of funds to develop a data framework for all of us to work from.

Mahalo for the opportunity to address this matter.

/s/ Charley Ice & Ted Bohlen, Co-Chairs, Energy and Climate Action Committee  
Environmental Caucus of the Democratic Party



Aloha Committee Members,

My name is Arwen Revere and I am a high school student from Kailua. Today, I am representing the environmental organization Wild Kids. We are testifying in strong support of HB441. Climate change has dynamic, interrelated impacts on the Hawaiian Islands that require interdisciplinary, intersectional solutions. However, climate action is often inefficiently and ineffectively siloed. Because the impacts of climate change prompt and transform ways of conceptualizing human impacts and responses, planning for and adapting to these impacts requires society-wide interventions.

These interventions require contextually relevant and applicable data and tools that are specific to Hawai'i. In the May 2022 report, "Social Vulnerability to Climate Change in Hawai'i—Data, Indicators, and 'Gap' Assessment," the Hawai'i climate change mitigation and adaptation commission identified data gaps that relate to a range of social vulnerability tools and climate change exposures.

This bill would help communities and county, state, and federal agencies better understand the social impacts of climate change in the state by appropriating funds for the development of a database and data portal from data sources detailed in the Hawai'i climate change mitigation and adaptation commission report.

Please pass this vital legislation and protect our planet for future generations.

Thank you for hearing our testimony,

Arwen Revere on behalf of Wild Kids



**SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT  
SENATE COMMITTEE ON WATER AND LAND**

March 22, 2023, 1:00 PM  
Room 224

**TESTIMONY IN SUPPORT OF HB 441 HD1**

Aloha Chair Gabbard, Chair Inouye, Vice Chair Richards, Vice Chair Elefante, and members of the committee:

Blue Planet Foundation **supports HB 441 HD1**, which funds the development of a Hawai'i-specific database to identify which residents and communities are most vulnerable to the numerous environmental, economic, and public health impacts of climate change.

The State of Hawai'i has committed to a decisive transition away from fossil fuels. The legislature has passed aggressive carbon reduction goals, including a mandate to achieve 100% renewable electricity by 2045 (Act 97 of 2015), and a goal to be carbon-negative by 2045 (Act 15 of 2018), with an interim goal to achieve a 50% reduction from 2005 levels by 2030 (Act 238 of 2022).

Although we are making progress towards these goals, we also recognize that the impacts of climate change are already being experienced in our islands and will continue to intensify.<sup>1</sup> These impacts— such as extreme weather events, human health effects, food and water insecurity, forced displacement, and other related risks—could have a disproportionate impact on economically disadvantaged communities, indigenous residents, children, the sick, and the elderly.

To address this, in 2021 and 2022 the Hawai'i State Climate Commission partnered with the University of Hawai'i at Mānoa and other stakeholders to produce a report titled, *Social Vulnerability to Climate Change in Hawai'i: Data, Indicators, and "Gap" Assessment*.<sup>2</sup> The report identifies national and local research and tools available to assess the social vulnerability of Hawai'i's residents through various indicators. Ultimately, the report produced a key

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<sup>1</sup> University of Hawai'i at Mānoa Sea Grant College Program. "Climate Change Impacts in Hawai'i - A summary of climate change and its impacts to Hawai'i's ecosystems and communities." June 2014. (<https://seagrant.soest.hawaii.edu/wp-content/uploads/2018/05/smFINAL-HawaiiClimateChange.pdf>)

<sup>2</sup> University of Hawai'i at Mānoa Institute for Sustainability and Resilience, "Social Vulnerability to Climate Change in Hawai'i: Data, Indicators, and "Gap" Assessment." May 2022. ([https://climate.hawaii.gov/wp-content/uploads/2023/01/SCOV1-Report-Final\\_5\\_4\\_22\\_Clean-1.pdf](https://climate.hawaii.gov/wp-content/uploads/2023/01/SCOV1-Report-Final_5_4_22_Clean-1.pdf))



recommendation that the state fund and develop a comprehensive, user-friendly data portal on social vulnerability and climate change risks in Hawai'i.

A holistic, equitable approach to addressing climate change is necessary to ensure marginalized communities are identified and uplifted in our climate change mitigation and adaptation efforts. This bill is a critical tool to support decision-makers in collective planning efforts and help identify safety net gaps so that, together, we can create a healthier, more resilient future for Hawai'i.

We strongly support HB 441 HD1 to provide the funding capacity necessary to produce a Hawai'i-specific social vulnerability index and appreciate the amendments made in the HD1 to appropriate funds directly to the University of Hawai'i to help avoid state procurement delays.

Thank you for the opportunity to provide testimony.



Climate Future Forum

March 20, 2023

Position: **Support** of HB441 HD1

**Climate Future Forum** represents over 80 students and 25 community members who met with legislators at the Capitol on December 3<sup>rd</sup>, 2022 to develop a shared legislative agenda

Aloha Chair Gabbard, Chair Inouye, and committee members of AEN, and WTL:

On behalf of the Climate Future Forum, I'm testifying in **support** of HB441 HD1. Climate change has been classified as a threat multiplier by the US Department of Defense. Part of the reason for this designation is the dangers climate change poses to the most vulnerable. HB441 HD1 would help the State identify and potentially quantify the dangers these communities face, which would then allow the State to most effectively address these issues in order to protect these communities.

In recent years, it has become quite clear that we need to do more to protect the most vulnerable among us if all of us are to thrive. Please pass HB441 HD1 out of your committees.

Respectfully,  
Paul Bernstein  
Climate Future Forum – Founding Member and Organizer



## HB 441, HD1, RELATING TO CLIMATE EQUITY

MARCH 22, 2023 · SENATE AGRICULTURE AND ENVIRONMENT AND WATER AND LAND COMMITTEES · CHAIRS SEN. MIKE GABBARD AND SEN. LORRAINE INOUE

**POSITION:** Support.

**RATIONALE:** Imua Alliance supports HB 441, HD1, relating to climate equity, which appropriates funds for the development of a database and data portal from data sources detailed in the May 2022 report on social vulnerability to climate change in Hawai'i, under certain conditions; and appropriates funds for the maintenance and updating of the data portal.

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, like seawalls.

Furthermore, according to research conducted by Michael B. Gerrard from Columbia Law School, modern-day slavery tends to increase after natural disasters or conflicts where large numbers of people are displaced from their homes. In the decades to come, says Gerrard, climate change

**will very likely lead to a significant increase in the number of people who are displaced and, thus vulnerable, to human trafficking.** While the Paris Climate Agreement of 2015 established objectives to limit global temperature increases and several international agreements are aimed at combating modern-day slavery, it is highly uncertain whether they will be adequate to cope with the scale of the problem that is likely to occur as a result of climate change.

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.

Therefore, our state should identify and publicize data about geographic and demographic groups that are most susceptible to the adverse impacts of climate change. Maintaining this information will allow the state to develop dynamic and locally-specific interventions that strengthen our islands' climate resilience and adaptivity. For the sake of our keiki, we cannot afford to wait to solidify strategies to preserve our island home for generations to come.

**Kris Coffield · Executive Director, Imua Alliance · (808) 679-7454 · [kris@imuaalliance.org](mailto:kris@imuaalliance.org)**

**HB-441-HD-1**

Submitted on: 3/17/2023 3:04:32 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Andrew Crossland	Individual	Oppose	Written Testimony Only

Comments:

I oppose this climate change propaganda Bill.

**HB-441-HD-1**

Submitted on: 3/18/2023 12:26:26 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Members of the Agriculture and Environment Committee and the Water and Land Committee,

Mahalo to all who introduced and support HB441HD1 to appropriate funds for development of a database and data portal on social vulnerability to climate change in Hawai'i.

As a state we have committed to acting to avoid or improve vulnerability to climate change to those most impacted and readily available data will give planners of programs access to the information they need.

I spent my career in software development on multiple database projects and know the value to customers of access to information. Thank you for considering this important next step.

Virginia Tincher, Oahu

**HB-441-HD-1**

Submitted on: 3/18/2023 6:13:56 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Will Caron	Individual	Support	Written Testimony Only

Comments:

Climate change has dynamic, interrelated impacts on the Hawaiian Islands that require interdisciplinary, intersectional solutions. However, climate action is often inefficiently and ineffectively siloed. Because the impacts of climate change prompt and transform ways of conceptualizing human impacts and responses, planning for and adapting to these impacts requires society-wide interventions.

These interventions require contextually relevant and applicable data and tools that are specific to Hawai‘i. The May 2022 report, “Social Vulnerability to Climate Change in Hawai‘i—Data, Indicators, and ‘Gap’ Assessment,” the Hawai‘i climate change mitigation and adaptation commission identified data gaps that relate to a range of social vulnerability tools and climate change exposures.

This bill would help communities and county, state, and federal agencies better understand the social impacts of climate change in the state by appropriating funds for the development of a database and data portal from data sources detailed in the Hawai‘i climate change mitigation and adaptation commission report. Please pass HB441 HD1.

**HB-441-HD-1**

Submitted on: 3/19/2023 10:52:40 AM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Barbara Best	Individual	Support	Written Testimony Only

Comments:

Climate change mitigation is necessary and social justice must be a part of planning



**HB-441-HD-1**

Submitted on: 3/20/2023 8:57:42 AM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Shannon Rudolph	Individual	Support	Written Testimony Only

Comments:

Support

**HB-441-HD-1**

Submitted on: 3/20/2023 1:20:34 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Dana Keawe	Individual	Support	Written Testimony Only

Comments:

Support

**HB-441-HD-1**

Submitted on: 3/20/2023 1:25:47 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Helen Cox	Individual	Support	Written Testimony Only

Comments:

Aloha Chair and Committee Members,

I urge you to support HB441 HD1 which appropriates funds for the development of a database and data portal from data sources detailed in the May 2022 report on social vulnerability to climate change in Hawaii, under certain conditions. Given that the state increasingly will need to adapt and mitigate climate change, this is an important and necessary step. Please pass HB441 HD1. Mahalo.

Helen Cox, Kalaheo, Kauai

**HB-441-HD-1**

Submitted on: 3/20/2023 3:21:01 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
James McCay	Individual	Support	Written Testimony Only

Comments:

Aloha Respective Chairs and Members,

Today the UN has called for Urgent Action on the climate front.

We must not rest while chaos continues (as you all know each Leg' session).

Please pass HB441 and help those here who are most impacted by costs of these issues.

Mahalo & Malama Pono,

James McCay  
808 3210027

**HB-441-HD-1**

Submitted on: 3/21/2023 12:45:23 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Molly Whiteley	Individual	Support	Written Testimony Only

Comments:

Please support HB441 in favor of Climate Equity.

Mahalo!

M. Whiteley

Kihei

**HB-441-HD-1**

Submitted on: 3/21/2023 9:01:16 PM

Testimony for AEN on 3/22/2023 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
jeanne wheeler	Individual	Support	Written Testimony Only

Comments:

Let's think of our future NOW - please pass this bill :) Mahalo, JW