



2020 ANNUAL REPORT

HAWAI'I CLIMATE CHANGE
MITIGATION AND ADAPTATION COMMISSION



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Hawai'i Climate Change Mitigation and Adaptation Commission Members

COMMISSION CO-CHAIRS



**SUZANNE
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CHAIRPERSON OF THE
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AND NATURAL
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**MARY ALICE
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DIRECTOR OF THE
OFFICE OF PLANNING

COMMISSION MEMBERS



**MIKE
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DIRECTOR OF THE
DEPARTMENT OF
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**RICHARD
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TOURISM AUTHORITY



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SHIMABUKURO-
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AGRICULTURE



**SYLVIA
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CHIEF EXECUTIVE
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AILĀ, JR.**

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HAWAIIAN HOMES
COMMISSION



**JADE
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**CATHERINE
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CHAIRPERSON OF THE
BOARD OF EDUCATION



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DIRECTOR OF THE CITY
AND COUNTY OF
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COMMISSION MEMBERS (CONTINUED)



**MICHELE
CHOUTEAU
MCLEAN**

DIRECTOR OF THE
COUNTY OF MAUI,
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**MICHAEL
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**MIKE
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ENVIRONMENT



**KAIULI`I
KAHELE**

CHAIR OF THE SENATE
COMMITTEE ON WATER
& LAND



**NICOLE E.
LOWEN**

CHAIR OF THE HOUSE
COMMITTEE ON
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ENVIRONMENTAL
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**RYAN I.
YAMANE**

CHAIR OF THE HOUSE
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**MAJOR
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THE ADJUTANT
GENERAL



**JUSTINE
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MANAGER OF THE
COASTAL ZONE
MANAGEMENT PROGRAM

COMMISSION STAFF



**ANUKRITI
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COORDINATOR

WEBSITE
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FACEBOOK
@HI CLIMATE

INSTAGRAM
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Mission and Priority Statements

MISSION STATEMENT:

Hawaii's Climate Commission recognizes the urgency of climate threats and the need to act quickly. It promotes ambitious, climate-neutral, culturally responsive strategies for climate change adaptation and mitigation in a manner that is clean, equitable and resilient.

PRIORITY STATEMENT: MITIGATION¹

The Commission recognizes that ground transportation contributes significantly to Hawai'i's share of greenhouse gas emissions. It supports a price on carbon, and mechanisms to reduce overall vehicle miles traveled, as well as converting all remaining vehicle-based ground transportation to renewable, zero-emission fuels and technologies.

PRIORITY STATEMENT: ADAPTATION²

The Commission recognizes the serious impacts of sea level rise on Hawai'i. It supports legislation to address development along beaches, as well as funding programs that assist in planning and implementation; urges the incorporation of the sea level rise exposure area into counties' general and development plans; and recommends that agencies identify and prioritize their assets that lie within this area.



2020 Highlights: Co-Chairs' Message

Aloha kākou,

The first year of the Climate Decade began with Hawai'i's second statewide Climate Conference, expanded to two days, with the keynote address by New York Times bestselling author David Wallace-Wells setting the tone with his message that the climate crisis has intensified. At the conference, Governor Ige said succinctly, "What we used to call climate change is more accurately described as a climate crisis."

Two months later, the State of Hawai'i began to document its first COVID-19 cases. The pandemic crisis highlighted how vulnerable Hawai'i is to larger unpredictable global forces—and why it is imperative to move quickly towards a clean, equitable, and resilient Hawai'i. Clearly, one major lesson of this pandemic is that Hawai'i cannot afford to rely on global tourism as its main economic driving force; Hawai'i needs to diversify its economy. There are ample opportunities to do just that by incorporating sustainable principles such as local agriculture and energy production, conservation, and electrification of transportation into its future planning. By incorporating the guiding principles of the Commission into COVID-19 recovery efforts, we can address present day health, and economic and climate change impacts to prepare for the future. Through its Climate Ready Hawai'i Initiative, the State's Climate Change Mitigation and Adaptation Commission's work attempts to exemplify such preparation.

The pandemic crisis highlighted how vulnerable Hawai'i is to larger unpredictable global forces—and why it is imperative to move quickly towards a clean, equitable, and resilient Hawai'i.

While many of us have been on the frontlines dealing with COVID-19 issues, recognizing the inextricable links between climate, recovery, health, and economy, we have strengthened our climate response. Despite pandemic interruptions to meetings and work, we have put recovery and resilience at the center of our efforts and will continue to do so for the Climate Decade. This year, we have:

- Sought and been awarded grant funds for catalytic projects that reinforce the intertwined nature of climate change resilience and economic recovery;
- Assembled a Climate Ready Corps to support key departments in taking climate action by creating employment and mentoring opportunities for a six-member VISTA AmeriCorps cohort of young people to work on climate “readiness” and equity;
- Initiated development of critical climate change policy tools for departments to incorporate into their daily operations;
- Developed guidance for counties and communities to use in sea level rise adaptation;
- Strengthened and expanded international, regional, national, state, and local partnerships to motivate and move forward on climate action; and
- Compiled, analyzed and disseminated climate change information to the local, national and global communities.

The Commission and its staff are honored and proud to support Hawai‘i’s public, legislative and executive branches in service of Act 32.

With aloha,

Suzanne D. Case

Co-Chair, Hawai‘i Climate Change
Mitigation and Adaptation Commission

Chair, Department of Land and Natural
Resources

Mary Alice Evans

Co-Chair, Hawai‘i Climate Change
Mitigation and Adaptation Commission

Director, Office of Planning, Department of
Business, Economic Development
and Tourism



Funds Sought and Awarded:

EXTERNAL GRANTS BRING PROGRAM BUDGET TO ALMOST \$1 MILLION

The Commission quadrupled its overall program budget, from its General Fund allocation of \$205,000 to a total of \$995,595. The Commission's staff sought and was awarded a total of \$790,595 from federal sources and foundation grants outside of Hawai'i, approximately half of which was in-kind.

TABLE 1: SUMMARY OF FUNDS SOUGHT AND AWARDED

PRIORITY: MITIGATION			ACTIVE TRANSPORTATION
PROJECTS/ACTIVITIES	DESCRIPTION/NOTES	GRANT AWARDS*	
MULTI-MODAL HUB O'AHU	Identify, describe and recommend use of state parking lots and spaces to encourage the use of alternative transportation and multi-modal mobility options to achieve state goals	\$100,000	
ACTIVE TRANSPORTATION PROJECT STATEWIDE	Develop supporting framework for sustainable transportation statewide	\$100,000	
PRIORITY: ADAPTATION			CLIMATE READY HAWAII INITIATIVE
PROJECTS/ACTIVITIES	DESCRIPTION/NOTES	GRANT AWARDS	
RISK ROAD MAP	Operationalizing climate change induced risk for State of Hawai'i departments	\$270,000**	
PUNALU'U PILOT	Using green-gray infrastructure to protect coastal roads (DLNR, DOT,C+C)	\$200,000	

TABLE CONTINUED ON NEXT PAGE

TABLE 1: SUMMARY OF FUNDS SOUGHT AND AWARDED (CONT'D)

PRIORITY: SUPPORTING FRAMEWORKS		EQUITY FRAMEWORK DEVELOPMENT
PROJECTS/ACTIVITIES	DESCRIPTION/NOTES	GRANT AWARDS
VISTA CLIMATE READY CORPS	Further climate change and equity goals through a six-member VISTA cohort in four offices (HSEO, DLNR, OP, DOH)	\$120,595**
TOTAL GRANT AWARDS:		\$790,595

* From federal and private sources

** In-kind funds

Keynote address:
 "The Writing on the Wall: Conveying Difficult Messages"
 by David Wallace-Wells,
 Deputy Editor, New York Magazine



Photo Credit: Shayne Hasegawa, East-West Center



Support and Coordination for Key Offices to Address Resilience in Vulnerable Communities

As climate change exacerbates weather patterns and extreme weather events, it is important to equip those who do not have the resources to recover and thrive as a result of even relatively "minor" disasters and impacts, particularly vulnerable low-income communities and those who are considered homeless or are at risk of becoming homeless. At present, no coordinated statewide effort exists to identify and address the impacts of climate change and related policies on vulnerable populations and communities. The Commission is eager to begin addressing this issue through its VISTA Climate Ready Corps.

Through a grant from the Corporation of National and Community Service (CNCS), six AmeriCorps VISTA members will join four key state offices for a period of three years to address climate readiness and equity issues statewide that will help our most vulnerable communities thrive and be resilient in the face of climate change induced events and impacts. The four offices are: the Hawaii Climate Change Mitigation and Adaptation Commission (Commission) based at the Department of Land and Natural Resources (DLNR), the Hawai'i State Energy Office (HSEO), the Hawai'i Office of Planning (OP), and the Hawaii Department of Health (DOH). The program will integrate the climate change work of these four offices through data collection, outreach, education, and information dissemination.



Development of Policy Tools for State and County Departments

Following recommendations from the 2019 statewide conference that the State “consider adopting a community resilience building planning process to help Hawai‘i’s communities, counties and institutions of any scale to identify their top priorities based on climate change hazards cross-referenced to strengths and vulnerabilities relative to infrastructure, social and environmental characteristics,” the Commission approved the development of a Climate Ready Hawai‘i Initiative.

Recognizing that a *mauka-to-makai* problem needs an *ahupua‘a* solution, a Climate Ready Hawaii framework aims to integrate the use of nature-based solutions to build climate adaptation and resiliency in ecosystems and communities. With in-kind assistance from the US Climate Alliance (USCA), this work is being done in close collaboration with partners at the UH Sea Grant College, and the Natural and Working Lands group of the USCA

which includes DLNR’s Division of Forestry and Wildlife and Division of Aquatic Resources, and other federal, private, and academy partners.

..a mauka-to-makai problem needs an ahupua‘a solution, a Climate Ready Hawaii framework...

Under the Climate Ready Hawai‘i framework, the Commission is formulating policy tools for use by all departments, such as:

a. Social Cost of Carbon

In an attempt to assist the State of Hawai‘i to move its economy to a low/zero-carbon growth path, the Commission, with the leadership of the Hawai‘i Department of Transportation, has initiated research on how to assess, incorporate and measure the carbon footprint of projects and programs in all state departments. While it is a positive step for departments to consider how to reduce emissions from fuel use through fuel switching and efficiency measures, these efforts are not enough to bring about the reduction needed. Including the full cost of carbon emissions will allow a more accurate benefit-cost assessment for projects and associated policies. Outcomes will inform the development of optimal climate change mitigation and adaptation strategies for Hawai‘i.

b. Climate Risk Roadmap

Climate change, with its new challenges, has produced an administrative and governance burden on state and local governments. These entities, tasked with providing an array of public services from the physical upkeep of failing and increasingly vulnerable infrastructure to asset management, are confronted with increasing uncertainty. The Climate Risk Roadmap tool will help state and municipal entities formulate a response to climate change by “climate proofing” to protect against these uncertain conditions, and “mainstreaming” to incorporate such protections into daily operations. Both are needed to gain traction to deal with climate change impacts. This tool is being developed in close collaboration with the East-West Center.



Operationalizing Mitigation and Adaptation: **Demonstration Projects and Guidance**

A. SEA LEVEL RISE GUIDANCE FOR PARCEL PERMITS.

In partnership with the UH Sea Grant College, and with input from counties, the Commission office has produced a draft "how to" manual and accompanying online tool for guidance in incorporating the Commission's sea level rise report's recommendations into parcel permitting.

B. NATURE-BASED SOLUTIONS

The Commission office (with DLNR's Office of Conservation and Coastal Lands) is coordinating a study/demonstration project to explore nature-based alternatives for the protection of coastal roads, while restoring public beach access. Through the use of green-gray infrastructure, the project seeks to study how to protect Kamehameha Highway, which provides the only road access to communities along northeast O'ahu from flooding, erosion, and more extreme storms,

which are increasing with climate change and sea level rise. This work will be done in partnership with HDOT and the City and County of Honolulu.

C. MULTI-MODAL MOBILITY HUB

A Climate Ready Hawai'i also supports mitigation efforts to reduce Hawai'i's dependence on imported fossil fuels. To this end, the Commission's work this year is focused on active transportation and multi-modal mobility, which includes the full gamut of strategies from telework, transit, bicycling, pedestrian and other modes to reduce miles traveled, thereby averting emissions. Specifically, this entails initiating collaborative work with the Hawai'i Energy Policy Forum, counties, metropolitan planning organizations, and federal and private partners to develop plans for innovative concepts of multi-modal mobility hubs statewide.

D. FLEET TOOLS

To advance climate change work in Hawai‘i, one of the critical components of reducing ground transportation emissions is the conversion of public fleets to clean, renewable fuels, and more efficient vehicles. A key is being able to assess lifecycle costs, benefits and emissions for such a transition. Such tools will assist fleet managers in making the best low/zero carbon decisions for their departments. Commission staff is working with partners at the University of Hawai‘i and at the US Department of Energy’s Clean Cities Coalition to develop cost and emission tools specific to Hawai‘i.

ACT 32 MANDATES

1.

Provide policy direction, facilitation, coordination, and planning among state and county agencies, federal agencies, and other partners as appropriate.

2.

Establish climate change mitigation and adaptation strategies and goals to help guide planning and implementation statewide using the latest scientific analysis and risk assessment to monitor and forecast climate change related impacts at the regional, state and local level, including any additional information deemed necessary.

3.

Identify vulnerable people, communities, industries, ecosystems and potential economic ramifications for climate change related impacts.

4.

Identify existing climate mitigation and adaptation efforts at the federal state and local levels and make recommendations for how to meet or exceed Hawai'i's state mitigation goals and shall adopt a liberal approach in preparation, so as to minimize future risk to the people and environment of Hawai'i.

5.

The Commission shall identify the information necessary to track progress in implementing climate change mitigation and adaptation efforts and shall submit an annual report to the governor and legislature no later than 20 days prior to the convening of each regular session of the legislature.

6.

The Commission shall maintain a website that includes a mission statement as well as access to climate change related actions, plans, policies and results

7.

The Commission shall assess the capacity and availability of existing resources & identify new sources of revenue necessary to address climate change and advise the governor, legislature, & counties on the economic and budgetary ramifications of climate change impacts, mitigation and adaptation.

8.

The Commission shall conduct a comprehensive review of the implementation as required by this section and submit a report to the governor, legislature and the counties no later than 20 days prior to the convening of the regular session of 2023 and every five years thereafter.

9.

The Commission shall, as a first step, focus on and develop sea level rise vulnerability and adaptation reports, which shall be made publicly available no later than December 31, 2017, and the commission shall reevaluate and update the sea level rise vulnerability and adaptation report every five years.

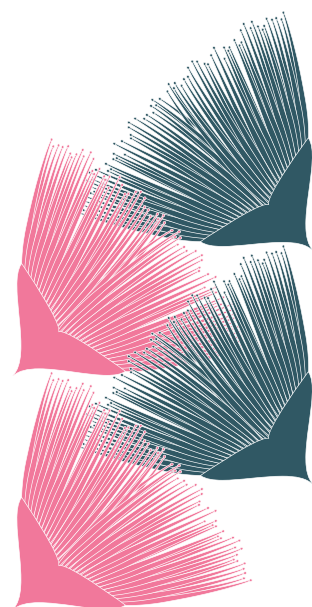


TABLE 2: ACT 32 MANDATES: SUMMARY OF PROJECTS AND ACTIVITIES, 2020

MITIGATION		
PROJECTS	DESCRIPTION	MANDATES 1-9*
ACTIVE TRANSPORTATION	Develop recommendations for a suite of policies to address telework, commute trip reduction, and active transportation goals	<input type="checkbox"/> 2 <input type="checkbox"/> 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MULTI-MODAL MOBILITY HUB O'AHU	Identify, describe and recommend use of state parking lots and spaces to encourage the use of alternative transportation and multi-modal mobility options to achieve state goals	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 <input type="checkbox"/> <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/>
ACTIVE TRANSPORTATION PROJECT STATEWIDE	Develop supporting framework for sustainable transportation statewide	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 <input type="checkbox"/> <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/>
FLEET TOOLS	Development of webinars, cost and emissions tools, resources and services for public fleet managers	<input type="checkbox"/> 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
ADAPTATION		
PROJECTS	DESCRIPTION	MANDATES 1-9*
CLIMATE READY HAWAI'I INITIATIVE	Framework for resilience and adaptation to climate change	<input type="checkbox"/> 1 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
RISK ROAD MAP	Operationalizing climate change induced risk Road Map for State of Hawai'i departments	<input type="checkbox"/> 1 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/>
SOCIAL COST OF CARBON	Inter-departmental conversation to assess, incorporate and measure the carbon footprint of projects and programs in all state departments	<input type="checkbox"/> 1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
INFORMATION PORTAL	Develop an information hub/portal to maintain understanding and applicability of the latest and best available information on climate and sea level rise risks	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

*ACT 32 MANDATES LISTED ON P-13

TABLE CONTINUED ON NEXT PAGE

TABLE 2: ACT 32 MANDATES: SUMMARY OF PROJECTS AND ACTIVITIES, 2020 (CONT'D)

ADAPTATION		
PROJECTS	DESCRIPTION	MANDATES 1-9*
RESILIENCE GUIDANCE	Community planning guidance	<input type="checkbox"/> 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
PLANNER'S TOOL	Create sea level rise guidance and tools for State and county agencies for planning and permitting	<input type="checkbox"/> 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
SEA LEVEL RISE REPORT	Project Completed in 2018	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 9
PUNALU'U PILOT	Using green-gray infrastructure to protect coastal roads (DLNR, DOT,C+C)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/>
SUPPORTING FRAMEWORKS		
PROJECTS	DESCRIPTION	MANDATES 1-9*
VISTA CLIMATE READY CORPS	Further climate change and equity goals through a six-member VISTA cohort in four offices (HSEO, DLNR, OP, DOH)	1 <input type="checkbox"/> 3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 7 <input type="checkbox"/> <input type="checkbox"/>
COMMUNICATIONS STRATEGY	Development of a Communications Hui supported by a strategy to further climate change communication (esp. slr) in Hawai'i (outcome of the 2020 statewide conference); includes maintaining a website, social media accounts and providing information to media, and partners	1 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
STATEWIDE CONFERENCE 2021	Program development, planning, and building partnerships for a focus on climate change and economic recovery	1 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

*ACT 32 MANDATES LISTED ON P-13

TABLE CONTINUED ON NEXT PAGE

TABLE 2: ACT 32 MANDATES: SUMMARY OF PROJECTS AND ACTIVITIES, 2020 (CONT'D)

SUPPORTING FRAMEWORKS		
PROJECTS	DESCRIPTION	MANDATES 1-9*
US CLIMATE ALLIANCE	Sub-national activities: Co-chair of the Transportation Working Group; participant in Resilience working group, and the Just Transition working group	1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
UNDER 2 COALITION	International activities: Finance leaders global forum development; annual carbon disclosure report	1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
ANNUAL REPORT	Report to the Legislature describing progress towards the mandates of Act 32	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 5 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

*ACT 32 MANDATES LISTED ON P-13



Photo Credit: Leah Laramée, DLNR

Our natural and working lands include forests, ranching and agriculture. While the ranching and agricultural sector produces 1.7 million metric tons of CO₂ equivalent annually in Hawai'i, carbon smart beef cattle ranchers sell products locally and are proactively implementing methane-reducing methods to manage manure, improve soil health, and enhance herd efficiency. Our forests have a huge role to play in reaching our net negative carbon goal. Protecting and expanding forests in Hawai'i will bring a suite of benefits to help make Hawai'i Climate Ready.



Engagement at International, National, Sub-National, and State Level Amplifies Hawai‘i’s Work

Hawai‘i’s geographic isolation makes it critical to connect to the rest of the world in dealing with this global challenge. For this reason, the Commission and its staff is involved at all levels of climate change response—from the global to the state and county levels. Such involvement provides venues to highlight the work being done in Hawai‘i, forms channels of knowledge sharing and cooperation across jurisdictions, and helps align Hawai‘i’s efforts with sub-national, national and international efforts to combat climate change. Here are some of the efforts that Hawai‘i has been involved in through the Commission and its staff:

a. International

Commission staff was designated to attend the United Nations Convention on Climate Change’s Conference of the Parties (COP25). Through a sub-national delegation

comprised of state and county officials, Hawai‘i supports a regular and strong presence at these global negotiations. Hawai‘i works with various thematic and regional entities such as:

- The International Alliance to combat Ocean Acidification. Hawai‘i, along with six US states, put forward a bi-coastal alliance to combat ocean acidification, and brings state-level ocean action planning to the global stage;
- The USCA-European Union Climate Risk and Resilience Cooperation. Hawai‘i contributed to developing key areas of cooperation: knowledge sharing, technical dialog and communication; and

The transportation sector is the largest growing emitter of greenhouse gases--nationwide, and in Hawaii. Comprising more than half of total emissions, the sector needs to be transformed through use of clean energy, energy efficient vehicles, and reduction of vehicles miles travelled. The Commission's work on active transportation includes the full gamut of strategies from telework, transit, bicycling, pedestrian and other modes to reduce miles traveled, thereby averting emissions.

Photo Credits: Jacek Dylag (Left), Blue Planet Foundation (Right)

- The Under 2 Coalition which brings together more than 220 regional, local and national governments that represent 43% of the global economy. Through the Under 2 Coalition, Hawai'i is helping to incorporate climate change impacts into financial policies and form a global Finance Leaders Forum.

b. National

Commission co-Chairs and staff provide updates and respond to information requests to Hawai'i's Congressional delegation. This year, Commission co-Chairs submitted a letter to the House Select Committee on the Climate Crisis outlining the need for an economic recovery that must be closely tied with

climate change impacts, which in turn must be intertwined with public health issues. Commission staff also provided briefings, coordinated by non-profit partners such as the Environmental Energy Study Institute and Carbon Xchange, to congressional staffers and the larger national community, highlighting Hawai'i's efforts in climate mitigation and adaptation/resilience. Outcomes have included a multi-state regional report (pending) on coastal resilience priorities and efforts.

c. Sub-national

Through its staff, the Commission is engaged in the many sub-national efforts of the US Climate Alliance, the 25-governor effort that pledged

to uphold the US's commitments to the Paris Climate Agreement. Commission staff serves as co-Chair of the Transportation Working Group; participates in the Resilience and Just Transition working groups, and coordinates, collates and organizes responses to the Governor's Office when requested. The Alliance is a valuable resource for Hawai'i's efforts, as it provides knowledge, guidance, funding, and amplification of climate change efforts at the state level, something that would otherwise be difficult for a small state.

d. State

The Commission reached out beyond its immediate membership to include relevant departments in its work, in particular: Employees' Retirement Service, Public Utilities Commission, State Procurement Office, and the Department of Accounting and General Services. The Commission provides information and analysis in many ways, in particular through the legislative session,

and the annual statewide conference.

i. Legislative session 2020

Almost 50 testimonies³ were submitted on behalf of the Commission on measures relevant to climate change in the 2020 legislative session, most notably in support of SB2060 which modernizes the state's coastal management laws. Commission staff testified in person, coordinated testimony with departments and partners, flagged issues for legislators, and responded to requests for information.

ii. Annual Conference

The statewide conference is a flagship event for the Commission. It highlights research, practice and engagement on the state's climate change response. It is the culmination of year-long work, cutting edge knowledge, and valuable partnerships. This year, the conference was expanded to two full days of on- and off-site activities, including a Governor's informational session with the keynote speaker and cabinet and

legislators, a state-of-the-knowledge Hawai'i-specific research session, a student documentary film showcase, three workshops and an evening keynote address. Outcomes include: Research papers and presentations, which are highlighted on the Commission's web portal: climate.hawaii.gov; and a framework for the Commission's work for 2020.

The 2020 conference saw standing-room-only attendance of over 350 people in person, and over 50 viewers online. Attendees comprised government officials (30%), students (6%), advocates (19%), interested public (16%), researchers (18%) and industry (10%). On the second day, over 200 people attended research talks and workshops. Costs (total approximately \$37,000) were borne by the Commission (\$7,000 approximately) and its many partners.

Locally produced agriculture is a vital part of our economy. By combining cultural knowledge with new scientific methods, carbon smart farmers reduce carbon emissions and improve crop yields. Here, wetland taro farming demonstrates the role cultural practices can and do play in addressing food and climate resiliency.



Photo Credit: Hawaii Visitors and Convention Bureau Image library



Information to Hawai‘i’s Communities

The Commission provides climate change information through its annual conference, its web portal and social media accounts, presentations, webinars, briefings, and articles. Highlights of communications activities include:

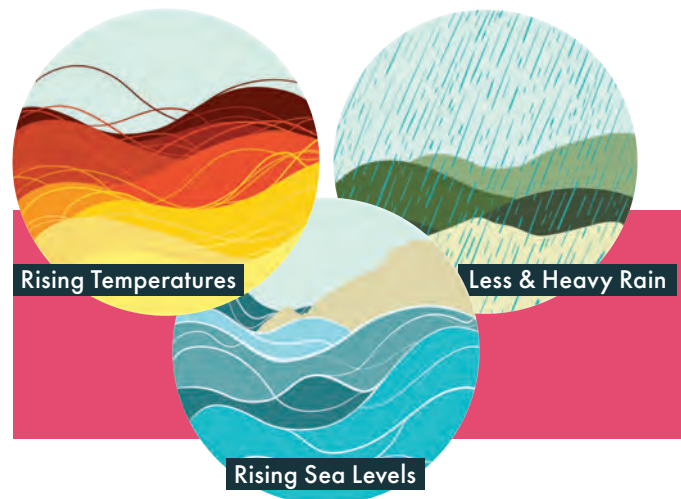
a. Communications Strategy

Taking the message from its 2020 conference to heart, the Commission, with its many partners, co-created a communications strategy to outline main components that address climate change priorities and to collaborate on events and campaigns of mutual interest. The conference highlighted communication as the bottleneck to climate action.

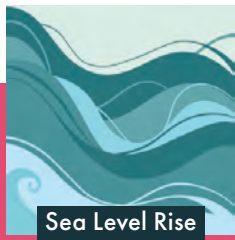
b. Web portal expansion

The expanded web portal contains several new pieces of climate change information, including:

- A list of climate change related reports on adaptation⁴ and mitigation.⁵
- Fact sheets for climate change issues (HI Facts).⁶
- A Clean Fleets Toolbox⁷ and web discussion series "Green Car Talk"⁸ for fleet managers



HI Facts provides information about Hawaii’s changing climate on climate.hawaii.gov

Sea Level Rise
ReportSea Level Rise
Viewer Tool

Climate Ready Hawaii's tools help agencies and communities adapt and become more resilient to climate change, especially sea level rise.

- Climate Ready Hawaii guidance and tool on sea level rise (under development).
- Shorter blog pieces⁹ to capture and convey the nuances of Commission priorities, research and analysis.

c. Social media, presentations, and articles

The Commission's social media accounts (Facebook and Instagram) are very active, and provide frequent windows into the Commission's work between its regular public meetings. Given the Commission's relatively new presence in this space, these accounts are fairly competitive with similar accounts in followership (almost 900 as of September 2020 on Instagram) and engagement. Commission staff also provides information upon request through regular briefings, presentations, webinars, and media articles.

Sea level rise and beach erosion
on the North Shore.

Photo credit: Shellie Habel

"In an era of rising sea level, beaches need to migrate landward, otherwise they drown. Beach migration, also known as shoreline retreat, causes coastal erosion of private and public beachfront property. Shoreline hardening, the construction of seawalls or revetments, interrupts natural beach migration—causing waves to erode the sand, accelerating coastal erosion on neighboring properties, and dooming a beach to drown in place as the ocean continues to rise."¹⁰

“Long COVID and climate change are alike in this: live ill for long enough, and the absence of health threatens to become normal. An amazing and terrible thing about being human is how quickly we adapt to circumstances unthinkable just years, or months, or weeks in the past. But the very slowness, the week-in, week-out constancy of climate change or enduring infection, is lulling. It is tedious to tell people I am still sick. Sustaining alarm at a thousand people dying in a day is more difficult in August than it was in April. The phenomenal becomes mere background. My experience of this virus makes me think, however, that we should not forget a longer view, one able to see how the conditions of 2020 are not inevitable. Thinking past it, as this summer of our many discontents moves into fall, requires a kind of split imagination: to conjure moments of past flourishing, and a future where we might flourish again.”

Excerpt from “The Empty Space
Where Normal Once Lived”

by Bathsheba Demuth,
COVID-19 long sufferer and professor, Brown University

The Atlantic. August 28, 2020



Reference Links

- ¹ <http://climate.hawaii.gov/wp-content/uploads/2018/11/NR-Climate-Commission-Recommend-Urgent-Action-to-Combat-Emissions-Nov.-28-2018.pdf>
- ² <http://climate.hawaii.gov/wp-content/uploads/2018/09/NR-State-Climate-Commission-Adopts-Recommendations-Mission-Statement-Sept.-5-2018.pdf>
- ³ <https://climate.hawaii.gov/wp-content/uploads/2020/07/2020-Testimony-3.pdf>
- ⁴ <http://climate.hawaii.gov/climate-change-reports/>
- ⁵ <http://climate.hawaii.gov/mitigation-reports/>
- ⁶ <http://climate.hawaii.gov/hi-facts/>
- ⁷ <http://climate.hawaii.gov/hi-clean-cars-faq/>
- ⁸ <http://climate.hawaii.gov/wp-content/uploads/2020/06/Green-Fleet-Discussion-Series-Final.pdf>
- ⁹ <http://climate.hawaii.gov/hi-blog/>
- ¹⁰ “The reactive and piecemeal approach historically used to manage beaches in Hawai‘i has failed to protect them. If policies are not changed, as much as 40% of all beaches on O‘ahu, Hawai‘i could be lost before mid-century, according to a new study by researchers in the Coastal Geology Group at the University of Hawai‘i (UH) at Mānoa School of Ocean and Earth Science and Technology (SOEST).
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In an era of rising sea level, beaches need to migrate landward, otherwise they drown. Beach migration, also known as shoreline retreat, causes coastal erosion of private and public beachfront property. Shoreline hardening, the construction of seawalls or revetments, interrupts natural beach migration—causing waves to erode the sand, accelerating coastal erosion on neighboring properties, and dooming a beach to drown in place as the ocean continues to rise.

The team of scientists, led by graduate researcher in the SOEST Department of Earth Sciences Kammie Tavares, assessed the shoreline around O‘ahu that would be most vulnerable to erosion under three scenarios of sea level rise—all estimated to occur before, and shortly after mid-century.”

<https://www.nature.com/articles/s41598-020-70577-y>