

Resilience

The capacity of individuals, communities, institutions, businesses, and systems to **survive, adapt, and thrive** no matter what kinds of chronic **stresses** and acute **shocks** they experience.



RECEIVED AT CAR MEETING ON 1/6/2020
Chana Makalea Dudoit-Jne
(CAR) (2)

Holistic View- Shocks and Stressors

SHOCKS

Typically considered single event disasters

Fires

Hurricanes

Earthquakes

Floods

STRESSORS

Factors that pressure on a daily or reoccurring basis

Endemic Violence

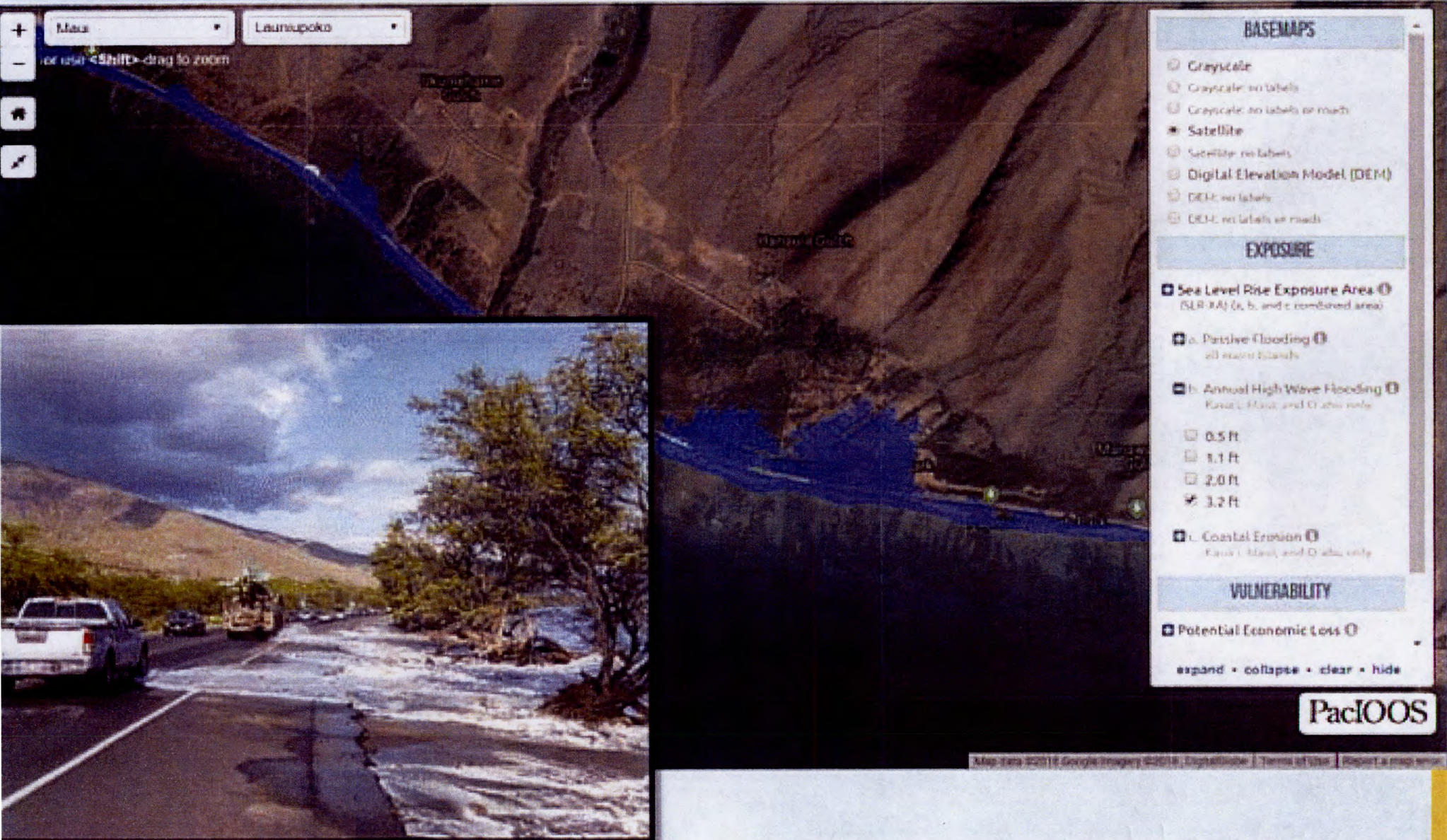
High Unemployment

Endemic Drug Use

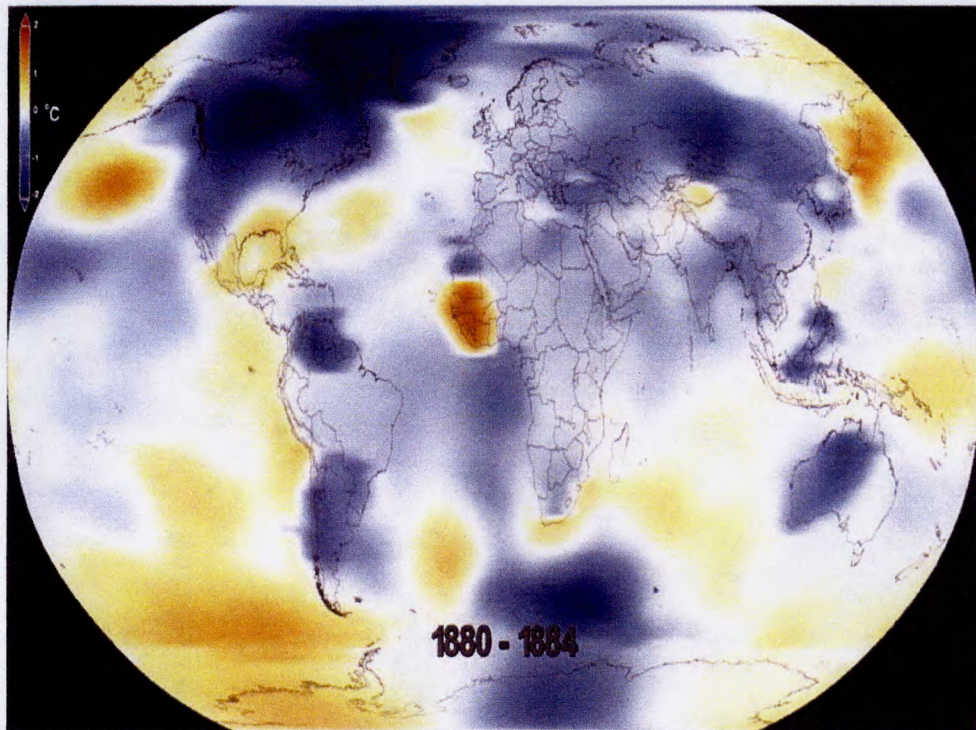
Poverty

Focus on both shocks and stresses to enhance community adaptive capacity and resilience, especially in vulnerable areas

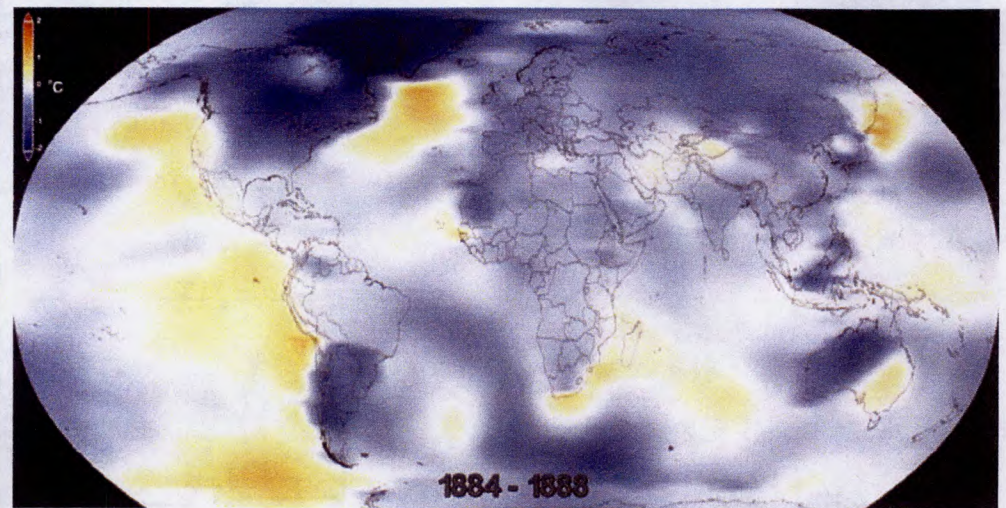
Hawaii Sea Level Rise Report Hazard Modeling and Mapping: Annual High Wave Flooding



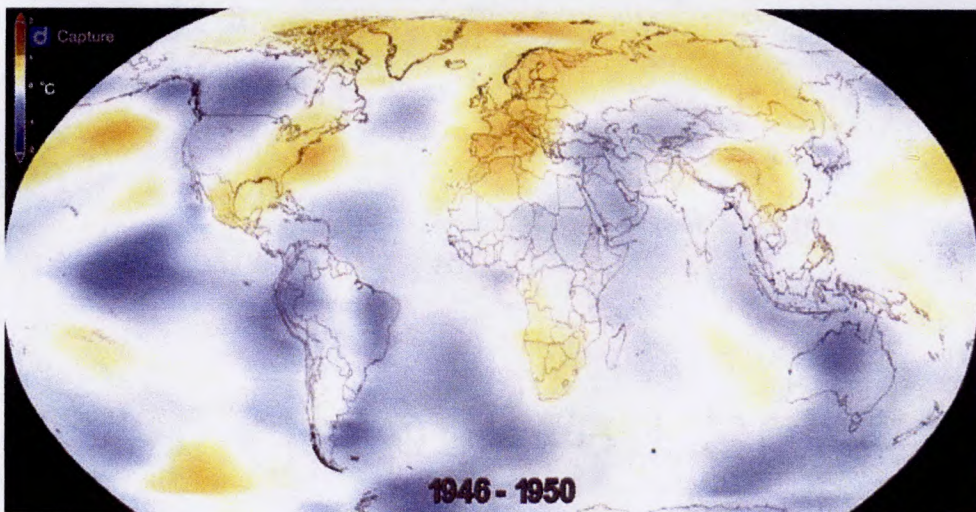




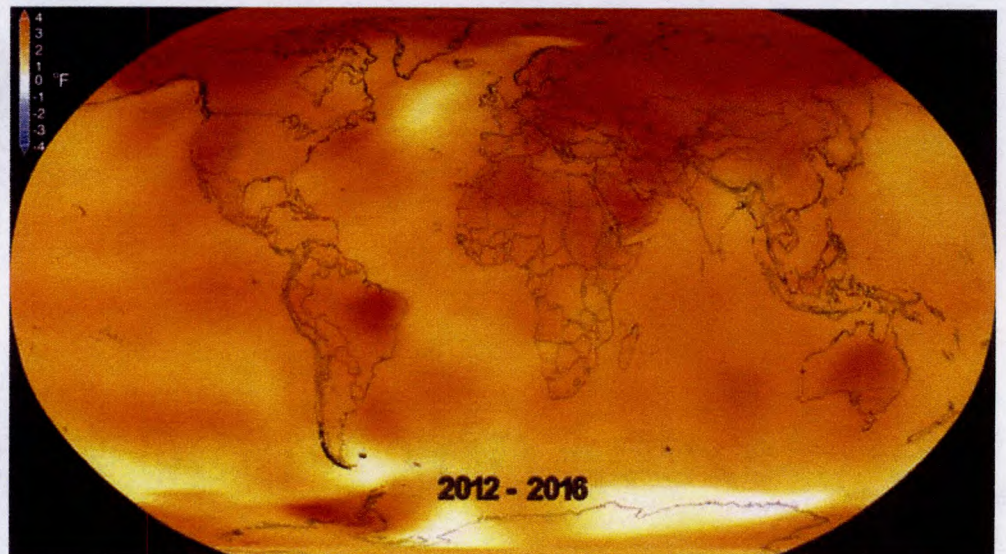
Global Surface Temperature 1884



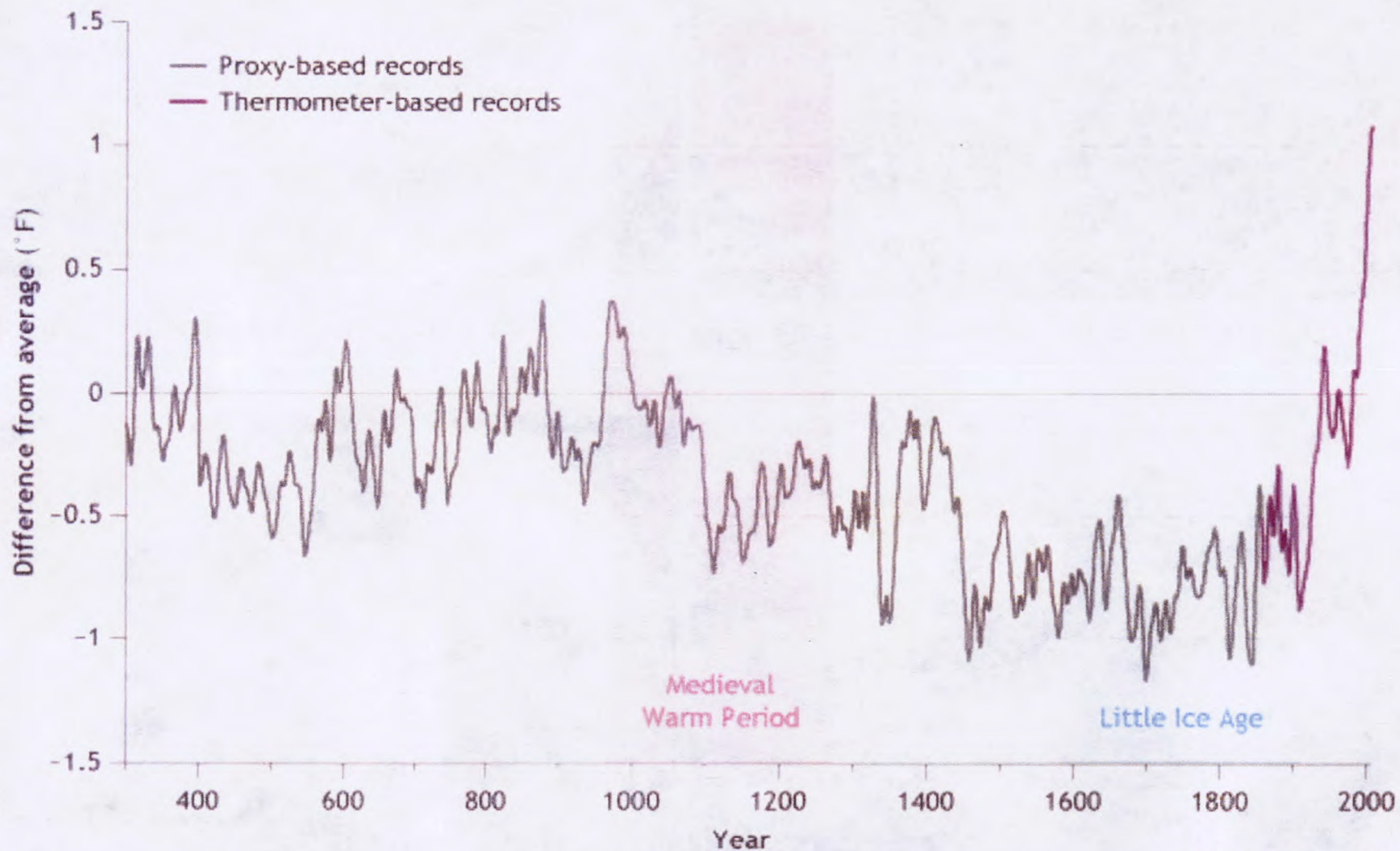
Global Surface Temperature 1950



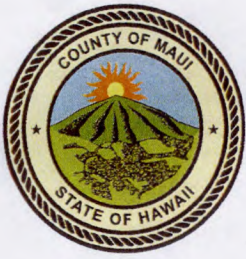
Global Surface Temperature 2018



Global Temperatures past 1700 years



NOAA Climate.gov



MAUI RESILIENCE SURVEY

1 Let us know where you're from! What is your home ZIP Code? _____

2 Where do you work?

- ☐ Private Sector (business, company, etc.)
- ☐ Civil Society (non-profit, academic, etc.)
- ☐ Government (federal, state, county, military, etc.)
- ☐ Individual (student, retired, in-between, etc.)

3 What organization are you associated with (if any)? _____

4 On a scale of 1-10, how resilient do you think Maui is today? (Circle your answer.)

Totally not prepared	1	2	3	4	5	6	7	8	9	10	Completely prepared
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5 In your view, what are the TOP 3 "shocks" that are MOST likely to threaten Maui's long term stability? (Please number your choices 1, 2, or 3 below to indicate your top-ranked shocks.)

- | | | |
|---------------------------------------------------|-------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> Cyber Attack | <input type="checkbox"/> Disease Outbreak | <input type="checkbox"/> Earthquake |
| <input type="checkbox"/> External Economic Crisis | <input type="checkbox"/> Heat Wave | <input type="checkbox"/> Hurricane |
| <input type="checkbox"/> Infrastructure Failure | <input type="checkbox"/> Nuclear Attack | <input type="checkbox"/> Rainfall flooding |
| <input type="checkbox"/> Riot/Civil Unrest | <input type="checkbox"/> Terrorist Attack | <input type="checkbox"/> Tsunami |
| <input type="checkbox"/> Other: _____ | | |

5a For the #1 "shock" you just picked, what is the MOST important factor that will determine how well Maui can bounce back? Provide short explanation. _____

5b How well is Maui doing right now regarding the factor you just named above?

- ☐ Area of strength
- ☐ Doing OK but could improve
- ☐ Area of weakness

(Survey continues on the back.)



6 In your view, what are the TOP 3 "stresses" that are MOST likely to threaten Maui's long-term stability? (Please number your choices 1, 2, or 3 below to indicate your top-ranked stresses.)

- | | |
|------------------------------------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> Aging Infrastructure | <input type="checkbox"/> Climate Change Impacts |
| <input type="checkbox"/> Cost of Living | <input type="checkbox"/> Decline of Aloha Spirit/Social Discord |
| <input type="checkbox"/> Educational Disparity | <input type="checkbox"/> Food or Water Shortage |
| <input type="checkbox"/> Income Inequality | <input type="checkbox"/> Insufficient Public Transportation |
| <input type="checkbox"/> Lack of Affordable Housing | <input type="checkbox"/> Lack of Political Leadership |
| <input type="checkbox"/> Lack of Quality Jobs | <input type="checkbox"/> Over-reliance on Imports |
| <input type="checkbox"/> Over-reliance on Tourism and Military Economy | |
| <input type="checkbox"/> Other: _____ | |

6a For the #1 "stress" you just picked, what is the MOST important factor that will determine how well Maui can overcome it? Provide short explanation. _____

6b How well is Maui doing right now regarding the factor you just entered?
☐ Area of strength ☐ Doing OK but could improve ☐ Area of weakness

7 Overall, what activities/actions that are taking place on Maui that increases our resilience are you most PROUD of? _____

8 Name the #1 action that you WISH Maui would immediately take to make us more resilience for the long haul? _____

9 Want to be kept up to date on our Resilience Strategy and work? Provide us your email address! _____

10 What is your age?
☐ 18 years of age or under ☐ 19-24 years of age ☐ 25-34 years of age
☐ 35-44 years of age ☐ 45-54 years of age ☐ 55-64 years of age
☐ 65 years of age or above

11 How do you identify? (Check all that apply.)
☐ American Indian or Alaska Native ☐ Black or African American ☐ Caucasian
☐ Chinese ☐ Filipino ☐ Hispanic or Latino
☐ Japanese ☐ Korean ☐ Native Hawaiian
☐ Other Asian ☐ Other Pacific Island
☐ Other: _____

County of Maui
Office of Economic
Development

2200 Main St Suite 305
Wailuku, HI 96793

Environmental Coordinator
Makale'a Ane
makalea.ane@mauicounty.gov
808-270-8250

Hui Malama O Mo'omomi

- Hui Malama o Mo'omomi on Molokai is one of two grassroots Hawaii conservation efforts selected for the 2019 global Equator Prize awards. This recognition by the U.N. Development Programme and its partners honors organizations that have come up with innovative, nature-based solutions for tackling climate change, environmental and poverty challenges using the collaborative power of communities.
- The UN Development Programme (UNDP) and partners are recognizing 22 local and indigenous communities from across the world.
- The winners were selected from a pool of 847 nominations across 127 countries by an independent Technical Advisory Committee of internationally renowned experts. The four-stage selection process emphasized community-based approaches that provide a blueprint for replication and scaling solutions to address our climate crisis.
- This is the first time the Equator Prize has been awarded to groups from indigenous communities in the United States.
- They will join the other winners in New York City in September for a weeklong summit during the 74th United Nations General Assembly, and the awards will take place at a celebratory gala on Sept. 24. They will be celebrated at the Equator Prize Award Ceremony at the Town Hall theatre in Midtown Manhattan, featuring celebrities, government and UN officials, civil society, and the media. The winners will join a network of 223 communities from 78 countries that have received the Equator Prize since its inception in 2002.
- Hui Malama o Mo'omomi, led by Kelson "Mac" Poepoe, is a grassroots initiative that has worked for over two decades to care for the nearshore fisheries of Mo'omomi to ensure that present and future generations of Ho'olehua homesteaders and the families deeply rooted in the area will be able to live off these resources. Their efforts are designed to maintain subsistence as a viable option in Molokai's fluctuating economy and to encourage young Hawaiians to learn and perpetuate traditional fishing practices.
- In the early 1990s, Governor John Waihe'e convened a Task Force to determine the importance of subsistence living on Moloka'i, identify problems affecting subsistence practices, and recommend policies and programs to improve the situation. As a result of the task force's policy recommendations, the legislature passed Hawai'i Revised Statutes (HRS) §188-22.6 (See Appendix P) in 1994, giving the Department of Land and Natural Resources (DLNR) the authority to create community-based subsistence fishing areas (CBSFAs) to protect and reaffirm fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion.
- Moomomi became the first pilot CBSFA, one with much success that sunsetted 2 years later in 1996. Since then the community has been seeking permanent designation.
- In 2014 the State implemented CBSFA application standard operating procedures; in 2018 Hui Malama O Moomomi submitted a proposal and management plan to State Division of Aquatic Resources; and in April 2019 the State Board of Land and Natural Resources approved

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Mike White

Vice-Chair
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Robert Carroll
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Riki Hokama



Director of Council Services
David M. Raatz, Jr., Esq.

COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793
www.MauiCounty.us

July 7, 2016

Bruce Anderson, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl St., Rm 330
Honolulu, HI 96813

Aloha e Mr. Anderson:

**SUBJECT: DESIGNATING THE MO'OMOMI NORTH COAST OF
MOLOKA'I A COMMUNITY BASED SUBSISTENCE
FISHING AREA**

I write this letter in strong support of the Hui Malama 'O Mo'omomi's (HMM) proposal and management plan to adopt place-based regulations and designate the Mo'omomi North Coast of Moloka'i a Community Based Subsistence Fishing Area (CBSFA), stretching from Kalaeoka'i 'Ilio to Kaholaiki. My support for the CBSFA proposal is relative to my status as keiki o ka 'aina o Moloka'i and as a member of Maui County Council, Moloka'i District, I value the teachings of malama 'aina - mauka to makai. Hui Malama 'O Mo'omomi's efforts exemplify commitment and dedication to perpetuate our subsistence lifestyle for today's and tomorrow's generation.

I recognize that the CBSFA proposal embodies the intricate knowledge and fishing practices that have been patiently acquired and passed down by multiple generations including that of the current generations of fishermen.

Regulations are in place to save and protect the whales as well as our Hawaiian monk seals. Throughout the nation there is the mantra, "save the whales." In 1986 a moratorium was established to halt commercial whaling to help recover the dwindling whale population. Hawaiian monk seals are protected under the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA) and Hawaii State Statutes. The Mo'omomi North Coast of Moloka'i

July 7, 2016

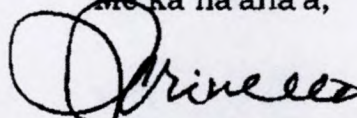
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CBSFA's proposal advocates the need to sustain Moloka'i's subsistence lifestyle and its intent to protect our resources and cultural traditions.

Like the "whale" defenders and "Hawaiian monk seal" protectors, I ask BLNR to support HMM's proposal as a means of provision to feed our families. Mr. Mac Poepoe and his team have patiently implemented substantial evidence of science and data immersing these collections and studies with our traditional techniques to teach and provide.

I partner with HMM and the Ho'olehua Hawaiian Homestead community's initiative to protect its natural and cultural resources by designating the Mo'omomi North Coast of Moloka'i as a CBSFA.

Me ka ha'aha'a,

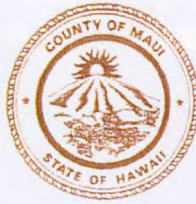
A handwritten signature in black ink, appearing to read "Stacy Helm Crivello", written over a circular stamp or mark.

STACY HELM CRIVELLO
Councilmember
Moloka'i District

SSC:aas

MICHAEL P. VICTORINO
Mayor

SANDY K. BAZ
Managing Director



COUNTY OF MAUI
OFFICE OF THE MAYOR
200 SOUTH HIGH STREET
WAILUKU, HI 96793

September 13, 2019

RECEIVED
2019 SEP 13 AM 11:04
OFFICE OF THE
COUNTY CLERK

The Honorable Kelly T. King, Chair
and Members of the County Council
Maui County Council
200 S High Street
Wailuku, Hawaii 96793

Dear Chair King:

SUBJECT: Climate Action, Resiliency and Sustainability Goals

This letter is intended to provide you with an overview of some of the major initiatives the Office of the Mayor is currently undertaking in order to advance our climate action, community resilience, and overall sustainability goals.

Energy Savings Performance Contracting (ESPC):

Having explored best practices used by other Counties and State of Hawaii, the Office of the Mayor is drafting a Request for Proposal (RFP) to hire a technical consultant to serve as the County's Owner's Representative as an independent third party advisor to advise the County of Maui in all phases of engaging with Energy Services Companies (ESCOs) in Energy Savings Performance Contracting (ESPC). This consultant will report to the Office of Mayor and Department of Management, with the Energy Commissioner serving in an advisory capacity. Once this consultant is selected and brought on board via a RFP process, the County will then develop and issue a RFP for ESPC to bring on an ESCO to aggressively pursue: energy efficiency measures (EEM), renewable energy generation and energy storage, electric vehicle (EV) charging infrastructure, and EV fleet vehicles procurement throughout County operations. This ESPC scope of work will include Investment Grade Audits (IGAs), which are detailed energy audits of each County building/facility included in the scope of work.

COUNTY COMMUNICATION NO. 19-385

September 13, 2019

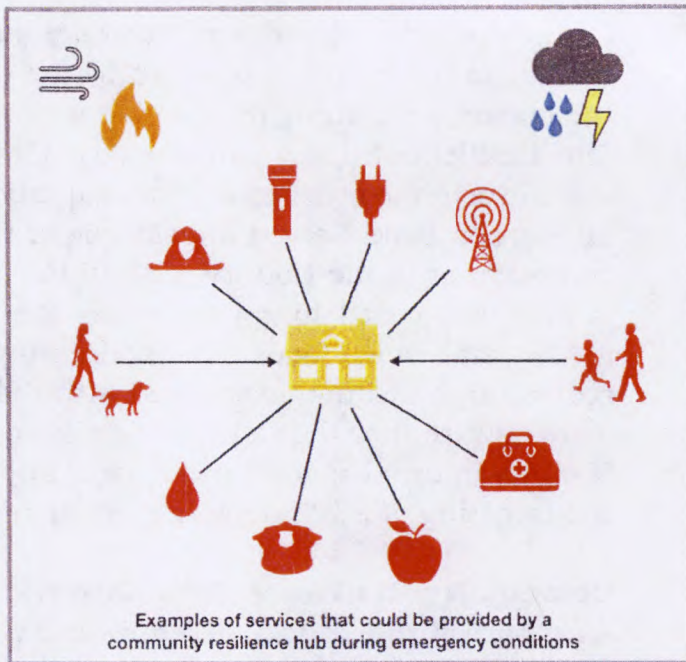
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County of Maui Resilience Strategy and Climate Action Plan (CAP):

Similar to the initiative pursued by the City & County of Honolulu, the Office of the Mayor is pursuing the development of a County of Maui Resilience Strategy. This Resilience Strategy initiative will include significant community engagement and outreach in order to inform adaptation and mitigation strategies intended to strengthen Maui County's resilience in the face of climate change impacts. As a complement to the County of Maui Resilience Strategy, the Office of the Mayor is also committed to spearheading the development of a Climate Action Plan (CAP) that will focus on addressing greenhouse gas (GHG) emissions reduction/mitigation associated with the County's internal operations. This will demonstrate that the County is walking the walk and leading by example. This "County internal operations focused" approach to the CAP will also help to inform the targeting of ESPC activities mentioned above.

Community Resilience Hubs Network:

As a part of the County of Maui Resilience Strategy Initiative, the Office of the Mayor, is developing a pilot program to kick start the development of a network of community resilience hubs that could be deployed across all islands of Maui County. These resilience hubs are intended to serve as community cohesion, disaster preparedness and community resource hubs during non-emergency conditions, and also serve to enhance community disaster response and disaster recovery during emergency conditions. The pilot project aims to deploy one resilience hub in a rural part of Maui County, one in a resort area and another in an urban part of Maui County. These will serve as use cases for the deployment of a larger network of resilience hubs. The deployment of resilient power systems will be the focus of the first phase of this pilot project. Performance monitoring and analysis of the deployed resilient power systems will help to inform future deployment at other complementary resilience hub sites. This effort will be co-led by the Energy Commissioner and the Environmental Coordinator, and will tie into the broader County of Maui Resilience Strategy.



Electric Vehicle (EV) Charging Infrastructure and Conversion of the County Vehicle Fleet and Transit Buses to Clean Fleets:

The Office of the Mayor is pursuing opportunities to enhance the deployment of electric vehicle (EV) charging infrastructure on County owned properties. In addition to the three County owned sites where EV charging infrastructure is already deployed (i.e. Kalana O Maui Building, Lahaina Aquatic Center, and Haiku Community Center), the Office of the Mayor is assessing deployment of EV charging infrastructure at additional strategic locations throughout Maui County. In close consultation with Maui Electric Company (MECO), Maui Economic Development Board (MEDB) and other strategic community partners, the Office of the Mayor is formulating an overall strategic approach to inform future deployment of EV charging infrastructure. This includes EV charging infrastructure for public and workforce charging, County vehicle fleet charging, and transit electric bus charging. The Office of the Mayor is actively pursuing matching funds to help offset the cost of building out EV charging infrastructure, including exploring opportunities to tie EV charging infrastructure deployment into ESPC contracting and other 3rd party vendor RFP opportunities. The existing EV charging on County sites will be the first to receive infrastructure upgrades in the very near future. Draft County policies are being developed to

September 13, 2019

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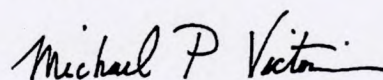
support the conversion of the County vehicle fleet to clean vehicles, including EVs, biodiesel and hydrogen vehicles. This includes focused efforts on transitioning County transit buses to a clean transit bus fleet. This effort will be overseen by the Office of Mayor and Office of Management, with the Energy Commissioner serving in an advisory capacity. These efforts will contribute to the County of Maui's commitment to transition all public fleets to clean fleets by 2035 and for 100% clean ground transportation by 2045.

Our intent with this update is to provide you with a high-level overview of some of the major climate change, resilience and sustainability initiatives that the Office of the Mayor is undertaking. We invite you to provide any feedback you may have and look forward to engaging with the Maui County Council and other internal and community stakeholders as these efforts continue to develop towards implementation.

Maui County Aloha+ Challenge and Maui Pledge

The Aloha+ Challenge is a statewide commitment to achieve Hawai'i's sustainability goals, and locally driven framework to implement the United Nations Sustainable Development Goals. Maui County endeavors to establish Maui County specific goals and metrics that align with State goals and also address County priorities for building a resilient community. We intend to launch a Maui County Aloha+ Challenge interactive website that allows for community involvement, input, and participation. This site will include toolboxes for accomplishing resiliency goals including citizen science initiatives and marine resource management guides such as The Nature Conservancy's handbook on creating a Community Based Fisheries Management Area and Department of Health approved Water Quality testing methods and protocols. We will also work to develop a Maui Pledge in which visitors to Maui can pledge to "Leave Only Footsteps" and align their tourism activities to preserve Maui's sensitive cultural and environmental resources.

Sincerely,

A handwritten signature in black ink, reading "Michael P Victorino". The signature is fluid and cursive, with a long horizontal line extending from the end.

MICHAEL P. VICTORINO
Maui County Mayor

Kuihelani Solar

- Location: Central Maui
- Owner/Operator: AES Renewable Energy
- Date Project Online: Approved by PUC March 2019
 - Construction projected to begin in 2020, projected to go online by 2022
- Land Siting: Former sugar fields off Kuihelani Hwy (South of E.Waiko Rd Intersection)
- Land Acreage: Approx. 500 acres
- Generating Capacity: 60 megawatts (MW)
- Battery Storage Capacity: 240 MWh
- Cost per kWh: 8 cents per kilowatt-hour (\$0.8/kWh)
- Projected number of Solar Panels: 200,000
- Expected to provide clean energy for nearly 27,000 Maui homes per year and offset nearly 2,000,000 barrels of fuel over life of contract
- Goal: to replace aging Kahului Power Plant, which produces about 40 MW of firm power

same as Kahului
AND community
outreach for Maui
Site



Paeahu Solar

- Location: South Maui
- Owner/Operator: Innergex
- Date Project Online: Under PUC Review
 - Estimated Construction Start: Q2 2021
 - Estimated Online: Q2 2022
- Landowner: Ulupalakua Ranch
- Land Acreage: 200 acres
- Generating Capacity: 15 megawatts (MW)
- Battery Storage Capacity: 60 MWh
- Cost per kWh: 12 cents per kilowatt-hour (\$0.12/kWh)
- Operation Length: 25-Year PPA Timeframe
- Project would power about 7,300 Maui households

