

KAUA‘I CLIMATE ADAPTATION PLAN: VIRTUAL OPEN HOUSE

March 23, 2022 | 5:30 – 7:30 PM

Download the Open House Guide at
<https://kauaiadaptation.com/event/virtual-open-house-1/>



WELCOME

Ka'āina Hull Planning Director



Open House Overview

The purpose of this Open House is to listen and learn from each other. It is an opportunity for you to **share your knowledge about your own experiences, your community, and the land.**

Input from this event will inform the prioritization of Climate Adaptation Plan strategies.

Agenda

5:30 to 5:35: Welcome

5:35 to 5:55: Presentation

5:55 to 6:00: Polling

6:00 to 6:05: Breakout Room directions

6:05 to 6:40: Breakout Rooms: Part 1

6:40 to 6:45: Break

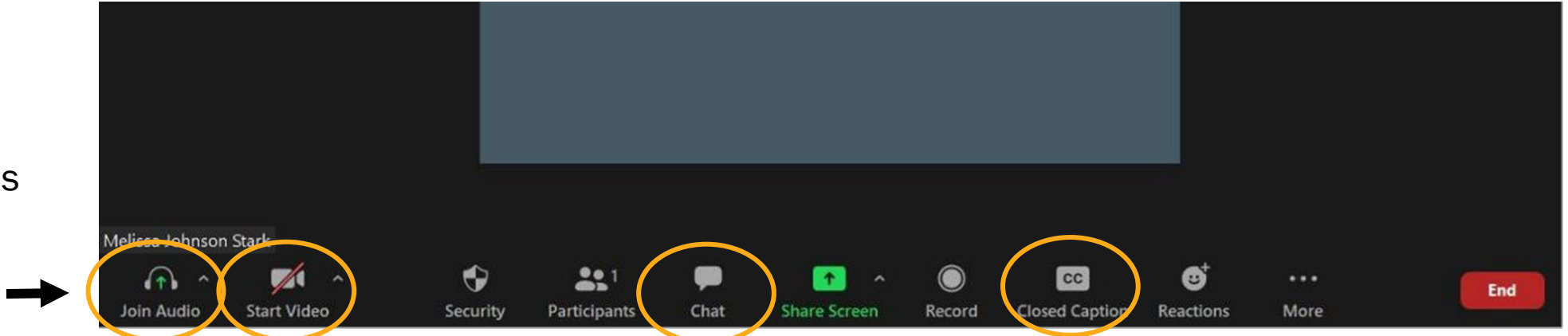
6:45 to 7:15: Breakout Rooms: Part 2

7:15 to 7:30: Report Out

Zoom Basics

Two options to join audio:

1. Use your device's audio
2. Call in using a cell phone



Please **mute** your audio unless a facilitator invites you to unmute.

You can turn your video on if you are comfortable

Type in the chat if you have comments, questions, or need help

Closed Captioning is available

Help email:
Lilly@raimiassociates.com



Presentation Overview

- What is the Climate Adaptation Plan (CAP)?
- CAP Planning Process
- Summary of Key Hazards
- How to Stay Involved

For more information and to sign up for updates:

kauaiadaptation.com



What is the Climate Adaptation Plan?



General Plan Climate Goals



POLICY #13: COMPLETE KAUA'I'S SHIFT TO CLEAN ENERGY

Mitigate climate change and reduce system-wide carbon emissions by at least 80 percent by 2050 through deep reductions in energy use and by transforming electricity, transportation, and infrastructure systems toward the use of clean energy.



POLICY #14: PREPARE FOR CLIMATE CHANGE

Prepare for impacts to the island economy, food systems, and infrastructure that will be caused by climate change.



Climate Change Mitigation and Climate Change Adaptation

MITIGATION

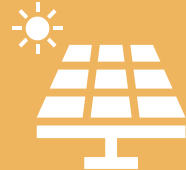
Actions that are taken to reduce and curb greenhouse gas emissions.



Low carbon transportation



Waste reduction & management



Renewable energy

ADAPTATION

Actions to reduce vulnerability to the effects of climate change



Emergency Management



Prepare for sea level rise



Prepare for extreme heat

Mitigation attends to the causes of climate change and **adaptation** address its impacts



What is the Climate Adaptation Plan?

The Climate Adaptation Plan (CAP) will provide a **framework of actions** to ensure people, places, and natural and built systems are able to adapt to climate change impacts.

Example types of adaptation strategies:

- Nature based solutions to SLR, flooding, and other hazards
- Community education
- Changes to built infrastructure such as roads and buildings



Plan Components

Summary of Climate Hazards and Vulnerabilities

Framework for Advancing Equity

Community Engagement Summary

Vision for Adapted Kauaʻi

Strategies, Actions and Implementation

Appendices

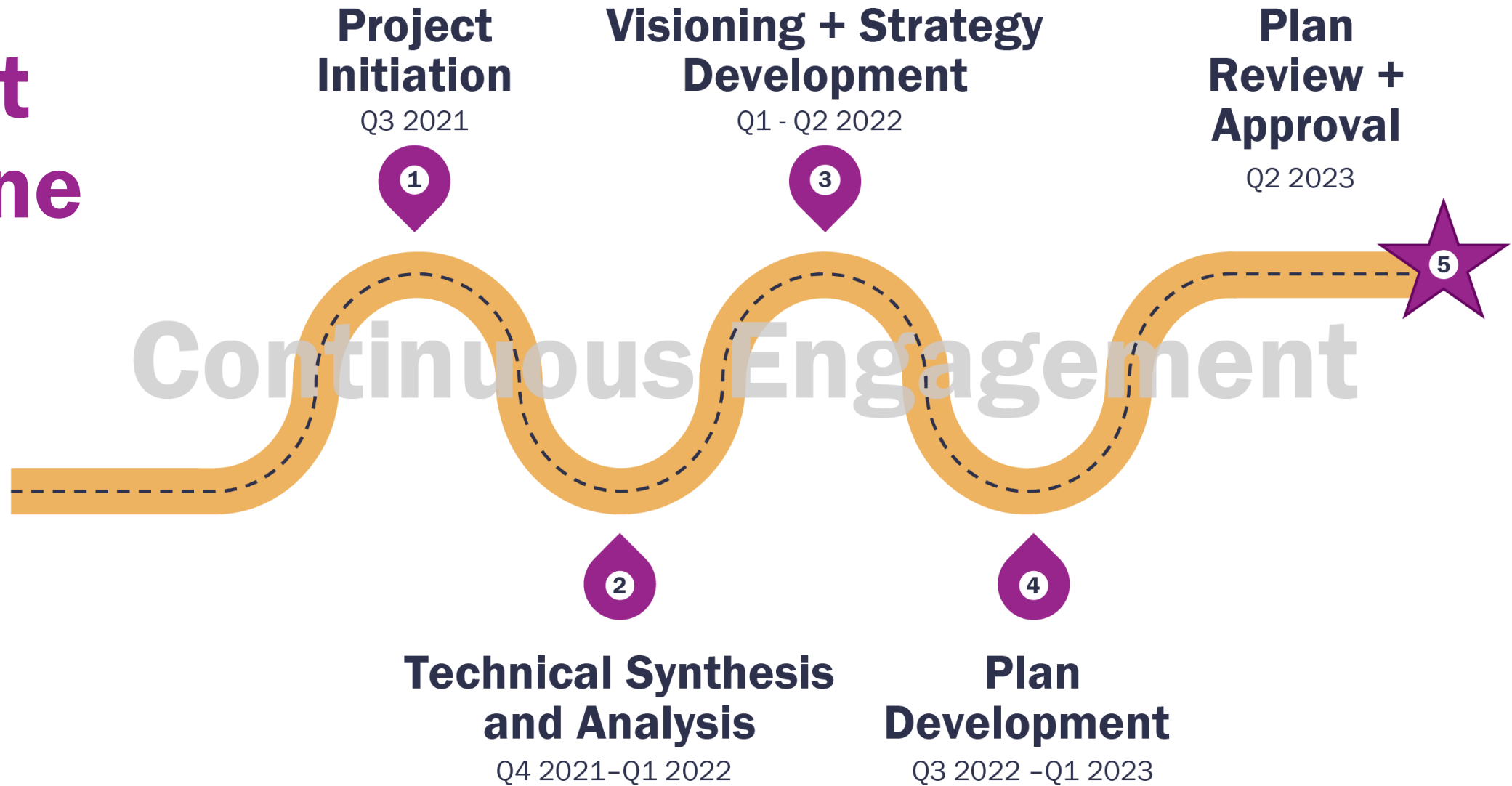
Topics Covered

- Climate hazards and stressors
- Inequities in the intersection of climate and social vulnerabilities
- Climate adaptation, action, and resilience strategies
 - Prioritize multi-benefit adaptation strategies that also result in GHG mitigation, improve equity, and/or natural systems benefits
- Funding and financing options

Builds On Existing Work



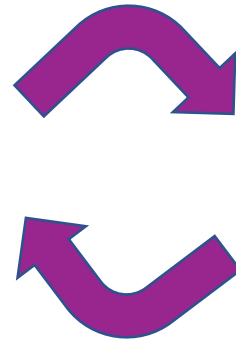
Project Timeline



The Project Team

County of Kauaʻi

- Planning Department
- Hawaiʻi Sea Grant
- Technical Advisory Group
- Interdepartmental Resilience Team



Consultant Team

- Raimi + Associates
- Dr. Chip Fletcher
- HR&A Advisors

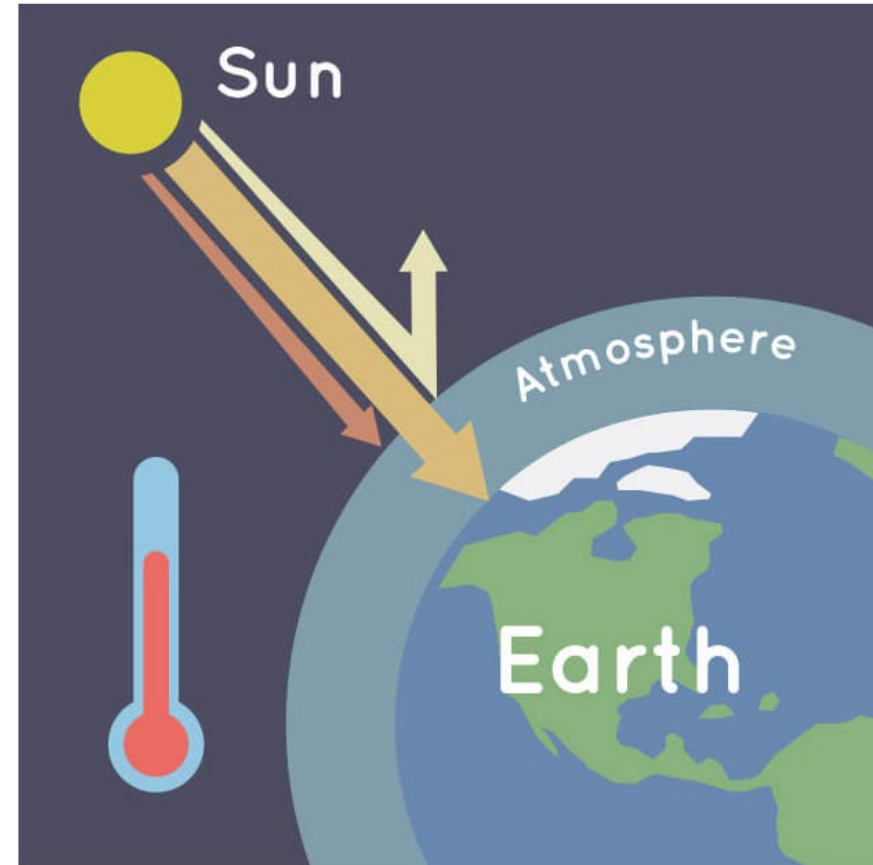
Climate Change and Key Hazards



What is Climate and the Greenhouse Effect?

Climate is the long-term behavior of the atmosphere – typically represented as averages

- Includes average annual temperature, snowpack, and rainfall
- Greenhouse gases trap heat in the atmosphere, resulting in warming over time
- Most common greenhouse gases, include water vapor, carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons and Hydrofluorocarbons (HCFCs and HFCs)



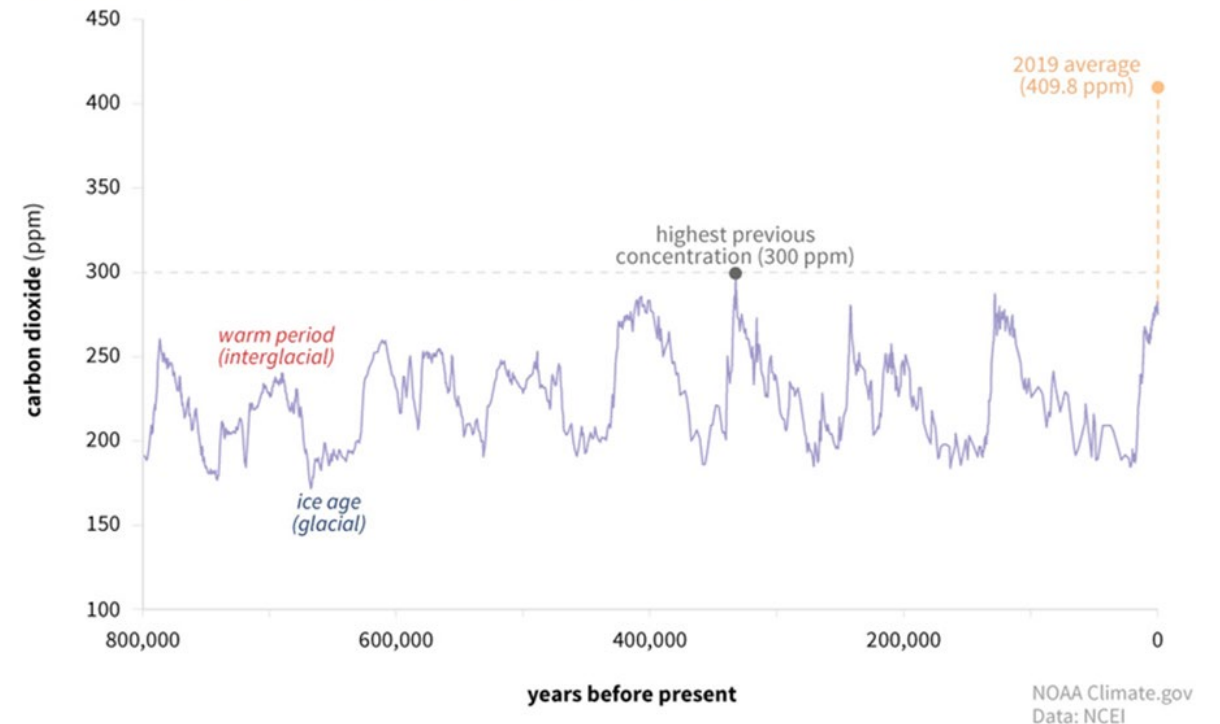
Earth's atmosphere traps some of the Sun's heat, preventing it from escaping back into space at night. Credit: NASA/JPL-Caltech



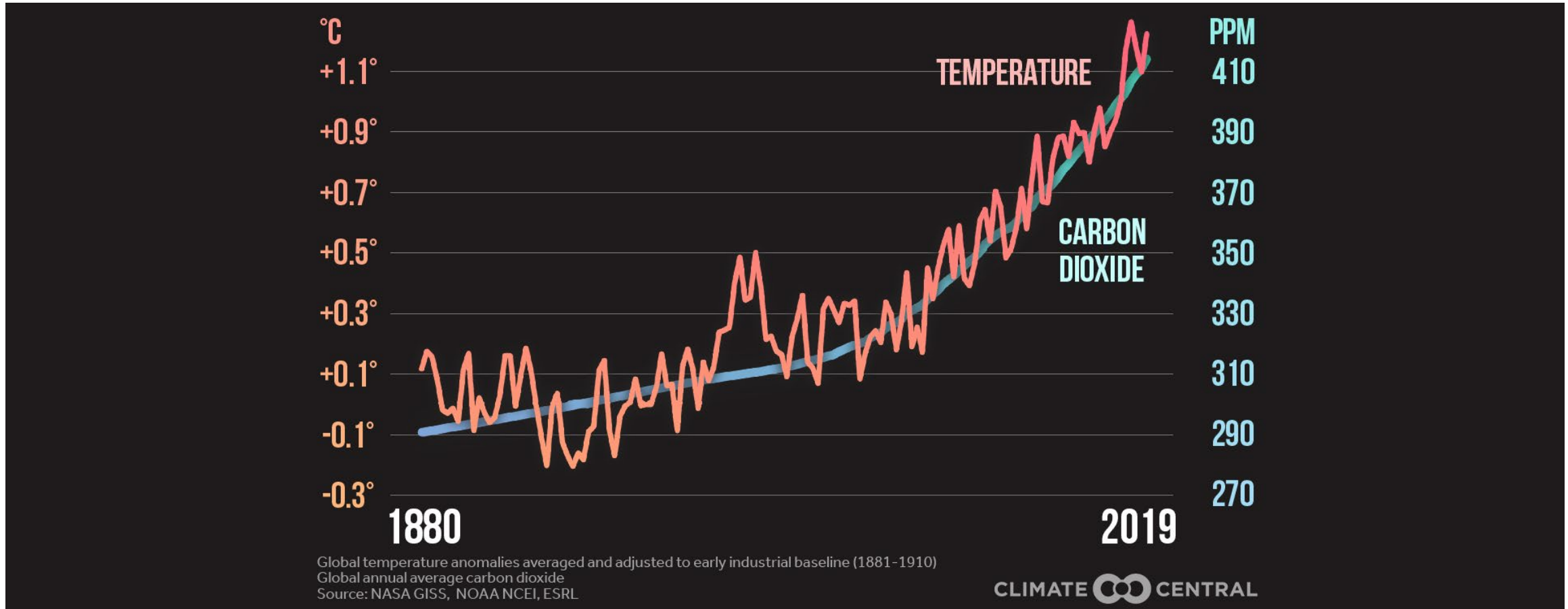
Change in Greenhouse Gases

- GHGs have been relatively constant throughout history but have increased sharply
- Since the industrial revolution, human-caused GHG emissions have sharply increased driven by:
 - Fossil fuel combustion
 - Deforestation other land use changes
 - Agricultural practices

CARBON DIOXIDE OVER 800,000 YEARS



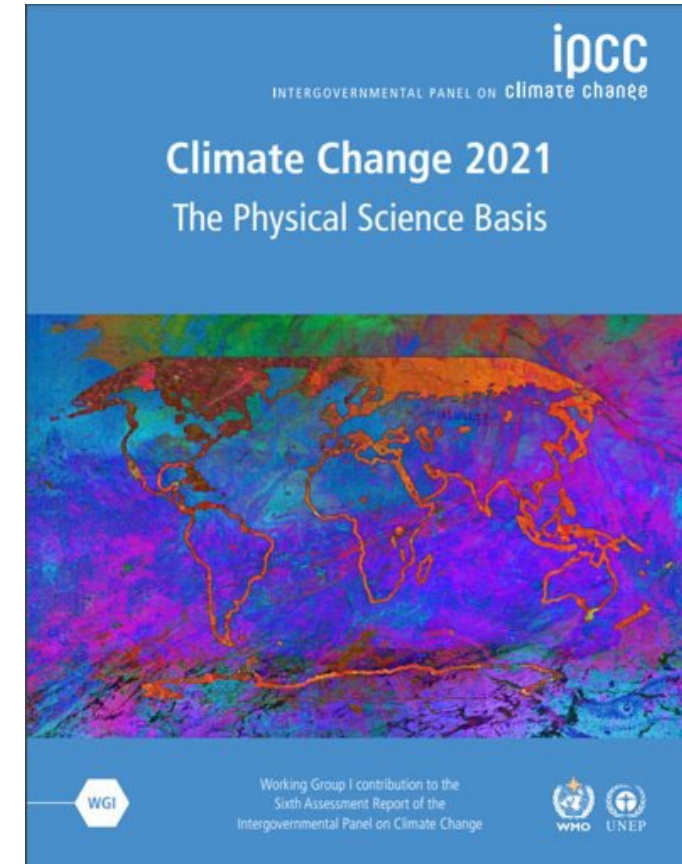
Global Temperature and Carbon Dioxide



Current State of the Climate

It is “unequivocal” that human emissions of carbon dioxide and other greenhouse gas emissions have warmed the atmosphere, ocean, and land

- Recent changes across the climate system are unprecedented. Human-induced climate change is already affecting many weather and climate extremes in every region across the globe.
- Evidence of observed changes include heatwaves, heavy precipitation, droughts, and hurricanes.



What Hazards on Kaua'i are Being Worsened due to Climate Change?



Sea Level Rise



Tropical Cyclone



Wildfire



Heat and Air Temperature



Extreme Precipitation



Drought



Marine Heat Wave



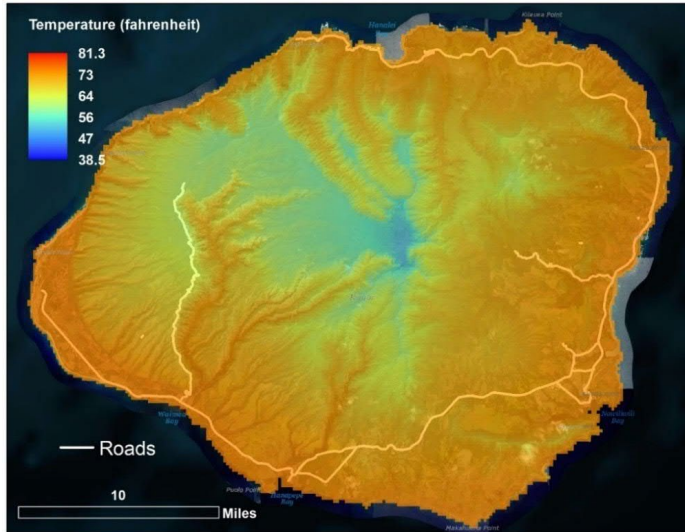
Inland Flooding



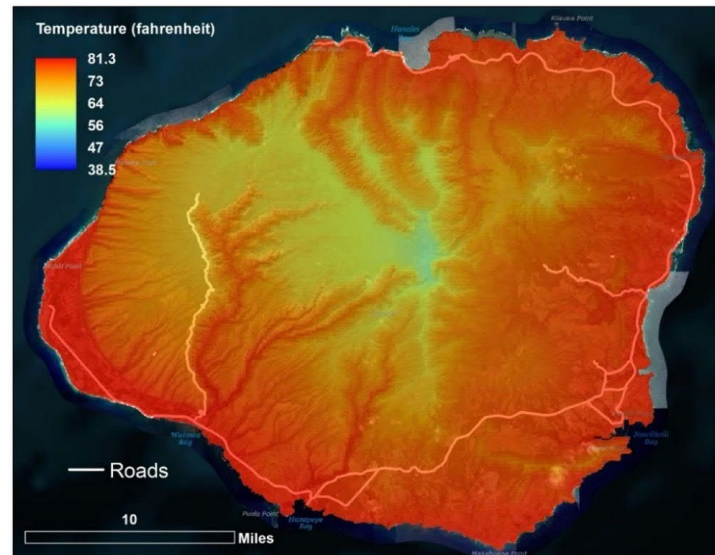


Heat

Historic Baseline (1976-2005)



End of Century (2070-2099)



Key Vulnerabilities related to Heat

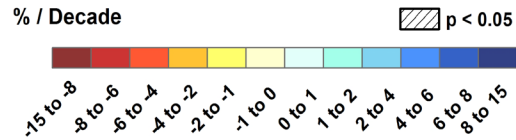
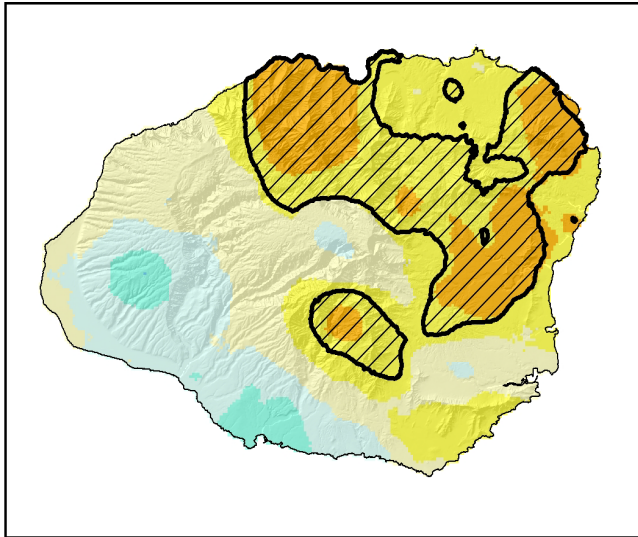
- Children, older adults, and people with heart and lung problems
- Power system
- Native species and ecosystems
- Agriculture and the food system



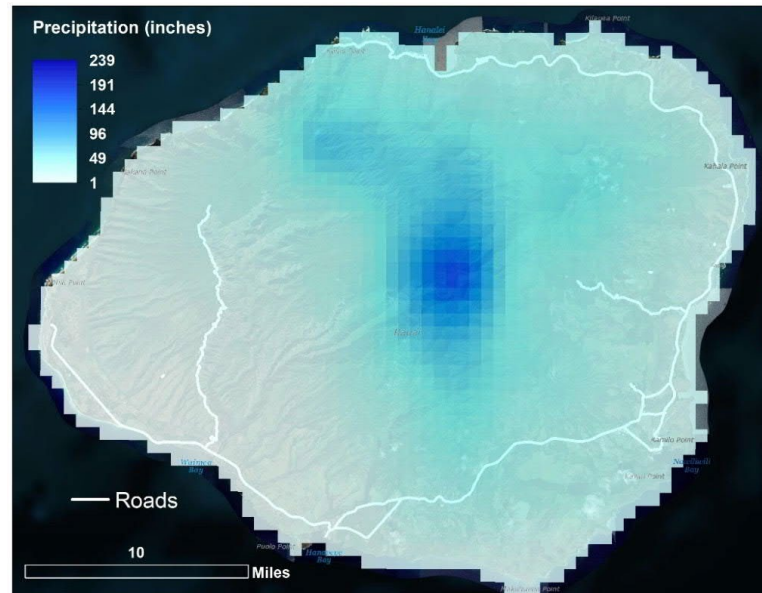


Precipitation Extremes

Annual Rainfall Trends (1920-2012)



End of Century Wet Season Precipitation (2071-2100)



Key Vulnerabilities related to Precipitation Extremes

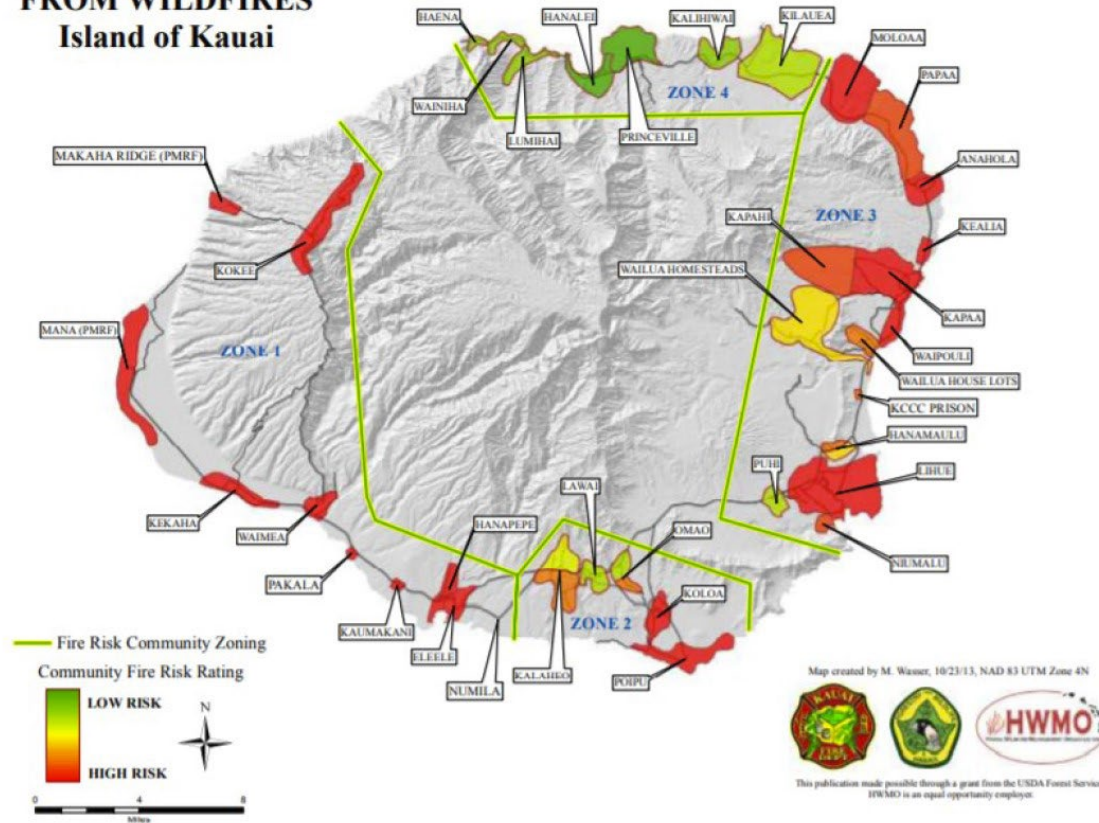
- Native species and ecosystems
- Roads, highways and bridges
- Water and wastewater systems
- Agriculture and the food system





Wildfire

COMMUNITIES AT RISK FROM WILDFIRES Island of Kauai



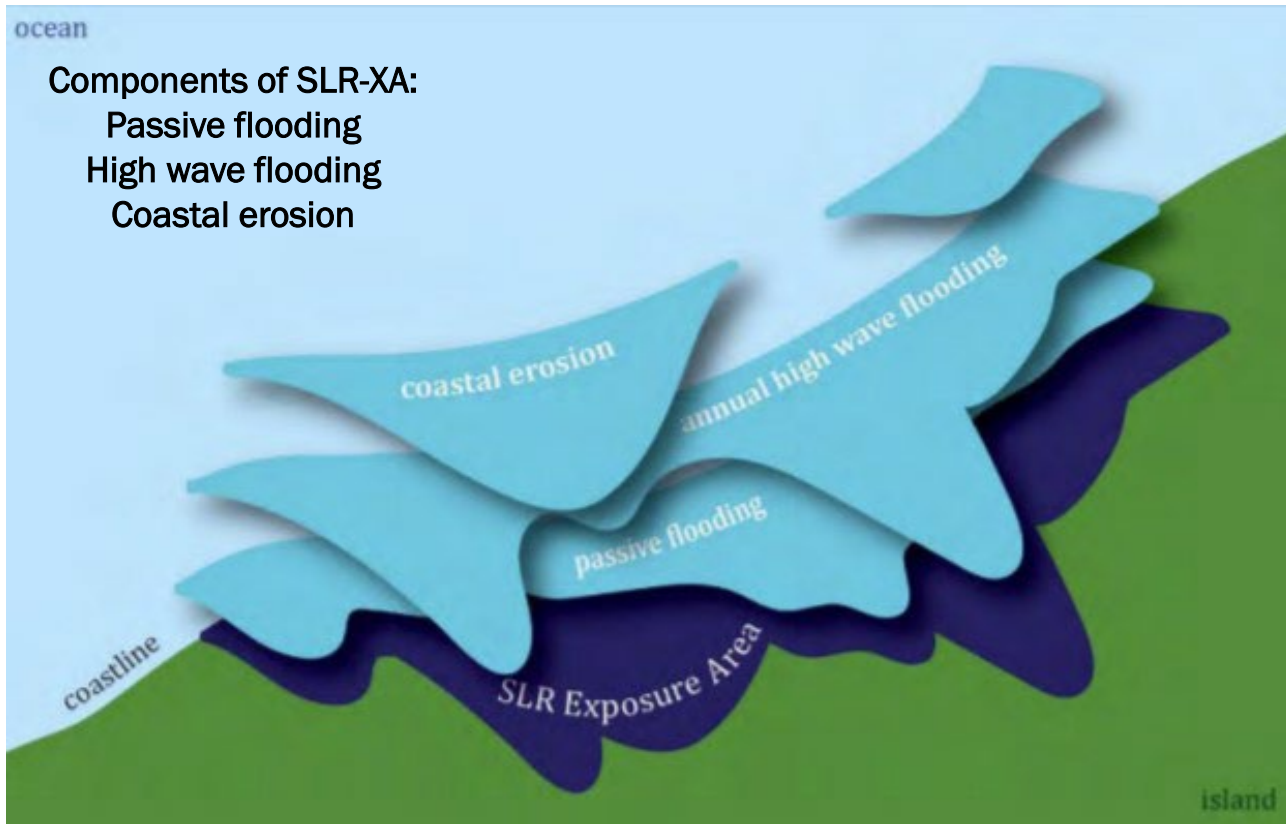
Key Vulnerabilities related to Wildfire

- Children, older adults, and people with heart and lung problems
- All building types
- Native species and ecosystems
- Agriculture and the food system





Sea Level Rise



Key Vulnerabilities in the Sea Level Rise Exposure Area (SLR-XA)

- Beaches and coastal ecosystems
- Native Hawaiian resources and practices
- Habitation on the coast
- Roads, highways, and bridges



How to Stay Involved



Attend an Open House in Your Community!

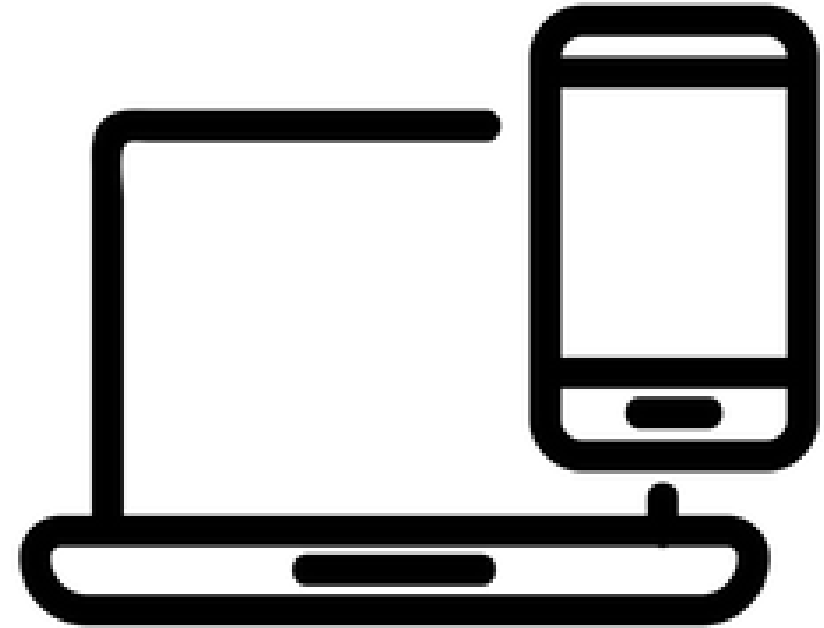
Upcoming In-Person Open Houses

Kekaha Neighborhood Center Date Mon. March 28 Time 4:00 - 7:00 PM	Kukui Grove Center Food Court Date Sat. April 2 Time 9:00 AM - 12:00 PM
Kapa'a Neighborhood Center Date Tue. April 5 Time 4:00 - 7:00 PM	Koloa Neighborhood Center Date Thu. April 7 Time 4:00 - 7:00 PM
'Aina Ho'okupu o Kilauea Date Sat. April 9 Time 9:00 AM - 12:00 PM	All in-person open houses will comply with County of Kaua'i COVID-19 regulations. Refreshments will also be provided.



More Activities at kauaiadaptation.com!

- Submit your story and knowledge of places to the Story Bank
- Take and share the Community Survey on Climate Change in Kauaʻi
- Watch educational videos and read climate hazard factsheets
- Read the Climate Hazard Review Paper



Youth Engagement

KAUA'I CLIMATE ADAPTATION PLAN



RECYCLED MATERIAL ART CONTEST

Use recycled materials to illustrate your experience and knowledge of what climate change means to you and how it affects your community.

Anyone can participate!

Submissions must be exclusively comprised of recycled materials. Winners will be chosen via judge panel.

Submission deadline - April 23

SAVE THE DATE

May 7, 2022

KAUA'I YOUTH CLIMATE SUMMIT



KAUA'I CLIMATE ADAPTATION PLAN



KAUA'I CLIMATE ADAPTATION PLAN



KILO CLIMATE CHALLENGE

Submit stories and knowledge of places on Kaua'i to our Story Bank.

Record your observations and share what changes you notice in to our changing climate.

Anyone can participate!

There is no deadline. Submit stories whenever and wherever!



Voluntary Anonymous Poll

What are your views on climate change island wide?

We use demographic information to ensure participation is representative.



Breakout Room Orientation

Purpose:

- Learn about your experience with climate hazards and how your community is already adapting
- Also, discuss the community vision and share ideas for climate action

Format:

- Move between rooms as desired
- 60-70 minutes with a short intermission half-way through

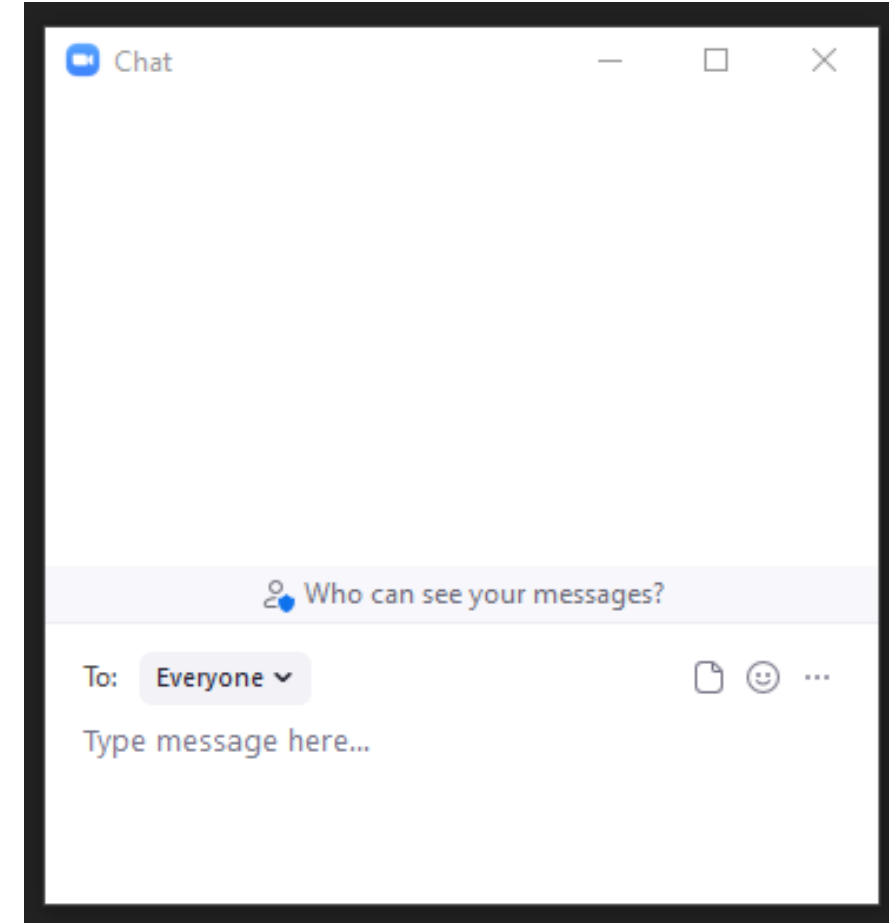
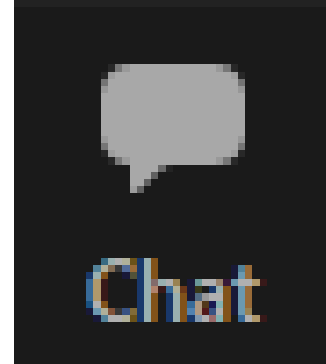
6 Breakout Rooms

- Rooms 1-5: Local Climate Impacts and Adaptation
 - Room 1: North Shore
 - Room 2: East Kaua'i
 - Room 3: Lihu'e
 - Room 4: South Kaua'i
 - Room 5: West Kaua'i
- Room 6: GHG Mitigation
- Main Room (stay here): Vision for Climate Adaptation



Breakout Room: Sharing Input


- How to share:
 - Verbal comments
 - Chat comments
 - Contribute directly on the Miro board



Miro Boards


- How to access the Miro boards:











- From the Open House Agenda (Page 3): Click the link to the board you want to open
- In the Zoom Breakout Room: Click the link pasted into the zoom chat
- Notetakers will add your contributions to the board, which you can watch on screen


North Shore
North Shore Miro Board


 Link for this Miro Board: <https://miro.com/app/board/uXjVOK2eoQw=>


- 1) He aha kou Mana'o? What are your thoughts?
- 2) What resources and assets in the North Shore do you think are most important to preserve?
- 3) What steps are being taken in the North Shore to prepare?




Community	Notes	Local Hazards*
Kilauea		
Kalihiwai		
Princeville		
Hanalei		
Haena		

*Heat and air temperature increases, marine heatwave and precipitation changes (extreme storms and drought) will occur island wide



Use the  to comment at a specific location

Overall Planning Area Notes

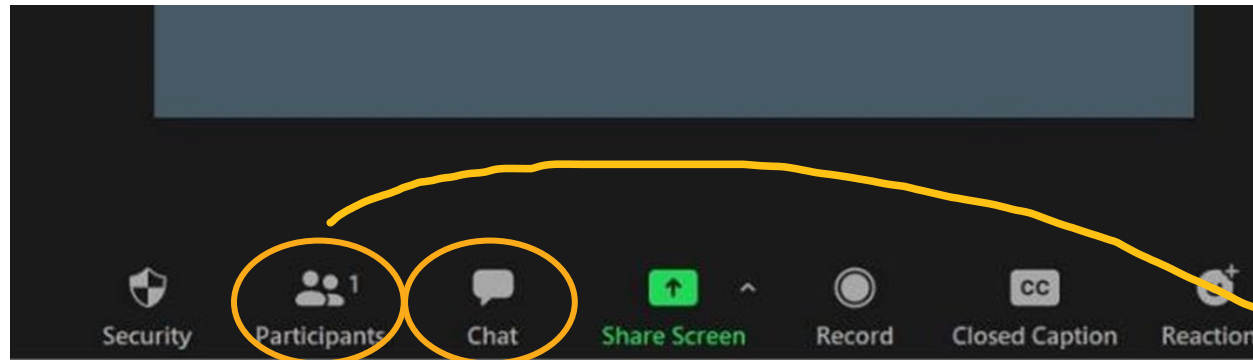




Groundrules

- Share your knowledge and experiences
- Allow other voices to be heard (don't dominate the discussion). Please keep comments to a minute or so
- Show aloha and respect to everyone's opinions and ideas
- Mute when not speaking
- Raise virtual hand to speak

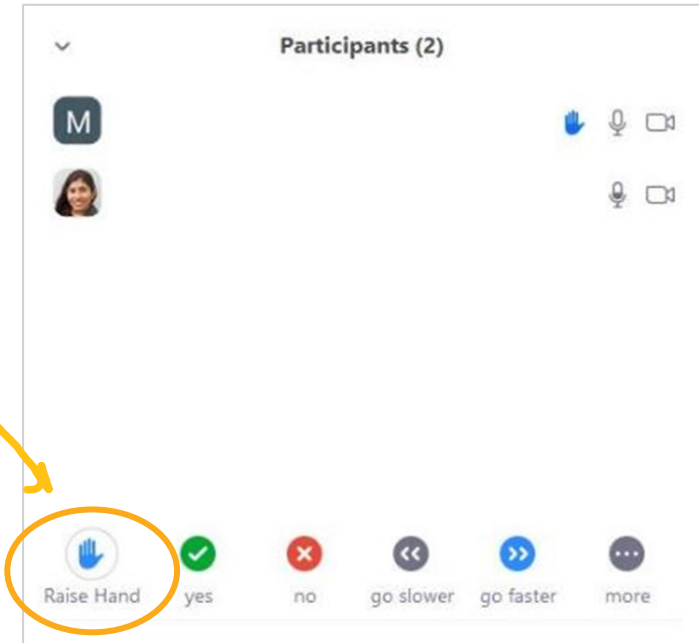
Zoom Basics



Raise your "hand" to speak (On the phone, press *9)

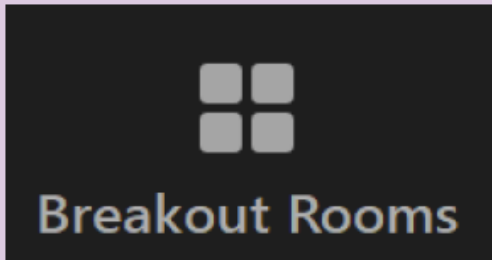
You can ask questions and share input using the **Chat** function during the meeting and small group exercise

Please stay on mute unless you are speaking



Breakout Room Directions - Zoom

Step 1: Select the **Breakout Rooms** icon in the Zoom navigation bar



Step 2: Click **Join** next to the room you would like to enter.

▼ ROOM 1 North Shore	Join
▼ ROOM 2 East Kaua'i	Join
▼ ROOM 3 Lihu'e	Join
▼ ROOM 4 South Kaua'i	Join
▼ ROOM 5 West Kaua'i	Join
▼ ROOM 6 GHG Mitigation	Join

← Click

If you would like to discuss Visioning, **stay in the main room**. Do not select a breakout room

If you are calling in, you need to be moved between rooms by the workshop host - press *9 to raise your hand and be moved.

Need help? If you have questions or need any technical assistance during the meeting, use the "Ask for Help" button, reach out to any of the breakout room facilitators, or return to the Main Room.

Breakout Room Reports



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Mahalo! Stay Involved!

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- Take and share the Community Survey on Climate Change in Kauaʻi
- Participate in a youth contest and the May 7 Youth Summit
- Watch educational videos and read climate hazard factsheets
- Read the Climate Hazard Review Paper

For more information and to sign up for updates:
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If you still have questions or comments, reach out to
plankauai@kauai.gov