

May 8, 2024

MEMO TO: David M. Raatz, Director of Council Services

F R O M: Ellen McKinley, Legislative Analyst *EBM*

SUBJECT: **PRESENTATION: “BUILDING A CLIMATE RESILIENT COMMUNITY”** (PAF 23-021(31))

I attended a presentation titled “Building a Climate Resilient Community” on April 30, 2024, on Kalana O Maui’s ninth floor. The presentation was part of Mayor Bissen’s Sustainability Speaker Series.

Maui County Environmental Coordinator Joshua Cooper hosted the presentation by Dr. Chip Fletcher, Interim Dean, School of Ocean and Earth Science and Technology, at the University of Hawai‘i at Mānoa. Governor Josh Green, M.D., recently appointed Dr. Fletcher as Special Advisor for Climate and Resilience.

Dr. Fletcher explained that NASA has data from 1880 to 2020 that shows there has been a two-percent Celsius heat increase on the Earth’s continents and in the Arctic, with the oceans absorbing heat and warming less rapidly than the land. Although 40 government entities have pledged to reach net zero carbon emissions by 2050, they don’t have plans to achieve the goal.

We are now seeing the following effects from global climate change:

- Increased and more severe droughts;
- Decreased stream flows;
- Twenty-percent rain decline, fewer clouds, and less precipitation;
- More frequent, extreme (longer and hotter), fatal, heat waves;
- More frequent rain bombs and extreme flooding events;
- Rapidly melting polar ice;
- Movement of heat from the tropics to the poles;
- Jet stream disruptions;
- Record cold and heat waves due to jet stream disruptions;
- Damages from extreme weather;
- Increased wildfires – a 400 percent increase since 1960;
- 13 consecutive months of record-breaking marine surface temperatures;
- 1.1 degrees Celsius increase in Hawai‘i’s temperatures, with many nights not cooling below 90 degrees;

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- Trade winds decreasing in frequency and speed, and shifting to become more easterly;
- Dramatic increase in Category 4 and 5 hurricanes;
- Latitude of tropical cyclones changing to align more with Hawai‘i;
- Coral reef bleaching and mortality;
- Sea level rise;
- Coastal flooding;
- Drainage issues;
- Erosion;
- Biodiversity loss;
- Sea water and ground water inundation, even away from the ocean;
- Humans needing to mine groundwater; and
- FEMA running out of money for the first time.

The changes will continue for thousands of years. The extent of sea level rise on Maui is uncertain, but it will rise at least four feet and could reach up to eight feet.

To combat the worst affects, new government policies are essential. Suggested actions include:

- Address the anticipated sea level rise in stages, build to accommodate the lower anticipated rise, and plan for later retrofits.
- Transition from extractive to sustainable practices.
- Mitigate carbon emissions.
- Avoid focusing solely on carbon emissions.
- Identify hazards and conduct vulnerability assessments.
- Develop climate hazards adaptation strategy and projects, in alignment with the UH Mānoa research team’s mission.
- Develop resilience hubs. See [www.vibranthawaii.org/hubs](http://www.vibranthawaii.org/hubs).
- Advance social equity and create climate resilient developments in underserved communities first.
- Create lo‘i kalo and loko i‘a in Kīhei where marine and groundwater inundation will be creating new wetlands.
- Restore Moku‘ula.
- Exercise kuleana and use every opportunity to educate and inform the public regarding the problems and solutions of combatting climate change.

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Thank you for the opportunity to attend this presentation. If you have any questions regarding this presentation, please contact me at ext. 7661.

paf:ebm:23-021(31)b