

Climate actions centered on Indigenous knowledge can improve resilience

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Climate change in Hawai'i and the Pacific Islands worsens inequities and threatens unique island ecosystems, cultural resources, human health, livelihoods, the built environment, and access to clean water and healthy food.

These are among the findings of the U.S. National Climate Assessment,

released by the Biden Administration which involved five University of Hawai'i at Mānoa researchers. The assessment concluded that adaptation actions centered on local and Indigenous knowledge can improve the resilience of Pacific Island communities.

The chapter on [Hawai'i and the U.S.-Affiliated Pacific Islands](#) appears in the [Fifth National Climate Assessment](#), the most up-to-date and comprehensive U.S. report to evaluate climate change risks, impacts and responses. The assessment demonstrates that efforts to reduce [greenhouse gas emissions](#) and limit [climate change impacts](#) are underway in every U.S. region, including the Pacific Islands.

"Climate change continues to threaten things we care about," said Abby Frazier, a UH affiliate faculty member, an assistant professor at Clark University, and the chapter's lead author. "As the devastating hurricane-fueled wildfires on Maui and Typhoon Mawar in Guam made clear, when communities are already hurting from stressors like COVID-19, extreme weather can multiply harms.

"The sooner we scale up global action to curb threats from climate change, the better. Fortunately, cutting emissions or preparing for new extremes also creates immediate local benefits—improved health, a stronger economy, and more resilient communities."

The chapter's key takeaways for the region include:

- Climate change impairs access to healthy food and water. Increasing temperatures, altered rainfall, flooding, pollution and fisheries decline will further affect food and water availability.
- Climate change undermines [human health](#). Climate shocks and stressors compromise health care and worsen long-standing social and economic inequities that contribute to illness, but community strengths and adaptation measures can boost resilience.

- Rising sea levels harm infrastructure and islands' economies. Sea-level rise intensifies loss of territory and disrupts livelihoods, however, governments and communities are innovating through [renewable energy](#), green infrastructure and sustainable economic growth.
- Responses help to safeguard tropical ecosystems and biodiversity. Increased fire risk, severe droughts, and ocean changes have broad negative impacts on native plants and wildlife and ocean ecosystems. Effective adaptation strategies include ecosystem protection and restoration, invasive species measures and fire prevention.
- Indigenous Peoples and their knowledge systems are central to the resilience of island communities amidst the changing [climate](#).

Since the Fourth National Climate Assessment, published in 2018, a new component is the chapter's inclusion of a key message on human health and its emphasis on food security, integration of Indigenous knowledge, and recognition of data inequities for the Pacific Islands and U.S. Caribbean.

The full National Climate Assessment is published as an [interactive website](#) at nca2023.globalchange.gov and Chapter 30: Hawai'i and U.S.-Affiliated Pacific Islands at nca2023.globalchange.gov/chapter/30.

About the Fifth National Climate Assessment

Mandated in the Global Change Research Act of 1990, the National Climate Assessment provides authoritative scientific information about [climate change](#) risks, impacts, and responses in the U.S. The assessment reflects the scientific consensus and is widely used for decision-making but does not include policy recommendations nor advocate for any specific policy.

The Fifth National Climate Assessment includes 32 chapters on physical science, national-level sectors (such as water, energy, agriculture, ecosystems, transportation, health, infrastructure, etc.), regional impacts in the U.S., and responses. The [assessment](#) was written by a diverse team of more than 500 Federal and non-Federal authors and more than 250 technical contributors from every state. The report has undergone multiple rounds of review, including three opportunities for public comment, extensive agency review, and an external review by the National Academies of Sciences, Engineering, and Medicine.

The Hawai'i and U.S.-Affiliated Pacific Islands chapter has 16 authors and 41 technical contributors and is backed by nearly 500 citations from published literature.

Provided by University of Hawaii at Manoa

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