



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Water and Land
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By

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SB 2724 – RELATING TO SEA LEVEL RISE ADAPTATION

Chair Inouye, Vice Chair Keith-Agaran, and members of the committee:

The University of Hawai'i Sea Grant College Program (Hawai'i Sea Grant) and the Climate Resiliency Initiative (CRI; formerly Coastal Geology Group) support SB 2724. This legislation requires the Office of Planning and Sustainable Development to establish a pilot program to convene a working group to develop a Waikīkī adaptation and resilience plan to address climate change and sea level impacts in the Waikīkī special district. Hawai'i Sea Grant offers the following comments and suggestions to strengthen this bill.

1. The bill correctly acknowledges the need to develop community-supported adaptation and mitigation plans that help address the impacts of sea level rise and guide policies at the macro-level. The value and importance of community engagement cannot be overstated.
2. The connection to other municipalities that have developed similar resilience strategies is an important aspect of developing a comprehensive plan and the University of Hawai'i has experience with reviewing many of the resilience plans identified in the bill.
3. This bill identifies the State Office of Planning and Sustainable Development (OPSD) to convene a Waikiki adaptation and resilience plan working group as a pilot project to develop an adaptation and resilience plan. It is not clear who will lead the development and composition of the plan and it is recommended an independent consultant assist the working group to develop the plan in collaboration with the OPSD and the working group.
4. Coastal hazard research has shown that inundation and flooding of Waikīkī related to climate change will occur from multiple sources: storm drain backflow,

groundwater inundation, wave run-up and marine hydrostatic (passive) flooding, heavy precipitation and the associated watershed flooding associated with extreme weather events.

5. Waikīkī, like so many of the other resort communities in the state, is in a sea level rise vulnerable area and requires a comprehensive adaptation and resilience plan to deal with projected climate change and sea-level rise.
6. Recent University of Hawai'i scientific research supporting the Hawai'i Sea Level Rise Vulnerability and Adaptation Report¹ found that 3.2 feet of sea level rise will have profound impacts on O'ahu. \$12.9 billion in structures and land could be lost; 3,800 structures could be flooded, including hotels and resorts in Waikīkī; over 13,000 residents could be displaced; and nearly 18 miles of major roads could be flooded. The report estimates that O'ahu will account for an estimated 66% of the total statewide economic losses due to sea level rise. The report recommends private and public entities such as Waikīkī should begin planning for sea level rise adaptation to prepare for higher sea levels in the future.
7. A recent University of Hawai'i Sea Grant College Program study on coastal flood adaption for Waikīkī has developed architectural rendering through a series of design charrettes to envision future sea-level adaption urban designs. This may be complimentary to the effort to develop a community- based resilience plan.

Hawai'i Sea Grant's mission is to provide integrated research, extension, and education activities that increase understanding and use of ocean and coastal resources of the Hawaiian and Pacific Islands and support the informed personal, policy, and management decisions that are integral to realizing this vision. Hawai'i Sea Grant is part of a national network of 34 university-based programs associated with the National Oceanic and Atmospheric Administration (NOAA) that promote better understanding, conservation, and use of coastal resources.

The Climate Resiliency Initiative (CRI) is a newly-established applied research program at the University of Hawai'i at Mānoa. CRI is an affiliation of researchers, technicians, undergraduate, and graduate students spread across campus working on challenges related to climate change. CRI researchers conduct investigations of sea level rise and community design, increasing resiliency to extreme weather events, projecting future climate stresses and shocks, marine and reef impacts, and better understanding community exposure to rising heat, storms, and drought. This requires cross-disciplinary and integrated research investigation on a range of spatial and temporal scales.

Hawai'i Sea Grant and the CRI support SB 2724 and recommends consideration of the above mentioned amendments. Thank you for the opportunity to testify on this measure.

¹ Hawai'i Climate Change Mitigation and Adaptation Commission. 2017. *Hawai'i Sea Level Rise Vulnerability and Adaptation Report*. Prepared by Tetra Tech, Inc. and the State of Hawai'i Department of Land and Natural Resources, Office of Conservation and Coastal Lands. Page 152-162