



# UNIVERSITY OF HAWAII SYSTEM

## ‘ŌNAEHANA KULANUI O HAWAII

### Legislative Testimony

#### Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the  
Senate Committee on Water and Land  
Friday, March 15, 2024 at 1:00 p.m.

By

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And

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### HB 1900 HD1 – RELATING TO HYDROLOGIC DATA COLLECTION

Chair Inouye, Vice Chair Elefante, and members of the Committee:

The University of Hawai'i (UH) **strongly supports HB 1900 HD1**, which appropriates funds for Fiscal Year (FY) 2025 to improve the State's understanding of and ability to monitor the complex hydrologic systems in Hawai'i by providing funding for stream gages and monitoring wells, and for the operation and maintenance of the *Hawai'i Mesonet*.

The need for comprehensive hydrological monitoring in Hawai'i is widely recognized and was rigorously evaluated in a study of the data collection gaps and opportunities done by the Hawai'i Commission on Water Resource Management (CWRM) in collaboration with the U.S. Geological Survey (USGS). The study identified priorities for expanding and improving Hawai'i's hydrologic data collection network (*Water-Resource Management Monitoring Needs*, State of Hawai'i, USGS Scientific Investigations Report 2020-5115). The results of that study identified improved groundwater, surface water, and weather data collection as critical needs in Hawai'i.

CWRM is responsible for managing and regulating water resources under the State Water Code (HRS Title 12, Chapter 174C). With 376 perennial streams and 114 groundwater aquifer system areas spread across the varied environments of the State, encompassing wide ranges of geologic conditions, soils, vegetation, and climate, CWRM's responsibilities are vast. The networks of stream gages and weather stations needed to manage these resources has declined steeply since the 1960s, with the number of stream gages now reduced to less than half the number that operated in 1966.

Weather monitoring similarly declined in recent decades. While climate information has been gathered for over 100 years by various entities in the islands, the climate observing network in Hawai'i was, until recently, fragmented, unmanaged, declining in

spatial coverage, and inadequate to meet the needs of the many stakeholders' dependent on the data, data products, and research the data support. Previously, the mainstay of the climate observing network consisted of stations operated by the sugarcane and pineapple industries. With the contraction and eventual cessation of most large-scale agriculture in the islands, many stations were discontinued.

Weather and climate monitoring benefits not only water resource management, but also weather forecasting, agricultural irrigation management, pasture management, emergency management (including wildfire and flood risk warnings and response), recreation, and numerous other interests. Recent disasters driven by weather extremes illustrate the need for a more comprehensive, high quality, telemetered monitoring network. The inability to provide accurate warnings and to respond to the historic flood events in Halele'a, Kaua'i, and southeastern O'ahu in April 2018, on Hawai'i Island and Maui in response to Hurricane Lane in August 2018, and the devastating Maui fires of August 2023, should serve as a wake up call regarding the need for improved weather observations.

In response to the overwhelming need for better data, the University of Hawai'i (UH) Water Resources Research Center (WRRC) recently established the Hawai'i Mesonet, an eventual 100-station, statewide network of advanced weather and climate monitoring stations. Site selection for Hawai'i Mesonet stations prioritizes areas lacking coverage on all islands, with particular attention to the needs of emergency managers, flood forecasters, wildfire prevention and response agencies, farmers, ranchers, and water resource managers. WRRC was able to secure \$1.5M of federal support to purchase the necessary equipment, and has support from UH to install the network. To sustain this valuable investment, it is crucially important that funding be provided to operate and maintain the network and provide easy data access to all those who need the data, including CWRM. Fortunately, WRRC has secured support from the National Mesonet Program (NMP) in the form of payments for data that cover about half of the cost of operations, maintenance, and data management. This bill requests State support to cover the remaining costs of sustaining this important resource.

Thank you for the opportunity to submit testimony in support of HB 1900 HD1 provided that its passage does not impact priorities as indicated in our Board of Regents Approved Budget.