

STATE OF HAWAII
UNIVERSITY OF HAWAII
UNIVERSITY OF HAWAII AT MANOA
WATER RESOURCES RESEARCH CENTER

FUNCTIONAL STATEMENT

OFFICE OF THE DIRECTOR – Org Code: MAWRRC

The Director administers the research and service activities of Water Resources Research Center's (WRRC) faculty and performs a myriad of tasks that relate to the University and State, national and international research programs of the WRRC. The office also handles grant funding process for the federal Water Resources Research Act amended in 1984 (PL 98-242) that was subsequently amended by Public Laws 101-397, 104-147, 106-374, and 109-471. Senate Bill S.3363 is currently in the US Senate to amend the PL 98-242 and reauthorize it. The Director provides focus and leadership and encourages and maintains an environment supportive of excellence in research. The Director acts as liaison between WRRC and the Office of the Vice Chancellor for Research and Graduate Education. In addition, the Director represents WRRC in its interactions with local and state agencies and the national and international research communities.

INFORMATION AND TECHNOLOGY TRANSFER OFFICE – Org Code: MAITWR

The Information and Technology Transfer Office (ITTO) of WRRC serves to disseminate the results of the Center's research activities to audiences of local water and wastewater agencies, environmental engineering consultants, other academic researchers, and interested members of the public. The mechanisms by which this dissemination is achieved include bulletins and other publications, the Center's web site, workshops, meetings, and conferences, and regular biweekly seminars held every semester.

The ITTO also coordinates visits by scholars who often come to make contact with the Water Center with the intent of engaging in collaborative research efforts with Center faculty. These contacts have resulted in several long-term arrangements with foreign universities. The ITTO also includes editorial and publications services to assist WRRC faculty in the preparation of manuscripts and reports.

HYDROLOGY DIVISION – Org Code: MAHDWR

Much of WRRC's research focuses on hydrology, both surface and subsurface. Assessment and modeling of ground and surface water are of paramount importance in Hawaii, where some 98% of our drinking water is groundwater and where flash flooding due to intense storm episodes combined with our unique topography has caused millions of dollars of damage in recent years. WRRC's contributions to understanding how water moves in our streams and aquifers and how the anthropogenic contaminants end up in water supply wells have helped to guide state and local agency decisions for several decades.

ENGINEERING DIVISION – Org Code: MAENWR

Engineer researchers working for WRRC address a wide spectrum of problems that call for expertise in Water Resources and Environmental Engineering. Examples of research conducted by this division include wastewater treatment plant design, fate and transport of agricultural chemicals, pharmaceutical compounds, and pathogens in soils and ground water, assessment and modeling of runoff pollutant loading, development of measures to mitigate polluted runoff, evaluation of alternatives to treat landfill leachate, assessment of onsite household wastewater treatment units for un-serviced areas of the state, etc. This Division of WRRC performs much research in support of the functions of water and wastewater utilities in the state such as the development of a system of prioritizing and optimizing water line replacement for the Honolulu Board of Water Supply, designing ultraviolet light disinfection systems for the County of Honolulu's Environmental Services Department, etc.

ECOLOGY DIVISION – Org Code: MAECWR

The Ecology Division of WRRC deals with issues where environmental ecology intersects with water, land, and wastewater management. The Division has made significant contributions relating to the State's water quality standards. Principally, researchers have helped to develop alternative metrics for microbial water quality in response to the realization in the State that the water quality standards prescribed by the US Environmental Protection Agency (EPA) are inappropriate and inapplicable to Hawaiian waters.

Other long-term ecological research performed by this Division has focused on evaluating the effects and ecosystem impacts of wastewater disposal practices in the County of Honolulu. Research into the health and integrity of the benthic communities around the County's ocean wastewater outfalls has served as the scientific basis for continuing the County's waivers from tremendously expensive secondary treatment requirements that the EPA generally imposes on wastewater utilities nationwide.

SOCIOECONOMIC DIVISION – Org Code: MASDWR

Researchers in the Socioeconomic Division of WRRC have examined the economic issues relating to water pricing on the islands. Under several different projects, economists working with the Center have formulated models that point to pricing strategies that would optimize the allocation and use of water that take into account maximizing the benefits for present and future users while accounting for the needs of the environment. Other economic research includes developing an optimal model for pipeline replacement for the Honolulu Board of Water Supply.

ENVIRONMENTAL CENTER – Org Code: MAEVWR

The Environmental Center coordinates the education, research, and service efforts of the UH relating to the maintenance, protection, and improvement of the environmental quality in Hawai'i and the adjacent marine environment. It is a conduit for the transfer of interdisciplinary academic and research expertise in environmental matters from the UH to the government, with a particular regard for public review processes established within the state's Environmental Impact Statement (EIS) laws. Its research program is highly interdisciplinary and focuses on issues of particular importance to improving environmental management decisions in the Pacific. The center works closely with the U.S. Environmental Protection Agency as well as other federal and state agencies in Hawai'i on many of its research contracts. The center also administers the environmental studies major and certificate programs.