



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002HI4B

Title: An Accurate Evaluation of Water Balance to Predict Surface Runoff and Percolation

Project Type: Research

Focus Categories: Water Quantity, Water Quality, Non Point Pollution

Keywords: AG, GW, WQL

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Non-Federal Matching Funds: \$38,590

Congressional District: Hawaii-1

Principal Investigator:

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Abstract

Water management strategies are closely related to the management of water resources and water pollution. Water resources and pollution problems that affect all areas of the world are ground water recharge and the corresponding surface runoff from storm events. An accurate quantification of surface runoff and recharge is essential for water resources development, development and implementation of best management practices (BMPs) for ground and surface water pollution prevention such as a reduction of pesticide use rate and the resulting impact to ground water, and other engineered technologies such as low-cost capping technologies for the closure of landfills to reduce percolation, hence the generation of leachate. In this research, a heavily instrumented site is available for direct measurement of surface runoff and percolation at various time scales. Using the collected data, some commonly used surface runoff, percolation, and landfill water balance models will be calibrated and tested for selected storm events. The impact of storm size, antecedent soil water content, and the stage of vegetation on the accuracy of water balance will be evaluated.