

***ESTIMATING SOIL HYDRAULIC PROPERTIES AND
SURFACE RUNOFF FOR THE WAIPA WATERSHED,
KAUAI***

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Abstract

This paper deals with the estimation of hydraulic properties and runoff potential in Waipa watershed. By using available land cover data and soil hydraulic properties, infiltration capacity and runoff potential can be estimated using simulation models. However, it is of interest to validate the soil properties data given by US Department of Agriculture through comparison with field collected site data. Twelve plots were selected for soil sampling along the main stream in the watershed. Saturated hydraulic conductivity and bulk density were measured and simplified models were used to estimate the retention and unsaturated conductivity values for the soils. Modeling results were used to predict potential runoff and storm hydrographs based on available information.