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A Science Service Feature

? WHY THE WEATHER ?

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RAINFALL CONTRASTS IN HAWAII

The striking diversities of rainfall found in the Hawaiian Islands are well known to climatologists. Even within the city of Honolulu there are places where the average annual rainfall is about four times as great as at other places. In a recent publication of the U.S. Geological Survey Mr. O.E. Meinzer says:

"Though the rainfall in some parts of the Hawaiian Islands is excessive, many parts are, nevertheless, arid or semi-arid, and the change from aridity to excessive humidity may occur within a very short distance. Thus there is a change in average rainfall on Kauai from nearly 500 inches to only about 15 inches within a distance of 15 miles, and on Maui from about 400 inches to only about 8 inches within a distance of 7 miles. When we were engaged in field work in the Kau District we could virtually choose each morning, on starting out from Pahala, whether to go 'mauka' (mountainward), where we would be working in mist, rain and dripping vegetation, or to go 'makai' (seaward), where the day would be as bright and the land as dry as if we were in the desert of Arizona."

These diversities are due chiefly to differences of altitude and of exposure to the prevailing winds, the islands lying in the belt of the northeasterly trade winds, which are extremely persistent through most of the year. Some of the mountain regions, however, deflect the course of the trade winds, and there are many local influences modifying the rainfall.

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