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Measurements of Fog Water Deposition on the California Central Coast

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ABSTRACT

Fog deposition is a notable component of the water budget of herbaceous-shrub ecosystems on the central and southern coastal regions of California. This paper presents an analysis of fog water deposition rates and meteorological controls in Big Sur, California. Mesh-screen fog collectors were installed the Brazil Ranch weather station sites to measure fog water during the summer seasons of 2010 and 2011. Fog deposition occurred during 73% of days recorded in 2010 and 87% of days recorded in 2011. The daily average deposition rate was 2.29 L/m^2 in 2010 and 3.86 L/m^2 in 2011. The meteorological variables which had the greatest influence on prediction of fog deposition were wind speed, wind direction, and the dew-point depression (difference between air temperature and dew point). Based on these results, we hypothesize that high rates of summer fog deposition help sustain the productivity of California coastal vegetation through periods of low rainfall.

KEYWORDS

Fog; Deposition; California; Styling; Water Budget

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