HYDROLOGIC PROPERTIES
OF ONE MAJOR AND TWO MINOR SOIL SERIES
OF THE COAST RANGES OF NORTHERN CALIFORNIA

by

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ABSTRACT

The following properties of the Hugo, Mendocino, and Caspar soil series were analyzed at the 10 cm, 20 cm, 30 cm, 50 cm, 100 cm, and 150 cm depths: bulk density; porosity; particle density; saturated and unsaturated hydraulic conductivity; particle-size distribution; pore-size distribution; and water retention characteristics.

The Hugo soil series exhibits great variation in its hydrologic properties from location to location. This series differs from the Mendocino and Caspar series by having a higher gravel content, a greater proportion of large diameter pores, and a lower degree of development of the $B_t$ horizon. The Caspar and Mendocino series vary only slightly in their hydrologic properties. The main factor producing differences between these three series and within the Hugo series is the degree of colluvial mixing, which is closely related to slope position. The lower the slope position, the greater the degree of colluvial mixing and burial. The unsaturated hydraulic conductivities of the three series are sufficiently high at all soil depths to preclude the large-scale development of saturated subsurface flow.