ABSTRACT

SOIL MOISTURE PATTERNS IN SIERRA NEVADA
MIXED-CONIFER FOREST

The goals of this study are to quantitatively describe variation in moisture of soils in forest gaps of Sierra Nevada mixed-conifer forests. Soil moisture is an important factor in determining species richness, stem density, and pattern based on its effects on seedling germination and survival. TDR rods were installed at four depths (10, 30, 60, 100 cm) in six forest gaps, three large (0.5-1.2 ha), three small (0.05-0.2 ha), at 2200 m elevation. Soil moisture measurements were made bi-monthly throughout the snow-free season. Soil moisture was positively correlated with gap size, particularly in the gap interior, and this gradient diminished with increased soil depth. There was no difference in soil moisture within and around small gaps. Soil moisture values were highest from 11-61 cm. Project results will improve the understanding of forest dynamics in the Sierra Nevada mixed-conifer forest and will be useful to those attempting to preserve this resource.

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