

HYDROLOGIC VARIABILITY RELATED TO EL NIÑO IN THE PACIFIC NORTHWEST
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Abstract

A preliminary statistical analysis was undertaken to evaluate whether the affect of El Niño events is apparent in variables related to hydrologic behavior. Annual precipitation, temperature and streamflow were used for three locations in Oregon representing coastal, Willamette Valley/Cascade and eastern Oregon regions. The mean and variance for periods of El Niño occurrence vs. those with no El Niño were computed. Numerical differences were observed but were not consistent across all stations. The coastal area showed a decrease in mean precipitation and increase in mean streamflow during El Niño events. Other stations showed a positive increase in mean for both precipitation and streamflow for El Niño events. Variance of precipitation was greater in the coastal area but smaller in other areas and vice versa for streamflow during El Niño events. Statistical analyses indicated no significant differences of means, variances or distributions using nonparametric tests for El Niño vs. non-El Niño series.