RESEARCH ABSTRACT FORM

TITLE: The Effects of the El Niño-Southern Oscillation on the Winter Climate of Northeastern Nevada

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The winter climate of the western United States is influenced inter-annually by the El Niño-Southern Oscillation (ENSO). In this study, the response of northeastern Nevada's October-March average temperature and precipitation to ENSO phases from 1900 to 2007 is documented. Data from Nevada's Climate Division 2 was used. Six-month-average Southern Oscillation Index values (SOI-6mth) were correlated with October-March average temperature and precipitation values at various lags. It was found that during El Niño episodes, precipitation shows a statistically significant response ($p \leq 0.05$) when SOI-6mth for September to February is correlated with October-March (one month later) average precipitation, and that temperature shows no statistically significant response at any lag. During La Niña episodes, neither climate variable shows any statistically significant response to the Southern Oscillation Index values. However, during strong El Niño and La Niña episodes, three-month-average Southern Oscillation Index values correlate well with three-month-average precipitation anomalies. The results suggest that northeastern Nevada's winter climate is more affected by El Niño than La Niña, and that the climate response is likely to be manifested in anomalous winter precipitation values during strong phases.