

## **Oceanic-Atmospheric Variability and Western Snowfall**

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**Abstract.** A study of the influences of interdecadal, decadal, and interannual oceanic-atmospheric influences on 01 April snow-water equivalent (SWE) in the western United States is presented. SWE data was identified at 323 Natural Resources Conservation Service SNOTEL sites for the period 1961-2004 and 121 SNOTEL sites for the period 1941-2004. The phases (cold/negative or warm/positive) of Pacific Ocean [El Nino-Southern Oscillation (ENSO) and Pacific Decadal Oscillation (PDO)] and Atlantic Ocean [Atlantic Multidecadal Oscillation (AMO) and North Atlantic Oscillation (NAO)] oceanic-atmospheric influences were identified for the year prior to the 01 April SWE dataset. Statistical significance testing of April 01 SWE dataset, based on the interdecadal, decadal, and interannual oceanic-atmospheric phase (warm/positive or cold/negative) was performed by applying the nonparametric rank-sum test. The results identified snow regions in the western U.S. influenced by oceanic-atmospheric phenomenon.