

Quantifying climate variability along two elevation gradients in Great Basin Mountains

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The Nevada system of Higher Education, including the University of Nevada, Reno, the Desert Research Institute, and the University of Nevada, Las Vegas, has received a 5-year, \$15 million grant from NSF's Experimental Program to Stimulate Competitive Research (EPSCoR) for creating a statewide interdisciplinary program focused on the overarching question of how climate change affects water resources and linked ecosystem and human services in arid and semi-arid regions. As part of the new infrastructure, two observational transects have been established across Great Basin mountains, one in the Sheep Range (southern Nevada), and the other in the Snake Range (eastern Nevada). A number of environmental parameters are monitored at the transect locations, including atmospheric (e.g., barometric pressure, air temperature, relative humidity, wind speed and direction, precipitation, net radiation, snow accumulation), pedologic (e.g., soil moisture, soil temperature), and vegetational (e.g., stem increment, sap flow, phenological changes). This presentation will highlight how such baseline data, coupled with modeling activities, provide a unique opportunity to test hypotheses on hydroclimatic variability and its influence upon key vegetation zones across latitudinal and elevational gradients at multiple temporal and spatial scales.