Remote Snow Data Collection

Benjamin Trustman- Undergraduate, University of Nevada Reno , Laurel Saito-Project Mentor, University of Nevada Reno, Mark Walker-Project Mentor, University of Nevada Reno

Abstract

The recent increase in climate change research has emphasized the need for precipitation data, but such data are often limited in remote areas in Nevada. In Nevada's snow dominated basins it is even more challenging to obtain snow data. Snow measurements, especially those made by automated weather stations, are expensive (about $25,000 for installation of a SNOTEL site), so snow data are sparse. In 2009 a project demonstrated that wildlife guzzlers, an inexpensive storage structure to augment water supplies for wildlife, can be equipped with simple, low cost precipitation measurement devices. Another project used sonar devices and manual snow water equivalence measurements with prototype wireless sensors to estimate snow depth (SD) and snow water content in the Sierra Mountains. This project will build on findings from both projects to examine the feasibility of measuring (SD) and snow water equivalence (SWE) at a low cost in remote catchments. The student on this project recently received an NSF EPSCoR Undergraduate Research Scholarship. At this stage the equipment has been installed and the project will collect data from the current winter season.