

Organization. Sierra Nevada Research Institute, University of California, Merced (Roger Bales, Professor and Director)

Authority. Research institute involving 25 faculty plus research scientists and students. SNRI has multiple field measurement programs across the Sierra Nevada and surrounding valleys, plus satellite data, relevant to water resources. Research is supported by U.S. National Science Foundation, California DWR and others.

Data collected. Several hundred snow depth, soil moisture and temperature sensors. Meteorological stations (8), eddy correlation flux towers (4), sap flow measurements, satellite snowcover for Sierra Nevada (1999-present), headwater-catchment stream stage and stream flow, stream water quality.

Data management. Data are stored in and are publically available through our digital library (<https://eng.ucmerced.edu/snsjho/>). Both raw data and higher-level products that have undergone various quality control and value-added processing steps are archived.

Data publication. In addition to the digital library interface (<https://eng.ucmerced.edu/snsjho/>), other portals for data access include the Southern Sierra Critical Zone Observatory data catalog (<https://snri.ucmerced.edu/CZO>). Additional interfaces are under development. Some of our data are also available through the California Data Exchange Center.

Analyses and products. The main products from SNRI are research publications, reports, and data. For example, see <https://snri.ucmerced.edu/CZO/publications.html>, <https://eng.ucmerced.edu/people/rbales/mhrg>, and <https://snri.ucmerced.edu/snri/Faculty.html>.

What we would like to accomplish in the planned meetings. We would like to define the next steps in both research and in the transition of research products around water data and information into operations to benefit a broad range of water stakeholders in the state. We are working with DWR and other partners to bring technology and knowledge developed by the University of California into broader use by DWR and other water stakeholders. One area of emphasis is the development of a new water information system for Sierra Nevada watersheds, to enable accurate real-time estimation of spatial snowcover, snowpack water content, snowmelt, soil moisture, evapotranspiration, and runoff through a program involving: i) ground-based distributed sensor networks using recently developed low-cost sensors, ii) daily satellite fractional snowcover products tailored for basin-scale hydrology, iii) advanced cyberinfrastructure and modeling tools to integrate the measurements and deliver in a timely, useful manner to both decisionmakers and researchers. With NSF support, we are developing a basin-scale prototype of the ground-based component of this new water information system in the American River basin. DWR and other partners have previously committed to work with UC and provide funding for additional components of this prototype through current and future bond funds; however given current fiscal constraints within the state, there has been a lag in the DWR support.