

Sustaining Water Flow



Roger Bales

Distinguished Professor, School of Engineering
Director, Sierra Nevada Research Institute
Adjunct Professor, Civil and Environmental Engineering

CURRENT RESEARCH

Linking mountain-valley water cycles to enable and promote water sustainability

The 2011-2016 California drought has raised awareness of the need to adapt water-resources management to a warming climate, growing population, lagging infrastructure and increasingly intense competition for water. California, known worldwide for its diversity of ecosystems and its robust society and economy, is currently "over-pumping" groundwater to sustain its very productive agriculture, which feeds a significant fraction of the nation. Dr. Roger Bales, Distinguished Professor of Engineering and Director of Sierra Nevada Research Institute at the University of California, Merced, is bringing better knowledge, real-time information and advanced technology to bear on water-related decision-making, to find sustainable solutions for water resources and areas that depend on them.

Given that the past is not an adequate guide for a future with a warmer climate and 7+ billion people on Earth, Dr. Bales feels an urgent need to bring new technology to bear on water resources and their challenges by conducting field-measurement-based hydrologic research at multiple scales in the mountains and downstream valleys. Focusing on California as a platform for making a local, national, and global impact, his current work supports the state's efforts to both build the knowledge base and implement policies that adapt our water supplies, critical ecosystems, and economy to the impacts of climate warming. This includes watershed management (natural capital), consideration of other ecosystem services, and bringing accuracy, transparency and timeliness to decision-making. In 2014, with seed funding from the UC Office of the President, Dr. Bales founded the multi-campus UC Water Security and Sustainability Research...

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AFFILIATION



University of California, Merced

EDUCATION

- Ph.D. in Environmental Engineering Science 1985, California Institute of Technology
- M.S. in Social Science 1984, California Institute of Technology
- M.S. in Civil Engineering 1975, University of California, Berkeley
- B.S. Civil Engineering 1974, Purdue University

AWARDS

- Fellow, American Geophysical Union
- Fellow, American Meteorological Society
- Fellow, American Association for the Advancement of Science

RESEARCH AREAS

Environment, Atmospheric / Space, Ecology, Geology

FUNDING REQUEST

Dr. Roger Bales' highly collaborative research at the University of California, Merced engages many other UC faculty members and students all across California. Your contributions will support these talented individuals who are developing new knowledge for water security as well as climate and water communications. Donations will help fund policy-relevant research that is founded on the best cutting-edge data, measurements, and analysis of the rapidly changing hydrologic cycle. Join him as he ventures out to advance scalable solutions to stop California's water and climate shortage challenges!