

Roger C. Bales

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RESEARCH INTERESTS

Mountain hydrology and biogeochemistry, polar snow and ice, climate impacts and water resources.

EDUCATION

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

EMPLOYMENT

2003-present: School of Engineering, University of
California, Merced (Professor and founding faculty
member).
1984-present: Department of Hydrology and Water
Resources, University of Arizona, (Assistant
Professor 1984-1989, Associate Professor 1989-
1995, Professor 1995-2004; Adjunct Professor,
2004-present).
1980-84: Graduate Research Assistant, California
Institute of Technology.
1975-80: Project Manager and Project Engineer,
Brown and Caldwell, Pasadena, California

REGISTRATION

Civil Engineer 27677, California

OTHER APPOINTMENTS

2004-present. Member, Hydrology Graduate Group,
University of California, Davis.
2000-2003: Deputy Director NSF, Center for the
Sustainability of Semi-Arid Hydrology and Riparian
Areas, University of Arizona
2000-2003: Member, Committee on Remote Sensing
and Spatial Analysis, University of Arizona.
1999-2003: Director, Regional Earth Science
Applications Center, University of Arizona
1997-1999: Director, Institute for the Study of Planet
Earth, University of Arizona
1994-2003: Member, Interdisciplinary Committee for
Global Change, University of Arizona. Chair, 1994-
1997.
1994-2000: Investigator, Center for Toxicology,
University of Arizona.
1994-1995: Visiting Fellow, Udall Center for Studies in
Public Policy, University of Arizona.

1989-93: Associate Researcher, Department of
Geography, University of California, Santa Barbara.

PROFESSIONAL SOCIETIES

American Geophysical Union (Fellow), American
Society for the Advancement of Science (Fellow),
American Meteorological Society (Fellow), American
Society of Civil Engineers, American Chemical Society,
Association of Environmental Engineering Professors.

RECENT PROFESSIONAL ACTIVITIES

2006-present. Member, Board of Directors, Great
Valley Center, Modesto, CA.
2004-present. Member, Committee on Integrated
Hydrologic Observations, Water Science and
Technology Board, National Research Council.
2003-present. Member, National Advisory Board,
Long Term Ecological Research (LTER) Network.
2003-2005: Member, Committee on Metrics for Global
Change Research, National Research Council.
2002-2004: Member, Committee on Geophysical and
Environmental Data, National Research Council.
2001-present: Member Representative, Consortium of
Universities for the Advancement of Hydrologic
Science, Inc. 2006-present: Chair Hydrologic
Measurement Facility Oversight Committee. 2005-
present: Member, Science Agenda Team. 2001-
2004: Member, Board of Directors. 2001-2003:
Member, Executive Committee. 2000-2001: Chair,
steering committee to form consortium and PI on
grant that funded the consortium.
2000-present: Steering Committee Chair and Science
Coordination Office Director, Summit Greenland
Environmental Observatory.
1999-2000, Chair, Steering Committee, Southwest
Regional Assessment, U.C. Global Change
Research Program; Member, Regional
Assessment Team.
2000-2002: Member, Advisory Committee,
Geosciences Directorate, National Science
Foundation.
2000-2002, Steering Committee, Eos, Transactions,
American Geophysical Union. Hydrology Editor,
1997-2001.
1999-2002: Member, Committee on Hydrologic
Sciences, National Research Council.
1999-2001: Chair, Ice Core Working Group. Member,
1997-1999.
1999-2000: Member, Water Cycle Study Group, U.S.
Global Change Research Program.

- 1994-1996: Hydrology section secretary, American Geophysical Union.
 1992-1996: Associate editor, Water Resources Research.
 1992-1996: Member, Committee on Glaciology, National Research Council.
 1991-1996: U.S. representative, International Commission on Water Quality, International Association of Hydrologic Sciences.
 1991-1995: Chair, Snow-Atmosphere Chemical Exchange Working Group, International Commission for Snow and Ice.

SELECTED PUBLICATIONS

- C. Brown-Mitic, W. J. Shuttleworth, R. C. Harlow, J. Petti, E. Burke and R. Bales, Seasonal Water Dynamics Of A Sky Island, Subalpine Forest In Semi-Arid Southwestern United States, *Journal of Arid Environments*, 69:237-258, 2007
- R.C. Bales, N. P. Molotch, T. H. Painter, M. D. Dettinger, R. Rice, and J. Dozier, Mountain hydrology of the western United States, *Water Resources Research*, W08432, doi:10.1029/2005WR004387, 2006.
- K. Dressler, G. Leavesley, R. Bales, S. Fassnacht, Evaluation of Gridded Snow Water Equivalent and Satellite Snow Cover Products for Mountain Basins in a Hydrologic Model, *Hydrological Processes*, 20:4:673-688, 2006
- N.P. Molotch, R.C. Bales, M. Colee, J. Dozier, Estimating the spatial distribution of snow water equivalent in an alpine basin using binary regression tree models: the impact of digital elevation data and independent variable selection, *Hydrol. Proc.*, 19: 1459-1479, 2005.
- R.C. Bales, D.M. Liverman, B.J. Morehouse. Integrated assessment as a step toward reducing climate vulnerability in the southwestern United States, *Bull. Am. Met. Society*, 85: 1727-1734, 2004.
- A.K. Huth, A. Leydecker, J.O. Sickman, R.C. Bales, A two-component hydrograph separation for three high-elevation catchments in the Sierra Nevada, California, *Hydrol. Proc.* 18 (9):1721-1733, 2004.
- N.P. Molotch, T.H. Painter, R. C. Bales, J. Dozier, Incorporating remotely-sensed snow albedo into a spatially-distributed snowmelt model, *Geophys. Res. Lett.* 31(3): Art. No. L03501, 2004.
- J.A. Rohrbough, D.R. Davis, R.C. Bales, Spatial variability of snow chemistry in an alpine snowpack, southern Wyoming, *Water Resour. Res.*, 39(7): 1190-1201, 2003.
- T. Meixner, R.C. Bales, Hydrochemical modeling of coupled C and N cycling in high-elevation catchments: Importance of snow cover, *Biogeochemistry*, 62(3): 289-308, 2003.
- T. Meixner, C. Gutmann, R.C. Bales, A. Leydecker, J. Sickman, J. Melack, J. McConnell, Multidecadal hydrochemical response of a Sierra Nevada watershed: sensitivity to weathering rate and changes in deposition, *J. Hydrology*, 272-285, 2003.

CURRENT STUDENTS AND POSTDOCS

- Ph.D. Peter Kirchner. M.S. Sarah Martin.
 Postdoctoral. F. Liu, R. Rice, D. Shen

FORMER STUDENTS AND POSTDOCS

- M. S.:** J. F. Burkhart, B. J. Cadle, S. M. Carroll, J. Clemmons, S. Hinkle, D. Hunter, A. Kramer-Huth, D. G. Kebler, T. Kinoshita, A. Klein, T. W. Kroeger, D. Lawler, P. W. Lawson, D. McCaulou, K. L. McClellan, P. A. Noppe, C. Peters, C. E. Petersen, J.A. Rohrbough, J.R. Shaw, D. A. Stanley, K. Stocking, P. Whitaker, T. W. Whitehead, J. R. Winterle, B. D. Wolaver.
- Ph. D.:** J. Burkhart, Z. K. Chowdhury, K. Dressler, M. Frey, R. Harrington, A. Kramer-Huth, S. Li, R. A. Matzner, J. R. McConnell, T. Meixner, N. Molotch, D. L. Pardieck, R. H. Galarraga-Sanchez, J. E. Szecsody, M. P. Valdez, R. A. Wolford.
- Postdoctoral:** M. Anklin, C. Brown-Mitic, J. Burkhart, D. W. Cline, S. R. Fassnacht, M. Glueck, M. Hutterli, H. W. Jacobi, J. Morrill, A. Seth.

OTHER COLLABORATORS

- Ryan Banta, John Battles, Elizabeth Boyer, Tom Cahill, Dan Cayan, Jack Dibb, Jeff Dozier, Graham Fogg, James Frew, Holly Hartmann, Jan Hopmans, James Kirchner, Reed Maxwell, Norman Miller, Anne Nolin, Tom Painter, Kelly Redmond.

GRADUATE ADVISOR

- James J. Morgan