

## **CURRICULUM VITAE**

**CONNIE A. WOODHOUSE**

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### **EDUCATION**

Ph.D. (December 1996) Department of Geosciences, University of Arizona, Tucson, Arizona

MS (March 1989) Department of Geography, University of Utah, Salt Lake City, Utah

BA (May 1979) Prescott College, Prescott, Arizona

### **PROFESSIONAL POSITIONS**

Associate Professor (Jan. 2007 - present), School of Geography and Development, Laboratory of Tree-Ring Research, and Department of Geosciences, University of Arizona, Tucson, AZ

Research Affiliate (Jan. 2007-Present), Institute of Arctic and Alpine Research, University of Colorado, Boulder, CO

Physical Scientist (Apr. 2000-Dec. 2006), Paleoclimatology Branch, NOAA National Climatic Data Center, Boulder, CO

Research Scientist III, Fellow (Mar. 2004-Dec. 2006), Institute of Arctic and Alpine Research, University of Colorado, Boulder

Adjunct Assistant Professor (Feb. 2001-Dec. 2006), Department of Geography, University of Colorado, Boulder, CO

Faculty Affiliate (2004-2008), Department of Civil Engineering, Colorado State University, Fort Collins, CO

Research Scientist II (Mar. 1999-Mar. 2004), Institute of Arctic and Alpine Research, University of Colorado, Boulder

Visiting Scientist (May 1998-Apr. 2000), Paleoclimatology Program, NOAA National Geophysical Data Center, Boulder, CO

Research Scientist I (Jul. 1997-Feb. 1999), Institute of Arctic and Alpine Research, University of Colorado, Boulder

National Research Council Associate (Jan. 1997- Apr. 1998), Paleoclimatology Program, NOAA National Geophysical Data Center, Boulder

### **AWARDS**

Udall Center Fellowship, Udall Center for Public Policy and the Institute of the Environment, University of Arizona, 2010

Administrator's Award, National Oceanic and Atmospheric Administration, 2006

Bronze Award, Department of Commerce, 2005

Andrew Ellicott Douglass Memorial Scholarship, Laboratory of Tree-Ring Research, University of Arizona, 1996

### **RESEARCH GRANTS**

NSF-ATM, Expanded and Lengthened Dendroclimatic Reconstructions of Great Plains Drought,

\$304,827, 04/01/98 - 03/31/01.

NSF-ESH, Temperature Variability since AD 1000 in the Western United States from Tree Rings, \$52,782 (my part), 10/01/98 -09/30/01.

NSF-ESH, Collaborative Research: Reconstructions of Drought and Streamflow over the Coterminous United States from Tree Rings with extensions into Mexico and Canada, \$35,674 (my part), 09/01/00 - 08/31/03.

NOAA Environmental Services Data and Information Management (ESDIM), Fire History Database, \$82,000, 3/2003-12/2003.

NOAA Environmental Services Data and Information Management (ESDIM), Historical Climate Data Catalogue, \$30,000, 3/2004 – 12/2004.

NOAA Office of Global Programs, Extended Hydroclimatic Records for the Upper Colorado River Basin, \$154,515, 08/01/02 - 07/31/04.

US Geological Survey, Tree-Ring Chronologies from Remnant Collections, Western Colorado, \$22,250, 4/05 - 12/05, \$22, 250, 1/06 – 12/06, \$22,260, 1/07-12/07.

Denver Water, Updates and Improvements of Tree-Ring Reconstructions of South Platte and Colorado River Streamflow, \$28,000 6/03-7/05.

National Park Service, Riparian Forest Age Structure, Sand Creek Massacre NHS, \$11,000, 09/05-10/06.

NSF- BCS - Geography and Regional Science, Climate and Woodland Expansion in the Western Great Plains, USA, \$6,000 (co-PI part), 9/1/04 - 8/31/06.

NOAA Climate Program Office, ‘Living’ Blended North American Drought Reconstruction Grid, \$40,000 (co-PI part), 01/01/04 -12/31/06.

NOAA Climate Program Office, A Multiproxy Paleofire Database, \$93,000, 03/01/03 -02/28/06.

NOAA Climate Program Office, Tree-Ring Reconstructions of Hydroclimatic Variability in the Rio Grande Basin, New Mexico, \$55,000, 7/1/07- 6/30/08.

NOAA Climate Program Office, Interpreting and Refining the Climate Signal in Millennial-Length 5-Needle Pine Chronologies, \$189,000, 7/1/07- 6/30/09.

Science Foundation of Arizona, Decision Support for Defining Historical Fire Regimes: The International Multiproxy Paleofire Database, \$75,000, 4/1/07- 8/31/08

NOAA Climate Program Office, TreeFlow: A Drought Planning Resource for Water Management in the Western U.S., \$108,161, 8/1/08-7/30/10.

NOAA Climate Program Office, In With the Old: Evaluation of Paleo Data in Drought Planning for California, PI, \$63,055, 8/1/08-7/30/09, extended to 2010.

NSF-Paleoclimate Perspectives on Climate Change program, An Investigation of North American Monsoon Variability using Instrumental and Tree-Ring Data, \$607,829, 9/1/08-8/31/12.

California Department of Water Resources, Drought Planning Workshops for California. \$25,024, 9/1/08-6/30/09.

NOAA - Sector Applications and Research Program (SARP), Knowledge to Action: An Assessment of the Transfer of Climate Science to Decision Making. \$122,559; 5/1/09-10/31/10

Bureau of Reclamation, Enhancing Water Supply Reliability Through Improved Predictive Capacity and Response. Phase 3. \$457,331, 4/1/09-12/31/10.

Colorado Springs Utilities, Reconstructions of the Arkansas River, \$8,535; 8/17/09-9/30/10

California Department of Water Resources, Tree-Ring Study for California. \$399,718; 10/1/10-4/30/13.

NOAA-Western Water Assessment, Lower Colorado River Basin Paleohydrology. \$30,000; 10/1/10-9/30/11

NOAA Climate Program Office, The Climates of Southwestern North American Megadrought: Multi-Proxy, Multivariate Observations and Analysis, \$419,510; 05/01/11-04/30/14.

NSF-Macrosystem Biology program, Collaborative Research: Processes and Patterns in The North American Monsoon Macrosystem. \$2,949,091; 04/01/11-03/31/16.

NSF- Paleoclimate Perspectives on Climate Change program, Reconstructing Winter Temperatures in the

Rockies using Tree-Ring Oxygen Isotopes, \$239,049; 06/01/11-05/31/13.  
WaterSmart, Bureau of Reclamation, Tree-Ring Reconstructions of Streamflow: Using Analogues from the Past for Water Resource Decision Making in California, \$200,000; 10/01/11-09/20/13.

## **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

American Geophysical Union  
American Meteorological Society  
American Quaternary Society  
Association of American Geographers  
Tree-Ring Society

## **PROFESSIONAL ACTIVITIES**

### **Presentations at conferences, workshops (2007-2011):**

- Woodhouse, C.A. M. Crimmins, D.B. Ferguson, G.M. Garfin, and C.A. Scott. Making the Connection between Environmental Science and Decision Making. ED51C. American Geophysical Union, San Francisco, CA, Dec. 5-9, 2011.
- Woodhouse, C.A. Using Tree Rings to Document Drought in the Rio Grande Basin: Lessons from the Past, Applications to the Future. New Mexico Water Law Seminar, November 4, 2011.\*
- Woodhouse, C.A. Droughts of the past, analogues for the future? Geological Society of America, Minneapolis, MN, October 11, 2011.\*
- Woodhouse, C.A., K. Morino, and J. J. Lukas. Water Resource Management Informed by Paleohydrologic Data: An Example from the Colorado River Basin. XIV World Water Congress, Porto de Galinhas, Brazil, September 25-29, 2011.\*
- Woodhouse, C.A. Tree Rings and Water Resource Management in the Southwest. Water Management and Climate Change in Northern Arizona, Northern Arizona University, Flagstaff, Arizona, June 8, 2011.\*
- Woodhouse, C.A. and K. Morino. Water Resource Management Informed by Paleohydrologic Data: Examples from the Western U.S. Final Science Meeting: IAI CRN 2047, Documenting, Understanding and Projecting Changes in the Hydrological Cycle in the American Cordillera. Tilcara, Argentina, April 3-9, 2011.\*
- Woodhouse, C.A. Hydrologic Variability in the Upper Colorado River Basin over the Past 1300 Years. 2011 Tamarisk Research Conference, Tucson, AZ, 16-17 February, 2011.\*
- Woodhouse, C.A. Tree-Ring Reconstructions of Streamflow and Drought: Lessons from the Past for Future Planning. Climate Change Adaptation Workshop, Santa Fe and Carson National Forests. Abiquiu, NM, January 27, 2011.\*
- Woodhouse, C.A., J.L. Russell, E.R. Cook. North American Drought Dipole and its Influence on Colorado River Flow. 2010. American Geophysical Union, San Francisco, CA, 13-17 December 2010\*
- Woodhouse, C.A., M.F. Glueck. 2010. A Catalogue of Upper Colorado River Basin Droughts. American Geophysical Union, San Francisco, CA, 13-17 December 2010.
- Griffin, R.D. et al. 2010. New tree-ring reconstructions of monsoon precipitation for the deep southwestern United States. American Geophysical Union, 13-17 December 2010, San Francisco, CA.
- Woodhouse, C.A. Tree Rings and Water Resource Management: Colorado River Examples and Potential for the Indus River. 2<sup>nd</sup> International Conference Dendrochronology, Federal Urdu University of

- Arts, Science and Technology, Annual Karachi, Pakistan, November 15, 2010.\*
- Woodhouse, C.A., M.F. Glueck. 2010. A Catalogue of Upper Colorado River Basin Droughts. Colorado River/ Reclamation Working Group Meeting, U of Arizona, Tucson, AZ October 13-14.
- Woodhouse, C.A., J.J. Lukas, K.K.Hirschboeck, D.M. Meko, and J.L. Rice. 2010. Dendrohydrology: A Tool for Decision Making in the Face of Climate Uncertainty. World Dendro Conference, Rovaniemi, Finland. June 14-18, 2010.
- Woodhouse, C.A. 2010. Tree-Ring Reconstructions of Streamflow: Applications to Water Management in the Western US. 8<sup>th</sup> Annual Climate Prediction Applications Science Workshop, San Diego, CA. March 2-4, 2010\*
- Woodhouse, C.A., J.J. Lukas, M. Mauzy, and J. Jones. 2010. Paleoclimatic Information for Drought Planning and Decision Making. American Meteorological Society Conference, Fifth Symposium on Policy and Socio-Economic Research, Atlanta, GA Jan. 18-22, 2010.\*
- Woodhouse, C.A. D.M. Meko, R. Touchan, S. W. Leavitt, R.D. Griffin, C.L. Castro, and B. Ciancarelli. 2009. North American Monsoon Variability from Instrumental and Tree-Ring Data: a Progress Report. Fall Meeting, American Geophysical Union, 14-18 December 2009, San Francisco, CA.\*
- Woodhouse, C.A. 2009. Seasonality of Precipitation Reflected in Tree-Growth /Climate Relations in the Southwest. 9th Annual SAHRA Meeting September 23-24, 2009, Tucson, AZ.\*
- Woodhouse, C.A. 2009. Paleodrought on the Rio Grande. Borders Governors Conference Water Work Table, Binational Drought Science Conference. March 26-27, 2009, San Diego, CA.\*
- Griffin, R.D. and C.A. Woodhouse, 2009. The Use of Tree-Ring Reconstructions in Drought Planning, and New Potential in California. Association of American Geographers Annual Conference, March 22-26, 2009, Las Vegas, NV.
- Rice, J.L. and C.A. Woodhouse, 2009. Climate Science and Decision-Making: The Case of Water Managers and Tree-Ring Data in the Western United States. Association of American Geographers Annual Conference, March 22-26, 2009, Las Vegas, NV.
- Woodhouse, C.A. 2009. TER Challenges and Rewards: Paleohydrology and Applications to Water Resource Management, Making the Connection: A Translational Environmental Research Symposium, February 9, 2009, Tucson, AZ.\*
- Woodhouse, C.A. and J.J. Lukas, 2008. Paleohydrology Workshops for Water Resource Managers Using an Iterative Evaluation Process. Fall Meeting, American Geophysical Union, 15-19 December 2008, San Francisco, CA, GC33B-0770.
- Rice, J.L., C.A. Woodhouse, and J.J. Lukas, 2008. Evaluating the Effectiveness of Science for Decision-Making: Water Managers and Tree- Ring Data in the Western United States. Fall Meeting, American Geophysical Union, 15-19 December 2008, San Francisco, CA, GC33B-0771.
- Woodhouse, C.A. 2008. Evidence of Climate Variability and Change from Tree-Ring Records. Geological Society of America Annual Meeting, Houston, Texas, 5-9 October.\*
- Woodhouse, C.A. Urban Water Management Plans and Reconstructed Hydrology. Western States Water Council/Western Governors' Association. Climate Change Adaptation Policy Workshop, Irvine CA, Sept. 24-26, 2008.\*
- Woodhouse, C.A. 2008. Tree-Ring Based Reconstructions of Annual Runoff in the Colorado River basin. CUAHSI Biennial Colloquium, Boulder, CO, July 14-16, 2008.\*
- Woodhouse, C.A. Reconstructions of Past Streamflow from Tree Rings: Placing the Gage Record in a Long-Term Context. Far West Texas Climate Change Conference, June 17, 2008, El Paso, TX.\*
- Woodhouse, C.A., S. Gray, M. Hughes, K. Kipfmüller, G. Pederson, M. Salzer, P. Brown, and J. Lukas. 2008. Interpreting and refining the climate signal in millennial-length 5-needle pine chronologies. MTNCLIM 2008 Mountain Climate Research Conference, 9-12 June 2008, Silverton, CO.
- Woodhouse, C.A. 2008. Looking Backwards to Plan for the Future. Climate Change Impacts on Texas Water Conference, Austin, TX, April 28-30.\*
- Woodhouse, C.A. 2008. Tree-Ring Records and Water Management in Colorado. Conference on "Past

- and Future Hydroclimatic Variability: Applications to Water Resource Management in the Prairie Provinces,” Canmore, Alberta, March 17, 2008.\*
- Woodhouse, C.A. 2008. Historical and Paleohistorical Reconstructions of the Colorado River. Symposium on Water History of the Southwestern United States, International Water History Association meeting, Tucson, AZ, March 19, 2008.\*
- Woodhouse, C.W. and J.J. Lukas. 2007. Alpine treeline changes in the central Rocky Mountains: a progress report, American Geophysical Union Fall Meeting, Abstract GC42A-0111.
- Woodhouse, C.A. 2007. Tree Rings and the Colorado River: Lessons from the Past, Southwest Hydrology and Arizona Hydrological Society 2007 Regional Water Symposium, Tucson, August 30-31, 2007.
- Woodhouse, C.A. and E.R. Cook, 2007. Drought and Patterns of Circulation Inferred from Tree-Ring Data in Western North America. AGU Joint Assembly, Acapulco, Mexico, May 22-25, 2007.
- Woodhouse, C.A. 2007. Climate Change: A Perspective from Paleoclimatology and Observations. EPA Climate Change Workshop, Baltimore, MD, March 27-29, 2007.\*
- Woodhouse, C.A. 2007. Tree Rings: A record of past flow with implications for the future. Stegner Center, 12th Annual Symposium, The Colorado River Compact in the 21st Century: Time for a Change? Salt Lake City, UT, March 2-3, 2007\*

\* = invited

**Invited talks, seminar series, general public presentations (2007-2011):**

- “California’s Droughts Over Time.” Aquarium of the Pacific, Long Beach, CA, Oct. 27, 2011.
- “A History of Southwestern Drought over the past 1200 years from Tree Rings.” Mountain Vista Unitarian Universalist Congregation of Northwest Tucson, February 27, 2011.
- “Drought History of the Southwest Reconstructed from Tree Rings” Pima County Local Drought Impacts Group, January 12, 2011.
- “Introduction to Dendrochronology and Tree-Ring Reconstructions of Streamflow for the Colorado River Basin” 2<sup>nd</sup> International Conference Dendrochronology, Federal Urdu University of Arts, Science and Technology, Karachi, Pakistan, Nov. 15, 2010.
- “Connecting Science and Decision Making: Leaving the Ivory Tower” Udall Center Fellows Talk, October 27, 2010.
- “Dendrochronology and Tree-Ring Reconstructions of Streamflow for the Colorado River Basin” Tucson Water Citizens’ Advisory Committee June 2, 2010.
- “Using Paleoclimatic data to assess drought vulnerability in California Urban Water Management Plans (UWMPs).” California Department of Water Resources, Sacramento, CA, May 6, 2010.
- “Tree Rings and Colorado River Drought: A Message from the Past with Implications for the Future.” Biosphere 2 Science Series, Biosphere 2, Oracle, AZ, March 13, 2010.
- “Extended Records of Streamflow from Tree Rings and Applications to Water Resource Management.” Osher Lifelong Learning Institute, Jan. 29, 2010
- “Introduction to Dendrochronology and Tree-Ring Reconstructions of Streamflow for the Colorado River Basin.” Tucson Water, Tucson, AZ, Nov. 11, 2009.
- “Background on using tree rings to reconstruct past flows” and “Reconstructed flows and floods for the Upper Colorado River basin” Paleohydrology Workshop, Decision Center for a Desert City, Arizona State University, Tempe, AZ, Sept. 11, 2009.
- “Colorado River Streamflow from Tree Rings: Lessons from the Past, Applications to the Future?” Adjusting to Less Water: Climate Change and the Colorado River, Glen Canyon Institute, Salt Lake City, UT, Dec. 4, 2008.
- “Paleohydrology from Tree Rings and Applications to Water Resource Management.” Climate Change

- Institute and Environmental & Water Resources Engineering Seminar, University of Maine, Oct. 20, 2008.
- “Placing Recent Droughts in a Long-Term Context with Tree-Ring Reconstructions of Precipitation.” Southern California Workshop on Water Conditions and Drought Preparedness, Ontario CA, Oct. 28, 2008.
- “Placing Recent Droughts in a Long-Term Context with Tree-Ring Reconstructions for the Russian River Valley” Santa Rosa Workshop on Water Conditions and Drought Preparedness, Santa Rosa CA, Oct. 9, 2008, with Daniel Griffin.
- “Paleohydrology and Applications to Water Resource Management.” Geosciences Departmental Seminar Series, University of Arizona, Sept. 25, 2008.
- “Past Climate and Hydrologic Conditions from Tree Rings” Utah Associated Municipal Power Systems (UAMPS) 2008 Member Conference, Lehi, Utah, August 19-20, 2008.
- “Using Tree Rings to Reconstruct Streamflow: An Example for the San Juan River” MTNCLIM 2008 Conference Town Hall Meeting, June 9<sup>th</sup>, Silverton, CO.
- “Colorado River Streamflow Reconstructed from Tree Rings: 1200 Years of Hydrological Variability” University of Arizona College of Law, Environmental Breakfast Club seminar, Tucson, AZ, May 9, 2008.
- “Looking Backwards to Plan for the Future: Streamflow Reconstructions Applied to Water Resource Management.” Global Change Interdisciplinary Program luncheon, Institute for the Study of Planet Earth, University of Arizona, Tucson, AZ, April 25, 2008.
- “Colorado River Water: Past, Present, and Future?” Departmental Seminar Series, Ohio State University, March 6, 2008.
- “Variable Precipitation and Drought in the Southwest through Time.” Liquid Assets: Using Water in the Arid Southwest, Santa Fe, NM, November 3, 2007
- "Paleoclimatology and the San Luis Valley," Rio Grande County Museum, Del Norte, Colorado, June 16, 2007.

### **Other professional activities:**

- American Quaternary Society council, paleoclimatology representative
- International Tree-Ring Data Bank, chairperson of advisory board
- International Multiproxy Paleofire Database, advisory board member
- Associate Editor, *Dendrochronologia*
- Member, National Academy of Sciences, Committee on the Scientific Bases of Colorado River Basin Water Management, 2006-2007.
- Member, National Academy of Sciences, Committee on the Challenges and Opportunities in the Hydrologic Sciences, 2009-2011.
- Member, U.S. National Committee (USNC) of the International Quaternary Association (INQUA), 2008-2013
- Peer reviewer for journal articles: *Arctic, Antarctic, and Alpine Research, Bulletin of the American Meteorological Society, Canadian Journal of Forest Research, Climatic Change, Climate Dynamics, Climate Research, Dendrochronologia, Earth Interactions, Earth Science Reviews, Journal of Climate, Ecology, Eos, Geology, Geophysical Research Letters, International Journal of Climatology, Journal of Geophysical Research – Atmospheres, Journal of the American Water Resources Association, Landscape Ecology, New Phytologist, Quaternary Research, Physical Geography, Science, The Holocene, Tree-Ring Research*
- Proposal reviews for National Science Foundation programs: Earth System History, Climate Dynamics, Ecosystems Studies, Geography and Regional Science; the Canadian Foundation for Climate and Atmospheric Sciences, Natural Sciences and Engineering Research Council of Canada, NOAA

## PUBLICATIONS

### Peer reviewed

- Woodhouse, C.A., D.W. Stahle, and J. Villanueva-Díaz. In Press. Rio Grande and Rio Conchos Water Supply Variability from Instrumental and Paleoclimatic Records. *Climate Research*.
- Routson, C.C, **C.A. Woodhouse**, and J.T. Overpeck. 2011. Second century megadrought in the Rio Grande headwaters, Colorado: How unusual was medieval drought? *Geophysical Research Letters*, doi:10.1029/2011GL050015.
- Griffin, D., D.M. Meko, R. Touchan, S.W. Leavitt, **C.A. Woodhouse**. 2011. Latewood chronology development for summer-moisture reconstruction in the U.S. Southwest. *Tree-Ring Research* 67, 87-101.
- Pederson, G.T., S. T. Gray, **C. A. Woodhouse**, J. L. Betancourt, D. B. Fagre, J.S. Littell, E. Watson, B. H. Luckman, L. J. Graumlich. 2011. Evidence from tree rings highlights the unusual nature of recent snowpack declines. *Science* 333, 332-335. DOI: 10.1126/science.1201570
- Gray, S.T., J.J. Lukas, **C.A. Woodhouse**. 2011. Millennial-length records of streamflow from three major upper Colorado River tributaries. *Journal of the American Water Resources Association*, DOI: 10.1111/j.1752-1688.2011.00535.x.
- Woodhouse, C.A., G.T. Pederson, and S.T. Gray. 2011. An 1800-year record of decadal-scale hydroclimatic variability in the Upper Arkansas River basin from bristlecone pine. *Quaternary Research*. 75, 483-490. doi: 10.1016/j.yqres.2010.12.007
- Pederson, G.T., S.T. Gray, T.Ault, W. Marsh, D.B. Fagre, A.G. Bunn, **C.A. Woodhouse**, L.G. Graumlich. In press. Climatic controls on the snowmelt hydrology of the northern Rocky Mountains, USA. *Journal of Climate* 24, 1666-1687.
- Meko, D.M. and C.A. **Woodhouse**, 2011. Dendroclimatology, dendrohydrology, and water resources management, In: *Tree Rings and Climate: Progress and Prospects* (eds. M.K. Hughes, T.W. Swetnam, H.F. Diaz). Springer, pp. 231-261.
- Meko, D.M. **C.A. Woodhouse**, and K. Morino. 2010. Dendrochronology and links to streamflow. *Journal of Hydrology*, doi: 10.1016/j.jhydrol.2010.11.041
- Leavitt, S.W., **C.A. Woodhouse**, C.L. Castro, W.E. Wright, D.M. Meko, R. Touchan, D. Griffin and B. Ciancarelli, 2010. The North American Monsoon in the U.S. Southwest: potential for investigation with tree-ring carbon isotopes. *Quaternary International* 235, 101-107 doi.org/10.1016/j.quaint.2010.05.006.
- Kay, M.W., **C.A. Woodhouse**, and S.T. Jackson. 2010. Persistence and expansion of ponderosa pine woodlands in the west-central Great Plains during the past two centuries. *Journal of Biogeography*. doi:10.1111/j.1365-2699.2010.02327.x
- Banner, J.L., C.S. Jackson, L. Yang, K. Hayhoe, **C. Woodhouse**, L. Gulden, K. Jacobs, G. North, R. Leung, and W. Washington. 2010. Climate change impacts on Texas water. *Texas Water Journal* 1, 1-19.
- Touchan, R., **C.A. Woodhouse**, D.M. Meko, C.D. Allen. 2010. Millennial Precipitation Reconstruction for the Jemez Mountains, New Mexico, Reveals Changing Drought Signal. *International Journal of Climatology*. DOI: 10.1002/joc.2117
- Woodhouse, C.A., D.M. Meko, G. M. MacDonald, D. W. Stahle, and E. R. Cook. 2010. A 1200-year perspective on the 21st century drought in southwestern North America. *Proceedings of the National Academies of Science (PNAS)*, 107, 21283-21288.
- Barger, N.N, H.D. Adams, **C.A. Woodhouse**, J.C. Neff, and G.P. Asner. 2009. Influence of Livestock Grazing and Climate on Pinyon Pine (*Pinus edulis*) Dynamics. *Rangeland Ecology and*

- Management* 62, 531-539.
- Rice, J.L., **C.A. Woodhouse**, and J.J. Lukas, 2009. Science and decision-making: water management and tree-ring data in the western United States. *Journal of the American Water Resources Association* 45, 1248-1259.
- Cook, E.R., R. Seager, R.R. Heim, R.S. Vose, C. Herweijer, and **C. A. Woodhouse**, 2009. Megadroughts in North America: Placing IPCC Projections of Hydroclimatic Change in a Long-Term Paleoclimate Context. *Journal of Quaternary Science*. DOI: 10.1002/jqs.1303.
- Woodhouse, C.A., J.L. Russell, and E.R. Cook, 2009. Two modes of North American drought from instrumental and paleoclimatic data. *Journal of Climate* 22, 4336–4347.
- Meko, D.M., **C.A. Woodhouse**, C.H. Baisan, T. Knight, J.J. Lukas, M.K. Hughes, and M.W. Salzer, 2007. Medieval drought in the upper Colorado River basin. *Geophysical Research Letters* 34m L10705, doi: 10.1029/2007GL029988
- Leavitt, S. W., T.N. Chase, B. Rajagopalan, E. Lee, P. J. Lawrence, C. A. **Woodhouse**, 2007. Southwestern U.S. drought maps from pinyon tree-ring carbon isotopes. *EOS*, Volume 88, Number 4, pp. 39-40.
- Woodhouse, C.A. and J.J. Lukas, 2006. Drought, tree rings, and water resource management. *Canadian Water Resources Journal* 31, 297-310
- Woodhouse, C.A., S.T. Gray, and D.M. Meko, 2006. Updated streamflow reconstructions for the Upper Colorado River basin. *Water Resources Research*, 42, W05415. doi:10.1029/2005WR004455.
- Woodhouse, C.A. and J.J. Lukas. 2006. Multi-century tree-ring reconstructions of Colorado streamflow for water resource planning. *Climatic Change* DOI: 10.1007/s10584-006-9055-0.
- Woodhouse, C.A., K.E. Kunkel, D.R. Easterling, and E.R. Cook. 2005. The 20<sup>th</sup> century pluvial in the western United States. *Geophysical Research Letters*, 32, doi:1029/2005GL022413
- Meko, D.M. and C.A. **Woodhouse**. 2005. Tree-ring footprint of joint hydrologic drought in Sacramento and Upper Colorado River basins, western USA. *Journal of Hydrology*, 308, 196-213.
- Pielke, R.A., N. Doesken, O. Bliss, T. Green, C. Chaffin, J.D. Salas, C.A. **Woodhouse**, J.J. Lukas, and K. Wolter. 2005. Drought 2002 in Colorado – An Unprecedented Drought or a Routine Drought? *Pure and Applied Geophysics (PAGEOPH)*, 162, 1455-1479.
- Cook, E.R., C.A. **Woodhouse**, C.M. Eakin, D.M. Meko, and D.W. Stahle. 2004. Long-term aridity changes in the western United States. *Science*, 306, 1015-1018.
- Woodhouse, C.A., 2004. A Paleo Perspective on Hydroclimatic Variability in the Western United States. *Aquatic Sciences*, 66, 346-356.
- Woodhouse, C.A. 2003. A 431-year reconstruction of western Colorado snowpack. *Journal of Climate*, 16, 1551-1561.
- Woodhouse, C.A. 2003. Dendrochronological Evidence for Long-Term Hydroclimatic Variability. Lewis, W.M. Jr., Editor, *Water and Climate in the Western United States*, University Press of Colorado, Boulder, pp. 49-58.
- Jain, S., C.A. **Woodhouse**, M.P. Hoerling. 2002. Multidecadal streamflow regimes in the interior western United States: implications for the vulnerability of water resources. *Geophysical Research Letters*, 29, 2036-2039.
- Woodhouse, C.A., J.J. Lukas, and P.M. Brown. 2002. Drought in the western Great Plains, 1845-56: impacts and implications. *Bulletin of the American Meteorological Society* 83, 1485-1493.
- Woodhouse, C.A. and P.M. Brown. 2001. Tree-ring evidence for Great Plains drought. *Tree-Ring Research*, 57, 89-103.
- Woodhouse, C.A. 2001. A tree-ring reconstruction of streamflow for the Colorado Front Range. *Journal of the American Water Resources Association* 37, 561-570
- Woodhouse, C.A. 1999. Artificial neural networks and dendroclimatic reconstructions: an example from the Front Range, Colorado, USA. *The Holocene* 9: 521-529.
- Woodhouse, C.A. and J.T. Overpeck. 1998. 2000 years of drought variability in the central United States.



- Bulletin of the American Meteorological Society* 79: 2693-2714.
- Woodhouse, C.A. and D.M. Meko. 1997. Number of precipitation days reconstructed from southwestern tree rings. *Journal of Climate* 10:2663-2669.
- Woodhouse, C.A. 1997. Tree-ring reconstructions of circulation indices. *Climate Research* 8:117-127.
- Woodhouse, C.A. 1997. Winter climate and atmospheric circulation patterns in the Sonoran Desert region. *International Journal of Climate* 17:859-873.
- Hirschboeck, K.K., F. Ni, M.L. Wood, C.A. **Woodhouse**, 1996. Synoptic dendroclimatology: overview and outlook. In: J.S. Dean, D.M. Meko, and T.W. Swetnam, eds., *Tree Rings, Environment, and Humanity*. Radiocarbon, Tucson, Arizona, pp. 205-223.
- Schuster, W.S.F., J.B. Mitton, D.K. Yamaguchi, and C.A. **Woodhouse**. 1995. A comparison of limber pine (*Pinus flexilis*) ages at lower and upper treeline sites east of the Continental Divide in Colorado. *American Midland Naturalist* 133:101-111.
- Woodhouse, C.A. 1993. Tree-growth response to ENSO events in the central Colorado Front Range. *Physical Geography* 14:417-435.
- Woodhouse, C.A. and P.A. Kay. 1990. The use of tree-ring chronologies to show spatial and temporal changes in an air mass boundary. *Physical Geography* 11:172-190.

### **Selected non-peer reviewed publications**

- Cook, E.R., Bartlein, P.J., Diffenbaugh, N., Seager, R., Shuman, B.N., Webb, R.S., Williams, J.W., **Woodhouse, C.**, 2008, Chapter 3. Hydrological Variability and Change, In: CCSP, 2008: Abrupt Climate Change. A report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research, Synthesis and Assessment Product 3.4 [Clark, P.U., A.J. Weaver (coordinating lead authors), E. Brook, E.R. Cook, T.L. Delworth, and K. Steffen (chapter lead authors)]. U.S. Geological Survey, Reston, VA, p. 143-257.
- Diaz, H. F., C. I. Millar, **C. A. Woodhouse**. 2008. The Consortium for Integrated Climate Research in Western Mountains - A Progress Report. Mountain Research Initiative Newsletter no. 1 September 2008.
- Woodhouse, C.A. 2006. Tree-ring analysis of winter climate variability and ENSO in Mediterranean California. *Il Nuovo Cimento*, 29, 1-8.
- Woodhouse, C.A. 2005. Colorado River Basin Climate, Paleoclimate Overview. In: Special Publication for Association of California Water Agencies and Colorado River Water Users Association Conferences, California Department of Water Resources, November 2005, pp. 7-13
- Anderson, D.M., and C.A. **Woodhouse**, 2005: Climate change: let all the voices be heard (News and Views). *Nature*, 433 (7026), 587-588 (10 Feb 2005)
- Woodhouse, C.A., Lukas, J.J., Webb, R.S. 2003. The tree-ring record of drought in Colorado over the past 300-460 years. Colorado Drought Conference: Managing Water Supply and Demand in Times of Drought, Conference Proceedings, Colorado Water Resources Institute Information Series Report N. 96, Colorado State University, pp. 10-14.
- Lukas, J.J., **Woodhouse**, C.A., Webb, R.S. 2003. The TREEFLOW Project: applications of tree-ring data to sustainable water management in Colorado. Colorado Water, Newsletter of the Water Center of Colorado State University, December 2003, pp. 28-30.
- Woodhouse, C.A. 2003. Droughts of the past: implications for the future? In: S. Smith, ed., *The Future of the Southern Plains*. University of Oklahoma Press, pp. 95-113.
- Woodhouse, C.A., and Meko, D.M. 2002. Introduction to tree-ring based streamflow reconstructions. *Southwest Hydrology* 1, 14-15.
- Woodhouse, C.A. and Meko, D.M. 2001. Dendrohydrologic reconstructions: applications to water resource management. *12<sup>th</sup> Symposium on Global Change and Climate Variations Preprint Volume*, American Meteorological Society, Boston, pp. 161-164.

- Woodhouse, C.A. W.S. Gross, J. Keltner, and E.P. Gille. 2000. Distributing Paleoclimatic Data. *Earth System Monitor* 10: 6-7.
- Woodhouse, C.A. 2000. Extending hydrologic records with tree rings. *Water Resources Impact* 2:25-27.
- Woodhouse, C.A. and J.T. Overpeck. 1999. A 2,000 year paleoclimatic record of drought variability in the central United States. *Tenth Symposium on Global Change Preprint Volume*, 11-15 January 1999. American Meteorological Society, Boston, pp. 309-312.
- Woodhouse, C.A. , J.T. Overpeck, T.R. Karl, and N.B. Guttman. 1998. New database of North American paleodrought. *Earth System Monitor* 8: 1-6.

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