

Curriculum Vitae, Dr. Peter M. Brown

Director, Rocky Mountain Tree-Ring Research, Inc.

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Education

Ph.D. Forest Sciences, Colorado State University, Fort Collins (2003)

M.S. Watershed Management, The University of Arizona, Tucson (1991)

B.A. Anthropology, The University of Arizona, Tucson (1984)

Professional experience

1997 - present **Director**, Rocky Mountain Tree-Ring Research, Inc., Fort Collins, Colorado
1993 - 1997 **Affiliate Scientist**, Rocky Mountain Research Station, Fort Collins, Colorado
1990 - 1993 **Research Specialist**, Laboratory of Tree-Ring Research, University of Arizona
1988 - 1990 **Graduate Research Assistant**, Laboratory of Tree-Ring Research, Univ. of Arizona

Teaching experience

Fall 2009 Forest Ecology (undergraduate lecture course); Colorado State University
Fall 2009 Introduction to Dendrochronology (graduate seminar); Colorado State University
Spring 2009 Fire Ecology (lecture and lab); Front Range Community College, Fort Collins
Fall 2008 Fire Effects and Adaptations (undergraduate lecture course); Colorado State University
Fall 2008 IPCC AR4: The State of Global Climate Change (graduate seminar); CSU
Spring 2008 Fire Ecology (graduate lecture and lab); Colorado State University
Spring 2008 Introduction to Dendrochronology (graduate seminar); Colorado State University
Spring 2008 Fire Ecology (lecture and lab); Front Range Community College
March 2008 Fire Ecology and Forest Restoration; Cont. Ed. in Ecosystem Management, Fort Collins
Fall 2007 Forest Ecology (undergraduate lecture course); Colorado State University
Fall 2007 IPCC AR4: The State of Global Climate Change (graduate seminar); CSU
June 2006 International Dendroecological Fieldweek; National University of Mongolia, Ulaanbaatar
Fall 2003 Introduction to Dendrochronology (undergraduate lecture and lab); CSU
June 2000 1st South American Dendroecological Fieldweek; San Martin de los Andes, Argentina
July 1998 Intro. to Fire History and Dendrochronology; Fire in California Ecosystems, UC-Davis
1994 - 1996 Dendrochronological Methods and Principles summer courses; UC-Boulder
1991 - present North American Dendroecological Fieldweek summer field courses (Instructor/Director)

Professional service

2010, June **Member**; Advisory Committee, 8th International Conference on Dendrochronology, Rovaniemi, Finland
2008, June **Co-Chair**; 1st American Dendrochronological Conference (AmeriDendro 2008), Vancouver, British Columbia
2008 - present **Affiliate Faculty**; Program in Ecology, University of Wyoming
2008 - present **Affiliate Faculty**; Department of Geography and Geology, West Virginia University
2008 - present **Secretary**; Tree-Ring Society
2008 - present **Affiliate Faculty**; School of Forestry, Northern Arizona University

- 2007 - present **Affiliate Faculty**; Graduate Degree Program in Ecology, Colorado State University
- 2006, June **Co-Chair**; 7th International Conference on Dendrochronology, Beijing, China
- 2006 - present **Member**; Scientific Advisory Panel, Fire History Analysis and Exploration System (FHAES), Rocky Mountain Research Station, Missoula, Montana
- 2005 - present **Associate Editor**; *International Journal of Wildland Fire*
- 2004 - 2006 **Affiliate Faculty**; Forest Resources, University of Idaho
- 2004, Dec. **Co-Organizer**; Fire, Climate, and Ecosystems Special Session, American Geophysical Union Fall Meeting, San Francisco, California
- 2003 - present **Co-Chair and Member**; International Multiproxy Paleofire Database Scientific Advisory Board, National Climatic Data Center Paleoclimate Program, Boulder, Colorado
- 2004 - 2007 **President**; Tree-Ring Society
- 2002, April **Session Chair and Editor**; Restoration Case Studies and Ecosystem Effects; Conference on Fire, Fuel Treatments, and Ecological Restoration, Fort Collins, Colorado
- 2000 - present **Affiliate Faculty**; Forest, Rangeland, and Watershed Stewardship, CSU
- 1999 - 2003 **Treasurer**; Tree-Ring Society
- 1991 - 2002 **Director**, North American Dendroecological Fieldweek
- Professional Memberships**: American Geophysical Union, Association for Fire Ecology, Ecological Society of America, Sigma Xi, Tree-Ring Society

Publications

Book chapters

- Brown, P.M.** In press. Wildfire risk and ecological restoration in mixed-severity fire regimes. In M. Stoffel, M. Bollschweiler, D.R. Butler and B.H. Luckman (editors), *Tree-ring Reconstructions in Natural Hazards Research: A State-of-the-Art*. Advances in Global Change Research Series, Springer.
- Swetnam, T.W., and **P.M. Brown**. In press. Climatic inferences from dendroecological reconstructions. In M.K. Hughes, H.F. Diaz, and T.W. Swetnam (editors), *Dendroclimatology: Progress and Prospects*. Developments in Paleoenvironmental Research, Springer.

Peer-reviewed journal articles

- Swetnam, T.L., and **P.M. Brown**. Accepted. Comparing Fire Regime Condition Class (FRCC) vegetation models to tree-ring data. *International Journal of Wildland Fire*.
- Romme, W.L., C.D. Allen, J.D. Bailey, W.L. Baker, B.T. Bestelmeyer, **P.M. Brown**, K.S. Eisenhart, L. Floyd-Hanna, D.W. Huffman, B.F. Jacobs, R.F. Miller, E.H. Muldavin, T.W. Swetnam, R.J. Tausch, and P.J. Weisberg. In press. Historical and modern disturbance regimes, stand structures, and landscape dynamics in piñon-juniper vegetation of the western U.S. *Journal of Range Management*.
- Péwé, T.L., J.A. Westgate, S.J. Preece, **P.M. Brown**, and S.W. Leavitt. 2009. Late Pliocene Dawson Cut Forest Bed and new tephrochronological findings in the Gold Hill Loess, east-central Alaska. *Geological Society of America Bulletin* 121:294-320.
- Brown, P.M.**, C.L. Wienk, and A.J. Symstad. 2008. Fire and forest history at Mount Rushmore. *Ecological Applications* 18:1984-1999.
- Brown, P.M.**, and A.W. Schoettle. 2008. Fire and stand history in two limber pine (*Pinus flexilis*) and Rocky Mountain bristlecone pine (*Pinus aristata*) stands in Colorado. *International Journal of Wildland Fire* 17:339-347.
- Brown, P.M.**, E.K. Heyerdahl, S.T. Kitchen, and M.H. Weber. 2008. Climate effects on historical fires (1630-1900) in Utah. *International Journal of Wildland Fire* 17:28-39.

- Kitzberger, T., **P.M. Brown**, E.K. Heyerdahl, T.W. Swetnam, and T.T. Veblen. 2007. Contingent Pacific-Atlantic Ocean influence on multi-century wildfire synchrony over western North America. *Proceedings of the National Academy of Sciences* 104:543-548.
- Brown, P.M.** 2006. Climate effects on fire regimes and tree recruitment in Black Hills ponderosa pine forests. *Ecology* 87:2500-2510.
- Binkley, D, M.M. Moore, W.H. Romme, and **P.M. Brown**. 2006. Was Aldo Leopold right about the Kaibab deer herd? *Ecosystems* 9:227-241.
- Brown, P.M.**, and B. Cook. 2006. Early settlement forest structure in Black Hills ponderosa pine forests. *Forest Ecology and Management* 223:284-290.
- Brown, P.M.**, and R. Wu. 2005. Climate and disturbance forcing of episodic tree recruitment in a southwestern ponderosa pine forest. *Ecology* 86:3030-3038.
- Brown, P.M.**, and W.T. Baxter. 2003. Fire history in coast redwood forests of the Mendocino Coast. *Northwest Science* 77:147-158.
- 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.
- Brown, P.M.**, and W.D. Shepperd. 2001. Fire history and fire climatology along a 5° gradient in latitude in Colorado and Wyoming, USA. *Palaeobotanist* 50:133-140.
- Brown, P.M.**, D.R. D'Amico, A.T. Carpenter, and D.M. Andrews. 2001. Restoration of montane ponderosa pine forests in the Colorado Front Range: A Forest Ecosystem Management Plan for the City of Boulder. *Ecological Restoration* 19:19-26.
- Brown, P.M.**, M.W. Kaye, L. Huckaby, and C. Baisan. 2001. Fire history along environmental gradients in the Sacramento Mountains, New Mexico: Influences of local patterns and regional processes. *Écoscience* 8:115-126.
- Woodhouse, C.A., and **P.M. Brown**. 2001. Tree-ring evidence for Great Plains drought. *Tree-Ring Research* 57:89-103.
- Brown, P.M.**, M.G. Ryan, and T.G. Andrews. 2000. Historical Fire Frequency in Ponderosa Pine Stands in Research Natural Areas, Central Rocky Mountains and Black Hills, US. *Natural Areas Journal* 20:133-139.
- Kaufmann, M.R., Regan, C.M., and **P.M. Brown**. 2000. Heterogeneity in ponderosa pine/Douglas-fir forests: Age and size structure in unlogged and logged landscapes of central Colorado. *Canadian Journal of Forest Research* 30:698-711.
- Brown, P.M.**, M.R. Kaufmann, and W.D. Shepperd. 1999. Long-term, landscape patterns of past fire events in a montane ponderosa pine forest of central Colorado. *Landscape Ecology* 14:513-532.
- Brown, P.M.**, M.W. Kaye, and D. Buckley. 1999. Fire history in Douglas-fir and coast redwood forests at Point Reyes National Seashore, California. *Northwest Science* 73:205-216.
- Brown, P.M.** and C.H. Sieg. 1999. Historical variability in fire at the ponderosa pine - Northern Great Plains prairie ecotone, southeastern Black Hills, South Dakota. *Écoscience* 6:539-547.
- Brown, P.M.**, W.D. Shepperd, S.A. Mata, and D.L. McClain. 1998. Longevity of windthrown logs in a subalpine forest of central Colorado. *Canadian J. of Forest Research* 28:932-936.
- Péwé, T.L., G.W. Berger, J.A. Westgate, **P.M. Brown**, and S.W. Leavitt. 1997. Eva Interglaciation Forest Bed, Unglaciated East-Central Alaska: Global Warming 125,000 Years Ago. *Geological Society of America Special Paper* 319. 54 p.
- Brown, P.M.**, and C.H. Sieg. 1996. Fire history in interior ponderosa pine forests of the Black Hills, South Dakota, USA. *International Journal of Wildland Fire* 6:97-105.

- Savage, M.A., **P.M. Brown**, and J. Feddema. 1996. The role of climate in a pine forest regeneration pulse in the southwestern United States. *Écoscience* 3:310-318.
- Brown, P.M.** 1996. OLDLIST: a database of maximum tree ages. Pages 727-731 in J.S. Dean, D.M. Meko, and T.W. Swetnam, eds., *Tree Rings, Environment, and Humanity: Proceedings of the International Conference, Tucson, Arizona, 17-21 May, 1994. Radiocarbon* 1996.
- Hughes, M.K., R. Touchan, and **P.M. Brown**. 1996. A multimillennial network of giant sequoia chronologies for dendroclimatology. Pages 225-234 in J.S. Dean, D.M. Meko, and T.W. Swetnam, eds., *Tree Rings, Environment, and Humanity: Proceedings of the International Conference, Tucson, Arizona, 17-21 May, 1994. Radiocarbon* 1996.
- Munro, M.A.R., **P.M. Brown**, M.K. Hughes, and E.M.R. Garcia. 1996. Image analysis of tracheid dimensions for dendrochronological use. Pages 843-851 in J.S. Dean, D.M. Meko, and T.W. Swetnam, eds., *Tree Rings, Environment, and Humanity: Proceedings of the International Conference, Tucson, Arizona, 17-21 May, 1994. Radiocarbon* 1996.
- Brown, P.M.**, and T.W. Swetnam. 1994. A cross-dated fire history from a stand of coast redwood near Redwood National Park, California. *Canadian Journal of Forest Research* 24:21-31.
- Brown, P.M.**, M.K. Hughes, C.H. Baisan, T.W. Swetnam, and A.C. Caprio. 1992. Giant sequoia ring-width chronologies from the central Sierra Nevada, California. *Tree-Ring Bull.* 52:1-14.
- Hughes, M.K., and **P.M. Brown**. 1992. Drought frequency in central California since 101 B.C. recorded in giant sequoia tree rings. *Climate Dynamics* 6:161-167.

Additional publications

- Romme, W.L., C.D. Allen, J.D. Bailey, W.L. Baker, B.T. Bestelmeyer, **P.M. Brown**, K.S. Eisenhart, L. Floyd-Hanna, D.W. Huffman, B.F. Jacobs, R.F. Miller, E.H. Muldavin, T.W. Swetnam, R.J. Tausch, and P.J. Weisberg. 2008. Historical and modern disturbance regimes, stand structures, and landscape dynamics in piñon-juniper vegetation of the western U.S. Colorado Forest Restoration Institute Special Publication; <http://www.cfri.colostate.edu>.
- Fulé, P.Z., J. Villanueva-Díaz, E. Cornejo-Oviedo, **P.M. Brown**, and D. Falk. 2007. Incendios forestales y clima en el norte de México. Proceedings: VIII Congreso Mexicano de Recursos Forestales, October 28-31, 2007, Morelia, Michoacán, Mexico.
- Brown, P.M.** 2007. An easily modified increment borer handle for coring in locations with obstructions. *Tree-Ring Research* 63:61-62.
- Brown, P.M.** 2007. What Was the Role of Fire in Coast Redwood Forests? In: Standiford, R.B., Giusti, G.A., Valachovic, Y., Zielinski, W.J., Furniss, M.J. (technical editors). *Proceedings of the Redwood Region Forest Science Symposium: What Does the Future Hold?* USDA Forest Service General Technical Report PSW-GTR-194. Albany, CA; p. 215-218.
- Speer, J.H., **Brown, P.M.**, Krusik, P., and Grissino-Mayer, H.D. 2006. Professional fieldweeks as an educational experience and a venue for explorative research: Case study of the North American Dendroecological Fieldweek. Indiana State University, Department of Geography, Geology, and Anthropology. *Professional Paper Series* #23.
- Brown, P.M.** 2004. President's report to the Tree-Ring Society membership. *Tree-Ring Research* 60:i.
- Brown, P.M.** 2004. Book review: Ecological Restoration of Southwestern Ponderosa Pine Forests, edited by Peter Friederici. *Mountain Research and Development* 24:276-278.
- Woodhouse, C. A., **Brown, P.M.**, Hughes, M.K., and Salzer, M. 2001. Patterns of temperature variability over the western U.S. for the past 700-1000 years. Proceedings of the 18th Annual Pacific Climate

(PACLIM) Workshop. Technical Report 68, Interagency Ecological Program for the San Francisco Estuary, 203 pp.

Kaufmann, M.R., T.R. Stohlgren, **P.M. Brown**, and C.M. Regan. 1997. Maintaining heterogeneity in montane forests of the southern Rocky Mountains: a multi-scaled analysis of forest diversity in an unmanaged landscape. *Bulletin of the Ecological Society of America, Program and Abstracts* 78:120.

Regan, C.M., and **P.M. Brown**. 1996. Age structures and their relationship to fire history of old-growth mixed conifer forests of the Sacramento Mountains, New Mexico. *Bulletin of the Ecological Society of America, Program and Abstracts* 77:370.

Brown, P.M., and P.J. Krusic. 1995. The Annual North American Dendroecological Fieldweek: A workweek in applied tree-ring research. Pages 75-77 in R.W. Tinus (Editor), *Interior West Global Change Workshop, April 25-27, 1995, Fort Collins, CO*. USDA Forest Service General Technical Report RM-GTR-262.

Brown, P.M., and W.D. Shepperd. 1995. Engelmann spruce tree-ring chronologies from Fraser Experimental Forest, Colorado: Potential for a long-term temperature reconstruction in the central Rocky Mountains. Pages 23-26 in R.W. Tinus (Editor), *Interior West Global Change Workshop, April 25-27, 1995, Fort Collins, CO*. USDA Forest Service General Technical Report RM-GTR-262.

Brown, P.M., W.D. Shepperd, C.C. Brown, S.A. Mata, and D.L. McClain. 1995. Oldest known Engelmann spruce. USDA Forest Service Research Note RM-RN-534. 6p.

Swetnam, T.W., and **P.M. Brown**. 1992. Oldest known conifers in the southwestern United States: temporal and spatial patterns of maximum age. Pages 24-38 in M.R. Kaufmann, W.H. Moir, and R.L. Bassett (Technical Coordinators), *Old-Growth Forests in the Southwest and Rocky Mountain Regions: the Status of Our Knowledge. Proceedings of a Workshop, Portal, Arizona, March 9-13, 1992*. USDA Forest Service General Technical Report RM-213.

Swetnam, T.W., C.H. Baisan, A.C. Caprio, and **P.M. Brown**. 1992. Fire history in a Mexican oak-pine woodland and adjacent montane conifer gallery forest in southeastern Arizona. Pages 165-173 in P.F. Ffolliott, et al. (Technical Coordinators), *Ecology and Management of Oak and Associated Woodlands: Perspectives in the Southwestern United States and Northern Mexico*. USDA Forest Service General Technical Report RM-218.

Brown, P.M. 1991. Dendrochronology and fire history in coast redwood (*Sequoia sempervirens*) near Redwood National Park, California. *Bulletin of the Ecological Society of America, Program and Abstracts* 72:78.

Swetnam, T.W., R. Touchan, C.H. Baisan, A.C. Caprio, and **P.M. Brown**. 1991. Giant sequoia fire history in Mariposa Grove, Yosemite National Park. Pages 249-255 in *Yosemite Centennial Symposium Proceedings. Natural Areas and Yosemite: Prospects for the Future*. National Park Service Publication No. NPS D-374.

Swetnam, T.W., C.H. Baisan, **P.M. Brown**, A.C. Caprio, and R. Touchan. 1990. Late Holocene fire and climate variability in giant sequoia groves. *Bulletin of the Ecological Society of America, Program and Abstracts* 71:342.

Swetnam, T.W., C.H. Baisan, **P.M. Brown**, and A.C. Caprio. 1989. Fire history of Rhyolite Canyon, Chiricahua National Monument. National Park Service Cooperative Park Studies Unit Technical Report No. 32, University of Arizona, Tucson. 47p.

Theses

Brown, P.M. 2003. Fire, Climate, and Forest Structure in Ponderosa Pine Forests of the Black Hills.

Ph.D. Dissertation, Colorado State University, Fort Collins. 103pp.

Brown, P.M. 1991. Dendrochronology and fire history in coast redwood (*Sequoia sempervirens*) near Redwood National Park, California. M.S. Thesis, The University of Arizona, Tucson. 90pp.

Research grants

Fire and Climate Change in the Western US: A New Synthesis for Land Management. 4/2009 - 10/2010. Forest Service Climate Change Program and Joint Fire Science Program: \$370,000 (approximate).

Co-PIs: Tom Swetnam, Don Falk, University of Arizona; Elaine Sutherland, Emily Heyerdahl, Rocky Mountain Research Station; Tim Brown, Desert Research Institute.

Fire, Climate, and Forest History in Mongolia. 1/2009 - 12/2012. National Science Foundation: \$635,000.

Co-PIs: Amy Hessl, West Virginia University; Baatarbileg Nachim, National University of Mongolia; Neil Pederson, Eastern Kentucky University.

Fire Regimes and Lodgepole Pine in Southern Sierra Nevada Parks. 10/2008 - 6/2010. National Park Service: \$31,500. Co-PI: Tony Caprio, NPS.

Analyses of Remnant Trees from the Frijillito Watershed Study, Bandelier National Monument, New Mexico. 6/2007 - 12/2008. USGS Biological Resources Division: \$31,000. Co-PI: Craig Allen, USGS.

Interaction of Fire, Climate, and Forest Structure in Northern Mexico. 4/2007 - 8/2010. National Science Foundation: \$703,000. PI: Peter Fulé, Northern Arizona University; Co-PIs: Don Falk, University of Arizona; José Villanueva-Díaz, INIFAP; Eladio Cornejo-Oviedo, Universidad Autónoma Agraria Antonio Narro.

Chronology Development for the Jackson Hole Area. 2/2007 - 12/2007. Teton Science School: \$10,000.

A Professional Development Workshop in Dendrochronology: North American Dendroecological Fieldweek (NADEF). 4/2005 - 3/2010. National Science Foundation: \$61,000. PI: James Speer, Indiana State University (PI); co-PI: Henri Grissino-Mayer, University of Tennessee-Knoxville.

Reference Conditions for Fire Regime Condition Class: Comparing Historical and Model Data. 1/2005 - 5/2007; National Interagency Fuels Technology Transfer Team: \$81,000.

Fire and Forest History at Mount Rushmore National Memorial: Application and Demonstration of Fire Science. 8/2005 - 7/2007. Joint Fire Science Program and National Park Service: \$121,800. Co-PIs: Cody Wienk, NPS; Amy Symstad, USGS.

Age Structure and Crossdating in the Sierra San Martir, Baja California. 1/2005 - 5/2005. University of California, Berkeley: \$10,000. Co-PI: Scott Stephens, UC-Berkeley.

Fire and Stand History in Cheyenne Mountain Park, Colorado Springs, Colorado. 10/2003 - 11/2003. Colorado Springs Open Space: \$4,500.

Development of Tree-Ring and Fire Chronologies in Pine and Incense Cedar, Calaveras Big Trees State Park, California. 9/2003 - 8/2005. University of California, Davis: \$19,500. Co-PI: Michael Barbour, UC-Davis.

International Multiproxy Paleofire Database. 1/2003 - 5/2005. NOAA Environmental Services Data and Information Management (ESDIM) and Climate Change Data and Detection (CCDD) Programs, Rocky Mountain Research Station, and Arizona Science Foundation: \$270,000. Co-PIs: Andrea Brunell, Univ. of Utah; Eric Grimm, IL State Mus.; Henri Grissino-Mayer, Univ. of Tennessee; Emily Heyerdahl, RMRS; Thomas Kitzberger, Univ. Nacional del Comahue Argentina; Tom Swetnam, Univ. of Arizona; Cathy Whitlock, Montana State Univ.; Connie Woodhouse, NOAA Paleoclimate Program.

Fire Regimes and Forest Structure in Forests of Utah and Eastern Nevada: Multiscale History from Tree Rings. 10/2002 - 5/2006. Rocky Mountain Research Station, Fishlake National Forest, Utah State BLM, and Joint Fire Science Program: \$750,000. Co-PIs: Emily Heyerdahl and Stan Kitchen, RMRS.

Fire and Forest Structure Across Vegetation Gradients in San Juan National Forest, Colorado: A Multi-Scaled Historical Analysis. 10/2001 - 5/2005. Joint Fire Science Program and San Juan National Forest: \$315,930. Co-PI: Rosalind Wu, SJNF.

Fire History and Fire Climatology at Point Reyes National Seashore, California, From Tree Rings and Paleo-charcoal. 7/1997 - 5/2005. USDI National Park Service, Point Reyes National Seashore; \$104,600. Co-PI: Scott Anderson, Northern Arizona University.

Structure of Pre-Settlement Ponderosa Pine in the Black Hills in Support of Goshawk Habitat Management. 9/2001 - 10/2004. Black Hills National Forest: \$66,643.

Eleventh Annual North American Dendroecological Fieldweek, Universidad Antonio Narra, Saltillo, Mexico. 8/2001. Inter-American Institute: \$6,400; Lamont-Doherty Earth Observatory, Columbia Univ.: \$2,000; USFS, Rocky Mountain Research Station: \$4,000.

Chronology Development and BAI Measurements in Trees from the Sierra Santa Lucia. 11/2000 - 3/2001. California Polytechnic University, San Luis Obispo: \$3,000.

Age Structure in the Sierra San Martir, Baja California. 6/2000 - 9/2000. University of California, Berkeley, and California Polytechnic University, San Luis Obispo: \$6,000.

Chronology Development, San Bernardino Mountains Pollution Gradient. 4/2000 - 6/2000. National Health and Environmental Effects Research Laboratory, Western Ecology Division, US EPA, Corvallis, Oregon: \$2,400.

Multi-Scaled Analysis of Fire History at Jackson State Demonstration Forest, California. 6/2000 - 6/2002. California Department of Forestry and Fire Protection: \$50,110.

Fire History in the Southern Bighorn Mountains, Wyoming. 6/2000 - 5/2004. The Nature Conservancy and Bureau of Land Management: \$20,600.

Cottonwood Dating, Goat Island, Missouri River. 3/2000 - 4/2000. Cadastral Survey, Bureau of Land Management, Cheyenne, Wyoming: \$3,000.

Austral Dendroecological Fieldweek, San Martin de los Andes, Argentina. 3/2000. Inter-American Institute: \$10,000. Co-PI: Ricardo Villalba, CRICYT, Mendoza.

HRV Assessment and Fire History of Caribou Ranch Open Space. 11/1999 - 3/2001. Boulder County Open Space, Colorado: \$9,000. Co-PI: Alan Carpenter, Land Stewardship Consulting, Inc.

Chronology Development, Soapgrass Site, Oregon. 7/1999. National Health and Environmental Effects Research Laboratory, Western Ecology Division, US EPA, Corvallis, Oregon: \$2,000. Co-PI: Alan Solomon, EPA.

Chronology Development, Fort Sisseton and Lake Waubay Burr Oak. 5/1999, US FEMA, South Dakota: \$1,000.

Fire History in Pine Forests of The Catamount Institute, Woodland Park, Colorado. 6/1999 - 5/2001. The Catamount Institute, Inc.: \$12,500.

Recruitment and Mortality in Woodlands at the Great Plains Ecotone in Southeastern Colorado. 6/1999 - 12/2003. Colorado Natural History Small Grants Program and US Forest Service, Comanche and Kiowa-Rita Blanca National Grasslands: \$11,110.

Landscape-Scale Age Structure of Ponderosa Pine Stands on the Limestone Plateau, Black Hills National Forest. 5/1999 - 12/2000. US Forest Service, Black Hills National Forest: \$50,500.

Historical Range of Variability Assessments for the Colorado Portion of the Southern Rocky Mountain

Province. 1/1999 - 12/2003. US Forest Service Rocky Mountain Region 2: \$123,800. Co-PI: Tom Veblen, University of Colorado, Boulder.

Temperature Variability since AD 1000 in the Western US from Tree Rings. 9/1998 - 8/2001. National Science Foundation, Division of Atmospheric Sciences: \$278,187. Co-PIs: Malcolm Hughes, University of Arizona; Connie Woodhouse, NOAA.

Ninth Annual North American Dendroecological Fieldweek, Mountain Research Station, Colorado. 7/1998. National Science Foundation, Long-term Ecological Research Program, Institute of Arctic and Alpine Research, University of Colorado, Boulder: \$2,000.

Expanded and Lengthened Dendroclimatic Reconstructions of Great Plains Drought. 4/1998 - 3/2001. National Science Foundation, Division of Atmospheric Sciences: \$261,096. Co-PI: Connie Woodhouse, NOAA.

Forest Management Plan for City of Boulder Open Space and Mountain Parks. 11/1997 - 10/1998. City of Boulder, Colorado: \$41,233. Co-PI: Alan Carpenter, Land Stewardship Consulting, Inc.

Tree-Ring Evidence of Past Climate and Maximum Tree Age Structure at the Glacier Lakes Ecosystems Experimental Site, Wyoming. 8/1997 - 5/2000. Rocky Mountain Research Station: \$10,000.

Eighth Annual North American Dendroecological Fieldweek, H. J. Andrews Experimental Forest, Oregon. 9/1997. Lamont-Doherty Earth Observatory, Columbia University: \$600; Oregon State University: \$1,500.

Fire History and Tree Recruitment at Cheesman Reservoir and Manitou Experimental Forest. 9/1996 - 12/1997. Rocky Mountain Research Station: \$27,000.

Seventh Annual North American Dendroecological Fieldweek, Bartlett Experimental Forest, New Hampshire. 8/1996. New Hampshire Nature Conservancy: \$500; Lamont-Doherty Earth Observatory, Columbia Univ.: \$400; US Forest Service, Northeast Forest Experiment Station: \$800; Univ. of Arizona Laboratory of Tree-Ring Research: \$400. Co-PI: Paul Krusic, Columbia University.

Fire History in Ponderosa Pine Communities of Research Natural Areas in Central and Western Colorado and Wyoming. 7/1996 - 7/1997. Rocky Mtn. For. & Range Exp. Station: \$15,500.

Patterns of Cohort Distribution and Gap Dynamics in Old-Growth Ponderosa Pine Stands of the Southern Front Range. 8/1995 - 7/1996. Rocky Mtn. For. & Range Exp. Station: \$10,000.

Fire History in Lower and Mid-Elevation Forests of the Front Range of Colorado. 7/1995 - 12/1996. Rocky Mountain Forest and Range Experiment Station: \$10,000.

Sixth Annual North American Dendroecological Fieldweek, Kananaskis Field Station, Alberta, Canada. 6/1995. University of Arizona Laboratory of Tree-Ring Research: \$2,000; US EPA: \$2,000; Lamont-Doherty Earth Observatory, Columbia University: \$1,000; University of Arkansas, Department of Geography: \$1,000; University of New Hampshire: \$1,000. Co-PI: Paul Krusic, University of New Hampshire.

Fire History in Mixed Conifer Forests of the Sacramento Mountains, Lincoln National Forest, New Mexico. 6/1995 - 12/1996. Rocky Mountain Forest & Range Exper. Station: \$6,450.

Feasibility Study for Fire History on the North Dakota Badlands. 6/1995 - 12/1995. Theodore Roosevelt National Park Nature and History Association: \$5,000.

Tree-Ring Evidence of Past Climate at Fraser Experimental Forest, Central Colorado. 10/1994 - 9/1995. US Forest Service, Interior West Global Change Program: \$25,000. Co-PI: Wayne Shepperd, Rocky Mountain Forest and Range Experiment Station.

Fire History of the Black Hills, South Dakota. 10/1993 - 12/1997. National Park Service, Jewel Cave National Monument and Wind Cave National Park, and US Forest Service, Black Hills National

Forest and Rocky Mtn. Forest & Range Exp. Station, Rapid City, SD: \$70,300.
Coordination and Facilitation of Dendrochronological Research Related to the Effects of Water Diversion on Tree Growth and Growth Patterns of Old-Growth Trees. 8/1993 - 9/1995. Rocky Mountain Forest and Range Experiment Station: \$34,000.
Fourth Annual North American Dendroecological Fieldweek, Mountain Lake Biological Station, Virginia. 6/1993. US Forest Service, Interior West Global Change Program: \$8,000.
Third Annual North American Dendroecological Fieldweek, Mountain Research Station, University of Colorado . 8/1992. Interior West Global Change Program: \$8,000.
Fire History in Coast Redwood Forests. 8/1988 - 9/1989. National Park Service, Redwood National Park: \$4,200. Co-PI: Tom Swetnam, University of Arizona.

Selected recent presentations

- Brown, P.M. 2008. Multi-proxy and multi-scale fire and vegetation dynamics from tree-ring data. Northern Arizona University Forest Sciences Seminar Series, 29 October (invited).
- Brown, P.M. 2008. Multi-scale, multi-proxy fire and forest history from tree-ring data. 1st American Dendrochronology Conference. Vancouver, British Columbia, 27 June.
- Brown, P.M. 2008. Historical dynamics in Black Hills ponderosa pine forests: More similar than different to those of the Southwest. Fire in the Southwest: Integrating Fire into Management of Changing Ecosystems , Tucson, Arizona, 30 January (invited).
- Brown, P.M. 2007. Multi-proxy, multi-century, and multi-scale fire and forest histories from tree-ring data. International Association for Landscape Ecology, Tucson, Arizona, 10 April.
- Brown, P.M., E.K. Heyerdahl, S.T. Kitchen, M.H. Weber, and L. Chappell. 2007. Historical fire regimes and fire climatology in Utah forests. 2nd Fire Behavior and Fuels Conference, Destin, Florida. 26 March (invited poster).
- Brown, P.M., E.K. Heyerdahl, S.T. Kitchen, and M.H. Weber. 2006. Fire climatology across local to regional gradients: Separating top-down and bottom-up forcings. 3rd International Fire Ecology and Management Congress, San Diego, California. 15 November.
- Brown, P.M. 2006. The evidence for mixed-severity fires in Black Hills ponderosa pine forests. 3rd International Fire Ecology and Management Congress, San Diego, California. 15 November.
- Brown, P.M. 2006. Fire, climate, and tree recruitment. 7th International Conference on Dendrochronology, Beijing, China, 13 June.
- Woodhouse, C. A., P.M. Brown, and M.K. Hughes. 2005. A 668-year summer temperature reconstruction for the central Rocky Mountains. American Geophysical Union Fall Conference, San Francisco, California, 13 December.
- Brown, P.M. 2005. Fire severity vs. fire effects: What are we reconstructing? Workshop on Fire History and Climate Synthesis in the Western US, Flagstaff, Arizona, 5 May (invited).
- Brown, P.M. 2005. Spatial and temporal variations in importance of antecedent and fire year moisture for fire occurrence. Association of American Geographers, Denver, Colorado, 12 April.
- Brown, P.M. 2005. Historical fire regimes and forest structure in the Black Hills and implications for restoration. Black Hills Ecologists & Botanists Meeting, Rapid City, South Dakota, 8 March (invited).
- Brown, P.M. 2005. Reconstructing fire regimes from tree-ring data. Rocky Mountain Region 2 Botanists and Ecologists Meeting, Ft. Collins Colorado, 24 February (invited).
- Brown, P.M., and R. Wu. 2004. Fire and climate: Past, present (and future?). American Geophysical Union Fall Conference, San Francisco, California, 17 December (invited).

Brown, P.M. 2004. Defining scales: Time, place, and bottom-up effects on fire regimes. Mixed Severity Fire Regimes, Spokane, Washington, 17 November (invited plenary).

Brown, P.M. 2004. Reconstructing fire, climate, and fire climatology from tree rings. University of Idaho, Dept. Forest Resources seminar series, Moscow, Idaho, 15 November.