



New Publications

July to September 2012

Integrated Science Working for You



Contents

New Series Publications

Riparian and wetland vegetation: Water needs . . . 3
 RPA Assessment: Fish and other aquatic resource trends . . . 3
 Species vulnerability to climate change . . . 3
 Predicted changes in grasslands, shrublands, and deserts of the Southwest . . . 4
 Fourmile Canyon Fire . . . 4
 Wilderness visitor experiences . . . 5
 Idaho's forest resources, 2004-2009 . . . 5
 Montana's forest resources, 2003-2009 . . . 5
 Nevada photo-based inventory . . . 6
 Modeling mountain pine beetle dynamics . . . 6
 Oak savanna plants and shrubs: Fire effects . . . 6
 Surface fuels moisture predicts fire severity . . . 7

Journals and Other Publications

Air, water, and aquatic environments . . . 8
 Fire, fuel, and smoke . . . 9
 Forest and woodland ecosystems . . . 11
 Grasslands, shrublands, and desert ecosystems . . . 12
 Human dimensions . . . 13
 Inventory, monitoring and analysis . . . 13
 Science application and integration . . . 13
 Wilderness research . . . 13
 Wildlife and terrestrial habitats . . . 14
 Author Index . . . 15

Ordering Information . . . Inside back cover
 Contact Us . . . Inside back cover

Publications also available at:

<http://www.fs.fed.us/rm/publications>

Check Out Our Web site: <http://www.fs.fed.us/rm/publications>

- New RMRS publications online
- Older RMRS, INT, RM publications online
- Journal articles and other publications online
- Order a publication
- DVDs and videos online
- Publication lists
- Join our email list
- Great resources for authors



Rocky Mountain Research Station

Publications

Peer-reviewed serial publications and journal articles from the Rocky Mountain Research Station. Check back often for new ones.

▶ **All RMRS publications.**

Peer-reviewed serial publications and journal articles from the Rocky Mountain Research Station. Check back often for new ones.

▶ **Newest publications.** The most recent additions into the Forest Service's master publication database, TreeSearch; plus our quarterly New Publications lists.

▶ **Classics.** Lists RMRS's most popular publications over the years.

▶ **Order a printed copy** of any available publication free of charge

▶ **Electronic Mailing List.** Keep informed by subscribing to our quarterly announcement of new publications.

▶ **DVDs and Videos.** See RMRS research at work.

▶ **Tools.** Contains links to products that can help forest managers, scientists, and others.

Search all online RMRS and Forest Service Research publications

Type in title, author name, or keywords

Pull down publication series, originating Station then enter publication number (ex. RP-RMRS-009).

 - -

[More search options](#)

Author's Corner

Author's Corner



- ▶ [Home](#)
- ▶ [Manuscript Preparation](#)
- ▶ [Manuscript Tracking](#)
- ▶ [Series Definitions](#)
- ▶ [Forms](#)
- ▶ [Links](#)
- ▶ [Services & Staff](#)

Questions? Contact Lane Eskew at [leskew\[at\]fs.fed.us](mailto:leskew[at]fs.fed.us) or 970-498-1388.

- ▶ [Research Accomplishments](#)
- ▶ [National Forest Service Library](#)
- ▶ [Statistics Unit](#)
- ▶ [Media & Public Affairs](#)

New RMRS Series Publications

Riparian and wetland vegetation: Water needs

Order 33

Assessing the water needs of riparian and wetland vegetation in the western United States. Cooper, David J.; Merritt, David M. 2012. Gen. Tech. Rep. RMRS-GTR-282. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 125 p.

Wetlands and riparian areas are unique landscape elements that perform a disproportionate role in landscape functioning relative to their aerial extent on the landscape. The purpose of this guide is to provide a general foundation for the reader in several interrelated disciplines for the purpose of enabling him/her to characterize and quantify the water needs of riparian and wetland vegetation. Topics discussed are wetland and riparian classification, characteristics and ecology, surface and groundwater hydrology, plant physiology and population and community ecology, and techniques for linking attributes of vegetation to patterns of surface and groundwater and soil moisture.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr282.html.

RPA Assessment: Fish and other aquatic resource trends

Order 34

Fish and other aquatic resource trends in the United States: A technical document supporting the Forest Service 2010 RPA Assessment. Loftus, Andrew J.; Flather, Curtis H. 2012. Gen. Tech. Rep. RMRS-GTR-283. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 81 p.

The Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 requires periodic assessments of the status and trends in the Nation's renewable natural resources including fish and other aquatic species and their habitats. Data from a number of sources are used to document trends in habitat quality, populations, resource use, and patterns of imperilment among aquatic fauna. Freshwater habitat quality varied widely across the United States. Nationwide, more than half of monitored lakes were ranked in good condition, but the percentage ranged from a high of 91 percent in the upper Midwest to a low of 1 percent in the Northern Plains. Habitat conditions in monitored small streams indicated that 42 percent were found to be in poor condition. The Southern Appalachians, Southern Plains, and Northern Plains have 50 percent or more of their stream lengths in poor condition. The condition of small stream habitats was best in the Western mountains. The report provides implications of aquatic resource trends for management and planning.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr283.html.

Species vulnerability to climate change

Order 35

Vulnerability of species to climate change in the Southwest: Threatened, endangered, and at-risk species at the Barry M. Goldwater Range, Arizona. Bagne, Karen E.; Finch, Deborah M. 2012. Gen. Tech. Rep. RMRS-GTR-284. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 139 p.

This assessment uses SAVS, an assessment tool based on ecological principals, to rank individual species of interest within the eastern portion of the Barry M. Goldwater Range, Arizona, according to predicted climate change responses and associated population declines balanced with responses expected to incur resilience or population increases. Further, specific areas of vulnerability, research needs, and management implications are identified for each species in detailed species accounts. The assessment process was also used to identify areas where climate change may present opportunities, as opposed to challenges, for species management.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr284.html.

Predicted changes in grasslands, shrublands, and deserts of the Southwest

Order **36**

Climate change in grasslands, shrublands, and deserts of the interior American West: A review and needs assessment. Finch, Deborah M., ed. 2012. Gen. Tech. Rep. RMRS-GTR-285. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 139 p.

This volume reviews existing climate models that predict species and vegetation changes in the western United States, and it synthesizes knowledge about climate change impacts on the native fauna and flora of grasslands, shrublands and deserts of the interior American West. The volume is divided into eight chapters that cover the topics of carbon mitigation and adaptation. Current and likely responses of species and habitats to climate change are examined in relation to taxonomic group and ecoregion and with regard to other disturbances. The volume ends with a review of management decision support needs and tools for assessing vulnerability of natural resources and conserving and restoring ecosystems that are or may be impacted by climate change.

Chapters:

- Chapter 1: Modeling and predicting vegetation response of western USA grasslands, shrublands, and deserts to climate change. Friggens, Megan M.; Warwell, Marcus V.; Chambers, Jeanne C.; Kitchen, Stanley G.
- Chapter 2: Restoring and managing cold desert shrublands for climate change mitigation. Meyer, Susan E.
- Chapter 3: Climate change and arthropods: Pollinators, herbivores, and others. Brantley, Sandra L.; Ford, Paulette L.
- Chapter 4: Plant vulnerabilities and genetic adaptation. Richardson, Bryce A.; Shaw, Nancy L.; Pendleton, Rosemary L.
- Chapter 5: Climate change, animal species, and habitats: Adaptation and issues. Finch, Deborah M.; Smith, D. Max; LeDee, Olivia; Cartron, Jean-Luc E.; Rumble, Mark A.
- Chapter 6: Disturbance and climate change in the Interior West. Ford, Paulette L.; Chambers, Jeanne K.; Coe, Sharon J.; Pendleton, Burton C.
- Chapter 7: Invasive species and climate change. Runyon, Justin B.; Butler, Jack L.; Friggens, Megan M.; Meyer, Susan E.; Sing, Sharlene E.
- Chapter 8: Decision support: Vulnerability, conservation, and restoration. Friggens, Megan M.; Pinto, Jeremiah R.; Dumroese, R. Kasten; Shaw, Nancy L.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr285.html

Fourmile Canyon Fire

Order **37**

Fourmile Canyon Fire Findings. Graham, Russell; Finney, Mark; McHugh, Chuck; Cohen, Jack; Calkin, Dave; Stratton, Rick; Bradshaw, Larry; Nikolov, Ned. 2012. Gen. Tech. Rep. RMRS-GTR-289. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 110 p.

The Fourmile Canyon Fire burned in the fall of 2010 in the Rocky Mountain Front Range adjacent to Boulder, Colorado. The fire occurred in steep, rugged terrain, primarily on privately owned mixed ponderosa pine and Douglas-fir forests. The fire started on September 6 when the humidity of the air was very dry ($\approx <7\%$) and the winds were steadily blowing in the range of 15 miles per hour and gusting to over 40 miles per hour. These conditions prevailed for most of the first day when the fire burned approximately 5,700 acres and destroyed 162 homes. Because of the windy conditions, aircraft could not be used until late that first day. The first responders concentrated on evacuating the occupants of the 474 homes in the fire vicinity. No public or firefighters were injured during the course of the fire. This report summarizes how the fire burned, the damage it caused, and offers insights to help the residents and first responders prepare for the next wildfire that will burn on the Colorado Front Range.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr289.html

Wilderness visitor experiences

Order **38**

Wilderness visitor experiences: Progress in research and management; 2011 April 4-7; Missoula, MT. Cole, David N., comp. 2012. Proc. RMRS-P-66. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 219 p.

The workshop was convened to celebrate and review 50 years of research on wilderness visitor experience and its influence on wilderness stewardship. These proceedings are organized in three sections. The first section contains 12 papers that review literature or describe empirical research about wilderness visitor experiences. The second section provides three papers on management frameworks and the perspectives of planners and managers. The third section consists of five papers on wilderness experiences and the future.

Papers from RMRS authors:

Wilderness visitor experiences: Lessons from 50 years of research. Cole, David N.; Williams, Daniel R. Continued wilderness participation: experience and identity as long-term relational phenomena. Brooks, Jeffrey J.; Williams, Daniel R.

Immediate conscious experience in wilderness: A phenomenological investigation. Hall, Troy E.; Cole, David N.

Visitors' conceptualizations of wilderness experiences. Seekamp, Erin; Hall, Troy; Cole, David.

The effect of use density and length of stay on visitor experience in wilderness. David N. Cole, Hall, Troy E.

Wilderness experience quality: Effects of use density depend on how experience is conceived. Cole, David N.; Hall, Troy E.

Wilderness at arm's length: on the outside looking in at special provisions in wilderness. Watson, Alan E.

Online: http://www.fs.fed.us/rm/pubs/rmrs_p066.html.

Idaho's forest resources, 2004-2009

Order **39**

Idaho's forest resources, 2004-2009. Witt, Chris; Shaw, John D.; Thompson, Michael T.; Goeking, Sara A.; Menlove, Jim; Amacher, Michael C.; Morgan, Todd A.; Werstak, Charles. 2012. Resour. Bull. RMRS-RB-14. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 134 p.

This report presents a summary of the most recent inventory information for Idaho's forest lands. The report includes descriptive highlights and tables of area, number of trees, biomass, volume, growth, mortality, and removals. Most of the tables are organized by forest type, species, diameter class, or owner group. The report also describes inventory design, inventory terminology, and data reliability. Results show that Idaho's forest land totals 21.4 million acres.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rb014.html.

Montana's forest resources, 2003-2009

Order **40**

Montana's forest resources, 2003-2009. Menlove, Jim; Shaw, John D.; Thompson, Michael T.; Witt, Chris; Amacher, Michael C.; Morgan, Todd A.; Sorensen, Colin; McIver, Chelsea; Werstak, Charles. 2012. Resour. Bull. RMRS-RB-15. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 140 p.

This report presents a summary of the most recent inventory information for Montana's forest lands. The report includes descriptive highlights and tables of area, number of trees, biomass, volume, growth, mortality, and removals. Most of the tables are organized by forest type group, species group, diameter class, or owner group. The report also describes inventory design, inventory terminology, and data reliability. Results show that Montana's forest land totals 25.6 million acres.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rb015.html.

Nevada photo-based inventory

Order 41

Modeling mountain pine beetle dynamics

Online only

Oak savanna plants and shrubs: Fire effects

Order 42

Photo-based estimators for the Nevada photo-based inventory. Patterson, Paul L. 2012. Res. Pap. RMRS-RP-92. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 14 p.

The U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis Program conducted the Nevada Photo-Based Inventory Pilot in an effort to improve precision in estimates of forest parameters, reduce field data collection costs on margin lands that are covered by slow growing woodland species, and address the potential of strategic-level inventory on lands not traditionally sampled. One part of the project involved the use of large-scale aerial photography instead of traditional field plot visits to produce three types of estimates: (1) area by a variety of forest and nonforest types; (2) percent cover of object types in the landscape; and (3) percent cover of object types within forest or nonforest type.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rp092.html.

Development and assessment of 30-meter pine density maps for landscape-level modeling of mountain pine beetle dynamics. Crabb, Benjamin A.; Powell, James A.; Bentz, Barbara J. 2012. Res. Pap. RMRS-RP-93WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 43 p.

Forecasting spatial patterns of mountain pine beetle (MPB) population success requires spatially explicit information on host pine distribution. We developed a means of producing spatially explicit datasets of pine density at 30-m resolution using existing geospatial datasets of vegetation composition and structure. Because our ultimate goal is to model MPB population success, three study areas in the western United States that have experienced recent MPB outbreaks were used for evaluation. Pine density estimates for each study area were compared to measures of cumulative MPB-caused pine mortality summarized from annual Aerial Detection Surveys (ADS). Regression analyses using LANDFIRE ecological systems classifications (EVTs) as units of analysis showed that the best pine density estimates explained 75 to 98% of cumulative MPB-caused tree mortality. LANDFIRE EVT, which provide an index of the plant communities growing in a particular 30-m cell, effectively delineate distinct vegetation types that are meaningful suitability indicators for MPB-caused tree mortality. Our analyses suggested that available geospatial vegetation datasets derived from field data and remotely sensed imagery are useful for producing spatially explicit measures of pine density for use in landscape-level modeling of MPB dynamics.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rp093.html

Fire effects on herbaceous plants and shrubs in the oak savannas of the Southwestern Borderlands. Ffolliott, Peter F.; Gottfried, Gerald J.; Chen, Hui; Stropki, Cody L.; Neary, Daniel G. 2012. Res. Pap. RMRS-RP-95. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 15 p.

Much has been learned in recent years about the ecological, hydrologic, and environmental characteristics of the oak (encinal) woodlands of the Southwestern Borderlands. Comparable information for the lower-elevation oak savannas, including the impacts of fire on ecosystem resources, is also necessary to enhance the knowledge of the oak ecosystems in the region. Oak savannas are more open in stand structure than are the oak woodlands and, as a consequence, a higher level of herbaceous production might be expected in this ecosystem than in the oak woodlands. The effects of prescribed burning treatments and a wildfire on species compositions, production of grass and forb components, growth of shrubs, utilization of forage and browse plants by herbivores, and ecological diversity in a oak savanna are described in this paper.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rp095.html.

Surface fuels moisture predicts fire severity**Order 43**

Predicting fire severity using surface fuels and moisture. Sikkink, Pamela G.; Keane, Robert E. 2012. Res. Pap. RMRS-RP-96. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 37 p.

Fire severity classifications have been used extensively in fire management over the last 30 years to describe specific environmental or ecological impacts of fire on fuels, vegetation, wildlife, and soils in recently burned areas. New fire severity classifications need to be more objective, predictive, and ultimately more useful to fire management and planning. Our objectives were to (1) quantify the relationships between fuel loading and moisture characteristics of surface fuels and the temperature and energy produced during combustion, and (2) to produce a classification that summarized these relationships into unique, realistic classes of fire severity. Using computer simulation, we created 115,280 synthetic fuel beds with diverse compositions and moisture conditions and burned them using computer simulation with the First Order Fire Effects Model (FOFEM). Using average fire intensity, fire residence time, total fuel consumed, depth of soil heating, and temperature in the top 1 cm of soil, we created a nine-group classification that separated fire severity classes based first on soil heating, second on intensity and fire time, and third on fuel consumed. Fuel beds were correctly placed into the nine fire severity classes 98% of the time using subsets of the synthetic fuel beds.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rp096.html.

Journals and Other Publications

Obtain the following publications through university libraries, the publisher, or other outlets. Forest Service employees may request these items from the National Forest Service Library at FSLibrary-DocsFC@fs.fed.us or telephone: (970) 498-1205. We have also provided links to electronic copies when available.

Air, water, and aquatic environments

- Boundary shear stress along rigid trapezoidal bends.** Thornton, Christopher I.; Sin, Kyung-Seop; Sclafani, Paul; Abt, Steven R. 2012. Prepared for the U.S. Department of the Interior, Bureau of Reclamation. Fort Collins, CO: Colorado State University, Engineering Research Center. 25 p. Online: <http://www.treesearch.fs.fed.us/pubs/41660>.
- Data report for completed spur-dike configurations within the native topography model.** Youngblood, Natalie A.; Ursic, Michael E.; Cox, Amanda L.; Thornton, Christopher I.; Abt, Steven R. 2012. Prepared for the U.S. Department of the Interior, Bureau of Reclamation. Fort Collins, CO: Colorado State University, Engineering Research Center. 93 p. Online: <http://www.treesearch.fs.fed.us/pubs/41658>.
- Development and evaluation of 200 novel SNP assays for population genetic studies of westslope cutthroat trout and genetic identification of related taxa.** Campbell, N.R.; Amish, S.J.; Prichard, V.L.; McKelvey, K.M.; [and others]. 2012. *Molecular Ecology Resources*. doi: 10.1111/j.1755-0998.2012.03161.x. Online: <http://www.treesearch.fs.fed.us/pubs/41250>.
- Direct multiangle solution for poorly stratified atmospheres.** Kovalev, Vladimir; Wold, Cyle; Petkov, Alexander; Hao, Wei Min. 2012. *Applied Optics*. 51(25): 6139-6146.
- The effects of precipitation variability on C4 photosynthesis, net primary production and soil respiration in a Chihuahuan desert grassland.** Thomey, Mitchell L. 2012. Albuquerque, NM: University of New Mexico. 117 p. Dissertation. Online: <http://www.treesearch.fs.fed.us/pubs/41110>.
- Estimating occupancy in large landscapes: evaluation of amphibian monitoring in the Greater Yellowstone Ecosystem.** Gould, William R.; Patla, Debra A.; Daley, Rob; [and others]. 2012. *Wetlands*. 32: 379-389.
- Estimating peak flows following the Schultz Fire, Coconino National Forest.** Koestner, K.A.; Koestner, P.E.; Neary, D.G. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 41: 25-30.
- Experimental forest catchment studies contributions to the understanding of the effects of disturbances on water quality: Past, present, and future.** Neary, Daniel G. 2012. In: Webb, Ashley A.; Bonell, Mike; Bren, Leon; [and others], eds. *Revisiting experimental catchment studies in forest hydrology: Proceedings of a workshop held during the XXV IUGG General Assembly in Melbourne; June-July 2011*. IAHS Publication 353. United Kingdom, Wallingford: International Association of Hydrological Sciences: 169-184.
- Forest bioenergy feedstock harvesting effects on water supply.** Neary, Daniel G.; Koestner, Karen A. 2012. *WIREs Energy Environment*: doi: 10.1002/wene.26.
- Geomorphic analysis of the Middle Rio Grande-Elephant Butte Reach, New Mexico.** Owen, Tracy Elizabeth. 2012. Fort Collins, CO: Colorado State University. Thesis. 197 p. Online: <http://www.treesearch.fs.fed.us/pubs/41663>.
- The hidden treasures of long-term paired watershed monitoring in the forests of Arizona.** Poff, B.; Gottfried, G.J.; Neary, D.G.; Henderson, V.; Teclé, A. 2012. In: Webb, Ashley A.; Bonell, Mike; Bren, Leon; [and others], eds. *Revisiting experimental catchment studies in forest hydrology: Proceedings of a workshop held during the XXV IUGG General Assembly in Melbourne; June-July 2011*. IAHS Publication 353. United Kingdom, Wallingford: International Association of Hydrological Sciences: 42-48.
- Introduction to the invited issue on carbon allocation of trees and forests.** Epron, Daniel; Nouvellon, Yann; Ryan, Michael G. 2012. *Tree Physiology*. 32: 639-643. Online: <http://www.treesearch.fs.fed.us/pubs/41113>.
- Methodology for calculating shear stress in a meandering channel.** Sin, Kyung-Seop; Thornton, Christopher I.; Cox, Amanda L.; Abt, Steven R. 2012. Prepared for the U.S. Department of the Interior, Bureau of Reclamation. Fort Collins, CO: Colorado State University, Engineering Research Center. 168 p. Online: <http://www.treesearch.fs.fed.us/pubs/41661>.
- Methodology for predicting maximum velocity and shear stress in a sinuous channel with bendway weirs using 1-D HEC-RAS modeling results.** Sclafani, Paul; Thornton, Christopher; Cox, Amanda L.; Abt, Steven R. 2012. Prepared for the U.S. Department of the Interior, Bureau of Reclamation. Fort Collins, CO: Colorado State University, Engineering Research Center. 335 p. Online: <http://www.treesearch.fs.fed.us/pubs/41662>.
- Movement and capture efficiency of radio-tagged salmonids sampled by electrofishing.** Young, Michael K.; Schmetterling, David A. 2012. *North American Journal of Fisheries Management*. 32: 823-831. Online: <http://www.treesearch.fs.fed.us/pubs/41321>.
- Post-fire rill and gully formation, Schultz Fire 2010, Arizona, USA.** Neary, Daniel G.; Koestner, Karen A.; Youberg, Ann; Koestner, Peter E. 2011. In: Goncalves, Antonio Bento; Vieira, Antonio A. B., eds. *Proceedings of the 3rd International Meeting of Fire Effects on Soil Properties; 15-19 March 2011; University of Minho, Guimaraes, Portugal*. Guimaraes, Portugal: Universidade do Minho, NIGP e CEGOT: 60-63. Online: <http://www.treesearch.fs.fed.us/pubs/41594>.

- Precipitation patterns on the Cascabel Watersheds, Peloncillo Mountains, New Mexico.** Gottfried, G.J.; Ffolliott, P.F.; Neary, D.G.; Yazzie, J.H. 2012. *Hydrology and Water Resources in Arizona and the Southwest*. 41: 31-34.
- Quantification of shear stress in a meandering native topographic channel using a physical hydraulic model.** Ursic, Michael E.; Thornton, Christopher I.; Cox, Amanda L.; Abt, Steven R. 2012. Prepared for the U.S. Department of the Interior, Bureau of Reclamation. Fort Collins, CO: Colorado State University, Engineering Research Center. 146 p. Online: <http://www.treesearch.fs.fed.us/pubs/41659>.
- Risk-based erosion assessment: Application to forest watershed management and planning** (Chapter 6). Elliot, W.J.; Robichaud, P.R. 2011. In: Morgn, R.P.C.; Nearing, M.A., eds. 2011. *Handbook of erosion modeling*. West Sussex, UK: Wiley-Blackwell: 313-323.
- Rock gabion, rock armoring, and culvert treatments contributing to and reducing erosion during post-wildfire flooding: Schultz Fire 2010.** Neary, Daniel G.; Koestner, Karen A.; Youberg, Ann. 2011. In: Goncalves, Antonio Bento; Vieira, Antonio A.B., eds. *Proceedings of the 3rd International Meeting of Fire Effects on Soil Properties*; 15-19 March 2011; University of Minho, Guimaraes, Portugal. Guimaraes, Portugal: Universidade do Minho, NIGP e CEGOT: 128-131. Online: <http://www.treesearch.fs.fed.us/pubs/41593>.
- Seasonal variations in aerosol optical properties over China.** Wang, Yuesi; Xin, Jinyuan; Li, Zhanqing; Wang, Shigong; Wang, Pucui; Hao, Wei Min; [and others]. 2012. *Journal of Geophysical Research*. 116: D18209. Online: <http://www.treesearch.fs.fed.us/pubs/41491>.
- Structural organization of process zones in upland watersheds of central Nevada and its influence on basin connectivity, dynamics, and wet meadow complexes.** Miller, Jerry R.; Lord, Mark L.; Villarroel, Lionel F.; Germanoski, Dru; Chambers, Jeanne C. 2012. *Geomorphology*. 139-140: 384-402. Online: <http://www.treesearch.fs.fed.us/pubs/41474>.
- Turbidity changes during culvert to bridge upgrades at Carmen Creek, Idaho.** Foltz, Randy B.; Westfall, Breann; Kopyscianski, Ben. 2012. Report to Bureau of Land Management; FFIS Agreement 2216-07-IA287. Washington, DC: U.S. Department of the Interior, Bureau of Land Management. 8 p. Online: <http://www.treesearch.fs.fed.us/pubs/41112>.
- A two end-member model of wood dynamics in headwater neotropical rivers.** Wohl, Ellen; Bolton, Susan; Cadol, Daniel; Comiti, Francesco; Goode, Jaime R.; Mao, Luca. 2012. *Journal of Hydrology*. 462-463: 67-76. Online: <http://www.treesearch.fs.fed.us/pubs/41471>.
- Understanding the science of climate change: Talking points - Impacts to the eastern woodlands and forests.** Schramm, Amanda; Loehman, Rachel. 2011. Natural Resource Report NPS/NRSS/CCRP/NRR-2011/470. Fort Collins, CO: U.S. Department of the Interior, National Park Service, Natural Resource Program Center. 33 p. Online: <http://www.treesearch.fs.fed.us/pubs/41387>.
- Understanding the science of climate change: Talking points—Impacts to the Pacific Coast.** Schramm, Amanda; Loehman, Rachel. 2012. Natural Resource Report NPS/NRSS/CCRP/NRR-2012/513. Fort Collins, CO: U.S. Department of the Interior, National Park Service, Natural Resource Program Center. 35 p. Online: <http://www.treesearch.fs.fed.us/pubs/413875>.
- Understanding the science of climate change: Talking points - Impacts to the Pacific Islands.** Schramm, Amanda; Loehman, Rachel. 2011. Natural Resource Report NPS/NRPC/CCRP/NRR-2011/287. Fort Collins, CO: U.S. Department of the Interior, National Park Service, Natural Resource Program Center. 34 p. Online: <http://www.treesearch.fs.fed.us/pubs/413876>.
- The U.S. Forest Service experimental forests and ranges network: A continental research platform for catchment scale research in the United States.** Neary, Daniel G.; Hayes, Deborah; Rustad, Lindsey; [and others]. 2012. In: Webb, Ashley A.; Bonell, Mike; Bren, Leon; [and others], eds. *Revisiting experimental catchment studies in forest hydrology: Proceedings of a workshop held during the XXV IUGG General Assembly in Melbourne*; June-July 2011. IAHS Publication 353. United Kingdom, Wallingford: International Association of Hydrological Sciences: 49-57.
- Water quality assessment of bioenergy production.** Diaz-Chavez, Rocio; Berndes, Goran; Neary, Dan; Neto, Andre Elia; Fall, Mamadou. 2011. *Biofuels, Bioproducts, and Biorefining*. 5: 445-463. Online: <http://www.treesearch.fs.fed.us/pubs/38739>.
- Fire, fuel, and smoke**
- Accommodating non-market values in evaluation of wildfire management in the United States: Challenges and opportunities.** Venn, Tyron J.; Calkin, David E. 2011. *International Journal of Wildland Fire*. 20(3): 327-339. Online: <http://www.treesearch.fs.fed.us/pubs/41564>.
- Airtankers and wildfire management in the US Forest Service: examining data availability and exploring usage and cost trends.** Thompson, Matthew P.; Calkin, David E.; Herynk, Jason; McHugh, Charles W.; Short, Karen C. 2012. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF11041>. Online: <http://www.treesearch.fs.fed.us/pubs/41329>.
- Burning questions for managers: Fuels management practices in riparian areas.** Meyer, Kristen E.; Dwire, Kathleen A.; Champ, Patricia A.; Ryan, Sandra E.; Riegel, Gregg M.; Burton, Timothy A. 2012. *Fire Management Today*. 72(2): 16-23. Online: <http://www.treesearch.fs.fed.us/pubs/41413>.
- A comparison of geospatially modeled fire behavior and fire management utility of three data sources in the southeastern United States.** Hollingsworth, LaWen T.; Kurth, Laurie L.; Parresol, Bernard R.; Ottmar, Roger D.; Prichard, Susan J. 2012. *Forest Ecology and Management*. 273: 43-49. Online: <http://www.treesearch.fs.fed.us/pubs/40557>.

- A comparison of two methods for estimating conifer live foliage moisture content.** Jolly, W. Matt; Hadlow, Ann M. 2012. *International Journal of Wildland Fire*. 21: 180-185. Online: <http://www.treesearch.fs.fed.us/pubs/41392>.
- Coupling field and laboratory measurements to estimate the emission factors of identified and unidentified trace gases for prescribed fires.** Yokelson, R.J.; Burling, I.R.; Gilman, J.B.; [and others]. 2012. *Atmospheric Chemistry and Physics Discussions*. 12: 21517-21578. Online: <http://www.treesearch.fs.fed.us/pubs/41328>.
- Depositional characteristics of post-fire flooding following the Schultz Fire, San Francisco Peaks, Arizona.** Koestner, Karen A.; Carrol, Mike D.; Neary, Daniel G.; . 2011. In: Goncalves, Antonio Bento; Viera, Antonio A.B., eds. *Proceedings of the 3rd International meeting of fire effects on soil properties*; 15-19 March 2011; Guimaraes, Portugal: Universidade do Minho, NIGP e CEGOT: 90-93. Online: <http://www.treesearch.fs.fed.us/pubs/41596>.
- Describing wildland surface fuel loading for fire management: A review of approaches, methods and systems.** Keane, Robert E. 2012. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF11139>. Online: <http://www.treesearch.fs.fed.us/pubs/41475>.
- Do mountain pine beetle outbreaks change the probability of active crown fire in lodgepole pine forests?** Jolly, W. Matt; Parsons, Russell; Varner, J. Morgan; Butler, Bret W.; Ryan, Kevin C.; Gucker, Corey L. 2012 *Ecology*. 93(4): 941-946. Online: <http://www.treesearch.fs.fed.us/pubs/41115>.
- Entrainment regimes and flame characteristics of wildland fires.** Nelson, Ralph M.; Butler, Bret W.; Weise, David R. 2012. *International Journal of Wildland Fire*. 21: 127-140. Online: <http://www.treesearch.fs.fed.us/pubs/40492>.
- Estimation of wildfire size and risk changes due to fuels treatments.** Cochrane, M.A.; Moran, C.J.; Wimberly, M.C.; [and others]. 2012. *International Journal of Wildland Fire*. 21: 357-367. Online: <http://www.treesearch.fs.fed.us/pubs/41379>.
- The Exposure Index: Developing firefighter safety performance measures.** Calkin, Dave; Phipps, John; Holmes, Tom; Rieck, Jon; Thompson, Matt. 2011. *Fire Management Today*. 71(4): 24-27. Online: <http://www.treesearch.fs.fed.us/pubs/41567>.
- Fuel loadings 5 years after a bark beetle outbreak in southwestern USA ponderosa pine forests.** Hoffman, Chad M.; Sieg, Carolyn Hull; McMillin, Joel D.; Fule, Peter Z. 2012. *International Journal of Wildland Fire*. 21: 306-312. Online: <http://www.treesearch.fs.fed.us/pubs/41249>.
- Fuel treatment impacts on estimated wildfire carbon loss from forests in Montana, Oregon, California, and Arizona.** Stephens, Scott L.; Boerner, Ralph E. J.; Moghaddas, Jason J.; [and others]. 2012. *Ecosphere*. 3(5): 1-17. Online: <http://www.treesearch.fs.fed.us/pubs/41246>.
- Historical fire regime and forest variability on two eastern Great Basin fire-sheds (USA).** Kitchen, Stanley G. 2012. *Forest Ecology and Management*. 285: 53-66. Online: <http://www.treesearch.fs.fed.us/pubs/41573>.
- Impacts of wildfire severity on hydraulic conductivity in forest, woodland, and grassland soils (Chapter 7).** Neary, Daniel G. 2011. In: Elango, Lakshmanan, ed. *Hydraulic Conductivity-Issues, Determination and Applications*. New York, NY: InTech: 123-142. Online: <http://www.treesearch.fs.fed.us/pubs/41595>.
- Incorporating field wind data into FIRETEC simulations of the International Crown Fire Modeling Experiment (ICFME): Preliminary lessons learned.** Linn, Rodman; Anderson, Kerry; Winterkamp, Judith; Broos, Alyssa; Wotton, Michael; Dupuy, Jean-Luc; Pimont, Francois; Edminster, Carleton. 2012. *Canadian Journal of Forest Research*. 42: 879-898. Online: <http://www.treesearch.fs.fed.us/pubs/41038>.
- Modeling firebrand transport in wildfires using HIGRAD/FIRETEC.** Koo, Eunmo; Linn, Rodman R.; Pagni, Patrick J.; Edminster, Carleton B. 2012. *International Journal of Wildland Fire*. 21: 396-417. Online: <http://www.treesearch.fs.fed.us/pubs/41040>.
- On the need for a theory of wildland fire spread.** Finney, Mark A.; Cohen, Jack D.; McAllister, Sara S.; Jolly, W. Matt. 2012. *International Journal of Wildland Fire*. <http://dx.doi.org/10.1071/WF11117>. Online: <http://www.treesearch.fs.fed.us/pubs/41395>.
- Piloted ignition of live forest fuels.** McAllister, S.; Grenfell, I.; Hadlow, A.; Jolly, W.M.; Finney, M.; Cohen, J. 2012. *Fire Safety Journal*. 51: 133-142. Online: <http://www.treesearch.fs.fed.us/pubs/41114>.
- Quantifying the threat of unsuppressed wildfires reaching the adjacent wildland-urban interface on the Bridger-Teton National Forest, Wyoming.** Scott, J.H.; Helmbrecht, D.J.; Parks, S.A.; Miller, C. 2012. *Fire Ecology*. 8(2): 125-142. doi: 10.4996/fireecology.0802125.
- A real-time risk assessment tool supporting wildland fire decisionmaking.** Calkin, David E.; Thompson, Matthew P.; Finney, Mark A.; Hyde, Kevin D. 2011. *Journal of Forestry*. 109(5): 274-280. Online: <http://www.treesearch.fs.fed.us/pubs/41565>.
- Rill erosion rates in burned forests.** Wagenbrenner, Joseph W.; Robichaud, Peter R. 2011. In: Goncalves, Antonio Bento; Vieira, Antonio A. B., eds. *Proceedings of the 3rd International Meeting of Fire Effects on Soil Properties*; 15-19 March 2011; University of Minho, Guimaraes, Portugal. Guimaraes, Portugal: Universidade do Minho, NIGP e CEGOT: 156-159. Online: <http://www.treesearch.fs.fed.us/pubs/41631>.
- Short- and long-term effects on fuels, forest structure, and wildfire potential from prescribed fire and resource benefit fire in southwestern forests, USA.** Hunter, Molly E.; Iniguez, Jose M.; Lentile, Leigh B. 2011. *Fire Ecology*. 7(3): 108-121. Online: <http://www.treesearch.fs.fed.us/pubs/41591>.
- Short- and medium-term effects of fuel reduction mulch treatments on soil nitrogen availability in Colorado conifer forests.** Rhoades, C.C.; Battaglia, M.A.; Rocca, M.E.; Ryan, M.G. 2012 *Forest Ecology and Management*. 276: 231-238. Online: <http://www.treesearch.fs.fed.us/pubs/40596>.

- Spatial scaling of wildland fuels for six forest and rangeland ecosystems of the northern Rocky Mountains, USA.** Keane, Robert E.; Gray, Kathy; Bacciu, Valentina; Leirfallom, Signe. 2012. *Landscape Ecology*. 27: 1213-1234. Online: <http://www.treesearch.fs.fed.us/pubs/41391>.
- Tools to aid post-wildfire assessment and erosion-mitigation treatment decisions.** Robichaud, Peter R.; Ashmun, Louise E. 2012. *International Journal of Wildland Fire*. doi: <http://dx.doi.org/10.1071/WF11162>. Online: <http://www.treesearch.fs.fed.us/pubs/41473>.
- Using periodic line fires to gain a new perspective on multi-dimensional aspects of forward fire spread.** Linn, R.R.; Canfield, J.M.; Cunningham, P.; Edminster, C.; Dupuy, J.-L.; Pimont, F. 2012. *Agricultural and Forest Meteorology*. 157: 60-76. Online: <http://www.treesearch.fs.fed.us/pubs/41039>.
- Utility of remotely sensed imagery for assessing the impact of salvage logging after forest fires.** Lewis, Sarah A.; Robichaud, Peter R.; Hudak, Andrew T.; Austin, Brian; Liebermann, Robert J. 2012. *Remote Sensing*. 4(7): 2112-2132. Online: <http://www.treesearch.fs.fed.us/pubs/41111>.
- Wildfire impacts on stream sedimentation: re-visiting the Boulder Creek Burn in Little Granite Creek, Wyoming, USA.** Ryan, Sandra; Dwire, Kathleen. 2012. In: Stone, Mike; Collins, Adrian; Thoms, Martin, eds. *Wildfire and Water Quality: Processes, Impacts and Challenges* (Proceedings of a conference held in Banff, Canada, 11-14 June 2012). IAHS Publ. 354. International Association of Hydrological Sciences: 75-80. Online: <http://www.treesearch.fs.fed.us/pubs/41472>.
- Wildfire potential mapping over the state of Mississippi: A land surface modeling approach.** Cooke, William H.; Mostovoy, Georgy V.; Anantharaj, Valentine G.; Jolly, W. Matt. 2012. *GIScience and Remote Sensing*. 49(4): 492-509. Online: <http://www.treesearch.fs.fed.us/pubs/41396>.
- The Wildland Fire Emission Inventory: Western United States emission estimates and an evaluation of uncertainty.** Urbanski, S.P.; Hao, W.M.; Nordgren, B. 2011. *Atmospheric Chemistry and Physics*. 11: 12973-13000. Online: <http://www.treesearch.fs.fed.us/pubs/40152>.
- Wind erosion of soils burned by wildfire.** Wagenbrenner, N.S.; Germino, M.J.; Lamb, B.K.; Foltz, R.B.; Robichaud, P.R. 2011. ISELE Paper Number 11021. Paper presented at the International Symposium on Erosion and Landscape Evolution. 18-21 September 2011, Anchorage Alaska. ASABE Publication Number 711P0311cd. 9 p. Online: <http://www.treesearch.fs.fed.us/pubs/41629>.
- Forest and woodland ecosystems**
- Abies religiosa* habitat prediction in climatic change scenarios and implications for monarch butterfly conservation in Mexico.** Saenz-Romero, Cuauhtemoc; Rehfeldt, Gerald E.; Duval, Pierre; Lindig-Cisneros, Roberto A. 2012. *Forest Ecology and Management*. 275: 98-106. Online: <http://www.treesearch.fs.fed.us/pubs/41323>.
- Armillaria species: Primary drivers of forest ecosystem processes and potential impacts of climate change.** Klopfenstein, Ned B.; Kim, Mee-Sook; Hanna, John W.; Ross-Davis, Amy L.; Ashiglar, Sara M.; McDonald, GERAL I. 2012. In: Proceedings, 2012 International conference on etiology, ecology and integrated management of forest and fruit tree diseases; 24-25 May 2012; Taipei, Taiwan. National Taiwan University, Department of Plant Pathology and Microbiology: 53-76. Online: <http://www.treesearch.fs.fed.us/pubs/41325>.
- Does seeding after severe forest fires in western USA mitigate negative impacts on soils and plant communities?** Peppin, D.; Fule, P.; Beyers, J.; Sieg, C.; Hunter, M. 2011. CEE review 08-023 (SR60). Collaboration for Environmental Evidence. Online: <http://www.treesearch.fs.fed.us/pubs/41135>.
- Effect of fall-applied nitrogen on growth, nitrogen storage, and frost hardiness of bareroot *Larix olgensis* seedlings.** Li, Guolei; Liu, Yong; Zhu, Yan; Li, Qingmei; Dumroese, R. Kasten. 2012. *Silva Fenica*. 46(3): 345-354.
- The effects of bark beetle outbreaks on forest development, fuel loads and potential fire behavior in salvage logged and untreated lodgepole pine forests.** Collins, B.; Rhoades, M.; Battaglia, M.; Hubbard, R. 2012. *Forest Ecology and Management*. 284: 260-268.
- Estimating aboveground carbon stocks of a forest affected by mountain pine beetle in Idaho using lidar and multispectral imagery.** Bright, Benjamin C.; Hicke, Jeffrey A.; Hudak, Andrew T. 2012. *Remote Sensing of Environment*. 124: 270-281. Online: <http://www.treesearch.fs.fed.us/pubs/41572>.
- Forest nursery pests.** Cram, Michelle M.; Frank, Michelle S.; Mallams, Katy M., tech. cords. 2012. *Agric. Handbk.* 680 rev. Washington, DC: U.S. Department of Agriculture, Forest Service. 202 p. Online: <http://www.treesearch.fs.fed.us/pubs/41351>.
- Fusarium oxysporum* protects Douglas-fir (*Pseudotsuga menziesii*) seedlings from root disease caused by *Fusarium commune*.** Dumroese, R. Kasten; Kim, Mee-Sook; James, Robert L. 2012. *Plant Pathology Journal* 28(3): 311-316.
- The future of our National Forests: Enhancing adaptive capacity.** Joyce, Linda A. 2012. In: The Aspen Center for Environmental Studies. *Forests at risk: Climate change and the future of the American West*. Washington, D.C.: Island Press: 30-33. Online: <http://www.treesearch.fs.fed.us/pubs/41589>.
- Geographic patterns of genetic variation and population structure in *Pinus aristata*, Rocky Mountain bristlecone pine.** Schoettle, Anna W.; Goodrich, Betsy A.; Hipkins, Valerie; Richards, Christopher; Kray, Julie. 2012. *Canadian Journal of Forest Research*. 42: 23-37. Online: <http://www.treesearch.fs.fed.us/pubs/41117>.
- Integrated nursery pest management.** Dumroese, R. Kasten. 2012. In: Cram, Michelle M.; Frank, Michelle S.; Mallams, Katy M., tech. coords. *Forest nursery pests. Agriculture Handbook 680 rev.* 2012. Washington, DC: U. S. Department of Agriculture, Forest Service: 5-12. Online: <http://www.treesearch.fs.fed.us/pubs/41352>.

Listening and learning from traditional knowledge and western science: A dialogue on contemporary challenges of forest health and wildfire. Mason, Larry; White, Germaine; Morishima, Gary; [and others]. 2012. *Journal of Forestry*. 110(4): 187-193. Online: <http://www.treeseearch.fs.fed.us/pubs/41311>.

Mountain pine beetle attack alters the chemistry and flammability of lodgepole pine foliage. Page, Wesley G.; Jenkins, Michael J.; Runyon, Justin B. 2012. *Canadian Journal of Forest Research*. 42: 1631-1647. Online: <http://www.treeseearch.fs.fed.us/pubs/41327>.

Mycorrhizae in forest tree nurseries. Cram, Michelle M.; Dumroese, R. Kasten. 2012. In: Cram, Michelle M.; Frank, Michelle S.; Mallams, Katy M., tech. coords. *Forest nursery pests. Agriculture Handbook 680 rev. 2012*. Washington, DC: U. S. Department of Agriculture, Forest Service: 20-23. Online: <http://www.treeseearch.fs.fed.us/pubs/41353>.

North America (Chapter 5). Trosper, Ronald L.; Clark, Fred; Gerez-Fernandez, Patricia; Watson, Alan E.; [and others]. In: Parrota, John A.; Trosper, Ronald L., eds. *Traditional forest-related knowledge: Sustaining communities, ecosystems and biocultural diversity. World Forests, Volume 12*. Springer: 157-201.

Population genetic structure of the seed pathogen *Pyrenophora semeniperda* on *Bromus tectorum* in western North America. Boose, David; Harrison, Steven; Clement, Suzette; Meyer, Susan E. 2011. *Mycologia*. 103(1): 85-93. Online: <http://www.treeseearch.fs.fed.us/pubs/41032>.

Possibilities and limitations of using historic provenance tests to infer forest species growth responses to climate change. Leites, Laura P.; Rehfeldt, Gerald E.; Robinson, Andrew P.; Crookston, Nicholas L.; Jaquish, Barry. 2012. *Natural Resource Modeling*. 25(3): 409-433. Online: <http://www.treeseearch.fs.fed.us/pubs/41324>.

Roads impact the distribution of noxious weeds more than restoration treatments in a lodgepole pine forest in Montana, U.S.A. Birdsall, Jennifer L.; McCaughey, Ward; Runyon, Justin B. 2012. *Restoration Ecology*. 20(4): 517-523. Online: <http://www.treeseearch.fs.fed.us/pubs/37963>.

Virulence of *Fusarium oxysporum* and *F. commune* to Douglas-fir (*Pseudotsuga menziesii*) seedlings. Stewart, J.E.; Abdo, Z.; Dumroese, R.K.; Klopfenstein, N.B.; Kim, M. -S. 2012. *Forest Pathology*. 42: 220-228. Online: <http://www.treeseearch.fs.fed.us/pubs/41322>.

What tree-ring reconstruction tells us about conifer defoliator outbreaks. Lynch, Ann M. 2012. In: Barbosa, Pedro; Letourneau, Deborah K.; Agrawal, Anurag A., eds. *Insect outbreaks revisited*. Hoboken, NJ: Blackwell Publishing Ltd: 126-154. Online: <http://www.treeseearch.fs.fed.us/pubs/41785>.

Grasslands, shrublands, and desert ecosystems

All together now: Collaboration in research and stewardship for our 21st century lands. Anjozian, Lisa-Natalie. 2012. *GSD [Grasslands, Shrublands and Desert] Update* (No. 5). Albuquerque, NM: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 9 p. Online: <http://www.treeseearch.fs.fed.us/pubs/41109>. In this issue:

Send in the weed eaters: Insects for biocontrol of invasive alien plants

No place like home: Determining distribution of rare species to make conservation management choices

Botanists make much use of time

Big basin, great problems: Working together to find management solutions

An ecosystem in need of attention and respect

First stewards, familiar scientists: Intertribal Nursery Council exchanges ideas to preserve native plants

Award-winning collaborations

Breeding system and interaccessional hybridization of *Purshia tridentata* plants grown in a common garden. Pendleton, Rosemary L.; McArthur, E. Durant; Sanderson, Stewart C. 2012. *Western North American Naturalist*. 72(2): 241-249. Online: <http://www.treeseearch.fs.fed.us/pubs/41388>.

Cheating cheatgrass: New research to combat a wily invasive weed. Wells, Gail. 2012. *Fire Science Digest*. 13(May): 1-8. Online: <http://www.treeseearch.fs.fed.us/pubs/41108>.

Established native perennial grasses out-compete an invasive annual grass regardless of soil water and nutrient availability. McGlone, Christopher M.; Sieg, Carolyn Hull; Kolb, Thomas E.; Nietupsky, Ty. 2011. *Plant Ecology*. doi: 10.1007/s11258-011-9992-1. Online: <http://www.treeseearch.fs.fed.us/pubs/41251>.

Germination response of prairie dropseed and hairy goldaster to stratification and temperature. Roemmich, Aurora R.; Butler, Jack L.; Larson, Gary E.; Turnipseed, E. Brent. 2012. *The Prairie Naturalist*. 44(1): 30-38. Online: <http://www.treeseearch.fs.fed.us/pubs/41523>.

It works both ways: How scientists and managers join forces to conserve today's natural resources. Bagne, Karen; Finch, Deborah. 2012. *GSD [Grasslands, Shrublands and Desert] Update* (No. 6). Albuquerque, NM: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 7 p. Online: <http://www.treeseearch.fs.fed.us/pubs/41330>. In this issue:

Vulnerability assessment in practice: Assessing what managers need

Great Plains Workshop: What does climate change mean for me?

Climate change and the American Southwest: Finding the right scale

Climate, genes and topography reveal a surprising story

There's no place like home: Taking stock of native plant transfer guidelines

Viability of blackbrushseed (*Coleogyne ramosissima* Torr. [Rosaceae]) following long-term storage. Pendleton, Rosemary; Pendleton, Burton K.; Meyer, Susan E.; Carlson, Stephanie; Morrison, Elizabeth. 2012. *Native Plants*. 13(1): 5-13. Online: <http://www.treesearch.fs.fed.us/pubs/41525>.

Human dimensions

Accounting for heterogeneity of public lands in hedonic property models. Ham, Charlotte; Champ, Patricia A.; Loomis, John B.; Reich, Robin M. 2012. *Land Economics*. 88(3): 444-456. Online: <http://www.treesearch.fs.fed.us/pubs/41621>.

A comparative gradient approach as a tool for understanding and managing urban ecosystems. Boone, Christopher G.; Cook, Elizabeth; Hall, Sharon J.; Nation, Marcia L.; Grimm, Nancy B.; Raish, Carol B.; Finch, Deborah M.; York, Abigail M. 2012. *Urban Ecosystems*. doi: 10.1007/s11252-012-0240-9. Online: <http://www.treesearch.fs.fed.us/pubs/40752>.

Ethical implications of democratic theory for U.S. public participation in environmental impact assessment. Hourdequin, Marion; Landres, Peter; Hanson, Mark J.; Craig, David R. 2012. *Environmental Impact Assessment Review*. 35: 37-44. Online: <http://www.treesearch.fs.fed.us/pubs/41126>.

Inventory, monitoring, and analysis

Mapping vegetation structure in the Pinaleno Mountains using lidar phase 3: Forest inventory modeling. Mitchell, Brent; Waltherman, Mike; Mellin, Tom; Wilcox, Craig; Lynch, Ann M.; [and others]. 2012. RSAC-10007-RPT1. Washington, DC: U.S. Department of Agriculture, Forest Service, Remote Sensing Applications Center. 17 p. Online: <http://www.treesearch.fs.fed.us/pubs/41783>.

Science application and integration

Combined use of airborne lidar and DBInSAR data to estimate LAI in temperate mixed forests. Peduzzi, Alicia; Wynne, Randolph H.; Thomas, Valerie A.; [and others]. 2012. *Remote Sensing*. 4:1758-1780.

Creating historical range of variation (HRV) time series using landscape modeling: Overview and issues (Chapter 8). Keane, Robert E. 2012. In: Wiens, John A.; Hayward, Gregory D.; Safford, Hugh D.; Giffen, Catherine M., eds. *Historical environmental variation in conservation and natural resource management*. West Sussex, UK: John Wiley and Sons, Ltd: 113-127. Online: <http://www.treesearch.fs.fed.us/pubs/41490>.

Estimating leaf area index in intensively managed pine plantations using airborne laser scanner data. Peduzzi, Alicia; Wynne, Randolph H.; Fox, Thomas R.; Nelson, Ross F.; Thomas, Valerie. 2012. *Forest Ecology and Management*. 270: 54-65.

Modeling historic variation and its application for understanding future variability (section 3). Keane, Robert E. 2012. In: Wiens, John A.; Hayward, Gregory D.; Safford, Hugh D.; Giffen, Catherine M., eds. *Historical environmental variation in conservation and natural resource management*. West Sussex,

UK: John Wiley and Sons, Ltd: 111-112. Online: <http://www.treesearch.fs.fed.us/pubs/41489>.

Modeling percent tree canopy cover: A pilot study. Coulston, John W.; Moisen, Gretchen G.; Wilson, Barry T.; [and others]. 2012. *Photogrammetric Engineering & Remote Sensing*. 78(7):715-727. Online: <http://www.treesearch.fs.fed.us/pubs/40860>.

Predicting post-fire hillslope erosion in forest lands of the western United States. Miller, Mary Ellen; MacDonald, Lee H.; Robichaud, Peter R.; Elliot, William J. 2011. *International Journal of Wildland Fire*. 20: 982-999. Online: <http://www.treesearch.fs.fed.us/pubs/41632>.

Probabilistic assessment of wildfire hazard and municipal watershed exposure. Scott, J.; Helmbrecht, D.; Thompson, M.P.; Calkin, D.E.; Marcille, K. 2012. *Natural Hazards*. 64(1): 707-728.

Profiling of poorly stratified smoky atmospheres with scanning lidar. Kovalev, Vladimir; Wold, Cyle; Petkov, Alexander; Hao, Wei Min. 2012. In: Papayannis, Alexandros; Balis, Dimitrios; Amiridis, Vassilis, eds. *Reviewed and Revised Papers, Volume 1: 26th International Laser Radar Conference; 2012 June 25-29; Porto Heli, Greece*. International Coordination Group for Laser Atmospheric Studies: 289-292. Online: <http://www.treesearch.fs.fed.us/pubs/41390>.

Recent advances in applying decision science for managing national forests. Marcot, B.G.; Thompson, M.P.; Runge, M.D.; [and others]. 2012. *Forest Ecology and Management*. doi:10.1016/j.foreco.2012.08.024.

Resource allocation for wildland fire suppression planning using a stochastic program. Masarie, Alex Taylor. 2011. Fort Collins, CO: Colorado State University. Thesis. 80 p. Online: <http://www.treesearch.fs.fed.us/pubs/41671>.

A risk-based premium approach to wildland fire finance and planning. Thompson, M.P.; Calkin, D.E.; Finney, M.; Gebert, K.M.; Hand, M.S. 2012. *Forest Science*. doi: 10.5849/forsci.09-124.

The science and opportunity of wildfire risk assessment (Chapter 6). Thompson, M.P.; Ager, A.A.; Finney, M.A.; Calkin, D.E.; Vaillant, N.M. 2012. In: *Novel approaches and their applications in risk assessment*. Rijeka, Croatia: InTech.

A sense of place: Ecoregional design at Mesa Verde National Park. Bailey, Robert G. 2012. *American Bungalow*. 73: 62-73. Online: <http://www.treesearch.fs.fed.us/pubs/41326>.

Wilderness research

Beyond naturalness: Adapting wilderness stewardship to an era of rapid global change. Cole, David N. 2012. *International Journal of Wilderness*. 18(2) 9-14.

Mapping wilderness character in Death Valley National Park. Tricker, James; Landres, Peter; Dingman, Sandee; [and others]. 2012. *Natural Resource Report NPS/DEVA/NRR-2012/503*. Fort Collins, CO: U.S. Department of the Interior, National

Park Service, Natural Resource Stewardship and Science. 82 p. Online: <http://www.treesearch.fs.fed.us/pubs/40573>.

Mapping wilderness character: New tools for new concepts.

Tricker, James. 2012. *International Journal of Wilderness*. 18(1): 25, 40. Online: <http://www.treesearch.fs.fed.us/pubs/41125>.

Traditional wisdom and climate change: contribution of wilderness stories to adaptation and survival.

Watson, Alan E.; Stumpff, Linda Moon; Jennifer Meidinger. 2012. *International Journal of Wilderness*. 18(2) 21-25.

Wildlife and terrestrial habitats

Decline of red-eared sliders (*Trachemys scripta elegans*) and Texas spiny softshells (*Apalone spinifera emoryi*) in the Lower Rio Grande Valley of Texas.

Brown, Donald J.; Schultz, Amanda D.; Dixon, James R.; Dickerson, Brian E.; Forstner, Michael R.J. 2012. *Chelonian Conservation and Biology*. 11(1): 138-143. Online: <http://www.treesearch.fs.fed.us/pubs/41569>.

Estimating abundance of mountain lions from unstructured spatial sampling.

Russell, Robin E.; Royle, J. Andrew; Desimone, Richard; Schwartz, Michael K.; Edwards, Victoria L.; Pilgrim, Kristy P.; McKelvey, Kevin S. 2012. *The Journal of Wildlife Management*. doi: 10.1002/jwmg.412. Online: <http://www.treesearch.fs.fed.us/pubs/41247>.

Evaluating the sufficiency of protected lands for maintaining wildlife population connectivity in the northern Rocky Mountains.

Cushman, Samuel A.; Landguth, Erin L.; Flather, Curtis H. 2012. *Diversity and Distributions*. 18: 873-884. Online: <http://www.treesearch.fs.fed.us/pubs/40713>.

Genetic relatedness and spatial associations of dusky-footed woodrats (*Neotoma fuscipes*).

Innes, Robin J.; McEachern, Mary Brooke; Van Vuren, Dirk H.; [and others]. 2012. *Journal of Mammalogy*. 93(2): 439-446. Online: <http://www.treesearch.fs.fed.us/pubs/41393>.

Land-cover change and avian diversity in the conterminous United States.

Rittenhouse, Chadwick D.; Pidgeon, Anna M.; Albright, Thomas P.; [and others]. 2012. *Conservation Biology*. 26(5): 821-829. Online: <http://www.treesearch.fs.fed.us/pubs/41588>.

Observation of dystocia in wild elk.

Lehman, Chad P.; Schmitz, Lowell E.; Rumble, Mark A.; [and others]. 2012. *Western North American Naturalist*. 72(2): 250-251. Online: <http://www.treesearch.fs.fed.us/pubs/41320>.

Out of the mists comes knowledge of little-known endemics, as researchers band together to predict a no-analog future.

Elizondo, Pablo; Ralph, C. John; Wolfe, Jared D. 2011. *The All-Bird Bulletin Fall/Winter 2011*: 6-7, 22. Online: <http://www.treesearch.fs.fed.us/pubs/41501>.

Roost use by two sympatric species of *Scotophilus* in a natural environment.

Monadjem, Ara; Raabe, Tara; Dickerson, Brian; Silvy, Nova; McCleery, Robert. 2010. *South African Journal of Wildlife Research*. 40(1): 73-76. Online: <http://www.treesearch.fs.fed.us/pubs/41570>.

Small geographic range but not panmictic: how forests structure the endangered Point Arena mountain beaver (*Aplodontia rufa nigra*).

Zielinski, William J.; Schlexer, Fredrick Z.; Parks, Sean A.; Pilgrim, Kristine L.; Schwartz, Michael K. 2012. *Conservation Genetics*. doi: 10.1007/s10592-012-0387-1. Online: <http://www.treesearch.fs.fed.us/pubs/41335>.

US Forest Service Research and Development (USFS R/D) national science strategy on white nose syndrome (WNS).

Amelon, Sybill; Brooks, Robert T.; Friggens, Megan; Lynch, Ann; [and others]. 2012. Washington, DC: U.S. Department of Agriculture, Forest Service. 18 p. Online: <http://www.treesearch.fs.fed.us/pubs/41786>.

Weathered antlers as a source of DNA.

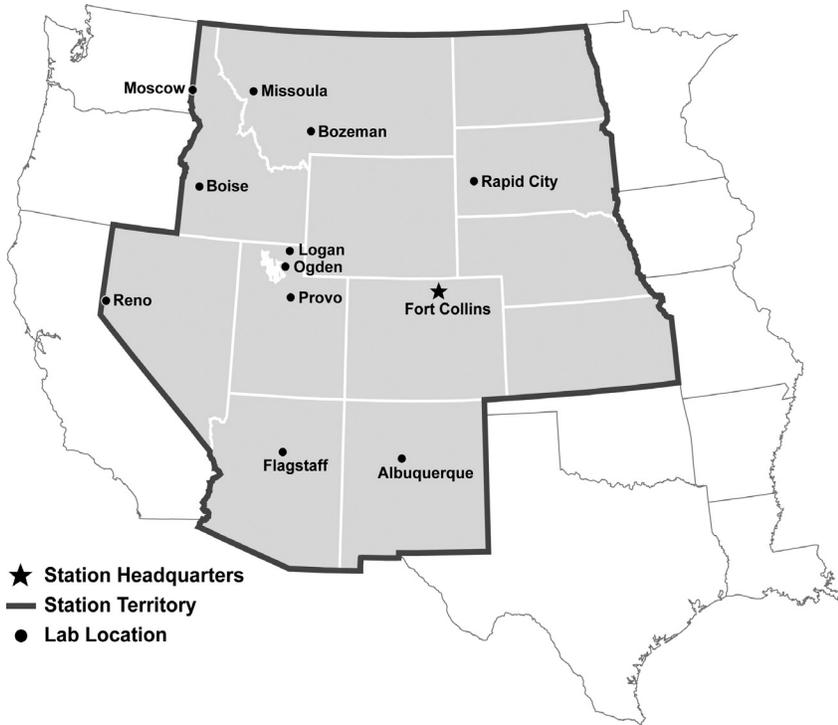
Lopez, Roy G.; Beier, Paul. 2012. *Wildlife Society Bulletin*. 36(2): 380-382. Online: <http://www.treesearch.fs.fed.us/pubs/41248>.

Author Index

- A**
- Abdo, Z. 12
 Abt, Steven R. 8, 9
 Ager, A.A. 13
 Albright, Thomas P. 14
 Amacher, Michael C. 5
 Amelon, Sybill 14
 Amish, S.J. 8
 Anantharaj, Valentine G. 11
 Anderson, Kerry 10
 Anjozian, Lisa-Natalie 12
 Ashiglar, Sara M. 11
 Ashmun, Louise E. 11
 Austin, Brian 11
- B**
- Bacciu, Valentina 11
 Bagne, Karen 12
 Bagne, Karen E. 3
 Bailey, Robert G. 13
 Battaglia, M.A. 10, 11
 Beier, Paul 14
 Bentz, Barbara J. 6
 Berndes, Goran 9
 Beyers, J. 11
 Birdsall, Jennifer L. 12
 Boerner, Ralph E. J. 10
 Bolton, Susan 9
 Boone, Christopher G. 13
 Boose, David 12
 Bradshaw, Larry 4
 Brantley, Sandra L. 4
 Bright, Benjamin C. 11
 Brooks, Jeffrey J. 5
 Brooks, Robert T. 14
 Broos, Alyssa 10
 Brown, Donald J. 14
 Burling, I.R. 10
 Burton, Timothy A. 9
 Butler, Bret W. 10
 Butler, Jack L. 4, 12
- C**
- Cadol, Daniel 9
 Calkin, D.E. 4, 9, 10, 13
 Campbell, N.R. 8
 Canfield, J.M. 11
 Carlson, Stephanie 13
 Carol, Mike D. 10
 Cartron, Jean-Luc E. 4
 Chambers, Jeanne C. 4, 9
 Chambers, Jeanne K. 4
 Champ, Patricia A. 9, 13
 Chen, Hui 6
 Clark, Fred 12
 Clement, Suzette 12
 Cochrane, M.A. 10
 Coe, Sharon J. 4
 Cohen, J.D. 4, 10
 Cole, David N. 5, 13
 Collins, B. 11
 Comiti, Francesco 9
 Cook, Elizabeth 13
 Cooke, William H. 11
- Cooper, David J. 3
 Coulston, John W. 13
 Cox, Amanda L. 8, 9
 Crabb, Benjamin A. 6
 Craig, David R. 13
 Cram, Michelle M. 11, 12
 Crookston, Nicholas L. 12
 Cunningham, P. 11
 Cushman, Samuel A. 14
- D**
- Daley, Rob 8
 David N. Cole 5
 Desimone, Richard 14
 Diaz-Chavez, Rocio 9
 Dickerson, Brian E. 14
 Dingman, Sandee 13
 Dixon, James R. 14
 Dumroese, R.K. 4, 11, 12
 Dupuy, J.-Luc 10, 11
 Duval, Pierre 11
 Dwire, Kathleen 9, 11
- E**
- Edminster, C. 10, 11
 Edwards, Victoria L. 14
 Elizondo, Pablo 14
 Elliot, W.J. 9, 13
 Epron, Daniel 8
- F**
- Fall, Mamadou 9
 Ffolliott, P.F. 6, 9
 Finch, Deborah 12
 Finch, Deborah M. 3, 4, 13
 Finney, M.A. 4, 10, 13
 Flather, Curtis H. 3, 14
 Foltz, R.B. 9, 11
 Ford, Paulette L. 4
 Forstner, Michael R.J. 14
 Fox, Thomas R. 13
 Frank, Michelle S. 11
 Friggens, Megan M. 4, 14
 Fule, P. 10, 11
- G**
- Gebert, K.M. 13
 Gerez-Fernandez, Patricia 12
 Germanoski, Dru 9
 Germino, M.J. 11
 Gilman, J.B. 10
 Goeking, Sara A. 5
 Goode, Jaime R. 9
 Goodrich, Betsy A. 11
 Gottfried, G.J. 6, 8, 9
 Gould, William R. 8
 Graham, Russell 4
 Gray, Kathy 11
 Grenfell, I. 10
 Grimm, Nancy B. 13
 Gucker, Corey L. 10
- H**
- Hadlow, A. 10
 Hall, Sharon J. 13
 Hall, Troy 5
 Ham, Charlotte 13
- Hand, M.S. 13
 Hanna, John W. 11
 Hanson, Mark J. 13
 Hao, W.M. 8, 9, 11, 13
 Harrison, Steven 12
 Hayes, Deborah 9
 Helmbrecht, D.J. 10, 13
 Henderson, V. 8
 Herynk, Jason 9
 Hicke, Jeffrey A. 11
 Hipkins, Valerie 11
 Hoffman, Chad M. 10
 Hollingsworth, LaWen T. 9
 Holmes, Tom 10
 Hourdequin, Marion 13
 Hubbard, R. 11
 Hudak, Andrew T. 11
 Hunter, M. 11
 Hunter, Molly E. 10
 Hyde, Kevin D. 10
- I**
- Iniguez, Jose M. 10
 Innes, Robin J. 14
- J**
- James, Robert L. 11
 Jaquish, Barry 12
 Jenkins, Michael J. 12
 Jennifer Meidinger 14
 Jolly, W.M. 10, 11
 Joyce, Linda A. 11
- K**
- Keane, Robert E. 7, 10, 11, 13
 Kim, M. -S. 11, 12
 Kitchen, Stanley G. 4, 10
 Klopfenstein, N.B. 11, 12
 Koestner, K.A. 8, 9, 10
 Koestner, P.E. 8
 Kolb, Thomas E. 12
 Koo, Eunmo 10
 Kopyscianski, Ben 9
 Kovalev, Vladimir 8, 13
 Kray, Julie 11
 Kurth, Laurie L. 9
- L**
- Lamb, B.K. 11
 Landguth, Erin L. 14
 Landres, Peter 13
 Larson, Gary E. 12
 LeDee, Olivia 4
 Lehman, Chad P. 14
 Leirfallom, Signe 11
 Leites, Laura P. 12
 Lentile, Leigh B. 10
 Lewis, Sarah A. 11
 Liebermann, Robert J. 11
 Li, Guolei 11
 Lindig-Cisneros, Roberto A. 11
 Linn, R.R. 10, 11
 Li, Qingmei 11
 Liu, Yong 11
 Li, Zhanqing 9
 Loehman, Rachel 9
 Loftus, Andrew J. 3
- Loomis, John B. 13
 Lopez, Roy G. 14
 Lord, Mark L. 9
 Lynch, Ann M. 12, 13, 14
- M**
- MacDonald, Lee H. 13
 Mallams, Katy M. 11
 Mao, Luca 9
 Marcille, K. 13
 Marcot, B.G. 13
 Masarie, Alex Taylor 13
 Mason, Larry 12
 McAllister, S. 10
 McArthur, E. Durant 12
 McCaughey, Ward 12
 McCleery, Robert 14
 McDonald, GERALD I. 11
 McEachern, Mary Brooke 14
 McGlone, Christopher M. 12
 McHugh, Charles W. 9
 McHugh, Chuck 4
 McIver, Chelsea 5
 McKelvey, Kevin S. 14
 McKelvey, K.M. 8
 McMillin, Joel D. 10
 Mellin, Tom 13
 Menlove, Jim 5
 Merritt, David M. 3
 Meyer, Kristen E. 9
 Meyer, Susan E. 4, 12, 13
 Miller, C. 10
 Miller, Jerry R. 9
 Miller, Mary Ellen 13
 Mitchell, Brent 13
 Moghaddas, Jason J. 10
 Moisen, Gretchen G. 13
 Monadjem, Ara 14
 Moran, C.J. 10
 Morgan, Todd A. 5
 Morishima, Gary 12
 Morrison, Elizabeth 13
 Mostovoy, Georgy V. 11
- N**
- Nation, Marcia L. 13
 Neary, D.G. 6, 8, 9, 10
 Nelson, Ralph M. 10
 Nelson, Ross F. 13
 Neto, Andre Elia 9
 Nietupsky, Ty 12
 Nikolov, Ned 4
 Nordgren, B. 11
 Nouvellon, Yann 8
- O**
- Ottmar, Roger D. 9
 Owen, Tracy Elizabeth 8
- P**
- Page, Wesley G. 12
 Pagni, Patrick J. 10
 Parks, S.A. 10, 14
 Parresol, Bernard R. 9
 Parsons, Russell 10
 Patla, Debra A. 8
 Patterson, Paul L. 6

- Peduzzi, Alicia 13
 Pendleton, Burton C. 4
 Pendleton, Burton K. 13
 Pendleton, Rosemary 4, 12, 13
 Peppin, D. 11
 Petkov, Alexander 8, 13
 Phipps, John 10
 Pidgeon, Anna M. 14
 Pilgrim, Kristine L. 14
 Pilgrim, Kristy P. 14
 Pimont, F. 10, 11
 Pinto, Jeremiah R. 4
 Poff, B. 8
 Powell, James A. 6
 Prichard, Susan J. 9
 Prichard, V.L. 8
- R**
 Raabe, Tara 14
 Raish, Carol B. 13
 Ralph, C. John 14
 Rehfeldt, Gerald E. 11, 12
 Reich, Robin M. 13
 Rhoades, C.C. 10
 Rhoades, M. 11
 Richards,
 Christopher 11
 Richardson, Bryce A. 4
 Rieck, Jon 10
 Riegel, Gregg M. 9
 Rittenhouse, Chadwick D. 14
 Robichaud, Peter R. 10, 11, 13
 Robichaud, P.R. 9, 11
 Robinson, Andrew P. 12
 Rocca, M.E. 10
- Roemmich, Aurora R. 12
 Ross-Davis, Amy L. 11
 Royle, J. Andrew 14
 Rumble, Mark A. 4, 14
 Runge, M.D. 13
 Runyon, Justin B. 4, 12
 Russell, Robin E. 14
 Rustad, Lindsey 9
 Ryan, Kevin C. 10
 Ryan, M.G. 8, 10
 Ryan, Sandra E. 9, 11
- S**
 Saenz-Romero, Cuauhtemoc 11
 Sanderson, Stewart C. 12
 Schlexer, Fredrick Z. 14
 Schmetterling, David A. 8
 Schmitz, Lowell E. 14
 Schoettle, Anna W. 11
 Schramm, Amanda 9
 Schultz, Amanda D. 14
 Schwartz, Michael K. 14
 Sclafani, Paul 8
 Scott, J. 13
 Scott, J.H. 10
 Seekamp, Erin 5
 Shaw, John D. 5
 Shaw, Nancy L. 4
 Short, Karen C. 9
 Sieg, C. 11
 Sieg, Carolyn Hull 10, 12
 Sikkink, Pamela G. 7
 Silvy, Nova 14
 Sing, Sharlene E. 4
 Sin, Kyung-Seop 8
 Smith, D. Max 4
- Sorensen, Colin 5
 Stephens, Scott L. 10
 Stewart, J.E. 12
 Stratton, Rick 4
 Stropki, Cody L. 6
 Stumpff, Linda Moon 14
- T**
 Tecle, A. 8
 Thomas, Valerie 13
 Thomas, Valerie A. 13
 Thomey, Michell L. 8
 Thompson, Matt 10
 Thompson, Matthew P. 9, 10
 Thompson, Michael T. 5
 Thompson, M.P. 13
 Thornton, Christopher I. 8, 9
 Tricker, James 13, 14
 Trosper, Ronald L. 12
 Turnipseed, E. Brent 12
- U**
 Urbanski, S.P. 11
 Ursic, Michael E. 8, 9
- V**
 Vaillant, N.M. 13
 Van Vuren, Dirk H. 14
 Varner, J. Morgan 10
 Venn, Tyron J. 9
 Villarroel, Lionel F. 9
- W**
 Wagenbrenner, Joseph W.; 10
 Wagenbrenner, N.S. 11
 Waltermann, Mike 13
 Wang, Pucui 9
- Wang, Shigong 9
 Wang, Yuesi 9
 Warwell, Marcus V. 4
 Watson, Alan E. 5, 12, 14
 Weise, David R. 10
 Wells, Gail 12
 Werstak, Charles 5
 Westfall, Breann 9
 White, Germaine 12
 Wilcox, Craig 13
 Williams, Daniel R. 5
 Wilson, Barry T. 13
 Wimberly, M.C. 10
 Winterkamp, Judith 10
 Witt, Chris 5
 Wohl, Ellen 9
 Wold, Kyle 8, 13
 Wolfe, Jared D. 14
 Wotton, Michael 10
 Wynne, Randolph H. 13
- X**
 Xin, Jinyuan 9
- Y**
 Yazzie, J.H. 9
 Yokelson, R.J. 10
 York, Abigail M. 13
 Youberg, Ann 8, 9, 10
 Youngblood, Natalie A. 8
 Young, Michael K. 8
- Z**
 Zhu, Yan 11
 Zielinski, William J. 14

The Rocky Mountain Research Station



- ★ Station Headquarters
- Station Territory
- Lab Location

The Rocky Mountain Research Station is one of five regional units that make up the US Forest Service Research and Development organization—the most extensive natural resources research organization in the world. We maintain 14 research locations throughout a 12 state territory encompassing the Great Basin, Southwest, Rocky Mountains and parts of the Great Plains. The Station employs over 400 permanent full-time employees, including roughly 100 research scientists.

Scientists conduct research that spans an area containing 52% of the nation's National Forest System lands (54 National Forests and Grasslands). In the lower 48 states, our territory also includes 55% of the nation's BLM lands; 48% of the designated wildernesses; 37% of National Park Service lands; numerous other public and tribal lands; and 41% of the non-urban/rural private lands.

We administer and conduct ecological research on 14 experimental forests, ranges, and watersheds over the long-term, even centuries, enabling us to learn how forests change as climate and other factors change over time.

We also oversee activities on several hundred research natural areas, a network of ecosystems set aside to conserve biological diversity. The areas represent a wide variety of habitats and ecosystems from alpine ecosystems to lowlands; and from coniferous forests of the Northern Rockies to semiarid deserts of the Southwest and prairie ecosystems of the Great Plains.



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Federal Recycling Program  Printed on Recycled Paper

Science Program Areas

The Rocky Mountain Research Station is evolving from a Station with 30 research work units (including ecosystem management units and national programs) to a comprehensive programmatic structure consisting of eight Science Program areas and several Research, Development and Applications programs. Descriptions of the Science Program areas follow below.

Air, Water and Aquatic Environments

Air quality, water availability, water quality, and aquatic habitats are critical issues within the rapidly changing Western United States. The Air, Water and Aquatic Environments program is committed to the development of knowledge and science applications related to air and water quality, as well as the habitat quality, distribution, diversity, and persistence of fish and other aquatic species. Website: http://www.fs.fed.us/rm/boise/awae_home.shtml. Contact Frank McCormick, Program Manager, for more information: 208-373-4351.

Fire, Fuel and Smoke

The Fire, Fuel and Smoke program works to improve the safety and effectiveness of fire management through the creation and dissemination of basic fire science knowledge. The program investigates the impacts of fires on the environment by means of fundamental and applied research for understanding and predicting fire behavior, its effects on ecosystems, and its emissions into the atmosphere. Website: <http://www.firelab.org>. Contact Colin Hardy, Program Manager, for more information: 406-329-4978.

Forest and Woodland Ecosystems

Forests and woodlands are increasingly being impacted by large scale urbanization and human developments, uncharacteristically large and severe wildfires, insect and disease outbreaks, exotic species invasions, and drought, and interactions of multiple stressors at local, landscape, and regional scales. The Forest and Woodland Ecosystems program acquires, develops, and delivers the scientific knowledge for sustaining and restoring forests and woodlands landscape health, biodiversity, productivity, and ecosystem processes. Website: <http://www.fs.fed.us/rmrs/research/programs/forest-woodlands-ecosystem/>. Contact Tom Crow, Program Manager, for more information: 970-498-1378.

Grassland, Shrubland and Desert Ecosystems

Disruptions by large-scale clearing for agriculture, water diversions, extensive grazing, changes in the native fauna, the advent of alien weeds, altered fire regimes, and increases in human-caused insect and disease epidemics have contributed to produce areas that are in unsuitable condition. The Grassland, Shrubland and Desert Ecosystems program addresses the biology, use, management, and restoration of these grass and shrublands. Website: <http://www.fs.fed.us/rmrs/research/programs/grassland-shrubland-desert/>. Contact Debbie Finch, Program Manager, for more information: 505-724-3671.

Human Dimensions

The Human Dimensions program provides social and economic science based innovation to human societies as they develop a sustainable relationship with their environment. Major issues confronting societies across the globe such as global climate change, energy, fire, water, and ecosystem services all have important social-economic dimensions that will be explored and addressed by this program. Website: <http://www.fs.fed.us/rmrs/research/programs/social-economics-decision/>. Contact Cindy Swanson, Program Manager for more information: 406-329-3388.

Inventory, Monitoring and Analysis

The Inventory, Monitoring and Analysis program provides the resource data, analysis, and tools needed to effectively identify current status and trends, management options and impacts, and threats and impacts of fire, insects, disease, and other natural processes. Website: <http://www.fs.fed.us/rm/ogden/>. Contact Michael Wilson for more information: 801-625-5407.

Science Application and Integration

The Science Application and Integration program is a knowledge transfer unit that provides leadership for the integration and use of scientific information in natural resource planning and management across the Interior West.

Wildlife and Terrestrial Ecosystems

The Wildlife and Terrestrial Ecosystems program is engaged in sustaining species and ecosystems of concern through studies of ecological interactions within and between plant, aquatic, and terrestrial animal communities; understanding public use effects through studies elucidating social and economic values associated with consumptive and non-consumptive uses of fish and wildlife; managing terrestrial and aquatic habitats; and evaluating outcomes of land and water uses and natural disturbances. Website: <http://www.rmrs.nau.edu/wildlife/>. Contact William Block, Program Manager, for more information: 928-556-2161.

NAME _____
ADDRESS _____
CITY/STATE/ZIP _____

Affix
first-class
postage
stamp

Publications Distribution
Rocky Mountain Research Station
USDA Forest Service
240 W. Prospect Road
Fort Collins, CO 80526-2098 U.S.A.

Contact us

Mail: Publications
Rocky Mountain Research Station
240 W. Prospect Road
Fort Collins, CO 80526 U.S.A.

Phone: (970) 498-1392
Fax: (970) 498-1122
E-Mail: rschneider@fs.fed.us
Web site: <http://www.fs.fed.us/rm/publications>

How to Order

With name label on order card:

1. Circle desired current order number on order form located on back cover (e.g., #6: RMRS-GTR-209).
2. Cut off postcard, affix correct postage, and mail.

Without name label on order card:

1. Print your name and address on label.
2. Follow steps 1 and 2 above.

By phone or electronically:

Use the contact media listed above.

PRSRT STD
POSTAGE AND FEES PAID
USDA-FS
PERMIT NO. G-40

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ROCKY MOUNTAIN RESEARCH STATION
240 W. PROSPECT ROAD
FORT COLLINS, COLORADO 80526-2098 U.S.A.

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

July to September 2012

Order #
33 37 41
34 38 42
35 39 43
36 40

Please take my name off the mailing list.
 I would like to receive the New Publication List as an e-mail (no paper copy will be sent). My e-mail is: _____



----- Cut along line -----

Your name will remain on the mailing list unless you ask that we remove it.
Please make address corrections above.