



New Publications

October to December 2011

Integrated Science Working for You



Contents

New Series Publications

Multicentury fire and forest histories: Utah and eastern Nevada 3

Interpolation of climate scenarios: USA and Alaska. 3

Invasive species visionary white paper. . . 3

Bioenergy production systems: Potential renewable energy 3

Living with wildfire: Boulder County, Colorado. 4

Living with wildfire: Larimer County, Colorado. 4

Journals and Other Publications

Air, water, and aquatic environments 5

Fire, fuel, and smoke 6

Forest and woodland ecosystems 9

Grasslands, shrublands, and desert ecosystems 10

Human dimensions 11

Inventory, monitoring, and analysis. . . . 11

Science application and integration 11

Wilderness research 11

Wildlife and terrestrial habitats 11

Author Index 12

Ordering Information Inside back cover
 Contact Us Inside back cover

Publications also available at:
<http://www.fs.fed.us/rm/publications>

The Rocky Mountain Research Station



The Rocky Mountain Research Station is one of five regional units that make up the USDA 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 more than 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 research on 14 experimental forests, ranges and watersheds while maintaining long-term databases for these areas. We also oversee activities on more than 260 Research Natural Areas and lead ecosystem management and research partnership projects in Arizona, Montana, New Mexico, and Nevada.

For more information, please visit us on the Web at: <http://www.fs.fed.us/rmrs>.



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.

New RMRS Series Publications

Multicentury fire and forest histories

Web only

Multicentury fire and forest histories at 19 sites in Utah and eastern Nevada. Heyerdahl, Emily K.; Brown, Peter M.; Kitchen, Stanley G.; Weber, Marc H. 2011. Gen. Tech. Rep. RMRS-GTR-0261WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky mountain Research Station. 192 p.

Our objective is to provide site-specific fire and forest histories from Utah and eastern Nevada that can be used for land management or additional research. This report summarizes local-scale spatial and temporal variation with site-specific details of historical fire regimes and forests that will be useful for local natural resource and fire management of the individual sites.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr261.html.

Interpolation of climate scenarios: USA and Alaska

Order 28

High resolution interpolation of climate scenarios for the conterminous USA and Alaska derived from general circulation model simulations. Joyce, Linda A.; Price, David T.; McKenney, Daniel W.; Siltanen, R. Martin; Papadopol, Pia; Lawrence, Kevin; Coulson, David P. 2011. Gen. Tech. Rep. RMRS-GTR-263. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 87 p.

Projections of future climate were selected for four well-established general circulation models (GCM) forced by each of three greenhouse gas (GHG) emissions scenarios, namely A2, A1B, and B1 from the Intergovernmental Panel on Climate Change (IPCC) Special Report on Emissions Scenarios (SRES). The downscaled change factors from this study are being used with historical climatology developed from the PRISM climate data set to develop the climate projections for the RPA scenarios in the USDA FS RPA assessment. A companion report and data set will be issued by Natural Resources Canada (Canadian Forest Service) for Canada.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr263.html.

Invasive species visionary white paper

Order 29

Rocky Mountain Research Station invasive species visionary white paper. Pearson, D.E.; Kim, M.; Butler, J., eds. 2011. Gen. Tech. Rep. RMRS-GTR-265. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 38 p.

We provide an overview of recent and ongoing invasive species research conducted by Rocky Mountain Research Station scientists in the Intermountain West in order to familiarize managers with the Station and its products. We also provide several links to continuously updated websites and a periodic newsletter that covers Rocky Mountain Research Station's invasives species research.

Online: http://www.fs.fed.us/rm/pubs/rmrs_gtr265.html.

Bioenergy production systems: Potential renewable energy

Order 30

Bioenergy production systems and biochar application in forests: Potential for renewable energy, soil enhancement, and carbon sequestration. McElligott, Kristin; Page-Dumroese, Deborah; Coleman, Mark. 2011. Res. Note RMRS-RN-46. Fort Collins, CO; U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 14 p.

In this review, we evaluate the potential for mobile bioenergy systems and the environmental implications of biochar application in forests. Using forest biomass that accumulates annually during forest harvest operations, bioenergy can be produced on-site and the biochar that is generated can be redistributed to return nutrients and help improve water holding capacity of the site. Some sites may benefit from biochar application, while others show no or negative responses. Field studies on soil and vegetation responses combined with laboratory studies will elucidate the best sites for biochar application and sustainable bioenergy production.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rn046.html.

**Living with wildfire:
Boulder County, CO****Web only**

Living with wildfire in Boulder County, Colorado, 2007. Champ, Patricia A.; Brenkert-Smith, Hannah; Flores, Nicholas. 2011. Res. Note RMRS-RN-47WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 26 p.

The devastating impact of wildfire on residents living in fire prone areas has become an all too common media story in recent years. While significant efforts have been made to inform residents in fire prone areas of the risk, it is not clear to what extent property owners are taking action to reduce risk. Likewise, we know little about what factors are related to taking action to reduce risk. In an effort to explore these issues further and to better characterize the wildland urban interface (WUI) residents of Boulder County, Colorado, a general population survey of WUI residents was implemented. The survey was designed to provide information regarding knowledge, concern, and activities related to wildfire and wildfire risk mitigation. Survey results suggest that word had gotten out about wildfire risk as most survey respondents knew about the risk when they decided to purchase a home in a fire prone area. Likewise, survey respondents expressed concern that a wildfire would damage their home or property. Completing more wildfire risk mitigation actions was found to be related to first-hand experience with wildfire and perceptions of wildfire risk.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rn047.html.

**Living with wildfire:
Larimer County, CO****Web only**

Living with wildfire in Larimer County, Colorado, 2007. Champ, Patricia A.; Brenkert-Smith, Hannah; Flores, Nicholas. 2011. Res. Note RMRS-RN-48WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 27 p.

The devastating impact of wildfire on residents living in fire prone areas has become an all too common media story in recent years. While significant efforts have been made to inform residents in fire prone areas of the risk, it is not clear to what extent property owners are taking action to reduce risk. Likewise, we know little about what factors are related to taking action to reduce risk. In an effort to explore these issues further and to better characterize the wildland urban interface (WUI) residents of Larimer County, Colorado, a general population survey of WUI residents was implemented. The survey was designed to provide information regarding knowledge, concern, and activities related to wildfire and wildfire risk mitigation. Survey results suggest that word had gotten out about wildfire risk as most survey respondents knew about the risk when they decided to purchase a home in a fire prone area. Likewise, survey respondents expressed concern that a wildfire would damage their home or property. Completing more wildfire risk mitigation actions was found to be related to first-hand experience with wildfire and perceptions of wildfire risk.

Online: http://www.fs.fed.us/rm/pubs/rmrs_rn048.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

Airborne and ground-based measurements of the trace gases and particles emitted by prescribed fires in the United States. Burling, I.R.; Yokelson, R.J.; Akagi, S.K.; Urbanski, Shawn; Wold, Cyle; Griffith, D.W.T.; Johnson, T.J.; Reardon, J.; Weise, D.R. 2011. Atmospheric Chemistry and Physics Discussions. 11: 18677-18727. Online: <http://www.treeseearch.fs.fed.us/pubs/39307>.

Boreal forest fire emissions in fresh Canadian smoke plumes: C₁-C₁₀ volatile organic compounds (VOCs), CO₂, CO, NO₂, NO, HCN and CH₃CN. Simpson, I.J.; Akagi, S.K.; Barletta, B.; Blake, N.J.; Choi, Y.; Diskin, G.S.; Fried, A.; Fuelberg, H.E.; Meinardi, S.; Rowland, F.S.; Vay, S.A.; Weinheimer, A.J.; Wennberg, P.O.; Wiebring, P.; Wisthaler, A.; Yang, M.; Yokelson, R.J.; Blake, D.R. 2011. Atmospheric Chemistry and Physics. 11: 6445-6463. Online: <http://www.treeseearch.fs.fed.us/pubs/39320>.

The canopy horizontal array turbulence study. Patton, Edward G.; Horst, Thomas W.; Massman, William J.; and others. 2011. Bulletin American Meteorological Society. 92: 593-611. Online: <http://www.treeseearch.fs.fed.us/pubs/39254>.

Case study of water-soluble metal containing organic constituents of biomass burning aerosol. Chang-Graham, Alexandra L.; Profeta, Luisa T.M.; Johnson, Timothy J.; Yokelson, Robert J.; Laskin, Alexander; Laskin, Julia. 2011. Environmental Science and Technology. 45: 1257-1263. Online: <http://www.treeseearch.fs.fed.us/pubs/39308>.

Climate change effects on stream and river temperatures across the northwest U.S. from 1980-2009 and implications for salmonid fishes. Isaak, D.J.; Wollrab, S.; Horan, D.; Chandler, G. 2011. Climatic Change: doi: 10.1007/s10584-011-0326-z.

Climate change impact on salmonid spawning in low-gradient streams in central Idaho, USA. Tonina, D.; McKean, J. 2010. In: Tao, J.; Chen, QI; Liang, S.-Y, eds. Proceedings, 9th International conference on hydroinformatics; September 7-10, 2010; Tianjin, China. Beijing: Chemistry Industry Press: 389-397.

Development and validation of a portable gas phase standard generation and calibration system for volatile organic compounds. Veres, P.; Gilman, J.B.; Roberts, J.M.; Kuster, W.C.; Warneke, C.; Burling, I.R.; de Gouw, J. 2010. Atmospheric Measurement Techniques. 3: 683-691. Online: <http://www.treeseearch.fs.fed.us/pubs/39305>.

Emission factors for open and domestic biomass burning for use in atmospheric models. Akagi, S.K.; Yokelson, R.J.; Wiedinmyer, C.; Alvarado, M.J.; Reid, J.S.; Karl, T.; Crounse, J. D.; Wennberg, P.O. 2010. Atmospheric Chemistry and Physics

Discussions. 10: 27523-27602. Online: <http://www.treeseearch.fs.fed.us/pubs/39297>.

Essentials of multiangle data-processing methodology for smoke polluted atmospheres. Kovalev, Vladimir; Petkov, A.; Wold, Cyle; Urbanski, Shawn; Hao, Wei Min. 2011. Romanian Journal of Physics. 56(3-4): 520-529. Online: <http://www.treeseearch.fs.fed.us/pubs/39318>.

The Fire INventory from NCAR (FINN): a high resolution global model to estimate the emissions from open burning. Wiedinmyer, C.; Akagi, S.K.; Yokelson, R.J.; Emmons, L.K.; Al-Saadi, J.A.; Orlando, J.J.; Soja, A.J. 2010. Geoscientific Model Development Discussions. 3: 2439-2476. Online: <http://www.treeseearch.fs.fed.us/pubs/39306>.

Flow structure through pool-riffle sequences and a conceptual model for their sustainability in gravel-bed rivers. Caamaño, D.; Goodwin, P.; Buffington, J.M. 2010. River Research and Application: doi: 10.1002/rra.1463.

Impacts of wildfire severity on hydraulic conductivity in forest, woodland, and grassland soils. Neary, Daniel G. 2011. In: Elango, L., ed. Hydraulic conductivity: Issues, determination and applications. Rijeka, Croatia: INTECH: 123-142.

An infrared spectral database for detection of gases emitted by biomass burning. Johnson, Timothy J.; Profeta, Luisa T.M.; Sams, Robert L.; Griffith, David W.T.; Yokelson, Robert L. 2010. Vibrational Spectroscopy. 53: 97-102. Online: <http://www.treeseearch.fs.fed.us/pubs/39299>.

Is climate change mitigation the best use of desert shrublands? Meyer, Susan E. 2011. In: Monaco, Thomas A.; Schupp, Eugene W.; Pendleton, Rosemary L.; Kitchen, Stanley G.; Pala cios, Patsy K., comps. 2011. Proceedings of the 16th wildland shrub symposium; Threats to shrubland ecosystem integrity; May 25-27 2010; Logan, UT. Natural Resources and Environmental Issues. 17. Logan: Utah State University: 1-10.

Laboratory measurements of trace gas emissions from biomass burning of fuel types from the southeastern and southwestern United States. Burling, I.R.; Yokelson, R.J.; Griffith, D.W.T.; Johnson, T.J.; Veres, P.; Roberts, J.M.; Warneke, C.; Urbanski, S.P.; Reardon, J.; Weise, D.R.; Hao, W.M.; de Gouw, J. 2010. Atmospheric Chemistry and Physics. 10: 11115-11130. Online: <http://www.treeseearch.fs.fed.us/pubs/38386>.

Lidar monitoring of regions of intense backscatter with poorly defined boundaries. Kovalev, Vladimir A.; Petkov, Alexander; Wold, Cyle; Hao, Wei Min. 2011. Applied Optics. 50(1): 103-109. Online: <http://www.treeseearch.fs.fed.us/pubs/39317>.

Measurement of HONO, HNCO, and other inorganic acids by negative-ion proton-transfer chemical-ionization mass spectrometry (NI-PT-CIMS): application to biomass burning

- emissions.** Roberts, J.M.; Veres, P.; Warneke, C.; Neuman, J.A.; Washenfelder, R.A.; Brown, S.S.; Baasandorj, M.; Burkholder, J.B.; Burling, I.R.; Johnson, T.J.; Yokelson, R.J.; de Gouw, J. 2010. Atmospheric Measurement Techniques. 3: 981-990. Online: <http://www.treesearch.fs.fed.us/pubs/36990>.
- Model comparisons for estimating carbon emissions from North American wildland fire.** French, Nancy H.F.; de Groot, William J.; Jenkins, Liza K.; Rogers, Brendan M.; Alvarado, Ernesto; Amiro, Brian; De Jong, Bernardus; Goetz, Scott; Hoy, Elizabeth; Hyer, Edward; Keane, Robert; Law, B.E.; McKenzie, Donald; McNulty, Steven G.; Ottmar, Roger; Perez-Salicrup, Diego R.; Randerson, James; Robertson, Kevin M.; Turetsky, Merritt. 2011. Journal of Geophysical Research. 116: doi: 10.1029/2010JG001469. Online: <http://www.treesearch.fs.fed.us/pubs/38490>.
- Modeling effects of climate change and fire management on western white pine (*Pinus monticola*) in the northern Rocky mountains, USA.** Loehman, Rachel A.; Clark, Jason A.; Keane, Robert E. 2011. Forests. 2: 832-860.
- MODIS-derived terrestrial primary production [chapter 28].** Zhao, Maosheng; Running, Steven; Heinsch, Faith Ann; Nemani, Ramakrishna. 2011. In: Ramachandran, Bhaskar; Justice, Christopher O.; Abrams, Michael J., eds. Land Remote Sensing and Global Environmental Change: NASA's Earth Observing System and the Science of ASTER and MODIS. Remote Sensing and Digital Image Processing, vol. 11. Springer: 635-660. Online: <http://www.treesearch.fs.fed.us/pubs/39324>.
- New tools for aquatic habitat modeling.** Tonina, D.; McKean, J.A.; Tang, C.; Goodwin, P. 2011. In: Proceedings, 34th IAHR World Congress; June 26-July 1, 2011; Brisbane, Australia: 3137-3144.
- Rock gabion, rip-rap and culvert treatments: Successes and failures in post-fire erosion mitigation, Schultz Fire 2010.** Neary, Daniel G.; Koestner, Karen A. 2011. Paper presented at the 24th annual symposium of the Arizona Hydrological Society; Watersheds near and far: Response to changes in climate and landscape; September 18-20, 2010; Flagstaff, AZ. Higley, AZ: Arizona Hydrological Society. 5 p.
- Seasonal soil CO₂ flux under big sagebrush (*Artemisia tridentata* Nutt.).** Amacher, Michael C.; Mackowiak, Cheryl L. 2011. In: Monaco, Thomas A.; Schupp, Eugene W.; Pendleton, Rosemary L.; Kitchen, Stanley G.; Palacios, Patsy K., comps. 2011. Proceedings of the 16th wildland shrub symposium; Threats to shrubland ecosystem integrity; May 25-27 2010; Logan, UT. Natural Resources and Environmental Issues. 17. Logan: Utah State University: 267-280.
- Simulating the impacts of disturbances on forest carbon cycling in North America: Processes, data, models, and challenges.** Liu, Shuguang; Bond-Lamberty, Ben; Hicke, Jeffrey A.; Vargas, Rodrigo; Zhao, Shuqing; Chen, Jing; Edburg, Steven L.; Hu, Yueming; Liu, Jinxum; McGuire, A. David; Xiao, Jingfeng; Keane, Robert; Yuan, Wenping; Tang, Jianwu; Luo, Yiqi; Potter, Christopher; Oeding, Jennifer. 2011. Journal of Geophysical Research. 116: doi: 10.1029/2010JG001585.
- Spatially explicit shallow landslide hazard mapping over large areas.** Bellugi, D.; Dietrich, W.E.; Stock, J.; McKean, J.; Kazian, B.; Hargrove, P. 2011. Italian Journal of Engineering Geology and Environment: doi: 10.4408/IJEGE.2011-03.B-045.
- Stepping stones for biological invasion: A bioeconomic model of transferable risk.** Warziniack, Travis; Finnoff, David; Bossenbroek, Jonathan; Shogren, Jason F.; Lodge, David. 2011. Environmental and Resource Economics. 50: 605-627.
- Trace gas and particle emissions from open biomass burning in Mexico.** Yokelson, R.J.; Burling, I.R.; Urbanski, Shawn; Atlas, E.L.; Adachi, K.; Buseck, P.R.; Wiedinmyer, C.; Akagi, S.K.; Toohey, D.W.; Wold, C.E. 2011. Atmospheric Chemistry and Physics. 11: 6787-6808. Online: <http://www.treesearch.fs.fed.us/pubs/39323>.
- Understanding the science of climate change: Talking points – Impacts to the Great Lakes.** Schramm, Amanda; Loehman, Rachel. 2010. Natural Resource Report NPS/NRPC/NRR - 2010/247. Fort Collins, CO: U.S. Department of the Interior, National Park Service, Natural Resource Program Center. 32 p. Online: <http://www.treesearch.fs.fed.us/pubs/39304>.
- Use of the historic range of variability to evaluate ecosystem sustainability [chapter 24].** Meyer, Carolyn B.; Knight, Dennis H.; Dillon, Greg K. 2010. In: Reck, Ruth A. ed. Climate change and sustainable development. Urbana, IL: Linton Atlantic Books, Ltd.: 251-261. Online: <http://www.treesearch.fs.fed.us/pubs/39301>.
- VOC identification and inter-comparison from laboratory biomass burning using PTR-MS and PIT-MS.** Warneke, C.; Roberts, J.M.; Veres, P.; Gilman, J.; Kuster, W.C.; Burling, I.; Yokelson, R.; de Gouw, J.A. 2011. International Journal of Mass Spectrometry. 303: 6-14. Online: <http://www.treesearch.fs.fed.us/pubs/39322>.

Fire, fuel, and smoke

- Both topography and climate affected forest and woodland burn severity in two regions of the western US, 1984 to 2006.** Dillon, G.K.; Holden, Z.A.; Morgan, P.; Crimmins, M.A.; Heyerdahl, E.K.; Luce, C.H. 2011. Ecosphere. 2(12): Article 130. doi: 10.1890/ES11-00271.1.
- Challenges and needs in fire management: A landscape simulation modeling perspective [chapter 4].** Keane, Robert E.; Cary, Geoffrey J.; Flannigan, Mike D. 2011. In: Li, C.; Laforteza, R.; Chen, J., eds. Landscape ecology in forest management and conservation: Challenges and solutions for global change. Beijing, China: Springer, Higher Education Press: 75-98. Online: <http://www.treesearch.fs.fed.us/pubs/39315>.
- Challenges to implementing “best available science.”** Wright, Vita. 2010. Fire Science Brief. 124: 1-6. Online: <http://www.treesearch.fs.fed.us/pubs/39292>.
- Change as a factor in advancing fire-management decisionmaking and program effectiveness.** Zimmerman, Thomas. 2011.

- In: McCaffrey, Sarah M.; Fisher, Cherie LeBlanc, eds. 2011. Proceedings of the second conference on the human dimensions of wildland fire. Gen. Tech. Rep. NRS-P-84. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station: 14-23. Online: <http://www.treesearch.fs.fed.us/pubs/38512>.
- Characterization of flame radiosity in shrubland fires.** Cruz, Miguel G.; Butler, Bret W.; Viegas, Domingos X.; Palheiro, Pedro. 2011. *Combustion and Flame*. 158: 1970-1976. Online: <http://www.treesearch.fs.fed.us/pubs/39309>.
- Developing the U.S. Wildland Fire Decision Support System.** Noonan-Wright, Erin; Opperman, Tonja S.; Finney, Mark A.; Zimmerman, Tom; Seli, Robert C.; Elenz, Lisa M.; Calkin, David E.; Fiedler, John R. 2011. *Journal of Combustion*. 2011: Article ID 168473. 14 p. Online: <http://www.treesearch.fs.fed.us/pubs/39286>.
- Fire science application and integration in support of decision making.** Zimmerman, Tom. 2011. In: Proceedings of the 5th International Wildland Fire Conference; 9-13 May 2011; Sun City, South Africa. 10 p. Online: <http://www.treesearch.fs.fed.us/pubs/39278>.
- The Howling Prescribed Natural Fire—Long-term effects on the modernization of planning and implementation of wildland fire management.** Zimmerman, Tom; Kurth, Laurie; Burgard, Mitchell. 2011. In: Proceedings of 3rd Fire Behavior and Fuels Conference; 25-29 October 2010; Spokane, WA. Birmingham, AL: International Association of Wildland Fire. 14 p. Online: <http://www.treesearch.fs.fed.us/pubs/39276>.
- Landscape fire and wildlife habitat.** Cushman, S.A.; Wasserman, T.N.; McGarigal, K. 2011. In: McKenzie, D.; Kellog, L.K., eds. *The landscape ecology of fire*. Springer: 223-248.
- Learning from escaped prescribed fire reviews.** Black, Anne E.; Thomas, Dave; Saveland, James; Ziegler, Jennifer D. 2011. In: Proceedings of 11th International Wildland Fire Safety Summit; April 4-8 2011; Missoula, MT. Missoula, MT: International Association of Wildland Fire. 3 p. Online: <http://www.treesearch.fs.fed.us/pubs/39288>.
- Linking 3D spatial models of fuels and fire: Effects of spatial heterogeneity on fire behavior.** Parsons, Russell A.; Mell, William E.; McCauley, Peter. 2011. *Ecological Modelling*. 222: 679-691. Online: <http://www.treesearch.fs.fed.us/pubs/39319>.
- A method for ensemble wildland fire simulation.** Finney, Mark A.; Grenfell, Isaac C.; McHugh, Charles W.; Seli, Robert C.; Trethewey, Diane; Stratton, Richard D.; Brittain, Stuart. 2011. *Environmental Modeling and Assessment*. 16: 153-167. Online: <http://www.treesearch.fs.fed.us/pubs/39311>.
- Monitoring landscape change for LANDFIRE using multi-temporal satellite imagery and ancillary data.** Vogelmann, James E.; Kost, Jay R.; Tolk, Brian; Howard, Stephen; Short, Karen; Chen, Xuexia; Huang, Chengquan; Pabst, Kari; Rollins, Matthew G. 2011. *IEEE Journal Of Selected Topics In Applied Earth Observations And Remote Sensing*. 4(2): 252-264. Online: <http://www.treesearch.fs.fed.us/pubs/39321>.
- Multi-scale controls of historical forest-fire regimes: New insights from fire-scar networks.** Falk, Donald A.; Heyerdahl, Emily K.; Brown, Peter M.; Farris, Calvin; Fule, Peter Z.; McKenzie, Donald; Swetnam, Thomas W.; Taylor, Alan H.; Van Horne, Megan L. 2011. *Frontiers in Ecology and the Environment*. doi: 10.1890/100052. Online: <http://www.treesearch.fs.fed.us/pubs/39310>.
- Multi-scale evaluation of the environmental controls on burn probability in a southern Sierra Nevada landscape.** Parks, Sean A.; Parisien, Marc-Andre; Miller, Carol. 2011. *International Journal of Wildland Fire*. doi: 10.1071/WF10051. Online: <http://www.treesearch.fs.fed.us/pubs/39238>.
- Optimizing the location of fuel treatments over time at landscape scales.** Jones, Greg; Chung, Woodam. 2011. *Fire Science Brief*. 138: 1-7.
- Organizational learning contributes to guidance for managing wildland fires for multiple objectives.** Zimmerman, Tom; Sexton, Tim. 2010. *Fire Management Today*. 70(1): 9-14. Online: <http://www.treesearch.fs.fed.us/pubs/39291>.
- Proceedings, 3rd fire behavior and fuels conference; October 25-29, 2010; Spokane, WA.** Wade, Dale D.; Robinson, Mikel L., eds. 2010. Birmingham, AL: International Association of Wildland Fire.
[Papers from the proceedings are listed below with links to the online document:]
- An assessment of climate and fire danger rating in the Northern Rockies during the 1910 fire season.** McHugh, Charles W.; Finney, Mark A.; Bradshaw, Larry S. Online: <http://www.treesearch.fs.fed.us/pubs/39377>.
- Do you BEHAVE?—Application of the BehavePlus fire modeling system.** Andrews, Pat. Online: <http://www.treesearch.fs.fed.us/pubs/39363>.
- Climate change and fire danger rating in the Northern Rockies.** Heinsch, Faith Ann; McHugh, Charles W. Online: <http://www.treesearch.fs.fed.us/pubs/39371>.
- Climate change and fire regimes in the Sierra de Manantlan, Mexico.** Cassell, Brooke A.; Alvarado, Ernesto; Heyerdahl, Emily; Perez-Salicip, Diego; Jardel-Pelaez, Enrique. Online: <http://www.treesearch.fs.fed.us/pubs/39366>.
- The effect of terrain slope on firefighter safety zone effectiveness.** Butler, Bret; Forthofer, J.; Shannon, K.; Jimenez, D.; Frankman, D. Online: <http://www.treesearch.fs.fed.us/pubs/39364>.
- Fire characteristics charts for fire behavior and U.S. fire danger rating.** Heinsch, Faith Ann; Andrews, Pat. Online: <http://www.treesearch.fs.fed.us/pubs/39372>.
- Firefighter Math—A web-based learning tool.** Jimenez, Dan. Online: <http://www.treesearch.fs.fed.us/pubs/39375>.
- The influence of an incomplete fuels treatment on fire behavior and effects in the 2007 Tin Cup Fire, Bitterroot National Forest, Montana.** Harrington, Michael; Noonan-Wright, Erin. Online: <http://www.treesearch.fs.fed.us/pubs/39370>.
- Initialization of high resolution surface wind simulations using NWS gridded data.** Forthofer, J.; Shannon, K.; Butler, Bret. Online: <http://www.treesearch.fs.fed.us/pubs/39367>.

- In-situ characterization of wildland fire behavior.** Butler, Bret; Jimenez, D.; Forthofer, J.; Sopko, Paul; Shannon, K.; Reardon, Jim. Online: <http://www.treesearch.fs.fed.us/pubs/39365>.
- Large scale fire whirls: Can their formation be predicted?** Forthofer, J.; Butler, Bret. Online: <http://www.treesearch.fs.fed.us/pubs/39368>.
- Modern developments for ground-based monitoring of fire behavior and effects.** Hardy, Colin C.; Kremens, Robert; Dickinson, Matthew B. Online: <http://www.treesearch.fs.fed.us/pubs/39369>.
- Numerical simulation of crown fire hazard following bark beetle-caused mortality in lodgepole pine forests.** Hoffman, Chad; Parsons, Russell; Morgan, Penny; Mell, Ruddy. Online: <http://www.treesearch.fs.fed.us/pubs/39373>.
- Prescribed fire applications in forest and woodlands: Integration of models and field studies to guide fire use.** Ryan, Kevin C.; Rigolot, Eric; Rego, Francisco C.; Botelho, Herminio; Vega, Jose A.; Fernandes, Paulo M.; Sofronova, Tatiana M. Online: <http://www.treesearch.fs.fed.us/pubs/39378>.
- Progress towards a lightning ignition model for the Northern Rockies.** Sopko, Paul; Latham, Don. Online: <http://www.treesearch.fs.fed.us/pubs/39379>.
- Season ending events, a matter of perspective.** Kurth, Laurie L. Online: <http://www.treesearch.fs.fed.us/pubs/39376>.
- Tools, courses, and learning pathways offered by the National Interagency Fuels, Fire, and Vegetation Technology Transfer.** Strand, Eva K.; Schon, Kathy H.; Jones, Jeff. Online: <http://www.treesearch.fs.fed.us/pubs/39380>.
- Using the Large Fire Simulator System to map wildland fire potential for the conterminous United States.** Hollingsworth, LaWen; Menakis, James. Online: <http://www.treesearch.fs.fed.us/pubs/39374>.
- Validation of smoke plume rise models using ground based lidar.** Wold, Cyle E.; Urbanski, Shawn; Kovalev, Vladimir; Petkov, Alexander; Hao, Wei Min. Online: <http://www.treesearch.fs.fed.us/pubs/39381>.
- Proceedings, VI International conference on forest fire research; November 15-18, 2010; Coimbra, Portugal.** Viegas, D.X., ed. 2010. Coimbra: University of Coimbra.
[Papers from the proceedings are listed below with links to the online document:]
- An examination of fuel particle heating during fire spread.** Cohen, Jack D.; Finney, Mark A. Online: <http://www.treesearch.fs.fed.us/pubs/39350>.
- Barriers to implementation of risk management for federal wildland fire management agencies in the United States.** Calkin, Dave; Thompson, Matthew P.; Ager, Alan A.; Finney, Mark. Online: <http://www.treesearch.fs.fed.us/pubs/39349>.
- Characterization of convective heating in full scale wildland fires.** Butler, Bret. Online: <http://www.treesearch.fs.fed.us/pubs/39348>.
- Climate change impact on fire probability and severity in Mediterranean areas.** Arca, Bachisio; Pellizzaro, Grazia; Duce, Pierpaolo; Salis, Michele; Bacciu, Valentina; Spano, Donatella; Ager, Alan; Finney, Mark. Online: <http://www.treesearch.fs.fed.us/pubs/39345>.
- A comparison of landscape planning approaches and practices for strategic fuel management in southern Europe, Australia, New Zealand and the USA.** Moreira, F.; Andersen, A.; Anderson, S.A.J.; Ascoli, D.; Baeza, J.; Barbati, A.; Duguay, B.; Finney, Mark; Gill, M.; Keane, R.; Rigolot, E.; Ryan, Douglas; Williams, D.; Xanthopoulos, G. Online: <http://www.treesearch.fs.fed.us/pubs/39358>.
- Continental-scale simulation of burn probabilities, flame lengths, and fire size distribution for the United States.** Finney, Mark A.; McHugh, Charles W.; Grenfell, Isaac; Riley, Karin L. Online: <http://www.treesearch.fs.fed.us/pubs/39351>.
- Critical mass flux for flaming ignition of dead, dry wood as a function of external radiant heat flux and oxidizer flow velocity.** McAllister, Sara; Finney, Mark; Cohen, Jack. Online: <http://www.treesearch.fs.fed.us/pubs/39357>.
- Crown fuel spatial variability and predictability of fire spread.** Parsons, Russell A.; Sauer, Jeremy; Linn, Rodman R. Online: <http://www.treesearch.fs.fed.us/pubs/39359>.
- Design and construction of gas-fed burners for laboratory studies of flame structure.** Jimenez, Dan; Finney, Mark A.; Cohen, Jack. Online: <http://www.treesearch.fs.fed.us/pubs/39354>.
- Effects of fire on cultural resources.** Ryan, Kevin C. Online: <http://www.treesearch.fs.fed.us/pubs/39361>.
- Firefighter safety zone: The effect of terrain slope of separation distance.** Butler, Bret; Forthofer, Jason. Online: <http://www.treesearch.fs.fed.us/pubs/39347>.
- Modeling flame structure in wildland fires using the one-dimensional turbulence model.** Lignell, David O.; Monson, Elizabeth I.; Finney, Mark A. Online: <http://www.treesearch.fs.fed.us/pubs/39356>.
- Modeling the spatial distribution of forest crown biomass and effects on fire behavior with FUEL3D and WFDS.** Parsons, Russell A.; Mell, William; McCauley, Peter. Online: <http://www.treesearch.fs.fed.us/pubs/39360>.
- A portable system for characterizing wildland fire behavior.** Butler, Bret; Jimenez, D.; Forthofer, J.; Shannon, K.; Sopko, Paul. Online: <http://www.treesearch.fs.fed.us/pubs/39346>.
- Selection of fire spread model for Russian fire behavior prediction system.** Volokitina, Alexandra V.; Ryan, Kevin C.; Sofronova, Tatiana M.; Sofronov, Mark A. Online: <http://www.treesearch.fs.fed.us/pubs/39362>.
- Simulating spatial and temporally related fire weather.** Grenfell, Isaac C.; Finney, Mark; Jolly, Matt. Online: <http://www.treesearch.fs.fed.us/pubs/39353>.
- Structure of diffusion flames from a vertical burner.** Finney, Mark A.; Jimenez, Dan; Cohen, Jack D.; Grenfell, Isaac C.; Wold, Cyle. Online: <http://www.treesearch.fs.fed.us/pubs/39352>.
- Time to ignition is influenced by both moisture content and soluble carbohydrates in live Douglas fir and Lodgepole pine needles.** Jolly, Matt; McAllister, Sara; Finney, Mark; Hadlow, Ann. Online: <http://www.treesearch.fs.fed.us/pubs/39355>.
- Reconstructing fire history in central Mongolia from tree-rings.** Hessler, Amy E.; Ariya, Uyanga; Brown, Peter; Byambasuren, Oyunsannaa; Green, Tim; Jacoby, Gordon; Sutherland Elaine Kennedy; Nachin, Baatarbileg; Maxwell, R. Stockton; Pederson, Neil; De Grandpre, Louis; Saladyga, Thomas; Tardif, Jacques C. 2011. International Journal of Wildland Fire: <http://dx.doi.org/10.1071/WF10108>.
- Review of vortices in wildland fire.** Forthofer, Jason M.; Goodrick, Scott L. 2011. Journal of Combustion. 2011: Article ID 984363. 14 p. Online: <http://www.treesearch.fs.fed.us/pubs/39313>.
- A simulation of probabilistic wildfire risk components for the continental United States.** Finney, Mark A.; McHugh, Charles W.; Grenfell, Isaac C.; Riley, Karin L.; Short, Karen C. 2011.

Stochastic Environmental Research and Risk Assessment. 25: 973-1000. Online: <http://www.treesearch.fs.fed.us/pubs/39312>.

Use of expert knowledge to develop fuel maps for wildland fire management. Keane, Robert E.; Reeves, Matt. 2012. In: Perera, A.H.; Drew, J.A.; Johnston, C.J., eds. Expert knowledge and its application in landscape ecology. New York: Springer: 211-228.

Use of prescribed burning for restoration and maintenance of ecological conditions: Predicting and managing fire injury and tree mortality. Ryan, Kevin; Rigolot, E.; Rego, F.C.; Botelho, H.; Vega, J.A.; Fernandes, P.M.; Sofronova, T.M. 2010. In: Proceedings 7th European Conference on Ecological Restoration; 23-27 August 2010; Avignon, France. Washington DC: Society for Ecological Restoration International (SER). 4 p. Online: <http://www.treesearch.fs.fed.us/pubs/39303>.

Wildland Fire Decision Support System air quality tools. Larkin, Sim; Brown, Tim; Lahm, Pete; Zimmerman, Tom. 2010. Fire Management Today. 70(2): 36-40. Online: <http://www.treesearch.fs.fed.us/pubs/39293>.

The Wildland Fire Decision Support System: Integrating science, technology, and fire management. Pence, Morgan; Zimmerman, Tom. 2011. Fire Management Today. 71(1): 18-22. Online: <http://www.treesearch.fs.fed.us/pubs/39293>.

Forest and woodland ecosystems

After 100 years, is coevolution relevant? McDonald, GERAL I. 2011. In: Fairweather, Mary Lou; Palacios, Patsy, comps. Proceedings of the 58th Annual Western International Forest Disease Work Conference; 2010 October 4-8; Valemount, BC. Flagstaff, AZ: U.S. Department of Agriculture, Forest Service, AZ Zone Forest Health: 77-90. Online: <http://www.treesearch.fs.fed.us/pubs/39256>.

Blister rust in North America: What we have not learned in the past 100 years. Van Arsdel, Eugene P.; Geils, Brian W. 2011. In: Fairweather, Mary Lou; Palacios, Patsy, comps. Proceedings of the 58th Annual Western International Forest Disease Work Conference; 2010 October 4-8; Valemount, BC. Flagstaff, AZ: U.S. Department of Agriculture, Forest Service, AZ Zone Forest Health: 61-69. Online: <http://www.treesearch.fs.fed.us/pubs/39251>.

Bringing indices of species vulnerability to climate change into geographic space: An assessment across the Coronado National Forest. Davison, Jennifer E.; Coe, Sharon; Finch, Deborah; Rowland, Erika; Friggens, Megan; Graumlich, Lisa J. 2011. Biodiversity and Conservation: doi 10.1007/s10531-011-0175-0.

Compromise Programming in forest management. Poff, Boris A.; Teclé, Aregai; Neary, Daniel G.; Geils, Brian. 2010. Journal of the Arizona-Nevada Academy of Science. 42(1): 44-60. Online: <http://www.treesearch.fs.fed.us/pubs/36792>.

Cryptic postzygotic isolation in an eruptive species of bark beetle (*Dendroctonus ponderosae*). Bracewell, Ryan R.; Pfrender, Michael E.; Mock, Karen E.; Bentz, Barbara J. 2010.

Evolution: doi:10.1111/j.1558-5646.2010.01201.x. Online: <http://www.treesearch.fs.fed.us/pubs/37504>.

Does raking basal duff affect tree growth rates or mortality? Noonan-Wright, Erin; Hood, Sharon M.; Cluck, Danny R. 2010. Western Journal of Applied Forestry. 25(4): 199-202. Online: <http://www.treesearch.fs.fed.us/pubs/39302>.

DNA-based identification and phylogeny of North American *Armillaria* species. Ross-Davis, Amy L.; Hanna, John W.; Klopfenstein, Ned B. 2011. In: Fairweather, Mary Lou; Palacios, Patsy, comps. Proceedings of the 58th Annual Western International Forest Disease Work Conference; 2010 October 4-8; Valemount, BC. Flagstaff, AZ: U.S. Department of Agriculture, Forest Service, AZ Zone Forest Health: 129-142. Online: <http://www.treesearch.fs.fed.us/pubs/39252>.

Early field performance of *Acacia koa* seedlings grown under subirrigation and overhead irrigation. Davis, A.S.; Pinto, J.R.; Jacobs, D.F. 2011. Native Plants Journal. 12(2): 94-99.

First report of an *Armillaria* root disease pathogen, *Armillaria gallica*, associated with several new hosts in Hawaii. Kim, Mee-Sook; Hanna, J. W.; Klopfenstein, Ned. 2010. Plant Disease. 94(12): 1510. Online: <http://www.treesearch.fs.fed.us/pubs/39265>.

First report of the white pine blister rust pathogen, *Cronartium ribicola*, in Arizona. Fairweather, M.L.; Geils, Brian. 2011. Plant Disease. doi: 10.1094/PDIS-10-10-0699. Online: <http://www.treesearch.fs.fed.us/pubs/39262>.

Genetic architecture and phenotypic plasticity of thermally-regulated traits in an eruptive species, *Dendroctonus ponderosae*. Bentz, Barbara J.; Bracewell, Ryan R.; Mock, Karen E.; Pfrender, Michael E. 2011. Evolutionary Ecology. doi: 10.1007/s10682-011-9474-x. Online: <http://www.treesearch.fs.fed.us/pubs/39264>.

Genetic diversity and structure of western white pine (*Pinus monticola*) in North America: A baseline study for conservation, restoration, and addressing impacts of climate change. Kim, Mee-Sook; Richardson, Bryce A.; McDonald, GERAL I.; Klopfenstein, Ned B. 2010. Tree Genetics and Genomes. doi: 10.1007/s11295-010-0311-0. Online: <http://www.treesearch.fs.fed.us/pubs/36305>.

Growth, gas exchange, foliar nitrogen content, and water use of subirrigated and overhead irrigated *Populus tremuloides* Michx. seedlings. Davis, A.S.; Aghai, M.M.; Pinto, J.R.; Apostal, K.G. 2011. HortScience. 46(9): 1249-1253.

Low temperature fluidized wood chip drying with monoterpene analysis. Bero, Bridget N.; Reiboldt, Alarick; Davis, Ward; Bedard, Natalie; Russell, Evan. 2011. European Journal of Wood and Wood Products. doi: 10.1007/s00107-010-0519-6. Online: <http://www.treesearch.fs.fed.us/pubs/39263>.

Multilocus genotypes indicate differentiation among *Puccinia psidii* populations from South America and Hawaii. Graca, R.N.; Alfenas, A.C.; Ross-Davis, A.L.; Klopfenstein, Ned; Kim, M.-S.; Peever, T.L.; Cannon, P. G.; Uchid, Y.; Kadooka, C.Y.; Hauff, R.D. 2011. In: Fairweather, Mary Lou; Palacios, Patsy,

- comps. Proceedings of the 58th Annual Western International Forest Disease Work Conference; 2010 October 4-8; Valemout, BC. Flagstaff, AZ: U.S. Department of Agriculture, Forest Service, AZ Zone Forest Health: 131-134. Online: <http://www.treesearch.fs.fed.us/pubs/39261>.
- Nursery culture impacts cold hardiness in longleaf pine (*Pinus palustris*) seedlings.** Davis, Anthony S.; Ross-Davis, Amy L.; Dumroese, R. Kasten. 2011. *Restoration Ecology*. 19(6): 717-719.
- Nursery response of container *Pinus palustris* seedlings to nitrogen supply and subsequent effects on outplanting performance.** Jackson, D. Paul; Dumroese, R. Kasten; Barnett, James P. 2012. *Forest Ecology and Management*. 265: 1-12.
- Prepupal diapause and instar IV developmental rates of the spruce beetle, *Dendroctonus rufipennis* (Coleoptera: Curculionidae, Scolytinae).** Hansen, E. Matthew; Bentz, Barbara J.; Powell, James A.; Gray, David R.; Vandygriff, James C. 2011. *Journal of Insect Physiology*. 57(10): 1347-1357. Online: <http://www.treesearch.fs.fed.us/pubs/39259>.
- Rehabilitating downy brome (*Bromus tectorum*)-invaded scrublands using imazapic and seeding with native shrubs.** Owen, Suzanne M.; Sieg, Carolyn Hull; Gehring, Catherine A. 2011. *Invasive Plant Science and Management*. 4(2): 223-233. Online: <http://www.treesearch.fs.fed.us/pubs/39255>.
- RNGR: A national resource for reforestation, restoration, and nursery professionals.** Haase, D.L.; Pinto, J.R.; Dumroese, R.K.; Hernandez, G.; Karrfalt, R.; Overton, R. 2011. *Tree Planters Notes*. 54(1): 28-34.
- The pollen record of a 20th century spruce beetle (*Dendroctonus rufipennis*) outbreak in a Colorado subalpine forest, USA.** Anderson, R. Scott; Smith, Susan J.; Lynch, Ann M.; Geils, Brian W. 2010. *Forest Ecology and Management*. 260: 448-455. Online: <http://www.treesearch.fs.fed.us/pubs/39267>.
- Preliminary report on the ecology of *Armillaria* in the East Cascades of Oregon.** McDonald, GERAL I.; Hanna, John W.; Smith, Aaron L.; Maffei, Helen M.; Kim, Mee-Sook; Ross-Davis, Amy L.; Klopfenstein, Ned B. 2011. In: Fairweather, Mary Lou; Palacios, Patsy, comps. Proceedings of the 58th Annual Western International Forest Disease Work Conference; 2010 October 4-8; Valemout, BC. Flagstaff, AZ: U.S. Department of Agriculture, Forest Service, AZ Zone Forest Health: 135-138. Online: <http://www.treesearch.fs.fed.us/pubs/39258>.
- The Seeley Lake larch: Living link to Indian and frontier history.** Arno, Stephen F. 2010. *Forest History Today*. Spring/Fall: 13-19. Online: <http://www.treesearch.fs.fed.us/pubs/39298>.
- Stand development and population dynamics of curleaf mountain mahogany (*Cercocarpus ledifolius* Nutt.) woodlands in Utah's Bear River Mountains.** Ex, Seth A.; DeRose, Robert; Long, James N. 2011. *Western Journal of Applied Forestry*. 26(4): 183-188. Online: <http://www.treesearch.fs.fed.us/pubs/39530>.
- Tracking down worldwide *Puccinia psidii* dispersal.** Rodrigo Neves Graca; Ross-Davis, Amy; Klopfenstein, Ned; Sook, Mee; Peever, Tobin; Cannon, Phil; Uchida, Janice; Alfenas, Acelino Couto. 2011. In: IUFRO tree biotechnology conference 2011: From genomes to integration and delivery; June 26-July 2, 2011; Arraial d'Ajuda, Bahia, Brazil. *BMC Proceedings* 2011. 5(Suppl 7): P14.
- Understanding the effects of fire management practices on forest health: Implications for weeds and vegetation structure (project INT-F-04-01) [chapter 14].** Black, Anne E.; Landres, Peter. 2011. In: Potter, Kevin M.; Conkling, Barbara L., eds. Draft Forest Health Monitoring 2009 National Technical Report [ver. 8/26/2011]. Washington, DC: U.S. Department of Agriculture, Forest Service, Forest Health Monitoring Program: 151-156. Online: <http://www.treesearch.fs.fed.us/pubs/39287>.
- Grasslands, shrublands, and desert ecosystems**
- Applying the successional weed management model for revegetating a yellow starthistle-infested dryland pasture in the Chihuahuan Desert.** Sommers, William D., IV; Howery, Larry D.; Pendleton, Rosemary L.; Lee, Richard D.; Pendleton, Burton K. 2012. *ISRN Agronomy*. 2012: Article ID 213289.
- Assessment of range planting as a conservation practice [chapter 4].** Hardegree, Stuart P.; Jones, Thomas A.; Roundy, Bruce A.; Shaw, Nancy L.; Monaco, Thomas A. 2011. In: Briske, D. D., ed. Conservation benefits of rangeland practices: Assessment, recommendations, and knowledge gaps. Lawrence, KS: Allen Press: 171-212.
- Biotic resistance via granivory: Establishment by invasive, naturalized, and native asters reflects generalist preference.** Pearson, Dean E.; Callaway, Ragan M.; Maron, John L. 2011. *Ecology*. 92(9): 1748-1757.
- Canyon grassland vegetation changes following fire in northern Idaho.** Gucker, Corey L.; Bunting, Stephen C. 2011. *Western North American Naturalist*. 71(1): 97-105. Online: <http://www.treesearch.fs.fed.us/pubs/39314>.
- Ecological genetics of the *Bromus tectorum* (Poaceae)-*Ustilago Bullata* (Ustilaginaceae) pathosystem: A role for frequency-dependent selection?** Meyer, Susan E.; Nelson, David L.; Clement, Suzette; Ramakrishnan, Alisa. 2010. *American Journal of Botany*. 97(8): 1304-1312.
- Local population differentiation in *Bromus tectorum* L. in relation to habitat-specific selection regimes.** Scott, Jason W.; Meyer, Susan E.; Merrill, Keith R.; Anderson, Val J. 2010. *Evolutionary Ecology*. 24(5): 1061-1080.
- Proceedings of the 16th wildland shrub symposium: Threats to shrubland ecosystem integrity; May 25-27, 2010; Logan, UT.** Monaco, Thomas A.; Schupp, Eugene W.; Pendleton, Rosemary L.; Kitchen, Stanley G.; Palacios, Patsy K., comps. 2011. *Natural Resources and Environmental Issues*. 17. Logan: Utah State University. Online: <http://www.cnr.usu.edu/quinney/files/uploads/NREI/ShrublandsNREI17.pdf>.
- The quick and the deadly: Growth vs virulence in a seed bank pathogen.** Meyer, Susan E.; Stewart, Thomas E.; Clement, Suzette. 2010. *New Phytologist*. 187: 209-216.

The Yellowstone sage belts 1958 to 2008: 50 years of change in the big sagebrush (*Artemisia tridentata*) communities of Yellowstone National Park. Sikkink, Pamela G. 2011. In: Monaco, Thomas A.; Schupp, Eugene W.; Pendleton, Rosemary L.; Kitchen, Stanley G.; Palacios, Patsy K., comps. 2011. Proceedings of the 16th wildland shrub symposium; Threats to shrubland ecosystem integrity; May 25-27, 2010; Logan, UT. Natural Resources and Environmental Issues. 17. Logan: Utah State University: 145-160.

Human dimensions

Discretionary time of chinese college students: Activities and impact of SARS-induced constraints on choices. Yang, He; Hutchinson, Susan; Zinn, Harry; Watson, Alan. 2010. Social Indicators Research. doi: 10.1007/s11205-010-9691-7. Online: <http://www.treesearch.fs.fed.us/pubs/37135>.

Evaluating the effects of pinyon thinning treatments at a wildland urban interface. Matchett, J. R.; Brooks, Matthew; Halford, Anne; Johnson, Dale; Smith, Helen. 2010. Final Report for Project #05-2-1-08. El Portal, CA: U.S. Geological Survey, Western Ecological Research Center. 28 p. Online: <http://www.treesearch.fs.fed.us/pubs/39300>.

A general target for MVPs: Unsupported and unnecessary. Flather, Curtis H.; Hayward, Gregory D.; Beissinger, Steven R.; Stephens, Philip A. 2011. Trends in Ecology and Evolution. 26(12): 620-622. Online: <http://www.treesearch.fs.fed.us/pubs/39529>.

North America. Trosper, Ronald L.; Clark, Fred; Watson, Alan E.; and others. 2011. In: Parrotta, J.A.; Trosper, R.L., eds. Traditional forest-related knowledge: Sustaining communities, ecosystems and biocultural diversity. World Forests, Vol. 12, 2012. New York: Springer: 157-201.

No safety in numbers. Beissinger, Steven R.; Flather, Curtis H.; Hayward, Gregory D.; Stephens, Philip A. 2011. Frontiers in Ecology and the Environment. 9(9): 486.

Inventory, monitoring, and analysis

Calculation of upper confidence bounds on proportion of area containing not-sampled vegetation types: An application to map unit definition for existing vegetation maps. Patterson, Paul L.; Finco, Mark. 2011. Mathematical and Computational Forestry and Natural-Resource Sciences. 3(2): 98-101. Online: <http://www.treesearch.fs.fed.us/pubs/39536>.

Science application and integration

Evaluation of the MODIS LAI product using independent lidar-derived LAI: A case study in mixed conifer forest. Jensen, Jennifer L.R.; Humes, Karen S.; Hudak, Andrew T.; Vierling, Lee A.; Delmelle, Eric. 2011. Remote Sensing of Environment. 115: 3625-3639.

Wilderness research

The role of wilderness protection and societal engagement as indicators of well-being: A examination of chane at the Boundary Waters Canoe Area Wilderness. Watson, Alan E. 2011. Social Indicators Research. doi 10.1007/s11205-011-9947-x.

Wildlife and terrestrial habitats

Carrying capacity for species richness as a context for conservation: A case study of North American breeding birds. Hansen, Andrew J.; Phillips, Linda Bowers; Flather, Curtis H.; Robison-Cox, Jim. 2011. Global Ecology and Biogeography. 20: 817-831.

Compromising genetic diversity in the wild: Unmonitored large-scale release of plants and animals. Laikre, Linda; Schwartz, Michael K.; Waples, Robin S.; Ryman, Nils; GeM Working Group. 2010. Trends in Ecology and Evolution. 25: 520-529.

Integrating motion-detection cameras and hair snags for wolverine identification. Magoun, Audrey J.; Long, Clinton D.; Schwartz, Michael K.; Pilgrim, Kristine L.; Lowell, Richard E.; Valkenburg, Patrick. 2011. The Journal of Wildlife Management. 75(3): 731-739.

Nesting success and resource selection of Greater Sage-Grouse. Kaczor, Nicholas W.; Jensen, Kent C.; Klaver, Robert W.; Rumble, Mark A.; Herman-Brunson, Katie M.; Swanson, Christopher C. 2011. In: Sandercock, B.K.; Martin, K.; Segelbacher, G., eds. Ecology, conservation, and management of grouse. Studies in Avian Biology. 39. Berkeley, CA: University of California Press: 107-118.

Resource selection during brood-rearing by Greater Sage-Grouse. Kaczor, Nicholas W.; Herman-Brunson, Katie M.; Jensen, Kent C.; Rumble, Mark A.; Klaver, Robert W.; Swanson, Christopher C. 2011. In: Sandercock, B.K.; Martin, K.; Segelbacher, G., eds. Ecology, conservation, and management of grouse. Studies in Avian Biology. 39. Berkeley, CA: University of California Press: 169-177.

Author Index

A

Adachi, K. 6
 Ager, Alan 8
 Aghai, M.M. 9
 Akagi, S.K. 5, 6
 Alfenas, A.C. 9, 10
 Al-Saadi, J.A. 5
 Alvarado, Ernesto 6, 7
 Alvarado, M.J. 5
 Amacher, Michael C. 6
 Amiro, Brian 6
 Andersen, A. 8
 Anderson, R. Scott 10
 Anderson, S.A.J. 8
 Anderson, Val J. 10
 Andrews, Pat 7
 Apostol, K.G. 9
 Arca, Bachisio 8
 Ariya, Uyanga 8
 Ascoli, D. 8
 Atlas, E.L. 6

B

Baasandorj, M. 6
 Bacciu, Valentina 8
 Baeza, J. 8
 Barbati, A. 8
 Barletta, B. 5
 Barnett, James P. 10
 Bedard, Natalie 9
 Beissinger, Steven R. 11
 Bellugi, D. 6
 Bentz, Barbara J. 9, 10
 Bero, Bridget N. 9
 Black, Anne E. 7, 10
 Blake, D.R. 5
 Blake, N.J. 5
 Bond-Lamberty, Ben 6
 Bossenbroek, Jonathan 6
 Botelho, H. 9
 Botelho, Herminio 8
 Bracewell, Ryan R. 9
 Bradshaw, Larry S. 7
 Brenkert-Smith, Hannah 4
 Brittain, Stuart 7
 Brooks, Matthew 11
 Brown, Peter 8
 Brown, Peter M. 3, 7
 Brown, S.S. 6
 Brown, Tim 9
 Buffington, J.M. 5
 Bunting, Stephen C. 10
 Burgard, Mitchell 7
 Burkholder, J.B. 6
 Burling, I. 6
 Burling, I.R. 5, 6
 Buseck, P.R. 6

Butler, Bret 7, 8
 Butler, J. 3
 Byambasuren, Oyunsanna 8

C

Calkin, David 7, 8
 Callaway, Ragan M. 10
 Cannon, P. G. 9
 Cannon, Phil 10
 Cary, Geoffrey J. 6
 Cassell, Brooke A. 7
 Champ, Patricia A. 4
 Chandler, G. 5
 Chang-Graham, Alexandra L. 5
 Chen, Jing 6
 Chen, Xuexia 7
 Choi, Y. 5
 Chung, Woodam 7
 Clark, Fred 11
 Clark, Jason A. 6
 Clement, Suzette 10
 Cluck, Danny R. 9
 Coe, Sharon 9
 Cohen, Jack 8
 Coleman, Mark 3
 Coulson, David P. 3
 Crimmins, M.A. 6
 Crouse, J. D. 5
 Cruz, Miguel G. 7
 Cushman, S.A. 7

D

Davis, Anthony S. 10
 Davis, A.S. 9
 Davison, Jennifer E. 9
 Davis, Ward 9
 de Gouw, J.A. 5, 6
 De Grandpre, Louis 8
 de Groot, William J. 6
 De Jong, Bernardus 6
 Delmelle, Eric 11
 DeRose, Robert 10
 Dickinson, Matthew B. 8
 Dietrich, W.E. 6
 Dillon, G.K. 6
 Diskin, G.S. 5
 Duce, Pierpaolo 8
 Duguay, B. 8
 Dumroese, R.K. 10

E

Edburg, Steven L. 6
 Elenz, Lisa M. 7
 Emmons, L.K. 5
 Ex, Seth A. 10

F

Fairweather, M.L. 9
 Falk, Donald A. 7
 Farris, Calvin 7
 Fernandes, P.M. 8, 9

Fiedler, John R. 7
 Finch, Deborah 9
 Finco, Mark 11
 Finney, Mark 7, 8
 Finnoff, David 6
 Flannigan, Mike D. 6
 Flather, Curtis H. 11
 Flores, Nicholas 4
 Forthofer, J. 7, 8
 Frankman, D. 7
 French, Nancy H.F. 6
 Fried, A. 5
 Friggens, Megan 9
 Fuelberg, H.E. 5
 Fule, Peter Z. 7

G

Gehring, Catherine A. 10
 Geils, Brian 9, 10
 Gill, M. 8
 Gilman, J. 5, 6
 Goetz, Scott 6
 Goodrick, Scott L. 8
 Goodwin, P. 5, 6
 Graca, R.N. 9
 Graulich, Lisa J. 9
 Gray, David R. 10
 Green, Tim 8
 Grenfell, Isaac 7, 8
 Griffith, D.W.T. 5
 Gucker, Corey L. 10

H

Haase, D.L. 10
 Hadlow, Ann 8
 Halford, Anne 11
 Hanna, J.W. 9, 10
 Hansen, Andrew J. 11
 Hansen, E. Matthew 10
 Hao, W.M. 5, 8
 Hardegree, Stuart P. 10
 Hardy, Colin C. 8
 Hargrove, P. 6
 Harrington, Michael 7
 Hauff, R.D. 9
 Hayward, Gregory D. 11
 Heinsch, Faith Ann 6, 7
 Herman-Brunson, Katie M. 11
 Hernandez, G. 10
 Hessler, Amy E. 8
 Heyerdahl, Emily 3, 6, 7
 Hicke, Jeffrey A. 6
 Hoffman, Chad 8
 Holden, Z.A. 6
 Hollingsworth, LaWen 8
 Hood, Sharon M. 9
 Horan, D. 5
 Horst, Thomas W. 5
 Howard, Stephen 7
 Howery, Larry D. 10

Hoy, Elizabeth 6
 Huang, Chengquan 7
 Hudak, Andrew T. 11
 Humes, Karen S. 11
 Hutchinson, Susan 11
 Hu, Yueming 6
 Hyer, Edward 6

I

Isaak, D.J. 5

J

Jackson, D. Paul 10
 Jacobs, D.F. 9
 Jacoby, Gordon 8
 Jardel-Pelaez, Enrique 7
 Jenkins, Liza K. 6
 Jensen, Jennifer L.R. 11
 Jensen, Kent C. 11
 Jimenez, D. 7, 8
 Jimenez, Dan 7, 8
 Johnson, Dale 11
 Johnson, T.J. 5, 6
 Johnson, T.J.; 5
 Jolly, Matt 8
 Jones, Greg 7
 Jones, Jeff 8
 Jones, Thomas A. 10
 Joyce, Linda A. 3

K

Kaczor, Nicholas W. 11
 Kadooka, C.Y. 9
 Karl, T. 5
 Karrfalt, R. 10
 Kazian, B. 6
 Keane, Robert 6, 8, 9
 Kim, Mee Sook 3, 9, 10
 Kitchen, Stanley G. 3, 10
 Klaver, Robert W. 11
 Klopfenstein, Ned 9, 10
 Knight, Dennis H. 6
 Koestner, Karen A. 6
 Kost, Jay R. 7
 Kovalev, Vladimir 5, 8
 Kremens, Robert 8
 Kurth, Laurie 7, 8
 Kuster, W.C. 5, 6

L

Lahm, Pete 9
 Laikre, Linda 11
 Landres, Peter 10
 Larkin, Sim 9
 Laskin, Alexander 5
 Laskin, Julia 5
 Latham, Don 8
 Law, B.E. 6
 Lawrence, Kevin 3
 Lee, Richard D. 10
 Lignell, David O. 8

- Linn, Rodman R 8
 Liu, Jinxun 6
 Liu, Shuguang 6
 Lodge, David 6
 Loehman, Rachel 6
 Long, Clinton D. 11
 Long, James N. 10
 Lowell, Richard E. 11
 Luce, C.H. 6
 Luo, Yiqi 6
 Lynch, Ann M. 10
- M**
 Mackowiak, Cheryl L. 6
 Maffei, Helen M. 10
 Magoun, Audrey J. 11
 Maron, John L. 10
 Massman, William J. 5
 Matchett, J. R. 11
 Maxwell, R. Stockton 8
 McAllister, Sara 8
 McCauley, Peter 7, 8
 McDonald, GERALD I. 9, 10
 McElligott, Kristin 3
 McGarigal, K. 7
 McGuire, A. David 6
 McHugh, Charles W. 7, 8
 McKean, J. 5, 6
 McKean, J.A. 6
 McKenney, Daniel W. 3
 McKenzie, Donald 6, 7
 McNulty, Steven G. 6
 Meinardi, S. 5
 Mell, Ruddy 8
 Mell, William 8
 Mell, William E. 7
 Menakis, James 8
 Merrill, Keith R. 10
 Meyer, Carolyn B. 6
 Meyer, Susan E. 5, 10
 Miller, Carol 7
 Mock, Karen E. 9
 Monaco, Thomas A. 10
 Monson, Elizabeth I. 8
 Moreira, F. 8
 Morgan, P. 6
 Morgan, Penny 8
- N**
 Nachin, Baatarbileg 8
 Neary, Daniel G. 5, 6, 9
 Nelson, David L. 10
 Nemani, Ramakrishna 6
 Neuman, J.A. 6
 Noonan-Wright, Erin 7, 9
- O**
 Oeding, Jennifer 6
 Opperman, Tonja S. 7
 Orlando, J.J. 5
 Ottmar, Roger 6
- Overton, R. 10
 Owen, Suzanne M. 10
- P**
 Pabst, Kari 7
 Page-Dumroese, Deborah 3
 Palacios, Patsy K. 10
 Palheiro, Pedro 7
 Papadopol, Pia 3
 Parisien, Marc-Andre 7
 Parks, Sean A. 7
 Parsons, Russell 7, 8
 Patterson, Paul L. 11
 Patton, Edward G. 5
 Pearson, D.E. 3, 10
 Pederson, Neil 8
 Peever, T. 9, 10
 Pellizzaro, Grazia 8
 Pence, Morgan 9
 Pendleton, Burton K. 10
 Pendleton, Rosemary L. 10
 Perez-Salicrup, Diego 6, 7
 Petkov, A. 5, 8
 Pfrender, Michael E. 9
 Phillips, Linda Bowers 11
 Pilgrim, Kristine L. 11
 Pinto, J.R. 9, 10
 Poff, Boris A. 9
 Potter, Christopher 6
 Powell, James A. 10
 Price, David T. 3
 Profeta, Luisa T.M. 5
- R**
 Ramakrishnan, Alisa 10
 Randerson, James 6
 Reardon, J. 5, 8
 Reeves, Matt 9
 Rego, F.C. 8, 9
 Reiboldt, Alarick 9
 Reid, J.S. 5
 Richardson, Bryce A. 9
 Rigolot, E. 8, 9
 Riley, Karin L. 8
 Roberts, J.M. 5, 6
 Robertson, Kevin M. 6
 Robison-Cox, Jim 11
 Rodrigo Neves Graca 10
 Rogers, Brendan M. 6
 Rollins, Matthew G. 7
 Ross-Davis, A.L. 9, 10
 Roundy, Bruce A. 10
 Rowland, Erika 9
 Rowland, F.S. 5
 Rumble, Mark A. 11
 Running, Steven 6
 Russell, Evan 9
 Ryan, Douglas 8
 Ryan, Kevin 8, 9
 Ryman, Nils 11
- S**
 Saladyga, Thomas 8
 Salis, Michele 8
 Sams, Robert L. 5
 Sauer, Jeremy 8
 Saveland, James 7
 Schon, Kathy H. 8
 Schramm, Amanda 6
 Schupp, Eugene W. 10
 Schwartz, Michael K. 11
 Scott, Jason W. 10
 Seli, Robert C. 7
 Sexton, Tim 7
 Shannon, K. 7, 8
 Shaw, Nancy L. 10
 Shogren, Jason F. 6
 Short, Karen 7
 Short, Karen C. 8
 Sieg, Carolyn Hull 10
 Sikkink, Pamela G. 11
 Siltanen, R. Martin 3
 Simpson, I.J. 5
 Smith, Aaron L. 10
 Smith, Helen 11
 Smith, Susan J. 10
 Sofronova, T.M. 8, 9
 Sofronov, Mark A. 8
 Soja, A.J. 5
 Sommers, William D., IV 10
 Sook, Mee 10
 Sopko, Paul 8
 Spano, Donatella 8
 Stephens, Philip A. 11
 Stewart, Thomas E. 10
 Stock, J. 6
 Strand, Eva K. 8
 Stratton, Richard D. 7
 Sutherland Elaine Kennedy 8
 Swanson, Christopher C. 11
 Swetnam, Thomas W. 7
- T**
 Tang, C. 6
 Tang, Jianwu 6
 Tardif, Jacques C. 8
 Taylor, Alan H. 7
 Teale, Aregai 9
 Thomas, Dave 7
 Thompson, Matthew P. 8
 Tolk, Brian 7
 Tonina, D. 5, 6
 Toohey, D.W. 6
 Trethewey, Diane 7
 Trooper, Ronald L. 11
 Turetsky, Merritt 6
- U**
 Uchida, Janice 10
 Uchid, Y. 9
 Urbanski, Shawn 5, 6, 8
- Urbanski, S.P. 5
- V**
 Valkenburg, Patrick 11
 Van Arsdell, Eugene P. 9
 Vandygriff, James C. 10
 Van Horne, Megan L. 7
 Vargas, Rodrigo 6
 Vay, S.A. 5
 Vega, J.A. 8, 9
 Veres, P. 5, 6
 Viegas, Domingos X. 7
 Vierling, Lee A. 11
 Vogelmann, James E. 7
 Volokitina, Alexandra V. 8
- W**
 Waples, Robin S. 11
 Warneke, C. 5, 6
 Warziniack, Travis 6
 Washenfelder, R.A. 6
 Wasserman, T.N. 7
 Watson, Alan 11
 Weber, Marc H. 3
 Weinheimer, A.J. 5
 Weise, D.R. 5
 Wennberg, P.O. 5
 Wiebring, P. 5
 Wiedinmyer, C. 5, 6
 Williams, D. 8
 Wisthaler, A. 5
 Wold, C.E. 5, 6, 8
 Wollrab, S. 5
 Wright, Vita 6
- X**
 Xanthopoulos, G. 8
 Xiao, Jingfeng 6
- Y**
 Yang, He 11
 Yang, M. 5
 Yokelson, R 6
 Yokelson, R.J. 5, 6
 Yokelson, Robert L. 5
 Yuan, Wenping 6
- Z**
 Zhao, Maosheng 6
 Zhao, Shuqing 6
 Ziegler, Jennifer D. 7
 Zimmerman, Thomas 6
 Zimmerman, Tom 7, 9
 Zinn, Harry 11



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](#)
- ▶ [Forms](#)
- ▶ [Links](#)
- ▶ [Services & Staff](#)
- Questions?** Contact Lane Eskew at [leskew\[at\]fs.fed.us](mailto:leskew[at]fs.fed.us) or 970-498-1388.
- ▶ [FSWeb Publishing Services](#)
- ▶ [2008 Research Accomplishments](#)
- ▶ [National Forest Service Library](#)
- ▶ [Statistics Unit](#)
- ▶ [Media & Public Affairs \[under construction \]](#)

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

Check out our website:

- 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

To order a publication, please see inside back cover

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

October to December 2011

Order #

Please take my name off the mailing list.

28 29

I would like to receive the New Publication List as an e-mail (no paper copy will be sent). My
e-mail is: _____

30



Cut along line

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