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EDUCATION

Ph.D. Forest Hydrology and Watershed Management, University of Minnesota-Twin Cities, 2014
Graduate Certificate in Preparing Future Faculty, University of Minnesota-Twin Cities, 2014
M.S. Forest Resources, Virginia Tech, 2010
Graduate Certificate in Watershed Management, Virginia Tech, 2010
B.S. *Magna cum Laude*, Forestry, Virginia Tech, 2007

FACULTY APPOINTMENTS AND EXPERIENCE

10/2017 – present: **Associate Faculty**, Institute on the Environment, University of Minnesota Twin Cities, Saint Paul, Minnesota
08/2017 – present: **Graduate Faculty**, Integrated Biosciences Graduate Program, University of Minnesota Duluth, Duluth, Minnesota
06/2017 – present: **Graduate Faculty**, Water Resources Science Graduate Program, University of Minnesota Twin Cities, Saint Paul, Minnesota
01/2017 – present: **Assistant Professor**, Department of Earth and Environmental Sciences, University of Minnesota Duluth, Duluth, Minnesota
01/2015 – 12/2016: **Research Hydrologist**, USDA Forest Service Pacific Southwest Research Station, Davis, California
06/2010 – 12/2014: **Graduate Research/Teaching Assistant**, Department of Forest Resources, University of Minnesota, Saint Paul, Minnesota
08/2007 – 05/2010: **Graduate Research Assistant**, Department of Forestry, Virginia Tech, Blacksburg, Virginia

RESEARCH FOCUS

I study the influence of disturbance, climate change, and management on forest ecohydrological processes using field-based studies, laboratory analysis, and modeling techniques. The goal of my research is to improve our understanding of how, why, and when water moves through forested watersheds by coupling basic scientific studies with applied management questions across a variety of temporal and spatial scales.

GRANTS, FELLOWSHIPS, AND FUNDING

Collaborative Research: Water partitioning between trees, soils, and streams following forest disturbance (\$43,077). National Science Foundation – EAR. 2018. Principal.
Reinvestment and upgrade of the UMN Duluth Stable Isotope Analytical Facility (\$184,788). University of Minnesota Research Infrastructure Investment Program. 2018. Co-PI.
Isotopic signatures of precipitation in Lake Superior (\$37,519). University of Minnesota Grant-in-Aid. 2018. Principal.
Early Career Faculty Travel Grant (\$1,500). University of Minnesota Duluth. 2018
Impact of beaver dams on low flow hydrology and hydraulics (\$139,000). Minnesota Sea Grant. Co-PI.
Response of forest understory species experimental treatments that mimic climate change (\$9,000). 2018. Minnesota Department of Natural Resources Lake Superior Coastal Program. Co-PI.
Effect of forest stand density reduction on plant-water use and water transport in the Caspar Creek Experimental Watersheds (\$87,000). Joint Venture Agreement with the USDA Forest Service Pacific Southwest Research Station. 2017. Principal.
Travel Grant (\$1,000). Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI) Instrumentation Discovery Travel Grant (IDTG). 2017.

- Forests and water in a changing climate: the role of forest management in keeping the balance (\$75,000). Cyclical Funding USDA Forest Service Pacific Southwest Research Station Watershed Ecological Research. 2015. Principal.
- Student Travel Grant (\$650). University of Minnesota Council of Graduate Students. 2014.
- Student Travel Grant (\$150). University of Minnesota Graduate and Professional Society. 2014.
- Student Travel Grant (\$500). North American Forest Soils Conference. 2013.
- $\delta^{13}\text{C}$ in tree-rings using a long-term soil moisture record (\$2,500). Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) Pathfinder Fellowship. 2012. Principal.
- $\delta^{13}\text{C}$ in aspen tree-rings (\$5,800). Inter-university Training for Continental-scale Ecology (ITCE) Research-in-Residence Fellowship. 2012. Principal.

PUBLICATIONS

- McDonnell J, Evaristo J, Bladon K, Buttle J, Creed I, **Dymond S**, Grant G, Iroumé A, Jones J, Maness T, McGuire K, Scott D, Segura C, Sidle R, Tague C. 2018. Forest water sustainability. *Nature Sustainability*.
- Dymond SF**, Bradford JB, Bolstad PV, Kolka RK, Sebestyen SD, DeSutter TM. 2017. Topographic, edaphic, and vegetative controls on plant-available water. *Ecohydrology* doi:10.1002/eco.1897.
- Saksa P, Safeeq M, **Dymond S**. 2017. Recent patterns in climate, vegetation, and forest water use in California montane watersheds. *Forests* **8** doi:10.3390/f8080278.
- Li X, Xiao Q, Niu J, McPherson G, **Dymond S**, van Doorn N, Yu X, Xie B, Li J. 2017. Rainfall interception by tree crown and leaf litter in Northern China: a joint measurement. *Hydrological Processes* doi:10.1002/hyp.11275.
- Li X, Xiao Q, Niu J, **Dymond S**, van Doorn N, Yu X, Xie B, Lv X, Zhang K, Li J. 2016. Process-based rainfall interception by small trees in Northern China: the effect of rainfall traits and crown structure characteristics. *Agricultural and Forest Meteorology* **218**: 65-73.
- Dymond SF**, D'Amato AW, Kolka RK, Bolstad PV, Sebestyen SD, Bradford JB. 2015. Growth-climate relationships across topographic gradients in the Northern Great Lakes. *Ecohydrology* doi: 10.1002/eco.1700.
- Li X, Niu J, Zhang L, Xiao Q, McPherson G, van Doorn N, Yu X, Xie B, **Dymond S**, Li J, Meng C, Luo Z. 2015. A study on crown interception with four dominant tree species: a direct measurement. *Hydrology Research* doi: 10.2166/nh.2015.066.
- Dymond SF**, Aust WM, Prisley SP, Eisenbies MH, Vose JM. 2014. Application of a distributed process-based hydrologic model to estimate the effects of forest road density on stormflows in the Southern Appalachians. *Forest Science* **60**(6): 1213-1223.
- Dymond SF**, Kolka RK, Bolstad PV, Sebestyen SD. 2014. Long-term soil moisture patterns in a northern Minnesota forest. *Soil Science Society of America Journal* **78**: 208-216.
- Dymond S**, Aust W, Prisley S, Eisenbies M, Vose J. 2013. Influence of forest road standards and networks on water yield as predicted by the Distributed Hydrology-Soil Vegetation Model. In Guldin J. (Ed). Proceedings of the 15th Biennial Southern Silvicultural Research Conference. USDA For. Serv. Gen. Tech. Rep. 175. Asheville, N.C. 399-404.
- Vose JM, Ford CR, Laseter S, **Dymond S**, Sun G, Adams MB, Sebestyen S, Campbell J, Luce C, Amayta D, Elder K, Hartsill-Scalley T. 2011. Can forest watershed management mitigate climate change impacts on water resources? In Web A, Bonell M, Bren L, Lane PNJ, McGuire D, Neary DG, Nettles J, Scott DF, Stednick J, Wang Y. (Eds). Revisiting Experimental Catchment Studies in Forest Hydrology. IAHS Redbook Publ. 353. 240 pp.
- Dymond SF**, Aust WM, Prisley SP, Eisenbies MH, Vose JM. 2011. Forest roads and flooding. In Mitchell D, Gallagher T (Eds). Proceedings of the 33rd Annual Meeting of the Council of Forest Engineering: Fueling the Future, June 6-9, 2010, Auburn, AL. p. 1-11.

PRESENTATIONS

Invited Talks

- Dymond SF.** The influence of climate change and management on forest ecohydrological processes. Department of Earth and Environmental Sciences Seminar, University of Minnesota Duluth. January 25, 2018.
- Dymond SF.** Ecohydrological dynamics in a coast redwood forest. Water Resources Seminar, University of Minnesota Duluth. November 27, 2017.
- Dymond SF.** Exploring the two water worlds in catchment hydrology. Large Lakes Observatory Frontiers Seminar, University of Minnesota Duluth. March 2, 2017.
- Dymond SF.** The Caspar Creek Experimental Watersheds Experiment Three: The influence of stand density reduction on watershed processes in the South Fork. California Board of Forestry Effectiveness Monitoring Committee Meeting. February 24, 2016.
- Dymond SF.** The Caspar Creek Watershed Studies. UC Berkeley Forestry Seminar. February 8, 2016. Berkeley, CA.
- Dymond SF.** Stand density reduction effects on watershed processes: Caspar Creek Experimental Watersheds Phase III. Jackson Advisory Group Fall Meeting. November 16, 2015.
- Dymond SF.** Plans for the third experiment in the Caspar Creek Experimental Watersheds. 22nd Annual Meeting of the California Aquatic Bioassessment Workgroup. October 20, 2015, Davis, CA.
- Dymond SF,** Hunsaker C. Kings River Experimental Watershed research. Northern California and Southern California Society of American Foresters Meeting. August 22, 2015, Auburn, CA.

Oral Presentations at Professional Meetings

- Dymond S,** Bladon KD, McDonnell JJ, McNamara JP. 2017. Stream and tree water sources in a coast redwood forest. American Geophysical Union Annual Meeting, New Orleans, LA.
- Dymond S,** Bolstad P, Kolka R, D'Amato A. 2014. Moisture matters: Linking soil water availability to forest productivity. Ecological Society of America Annual Meeting, Sacramento, CA.
- Kolka R, Sebestyen S, Campbell J, Rustad L, **Dymond S,** Green M. 2014. Climate change effects on hydrologic processes in northern forests. Ecological Society of America Meeting, Sacramento, CA.
- Dymond S,** Roden J, Bolstad P, Kolka R. 2013. $\delta^{13}\text{C}$ in aspen tree-rings using a long-term soil moisture record. American Geophysical Union Annual Meeting, San Francisco, CA.
- Dymond S,** Kolka R, Bolstad P, Sebestyen S. 2013. Five decades of soil moisture dynamics in a northern forest. Ecological Society of America Annual Meeting, Minneapolis, MN.
- Dymond S,** Bolstad P, Kolka R. 2013. A dynamic model of soil moisture at the Marcell Experimental Forest. North American Forest Soils Conference, Whitefish, MT.
- Dymond S,** Kolka R, Bolstad P. 2012. 50 years of soil moisture at the Marcell Experimental Forest. Soil Science Society of America Annual Meeting, Cincinnati, OH.
- Dymond S,** Aust WM, Prisley S, Eisenbies M, Vose J, Dolloff CA. 2009. The effect of forest road density on stream discharge as calculated by the Distributed Hydrology-Soil Vegetation Model. Soil Science Society of America International Annual Meeting, Pittsburg, PA.
- Dymond S,** Aust WM, Prisley S, Eisenbies M, Vose J. 2008. Influence of forest roads standards and networks on water yield as predicted by the Distributed Hydrology-Soil Vegetation Model. Biennial Southern Silvicultural Research Conference, Hot Springs, AR.

Poster Presentations at Professional Meetings

- Bladon K, **Dymond S,** Keppeler E, McNamara J, McDonnell J. 2017. A preliminary analysis of rainfall-runoff relationships and tree water use in four coast redwood catchments. Gordon Research Conference: Interactions of Hydrology, Biology, and Geochemistry. Lewiston, ME.

- Saksa P, Safeeq M, **Dymond S**. 2016. Implications of increasing forest density and vegetation water demand on drought impacts in California montane forests. American Geophysical Union Meeting, San Francisco, CA.
- Dymond S**, Miniati C, Bladon K, Keppeler E, Caldwell P. 2016. Disentangling the response of streamflow to forest management and climate. American Geophysical Union Meeting, San Francisco, CA.
- Dymond S**, Keppeler E. 2016. A third experiment at the Caspar Creek Experimental Watersheds. Coast Redwood Science Symposium. Eureka, CA.
- Dymond S**, Kolka R, Bolstad P, Gill K, Curzon M, D'Amato A. 2015. Excess winter precipitation limits lowland black spruce productivity. American Geophysical Union Meeting, San Francisco, CA.
- Kolka R, Sebestyen S, Campbell J, Rustad L, **Dymond S**, Green M. 2015. Climate change effects on hydrologic processes in northern forests. IUFRO International Conference on Forests and Water in a Changing Environment. Kelowna, BC, Canada.
- Dymond S**, Bolstad P, Kolka R. 2012. The relationship between soil moisture and forest productivity: A pilot study. Ecology Society of America Annual Meeting, Portland, OR.
- Dymond S**, Aust W, Prisley S, Eisenbies M, Vose J, Dolloff CA. 2010. Modeling streamflow responses to road density in the Coweeta Watershed, North Carolina. Council on Forest Engineering Annual Meeting, Auburn, AL. June 6-9, 2010.
- Dymond S**, Aust WM, Prisley S, Eisenbies M. 2010. Using a distributed hydrology model to predict streamflow response to forest road density. Forest Resources Graduate Symposium, Blacksburg, VA.
- Dymond S**, Aust WM, Prisley S, Eisenbies M, Vose J, Dolloff CA. 2009. Predicting stream discharge using a distributed hydrology model. Blue Ridge Society of American Foresters Annual Meeting, Blacksburg, VA.

TEACHING EXPERIENCE

University of Minnesota Duluth, Department of Earth and Environmental Sciences

ESCI/BIOL 4360/5360 – Ecosystems Ecology and Biogeochemistry: Spring 2018

ESCI/GEOL 4201/5201 – Hydrology and Watershed Management: Spring 2017 - 2018

Teaching Assistantships

University of Minnesota, Department of Forest Resources

FR 3114/5114 – Hydrology and Watershed Management: Fall 2012, Fall 2013, Fall 2014

Enrollment: 65 (undergraduate), 16 (graduate)

Virginia Tech, Department of Forestry

FOR 2324 – Dendrology: Spring 2007, Fall 2008, Fall 2009

Enrollment: 60 (undergraduate)

FOR 3724 – Forest Boundaries and Roads: Spring 2008

Enrollment: 10 (undergraduate)

Invited Class Lectures

Soil moisture: field measurements and soil water energy budgets. FR 3114/5114 – Forest Hydrology and Watershed Management, University of Minnesota. September 25, 2014.

Soil water infiltration. FR 3114/5114 – Forest Hydrology and Watershed Management, University of Minnesota. September 23, 2014.

Soil water. ENV 194 – Dirt and Development: The Relationships between Humans and Soil, Macalester College. March 14, 2014.

Water quality characteristics and management. FR 3114/5114 – Forest Hydrology and Watershed Management, University of Minnesota. November 26, 2013.

The water cycle. EEB 4609/5609 – Ecosystem Ecology, University of Minnesota. November 13, 2013.
 An introduction to stable isotopes in ecology. EEB 4609/5609 – Ecosystem Ecology, University of Minnesota.
 October 21, 2013.
 Soil profiles and soil classification: an introduction. EEB 4609/5609 – Ecosystem Ecology, University of
 Minnesota. September 16, 2013.
 Water quality characteristics. FR 3114/5114 – Forest Hydrology and Watershed Management,
 University of Minnesota. December 6, 2012.
 Water quality management. FR 3114/5114 – Forest Hydrology and Watershed Management,
 University of Minnesota. December 4, 2012.
 Mass wasting, sediment yield, and channel processes. FR 3114/5114 – Forest Hydrology and Watershed
 Management, University of Minnesota. November 13, 2012.
 The impacts of forest roads on stream discharge. FOR 3724 – Forest Boundaries and Roads,
 Virginia Tech. March 13, 2010.

AWARDS AND HONORS

Graduate Student Leadership Award, Univ. of MN College of Food, Ag, and Natural Resource Sci, 2014
 Leiton E. Nelson Scholarship, University of Minnesota Department of Forest Resources, 2014
 Student Scholarship (full tuition and travel), Univ. of Utah Stable Isotopes in Ecology Course, 2012
 Outstanding Master's Student, Virginia Tech Department of Forestry, 2010
 Outstanding Senior Award, Virginia Tech Department of Forestry, 2007
 Peter B. Feret Memorial Undergraduate Scholarship, Virginia Tech Department of Forestry, 2006
 Xi Sigma Pi, Natural Resources Honor Society, 2005
 Gamma Sigma Delta, Natural Agriculture Honor Fraternity, 2005
 First Place, Roy G. Mills Geology Competition, 2004

PROFESSIONAL SERVICE AND DEVELOPMENT

Service Activities

Reviewer, National Science Foundation, 2018
 Reviewer, UMN Undergraduate Research Opportunity Program, 2017
 Panel Member, Northwoods Women in Science, 2017
 Volunteer, Society of American Foresters 5th Grade Forestry Field Day, 2017
 Mentor, AGU Fall Meeting Undergraduate Mentor Pilot Program, 2015
 Member, AGU Ecohydrology Technical Committee, 2015 – present
 Organized Oral Session Organizer, AGU Fall Meeting, 2015
 Member, Earth Science Women's Network Awards Committee, 2015
 Organized Oral Session Organizer, 99th Annual ESA Conference, 2014
 Member, UMN CFANS Graduate Research Policy Review Committee, 2013 - 2014
 Member, UMN CFANS/CBS Merger Task Force Committee, 2013
 Session Moderator, 98th Annual ESA Conference, 2013
 Outreach Chair, UMN Natural Resources Assn. of Graduate Students, 2013
 Founder, UMN Natural Resources Assn. of Graduate Students, 2012
 President, UMN Natural Resources Assn. of Graduate Students, 2012
 Session Moderator, 98th Annual ESA Conference, 2012
 Panel Member, UMN FR 1011-Introduction to Graduate School, 2012
 Judge, Academy for Sciences & Agricultural Science Fair, 2012 – 2013
 Judge, James M. Murray Junior High Science Fair, 2011 – 2013
 Member, UMN CFANS Information Technology Committee, 2011 – 2012

Presenter and Volunteer, UMN Teach SMART, 2011
 Moderator, Minnesota 4H Soils Competition, 2011
 Judge, Roanoke Valley Governor's School Project Forum, 2010
 Panel Member, 2nd Annual VT FREC Dept. Graduate Symposium, 2010
 Member, FREC Dept. Graduate Symposium Planning Committee, 2009 – 2010
 Presenter, VT College of Natural Resources Graduate Orientation, 2008 – 2009
 Member, VT College of Natural Resources Alumni Board of Directors, 2007 – 2010
 Alumni Ambassador, Virginia Tech College of Natural Resources, 2007 – 2010
 Student Mentor, Virginia Tech College of Natural Resources, 2007 – 2011
 Student Ambassador, Virginia Tech College of Natural Resources, 2006 – 2007

Journal Reviewer

Journal of Hydrology (1), Hydrological Processes (1), Canadian Journal of Forest Research (1), Forests (4), PLoS One (1), Forest Science (5), Water (1)

Grant/Fellowship Reviewer

CUAHSI Pathfinder Fellowship Program, USDA Mount Pleasant Research Natural Area

Additional Academic and Professional Training

Early Career Geosciences Faculty Workshop (*competitive invitation*). The Science Education Resource Center at Carleton College (SERC), Baltimore, MD. July 9 – 14, 2017.
 International Forest Hydrology Science Workshop (*invitation only*). Oregon State University College of Forestry, Portland, OR. December 9 – 11, 2015.
 High Impact Communications for Scientists Workshop. USDA Forest Service, Davis, CA. November 4 – 5, 2015.
 Introduction to Bayesian and Hierarchical Bayesian Modeling Workshop. Ecological Society of America Meeting, Minneapolis, MN. August 4, 2013.
 Stable Isotopes in Ecology Lecture and Laboratory Courses (*competitive invitation*). University of Utah Stable Isotope Ratio Facility for Environmental Research, Salt Lake City, UT. June 6 – 24, 2012.
 The Revised Universal Soil Loss Equation (RUSLE2) Workshop. Virginia Tech, Blacksburg, VA. October 10 – 11, 2009.

Professional Affiliations

Association for Women in Science, 2015 – present
 International Association of Hydrological Sciences, 2015 – present
 Earth Science Women's Network, 2012 – present
 American Geophysical Union, 2012 – present
 Ecological Society of America, 2012 – present
 Soil Science Society of America, 2008 – present
 Society of American Foresters, 2006 – present