

## TIMOTHY E. LINK

Professor of Hydrology  
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### EDUCATION:

2001 Ph.D. Environmental Sciences, Oregon State University, Corvallis, OR.  
1998 M.S. Geology, Oregon State University, Corvallis, OR.  
1991 B.A. Geology, Hampshire College, Amherst, MA.

### PROFESSIONAL AND RESEARCH EXPERIENCE:

*Professor of Hydrology:* College of Natural Resources, Dept. of Forest, Rangeland, and Fire Science, University of Idaho, Moscow, ID (2013-present). Current research activities focus on the interactions of vegetation and topography on snowcover dynamics, measurement and modeling of hydrologic processes in forested environments, and the influence of riparian microclimates on stream temperatures.

*Associate Professor of Hydrology:* College of Natural Resources, Dept. of Forest, Rangeland, and Fire Science, University of Idaho, Moscow, ID (2007–2013).

*Assistant Professor of Hydrology:* College of Natural Resources, Dept. of Forest Resources, University of Idaho, Moscow, ID (2001–2007).

*Graduate Research/Teaching Assistant:* Depts. of Atmospheric Science, Bioengineering, and Geosciences, Oregon State University, Corvallis, OR (1995-2001). Designed, installed and maintained an instrument network to measure hydrologic states and fluxes at experimental sites. Modified physically-based numerical models and conducted simulations of water and energy dynamics of a seasonal temperate rainforest and diversity of boreal forest types. Teaching Assistant: The Solid Earth, Introduction to the Atmospheric Sciences.

*Geochemist/Project Manager:* Exponent, Inc. (formerly PTI Environmental Services), Boulder, CO (1991-1995). Managed geochemical and groundwater investigations. Drafted technical reports and journal articles. Designed and implemented field studies and laboratory experiments. Provided technical support during meetings with regulatory agencies. Trained and supervised personnel in a variety of instrumental and wet chemical analytical methods.

### COURSES DEVELOPED & TAUGHT

Watershed Science and Management (FOR 462-01), 3 cr.  
Watershed Science and Management – online version (FOR 462-02), 3 cr.  
Advanced Watershed Science and Management (FOR 504), 3 cr.  
Hydrologic Measurement Techniques (FOR 463), 1 cr.  
Physical Hydrology (FOR515), 3 cr.  
Forest Hydrology (FOR504), 3 cr.  
Hydrologic Effects of Forest Management (FOR516), 1 cr.  
Streamflow Generation Processes (FOR504), 1 cr.  
Cumulative Watershed Processes (FOR/FISH 504), 1 cr.  
Snow-Vegetation Interactions (FOR504), 1 cr.  
Water, Salmon, and Society (WR504), 2 cr. field course  
Interdisciplinary Modeling: Water-Related Issues and Changing Climate (NRES730, Univ. NV Reno, with L. Saito and A. Fernald), 3 cr.  
IGERT Immersion Course (ENT/FOR/WLF 504), 1 cr. field course

## AWARDS & HONORS

Presidential Early Career Award for Scientists and Engineers (PECASE), USDA-CSREES, 2003  
 Outstanding Advisor, UI College of Natural Resources, 2012

## PROFESSIONAL ACTIVITIES

*Adjunct Faculty*, Department of Civil Engineering, University of Idaho, 2003 – present.

*Adjunct Faculty*, Department of Rangeland Ecology and Management, University of Idaho, 2003 – 2009.

*Courtesy Faculty*, Department of Forest Science, Oregon State University, 2002 – 2005.

*Courtesy Faculty*, Department of Forest Ecosystems and Society, Oregon State University, 2009 - 2010.

*Secretary*, AGU Cryosphere Focus Group Executive Committee, 2006 – 2010.

### *Proposal Review Panel*

NASA Energy and Water Study (NEWS), NASA Terrestrial Hydrology Program (NTHP), September 2005.

### *Proposal Reviewer*

Canadian Foundation for Climate and Atmospheric Sciences (CFCAS), Canada

Comisión Nacional de Investigación Científica y Tecnológica (CONICYT), Chile

Future Forest Ecosystems Scientific Council of British Columbia (FFESC), Canada

NASA Earth Systems Science Fellowship Competition

National Fish and Wildlife Foundation (NFWF)

National Science Foundation (NSF)

Natural Sciences and Engineering Research Council of Canada (NSERC), Canada

Stillinger Funds for Forestry & Botanical Research

Sustainable Forest Management Network (SFMN), Canada

Swiss National Science Foundation, Switzerland

USDA-CSREES National Research Initiative (NRI)

### *Book Proposal Reviewer*

Cambridge University Press

### *Manuscript Reviewer*

Advances in Water Resources

Agricultural and Forest Meteorology

Annals of Forest Science

ASCE Journal of Hydrologic Engineering

Atmosphere-Ocean

Canadian Journal of Forest Research

Ecohydrology

Ecological Modelling

Environmental Research Letters

Forest Science

Forest Ecology and Management

Hydrological Processes

Hydrology and Earth System Sciences

International Association of Hydrologic Sciences (IAHS) Red Books

Journal of the American Water Resources Association

Journal of Geophysical Research – Atmospheres

Journal of Geophysical Research – Biogeosciences

Journal of Hydrology

Journal of Hydrometeorology

Methods in Ecology and Evolution

Physical Geography

PLOS ONE

Remote Sensing of Environment

Soil Science Society of America Journal

Transactions of the American Society of Agricultural and Biological Engineers

Water Resources Research

### *Report Reviewer*

Future Forest Ecosystems Scientific Council of British Columbia (FFESC), 2012.

*Participant*, NSF - sponsored workshop: Design of Global Environmental Gradient Experiments using International CZO Networks. Newark, DE, November 8-10, 2011.

*Break-out Session Leader*, International Association of Hydrological Sciences, Predictability in Ungauged Basins (PUB) 2011: 'P3' Putting PUB into Practice Workshop, Canmore, Alberta, May 10-14, 2011.

*Session Facilitator*, Integrated and interdisciplinary Modeling for Water-Related Issues. Tri-State EPSCoR Consortium Meeting, Santa Ana Pueblo, NM, April 6-8, 2011.

*Participant*, SAHRA & NCAR - sponsored workshop: Progress, Challenges, and Priorities in Predicting the Water Cycle in Complex Terrain, Biosphere 2, Oracle, AZ, February 23-25, 2011.

*Session Convener*, AGU Special Session on Seasonal Snow Covers in a Changing Climate: Implications for Hydrological, Biogeochemical, and Ecological Processes, 2010 Fall Meeting

*Session Convener*, AGU Special Session on Innovations in Modeling of the Seasonal Snowpack and Interactions Between Vegetation and Snow, 2009 Fall Meeting

*Session Convener*, AGU Special Session on Monitoring, Measuring, and Modeling Snow Processes, 2008 Fall Meeting

*Session Convener*, AGU Special Session on Snowpack Dynamics in a Changing Climate, 2007 Fall Meeting

*Session Convener*, AGU Special Session on Snowcover-Vegetation Interactions, 2006 Fall Meeting

*Participant*, Summit on Forest Research for the 21st Century: Defining Strategic Directions and Rebuilding Capacity, National Association of University Forest Resource Programs (NAUFRP), Shepherdstown, WV, January 4-6, 2006.

*Session Convener*, AGU Special Session on Snow Hydrology, 2004 Fall Meeting.

*Consultant*. Third World Center for Water Resource Management, Mexico City, Mexico, 2000-2001.

*Session Convener*, AGU Special Session on Snow Hydrology, 2000 Fall Meetings.

*Officer*, Joint AWRA/AIH OSU Campus Chapter, 1998-2000.

Organized student field trips focused on snow hydrology, water management and environmental issues on the Columbia River system, urban hydrology and water quality issues, and rangeland riparian assessments. Organized monthly hydrology and water resources seminars. Co-created web-searchable student, faculty and course databases for the OSU water resources community.

## **PROFESSIONAL AFFILIATIONS**

American Geophysical Union

American Water Resources Association

American Institute of Hydrology

Society of American Foresters

North American Benthological Society

## **RESEARCH INTERESTS**

Snow hydrology, Interactions of vegetation and hydrologic processes, Interactions of fire and hydrology, Microclimatology of riparian systems

## **STUDENT COMMITTEES - IN PROGRESS**

John Gravelle, Ph. D., Environmental Sciences (Major Professor)

P. Zion Klos, Ph. D. candidate, Natural Resources (Major Professor)

Ryan Niemeyer, Ph. D., Natural Resources (Major Professor, co-advised with Dr. Robert Heinse)

Kristen Welsh Unwala, Ph. D., Water Resources

Alex Suazo, Ph. D., Natural Resources

Brandon Moore, Ph. D. candidate, Geography

Amanda Bentley, Ph. D. candidate, Environmental Sciences

Travis Cowles, Ph. D., Geography

Mark Corrao, Ph. D., Water Resources

Cody Settles, M. S., Environmental Sciences

Benjamin Soderquist, M. S., Natural Resources

Hallie Rajkovich, M. S., Water Resources

Abigail Lute, M. S., Water Resources

**STUDENT COMMITTEES – COMPLETED (AS MAJOR PROFESSOR)**

Sage Bryden, M. S., Water Resources, November 2013

Coupled soil moisture, soil temperature, and snow dynamics in complex terrain of a semi-arid mountainous watershed

Wade Tinkham, Ph. D., Natural Resources, May 2013 (Co-major professor with Dr. Alistair Smith)

Improved Assessments of Ecosystem Services Through Active-Remote Sensing: Quantification of Timber and Snow Resources.

Andy Knight, M. S., Environmental Sciences, May 2012

Stream temperature modeling in a complex river system: An evaluation of river temperature response to probable influential factors in the Middle Snake River, Idaho.

Enhao Du, Ph.D., Environmental Sciences, October 2010

Dissertation Title: Numerical simulation of the effect of land cover and climate changes on hydrologic regimes in an inland Pacific Northwest watershed.

Diana Carson, M.S., Forest Resources, September 2010.

Thesis Title: Quantification of snow pack mass and energy dynamics across a canopy discontinuity.

Hongyu Huang, M.S., Forest Resources, August 2010. Co-advised with Dr. Alistair Smith.

Professional paper title: Challenges of LiDAR in shrub ecosystems: A preliminary assessment of LiDAR shrub height and ground elevation accuracies.

Joel Clark, M.S., Forest Resources, June 2010.

Professional paper title: An exploration of the relationship between LiDAR derived variables and the spatial variation of snow cover in headwater catchments.

Eric Herchmer, M.S., Forest Resources, May 2010.

Thesis Title: Scaling snow observations from a point to the grid element: Evaluating a simple snow depth mapping model with northern Rocky Mountain snowpack measurements

Robert Lawler, M.S., Forest Resources, February 2010.

Thesis title: Quantification of incoming all-wave radiation in discontinuous forest canopies with application to snowmelt prediction.

Michele Reba, Ph.D., Civil Engineering, December 2008.

Dissertation title: An assessment of measurements and modeling of turbulent fluxes over snow by eddy covariance at two complex mountain sites.

Jason Hubbard, Ph.D., Natural Resources, June 2007.

Dissertation title: Measuring and modeling hydrologic response to timber harvest in a continental/maritime mountainous environment.

Gary Chauvin, M.S., Environmental Sciences, November 2006.

Thesis title: Long-term annual water balance of a semi-arid mountainous catchment.

Andrew Warnings, M.S., Forest Resources, August 2006.

Professional paper title: Impacts of timber harvest on event-based canopy interception.

Ashley Covert, M.S., Forest Resources, December 2003.

Thesis Title: Accuracy assessment of WEPP-based erosion models on three small, harvested and burned forest watersheds.

**STUDENT COMMITTEES – COMPLETED (AS COMMITTEE MEMBER)**

Mariana Dobre, Ph. D., Biosystems Engineering, Washington State University, July 2013

Effects of Forest Management and Environmental Variables on Forest Hydrology in Small Pacific Northwest Watersheds

Joshua Hail, M. S., Landscape Architecture, May 2013

Designing Bio-Infiltration Swale Models for Shallow Aquifer Recharge for the Soils in Moscow, Idaho

Ryan Toohey, Ph.D., Environmental Sciences, July 2012

Dissertation Title: Land use, hydrological processes and ecosystem services in the upper Reventazón watershed, Costa Rica

Jaclyn Hancock, M.S., Water Resources, April 2012.

Thesis Title: Analysis of thermal heterogeneity and degree of channelization on Lapwai Creek

Chet Hagen, M.S., Water Resources, May 2011.

Prioritizing roads for decommissioning: An integrative watershed scale approach to maximize multiple benefits on the Clearwater National Forest

- Shaniko Nichol-Driskill, M. S., Natural Resources, April 2011.  
Thesis Title: Effects of trampling and fire on *Lepidium Papilliferum* and slickspot habitat
- Chris Welcker, Ph.D., Civil Engineering, April 2011.  
Dissertation Title: Bulking debris flow initiation and impacts.
- Peter Gag, M.S., Forest Resources, May 2009.  
Thesis title: The effect of thinning on whole-tree transpiration and gas exchange in Douglas-fir of northern Idaho.
- Joey Machala, M.S., Water Resources, May 2009.  
Thesis title: Localized climate change trends in Idaho and impacts on Idaho's Middle Fork of the Salmon River whitewater rafting operations.
- Aaren Fiedler, M.S. Hydrology, March 2009.  
Thesis title: Well interference effects in the Grande Ronde aquifer system in the Moscow-Pullman area of Idaho and Washington.
- Mike Falkowski, Ph.D., Natural Resources, June 2008.  
Dissertation title: Application of discrete-return LiDAR to improve coniferous forest inventory estimates.
- Robert Pangle, Ph.D., Natural Resources, May 2008.  
Dissertation title: Transpiration and canopy conductance of mixed species conifer stands in an inland Pacific Northwest forest.
- Chad Opatz, M.S., Hydrology, October 2007.  
Thesis title: Evaluation of cleaning and rehabilitation of University of Idaho Well #2 on the local groundwater systems, in the Moscow, Idaho Area.
- Anne-Marie Casey, M.S., Environmental Sciences, April 2006.  
Thesis title: Impacts of flow regulation on Black Cottonwood (*Populus trichocarpa*) along the Skagit River, Washington.
- Lynne Westerfield, M.S., Conservation Social Sciences, March 2006.  
A Mixed Methods Approach: Sense of Place and Stewardship Behavior in the Clearwater Valley, Idaho
- Huei-Jin Wang, M.S., Forest Resources, February 2006.  
Thesis title: Modeling branch mortality within the crown as related to crown competition between neighboring trees for three northern Idaho coniferous species in heterogeneous stands
- Katherine Lanspery, M.S., Rangeland Ecology and Management, November 2005.  
Thesis Title: Remote sensing analysis and sequential aerial photography in monitoring the effects of domestic livestock grazing: Assessing the long-term resource condition in threatened and endangered fish habitat.
- Michael Atchison, M.S., Environmental Sciences, April 2005.  
Thesis Title: A biological assessment of benthic macroinvertebrates in the Big Boulder Creek Drainage Basin, Owyhee County, Idaho.
- Tom Pypker, Ph.D., Forest Science (Oregon State University), December, 2004.  
Dissertation Title: The influence of canopy structure and epiphytes on the hydrology of Douglas-fir forest canopies.
- Erin Chamberlain, M.S., Environmental Sciences, September 2004.  
Thesis Title: Leaf decomposition and stream macroinvertebrate colonization of Japanese knotweed, an exotic riparian plant species.
- Wendy Joslin, M.S., Forest Resources, May 2004.  
Professional Paper Title: Fire Regime Condition Class: Uses and challenges in Western Juniper – Mountain Sage landscapes.
- James Heffner, M.S., Geology, April 2004.  
Thesis Title: Using surface characteristics to infer the permeability structure of an active fault zone.

#### **DISSERTATION EXTERNAL EXAMINER**

- Sandra N. Dharmadi Hawthorne, Ph.D. Department of Forest and Ecosystem Science, University of Melbourne, Australia, Spring 2012.  
Thesis Title: The long term impact of thinning on water yield.
- William Floyd, Ph.D., University of British Columbia, Canada, 2012  
Dissertation Title: Snowmelt energy balance recovery in regenerating forests frequented by rain-on-snow events.

#### **PROMOTION PORTFOLIO EXTERNAL EVALUATOR**

- Virginia Tech, College of Natural Resources, 2013.
- Colorado State University, Warner College of Natural Resources, 2012.

## RESEARCH GRANTS & CONTRACTS RECEIVED

2013. Douglas Shinneman, Timothy Link, Kathleen Kavanagh, Susan McIlroy, Scott Powell, Robert Scheller, John Campbell, Daniel Marks, Mark Seyfried, and Adam Winstral, **Projecting climate change effects on aspen distribution and productivity in the central and northern Rockies by coupling hydrological and landscape-disturbance models**, USGS Northwest Climate Science Center, \$476,295.
2013. Jessica Lundquist, Jim Lutz, Susan Dickerson-Lange, Anne Nolin, Timothy Link, Amy Snover, Rolf Gersonde, and Steve Malloch. **Forest Management Tools to Maximize Snow Retention under Climate Change**, USGS Northwest Climate Science Center, \$199,849.
2013. Andy Hudak, Terrie Jain, John Byrne, John Marshall, Timothy Link, and Katy Kavanagh. **Effects of forest management and succession on long-term carbon and water budgets**. USDA Forest Service, Western Wildlands Environmental Threat Assessment Center, \$86,457.
2011. Timothy Link. **Modeling snow, soil moisture, and streamflow impacts on water, soil, and vegetation resources in semi-arid basins, add-on**. USDA-ARS Northwest Watershed Research Center, \$22,000.
2010. Katy Kavanagh, Herbert Hess, Timothy Link, Beth Newingham, and Alistair Smith. **MRI: Development of a smart 3-D wireless sensor network for terrain-climate research in remote mountainous environments**. NSF-DBI, \$563,326.
2010. Timothy Link. **Modeling snow, soil moisture, and streamflow impacts on water, soil, and vegetation resources in semi-arid basins, add-on**. USDA-ARS Northwest Watershed Research Center, \$12,000.
2009. Timothy Link. **Benton dam data archiving**. USFS-RMRS, \$10,000.
2009. Timothy Link. **Modeling snow, soil moisture, and streamflow impacts on water, soil, and vegetation resources in semi-arid basins**. USDA-ARS Northwest Watershed Research Center, \$16,271.
2009. Timothy Link, Peter Goodwin, Danny Marks, and Jim McNamara. **Collaborative Research: A WATERS testbed to investigate the impacts of changing snow conditions on hydrologic processes in the western United States**. NSF-CBET, \$502,553 (UI Component: \$250,517).
2007. Noah Molotch, William Yeh, Steven Fassnacht, and Timothy Link, **Scaling Snow Observations from the Point to the Grid Element: Supporting NOHRSC's National Snow Analysis System**. NOAA-NWS, \$375,000.
2006. Timothy Link, **Impact of forest treatments and climate change on hydrologic regimes: Assessment of mechanisms that affect hydrologic alteration**. USDA National Research Initiative, Presidential Early Career Award for Scientists and Engineers, \$175,000.
2006. Timothy Link, **Radiation Climatology of Forest Gaps: Development of a Mechanistic Model to Enhance Hydrologic Flows and Reduce Wildland Fire Hazards**. UI College of Natural Resources McIntire-Stennis Grant, \$83,785.
2005. Timothy Link, Jeff Braatne, Paul Gessler, Han-Sup Han, Kathleen Kavanagh, John Marshall, and Andrew Robinson, **University of Idaho: Collaborative Working Forests**. U.S. Forest Service, \$272,300.
2005. Timothy Link, Stuart Hardegree, Danny Marks, Mark Seyfried, Steve Bunting, Fred Pierson, and Adam Winstral, **Great Basin Restoration Initiative Remote Sensing Project**. USDA ARS Northwest Watershed Research Center, BLM Owyhee Uplands Project, Utah State University, and the Natural Resources Conservation Service, \$152,973.
2004. Timothy Link, Jeff Braatne, Paul Gessler, Han-Sup Han, Kathleen Kavanagh, John Marshall, and Andrew Robinson, **University of Idaho: Collaborative Working Forests**. U.S. Forest Service, \$243,000.
2003. Andrew Robinson and Timothy Link. **Developing, improving, and linking tree-level models of crown dynamics for the projection of stand-level hydrological processes**. UI College of Natural Resources McIntire-Stennis Grant, \$50,997.
2003. Timothy Link, Paul Gessler, Han-Sup Han, Kathleen Kavanagh, John Marshall, and Andrew Robinson, **Managed Forests as Productive Systems: A Research and Education Initiative**. U.S. Forest Service, \$346,000.
2003. Timothy Link, **Impact of forest treatments and climate change on hydrologic regimes**. USDA National Research Initiative Competitive Grants Program, \$259,614.
2003. Danny Marks, John Pomeroy, Timothy Link and Janet Hardy. **Influence of sub-grid variability on snow deposition and ablation in North American mountain environments: Implications for upscaling to meso-scale representations**. NOAA Office of Global Programs, UI component: \$161,000, Project total: \$330,000.
2003. Jan Boll & Timothy Link, **Modeling cumulative effects of hillside disturbances at a watershed scale**. USFS Rocky Mountain Research Station, \$191,000.
2002. Timothy Link & Jeff Braatne. **Comparative investigations of riparian microclimates**. University of Idaho Seed Grant Program, \$9980.
2002. Timothy Link, **University of Idaho Small Travel Grant**. \$890.

### As Senior Personnel:

- 2010-2015. Alexander Fernald et al. **CNH: Acequia Water Systems Linking Culture and Nature: Integrated Analysis of Community Resilience to Climate and Land-Use Changes**. National Science Foundation, \$1,400,892.
- 2008-2013. Jean'ne M. Shreeve, Gregory Bohach, and Von Walden. **Idaho EPSCoR RII: Water Resources in a Changing Climate**. National Science Foundation (RII), \$15,000,000.
- 2007-2010. H. G. Frede, L. Breuer, and K. Vaché. **Matter fluxes in Inner Mongolia as influenced by stocking rate (MAGIM)**. Deutsche Forschungsgemeinschaft, 2,900,000 €.
- 2006-2011. John W. Pomeroy, S. Carey, R. Essery, R. Granger, M. Hayashi, R. Janowicz, P. Marsh, S. Munro, A. Pietroniro, W. Quinton, K. Snelgrove, R. Soulis, C. Spence, and D. Verseghy. **IP3: Improved Processes and Parameterisation for Predictions in Cold Regions**, Canadian Foundation for Climate and Atmospheric Sciences, \$2,500,000 CDN.
- 2005-2008. Jean'ne M. Shreeve, Gregory Bohach, and Peter Goodwin. **Idaho Research Infrastructure Improvement**. National Science Foundation (RII), \$9,000,000.
- 2004-2007. Jan Boll, J. D. Wulfhorst, Murat Isik, and Robert Mahler. **Evaluation of Conservation Practices in a Mixed-Land Use Watershed using Cumulative Effects Modeling and Interdisciplinary Analyses**. USDA Conservation Effects Assessment Project (CEAP), \$600,000.

### EDUCATION & PROGRAM DEVELOPMENT GRANTS RECEIVED

2013. Jan Boll, Brian Kennedy, Timothy Link, Manoj Shrestha, and John Tracy. **IGERT: Adaptation to change in water resources: science to inform decision-making across disciplines, cultures and scales**. National Science Foundation, \$3,099,997.
2008. Robert Mahler, Jan Boll, Susan Childers, Kathleen Kavanagh, Timothy Link, John Marshall, Matt Morra, Christopher Peery, Barbara Williams, Frank Wilhelm. **REU Site: Summer Research Experience for Undergraduates in Sustainable Water Resources**. National Science Foundation, \$336,000.
2007. Timothy Link, Jan Boll, Maxine Dakins, Chad Hoffman, Edwin Krumpe, Penelope Morgan, Ron Robberecht, and David Schlater. **Application of Lecture Capture Technology (LCT) to Expand Degree Programs, Enhance Teaching and Learning and Transform Curricula**. Idaho State Board of Education Technology Incentives Grant Program, \$80,000.
2006. Jan Boll, Barbara Cosens, Fritz Fiedler, Timothy Link, Patrick Wilson, Gary Johnson, Markus Tuller, Brian Kennedy, and Chuck Harris. **Water of the West: Towards a Sustainable, Interdisciplinary Water Resources Program**. University of Idaho President's Strategic Initiative, \$1,666,358.
2005. Fritz Fiedler, Kathleen Kavanagh, Jan Boll, Stephanie Hampton, Timothy Link, John Marshall, Christopher Peery, Markus Tuller, Barbara Williams, and J. D. Wulfhorst. **Summer Research Experience for Undergraduates in Water Resources**. National Science Foundation, \$350,000.
2002. Bob Mahler, Pat Wilson, Scott Wood, Marcus Tuller, Jan Boll, Timothy Link, Jeff Braatne, Barbara Williams, Karen Humes, and Mike Falter. **Use of the web to enhance existing and develop new water-based courses to improve both campus and distance-based programs offered by the University of Idaho**. Idaho State Board of Education, \$195,880.

### As Supporting Collaborator

2008. Peter Goodwin, Steven Daley-Laursen, and Derek Nalle, and 23 supporting senior personnel, **Pan-American Studies Institute (PASI): Human, Physical, and Natural Capital Investment in Patagonia: A Predictive Approach under the Sustainability Criterion**, National Science Foundation, OISE – Americas Program, \$99,370.
2006. Thorsten Wagener, Michael N. Gooseff, Lucy A. Marshall, Brian L. McGlynn, Priya Sharma, and 33 collaborators, **Modular Curriculum for Hydrological Advancement - Toward an Online Faculty Learning Community for Hydrology Education**, National Science Foundation, CCLI, \$149,205.

### REFEREED PUBLICATIONS

- Du, E.\* , T. E. Link, J. A. Gravelle\*, and J. A. Hubbart\*. (in press). Validation and sensitivity of the Distributed Hydrology Soil-Vegetation Model (DHSVM) in a forested mountain watershed. *Hydrological Processes*.
- Saito, L., T. E. Link, A. Fernald, and L. Kohne. (in press). Lessons learned from teaching an inter-institutional graduate course on interdisciplinary modeling for water-related issues and changing climate. *Journal of Contemporary Water Resources Education*.
- Heinse, R. and T. E. Link. (in press). Vadose zone processes: a compendium of and case study for teaching interdisciplinary modeling. *Journal of Contemporary Water Resources Education*.

- Tinkham, W. T.\*, Smith, A. M. S., Marshall, H-P., Link, T. E., Falkowski, M. J. and Winstral, A. H. 2014. Finding snow in the mountains: Using LiDAR to quantify snow volume in heterogeneous landscapes. *Remote Sensing of the Environment*. v. 141, 105-115. DOI:10.1016/j.rse.2013.10.021.
- Seyednasrollah, B.\*, M. Kumar, and T. E. Link. 2013. On the role of tree density on net radiation on the forest floor. *Journal of Geophysical Research: Atmospheres*. v. 118 n. 15, 8359-8374. DOI:10.1002/jgrd.50575.
- Tinkham, W. T.\*, C. M. Hoffman, M. J. Falkowski, A. M. S. Smith, H-P. Marshall, and T. E. Link. 2013. A methodology to characterize vertical accuracies in lidar-derived products at landscape scales. *Photogrammetric Engineering & Remote Sensing*. v. 79, n. 8, 709-716.
- Wei, L.\*, J. D. Marshall, T. E. Link, K. L. Kavanagh, E. Du, R. E. Pangle, P. J. Gag, and N. Ubierna. 2013. Constraining 3-PG with a new  $\delta^{13}\text{C}$  sub-model: a test using the  $\delta^{13}\text{C}$  of tree rings. *Plant, Cell, and Environment*. DOI: 10.1111/pce.12133
- Ellis, C. R.\*, J. W. Pomeroy, and T. E. Link. 2013. Modeling increases in snowmelt yield and desynchronization resulting from forest gap-thinning treatments in a northern mountain headwater basin. *Water Resources Research*. v. 49, 1-14, DOI :10.1002/wrcr.20089. *WRR featured article*.
- Meromy, L.\*, N. P. Molotch, T. E. Link, S. R. Fassnacht, and R. Rice. 2013. Subgrid variability of snow water equivalent at operational snow stations in the western USA. *Hydrological Processes*. v. 27, 2383–2400, DOI: 10.1002/hyp.9355.
- Kumar, M., R. Wang, and T. E. Link. 2012. Effects of more extreme precipitation regimes on maximum seasonal snow water equivalent. *Geophysical Research Letters*. DOI:10.1029/2012GL052972.
- Reba, M. L.\*, D. Marks, T. E. Link, J. W. Pomeroy, and A. Winstral. 2012. Sensitivity of model parameterizations for simulated latent heat flux at the snow surface for complex mountain sites. *Hydrological Processes*. DOI: 10.1002/hyp.9619.
- Reba, M. L.\*, J. W. Pomeroy, D. Marks, and T. E. Link. 2012. Estimating surface sublimation losses from snowpacks in a mountain catchment using eddy covariance and turbulent transfer calculations. *Hydrological Processes*. v. 26, 3699-3711. DOI: 10.1002/hyp.8372.
- Koeniger, P., J. D. Marshall, T. E. Link, and A. Mulch. 2011. An inexpensive, fast, and reliable method for vacuum extraction of soil and plant water for stable isotope analyses. *Rapid Communications in Mass Spectrometry*. v. 25, 3041-3048. doi: 10.1002/rcm.5198.
- Hubbart, J. A.\*, T. E. Link, and W. Elliot. 2011. Strategies to improve WEPP snowmelt simulations in mountainous terrain. *Transactions of the American Society of Agricultural and Biological Engineers*. v. 54, n. 4, 1-13.
- Lawler, R. R.\* and T. E. Link. 2011. Quantification of incoming all-wave radiation in discontinuous forest canopies with application to snowmelt prediction. *Hydrological Processes*. doi: 10.1002/hyp.8150.
- Reba M. L.\*, D. G. Marks, A. Winstral\*, T. E. Link, and M. Kumar. 2011. Sensitivity of the snowcover energetics in a mountain basin to variations in climate, *Hydrological Processes*. doi: 10.1002/hyp.8155.
- Tinkham, W.\*, H. Huang\*, A. M. S. Smith, R. Shrestha, M. J. Falkowski, A. T. Hudak, T. E. Link, N. F. Glenn, and D. G. Marks. 2011. A comparison of two open source LiDAR surface filtering algorithms. *Remote Sensing*, v. 3, 638-649. doi: 10.3390/rs3030638.
- Ellis, C.R.\*, J. W. Pomeroy, R. L. H. Essery, and T. E. Link. 2011. Effects of needleleaf forest cover on radiation and snowmelt dynamics in the Canadian Rocky Mountains, *Canadian Journal of Forest Research*, 41(3), pp. 608-20. doi:10.1139/X10-227.
- Chauvin, G. M.\*, G. N. Flerchinger, T. E. Link, D. Marks, A. H. Winstral\*, and M. S. Seyfried. 2011. Long-term water balance and conceptual model of a semi-arid mountainous catchment, *Journal of Hydrology*, 400, pp. 133-43. doi:10.1016/j.jhydrol.2011.01.031.
- Ice, G. G., G. W. Brown, J. A. Gravelle\*, C. R. Jackson, J. T. Light, T. E. Link, D. J. Martin, D. McGreer, and A. Skaugset. 2010. Discussion: “Stream Temperature Relationships to Forest Harvest in Western Washington” by Michael M. Pollock, Timothy J. Beechie, Martin Liermann, and Richard E. Bigley. *Journal of the American Water Resources Association*, 1-5, doi: 10.1111/j.1752- 1688.2010.00441.x.
- Gravelle, J. A.\*, T. E. Link, J. Broglio† and J. Braatne. 2009. Impacts of timber harvest on aquatic macroinvertebrate community composition in a northern Idaho watershed. *Forest Science*. v. 55, n. 4, 352-366.
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#### **MANUSCRIPTS SUBMITTED**

- Hancock, J., B. Williams, E. Strand, and T. E. Link. (in revision). Analysis of thermal heterogeneity and degree of channelization on Lapwai Creek. Submitted to *Hydrological Processes*.
- Klos, P. Z.\* , T. E. Link, and J. Abatzoglou. (in revision). The current and future extent of the rain-snow transition zone in the western US: implications for the timing of peak SWE. Submitted to: *Geophysical Research Letters*.

#### **MANUSCRIPTS IN DRAFT**

- Carson, D.\* , T. E. Link, and D. Marks. (in preparation). Quantification of snow pack mass and energy dynamics across a canopy discontinuity. For submittal to *Hydrological Processes*.
- Chain-Guadarrama\*, A., P. Z. Klos\*, F. Casanoves, B. Finegan, L. Vierling, R. Chazdon, and T. E. Link. Local scale patterns of rainfall redistribution in old-growth and secondary lowland Neotropical forests. For submission to: *Journal of Hydrology*.
- Du, E\*. and T. E. Link. (in preparation). Evaluation of the hydrologic effects of spatial and temporal patterns of forest canopy change using numerical modeling. For submittal to *Journal of Hydrology*.
- Du, E.\* , T. E. Link, and J. Abatzoglou. (in preparation). Evaluating the potential hydrologic responses to climate changes in an interior Pacific Northwest forested watershed. For submittal to *Journal of Hydrology*.
- Herchmer, E. L.\* , T. E. Link, R. Melloh, and N. P. Molotch. (in preparation). Scaling snow observations from the point to the grid element: Evaluation of a simple snow depth mapping model. For submittal to *Hydrological Processes*.
- Klos, P. Z.\* , T. E. Link, and J. A. Gravelle. (in preparation). Quantifying incoming shortwave and longwave radiation to headwater streams beneath different canopy structures. For submittal to: *Agricultural and Forest Meteorology*.
- Klos, P. Z.\* , T. E. Link, J. Abatzoglou, and K. Kavanagh. (in preparation) Changes in the climatic water balance and precipitation phase under a warming climate: Implications for terrestrial ecosystems in the Columbia River Basin. For submittal to: *Hydrological Processes*.
- Klos, P. Z.\* , T. E. Link, et al. (in preparation) Indicators of climate change in Idaho: The intersection of biophysical change with social perception across a diverse landscape. For submittal to: *Climatic Change*.
- Klos, P. Z.\* , A. Chain\*, T. E. Link, L. Vierling, and B. Finegan. (in preparation) Throughfall heterogeneity in forested landscapes as a focal mechanism for deep percolation. For submittal to: *Journal of Hydrology*
- Link, T. E., J. W. Pomeroy, D. Marks, and R. Essery. (in preparation) Radiative regimes in discontinuous vegetation canopies: Evidence for incoming all-wave radiative paradoxes. For submission to *Hydrology and Earth Systems Science*.

- Link, T. E., L. Saito, and A. Fernald. Introduction to the Special Issue: Interdisciplinary Modeling for Water Resources in a Changing Climate. *Journal of Contemporary Water Resources Education*.
- Seyfried, M., T. E. Link, D. Marks, and S. Tyler. (in preparation) Measurement of Soil Temperature in Snow-Affected, complex terrain using DTS. For submission to: *Hydrological Processes*
- Sydow, L.†, J. A. Gravelle\*, T. E. Link, and R. Keefe\*. (in preparation). Comparison of effective shade estimation methods for montane headwater streams. For submission to: *Forest Ecology and Management*.
- Wei, L., J. D. Marshall, H. Zhou, T. E. Link, E. Du, K. L. Kavanagh, and J. Zhang. (in preparation). Using a process model and lidar to predict forest productivity in the presence of cold-air drainage in mountainous terrain.

\* denotes graduate student author

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### PEER-REVIEWED BOOK CHAPTERS

- Molotch, N. P., P. D. Blanken, and T. E. Link. 2011. Snow: Hydrological and ecological feedbacks in forests. in: *Forest Hydrology and Biogeochemistry*, Delphis F. Levia, Darryl Carlyle-Moses, and Tadashi Tanaka (eds.), Synthesis of Past Research and Future Directions Series: Ecological Studies, Vol. 216, Springer, New York, 740 pp. ISBN: 978-94-007-1362-8.
- Link, T. E., G. N. Flerchinger, M. H. Unsworth, and D. Marks. 2005. Water relations of old growth Douglas Fir stands. p. 147-159. in: *Climatology and Hydrology of Mountain Areas*, Carmen DeJong, Dave Collins and Roberto Ranzi (eds.), J. Wiley & Sons, 344 pp. ISBN: 0-470-85814-1.
- Link, T. E., C. Pearson, C. Jones, B. Fitt, C. Davis and A. Wolf. 2003. Status of water resources in the United States of America, 2000. in: *Water Resources of North America*, Asit K. Biswas (ed.), Springer-Verlag, New York, 380 pp. ISBN: 3-540-00284-7.

### PEER-REVIEWED ARTICLES

- Dobre, M.\*, W. J. Elliot, J. Q. Wu, T. E. Link, B. Glaza, T. B. Jain, and A. T. Hudak. 2012. Relationship of field and LiDAR estimates of forest canopy cover with snow accumulation and melt. in: *Proceedings of the 80<sup>th</sup> annual Western Snow Conference*, Anchorage, AK, May 21-24, 2012. pp. 23-31.
- Link, T. E., L. Saito, and A. Fernald.
- Dobre, M.\*, W. J. Elliot, J. Q. Wu, T. E. Link, and I. S. Miller. 2011. Effects of forest cover and environmental variables on snow accumulation and melt. in: *USGS Scientific Investigations Report 2011-5169, "Observing, Studying, and Managing for Change"*, C. N. Medley, G. Patterson, and M. J. Parker, eds. pp. 114-119.
- Elliot, W., E. Brooks, T. E. Link, and S. Miller. 2010. Incorporating groundwater flow into the WEPP model. *Proceedings of the 2<sup>nd</sup> Joint Interagency Conference*, Las Vegas, NV, June 27 - July 1, 2010.
- Link, T. E. and J. A. Gravelle\*. 2010. Mica Creek Study Results Fill Knowledge Gap. *Western Forester*, v. 55, n. 5, pp 8-10.

### COMMISSIONED REPORTS

- Link, T. E., C. Pearson, C. Jones, B. Fitt, C. Davis and A. Wolf. 2001. Status of water resources in the United States of America, 2000. Prepared for the Third World Center for Water Resource Management, Mexico City, Mexico. 110 pp.

### INVITED SEMINARS

- The effect of contemporary forest practices in the inland Pacific Northwest: A study of streamflow, sediment, temperature, nutrients, aquatic macroinvertebrates, and fish. University of Idaho Environmental Science Seminar Series. February 15, 2012.
- Snowmelt processes in discontinuous forests: Apparent paradoxes and implications for advancing hydrologic understanding in complex terrain. University of Idaho Soil and Water Science Seminar Series. February 8, 2012.
- Grasslands of Inner Mongolia. University of Idaho Global Rangelands Seminar Series. October 12, 2011.
- Snowmelt processes in discontinuous forests: Apparent paradoxes and implications for advancing hydrologic understanding in complex terrain. Invited seminar for UC Merced School of Engineering, Environmental Systems Seminar series, September 21, 2011.

- Snowmelt processes in discontinuous forests: Apparent paradoxes and interdisciplinary opportunities. Invited seminar for Malcolm M. Renfrew Interdisciplinary Colloquium, April 17, 2011.
- Climate change and hydrology: The western north American perspective. Guest lecture for University of Idaho Environmental Science Capstone Seminar, March 30, 2011.
- Effectiveness assessment of best management practices for forestry in the inland Pacific Northwest. UI Water Resources Seminar Series, September 14, 2010.
- How have the effects of forest management changed over the past century?: An effectiveness assessment of best management practices for forestry in the inland Pacific Northwest. Invited seminar for Washington State University School of Earth & Environmental Sciences Seminar Series, January 26, 2010.
- Trends and variability of water resources in the western U. S.: An indication of future conditions? Invited seminar and panel member. UI Sustainability Center 350 Group Day of Action on Climate Change Teach-in. Nov. 4, 2009.
- Historical trends and variability of snowpack and streamflows in Idaho: An indication of future conditions? Invited seminar for the Departments of Forest Resources and Geography seminar series. Sep. 14, 2007.
- Solving the catchment water and energy balance in snow dominated regions. Invited seminar for the Institute for Landscape Ecology, University of Giessen, Germany. Feb. 28, 2007.
- Findings from the Mica Creek test of the Idaho forest practices rules. T. E. Link, T. Cundy, J. Gravelle, J. Hubbard, D. Karwan, and J. Broglio. Lecture for the National Council for Air and Stream Improvement (NCASI), West Coast Regional Meeting, Portland, OR., Sep. 28, 2006. ~60 industry, agency and academic attendees.
- New approaches for monitoring rainfall and radiation in forests. Invited seminar for the Friends of Forest Hydrology, British Columbia – Emerging Watershed Monitoring Techniques Conference. Campbell River, British Columbia. September 20-21, 2006. ~30 industry and agency personnel.
- Forest hydrology: A crash course. Seminar for the Coeur d'Alene Forest Coalition. 12 participants from industry, agencies, community and conservation groups. Coeur d'Alene, ID, Aug. 16, 2006.
- A synthesis of work assessing the cumulative effects of contemporary timber harvest practices in the Mica Creek Experimental Watershed. The 23rd Inland Empire Forest Engineering Conference. March 7-8, 2006. Moscow, Idaho.
- Cumulative effects of contemporary timber harvest practices in a continental/maritime mountainous watershed: A synthesis of results from the Mica Creek Study. Seminar for Potlatch Corporation annual corporate meeting, Clarkston, WA, January 20, 2006.
- Assessing the impacts of canopy structure on hydrologic processes. Fire, Water and People Seminar Series, Moscow, ID, November 2004.
- Assessing the cumulative effects of current forest management practices on water flow and quality, University of Idaho, Department of Fisheries & Wildlife Seminar Series, Moscow, ID, October 2004.
- Investigating the Interactions of Vegetation and Topography on Hydrologic Processes, University of Idaho – Boise, Ecohydraulics Research Group and University of Concepcion - Chile delegation, October 2004.
- Analyzing the effects of modern forest harvest practices. Presentation to the Moscow Rotary Club. Moscow, ID, September 20, 2004.
- Impact of forest treatments and climate change on hydrologic regimes, USDA Cooperative State Research Education and Extension Service Headquarters, Washington D. C., September, 2004.
- Assessing the impacts of current forest management practices on water flow and quality, University of Idaho, Soil and Water Quality Seminar Series, Moscow, ID, February 2004.
- Assessing the cumulative effects of forest management, University of Idaho, Department of Forest Products Seminar Series, Moscow, ID, February 2004.
- Measurement and modeling of hydrologic processes in an old-growth seasonal temperate rainforest, University of Reading (United Kingdom), Environmental Systems Science Centre Seminar Series, May 2003.
- Interactions of terrain and vegetation on snowmelt runoff patterns in semi-arid rangelands, University of Idaho, Department of Rangeland Resources Seminar Series, Moscow, ID, February 2003.
- The sensitivity of snowmelt processes to climate and forest cover during rain-on-snow events. University of Idaho, Department of Forest Resources Seminar Series, Moscow, ID, March 2002.
- Recent modeling advances in forest and snow hydrology. USFS District Office, Nez Perce National Forest, Grangeville, ID, January 2002,
- Measurement and modeling of water and energy fluxes in a seasonal temperate rainforest. Portland State University, Environmental Sciences and Resources Program Seminar Series, Portland, OR, April 2001.

Seasonal snowcover dynamics in the boreal forest. USDA-ARS Northwest Watershed Research Center, Boise, ID, June 1999.

## GUEST LECTURES

Hydrology 501: A crash course. Guest lecture for WR506: Integrated Water Resources, October 18, 2012.

Forest and snow hydrology in the northern Rocky Mountains. Guest lecture for LA 520/LARC 559: Northern Rocky Mountain Regional Landscapes (Washington State University). February 2, 2012.

Hydrology 501: A crash course. Guest lecture for WR506: Integrated Water Resources, October 18, 2011.

Forest and snow hydrology in the northern Rocky Mountains. Guest lecture for LA 520/LARC 559: Northern Rocky Mountain Regional Landscapes (Washington State University). January 25, 2011.

Hydrometeorological measurements for watershed science and management. Guest lecture for FOR274: Forest Measurements, November 2010.

Hydrology 501: A crash course. Guest lecture for WR506: Integrated Water Resources, October 14, 2010.

Snow hydrology fundamentals. Guest lecture. CE325 Engineering Hydrology, October 2005.

## PRESENTATIONS (97-present)

### Add DACA - 13 presentations...

T. E. Link, M. Kumar, J. Pomeroy, B. Seyednasrollah, C. Ellis, R. Lawler, and R. Essery. 2012. Opportunities and challenges to conserve water on the landscape in snow-dominated forests: The quest for the radiative minima and more... Abstract GC51F-03 Presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec. INVITED.

B. Seyednasrollah, M. Kumar, and T. E. Link. 2012. Looking for radiation optimality on snow covered forest floor. Abstract C14B-04 Presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

M. S. Seyfried, T. E. Link, and S. Bryden. 2012. Natural Constraints on Modeling Soil Temperature in Complex Terrain. Abstract H52E-08 Presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

S. Bryden, T. E. Link, M. S. Seyfried, and J. P. McNamara. Coupled soil moisture, soil temperature, and snow dynamics in complex terrain of a semi-arid mountainous watershed. Abstract C33A-0622 Presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

R. J. Niemeyer, T. E. Link, R. Heinse, M. S. Seyfried. Changing snowpack accumulation and melt with a changing climate in the western U.S. Abstract C53A-0809 Presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

T. E. Link, J. A. Gravelle, D. McGreer, D. Karwan, J. Hubbart, G. Ice, and E. Du. The Mica Creek Project: An Assessment of Contemporary Harvest Practices. Technical panel organized for the Society of American Foresters Annual Convention, Spokane, WA. October 24-28, 2012.

P. Z. Klos, J. Abatzoglou, J. Blades, M. Clark, C. Currie, M. Dodd, S. Eigenbrode, T. Hall, A. Haruch, J. Hicke, P. Higuera, J. Holbrook, V. Jansen, K. Kemp, A. Lamar, A. Lankford, T. E. Link, T. Magney, A. Meddens, L. Mitchell, B. Moore, P. Morgan, B. Newingham, R. Niemeyer, B. Soderquist, A. Suazo, C. Teston, K. Vierling, V. Walden, C. Walsh. 2012. Indicators of climate change in Idaho: The intersection of biophysical change with social perception across a diverse landscape. Presented at the Pacific Northwest Climate Conference, Boise, Idaho, 2 Oct 2012.

T. E. Link, P. Z. Klos, J. T. Abatzoglou, and K. Kavanagh. 2011. Assessing the climatic water deficit in a changing climate: A new index to evaluate the potential importance of subsurface storage in mountain ecosystems. Abstract GC31A-1018 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

K. Kavanagh, A. Davis, P. Gessler, H. Hess, Z. Holden, T. E. Link, B. A. Newingham, A. M. Smith, and P. Robinson. 2011. Development of a three dimensional wireless sensor network for terrain-climate research in remote mountainous environments. Abstract B13A-0524 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

S. Bryden, T. E. Link, M. S. Seyfried, and J. P. McNamara. 2011. Coupled snow dynamics, soil moisture, and soil temperatures in complex terrain of a semi-arid mountainous watershed. Abstract C33E-0687 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

W. T. Tinkham, C. M. Hoffman, M. J. Falkowski, A. M. Smith, T. E. Link, and H. P. Marshall. 2011. Spatial accounting for errors in LiDAR-derived products: Snow volume and snow water equivalent estimation. Abstract C33D-0672 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

D. G. Marks, M. L. Reba, A. H. Winstral, T. E. Link, and M. Kumar. 2011. Sensitivity of the snowcover energetics to land cover and topographic position to variations in climate. Abstract C33E-0690 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

- P. Z. Klos, A. Chain, L. A. Vierling, T. E. Link, and B. Finegan. 2011. Throughfall heterogeneity in forested landscapes as a focal mechanism for deep percolation: yes or no? Abstract H33E-1360 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
- T. E. Link, D. Marks, M. S. Seyfried, G. Flerchinger, and A. Winstral. 2011. The Reynolds Creek Experimental Watershed: An environmental observatory for the 21<sup>st</sup> century. NSF sponsored workshop: Design of Global Environmental Gradient Experiments using International CZO Networks. Newark, DE, November 8-10, 2011.
- T. E. Link, R. Essery, J. Pomeroy, D. Marks, R. Lawler. 2011. A sensitivity study of radiant energy during snowmelt in non-uniform forests. IAHS Decade on Predictions in Ungauged Basins (PUB), Final Meeting. Canmore, AB, May 11-14, 2011.
- P. Z. Klos, K. B. Kemp, J. J. Blades, T. E. Link, P. Morgan, P. E. Higuera, T. E. Hall. 2010. Assessing the effects of changing climate on the transformation and vulnerability of coupled hydrologic, ecologic, and human systems using an interdisciplinary spatiotemporal methodology. IAHS Decade on Predictions in Ungauged Basins (PUB), Final Meeting. Canmore, AB, May 11-14, 2011.
- K. Friedrichs, T. E. Link and J. A. Gravelle. 2011. Habitat change assessment in a northern Idaho managed forest. Land Grant and Sea Grant National Water Conference, Washington, D.C., January 31 - February 1, 2011.
- P. Z. Klos, K. B. Kemp, J. J. Blades, T. E. Link, P. Morgan, P. E. Higuera, T. E. Hall. 2010. Assessing the effects of changing climate on the transformation and vulnerability of coupled hydrologic, ecologic, and human systems using an interdisciplinary spatiotemporal methodology. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., H33C-1145.
- J. P. McNamara; T. E. Link; D. G. Marks; M. S. Seyfried; M. Kumar; P. R. Kormos. 2010. On the value local knowledge in conceptualizing physically-based models. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., H31L-05 INVITED.
- T. E. Link, G. N. Flerchinger, G. M. Chauvin, D. G. Marks, A. H. Winstral, M. S. Seyfried, and E. Du. 2010. Application of a long-term water balance of a semi-arid mountainous catchment to understand potential impacts of climate change. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., H31I-02 INVITED.
- E. Du, T. E. Link, and J. T. Abatzoglou. 2010. Evaluating hydrologic responses to climate changes in an inland Pacific Northwest forested headwater catchment using numerical modeling. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., C13C-06 INVITED.
- K. Kavanagh, T. E. Link, M. S. Seyfried, and K. B. Kemp. 2010. The fate of aspen in a world with diminishing snowpacks. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., B31E-0355.
- L. Meromy, N. P. Molotch, T. E. Link, S. R. Fassnacht, E. Herchmer, S. Roberts, and R. Rice. 2010. Subgrid variability of snow water equivalent at operational snow stations in the western United States. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., Abstract C33C-0541.
- T. E. Link, D. Carson, and D. G. Marks. 2010. Quantification of snowpack mass and energy dynamics across a canopy discontinuity. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., Abstract C33C-0547.
- M. S. Seyfried, C. Mendoza, and T. E. Link. 2010. Use of fiber optic, distributed temperature sensing to describe snow cover dynamics in complex terrain. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., Abstract C33C-0549.
- W. T. Tinkham, A. M. Smith, T. E. Link, A. T. Hudak, M. J. Falkowski, and D. G. Marks. 2010. Spatial assessment of snow volume using LiDAR and field measurements. *Eos Trans. AGU*, 90(22), Fall Meet.. Suppl., Abstract C33C-0555.
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- Susong, D., D. Marks, T. E. Link, and D. Garen. 1997. Developing time-series climate surfaces to drive topographically distributed energy and water balance models (abs.). In: Abstracts with Programs. AGU - San Francisco, 1997. American Geophysical Union, Washington, DC.

### **POPULAR PRESS MEDIA**

- “Scratching the Surface”. Interview for Sierra Magazine regarding snow structure and ecology, Jan/Feb 2012.
- “Snowpack and Timber”, top story on AgDay television magazine, aired on 123 stations nationwide. April 7, 2009.
- “Woods and Water” USDA Partners Video Magazine, “Fluid Planet” Episode 22. January 2009.
- “Region's universities test podcasting: Professors using new technologies to connect” Spokesman Review, Spokane, WA. February 25, 2007. Interview regarding use of lecture-capture technologies in education.
- USDA NRI Project Featured in National Research Initiative Competitive Grants Program Annual Report, Fiscal Year 2005 ([http://www.csrees.usda.gov/funding/nri/pdfs/2005\\_ann\\_report.pdf](http://www.csrees.usda.gov/funding/nri/pdfs/2005_ann_report.pdf)).
- “TPL Research Gallery” quoted in Land & People, v. 18, n. 1, Trust for Public Lands, Spring 2006.
- “Mica Creek measures up; Potlatch Corp. and UI rewarded with influx of federal funds for watershed research.” Interview regarding coupled hydrological/ecological research at UI. Moscow-Pullman Daily News, June 25, 2005
- “Watery wonders” interview regarding waterfall microclimates. Lewiston Morning Tribune, June 2, 2005.
- “Watershed science as a catalyst for interdisciplinary research”, UI College of Natural Resources alumni magazine article, April, 2005.
- “Grant helps research on logging practices: Effects of modern techniques studied.” Lewiston Morning Tribune, September 19, 2004.
- Research at the Mica Creek Experimental Watershed. Radio interview for Inland Journal, Spokane Public Radio, September 16, 2004
- “Grant will help UI explore impact of logging.” Spokesman Review, Spokane, WA. September 16, 2004.
- “Clear-cut cooperation: Potlatch teams with university scientists for study near Santa; data should help both better understand effects of timber harvest.” Moscow-Pullman Daily News, July 24, 2004
- “Neighbors in the Spotlight.” Article regarding PECASE award. The Idaho Statesman, Boise, ID. November 15, 2003.

### **ON-CAMPUS SERVICE**

- Search Committee Member. Head of Department of Forest, Rangeland, and Fire Sciences. 2012.
- University Promotions Committee. 2012. 41 tenure and promotion portfolios.
- Department of Forest, Rangeland, and Fire Science, 3<sup>rd</sup> year review committee for Dr. Phil Higuera. 2012.
- Department of Plant, Soils, and Entomological Sciences, 3<sup>rd</sup> year review committee for Dr. Robert Heinse. 2012.
- Department of Geography Tenure and Promotions Review Committee for Dr. Jeff Hicke. 2011.
- Search Committee Member. Assistant Professor of Ecosystem Services Economics. 2011.
- University Promotions Committee. 2011. 43 tenure and promotion portfolios.
- Graduate Council, alternate College of Natural Resources Representative. Fall 2010 - Spring 2013.
- Science, Technology, Engineering, Mathematics (STEM) P-20 Taskforce. Spring 2010.
- Graduate Council, at-large member. Fall 2007 - Spring 2010.
- Search Committee Member. Assistant Professor of Soil Physics. Fall 2007/Spring 2008.
- Responsible Conduct of Research, advisory committee member. 2007.
- Member, Provost’s Strategic Action Plan Implementation Team, Scholarly and Creative Activity. 2007-2008.
- CNR Committee on Committees. Chairperson. 2007 - 2010.
- Search Committee Member. Assistant/Associate Professor of Fluvial Geomorphology. Spring 2007.
- Search Committee Member. Assistant Professor of Fire Science and Management. Spring 2007.
- Facilitator, CNR faculty vision session, Jan. 19, 2007
- Curriculum Committee, CNR Ecology & Conservation Biology Program. 2006-2007.

Water Resources Steering Committee. 2001-present.

Departmental Design Team. Forest Resources, Rangeland Ecology & Management merger strategies, 2005-2006.

Search Committee Member. Assistant Professor of Fire Science and Management, Fall 2006-Spring 2007

Search Committee Member. Research Scientist III, Department of Forest Resources, Fall 2005.

Search Committee Member. Ecohydrology post-doctoral fellow, Department of Forest Resources, Spring 2005.

Search Committee Member. Aquatic ecology post-doctoral fellow. Department of Fish and Wildlife, Spring 2005.

Search Committee Member. Assistant Professor of Limnology/Aquatic Ecology. Spring 2004.

## **OUTREACH/SERVICE ACTIVITIES**

Tour Organizer: Mica Creek Experimental Watershed. Technical Field Tour for SAF Annual Convention, Spokane, WA. Oct. 24, 2012.

Environmental Educator for Outdoor Adventure River Specialists (O.A.R.S). Delivered lectures and coordinated field exercises on climatology, meteorology, geomorphology, hydrology, water quality, ecohydrology, stream gauging. Middle Fork of the Salmon River, May 28-June 2, 2012. 23 commercial river guide participants.

Environmental Educator for Outdoor Adventure River Specialists (O.A.R.S). Delivered lectures and coordinated field exercises on climatology, meteorology, geomorphology, hydrology, water quality, ecohydrology, stream gauging. Main Salmon River, May 27-June 2, 2011. 25 commercial river guide participants.

Tour Organizer: Mica Creek Experimental Watershed, tour for U. S. Forest Service managers. Sep. 10, 2009. 26 student and agency participants.

Tour Organizer: Mica Creek Experimental Watershed, tour for University of Idaho alumni: Celebrating 100 years of forestry education. Sep. 12, 2009. 9 alumni participants.

Member: Idaho SNOTEL Advisory Board. 2009-present.

Participant: Pan-American Studies Institute: Human, Physical, and Natural Capital Investment in Patagonia: A Predictive Approach under the Sustainability Criterion, August 10-22, 2009, Concepcion, Chile.

Technical Advisor: Matter fluxes in Inner Mongolia as influenced by stocking rate (MAGIM). Invited field visit: Inner Mongolia Grassland Ecosystem Research Station (IMGERS), Xilinhot, China, June 10-13, 2009.

Technical presenter: Forest Practices Act Advisory Committee (FPAAC), April 19, 2007, Boise, ID.

Stakeholder review panel: USDA Agricultural Research Service, Northwest Watershed Research Center, January 9, 2007, Boise, ID.

Tour Organizer: Reynolds Creek Experimental Watershed. Sept. 21, 2006.

Tour Organizer: Mica Creek Experimental Watershed, tour for forest engineers. Aug. 3, 2006. 7 academic and agency participants.

Tour Organizer: Mica Creek Experimental Watershed, tour for university forest hydrologists and ecologists. June 29, 2006. 24 academic and agency participants.

Technical Outreach Consultant: Miscellaneous forest hydrology issues, Idaho Conservation League, 2005-present.

Technical Outreach Consultant: Hydrologic effects of forest fire hazard reduction treatments, Nez Perce Soil and Water Conservation District, 2005.

Stakeholder review panel: USDA Agricultural Research Service, Northwest Watershed Research Center, September 21, 2005, Boise, ID.

Participant: EPSCoR research exchange to New Mexico – Sevilleta Long Term Ecological Research Site, Valles Caldera National Preserve, and Los Alamos National Laboratory.

UI representative: Mica Creek Experimental Watershed tour for Ben Ysursa, Idaho Secretary of State, August 4, 2005.

Tour Organizer: Mica Creek Experimental Watershed. Idaho Association of Natural Resources and Community Development Extension Professionals (IANRACDEP) consisting of approximately 40 extension professionals. July 2005.

Technical peer-review: USFS Cumulative Watershed Effects of Fuel Management workshop, April 5 & 6, 2005, Salt Lake City, UT.

Stakeholder review panel: USFS research logic model meeting, February 2, 2005, Riverside, CA.

Tour Organizer and Leader: Mica Creek Experimental Watershed outreach tour. July 13, 2004. 30 professional and academic participants.

Technical comment: Forest Stewardship Council (FSC) audit for Potlatch Corporation, July 15, 2003

Technical advisor: USFS Rocky Mountain Research Station, Soil & Water Engineering Group, Technical Advisory Visit, July 8, 2003, Moscow, ID

### **PROFESSIONAL DEVELOPMENT**

Academic Leadership: A Seminar for Faculty Considering or Continuing in Academic Leadership Roles. Transformational Leadership & Training (TiLT) Program, October 24, 2009

“Write Winning Grants”. Two-day workshop by Grantwriters’ Seminars and Workshops, August 2002.