

Education

PhD - ETHZ - Swiss Federal Institute of Technology Zürich (Jan. 2012- Dec. 2015)

- Department of Environmental Systems Science: *Surface Water Hydrology*

Dissertation Title: The Influence of Forest Canopy Structure on Snow Hydrology ([Link](#))

M.S. - University of Nevada, Reno (2008- 2010)

- Department of Hydrologic Sciences: *Surface Water Hydrology*

Thesis Title: Development, Analysis and Use of a Distributed Wireless Sensor Network for Quantifying Spatial Trends of Snow Depth and Snow Water Equivalence ([Link](#))

B.S. - Fort Lewis College, Durango, Colorado (2001-2004)

- Department of Geosciences: *Environmental Geology, Chemistry Minor*

Thesis Title: Discriminating Pre- and Post- Mining Effects on The Middle Fork of Mineral Creek, Silverton, CO, Using Tree Core Analysis

- Awarded outstanding senior in the earth sciences (Eugene M. Shoemaker Award) | Freda T. Roof and Julie Turner Oliva Scholarship recipient, given for superior academic performance

Languages

- *Spanish* – CEFR level B2 | Xela, Guatemala (2005) | Bogota, Colombia (2006) | La Paz, Bolivia (2007)
 - *German* – CEFR level B2 | Chur, Switzerland (2012-2014) | Davos, Switzerland (2014-2016)
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Employment

USGS – NM Water Science Center –Hydrologist (July 2016 – Present) Albuquerque, NM

WSL Institute for Snow and Avalanche Research SLF –Research Snow Hydrologist / PhD candidate (February 2012 – February 2016) Davos, Switzerland

World Business Council for Sustainable Development – Water Project – Temporary Contract Hydrologist (September 2011 – February 2012) Geneva, Switzerland

WSL Institute for Snow and Avalanche Research SLF – (Intern) Snow Hydrologist (Jan 2011 – July 2011) Davos, Switzerland

University of Nevada, Reno – Research Assistant (September 2008 – December 2010)

BLM / U.S. Forest Service – Hydrologic Technician (2005- 2007) Durango, CO

Tom D. Gorton Construction – Carpenter (1999- 2004) Durango, Colorado

Teaching

Invited Instructor – ETHZ, Department of Environment Systems Science (2013, 2014) | Course: *Environmental Measurement Laboratory (701)*

Teaching assistant - University of Nevada, Reno – Department of Natural Resources and Environmental Science (2008–2010) | Course(s): *Ecohydrology (295), Ecohydrology field camp (400)*

University of Nevada Cooperative Extension, “Discover your Future Program” (2009, 2010)

Advised graduate students

- Jiri Roubinek: MSc – *Snow hydrology* (2012) – Charles University, Prague – Czech Rep.
 - Giulia Mazzotti: MSc – *Snow hydrology* (2015) – ETH, Zürich - Switzerland
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Published papers

Moeser, D., G. Mazzotti, N. Helbig, T. Jonas; Representing spatial variability of forest snow: Implementation of a new interception model, 2016; Water Resources Research, doi: 10.1002/2015WR017961 ([Link](#))

Moeser, D., M. Stähli, T. Jonas; Improved snow interception modeling using novel canopy parameters from airborne LIDAR data, 2015; Water Resources Research, doi: 10.1002/2014WR016724 ([Link](#))

Moeser, D., F. Morsdorf, T. Jonas; *Novel forest structure metrics from airborne LiDAR data for improved snow interception estimation*, 2015; Agriculture and Forest Meteorology, doi: 10.1016/j.agrformet.2015.04.013 ([Link](#))

Moeser, D., J. Roubinek, P. Schleppe, F. Morsdorf, T. Jonas; *Canopy closure, LAI and radiation transfer from airborne LiDAR synthetic images*; 2014; Agricultural and Forest Meteorology, doi: 10.1016/j.agrformet.2014.06.008 ([Link](#))

External reports and successful grant proposals

South Central Climate Science Center – *The Effects of Wildfire on Snow Water Resources Under Multiple Climate Conditions (2017)*: ~375,000 USD

Swiss National Science Foundation – *‘Snow Distribution Dynamics under Forest Canopy’ (2012)* ([Link](#)) : ~175,000 USD

Agriculture Research Service – *‘Recommended Procedure for Assessing Soil Disturbances in Vegetation Management Projects within Sensitive Areas of the Lake Tahoe Basin’ (2008)*

Conference papers and presentations

Moeser, D., M. Stähli; *‘Forest Canopy Controls on Snow Hydrology,’* poster presentation, Western Snow Conference, Boise, Idaho, March 2017

Moeser, D.; *‘Forest snow hydrology,’* Department colloquium series, Department of Earth and Environmental Science, New Mexico Tech, Socorro, New Mexico, January 2017

Moeser, D.; *‘The influence of forest canopy structure on snow hydrology: Novel modeling and visualization approaches,’* Department colloquium series, Department of Earth and Planetary Sciences, University of New Mexico, Albuquerque, New Mexico, December 2016

Moeser, D., M. Stähli; *‘The influence of canopy structure on snow,’* poster presentation, American Geophysical Union meeting, San Francisco, California, December 2016

Moeser, D., M. Stähli, T. Jonas; *‘Snow interception modeling,’* oral presentation, The International Union of Geodesy and Geophysics, Prague, Czech Republic, June 2015

Moeser, D., F. Morsdorf, T. Jonas; *‘Improving snow interception modeling using LiDAR data,’* poster presentation, American Geophysical Union meeting, San Francisco, CA, December 2014

Moeser, D., J. Roubinek, F. Morsdorf, T. Jonas; *‘Snow distribution dynamics under forest canopy,’* poster presentation, American Geophysical Union meeting, San Francisco, CA, December 2013

Moeser, D., T. Jonas, F. Morsdorf; *‘Linking snow accumulation patterns in forests with LiDAR derived canopy structure data,’* oral presentation, Davos Atmosphere and Cryosphere Assembly – The International Union of Geodesy and Geophysics, Davos, Switzerland, July 2013

Jonas, T., **D. Moeser**, F. Morsdorf; *‘Linking forest snow distribution measurements with canopy structure data,’* Presented by Dr. Tobias Jonas at the American Geophysical Union meeting, San Francisco, California, December 2012

Jonas, T., **D. Moeser**, J. Magnusson, M. Bavay; *‘Validation of multiple approaches for modeling SWE Distribution and subsequent snowmelt in a small alpine watershed,’* Presented by Dr. Tobias Jonas at the International Union of Geodesy and Geophysics, Melbourne, Australia, July 2011

Moeser, D., M. Walker, C. Skalka, J. Frolik; *‘A distributed wireless sensor network for quantifying spatial trends of snow depth and snow water equivalent,’* Presented by Dr. Mark Walker at the 79th Annual Western Snow Conference, Stateline, NV, April 2011.

Moeser, D., M. Walker, C. Skalka, J. Frolik; *‘Development, analysis & use of a distributed wireless sensor network for quantifying spatial trends of snow,’* Presented by Dr. Mark Walker at the Nevada Water Resources Association, Annual conference Reno, NV, February 2011.

Moeser, D., Skalka, C., M. Walker, J. Frolik; *‘Snowcloud: development of a distributed in situ instrument for snowpack monitoring,’* Poster presentation, American Geophysical Union meeting, San Francisco, California, December 2009

Papers in Progress

Douglas-Mankin, K., **Moeser**., *Calibration of PRMS to Simulate Pre- and Post-Fire Hydrologic Response in the Upper Rio Hondo Basin, New Mexico.*, United States Geological Survey Scientific Investigations Report

Moeser, D., Douglas- Mankin., *Post-Fire Hydrologic Response in a Small Alpine Watershed in the Southwestern United States.*, J. Hydrology.

Tillery and **Moeser**, Martin., *Changes in Watershed Hydrologic Response with Time in a Severely-burned, High-desert Canyon, Bandelier National Monument, NM*, Int. J. Wildland Fire.

Volunteer experience

Student Organization for International Water Issues (2008-2010) Reno, NV

Animas River Stakeholders Group (2003 – 2006) Silverton, CO