

HEIDI ASBJORNSEN

PROFESSIONAL PREPARATION

Carleton College	Northfield, MN	Biology	B.A.	1989
Yale University	New Haven, CT	Forest Ecology	M.Sc.	1993
Yale University	New Haven, CT	Ecosystem Ecology	Ph.D.	1999

APPOINTMENTS

University of New Hampshire	Professor, Department of Natural Resources and the Environment	2021-present
University of New Hampshire	Associate Professor, Department of Natural Resources and the Environment	2011-2020
Iowa State University	Associate Professor, Department of Natural Resource Ecology and Management	2006-2010
Iowa State University	Assistant Professor, Department of Natural Resource Ecology and Management	2000-2006
Agricultural University of Norway	Assistant Professor, Department of Forest Sciences	1998-2000

PUBLICATIONS (**graduate student; **post-doctoral associate*)

PEER-REVIEWED

Malcomb, J.D., T.M. Scanlon, H.E. Epstein, M.A. Vadeboncoeur, D.L. Druckenbrod, M. Lanning, L. Wang, M.B. Adams, **H. Asbjornsen**, J. Campbell, I. Fernandez, M. Green. Soil nutrient manipulations affect tree growth more than water use efficiency in midlatitude temperate forests. *In prep.*

Brum, M., M.A. Vadeboncoeur, S. Zuckerman, D. Moore, T. Frost, C.D. McIntire, **H. Asbjornsen**. Impacts of seven years of experimental soil drought on water use and stem diameter fluctuations in *Pinus strobus* and *Quercus* spp. *Agriculture and Forest Meteorology. Resubmission in progress.*

David C. Bartholomew, Paulo R. L. Bittencourt, Darcy Galiano Cabrera, Roxana Sacatuma Cruz, Cathryn Freund, **Heidi Asbjornsen**, Gregory P. Asner, Mauro Brum, Jimmy R. Chambi Paucar, Daniela Corrales Alvarez, Eric Cosio, Blanca R. Espinoza Otazu, Darwin Manuel Mamani, Patrick Meir, Mark Mulligan, George A. Muñoz Hermoza, Rafael S. Oliveira, Beisit L. Puma Vilca, Aida Rosalai, Carlos Salas Yupayccana, Norma Salinas, José Sanchez Tintaya, Matthew A. Vadeboncoeur, Jhon Antony Yuca Palomino, Daniel B. Metcalfe. Fog regulates biomass and carbon dynamics in tropical montane cloud forests. *Nature, Ecology, and Evolution. In prep for resubmission.*

Carabajo-Hidalgo, A., D. Nadal-Sala, B. Poma, **H. Asbjornsen**, P.J. Crespo, S. Sebate. Cold and low irradiation shape *Polylepis reticulata*'s seasonal growth and water use dynamics at the Ecuadorian Andean tree line. *Frontiers in Plant Science. In review.*

Brum, M., A. Deslauriers, M. Vadeboncoeur, T. Frost, D. Moore, C. Rodrigues da Silva, D.B. Metcalfe, **H. Asbjornsen**. Employing a hysteresis approach to analyze shifts in tree physiological thresholds in response to drought. *Plant, Cell and Environment. In revision.*

Martin, M.P., C.M. Peters, **H. Asbjornsen**, M.S. Ashton. 2025. Population structures in mixed pine-oak forests demonstrate varying shade-tolerances with elevation in the Sierra Norte, Oaxaca, Mexico. *Forest Ecology and Management*. *In press*.

Moore, D.B., J. Gutierrez Lopez, M.A. Vadeboncoeur, and **H. Asbjornsen**. 2025. Predicting winter-dormant-season sap flow in deciduous, woody eudicots with wood temperature. In: Clearwater, M., J. Choi, and C. Macinnis-Ng, eds. Proc. XII International Workshop on Sap Flow. ISHS. *Acta Hort.* 1419:95-104.

Malcomb, JD, Scanlon TM, Epstein HE, Vadeboncoeur MA, Druckenbrod DL, Lanning M, Wang L, **Asbjornsen H**. Divergent water use efficiency trends among eastern North American temperate tree species. In revision, *Oecologia*, March 2025.

Ohlert, T with 171 coauthors. 2025. Drought severity interacts with duration to erode ecosystem resistance. *Science* ads8144. *In revision*.

Anders, E. M., S. G. Gotsch, M. A., Vadeboncoeur, D. B. Metcalfe, D. C. Bartholomew, A. B. Horwath, B. Espinoza, D. Galiano, **H. Asbjornsen**. 2025. Trait Plasticity and adaptive strategies of vascular epiphytes to a large-scale experimental reduction of fog immersion in a tropical montane cloud forest. *American Journal of Botany*. 12(5):e70042, <https://doi-org.unh.idm.oclc.org/10.1002/ajb2.70042>

Metcalfe, D.B., D.F. Galiano-Cabrera, L.M. Alvarez-Mayorga, J.R. Chambi, M.E. Ezquerra, B.L. Puma-Vilca, M. Mulligan, M.A. Vadeboncoeur, **H. Asbjornsen**, A.B. Horwath. 2024. The Wayquecha Amazon Cloud Curtain Experiment: A new experimental method to manipulate fog water input in terrestrial systems. *Methods in Ecology and Evolution*. <https://doi-org.unh.idm.oclc.org/10.1111/2041-210X.14483>

Mosquera, G.M., F. Marin, A. Carabajo-Hidalgo, **H. Asbjornsen**, R. Celleri, P. Crespo. 2024. Water balance of the world's highest elevation tropical forested (*Polylepis*) microcatchment. *Science of the Total Environment*. 941:173671. DOI: 10.1016/j.scitotenv.2024.173671.

Riano, K., R. Cuevas, S. Zuloaga-Aguilar, E. Jardel, O. Briones, **H. Asbjornsen**. 2024. Assemblage of forest communities in subtropical montane forests of western Mexico. *Journal of Tropical Ecology*. 40(e3):1-8. Doi:<https://doi.org/10.1017/S0266424000014>.

Carabajo-Hidalgo, A., S. Sabate, P. Crespo, **H. Asbjornsen**. 2023. Brief windows with favorable atmospheric conditions explain patterns of *Polylepis reticulata* tree water use in a high altitude Andean forest. *Tree Physiology*. 43(12):2085-2097. <https://doi.org/10.1093/treephys/tpad109>.

Mosquera, G., R. Hofstede, L. Bremer, **H. Asbjornsen**, A. Carabajo, Rolando Celleri, P. Crespo, G. Esquivel-Hernandez, J. Feyen, R. Manosalvas, F. Marin, P. Mena, P. Montenegro-Diaz, A. Ochoa-Sanchez, J. Pesantez, D. Riveros-Irequi, E. Suarez. *Frontiers in paramo water resources research: a multidisciplinary assessment*. 892:164373. <https://doi.org/10.1016/j.scitotenv>. 2023.164373.

Brum, M., M. Vadeboncoeur, **H. Asbjornsen**, B.L. Puma Vilca, D. Galiano, A.B. Horwath, D.B. Metcalfe. 2023. Ecophysiological controls on water use of tropical cloud forest trees in response to experimental drought. *Tree Physiology*. 43 (9): 1514-1532.

Zhang, Z., L. Zhang, X. Hang, I.F. Creed, J.A. Blanco, X. Wei, G. Sun, **H. Asbjornsen**, K. Bishop. 2023. Forest water-use efficiency: Effects of climate change and management on the

coupling of carbon and water processes. *Forest Ecology and Management*.
<https://doi.org/10.1016/j.foreco.2023.120853>

Asbjornsen, H., Y. Wang, D. Ellison, C.M. Ashcraft, S.S. Atallah, K. Jones, A. Mayer, M. Altamirano, P. Yu. 2022. Multi-targeted payments for the balanced management of hydrological and other forest ecosystem services. *Forest Ecology and Management*.
<https://doi.org/10.1016/j.foreco.2022.120482>

Zhang, M., S. Liu, J. Jones, G. Sun, X. Wei, D. Ellison, E. Archer, S. McNulty, **H. Asbjornsen**, Z. Zhang, Y. Serengil, M. Zhang, Z. Yu, Q. Li, J. Luan, I. Yurtseven, Y. Hou, S. Deng, Z. Liu. 2022. Management the forest-water nexus for climate change adaptation. *Forest Ecology and Management*. <https://doi.org/10.1016/j.foreco.2022.120545>

French, K.L., M.A. Vadeboncoeur, **H. Asbjornsen**, S. Fraver, L.S. Kenefic, D.B. Moore, J.W. Wason. 2022. Temporary thinning shock in previously shaded red spruce. *Canadian Journal of Forest Research*.
<https://doi.org/10.1139/cjfr-2022-0227>.

French, K.L., **H. Asbjornsen**, L.S. Kenefic, D.B. Moore, M.A. Vadeboncoeur, J.W. Wason. Physiological response of mature red spruce trees to partial and complete sapwood severing. *Theoretical and Experimental Plant Physiology*. DOI: 10.1007/s40626-023-00267-3.

Urcuqui-Bustamante, A., T. Selfa; K.W. Jones; C.M. Ashcraft; R.H. Manson; **H. Asbjornsen**. 2022. Learning impacts of policy games: investigating role-play simulations (RPS) for stakeholder engagement in payment for hydrological services program in Veracruz, Mexico. *Socio-Ecological Practice Research Vol. 4: 305-323*. <https://doi.org/10.1007/s42532-022-00131-9>

Urcuqui-Bustamante, A.M., T. Selfa, C.M. Ashcraft, **H. Asbjornsen**, K.W. Jones, R.H. Manson, A.M. Mayer. 2022. Using science-based role-play simulations to inform payments for hydrological services program design in Mexico. *Environmental Science and Policy*. 139:71-82.

Contosta, A.R., **H. Asbjornsen**, J. Orefice, A. Perry, R. Smith. 2022. Climate consequences of conversion of forest-to-pasture or -forest-to silvopasture within the New England region. *Agriculture, Ecosystems and Environment*. *Agriculture, Ecosystems and Environment*. DOI:
<https://doi.org/10.1016/j.agee.2022.107972>

Guerrieri, R., S. Belmecheri, **H. Asbjornsen**, J. Xiao, D. Y. Hollinger, K. Clark, K. Jennings, T. Kolb, J. W. Munger, A. D. Richardson, S. V. Ollinger. 2022. Detecting long-term changes in stomatal conductance: challenges and opportunities of tree-ring $\delta^{18}O$ proxy. Reply to: *Do changes in tree-ring $\delta^{18}O$ indicate changes in stomatal conductance?* by Wen Lin, Margaret M. Barbour and Xin Song. *New Phytologist*. DOI: 10.1111/nph.18430.

Mayer, A.S., K. Jones, **H. Asbjornsen**, D. Hunt, R. Manson, T. Wright, C.Z. Berry**, J. Salcone*, S.M. Lopez-Ramirez*, S. Avila, J.J. von Thaden*. 2022. Ecosystem service outcomes: future deforestation threats & payments for hydrological services. *Ecosystem Services*. 53:101401

Gutierrez Lopez, J.*, T. Pypker, J. Licata, S. Burgess, **H. Asbjornsen**. 2021. Maximum heat ratio: bi-directional method for fast and slow sap flow measurements. *Plant and Soil*.
<https://doi.org/10.1007/s11104-021-05066-w>

Martin*, M.P., C.M. Peters, **H. Asbjornsen**, M.S. Ashton. 2021. Diversity and niche-differentiation of pine and oak species in the Sierra Norte, Oaxaca, Mexico. *Ecosphere*. <https://doi.org/10.1002/ecs2.3475>

Asbjornsen, H., C.D. McIntire*, M. Vadeboncoeur, Z.C. Berry**, K. Jennings, A. Coble. 2021. Sensitivity and threshold dynamics of two northern temperate forest trees (*Pinus strobus* and *Quercus spp.*) in response to experimental and naturally-occurring severe droughts. *Tree Physiology*. 10.1093/treephys/tpab056.

Lopez-Ramirez, S.M., A. Mayer, L. Saenz, L.E. Munoz-Villers, F. Holwerda, N. Looker, C. Schurz, Z.C. Berry, R. Manson, H. Asbjornsen, R. Kolka, D. Geissert, C. Lezama. A comprehensive calibration and validation of SWAT-T using local datasets, evapotranspiration and streamflow in a tropical montane cloud forest area with permeable substrate in central Veracruz, Mexico. *Journal of Hydrology*. 603:126781. DOI: 10.1016/j.jhydrol.2021.126781

Mendoza-Hernandez, J.H.R., C.J. Vazquez-Navarrete, L. del C. Lagunes-Espinoza, J.A. Rincon-Ramirez, N. del Rivero-Bautista, M. del C. Perez-Bonilla, J. Gutierrez-Lopez, **H. Asbjornsen**. Effect of supplementary irrigation on the transpiration and reproductive development of oil palm trees during the dry season in Tabasco, Mexico. *Cahiers Agricultures*. 30:41. <https://doi.org/10.1051/cagri/2021026>.

Brydon-Williams*, R., I. Munck, **H. Asbjornsen**. 2020. Distribution, presence, and tree health impacts of the chaga fungus (*Inonotus obliquus*) in hardwood forests of the northeastern United States. *Canadian Journal of Forest Research*. In <https://doi.org/10.1139/cjfr-2020-0144>

McIntire*, C., B. Huggett, I. Munck, M. Vadeboncoeur, **H. Asbjornsen**. 2020. Pathogen-induced defoliation impacts on transpiration, leaf gas exchange, and non-structural carbohydrate allocation in eastern white pine (*Pinus strobus*). *Trees*. <https://doi.org/10.1007/s00468-020-02037-z>

Brum*, M. Jr, R.S. Oliveira, J.G. Lopez*, J. Licata, T. Pypker, G.S. Chia, R.S. Tinôco, **H. Asbjornsen**. 2020. Controls of water use in palm oil plantations in the Amazon in response to ENSO drought and contrasting irrigation regimes. *Agricultural Water Management*. <https://doi.org/10.1016/j.agwat.2020.106569>

Coble**, A.P., A.R. Contosta, R.G. Smith, N.W. Siegert, M. Vadeboncoeur, K.A. Jennings, A. Stewart, **H. Asbjornsen**. 2020. Influence of forest-to-silvopasture conversion and drought on components of evapotranspiration. *Agriculture, Ecosystems, & Environment*. <https://doi.org/10.1016/j.agee.2020.106916>

Jones, K., A. Mayer, **H. Asbjornsen**, Z.C. Berry**, S.M. Lopez-Ramirez, R. Manson, J.J. Von Thaden. 2020. Integrating impact evaluation and ecosystem service modeling to measure the net economic benefit of Payments for Hydrological Services Programs in Mexico. *Ecological Economics*. DOI: 10.1016/j.ecolecon.2020.106666.

Berry**, Z.C., K.W. Jones, L.R. Gomez-Aguilar, R. Congalton, F. Holwerda, R. Kolka, N. Looker, R. Manson, A. Mayer, L. Munoz-Villers, P. Ortiz-Colin, H. Romero-Urbe, L. Saenz, J.J. Von Thaden, M.V.B. Quetzalli, G. Williams-Linera, **H. Asbjornsen**. 2020. Evaluating ecosystem service trade-offs along a land-use intensification gradient in central Veracruz, Mexico. *Ecosystem Services*. <https://doi.org/10.1016/j.ecoser.2020.101181>.

Sinacore*, K., **H. Asbjornsen**, V. Hernandez-Santana, J.S. Hall. 2020. Differential and dynamic water regulation responses to El Niño for monospecific and mixed species planted forests. *Ecohydrology*. DOI: 10.1002/eco.2238.

Vadeboncoeur, M.A., K.A. Jennings, A.P. Ouimette, **H. Asbjornsen**. 2020. Correcting tree-ring $\delta^{13}\text{C}$ time series for tree-size effects in eight temperate tree species. *Tree Physiology*. 40:333-349. DOI:[10.1093/treephys/tpz138](https://doi.org/10.1093/treephys/tpz138)

Stewart*, A., A. Coble, A.R. Contosta, J.N. Orefice, R.G. Smith, **H. Asbjornsen**. 2020. Forest conversion to silvopasture and open pasture: effects on soil hydraulic properties. *Agroforestry Systems*. DOI:10.1007/s10457-019-00454-9

Quetzalli*, M., G. Williams-Linera, **H. Asbjornsen**. 2020. Biodiversity and carbon storage are correlated across land use intensification in a tropical montane forest watershed, Veracruz, Mexico. *Basic and Applied Ecology*. 44:24-34. DOI:<https://doi.org/10.1016/j.baae.2019.12.004>

Sinacore*, K., C. Breton*, **H. Asbjornsen**, V. Hernandez-Santana, J.S. Hall. 2019. Drought effects on *Tectona grandis* water regulation are mediated by thinning, but the effects of thinning are temporary. *Frontiers in Forest and Global Change*. 2:82. DOI: <https://doi.org/10.3389/ffgc.2019.00082>

Yang, Y., L. Meng, R.D. Yanai, C.T. Driscoll, M. Montesdeoca, P.H. Templer, L.E. Rustad, **H. Asbjornsen**. 2019. Climate change may worsen mercury pollution in northern hardwood forests. *Environmental Science and Technology*. DOI:10.1007/s10533-019-00605-1

Guerrieri**, R., S. Belmecheri, S. Ollinger, **H. Asbjornsen**, K. Jennings, J. Xiao, B.D. Stocker, Martin, D. Hollinger, R. Bracho-Garrillo, K. Clark, S. Dore, T. Kolb, J.W. Mungers, K. Novick, A.D. Richardson. 2019. Disentangling the role of photosynthesis and stomatal conductance on rising forest water-use efficiency. *Proceedings of the National Academy of Science*. DOI:<https://doi.org/10.1073.pnas.1905912116>

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Gutierrez Lopez*, J., **H. Asbjornsen**, T. Pypker, J. Licata. 2019. Effects of heater wattage on sap flux density estimates using an improved tree-cut experiment. *Tree Physiology*. 39(4):679-696. DOI:[10.1093/treephys/tpy137](https://doi.org/10.1093/treephys/tpy137).

Berry**, C., Espejel*, X., **H. Asbjornsen**, G. Linera-Williams. 2019. Linking coordinated hydraulic traits to drought and recovery responses in a tropical montane cloud forest. *American Journal of Botany*. 106(10):1-11. DOI:10.1002/ajb2.1356.

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Toral., eds. Effects of drought on forests and rangelands in the United States: translating science into management responses. Gen. Tech. Rep. WO-98. Washington, DC: U.S. Department of Agriculture Forest Service, Washington Office. 227 p. DOI:<https://doi.org/10.2737/WO-GTR-98>.

Gutierrez Lopez*, J., **H. Asbjornsen**, T. Pypker, J. Licata. 2018. Analysis of changes in the current supplied to heat dissipation sensors. *Acta Horticulturae*. 1222:155-160. DOI:org/10.17660/ActaHortic.2018.1222.32.

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Gutierrez-Lopez*, J., K. Sinacore*, K. Jennings*, C. McIntire, L. Buzinski, V. Hernandez-Santana**, **H. Asbjornsen**. 2016. Protocol for constructing sap flow sensors for measuring water use in diverse tree species.

Brudvig, L.A., **H. Asbjornsen**. 2014. The roles of fire, overstory thinning, and understory seeding for the restoration of Iowa Oak Savannas. General Technical Report SRS-198. Pp. 1390-144.

Helmets, M.J., X. Zhou, **H. Asbjornsen**, R. Kolka, M.D. Tomer. 2011. Water quality benefits of perennial filter strips in row-cropped watersheds. Proceedings of the 23rd Annual Integrated Crop Management Conference. Iowa State University. DOI:HTTPS://doi.org/10.31274/icm-180809-270.

Schulte, L.A., **H. Asbjornsen**, R. Atwell*, C. Hart*, M. Helmers, T. Isenhardt, R. Kolka, M. Liebman, J. Neal, M.O'Neal, S. Secchi, R. Schultz, J. Thompson, M. Tomer, and J. Tyndall. 2008. A Targeted Conservation Approach for Improving Environmental Quality: Multiple Benefits and Expanded Opportunities. Iowa State University Extension.

Belcher, B., G. Michon, A. Angelsen, M. Ruiz-Perez, **H. Asbjornsen**. 2000. Cultivating (in) tropical forests?: the evolution and sustainability of systems of management between extractivism and plantations. Communication of Workshop: "The evolution and sustainability of systems of management", Kraemmervika, Lofoten, Norway, June 28 – July 1, 2000. European Tropical Forest Research Network (ETFRN). DOI:http://hdl.handle.net/10486/1320.

PRESENTATIONS (*graduate or undergraduate student; **post-doctoral associate)

Smith, R., M. Ashton, V. Bolling, A. Contosta, M. Ducey, A. Guman, T. Ong, J. Orefice, R. Smith, **H. Asbjornsen**. A biophysical portrait of agroforestry in New England: Silvopasture, food forests, and forest farming. North American Agroforestry Conference. Columbia, MO, July 22-25, 2025.

Asbjornsen, H., M. Ashton, R. Bawa, A. Contosta, K. Guerdat, T. Ong, S. Roberge. Promoting Climate smart and sustainable agriculture through regionally adapted agroforestry systems in New England. North American Agroforestry Conference. Columbia, MO, July 22-25, 2025.

Hoag*, A., E. Anders*, M. Vadeboncoeur, A. Auclair*, **H. Asbjornsen**. Leaf functional trait plasticity of Ecuadorian paramo grasses, shrubs, and cushion plants under rainfall exclusion. Association for Tropical Biology and Conservation (ATBC) Annual Meeting, Oaxaca, Mexico, June 29-July 4, 2025. *Invited presentation*.

Ton*, K., Vadeboncoeur, M., Cleavitt, N., Powell, A., & **Asbjornsen, H.** *Effects of silvicultural prescribed burns on Northern red oak regeneration near its northern range limit* [Webinar]. North Atlantic Fire Science Exchange. April, 2025.

Zuckerman*, S., **Asbjornsen, H.**, Vadeboncoeur, M., McIntire, C., Wason J., D'Amato, A. Assisted migration: A Viable Silvicultural Technique for Facilitating Adaptation of Northern Forest Tree Species to a Warmer and Drier Future World? Talk presented at New England Society of American Foresters Annual Meeting. Devens, MA. March 27, 2025.

Anders*. E., Butnor, J., Dovciak, M., Vadeboncoeur, M., Wason, J., **Asbjornsen, H.** Using a functional trait approach to inform assisted migration for climate adaptation in the Northern Forest Region. New England Society of American Foresters (NESAF) Annual Conference, March 2025.

Vadeboncoeur MA, Frost* TR, Moore* DB, Roberge S, **Asbjornsen H.** Patterns of non-conductive wood formation in sugar maple and other syrup producing species. Workshop talk, (invited) at the New York State Maple Producers' Association Mid-Winter Maple Classic Conference. Syracuse, NY, January 2025.

Asbjornsen, H., E. Anders*, M. Brum, A. Carabajo*, P. Crespo, D. Metcalfe, R. Oliveira, K. Riano, S. Sabate Jorba, M. Vadeboncoeur, S. Zuckerman*. Using experimental manipulations to understand forest resilience and thresholds to drought. Invited Seminar, Institute of Temperate Forest Science, University of Quebec at Outaouais, January 21, 2025

Zuckerman*, S., **Asbjornsen, H.**, Vadeboncoeur, M. Assisted migration: a phenotypic evaluation of species, ecotypes, and drought responses. Forest Ecosystem Monitoring Coalition Conference. Burlington, VT. Dec. 2024.

Anders*, E., S. Zuckerman, M. Vadeboncoeur, **H. Asbjornsen.** Adaptation of Northern Forest Tree Species to a Warmer, Drier Future. Oral Presentation, Forest Ecosystem Monitoring Cooperative (FEMC) Annual Conference, December 2024.

Vadeboncoeur MA, Malcomb JD, Scanlon TM, Green MB, Campbell JL, Shanley JB, **Asbjornsen H.** Mixed evidence for the effect of calcium availability on forest water use efficiency. Poster at American Geophysical Union Fall Meeting, Washington DC, December 2024.

Asbjornsen, H., E. Anders*, M. Brum, A. Carabajo, P. Crespo, D. Metcalfe, R. Oliveira, K. Riano, S. Sabate Jorba, M. Vadeboncoeur, S. Zuckerman*. Forest response to drought: Applying lessons learned to managing the forest-soil-water nexus for hydrologic services. International Union of Forest Research Organizations (IUFRO) World Congress, Stockholm, Sweden, June 23-29, 2024. *Invited Keynote Talk.*

Vadeboncoeur MA, Zuckerman* S, Brum M, Tumber-Dávila SJ, **Asbjornsen H.** Ecohydrological responses of *Quercus rubra* and *Q. velutina* to seven years of experimental drought. Talk at the International Oak Symposium, Knoxville TN, October 2024.

Ton*, K., Vadeboncoeur, M., Cleavitt, N., Powell, A., & **Asbjornsen, H.** *Prescribed fire improves red oak regeneration in northern New Hampshire* [Conference session]. International Oak Symposium, Knoxville, TN. October, 2024

Asbjornsen, H. Project ADAPT: Promoting Climate smart and sustainable agriculture through regionally adapted agroforestry systems in New England. Maine Permaculture and Agroforestry Convergence. Maine Ecological Design. July 20-21, 2024, Unity Maine.

Ton*, K., Vadeboncoeur, M., Cleavitt, N., Powell, A., & **Asbjornsen, H.** *Prescribed fire improves red oak regeneration in northern New Hampshire* [Poster session]. Ecological Society of America Annual Meeting, Long Beach, CA. August, 2024.

Anders*. E., M. Vadeboncoeur, **H. Asbjornsen.** Functional trait plasticity of alpine páramo grasses, shrub, and cushion plants to an experimental drought. Poster Presentation, Ecological Society of America (ESA) Annual Conference, Long Beach Convention Center. August 2024.

Zuckerman*, S., **Asbjornsen, H.**, Vadeboncoeur, M., McIntire, C., Wason J., D'Amato, A. Assisted migration and drought in the Northeast: a greenhouse common garden experiment. Talk presented at Ecological Society of America Annual Meeting. Long Beach, CA. Aug. 4-9, 2024.

Ton*, K., Vadeboncoeur, M., Cleavitt, N., Powell, A., & **Asbjornsen, H.** *Prescribed fire improves red oak regeneration in northern New Hampshire* [Conference session]. Annual Hubbard Brook Cooperators' Meeting, Plymouth, NH. July, 2024.

Zuckerman*, S., **Asbjornsen, H.**, Vadeboncoeur, M., McIntire, C., Wason J., D'Amato, A. Species, ecotype, and drought: seedling growth and physiology data to support assisted migration decision-making in the Northeast U.S. Poster presented at Gordon Research Seminar. South Portland, ME. June 8-9, 2024.

Zuckerman*, S., **H. Asbjornsen**, M. Vadeboncoeur, M. Brum, S. Petrovick, E. Cheng, T. Frost, C. McIntire. Simulating Drought in New England: Tree anatomical and physiological responses after 6 years of experimental drought. Gordan Research Seminar. Newry, ME. June 25-30, 2022.

Zuckerman*, S., **H. Asbjornsen**, A. D'Amato, M. Vadeboncoeur, C. McIntire, J. Wason, T. Frost. Assisted Migration and Drought in New England: Lessons Learned and Future Directions. New England Society of American Foresters Annual Meeting. South Portland, ME. March 23-25, 2022

Zuckerman*, S., **H. Asbjornsen**, M. Vadeboncoeur, C. McIntire, J. Wason, A. D'Amato, J. Ehmet. 2022. Identifying species and ecotypes suitable for assisted migration in the Northeast U.S. Ecosystem Monitoring Cooperative. Burlington, VT. December 2022

Asbjornsen, H., A. Contosta, M. Vadeboncoeur, A. Coble, K. Jennings, J. Orefice, A. Perry, Anthony Stewart, N. Warren, R.G. Smith. 2022. Conversion of forest to silvopasture vs. open pasture in the northeastern U.S.: *Implications for ecosystem service synergies and trade-offs*. 5th World Agroforestry Conference, Quebec, Canada, July 17-20, 2022.

Moore*, D., M. Vadeboncoeur, **H. Asbjornsen**. 2022. Harvesting sap and producing syrup from trees other than maples, birches, and walnuts. 5th World Agroforestry Conference, Quebec, Canada, July 17-20, 2022.

Asbjornsen, H., M.A. Vadeboncoeur, K. Jennings, M. Brum, T. Frost, F. Sullivan, L. Rustad, J.L. Campbell, R. Sanders-DeMott, A. Reinmann, P.H. Templer. Ecosystem Response to Throughfall Exclusion at Hubbard Brook Experimental Forest is Dominated by Shallow-soil Processes. American Geophysical Union Annual Meeting, December 12-17, 2021.

Mayer, A.S., K. Jones, **H. Asbjornsen**, D. Hunt, R. Manson, T. Wright, C.Z. Berry**, J. Salcone*, S.M. Lopez-Ramirez*, S. Avila, J.J. von Thaden*. 2020. Assessing ecosystem service outcomes from future deforestation threats and payment for hydrologic services program designs in forested watersheds. American Geophysical Union Annual Meeting, December 12-17, 2020.

Asbjornsen, H. Resilience and vulnerability of northeastern forests to drought: Research results and implications for climate-adapted management. Maine Mountain Collaborative Symposium. October 26-27, 2020.

Frost*, T., M. Vadeboncoeur, **H. Asbjornsen**. 2020. Tree Growth and Response to Drought Net Experiment. Hubbard Brook Experimental Forest Annual Meeting. July 2020, North Woodstock, NH.

Asbjornsen, H., L. Rustad, M. Vadeboncoeur, P. Templer, A. Reinmann, K. Jennings, J. Campbell, P. Groffman. DroughtNet year 6 - recovery from extreme and chronic drought. July 2020, North Woodstock, NH.

Ashcraft, C.M., **H. Asbjornsen**, S. Atallah, K. Gardner, K.W. Jones, R. Manson, A. Mayer, T. Selfa, W. Mo. 2019. Innovative Session: Science-Based Negotiation Simulations for Water Policy: Experiences from Veracruz, Mexico and New England, U.S.A. Earth Systems Governance Conference, Oaxaca, Mexico. November 6-8, 2019.

Asbjornsen, H., R. Manson, S. Ávila Foucat, C. Berry**, K.W. Jones, A. Mayer, C. Ashcraft, S. Atallah, T. Selfa, R. Kolka, R. Congalton, S. López Ramírez*, E. Pischke*, J. Salcone*, J.J. von Thaden*, P. Mokondoko*, D. Torrez*, N. Looker*. Integrated evaluation of Payments for Hydrological Services Programs (PHS) conceptualized as a coupled socioecological system in central Veracruz, Mexico. VII, Mexican Congress of Ecology. September 29 – October 4, 2019, Juriquilla, Querétaro.

Asbjornsen, H., Z.C. Berry**, K. Jones, R. Kolka, N. Looker, S.M. Lopez-Ramirez*, R. Manson, A. Mayer, M. Quetzal*, J. Salcone*, G. Williams-Linera. 2019. Consequences of Mexico's Payment for Hydrological Services program for ecosystem service and economic trade-offs: an integrated field and modeling approach. International Union of Forest Research Organization (IUFRO). September 30 – October 4, 2019, Curitiba, Brazil.

Asbjornsen, H., C.D. McIntire*, M.A. Vadeboncoeur, Z.C. Berry**, A.P. Coble**, K.A. Jennings. 2019. Testing the sensitivity of humid temperate forests to drought: results from a superimposed experimental manipulation and severe natural drought in New Hampshire, U.S.A. International Union of Forest Research Organization (IUFRO). Sept. 30 – Oct. 4, 2019, Curitiba, Brazil.

Mayer, A.S., K. Jones, **H. Asbjornsen**, D. Hunt, S.M. Lopez-Ramirez*, R. Manson, T.M. Wright, C. Ashcraft. Integrated ecosystem services-land change modeling to assess payments for hydrologic services programs in Veracruz, Mexico. American Geophysical Union (AGU) Annual Meeting, December 9-13, 2019, San Francisco, CA.

Vadeboncoeur, M.A., **H. Asbjornsen**, D.B. Metcalfe, M. Brum*, R.S. Oliveira. 2019. The ecohydrological effects of reducing throughfall and fog inputs in a tropical cloud forest. American Geophysical Union (AGU) Annual Meeting, December 9-13, 2019, San Francisco, CA.

Rustad, L., P. Templer, **H. Asbjornsen**, J.L. Campbell, M. Vadeboncoeur, C. Driscoll, R. Fahey, T.J. Fahey, P.M. Groffman, P. Schaberg, K. Jennings, A. Reinmann. 2019. Natural and simulated droughts, ice storms, soil freezing and soil warming shed light on response and recovery of northern hardwood forests to extreme weather. SSSA International Soils Meeting. January 6-9, 2019, San Diego, CA.

Carabajo*, A., **H. Asbjornsen**, S. Sabate, P. Crespo. 2019. Environmental drivers of sapflow dynamics of *Polylepis reticulata* in a high Andean forest of southern Ecuador, V International Congress of Ecology and Conservation of Polylepis Forests. September, 2019, Quito, Ecuador.

Asbjornsen, H., M. Vadeboncoeur, L. Rustad, P. Templer, J. Campbell, K. Jennings, A. Reinmann. 2019 Double Drought Dare – Pushing Thresholds of Northern Hardwood Forest Response to Drought? Hubbard Brook Research Forest Annual Cooperators' Meeting, July 2019, North Woodstock, NH.

Brydon-Williams*, R., I. Munck, **H. Asbjornsen**. The ecology and management of the Chaga resource in the White Mountain National Forest. White Mountain National Forest Headquarters, May 14, 2019, North Conway, NH.

Asbjornsen, H., M.A. Vadeboncoeur, C.D. McIntire*, Z.C. Berry**, A.P. Coble**, K.A. Jennings. 2018. The ecological impacts of extreme drought events in temperate forest ecosystems. Ecological Society of America (ESA) Meeting, August 5-10, 2018, New Orleans, LA.

Asbjornsen, H., C.D. McIntire*, M. Vadeboncoeur, Z.C. Berry**, A. Coble**, K. Jennings. 2018. The ecological impacts of extreme drought events in temperate forest ecosystems. American Geophysical Association (AGU) Annual Fall Meeting. December 12-16, 2018, Washington D.C.

McIntire*, C.D., K.A. Jennings, M.A. Vadeboncoeur, A.P. Coble**, **Asbjornsen, H.** 2018. Northern Forest DroughtNet: Understanding impacts of precipitation change on northern forest ecosystems. The International Drought Experiment (IDE) Meeting. May 16-18, 2018, Fort Collins, CO.

Sinacore*, K., **H. Asbjornsen**, V. Hernandez-Santana, J. Hall. 2018. Effects of El Niño on tree water use responses and water stress: do complementary interactions in mixed species tree plantations enhance resistance to drought over monocultures? American Geophysical Association (AGU) Annual Fall Meeting. December 12-16, 2018, Washington D.C.

Asbjornsen, H., C. McIntire*, M.A. Vadeboncoeur, Z.C. Berry**, A. Coble**, K. Jennings. 2018. Contrasting responses of two temperate forest species to extreme drought in the Northeastern US. American Geophysical Association (AGU) Annual Fall Meeting. December 12-16, 2018, Washington D.C.

Looker*, N.T., R. Kolka, M.Q. Vizcaino-Bravo*, **H. Asbjornsen**. 2018. Inferring vegetation-infiltration relationships from multitemporal land surface reflectance across gradients of management intensity and forest regeneration in the humid tropics. American Geophysical Association (AGU) Annual Fall Meeting. December 12-16, 2018, Washington D.C.

Vadeboncoeur, M.A., **H. Asbjornsen**, K.A. Jennings, C.D. McIntire*, A.P. Coble**, P.H. Templer, J.L. Campbell, L.E. Rustad. 2018. Drought sensitivity of humid temperate forests: Results from two New Hampshire throughfall removal experiments superimposed on the 2016 drought. Climate Smart Land Network Annual Meeting. May 2018, Woodstock, NH. (*Invited talk*)

Vadeboncoeur, M.A., **H. Asbjornsen**, K.A. Jennings, P.H. Templer, L.E. Rustad. What's next for Hubbard Brook DroughtNet? Hubbard Brook Cooperators' Meeting. July 2018, North Woodstock, NH.

Vadeboncoeur, M.A., **H. Asbjornsen**. 2018. Droughts and Deluges – effects in forest ecosystems. Workshop talk presented at the 2018 LTER All Scientists' Meeting. September 2018, Pacific Grove, CA.

Vadeboncoeur, M.A., K.A. Jennings, A.P. Ouimette, **H. Asbjornsen**. 2018. Understanding and removing height and canopy-position artifacts in tree-ring $\delta^{13}\text{C}$ chronologies. Dynamics of Forest Growth and Resource Use Symposium, University of Virginia. February 2018, Charlottesville, VA.

Vadeboncoeur, M.A., K.A. Jennings, M. Morley, L.E. Rustad, C.D. McIntire, L.M. Bringham, R.D. Yani, **H. Asbjornsen**. 2018. Teacomposition" in three global change experiments at HBR. 2018. LTER All Scientists Meeting. October 1-3, 2018, Pacific Grove, CA.

Vadeboncoeur, M.A., K.A. Jennings, A.P. Ouimette, **H. Asbjornsen**. 2018. Correcting tree-ring $\delta^{13}\text{C}$ time series for tree-size and canopy-position effects in eight temperate tree species. American Geophysical Association (AGU) Annual Fall Meeting. December 12-16, 2018, Washington D.C.

Asbjornsen, H., K.A. Jennings, C.D. McIntire*, A.P. Coble**, M.A. Vadeboncoeur, A. Reinmann, P.H. Templer, J. Campbell, L.E. Rustad. 2017. Drought sensitivity of humid temperate forests: Results from two throughfall removal experiments superimposed on the 2016 drought in New Hampshire. Ecological Society of America (ESA) Annual Meeting. August 6-11, 2017, Portland, OR.

Asbjornsen, H., K. Jones, A. Mayer, T. Selfa, C. Berry**, R. Manson, *et al.* Assessing the impacts of Mexico's Payments for Hydrological Services program on Coupled Natural-Human Systems. Association of American Geographers (AAG) Annual Meeting. April 5-9, 2017. Boston, MA. (Invited)

Berry**, Z.C., N. Looker*, F. Holwerda, L.R. Gomez-Aguilar, P. Ortiz-Colin, T. Gonzalez-Martinez, **H. Asbjornsen**. 2017. Why size matters: The interactive influences of tree diameter distribution and sap flow parameters on upscaled transpiration. 10th International Workshop on Sap Flow. May 22-26, 2017, Fullerton Arboretum, Fullerton, CA.

Looker*, N.T., R. Kolka, P. Ortiz-Colin, **H. Asbjornsen**. 2017. Infiltration capacity in a tropical montane landscape: Disentangling the effects of land-use intensity and biophysical gradients. American Geophysical Association (AGU) Annual Fall Meeting. December 11-15, 2017, New Orleans, LO.

Gutierrez Lopez*, J., **H. Asbjornsen**, J. Licata, T. Pypker. 2017. Validation of heat dissipation and heat pulse sap flow methods in *Eucalyptus grandis* Hill Ex Maiden. Graduate Research Conference (GRC). University of New Hampshire. April, 2017, Durham, NH.

Gutierrez Lopez*, J., M. Brum, L. del C. Lagunes Espinoza, C. J. Vázquez Navarrete, J. Licata, T. Pypker, R. S. Oliveira, **H. Asbjornsen**. Impactos ecohidrológicos asociados a la producción de bioenergía en las Américas. V International Conference of Ecosystem Services (CISEN-V, Spanish). November, 2017, Oaxaca, Mexico.

Gutierrez-Lopez*, J.A., J. Licata, T. Pypker, **H. Asbjornsen**. 2017. Validation of heat dissipation and heat pulse sap flow methods. 10th International Workshop on Sap Flow. May 22-26, 2017, Fullerton Arboretum, Fullerton, CA.

Jennings, K., C. McIntire*, A. Coble**, M. Vadeboncoeur, L. Rustand, P. Templer, **H. Asbjornsen**. 2017. Tree species' responses to throughfall removal experiments superimposed on a natural drought event in two contrasting humid temperate forests in New Hampshire, USA. European Geophysical Union (EGU) Annual Meeting. April 24-28, 2017, Vienna, Austria.

Lagunes Espinoza, L.C. , C. Vázquez-Navarrete, J. Rincón-Ramírez, N. del Rivero-Bautista, J. Gutiérrez-López*, **H. Asbjornsen**. 2017. Estimación de la transpiración en Palma de Aceite (*Elaeis guineensis* Jacq.) usando sensores de flujo de savia en Tabasco, México. V International Conference of Ecosystem Services (CISEN-V, Spanish). November 2017, Oaxaca, Mexico.

McIntire*, C.D., **H. Asbjornsen**. 2017. Northern Forest Drought-Net: Initial results from a multi-year throughfall manipulation experiment in New Hampshire. Joint annual meeting of the Northeast Forest Pest Council and New England Society of American Foresters Annual Winter Meeting. March 9-10, 2017, Bangor, ME.

McIntire*, C.D., I.A. Munck, **H. Asbjornsen**. 2017. Impacts and management of White Pine Needle Damage in the Northeastern US. Ecological Society of America (ESA) Annual Meeting. August 6-11, 2017, Portland, OR.

McIntire*, C.D., I.A. Munck, I.A., **H. Asbjornsen**. 2017. Impacts and management of White Pine Needle Damage in the Northeastern US. Natural Resources and Earth System Science Annual Holiday Poster Session. December 2017, Durham, NH.

McIntire*, C.D., I.A. Munck, **H. Asbjornsen**. 2017. Impacts of White Pine Needle Damage in New England and response to silvicultural thinning treatments. Joint annual meeting of the Northeast Forest Pest Council and New England Society of American Foresters. March 8-10, 2017, Bangor, ME.

McIntire*, C.D., I.A. Munck, and **H. Asbjornsen**. 2017. Northeastern US regional update on White Pine Needle Damage and impacts of the 2016 drought. White Pine Multistate Meeting: Eastern White Pine Health and Responses to Environmental Changes. March 11, 2017, Orono, ME.

McIntire*, C.D., I.A. Munck, I.A., K. Broders, S. Wyka*, W. Livingston, M.A. Vadeboncoeur, M.J. Ducey, **H. Asbjornsen**. 2017. Impacts and management of White Pine Needle Damage in the Northeastern US. White Pine Health in Eastern Timberlands Workshop. February 6-9, 2017. Athens, GA.

Sinacore*, K., J.S. Hall, **H. Asbjornsen**. 2017. Collaborative forest management to enhance community resilience to drought in the Panama Canal Watershed. Graduate Research Conference. April, 2017, Durham, NH.

Accashian*, K., C.D. McIntire*, **H. Asbjornsen**. Evaluating seasonal variability of wood properties in red oak and eastern white pine. 2016. University of New Hampshire Graduate Research Symposium, April 2016, Durham, NH.

Asbjornsen, H., L.E. Rustad, P.H. Templer, K.A. Jennings, M. Smith. 2016. DroughtNet Albuquerque Northern Forest DroughtNet: Update and Preliminary Findings. Annual Meeting of the RCN DroughtNet Advisory Committee. May 3-5, 2016, Albuquerque, NM.

Asbjornsen, H., M.A. Vadeboncoeur, K.A. Jennings, L.E. Rustad, P.H. Templer. 2016. Physiological responses of trees to drought across temperate and tropical forests. Next-Generation Ecosystem Experiments Tropics (NGEE-Tropics), Department of Energy, 2nd Annual Meeting, September 21-22, 2016, Washington, DC.

Berry** Z.C., Holwerda F, L.R. Gómez-Aguilar, P. Ortiz-Colin, T. González-Martínez, **H. Asbjornsen**. 2016. Scaling from Points in Tree Trunks to Stand Level Transpiration: Examining Relationships between Tree Size, Stand Characteristics, and Seasons in a Tropical Montane Cloud Forest. IV Mexican National Congress for the Management of Hydrogeographical Watersheds. October 26-28, 2016, Xalapa, Mexico.

Berry**, Z.C., F. Holwerda, L.R. Gómez Aguilar, P. Ortiz Colin, T. González-Martínez, **H. Asbjornsen**. 2016. Scaling from whole-tree water use to stand level transpiration: Examining relationships between tree size, stand characteristics, and seasons in a tropical montane cloud forest. Ecological Society of America (ESA) Annual Meeting. August 7-12, 2016. Ft. Lauderdale, FL.

Berry**, Z.C., F. Holwerda, L.R. Gómez Aguilar, P. Ortiz Colin, T. González-Martínez, **H. Asbjornsen**. 2016. Scaling from Points in Tree Trunks to Stand Level Transpiration: Examining Relationships between Tree Size, Stand Characteristics, and Seasons in a Tropical Montane Cloud Forest. American Geophysical Union (AGU) Chapman Conference in Tropical Ecohydrology. June 5-9, 2016, Cuenca, Ecuador.

Berry**, Z.C., N. Looker*, F. Holwerda, L.R. Gómez Aguilar, P. Ortiz Colin, T. González-Martínez, **H. Asbjornsen**. 2016. Size matters: A modeling framework for understanding relationships between tree diameter, sap velocity, and sapwood depth strongly influences tree and stand transpiration. IV Mexican National Congress for the Management of Hydrogeographical Watersheds. October 26-28, 2016, Xalapa, Mexico.

Brum*, M., R.S. Oliveira, J. Gutierrez, J. Licata, T. Pypker, **H. Asbjornsen**. 2016. Effects of the 2015 El Nino extreme drought on sapflow of trees in eastern Amazonia. AGU-Tropical Ecohydrology Chapman Conference. June 6-9, 2016, Cuenca, Ecuador.

Guerrieri**, R, S. Belmecheri, M. Martin, L.C. Lepine, K. Jennings, **H. Asbjornsen**, J. Xiao, S.V. Ollinger. 2016. Spatial and temporal trends in water-use efficiency across U.S. forests: integrating tree ring stable C and O isotopes with eddy covariance data. American Geophysical Union fall meeting. December 12-16, 2016, San Francisco, CA.

McIntire* C.D., M.A. Vadeboncoeur, A. Coble, K. Jennings, **H. Asbjornsen**. Northern Forest DroughtNet: Initial results from a multi-year throughfall manipulation experiment in New Hampshire. American Geophysical Union fall meeting. December 12-16, 2016, San Francisco, CA.

McIntire*, C.D., **H. Asbjornsen**. 2016. Simulating drought in New Hampshire Forest: Throughfall Manipulation Experiments. UNH Earth Systems Research Center Seminar. April 2016, Durham, NH.

McIntire*, C.D., I.A. Munck, **H. Asbjornsen**. 2016. Testing experimental silvicultural treatments to mitigate foliar pathogens affecting eastern white pine in the northeastern US and Canada. Eastern CANUSA conference in Forest Science (ECANUSA), September 2016, Burlington, VT.

McIntire*, C.D., I.A. Munck, I.A., **H. Asbjornsen**. 2016. Impacts of White Pine Needle Damage in the Northeastern US and Testing Silvicultural Strategies for Mitigation. Northeastern Forest Pest Council Annual Meeting. March 8-10, 2016, Kinston, Ontario, Canada.

McIntire*, C.D., I.A. Munck, **H. Asbjornsen**. 2016. Testing experimental silvicultural treatments to mitigate foliar pathogens affecting eastern white pine in the northeastern US and Canada. ECANUSA Conference in Forest Science. September 30 – October 1, 2016, Burlington, VT.

Munck, I.A., W. Livingston, S. Fraver, K. Lorion, K. Lombard, J. Weimer, C.D. McIntire*, **H. Asbjornsen**, S. Wyka, K. Broders, W. Ostrofsky. 2016. Caliciopsis canker and White Pine Needle Damage. New England Society of American Foresters Annual Winter Meeting. March 8-12, 2016, Sturbridge, MA.

Sinacore*, K., J. Hall, **H. Asbjornsen**. 2016. Variation in plant water use and water use efficiency of planted monocultures and mixtures during the El Nino drought. Poster presented at the Next-Generation Ecosystem Experiments Tropics (NGEE-Tropics), Department of Energy pre-American Geophysical Association (AGU) Annual Meeting. December 11, 2016, San Francisco, CA.

Looker*, N.T., R.K. Kolka, H. Asbjornsen, L. Munoz-Villers, P. Ortiz-Colin, L.R. Gomez-Aguilar, A.B. Ward. 2016. Effects of land use/cover and landform on upper soil physical properties in the highlands of Veracruz, Mexico. American Geophysical Association (AGU) Annual Meeting. December 12-16, 2016, San Francisco, CA.

Vadeboncoeur, M.A., M. Brum* Jr., R.S. Oliveira, V.H.P. Moutinho, C.F. Flores, C.A. Llerena, M.W. Palace, **H. Asbjornsen**. 2016. Effects of natural and experimental drought on growth and water use

efficiency in Amazon trees. American Geophysical Association (AGU) Annual Meeting, December 12-16, 2016, San Francisco, CA.

Mayer, A.S., K. Jones, Z.C. Berry**, R. Congalton, R.K. Kolka, S. Lopez-Ramirez, R. Manson, L. Munoz-Villers, L. Saenz, J. Salcone, J. Von Thaden-Ugalde, **H. Asbjornsen**. 2016. Application of coupled natural-human systems model for assessing trade-offs between watershed ecosystem services in Veracruz, Mexico. American Geophysical Association (AGU) Annual Meeting. December 12-16, 2016, San Francisco, CA.

Sinacore*, K., J.S. Hall, **H. Asbjornsen**. 2016. Variation in plant water use and water use efficiency of planted monocultures and mixtures: Toward proper species selection for reforestation efforts in the seasonally dry tropics. Tropical Ecohydrology Chapman Conference, American Geophysical Union (AGU). June 6-9, 2016, Cuenca, Ecuador.

Sinacore*, K., J.S. Hall, **H. Asbjornsen**. 2016. Tree species diversity affects plant productivity and water use. Smithsonian Tropical Research Institute Fellows Symposium. Panama City.

Sinacore*, K., J.S. Hall, **H. Asbjornsen**. 2016. Novel planting designs to restore water regulation services in the seasonally dry tropics. Tropical Ecohydrology Chapman Conference, American Geophysical Union (AGU). June 6-9, 2016, Cuenca, Ecuador.

Vadeboncoeur** MA, **H. Asbjornsen**, J.L. Campbell, M.B. Green. 2016. Strength of climatic signals in growth and water use efficiency varies across a temperate climate gradient. AmeriDendro Conference. October, 2016, Mendoza, Argentina.

Accashian*, K., C.D. McIntire*, **H. Asbjornsen**. 2015. Evaluating seasonal variability of sapwood properties in red oak and eastern white pine. Poster presented at the UNH Natural Resources and Earth System Science research conference. December, 2015, Durham, NH.

Asbjornsen, H., L.E. Rustad, P.H. Templer, K.A. Jennings. 2015. Precipitation manipulation experiments in forest ecosystems (“Forest DroughtNet”): Challenges and opportunities for standardization, cross-site comparison, and advancing climate change science. Ecological Society of America (ESA) Annual Meeting. August 9-14, 2015, Baltimore, MD.

Asbjornsen, H., L.E. Rustad, P.H. Templer, K.A. Jennings. 2015. Precipitation manipulation experiments in forest ecosystems (“Forest DroughtNet”): Challenges and opportunities for standardization, cross-site comparison, and advancing climate change science. Long-Term Ecological Research, All Scientists Meeting. August 31-September 3, 2015, Estes Park, CO.

Berry**, Z.C., S.G. Gotsch, F. Holwerda, L. Muñoz-Villers, **H. Asbjornsen**. 2015. Examining the influence of environmental parameters on sap flow across stand ages and slope positions in a tropical montane cloud forest. Ecological Society of America (ESA) Annual Meeting. August 9-14, 2015, Baltimore, MD.

Breton*, C., K. Sinacore*, J. Hall, **H. Asbjornsen**. 2015. Can tropical teak plantations be managed sustainably for both timber and water? An experimental thinning study in Panama. University of New Hampshire, COLSA Undergraduate Research Conference. April 25, 2015, Durham, NH.

Breton*, C., K. Sinacore*, J. Hall, **H. Asbjornsen**. 2015. Can tropical teak plantations be managed sustainably for both timber and water? An experimental thinning study in Panama. International Research Opportunity Program Symposium, University of New Hampshire. October 2, 2015, Durham, NH.

- Campbell, J., **H. Asbjornsen**, M. Vadeboncouer, M. Green. 2015. Evaluating biological and physical drivers of evapotranspiration trends at northeastern US watersheds. 5th Interagency Conference on Research in the Watersheds (ICRW). March 2-6, 2015, Charleston, SC.
- Guerrieri**, R., L. Lepine, **H. Asbjornsen**, J. Xiao, S. Ollinger. 2015. Linking carbon and water cycling to nitrogen for forests across North America: From the leaf to the ecosystem. NASA Annual Meeting, Washington, D.C.
- Jennings, K.A., **H. Asbjornsen**, L.E. Rustad, P.H. Templer. 2015. DroughtNet: Rain exclusions begin! Hubbard Brook Experimental Forest, Annual Cooperators' Meeting. July 8-9, 2015, North Woodstock, NH.
- McIntire*, C.D., **H. Asbjornsen**, I. Munck. 2015. Growth declines associated with White Pine Needle Damage defoliation in the Northeastern US. Northeastern Forest Pest Council Meeting. March 2015, Hanover NH.
- McIntire*, C.D., I.A. Munck., **H. Asbjornsen**. 2015. Growth declines associated with White Pine Needle Damage defoliation in the Northeastern US. New Hampshire Forest and Farm Exposition. February 6, Manchester, NH.
- Munck, I., C.D. McIntire*, S. Wyka*, **H. Asbjornsen**. White Pine Needle Damage. Oral presentation at the USFS Forest Health Division teleconference outreach presentation. February 2015, Durham, NH.
- Ollinger, S., J. Xiao, R. Guerrieri**, L. Lepine, **H. Asbjornsen**. 2015. Canopy diversity in relation to carbon fluxes, water use and ecosystem resilience in North American forests. NASA Annual Meeting, Washington, D.C.
- Palace, M., S. Frolking, C. McMichael, B. Braswell, D.A. Roberts, M. Bush, D. Morton, M. Keller, **H. Asbjornsen**, L. Aragao, L. Ferreira, M. Vadeboncoeur**, M. Ducey, S. Hagen, T. Milleman, C. Herrick. 2015. Drought-induced vegetation change and fire in Amazonian forests: past, present, and future. IDS-NASA Carbon Science and Terrestrial Ecology Meeting. December 2015, Washington D.C.
- Powers*, S.L., M.A. Vadeboncoeur**, **H. Asbjornsen**. 2015. Growth rate of calcium-fertilized sugar maple and yellow birch trees at Hubbard Brook. UNH Undergraduate Research Conference. April 2015, Durham, NH.
- Powers*, S.L., M.A. Vadeboncoeur**, **H. Asbjornsen**. 2015. Growth rate of calcium-fertilized sugar maple and yellow birch in W1 and W3. Hubbard Brook Cooperators' Meeting. July 2015, North Woodstock, NH.
- Rustad, L.E., **H. Asbjornsen**, P.H. Templer, K.A. Jennings, A. Reinmann, M. Martin, M.A. Vadeboncouer, M. Smith. 2015. Northern Forest DroughtNet: A New Framework to Understand Impacts of Precipitation Change on the Northern Forest Ecosystem. Soil Science Society of America (SSSA) Annual Meeting. November 15-18, Minneapolis, MN.
- Vadeboncoeur**, M.A., **H. Asbjornsen**, M.B. Green, J.L. Campbell. 2015. Drivers of trends and variation in tree-ring C and O isotopes at Watershed 3. Oral presentation at the Hubbard Brook Experimental Forest, Annual Cooperators' Meeting, July 8-9, 2015, North Woodstock, NH.

Vadeboncoeur**, M.A., **H. Asbjornsen**, M.B. Green, J.L. Campbell. Examining long-term trends in evapotranspiration and water use efficiency in northeastern forest catchments. Northeastern Ecosystem Research Cooperative (NERC) Conference. Saratoga Springs, NY, March 2015.

Vose, J.M., C. Miniati, C. Luce, **H. Asbjornsen**, P.V. Caldwell, J.L. Campbell, G. Grant, D. Isaak, S. Loheide. 2015. Ecohydrological implications of drought for U.S. forests. American Geophysical Union (AGU) Annual Meeting. December 2015, San Francisco, CA.

Moore, G.W., **H. Asbjornsen**, L. Bruijnzeel, Z.C. Berry, T.W. Giambelluca, P. Martin, M. Mulligan. 2015. Building a global network of hydro-climatology sites in cloud-affected tropical montane forests. American Geophysical Union (AGU) Annual Meeting. December 2015, San Francisco, CA.

Watkins, D.W., M.G.A. Moraes, **H. Asbjornsen**, A.S. Mayer, J. Licata J. Gutierrez-Lopez*, T. Pypker, V. Gamez-Molina, G. Fernandes-Marques, A.C. Guimaraes Cameiro, H.M. Nunez, H. Onal, B. da Nobrega-Germano. 2014. Bioenergy development and integrated water-energy management in Pan America. RCN Conference on Pan American Biofuels and Bioenergy Sustainability. Pp. 100-108. July 22-25, 2014: Recife, Brazil.

Asbjornsen, H. 2014. Climate Change and New Hampshire's Forests: Impacts, Adaptation, and Resilience. The Nature Conservancy's Quarterly Board Meeting. April 18, 2014, Concord, NH. (Invited)

Asbjornsen, H. 2014. Ecohydrological impacts of land use change in cloud forests: implications for Payment for Hydrologic Services programs, Veracruz, Mexico. Conference on "Watershed Management for Ecosystem Services in Human Dominated Landscapes of the Neotropics". Smithsonian Tropical Research Institute and Yale University. March 20-21, 2014, Panama City, Panama. (Invited)

Asbjornsen, H. 2014. Northern Forest DroughtNet. International DroughtNet Research Coordination Network Advisory Committee Meeting. April 10, 2014, Tempe, AZ.

Asbjornsen, H., J. Licata, T. Pypker, J. Gutierrez-Lopez*. 2014. Ecohydrological impacts of feedstock production for bioenergy across the Americas: A multidisciplinary study to assess long-term sustainability. XXIV International Union of Forest Research Organization (*IUFRO*) *World Congress*. October 5-11, 2014, Salt Lake City, UT.

Asbjornsen, H., L. Rustad, P. Templer, K. Jennings. 2014. Northern Forest DroughtNet: A new framework to understand impacts of precipitation change on the northern forest ecosystem. American Geophysical Union (AGU) Annual Meeting. December 15-19, 2014, San Francisco, CA.

Asbjornsen, H., S. Gotch**, G. Goldsmith**, S. Alvarado-Barrientos*, F. Holwerda. 2014. Water fluxes from leaf to ecosystem scales in a seasonal Mexican cloud forest: Implications for climate change impacts and future research priorities. American Geophysical Union (AGU) Annual Meeting. December 15-19, 2014, San Francisco, CA.

Gutierrez Lopez*, J., **H. Asbjornsen**, T. Pypker, J. Licata. 2014. Ecohydrological Impacts and long-term sustainability production of bioenergy feedstocks across the Americas: a multidisciplinary study to assess long-term sustainability. Oral presentation at the International Union of Forest Research Organizations (IUFRO). October 5-11, 2014, Salt Lake City, UT.

Madison*, C., R. Guerrieri**, **H. Asbjornsen**. 2014. Drought sensitivity of slash pine and longleaf pine deduced by tree ring analysis. UNH Annual Undergraduate Research Conference. April 26, 2014, Durham, NH.

McIntire*, C.D., **H. Asbjornsen**, I. Munck, W. Livingston. 2014. Effects of White Pine Needle Damage on sap flow and growth rates of eastern white pine at the Fox State Forest, New Hampshire. UNH Graduate Research Conference. April 2014, Durham, NH.

McIntire*, C., **H. Asbjornsen**, I.A. Munck, K. Broders, B. Livingston. 2014. Interactive effects of White Pine Needle Damage and climate change on forest health across the Northeastern United States. XXIV International Union of Forest Research Organization (*IUFRO*) *World Congress*. October 5-11, Salt Lake City, UT.

McIntire*, C.D., **H. Asbjornsen, H.**, I.A. Munck. 2014. Water and carbon relations of Eastern white pine (*Pinus strobus* L.) impacted by defoliating fungi. Forest Watch Annual Meeting. February 10, 2014, Durham, NH.

McIntire*, C.D., **H. Asbjornsen**, I.A. Munck, K. Broders, W. Livingston. 2014. Effects of White Pine Needle Damage on sap flow and growth rates of eastern white pine at the Fox State Forest, New Hampshire. Northeastern Forest Pest Council Annual Meeting. March 18-20, Quebec City, Quebec, Canada.

McIntire*, C.D., **Asbjornsen, H.**, Munck, I.A., Broders, K., Livingston, W. 2014. Interactive effects of White Pine Needle Damage and climate change on forest health and carbon-water dynamics across the Northeastern United State. International Union of Forest Research Organization (IUFRO) World Congress. October 5-11, 2014, Salt Lake City, UT.

Munck, I.A., K. Lombard, J. Weimer, K. Gooch, B. Schultz, W. Ostrofsky, W. Livingston, S. Wyka, K. Broders, S. Villani, K. Cox, G. Laflamme, **H. Asbjornsen**, C.D. McIntire*, P. Tanguay. 2014. White pine blister rust, Caliciopsis canker, needle casts and decline. Northeastern Society of American Foresters (NESAF) Annual Winter Meeting. March 25-2, 2014, Nashua, NH.

Ollinger, S., R. Guerrieri**, L. Lepine, **H. Asbjornsen**, J. Xiao. 2014. Canopy diversity in relation to carbon fluxes, water use and spectral reflectance in North American forests. American Geophysical Union (AGU) Annual Meeting. December 15-19, 2014, San Francisco, CA.

Guerrieri, R., L.C. Lepine, **H. Asbjornsen**, J. Xiao, S.V. Ollinger. 2014. Controls on water use efficiency for different forest ecosystems across North America: from the leaf to landscape. American Geophysical Union (AGU) Annual Meeting. December 15-19, 2014, San Francisco, CA.

Sinacore*, K., J. Hall, **H. Asbjornsen**, T. Howard. 2014. We are better together: tree mixtures facilitate complementary water use. XXIV International Union of Forest Research Organization (*IUFRO*) *World Congress*. October 5-11, 2014, Salt Lake City, UT.

Vadeboncoeur** M.A., **H. Asbjornsen**, J. Campbell, M.B. Green. 2014. Determining drivers of long-term trends in evapotranspiration in forested small catchments. XXIV International Union of Forest Research Organization (IUFRO) World Congress. October 5-11, 2014, Salt Lake City, UT.

Vadeboncoeur** M.A., **H. Asbjornsen**, M.B. Green, J.L. Campbell. 2014. Examining drivers of long-term trends in evapotranspiration in forested small catchments in the northeastern USA. American Society for Agricultural and Biological Engineers, International Symposium on Evapotranspiration. April 7-10, 2014, Raleigh, NC.

Vadeboncoeur** M.A., L. Buzinski, **H. Asbjornsen**, M.B. Green. 2014. Dendrochronological insights

into growth and ecophysiology trends at Hubbard Brook. Hubbard Brook Cooperators' Annual Meeting. July 2014, North Woodstock, NH.

Xiao**, J., S. Ollinger, F. Li, C. Li, S.E. Frohling, G.C. Hurtt, R. Guerrieri, L.C. Lepine, **H. Asbjornsen**. 2014. Impacts of recent droughts on North American terrestrial ecosystems. American Geophysical Union (AGU) Annual Meeting. December 15-19, 2014, San Francisco, CA.

Asbjornsen, H., J. Scullion*, R. Manson, L. Munoz-Villers, F. Holwerda, D. Geissert, A. Gomez-Tagle, O. Perez-Maqueo. 2013. Exploring interactions between payment for hydrologic service policies, human behavior, and forest-water relationships in a Mexican cloud forest watershed: is there a disconnect between the policy and the resource? American Geophysical Union (AGU) Meeting of the Americas. May 13-17, 2013, Cancun, Mexico. (Invited)

Asbjornsen, H., S. Alvarado-Barrientos*, L.A. Bruijnzeel, T. Dawson, D. Geissert, G. Goldsmith, A. Gomez-Tagle, S. Gotsch**, F. Holwerda**, J. McDonnell, L. Munoz-Villers**, C. Tobon. 2013. A synthesis of the ecohydrology of a Mexican tropical montane cloud forest in the context of land use and climate change. American Geophysical Union Meeting of the Americas. May 13-17, 2013, Cancun, Mexico. (Invited)

Asbjornsen, H., M.S. Alvarado, L.A. Bruijnzeel, T.E. Dawson, D.R. Geissert, G.R. Goldsmith, M. Gomez-Cardenas, A. Gomez-Tagle, S. Gotsch, F. Holwerda, J.J. McDonnell, L.E. Munoz-Villers, C. Tobon. 2012. Ecohydrological controls of watershed response to land use change in the montane cloud forest zone in Mexico. American Geophysical Union (AGU) Annual Meeting. December 3-7, 2012, San Francisco, CA .

Alvarado-Barrientos*, M.S., F. Holwerda, **H. Asbjornsen**, T.E. Dawson. 2012. Linking fog climatology and the impact of cloud immersion on transpiration of *Pinus patula* within a seasonal tropical montane cloud forest environment. Ecological Society of America (ESA) Annual Meeting. August 10, 2012, Portland, OR.

Asbjornsen, H., J.L. Campbell, M. Green. 2012. Global Evapotranspiration trends: Exploring diverging patterns and mechanisms. Mountain Research Initiative, Key Contact Workshop, University of California-Berkeley. December 2, 2012, Berkeley, CA.

Hernandez-Santana, V., M.S. Alvarado-Barrientos*, **H. Asbjornsen**. 2012. Spatial uncertainty in sap velocity measurements and tree water use upscaling in American beech. CSIC-Instituto de Recursos Naturales y Agrobiologia de Sevilla. September 17-20, 2012, Seville, Spain.

Alvarado-Barrientos*, M.S., **H. Asbjornsen**. 2011. Disentangling the radial profile of sap velocity of *Pinus patula*. 8th International Workshop on Sap Flow. May 8-12, 2011, Volterra, Italy.

Hernandez-Santana**, V., **H. Asbjornsen**, T. Isenhardt, R. Schulz. 2011. Effects of thinning on transpiration by riparian buffer trees in response to advection and solar radiation. 8th International Workshop on Sap Flow. May 8-12, 2011, Volterra, Italy.

Alvarado-Barrientos*, S., F. Holwerda**, **H. Asbjornsen**, T. Sauer, T. Dawson, L.A. Bruijnzeel. 2010. Effects of overcast and foggy conditions on transpiration rates within a chronosequence of *Pinus patula* at the cloud belt of the Sierra Madre Oriental, central Veracruz, Mexico. American Geophysical Union (AGU) Annual Meeting. December, 2010, San Francisco, CA.

Alvarado-Barrientos*, S., **H. Asbjornsen**, F. Holwerda**, T. Dawson, L.A.S. Bruijnzeel. 2010. How do fog events affect transpiration across a chronosequence of *Pinus patula* within a seasonal montane cloud forest? NSF Pan-American Advanced Studies Institute, Interdisciplinary Studies on Global Climate Change and the

Ecology and Management of Tropical Montane Ecosystems. March 6-14, 2010, Madre de las Aguas, Dominican Republic. (Invited)

Asbjornsen, H. 2010. Cloud Forest Ecohydrology: When are trees and clouds important to catchment hydrology? NSF Pan-American Advanced Studies Institute, Interdisciplinary Studies on Global Climate Change and the Ecology and Management of Tropical Montane Ecosystems. March 6-14, 2010, Madre de las Aguas, Dominican Republic. (Invited)

Asbjornsen, H. Landscape diversity and hydrologic functions. Wallace Conference at the CATIE, Agrobiodiversity – from genes to landscapes. September 20-24, 2010, San Jose, Costa Rica. (Invited)

Asbjornsen, H., L.A. Bruijnzeel. 2010. Ecohydrological tools for assessing watershed restoration success: What to plant, where, and how much? Conference on The Ecology and Ecosystem Services of Native Trees: Implications for Reforestation and Land Restoration in Mesoamerica. Smithsonian Tropical Research Institute. January 21-22, 2010, Panama City, Panama. (Invited)

Brudvig*, L.A., **H. Asbjornsen**, A. Beringer*, C. Cambardella, V. Mateos-Remigio*. 2010. Oak savanna restoration presents conflicting carbon and biodiversity outcomes. Ecological Society of America (ESA) Annual Meeting. August 1-6, 2010, Pittsburgh, PA.

Brudvig*, L., **H. Asbjornsen**, A. Beringer*, C.A. Cambardella. 2010. Monitoring changes to plant communities and soils during oak savanna restoration in Iowa. US Forest Service Forest Health Monitoring Program, Annual Meeting.

Goldsmith**, G.R., F. Holwerda**, L. Munoz-Villers**, **H. Asbjornsen**, C. Wong, T.E. Dawson. 2010. Ecohydrological implications of shallow water uptake by plants in a seasonal tropical montane cloud forest. American Geophysical Union (AGU) Annual Meeting. December 2010, San Francisco, CA.

Gotsch**, S., T. Dawson, J. McDonnell, L.A.S. Bruijnzeel, F. Holwerda**, S. Alvarado-Barrientos*, **H. Asbjornsen**. 2010. Foliar fog uptake in a tropical montane cloud forest – preliminary findings from Veracruz. NSF Pan-American Advanced Studies Institute, “Interdisciplinary Studies on Global Climate Change and the Ecology and Management of Tropical Montane Ecosystems”. March 6-14, 2010, Madre de las Aguas, Dominican Republic. (Invited).

Gotsch**, S.G., G. Goldsmith, F. Holwerda**, T.E. Dawson, **H. Asbjornsen**. 2010. Dry season foliar fog uptake and reverse sap flow in the tropical montane cloud forests of Mexico. Ecological Society of America (ESA) Annual Meeting. August 2010, Pittsburgh, PA.

Gotsch**, S.G., G.G. Goldsmith, F. Holwerda**, T.E. Dawson, **H. Asbjornsen**. 2010. Dry season foliar uptake, reverse sapflow, and nighttime transpiration in the tropical montane cloud forests of Mexico. American Geophysical Union (AGU) Annual Meeting, San Francisco, CA.

Gotsch**, S.G., G.R. Goldsmith**, F. Holwerda**, T.E. Dawson, **H. Asbjornsen**. 2010. Dry season foliar fog uptake, reverse sap flow, and nighttime transpiration in the tropical montane cloud forests of Mexico. Ecological Society of America (ESA) Annual Meeting. August 1-6, 2010, Pittsburgh, PA.

Hernandez-Santana**, V., X. Zhou, M. Helmers, **H. Asbjornsen**, R. Kolka, M.D. Tomer. 2010. Effectiveness of perennial vegetation strips in reducing runoff in annual crop production systems. American Geophysical Union (AGU) Annual Meeting. December, 2010, San Francisco, CA.

Mateos-Remigio*, V., **H. Asbjornsen**, T. Sauer, J. Tarara, D. Meek. 2010. A comparison of ecohydrological function for a native C4 grass, native C3 forb, and C4 crop during a wet year. North American Prairie Conference. August 1-5, 2010, Cedar Falls, IA.

Asbjornsen, H. 2009. Enhancing biophysical and socioeconomic functions of agroecosystems in the Midwestern U.S. through strategic integration of perennial vegetation. Coupled Human and Natural Systems Symposium, Annual Conference of the US International Association of Landscape Ecology. April 12-16, 2009, Snowbird, UT. (Invited)

Asbjornsen, H., L.A. Bruijnzeel. 2009. Ecohydrological effects of cloud forest conversion under contrasting climatic conditions. Tropical Hydrology Symposium, Smithsonian Tropical Research Institute. March 16-20, 2009, Panama City. (Invited)

Gomez-Cardenas*, M., **H. Asbjornsen**, F. Holwerda, L.A. Bruijnzeel. 2009. Using whole-tree sapflow measurements to assess the effects of land use/cover change on stand water balance in a seasonal montane cloud forest zone in Central Veracruz, Mexico. Ecological Society of America (ESA) Annual Meeting. August 2-7, 2009, Albuquerque, NM.

Muñoz-Villers**, L., F. Holwerda**, M. Gomez-Cardenas*, M. Equihua, L.A.S. Bruijnzeel, **H. Asbjornsen**. 2009. Water budgets of old growth and regenerating montane cloud forests in Central Veracruz, Mexico. 2nd International Conference on Forests and Water in a Changing Environment. September 14-16, 2009, Raleigh, NC.

Gomez-Cardenas*, M., **H. Asbjornsen**, F. Holwerda**, L.A. Bruijnzeel. 2009. Using whole-tree sapflow measurements to assess the effects of land use/cover change on stand water balance in a seasonal montane cloud forest zone in Central Veracruz, Mexico. Ecological Society of America (ESA) Annual Meeting. August 2-7, 2009, Albuquerque, NM.

Muñoz-Villers**, L., F. Holwerda**, M. Gomez-Cardenas*, M. Equihua, L.A. Bruijnzeel, **H. Asbjornsen**. 2009. Water budgets of old growth and regenerating montane cloud forests in Central Veracruz, Mexico. 2nd International Conference on Forests and Water in a Changing Environment. September 14-16, 2009, Raleigh, NC.

Mateos-Remigio*, V., **H. Asbjornsen**, J. Tarara, T. Sauer. 2008. Evaluating transpiration in annual crop and perennial prairie species using the heat balance method in Central Iowa, USA. VII Workshop on Sap Flow. October 21-25, 2008, Sevilla, Spain.

Gómez-Cárdenas*, M., **H. Asbjornsen**, F. Holwerda, L.A. Bruijnzeel. 2008. Tree and stand transpiration patterns for three contrasting land cover types in a tropical montane cloud forest zone in Eastern Mexico. VII Workshop on Sap Flow. October 21-25, 2008, Sevilla, Spain.

Asbjornsen, H., S.L.A. Bruijnzeel. 2008. Reforestation and water resources: To plant or not to plant? *Linking science and policy for enhancing water resource management in Mexico*, Co-sponsored by Fulbright García-Robles, US Agency for International Development, and the National Autonomous University of Mexico. May 5, 2008, Mexico City.

Brudvig*, L.A., **H. Asbjornsen**. Reestablishment of physical and vegetative gradients during Midwestern oak savanna restoration. Ecological Society of America, Aug. 5-10, 2007, San Jose, CA.

Asbjornsen, H. 2007. Ecohydrological processes in a montane cloud forest zone in Veracruz, Mexico: Linking plants to watersheds. Hydrophile Seminar Series, Oregon State University. June 6, 2007. (Invited)

Maher*, R., **H. Asbjornsen**, R. Kolka, J. Raich. 2007. Plant production and soil CO₂ flux across a chronosequence of tallgrass prairie reconstructions, Iowa, USA. Ecological Society of America (ESA) Annual Meeting. August 5-10, 2007, San Jose, CA.

Asbjornsen, H., M. Liebman, L. Schulte, T. Crow, M. Helmers. 2007. Strategic placement of perennial plants for enhancing ecosystem services in agricultural landscapes in the Midwestern U.S. Symposium on “Ecohydrology of managed landscapes: from plants to watersheds.” EcoSummit 2007: Ecological Complexity and Sustainability: Challenges and Opportunities for 21st-Century’s Ecology. May 22-27, 2007, Beijing, China.

Helmers, M., **H. Asbjornsen**, R. Kolka, M. Tomer. 2007. Ecohydrological functions of perennial plants in watersheds with contrasting annual-perennial plant communities in the Midwestern U.S. Symposium on “Ecohydrology of managed landscapes: from plants to watersheds.” EcoSummit 2007: Ecological Complexity and Sustainability: Challenges and Opportunities for 21st-Century’s Ecology. May 22-27, 2007, Beijing, China.

Asbjornsen, H., L.A. Bruijnzeel. 2006. Changing fire dynamics in tropical montane cloud forests: a global synthesis. Symposium on “Changing Fire Dynamics and Ecosystem Responses in Tropical Vegetation.” 3rd International Fire Ecology and Management Congress. November 13-17, 2006, San Diego, CA. (invited)

Asbjornsen, H., B. Wickel. 2006. Satellite hotspot detection patterns and ecosystem response to fire in Mexican cloud forests. Symposium on “Changing Fire Dynamics and Ecosystem Responses in Tropical Vegetation.” 3rd International Fire Ecology and Management Congress. November 13-17, 2006, San Diego, CA. (invited)

Asbjornsen, H., M. Gomez-Cárdenas*. 2006. Estimating transpiration in contrasting vegetative cover types. Symposium on Ecohydrology: Research and Development. Institute of Ecology, Xalapa, Veracruz, Mexico, March 23-24, 2006, Xalapa, Mexico. (invited)

Asbjornsen, H., E. Tellez-Morales*. 2006. Community-based water monitoring: development and evaluation of a pilot program in Veracruz, Mexico. Institute of Ecology, Xalapa, Veracruz, Mexico. March 23-24, 2006, Xalapa, Mexico. (invited)

GRANTS & CONTRACTS OBTAINED

Asbjornsen, H., M. Ashton, A. Contosta, K. Guerdat, T. Ong, S. Roberge. Promoting Climate-Smart and Sustainable Agriculture in New England through Regionally Adapted Agroforestry Systems. USDA Sustainable Agricultural Systems. \$10 million. 7/1/2024 – 6/30/2029.

Asbjornsen, H., J. Butnor, M. Dovciak, M. Vadeboncoeur, J. Wason. Using a functional trait approach to inform assisted migration for climate adaptation in the Northern Forest Region. Northern States Research Cooperative. \$365,261. 6/1/2024 – 5/31/2027.

Asbjornsen, H., T. Cohn, M. Vadeboncoeur. Preserving the Abenaki culture and traditions through the conservation and sustainable management of the ecologically rare Atlantic White Cedar Swamp Ecosystem. Northern States Research Cooperative – Indigenous Forest Knowledge Fund. \$140,030. Awarded: January, 2023.

Vadeboncoeur, M., **H. Asbjornsen (co-PI)**, N.L. Cleavitt, A. Fast, R. DiGirolomo. Oak at the edge: Investigating the importance of fire as a tool in oak range expansion. NSRC. \$199,830. Awarded: September 30, 2022.

Vadeboncoeur, M., **H. Asbjornsen (co-PI)**, S. Roberge, A. Wild. How does nonconductive wood formation relate to sap and sugar yields across five maple species? USDA-ACER. \$487,235. 1/1/2021-12/31/2023. Awarded: August 31, 2022.

Asbjornsen, H. Agroforestry as a Strategy for Sustainable and Climate-Resilient Food Production in the Northeastern U.S. UNH-CoRE Support for Development of Large, Complex Proposals. \$100,000. Awarded: 8/2022.

Asbjornsen, H. Strengthening and expanding research on agroforestry systems at UNH: A strategy for sustainable and climate-resilient food production in New England. UNH Faculty Scholars Fellowship Program. Awarded: 1/15/2022 to support release from teaching/administrative duties in Spring 2023.

Asbjornsen, H. Developing international research collaboration on drought experiments in a Peruvian cloud forest. UNH Karabelas Faculty Development Fund. \$6,833. Awarded: 12/15/2021.

Asbjornsen, H., M. Vadeboncoeur, S. Roberge, S. Atallah, C. Evans. Diversifying the maple syrup industry to enhance socioecological resilience and ecosystem services. USDA-AFRI (Sustainable Agroecosystems). \$499,743. Awarded: 1/1/2022.

Asbjornsen, H., A.D'Amato, C. McIntire, J. Wason. Assisted migration: A viable silvicultural technique for facilitating adaptation of Northern Forest tree species to a warmer and drier future world? Northern States Research Cooperative (NSRC). \$174,493. Awarded: 8/1/2021.

Asbjornsen, H., S. Atallah, S. Roberge. Engaging the maple industry in diversifying sugarbush species composition and market opportunities. SARE Research and Education Grant Program. \$204,157. Awarded: 11/30/2021.

Asbjornsen, H., M. Vadeboncoeur, D. Moore. Developing and testing a novel tap designs for increasing sap yields and sugarbush sustainability through research-extension-industry partnerships. North American Maple Syrup Council (NAMSC). \$29,467. Awarded: 10/20/2020

Asbjornsen, H., S. Atallah, S. Bigornia, M. Lima, S. Roberge. Diversifying the maple syrup industry to enhance socioecological resilience and sustainability. UNH-CoRE. \$29,930. 9/1/2020-8/31/2021. Awarded: September 1, 2020.

Asbjornsen, H., S. Atallah, S. Roberge, M. Vadeboncoeur. Developing and Testing a Novel Tap Design for Increasing Sugarbush Sap Yields and Sustainability through Research, Extension, and Producer Partnerships. USDA-ACER. \$427,615. 1/1/2021-12/31/2023. Awarded: September 1, 2020.

Riaño Ospina, K., **H. Asbjornsen**, R. Cuevas Guzmán, D. Prieto, Zuloaga Aguilar, M.S. Vulnerability and resilience of tropical and subtropical forests to climate change in western Mexico. [*Vulnerabilidad y resiliencia al cambio climático del bosque tropical y subtropical en el occidente de México*]. Mexican National Commission for Science and Technology [CONACyT]. \$350,000. 8/1/20 – 7/31/23. Awarded: October 1, 2020.

Asbjornsen, H. (PI), P. Schaberg, I. Munck, M. Vadeboncoeur. Resilience and vulnerability of *Acer saccharum* to drought, defoliators, and tapping: Stress thresholds and the role of non-structural carbohydrates. USFS Forest Health Program-Ecological Monitoring. \$96,851. 6/1/20-6/1/22. Awarded: August 15, 2020.

Asbjornsen, H. (PI), C. Ashcraft, W. McDowell, T. Safford, S. Atallah. Andean-Amazonian Watershed Experience: Exploring sustainability of mountain ecosystems in Ecuador (AWESOME). National Science Foundations' International Research Experience for Students program (NSF-IRES). 9/1/20-9/1/23. \$391,368. Awarded: June 1, 2020.

Vadeboncoeur, M., **H. Asbjornsen (co-PI)**. Research coordination for the Thompson Farm Earth Systems Observatory. Iola Hubbard Climate Endowment, ESRC EOS UNH. 5/15/2020-5/14/2021. \$17,836. Awarded: May 15, 2020.

P. Crespo, **Asbjornsen, H. (co-PI)**, R. Celleri, X. Palomeque. The ecohydrologic functions of *Polylepis* forests within the Andean paramo and their resilience and vulnerability to climate change. \$403,918. University of Cuenca Research Directorate, Cuenca, Ecuador. Awarded: January, 2019.

Moore, D., **H. Asbjornsen (Advisor)**. Harvesting sap and producing syrup from trees other than maples, birches, and walnuts. Northeast Sustainable Agriculture, Research, and Education SARE. \$14,848, 7/24/2018 -5/1/2020. Awarded: July 1, 2018.

Vadeboncoeur, M., **H. Asbjornsen (co-PI)**. Evaluating the effects of soil calcium availability on whole-tree water and carbon balance in mid-successional northern hardwoods. Iola Hubbard Climate Endowment, ESRC EOS UNH. 5/15/2018-5/14/2019. \$10,000. Awarded: May 15, 2018.

Asbjornsen, H., I. Munck. Assessment of the Chaga resource in the White Mountains National Forest (WMNF). USDA Forest Service and the White Mountain National Forest. \$100,000. 7/1/17-7/1/19. Awarded: July 1, 2017.

Asbjornsen, H. (PI) Sustaining water resources in Andean-Amazon watersheds under a changing climate: Linking science, policy, and communication. Fulbright Global Scholar Program. \$30,000. 1/2018-5/2018. Date submitted: August 1, 2016. Awarded: February, 2017.

Lovett, G., P. Groffman. LTER: Long-Term Ecological Research at the Hubbard Brook Experimental Forest. \$6,762,000 (subcontract to **Asbjornsen (PI)**): \$108,000). 2017-2023. NSF-LTER; Awarded: June 2017.

Vadeboncoeur, M., **H. Asbjornsen (co-PI)**. Remotely sensing drought stress at leaf to stand scales in temperate mixed species forests. Iola Hubbard Climate Endowment, ESRC EOS UNH. 5/15/2017-5/14/2018. \$24,056. Awarded: May 15, 2017.

Mayer, A., **H. Asbjornsen (co-PI)**, Z.C. Berry, K. Jones, T. Selfa. The role of citizen science in watershed hydrology research: Relationships between volunteer motivations, data quantity and quality, and decision-making. \$52,771. 8/16-1/18. NSF-EAGER. Awarded: August 2016.

Asbjornsen, H (PI). Forest throughfall manipulation equipment: Enhancing capacity to access forest response to changing precipitation regimes in New Hampshire. NHAES-COLSA One-Time Equipment Grant, \$79,280, 5/15-12/15. Awarded: May 2016.

Asbjornsen, H (PI). Advancing the science of climate change, drought, and forest ecosystem dynamics at UNH. \$13,190. 3/15-8/16. NSF-ADVANCE-UNH. Awarded: March 2015.

Asbjornsen, H. (PI), I. Munck, C. McIntire. Impact of White Pine Needle Damage and management interventions on forest health across the northeastern United States. \$101,449. 09/2014-09/2017. USDA-FS. Awarded: September 1, 2014.

Vadeboncoeur, M., **H. Asbjornsen (co-PI)**, A. Ouimette. Collaborative Research: Building capacity to understand ecosystem responses to climate-induced increases in plant water stress and implications for hydrologic services. \$40,000. 5/2016-1/2017. Iola Hubbard Climate Endowment, ESRC EOS UNH. Awarded: May 2016.

Smith, R., **H. Asbjornsen (co-PI)**, A. Constonsa, W. Wollheim. Getting from here to there: protecting and promoting ecosystem services during the conversion of forests to fields in New England. \$499,839. 1/2015-1/2020. USDA-NIFA-AFRI. Awarded: January 2015.

Asbjornsen, H. (PI), L. Rustad, P. Templer. Northern Forest DroughtNet: A new framework to understand impacts of precipitation change on the northern forest ecosystem. \$111,926, 5/14-5/18. Northern States Research Cooperative. Awarded: May 2014.

Asbjornsen, H. (PI), R. Varner, A. Oiumette. Acquisition of a PyroCube IsoPrime 100 EA-IRMS for stable isotope research. \$396,965. 8/14-8/16. NSF-MRI. Awarded: August 2014.

Palace, M., **H. Asbjornsen (co-PI)**, S. Frolking, D. Morton, R. Braswell. Drought-induced vegetation change and fire in Amazonian forests: Past, present, and future. \$1,994,380. 1/14-1/17. NASA-IDS. Awarded: January 2014.

Asbjornsen, H. (PI), R. Congalton, A. Mayer, T. Selfa, K. Jones. Experimental frameworks for evaluating net effects of hydrologic service payments on coupled socio-ecohydrologic systems in Mexico. 1,475,000. 1/2013-1/2017. NSF-CNH. Awarded: January 2013.

Halvorsen, K., **H. Asbjornsen (co-PI)**, R.A. Chimner, Cassandra Moseley. D. Shonnard. Sustainability, ecosystem services, and bioenergy development across the Americas. \$4,981,749 (subaward to UNH \$363,763). 1/12-12/16. NSF-OISE-PIRE. Awarded: January 2013.

Martin, P., **H. Asbjornsen (co-PI)**, T. Giambelluca, F. Scatena, B. Ostertag. Towards a unified ecology of tropical montane cloud forests. \$499,998. 1/12-12/17. NSF-CNH. Awarded: January, 2012.

Ollinger, S.V., **H. Asbjornsen (co-PI)**, J. Xiao. Exploring relationships among water use efficiency, canopy nitrogen and carbon cycling across North American ecosystems to improve land surface models. \$774,612. 4/12-4/16. NASA-TE. Awarded: April 2012.

Asbjornsen, H. (PI), J. Campbell, M. Green. Understanding the physical and biological drivers of observed ET declines in the northeastern US. \$125,328. 9/12-9/14. Northern States Research Cooperative. Awarded: September 2012.

Asbjornsen, H. (PI), M. Palace. Experiential student learning and collaborative research: Understanding tropical ecosystem response to climate change from leaves to landscapes. NSF-ADVANCE, \$40,000, 7/11-6/12. Awarded: July 2011.

Asbjornsen, H. T. Dawson, J. McDonnell. Ecohydrological controls on watershed response to land use change in the montane cloud forest zone in Central Veracruz, Mexico. NSF-DEB, \$1,300,000, 2/09-3/14. Awarded: February 2009.

Asbjornsen, H. (PI), M. Helmers. Landscape scale integration of water, nutrient and carbon cycling under diverse annual-perennial plant community systems in agricultural landscapes. Leopold Center for Sustainable Agriculture, \$250,000, 3/09-3/14. Awarded: March 2009.

Asbjornsen, H. (PI), M. Helmers, L. Schulte, M. Liebman. Biocomplexity of hydrological service payments and watershed sustainability in Mexico. NSF-OISE, \$33,500, 5/09-5/10. Awarded: May 2009.

Mayer, A.S., **H. Asbjornsen (co-PI)**. Enhancing the capacity for sustainable forest management and ecosystem service provisioning in Chiapas and Oaxaca, Mexico. USAID-TIES, \$250,000, 1/09-1/12. Awarded: January 2009.

Helmers, M., **H. Asbjornsen (co-PI)**, L. Schulte, M. Liebman. Learning and teaching with experimental watersheds: evaluation of ecosystem services in mixed annual-perennial agrosystems. USDA - Agriculture and Food Research Initiative, \$499,833, 12/09-12/13. Awarded: December 2009.

Helmers, M., **H. Asbjornsen (co-PI)**. Demonstration of the impacts of mixed annual-perennial agroecosystems on water quality. IDALS, \$54,126, 10/08-6/09. Awarded: October 2008.

Asbjornsen, H (PI). Assessing indicator sensitivity for monitoring the effects of woody encroachment and restoration on forest health in oak savannas and woodlands in Central Iowa. USDA-FS-FHM, \$80,141, 4/06-12/06. Awarded: April 2006.

Asbjornsen, H (PI). Assessing indicator sensitivity for monitoring the effects of fire and species reintroductions on soils and plant communities during intensive restoration of oak savannas in Central Iowa. USDA-FS- Fire Plan, \$158,953, 5/07-5/10. Awarded: May 2007.

Helmers, M., **H. Asbjornsen (co-PI)**. Mixing reconstructed prairie with cropland to balance food and biofuel production with environmental quality. NCR-SARE, \$174,819. 6/09-6/12.

Asbjornsen, H., M. Helmers, R. Cruse. Designing agroecosystems for enhancing ecosystem services: A watershed experiment with contrasting annual-perennial plant configurations. ISU College of Agriculture and Life Sciences, \$33,000. 11/07-11/08.

Asbjornsen, H. Catalyzing international collaboration on the ecohydrological effects of land use change in a montane cloud forest zone; Veracruz, Mexico. Fulbright Scholar Program, \$28,500. 9/07-5/08.

DeClerk, F., **H. Asbjornsen**, K. Garrett, T. Gordon, J. Lambrinos, M. Mayfield, S. Philpott, K. Russell. Biodiversity, conservation and ecosystem services in managed landscapes. National Center for Ecological Analysis and Synthesis (NCEAS), \$25,000. 11/06-8/07.

Asbjornsen, H., W. Deutsch, R. Manson, C. Flora, J. Flora. Conservation and restoration of tropical montane cloud forest for protecting water supplies and biodiversity in Veracruz, Mexico. Conservation, Food, and Health Foundation, \$25,800. 5/05-5/06.

Asbjornsen, H. Can community-based water monitoring enhance local capacity for protecting water supply, biodiversity, and quality of life? A case study from Veracruz, Mexico. Iowa State University, Council on International Programs, \$6,500. 1/06-6/06.

Brudvig, L.*, **H. Asbjornsen**. Effects of restoration on oak savanna biodiversity, structure, and oak regeneration. Iowa Native plant Society, \$500. 2/06-2/07.

Asbjornsen, H., R. Kolka, M. Liebman, R. Cruse, C. Kling, J. Opsomer, M. Helmers, R. Kolka, L. Schulte, S. Secchi. Biocomplexity of integrated perennial-annual agroecosystems. NSF-CNH-Biocomplexity in the Environment, \$99,998. 10/05-10/08.

Shepherd, G*., **H. Asbjornsen**. A comparative ecosystems analysis of plant-soil water dynamics under different annual and perennial plant communities. The Land Institute, Natural Systems Agriculture Program, \$4,500. 7/05-7/06.

Asbjornsen, H., W. Deutsch, R. Manson, L.A. Bruijnzeel, V. Barradas. Conservation and restoration of tropical montane cloud forest for protecting water supplies and biodiversity in Veracruz, Mexico. Conservation, Food, and Health Foundation, \$24,800. 5/05-5/06.

Helmers, M., **H. Asbjornsen**, R. Cruse. Ecohydrological modeling of subcatchments having contrasting annual-perennial plant configurations. Iowa State University College of Agriculture: Management and Performance Initiative, \$110,000. 5/05-5/08.

Mora, G., M. Helmers, **H. Asbjornsen**. Belowground water dynamics under contrasting annual and perennial plant communities in an agriculturally-dominated landscape. University Research Grant Program, Iowa State University, \$15,825. 5/05-5/06.

Asbjornsen, H., G. Mora. Water cycling in mature, degraded, reforested, and naturally regenerating tropical montane cloud forests in Central Veracruz, Mexico. Council on International Programs, Iowa State University, \$5,000. 6/05-6/06.

Bruijnzeel, L.A., **H. Asbjornsen**, M. Equihua-Zamora, W. Eugster, P. Hietz, C. Tobon-Marin. The ecohydrological significance of fog in the eastern Sierra Madre, Central Veracruz, Mexico. Dutch Foundation for the Advancement of Tropical Research, \$150,250. 2/05-5/07.

Takle, E., **H. Asbjornsen**, W. Gutowski. Evaluating risk to water quality due to climate change and climate variability in the U.S. Midwest. Institute for Science and Society, Iowa State University, \$700. 1/04-6/04.

Asbjornsen, H., M. Tomer, K. Schilling. Ecohydrologic response of degraded oak savannas to restoration treatments. Special Research Initiative Grant, Iowa State University, \$16,000. 5/04-5/05.

Asbjornsen, H. Understanding the role of fire, light, and water: Restoring rare lowland oak woodlands of Muscatine County, IA. The Natural Conservancy, \$75,000. 4/04-4/07.

Asbjornsen, H., R. Kolka. Integration of water, nutrient and carbon cycling under diverse annual-perennial systems in agricultural landscapes. USDA Forest Service, Grand Rapids Research Station, MN, \$180,000. 4/04-4/07.

Asbjornsen, H., R. Kolka, M. Liebman, M. Helmers, P. Drobney, L. Schulte, K. Schilling, C. Cambardella, M. Tomer. Integration of water, nutrient and carbon cycling under diverse annual-perennial systems in agricultural landscapes. The Leopold Center for Sustainable Agriculture, \$125,000. 6/04-6/09.

Asbjornsen, H., T. Crow, J. Colletti, D. Dey, J. Dwyer, D. Lytle, K. O'Neill, S. Schulte, S. Shifley, S. Snyder, N. Sullivan, C. Flora, T. Isenhardt, F. Kirchenmann, J. Pease, J. Pesek, R. Salvador, R. Schultz, E. Takle. Water quality as an indicator of change in the Midwestern U.S. USDA Forest Service, North-Central Research Station, Iowa State University, Leopold Center for Sustainable Agriculture. \$145,000. 4/04-4/07.

Asbjornsen, H., K. O'Neill, K. Moser. Effects of prescribed burning on indicators of forest health in oak savannas and woodlands of Iowa: Implications for ecological monitoring and restoration. USDA Forest Service, State and Private Forestry, \$56,000. 4/04-4/07.

Asbjornsen, H., I. Gutierrez-Montes, S. Lozano-Trejo. Community participation in fire management and forest conservation in the Chimalapas, Oaxaca, Mexico. Mexican Fund for the Conservation of Nature, \$6,000. 4/03-12/03.

Asbjornsen, H., T. Crow. Restoring native diversity in agricultural landscapes. USDA Forest Service, North-Central Research Station, \$10,000. 4/03-9/04.

Asbjornsen, H., K. O'Neill. Ecological indicators of forest health in oak savannas and woodlands. USDA Forest Service, North-Central Research Station, \$10,000. 10/02-12/04.

Asbjornsen, H. Mapping woodland invasive plant species in Iowa. Iowa Department of Natural Resources, \$80,000. 5/02-5/05.

Asbjornsen, H., C. Gallardo-Hernandez, I. Gutierrez-Montes. World Wildlife Fund, Oaxaca, Mexico Office. Participatory evaluation and planning of the Chimalapas-GIEMPBI project, \$4,000. 1/03-4/04.

Asbjornsen, H., N. Velazquez-Rosas. Ecological effects of the 1998 forest fires in cloud forests in the mountain range "El Reten", San Miguel Chimalapas, Oaxaca. Mexican Program on Forest Research and Management, National Forestry Commission of Mexico (CONAFOR), \$30,000. 5/02-12/04.

Asbjornsen, H., M. Wagner. Integrating interdisciplinary curriculum and peer teaching to enhance student learning in ecological restoration and design. Miller Faculty Fellowship, Iowa State University, \$24,340. 7/03-12/03.

Asbjornsen, H., C. Flora, J. Flora, R. Salvador. Confronting global challenges of sustainability through interdisciplinary collaboration in natural resource management between Iowa State University and the Technological Institute of Agriculture of Oaxaca, Mexico. Council on International Programs, Iowa State University, \$45,326. 6/01-6/03.

Asbjornsen, H., S. Lozano-Trejo, C. Flora, J. Flora, J. Blauert, R. Salvador, A. Malmer. Integrated ecosystem management model in the tropical forest regions of Los Chimalapas, Oaxaca, Mexico. The Global Environment Facility-United Nations Development Program, \$25,000. 6/01-6/02.

Asbjornsen, H., J. Blauert, Z. Garnica-Sanchez, A. Malmer. Resistance, resilience and change in response to fire in tropical ecosystems in the Chimalapas region of Oaxaca, Mexico. The Forestry Research Programme of the Department for International Development, U.K., \$75,000. 1/00-3/01.

Valdes, M., **H. Asbjornsen**, A. Fierros, K. Vogt. Mycorrhizal fungi as indicators of disturbance in pine-oak forests in the Sierra Norte, Oaxaca, Mexico. National Committee on Science and Technology of Mexico (CONACyT), \$50,000. 1997-2000.

Asbjornsen, H. Integrated forest training, extension and research program, Oaxaca, Mexico. Conservation, Food and Health Foundation, \$28,220. 8/96-8/98.

Asbjornsen, H. Doctoral dissertation research scholarship. American Association of University Women, \$14,000. 7/97-7/98.

Asbjornsen, H. Managing for productivity and ecosystem integrity in high-elevation remnant pine-oak forests in Oaxaca, Mexico. Conservation, Food and Health Foundation, \$9,430.

Asbjornsen, H. Forest management and restoration of degraded lands in the Mixteca Alta. Fulbright Garcia Robles US-Mexico Commission for Educational and Cultural Exchange, \$12,000. 6/94-4/95.

Asbjornsen, H. Effects of land-use patterns on the regeneration of pine-oak forest in the Mixteca Alta region of southern Mexico: managing remnant forests for long-term sustainability. The Inter-American Foundation, \$3,590. 1/93-7/93

GRANTS/CONTRACTS PENDING

Asbjornsen, H., A. Contosta, R. Chimner, R. Kolka, E. Lilleskov, C. McInitre, J. Talbot. Limits to stability and resilience in paramo peatlands: Exploring dynamics of coupled carbon and water cycles in response to climate change. NSF Ecosystem Science Panel. \$1,294. 7/2024-6/2027.

GRANTS/CONTRACTS NOT FUNDED (SELECTED)

Asbjornsen, H., M. Andrews, T. Cohn, W. Gould, B. McCandlish. Supporting Abenaki stewardship of the ecologically rare and culturally important Atlantic White Cedar Swamp Ecosystem. Northern States Research Cooperative—Indigenous Forest Knowledge Systems. \$39,999. Submitted: 6.1.2022.

Asbjornsen, H., S. Froelking, R. Kolka, R. Chimner, E. Lilleskov. Limits to stability and resilience in paramo peatlands: Exploring tipping points of carbon and water cycling in response to climate change. **NSF-Ecosystems.** \$1,170,700. Submitted: 8/1/2021.

Livingston, W., Weiskittel, Roth, Wason, **Asbjornsen.** Management Improves Eastern White Pine (EWP) Resilience and Value in a Changing Environment. USDA-AFRI Managed Ecosystems. \$485,792. (Subcontract to **UNH/Asbjornsen (PI):** \$40,831). 1/1/2021-12/31/2024. Date submitted: April 16, 2020.

Asbjornsen, H., C. Ashcraft, S. Atallah, K. Jones, A. Mayer. Fire, drought, & deforestation: Exploring collective action solutions for socioecohydrological resilience. NSF Coupled Natural-Human Systems-2. \$1,580,000. 9/1/2020-8/31/2024. Submitted: November 15, 2019.

Nybakken, Line, **H. Asbjornsen,** E Næsset, O. M. Bollandsås, T. Gobakken, H.O. Ørka, M. Ohlson, T. Näsholm, K. Holt Hanssen. Increased **precision** in forest **fertilization:** forest management model including ecophysiological effects to evaluate climate mitigation potential (PREFER). Norwegian Research Funding Institute. 6/20-6/23. \$800,000. Date submitted: April 10, 2019.

Garnas, J., **H. Asbjornsen,** I. Munck, M. Vadeboncoeur. Pathogen associations, disease dynamics, tree physiological responses, and environmental drivers of white pine health. USDA AFRI \$493,605. 8/19-9/23

Asbjornsen, H., P. Schaberg, I. Munck, M. Vadeboncoeur. Resilience and vulnerability of *Acer saccharum* to drought, defoliators, and tapping: developing global change adaptation strategies for the Northeastern U.S. USFS Forest Health Program-Ecological Monitoring. \$273,332. 6/1/19-6/1/21. Date submitted: October 1, 2018.

Vadeboncoeur, M., **H. Asbjornsen**, R. Phillips, K. Novick, B. McNeil. How do aboveground-belowground interactions and feedbacks control temperate forest ecosystem responses to drought? Department of Energy, Terrestrial Ecology Program. \$998,190. 9/19-9/22.

Asbjornsen, H., M. Vadeboncoeur, L. Rustad, J. Campbell, M. Martin. Sensitivity of forest ecosystems to precipitation extremes across aridity and latitudinal gradients. National Science Foundation. NSF-Macrosystems Biology. \$ 2,346,162. 9/1/17-9/1/2022. Date submitted: October 17, 2016

Asbjornsen, H., M. Vadeboncoeur, J. Campbell, L. Rustad, S. Garlick. Preliminary Proposal: Sensitivity of mesic temperate forests to novel precipitation extremes: integrating experimental manipulations with cross-site synthesis. NSF-DEB. Date submitted: January 2017.

Asbjornsen, H., C.Z. Berry, G. Williams-Linera, F. Holwerda. Preliminary Proposal: Linking ecosystem carbon-water fluxes to physiological responses in response to fog and rainfall variability in cloud-affected forests. NSF-DEB. Date submitted: January 2017.

Contosta, A., R. Smith, W. Wollheim, **H. Asbjornsen**. Spatial and Temporal Dynamics in Local Food Systems: Lagged Responses, Emergent Thresholds, and Societal Preferences for Ecosystem Services. NSF-CNH. \$1,799,979. 9/2017-9/2021 (lead institution: Clark University; subcontract to UNH: \$774,955)

Asbjornsen, H., M. Ducey, J. Hall, N. McDowell. Disentangling mechanisms underlying diversity-productivity and diversity-resistant-resilience relationships in model tree plantations on degraded lands in Panama. NSF-DEB, \$1,274,281, 9/2017-2020.

Asbjornsen H, Coble A, McIntire C, Ouimette A, Palace M, Vadeboncoeur M. Linking ecophysiological field measurements, process-based modeling, and remote sensing to assess drought impacts on northern forest ecosystems. \$39,653. Northeastern States Research Cooperative. Submitted: January 2016.

Coble, A., **H. Asbjornsen**, M. Vadeboncoeur, B. Huggett. Refining model-based approaches to adaptive silvicultural management. \$89,553. Northeastern States Research Cooperative. Submitted: January 2016.

Asbjornsen, H., A. Mayer, T. Selfa, K. Jones, K. Young. SWaRM-Watersheds: Sustainability of Water Resources in Mountainous Watersheds: Optimizing Payments for Watershed Services Policies across Socio-environmental Gradients. \$450,000. Belmont Forum/NSF. Submitted: October 2015.

Constosta, A., R. Smith, H. W. Wollheim, **H. Asbjornsen**. Spatial and Temporal Dynamics in Local Food Systems: Lagged Responses, Emergent Thresholds, and Societal Preferences for Ecosystem Services. \$1,799,979 (subcontract to UNH: \$774,955). NSF-CNH. Submitted November 2015.

Asbjornsen, H., Z.C. Berry, N. McDowell, G. Williams-Linera. The impacts of drought on carbon and water cycling and physiological thresholds of mortality in tropical montane cloud forests. \$488,826. DOE-TES. Submitted: December 2015.

Vadeboncoeur, M., **H. Asbjornsen**, M. Fisk, T. Horton, R. Yanai. Mycorrhizae and soil nutrient interactions control plant water use and carbon gain. \$599,975. DOE-BER. Submitted: December 2015.

Asbjornsen H, Broders K, Huggett B. Impacts of pathogen-climate change interactions on white pine health and mortality in the Northeastern U.S. \$117,067. Northeastern States Research Cooperative. Submitted: January 2015.

Vadeboncoeur, M., **H. Asbjornsen**, M. Green, T.R. Horton, R.D. Yanai. Causes of nutrient-enhanced transpiration in northern hardwoods: leaves, stems, roots, or mycorrhizal fungi? \$347,554. NSF-RUI. August 2014.

Ollinger, S.V., **H. Asbjornsen**, J. Xiao. Exploring linkages among WUE, canopy nitrogen and vegetation diversity across Northern American forests. \$1,985,103, NSF-Macrosystems Biology, April 2013.

Wake, C., **H. Asbjornsen**, A. Earle, M. Mineau, A.W. Watts. Integrated Watershed Management in an Urbanizing Estuary: Generating Decision Relevant Information via Synthesis of Research Results and Network Development. \$2,385,423. NSF-WSC. September 2013.

Watkins, D., **H. Asbjornsen**, S. Hillard, A. Mayer, T. Pypker. Hydrological and Water Quality Consequences of Aspen Management and Hybrid Poplar Plantations at the Watershed Scale. \$932,838. USDA-AFRI Bioenergy. April 2013.

Smith, R. **H. Asbjornsen**, A. Constonsa, W. Wollheim. Assessing the impacts of forest- to-pasture conversion on biogeochemical cycles and ecosystem services in New England. \$497,290. USDA-AFRI. April 2013.

Ducey, M.J., **H. Asbjornsen**, L.C. Hamilton. Bioenergy, climate change, and the sustainability of northern communities and ecosystems. Preliminary proposal. NSF-PIRE. October 2012.

Asbjornsen, H., Z.C. Berry, G. Williams-Linera. Using stable isotope indicators of plant response to climate variability to improve scaling and models. \$1,049,231. DOE-Terrestrial Ecosystems. December 2012.

Asbjornsen, H., M. Ducey, J. Hall, T. Dawson. H. Valentine. Exploring mechanistic controls of species diversity on coupled nutrient, water, and carbon cycles in model ecosystems in Panama. \$947,897. NSF-DEB. January 2011.

Smith, R., **H. Asbjornsen**, R.G. Congalton, J.M. Halstead. Exploring the socio-environmental thresholds and resilience of agriculturally driven land use change in New England. NSF-CNH-Ex, \$248,727. November 2011.

Asbjornsen, H., R. Smith, S. Grandy, W. Wollheim, A. Brito. Exploring the socio-environmental thresholds and resilience of agriculturally driven land use change in New England. NSF-CNH, \$1,499,899. November 2011.

Asbjornsen, H., R. Smith, S. Grandy, W. Wollheim, A. Brito. Towards sustainable food, fuel, and forests in New England. USDA-AFRI, \$150,000. March 2010.

Asbjornsen, H., M. Helmers, L. Schulte, M. Liebman. Biocomplexity of integrated perennial-annual agroecosystems. NSF-CNH, \$1,500,000. November 2009.

Asbjornsen, H. Restoring hydrologic regulation and resiliency to climate change in degraded lands: Social and biophysical determinants of restoration impacts. NSF-PIRE, \$4,989,400, January 2009.

TEACHING

COURSES TAUGHT

Seminar: Andean-Amazonian Watershed Experience: Exploring sustainability of mountain ecosystems in Ecuador (A.W.E.S.O.M.E.): Spring 2022, 2023, 2024

Hot Topics Graduate Student Seminar NR 993: Agroforestry—*A solution towards sustainability and climate adaptation or a utopian dream?* 2022

Silviculture NR 729/829: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2019, 2020, 2021, 2022, 2023, 2025

Tropical Ecology NR 734/834: 2011, 2013, 2015, 2016, 2017, 2019, 2020, 2021, 2022, 2024, 2025

Off-campus program to Oaxaca, Mexico: J-Term 2016 (cancelled due to the local political situation)

Off-campus program to Costa Rica: J-Term 2015 (cancelled due to insufficient enrollment)

NREN Graduate Seminar: Communicating Science (Spring 2015)

Distributed Graduate Seminar (online): Payment for Ecosystem Services Programs (Fall 2015)

Fire Ecology and Management (UNH; Independent study)

Fire Ecology and Management (Iowa State University; 2000- 2009)

Agroforestry (Iowa State University; 2004-2009)

Dendrology (Iowa State University; 2000-2003)

GUEST LECTURES

Tipping points in tropical ecosystems. Course: Conquest & Resistance (Instructor: L. Millones). Colby College. May, 2020.

Ecophysiology of forest-water relations: Methods for measuring evapotranspiration in Mexico. Guest Lecture in “Ecosystem Services” (Instructor: R. Manson); Institute of Ecology of Xalapa, Mexico, February 2014.

Plant ecophysiology: plant-water relations, methods for ecophysiological measurements, and isotopic tracer applications. Course: Forest Hydrology (Instructor: P. Crespo), University of Cuenca, Cuenca, Ecuador, February 2019.

Introduction to the UNH Ecohydrology Lab. Course: Natural Resources Perspectives (Instructor: S. Frey), November, 2018, 2019

Perspectives on grant proposal writing. Course: Proposal Writing Graduate Seminar (Instructor: W. Wollheim), April, 2017

Approaches to international and interdisciplinary research. Course: Approaches to Research Graduate Seminar (Instructor: S. Grandy), November, 2016

Introduction to the UNH Ecohydrology Lab, Course: Natural Resources Perspectives (Instructor: J. Carroll); Fall 2012, 2013, 2014, 2015, 2016, 2017

Fire Regimes and Ecosystems. Course: Fire Management (Instructor: D. Quigley), April, 2013

Ecohydrology of tropical ecosystems: linking leaves to watersheds. Course: Terrestrial Ecology (Instructor: S. Ollinger), April 2012

OTHER INSTRUCTIONAL ACTIVITIES

Co-instructor: II International Course in Tropical Ecohydrology: Conservation and Restoration of Tropical Ecosystems, Medellin, Colombia, July 21-30, 2012, Department of Forest Sciences, National University of Colombia. (attended by 50 participants from Latin American countries).

Honors students mentored:

Alexander Cherry, Tropical Ecology, Spring 2021

Emily Landry, Tropical Ecology, Spring 2016

Shersingh Joseph Tumber-Dávila, Tropical Ecology, Spring 2013

VISITING STUDENTS AND POST-DOCS HOSTED IN LAB

Karolina Riao, Visiting Scholar from the University of Guadalajara, Mexico, training in sap flow techniques and research collaboration to develop a drought experiment proposal. August 20-September 11, 2022.

Kelly French, MS student with Jay Wason, University of Maine (Spring 2020, remote support due to COVID)

Aldemar Carabajo Hidalgo, University of Cuenca, Ecuador, training in sapflow construction, implementation, maintenance, and data analysis (October 2018)

Ximena Espejil, Institute of Ecology of Xalapa, Mexico, Spring 2016

Kara Allen, Post-doc with Dr. Jennifer Powers, University of Minnesota, training in conducting drought experiments (January 2016)

Kathryn Baker, PhD student with Dr. Daniel Johnson, University of Idaho, training in construction of heat ratio sapflow sensors

Ingrid Slette, PhD Student with Dr. Melinda Smith, Colorado State University, collaboration on drought experiment

Maria Fernanda Cardenas, PhD student with Dr. Conrado Tobon, National University of Colombia-Medellin, training in sapflow techniques (summer 2015)

Maria Poca, PhD student with Dr. Ana Cingolani, National University of Cordoba, Argentina, training in sapflow techniques (fall 2012)

OUTREACH AND ENGAGEMENT

Media highlights

2021 International Maple Meeting, Niagara Falls, NY, October, 2021, October 17-20. Harvesting sap and producing syrup from trees other than maples.

Rye Driftwood Garden Club, Rye, NH, February 15th, 2022. Harvesting sap and producing syrup from trees other than maples.

New Hampshire Bulletin—Energy & Environment. Assisted migration aims to help forests – and people – adapt to a swiftly changing climate. August 6, 2021.

<https://newhampshirebulletin.com/2021/08/06/scientists-look-to-aid-migrating-trees-moving-slower-than-a-swiftly-changing-climate/>

University of New Hampshire NH Agricultural Experiment Station Specialty Syrup Research Field Day, virtual presentation, March 18th, 2021 (topic: producing syrup from trees other than maple trees)

New Hampshire Maple Producers Association Annual Meeting, Plymouth, NH, May 22nd, 2021 (topic: harvesting sap and producing syrup from trees other than maples)

Rotary Club of Salem, Salem, OR, virtual, July 13th, 2021 (topic: harvesting sap and producing syrup from trees other than maples)

New Boston Farmers Market, New Boston, NH, July 24th, 2021 (topic: harvesting sap and producing syrup from trees other than maples)

Wonalancet Preservation Association, Wonalancet, NH, August 8th, 2021 (topic: harvesting sap and producing syrup from trees other than maples).

Wilmington’s Earth Year, Wilmington Memorial Library, Wilmington, MA, September 23rd, 2021 (topic: harvesting sap and producing syrup from trees other than maples).

Weekly Market Bulletin, Concord, NH. UNH Scientist: 2020 Severe Drought Likely to Slow Tree Growth Next Year. October 28, 2020.

New Hampshire Union Leader. “UNH Researchers say Drought will Affect Future of Red Oaks, White Pines. October 27, 2020. https://www.unionleader.com/news/weather/unh-researchers-say-drought-will-affect-future-of-red-oaks-white-pines/article_9caec006-cee6-58c7-a38b-4b199ca102f9.html?block_id=897573&fbclid=IwAR1tTxdAKXrxd-LTd9xjqdHWpJC5N69iCZ1JwR3PjyZAXcMAsBiA15PGPVU

UNH NH Agricultural Experiment Station press release. “Severe Drought Likely to Slow Tree Growth Next Year. October 26, 2020. <https://www.colsa.unh.edu/nhaes/article/2020/10/2020drought>

UNH TODAY press release. “Parched: Drought leaves some researchers thirsty for data”. Wednesday, September 7, 2016. <http://www.unh.edu/unhtoday/2016/09/parched>

UNH TODAY press release, “UNH Scientists Investigate How Droughts Impact Northern Forests. Monday, April 4, 2016. <https://www.unh.edu/unhtoday/news/release/2016/04/04/unh-scientists-investigate-how-droughts-impact-northern-forests>.

UNH NH Agricultural Experiment Station press release, “Halting Spring Showers: UNH Scientists Investigate How Droughts Impact Northern Forests. Monday, April 4, 2016.

UNH Spheres Newsletter, “Making a Thirsty Forest”, Winter/Spring 2016. http://www.eos.sr.unh.edu/Spheres_0216/forest.shtml

NH Public Radio: [The Exchange: Could it Happen Here? Fighting Forest Fires in NH](#). Oct 25, 2017
[Climate Smart Land Network](#), 2nd Annual Gathering, Woodstock, NH. May 23, 2018.

Boston Globe: [It’s shaping up to be a good year for foliage in New England](#). Sep 20, 2018.

Concord Monitor: [*Peak foliage to be seen throughout New Hampshire this weekend.*](#) Oct 12, 2018

Granite Geek Newsletter: *In warmer climates, a native fungus becomes a threat to white pine.* April 2, 2018. <https://granitegeek.concordmonitor.com/2018/04/02/in-warmer-climates-a-native-fungus-becomes-a-threat-to-white-pine/>

Concord Monitor: *In warmer climates, a native fungus becomes a threat to white pine.* April 2018. <https://granitegeek.concordmonitor.com/2018/04/02/in-warmer-climates-a-native-fungus-becomes-a-threat-to-white-pine/>

Practitioner meetings & workshops

Brydon-Williams*, R., I. Munck, **H. Asbjornsen**. 2019. The ecology and management of the Chaga resource in the White Mountain National Forest. White Mountain National Forest Headquarters, North Conway, NH, May 14, 2019.

McIntire, C.D., Munck, I.A., Broders, K., Wyka, S., Livingston, W., Vadeboncoeur, M.A., Ducey, M.J., **Asbjornsen, H.** 2018. Impacts and management of White Pine Needle Damage in the Northeastern US. NIFA Multistate White Pine Health Meeting. February 6-9. Athens, GA.

McIntire, C.D., Munck, I.A., **Asbjornsen, H.** 2016. Impacts of White Pine Needle Damage in the Northeastern US and Testing Silvicultural Strategies for Mitigation. Northeastern Forest Pest Council Annual Meeting. March 8-10. Kinston, Ontario, Canada.

Vadeboncoeur MA, **Asbjornsen H**, Jennings KA, McIntire CD, Coble AP, Templer PH, Campbell JL, Rustad LE. 2018. Drought sensitivity of humid temperate forests: Results from two New Hampshire throughfall removal experiments superimposed on the 2016 drought. Invited talk presented to the Climate Smart Land Network Member Gathering, Woodstock, NH, May 2018.

McIntire, C.D., **Asbjornsen**. U.S. Forest Service Cooperators' Meeting: *Drought impacts on tree health in the northeast*; Nov 8, 2018, Portsmouth, NH

Munck, I.A., Constanza K., McIntire*, C.D. 2018. White Pine Health: Updates on pests and diseases affecting white pine in the Northeast. Managing Our Changing Forests: A Monthly Webinar Series by UVM Extension, UVM Forestry, & VT Department of Forests, Parks and Recreation. February 15.

Coble**, A., **H. Asbjornsen**. 2017. Northeastern Forest Response to Drought at Multiple Scales. New England Society of American Foresters, March 8-10, 2017, Bangor, ME.

McIntire*, C., **H. Asbjornsen**. 2017. Northern Forest DroughtNet: Initial results from a multi-year throughfall manipulation experiment in New Hampshire. New England Society of American Foresters, March 8-10, 2017, Bangor, ME.

Asbjornsen, H., M. Vadeboncoeur. 2017. "Responses of Northern Forests to Climate Change and Drought." Webinar hosted by the Northern States Research Cooperative, February 21, 2017.

Asbjornsen, H., M. Vadeboncoeur. 2017. Growth and tree rings: Responses of northern forest tree species to drought (emphasis on Sugar Maple). Vermont Sugar Maple Producers Association Workshop, January 28, 2017 Morrisville, VT.

Asbjornsen, H. 2017. Thirsty trees: How the 2016 drought impacted New Hampshire's Forests. New Hampshire Farm and Forestry Expo, February 17, 2016, Manchester, NH.

Asbjornsen, H. 2017. Thirsty trees: How the 2016 drought impacted New Hampshire's Forests. Lamprey River Symposium. January 9, 2017, University of New Hampshire, Durham, NH.

Vadeboncoeur, M., **H. Asbjornsen.** 2017. Growth and tree rings: Responses of northern forest tree species to drought (emphasis on Sugar Maple). New Hampshire Sugar Maple Producers Association Annual Meeting. January 28, 2017. North Conway, NH.

Asbjornsen, H. 2017. Thirsty trees: How the 2016 drought impacted New Hampshire's Forests. Lamprey River Symposium, January 9, 2016, University of New Hampshire.

McIntire*, C.D., **H. Asbjornsen.** 2016. Impacts of White Pine Needle Damage in the Northeastern US and Testing Silvicultural Strategies for Mitigation. Kingston, Ontario, CA. North Eastern Forest Pest Council (NEFPC) Annual Meeting, March 2016

Munck, I.A., W. Livingston, S. Fraver, K. Lorion, K. Lombard, J. Weimer, W. Ostrofsky, C.D. McIntire, **H. Asbjornsen,** S. Wyka, K. Broders. 2016. Caliciopsis canker and white pine needle damage. New England Society of American Foresters (NESAF) Annual Winter Meeting, Sturbridge, MA., March 2016.

McIntire*, C.D., **H. Asbjornsen,** I. Munck. 2015. Growth declines associated with White Pine Needle Damage defoliation in the Northeastern US. Hanover, NH. North Eastern Forest Pest Council (NEFPC) Meeting, March 2015

Hubbard Brook Experimental Forest 60th anniversary; Field Tour of Drought Experiment. October 2015 (175 attendees representing diverse audiences).

McIntire*, C.D., **H. Asbjornsen,** I. Munck. Growth declines associated with White Pine Needle Damage defoliation in the Northeastern US. Manchester, NH. New Hampshire Forest and Farm Expo, February 2015

McIntire*, C., **H. Asbjornsen,** I. Munck. 2015. Growth declines associated with White Pine Needle Damage Defoliations in the Northeastern U.S. NH Farm & Forest Expo, February 2015.

McIntire*, C.D., **H. Asbjornsen,** I. Munck, K. Broders, W. Livingston. Effects of White Pine Needle Damage on sap flow and growth rates of eastern white pine at the Fox State Forest, New Hampshire. Quebec City, Canada. Northeastern Forest Pest Council (NEFPC) Meeting - March 2014

Coble**, A., **H. Asbjornsen.** 2016. Ecohydrological impacts of forest-to-silvopasture conversion: implications for hydrologic services. Society of American Foresters, Annual National Convention, Madison, WI, November 2-6.

Asbjornsen, H. Climate Change and New Hampshire's Forests: Impacts, Adaptation, and Resilience. The Nature Conservancy's Quarterly Board Meeting, Concord, NH, April 18, 2014

Campbell, J., M. Green, **H. Asbjornsen,** M. Vadeboncoeur. 2013. Long-term changes in the water balance at the Hubbard Brook Experimental Forest: Is it emblematic of a regional climate-induced trend? Society of American Foresters' Annual National Convention, Oct. 23-27, Charleston, S.C. (Invited)

Asbjornsen, H., J. Licata, T. Pypker, J. Gutierrez-Lopez. 2014. Ecohydrological impacts of feedstock production for bioenergy across the Americas: A multidisciplinary study to assess long-term sustainability. Society of American Foresters Annual Convention, Salt Lake City, UT. Oct. 5-11.

UNH Spheres Newsletter, “Synergistic Science: Exploring the tightly coupled relationship between nitrogen, carbon, and water in terrestrial ecosystems unites three researchers in a multidisciplinary project.” Fall 2012. http://www.eos.unh.edu/Spheres_1012/synergy.shtml

SERVICE

UNIVERSITY, COLLEGE, AND DEPARTMENTAL SERVICE

NREN P&T Committee (2025 - present)

UNH Senate (2025 – present)

Chair, Search Committee, Assistant Professor in Agroforestry (2024-present)

NREN P&T Committee, Chair (Fall 2023 - 2024)

UNH Fulbright Review Committee (Fall 2023)

UNH Sustainability Committee (Fall 2023 – present)

Chair, Search Committee, Visiting Assistant Professor in Forestry and Environmental Economics (Spring 2022)

Reviewer, NHAES faculty research proposals (Spring 2022)

Forestry Program Coordinator, Department of Natural Resources and Environment (Fall 2018 – 2024)

Search Committee Chair, Visiting Assistant Professor of Forest and Environmental Economics (Fall 2021-Spring 2022)

Member, UNH Fulbright Program Proposal Review Panel (September 2020)

Member, COLSA P&T Committee (Fall 2019 – Spring 2020)

Faculty Chair, UNH Woodlands and Natural Areas Committee (2019 – present)

Member, Review Panel, PIRE pre-proposal internal competition (2014)

Proposal Review Panel, NSF Major Research Instrumentation (2015)

Member, Review Panel, NHAES faculty proposals (2014 – 2016)

Member NRESS Steering Committee (2014 – 2016)

Member NRESS Steering Committee (2016 – 2018)

Member, UNH Woodlands and Natural Areas Committee (2011 – 2019)

Member, UNH-COLSA P&T Committee (2014 – 2016)

Member, Search Committee, DBS Faculty Cluster Hire (2015)

Member, Undergraduate Research Conference Committee (2013 – 2015)

Member & Chair, Farrington Fund: Committee (2013 – 2015)

Member, EOS Promotion Committee (2013 – 2015)

Member, Iola Hubbard Review Committee, ESRC, EOS (2013 – 2015)

Member, NREN Search Committee, Lecturer in Sustainability (2014)

Member, UNH Graduate School Self-Study ad hoc committee (2013)

NREN Representative, UNH Faculty Senate (2011-2013)

PROFESSIONAL SERVICE

Advisory Panel, Spruce and Peatland Responses under Changing Environments (SPRUCE Experiment), Oakridge National Laboratory (Spring 2023, 2025)

Steering Committee, Drought-Net: A Global Network to Assess Terrestrial Ecosystem Sensitivity to Drought; Developed protocol for standardizing the design and implementation of precipitation manipulation experiments in forest ecosystems. <http://wp.natsci.colostate.edu/droughtnet/> (2014 – 2020)

Working Group Leader: “Sustainable Watersheds: Emerging Economic Instruments for Water Security,” Sustainable Water Futures Initiative. (co-Lead, with R. Brouwers, University of Waterloo, CA) https://water-future.org/working_groups/econ-instruments-water-security-wg/ (2016 – 2018)

Organizing Committee and Subgroup Leader on Graduate Student Participation: American Geophysical Union Chapman Conference on Tropical Ecohydrology. Cuenca, Ecuador, June 4-9, 2016.

American Geophysical Union, Hydrology Section Outstanding Student Paper Award Committee (2016-2020).

Chair and Chair-Elect: Ecology Working Group, Society of American Foresters (2002-2005)

Associate Editor: *Biotropica* (2018 – present)

Associate Editor: *Frontiers in Forests and Global Change-Forest Hydrology Section* (2018 – present)

Associate Editor: *Ecological Processes*, Springer (2015 – 2021)

Associate Editor: *Ecosystem Science and Applications Book Series*, Higher Education Press (China) and Gruyter GmbH & Co. KG. (2011 – 2018)

Associate Editor: *Journal of Forest Science* (2012 – 2015)

Associate Editor: Journal of Forestry (2005 – 2008)

Reviewer – Grant Proposals and Site Review Panels

- ❖ NSF-CHN
- ❖ NSF-Ecosystems
- ❖ USDA-AFRI
- ❖ USDA-NICCR
- ❖ NSF-ARC-LTER
- ❖ DOE Early Career Panel
- ❖ Fulbright Review Panel
- ❖ Italian Scientific Research Foundation (CINECA – Italy)

Reviewer – Manuscripts for Peer Reviewed Journals (Selected Journals):

- ❖ Tree Physiology
- ❖ Forest Ecology and Management
- ❖ Global Change Biology
- ❖ Agriculture, Ecosystems and Environment
- ❖ Journal of Environmental Quality
- ❖ Journal of Hydrology
- ❖ Hydrological Processes
- ❖ Ecohydrology
- ❖ Biotropica
- ❖ Society and Natural Resources
- ❖ Geoderma
- ❖ Ambio
- ❖ New Phytologist
- ❖ Water Resources Research
- ❖ Scientific Reports – Nature
- ❖ Functional Ecology
- ❖ Ecosphere

External Evaluator for Faculty Tenure & Promotion Package

- ❖ University of Washington
- ❖ Washington State University
- ❖ Colorado State University
- ❖ University of Vermont
- ❖ University of Denver

Conference Symposia and Session Organizer (Selected Events):

Round table dynamic session, “*Challenges and opportunities in transdisciplinary assessments of programs for payments for hydrological services in Latin America: Practitioner and academic perspectives.*” H. Asbjornsen, C. Ashcraft, S. Avila, K. Jones, A. Mayer, Robert Manson, G. Vidriales. ESP-LAC (Ecosystem Service Studies in Latin America & the Caribbean), November 25-27, 2020 (virtual)

Oral Symposium: “Exploring the Socioecological Dynamics of Payment for Hydrologic Services Programs: Opportunities and Challenges for Enhancing Watershed Sustainability”, Place-Based Transdisciplinary Research for Global Sustainability, Programme on Ecosystem Change and Society, November 7-11, 2017, Oaxaca City, Mexico.

Workshop: “Collaborative Design of Payments for Ecosystem Services (ES) Programs: Using a Coupled Human-Natural Systems (CHNS) Model and Role Play Scenarios to Optimize ES Tradeoffs”, Place-Based Transdisciplinary Research for Global Sustainability, Programme on Ecosystem Change and Society, November 7-11, 2017, Oaxaca City, Mexico.

Oral Symposium: “Sustainable watersheds: emerging institutional and economic policy instruments for water security,” World Water Congress, Cancun, Mexico, May 28-June 2, 2017

Oral and Poster Session: “Ecosystem Services: Linking Biophysical Processes to Human Wellbeing. American Geophysical Union, December 12-16, 2016, San Francisco, CA.

Organizing Committee and Subgroup Leader on Graduate Student Participation: American Geophysical Union Chapman Conference on Tropical Ecohydrology. Cuenca, Ecuador, June 4-9, 2016.

Oral session: “Towards a unified ecology of tropical montane cloud forests.” Association for Tropical Biology, 2013, San Jose, Costa Rica.

Oral and Poster Session: Oral and Poster Session: “Ecohydrology of Tropical Forests: Processes, Feedbacks, and Change,” American Geophysical Union Annual Meeting, San Francisco, 2012.

Oral and Poster Session: “New Challenges for Ecohydrology and Integrated Water Quality Modelling at the Watershed Scale,” American Geophysical Union Annual Meeting, San Francisco, 2010

Oral and Poster Session: Integrating science and policy for watershed sustainability: balancing hydrological services, quality of life, and economic vitality. Organized Oral Session. Ecological Society of America Annual Meeting, August 2-7, 2009, Albuquerque, NM.

Oral Symposium: “Linking science and policy for enhancing water resource management in Mexico”, Co-sponsored by Fulbright García-Robles, US Agency for International Development, and the National Autonomous University of Mexico. May 5, 2008. (<http://www.aguaenmexico.org/>)

International Meeting: Global Climate Change and the Ecology and Management of Tropical Montane Ecosystems,” NSF Pan-American Studies Institute (PASI); Dominican Republic, 2009.

International ARIDnet Workshop: “Analysis of Desertification in the Mixteca Alta, Oaxaca, Mexico: Prevention, Mitigation, and Restoration,” 21-25 April, 2008, Nochixtlán, Oaxaca (http://www.biology.duke.edu/aridnet/wkshop_mixtecaAlta/mixteca_home.htm)

Oral Symposium: “Ecohydrology of managed landscapes: from plants to watersheds”, EcoSummit 2007: Ecological Complexity and Sustainability: Challenges and Opportunities for 21st-Century’s Ecology, 22-27 May, 2007, Beijing, China.

Oak regeneration and large scale experimentation, Society of American Foresters’ Annual Meeting, 25-29 October, 2006, Pittsburgh, PE.

Emulating natural disturbance regimes in forest management, Society of American Foresters’ Annual Meeting, 19-23 October, 2005, Fort Worth, TX.

Carbon cycling and sequestration in forests and soils, Society of American Foresters’ Annual National Convention, 19-23 October, 2005, Fort Worth, TX.

Un-plowing the land: Restoring agroecosystem health and function, Ecological Society of America's Annual National Convention, 1-6 August, 2005, Portland, OR.

MENTORING OF GRADUATE AND UNDERGRADUATE STUDENTS & POST-DOCS

Masters students

Tanner Frost (UNH, current)
Khanh Ton (UNH, 2024)
Gigi Lish (UNH, 2024)
Emily Anders (UNH, 2023)
Olorato Kaekwe (UNH, current)
Rhys Brydon-Williams (UNH, 2019)
Korik Vargas (UNH, 2018)
Anthony Stewart (UNH, 2018), PhD student, University of Washington
Adan Hernandez-Hernandez (UNH, 2015), Forestry Extension, Mexican National Institute for Forestry and Agricultural Research, Oaxaca, Mexico
Katie Jennings (UNH, 2014), Research Scientist, US Forest Service, Durham, NH
Jose Antonio Lopez-Gutierrez (ISU, 2010), Post-Doc, University of Sweden, Umeå, Sweden
Ryan Maher (ISU, 2009)
Vanessa Zaijfen (ISU, 2009)
Heather Hughes (ISU, 2009)
Greg Shepherd (ISU, 2008)
Melissa Cheatham (ISU, 2008)
Holly Karnitz (ISU, 2008)
Edgard Tellez-Morales (ISU, 2007)
Connie Dettman (ISU, 2007)
Emily Hanchek (ISU, 2006)
Chris Evans (ISU, 2004)
Leif Einar Naess, 2010 (Agricultural University of Norway, Aas, Norway)
Nils-Erik Hirsh, 2010 (Agricultural University of Norway, Aas, Norway)
Miguel Wagensonner, 2010 (Agricultural University of Norway, Aas, Norway)
Jacob Thompson, 2009 (Agricultural University of Norway, Aas, Norway)
Snorre Synnestvedt, 2009 (Agricultural University of Norway, Aas, Norway)
Christina Qvam, 2009 (Agricultural University of Norway, Aas, Norway)

Doctoral students

Edwin Garcia (UNH, current)
Laurie Mooney (UNH, current)
Emily Anders (UNH, current)
Samuel Zuckerman (UNH, current)
David Moore (UNH, current)
Jose Antonio Lopez-Gutierrez (UNH, 2019), Post-Doc, University of Sweden, Umeaa, Sweden
Cameron McIntire (UNH, 2018), Research Scientist, US Forest Service, Durham, NH
Katherine Sinacore (UNH, 2018), Research Scientist, Smithsonian Tropical Research Institute
Susana Alvarado-Barrientos (UNH, 2015), Assistant Professor, Institute of Ecology of Xalapa, Mexico
Martin Gómez-Cárdenas (ISU, 2008), Research Scientist, Mexican National Institute for Forestry and Agricultural Research, Morelos, Mexico
Vilma Mateos-Remigio (ISU, 2011), Instructor, Universidad del Mar, Puerto Escondido, Mexico
Ylva Wård (Swedish University of Agricultural Sciences, Umeå, Sweden, 2008)
Lars Brudvig (ISU, 2005), Associate Professor, University of Michigan

Postdoctoral scholars

Mauro Brum (UNH), post-doc, University of Quebec at Chicoutimi, Canada
Z. Carter Berry (UNH), post-doc, Chapman University, Orange, CA
Adam Coble (UNH), Research Scientist, Oregon Department of Forestry, Corvallis, OR
Sybil Gotsch (UNH), Associate Professor, Franklin & Marshall College, Lancaster, PA
Matt Vadeboncoeur (UNH), Research Scientist, UNH
Rossella Guerrieri (UNH), Assistant Professor, University of Bologna, Bologna, Italy
Kathleen Eggemeyer (UNH), N/A (withdrew from professional pursuits due to personal reasons)
Virginia Hernandez-Santana (UNH), Research Scientist, Institute of Natural Resources and Agrobiology of Seville, Seville, Spain
Friso Holwerda (ISU), Associate Professor, National Autonomous University of Mexico, D.F.
Marlin Perez (ISU), Associate Professor, National Autonomous University of Mexico, Toluca

External advisor/graduate student committee member (2 current)

Omayra Elizabeth Urbina Vasconez (MSc, University of Guadalajara, Mexico, current)
Aldemar Carabajo Hidalgo (PhD, University of Barcelona, Spain, current)
Carlos Andrés Hurtado Montaña (MS, University of Guadalajara, Mexico, 2023)
Theresa McCarty (MS, UNH, 2022)
Byron Rodrigo Poma Tena (MS, University of Cuenca, Ecuador, 2021)
Ken Windstein (MS, UNH, 2021)
Nathanial Looker (PhD, University of Minnesota, 2021)
Mackenzie Kalp (MS, UNH, 2020)
Meredith Martin (PhD, Yale University, 2020)
Mauro Brum (PhD, University of Sao Paulo-Campinas Campus, Brazil, 2019)
Ximena Espejel (MS, Institute of Ecology, Xalapa, Mexico, 2019)
Joseph Orefice (PhD, UNH, 2015)
Richard Brereton (PhD, UNH)
Yixuan Gao (MS, UNH, 2018)
Mariana Quetzalli Vizcaino Bravo (MS, University of Veracruz, Veracruz, Mexico, 2019)
Maria Fernanda Cardenas (PhD, National University of Colombia, Medellin, Colombia, 2016)
Jose Antonio Lopez-Gutierrez (BSc, Technological Institute of Oaxaca, Mexico, 2009)
Adan Hernandez-Hernandez (BSc, Technological Institute of Oaxaca, Mexico, 2009)
Ylva Ward (PhD, University of Umeaa, Sweden, 2008).

Undergraduate Research Projects in the Asbjornsen Ecohydrology Lab

- Chloe Gordner: Effect of Drought on Resin Production in Eastern White Pine (*Pinus strobus*)
- Stephanie Petrovick, UNH-URA: Change in Oak Tree Vessel Diameter Under Drought Conditions at Thompson Farm, NH (Environmental Science, 2020)
- Tanner Frost. UNH-SURF: Comparison of methods to quantify changes in tree productivity under drought conditions (Forestry, 2020)
- Emily Johnson. UNH-URA: Measuring the effects of a long-term drought on ectomycorrhizal fungal communities (Environmental Science, 2019)
- Perry, Emily, UNH-SURF: Comparing xylem vulnerability curves in *Pinus strobus* and *Quercus rubra* (Environmental Conservation and Sustainability, 2017, class of 2018)
- Shemenski, Zachary. UNH Weeks Fellowship: Testing the pneumatic method for measuring native embolism and xylem vulnerability in temperate forest trees (Forestry, 2018, class of 2021)

- Beard, Emily, UNH-SURF: Measuring the effect of drought on water use in mid-canopy *Acer rubrum* trees (Wildlife and Conservation Biology, 2018, class of 2020)
- Dutton, Emily: UNH Weeks Fellowship: Effects of Land Use History on Forest Composition and Biomass; (Environmental Science, 2017, class of 2019)
- Breton, Connor. UNH-IROP: “Can tropical teak plantations be managed sustainably for both timber and water? An experimental thinning study in Panama”. (Environmental Science, 2016)
- Accashian, Katie. UNH-SURF: “Evaluating seasonal variability of wood properties in red oak and eastern white pine”. 2016. University of New Hampshire (Environmental Science, 2016)
- Powers, Stacie. UNH-URA: “Growth rate of calcium-fertilized sugar maple and yellow birch trees at Hubbard Brook”. (Ecological Conservation and Sustainability, 2016)
- Twombly, Cameron. Capstone Honors Thesis: “Belowground root dynamics in response to drought in northern forest ecosystems”. (Environmental Science; Sustainable Agriculture, 2016)
- Madison, Conor. Capstone Honors Thesis: “Drought sensitivity of slash pine and longleaf pine deduced by tree ring analysis”. (Environmental Science, 2015).

GRADUATE ADVISORS: P. Mark S. Ashton (Yale U), J. Gordon (Yale U - ret.), Kristina A. Vogt (U Washington)