

Steven Paul Loheide II

Associate Professor

Zimmerman Faculty Fellow

Department of Civil and Environmental Engineering

1269C Engineering Hall, 1415 Engineering Drive, Madison, WI 53706

Phone: (608) 265-5277, Fax: (608) 262-5199

Email: loheide@wisc.edu

Web: http://www.engr.wisc.edu/cee/faculty/loheide_steven.html

EDUCATION

- 2006 Ph.D. Hydrogeology, Stanford University (2006)
2001 M.S. Geology, Indiana University (2001)
1999 B.S. Geology and Environmental Chemistry, University of Northern Iowa (1999)
Minor: Physics, *Summa Cum Laude*

PROFESSIONAL POSITIONS

- 2012-current Associate Professor of Civil and Environmental Engineering, UW – Madison
2015-current Visiting Professor, Meliksah University, Kayseri, Turkey
2014 Fulbright Scholar - Universidad Nacional de San Luis, Argentina
2012-2014 Chair, Freshwater and Marine Sciences Program, UW - Madison
2006-2012 Assistant Professor of Civil and Environmental Engineering, UW - Madison
2001-2006 Research Assistant/Fellow, Department of Geological and Environmental Science, Stanford University
2001 Intern, Exxon-Mobil Upstream Research Company
1999-2001 Fellow/Associate Instructor, Dept. of Geological Sciences, Indiana University

AFFILIATIONS AT UW-MADISON

Geological Engineering
Limnology and Marine Science Program
Gaylord Nelson Institute for Environmental Science

AWARDS AND HONORS

- Fulbright Scholar - Universidad Nacional de San Luis, Argentina, 2014-2015
- Editors' Citation for Excellence in Refereeing for Geophysical Research Letters, 2012 (cited by Paolo D'Odorico)
- NSF CAREER Award (Environmental Sustainability and Hydrologic Sciences, 2010)
- Zimmerman Faculty Fellow, Department of Civil and Environmental Engineering, University of Wisconsin - Madison (2010-2015)
- Eminent Professor Visit Award, Department of Civil and Environmental Engineering, Monash University, Australia (2011)

- McGee Grant (2002, 2003), Stanford University
- Geological Society of America Graduate Student Research Grant (2002)
- Patton Award in support of research on “The origin of mineral spring waters in southern Indiana” (with Dana Cannon; 1999)
- Department of Geological Sciences Funding in support of research, Indiana University (2000)
- 2001 Estwing Award Outstanding Graduate Student, Department of Geological Sciences, Indiana University
- Various undergraduate awards including: SOAR Grant for Undergraduate Research, Academic Advancement Award, Intercollegiate Academics Award, College of Natural Sciences Dean’s Experiential Learning Award, W. A. Tarr Award for Meritorious Service, Dean of Natural Science Award, Chemistry Honor Roll University of Northern Iowa, Chemistry Research Stipend, Outstanding Physical Chemistry Student Award, University of Northern Iowa Deans List, Purple and Old Gold Award for meritorious scholarship in Geology

RESEARCH ABILITY AND EXPERIENCE

Loheide’s research focuses on the interactions between ecological and hydrological processes in natural and built systems. His approaches use a combination of field data, remote sensing, and numerical modeling to understand the feedbacks between vegetation patterning, vegetative water use, soil moisture availability, groundwater regimes, and stream-aquifer interactions. This work is focused on improving the scientific basis for stream, floodplain, and wetland restoration efforts under current and future climatic conditions.

Publications

1. Carpenter SR, EG Booth, S Gillon, CJ Kucharik, **SP Loheide II**, AS Mase, M Motew, J Qiu, AR Rissman, J Seifert, E Soylu, M Turner, and CB Wardropper (2015). Plausible futures of a social-ecological system: Yahara watershed, Wisconsin, USA. *Ecology and Society* 20(2): 10.http://dx.doi.org/10.5751/ES-07433-200210
2. **Miller JF**, **SP Loheide II**, (2015) Visualizing Large Data Sets: Spatial and Temporal Soil Moisture Regime Dynamics, *Vadose Zone Journal*, doi:10.2136/vzj2015.03.0037
3. Zipper SC, ME Soylu, EG Booth, and **SP Loheide II** (2015), Untangling the effects of shallow groundwater and soil texture as drivers of subfield-scale yield variability, *Water Resources Research*, in press. doi:10.1002/2015WR017522.P
4. Sourbeer JJ, **SP Loheide II** (2015), Obstacles to long-term soil moisture monitoring with heated distributed temperature sensing, *Hydrological Processes*, doi:10.1002/hyp.10615

5. Zipper, S. C., and **S. P. Loheide** (2014), Using evapotranspiration to assess drought sensitivity on a subfield scale with HRMET, a high resolution surface energy balance model, *Agric. For. Meteorol.*, 197, 91–102, doi:10.1016/j.agrformet.2014.06.009.
6. Doherty, J. M., J. F. Miller, S. G. Prellwitz, A. M. Thompson, **S. P. Loheide**, and J. B. Zedler (2014), Hydrologic Regimes Revealed Bundles and Tradeoffs Among Six Wetland Services, *Ecosystems*, 17(6), 1026–1039, doi:10.1007/s10021-014-9775-3.
7. Soylu, M. E., C. J. Kucharik, and **S. P. Loheide** (2014), Influence of groundwater on plant water use and productivity: Development of an integrated ecosystem - Variably saturated soil water flow model, *Agric. For. Meteorol.*, 189, 198–210, doi:10.1016/j.agrformet.2014.01.019.
8. Verma, P., **S. P. Loheide**, D. Eamus, and E. Daly (2014), Root water compensation sustains transpiration rates in an Australian woodland, *Adv. Water Resour.*, 74, 91–101, doi:10.1016/j.advwatres.2014.08.013.
9. Moore, C. E., **S. P. Loheide**, C. S. Lowry, and J. D. Lundquist (2014), Instream Restoration to Improve the Ecohydrologic Function of a Subalpine Meadow: Pre-Implementation Modeling with Hec-Ras, *J. Am. Water Resour. Assoc.*, 50(4), 1033–1050, doi:10.1111/jawr.12155.
10. Cristea, N. C., J. D. Lundquist, **S. P. Loheide**, C. S. Lowry, and C. E. Moore (2014), Modelling how vegetation cover affects climate change impacts on streamflow timing and magnitude in the snowmelt-dominated upper Tuolumne Basin, Sierra Nevada, *Hydrol. Process.*, 28(12), 3896–3918, doi:10.1002/hyp.9909.
11. Weber MD, EG Booth, **SP Loheide II**, 2013, Dynamic ice formation in channels as a driver for stream-aquifer interactions, *Geophysical Research Letters*, DOI: 10.1002/grl.50620
12. Deitchman RS, **SP Loheide II**, 2012, Climate sensitivity of thermal habitat of a trout stream, Wisconsin, USA, *Journal of the American Water Resources Association*, 48 (6), 1091-1103, DOI: 10.1111/j.1752-1688.2012.00673.x
13. Booth EG, **SP Loheide II**, 2012, Hydroecological model predictions indicate wetter and more diverse soil water regimes and vegetation types following floodplain restoration, *Journal of Geophysical Research – Biogeosciences*, 117, G02011, DOI: 10.1029/2011JG001831.
14. Striegl AM, **SP Loheide II**, 2012, Heated distributed temperature sensing for field scale soil moisture monitoring, *Groundwater*, 50 (3), 340-347 DOI: 10.1111/j.1745-6584.2012.00928.x

15. Orellana F, P Verma P, **SP Loheide II**, E Daly, 2012, Monitoring and modeling water-vegetation interactions in groundwater-dependent ecosystems, *Reviews of Geophysics*, 50, RG3003, DOI: 10.1029/2011RG000383.
16. Soylu ME, JD Lenters, E Istanbuluoglu, **SP Loheide II**, 2012, On evapotranspiration and shallow groundwater fluctuations: A Fourier-based improvement to the White method *Water Resources Research*, 48, W06506 DOI: 10.1029/2011WR010964.
17. Booth EG, **SP Loheide II**, 2012. Comparing surface effective saturation and depth-to-water-level as predictors of plant composition in a restored floodplain wetland, *Ecohydrology*, DOI: 10.1002/eco.250.
18. Lowry CS, **SP Loheide II**, CE Moore, JD Lundquist, 2011. Groundwater controls on vegetation composition and patterning in mountain meadows, *Water Resources Research*, 47, W00J11, doi:10.1029/2010WR010086.
19. Lundquist JD, **SP Loheide II**, 2011. How evaporative water losses vary between wet and dry water years as a function of elevation in the Sierra Nevada, California and critical factors for modeling, *Water Resources Research*, 47, doi:10.1029/2010WR010050.
20. **Loheide SP II**, EG Booth, 2011. Effects of changing channel morphology on vegetation, groundwater, and soil moisture regimes in groundwater dependent ecosystems, *Geomorphology*, doi:10.1016/j.geomorph.2010.04.016.
21. Singha K, **SP Loheide II**, 2010. Linking physical and numerical modelling in hydrogeology using sand tank experiments and COMSOL Multiphysics, *International Journal of Science Education*, 1-25, DOI: 10.1080/09500693.2010.490570.
22. Booth EG, **SP Loheide II**, 2010. Effects of evapotranspiration partitioning, plant water stress response, and topsoil removal on the soil moisture regime of a floodplain wetland: Implications for restoration, *Hydrological Processes*, 24(20): 2934-2946. DOI: 10.1002/hyp.7707.
23. Lowry CS, JS Deems, **SP Loheide II**, JL Lundquist, 2010. Linking snowmelt derived recharge and groundwater flow in a high elevation meadow system, Sierra Nevada Mountains, California, *Hydrological Processes*, doi:10.1002/hyp.7714.
24. **Loheide SP II**, RS Deitchman, DJ Cooper, EC Wolf, CT Hammersmark, JD Lundquist, 2010. Reply to Comment by B. Hill and S. Mitchell-Brunker on “A framework for understanding the hydroecology of impacted wet meadows in the Sierra Nevada and Cascade Ranges, California, USA, *Hydrogeology Journal*, doi:10.1007/s10040-010-0635-8.
25. Lowry CS, **SP Loheide II**, 2010. Groundwater dependent vegetation: quantifying the groundwater subsidy, *Water Resources Research*, 46: W06202. doi:10.1029/2009WR008874.

26. Deitchman RS, **SP Loheide II**, 2009. Ground-based thermal imaging of groundwater flow processes at the seepage face, *Geophysical Research Letters*, doi:10.1029/2009GL038103.
27. Booth EG, **SP Loheide II**, RH Hansis, 2009. Postsettlement alluvium removal: A novel floodplain restoration technique (Wisconsin), *Ecological Restoration*, 27(2): 136-139; doi:10.3368/er.27.2.136.
28. Li Q., K Ito, ZS Wu, CS Lowry, **SP Loheide II**, 2009. COMSOL Multiphysics: A novel approach to groundwater modeling, *Ground Water*, doi:10.1111/j.1745-6584.2009.00584.x.
29. **Loheide SP II**, JD Lundquist, 2009. Snowmelt-induced diel fluxes through the hyporheic zone, *Water Resources Research*, 45, W07404, doi:10.1029/2008WR007329.
30. **Loheide SP II**, RS Deitchman, DJ Cooper, EC Wolf, CT Hammersmark, JD Lundquist, 2009. Hydroecology of impacted wet meadows in the Sierra Nevada and Cascade Ranges, CA., *Hydrogeology Journal*, 17:1, p. 229-246, doi: 10.1007/s10040-008-0380-4.
31. **Loheide SP II**, 2008. A method for estimating subdaily evapotranspiration of shallow groundwater using diurnal water table fluctuations, *Ecohydrology*, 1, p. 59-66, doi: 10.1002/eco.7.
32. **Loheide SP II**, SM Gorelick, 2007. Riparian hydroecology: A coupled model of the observed interactions between groundwater flow and meadow vegetation patterning, *Water Resources Research*, 43, W07414, doi:10.1029/2006WR005233.
33. Butler JJ Jr., GJ Kluitenberg, DO Whittemore, **SP Loheide, II**, W Jin, MA Billinger, X Zhan, 2007. A field investigation of phreatophyte-induced fluctuations in the water table, *Water Resources Research*, 43, W02404, doi:10.1029/2005WR004627.
34. **Loheide SP II**, SM Gorelick, 2006. Quantifying stream-aquifer interactions through analysis of remotely sensed thermographic profiles and in-situ temperature histories, *Environmental Science and Technology*, 40, p. 3336-3341, doi:10.1021/es0522074.
35. **Loheide SP II**, SM Gorelick, 2005. A high-resolution evapotranspiration mapping algorithm (ETMA) with hydroecological applications at riparian restoration sites, *Remote Sensing of Environment*, doi:10.1016/j.rse.2005.07.003.
36. **Loheide SP II**, JJ Butler Jr., SM Gorelick, 2005. Estimation of groundwater consumption by phreatophytes using diurnal water table fluctuations: A saturated-unsaturated flow assessment, *Water Resources Research*, 41:7, W07030 1-14, doi:10.1029/2005WR003942.

37. Cain S, G Davis, **SP Loheide II**, JJ Butler Jr., 2004. Noise in pressure transducer readings produced by variations in solar radiation, *Ground Water*, 42(6), 939-944, doi:10.1111/j.1745-6584.2004.t01-12-.x.
38. Butler JJ Jr., JM Healy, GW McCall, EJ Garnett, **SP Loheide II**, 2002. Hydraulic tests with direct-push equipment, *Ground Water*, 40(1), p. 25-36, doi: 10.1111/j.1745-6584.2002.tb02488.x.
39. **Loheide SP II**, DL Cannon, *NC Krothe*, 2001. Delineating groundwater flow paths using stable isotopes, Proceedings from the X International Symposium on Water-Rock Interaction Conference, Sardina, Italy, pp. 1545 - 1548. Villasimius, Italy.
40. Motzel BC, *NC Krothe*, CB Talbot, **SP Loheide II**, 2001. The use of nitrogen and sulfur isotopes in a shallow outwash aquifer, *New Approaches Characterizing Groundwater Flow*, IAH, Seiler and Wohnlich Editors, ISBN 902651, pp. 595 - 599.
41. *Coon SR*, TY Zakharian, NL Littlefield, **SP Loheide II**, EJ Puchkova, RM Freeney, VN Pak, 2000. Reversible metachromasy of Crystal Violet on titanium dioxide: A new surface photophysical phenomenon, *Langmuir*, 16 (25), 9690-9693, doi:10.1021/la001152a.

Invited abstracts at conferences

Loheide SP II, Urban Stormwater Sustainability, June 2014, Sustainable Urban Environments: Innovation for the future, Shanghai, China.

Loheide II SP, 2013. Ecohydrology research for sustainability: Informing decision making, Society for Freshwater Science Annual Meeting, Jacksonville.

Loheide, SP II, 2012, Monitoring Hydroecologic Change in a Restored Riparian Wetland: A Need for Improved Soil Moisture Measurement Technology, INVITED, webinar hosted by the Consortium of Universities for the Advancement of Hydrologic Science, Nov 16, 2012.

Loheide II SP, 2011. Hydroecologic change: restoration of a riparian wetland, Berkeley Catchment Science Symposium.

Lowry CS, Loheide SP II, Deems JS, Moore CE, Lundquist JD, 2010. Importance of snowmelt-derived fluxes on the groundwater flow in a high elevation meadow, American Geophysical Union Annual Meeting, San Francisco.

Loheide II SP, 2010. The groundwater component of ET and the groundwater subsidy provided to vegetation: Equivalent quantities? CUAHSI 2nd Biennial Colloquium on Hydrologic Science and Engineering, Boulder, CO.

Loheide II SP, 2009. Hydrologic processes in meadows, National Fish and Wildlife Foundation: Meadow Forum, North Lake Tahoe, CA.

Loheide II SP, 2009. Characterization of groundwater processes in riparian areas using thermal remote sensing, NovCare 2009, Leipzig Germany, Keynote Address.

Loheide II SP, 2009. A scientific basis for riparian restoration: Monitoring, modeling, and predicting the interactions between vegetation and hydrology, Wisconsin Ecology Symposium, Madison, WI, (Followed by panel discussion).

Loheide II SP, 2008. Effects of changing channel morphology on vegetation, groundwater, and soil moisture regimes in groundwater dependent ecosystems, American Geophysical Union Annual Meeting, San Francisco, CA.

Loheide II SP, 2007. Thermal remote sensing detection of groundwater discharge to streams, Session: Innovations and New Technologies for Measuring and Characterizing Groundwater–Surface Water Interaction, Geological Society of America Annual Meeting, Denver, CO.

Contributed papers at conferences

Abstracts

S.C. Zipper & S.P. Loheide, 2014. The influence of shallow groundwater on crop productivity. International Long-term Ecological Research All scientists meeting of the Americas, Valdivia, Chile

E.G. Booth, C.J. Kucharik, S.P. Loheide II, 2014. Assessing Agricultural Vulnerability to Recent Climate Change and Variability in Wisconsin Using USDA Crop Insurance Indemnity Data. 38th Annual Meeting of the American Water Resources Association – Wisconsin Section, Wisconsin Dells, WI.

E Daly, P Verma, and SP Loheide II, 2014. Hydraulic Redistribution: A modeling perspective. American Geophysical Union, Fall Meeting 2014. abstract #H13E-1155.

S.C. Zipper & S.P. Loheide, 2014. The influence of shallow groundwater on crop productivity. International Long-term Ecological Research All scientists meeting of the Americas, Valdivia, Chile

S.C. Zipper, S.P. Loheide II, 2014. 'Mapping subfield-scale evapotranspiration to assess agricultural drought sensitivity'. American Geophysical Union Fall Meeting, December 2014.

S.C. Zipper, S.P. Loheide II, 2014. 'Spatially variable impacts of shallow groundwater and soil texture on yield'. Water for Food 2014 Global Conference, October 2014. First Prize, Scholarly Poster Competition.

S.C. Zipper, M.E. Soylu, S.P. Loheide II, 2014. 'Soil texture and groundwater availability as drivers of subfield-scale yield variability'. American Water Resources Association Wisconsin Section meeting, March 2014.

C. B. Voter, S. P. Loheide II, 2014. Modeling the Hydrologic Effects of Parcel-Scale Changes in Lot Layout and Impervious Surface Connectivity. 38th Annual Meeting of the American Water Resources Association-Wisconsin Section, Wisconsin Dells, WI.

Daly, E., P. Verma, and S. P. Loheide II, Modelling dynamic mechanisms of root water uptake: Hydraulic redistribution and root water compensation, XX. International Conference on Computational Methods in Water Resources (CMWR 2014), Stuttgart, 10-13 June, 2014.

Verma, P., S. P. Loheide II, and E. Daly, Modelling root water compensation and redistribution in shallow groundwater environments, 40th International Association of Hydrogeologists Congress (IAH 2013), Perth, 15-20 September, 2013.

Verma, P., S. P. Loheide II, and E. Daly, Modelling root water compensation and redistribution, AOGS, Brisbane, 24-29 June, 2013

Carolyn B. Voter, Jeffrey F. Miller, Steven P. Loheide II. (2013, March). Modeling the effects of nuanced changes in lot layout and impervious area connectivity on urban recharge in COMSOL. Poster presented at the annual meeting of the Wisconsin Section of the American Water Resources Association, Brookfield, WI.

Soylu, M.E., Loheide, S.P., Kucharik, C.J., 2013. Effects of compensatory root water uptake and water table depth variations on net primary productivity and transpiration. Invited Speaker, ASA, CSSA, & SSSA International Annual Meetings, Tampa, FL.

Loheide II SP, 2013. Ecohydrology research for sustainability: Informing decision making, Invited Speaker, Society for Freshwater Science Annual Meeting, Jacksonville.

Soylu, M.E., Kucharik, C.J., Loheide, S.P., 2013. Impact of crop compensatory root water uptake on net primary productivity and transpiration under inter-annual climate and water table depth variations, Water for food global conference – Building resilient agroecosystems, poster presentation, Lincoln, NE.

Soylu, M.E., Loheide, S.P., Kucharik, C.J. 2013. Impact of crop compensatory root water uptake on net primary productivity and transpiration under inter-annual climate and water table depth variations. May 9-10, 8th Agro-IBIS Workshop, oral presentation, Lincoln, NE.

Soylu, M.E., Kucharik, C.J., Loheide, S.P., 2013. Introducing the AIM (Agro-IBIS-MODFLOW) model: simulating groundwater and crop interactions in the Yahara watershed of Wisconsin, and potential model applications. May 9-10, 8th Agro-IBIS Workshop, oral presentation, Lincoln, NE.

Soylu, M.E., Loheide, S.P., Kucharik, C.J. 2013. Examining the influence of shallow groundwater on net primary productivity and evapotranspiration in managed ecosystems, 37th Annual Meeting of the American Water Resources Association – Wisconsin Section, oral presentation, Milwaukee, WI.

Booth, E.G., Loheide, SP II, 2013. Monitoring and Modeling Restored Wetlands Along the East Branch Pecatonica River. Invited lecture to University of Wisconsin Interface Colloquium, November 13, 2013.

E.G. Booth, S.C. Zipper, S.P. Loheide II, C.J. Kucharik, 2013. Is Groundwater Recharge Always Serving Us Well? Water Supply and Crop Production in Conflict in the Yahara River Watershed, Wisconsin. American Geophysical Union, Fall Meeting 2013. abstract #H23P-01.

S.C. Zipper, E.G. Booth, S.P. Loheide II, 2013. Groundwater subsidies and penalties to corn yield. American Geophysical Union, Fall Meeting 2013. abstract #H21F-1119.

Loheide, S.P., M. Weber, E.G. Booth. 2013. Dynamic ice formation drives stream-aquifer interactions. American Geophysical Union, Fall Meeting 2013. Abstract #H41N-06.

S.C. Zipper, E.G. Booth, S.P. Loheide II, 2013. Shallow Groundwater Impacts on Corn Biophysics and Yield during a Drought, Yahara River Watershed, Wisconsin. 37th Annual Meeting of the American Water Resources Association – Wisconsin Section, Brookfield, WI.

S.C. Zipper, S.P. Loheide II., 2013. ‘Mapping persistent patterns of evapotranspiration to assess ecosystem sensitivity’ Wisconsin Ecology Symposium.

S.C. Zipper, S.P. Loheide II, 2013. ‘Shallow groundwater impacts on corn biophysics and yield during a drought’. Best Student Presentation Award. 37th Annual Meeting of the American Water Resources Association - Wisconsin Section meeting, Brookfield, WI.

E.G. Booth, S.C. Zipper, S.P. Loheide II, C.J. Kucharik, 2012. Recharge as an Ecosystem Service and Disservice in a Midwestern, Urbanizing, Agricultural Watershed with an Increasing Precipitation Trend. American Geophysical Union, Fall Meeting 2012. abstract #B23D-0480.

Soylu, M.E., C.J. Kucharik, S.P. Loheide II, 2012. Analyzing Groundwater-Vegetation Interactions using a Dynamic Agroecosystem Model. American Geophysical Union, Fall Meeting 2012. abstract #H31N-07.

Booth, E.G. and S.P. Loheide, 2012. Yahara River Watershed Hydrologic Retrospective Analysis: Long-term Averages and Trends in an Urbanizing Agricultural Landscape. 36th Annual Meeting of the American Water Resources Association - Wisconsin Section, Wisconsin Dells, WI.

Zipper, SC, Loheide SP II, 2012. Linking Shallow Groundwater to Crop Yield Using Remotely Sensed Data, Yahara Watershed, WI. 36th Annual Meeting of the American Water Resources Association - Wisconsin Section, Wisconsin Dells, WI.

Weber, MD, SP Loheide II, 2012, Investigating the relationship between dynamic ice formation and hyporheic exchange at the East Branch Pecatonica River. 36th Annual Meeting of the American Water Resources Association - Wisconsin Section, Wisconsin Dells, WI.

Miller, JF, SP Loheide II, 2012, A comparison of the stormwater detention capabilities of four neighboring wetland swales. 36th Annual Meeting of the American Water Resources Association - Wisconsin Section, Wisconsin Dells, WI. **WINNER BEST ORAL PRESENTATION.**

Verma, P., S. P. Loheide II, and E. Daly, A model of transpiration for phreatophytes, AOGS-AGU (WPGM) Joint Assembly, Singapore, 13-17 August, 2012

Miller, J. F., and S. Loheide. 2012. Explaining the differences in urban stormwater flow attenuation capabilities between adjacent constructed wetland swales; Wisconsin Wetlands Association 2/23/2012, Lake Geneva, WI.

Booth EG, SP Loheide II, 2011. Floodplain restoration leads to wetter and more diverse soil water regimes and vegetation types: Insight from an integrated hydroecological model, American Geophysical Union Annual Meeting, San Francisco, CA.

Lundquist JD, SP Loheide II, 2011. How evaporative water losses vary between wet and dry water years as a function of elevation in the Sierra Nevada, California, and critical factors for modeling, American Geophysical Union Annual Meeting, San Francisco, CA.

Loheide SP II, EG Booth, CJ Kucharik, SR Carpenter, CGE Katt-Reinders, AR Rissman, MG Turner, 2011. Developing a framework to assess the water quality and quantity impacts of climate change, shifting land use, and urbanization in a Midwestern agricultural landscape, American Geophysical Union Annual Meeting, San Francisco, CA.

Moysey SM, SP Loheide II, S Gangrade, AR Mangel, A Creighton, EG Booth, M Weber, AM Striegl, 2011. Mapping soil variability at the East Branch Pecatonica River Restoration Observatory using GPR and EM Induction, American Geophysical Union Annual Meeting, San Francisco, CA.

Miller JF, SP Loheide II, 2011. Root Length Density Distributions - Effects on Runoff Generation, American Geophysical Union Annual Meeting, San Francisco, CA.

Verma P, SP Loheide II, E Daly, 2011. A root water uptake model for phreatophytes, 2011 National Centre for Groundwater Research and Training Workshop, Adelaide, Australia (Best Poster Award)

Striegl AM, SP Loheide II, 2011. Using heated distributed temperature sensing to monitor soil water. 34th Annual Meeting of the American Water Resources Association - Wisconsin Section, Appleton, WI.

Gotkowitz MB, DR Joachim, SJ Vavrus, SP Loheide II, KR Bradbury, 2011. Climate variability and groundwater recharge in Southwest Wisconsin. 34th Annual Meeting of the American Water Resources Association - Wisconsin Section, Appleton, WI.

Joachim DR, SP Loheide II, 2011. Evaluating changes to Wisconsin evapotranspiration under a future climate. 34th Annual Meeting of the American Water Resources Association - Wisconsin Section, Appleton, WI.

Booth EG, SP Loheide II, 2011. Predicting wetland plant composition based on soil moisture regime using a quasi-3D variably-saturated groundwater flow model. 34th Annual Meeting of the American Water Resources Association - Wisconsin Section, Appleton, WI.

Booth EG, SP Loheide II, 2010. Soil moisture versus depth-to-water-level: Which is better for predicting plant composition in a restored floodplain wetland? , American Geophysical Union Annual Meeting, San Francisco, CA.

Loheide SP II, CS Lowry, CE Moore, JD Lundquist, 2010. Groundwater controls on vegetation composition and patterning in mountain meadows, American Geophysical Union Annual Meeting, San Francisco, CA.

Lowry CS, SP Loheide II, 2010. Groundwater subsidy: Quantifying the additional water available for root water uptake, American Geophysical Union Annual Meeting, San Francisco, CA.

Moore CE, JD Lundquist, SP Loheide II, 2010. Modeling alpine meadow restoration techniques and their effects on stream stage regimes, American Geophysical Union Annual Meeting, San Francisco, CA.

Striegl AM, SP Loheide II, 2010. Soil water monitoring using heated distributed temperature sensing, American Geophysical Union Annual Meeting, San Francisco, CA.

Booth EG, SP Loheide II, 2010. Controls on the soil moisture regime of a restored floodplain, East Branch Pecatonica River: A field and modeling investigation. 34th Annual Meeting of the AWRRA - Wisconsin Section, Middleton, WI.

Joachim DR, MB Gotkowitz, SP Loheide II, KR Bradbury, SJ Vavrus, 2010. Evaluating the effects of increased precipitation due to climate change on Wisconsin's groundwater levels. 34th Annual Meeting of the AWRRA - Wisconsin Section, Middleton, WI.

Cardinal KE, SP Loheide II, 2010. The influence of root distribution and water stress on evapotranspiration. 34th Annual Meeting of the American Water Resources Association - Wisconsin Section, Middleton, WI.

Booth EG, SP Loheide II, 2010. Monitoring and modeling the effects of floodplain restoration on the soil water regime and vegetation composition: Upper East Branch Pecatonica River, Wisconsin. Upper Midwest Stream Restoration Symposium, La Crosse, WI.

Joachim DR, MB Gotkowitz, SJ Vavrus, SP Loheide II, KR Bradbury, 2010. Evaluating the effects of climate change on groundwater recharge in Southwest Wisconsin, Geological Society of America Annual Meeting, Denver, CO.

Lowry CS, SP Loheide II, 2009. Interactions between root water uptake, groundwater levels, and soil moisture dynamics in Tuolumne Meadows, Yosemite National Park, CA, American Geophysical Union Annual Meeting, San Francisco, CA.

Pathak N, SP Loheide II, 2009. Quantifying hydroecologic change in a degraded wetland with remote sensing, field based monitoring, and modeling approaches, American Geophysical Union Annual Meeting, San Francisco, CA.

Deems JS, JD Lundquist, SP Loheide II, 2009. Climate change impacts on snowmelt hydrology in small Sierra Nevada basins for ecological applications, American Geophysical Union Annual Meeting, San Francisco, CA.

Moore CE, JS Deems, SP Loheide II, JD Lundquist, 2009. Examining alpine meadow restoration techniques through hydraulic modeling, American Geophysical Union Annual Meeting, San Francisco, CA.

Booth EG, SP Loheide II, 2009. Quantifying the hydrologic interactions associated with the plant water stress function and evapotranspiration partitioning in a wetland ecosystem. Geological Society of America Annual Meeting. Portland, OR.

Booth EG, SP Loheide II, 2009. Ecohydrogeomorphology of headwater valley wetlands in the Driftless Area of southwestern Wisconsin. Society of Wetland Scientists, Annual Meeting, Madison, WI.

Loheide SP II, JD Lundquist, 2009. Snowmelt-induced hyporheic pumping in Tuolumne Meadows, Yosemite National Park, CA. Geological Society of America Annual Meeting, Portland, OR.

Deitchman RS, SP Loheide II, 2009. Characterization of groundwater flux using ground-based thermal remote sensing at the seepage face, 33rd Annual Meeting of the American Water Resources Association - Wisconsin Section, Stevens Point, WI. (Recipient of Best Student Presentation Award).

Pathak N, EG Booth, SP Loheide II, 2008. Comparing vadose zone and groundwater uptake within different vegetation communities in disturbed wetland ecosystems, Midwest Groundwater Conference, Dubuque, IA.

Booth EG, SP Loheide, 2008. Evaluating the hydroecological effects of flood plain restoration in the headwaters of the East Branch Pecatonica River, Wisconsin in The 21st North American Prairie Conference, Winona, MN.

Loheide II SP, RS Deitchman, DJ Cooper, EC Wolf, CT Hammersmark, and JD Lundquist, 2008. Groundwater controls on vegetation patterning in wet meadow ecosystems of the Sierra Nevada, CA, Ecological Society of America Annual Meeting, Milwaukee, WI.

Booth EG, SP Loheide II, 2008. A case where a shallower water table leads to drier soils following the restoration of a pre-settlement floodplain surface: Insight from numerical modeling. American Geophysical Union, Fall Meeting 2008, abstract #H33B-1005, San Francisco, CA. (Recipient of Outstanding Student Presentation Award from Hydrology Section).

Booth EG, SP Loheide II, 2008. Monitoring changes in subsurface hydrology, stream temperature, flood hydraulics, and vegetation following floodplain restoration on the East Branch Pecatonica River, WI in 32nd Annual Meeting of the American Water Resources Association - Wisconsin Section, Brookfield, WI. (Recipient of Best Graduate Student Poster Award).

Loheide II SP, 2008. Groundwater-vegetation interactions in mountain meadows, European Geophysical Union General Assembly, Vienna, Austria.

Loheide II SP, SM Gorelick, 2007. Coupled hydroecologic modeling of groundwater flow and vegetation patterning in mountain meadows, Geological Society of America Annual Meeting, Denver, CO.

Whittemore DO, JJ Butler Jr., GJ Kluitenberg, SP Loheide II, 2007. Climatic and water-use variability impacts on riparian phreatophytes in the Great Plains, Geological Society of America Annual Meeting, Denver, CO.

Booth EG, SP Loheide II, 2007. Monitoring changes in subsurface hydrology and vegetation following floodplain restoration on the East Branch Pecatonica River, WI in Trout Unlimited Driftless Area Restoration Effort - Science in the Driftless Area Conference, Decorah, IA.

Loheide II SP, SM Gorelick, 2006. Characterization of hyporheic exchange and baseflow with thermal remote sensing, American Geophysical Union Annual Meeting, San Francisco, CA.

Butler JJ Jr., DO Whittemore, J Shea, J Bauer, GJ Kluitenberg, SP Loheide II, W Jin, 2006. The vulnerability of native phreatophytes to ground-water level declines in the middle Arkansas River valley, Kansas: Trans. Kansas Academy Science, 109 (3/4), p. 249.

Loheide II SP, SM Gorelick, 2005. Mapping of restoration-induced changes in riparian evapotranspiration, American Geophysical Union Annual Meeting, San Francisco, CA.

Shea J, JJ Butler Jr, SP Loheide II, 2005. An assessment of the vulnerability of native phreatophytes to replacement by invasive species in a mid-continent riparian setting, American Geophysical Union Annual Meeting, San Francisco, CA.

Loheide II SP, JJ Butler Jr., SM Gorelick, 2004. A modeling evaluation of a method for estimating groundwater usage by phreatophytes, Geological Society of America Annual Meeting, Denver, CO, Abstracts Vol. 36, No. 5.

Loheide II SP, SM Gorelick, 2004. The ecohydrology of degraded and restored meadow systems, American Geophysical Union Annual Meeting, San Francisco, CA.

Butler Jr. JJ, SP Loheide II, GJ Kluitenberg, K Bayless, DO Whittemore, X Zhan, CE Martin, 2004. Groundwater consumption by phreatophytes in a mid-continent stream-aquifer system, Joint Assembly (CGU, AGU, SEG, EEGS), Montreal, Canada.

Cannon DL, NC Krothe, SP Loheide II, 2001. Sulfur, oxygen and hydrogen isotope studies of conduit freshwater spring and mineral spring flow on the karst Mitchell Plain and the Crawford Upland of S. Indiana. Geological Society of America Annual Meeting, Boston, MA.

Krothe NC, SP Loheide II, DL Cannon, 2001. Delineating mineral and fresh water flow paths in a karst terrain using oxygen, hydrogen and inorganic carbon isotopes and ion chemistry. Geological Society of America Annual Meeting, Boston, MA.

Loheide SP II, DL Cannon, NC Krothe, 2000. Determining the origin of mineral spring waters using oxygen, hydrogen, and sulfur isotopes, Geological Society of America Annual Meeting, Reno, NV.

Cannon DL, SP Loheide II, NC Krothe, 2000. The history of the socio-economic impact of the mineral springs in South Central Indiana, Geological Society of America Annual Meeting, Reno, NV.

Butler Jr. JJ, JM Healey, W McCall, SP Loheide II, E Garnett, 2000. Hydraulic tests with direct-push equipment, American Geophysical Union Annual Meeting, San Francisco, CA.

Loheide SP II, JM Healey, JJ Butler, 1999. A new system for performing slug tests in formations of low hydraulic conductivity, Geological Society of America Annual Meeting, Denver, CO. (Received Austin A. Sartin Best Poster of Session Award).

Loheide SP II, MZ Iqbal, 1998. Hydrogeologic flow in the Cedar Hills Sand Prairie, Black Hawk County, Iowa, Geological Society of America Annual Meeting, Toronto, Canada. (Second Runner up for the Austin A. Sartin Best Poster of Session Award).

Loheide SP II, MZ Iqbal, 1998. The characteristics of the shallow groundwater flow in the Cedar Hills Sand Prairie, Iowa Academy of Science, 110th Session.

Loheide, S.P II, Iqbal, M. 1997 The Hydrogeology of the Cedar Hills Sand Prairie in Iowa, Eighth Annual Argonne Symposium for Undergraduate Research.

Unpublished technical reports

David Hill, Barbara Minsker, Thomas Ballestero, John Braden, Patrick Brezonik, Steven Loheide, Franco Montalto, Eberhard Morgenroth, Ian Pepper, Ken Potter, Robert Traver, and Charles Werth. *Science Requirements for adaptive and integrated water management*, for WATERS Network Science Plan, January, 21 2008.

Other publications

Booth, E.G. and S.P. Loheide, 2013. Human-Induced Floodplain Sedimentation in the Driftless Area of southwestern Wisconsin: Consequences on Riparian Ecosystems. Vignette in Bierman, P.R. and D.R. Montgomery, Key Concepts in Geomorphology <http://www.uvm.edu/~geomorph/textbook/>

Booth, E.G. and S.P. Loheide, 2013. The Drying of Sierra Nevada Wet Meadows by Channel Incision and Opportunities for Restoration. Vignette in Bierman, P.R. and D.R. Montgomery, Key Concepts in Geomorphology <http://www.uvm.edu/~geomorph/textbook/>

TEACHING ABILITY AND EXPERIENCE

Loheide has taught seven courses in the Water Resources Engineering program during his time at UW. A brief description of the courses are provided below:

Course	Description
INTEREGR 102: (2cr) Introduction to Society's Engineering Grand Challenges	<i>A course designed to introduce freshman level students to engineering. Description and discussion of how engineering disciplines address specific engineering grand challenges in society. Focus on societal and multicultural issues encountered in engineering, as well as economic, ethical and political constraints on engineering solutions. Development of students' professional skills.</i>
CEE 311: (3cr) Hydroscience	<i>Core required course in the CEE curriculum. Introduction to the water cycle, its relationship to the environment and human attempts to conserve, control, and utilize water judiciously.</i>
CEE 412: (3 cr) Groundwater Hydraulics	<i>Elective course for upper level undergraduate and graduate students. Develops analytical approaches for modeling groundwater flow and introduces numerical methods for describing groundwater flow.</i>
CEE 619: (3cr) Hydroecology	<i>Newly developed course, primarily for graduate students (80%) which explores the intricate relationships between ecologic and hydrologic processes. Focuses on recent theoretical developments in the field, evaluation of peer-reviewed literature, and field-based group projects.</i>
CEE 919: (1cr) Seminar Hydraulic Engineering and Fluid Mechanics	<i>Seminar for water resource engineering subgroup which serves two purposes: 1) provides a forum for inviting external speakers to campus to present on current research topics, and 2) allows students to develop communication skills by giving formal research presentations.</i>
CEE 619b: (1cr) Environmental Flows (co-led seminar with Dr Richard Beilfuss)	<i>An interdisciplinary seminar co-developed with Richard Beilfuss (adjunct professor CEE) to introduce environmental flows, which describe the quantity, timing, and quality of water flows required to sustain freshwater and estuarine ecosystems and the human livelihood and well-being that depend on these ecosystems.</i>
CEE 619c: (3cr) Advanced Groundwater Hydrology	<i>An international, interdisciplinary course co-developed with Tom Gleeson (McGill University) and Grant Ferguson (University of Saskatchewan). Graduate level course for examining a variety of cutting-edge research ideas and techniques in the specialized topics including: groundwater ecohydrology, mega-scale hydrogeology, and the energy-groundwater nexus. The course applied hands-on and advanced techniques using real, messy data and engaged students in critically reading, discussing and synthesizing recent and benchmark literature</i>

Research students advised

Former PhD students

Eric Booth, Research Associate, Water Sustainability and Climate Program, University of Wisconsin -Madison (Aug 2011). Thesis: Monitoring and modeling hydroecological changes at a restored floodplain, East Branch Pecatonica River, Wisconsin.

Former MS students

Richard Deitchman, Associate Attorney at Somach Simmons & Dunn, Lewis and Clark Law School (May 2009). Thesis: Thermal remote sensing of stream temperature and groundwater discharge: Applications to hydrogeology and water resources policy in the state of Wisconsin.

Nayanjyoti Pathak, Systems Programmer at the Transportation and Safety Laboratory at the University of Wisconsin -Madison (Dec 2009). Thesis: Assessment of the hydroecology of Wingra Marsh at the University of Wisconsin Arboretum.

Karen Cardinal, Water Resource Engineer at Whitman Requardt and Associates (May 2010). Thesis: The influence of variable root distributions of native prairie and wetland species on hydrologic processes.

Arlen Striegl, Water Resource Engineer at Golder and Associates (August 2010). Thesis: Development and field implementation of a distributed soil moisture sensor using heated fiber optics.

Doug Joachim, Water Resource Engineer at Golder AECOM (Dec 2011). Thesis: Modeling the effects of climate change on evapotranspiration and groundwater recharge in Wisconsin.

Jeff Miller, Epic Systems (Dec 2012). Thesis: Visualization techniques and statistical methods for evaluating the impact of root structure on surface runoff generation in freely drained soils.

John Sourbeer Water Resource Engineer at Golder Gateway Engineers (Dec 2013). Thesis: Hydrologic can vegetation linkages observed with novel soil moisture sensing technology.

Kyle Ankenbauer Chevron Corporation (Dec 2013). Thesis: Changing soil characteristics and biogeomorphic succession in Tuolumene Meadows: Implications for restoration.

Former undergraduate students (research assistants)

- Chanel Kass
- Kira Langree
- Hans Wildebush
- Chris Strach
- Jerry Wilke
- Arlen Striegl
- Doug Joachim
- Beth Baumgartner
- Natali Colom Cruz
- Jeff Miller
- Matt Weber

- Erin Gross
- Galen Bergquist
- Tyler Davis
- Wally Graeber
- Olivia Fritz
- Taylor Pomije
- Sativa Cruz
- Zarek Boutaghou

Former postdoctoral associates

- Chris Lowry, now assistant professor at **University of Buffalo** (Postdoc 2008-2010). Project: Mountain meadow restoration under a changing climate.
- Evren Soylu, now assistant professor at **Meliksah University** in Kayseri, Turkey. (Postdoc 2012-2014) Project: Sustainability of groundwater and related ecosystem services in the Yahara Watershed, WI.

Current PhD students and postdocs (with expected degree and graduation date)

- Sam Zipper (Dec 2015). Thesis: Ecologic and Water Sustainability in the Yahara Watershed, Wisconsin.
- Carolyn Voter (May 2017). Thesis: Urban Ecohydrology
- Dominick Ciruzzi (May 2019). Thesis: Geophysical monitoring of soil moisture

Current MS students (with expected degree and graduation date)

- Laina Briedenbach (May 2017). Thesis: Soil, water, organic matter feedbacks
- Kim Scherber (May 2017). Thesis: Influence of ice dynamics on surface-water groundwater exchange

Current undergraduate students (research assistants)

- Lorenzo Warrington (URS scholar)
- Martin Calderon (URS scholar)
- Yeline Del Carmen (URS scholar)
- Allison Lobue

PROFESSIONAL SERVICE

At a national and international level, I am active in proposing, organizing, and chairing oral and poster sessions at international conferences. This is particularly true for the primary professional organization in my field, the American Geophysical Union, where I have also served on the Outstanding Student Presentation Awards Committee for the past three years. Due to the interdisciplinary nature of my research, I review manuscripts for a wide variety of disciplines as evidenced by the >20 different journals. I also review proposals for local, regional, national, and international funding agencies and have served on national review panels. At the university level, I have served both as an alternate and primary senator for the Faculty Senate. I have served on search and screen committees both for the College of Engineering and the College of Letters and Sciences. Because of my cross-disciplinary work, I regularly serve on graduate student committees not only in my home department of Civil and Environmental Engineering, but also in Soils, Geoscience, Geological Engineering, Limnology and Marine Science, Botany, Water Resources Management and the Nelson Institute for Environmental Studies. I also serve as faculty advisor for Chi Epsilon, the Civil and Environmental Honor Fraternity and the student chapter of the Association of Engineering Geologists.

I strongly committed to the Wisconsin Idea -- the principle that education should influence and improve people's lives beyond the university classroom. My goals in outreach are focused in two directions. First, I promote public environmental awareness of issues at the interface between the natural and built environments amongst all ages and I expose younger generations to possible careers in environmental engineering and science. Second, I disseminate state-of-the-science research to restoration practitioners, natural resource managers, and policy makers so that the best available science can be applied to improving environmental quality. I accomplish this through public and practitioner lectures and workshops, interviews, and lectures and field trips for middle school students.

Peer review

Associate Editor, Vadose Zone Journal, 2012- 2016

Associate Editor, Ecohydrology Journal, 2013-present

Manuscript review for journals (>150 articles reviewed):

- Applied Geography
- AGU Monograph Chapter
- Ecohydrology Journal
- Ecological Applications
- Ecological Engineering
- Environmental Evidence
- Ground Water
- Geotechnical and Geological Engineering
- Geophysical Research Letters
- Hydrogeology Journal
- Hydrological Processes

- Journal of Arid Environments
- Journal of Environmental Management
- Journal of Geophysical Research-Biogeosciences
- Journal of Hydrology
- Journal of the American Water Resources Association
- Journal of Vegetation Science
- Methods for Estimating Natural Ground-Water Recharge Rates (Book chapter)
- Proceedings of the National Academy of Sciences
- Remote Sensing of Environment
- Restoration Ecology
- Soil Science Society of America
- Vadose Zone Journal
- Water Resources Research
- Wetlands

Ad hoc-proposal review (>70 proposals reviewed):

- National Science Foundation (Including the following programs: Environmental Sustainability, Frontiers in Earth System Dynamics, Hydrologic Sciences, IGERT, International Research Fellowship, CAREER Program, Arctic Sciences, and Collaboration in Mathematical Geosciences Programs, EPSCoR)
- NASA Postdoctoral Program (NPP)
- Illinois-Indiana Sea Grant
- Indo-US Science and Technology Forum
- Natural Environmental Research Council (United Kingdom)
- Maine Water Resource Institute
- USGS National Institutes for Water Resources
- Army Research Office
- Wisconsin Groundwater Coordinating Council Joint Solicitation
- Qatar National Research Foundation

Proposal review panels

- National Science Foundation, Environmental Sustainability CAREER Panel
- National Science Foundation, IGERT Panel

Service at University of Wisconsin

Thesis and Dissertation Committees (not including own students)

Josh Anderson, PhD, 2013-
Andrew Aslesen, MS, 2008-2010
Adam Bechle, MS, 2010
Adam Bechle, PhD, 2010-present
Richard Becker, PhD, 2012-Present
Matthew C. Van de Bogert, PhD, 2006-2011
T. Matt Boyington, PhD, 2006-2009
Josh Brown, MS, 2007-2010
Doug Brugger, MS 2013
Michele Cipiti, MS, 2008
Becky Carvin, MS, 2008
Heather Davis, MS, 2011-2013
Brad DeBels, PhD, 2011-2013
Meg Dickhoff, MS, 2009-2010
James Doherty, PhD, 2010-2014
Kalina Dunkle, PhD, 2009-2012
Daniel Fletcher, MS, 2014
Mario Flores, PhD, 2007-2009
Phil Gaebler, MS, 2010
Chris Gellasch, PhD, 2009-2012
Matt Grzegorzewski, MS 2015
David Huwe, MS, 2009
Khurrram S Khan, MS, 2009-2010
Khurrram S Khan, PhD, 2010-2012
Maribeth Kniffen, MS, 2013
Chris Lowry, PhD, 2008
Hatice Okten, PhD, 2008
Stephanie Prellwitz, 2011-2012
Steve Powers, PhD, 2008-present
Yi-Fang (Yvonne) Hsieh, PhD, 2006-2011
Nobuaki Kimura, PhD, 2006-2007
Kimie Lee, MS, 2007
Yang Yang, PhD, 2011-present
Ying-Tien “Kevin” Lin, PhD, 2006-2012
Madiline Magee, PhD, 2013
Kiran Manchikanti, PhD, 2009
Melissa Motew, PhD, 2012-
Jordan Muss, PhD, 2007-2012
Mallika Nocco, PhD, 2012-
Steve Neary, PhD, 2012-2014
Kasper Toelbell Oestergaard, PhD, University of Queensland, 2014
Stephanie Prellwitz, 2011-2012
Steve Sellwood, PhD, 2013-2015

Crystal Smith, MS, 2011
Aditya Singh, PhD, 2011-2013
Hoi Lai Tseung, MS, 2010-2012
Jordan Read, 2010-2012
Laura Rozumalski, MS, 2006-2007
Dylan Voeller, MS, 2007
Jennifer Belknap Williams, MS, 2007
Luke Winslow, PhD
Yang Yang, PhD, 2012-2015
Hengliang (Henry) Yuan, PhD, 2007
Owen Zhu, MS, 2015

Departmental committees and other activities:

Environmental Chemistry and Technology Search and Screen Committee (2007-2008).
Geological Engineering Election Committee Chair with Mary Anderson (2007).
Anna Birge Research Grant selection committee (2008-2009; 2011).
Weston Fellowship selection committee (2008).
Faculty advisor to Chi Epsilon (2009-2014).
Faculty advisor to AEG (Association of Engineering Geologists) club (2010-2014).
Environmental Chemistry Search and Screen Committee (2010-2011).
Water Sustainability Search and Screen Committee chair (2012-2013)
Civil and Environmental Engineering Hiring Committee (2011-2014)
Civil and Environmental Engineering Website Committee chair (2011-2014)
Limnology and Marine Science Program Name Committee chair (2011)
Freshwater and Marine Sciences Program Chair (2012-2014)
Civil and Environmental Engineering Merit Review Committee (2012-2014)
Civil and Environmental Engineering Assistant Professor teaching evaluator (2013-2014)
Mentor Committee: Christy Remucal (2012-)
Mentor Committee: Paul Block (2013-)

College committees and other activities:

Byron Bird Award Selection Committee (member 2010, chair 2011)
Engineering Hall Improvements Committee (2013-2014)

Other activities external to college:

Faculty Senate Alternate for Chin Wu (2007-2009)
Faculty Senate (2010-2013)
University of Wisconsin Sustainability Taskforce, Campus Environment Subcommittee, (2010)
Department of Geoscience, Hydrogeology Search and Screen Committee (2010- 2011)
Graduate School's Physical Sciences Fellowship Committee (2011-2014)
Arboretum Committee (2012-2014)
Water Resource Management Program Committee (2012-present)

Other Professional Activities

Sierra Meadows Technical Advisory Committee (TAC):

I was a member of Sierra Meadows Technical Advisory Committee (TAC) organized by American Rivers through a partnership with the National Fish and Wildlife Foundation to support the foundation's \$200 million dollar keystone initiative on the restoration of meadows of the Sierra Nevada. Our nine person TAC was tasked with providing guidance on the following four elements: 1. Develop a standard method to assess meadow condition and degradation, 2. develop and test methods to prioritize meadows for restoration in two watersheds, 3. describe and evaluate existing meadow restoration and rehabilitation techniques, and 4. recommend a core set of short and long-term measurements to monitor the impacts of meadow restoration across projects.

Wisconsin Initiative on Climate Change Impacts Water Resources Working Group:

I am a member (2009-present) of the Wisconsin Initiative on Climate Change Impacts Water Resources Working Group, which includes participants from several agencies and organizations, including the Wisconsin Department of Natural Resources, University of Wisconsin System, U.S. Geological Survey, and the Wisconsin Wetlands Association. The Water Resources working group is assessing and synthesizing climate change impacts to Wisconsin's water resources, which will assist in the development of adaptation strategies for dealing with those impacts. The group is primarily focusing on understanding the implications of a changing climate for inland water levels and flows, including lakes, rivers, wetlands, stream baseflows, and groundwater.

Badger Ridge Middle School Outreach Program:

Since arriving at UW, Loheide has been involved in an outreach program with Badger Ridge Middle School. This program addresses the problem that middle school students are not as strong in science and mathematics as students from other countries and are largely unaware of career options in environmental engineering and science. Today - as global population grows, climate changes, natural resources become limited, and scientific advances raise ethical concerns – it is more important than ever that the public understand the technological underpinnings of our society. Science, Technology, Engineering, and Mathematics (STEM) fields form the foundation for creating an informed public and are viewed as key to maintaining US competitiveness in a global market [National Academy of Engineering, 2005]. The STEM fields are also essential to developing a more seamless interface between the natural and built environments and achieving sustainability of both ecosystems and natural resource usage.

I have participated in this outreach program to introduce 6th grade students to environmental science and engineering with Trina McMahon and Joel Pederson. In 2007 and 2008, I taught lessons on groundwater to three 6th grade classes (~75 students) at Badger Ridge Middle School in Verona. In 2009 and 2010, we changed the format of this program and three 6th grade classes visited the University of Wisconsin, Department of Civil and Environmental Engineering Laboratories to learn about career opportunities in science and engineering. During their visit, I performed demonstrations and taught lessons on groundwater.

In May 2011, I led a field trip for ~50 6th grade students from Badger Ridge Middle School to our East Branch Pecatonica Restoration Observatory. At the site we discussed the land-use practices in the watershed that had degraded the wetland and the restoration activities that had been performed at the floodplain. We led the students through a series of hands-on

activities including a groundwater flow simulation tank, a demonstration of streamflow measurement techniques, an installation of wells and characterization of soils and an inventory of introduction to sampling invertebrates and amphibians in aquatic environments. The goal of the trip was to expose the students to field research, which is an underemphasized area of science and engineering.

Yosemite National Park Outreach Workshops:

Interpretive Park Rangers provide the primary connection between visitors to National Parks and the researchers working in them. However, the interpretive rangers have little time to keep up with the latest research findings and distill them into manageable programs such as interpretive walks and campfire talks. Along with his collaborator Jessica Lundquist from the University of Washington, the candidate prepared a workshop for Park Rangers to update them on their latest research findings on the effects of climate change and restoration in Tuolumne Meadows. (Workshop, Tuolumne Meadows, Yosemite, CA, June 2008.) This workshop updated rangers on research results and worked with interpretive rangers to find ways in which our science could be incorporated in ranger-led interpretative walks. We also provided a time-lapse video display for the visitor center documenting the spring snowmelt and meadow flooding which occurs in Tuolumne Meadows. This workshop was followed up with a more technical talk at the Yosemite Forum in 2010 for National Park Service employees. Many of the results presented there formed the basis for the “Meadows” web page on Yosemite National Park’s Nature and Science Section. <http://www.nps.gov/yose/naturescience/meadows.htm>

American Geophysical Union Hydrology Section:

Outstanding Student Awards Committee 2008-2011 (arranged judging for ~700 student presentations/year at AGU meetings, select best student presentation award winners based on scoring and written comments)

Ecohydrology Technical Committee 2013-present

International Association of Hydrological Sciences:

I served on the International Association of Hydrological Sciences (IAHS) Task Force to formulate a new scientific decade initiative. We gathered feedback on the direction of this initiative from the hydrologic community.

Membership in professional societies:

- Universities Council on Water Resources (UCoWR), UW-Madison representative, 2015-
- Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), UW-Madison representative, 2015-
- American Geophysical Union
- Geological Society of America
- Ecological Society of America (2008)
- National Groundwater Association
- Wisconsin Wetland Association
- Wisconsin Section of the American Water Resource Association
- Golden Key National Honor Society

- Society for Freshwater Science

Other professional committees:

- University of Northern Iowa Department of Earth Science Advisory Committee (2006-present)

Conference participation and organization

Chaired a session titled “Groundwater-Surface Water Interactions: Physical, Biological, and Chemical Relevance” at the 2013 annual meeting of the American Geophysical Union.

Presided over a session titled “Climate Change and Wisconsin’s Water Resources” at the 2011 Annual Meeting of the Wisconsin Section of the American Water Resources Association.

Co-organized a technical session titled “Ecohydrology of Groundwater-Dependent Ecosystems” at the 2010 American Geophysical Union Annual Meeting, San Francisco, CA.

Co-organized a technical session titled “Hydrology and Ecology interfaces: processes and interactions in wetland, riparian and groundwater-based ecosystems” at the 2009 European Geophysical Union General Assembly, Vienna, Austria.

Co-organized a technical session titled “Wetland ecohydrology: interactions and feedbacks between water table, soil moisture, and vegetation” at the 2008 European Geophysical Union General Assembly, Vienna, Austria.

Co-organized and chaired a technical session titled “Ecohydrology of Riparian Areas” at the 2007 Annual Meeting of the Geological Society of America. Introduced NGWA Darcy Lecturer: James J. Butler Jr.

Presided over a session titled “Advances in Water Monitoring and Remediation” at the 2007 Annual Meeting of the Wisconsin Section of the American Water Resources Association.

Presided over a session titled “Watershed Characterization” at the 2006 Fall Meeting of the American Geophysical Union.

Invited Public Lectures and Scientific Presentations

Loheide, II SP. Ecohydrology for Sustainability, Weston Sustainability Lecture Series, University of Wisconsin, September 19, 2013.

Loheide, II SP. Development and Application of a User-Friendly Interface for Predicting Climate Change Induced Changes in Evapotranspiration, Wisconsin Groundwater Coordinating Council, August 2, 2013.

Loheide, II SP. The Hydroecology of Meadows in the Sierra Nevada, CA. Wisconsin Public Television, University Place. 50-minute programming, 2009.

Loheide, II SP. The Hydroecology and Restoration of Meadows in the Sierra Nevada, CA. Yosemite Forum, Yosemite National Park, CA. Public lecture to park staff, volunteers and visitors. August 10, 2010.

Deitchman RS, Loheide SP II, Thermal Remote Sensing of Stream Temperature and Groundwater Discharge: Applications to Hydrogeology and Water Resources Policy in the State Of Wisconsin, Meeting of Wisconsin Groundwater Coordinating Council May, 8, 2009.

Booth EG, SP Loheide II, Pecatonica River Watershed Summit, *Riparian Corridor Management* to a diverse audience including Federal and State natural resources management agencies, non-profit organizations, and private landowners, Monroe, WI. March 29, 2008.

Deitchman RS, SP Loheide, *Thermal Remote Sensing of Groundwater Discharge in the Allen Creek Watershed* Talk to Friends of Allen Creek Watershed (FACW), Ft. Atkinson, Wisconsin Public Library, September 9, 2008.

Loheide SP II. *The Ecohydrology of the Last Chance Meadow System: Preliminary Results*, Feather River Coordinated Resource Management Group, Quincy Public Library, Quincy CA, April 13, 2005.

Presentations at UW

Loheide II SP, 2013. Ecohydrologic Research For Sustainability: Informing Decision Making. Weston Roundtable Seminar.

Loheide II SP, *Groundwater, soil moisture, and vegetation interactions in wet meadows of the Sierra Nevada*, University of Wisconsin Department of Atmospheric Sciences, 2010.

Loheide II SP, *Linkages between hydrology and ecology on floodplains*, Environmental Engineering Seminar, March 24, 2009.

Loheide II SP, *Hydrologic Fluctuations in Riparian Wetlands: Ecologic Implications*, Environmental Chemistry and Technology Seminar, 2009.

Loheide II SP, EG Booth EG, Ecohydrogeomorphology: Opportunities for Restoration and Science in the Driftless Area of WI, Presentation to Geological Engineering Club, 2010.

Loheide II SP, *Acknowledging and Quantifying Ecosystem Water Needs*. Agroecology Seminar Series (Peak Water: The Future of Food in a Thirsty World). November 4, 2007.

Loheide II SP, *Remote Sensing of Meadow Hydroecology*. UW-SIAC (Spatial Information & Analysis Consortium) Lunchtime Lecture. September 14, 2007

Loheide II SP, *Vegetation Patterning: Meadow Restoration in the Sierra Nevada*, Hydrogeology Seminar, Department of Geology and Geophysics. November, 27, 2006.

Loheide II SP, *Modeling the Distribution of Meadow Vegetation: Connections with Ground and Surface Waters*, Limnology and Marine Science Seminar, January 24, 2007.

Interviews

Booth EG and Loheide SP, Wisconsin Public Radio (Lake Effect): *Eco Restoration* interview by Mitch Teich. <http://hydroecology.cee.wisc.edu/EBP/outreach/index.htm>