

Kimberly Van Meter
Department of Geography
302 Walker Building
University Park, PA 16802
vanmeterk4@gmail.com
312-259-5637
@vanmeterKVM
www.vanmeterlab.weebly.com

RESEARCH

In my research, I explore the ways in which climate, land use and management practices impact water quality and ecosystem dynamics in anthropogenic landscapes. I am also interested in interactions and feedbacks between human and natural systems. In recent work, I have focused on the long-term impacts of intensive agricultural practices on water quality, and on the effects of wetlands on water quality. I develop parsimonious modeling frameworks to explore biogeochemical nutrient dynamics across a range of scales, to link watershed, lake, and reservoir systems, and to explore short- and long-term impacts of nutrients and other contaminants on water quality within both rural and urban landscapes.

APPOINTMENTS

2019-2021	Assistant Professor Department of Geography Pennsylvania State University
2019-2021	Assistant Professor Department of Earth and Environmental Sciences University of Illinois at Chicago
2017-2018	Postdoctoral Fellow/Research Associate Department of Earth and Environmental Sciences University of Waterloo, Waterloo, Ontario

EDUCATION

2017	Department of Earth and Environmental Sciences University of Waterloo, Waterloo, Ontario Doctor of Philosophy Advisor: Dr. Nandita Basu Thesis: The Nitrogen Legacy: Understanding Time lags in Catchment Response as a Function of Hydrologic and Biogeochemical Controls
2012	Department of Civil and Environmental Engineering (M.S.) University of Iowa, Iowa City, IA

- 1996 Department of Chemistry (M.S.)
University of Iowa, Iowa City, IA
- 1989 Department of English (B.A.)
University of Iowa; Iowa City, IA

PUBLICATIONS

Journal Articles (Published)

*** indicates a student or post-doctoral advisee author*

21. **Chang, S., Q. Zhang, D.K. Byrnes, N.B. Basu, **K.J. Van Meter**, “Chesapeake Legacies: The importance of legacy nitrogen to improving Chesapeake Bay water quality,” *Environmental Research Letters* (2021), doi 10.1088/1748-9326/ac0d7b, IF 6.19
20. Ascott, M.J., D.C. Goody, O. Fenton, S. Vero, R.S. Ward, N.B. Basu, F. Worrall, **K.J. Van Meter**, B.W.J. Surridge, “The need to integrate time lags and stores into policy and practice for management of legacy nitrogen,” *Science of the Total Environment* (2021) IF 6.55.
19. **Cheng, F.Y.***, **K.J. Van Meter***, D.K. Byrnes, N.B. Basu, “Maximizing US nitrate removal through wetland protection and restoration” *Nature* (2020), 58, doi 10.1038/s41586-020-03042-5. IF 42.78 *co-first authors
18. **Byrnes, D.K., **K.J. Van Meter**, N.B. Basu, “Long-Term Shifts in U.S. Nitrogen Sources and Sinks Revealed by the New TREND-Nitrogen Dataset (1930-2017)” *Global Biogeochemical Cycles* (2020), 34:9, doi 10.1029/2020GB006626. IF 3.88
17. Marinos, R., **K.J. Van Meter**, N.B. Basu, “Is the river a chemostat? Scale versus land use controls on nitrate concentration-discharge dynamics in the Upper Mississippi River Basin” *Geophysical Research Letters* (2020), IF 4.34
16. **Van Meter, K.J.**, S. Chowdhury, D.K. Byrnes, N.B. Basu “Biogeochemical asynchrony: Ecosystem drivers of concentration-discharge dynamics across temporal scales,” *Limnology & Oceanography* (2019), IF 2.37
15. Maavara, T., Q. Chen, **K.J. Van Meter**, L. Brown, J. Zhang, J. Ni, C. Zarfl, “River dam impacts on biogeochemical cycling,” *Nature Reviews Earth and Environment* (2020)
14. **Van Meter, K.J.**, P. Van Cappellen, N.B. Basu, (2019) “Response to comment on ‘Legacy nitrogen may prevent achievement of water quality goals in the Gulf of Mexico,’ *Science*, 23 Aug 2019, doi 10.1126/science.aav3851

13. Ilampooranan, I., **K.J. Van Meter**, and N.B. Basu. 2019. "A Race against Time: Modelling Time Lags in Watershed Response." *Water Resources Research*, March 2019. doi.org/10.1029/2018WR023815, IF 4.39
12. **Van Meter, K.J.**, P. Van Cappellen, N.B. Basu, "Legacy nitrogen may prevent achievement of water quality goals in the Gulf of Mexico," *Science*, 22 Mar 2018, doi 10.1126/science.aar4462, IF 37.2
11. Maavara, T., S. Slowinski, F. Rezanezhad, **K.J. Van Meter**, P. Van Cappellen, "The role of groundwater discharge fluxes in Si:P ratios in a major tributary to Lake Erie," *The Science of the Total Environment* 622. Elsevier: 814-24, doi 10.1016/j.scitotenv.2017.12.024, IF 4.9
10. **Van Meter, K.J.**, N.B. Basu, "Time Lags in Watershed-Scale Nutrient Transport: An Exploration of Dominant Controls," *Environmental Research Letters* (2017), doi 10.1088/1748-9326, IF 6.19
9. Vero, S.E., K.G. Richards, P. Mellander, **K.J. Van Meter**, N.B. Basu, M.G. Healy, O. Fenton, "The environmental status and implications of the nitrate time lag in Europe and North America," *Hydrogeology Journal*, doi 10.1007/s10040-017-1650-9, IF 1.7
8. Thorslund, J., J. Jarsjo, F. Jaramillo, J.W. Jawitz, S. Manzoni, N.B. Basu, S. Chalov, M. Cohen, I. Creed, R. Goldenberg, A. Hylin, Z. Kalantari, A. Koussis, S. Lyon, K. Mazi, J. Mard, K. Persson, J. Pietron, C. Prieto, A. Quin, **K.J. Van Meter**, "Wetlands as large-scale nature-based solutions: Status and challenges for research, engineering and management," *Ecological Engineering*, doi: 10.1016/j.ecoleng.2017.07.012, IF 3.5
7. **Van Meter, K.J.**, N.B. Basu, P. Van Cappellen, "Two Centuries of Nitrogen Dynamics: Legacy Sources and Sinks in the Mississippi and Susquehanna River Basins," *Global Biogeochemical Cycles* 31 (2017) 2016GB005498, IF 3.88
6. Bitterman, P., E. Tate, **K.J. Van Meter**, N.B. Basu, "Water Security and Rainwater Harvesting: A Conceptual Framework and Candidate Indicators," *Applied Geography* 76 (2016):75-84, IF 2.6
5. **Van Meter, K.J.**, N.B. Basu, J.J. Veenstra, C.L. Burras, "The Nitrogen Legacy: Emerging Evidence of Nitrogen Accumulation in Anthropogenic Landscapes," *Environmental Research Letters* 11 035014, doi: 10.1088/1748-9326/11/3/035014. **Included in ERL's Highlights of 2016 collection**, IF 6.19
4. **Van Meter, K.J.**, N.B. Basu, D. McLaughlin, M. Steiff, "The Socio-ecohydrology of Rainwater Harvesting in India: Understanding Water Storage and Release Dynamics at Tank and Catchment Scales," *HESS* 20.7 (2016): 2629, IF 4.4

3. **Van Meter, K.J.** & N.B. Basu, "Catchment Legacies and Time Lags: A Parsimonious Watershed Model to Predict the Effects of Legacy Storage on Nitrogen Export," *PLoS one* 10.5 (2015): e0125971, IF 2.8
2. **Van Meter, K.J.**, N.B. Basu, "Signatures of Human Impact: Size Distributions and Spatial Organization of Wetlands in the Prairie Pothole Landscape," *Ecological Applications* 25.2 (2015): 451-465, IF 4.3
1. **Van Meter, K.J.**, N.B. Basu, E. Tate, J. Wyckoff, "Monsoon Harvests: The Living Legacies of Rainwater Harvesting Systems in South India," *Environmental Science & Technology* 48.8 (2014): 4217-4225, IF 6.2

Journal Articles (Submitted)

** indicates a student or post-doctoral advisee author

- 2021 **Liu, J., **K.J. Van Meter**, M. MacLeod, N.B. Basu, "Checkered Landscapes: Nitrogen in the Grand River Watershed," *in revision, Environmental Research Letters (special Legacy issue)*
- 2021 N.B. Basu, **K.J. Van Meter**, R. Brouwer, D.K. Byrnes, M. Cunha, B. Jacobsen, J. Jarjo, N. Nelson, S. Boye Olsen, D.L. Rudolph, P. Van Cappellen, "Managing Nitrogen Legacies to Accelerate Water Quality Improvement," submitted, (submitted as an invited "Perspectives" Article), *Nature Geoscience, in revision*
- 2021 **Van Meter, K.J.**, M. McLeod, J. Liu, G.T. Tenkouano, R.I. Hall, P. Van Cappellen, N.B. Basu, "Beyond the mass balance: Watershed phosphorus legacies and the evolution of the current water quality policy challenge," submitted, *WRR, in review*
- 2021 **Samson, M., Grant, K.J. Van Meter, K.J., N.B. Basu, "Sustainable Urbanscapes: Rethinking Nitrogen and Phosphorus Fluxes across the Greater Toronto Area to Manage Nutrient Pollution," submitted, *WRR, in revision*
- 2021 **Van Staden, T.L., **K.J. Van Meter**, N.B. Basu, C.T. Parsons, Z.A Akbarzadeh, P. Van Cappellen, "Agricultural Phosphorus Surplus Trajectories for Ontario, Canada (1961-2016) and Erosional Export Risk," submitted, *AMBIO, in revision*

Journal Articles (In Prep)

- 2021 **Ceisel, E., J., **K.J. Van Meter**, "Road Salt Legacies: Quantifying Fluxes of Chloride to Groundwater and Surface Water across the Chicago MSA," in prep, will be submitted to *WRR*

2021 **Schultz, V., **K.J. Van Meter**, “Groundwater Legacies: Nitrate Accumulation Magnitudes across the Upper Mississippi river Basin,” in prep

Book Chapters

2016 Van Meter, K.J., S. Thompson, N.B. Basu, “Human Impacts on Stream Hydrology and Water Quality,” in *Stream Ecosystems in a Changing Environment*, eds. Emily Stanley & Jeremy B. Jones, Academic Press (2016).

2014 Basu, N.B., K.J. Van Meter, “Sustainability of Groundwater Resources,” *Reference Module in Earth Systems and Environmental Sciences*, from *Comprehensive Water Quality and Purification*, Volume 4, Pages 57-75

PRESENTATIONS

2021 Van Meter, K.J., F. Cheng, “Wetlandscapes: Land-Use Legacies and Water Quality Futures,” Howard T. Odum Center for Wetlands, University of Florida, January 2021 (**invited talk**)

2020 Van Meter, K.J., N.B. Basu, “Biogeochemical Asynchrony: Ecosystem drivers of concentration-discharge dynamics across temporal scales,” AGU Fall Meeting, December 2020, online (**invited talk**)

2020 Van Meter, K.J., N.B. Basu, “Chesapeake Legacies: The importance of legacy nitrogen to improving Chesapeake Bay water quality,” AGU Fall Meeting, December 2020, online (**invited talk**)

2020 Van Meter, K.J., “Legacy Nutrients and Water Quality Goals for the Gulf of Mexico,” Illinois Water Environment Association Nutrient Workshop, October 2020 (**invited talk**)

2020 Byrnes, D.K., K.J. Van Meter, N.B. Basu, “Long-Term Shifts in U.S. Nitrogen Sources and Sinks Revealed by the New TREND-Nitrogen Dataset,” Department of Biological and Agricultural Engineering, October 2020

2020 Van Meter, K.J., “Signatures of human impact: legacies, land use, and long-term trajectories,” Michigan State University, Department of Earth and Environmental Sciences, March 2020 (**invited talk- postponed due to pandemic**)

2020 Van Meter, K.J., “Signatures of human impact: legacies, land use, and long-term trajectories,” Indiana University, Paul H. O’Neill School of Public and Environmental Affairs, February 2020 (**invited talk**)

- 2020 Van Meter, K.J., “Signatures of human impact: legacies, land use, and long-term trajectories,” University of Illinois at Urbana-Champaign, Department of Civil & Environmental Engineering, February 2020 (**invited talk**)
- 2020 Van Meter, K.J., “Signatures of human impact: legacies, land use, and long-term trajectories,” Northwestern University, Department of Civil & Environmental Engineering, January 2020 (**invited talk**)
- 2019 Van Meter, K.J., J. Liu, M. McLeod, P. Van Cappellen, N.B. Basu “Beyond the mass balance: Watershed phosphorus legacies and the evolution of the current water quality policy challenge,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Chang, S., D.K. Byrnes, K.J. Van Meter, “Water Futures: Legacy nitrogen and Chesapeake Bay water quality,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Cheng, F.Y., K.J. Van Meter, D.K. Byrnes, N.B. Basu, “Missed opportunities: Decoupling of wetlands from nutrient source areas limits denitrification potential across the United States,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Bhattacharya, R., D.K. Byrnes, K.J. Van Meter, N.B. Basu, “Watershed nutrient legacies and hydrological extremes as drivers of lake water quality trends,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Dony, J., N.B. Basu, K.J. Van Meter, “A random forest in the Great Lakes: Exploring nutrient water quality signatures in the Laurentian Great Lakes Watersheds,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Attinger, S., M. Shafii, P. Van Cappellen, R. Kumar, N. B. Basu, K.J. Van Meter, “A proposed roadmap for upscaling approaches in biogeochemistry: Insights from conceptual carbon modeling to estimate soil respiration at regional scales,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Basu, N.B., K.J. Van Meter, “Signatures of human impact: Legacies, climate change, and the future of our waters” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA
- 2019 Basu, N.B., Werenka, A. K.J. Van Meter, B. Tolson, “Recoupling the livestock nutrient economy across the continental U.S.,” American Geophysical Union 2019 Fall Meeting, San Francisco, CA, USA

- 2019 Van Meter, K.J., "Signatures of human impact: legacies, land use, and long-term trajectories," Marquette University, Department of Civil & Environmental Engineering, November 2019 (**invited talk**)
- 2019 Van Meter, K.J., "Signatures of human impact: legacies, land use, and long-term trajectories," Water, Energy, Food Nexus Seminar, Kohn Colloquium, University of Iowa, September 2019 (**invited talk**)
- 2019 Van Meter, K.J., M.McCleod, J. Liu, N.B. Basu, "Beyond the Mass Balance: A Process Based Approach to Modeling Legacy Phosphorus Dynamics," Ecological Society of America 2019 Fall Meeting, Louisville, Kentucky, August 2019
- 2019 Van Meter, K.J., "Back to the Future: How Past Land Use Impacts Future Water Quality," CUAHSI-AGU H3S Cyberseminar Series, Early career scientists conquer new frontiers: an H3S conversation, April 2019 (**invited talk**)
- 2019 Van Meter, K.J., "Back to the Future: How Past Land Use Impacts Future Water Quality," University of Illinois at Chicago E+W Research Mixer, Chicago, IL, March 2019 (**invited talk**)
- 2019 Van Meter, K.J., "Back to the Future: How Past Land Use Impacts Future Water Quality" Notre Dame Environmental Change Institute, South Bend, Indiana, March 2019 (**invited talk**)
- 2019 Van Meter, K.J., P. Van Cappellen, N.B. Basu, "Reservoir Phosphorus Legacies: Reconstructing Long-Term Nutrient Dynamics Using Multi-Proxy Paleolimnological Analyses," Association for the Sciences of Limnology and Oceanography, 2019 Fall Meeting, San Juan, Puerto Rico (oral presentation)
- 2019 D.K. Byrnes, K.J. Van Meter, N.B. Basu, "Typologies of Nitrogen Surplus Across the US: Shifting Hotspots and Dominant Controls". 2019 Canadian Geophysical Union Eastern Student Conference, Toronto, ON (poster)
- 2019 McCleod, M., K.J. Van Meter, J. Liu, N.B. Basu, "Modelling Phosphorus in Watersheds Affecting Lake Erie," World Water Day 2019, University of Waterloo, Waterloo, Ontario (poster, **Winner of Best Undergraduate Poster Award**)
- 2018 Van Meter, K.J., S. Chowdhury, D.K. Byrnes, N.B. Basu, "Biogeochemical Asynchrony: Ecosystem Drivers of Seasonal Concentration Regimes across the Great Lakes Basin," American Geophysical Union 2018 Fall Meeting, Washington, DC, USA (**invited talk**)
- 2018 Basu, N.B., K.J. Van Meter "Changing Waters: Role of Climate-Driven Changes in Discharge Regimes in Increasing Eutrophication Risk in the

Great Lakes Basin,” American Geophysical Union 2018 Fall Meeting, Washington, DC, USA

- 2018 Werenka, A., K.J. Van Meter, B. Tolson, N.B. Basu, “Recoupling the livestock nutrient economy: A path forward for water quality improvement,” American Geophysical Union 2018 Fall Meeting, Washington, DC, USA (poster)
- 2018 Van Staden, T., K.J. Van Meter, P. Van Cappellen, N.B. Basu, “Targeting Phosphorus Legacies in the Laurentian Great Lakes Watershed,” American Geophysical Union 2018 Fall Meeting, Washington, DC, USA (poster)
- 2018 Van Meter, K.J., N.B. Basu, Q. Zhang “Chesapeake Legacies: Implications of Groundwater N Accumulation for Water Quality Improvements in the Chesapeake Bay,” American Geophysical Union 2018 Fall Meeting, Washington, DC, USA (**invited talk**)
- 2018 Byrnes, D.K., K.J. Van Meter, N.B. Basu, “Back to the Future: Impact of Current Versus Historical Land Use on Water Quality Trends Across the Contiguous US,” American Geophysical Union 2018 Fall Meeting, Washington, DC, USA (oral presentation)
- 2018 Basu, N.B., K.J. Van Meter, P. Van Cappellen, “Beyond the Mass Balance: Modeling Legacy Phosphorus Dynamics in a Great Lakes Watershed,” American Geophysical Union 2018 Fall Meeting, Washington, DC, USA
- 2018 Van Meter, K.J., P. Van Cappellen, N.B. Basu, “Landscape Legacies: Long-Term Nitrogen Trajectories in the Chesapeake Bay and Beyond,” 2018 Chesapeake Community Research and Modeling Symposium, Annapolis, MD (**Invited Talk**)
- 2018 Werenka, A., K.J. Van Meter, B. Tolson, N.B. Basu, “Too Much Phosphorous: Is Investment in Biogas Plants a Viable Alternative for Water Quality Improvement?” 2018 Joint Meeting of the Canadian Geophysical Union and Canadian Soil Science Society, Niagara Falls, ON (oral presentation)
- 2018 Byrnes, D.K., K.J. Van Meter, S. Chowdhury, N.B. Basu, “Biogeochemical Asynchrony: Anthropogenic and landscape controls on nutrient seasonality in the Great Lakes and beyond,” 2018 Joint Meeting of the Canadian Geophysical Union and Canadian Soil Science Society, Niagara Falls, ON (oral presentation)
- 2018 Samson, Melani-Ivy, K.J. Van Meter, N.B. Basu, “Urban Metabolism of the Greater Toronto Area: A Study of Nitrogen and Phosphorus Across an Urban, Suburban, Rural Continuum,” 2018 Joint Meeting of the Canadian

- Geophysical Union and Canadian Soil Science Society, Niagara Falls, ON (oral presentation)
- 2018 Van Meter, K.J., S. Chowdhury, D.K. Byrnes, N.B. Basu, "Biogeochemical Asynchrony: Ecosystem Drivers of Seasonal Concentration Dynamics, Global Water Futures 2018 Annual Science Meeting, Hamilton, ON (oral presentation, **Winner of Best Postdoctoral Presentation Award**)
- 2018 Samson, Melani-Ivy, K.J. Van Meter, N.B. Basu, "Urban Metabolism of the Greater Toronto Area: A Study of Nitrogen and Phosphorus Across an Urban, Suburban, Rural Continuum," Global Water Futures 2018 Annual Science Meeting, Hamilton, ON (poster)
- 2018 Liu, Joy, K.J. Van Meter, N.B. Basu, "Past, Present, and Future: Quantification of Long-Term Phosphorus Legacies in the Grand River Watershed," Global Water Futures 2018 Annual Science Meeting, Hamilton, ON (poster)
- 2018 Van Staden, T., K.J. Van Meter, P. Van Cappellen, N.B. Basu, "Targeting Phosphorus Legacies in the Great Lakes Watersheds," Global Water Futures 2018 Annual Science Meeting, Hamilton, ON (poster)
- 2018 Van Meter, K.J., S. Chowdhury, D.K. Byrnes, N.B. Basu, "Biogeochemical Asynchrony: Ecosystem Drivers of Concentration-Discharge Dynamics Across Temporal Scales, Society for Freshwater Science 2018 Annual Meeting, Detroit, MI (oral presentation)
- 2018 Basu, N.B., K.J. Van Meter, "Yesterday is history, tomorrow is a mystery: Quantification of long-term nutrient legacies in human-impacted watersheds," Society for Freshwater Science 2018 Annual Meeting, Detroit, MI (oral presentation)
- 2018 Byrnes, D.K., K.J. Van Meter, N.B. Basu, "Time's up! The Tale of Nitrogen Time Lags in Canada and US," World Wetlands Day, February 2018, Waterloo, ON (poster)
- 2017 Van Meter, K.J., N.B. Basu, P. Van Cappellen, "Legacies of Human Impact: Long-Term Nitrogen Dynamics, from the Mississippi to the Mekong," American Geophysical Union 2016 Fall Meeting, San Francisco, USA (**Invited Talk**)
- 2017 Van Meter, K.J., N.B. Basu, P. Van Cappellen, "Changing Waters: Are climate-driven changes in discharge regimes increasing eutrophication risk in the Great Lakes Basin?" American Geophysical Union 2018 Fall Meeting, San Francisco, USA (oral presentation)
- 2017 Attinger, S., K.J. Van Meter, N.B. Basu, "Legacy nutrient dynamics and patterns of catchment response under changing land use and management," American Geophysical Union 2017 Fall Meeting, San

Francisco, USA (poster)

- 2017 Byrnes, D., K.J. Van Meter, N.B. Basu, "Nutrient Legacies and time lags in Eastern U.S. and Southern Ontario," American Geophysical Union 2017 Virtual Poster Showcase (poster)
- 2017 Werenka, A., K.J. Van Meter, N.B. Basu, "Mitigating Phosphorus Runoff from Excess Manure Application," American Geophysical Union 2017 Virtual Poster Showcase (poster)
- 2017 Van Meter, K.J., N.B. Basu, P. Van Cappellen, "Food, Fodder, and Phosphorus: A Quantification of Long-Term Nutrient Legacies in Human-Impacted Watersheds," Helmholtz-Centre for Environmental Research, UfZ, August 2017, Leipzig, Germany (**Invited Talk**)
- 2017 Van Meter, K.J., N.B. Basu, P. Van Cappellen, "Food, Fodder, and Phosphorus: A Quantification of Long-Term Nutrient Legacies in Human-Impacted Watersheds," Goldschmidt 2017, Paris, France (oral presentation)
- 2017 Van Meter, K.J., N.B. Basu, "Changing waters: Are climate-driven changes in discharge regimes increasing eutrophication risk in the Great Lakes Basin?" IAGLR 2017 Annual Conference on Great Lakes Research, Detroit, Michigan (oral presentation)
- 2017 Cheng, F.C., K.J. Van Meter, N.B. Basu, "Biogeochemical hot spots: The role of small water bodies in landscape nutrient processing," IAGLR 2017 Annual Conference on Great Lakes Research, Detroit, Michigan (oral presentation)
- 2017 Cheng, Frederick, K.J. Van Meter, N.B. Basu, "Size matters! Small wetlands as biogeochemical hotspots in landscape nutrient cycles," Canadian Geophysical Union 2017 Student Conference, University of Guelph, Guelph, Ontario (oral presentation)
- 2017 Werenka, Alex, K.J. Van Meter, N.B. Basu, "Concentration-Discharge Relationships in Intensively Managed Watersheds" Canadian Geophysical Union 2017 Student Conference, University of Guelph, Guelph, Ontario (oral presentation)
- 2017 Cheng, Frederick, K.J. Van Meter, N.B. Basu, "Size matters! Small wetlands as biogeochemical hotspots in landscape nutrient cycles" 2017 World Wetlands Day Symposium, University of Waterloo, Waterloo, Ontario
- 2016 Van Meter, K.J., N.B. Basu, Spatio-Temporal Controls on Concentration-Discharge Relationships in Intensively Managed Catchments: An Exploration of High-Resolution Nitrate Data from the U.S. Midwest, American Geophysical Union 2016 Fall Meeting, San Francisco, USA

- 2016 Van Meter, K.J., N.B. Basu, P. Van Cappellen, Exploring Nitrogen Legacies and Time Lags: A 200-Year Longitudinal Study of the Mississippi and Susquehanna Watersheds, American Geophysical Union 2016 Fall Meeting, San Francisco, USA (***Invited Talk***)
- 2016 Van Meter, K.J. Legacies and Time Lags: Development of a parsimonious modeling framework to explore long-term nutrient trajectories, 2016 University of Bordeaux/LabEx COTE/University of Waterloo Water Institute Joint Workshop on Water Research, Bordeaux, France
- 2016 Basu, N.B., K.J. Van Meter, F. Cheng, Down Under: The Critical Role of the Subsurface in Controlling Surface Water Pollution, Farvolden Day 2016, University of Waterloo, Waterloo, Ontario
- 2016 Van Meter, K.J., N.B. Basu, P. Van Cappellen, Exploring Nitrogen Legacies and Time Lags: A 200-Year Longitudinal Study of the Mississippi and Susquehanna Watersheds, Goldschmidt 2016, Yokohama, Japan (***Invited Talk***)
- 2016 Van Meter, K.J., N.B. Basu, Confounding Complexity or Emergent Simplicity: Biogeochemical Regimes in Anthropogenic Watersheds, IAGLR 2016 Annual Conference on Great Lakes Research, Ontario, Canada
- 2016 Basu, N.B., K. Van Meter, Long-Term Effects of Anthropogenic Nutrient Inputs on Nutrient Fluxes: A Statistical Approach to Quantifying Watershed Lag Times, IAGLR 2016 Annual Conference on Great Lakes Research, Ontario, Canada
- 2016 Schiff, S., M. Shafii, M., K.J. Van Meter, N.B. Basu, R. Elgood, A. Dove, M. Anderson, M. English, H. Durr, D. Rudolph, D. O'Connell, W. Taylor, Do Catchment Hotspots Control Phosphorus and Nitrogen Export to Lake Erie During an Extreme Snowmelt Event? IAGLR 2016 Annual Conference on Great Lakes Research, Ontario, Canada
- 2016 Van Meter, K.J., N.B. Basu, P. Van Cappellen, Exploring Nitrogen Legacies and Time Lags: A 200-Year Longitudinal Study of the Mississippi and Susquehanna Watersheds, Canadian Geophysical Union Joint Annual Meeting with CMOS, New Brunswick, Canada (***Invited Talk***)
- 2016 Van Meter, K.J., N.B. Basu, Biogeochemical Regimes in Intensively Managed Watersheds: Confounding Complexity or Emergent Simplicity? Canadian Geophysical Union 2016 Student Conference, Eastern Section, Hydrology and Biogeosciences, Waterloo, ON (oral presentation)
- 2015 Van Meter, K.J., N.B. Basu, P. Van Cappellen, Exploring Nitrogen Legacies and Time Lags: A 150-year Longitudinal Study of the

- Susquehanna and Mississippi River Basins. American Geophysical Union 2015 Fall Meeting, San Francisco, USA (poster)
- 2015 Basu, N.B., K.J. Van Meter, Biogeochemical Regimes in Intensively Managed Catchments: Confounding Complexity or Emerging Simplicity? American Geophysical Union 2015 Fall Meeting, San Francisco, USA
- 2015 Basu, N.B., K.J. Van Meter, D. McLaughlin, Rainwater Harvesting in South India: Understanding Water Storage and Release Dynamics at Tank and Catchment Scales. American Geophysical Union 2015 Fall Meeting, San Francisco, USA (oral presentation)
- 2014 Van Meter, K.J., N.B. Basu, Nutrient Legacies and Time Lags: Understanding Catchment Biogeochemical Responses in Anthropogenic Landscapes. American Geophysical Union 2014 Fall Meeting, San Francisco, USA (poster)
- 2014 Basu, N.B., K.J. Van Meter, K.J., N.B. Basu, Signatures of Human Impact: Size Distributions and Spatial Organization of Wetlands in the Prairie Pothole Landscape. American Geophysical Union 2014 Fall Meeting, San Francisco, USA (poster)
- 2014 Van Meter, K.J., N.B. Basu, People, Water, Climate: Exploring Spatiotemporal Trajectories of Sustainability in Semi-Arid South India. Workshop on Water-related Impacts of Climate Change Workshop, Waterloo, Canada (oral presentation)
- 2014 Van Meter, K.J., N.B. Basu, Landscape Nutrient Legacies and Time Lags: A Conceptual Framework. IAGLR's 2014 Conference on Great Lakes Research, Hamilton, Canada (oral presentation)
- 2014 Van Meter, K.J., N.B. Basu, Signatures of Human Impact: Size Distributions and Spatial Organization of Wetlands in a Prairie Pothole Landscape. Water Institute 2014 Research Symposium, University of Waterloo, Waterloo, Canada (**Invited Talk**)
- 2014 Basu, N.B., K.J. Van Meter, Nutrient Legacies in Anthropogenic Landscapes: Understanding Time lags in Catchment Response as a Function of Hydrologic and Biogeochemical Controls. Water Institute 2014 Research Symposium, University of Waterloo, Waterloo, Canada.
- 2013 Basu, N.B., K.J. Van Meter, K. Stunkel, Size Distribution of Geographically Isolated Wetlands: Geomorphic vs Anthropogenic Controls. Society of Wetland Scientists Annual Meeting, Duluth, USA
- 2013 Van Meter, K.J., M. Steiff, N.B. Basu, Assessing the Impact of Rainwater Harvesting Ponds on Subsistence-Level Agriculture in the Gundar Basin, Tamil Nadu, India. American Geophysical Union 2013 Fall Meeting, San Francisco, California (oral presentation)

- 2013 Van Meter, K.J., N.B. Basu, The Nitrogen Legacy: Understanding Time lags in Catchment Response as a Function of Hydrologic and Biogeochemical Controls. American Geophysical Union 2013 Fall Meeting, San Francisco, USA (oral presentation)
- 2013 Basu, N.B., K.J. Van Meter, K. Stunkel, Anthropogenic Landscape Homogenization: Size-distribution of Wetlands in Midwestern Prairie Landscapes. American Geophysical Union 2013 Fall Meeting, San Francisco, USA
- 2012 Van Meter, K.J., N.B. Basu, Down Under: Organic Nitrogen Accumulations in Agricultural Landscapes. American Geophysical Union 2012 Fall Meeting, San Francisco, USA (poster)
- 2012 Van Meter, K.J., N.B. Basu, E. Tate, Salty or Sweet: Exploring the Challenges of Groundwater Salinization Within a Sustainability Framework. American Geophysical Union 2012 Fall Meeting, San Francisco, USA (poster).
- 2012 Van Meter, K.J., N.B. Basu, Groundwater salinization within a sustainability framework in Haryana. 2012 Midwest Student Conference on Sustainable Development in India, India Development Service, Chicago, USA (oral presentation)

WORKSHOPS

- 2019 Diversity, Equity, and Inclusion in the Earth and Environmental Sciences: Supporting the Success of All Students, InTeGrate Interdisciplinary Teaching about Earth for a Sustainable Future, University of Illinois at Chicago, April 2019, Chicago, IL
- 2019 SESYNC Data to Motivate Synthesis (DTMS) Workshop, National Socio-Environmental Synthesis Center, February 2019, Annapolis, MD
- 2018 Watershed Science Collaboration Workshop, Berkeley Lab/Department of Energy, Crested Butte, CO
- 2018 “Advancing the Analysis of High Resolution Topography,” NSF-funded EarthCube Research Coordination Network Workshop, August 2018, Broomfield, CO
- 2016 University of Bordeaux/LabEx COTE/University of Waterloo Water Institute Joint Workshop on Water Research, October 2016, Bordeaux, France
- 2016 “Linking watershed biogeochemistry and coastal ecology: Challenges for modeling and environmental policy,” Ecohydrology Research Symposium, July 2016, Waterloo, Ontario

- 2015 Global Wetland Ecohydrology Network Perspective Workshop on Wetland-Hydrological Interactions, Navarino Environmental Observatory, Costa Navarino, Peloponnesos, Greece
- 2014 International Institute for Sustainable Development/University of Waterloo Joint Workshop on the Future of the Experimental Lakes Area (ELA), July 2014, Waterloo, Ontario

HONORS & AWARDS

- 2018 Best Postdoctoral Oral Presentation, 2018 Global Water Futures Annual Meeting, Hamilton, Ontario
- 2018 Best Graduate Student in Hydrology Poster Award (Danyka Byrnes), World Water Day 2018, University of Waterloo, Waterloo, Ontario
- 2017 **W.B. Pearson Medal, in recognition of creative research in science, as presented in the PhD dissertation**, University of Waterloo, Waterloo, ON
- 2017 Best Graduate Student in Hydrology Poster Award (Frederick Cheng), 2017 Canadian Geophysical Union Student Conference, University of Guelph, Guelph, Ontario, Canada
- 2017 **Winner of the *Environmental Research Letters* “Best Early Career Article of 2016” award for “The Nitrogen Legacy: Emerging Evidence of Nitrogen Accumulation in Anthropogenic Landscapes”**
- 2015 Best Graduate Student in Hydrology Poster Award, World Water Day, Wilfrid Laurier University, Waterloo, Ontario, Canada
- 2014 Best Graduate Student Oral Presentation, Workshop on Water-Related Impacts of Climate Change, Balsillie School of International Affairs, University of Waterloo Interdisciplinary Centre on Climate Change, Waterloo, Ontario, Canada
- 2014 Best Student Poster Award, World Wetlands Day Symposium, University of Waterloo, Waterloo, Ontario, Canada
- 2013 Best Graduate Student in Hydrology Poster Award, World Water Day, Wilfrid Laurier University, Waterloo, Ontario, Canada
- 2013-2016 International Doctoral Student Award, University of Waterloo, Canada
- 2013 Provost Doctoral Entrance Award for Women, University of Waterloo, Canada

- 2012 Conference Travel Award, Center for Global and Regional Environmental Research, Iowa City, USA
- 2012 IDS Scholar Award, Best Doctoral Student Oral Presentation, “Groundwater salinization within a sustainability framework in Haryana,” Midwest Student Conference on Sustainable Development in India, India Development Service, Northwestern University, Chicago, USA

POLICY ENGAGEMENT

- 2018 Invitation to speak to and advise the Gulf of Mexico Hypoxia Task Force on issues and policy options for management of legacy nitrogen within the Mississippi River Basin.
- 2016 Selected to be member of expert panel convened by the Environmental Defense Fund in Washington D.C. to address opportunities to improve sustainability in the food supply chain, specifically in reducing nitrogen losses from crop production. The panel was assembled to assess the utility of using nitrogen surplus values as a scalable indicator of N losses to the environment as a means of leveraging action from the farm to the regional scale to increase N efficiency.

FUNDING

Funded Projects

Project Title: “Wetland Legacies: Using remotely sensed data to quantify the landscape-scale effects of drained agricultural wetlands on water quality and N₂O emissions”

Role: PI

Funding Source: NASA (New Investigator Program in Earth Science)

Amount: \$374,274

Project Title: “Quantifying Impacts of Green Infrastructure on Transport of Road Salt to Groundwater and Surface Water: Tradeoffs and Challenges”

Role: PI

Funding Source: Illinois-Indiana Sea Grant

Amount: \$180,000

Project Title: “Student Developed Online Community for Effective Communication and Networking in the Earth and Environmental Sciences”

Role: Co-PI

Funding Source: LAS Diversity Initiative Award Program, University of Illinois at Chicago

Amount: \$1,600

Project Title: “Legacies of Agricultural Pollutants (LEAP)”

Role: Co-Writer of Grant, Postdoctoral Fellow on Project

Funding Source: Joint Programming Initiative ‘Water Challenges for a Changing World’ (Water JPI) launched by Council of the European Union

Amount: €1.6 million

Project Title: “Lake Futures”

Role: Co-Writer of Grant, Research Associate on Project

Funding Source: Funded through ‘Global Water Futures: Solutions to Water Threats in an Era of Global Change,’ a research program led by University of Saskatchewan and funded in part by the Canada First Research Excellence Fund

Amount: \$1.5 million

Project Title: “Monsoon Harvests: Assessing the Impact of Distributed Storage Tanks on the Vulnerability of Subsistence-Level Agriculture in Tamil Nadu, India”

Role: Co-Writer of Grant, Mentor to Graduate Student Hired on Project

Funding Source & Amount: NSF (\$249,919)

Proposals Pending Review

Project Title: “Targeted Conservation: A coupled hydro-economic modeling approach to maximizing water availability across the Mississippi River Basin”

Role: co-PI

Funding Source: USDA

Amount (Van Meter): \$216,654

Project Title: “MIM: Unraveling microbial community assembly at immigration interfaces between the natural and built environment”

Role: co-PI

Funding Source: NSF

Amount (Van Meter): \$498,562

Project Title: “CoPE: Fostering Resilient Coastal Communities in the Great Lakes Region through Citizen Science, Community Engagement, and Collaborative Interdisciplinary Research”

Role: co-PI

Funding Source: NSF

Amount (Van Meter): \$269,425

TEACHING

2021 Instructor
EAES 475, Hydrology
University of Illinois at Chicago

2020 Instructor
EAES 290, Science Writing and Communication
University of Illinois at Chicago

- 2020 Instructor
EAES 475, Hydrology
University of Illinois at Chicago
- 2019 Instructor
EAES 578, Ecohydrology
University of Illinois at Chicago
- 2018 Guest Lecturer
Earth 491, Ecohydrology
University of Waterloo
- 2017 Instructor
Earth 651, Watershed Biogeochemistry: Human Impacts vs
Natural Controls
University of Waterloo
- 2015 Teaching Assistant
Earth 359, Flow Through Porous Media
University of Waterloo
- 2015 Guest Lecturer
Earth 692, Ecohydrological Modeling
University of Waterloo
- 2014 Guest Lecturer
Civil & Environmental Engineering 240, Engineering and Sustainable
Development

REVIEWS

Served as reviewer for *Nature* (January 2021), *Ecological Applications* (January 2021), *Water Resources Research* (March 2016; October 2016; November 2016; March 2018, November 2019); *Hydrologic Processes* (September 2016; January 2017; February 2017; July 2017); *Hydrology and Earth System Sciences* (November 2015, March 2018); *Agriculture, Ecosystems and Environment* (March 2016); *Journal of Hydrology* (January 2016, March 2017, July 2017, January 2018), *Wetlands* (July 2017), *Biogeosciences* (September 2017, December 2017), *Biogeosciences* (April 2018), *Water Resources Research* (May 2018), *Environmental Research Letters*, (June 2018), *Biogeochemistry* (July 2018).

STUDENT SUPERVISION

Victor Schultz, Ph.D. Student, Nutrient Dynamics in Human-Impacted Landscapes, Fall 2019-present

Erich Ceisel, M.S. Student, Quantifying Water Quality and Ecosystem Impacts of Green Infrastructure on Groundwater and Surface Water Chloride, Fall 2019-present

Allison Schultz, Undergraduate Research Assistant, Exploring U.S.-Scale Relationships between Changing Precipitation Patterns and Flood Risk, Fall 2019-present

Benoit Dessirier, Postdoctoral Fellow (visiting), Legacies of Agricultural Pollutants in Sweden's Norrstrom Catchment, Winter 2019

Shuyu Chang, Ph.D. Student, Modeling Nutrient Legacies in Human-Impacted Landscapes, Winter 2019-present

Kelsey Foss, Undergraduate Research Assistant, Impacts of Green Infrastructure Development on Transport of Road Salt to Groundwater and Surface Water: Tradeoffs and Challenges in the Chicago MSA, Winter 2019-present

Meghan McCleod, Undergraduate Co-Op Student, Long-Term Phosphorus Dynamics in Great Lakes Watersheds, Fall 2019-present

Danyka Byrnes, Masters of Science Student, Quantifying Nitrate Time Lags Under Changing Management Regimes across the US Eastern Seaboard, Fall 2017-present

Joy Liu, Masters of Science Student, Modeling Long-Term Nutrient Legacies in the Grand River Watershed, Fall 2017-present

Alex Werenka, Masters of Science Student, Optimization of Manure Biogas Locations across the U.S. and Canada, Spring 2017-present

Charlotte Mei, Undergraduate Research Assistant, Modeling Urban Nutrient Dynamics in the Greater Toronto Area, Spring 2018

Tori Groetjen, Undergraduate Co-op student, Reservoir Phosphorus Dynamics: Watershed Drivers and Management Controls, Spring 2018-Fall 2018

Nicole Khun, Undergraduate Co-op student, Global Nitrogen Legacies: Spatial Patterns and Long-Term Trajectories, Spring 2018-Fall 2018

Linea Miller, Undergraduate Co-op student, Biogeochemical asynchrony: Ecosystem drivers of concentration-discharge dynamics across temporal scales, Winter 2018

Chloe Nevin, Undergraduate Co-op student, Legacies of Human Impact: Long-Term Nutrient Dynamics, from the Mississippi to the Mekong, Winter 2018

Samreet Singh Kang, Senior Thesis Student (Earth and Environmental Sciences), Spatial and Temporal Trends in U.S. Groundwater Nitrate, Fall 2017-present

Guy Thierry Tenkouano, Research Assistant, Reservoir Nutrient Dynamics under Changing Climate and Management Controls, Fall 2017-present

Sara Dechant, Undergraduate Co-op Student, German Groundwater Nitrate Legacies, Fall 2017

William Sellier, Research Assistant, Spatial Identification of Biogeochemical Functional Zones in Ontario Great Lakes Watersheds, Spring 2016

Cody Wheeler, Senior Thesis Student (Earth and Environmental Sciences), Canadian Trends in Water Quality, Fall 2016

Melani Samson, Masters of Science Student, The Coupling and Decoupling of Biogeochemical Cycles in an Urban System: A Case Study of the Greater Toronto Area, Fall 2016-present

Alex Werenka, Undergraduate Co-Op Student and Undergraduate Research Assistant, An Analysis of Concentration-Discharge Relationships under Intensive Agriculture using High-Resolution Nitrate Data, Summer 2016-January 2017

David Hah, Undergraduate Co-op Student, The Global Nitrogen Legacy: Spatial and Temporal Variations in Soil Nitrogen Dynamics, Winter 2016

Elyse Dickson, Undergraduate Co-op Student, Exploration of Soil Organic Nitrogen Trajectories using the CENTURY Model, Fall 2015

Danyka Byrnes, Undergraduate Research Assistant, Spatially Varying Controls on Soil Organic Nitrogen Storage in Soil-Landscape Systems, Fall 2015

Alwish Ranjith, Mitacs Student, Exploration of Soil Organic Nitrogen Trajectories using the CENTURY Model, Spring 2015

John Ryue, Undergraduate Co-op Student, Long-Term Analysis of Nitrogen Dynamics in the Mississippi and Susquehanna River Basins, Summer 2015

Taha Jibril, Undergraduate Co-op Student, Undergraduate Research Assistant, The Global Nitrogen Legacy: Spatial and Temporal Variations in Soil Nitrogen Dynamics, Winter 2015/Spring 2015

Garima Lakhanpal, Mitacs Student, Estimating Stream Nutrient Loads in the Grand River Watershed, Winter/Spring 2014

Frederick Cheng, Undergraduate Co-op Student and Undergraduate Research Assistant, Temporal Dynamics in Soil Organic Nitrogen Levels in the Mississippi River Basin, Spring 2015

Helena Diao, Undergraduate Research Assistant, Developing Passive Flux Meters for Phosphorus Loads, Winter 2014

Xiaoyi Zhang, Undergraduate Thesis student, Net Anthropogenic Nitrogen Inputs in the Iowa-Cedar Watershed, Fall 2013/Winter 2014

SERVICE

Proposal Evaluation

- 2021 NSF Proposal Review, February 2021
- 2019 Peer Review Panelist, U.S. Department of Energy (DOE) Subsurface Biogeochemical Research program, May 2019
- 2019 NSF Proposal Review, April 2019

Editorial Board

- 2020-2021 Guest Editor, *Environmental Research Letters*, Special Focus Issue, "Legacy Effects of Land use and Management on Water Quality and Ecosystem Function
- 2018-present Editorial Board Member, *Environmental Research Communications*

Session Coordination

- 2020 Session Coordinator, American Geophysical Union 2020 Annual Meeting, Washington D.C., USA
- 2019 Session Coordinator, American Geophysical Union 2019 Annual Meeting, Washington D.C., USA
- 2018 Session Coordinator, American Geophysical Union 2018 Annual Meeting, Washington D.C., USA
- 2017 Session Coordinator, American Geophysical Union 2017 Annual Meeting, New Orleans, USA
- 2017 Session Coordinator, Goldschmidt 2017 Annual Meeting, Paris, France
- 2017 Session Coordinator, IAGLR 2017 Annual Conference on Great Lakes Research, Detroit, Michigan

Committee/Service Work

- 2020-2021 University Diversity Council, UIC College of Liberal Arts and Sciences
- 2020-2021 Hiring/Search Committee, Department of Earth and Environmental Sciences, University of Illinois at Chicago
- 2019-2020 Hiring/Search Committee, Department of Earth and Environmental Sciences, University of Illinois at Chicago
- 2019-2021 Departmental Advisory Committee, Department of Earth and Environmental Sciences, University of Illinois at Chicago
- 2016 World Wetland Day 2017 Planning Committee, Communications and Outreach, Ecohydrology Group, University of Waterloo

SELECTED INTERVIEWS AND MEDIA MENTIONS

- Gizmodo, How Historic Flooding in the Midwest Could Fuel the Gulf of Mexico 'Dead Zone,' <https://tinyurl.com/y22pod5a> (press interview)

Van Meter, K.J., Van Cappellen, Basu N.B., (2018) Legacy nitrogen may prevent achievement of water quality goals in the Gulf of Mexico, Science

- *New York Times*, "Study: 'Legacy' nitrogen also feeds Gulf of Mexico dead zone," <https://goo.gl/r4eJdH>
- *Chicago Tribune*, "Study: 'Legacy' nitrogen also feeds Gulf of Mexico dead zone," <https://goo.gl/cLRWEA>

- *ABC News*, “Gulf of Mexico ‘dead zone’ will persist for decades,” <http://goo.gl/1NUeD3>
- *Boston Herald*, “Study: ‘Legacy’ nitrogen also feeds Gulf of Mexico dead zone,” <https://goo.gl/a6pvKA>
- *The Guardian*, “‘Dead zone’ in Gulf of Mexico will take decades to recover from farm pollution,” <https://goo.gl/CGoCnX>
- *American Association for the Advancement of Science*, “Marine Dead Zones in Gulf of Mexico are Expected to Last Decades,” <http://goo.gl/CMxJdF>
- *PhysOrg*, “Gulf of Mexico dead zone not expected to shrink anytime soon,” <https://goo.gl/dZUKTt>

Legacy N Publications in association with newly funded Legacies of Agricultural Pollutants (LEAP) project featured on the Pan European Networks website

- *Pan European Networks*, “Reconciling Agriculture and Water Quality,” <https://tinyurl.com/y7zfm2no>

Van Meter, K.J., Basu N.B., (2017) Time Lags in Watershed-Scale Nutrient Transport: An Exploration of Dominant Controls, Environmental Research Letters

- *Waterloo Record*, “A Grand Challenge: As population in the watershed booms, it is more important than ever to keep the river clear and clean,” <https://www.therecord.com/news-story/7975783-a-grand-challenge/>
- *CBC*, “Pollution reduction work can take decades to see results,” <https://tinyurl.com/y8jkuc8e>
- *Western Producer*, “Watershed cleanup could take decades,” <http://www.producer.com/2017/08/watershed-cleanup-could-take-decades/>
- *University of Waterloo Water Institute Newsletter*, “Efforts to reduce pollution from agriculture paying off slowly,” <https://uwaterloo.ca/water-institute/news/efforts-reduce-pollution-agriculture-paying-slowly-0>

Van Meter, K.J., Basu, N.B., Veenstra, J. and Burras, L. (2016) Evidence of Soil Nitrogen Accumulation in Anthropogenic Landscapes, Environmental Research Letters, doi:10.1088/1748-9326/11/3/035014*

- *CBC Quirks and Quarks*, “Nitrogen fertilizer leaves legacy in deep soils” <https://tinyurl.com/h3jqgry>

- *Newsweek*, “Nitrogen from farm fertilizers remains in soil and could pollute drinking water for decades” <https://tinyurl.com/hnnmqak>
- *Science Daily*, “Fertilizer applied to fields today will pollute water for decades” <https://tinyurl.com/zlyeclm>
- *Environmental Research Web*, “Is missing nitrogen hiding out in plant roots?” <https://tinyurl.com/z47ssoa>
- *Gizmodo*, “We have a 30-year Nitrate Legacy that no one wants to pay for” <https://tinyurl.com/jbbjtn>
- *Blacklocks Reporter*, “Study warns On Fertilizers,” <https://tinyurl.com/hn2bu3y>
- *Daily Commercial News*, Nitrogen levels in soil could change water treatment plant infrastructure, <https://tinyurl.com/zqch2cx>
- *Waterloo Chronicle*, University of Waterloo research exposes fertilizer risks: Nitrate contamination persists for decades and can pollute waterways, drinking water, <https://tinyurl.com/zghj32c>
- Big Berkey Water Filters Blog, “Fertilizing Crops Today Will Contaminate Drinking Water Supplies for Decades” <https://tinyurl.com/zs7olps>
- AgCanada.com, “Nitrates to linger for decades in N-heavy waterways, study finds,” <https://tinyurl.com/zy7ulfr>

Van Meter, K.J., N.B. Basu, “Signatures of Human Impact: Size Distributions and Spatial Organization of Wetlands in the Prairie Pothole Landscape,” Ecological Applications 25.2 (2015): 451-465.

- *Science Daily* “Rethinking wetland restoration: Smaller wetlands more valuable than previously thought,” [tps://tinyurl.com/zgxep95](https://tinyurl.com/zgxep95)

PROFESSIONAL MEMBERSHIPS

American Geophysical Union
 Society for Freshwater Science
 International Association for Great Lakes Research
 Association for the Sciences of Limnology and Oceanography
 Global Wetland Ecohydrology Network
 Ecological Society of America