Sean A. Woznicki
July 2021

CONTACT INFORMATION

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Grand Valley State University
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EDUCATION

2015. Ph.D., Biosystems Engineering, Michigan State University
2011. M.S., Biosystems Engineering, Michigan State University
2009. B.S., Biosystems Engineering, Michigan State University

PROFESSIONAL APPOINTMENTS

2019-   Assistant Professor, Grand Valley State University
             Annis Water Resources Institute, Muskegon, MI.

2015-2019   Postdoctoral Researcher, United States Environmental Protection Agency
             Office of Research and Development, Research Triangle Park, NC.

PEER-REVIEWED PUBLICATIONS

40. Hopkins KG, **Woznicki SA**, Williams B, Stillwell C, Naibert E, Metes M, Jones DK, Hogan D, Hall N, Fanelli RM, Bhaskar AR, 2021. Lessons learned from twenty years of monitoring suburban development with distributed stormwater management in Clarksburg, Maryland. *Freshwater Science*. In review.

39. **Woznicki SA**, Kraynick G, Wickham J, Nash M, Sohl T, 2021. Modeling future land cover change in Minneapolis, MN, to support drinking water source protection decisions. *Journal of the American Water Resources Association*. In review.

38. Shabani A, **Woznicki SA**, Mehaffey M, Butcher J, Whung P, 2021. A coupled hydrodynamic (HEC-RAS 2D) and water quality model (WASP) for simulating flood-induced soil and sediment transport. *Journal of Flood Risk Management*, e12747.

37. **Woznicki SA**, Cada P, Wickham J, Schmidt M, Baynes J, Mehaffey M, Neale A, 2020. Sediment retention by natural landscapes in the conterminous United States. *Science of The Total Environment*, 745: 140972.

36. Hernandez-Suarez JS, **Woznicki SA**, Nejadhashemi AP, 2020. Evaluation of multi-site calibration and management practice effectiveness on fecal pollution removal. *Human and Ecological Risk Assessment: An International Journal* 26(10): 2690-2715.

35. Hopkins KG, Bhaskar AS, **Woznicki SA**, Fanelli RM, 2020. Changes in event-based streamflow magnitude and timing after suburban development with infiltration-based stormwater management. *Hydrological Processes* 34(2): 387-403.

34. **Woznicki SA**, Baynes J, Panlasigui S, Mehaffey M, Neale A, 2019. Development of a spatially-complete floodplain map for the conterminous USA using random forest. *Science of the Total Environment* 647: 942-953.

33. **Woznicki SA**, Hondula KL, Jarnagin ST, 2018. Effectiveness of landscape-based green infrastructure on stormwater runoff in suburban developments. *Hydrological Processes* 32(15): 2346-2361.

32. Hall KR, Herbert ME, Sowa SP, Mysorekar S, **Woznicki SA**, Nejadhashemi AP, Wang L, 2017. Reducing current and future risks: Using climate change scenarios to test an agricultural conservation framework. *Journal of Great Lakes Research* 43(1): 59-68.

31. Rojas-Downing MM, Nejadhashemi AP, Harrigan T, **Woznicki SA**, 2017. Climate change and livestock: impacts, adaptation, and mitigation. *Climate Risk Management* 16: 145-163.

30. Daneshvar F, Nejadhashemi AP, **Woznicki SA**, Herman MR, 2017. Applications of computational fluid dynamics in fish and habitat studies. *Ecohydrology & Hydrobiology* 17(1): 53-62.

29. Sowa SP, Herbert M, Mysorekar S, Annis GM, Hall K, Nejadhashemi AP, **Woznicki SA**, Wang L, Doran PJ, 2016. How much conservation is enough? Defining implementation goals for healthy fish communities in agricultural rivers. *Journal of Great Lakes Research* 42(6): 1302-1321.

28. Giri S, Nejadhashemi AP, **Woznicki SA**, 2016. Regulators' and stakeholders' perspectives in a framework for bioenergy development. *Land Use Policy* 59: 143-153.

27. **Woznicki SA**, Nejadhashemi AP, Tang Y, Wang L, 2016. Large-scale climate change vulnerability assessment of stream health. *Ecological Indicators* 69: 578-594.

26. Herman MR, Nejadhashemi AP, Daneshvar F, Abouali M, Ross DM, **Woznicki SA**, Zhang Z, 2016. Optimization of bioenergy crop selection and placement based on a stream health indicator using an evolutionary algorithm. *Journal of Environmental Management* 181: 413-424.

25. Abouali M, Nejadhashemi AP, Daneshvar F, **Woznicki SA**, 2016. Two-phase approach to improve stream health modeling. *Ecological Informatics* 34: 13-21.

24. Hamaamin YA, Nejadhashemi AP, Zhang Z, Giri S, **Woznicki SA**, 2016. Bayesian Regression and Neuro-Fuzzy Methods Reliability Assessment for Estimating Streamflow. *Water* 8(7): 287.

23. **Woznicki SA**, Nejadhashemi AP, Abouali M, Herman MR, Esfahanian E, Hamaamin YA, Zhang Z, 2016. Ecohydrological modeling for large-scale environmental impact assessment. *Science of the Total Environment* 543: 274-286.

22. Herman, MR, Nejadhashemi, AP, Daneshvar F, Ross, DM, **Woznicki, SA**, Zhang Z, Esfahanian, AH, 2015. Optimization of conservation practice implementation strategies in the context of stream health. *Ecological Engineering* 84: 1-12.

21. **Woznicki SA**, Nejadhashemi AP, Ross DM, Zhang Z, Wang L, Esfahanian AH, 2015. Ecohydrological model parameter selection for stream health evaluation. *Science of the Total Environment* 511: 341-353

20. Giri S, Nejadhashemi AP, Zhang Z, **Woznicki SA**, 2015. Integrating statistical and hydrological models to identify implementation sites for agricultural conservation practices. *Environmental Modelling and Software* 72, 327-340.

19. Adhikari U, Nejadhashemi AP, **Woznicki SA**, 2015. Climate change and eastern Africa: A review of impact on major crops. *Food and Energy Security* 4(2): 110-132.

18. **Woznicki SA**, Nejadhashemi AP, and Parsinejad M, 2015. Climate change and irrigation demand: Uncertainty and adaptation. *Journal of Hydrology: Regional Studies* 3: 247-264.

17. Martinez-Martinez E, Nejadhashemi AP, **Woznicki SA**, Adkhikari U, Giri S, 2015. Assessing the significance of wetland restoration scenarios on sediment mitigation plan. *Ecological Engineering* 107: 103-113.

16. Smith CM, Williams JR, Nejadhashemi AP, **Woznicki SA**, Leatherman JC, 2014. Cost-effective targeting for reducing soil erosion in a large agricultural watershed. *Journal of Agricultural and Applied Economics* 46(4): 509-526.

15. Martinez-Martinez E, Nejadhashemi AP, **Woznicki SA**, Love BJ, 2014. Modeling the hydrological significance of wetland restoration scenarios. *Journal of Environmental Management* 133: 121-134.

14. Sanchez, G.M., Nejadhashemi AP, Zhang Z, **Woznicki SA**, Habron G, Marquart-Pyatt S, Shortridge A, 2014. Development of a socio-ecological environmental justice model for watershed-based management. *Journal of Hydrology* 518: 162-177.

13. **Woznicki SA**, Nejadhashemi AP, 2014. Assessing uncertainty in best management practice effectiveness under future climate scenarios. *Hydrological Processes* 28(4): 2550-2566.

12. Giri S, Nejadhashemi AP, **Woznicki SA**, Zhang Z, 2014. Analysis of best management practice effectiveness and spatiotemporal variability based on different targeting strategies. *Hydrological Processes* 28(3): 431-445.

11. Einheuser MD, Nejadhashemi AP, **Woznicki SA**, 2013. Simulating stream health sensitivity to landscape changes due to bioenergy crops expansion. *Biomass and Bioenergy* 58: 198-209.

10. Sommerlot AR, Nejadhashemi AP, **Woznicki SA**, Prohaska MD, 2013. Evaluating the impact of field scale management strategies at the watershed outlet. *Journal of Environmental Management* 128: 735-748.

9. Smith CM, Williams JR, Nejadhashemi AP, **Woznicki SA**, Leatherman JC, 2013. Cropland management versus dredging: An economic analysis of reservoir sediment management. *Lake and Reservoir Management* 29: 151-164.

8. Sommerlot AR, Nejadhashemi AP, **Woznicki SA**, Giri S, Prohaska MD, 2013. Evaluating the capabilities of watershed-scale models in estimating sediment yield at field-scale. *Journal of Environmental Management* 127: 228-236.

7. Einheuser MD, Nejadhashemi AP, Wang L, Sowa SP, **Woznicki SA**, 2013. Linking biological integrity and watershed models to assess the impact of land use and climate changes on stream health. *Environmental Management* 51(6): 1147-1163.

6. **Woznicki SA**, Nejadhashemi AP, 2013. Spatial and temporal variabilities of sediment delivery ratio. *Water Resources Management* 27(7): 2483-2499.

5. Einheuser MD, Nejadhashemi AP, Sowa SP, Wang L, Hamaamin YA, **Woznicki SA**, 2012. Modeling the effects of conservation practices on stream health. *Science of the Total Environment* 435-436: 380-391.

4. Giri S, Nejadhashemi AP, **Woznicki SA**, 2012. Evaluation of targeting methods for implementation of best management practices in the Saginaw River Watershed. *Journal of Environmental Management* 103: 24-40.

3. **Woznicki SA**, Nejadhashemi AP, 2011. Sensitivity analysis of best management practices under climate change scenarios. *Journal of the American Water Resources Association* 48(1): 90-112.

2. Nejadhashemi AP, **Woznicki SA**, Douglas-Mankin KR, 2011. Comparison of four models (STEPL, PLOAD, L-THIA, and SWAT) in simulating sediment, nitrogen, and phosphorus loads and pollutant source areas. *Transactions of the ASABE* 54(3): 875-890.

1. **Woznicki SA**, Nejadhashemi AP, Smith CM, 2011. Assessing best management practice implementation strategies under climate change scenarios. *Transactions of the ASABE* 54(1): 171-190.

CONTRACTS AND GRANTS

2021. Macatawa Area Land Use and Cover Update ($16,119). Macatawa Area Coordinating Council.

2020-2021. Collaborative Research and Creative Activity Initiative ($10,000). Grand Valley State University, Center for Scholarly and Creative Excellence. *Connecting Cities and Citizens: Assessing Community Perspectives on Lakeshore Use and Restoration* (Co-PI).

2020-2021. Research Seed Grant ($5,000). Michigan Space Grant Consortium-NASA. *Wetlands in time and space: mapping inundation dynamics and connectivity with remote sensing*.

2019-2020. Catalyst Grant ($7,000). Grand Valley State University, Center for Scholarly and Creative Excellence. *Quantifying fecal pollution in the Grand River Watershed using spatial stream network models.*

2018-2020. Regional Sustainable Environmental Science Grant ($130,000). U.S. Environmental Protection Agency, Office of Research and Development. *Interactive Mapping of Flood-Induced Contaminants from Hazardous Waste Sites in New Jersey* (Co-PI).

CONFERENCE PRESENTATIONS
Underline indicates presenter; *graduate student

Walt J*, Woznicki, SA, 2021. Mapping Wetland Inundation Dynamics with Synthetic Aperture Radar in Google Earth Engine. International Association for Landscape Ecology-North America 2021 Annual Meeting. Virtual.

Shabani A, Woznicki, SA, Mehaffey M, Ramirez M, Drumm L, Vargas R, Cutt D, Whung, P, 2020. Simulating Flood-Induced Contaminated Soil and Sediment Transport with a Coupled HEC-RAS 2D and WASP Model. American Geophysical Union Fall Meeting 2020. Virtual.

Neuman E*, Woznicki, SA, Karol KG, McNair J, Hamsher, SE, 2020. Predictive Modeling Assessment of Suitable Habitats for Starry Stonewort (*Nitellopsis obtusa*). Upper Midwest Invasive Species Conference. Virtual.

Walt J*, Woznicki SA, 2020. Wetlands in time and space: mapping inundation dynamics and connectivity with remote sensing. Michigan Space Grant Consortium Fall Conference. Virtual

Neuman E*, Karol KG, Woznicki, SA, McNair J, Hamsher, SE, 2020. Preliminary Results -- Star Wars: Phenology of the aquatic invasive species starry stonewort (*Nitellopsis obtusa*; Charaeae) in two Michigan drowned river mouth lakes. Michigan Space Grant Consortium Fall Conference. Virtual

Mader M*, Ruetz III C, Woznicki SA, 2020. Drowned river mouths of eastern Lake Michigan: geography and stressors. Michigan Chapter of the American Fisheries Society Annual Meeting, Mt. Pleasant, MI.

Hopkins K, Bhaskar A, Woznicki, SA, Fanelli R, 2020. Can green stormwater infrastructure save suburban streams? SUSE5: 5th Symposium on Urbanization and Stream Ecology, Austin, TX.

Hopkins KG, Bhaskar AS, Fanelli RM, **Woznicki SA**, 2019. Can green stormwater infrastructure save suburban streams? AGU Fall Meeting, San Francisco, CA.

Shabani A, Woznicki SA, Ramirez M, Pflicke K, Vargas R, Cutt D, Whung P, 2019. Developing a coupled hydrodynamic and water quality model to simulate flood-induced fate and transport of contaminants in sediments and soils. AGU Fall Meeting, San Francisco, CA.

Van Berkel D, Baynes J, Woznicki SA, Neale A, Mehaffey ME, 2019.Estimating the value of cultural ecosystem services in the United States. Ecosystem Services Partnership 10 World Conference 2019, Hannover, Germany.

Woznicki SA, Baynes J, Panlasigui S, Mehaffey ME, Neale A, 2018. Development of a spatially-complete floodplain map for the conterminous USA using random forest. US-International Association for Landscape Ecology Annual Meeting, Chicago, IL.

Woznicki SA, Wickham JD, 2016. Forecasting land cover change impacts on drinking water treatment costs in Minneapolis, Minnesota. AGU Fall Meeting, New Orleans, LA. *Poster*.

Woznicki SA, Nejadhashemi AP, Tang Y, Wang L, 2016. A framework to assess the impacts of climate change on stream health indicators in Michigan watersheds. AGU Fall Meeting, San Francisco, CA.

KL Hondula, <u>Woznicki SA</u>, Jarnagin ST, 2016. Effects of landscape-based green infrastructure on stormwater runoff in suburban developments. US-International Association for Landscape Ecology Annual Meeting, Asheville, NC.

<u>Woznicki SA</u>, Nejadhashemi AP, 2015. Development of a comprehensive framework to assess the impacts of climate change on stream health. American Society of Agricultural and Biological Engineers 1st Climate Change Symposium. Chicago, IL.

<u>Woznicki SA</u>, Nejadhashemi AP, Hamaamin YA, 2014. Characterizing the effects of climate change on stream health. Michigan State University Environmental Risk and Decision-Making Symposium. East Lansing, MI. *Poster*.

<u>Woznicki SA</u>, Nejadhashemi AP, Parsinejad M, 2013. Crop irrigation and yield uncertainty due to climate change. First International Conference on Global Food Security. Noordwijkherhout, The Netherlands. *Poster*.

<u>Woznicki SA</u>, Nejadhashemi AP, Hamaamin YA, 2013. Climate change and associated risks to stream integrity. ASABE International Meeting 2013. Kansas City, MO.

<u>Woznicki SA</u>, Nejadhashemi AP, Parsinejad M, 2013. Integrating high-resolution spatiotemporal climate change data for modeling irrigation demand. ASABE International Meeting. Kansas City, MO. *Poster*.

<u>Woznicki SA</u>, Nejadhashemi AP, Hamaamin YA, 2013. Impacts of climate change on stream ecosystem integrity. 13th Annual American Ecological Engineering Society Meeting. East Lansing, MI. *Poster*.

<u>Woznicki SA</u>, Nejadhashemi AP, Hamaamin YA, 2013. Risk of adverse impacts to aquatic ecosystem integrity due to climate change. HydroEco 2013, Rennes, France.

<u>Woznicki SA</u>, Nejadhashemi AP, Parsinejad M, 2012. Climate change and irrigation demand: Uncertainty and adaptation. USAID Higher Education Solutions Network. Washington, DC. *Poster*.

<u>Woznicki SA</u>, Nejadhashemi AP, 2011. Assessing uncertainty in best management practice effectiveness under future climate scenarios. ASABE International Meeting. Louisville, KY.

<u>Woznicki SA</u>, Nejadhashemi AP, 2011. Sensitivity of conservation practices under changing global environment. ASABE International Meeting. Louisville, KY.

<u>Woznicki SA</u>, Nejadhashemi AP, 2010. Assessing the impacts of climate change on best management practice (BMPs) implementation strategies. ASABE International Meeting. Pittsburgh, PA.

INVITED PRESENTATIONS

Woznicki SA, 2021. Mapping floodplains, wetlands, and agricultural runoff: A geospatial perspective for preserving freshwater resources. BioSense Institute, University of Novi Sad, Serbia. April 15, 2021.

Woznicki SA, 2021. Mapping the benefits: Teaching ecosystem services with EnviroAtlas. Michigan Resources on Climate and Land Change Education (MiRCLE). February 17, 2021.

AWARDS

2020. GVSU Exceptional Efforts with Student Success & Retention Award
2015. MSU Fitch H. Beach College of Engineering Outstanding Research Award, Second Prize
2015. MSU Graduate School Dissertation Completion Fellowship
2014. MSU Engineering Graduate Research Symposium Poster Competition, First Prize
2014. Endowment Fellowship for Graduate Student Excellence, Biosystems Engineering
2013. Outstanding Graduate Student Fellowship, Biosystems Engineering
2011. Outstanding Graduate Student Fellowship, College of Engineering
2009. Undergraduate Teaching Fellowship, Biosystems Engineering

TEACHING

2021-present. Advanced Geographic Information Systems, Grand Valley State University
2020-present. Physical and Environmental Geography, Grand Valley State University
2013. Water Resources Systems Analysis and Modeling, Michigan State University
2013. Ecohydrology, Michigan State University (guest lecturer)
2009. Introduction to Biosystems Engineering, Michigan State University (teaching asst.)

OUTREACH

Science, technology, engineering and mathematics (STEM) EPA ambassador (2015-2019).
        Delivering interactive environmental science lessons to primary and secondary school children.

PROFESSIONAL MEMBERSHIPS

North American Regional Association of the International Association for Landscape Ecology (IALE)
American Geophysical Union (AGU)
American Society of Agricultural and Biological Engineers (ASABE)

SCHOLARLY JOURNALS

Editorial Board: Water
Reviewer: Agricultural Water Management, Applied Engineering in Agriculture, City and Environment
Interactions, Ecohydrology & Hydrobiology, Ecosystem Services, Environmental Modelling and
Software, Environmental Science & Technology, Freshwater Biology, Journal of Environmental
Management, Journal of Flood Risk Management, Journal of Hydrology, Landscape and Urban Planning,
Natural Hazards and Earth System Sciences, Science of the Total Environment, Transactions of the
ASABE, Water, Water Environment Research, Water Resources Research

PROPOSAL REVIEWS

NSF CAREER (Hydrologic Sciences)