



First Name: Julie Last Name: Padowski

Title: Research Assistant Professor

Institution: Washington State University

Mailing Address: Paccar Environmental Tech. Bldg, Rm 256

120 Grimes Way

City: Pullman State: WA Zip Code: 99164

Country: USA

Country Code: 1 Phone: (509) 335-8539



PLACE HEADSHOT HERE

Email: julie.padowski@wsu.edu

Website: https://cereo.wsu.edu/core-faculty-padowski/

Education:

PhD: 2011 Soil and Water Science, University of Florida (Gainesville, FL) MS: BS:

General Areas of Expertise:

Padowski's areas of expertise include those related to: water resources, urban systems, and hydrogeography

Short Bio:

Julie Padowski's interests center on interdisciplinary water resource issues, including water resources sustainability, hydrogeography, urban systems, and the food-energy-water nexus. Her research focuses on understanding the causes and consequences of human development of water sources, including the physical, social, economic and institutional reasons. Her motivation for this work stems from a desire to address current and growing water scarcity issues. To meet these research needs, she blends techniques from hydrology (e.g., data collection, simulation modeling) with geography (GIS, spatial statistics) to answer questions across a range of spatial and temporal scales.

Five Representative Publications:

- 1. Katz, S., Padowski, J.C., Goldsby, M., Brady, M., and Hampton, S.E. 2017. Defining the Nature of the Nexus: Specialization, Shortages, Connectedness, and Scale in Food-Energy-Water Management. [in review]
2. Padowski, J.C., Carrera, L. and Jawitz, J.W., 2016. Overcoming urban water insecurity with infrastructure and institutions. Water Res. Manage. 30(13), 4913-4926 doi:10.1007/s11269-016-1461-0
3. McDonald, R.I., Weber, K., Padowski, J., Boucher, T., and Shemie, D., 2016. Quantifying watershed degradation and its impact on water treatment costs for the world's largest cities. Proc. Nat. Acad. Sci. doi: 10.1073/pnas.1605354113
4. Padowski, J.C. and Gorelick, S.M., 2014. Global analysis of urban surface water supply availability. Environ. Res. Lett. 9 104004 doi:10.1088/1748-9326/9/10/104004.
5. Padowski, J.C. and Jawitz, J.W. 2012. A storage-based assessment of urban water availability and vulnerability within the United States. Water Resources Research. 48, W12529, doi:10.1029/2012WR012335.

FEWSTERN Symposium 2017 Presentation Title and Abstract:

Increasing Resilience Across the Food, Energy, and Water Sectors in the Columbia River Basin

Food-Energy-Water (FEW) security is reliant in part by our ability to understand the interdependencies within FEW systems. Our NSF-INFWEWS project examines how coordinated management of physical (e.g., reservoirs, aquifers, and batteries) and non-physical (e.g., water markets, social capital, and insurance markets) storage systems across FEW sectors promotes overall system resilience. Focusing on the Columbia River Basin (CRB) in the northwestern part of the United States, our NSF-INFWEWS project uses an integrated approach to understand FEW linkages. To understand where and how FEW systems interlink, we created detailed conceptual models of the food, energy, water, and social systems to identify where key interdependencies (i.e., overlaps, stocks, and flows) exist within and between systems. These maps allow us to identify key drivers, parameters, time steps, and variables of importance to build and improve existing CRB systems dynamic and biophysical models. From these maps we can also identify stress and opportunity points with the system, and test how new innovations may impact system-wide resilience to regional and global change.