**Faculty Profile: Jason H. Davison**

Assistant Professor

Department: Civil and Environmental Engineering

School: School of Engineering

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Education: Ph.D., Earth and Environmental Sciences, University of Waterloo, 2017

M.S., Environmental Fluid Mechanics and Hydrology, Stanford University, 2011

B.S., Civil and Environmental Engineering, Georgia Tech, 2008

**Research Interests and Expertise:**

Hydrology, groundwater, surface water, climate change, environmental policy, microplastics, water cycle, modeling

**Biography:**

Dr. Jason Davison is an Assistant Professor in the Department of Civil and Environmental Engineering at The Catholic University of America. His research focuses on plastic waste, water modeling, the Anacostia River, STEM education, and DEI work. Dr. Davison leads the [AnthroHydro](https://www.anthrohydro.com/) Research team with PhD, masters, and undergraduate student participation. Additionally, Dr. Davison is the director of the RAISE (Research and Innovative STEM Education) program, which includes funding for research projects, STEM education efforts, and a makerspace. Jason received his PhD in Earth and Environmental Sciences from the University of Waterloo in 2017, and his research focused on integrated atmosphere, surface, and subsurface water flow models. He received his M.S. in Environmental Fluid Mechanics and Hydrology from Stanford University and his B.S. in Civil and Environmental Engineering from the Georgia Institute of Technology.

**Five Selected Papers:**

[1]Shu Xu, SK Frey, AR Erler, O Khader, SJ Berg, HT Hwang, MV Callaghan, JH Davison, EA Sudicky, “Investigating Groundwater-Lake Interactions in the Laurentian Great Lakes with a Fully-Integrated Surface Water-Groundwater Model,” *Journal of Hydrology*, 2020.

[2] J Chen, EA Sudicky, JH Davison, SK Frey, Y-J Park, H-T Hwang, AR Erler, SJ Berg, MV Callaghan, K Miller, M Ross, WR Peltiert, “Towards a climate-driven simulation of coupled surface-subsurface hydrology at the continental scale: a Canadian example,” *Canadian Water Resources Journal/Revue canadienne des ressources hydriques*, 2020.

[3] ML Wine and JH Davison, “Untangling global change impacts on hydrological processes: Resisting climatization,” *Hydrological Processes,* 2019.

[4] JH Davison, HT Hwang, EA Sudicky, DV Mallia, JC Lin, ”Full Coupling Between the Atmosphere, Surface, and Subsurface for Integrated Hydrologic Simulation,” *Journal of Advances in Modeling Earth Systems,* 2018.

[5] S Fatichi et al., “An overview of current applications, challenges, and future trends in distributed process-based models in hydrology,” *Journal of Hydrology*, 2016.

**Professional Activities (please also include STEM education/diversity/outreach activities)**

* Member of the American Geophysical Union
* Faculty Advisor for the American Society of Civil Engineering student group
* Faculty Advisor for Grassroots Motorsports $2000 Challenge
* Faculty Advisor for NSBE/SHPE/Diversity Engineering at CUA