

On Water Resources, Cooperation and Conflict

Prof. Marc Müller

Civil and Environmental Engineering and Earth Science, University of Notre Dame

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Abstract

The availability of water determines where people live and what they do and, reversely, human activities also affect the way water resources are distributed through time and space. The coupled, dynamic and locally specific nature of human-water interactions makes it challenging to attribute causes and effects and generate transferable understanding from place-based observational studies. Both tasks are essential to inform policy decisions that will have long-lasting impacts on the food, energy, water and ecological systems of tomorrow. This talk discusses recent progress in addressing these challenges along three important lines of inquiry: (i) the attribution of rapid hydrological change to climate vs. local human action, (ii) the emergence of cooperation over shared water resources and (iii) the interactions between water scarcity and violent conflicts. Marc Müller will present results from recent investigations on highly strategic water resources in the Middle East and South Asia.

Brief Bio



Marc Müller is an assistant professor in hydrology and water resources at the University of Notre Dame's Department of Civil and Environmental Engineering and Earth Science. He takes a multidisciplinary approach to studying the interactions between humans and water, particularly in rapidly-changing regions where little data is available. His work focuses on new approaches to collecting, analyzing, and disseminating water information, and his research interests include water-related conflicts, surface hydrology, remote sensing, rural electrification, information/data science, applied statistics, and geostatistics. Marc has worked in multiple countries including Nepal, Bangladesh, Tanzania, Cambodia, Jordan, and Syria. He earned two Bscs and an Msc from the École Polytechnique Fédérale de Lausanne and a PhD from the University of California at Berkeley, where he was a Fulbright Science and Technology Fellow.