# The Environmental and Fluids Dynamics Lecture Series
# Presents a Seminar

Tuesday, October 8, 2019

11:00AM-Noon

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## Ready for Climate Change? Towards Adaptation in Water Planning

Societal need for improved water management and concerns for the long-term sustainability of water resources systems are prominent around the world. The continued susceptibility of society to the harmful effects of hydrologic variability, pervasive concerns related to climate change and the emergent awareness of devastating effects of current practice on aquatic ecosystems all illustrate our limited understanding of how water ought to be managed in a dynamic world. To address these challenges, new problem solving approaches are required that acknowledge uncertainties, incorporate biased but potentially useful climate projections, and link engineering design principles with our best geoscience-based understanding of planetary change. In this presentation, we present and demonstrate a framework for developing water planning and management strategies that are resilient in the face of future uncertainties and our limited ability to anticipate the future. The approach begins with stakeholder engagement and decision framing to elicit relevant context, uncertainties, choices and connections that drive planning and serve as an entry point to exploring possible futures. Examples from the Great Lakes, Mexico City, and California world illustrate the methodology.

Dr. Casey Brown is Professor of Civil and Environmental Engineering at the University of Massachusetts at Amherst. His primary research interest is the development of analytical methods for improving the use of scientific observations and data in decision making, with a focus on climate and water resources, and he has worked extensively on projects around the world in this regard. His is funded by NSF, Rockefeller Foundation, NOAA, DoD, and WRF among others. He consults for the World Bank, private sector, state agencies and municipalities and serves on the National Academies' Committee on Independent Scientific Review of Everglades Restoration Progress, and the Steering Committees of the Alliance for Global Water Adaptation, World Wildlife Fund Basin Report, and City Water Resilience Framework. He has a number of awards to his credit, including the Presidential Early Career Award for Science and Engineering, the National Science Foundation CAREER award, the Huber Research Prize from the American Society of Civil Engineers and the Climate Science Award from the California Department of Water Resources. He graduated with a BS in Civil Engineering from the University of Notre Dame and was also commissioned as an Air Force 2nd Lieutenant and earned a PhD at Harvard University.