



Jun 26th, 2:00 PM - 3:20 PM

An Organizing Framework for Setting up the Context of Integrated Water Resources Management Problems and Case Studies

Amy R. Richmond

United States Military Academy, West Point, amy.richmond@usma.edu

Meghna Babbar-Sebens

Oregon State University

Suzanne A. Pierce

The University of Texas at Austin

Follow this and additional works at: <https://scholarsarchive.byu.edu/iemssconference>

Richmond, Amy R.; Babbar-Sebens, Meghna; and Pierce, Suzanne A., "An Organizing Framework for Setting up the Context of Integrated Water Resources Management Problems and Case Studies" (2018). *International Congress on Environmental Modelling and Software*. 28.
<https://scholarsarchive.byu.edu/iemssconference/2018/Stream-C/28>

This Oral Presentation (in session) is brought to you for free and open access by the Civil and Environmental Engineering at BYU ScholarsArchive. It has been accepted for inclusion in International Congress on Environmental Modelling and Software by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen_amatangelo@byu.edu.

AN ORGANIZING FRAMEWORK FOR SETTING UP THE CONTEXT OF INTEGRATED WATER RESOURCES MANAGEMENT PROBLEMS AND CASE STUDIES

Amy Richmond¹, Meghna Babbar-Sebens², Suzanne Pierce³

¹ United States Military Academy (amy.richmond@usma.edu)

² Oregon State University (meghna@oregonstate.edu)

³ The University of Texas at Austin (spierce@tacc.utexas.edu)

Abstract: Today's world faces serious threats to water systems in the form of increasing pollution, chronic shortages, unsustainable groundwater use, and degrading aquatic ecosystems. Integrated Water Resource Management (IWRM) systems applies knowledge from various disciplines and insights from diverse stakeholders to devise and implement sustainable solutions to water problems. A wide variety of models have been developed and applied in contents ranging from local to global to represent inter-relationships between water and land use, climate, agriculture, ecosystem dynamics, governance, and human needs. Results of these modeling exercises have yielded discrete, place-specific results that have been difficult to generalize to water-related problems elsewhere. This paper is part of a larger project to identify patterns and processes of water modeling, including the context, practices, and evaluation processes. This paper sets forth a framework for representing context, including cross-cutting conditions to be considered when implementing IWRM. The objective of this paper is to formalize context in IWRM field by creating an organizing framework for purposes of improving transferability and enabling validation/comparison. The framework uses 10 attributes which are designed to invoke the IWRM modeler to respond to questions that help them think deeply about the different types and levels of information that is needed to describe the context of their project/problem.

Keywords: Context, Integrated Water Resource Management (IWRM), organizing framework