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# Convergence Research on Water Resource Management Through the Collaborative, Adaptive, and Multiscale (CAMS) Systems Thinking Framework

**Abstract:** Water resource systems display complex behavior that challenges our ability to identify paths towards improved management. Such behavior can arise from unanticipated feedbacks between social, ecological, and technological components that are conventionally studied and managed in disciplinary silos, often with limited consideration of interactions across scales of space and time. Convergence research driven by deep integration and co-production of knowledge within multidisciplinary research teams is needed to better anticipate water resource system behavior and identify new approaches. We developed and applied a new framework — the Collaborative, Adaptive, and Multi-Scale (CAMS) systems thinking framework — to build a convergence research team around the task of characterizing a watershed as a complex social-ecological-technological system and hypothesize water management dynamics there. The CAMS framework applies systems thinking as a method to engage and integrate the knowledge and interests of a multidisciplinary research team and model a water resource system across spatial and temporal scales. Our case study of the Santa Fe Watershed in New Mexico reflects challenges and opportunities to manage water in the Western United States. We discuss the successes, limitations, and potential of the CAMS framework and describe how the open-ended, iterative design can provide a structure for long-term use to integrate disparate ideas, hypotheses, and findings from water sustainability research. Ultimately, this method aims to identify strategic interventions with the potential to transform water management to meet the challenges of a changing climate and increasing water demand.



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**Wednesday, March 27 at 11 AM MT**

Join us at: <https://unm.zoom.us/j/91036334450>



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