

THE WATER SCIENCE COMMUNICATION PROBLEM: WATER KNOWLEDGE AND THE ACCEPTANCE OR REJECTION OF WATER SCIENCE

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A “science communication problem” exists when scientifically-supported, policy-relevant fact is disputed because it conflicts with political perspectives or other culturally-relevant influences. This study aims to determine whether such a problem exists on water topics, where it could obstruct productive discourse when water policies are introduced. To identify water topics on which partisan individuals reject water science, we developed and applied a Rasch-modeled scale of “ordinary water science knowledge” (OWSK) and an associated assessment of beliefs. Our sample, consisting of 806 Florida and Georgia residents, possessed low OWSK levels and limited understanding of water topics beyond their direct experiences. Though knowledge levels were low, participants aligned their personal beliefs with their perceptions of scientists’ beliefs so long as the science did not activate partisan positioning. Partisan positions were easily activated, however, with some politically right-leaning individuals adopting personal water beliefs contrary to their perceptions of scientists’ beliefs (i.e., a water science communication problem). This divergence occurred in response to statements on the effects of climate change on water availability and on the adequacy of water supply to meet demand 20 years in the future. These topics have relevance far beyond the study area, suggesting a water science communication problem may exist at broader regional and national scales.

PRESENTER BIO: Dr. Hundemer is a post-doctoral associate at the University of Florida specializing in natural resources communication. Her cross-disciplinary research draws from the fields of psychology, sociology, behavioral economics, political science, and communication science to understand and respond to the human dimensions of environmental challenges including stakeholder conflict and political polarization.