

Virtual Panel Series Announcement

Salt Contamination of Water Supplies in Tidal Rivers



Access to clean and safe drinking water is critical to public health and economic prosperity. About 70% of U.S. drinking water supply comes from surface waters, including the tidal fresh regions of estuaries. Drought, sea level rise, watershed and port & harbor engineering, and changes in land-use are increasingly threatening such water supplies in coastal regions due to increasing risk of salinization. The risk extends to water extraction from the coastal zone for thermoelectric power, irrigation, and industrial production.

A series of virtual panels will be held between [June 2023](#) and [December 2024](#). We will discuss and review case studies of saltwater intrusion and salinization of freshwater in tidal rivers in the U.S. and around the world. An interdisciplinary team of researchers and stakeholders will be brought together to assess the risks of salt contamination of water supplies in tidal rivers, synthesize the current understanding and identify knowledge gaps. This exploratory investigation is timely and globally relevant as water infrastructure around the world is under threat from climate change, salinization, and local anthropogenic pressures. A better understanding of climatic and other anthropogenic effects on the water supplies will be valuable for bolstering the resilience of water infrastructure and protecting public health.

If you are interested, please register at <https://www.umces.edu/salt-contamination-of-water-supplies-in-tidal-rivers>.

Organizing Committee: Ming Li, Sujay Kaushal, Alfonso Mejia, Robert Chant, David Ralston.

Questions can be directed to Ming Li at mingli@umces.edu

Webinar IV: Managing salinity and saltwater intrusion in the San Francisco Bay-Delta
Time: 26 April 2024 (1:00 – 2.30 pm)

Moderator: Sujay Kaushal, Professor, University of Maryland, College Park

Panelists:

- **Laurel Larsen**, Associate Professor, University of California, Berkeley
- **Brett Milligan**, Professor, University of California, Davis
- **John Durand**, Professor, University of California, Davis
- **Eli Ateljevich**, Senior Water Resources Engineer, California Department of Water Resources
- **Lisamarie Windham-Myers**, Systems Ecologist, U.S. Geological Survey






Laurel Larsen (UC Berkeley), Associate Professor, Departments of Geography and Civil & Environmental Engineering


Dr. Larsen’s work has two focuses: (1) how flowing water structures the form and function of landscapes, with emphases on low-gradient environments, and (2) how physical understanding and artificial intelligence can be integrated to improve hydrologic prediction and enhance understanding of watersheds. Larsen’s Environmental Systems Dynamics Laboratory takes a complex-systems approach to environmental problems, seeking to understand the set of interactions and feedbacks that produce emergent phenomena. The lab’s approach to problems integrates field work and numerical modeling to identify the most critical drivers of landscape-scale change and generate predictions about how landscapes will respond to climate change or changes in management. Dr. Laurel Larsen was the first female Delta Lead Scientist, serving from 2020-2023. The Delta Lead Scientist oversees the Delta Science Program and consults regularly with partner agencies.



Brett Milligan (UC Davis), Professor, Vice Chair, Landscape Architecture + Environmental Design

Brett Milligan is a landscape architect and professor of landscape architecture and environmental design at the University of California, Davis. He is a co-founder of the Dredge Research Collaborative, a nonprofit organization dedicated to exploring the human alteration and design of sedimentary landscapes, and at UC Davis, the director of the Metamorphic Landscapes Lab, dedicated to prototyping landscape-based adaptations to conditions of accelerated climatic and environmental change through

	<p>transdisciplinary design research. Much of his work is based in California and the Bay-Delta region, undoing and reworking colonial legacies of land reclamation, water infrastructure, flood control and fire suppression.</p>
	<p>John Durand (UC Davis), Senior Researcher, Wildlife, Fish, & Conservation Biology John Durand studies the ecology of food webs and fish in estuarine environments. He is particularly interested in how transitional zones subsidize adjacent habitats, particularly across the terrestrial-aquatic interface. His research group uses a variety of methods, including fish sampling for fish and invertebrates, water quality mapping, and stable isotope analysis. He currently has several funded studies in the California Estuary, extending from the Cache-Lindsey Slough complex in the north Sacramento-San Joaquin Delta to Suisun Marsh. Projects include the ecological function of restored and managed wetland habitats, fish community composition across marginal habitats, and the effects of drought on the Delta.</p>
	<p>Eli Ateljevich (California Department of Water Resources) Operations Research Specialist at California Department of Water Resources Eli Ateljevich, PhD and PE, is a Senior Water Resources Engineer at the California Department of Water Resources, where he has worked for over 20 years. Educated at MIT and the University of California-Berkeley, he has used hydrodynamic modeling as a tool to evaluate California's vulnerability to sea-level rise and salinity intrusion, as well as a range of possible solutions.</p>
	<p>Lisamarie Windham-Myers (USGS and Delta Stewardship Council). Dr. Lisamarie Windham-Myers is a systems ecologist with the United States Geological Survey. She received her Ph.D. from Rutgers University in Ecology, Evolution, and Natural Resources and was a university professor before joining the United States Geological Survey. Her research examines processes at the interface of land and aquatic systems, including water flow, storage and quality at landscape scales. She also examines fine-scale processes in sediment and has studied extensively the conditions in</p>

	<p>wetlands and estuaries that sequester and release greenhouse gases, and control methylmercury dynamics. She has authored or co-authored over 100 peer-reviewed papers, has led or served on many US and international workgroups developing and synthesizing evidence on effective carbon sequestration actions, and regularly represents the USGS in interagency research initiatives. Dr. Windham-Myers succeeded Dr. Laurel Larsen as Delta Lead Scientist on December 1, 2023.</p>
	<p>Dr. Sujay Kaushal is a professor in the Department of Geology and Earth System Science Interdisciplinary Center at the University of Maryland, College Park. His areas of expertise are biogeochemistry and hydrology. He completed a Bachelor of Arts in Biology (concentration in ecology and systematics) at Cornell University, and he completed his PhD in Biology (concentration in biogeochemistry) at the University of Colorado, Boulder. He completed his postdoctoral research at the Cary Institute of Ecosystem Studies (2003-2005). Before he joined University of Maryland, College Park, he was an assistant professor at the University of Maryland Center for Environmental Science from 2005-2010. His research focuses on freshwater salinization syndrome, long-term chemistry of fresh waters, effects of land use and climate change on water quality, and managing and restoring freshwater ecosystems.</p>

This project is funded by National Science Foundation and is a joint effort among the following institutions:



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