

# 2026 TENNESSEE WATER RESOURCES SYMPOSIUM

## Establishing Resiliency for Tennessee's Waters

Montgomery Bell State Park  
April 15-17<sup>th</sup>, 2026

### Symposium Chair

Andrea Ludwig,  
TN Section President,  
Professor and Extension Specialist  
University of Tennessee at Knoxville



*Mystery Picture courtesy of Rodrigo Villapando Vizcaino*

### Keynote Speaker on Wednesday, April 15<sup>th</sup>



**Robert Stewart**  
**Oak Ridge National Laboratory's Geospatial Science and Human Security Division Section Head**

"Water Under Pressure: National Security Challenges When Water Becomes Too Little, Too Much, and Too Contested *From Satellites to Social Media: Turning Data into Decisions with GeoAI*"



### Keynote Speaker on Thursday, April 16<sup>th</sup>

**Tom Barnett**  
**Tennessee Valley Authority - Vice President, River Operations**  
"Hurricane Helene Response and Recovery"

### Pre-Symposium Workshop, "Implementing an Urban Waters Report Card in Tennessee"

The University of Tennessee has partnered with municipal governments and state agencies to develop an Urban Waters Report Card (UWRC) for Tennessee. The goal is to provide municipal governments with a way to track incremental improvements in their streams – from stormwater management to stream rehabilitation efforts. This is not a regulatory program, but instead, an initiative to help better equip communities to identify challenges and opportunities related to hydrology, water quality, wildlife habitat, and community value of local streams. The UWRC has been piloted by municipalities across the state over the past year. Workshop attendees will learn about the initiative and how to implement the rating process in their streams.

Wednesday, April 15 <sup>th</sup>		2026 TN AWRA SYMPOSIUM AGENDA	
7:00 am – 11:30 am	Exhibitor set up Room C		
9:00 am – 11:30 am	Pre-symposium Workshop: Urban Waters Report Card with John Schwartz		
12:00 p.m.	<p style="text-align: center;"><b>Lunch in Rooms A and B and Keynote Speaker:</b>  <b>Robert Stewart, ORNL's Geospatial Science and Human Security Division Section Head</b></p> <p style="text-align: center;"><b>“Water Under Pressure: National Security Challenges When Water Becomes Too Little, Too Much, and Too Contested From Satellites to Social Media: Turning Data into Decisions with GeoAI”</b></p>		
	<b>Room A</b>	<b>Room B</b>	
	<b>Stormwater Management</b> Moderator: Paul Davis	<b>Wastewater</b> Moderator: Jessica Rader, TDEC	
1:30 p.m.	Mark Miller “Status of ASTM Committee E64 Standards Relating to Protocols, Practices and Specifications for Stormwater Control Measures”	Daniel Mendoza “AI-Driven Sewer Monitoring: Predictive Detection of Blockages and Infiltration for Modern Wastewater Networks”	
2:00 p.m.	Ken Barry “Critical Coarse Substrate Supply in Urban Streams: An Overview”	Xinghan Zhao “Path-Dependent Responses of Anaerobic Digestion Systems to Repeated Temperature Disturbances”	
2:30 p.m.	Jon Hathaway “Real-Time Control for Enhanced Urban Stream Function”	Robert Brown “Nutrient Removal in a Stream Receiving Treated Wastewater and Industrial Effluent”	
3:00 p.m.	<b>Coffee Break in the Exhibit Room sponsored by <a href="#">Barge</a></b>		
	<b>Modeling</b> Moderator: Dj Wiseman, TDOT	<b>Biomonitoring</b> Moderator: Rich Cochran, TDEC	
3:30 p.m.	Effie Grace White “Streamlining PLET Modeling for Watershed Planning in Tennessee”	Anna Humphrey “Streamside Salamanders in Tennessee: Surveys and Urban Impacts”	
4:00 p.m.	Francesco Dell’Aira “A Hydrologic Simulation-free Approach for Assessing the Performance of Candidate Implementation Scenarios for Stormwater Control Measures”	Justin Murdock “A Statewide Survey of Algal Bloom and Cyanotoxin Distribution in Tennessee Surface Waters”	
4:30 p.m.	Ashish Shrestha “Full-scale Physical Modeling and CFD Simulations for Assessing the Performance of TDOT’s New End-of-Bridge Drainage Standard”	Katie Davis “Biomass and Structure of Infralittoral Algal Assemblages Revealed by Computation of Taxon Importance Values in an Eutrophic Reservoir”	
6:00 p.m.	<b>Dinner in Rooms A and B</b>		
6:00 – 8:00 p.m.	Poster Session: All Poster Presenters will be available for questions about their displayed poster		

Thursday, April 16 <sup>th</sup>		Breakfast in Exhibit Room <i>Sponsored by <a href="#">CAESER</a></i>	
7:30 a.m.	<b>Room A</b>	<b>Room B</b>	
	<b>Hydrology</b> Moderator: Andrea Ludwig, UTK	<b>Groundwater</b> Moderator: Drew Westerman, USGS	
8:30 a.m.	Clint Neel “Updating Discharge Ratings for Cumberland River Basin Dams”	Rodrigo Villalpando-Vizcaino “Making the Invisible Visible: A Visual Journey to Communicate Aquifer Heterogeneity”	
9:00 a.m.	Adrian Ward “When Sinkholes Stop Working: 2D Modeling a Karst Flood in Montgomery County, Tennessee”	Scott Schoefernacker “The Speed of Trust: Evolution of the West TN H2O Delegation to Secure a Clean Water Future”	
9:30 a.m.	John Schwartz “Advancing Methods for Stream Natural Channel Design”	Marcia Frempong “Integrating River Geomorphic Processes into Groundwater Management: Insights from Numerical Modeling”	

10:00 a.m.	<b>Coffee Break in Exhibit Room</b> <i>Sponsored by <a href="#">Nexcom</a> &amp; <a href="#">Trutta</a></i>	
	<b>Flood Management</b> Moderator: Adrian Ward, Barge	<b>Groundwater Part II</b> Moderator: Scott Schoefernacker, Protect our Aquifer
10:30 a.m.	Bradley Heilwagen "Flooding Krav Maga: Teaching Citizens to Defend Themselves During a Flood"	Ryan Adams "Applications of Airborne Electromagnetic Surveys for Hydrogeologic Framework Development in Western Tennessee"
11:00 a.m.	Jim Parham "Prioritizing Management Decisions from Hurricane Helene on the New River with High Definition Stream Survey (HDSS)"	Mary Yaeger "Drivers of Irrigation Dependence: Untangling the Complex Relationships Between Groundwater Availability, Hydroclimate, Soils, Landscape, Economics, and Technology"
11:30 a.m.	Crystal Moore "Expansion of the FIMAN Surface Water Gauge Network for NCDOT and NC Emergency Management"	Daniel Johnson "Geochemistry of Seeps, Springs, and Near-Surface Flow in Roadcuts Through the Sevier Shale in East Tennessee"
Noon	<b>Lunch in Rooms A and B Sponsored by</b> <b>Keynote Speaker: Tom Barnett, Tennessee Valley Authority - Vice President, River Operations</b> <b>"Hurricane Helene Response and Recovery"</b>	
	<b>Hurricane Helene Impacts</b> Moderator: Daniel Saint, TVA	<b>Aquifers</b> Moderator: Rodrigo Villalpando-Vizcaino, CAESER
1:30 p.m.	James Bryant "Nolichucky Dam - Response and Recovery"	Kristi Hill "Characterization of the Ambient Water Quality of the Central Basin Aquifer System in Tennessee"
2:00 p.m.	Forbes Walker "Farming After the Flood: Efforts to Revegetate Pasture Fields Flooded Post-Helene in East Tennessee"	Amy Hourigan "Characterization of the Ambient Water Quality of the Highland Rim Aquifer System in Tennessee"
2:30 p.m.	Andrea Ludwig "Restoring Riparian Resiliency in Helene-Impacted Watersheds"	Laura Ruhl-Whittle "Variability of Nutrient Concentrations in the Principal Aquifers of Tennessee"
3:00 p.m.	<b>Coffee Break in the Exhibit Room</b> <i>Sponsored by <a href="#">CEC</a></i>	
	<b>Regulated Rivers</b> Moderator: John Schwartz, UTK	<b>Infrastructure</b> Moderator: Adrian Ward, Barge
3:30 p.m.	Antonino Cancelliere, "A Stochastic Optimization Formulation for Forecast-informed Reservoir Operation"	Gerald Burnette "Artificial Intelligence: Boon or Bane?"
4:00 p.m.	Jason Reeves "Hitting the Curve - Ripshin Lake Dam Repairs"	Benjamin Ledesma "An AI-Enabled, Modular Research Platform for Water Resources Science"
4:30 p.m.	Janelle Schlamp "Effect of PMP Centering on PMF Elevations at Critical Sites on the Tennessee River"	Peter Li "AI-Assisted Web Tools for Identifying Headwater Watersheds Using USGS APIs and Interactive Geospatial Analysis"
5:00 p.m.	<b>Vendor Equipment Demonstration Session at the dock behind the hotel restaurant</b>	
6:00 p.m.	<b>Dinner in Rooms A&amp;B followed by TN AWRA Business Meeting and Poster Session Awards</b> <i>Social Hour Sponsored by <a href="#">RES</a></i>	
<b>Friday, April 17<sup>th</sup></b>		
7:30 a.m.	<b>Breakfast in Exhibit Room</b> <i>Sponsored by</i>	
	<b>Room A</b>	<b>Room B</b>
	<b>Stream Mitigation</b> Moderator: Ken Barry, CEC	<b>Emerging Technologies</b> Moderator: Ryan Jackwood, Harpeth Conservancy
8:30 a.m.	Jaimie Armitage "24 Choice Lanes SQT Project"	Ingrid Luffman "Automated Technology Complements Community Science Stream Stage Monitoring Project"
9:00 a.m.	Ceara Parks Oliver "Compensatory Mitigation for Stream Restoration: An Ecohydraulic Approach to Develop a Reference Curve"	Kevan Lee Lum "Unlocking the Landscape: Land Cover Classification using AI"
9:30 a.m.	John Schwartz "Overview of the Tennessee Mitigation Assessment Tool"	Roy Chuang "Innovative AIoT Based Smart Monitoring and Early Warning for Flood Preparedness"
10:00 a.m.	<b>Coffee Break in Exhibit Room</b> <i>Sponsored by <a href="#">Neel-Schaffer, Inc</a></i>	
10:30 a.m. – 12:00 p.m.	<b>Panel: "Navigating Change: The Role of Water Professionals in Water Policy"</b> The goal is to learn from a selection of leaders in the academic, public service, and nonprofit sectors through their experience in gaining and continuing inertia in the face of challenges, translating successes from place to place and across scales, and responding to extremes to keep moving forward. Moderators: Forbes Walker and Paul Davis	