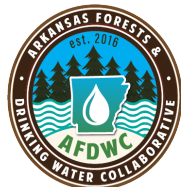


Arkansas Agriculture, Forestry, and Water Conference

July 28-30, 2026

Building Resilience through Sound Science and Practice



We have lined up an array of experts to share their research, perspectives, and experiences regarding agriculture, forests, and water issues and challenges across Arkansas.

AGENDA

Tuesday, July 28

- 9:00 a.m. **Welcome, Water Quality from PFAS to the Bugs in Our Waters, Moderator, Brian Haggard, Arkansas Water Resources Center**
- 9:00 a.m. PFAS in our NWA waters, karst springs to rivers and a recreational lake, Brian Haggard, Arkansas Water Resources Center
- 9:15 a.m. Detection of PFAS and oxidizable precursors in surface waters near a former fire-training area in Arkansas, Sarah Webb, Arkansas State University
- 9:30 a.m. Development of modified fly ash as a low-cost adsorbent for PFAS removal, Chidambaram Thamaraiselvan, University of Arkansas
- 9:45 a.m. A primer of PFAS removal strategies: sorbent design, molecular interactions, and micellization, Annie Lobitz, University of Arkansas
- 10:00 a.m. Degradation of Glyphosate by atmospheric cold plasma in an aqueous system, Muhammad Islam, University of Arkansas
- 10:15 a.m. Water quality and macroinvertebrates as indicators of wetland function within the Wetland Reserve Program, Jennifer Bouldin, Arkansas State University
- 10:45 a.m. A stoichiometric traits framework applied to Arkansas stream macroinvertebrate communities, Hal Halvorson, University of Central Arkansas
- 11:00 a.m. Interactive visualization of vertical profiles in Arkansas lakes, Tanner Senti, Arkansas Department of Energy and Environment
- 11:15 a.m. Verifying primary contact recreation in small watersheds, Connor Tolly, Arkansas Department of Energy and Environment
- 11:30 a.m. LUNCH (let students and poster presenters get food first)**
- 12:30 p.m. Poster Session
- 1:30 p.m. Understanding Groundwater in Arkansas: Historic Trends, Current Status, and Future Availability, Moderator, Laura Ruhl-Whittle, USGS**
- 1:30 p.m. Modeling groundwater in the Mississippi Alluvial Plain and Mississippi Embayment Regional Aquifer System, Leslie Duncan, Lower-Mississippi Gulf Water Science Center, U.S. Geological Survey

- 1:50 p.m. Reducing groundwater model forecast variance through geophysically-enhanced hydrogeologic refinement, John Richins, Lower-Mississippi Gulf Water Science Center, U.S. Geological Survey
- 2:10 p.m. Scenarios to assess the future water availability in the Mississippi River Valley Alluvial aquifer for the Cache River and Grand Prairie Regions of Arkansas, Jonathon Traylor, USGS and USDA ARS
- 2:30 p.m. Geochemical evolution of groundwater along flow paths in the Mississippi River Valley Alluvial and the Mississippi Embayment aquifer systems, Laura Ruhl-Whittle, Lower-Mississippi Gulf Water Science Center, U.S. Geological Survey
- 2:50 p.m. BREAK**
- 3:20 p.m. Sediment Phosphorus Release in Lake Frances in Relation to Illinois River Total Phosphorus Changes, Brian Haggard, AWRC
- 2:42 p.m. Building Ecological Literacy - The Illinois River Watershed Atlas and the Nature Center at Lake Frances, Ken McCown, University of Arkansas
- 3:00 p.m. BREAK**
- 3:20 p.m. Groundwater, Evapotranspiration, and Water Conservation, Moderators, Colby Reavis and Samantha Wacaster, Olsson**
- 3:20 p.m. OpenET: field-scale ET data to inform sustainable irrigation and water conservation practices, Sara Larsen, OpenET Inc. and NASA
- 3:40 p.m. The Groundwater Accounting Platform and OpenET – providing Insight on groundwater use for water users and managers, James Schneider, Olsson
- 4:00 p.m. From models to management: leveraging GET for science-based groundwater management in Arkansas, Samantha Wacaster, Olsson
- 4:20 p.m. Questions and Discussion
- 4:40 p.m. Conference wrap up. Dinner on your own**

Wednesday, July 29

- 8:00 a.m. Welcome, Tim Conklin, Director, Northwest Arkansas Regional Planning Commission**
- 8:10 a.m. Planning for Growth: A Regional Wastewater Strategy for Future Development, Aaron Benzing, Hawkins–Weir Engineers
- 8:30 a.m. What Are the Next Best Steps for Onsite Wastewater Treatment in Arkansas? A Stakeholder Roundtable, Moderators, Holly Wren, Environmental Scientist, BWD and Sarah Lewis, Director, Edgewater Coaching and Consulting
- 9:30 a.m. BREAK**
- 9:50 a.m. Practical Strategies for Source Water Protection and Land Conservation, Moderator, Joy Wasson, Director, Arkansas Forest and Drinking Water Collaborative**
- 9:50 a.m. Flood hazards and socioeconomic vulnerability across Arkansas, Brad Peter, University of Arkansas
- 10:10 a.m. Accelerating watershed protection through strategic conservation easements, Evan Johnson and Ben Speight, NWA Land Trust
- 10:30 a.m. Farms in transition: farmland protection and new pathways to farm ownership, Pam Nelson, NWA Farms Fund
- 10:50 a.m. Integrating restoration and community uplift, TJ Hein, Savanna Springs LLC
- 11:10 a.m. Communications that drive conservation, Morgan Keeling, IRWP
- 11:30 a.m. LUNCH (let students and poster presenters get food first)**
- 12:30 p.m. Poster Session

- 1:30 p.m. Stormwater and Growth: Why Regional Stormwater Management Matters, Moderators, Leif Kindberg, Director, IRWP, and Becky Roark, Director, BWA**
- 1:30 p.m. The Long Game: How Regional Flood Management Pays Off Over Decades, David Skuodas, Mile High Flood District
- 1:50 p.m. Panel, Stormwater and NWA growth – regionalized approaches, what’s working and what’s not?
- Joe Rexwinkle, Deputy Director of Planning, City of Rogers (Flood management challenges facing downtown Rogers)
 - Larry Oelrich, former Prairie Grove Director of Public Works and Administrative Services (Flood management, karst, and stormwater infrastructure challenges)
 - McKenzie Taake, Project Engineer, Olsson (Floodplain management, a consulting engineer’s perspectives on what’s working and what’s not in municipal projects)
- 2:30 p.m. BREAK**
- 2:50 p.m. Innovative Approaches to Stormwater Quality and Quantity Management, Moderators, Leif Kindberg, Director, IRWP, and Becky Roark, Director, BWA**
- 2:50 p.m. Planned floodplain zoning standards and current floodplain protection standards in the City of Rogers, Garrett Lampson, Stormwater and Stream Corridor Engineer, City of Rogers, AR
- 3:10 p.m. Promoting water quality via site development drainage criteria, Greg Simmons, Freese and Nichols, Inc.
- 3:30 p.m. Upper Trinity River Transportation and Stormwater Infrastructure Project, Susan Alvarez, Director Environment and Development, NCTCOG
- 3:50 p.m. City of Fayetteville stormwater utility implementation, Alan Pugh, Stormwater Engineer, City of Fayetteville
- 4:10 p.m. Questions, Discussion, and Shift to Walking Tour
- 5-6 p.m. Green infrastructure and native vegetation in urban stormwater - walking tour of downtown Fayetteville, Annie Sales, IRWP
- 6:30 p.m. Conference Social, Marley’s Pizzeria**

Thursday, July 30

- 8:00 a.m. Welcome, Tate Wentz, Chief of Water Strategy and Conservation, Arkansas Department of Agriculture**
- 8:05 a.m. Arkansas’s 319 Program Updates and Success Stories, Blake Forrest, Arkansas Department of Agriculture, Natural Resources Division
- 8:10 a.m. Green Infrastructure and LID Reduce Pathogens in Clear Creek, Leif Kindberg, IRWP
- 8:30 a.m. Stream Restoration and Riparian Planting Inspires Local Farmers to Create a Drainage District for Continued Improvement and Maintenance, Larkin Creek, Pat Perry, St. Francis Conservation District
- 8:50 a.m. Nonpoint Source Pollution Cost-Share Program, Incentivizing Local Farmers to Make a Difference, Fulton County, Arkansas, Kenny Crawford and Justin Dunavant, Fulton County Conservation District
- 9:10 a.m. Green Infrastructure Improves Water Quality and Changes Public Opinion in Stone Dam Creek Tributary, Kurt Jones, City of Conway
- 9:30 a.m. BREAK
- 10:00 a.m. Shifting Our Thoughts to the Convergence of Science, Policy, and Capacity, Moderator, Chandler Barton, Arkansas Department of Agriculture, Forestry Division**
- 10:00 a.m. Addressing litter with trash nets in Springfield, Missouri, Saki Urushidani, Professional Engineer, City of Springfield, MO
- 10:20 a.m. The heart of the deal: interjurisdictional agreements on waterway management, Jessica Norris, Biohabitats

- 10:40 a.m. Increasing watershed management capacity in Arkansas, John Pennington, University of Arkansas Cooperative Extension Service
- 11:00 a.m. Bridging the gap, prescribed burns: the benefits, limitations, and education, Thomas Baldrige, Arkansas Prescribed Burn Program
- 11:30 a.m. Conference Concludes, Conference Committee Remarks
- 12:00 p.m. AWRC Technical Advisory Luncheon, Invitation Only

Posters

Poster presentations will likely be split between Tuesday and Wednesday.

Research Posters:

1. Container-based gourmet mushroom farms: a resource-efficient model for Arkansas agriculture and value-added foods, Benjamin Bressington, BareRemedy Grow
2. NatureSTEAM: rooted in reading, nature glows, Courtney King, University of Arkansas
3. Surrogate modeling of suspended sediment concentration using turbidity in NW Arkansas streams, Ryder Myers, Lower-Mississippi Gulf Water Science Center, U.S. Geological Survey
4. Analyzing the impact of complex agricultural-reservoir systems on nutrient fractions, Danna Villarreal, University of Arkansas
5. The Influence of Ozark Chinquapin seed size and buoyancy on germination, Leonardo Jimenez-Garcia, Harber High School
6. Mapping community vulnerability to natural hazards in Arkansas through spatial analysis of socioeconomic characteristics, Emma Steuber, University of Arkansas
7. Arkansas's calm before the storm: Sub-seasonal weather whiplash intensifies following a multi-decadal decline, Kathleen Cutting, University of Arkansas
8. Nitrous oxide production and emissions in tailwater recovery systems in eastern Arkansas, Nellie Little, University of Arkansas
9. Lignin-modified magnetic nanoparticle adsorbents for phosphorus and nitrogen removal, Olufemi Ogunjimi, University of Arkansas
10. The impact of biochar amended poultry litter on nutrient release from pastureland soils, Mahima Quazi, University of Arkansas
11. Evaluation of cyanobacterial remediation strategies on the health of *Pimephales promelas*, Karimot Shobowale, Arkansas State University
12. Evaluating the regional hydraulic influence of long-term pumping on groundwater chemistry in the Mississippi Embayment, Sophia Seck, University of Arkansas
13. Environmental impacts of U.S. dairy goat milk production: A cradle-to-farm-gate life cycle assessment, Fatemeh Taghvaei, University of Arkansas
14. From prediction to practice: A systematic review of AI and machine learning for sustainable livestock production, Amir Shadjou, University of Arkansas
15. Coal fly ash for contaminant removal from water, Tasnimul Ferdous, University of Arkansas
16. GHG-efficient but economically fragile: Scale-dependent sustainability trade-offs in US dairy goat milk production, Uttama Deb, University of Arkansas
17. Farming transition in the Illinois River Watershed- a zero pollution solution, Jim Norwood, Arkansas Master Naturalists
18. Temporal and spatial changes in nutrient concentrations in the War Eagle Creek Watershed, AR, Brandy Everett, Arkansas Water Resources Center
19. Empowering Citizen Science: Are R-Cards an Affordable and Accurate Tool for Bacteria Monitoring? Brandy Everett, Arkansas Water Resources Center

AWRC Water Fellow and Chemical Engineering REU Posters:

20. Monitoring Matters: How Sampling Frequency Influences Interpretation of Water Quality in a Restored Urban Stream, Kira Burnett, University of Arkansas
21. Talking about Trees: Improving water and nutrient management in karst terrains through silvopasture, Deacon Gallaher, University of Arkansas
22. Geo-spatial optimization of data center locations in Arkansas for water security: Preliminary analysis and literature review, Russell Haggard, University of Arkansas
23. Water quality impacts of converting pasturelands to suburban development, Prairie Grove, AR, Madelyn Stiles, University of Arkansas
24. Exploring fate of cyanotoxin during harmful algal bloom treatment, Ryan Mayberry, University of Arkansas
25. Tuning zinc oxide surfaces with cobalt and magnesium oxide nanoparticles for catalytic PET methanolysis, Chris Bailey, University of Arkansas

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