

AGENDA OVERVIEW

	11:00 AM	Registration Desk Opens				
	1:00 PM	Welcome & Introductions Lynn Sisk AWRA Alabama Section President				
N	1:20 PM	Michael Roberts The Coastal Trust				
~	ğ. E.	Judy Haner The Nature Conservancy of Alabama				
9,	2:45 PM	Networking Break				
	3:15 PM	Renee Collini Mississippi-Alabama Sea Grant Consortium				
Щ,	Sec	Leslie Gahagan City of Foley				
WED - 9/7 AWRA AL Section Symposium	A	Jeff Collier City of Dauphin Island				
	≰ 4:40 PM	Announcements & Adjourn				
	5:30 PM	Social & Dinner (Flora-Bama)				
	7:15 AM	Breakfast Buffet				
	8:00 AM	Welcome Tom Littlepage Alabama Water Resources Conference Committee				
∞		Keynote Address Blackbelt Infrastructure Panel moderated by Mark Elliott - The University of Alabama				
		Lance LeFleur Alabama Department of Environmental Management				
		Sherry Bradley Alabama Department of Public Health - Bureau of Environmental Services Daniel Blackman US Environmental Protection Agency - Region 4				
6	8:45 AM	, , ,				
		Concurrent Session 1				
S		Groundwater Restoration I Water Quality I Lightning Talks I				
2	10:45 AM	Concurrent Session 2				
2	12 1E DM	Coastal Resiliency Restoration Water Quality Lightning Talks I				
THURS - 9/8		Lunch (Grand Reef) Concurrent Session 3				
_	1.4017	Water Quality III Aquatic Ecology I Coastal Resiliency II Lightning Talks III				
	3:00 PM	, , , , , , , , , , , , , , , , , , , ,				
	3:30 PM	Concurrent Session 4				
	5 20 D\4	Stormwater Aquatic Ecology II Coastal Issues Lightning Talks IV				
	5:30 PM	Social & Poster Session (Grand Reef) Refreshments are courtesy of sponsors				
6	7:15 AM	Breakfast Buffet				
	8:00 AM	Welcome Tom Littlepage Alabama Water Resources Conference Committee				
		Keynote Address Rodney Knight Director USGS - Lower Mississippi-Gulf Water Science Center				
2	8:45 AM					
FRI - 9/9	9:15 AM	Concurrent Session 5				
	10:35 AM	Agriculture & Irrigation Modeling I USGS RESTORE Wastewater Systems Mgmt. Outreach				
		Concurrent Session 6				
	13.307	GIS Modeling II Drought, Flood & Climate Water Law & Policy Water Quantity				
	12:15 PM	Conference Adjourns				

#2022ALWRC aub.ie/alwrc

SESSION QUICK REFERENCE

			URSD TBUFFET 7:					
1	GROUNDWATER CORAL	RESTORATI		WATER QUALITY I SALON E	LIGHTNING TALKS I SALON FGH			
2	COASTAL RESILIENCY I CORAL	RESTORATI SALON	ON II	WATER QUALITY II SALON E	LIGHTNING TALKS II SALON FGH			
	LUNCH IN GRAND REEF 12:15 - 1:30pm							
3	WATER QUALITY III CORAL	AQUATI ECOLOGI SALON		COASTAL SILIENCY II SALON E	LIGHTNING TALKS III SALON FGH			
·	BREAK 3:00-3:30рм							
4	STORMWATER CORAL	AQUATI ECOLOGY SALON	C	COASTAL ISSUES SALON E	LIGHTNING TALKS IV SALON FGH			
	POSTER S	SESSION & SO	CIAL IN GR	AND REEF 5:30-	-7:30рм			
	FRIDAY BREAKFAST BUFFET 7:15 - 8:00am							
3	AGRICULTURE & IRRIGATION CORAL	MODELING I EMERALD	USGS RESTORE SALON D	WASTEWATER SYSTEMS MGM SALON E	OUTREACH SALON FGH			
19 B	DDEAN 40 3E 40 FE							



SYMPOSIUM KEYNOTES



MICHAEL ROBERTS

PRESIDENT | THE COASTAL TRUST



JUDY HANER

NATURE CONSERVANCY OF ALABAMA



RENEE COLLINI



LESLIE GAHAGAN



Michael leads an organization dedicated to coastal conservation and promoting coastal resilience with a focus in restoring and protecting Chesapeake wetlands and riparian forests in the Chesapeake Bay watershed.

Judy has worked for 30 years with state agencies in partnership with NOAA's NERR Program, linking watershed activities with estuarine health to promote long-term, targeted coastal restoration.

Renee facilitates the flow of information between researchers and decision-makers to improve science application in her dual appointment with a focus on sea-level rise.

Leslie is a coastal Alabama native, who boasts over twenty years of experience in public education for stormwater management and water quality.



JEFF COLLIER MAYOR | CITY OF DAUPHIN ISLAND Jeff is a lifelong native of Dauphin Island, AL who has served as an elected official since incorporation in 1988, including more than 24 years as Mayor.

CONFERENCE KEYNOTES THURSDAY



LANCE LEFLEUR

DIRECTOR | ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



SHERRY BRADLEY

DIRECTOR | ALABAMA DEPARTMENT ENVIRONMENTAL SERVICES



DANIEL BLACKMAN

PROTECTION AGENCY - REGION 4



RODNEY KNIGHT

DIRECTOR | US GEOLOGICAL SURVEY LOWER MISSISSIPPI-GULF WATER SCIENCE CENTER

Lance is a former business founder and owner who has extensive private sector experience leading companies dedicated to environmental improvement. He has served in his current role since 2010.

Sherry brings a 44-year career in public health that has touched all areas of the environmental health program. She created the Black Belt Unincorporated Wastewater Program in 2019.

Daniel has dedicated his career to creating economic opportunities for marginalized communities in the Southeast. He was appointed to his current role in late 2021.

FRIDAY

Rodney, a 30-year USGS employee, has lead various, collaborative local projects with state and local partnrs predominately in the Lower Tennessee River. He assumed his current role in late 2020.

Alabama Section of the American Water Resources Association SYMPOSIUM

WEDNESDAY | SEPT. 7 | 1:00PM - 4:40PM

"Ecological Infrastructure"

11:00 AM	Posistration Dock Onone (Lobby)			
11.00 AM	Registration Desk Opens (Lobby)			
1:00 PM	Welcome & Introductions Lynn Sisk AWRA Alabama Section President			
1:20 PM	Maryland's Innovative Approach to Funding Water Quality Protections Michael Roberts President The Coastal Trust			
2:00 PM	Addressing Climate Impacts on The Nature Conservancy's Projects along the Northern Gulf of Mexico Judy Haner Marine Program Director The Nature Conservancy of Alabama			
2:45 PM	Networking Break			
3:15 PM	Panel: Sea Level Rise: Adaptation Planning and Strategies			
0	Renee Collini SLR Coordinator/Coastal Climate Resilience Specialist Mississippi- Alabama Sea Grant Consortium			
	Leslie Gahagan Environmental Director City of Foley			
Val	Jeff Collier Mayor City of Dauphin Island			
4:40 PM	Announcements & Adjourn			
5:30 PM	Social & Dinner (Flora-Bama - casual beach attire)			

GROUNDWATER

MODERATOR: GREG GUTHRIE, GEOLOGICAL SURVEY OF ALABAMA

- 1. Long Short-Term Memory (LSTM) Model for Predicting Groundwater Level in the State of Alabama (096). Victoria Robinson, The University of Alabama Department of Mathematics*
- 2. Hyporheic Zone Temperatures as an Indicator of Surface Water-Groundwater Interactions (081). Mary Hastings Puckett, Geological Survey of Alabama
- 3. Karst features and aquifer systems in Alabama (040). Gheorghe Ponta, Geological Survey of Alabama
- 4. In-Situ Chemical Oxidation Groundwater Remediation at the Robertsdale Elementary School ADEM Tank Trust Fund Site (141). Kendall Rich, Wood Environment & Infrastructure Solutions, Inc.

RESTORATION I SALON D

MODERATOR: PAT O'NEIL, GEOLOGICAL SURVEY OF ALABAMA (FORMER)

- 1. Use of Indicator of Reduction in Soils (IRIS) in Wetlands (083). Thorsten Knappenberger, Auburn University
- 2. Using hydrogeomorphic characteristics to predict tree species distribution and resulting ecosystem functions in a bottomland hardwood forest (080). Nate Jones, The University of Alabama
- 3. Pensacola East Bay Oyster Restoration Project (111). Heather Hyde, Jacobs Engineering
- 4. D'Olive Watershed Restoration in Baldwin County, Alabama (164). Christian Miller, Mobile Bay National Estuary Program

WATER QUALITY I SALON E

MODERATOR: CHRIS JOHNSON, ALABAMA DEPT. OF ENVIRONMENTAL MANAGEMENT

- 1. Generational funding opportunity "now is the time to fund your project" (029). John Laney and William Lott, Alabama Department of Environmental Management
- Carbon Dynamics in Headwater Wetlands of the Weeks Bay Watershed (087). Ana Flavia Brancalion Costa, Auburn University*
- 3. Investigating physical drivers of stream intermittency in Alabama (046). Delaney Peterson, The University of Alabama*
- 4. Using the BCG and measures of watershed condition to improve Alabama's Surface Water Quality Program (100). Lisa Huff, Alabama Department of Environmental Management

LIGHTNING TALKS I SALON FGH

MODERATOR: AMY GILL, US GEOLOGICAL SURVEY

- 1. The spatiotemporal patterns of community vulnerability in Mobile Bay from 2000-2020 (172). Wanyun Shao, The University of Alabama
- 2. Temperature Tolerances of Threatened Organisms in the Cahaba River and how Future Climate Conditions May Impact Them (082). Jonathan Carpenter, Auburn University*
- 3. Hurricane Patterns on the Emerald Coast and the Risk They Pose (116). Christopher Whatley, Auburn University*
- **4.** The effects of dams and invasive species on community structure and trophic interactions of stream crayfishes (119). Riley Egan, Troy University*
- 5. The relationship between changing land use land cover and macroinvertebrate diversity over twenty years in Choccolocco Creek, Northeast Alabama (147). Kindall Brown, Jacksonville State University Department of Biology*
- **6. Comparing sediment dynamics between a natural and constructed tidal marsh of the Gulf of Mexico (120).** Jacob Dybiec, The University of Alabama*
- 7. Spatio-temporal variation of nitrogen biogeochemistry in a forested intermittent watershed (092). Kaci Zarek, The University of Alabama*
- 8. Microplastic accumulation, excretion, and effects on the behavior of freshwater organisms-Daphnia magna (144). Jessica Okutsu, Auburn University*
- 9. EPA Gulf of Mexico Program Funding (015). Amy Newbold, US EPA Gulf of Mexico Program

SESSION 2 THURSDAY | SEPT. 8 | 10:45AM - 12:05PM



COASTAL RESILIENCY

CORAL

MODERATOR: REBECCA BEARDEN, GEOLOGICAL SURVEY OF ALABAMA

- 1. A human-natural framework for assessing, forecasting and managing for coastal resiliency at Perdido Bay (157). Christopher Anderson, Auburn University
- 2. Extreme weather threat and watershed land use change: A study of forest landowners on the northern Gulf of Mexico (050). Anna Brown, Auburn University*
- 3. Muddied waters: Stakeholder perceptions of water quality and clarity in the northern Gulf of Mexico (021). Kelly Dunning and Greg Johnson*, Auburn University

RESTORATION II

SALON D

MODERATOR: AMY GILL, US GEOLOGICAL SURVEY

- 1. How EPA's How's My Waterway Creates Easy Access to EPA's Data (016). Amy Newbold, US EPA Gulf of Mexico Program
- 2. Freshwater Conservation at Scale: A 5-Year Review of Successes, Challenges and Adaptive Thinking (017). Jason Throneberry and Alana Reynolds, The Nature Conservancy
- 3. ARSNiC: A New Approach for Prioritizing Aquatic Organism Passage and Infrastructure in Alabama (002). Daniel West, Geological Survey of Alabama

WATER QUALITY II

SALON E

MODERATOR: CHRIS JOHNSON, ALABAMA DEPT. OF ENVIRONMENTAL MANAGEMENT

- 1. Assessment of Water Quality and Sediment Chemistry at an Abandoned Mine Land Site in Eastern Tuscaloosa County, Alabama (012). Abby Friedman, The University of Alabama*
- 2. Stream Crossings in Georgia, A Handbook for Connectivity and Resilience (GA-ACT) (170). Fred Halterman, Moffatt and Nichol Engineers
- 3. Using molecular tools to discover organisms responsible for taste and odor episodes in a drinking water reservoir (004). Brendan Higgins, Auburn University
- 4. Impacts of change in landscape composition and configurations on the water quality of Pensacola watershed-bay systems (075). Tesfay Gebremicael, University of Florida

LIGHTNING TALKS II

SALON FGH

MODERATOR: PAT O'NEIL. GEOLOGICAL SURVEY OF ALABAMA (FORMER)

- 1. The Georgia Flow Incentive Trust (GA-FIT) Protecting Farmers and Streams (068). Mark Masters, Albany State University Georgia Water Planning & Policy Center
- 2. Projected Mid-Century Rainfall Erosivity under Climate Change Over the Southeastern United States (007). Bijoychandra Takhellambam, Auburn University*
- 3. Conservation Practice Adoption and Disadoption in the U.S. (061). Wendiam Sawadgo, Auburn University
- 4. Geographical Distribution of Perceptions: Identifying and Mapping Barriers to Climate-Smart Agriculture in Alabama (073). Ruchie Pathak, The University of Alabama*
- 5. Effect of Image resolution and soil core size on soil pore characteristics (056). Preetika Kaur, Auburn University*
- 6. Alabama Drought Reporting and Condition Monitoring Program A New Partnership (161). Rachel McGuire, Auburn University Water Resources Center
- 7. Sediment Transport and Storage in Geographically Isolated Wetlands within Agricultural Fields in the Southeastern USA (057). Chloe Eggert, Auburn University*
- 8. Evaluation of Atmospheric Land Exchange Inverse model (ALEXI) Evaporative Stress Index (ESI) utilizing Soil Climate Analysis Network (SCAN) stations across Alabama (094). Corey Walker, University of Alabama in Huntsville*



SESSION 3 THURSDAY | SEPT. 8 | 1:40PM - 3:00PM

WATER QUALITY III

CORAL

MODERATOR: SABRA SUTTON, ALABAMA ASSOCIATION OF CONSERVATION DISTRICTS

- 1. Interactions of Per and Polyfluoroalkyl Substances with Dissolved Organic Matter as a Potential Contributor to Soil and Water Contamination. (138). Yaniv Olshansky, Auburn University
- 1. Modeling Organic Carbon Loading with the Soil Water Assessment Tool: Application to the Big Creek Watershed (076). Sabahattin Isik, Auburn University
- 2. Alabama's Area Wide Optimization Program (005). William McClimans, Alabama Department of Environmental Management
- 3. Status of Centralized Wastewater Treatment and Land Applications Sites in the Alabama Black Belt (030). Tristan Wilson and Carey Clark, Auburn University*

AQUATIC ECOLOGY I

SALON D

MODERATOR: TODD FOBIAN, ALABAMA DEPT. OF CONSERVATION & NATURAL RESOURCES

- 1. Following Watershed Management Plan Recommendations to Eradicate the Island Apple Snail from the Langan Park Lakes in Mobile, Alabama (165). Christian Miller, Mobile Bay National Estuary Program
- 2. Demonstrating De Minimis Impacts at Cooling Water Intake Structures (018). Lynn Sisk, Jacobs Engineering and Sheila Scott, Ascend Performance Materials
- 3. Tidal creek ecosystem structure and function changes associated with coastal watershed development (128). Samuel Bickley, Auburn University*
- 4. Water Quality Analysis and Habitat Threats Concerning the Slenderclaw Crayfish on Sand Mountain in Northeast Alabama (059). Rebecca Bearden, Geological Survey of Alabama

COASTAL RESILIENCY II

SALON E

MODERATOR: ASHLEY HENDERSON, ALABAMA SOIL AND WATER CONSERVATION COMMITTEE

- 1. Development of a Cross-scale Hydrodynamic Model for Perdido Bay (067). Zhilong Liu, University of South Alabama, Dauphin Island Sea Lab
- 2. Long term trends in temperature, salinity, oxygen, and pH in Alabama coastal waters (019). John Lehrter, University of South Alabama
- 3. Assessment of the impacts of land use change and future climate change on water quantity and quality in the Perdido Watershed (043). Dongjun Lee, Auburn University*
- 4. Forest Carbon Offset Markets and Water Quality (166). Richard Hall, Auburn University

LIGHTNING TALKS III

SALON FGH

MODERATOR: ROY MCAULEY, MANUFACTURE ALABAMA

- 1. Overview of Alabama's Growing Envirothon Competition (123). Courtney Curenton, Alabama Association of Conservation Districts
- 2. Partnerships and Funding Opportunities (168). Ronald Davis, Wiregrass RC&D
- 3. National Association of RC&D Councils Organization Update (167). Colton Buckley, National Association of RC&D Councils
- 4. "How-To" Guide for Wastewater Management of Rural, Underserved Communities in the Black Belt Region of Alabama: A Resource for Local Stakeholders (113). Jillian Maxcy Brown, The University of Alabama*
- 5. Exploring and Mitigating Pathogen Pollution in Our Waters through Youth-Focused Citizen Science (077). Mona Dominguez, Auburn University Water Resources Center
- 6. An Educator's Guide to Alabama Rivers (148). Sydney Zinner, Alabama Water Watch
- 7. AFC Coastal Program Update: Current and Future Funding Opportunities (025). Ryan Peek, Alabama Forestry Commission
- 8. SipSafe Program: Findings from our first year of lead testing in drinking water at child care facilities (093). Jason Barrett, Mississippi Water Resources Research Institute

*STUDENT PRESENTER

BREAK: 3-3:30 PM

SESSION 4 THURSDAY | SEPT. 8 | 3:30PM - 4:50PM



STORMWATER

MODERATOR: LISA HARRIS, CHOCTAWHATCHEE, PEA & YELLOW RIVERS WMA

- 1. Enhancing the Hydraulic Performance of Wattles for Erosion and Sediment Control (041). Jannell Clampitt, Auburn University*
- 2. Breaking Down LID+GSI Barriers: A Code Audit Tool for Local Governments (159). Eban Bean, University of Florida
- 3. Research Update for the Auburn University Stormwater Research Facility (048). Wes Donald, Auburn University
- 4. 2022 Updates to Alabama's Blue Book (001). Perry Oakes, AL Soil and Water Conservation Committee

AQUATIC ECOLOGY II

SALON D

MODERATOR: TODD FOBIAN, ALABAMA DEPT. OF CONSERVATION & NATURAL RESOURCES

- 1. The importance of agency-academia partnerships in training aquatic biologists of the future (131). Lori TolleyJordan, Jacksonville State University
- Species-specific thermal stress responses in freshwater mussels of the Pea River, AL (160). Hannah Adkins, Troy University*
- 3. The Rise and Fall of Native Black Bass Diversity in the Southeastern U.S. (098). Steve Sammons, Auburn University
- 4. A review of North American freshwater mussel (Bivalvia: Unionoida) lethal thermal tolerance (163). Kaelyn Fogelman, Auburn University

COASTAL ISSUES

SALON E

MODERATOR: ATHENA CLARK, US GEOLOGICAL SURVEY

- 1. Assessing the spatial variation of wave climate in a fetch-limited estuary with clustering methods (070). Ramin Baghbani, Mississippi State University*
- 2. Applying what we know about local ecological knowledge of Gulf of Mexico anglers to coastal resilience and management challenges across ecosystems (022). Kelly Dunning and Daniel Morris*, Auburn University
- 3. Saltwater Disposal Wells: An Economic Search to Recover Valuable Metals from Produced Waters (049). Ann Arnold, Geological Survey of Alabama
- 4. Recovering the Oyster Fisheries and Habitat in the Pensacola Bay System (026). Haley Gancel, Pensacola & Perdido Bays Estuary Program

LIGHTNING TALKS IV

SALON FGH

MODERATOR: MARY HASTINGS PUCKETT, GEOLOGICAL SURVEY OF ALABAMA

- 1. Assessing the Temporal Variations in Groundwater Recharge Fluxes in Wolf Bay Watershed (028). Pooja Preetha, Alabama A&M University
- 2. Empowering oyster growers while growing capacity: Addressing microbiological impediments on shellfish aquaculture (132). Melissa Partyka, Auburn University
- 3. Ethics in the field: evaluating the environmental impacts of field research. (072). Shelby Rinehart, The University of Alabama
- 4. Novel Time-integrated Techniques to Quantify Waterborne Fecal Microorganisms in the Alabama Black Belt (154). Corinne Baroni, The University of Alabama*
- 5. Engaging partners and empowering communities: establishing a well water network in Alabama (033). Jessica Curl, Auburn University Water Resources Center
- 6. Forecasting harmful algal blooms in inland water bodies using Sentinel-2 data and long-short term memory (LSTM) (134). Kamand Bagherian, Auburn University*
- 7. A Status Check of Groundwater Data Management in the Southeastern U.S. (039). Eliane Volk, The University of Alabama
- 8. Blindly Seeking the Blind: Assessing the Efficacy of an Environmental DNA (eDNA) Metabarcoding Approach For The Detection Of Subterranean Crayfish (052). Nathaniel Sturm, Geological Survey of Alabama Ecosystems Investigations Program.



STUDENT POSTERS

- 1. Wetland Accretion Rate Model of Ecosystem Resilience (WARMER) and Its Application to Coastal Transportation Infrastructure Along Alabama State Route 180. (071) John Anderson, Auburn University
- 2. Investigating the Differences in Severity and Frequency of Multi-year Streamflow Deficits Using Instrumental and Reconstructed Data: A Case Study of the Wasatch Mountain Basins. (122) Danyal Aziz, The University of Alabama
- **3.** Using Analytical Hierarchy Process to Quantify Survey Data for GIS Modeling. (078) Aaron Blackwell, The University of Alabama
- 4. Quantitative Microbial Risk Assessment to determine the level and source of fecal pollution, nutrients and water quality for various land uses and characterization in NW Florida aquatic systems. (062) Ronell Bridgemohan, Watershed Management Laboratory, UF WFREC
- 5. Performance of a Hybrid Sand Filter for Onsite Wastewater Treatment Applications in the Alabama Black Belt. (124) Rachel Chai, University of South Alabama
- **6.** Life Cycle Analysis of Water Distribution Systems in the Context of Physicochemical Pipe Degradation. (014) Jonathan Clayton, The University of Alabama
- 7. Investigating the Effectiveness of Best Management Practices in Reducing the Agricultural Water Footprint in Alabama. (171) Betelhem Demeke, The University of Alabama
- **8.** Examining the extent and functional value of headwater wetlands in relation to land use in coastal Alabama. (158) Kurtis Fisher, Auburn University
- 9. Detecting global declines of stoneflies at a local scale: measuring changes in stonefly diversity in the Cahaba River of central Alabama. (135) Gabriella Gentry, Jacksonville State University
- 10. Improved Stormwater Management through Zeolite Amended Bioretention Media. (091) Shelton Griffith, Auburn University
- 11. Stream temperature prediction using a machine learning approach in the Mobile River Basin, AL. (090) Henrique Haas, Auburn University
- 12. Flue Gas Desulfurization (FGD) Gypsum can Effectively Remove Phosphorous (P) from Water. (010) Ansley Hamid, Auburn University
- 13. Citizen-Science approach to testing private well water quality. (118) Sharaf Anika Hoque, Auburn University
- 14. Effect of cover crop and tillage practices on soil pore characteristics. (051) Preetika Kaur, Auburn University
- 15. Into the deep: How far into the water column can a drone actually measure? (069) Kelly Kaye, Auburn University
- **16.** Assessment of a modified evaporation method used for evaluating unsaturated soil properties. **(121)** Mahlet Kebede, The University of Alabama
- 17. Engineering Cost-Effective Biochars for Efficient Removal of PFAS in Water. (023) Samuel Krebsbach, Auburn University
- **18.** Impacts of Tropical Cyclone on Streamflow and Suspended Sediment Dynamics in Large Global Rivers. (031) Sera May, The University of Alabama
- 19. Geochemical modeling of the speciation and mobilization of arsenic and molybdenum in coal combustion residual sites of Alabama, USA. (143) Shifat Monami, Auburn University
- 20. Evaluation of LSTM Networks for Forecasting Multi-season Streamflow in a Mountain Catchment. (107) Savalan Neisary, The University of Alabama

- 21. Assessing the benefits of different GIPs for improvement of stormwater runoff quality from a parking lot. (112) Gianlucca Nicolaico, Auburn University
- 22. Comparison of a rectangular grid and hybrid curvilinear grid EFDC hydrodynamic models in Biscayne Bay. (109) Nathaniel Nwogwu, Auburn University
- 23. Ensuring safe drinking water quality in Northern Haiti: Financial sustainability of drinking water laboratory related to Operating Costs, User Demand, and Economic Conditions. (037) Lonege Ogisma, Auburn University
- **24.** Evaluation of wood-chip bioditch reactors as a nutrient reduction conservation strategy. **(101)** Geoffrey Payne, Arkansas State University
- 25. Spatial and temporal changes of flash flood occurring precipitation events (FOPE) in the Southeastern United States. (058) Mohammad Siddigur Rahman, The University of Alabama
- 26. The Development of a MODFLOW Groundwater Model to investigate groundwater/surface water interaction in the Mobile Bay Watershed. (153) John Richins, USGS Lower Mississippi-Gulf Water Science Center
- 27. Examining the effect of salinity on dolphin mortality by Lagrangian particle tracking in a hydrodynamic model. (066) Mehrzad Shahidzadehasadi, Auburn University
- 28. Runoff sediments and nutrient losses from soybean crop. (142) Arpita Sharma, Auburn University
- 29. Rainfall Intensity-duration-frequency curves over Southeastern, US under climate scenarios using Artificial Neural Networks. (011) Bijoychandra Takhellambam, Auburn University
- 30. Evaluating the Synergistic Effects of MIEX Resin and Coagulation on the Removal of Disinfection Byproduct Precursors in a Pilot-Scale Water Treatment Plant. (044) Melanie Vines, The University of Alabama
- **31.** Hydrologic Controls on Organic Matter Partitioning in Headwater Streams Across Alabama. (149) Michelle Wolford, The University of Alabama
- **32.** Water Availability in HUC06 Basins Under the Changing Climate Using Budyko Framework. (036) Fitsume Wolkeba, The University of Alabama
- **33.** Watershed Network Dry Down Effects on Dissolved Gas Concentrations (N2, Ar, O2) in a Prairie Stream. (089) Kaci Zarek, The University of Alabama

WATER PROFESSIONAL POSTERS

- 34. Phosphorus solubility in traditional versus gypsum treated poultry litter and its environmental implications. (145) Debolina Chakraborty, Auburn University
- 35. Los Angeles Aqueduct: Geovisualization of Key Infrastructure and Design Phases I, II, and III. (034) Philip Chaney, Auburn University
- 36. Alabama Center Pivot Irrigated Acreage Survey: 2006-2021. (047) Krel Haynes, University of Alabama in Huntsville
- 37. Stochastic Analysis of Profitability of Irrigated Corn Production in Alabama. (152) Denis Nadolnyak and Valentina Hartarska, Auburn University
- 38. Monitoring sediment and nutrient losses from paired watersheds in agriculture fields in runoff water in Alabama farms. (146) Anh Nguyen, Auburn University
- 39. Stream Connectivity: Geomorphic and Anthropogenic Influence on Longitudinal Fragmentation in Alabama. (008)
 Daniel West, Geological Survey of Alabama

COME SEE A SPECIAL GUEST FROM
NAVARRE BEACH SEA TURTLE CONSERVATION CENTER!
#2022ALWRC



SESSION 5 FRIDAY | SEPT. 9 | 9:15AM - 10:35AM

AGRICULTURE & IRRIGATION

MODERATOR: BOB PLASTER, ALABAMA DEPT. OF AGRICULTURE & INDUSTRIES

CORAL

- 1. Understanding the interacting effects of climate and land use on sedimentation rates in geographically isolated wetlands in agricultural landscapes (102). Frances O'Donnell, Auburn University
- 2. Effects of Poultry Litter with Flue Gas Gypsum Bedding on Nutrient Release and Water Quality (060). Anna Powell, Auburn University*
- 3. Evaluating Ecosystems Services for Irrigated versus Rainfed Agricultural Land in Watershed Plans (063). Maury Estes, University of Alabama in Huntsville
- **4.** A quantitative PCR-based approach to assess fecal pollution sources in the Lake Martin Watershed (038). Wenjing Ren, Auburn University*

MODELING I

EMERALD

MODERATOR: KEITH CHANDLER, ALABAMA POWER

- 1. Developing Water System Climate Resilience with Research to Operations Stakeholder Engagement (106). Steven Burian, The University of Alabama
- 2. Restoring streamflow in southeastern watersheds: simulated forest restoration and irrigation reduction have similar effects (013). Steven Brantley, Jones Center at Ichauway
- 3. Investigating the impacts of longleaf pine (Pinus palustris) restoration on water quantity and quality in the Mobile River Basin-AL (088). Henrique Haas, Auburn University*
- 4. Documenting change in the Coosa Bypass using the High Definition Stream Survey (103). Brett Connell, Trutta Environmental Solutions

USGS RESTORE

SALON D

MODERATOR: GREG GUTHRIE, GEOLOGICAL SURVEY OF ALABAMA

- 1. Uncertainty of Multiple-Machine Learning Statistical Daily Salinity Forecasting for Bays and Estuaries of the Gulf Coast (117). William Asquith, USGS Oklahoma-Texas Water Science Center
- 2. Ecological limit functions relating 2000-2020 streamflow statistics to benthic macroinvertebrate multimetric index in Mississippi, USA. (127). Sarah Banks, USGS
- 3. Low-flow frequency estimation from synthetic daily mean streamflow with bias correction estimated at 5,316 level-12 hydrologic unit code (HUC12) pour points in the south-central and southeastern United States (162). Amanda Whaling, USGS LMG WSC
- 4. Baseline Flow, Gage Analysis, and On-Line Tool Development Supporting Bay and Estuary Restoration in Gulf States (140). Kirk Rodgers, USGS Lower Mississippi-Gulf Water Science Center
- 5. Generalized Additive Model Estimation of No-Flow Fractions and L-Moments to Support Flow-Duration Curve Quantile Estimation (136). Elena Crowley Ornelas, USGS
- 6. Modeling hydrologic alteration in the Pearl and Pascagoula River Basins using rule-based model tree machine learning algorithm (133). Victor Roland, USGS

WASTEWATER SYSTEMS MANAGEMENT

SALON E

MODERATOR: LYNN SISK, JACOBS

- 1. Seeking Sustainable and Replicable Wastewater Solutions for Small, Rural Communities in the Alabama Black Belt-Decentralized Cluster Demonstrations (139). Kevin White, University of South Alabama
- 2. Soluble recalcitrant phosphorus removal and recovery from wastewater using micro-algae systems (085). Giacomo DeLuca III, University of South Alabama*
- 3. Understanding Socio-technical Barriers to Decentralized Wastewater Management in the Rural Alabama's Black Belt (064). Amal Bakchan, University of South Alabama
- 4. Functionalized-MXene Thin-Film Nanocomposite Hollow Fiber Membranes for Enhanced PFAS Removal from Water (009). Milad Esfahani, The University of Alabama

OUTREACH

SALON FGH

MODERATOR: ASHLEY MCVICAR, ALABAMA POWER

- 1. Spreading awareness and prevention of marine debris through community cleanup events (035). Jessi James, Mississippi Inland Cleanup Program
- 2. Reimagining Public Participation in Watershed Stewardship (045). Laura Bell, Auburn University Water Resources Center
- 3. Turning a Plan into Action: Working alongside stakeholders to restore the Pensacola and Perdido Bays (104). Whitney Scheffel, Pensacola and Perdido Bays Estuary Program
- 4. Respecting Public Priorities & Protecting Water Resources (065). Scott Rogers, Alabama Department of Transportation

*STUDENT PRESENTER

BREAK: 10:35-10:55 AM

SESSION 6 FRIDAY | SEPT. 9 | 10:55AM - 12:15PM



GIS

MODERATOR: LYNN SISK, JACOBS

CORAL

- 1. Are elevated E. coli concentrations in Choccolocco Creek related to onsite wastewater treatment systems and land cover? (110). Mallory Jordan, Auburn University*
- 2. Septic Tank Inventory: A GIS approach to base line data collection (126). Casey Fulford, AL Association of Conservation Districts
- 3. A GIS Analysis of Individual On-Site Wastewater Disposal Systems and their Vulnerability to Climate Change in Coastal Regions (125). John Cartwright, Mississippi State University
- **4.** Mapping the Impacts of Climatic Extremes across the CONUS on the cloud and on-the-fly (032). Anuska Narayanan, The University of Florida*

MODELING II

EMERALD

MODERATOR: JENNIFER RASBERRY, ALABAMA POWER

- 1. Future Project Timelines in the Changing Landscape of FEMA's Risk MAP Program (086). Jeff Zanotti, Wood Environment & Infrastructure Solutions, Inc.
- 2. Floating Aquatic Vegetation on Wheeler Reservoir, Alabama (024). Daniel Saint, Tennessee Valley Authority
- 3. Diverse farmer behaviors lead to complex food-water-energy interactions (042). Nicholas Magliocca, The University of Alabama Department of Geography
- 4. An Overview of FEMA Flood Risk Products Available for Communities in Alabama (099). Kelley Rich, Wood Environment & Infrastructure Solutions, Inc.

DROUGHT, FLOOD & CLIMATE

SALON D

MODERATOR: EVE BRANTLEY, AUBURN UNIVERSITY WATER RESOURCES CENTER

- 1. Drought Impacts on Reservoir Retention Time in Alabama and the Southeastern United States (130). Benjamin Webster, Auburn University*
- 2. USGS Water Mission Area FY21 NGWOS R&D Project: USGS Real-time Flood Impact Map (169). Athena Clark, U.S. Geological Survey
- 3. Differences in tolerance and responses to thermal stress between diploid and triploid oysters in the northern Gulf of Mexico (115). Kayla Boyd, Auburn University*

WATER LAW & POLICY

SALON E

MODERATOR: ASHLEY HENDERSON, ALABAMA SOIL AND WATER CONSERVATION COMMITTEE

- 1. ADEM Drinking Water Update (006). Ross Caton, Alabama Department of Environmental Management
- 2. Delineation of Groundwater Recharge Areas for Water Management and Water Policy Development (020). Greg Guthrie, Geological Survey of Alabama
- 3. Rural Resources Mapping Alabama Grassroots Groups (003). Ryan Thomson, Auburn University Department of Agricultural Economics and Rural Sociology
- 4. Developing an Ecosystem Services Framework in Watershed Plans (129). Adam Newby, Auburn University Water Resources Center

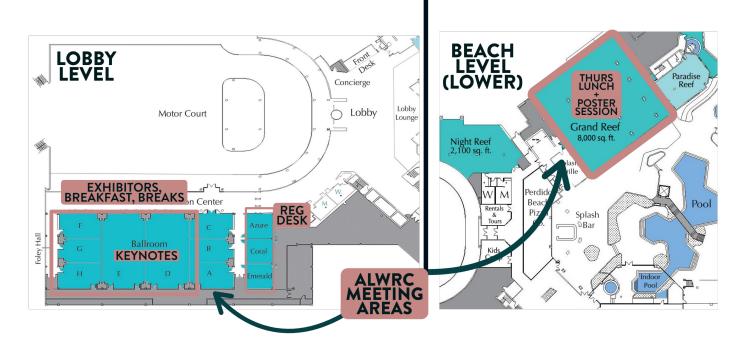
WAIEK QUANIIIY

SALON FGH

MODERATOR: TOM LITTLEPAGE, AL ABAMA DEPT. OF ECONOMIC AND COMMUNITY AFFAIRS

- 1. Update on Water Use Data Management Application for Alabama (027). Michael Harper, Alabama Office of Water Resources
- 2. Public knowledge and understanding about groundwater (097). Ann Ojeda, Auburn University
- 3. An irrigation potential index for sustainable surface water withdrawals (105). Lee Ellenburg, University of Alabama in Huntsville
- 4. Water Use in the Tennessee Valley for 2020 and Projected Use in 2045 (053). Jenny Sharkey, Tennessee Valley Authority

RESOURCES & REMINDERS





SCAN TO DOWNLOAD THIS PROGRAM



SCAN TO EVALUATE A STUDENT ORAL PRESENTER**



**Students should not evaluate each other

#2022ALWRC

Snap your photo with the backdrop near the Registration Desk and tag @AuburnWater!

All Attendees: Check the back of your nametag

- Raffle ticket is for Friday morning's Keynote raffle for a 2-day stay at the PBR.
- The QR Code is for Plenary Session interactive polls and Q&A on Wed, Thurs, Fri
- A pink dot = you paid for Wed. night's Flora-Bama Social; number in dot = number of guest tickets.
- A green dot = poster judge.

Oral Presenters: After checking in at the Registration Desk, report to the Speaker Ready Room to confirm your presentation is loaded for your Session.

Lightning Talk Presenters: Please report to your Session room 5-10 minutes before your Session start time to check in with your Moderator.

Poster Presenters: You are responsible for setting up your poster in Grand Reef on your assigned easel number by 5:30pm on Thursday.

Poster Judges: Meet at the Registration Desk on Thursday after Session 4 concludes (~4:50pm) for your judge packet.

Moderators: Please pick up your moderator packet at the Registration Desk; arrive to your Session room 5-10 minutes early.

aub.ie/alwrc



PLATINUM







Water Resources Center



Alabama Water Institute















GOLD









o Birmingham, Alabama o 205.533.0449 o







BRONZE













