SESSION QUICK REFERENCE

THURSDAY

BREAKFAST BUFFET IN GRAND REEF 7:00 - 7:45am

1

STORMWATER 1	RESTORATION 1	WATER QUALITY 1	COASTAL ISSUES 1	MODELING & WATER MANAGEMENT 1
BALLROOM C	BALLROOM D	BALLROOM E	BALLROOM F	SANDCASTLE

2

STORMWATER 2	RESTORATION 2	WATER QUALITY 2	COASTAL ISSUES 2	MODELING & WATER MANAGEMENT 2
BALLROOM C	BALLROOM D	BALLROOM E	BALLROOM F	SANDCASTLE

LUNCH IN GRAND REEF 12:15 - 1:30pm

MINI JOB FAIR IN BALLROOM LOBBY 1:00 - 1:30pm

3

EXTENSION, OUTREACH & PARTNERS 1	WATER & ENERGY MANAGEMENT	WATER QUALITY 3	WATER LAW & POLICY 1	MODELING & WATER MANAGEMENT 3
BALLROOM C	BALLROOM D	BALLROOM E	BALLROOM F	SANDCASTLE

BREAK 3:00 - 3:30pm

4

EXTENSION, OUTREACH & PARTNERS 2	WATER QUANTITY	WASTEWATER SYSTEMS MANAGEMENT	WATER LAW & POLICY 2	HABs & OTHER CONTAMINANTS
BALLROOM C	BALLROOM D	BALLROOM E	BALLROOM F	SANDCASTLE

POSTER SESSION & SOCIAL
IN GRAND REEF 5:30 - 7:30pm

FRIDAY

BREAKFAST BUFFET IN GRAND REEF 7:00 - 7:45am

5

WATER MONITORING	LIGHTNING TALKS - RESEARCH 1	LIGHTNING TALKS - OUTREACH	WATER LAW & POLICY PANEL	EMERGING CONTAMINANTS
BALLROOM C	BALLROOM D	BALLROOM E	BALLROOM F	SANDCASTLE

BREAK 10:35 - 10:55am

6

WATER SECURITY & RISK	LIGHTNING TALKS - RESEARCH 2	AGRICULTURE & IRRIGATION	GROUNDWATER	GIS
BALLROOM C	BALLROOM D	BALLROOM E	BALLROOM F	SANDCASTLE

ADJOURN

www.aub.ie/alwrc

SESSION 1 THURSDAY | SEPT. 5 | 9:15AM - 10:35AM

STORMWATER 1
BALLROOM C
MODERATOR: ASHLEY HENDERSON, ALABAMA SOIL & WATER CONSERVATION DISTRICT

1. **Managing Vegetation to Manage Erosion Control.** Perry Oakes, Alabama Soil and Water Conservation Committee. (#004)
2. **Hard Work Pays Off: Leveraging Grant Funding and Sweat Equity to Improve Stormwater Quality and Restore Riparian Stream Buffers at a Wastewater Treatment Facility.** Dusty Kimbrow, The City of Auburn. (#151)
3. **Understanding Different Factors for the Runoff Control of Infiltration Swales Along Roadways.** Yuting Ji*, Auburn University. (#184)
4. **Stormwater Recharged: Innovating with Electrical Flocculation.** Megan Armstrong*, Auburn University. (#187)

RESTORATION 1
BALLROOM D
MODERATOR: MIKE FEDOROFF, ALABAMA WATER INSTITUTE

1. **Restoration of Klingle Creek in Washington, D.C.** Ranbir Kang, Kennesaw State University. (#009)
2. **The Little Lagoon Restoration Project: A Multi-Component Approach to Water Quality and Ecosystem Restoration.** Carl Ferraro, Stantec Consulting Services Inc. (#015)
3. **Freshwater Restoration Across Alabama's Rural Landscape.** Alana Reynolds, The Nature Conservancy. (#079)
4. **Dredging is a Messy Business: Managing Water Quality During Implementation.** Alan Fowler, Geosyntec. (#148)

WATER QUALITY 1
BALLROOM E
MODERATOR: SHANNON WEAVER, USDA NATURAL RESOURCES CONSERVATION SERVICE

1. **Formation of Mineral Scale on Paper Evaporative Cooling Pads using a Farm Well Water Source.** Kelly Griggs, Auburn University. (#033)
2. **Understanding Fate and Flow of Nitrogen in Commercial Row Crops of Alabama.** Arpita Sharma*, Auburn University. (#034)
3. **Effect of Treating Poultry Litter with Biochar and Inorganic Amendments on the Potential Release of Phosphorus and Heavy Metals in Soil: Relevance to Water Quality.** Prasenjit Ray, Auburn University. (#056)
4. **Runoff Losses of Phosphorus from Different Cropping Systems in Alabama Row Crop Farms.** Anjan Bhatta*, Auburn University. (#064)

COASTAL ISSUES 1
BALLROOM F
MODERATOR: BRYAN HENRY, U.S. GEOLOGICAL SURVEY

1. **Projects using Tied Concrete Block Mat Along Shorelines.** John Slupecki, Flexamat Motz Enterprises, Inc. (#046)
2. **Stakeholder Coastal Hazard Communication and Decision Making in Mobile, AL.** Evan Cass*, The University of Alabama. (#092)
3. **Machine Learning for Salinity Prediction in a Deltaic Ecosystem: A Case Study of the Mobile-Tensaw Delta.** Thomas Kavoo*, Auburn University. (#120)
4. **The Effect of Grid Resolution on Hydrodynamic Modeling: A Case for Coarser Resolution Grids.** Anna Linhoss, Auburn University. (#182)

MODELING & WATER MANAGEMENT 1
SANDCASTLE
MODERATOR: LEE ELLENBURG, THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

1. **Modeling Sedimentation and Hydrology of Geographically Isolated Wetlands with Partial and Fully Agricultural Catchments.** Suranjana Chatterjee*, Auburn University. (#100)
2. **Long-Term Trends in Streamflow, Water Quality, Climate, and Land-Use Trajectories Across the Mobile Bay Watershed-AL.** Latif Kalin, Auburn University. (#104)
3. **Bayesian Hydrologic Data Assimilation Inside the Next Generation Water Resource Modeling Framework (NextGen).** Ehsan Foroumandi*, The University of Alabama. (#175)
4. **The Puzzle of Irrigation Water Management: Evaluating and Demonstrating to Alabama Farmers Technologies That Will Increase Water use Efficiency.** Brenda Ortiz, Auburn University. (#196)

*STUDENT PRESENTER   The number after each presentation refers to the Abstract Index found at www.aub.ie/alwrc

SESSION 2
THURSDAY | SEPT. 5 | 10:45AM - 12:05PM

STORMWATER 2
MODERATOR: EVE BRANTLEY, AUBURN UNIVERSITY WATER RESOURCES CENTER
BALLROOM C

1. **Performance Evaluation of Slash Mulch Berms as Sediment Control Practices.** Brian Roche*, Auburn University. (#032)
2. **Designing and Evaluating Infiltration Swales for Retaining and Infiltrating Roadway Stormwater Runoff.** Michael Perez & Wes Donald, Auburn University. (#095)
3. **Evaluation of ALDOT Erosion Control Practices using Rainfall Simulation on Various Soil Types and Slope Gradients.** Jack Cater*, Michael Perez, & Wes Donald, Auburn University. (#105)
4. **Retrofitting Stormwater Infrastructure on a Small Commercial Site in Urban Birmingham: A Case Study.** Ben Wegleitner, The Nature Conservancy. (#133)

RESTORATION 2
MODERATOR: LISA HARRIS, CHOCTAWHATCHEE, PEA & YELLOW RIVERS WMA
BALLROOM D

1. **ARSNiC: This is a Good Thing!** Daniel West, Geological Survey of Alabama. (#047)
2. **Restoring and Recovering Alabama's World Class Aquatic Biodiversity.** Pat O'Neil, Cawaco RC&D Council. (#051)
3. **Native Rivercane Restoration Efforts in Southeastern Watersheds: A Story of Resilience.** Michael Fedoroff, Alabama Water Institute. (#067)
4. **Restoring Priority Marsh Habitat on Fowl River, Alabama.** Jason Kudulis, Mobile Bay National Estuary Program. (#068)

WATER QUALITY 2
MODERATOR: AMY GILL, U.S. GEOLOGICAL SURVEY
BALLROOM E

1. **Spatially Referenced Models of Nitrogen and Phosphorus Loads in Streams in Mississippi.** Emily Gain, U.S. Geological Survey. (#080)
2. **Hydrologic Regime Impacts to Nitrogen Removal and Retention in Forested Wetlands.** Lidia Molina Serpas*, The University of Alabama. (#135)
3. **Using Hydrogeomorphic Features to Quantify Structural and Functional Hydrologic Connectivity in a Coastal Plain Headwater Stream.** Delaney Peterson*, The University of Alabama. (#142)
4. **Protecting Water Quality with Channel Migration Zone Analysis.** Thomas Loper, Geosyntec. (#154)

COASTAL ISSUES 2
MODERATOR: MATT WOMBLE, ALABAMA WATER INSTITUTE
BALLROOM F

1. **Does Thin Layer Placement Lead to Replanting Living Shorelines?** Jannell Clampitt*, Auburn University. (#045)
2. **Forested Wetland Community Composition Across a Tidal Gradient in the Mobile-Tensaw River Delta.** Andrew Balder*, Auburn University. (#106)
3. **Leveraging Marine Heatwaves for Improved Rapid Intensification Prediction in the North Atlantic Basin.** Soheil Radfar, The University of Alabama. (#161)
4. **Enhancing Resilience in Coastal Alabama with the Bipartisan Infrastructure Law.** Christian Miller, Mobile Bay National Estuary Program. (#147)

MODELING & WATER MANAGEMENT 2
MODERATOR: ADAM NEWBY, AUBURN UNIVERSITY WATER RESOURCES CENTER
SANDCASTLE

1. **Evaluating Alternatives in 2D Hydraulic Model for Flood Reduction (Terrain Modification: A Decision-Making Tool).** Binita Shrestha, Waggoner Engineering Inc. (#026)
2. **2D Base Level Engineering Pilot Study: Cahaba Watershed.** Jeff Zanotti, WSP Environment & Infrastructure Inc. (#123)
3. **Implementing National Weather Service Flood Inundation Mapping in Alabama.** Michael Garrison, NOAA/NWS/WFO-BMX. (#141)
4. **A High-Resolution Multi-Source Global Precipitation Product.** Keyhan Gavahi, The University of Alabama. (#168)

LUNCH IN GRAND REEF: 12:15 - 1:30 PM
MINI JOB FAIR IN BALLROOM LOBBY: 1:00 - 1:30 PM

*STUDENT PRESENTER

SESSION 3 THURSDAY | SEPT. 5 | 1:40PM - 3:00PM

EXTENSION, OUTREACH & PARTNERS 1
BALLROOM C
MODERATOR: MONA DOMINGUEZ, AUBURN UNIVERSITY WATER RESOURCES CENTER

1. **Texas Well Owner Network - County Agent Training.** Joel Pigg, Texas A&M AgriLife Extension. (#011)
2. **Examining Oyster Production Resiliency in the Alabama and Mississippi Oyster Industries.** Jillian Sower*, Auburn University. (#019)
3. **Improving Surface Water Quality in Texas Through Public Outreach and Education.** Leanne Wiley, Texas A&M AgriLife Extension - Lone Star Healthy Streams. (#017)
4. **Addressing Pathogen Pollution Through Youth-Focused Participatory Science.** Mona Dominguez, Auburn University Water Resources Center. (#059)

WATER & ENERGY MANAGEMENT
BALLROOM D
MODERATOR: ASHLEY McVICAR, ALABAMA POWER COMPANY

1. **Water Consumption Trends for Modern Commercial Broilers Grown to Nine Weeks.** Carson Edge, Auburn University. (#070)
2. **The Hybrid Approach: Leveraging Big Data and Simulation to Better Manage Water and Energy.** Matt Deavenport, Jacobs. (#157)
3. **Calcium-Modified Biochar for Efficient Removal of Aqueous Phosphate Ions.** Nitesh Kasera, Auburn University. (#158)
4. **Water: The Game Changer.** Caryl Orr, Earth Resource Systems LLC. (#180)

WATER QUALITY 3
BALLROOM E
MODERATOR: CHRIS JOHNSON, ALABAMA DEPT. OF ENVIRONMENTAL MANAGEMENT

1. **Real Time Monitoring of Water Quality With an Autonomous Surface Vessel in a Coastal Estuary.** Gray Turnage, Mississippi State University. (#010)
2. **Phosphorus Recovery and Removal Using Non-Woven Iron-Amended Geotextiles.** Devyn Roh*, The University of South Alabama. (#058)
3. **Utilizing SWAT+ for Comprehensive Water Quality Analysis in Alabama.** Alexandria Cox*, The University of Alabama in Huntsville. (#114)
4. **Novel Time-Integrated Quantification of Sediment-Associated Fecal Indicator Bacteria in Rural Alabama Creek with Straight Pipes.** Emily Elliott, The University of Alabama. (#128)

WATER LAW & POLICY 1
BALLROOM F
MODERATOR: BENNETT BEARDEN, GEOLOGICAL SURVEY OF ALABAMA

1. **Chaos into Clarity: Emerging Issues in Water Policy and Law.** Bennett Bearden, Geological Survey of Alabama. (#006)
2. **"Water" We Talkin' About? – Facilitating Effective Science Communication for Alabama's Water Resources.** Rebecca Bearden, Geological Survey of Alabama. (#107)
3. **Watershed Scale Groundwater-Surface Water Interactions in Alabama: Implications for Water Policy and Management Decisions.** Greg Guthrie, Geological Survey of Alabama. (#020)
4. **Should Alabama's Water Institutions be Reorganized to Implement a State Water Management Plan?** Mary Wallace Pitts, The University of Alabama. (#074)

MODELING & WATER MANAGEMENT 3
SANDCASTLE
MODERATOR: TODD FOBIAN, ALABAMA DEPT. OF CONSERVATION & NATURAL RESOURCES

1. **Modeling Streamflow Alteration in the Mobile River Basin Using the Cubist Algorithm.** Sabahattin Isik, USGS Lower Mississippi-Gulf Water Science Center. (#007)
2. **Machine Learning Post-Processing Enhances NWM Accuracy by Over 30% in Watersheds With Extensive Water Infrastructure.** Savalan Naser Neisary*, The University of Alabama. (#042)
3. **Process-Based Modeling of Stream Corridor Hydrologic Fluxes to Investigate the Impacts of Hydrogeomorphology.** Ashleigh Kirker, The University of Alabama. (#137)
4. **Maturation, Complementarity, and Compounding in the Water Use Body of Knowledge: National and Local Interplay in Models, Data, and Expertise.** Vincent White, U.S. Geological Survey. (#191)

*STUDENT PRESENTER

BREAK: 3-3:30 PM

SESSION 4   THURSDAY | SEPT. 5 | 3:30PM - 4:50PM

EXTENSION, OUTREACH & PARTNERS 2
MODERATOR: REBECCA BEARDEN, GEOLOGIAL SURVEY OF ALABAMA
BALLROOM C

1. **Providing Stormwater Education and Outreach to Underserved Communities.** Paige Macdonald*, Auburn University. (#071)
2. **SipSafe Program: Findings From Two Years of Lead Testing in Drinking Water at Schools and Childcare Facilities.** Jason Barrett, Mississippi Water Resources Research Institute. (#075)
3. **FEMA Flood Risk Outreach in Alabama.** Kelley Rich, WSP Environment & Infrastructure Inc. (#138)
4. **Low-Cost Sensor Suite for Monitoring Nitrogen Remediation in Riparian Zones.** Robert Dean, Auburn University. (#143)

WATER QUANTITY
MODERATOR: KELLY KIRVEN, KLEINSCHMIDT
BALLROOM D

1. **Water Use in 2020 - Looking Back to 1970 Water Use Projections.** Michael Harper, Alabama Office of Water Resources. (#076)
2. **Comparison of Automated and Manual Rain Gauge Performance During Heavy Rainfall and High Wind Events.** Sytske Kimball, The University of South Alabama. (#057)
3. **Alabama Water Affordability for Community Water Systems and Private Drinking Water Wells.** Rebecca Etter*, Auburn University. (#018)

WASTEWATER SYSTEMS MANAGEMENT
MODERATOR: LYNN SISK, JACOBS
BALLROOM E

1. **Exploring Enabling Environments to Address Water and Wastewater Equity Challenges in Alabama.** Jillian Maxcy Brown, Auburn University & Victoria Miller, Alabama Rivers Alliance. (#013)
2. **Fate of Salmonella from Wastewater to Hydroponic Lettuce in a Pilot-Scale Treatment System.** Wellington Arthur*, Auburn University. (#023)
3. **Quantifying Phosphorous Adsorption Mechanism of Magnesium-Doped Biochar for Slow-Release Phosphorous Fertilizer.** Vivian Usha*, Auburn University. (#062)
4. **Impact of Biochar on Phosphate Transport and Deposition Under Varying pH, Ionic Strength, and Biochar Dosage.** Rakesh Kumar, Auburn University. (#084)

WATER LAW & POLICY 2
MODERATOR: ROY MCAULEY, MANUFACTURE ALABAMA
BALLROOM F

1. **Alabama 811: A Means to Protect Human Health, the Environment, and Water Quality.** Delaney Beier, Bradley Arant Boult Cummings LLP. (#150)
2. **Evaluating the Effectiveness of Fish Consumption Advisories Along Choccolocco Creek.** John Schell, Energy & Environment LLC. (#060)
3. **History and Prospectus of the Alabama Dam Safety Program.** Steve Newton, TTL, Inc. (#003)

HABs & OTHER CONTAMINANTS
MODERATOR: AMY GILL, U.S. GEOLOGICAL SURVEY
SANDCASTLE

1. **Development of Effective Herbicides Mixtures to Address Microcystis in Aquaculture Ponds.** Andrew Barrick, Auburn University. (#052)
2. **Evaluating the Tolerance of Harmful Algal Blooms to Copper Sulfate Pentahydrate.** Ashley Hennessey*, Auburn University. (#053)
3. **Relative Sensitivity of Cyanobacteria to Copper.** Md Sayem Ahmed*, Auburn University. (#098)
4. **Relative Sensitivity of Alabama Endemic Snail Species to Nickel Exposure.** Sean Parham*, Auburn University. (#109)

*STUDENT PRESENTER

POSTER SESSION & SOCIAL
THURSDAY | SEPT. 5 | 5:30PM-7:30PM | GRAND REEF
REFRESHMENTS ARE COURTESY OF 2024 ALWRC SPONSORS

STUDENT POSTERS

1. **Engineered Biochar to Improve Nitrogen Use Efficiency and Decrease Nitrous Oxide Emissions From the Agriculture Sector.** Pradip Adhikari, Auburn University. (#073)

2. **A Comprehensive Database of Carbon Fluxes in U.S. Wetlands.** Ana Flavia Brancalion Costa, Auburn University. (#155)

3. **Investigating the Impact of Biochar Application Method on Contaminant Leaching in Agricultural Soils Fertilized With Poultry Litter.** Gurparshad Singh Brar, Auburn University. (#048)

4. **Evaluating IRIS Films in Alabama Blackland Prairie Soils for Wetland Restoration.** Kristen Cartee, Auburn University. (#041)

5. **A Southeastern US Regional Flash Drought Review and Agriculture Impact Assessment.** Shaelyn Deal, The University of Alabama in Huntsville. (#110)

6. **Crowded in High Flood Risk Zones: Assessing Flood Risk in Tampa Bay Using a Machine Learning Driven Approach.** Hemal Dey, The University of Alabama. (#072)

7. **A Surrogate Modeling Approach for the Enhancement of the NOAA Operational Flood Inundation Mapping Framework (OWP HAND-FIM).** Supath Dhital, The University of Alabama. (#063)

8. **Distribution and Establishment Status of the Invasive Zebra Mussel (*Dreissena polymorpha*) in Alabama Reservoirs.** Liz Farley, Samford University. (#166)

9. **A Process-Based Approach to Model Pesticide Dynamics in Non-Floodplain Wetlands.** Cristiano Feitosa, Auburn University. (#101)

10. **Navigating Nature-Based Solutions in Mitigating Compound Flood Risks Through Knowledge Co-Development Process: A Collaborative Study on Mobile Bay.** Md Munjurul Haque, The University of Alabama. (#181)

11. **Seasonal Characterization of Private Groundwater Well Vulnerability to Indicator Bacteria.** Connor Howard, Miles College. (#099)

12. **An Analysis of Microbial Source Tracking Metadata in Coastal Alabama.** Brianna Janssen, Dauphin Island Sea Lab. (#028)

13. **Investigating Water Biochemistry and Microbial Diversity by Molecular Sequencing and LC/MS at Different Locations of Alabama River in Warm Weather.** Jannatul Ferdous Jhumur, Alabama State University. (#121)

14. **Impact of Dissolved Organic Matter on Perfluoroalkyl Interactions in Soils.** Fatama Tuz Johura, Auburn University. (#096)

15. **Onsite Wastewater Treatment System Inventory: A Step Towards a National Database.** Mallory Jordan, Auburn University. (#131)

16. **Frequency of Hydroclimatic Extremes Inferred from Intra-Annual Density Fluctuations in Longleaf Pine.** Shelby Jordan, The University of Alabama. (#066)

17. **Using StoryMaps as a Tool for Science Communication: A Case Study With the Wyandotte Nation and Flood Risk Perception.** Parker King, The University of Alabama. (#081)

18. **Does Covering Broiler Litter in Open Field Minimize Nutrient Losses and Reduce Environmental Concerns?** Shruthi Koneti, Auburn University. (#115)

19. **Influences of Biochar on Soil Health in Row Crop Production Systems.** Alexandra Lindsey, Auburn University. (#024)

20. **Assessing the Vulnerability of Coastal Roadways to Flood Hazards: A Case Study of the Mobile Causeway in South Alabama.** Faezeh Maghsoodifar, The University of Alabama. (#163)

21. **Estimation of River Channel Shape Using Regression and Machine Learning Approaches.** Riley Mcdermott, The University of Alabama. (#027)

22. **Enhancing Tree-Ring Proxy-Based Streamflow Reconstructions Using Machine Learning Techniques.** Mahsa Mirzakhani Nafchi, The University of Alabama. (#065)

23. **Investigating Hydrological Connectivity as a Framework to Characterize Small Wetland Inundation Regimes and Their Impacts on Downstream Waters.** Jasmine Morejon, The University of Alabama. (#134)

24. **Comparative Analysis of Flood Inundation Models for the Neuse River, North Carolina: Evaluating Accuracy Across Different Land Use/Land Cover Types.** Parvaneh Nikrou, The University of Alabama. (#189)

25. **Can Longleaf Pine Restoration Restore Hydrology of Geographically Isolated Wetlands?** Kathryn Perkins, Auburn University. (#021)

26. Enhancing Water Quality Through Biochar: Evaluating Phosphorus Retention and Release Dynamics of Biochar. Temitope Popoola, Auburn University. (#061)

27. Enhancing Urban Flood Modeling Efficiency Using Machine Learning-Based Surrogate Models. Fatemeh Rezaei Aderyani, The University of Alabama. (#162)

28. Analyzing Land Use Change in Coastal Alabama: A Two-Decade Perspective. William Rich, Auburn University. (#139)

29. Effect of Biochar and Poultry Litter Application on Greenhouse Gas Emissions, Nutrient Dynamics, Yield and Yield Parameters of Cotton and Peanut Rotation. Maryam Saeed, Auburn University. (#152)

30. Sensitivity of Flood Inundation Mapping to DEM Type, Resolution and Urban Features in the Amite River Basin. Reza Saleh Alipour, The University of Alabama. (#185)

31. A Probabilistic Machine Learning Framework for Daily Extreme Events Forecasting. Ali Sattari, The University of Alabama. (#183)

32. A Novel Neural Network-Based Algorithm for Selecting the Most Accurate FIM Model for Desired Area. Sadra Seyvani, The University of Alabama. (#194)

33. Data-Driven Water Management: Leveraging Soil Moisture Sensors and Machine Learning. Vaibhav Shelar, Auburn University. (#055)

34. How Do Extreme Rainfall Events Influence Surface Runoff from Alabama Cropping Systems? Rajveer Singh, Auburn University. (#145)

35. Enhanced Sorption and Degradation of PFAS by Biochar-Enabled Advanced Reduction Process (ARP). Ziteng Song, Auburn University. (#022)

36. Cultivation-Independent and Dependent Assessment of Indicator Bacteria in Shellfish Growing Waters. Monique Speigner, Miles College. (#103)

37. Exploring the Relationship Between Social Vulnerability and LULC Dynamics in Harris County, Texas. Annyca Tabassum, The University of Alabama. (#043)

38. Potentiality of Biochar Entrained Porous Concrete to Improve Pollutant Removal From Stormwater. Rodela Tasnim, Auburn University. (#195)

39. Investigating the Impacts of Land Use on Soil Biogeochemistry in Headwater Wetlands in Baldwin County, Alabama. Brianna Travis, Auburn University. (#172)

40. The Chemical and Microbial Impacts of Well Water Quality in Response to Flooding and Purging Following a Major Hurricane. Alisha Webb, The University of Alabama. (#119)

41. Bankfull and Mean-Flow Channel Geometry Estimation Through a Hybrid Multi-Regression and Machine Learning Algorithms Across the CONtiguous United States (CONUS). Reihaneh Zarrabi, The University of Alabama. (#193)

WATER PROFESSIONAL POSTERS

42. An Improved Operational HAND FIM Framework for Ungauged Regions Across Contiguous United States. Anupal Baruah, The University of Alabama. (#116)

43. Systematic Evaluation of Flood Inundation Area With NOAA OWP HAND FIM. Dipsikha Devi, The University of Alabama. (#192)

44. Irrigation in Alabama: A 20-Year Look. Krel Haynes, The University of Alabama in Huntsville. (#125)

45. Water is Life: Community Conversations Towards Protecting Alabama's Freshwater Resources. Kelsey Herndon, The University of Alabama in Huntsville. (#083)

46. Evaluation of the Effects of Synthetic and Natural Textile Fibers on Aquatic Bacteria, Algae, and Duckweed. Nhung Nguyen & Alena Sevcu, Institute for Nanomaterials, Advanced Technologies and Innovation. (#035).

47. Evaluation of the Long-Term Feasibility of Natural and Nature-Based Features to Reduce Flooding of a Coastal Roadway. Frances O'Donnell, Auburn University. (#149)

48. Protecting Water Resources Through Conservation Tillage. Andrew Price, USDA-ARS. (#001)

49. What is a Flood: Quantitatively Defining Discrete Flood Events in Forested Wetlands. Elaine Rice, The University of Alabama. (#130)

50. Hot Spots of Water Quality Impairment Discovered in Coastal Alabama. Stephanie Rogers, Auburn University. (#088)

51. The Beginnings of a Unified Alabama Mesonet. Michael Solomon, The University of Alabama in Huntsville. (#122)

52. An Overview of the National Weather Service Dynamic Flood Inundation Mapping Methodology. Haley Stuckey, NOAA/NWS/SERFC. (#146)

The number after each presentation refers to the Abstract Index found at www.aub.ie/alwrc

SESSION 5 — FRIDAY | SEPT. 6 | 9:15AM - 10:35AM

WATER MONITORING — BALLROOM C
MODERATOR: LYNN SISK, JACOBS

1. **Automating Streamflow-Recession Indexes in Alabama.** Elena Crowley Ornelas, USGS Lower Mississippi-Gulf Water Science Center. (#069)
2. **ADEM Water Quality Monitoring Programs: Current Status.** Fred Leslie, ADEM/Field Operations Division. (#077)
3. **The Trials and Tribulations of BoCEPhUS: Troubleshooting and Maintenance of an Outdoor Autonomous Water Quality Sampler.** Blair Morrison, Mobile Bay National Estuary Program. (#113)
4. **Prioritizing Decisions for Water Resource Management Using High-Definition Stream Survey (HDSS): Hurricane Creek, Alabama.** Brett Connell, Trutta Environmental Solutions. (#124)

LIGHTNING TALKS - RESEARCH 1 — BALLROOM D
MODERATOR: PAT O'NEIL, CAWACO RC&D COUNCIL

1. **Agricultural Soil and Water Conservation Practice Adoption and Disadoption.** Emmanuel Okonkwo*, Auburn University. (#005)
2. **Metagenomics Analysis of The Microbial Diversity and Quantitative Co-Relationship to the Pharmaceutical and Pesticide Compounds in Different Seasons in Alabama River, Montgomery.** Md Imam Ul Khabir*, Alabama State University. (#008)
3. **Calibrating the APEX Model for Assessing Environmental Impacts of Agricultural Practices: A Case Study in Alabama.** Anh Nguyen, Auburn University. (#050)
4. **Assessing Aquatic Ecosystem Risks: Investigating Spatiotemporal Dynamics of Climatic Variables on Microbial Fecal Bacteria and Sources Using Novel RatMt Marker.** Ronell Bridgemohan, Bridgemohan Property Management LLC. (#126)
5. **Alabama the River State.** Donna Matthews, Alabama the River State. (#156)
6. **Identifying Water Quality Problem Source Areas in Small Coastal Watersheds: The Challenge of Attribution.** David Hensley*, University of the Virgin Islands. (#170)
7. **Evaluation of the Canopy Water Stress Index as a Tool for Irrigation Scheduling on Peanut Fields in Alabama.** Bram Parbi*, Auburn University. (#198)
8. **Evaluating the Impact of Growth-Stage-Based Deficit Irrigation on Corn Using Crop Growth Simulation Modeling.** Jhoan Velasco*, Auburn University. (#199)
9. **Evaluating the Effects of Groundwater on Water Quality Modeling in the Moore's Mill Creek Watershed Using PCSWMM.** Michael Bragg*, Auburn University. (#201)

LIGHTNING TALKS - OUTREACH — BALLROOM E
MODERATOR: LAURA COOLEY, AUBURN UNIVERSITY WATER RESOURCES CENTER

1. **Making Stormwater an Asset: How Auburn University is Using Multifunctional Stormwater Design to Manage Stormwater and Build Community.** Emily Ward*, Auburn University Water Resources Center. (#082)
2. **Communicating Science Through Virtual Reality: An Exploration of Week's Bay National Estuarine Research Reserve (NERR).** Dixie Cartwright & John Van der Zwaag, Mississippi State University, Geosystems Research Institute. (#085)
3. **Efficacy of Community-Based Workshops to Increase Community Knowledge Regarding WASH In Rural West Central Alabama.** Jasmine S Kennedy, The University of Alabama at Birmingham. (#090)
4. **The Alabama Stormwater Association: Entering a New Era.** Scott Rogers, Alabama DOT. (#091)
5. **The Well Aware Dashboard: Translating Research to Resources.** Ann Ojeda, Auburn University. (#140)
6. **Alabama Envirothon: Program Growth and Participation Opportunities.** Courtney Curenton Baker, Alabama Association of Conservation Districts. (#160)
7. **The GEO Project: Building Geospatial Capacity with Education and Outreach.** John Cartwright, Mississippi State University. (#165)
8. **Enhancing Community Resilience Through GIS Integration: Applications in Coastal and General Community Planning.** Claire Babineaux, MSU GEO Project. (#167)
9. **Innovative Perspectives on Water: Enhancing Accessibility Through the AUWRC and BCPP Partnership.** Carolina Ruiz, AUWRC. (#176)
10. **Retelling the Story of Moores Mill Creek.** Laura Cooley, Auburn University Water Resources Center. (#200)

WATER LAW & POLICY PANEL — BALLROOM F
MODERATOR: NICK MAGLIOCCA, THE UNIVERSITY OF ALABAMA

Policy Needs for The Future of Alabama's Agriculture-Water Nexus. (#049)

- Nicholas Magliocca, The University of Alabama
- Bennett Bearden, Geological Survey of Alabama
- Emma Chapman Busby, School Yard Roots, Alabama Sustainable Agriculture Network
- Olivia Cleveland
- Heather Elliott, The University of Alabama Law School
- Cindy Lowry, Alabama Rivers Alliance
- Darrell McGuire, Deep South Food Alliance
- Marie McGruder, McGruder Farms
- John Allen Nichols, Alabama Farmers Federation

EMERGING CONTAMINANTS — SANDCASTLE
MODERATOR: AUDREY GAMBLE, AUBURN UNIVERSITY

1. **How to Proactively Communicate About PFAS: Case Studies From Across the Country.** Mike McGill, WaterPIO/PFASComms.com. (#039)
2. **PFAS - Real World Consequences of The Pending MCL.** Bryan Pate, Insite Engineering LLC. (#078)
3. **Assessment of Microplastics Abundance and Distribution in the Alabama River System.** Safeerul Islam Hashmi*, Auburn University. (#112)
4. **PFAS Sample Cross-Contamination Caused by Sampling?** Lindsay Boone, Pace Labs. (#117)

*STUDENT PRESENTER

BREAK: 10:35-10:55 AM

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

WATER SECURITY & RISK
BALLROOM C
MODERATOR: LILLIAN GORDON, THE UNIVERSITY OF ALABAMA GLOBAL WATER SECURITY CENTER

1. **Evaluating the National Water Model's Predictive Ability for Extreme Hydrological Events Across HUC-Level Watersheds in Alabama.** Md Shahabul Alam, Alabama Water Institute. (#025)

2. **Stakeholder Responses to the 2023 Marine Heat Wave in Florida Keys National Marine Sanctuary: Implications for Coral Conservation and Crisis Management.** Gretchen Luchauer*, Auburn University. (#132)

3. **Turning the Corner: Improving the Resiliency of the Jackson, MS Water System.** Mia Welch, Jacobs. (#136)

LIGHTNING TALKS - RESEARCH 2
BALLROOM D
MODERATOR: ANN OJEDA, AUBURN UNIVERSITY

1. **Marsh Plant Decomposition Rates Along a Salinity Gradient Affected by Litter Bag Mesh Size.** Adam Siders, The University of Alabama. (#054)

2. **Recent Changes to Web Retrievals of U.S. Geological Survey Discrete Water-Quality Data.** Amy Gill, U.S. Geological Survey. (#097)

3. **Determining Habitat Requirements for Restoration of the Threatened Spider Shoal Lily (*Hymenocallis coronaria*).** Sarah Tash*, Auburn University. (#118)

4. **Drought Impacts on Cogongrass Spread in Alabama.** Rebecca De Fazio*, The University of Alabama in Huntsville. (#129)

5. **Preparing and Validating National Weather Service Flood Inundation Maps for Alabama.** Nicole Rockwell, NOAA/NWS/SERFC. (#144)

6. **Cost Effective and Efficient Technique for Removing PFOSA and PFOS in Water.** Steven Mai*, Auburn University. (#153)

7. **Navigating Trends, Advancements, and Challenges in Climate-Smart Agriculture: An Umbrella Review.** Ruchie Pathak*, The University of Alabama. (#173)

8. **ArcGIS Online Portal for ALDOT Landslide Monitoring.** Abraham Alvarez*, Auburn University. (#174)

9. **Evaluating the Use of the ECOSSTRESS NASA Product for Estimation of Within-Field Crop Evapotranspiration Variability on Alabama Fields.** Lorena Rodriguez*, Auburn University. (#197)

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

1. **The Profitability of Alabama On-Farm Irrigation: Representative Farms Incorporating Scientific Models of Irrigation Yield Benefits.** Pritam Mitra*, Auburn University. (#093)

2. **Calibrated WRF-Hydro Implementation for Irrigation Potential in Alabama.** Vikalp Mishra, The University of Alabama in Huntsville. (#127)

3. **The Development of Watershed Plans to Guide a Sustainable Expansion of Irrigation Water Use in Alabama.** Adam Newby, Auburn University Water Resources Center. (#188)

4. **Realistic Irrigation Yield Effects: Insights From Variety Trials and Crop Modeling in Alabama.** Thorsten Knappenberger, Auburn University. (#190)

GROUNDWATER
BALLROOM F
MODERATOR: GREG GUTHRIE, GEOLOGICAL SURVEY OF ALABAMA

1. **Hydrogeological Investigations to Delineate the Recharge Area of Bobcat Cave for the Protection of Alabama Cave Shrimp on Redstone Arsenal, a U.S. Army Facility in Madison County, Alabama, USA.** Gheorghe ML Ponta, Geological Survey of Alabama. (#016)

2. **Seasonal Characterization of Private Groundwater Well Vulnerability to Microbial Contamination and Probable Sources.** Nikaela Flournoy, Miles College. (#102)

3. **Remedy Selection Process and the Selected Targeted Method for Remediation at the Robertsdale Elementary School ADEM Tank Trust Fund Site.** Kendall Rich, WSP Environment & Infrastructure Inc. (#164)

4. **A Daily Baseflow Dataset for Hydrological Modeling and Analysis Across the CONUS.** Parnian Ghaneei*, The University of Alabama. (#179)

GIS
SANDCASTLE
MODERATOR: MICHAEL HARPER, ALABAMA OFFICE OF WATER RESOURCES

1. **Flooding and Hydrology Issues on The Pinhoti and Chinnabee Silent Trail.** Allie Field*, Jacksonville State University. (#029)

2. **Leveraging Geographic Information System Tools to Evaluate the Impacts of Sea Level Rise on Coastal Forestry Infrastructure.** Kate Grala, Geosystems Research Institute, MSU. (#044)

3. **Identifying and Mapping Potential Sediment Abatement Priorities of the Southern Appalachians.** Georgia Pearson, The Nature Conservancy. (#171)

4. **Unearthing the Past: A Comprehensive Study of Natural and Anthropogenic Changes at an Archaeological Site Through Hydrogeologic Connectivity Utilizing GIS, Mehlich II Phosphorus Extractant, and pH.** Dana Herren, Jacksonville State University. (#186)

*STUDENT PRESENTER