

**Drought and Aquatic Ecosystems in the Southeast:
Informing drought response and ecological resilience to future low-flow events**

Raleigh, North Carolina | January 7 - 9, 2025

Draft Public Agenda: Updated November 4, 2024

Location: North Carolina State University, Plant Sciences Initiative, Plant Sciences Building, 840 Oval Dr, Raleigh, NC 27606.

Day 1 - Tuesday, January 7	
Theme 1: Understanding drought/low-flow ecosystem impacts and water resource management in the context of the Southeast.	
8:00 - 9:00	Registration, Coffee and Conversation
9:00 - 9:20	Welcome, Meeting Overview, and Introductions
9:20 - 10:20	
Session 1. Precipitation and Droughts in the Southeast: Connections to Aquatic Systems	
This session will set the stage for the entire workshop with presentations providing an overview of hydro-climate trends and drought in the Southeast, and the sensitivity of aquatic ecosystems to low-flow conditions.	
<ul style="list-style-type: none"> <i>In-person and remote access</i> 	
10:20 - 10:30	Review Workshop Agenda
10:30 - 10:50	Break (<i>beverages and snacks provided</i>)
10:50 - 12:30	
Session 2: Impacts of Low-Flow Conditions on Southeast Aquatic Species and Habitats	
This session will provide an overview of our current understanding of how aquatic species and ecosystems are impacted by drought and low-flow conditions. Panel discussion with insights from natural resource managers working with threatened and endangered species (freshwater fish, macroinvertebrates), recreational fishing and hatcheries, habitat conservation and restoration, and estuarine and coastal systems.	
<ul style="list-style-type: none"> <i>In-person and remote access</i> 	
12:30 - 12:40	Group Photo
12:40 - 1:30	Networking Lunch on-site (<i>provided</i>)
1:30 - 3:00	

<p>Session 3: Understanding water management in low-flow conditions</p> <p>This session will provide an overview of the U.S. Army Corps operations and environmental considerations across the region, and highlight emerging partnerships to address aquatic ecosystem needs in the context of water management operations.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
3:00 - 3:20	Break (<i>beverages and snacks provided</i>)
<p>3:20 - 4:50</p> <p>Session 4: Integrating Science and Management Needs in the Context of Drought Preparedness</p> <p>This session will focus on discussing drought and low-flow in the context of integrating science and management, understanding how drought is perceived and monitored for natural resource management, and identifying information to help prepare for droughts. Presentations combining science and management questions will be followed by breakout working sessions.</p> <ul style="list-style-type: none"> • <i>Presentations In-Person and remote access; Breakouts In-person only</i> 	
4:50 - 5:00	Day 1 Wrap Up
5:00 - 7:00	Poster Session + Networking Event (<i>on site</i>)
<p>Day 2 - Wednesday, January 8</p> <p>Theme 2: Ecological Drought Monitoring and Response in the Near-Term</p>	
8:00 - 9:00	Graduate Student & Early Career Networking Breakfast (<i>provided</i>)
8:30 - 9:00	Coffee and Conversations
9:00 - 9:10	Welcome and Review of Day
<p>9:10 - 10:40</p> <p>Session 5: Response During Low-Flow Conditions and Incorporating Ecological Needs into Decisions</p> <p>This panel session will increase understanding of how water managers and natural resource managers monitor and respond during a drought, and will provide examples of effective practices for incorporating ecological needs into decision making during low-flow conditions.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
10:40 - 11:00	Break (<i>beverages and snacks provided</i>)
<p>11:00 - 12:15</p> <p>Session 6: Case Studies on Collaborative Planning and Management</p> <p>This session will highlight specific approaches and solutions towards addressing challenges of</p>	

<p>balancing water demand and ecosystem health during low-flow events, and lessons learned that can be applied across the region with a focus on connecting science, policy, and stakeholder engagement.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
12:15 - 1:15	Networking Lunch on-site (<i>provided</i>)
12:30 - 1:00	Demo of new USGS Streamflow Drought Prediction Tool (<i>optional</i>)
<p>1:15 - 3:00</p> <p>Session 7: Tool and Resource Fair</p> <p>This session will focus on how we can better use what we have available in the Southeast, through increased awareness and hands-on application of existing tools and resources. Organizations will share data, projects, and opportunities for collaboration and technical support.</p> <ul style="list-style-type: none"> • <i>In-person only</i> 	
3:00 - 3:20	Break (<i>beverages and snacks provided</i>)
<p>3:20 - 4:50</p> <p>Session 8: Moving forward: Applying what we learned and where we need to go for drought preparedness and response</p> <p>This session will provide an opportunity for breakout working groups to walk through drought/low-flow scenarios typical of the Southeast, share solutions to improve preparedness and response, and identify additional needs and opportunities that would benefit the region for specific natural resource management needs.</p> <ul style="list-style-type: none"> • <i>In-person only</i> 	
4:50 - 5:00	Day 2 Wrap Up
5:00 - 7:00	Networking Event / Social (<i>optional, TBD in Raleigh</i>)
<p>Day 3 - Thursday, January 9</p> <p>Theme 3: Incorporating drought/low-flow in long-term resilience and adaptation planning.</p>	
8:30 - 9:00	Coffee and conversation
9:00 - 9:10	Welcome and Review of Day
<p>9:10 - 9:30</p> <p>Session 9: The Future of Water and Low-Flow in the Southeast</p>	

<p>This presentation will lay the groundwork for projected hydroclimate changes in the Southeastern U.S. under future climate and development scenarios and highlight interpretation and application challenges.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
<p>9:30 - 10:30</p> <p>Session 10: Applications of Future Low-Flow Models in the Southeast</p> <p>This session will showcase examples of how future flow projections are currently being developed and used across the Southeast. Presentations will address the assumptions and data limitations that exist in their development and application.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
10:30 - 11:00	Break + early lunch on-site (<i>provided</i>)
<p>11:00 - 12:15</p> <p>Session 11: Incorporating future low-flow scenarios and ecological considerations into long-term water management planning</p> <p>The panel discussion involving state and regional entities will cover the incorporation of modeling and projections in water planning. This includes considerations of changing climate, water demand, ecological impacts, the tradeoffs involved, and how the models being developed are or are not right-sized.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
<p>12:15 - 1:45</p> <p>Session 12: Science Needs for Incorporating Drought into Long Term Adaptation Planning</p> <p>This session will discuss how drought is being considered in long term adaptation planning (years to decades) for ecosystems, what tools and approaches could be applied, and what gaps exist that need to be addressed. Breakout working groups will also capture how we can apply what has been discussed over the previous sessions and if there are areas where research and synthesis is needed.</p> <ul style="list-style-type: none"> • <i>In-person only</i> 	
1:45 - 2:00	Closing remarks, End of Workshop, and Safe Travels!
2:30 - 4:30	Optional Field Trips