

**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 September 16, 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
<p>Session 1. Why we need to think about drought response and ecological resilience to future low-flow events</p> <p>This session will set the stage for the entire workshop by providing an overview of water trends in the Southeast, the sensitivity of aquatic ecosystems to low-flow conditions, and an overview of precipitation and drought in the regional and state context.</p> <ul style="list-style-type: none"> <i>In-person and remote access</i> 	
9:20 - 10:20	Perspectives from the region: Precipitation and droughts in the Southeast
10:20 - 10:30	Review workshop agenda
10:30 - 10:50	Break (<i>beverages and snacks provided</i>)
<p>Session 2: Our current knowledge of drought impacts and vulnerabilities on Southeast aquatic ecosystems</p> <p>This session will provide an overview of our current understanding of how aquatic species and ecosystems are impacted by drought and low-flow conditions.</p> <ul style="list-style-type: none"> <i>In-person and remote access</i> 	
10:50 - 12:30	Panel on low-flow impacts on species and habitats <ul style="list-style-type: none"> Threatened and endangered species Invasive species Recreational fishing Habitat land conservation Estuary and coastal systems

12:30 - 12:40	Group photo
12:40 - 1:30	Lunch on-site (<i>provided</i>)
<p>Session 3: Understanding water management in low-flow conditions This session will provide an overview of the U.S. Army Corps operations and highlight considerations across a variety of basins.</p> <ul style="list-style-type: none"> <i>In-person and remote access</i> 	
1:30 - 3:00	Presentations, case studies, discussions
3:00 - 3:20	Break (<i>beverages and snacks provided</i>)
<p>Session 4: Defining Aquatic Ecological Drought and Management Needs This session will focus on discussing drought in the context of different management groups, understanding where the limitations exist in connecting science to management, and how to effectively incorporate ecological considerations in discussions of water management.</p> <ul style="list-style-type: none"> <i>In-person only</i> 	
3:20 - 4:45	Case studies and breakout groups
4:45 - 5:00	Day 1 wrap up
5:00 - 7:00	Poster session + reception (<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>Session 5: Water Management and Ecological Considerations This 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 water management practices.</p> <ul style="list-style-type: none"> <i>In-person and remote access</i> 	
9:10 - 10:40	Perspectives of response during low-flow conditions and incorporating ecological needs into water management
10:40 - 11:00	Break (<i>beverages and snacks provided</i>)

<p>Session 6: Innovative collaborative approaches and partnerships for comprehensive water management during drought in the Southeast</p> <p>This session will highlight specific approaches and solutions towards addressing challenges during low-flow events, and lessons learned that can be applied across the region.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
11:00 - 12:15	Case studies and discussion
12:15 - 1:15	Lunch on-site (<i>provided</i>)
12:30 - 1:00	Demo of new USGS Streamflow Drought Prediction Tool (<i>bring your lunch, optional</i>)
<p>Session 7: What tools and resources exist that can be applied in the Southeast?</p> <p>This session will focus on how we can better use what we have available, through increased awareness and hands-on application of existing tools and resources across the southeast. Groups and centers will share data, projects, and opportunities for collaboration and funding.</p> <ul style="list-style-type: none"> • <i>In-person only</i> 	
1:15 - 3:00	Tool and Resource Fair
3:00 - 3:20	Break (<i>beverages and snacks provided</i>)
<p>Session 8: Moving forward: Applying what we learned and where we need to go</p> <p>This session will provide an opportunity to walk through different drought/low-flow scenarios, share solutions to improve response and planning, and identify additional needs and opportunities that would benefit the region.</p> <ul style="list-style-type: none"> • <i>In-person only</i> 	
3:20 - 4:50	Breakout groups and scenario exercises
4:50 - 5:00	Day 2 wrap up
5:30 - 7:30	Social gathering (<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>Session 9: The Future of Water in the Southeast</p> <p>This session will lay the groundwork for projected hydroclimate changes in the Southeastern U.S. under climate change.</p> <ul style="list-style-type: none"> • <i>In-person and remote access</i> 	
9:10 - 9:30	Plenary presentation
<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> 	
9:30 - 10:45	Presentations, panel and discussion
10:45 - 11:15	Break + early lunch on-site (<i>provided</i>)
<p>Session 11: Incorporating future low-flow scenarios and ecological impacts into long-term water management planning</p> <p>The session will also cover the incorporation of low-flow projections in water management, including considerations of ecological impacts, the tradeoffs involved, and how the models being developed are or are not right-sized including climate change scenarios.</p> <ul style="list-style-type: none"> • <i>In-person only and remote access</i> 	
11:15 - 12:15	Panel discussion
<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 for ecosystems and what gaps exist that need to be addressed through further research or information sharing. Groups will also capture how we can apply what has been discussed over the previous sessions and if there are areas where further research and synthesis is needed.</p> <ul style="list-style-type: none"> • <i>In-person only</i> 	
12:15 - 1:45	Breakout groups
1:45 - 2:00	Closing remarks, end of workshop, and safe travels!
2:30 - 4:30	Optional Field Trips