

Longleaf Pine and Water Research Forum

March 1-2, 2023
Awendaw, SC



Bringing together researchers and experts to discuss research happening across the range of longleaf pine and to:

- work collaboratively to synthesize the state-of-the-science regarding the interactions of longleaf pine forests and water resources in the Southeastern U.S.,
- identify major uncertainties, and
- understand the application of tools for water resource assessment with respect to longleaf pine forests.

Agenda

Day 1: Wednesday, March 1, 2023

9:00 am – 4:00 pm

Sewee Visitor and Environmental
Education Center
5821 Hwy 17 Awendaw, SC 29429

Day 2: Thursday, March 2, 2023

9:00 am – 1:30 pm

Santee Experimental Forest
3734 SC-402, Cordesville, SC 29434

Day 1: Wednesday, March 2, 2023

9:00 am Registration and Poster set up

9:30 am Welcome
Lisa Lord, *Conservation Programs Director, The Longleaf Alliance*

SESSION A Relationships of longleaf pine and water at various scales

9:40 am Role of forests in the water supply of the Southeastern U.S.; quantifying forest benefits
Peter Caldwell, *Research Hydrologist, US Forest Service*

10:00 am Water budget components of longleaf pine: interactions between stand structure, fire frequency, and site
Steven Brantley, *Associate Scientist, Ecohydrology, The Jones Center at Ichauway*

10:20 am Drought resilience of longleaf pine under a changing climate
Dan Johnson, *Associate Professor, University of Georgia*

10:40 am Break

10:50 am Contrasting controls on evapotranspiration in co-located young and mature longleaf pine stands
Tom O'Halloran, *Associate Professor, Baruch Institute of Coastal Ecology and Forest Science, Clemson University*

11:10 am Facilitated Discussion

SESSION B Longleaf Management: Impacts of silvicultural practices

11:40 am Silviculture effects soil and water properties for southeastern coastal plain pine forests: lessons from loblolly management and implications for longleaf restoration
Michael Aust, *Garland Gray Professor of Forest Operations, Virginia Tech*

12:00 pm Lunch (provided)

12:45 pm Water scarcity and yield from an aquatic biology perspective
Stephen Golladay, *Aquatic Ecologist, The Jones Center at Ichauway*

1:05 pm Facilitated Discussion

SESSION C Modeling at various scales: Simulating the effects of longleaf pine restoration and management on water resources

1:30 pm FIELD-SCALE MECHANISTIC ECOHYDROLOGIC MODELS: Applications and Limitations for Simulating Water Yield from Pine Stands
Devendra Amatya, *Research Hydrologist/US Fulbright Scholar, US Forest Service*

1:50 pm Effects of longleaf pine restoration on water budget across the Southeast: Evidence and model projection
Ge Sun, *Research Hydrologist and Director, US Forest Service*

2:20 pm Break

2:30 pm Tools and Applications

Ecosystem Service Tradeoffs of Longleaf Restoration: Perspectives on Carbon and Water
Chambers English, *Graduate Research Assistant, University of Georgia*

Conservation Planning Tools for Mapping Management Action Priorities
Alec Nelson, *Research Professional, University of Georgia*

3:10 pm Facilitated Discussion

3:40 pm Outputs Discussion: Production of papers synthesizing Sessions

- Water use by longleaf pine forests (*Session A and B*)
- Model applications for assessing water resources and longleaf pine (*Session C*)

4:00 pm Forum Closing and Summary
Carl Trettin, *Research Soil Scientist and Team Leader, US Forest Service*

4:15 pm Adjourn

Day 2: Thursday, March 2, 2023

9:00 am - 1:30 pm

Meet at the Santee Experimental Forest, Southern Research Station, 3734 SC-402, Cordesville, SC 29434 at 9 am.

Join us for a tour of Watershed-77 site (9 am - 11:30 am), followed by a working group meeting to develop the process and timeline for producing and publishing summary papers at the Santee Field Office (11:30 am – 1 pm). Lunch is provided and all are invited.

Watershed-77 was established in the mid-1960's providing a long-term foundation to support a longleaf pine restoration experiment that is designed to consider the effects of stand conversion from loblolly pine to longleaf pine on hydrologic processes including evapotranspiration, soil water storage, water yield, and water quality. Three silvicultural treatments have been used to compare the effectiveness of transitioning the watershed to long-leaf pine. The sites have been harvested, burned, and will be planted in February 2023. The watershed monitoring program has been augmented with new instrumentation to consider the soil water regime, evapotranspiration and energy exchange; and new plots established to follow the vegetation responses. The watershed is a collaborative research and demonstration facility; new studies are welcome.

Questions? Contact Lisa Lord, The Longleaf Alliance, 843-909-2343, lisa@longleafalliance.org

Thank you on behalf of the planning team for attending the
2023 Longleaf Pine and Water Resource Research Forum



**UNIVERSITY OF
GEORGIA**
Warnell School of Forestry
& Natural Resources



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The Longleaf Alliance

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