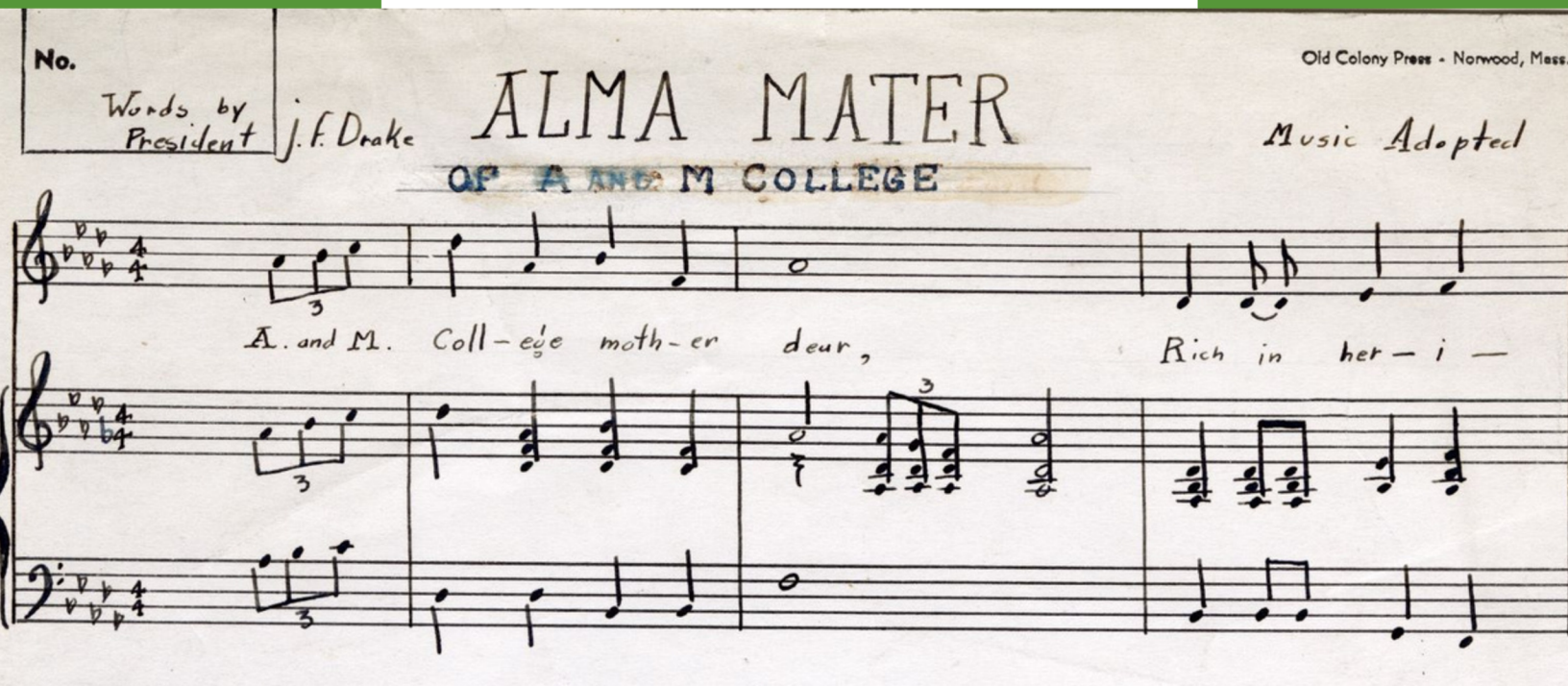


# NATURAL RESOURCES & ENVIRONMENTAL SCIENCES

Welcome!



## IN THE NEWS

150th Anniversary of AAMU

## EVENTS

Soil Competition, Bat Blitz, and Bird Banding

## NRES SEMINARS

Faculty NRES Seminars Recap



ALABAMA A&M UNIVERSITY

# IN THE NEWS

## 150 YEARS OF EXCELLENCE: HONORING THE LEGACY AND FUTURE OF AAMU

By Rachel Stone



### THE PAST

In 2025, Alabama Agricultural and Mechanical University proudly celebrates a monumental milestone—150 years of academic excellence, community empowerment, and transformative research. Founded in 1875 by visionary leader William Hooper Council, Alabama A&M has grown from its humble beginnings as the Huntsville Normal School into a thriving land-grant university that continues to uphold its motto: Service is Sovereignty.

### A LEGACY ROOTED IN THE LAND

Alabama A&M's founding as a land-grant institution laid a strong foundation for agricultural science, particularly for African American students in the post-Civil War South. Central to that mission has always been a deep connection to the land and the sustainable use of natural resources.

This legacy lives on through the Department of Natural Resources and Environmental Sciences (NRES). Originally part of the broader agricultural curriculum, the department has evolved into a dynamic academic hub that trains future environmental leaders, conducts cutting-edge research, and works in close partnership with Alabama's communities, forests, and ecosystems.





## THE PRESENT: A DEPARTMENT AT THE FOREFRONT OF ENVIRONMENTAL INNOVATION

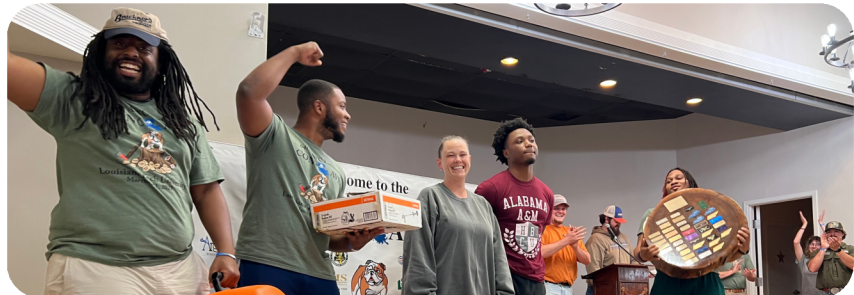
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Today, the Department of Natural Resources & Environmental Sciences is recognized as a leader in interdisciplinary education, offering undergraduate and graduate programs in forestry, environmental science, plant and soil science, and agribusiness. Through hands-on learning, cutting-edge research, and robust industry partnerships, NRES prepares students to tackle real-world challenges with confidence and expertise.

Faculty in the department are engaged in nationally recognized research in areas such as:

- Climate resilience and ecosystem management
- Sustainable agriculture and soil health
- Water quality and watershed science
- Urban forestry and green infrastructure
- Environmental justice and community outreach

In alignment with the university's land-grant mission, NRES also leads robust extension and outreach programs. These initiatives serve Alabama's rural and urban communities by providing science-based solutions to real-world environmental and agricultural challenges.



## LEADING THE WAY IN ENVIRONMENTAL STEWARDSHIP

Since its inception, the Department of Natural Resources and Environmental Sciences at Alabama A&M University has been a beacon of excellence in environmental education, research, and community outreach. As part of a land-grant HBCU with a mission rooted in service and innovation, the NRES department has made significant contributions across local, national, and global landscapes.

### A LEGACY OF ACADEMIC EXCELLENCE

- Alabama A&M University is home to the only professionally accredited forestry program among historically Black colleges and universities, setting a high standard for environmental and agricultural sciences. Offering degrees in Environmental Science, Forestry, and advanced graduate studies in Plant and Soil Science, the department has become a pipeline for training future scientists, educators, and environmental leaders.
- Dr. Yong Wang, a professor in the department, recently secured a \$99,976 USDA grant to enhance biostatistics training for graduate students—further aligning AAMU’s programming with the data-driven demands of modern agriculture and environmental research.

### EMPOWERING COMMUNITIES THROUGH EDUCATION

- At the heart of the NRES mission is community engagement. One of its standout initiatives, the NRES Scholars Program, provides mentorship, financial support, and professional development to underrepresented students pursuing environmental careers.
- Additionally, the department made national headlines for developing the “Biodiesel Classroom on Wheels,” the first of its kind in the U.S., aimed at educating rural and urban communities on sustainable fuel sources

### PIONEERING ENVIRONMENTAL RESEARCH

- In 2009, Alabama A&M was recognized as the first HBCU designated as a Center of Excellence for Watershed Management by the U.S. Environmental Protection Agency and the Alabama Department of Environmental Management. This honor underscored AAMU’s longstanding leadership in water quality research and watershed protection.
- Faculty members like Dr. Elica Moss have conducted critical research on microbial contamination in Alabama’s Black Belt region, directly addressing issues of water safety and public health in underserved communities





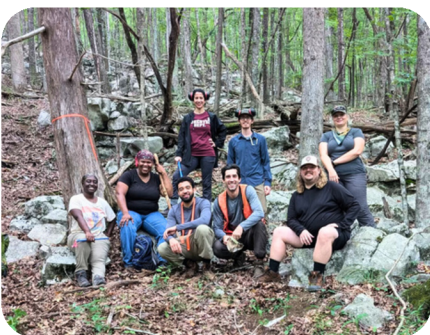
## BUILDING THE FUTURE OF CONSERVATION

- In a historic step toward diversifying the environmental workforce, AAMU signed a Memorandum of Understanding with the U.S. Fish and Wildlife Service in 2024, joining a national effort to expand conservation career opportunities for minority students.
- The department also maintains robust collaborations with organizations like the USDA Forest Service, Department of Energy, HudsonAlpha Institute, and Natural Resources Conservation Service, enhancing both the quality and reach of its research and student training opportunities.

## RECOGNITION AND IMPACT

- AAMU continues to rank among the top producers of African American Ph.D. graduates in agricultural and biological sciences, positioning it as a national leader in higher education diversity.
- In a nod to its soil science heritage, Bama Soil—named in part through AAMU contributions—was designated Alabama's official state soil in 1997, further symbolizing the university's deep roots in environmental stewardship.

Through decades of visionary leadership, cutting-edge research, and deep community involvement, the NRES Department at Alabama A&M University exemplifies the role of an HBCU in shaping a more equitable and sustainable environmental future. As challenges in natural resource management grow, so does the department's impact—fueled by innovation, inclusion, and a firm commitment to public service.



## SHAPING THE FUTURE: VISION 2030 AND BEYOND

As Alabama A&M looks to its next 150 years, the NRES department is positioning itself as a national leader in environmental justice, climate-smart agriculture, and the training of a diverse green workforce.

Key initiatives on the horizon include:

- The expansion of environmental data science and geospatial technology training
- New research facilities and smart-agriculture labs
- Strengthening HBCU partnerships on climate and sustainability
- Developing more internships and global learning experiences for students

With growing concerns around climate change, food security, and sustainable development, the work being done at AAMU's NRES department is more critical than ever. The department is not only preparing students to meet these challenges head-on but also ensuring that historically underrepresented voices are central to the conversation.



Photos from AAMU Archive, AAMU Website, NRES Faculty, Staff and Students

## CELEBRATING 150 YEARS- AND BUILDING THE NEXT CHAPTER

As we celebrate 150 years of Alabama A&M University, we reflect with pride on a journey marked by resilience, innovation, and service. The Department of Natural Resources and Environmental Sciences stands at the heart of this journey—rooted in heritage, thriving in the present, and looking boldly toward the future.

Here's to the next century and a half of excellence, impact, and stewardship!





# 150 YEARS OF *Excellence*





# Be a part of History: Support AAMU's Legacy for the Next 150 Years

As Alabama A&M University proudly celebrates its 150th anniversary, we invite alumni, supporters, and friends to stand with us at this historic milestone. For a century and a half, AAMU has been a beacon of excellence, resilience, and transformation—empowering generations through education, innovation, and community service. Now, you have the opportunity to be part of shaping its future.

By donating to any of our scholarships, academic programs, student organizations, or athletic programs, you're not just giving—you're preserving a legacy. Your generosity will help current and future Bulldogs continue to thrive, excel, and carry forward the proud traditions of AAMU.

Whether you support student scholarships, invest in campus life, or champion our athletic teams, your contribution becomes part of a living legacy. It's a powerful way to honor the past, uplift the present, and secure the future.

To make your gift and become part of this momentous occasion, visit <https://secure.qgiv.com/for/aau/> or scan the QR code below. Every dollar you give writes a new chapter in AAMU's ongoing story—a story of excellence, empowerment, and enduring pride.

Celebrate 150 years of greatness. Be a part of history. Give today.





## TWO NRES GRADUATE STUDENTS ATTEND & COMPETE AT THE 39<sup>TH</sup> MANRRS NATIONAL CONFERENCE

By Dr. Dedrick Davis



Stephane Jean-Noel



Emmanuel Oko

Graduate students, Emmanuel Oko and Stephane Jean-Noel attended the 39th Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) Annual Career Fair and Training in Memphis, TN, from April 3-6. MANRRS promotes academic and professional advancement by empowering minorities in agriculture, natural resources, and related sciences. MANRRS is open to all students in all majors.

Attending the MANRRS National Conference was a first-time experience for both students. Stephane described attendance at the conference as a “great experience”. During the conference, Stephane attended three workshops: i) From Research to Results: Leveraging your Graduate Work for Industry Success. He noted he was inspired by how the panelists contributed to the success of the companies for which they work. A second workshop was focused on balancing graduate life, finances, and mental health. Stephane noted that the MANRRS Career Expo allowed him to meet and interact with many company leaders in agriculture. Overall, Stephane stated the 39th MANRRS National was a great opportunity to network with peers and industry leaders.

NRES graduate student, Emmanuel Oko, stated the 39th MANRRS National Conference allowed him opportunity to connect with fellow graduate students, scientists, and mentors. Emmanuel participated in the Graduate Oral Presentation Contest. To participate in the contest, Emmanuel’s submitted abstract was ranked in the top 10 out of numerous submissions. On April 3, 2025 Emmanuel competed in the contest with a 10 – minute oral presentation titled “Soil Water Evaporation and Infiltration in R. tropici Amended Soil”. He stated he was honored to present his research to the scientists, professionals, and students attending the conference and was thankful for the valuable feedback. The MANRRS experience left him inspired and hopeful for the world's future and reaffirmed his commitment to contributing meaningfully to the scientific community. Emmanuel noted, that through research, education, and advocacy, students can drive the positive change needed to address today's complex agricultural and environmental issues.

# EVENTS

## ALABAMA A&M UNIVERSITY SOIL JUDGING TEAM PARTICIPATES AT THE NATIONAL JUDGING COMPETITION

By Dr. Monday Mbila



During the individual contests, each student individually judged three sites at different locations.

The six-day national contest consisted of 4 days of practice in soil description and two days of individual and group judging. Soil judging practice focused on the fundamentals of soil morphological description, local geology, taxonomic classification, and application of the information for land use interpretations.

The Individual Contest consisted of three individual-judged sites for the different teams. A team for the individual portion of the contest consisted of four contestants from each school, but can be as few as three. At each site, a pit was excavated for the measurement of horizon depths and boundaries.

The AAMU Soil Judging Team participated in the National Competition in Stevens Point, WI, earlier this month. The event took place April 27-May 02, 2025, at the University of Wisconsin-Stevens Point, WI.

There were twenty-seven Universities from all over the country for the event. Each of the universities qualified to go to the national event in their regional contests. AAMU belongs to the Southeast region, where their strong performance in 2024 earned them 5th place behind Virginia Tech, West Virginia University, North Carolina State University, and the University of Tennessee-Knoxville. The 2025 National Soil Judging Competition was the first for Alabama A&M University and is believed to be the first for any HBCU.



Students from different universities describing soils in excavated pits.



The Group Contest consisted of each school presenting one team to judge two soil pits at different sites. The overall team score consisted of the aggregate of the top three individual scores at each individually judged site, plus the group-judged sites. A major challenge for the AAMU team was that they had the minimum number of people without the option to drop the grade of the lowest scorer on the team. In addition, the different glaciated landforms, geology, and soils of the Midwest presented challenges for our southeastern, near-tropical soils environment.

The Team worked hard and had great chemistry between them. And with the knowledge and experience gained from the competition, the team is ready for a better showing next time around.



The AAMU team in the group contest, where each team judges two soil pits at different sites.

The collaboration between AAMU CALNS and USDA staff was essential in preparing for and participating in this event, which proved to be both challenging and rewarding for students. The USDA partnership provided valuable technical expertise as well as financial support for AAMU's participation in the National Soil Judging competition. Special thanks to Christopher Ford, Jaylan Hancock, and Jacob Harvey for their dedicated time and effort in preparing the students for success.

The competition was sponsored by the Soil Science Society of America and the American Society of Agronomy. But AAMU's participation was supported by the Department of Natural Resources & Environmental Sciences and a grant from the USDA-NRCS. The NRES acknowledges and thanks the USDA State Office, Alabama, for their support of the AAMU Soil Judging Program.



2025 AAMU Soil judging team students, from left: McKinley Harris, Jarius Whitehead, and Colton Gunnels.

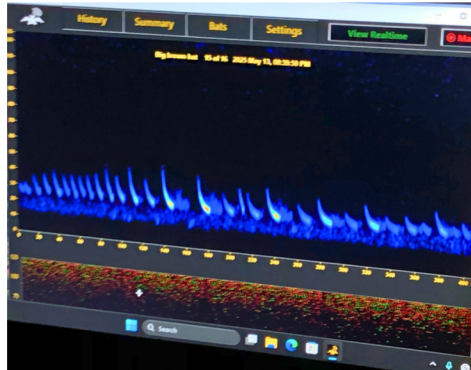


Pictures from Dr. Monday Mbila



## AAMU RESEARCHER DISCOVERS EASTERN SMALL-FOOTED BAT IN ALABAMA

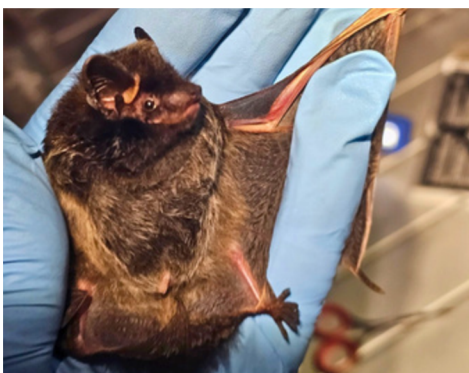
By Dr. William Stone



Following final exam week and Commencement, AAMU bat researcher Dr. William Stone once again joined dozens of scientists for the annual Alabama Bat Blitz- a major statewide survey of bat populations. This event, now in its 25<sup>th</sup> year, brings together over 70 bat biologists from Alabama and beyond, including states like Illinois, Oklahoma, and Virginia.

Last year, during the Blitz, Dr. Stone made a remarkable discovery: he became the first person to capture an eastern small-footed bat (*Myotis leibii*) in Alabama. The rare species was caught at Cathedral Caverns State Park, a finding that raised hopes of identifying a new resident bat population in the state. Unfortunately, despite an expanded search effort in the following nights, no others were captured until now.

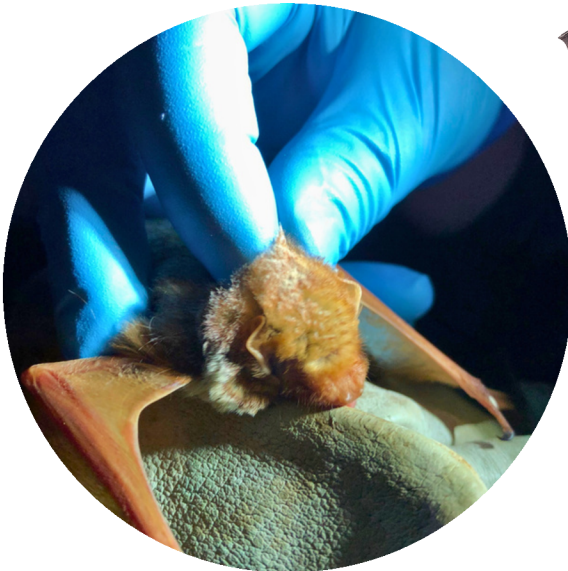
This year, a research team from Virginia Military Institute and Auburn University at Montgomery successfully recaptured the small-footed bat at the same location. The team also captured the endangered gray bat (*Myotis grisescens*) that night, although severe weather caused two trees to fall on one of their nets. Thankfully, no one was injured, but it did likely affect their ability to catch more bats later that evening.





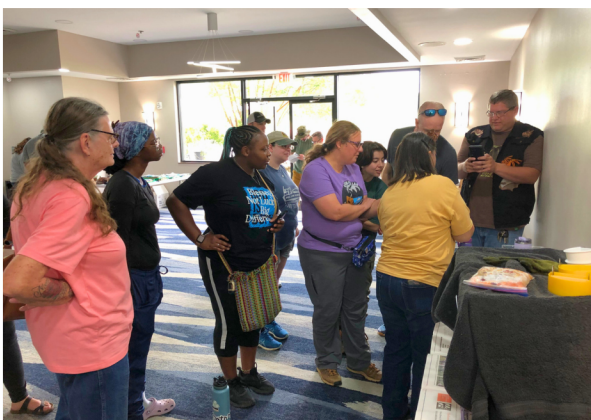
Dr. Stone and other researchers have seen major changes in Alabama's bat populations since white-nose syndrome, a deadly fungal disease, arrived in the state in 2012. Species like the tri-colored bat have declined dramatically. In their place, red bats have become more common. In fact, during this year's Blitz, Dr. Stone captured 25 red bats in a single night at the James D. Martin Skyline Wildlife Management Area.

This shift in species dominance is part of what AAMU alumnus Matthew Stone studied with Dr. Stone while a student in the NRES department. Their research showed a numerical response, meaning red bat populations increased, but no functional response, such as changes in behavior or diet. In other words, red bats are taking advantage of the ecological gap left by disappearing species, but their behavior hasn't changed significantly.



Efforts to protect rare bats like the eastern small-footed bat are outlined in Alabama's State Wildlife Action Plan (SWAP), which Dr. Stone and AAMU researchers helped update. The plan includes conservation strategies across protected lands in northern Alabama, including Cathedral Caverns. While the recapture of the small-footed bat is encouraging, much more research is needed to understand and conserve this elusive species.

Dr. Stone remains a leading voice in bat conservation in Alabama. If you missed his presentation during the April NRES Department Seminar, a summary was included in the latest department newsletter.



Photos from Dr. William Stone and Lauren Couch

## STUDENTS GET HANDS-ON WITH BIRD BANDING

By Ashley Woods



A heartfelt thank-you goes out to our incredible graduate students Kira Williams, Thomas "Tat" Thompson, Kern Freesland, and undergraduate Ashley Woods for hosting two engaging and educational bird banding demonstrations at Alabama A&M University's MAPS (Monitoring Avian Productivity and Survivorship) station on Chapman Mountain.

On Saturday, the team welcomed members of Alabama Audubon for an in-depth look at bird research in action. Just a few days later, they hosted the Green Ambassadors from Lee High School, offering local students a rare, hands-on experience in ornithological fieldwork. During both events, participants got to witness the full process: safely capturing wild birds using mist nets, identifying key physical traits, collecting scientific data, applying federally issued ID bands, and releasing the birds back into the wild.

Even more exciting? The birds featured during these demonstrations were all native Alabama species—some of the state's most colorful and charismatic songbirds, including:

- Northern House Wren – Small but mighty, this perky bird is known for its loud, cheerful song and curious nature. It's a year-round resident in Alabama and frequently nests near homes and porches.
- Northern Cardinal – One of the most recognizable birds in the U.S., cardinals are admired for their vivid red plumage and melodic whistles. They're often used as a symbol of beauty and resilience.
- Indigo Bunting – Males of this species dazzle with their electric blue feathers in summer, thanks to structural coloration rather than pigment. These long-distance migrants rely on healthy habitat corridors to survive their journeys.
- Kentucky Warbler– A ground-dwelling songbird, it is known for its yellow underparts and distinctive black markings on its face.







The opportunity to see, hold, and learn about these birds up close was transformative for many attendees, especially the high schoolers. One Lee student said, "After today, I really think this is what I want to do after high school. I've never held a bird before. It was awesome."

This is more than just a cool field trip—it's a meaningful introduction to the world of science and conservation. At a time when bird populations across North America have declined by nearly 3 billion since 1970, it's critical to inspire and empower the next generation to take action. Programs like this one at AAMU do exactly that, by showing students how research contributes to long-term bird conservation and how their efforts can make a difference.

We're incredibly proud to give young people a front-row seat to real-world wildlife science. Whether they go on to study biology, work in environmental advocacy, or simply become more mindful stewards of the natural world, these experiences plant the seeds of lifelong engagement.

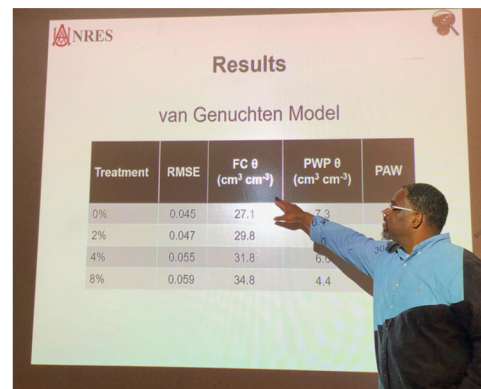
To our student researchers, volunteers, and community partners—thank you for helping shape the future of conservation right here in Alabama.



# RESEARCH

## DR. DEDRICK DAVIS EXPLORES INNOVATIONS IN SOIL WATER RETENTION

By Rachel Stone and Dr. Dedrick Davis



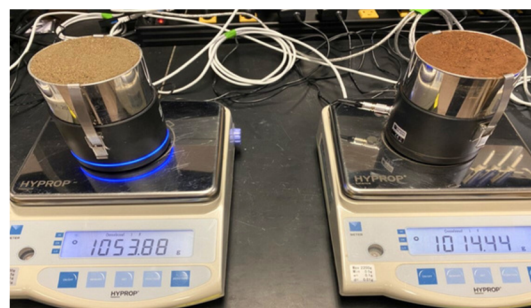
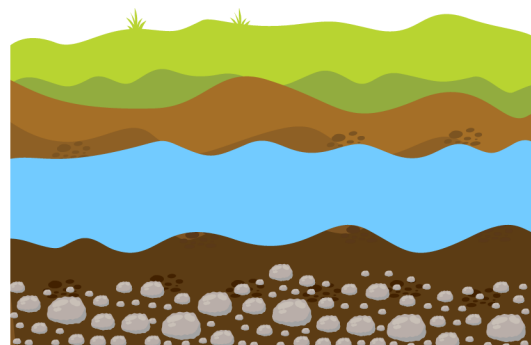
Photos from Dr. Dedrick Davis and Dr. William Stone

On Tuesday, April 29, 2025, attendees gathered in the ARC Conference Room for an engaging seminar by Dr. Dedrick Davis titled “Soil Water Retention Under the Lens: Biochar, Biopolymers, and Field Evidence.” The presentation offered a compelling look at how soil amendments can significantly influence the ability of soils to retain water, an increasingly vital concern in agriculture and environmental management.

Dr. Davis shared insights from his recent laboratory research, focusing on the use of biochar and biopolymers and their potential impacts on soil water retention. Through detailed laboratory-based measurements, he demonstrated how these amendments influenced soil water retention from saturated to oven-dry conditions to provide a better understanding of their potential benefits.

In addition to the technical findings, Dr. Davis discussed the broader implications of his field-based measurements of soil water retention, particularly in regions facing water scarcity or drought stress. His data-driven approach emphasized the importance of site-specific and long-term monitoring to optimize benefits.

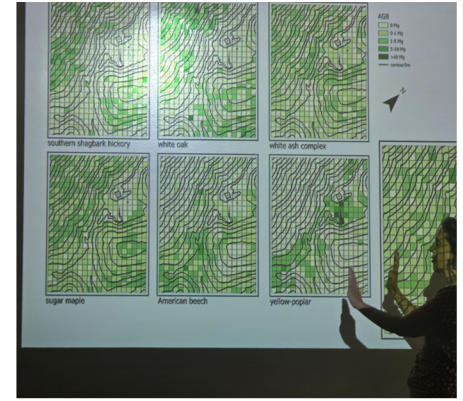
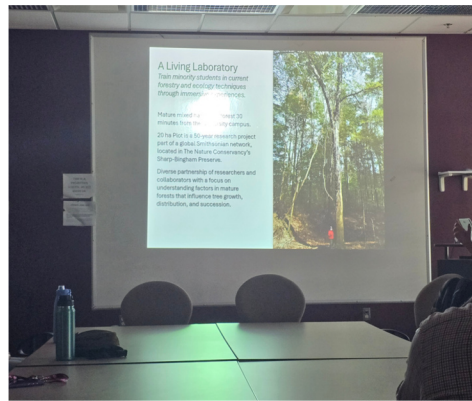
The seminar sparked thoughtful discussion among participants, highlighting the relevance of Dr. Davis’s work to both academic research and practical land management. Attendees left with a deeper understanding of how innovative soil amendments and field-based measurements of soil water retention can contribute to sustainable agriculture and ecosystem resilience.





## AAMU SEMINAR SERIES RECAP: EXPLORING THE PAINT ROCK FOREST DYNAMICS PLOT. SEMINAR SPEAKER: DR. DAWN LEMKE

By Promise Johnson



As part of the AAMU Seminar Series, Dr. Lemke gave an insightful talk about the Paint Rock Forest Dynamics Plot—a 20-hectare research site in The Nature Conservancy's Sharp Bingham Mountain Preserve. This long-term project is part of the Smithsonian's ForestGEO global network and plays a key role in helping scientists better understand forest ecosystems, how species interact, and how forests change over time.

Dr. Lemke highlighted several key components of the project:

- Census and Data Collection Methods
- Tree Species and Biomass Analysis
- Topography and Biomass Distribution
- Oak Species and Mortality Rates
- Ongoing Work and Collaborative Efforts
- Student Involvement and Training

The seminar also touched on the use of remote sensing technologies and the integration of student research and field training, reinforcing the site's value as a hub for both scientific discovery and education. Above all, it was clear that this is something Dr. Lemke is truly passionate about. Her dedication and enthusiasm for the work stood out throughout the presentation.

# WANT TO KNOW MORE?

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## >>> NATIONAL SOIL COMPETITION

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## >>> BAT BLITZ

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## >>> BIRD BANDING



## >>> NRES SEMINAR SERIES

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