



JUNE 2019 ATVG SUMMER NEWSLETTER

Student Finishing Old TVA Research on Tree rings and Weather

A University of Tennessee doctoral student is resurrecting research that was abandoned nearly 80 years ago that could be crucial for Tennessee Valley Authority's understanding of long-term weather patterns that factor into the agency's decisions regarding water. Scientist Florence Hawley began research in the 1930s studying tree rings to understand long-term weather patterns in the Norris Basin. She worked at TVA in its earliest days but faced sexism on the job and was never allowed to publish her results, according to TVA officials. She left TVA in the 1940s and went to work in the Southwest.

Her research was recently found in the TVA archives by lead hydrologist Curt Jawdy, and while attention in the valley has been on flooding and the record rainfall that has pummeled the region for more than a year, he believed the research could show the range of climate patterns in which engineers needed to be prepared. The utility provider approached the University of Tennessee about finishing the work, and doctoral student Laura Smith took on the task. She had experience studying tree rings to understand forest dynamics and thought the work would be a natural extension of her previous research.

Rings of Eastern Red Cedars provide climate history dating back hundreds of years. The trees are ideal for climate study due to their drought sensitivity. The trees are old, some found in Virginia during a previous study date back 800-900 years. Locally, Smith is pulling samples at Little Cedar Mountain Recreation Area in Jasper, Tennessee, where she has taken about 120 samples from 60 trees. A small ring indicates sickness or drought for the year, while a thick ring tells scientists of healthy years with ample hydration.

Smith is taking tree samples that will be analyzed over the next six to 12 months. She expects to sample roughly 300-500 trees of a variety of ages across the valley. The wide sample will help limit non-climate factors; such as a tree getting sick or animals hurting the health of individual trees. She travels around the region inserting an increment borer into the cedars. The long, thin device twists into the trees and pulls out a small sample.

From there, the samples are taken to a lab where complex statistical models will extract the climate data based on tree rings. The study is about understanding the past for Smith and other university scientists.

“This isn't about the climate moving forward but gives us an idea about variability in the system. It's not a predictive model, but it tells us going backward,” she said. “It gives us a range to be prepared for in the future.”

That information is crucial for TVA as it oversees water-levels; currents; boat traffic; freight; hydro power; the health of the ecosystem; and recreational opportunities like boating, paddling, open water swimming, fishing and more. Ideally, they'd like to see a balanced amount of rainfall each year, which makes it easier for them to manage water use.



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Understanding what has happened in the past will help them understand what to be prepared for in the future, Jawdy said. “We’re looking for just how big the swings of climate can be so we can prepare for future work,” he said.

Tennessee Boat Industry Thriving as Buyers Seek Sport and Luxury

Boating is big in Tennessee and in East Tennessee especially. It’s not just big fun; it’s big money. In March 2019, the GEICO Bassmaster Classic, known as the “Super Bowl of Bass Fishing” was held in Knoxville for the first time. The event, which used the Tennessee River and connected waterways, drew a record 150,000 fans.

“The No. 1 activity that boats are used for is fishing,” said Thom Dammrich, president of the National Marine Manufacturers Association. “Probably 70 percent of all boats are used for fishing, if not exclusively at least some of the time.”

But boating today goes far beyond bass boats. While most are still used for fishing, the trend is toward dayboats; larger, more comfortable recreational models, but not necessarily with cabins for sleeping, Dammrich said.

“Basically, boats are becoming more versatile, so you can do more things,” Dammrich said. “It’s versatility that the consumer’s really been looking for.” Nearly a quarter-million boats are registered in Tennessee, one for about every 27 people in the state, according to NMMA.

Why East Tennessee? Dammrich said the Tennessee River and its associated waterways probably drew the first manufacturers. “The people who started these companies were boaters, probably, in Tennessee,” Dammrich said. Once factories were here, suppliers followed, and a skilled workforce developed, he said.

The East Tennessee boat-building industry took off when C.N. Ray, founder of Sea Ray, moved his company from Michigan to this area, Yobe said. The logistics of shipping boats nationwide made the move sensible, and Ray also wanted to be close to Kentucky’s horse-breeding area, according to Yobe.

“This area’s been the hotbed for boat-building for a long, long time,” he said. Tennessee Valley Authority, which has managed the Tennessee River and its tributaries since 1934, created vast water-recreation facilities; in addition to the rivers themselves, TVA has 33 reservoirs in Tennessee behind its dams. The agency operates 24 boat ramps in the state, mostly in East Tennessee, and also permits owners of waterfront property to build docks on TVA-managed waterways.



TVA Officials Warn of Scammers Posing As Power Bill Collectors'

TVA officials are warning residents to be cautious of scammers posing as bill collectors with the organization. While temperatures continue to heat up, Scott Fiedler with the Tennessee Valley Authority says so are scams.

"Scammers are calling folks wanting them to give them a check or money order or pre-paid credit card to pay their power bill," Fiedler said.

TVA has been warning residents to be weary of callers threatening to shut off their power if they don't pay up. "These are scams. We recommend that you just hang up on them. Don't give them that sense that they're actually making progress with their scam," he said.

Fiedler says TVA doesn't deal with power customers directly at all. "TVA is a wholesaler. We actually sell energy to local power companies. They're the only ones who will be sending you a bill. TVA does not send customers a bill," the spokesman explained.

If you receive a call like this, TVA officials say hang up and do not call back. Contact your electric company if you have questions or concerns about your bill. You can also contact the TVA Police or local law enforcement to file an incident report.



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Motor and Fan Manufacturer Announces Tennessee Plant

A major global manufacturer of electric motors and fans this week announced plans to build a \$37 million factory in northeastern Tennessee. Ebm-papst's new location in Washington County, Tennessee, is its second in the U.S., is expected to begin operations in September and create 200 new jobs over the next five years. State and company officials said the facility will produce fans for refrigeration, air conditioning and ventilation systems. The company's U.S. headquarters is in Connecticut, home to 300 employees and serves the appliance and agriculture sectors.

Company officials credited the area's infrastructure and opportunities for development for the decision to locate in Tennessee. "As an innovation leader, especially for energy-efficient fan solutions, we see great potential for further growth in North America," Ebm-papst U.S. President Mark Shiring said in a statement. Tennessee economic development officials said the project is the largest capital investment in the county in eight years. The project will be aided by grants from both the state government and the Tennessee Valley Authority.

Forest Service: What looks like dumping is actually fighting pollution

You can't always believe what you see. The water in our mountain streams is sometimes polluted even though it appears crystal clear. And sometimes what looks like pollution is actually fighting the effects of pollution.

Acid rain looks just like regular rain. It occurs when rainwater falling through the sky picks up tiny pollutants like atmospheric sulfur from industrial plants. When acid rain makes its way to streams, it increases the acidity of the water which can be harmful to fish.

Jason Farmer, U.S. Forest Service fisheries biologist, was part of a team that reversed the effects of acid rain on streams in the Upper Santeetlah watershed of western North Carolina. Just like a gardener adds lime to our naturally acidic soils, Jason added limestone to neutralize the acidity of stream water. The streams were monitored to check the pH, a scale of acidity.

"After adding limestone to Sand Creek and Wolf Laurel Branch, our monitoring showed that pH levels were restored to pre-industrial conditions. This will help sustain a healthy population of brook trout, the only trout native to western North Carolina," said Farmer, who works on the Cheoah Ranger District of the Nantahala National Forest.

Farmer also monitored the physical attributes and fish and aquatic salamander habitat of the stream channel after liming and found no negative effects. This was a cooperative project between the U.S. Forest Service and North Carolina Wildlife Resources Commission. It received significant financial assistance from the Tennessee Valley Authority and Duke Energy.



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Farmer's efforts recently earned him the North Carolina Council of Trout Unlimited (NCTU) President's Award for Outstanding Work. "We were impressed by this outside-the-box but simple common-sense solution. The potential to fight acid deposition by targeting it just before it hits the stream - sort of like setting the hook right before the take - both struck a chord with us and is an example of the kind of work Jason has consistently presented at almost every meeting I've attended," said Rusty Berrier, NCTU's National Leadership Representative.

Mark your calendars and make plans now to join ATVG for the last two meetings of 2019:

ATVG 2019 Schedule

- July 10 & 11, 2019 Brasstown Valley Resort; Blairsville/Young Harris, GA
- October 28 & 29, 2019 Gatlinburg, TN



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Association of Tennessee Valley Governments

Summer Meeting July 10th & 11th, 2019

Brasstown Valley Resort

6321 US Hwy 76

Young Harris, GA 30582 1-706-379-9900 (www.brasstownvalley.com)

Wednesday, July 10, 2019 (Eastern Time Zone)

Trackrock Room

1:00 p.m. Welcome - Brad Warning; ATVG Board President

1:15 to 4:30 p.m. ATVG Program:

- TVA Update
- TVA Police Presentation
- Status Report on TVA IRP
- TVA Water Recreation including Ocoee
- Tennessee River Line: A sneak preview

4:30 p.m. ATVG Board of Directors Meeting

6:30 p.m. Dinner at Creekside Pavilion (*on-site*)

Thursday July 11, 2019 (Eastern Time Zone)

Breakfast in Brasstown Dining Room

8:30 a.m. Tour of John C. Campbell Folk School

11:00 a.m. Return to Resort

Please note that the ATVG Conference Room Rate applies 2 days prior and 1 day post our meeting. On site activities include golf, tennis, swimming, horseback riding, fitness center and a spa. Offsite activities to consider include trip to Brasstown Bald (the highest point in GA) and train ride from Blueridge, GA to Copperhill, TN (45 minute train ride). Please book your room early!!

Please help us make necessary arrangements by letting us know if you will be attending. Send the enclosed registration form by email to: registration@atvg.org or by U.S. mail to: ATVG, P.O. Box 3578, Clarksville, TN 37043.

Association of Tennessee Valley Governments Meeting Registration Form

Registration Fee: \$100.00 for members and affiliates; \$200.00 for non-members

Name: _____

E-Mail: _____

Spouse's Name: _____

Registration Fee for spouse is included/No additional charge

Company/Organization: _____

Full Address: _____

Make checks payable to: Association of Tennessee Valley Governments- P.O. Box 3578 – Clarksville, TN 37043



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TVA's Bright Future Focus

The Tennessee Valley Authority's, new CEO Jeffrey Lyash is already looking towards the future. He's committed to prioritizing "what is needed in the long run" when making strategic investments and changes to meet the changing environmental and economic landscape, Lyash recently said, "The public power model in the valley will allow us to think about what is best over time for all of our customers."

The answer to what's best, whether for TVA, its customers, business development, or everyday Tennesseans, is the same: advanced energy. Advanced energy may be a booming \$1.4 trillion global market, but it's intimately linked to the welfare, employment and economic prospects of all Tennesseans.

Our state has exploded as a power player in advanced energy innovation over the last decade, thanks in large part to the unique set of assets that make it a triple-threat: TVA, Oak Ridge National Laboratory and business-friendly regulations and workforce. The sector drives about \$39.7 billion to state Gross Domestic Product, the Tennessee Advanced Energy Business Council found in its 2018 economic impact report. It's growing even more rapidly than the overall state economy, employing close to 360,000 Tennesseans in generally higher-paid positions than the state average annual wage.

In Chattanooga, the advanced energy industry drives more than \$1.5 billion in annual payroll to more than 31,142 local workers. Support of advanced energy is critical for international corporations, the growing drive for sustainability and access to nontraditional energy sources is becoming a prerequisite in companies' site-selection decision-making process. Beyond economic and workforce development, investment in advanced energy should be a no-brainer for TVA for a more simple reason: It's the future of energy.

From a long-term sustainability standpoint, the fact is that resources like fossil fuels are limited and won't last forever. Instead of burning natural gas at large centralized power plants, producing CO2 emissions in the process and wasting the carbon molecules on a single use, we should be preserving these finite resources. Carbon molecules are the building blocks of plastics manufacturing, necessary to make higher-end items such as medical products including replacement heart valves, implants and prosthetics. Prioritizing advanced energy allows us to store fossil fuels such as natural gas, creating an asset that drives the nation's manufacturing economy with the production of advanced materials.

Everyone should be encouraged by Lyash's words embracing the challenges and opportunities of the energy landscape of the future. That future is advanced energy, and whether Tennessee advances as an economic powerhouse and epicenter of advanced energy innovation, or gets left



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behind in irrelevancy, is in TVA's hands. If Lyash follows through on his word, then our future is bright.

The Association of Tennessee Valley Governments (ATVG) strives to keep its membership as up to date as possible with all TVA matters by including a TVA update at each of our quarterly meetings. We provide informational sessions with TVA experts presenting the most current information possible on topics from in-lieu-of-taxes, to TVA's Integrated Resource Plan to how to best utilize and improve the economic impact of your area's recreational areas. These experts also allow each attendee the opportunity to ask questions and answer questions specific to the individual's geographic area.

Watauga Lake in Tennessee is a Destination to Dive Into Summer With a Splash

Watauga Lake is a beautiful and seemingly endless concourse of blue water snaking around winding, densely forested banks. It is one of the premier places in the High Country to hike, swim, camp and boat. The lake is a beloved destination for aquatic fun, but despite the natural beauty of the lake and its immense size, it isn't natural.

The lake is actually a reservoir that was created by the Tennessee Valley Authority in 1948 as part of the Watauga dam, which was built to control flooding in the Tennessee River Watershed.

In the path of this project was Butler, known as "The Town that Wouldn't Drown." As the project moved forward, the town's population of 600 people, and even many of the town's homes and businesses, were relocated to higher ground in what today forms the town of "New" Butler. All told, the relocation project required 55 miles of new road construction and relocated more than 1,000 graves. Today, the relocated Butler is an unincorporated community in Tennessee's Johnson County.

Visitors can explore the area's history at The Butler Museum, located at 123 Selma Curtis Rd in Butler, Tennessee. The museum is open on Saturdays and Sundays from 1:30 to 4 p.m. during the summer, and tours can be made by appointment.

Visitors to Watauga Lake will be pleased to discover a variety of options for dipping their toes in the lake's cool, clear waters. With five U.S. Forest Service maintained recreation areas in the vicinity, there are many options for a relaxing day of family fun and an interesting bit of Tennessee history. Sites requiring reservations and fees can be reserved by going to www.recreation.gov or call the Watauga Ranger District office at (423) 735-1500.



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ATVG is a 501(c) (4), not-for-profit, public interest organization.

ATVG advocates for the interests of county and city/town governments residing within the seven-state TVA region and their partners in the public and private sectors.

For details about ATVG's mission and program of work, visit us on line at: www.atvg.org