

Sustainable Forests

A resource for Georgia landowners, sponsored by the SFI Implementation Committee.

Dear Georgia landowner,

As a forest landowner, you play an important role in sustaining our state's forests, which provide so many benefits for all of us.

Our goal as the state committee of the Sustainable Forestry Initiative® is to promote the practice of responsible forestry on all lands. This includes providing you with information that may be helpful for you as a steward of your forest.

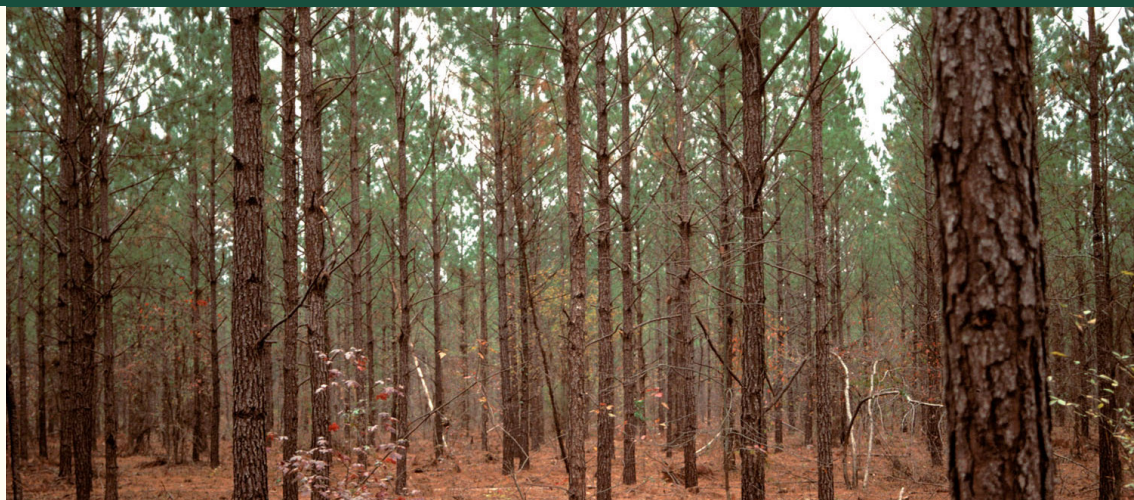
In this annual issue of our newsletter, we're highlighting climate change because weather has the potential to impact your forestland more than anything else.

Hopefully, this will give you a few management tips on what you can do to guard against forest damage and loss due to extreme weather.

Thanks for helping sustain Georgia forests,

Benji Addison

Georgia SFI Implementation
Committee Chairman



Climate Change & Your Forest

Scientific evidence has validated a warming trend and these extended periods of extreme heat can take a toll on your forest.

In 2016, extreme heat was the norm for Georgia and much of the nation. If not a record, the number of 90-degree days was certainly close with 50 consecutive days of 90-degree heat by July. In Macon, the center of the state, there were 106 days over 90 degrees through September 25 (see chart).

The good news is that healthy, growing forests absorb and store carbon from the atmosphere and help reduce rising carbon dioxide (CO₂) levels. Essentially, trees play an important role in mitigating climate change, and forest landowners are part of the solution.

The bad news is that higher temperatures, and drought or excessive rainfall that may result from more extreme weather patterns can stress your trees. Drought, in particular can result in: 1) Loss of newly planted forests 2) Decreased growth and loss of vigor

Number of Days of 90° F or Higher Year to Date (through and including September 25, 2016)

	2016, YTD	30-Year Annual Average (1981-2010)	Average Yearly Total (since records began)	Highest Yearly Total		Lowest Yearly Total	
				Number	Year	Number	Year
Atlanta	88	43.8	37	90	2011, 1980	2	1967
Athens	103	57.7	58	117	1925	13	1974
Columbus	107	78.1	84	138	1915	30	1994
Macon	106	82.5	76	116	2011, 1954	31	1994

(Continued)

Photo Credit (Top): Scott Roberts, Mississippi State University, Bugwood.org



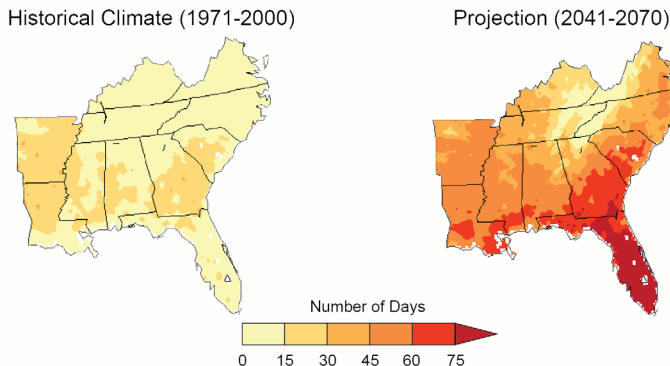
Climate Trends & Tools

Climate change and its causes are politically charged issues that can be distorted or sensationalized in the news; however, the truth about climate change is not inflated. “Some 97 out of a 100 climatologists agree that the global climate is changing due to human causes and scientists are closer to understanding what those changes will mean on the ground,” says Leslie Bobby, Extension Associate on Climate Change and Bioenergy, Southern Region Extension Forestry.

She notes that the overall temperature of the planet has increased by 1 degree celsius, and the levels of carbon dioxide (CO₂) in the air are unprecedented.

Most of the South is warming consistently with other parts of the country; however, some states such as Alabama and Mississippi, and even Georgia up until the last few years have experienced cooling trends. This is in part due to reforestation of former croplands after the great depression in the 1930's.

95-Degree Days Projected to Increase



Assuming emissions continue to grow, the projected average number of days per year with maximum temperatures above 95°F will increase significantly, more than doubling in many areas. Maps show historical data from 1971 – 2000 compared to projections for 2041-2070. Figure source: NOAA NCDC/CICS-NC

While the overall climatic trend is warming, Leslie says, “That doesn’t mean that we won’t have periods of cooler weather or seasonal variations.” Climate patterns may not be as regulated and there is expected to be extended periods of drought and then flooding. Leslie notes, “Average rainfall is expected to stay about the same in most of the South but rainfall patterns are changing.”

Leslie has been working on the Pine Integrated Network: Education, Mitigation and Adaptation Project (PINEMAP) project that was funded by the USDA. PINEMAP’s goal was to conduct research necessary to help Southern pine plantation owners better manage their land as they adjust to an increasingly variable climate.

The PINEMAP team has developed a tool that will let foresters and other resource professionals look ahead and see what’s happening years into the future so that they can better plan for any change that is coming.

Learn more online:

www.pinemap.org

www.pinemapdss.com - A decision tool for looking at a site in the future

Climate Change & Your Forest *(continued)*

of established forests 3) Decreased resistance to insects and disease 4) Enhanced wildfire risks, and 5) Negative impacts on wildlife.

“With any sustained climate change, there’s a ripple effect,” says Leslie Bobby, Southern Region Extension Forestry.

Good Forest Management is Key to Reducing Your Risks

To reduce the impact of climate change, good forest management is more important than ever. Research indicates that unmanaged forests are expected to be more negatively impacted than managed forests. Starting with reforestation, here are few practices that can help:

- **Invest more up front**, planting genetically improved seedlings to improve growth and resistance to drought, insects and disease.
- **Plant fewer trees per acre**; Consider going with a slightly lower number than traditional tree planting density (~450 to 600 seedlings per acre) to reduce competition, which may help during drought.
- **Thin your trees** at the appropriate time.
- **Control competition** - Use chemical herbicides or controlled burning to reduce wildfire risk and competition from other plants, such as invasive species.

“Our research has shown that with respect to forest growth, the most important climate change issue is water availability,” says Dr. Robert Teskey, Distinguished Research Professor, Warnell School of Forestry and Natural Resources. “As the climate warms trees will use more water, so planting fewer trees and thinning appropriately reduces overall water use, creates bigger trees at harvest and reduces the risk from insect attacks.”





Pine Beetles & Invasive Plant Species

Anything that creates stress for your forest has the potential to bring negative consequences. While there hasn't been a catastrophic situation in Georgia for a while, pine beetles are still the No. 1 insect risk to guard against. If winters are warmer, beetle spots may overwinter and become active in the spring.

Georgia Forestry Commission's (GFC) Chip Bates also says landowners should be proactive in controlling invasive, non-native plant species like Cogongrass. "They compete for water and nutrients so in times of drought, they can create more stress on your trees," he says.

Chip encourages landowners to call their GFC county forestry office first if concerned about invasive species, insect damage or other issues.

Photo Credit: USDA Forest Service - Region 8 - Southern, USDA Forest Service, Bugwood.org

Work with Qualified Professionals

Combining the expertise of a registered professional forester with the skills of a logger who has participated in Master Timber Harvester training increase your odds of meeting your forest management objectives, maximizing your profit and sustaining your forest resources.

Registered foresters may work as private consulting foresters or for logging companies, forest products companies or government agencies, such as the Georgia Forestry Commission.

FOR REGISTERED FORESTERS, VISIT:

Georgia Forestry Commission:

www.gatrees.org

Directory of Consulting Registered Foresters under the Resources section.

Association of Consulting Foresters of

America: www.acf-foresters.org

"Find a Forester" feature.

Society of American Foresters:

www.safnet.org

"Find a Certified Forester" feature.

FOR QUALIFIED LOGGERS, VISIT:

Georgia Master Timber Harvesters:

ga-mth.forestry.uga.edu

Tree Farm is Growing in Georgia

In 2016, 40 new landowners enrolled some 10,400 acres in the American Tree Farm System (ATFS) in Georgia, bringing the grand total to 1.23 million acres owned by 1,246 landowners.

Landowners who participate in Tree Farm gain access to forest management resources, including a periodic inspection by a forestry professional. ATFS recognizes family forest owners for their commitment to sustainable forest management. Land certified to the ATFS is recognized by the Sustainable Forestry Initiative, creating a valuable link to markets for certified forest products.



Photo Credit: Frank Green, ATFS

Email georgiatreefarm@gmail.com to find out how you can get involved.

LEED Recognizes SFI and American Tree Farm System

The U.S. Green Building Council's LEED program is the most widely used green building rating system in the world. Now, wood and paper sourced through Sustainable Forestry Initiative® (SFI®) Program and American Tree Farm System members is being recognized by LEED as part of an alternative compliance path. It's part of an integrated approach to encouraging environmentally responsible forest management and eliminating illegal wood from the building material supply chain.





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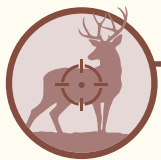
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Wildlife-Watching Activities

2.4 million people participate
\$1.8 billion in expenditures



Hunting

630,000 people participate
\$1.6 billion economic impact



Fishing

1.2 million resident anglers
\$2.1 billion economic impact

Family forest owners, who own **56 percent of Georgia forests**, play a critical role in providing wildlife habitat & recreation opportunities in the state.

Source: Rick Lavender, DNR

Georgia Wildlife at a Glance

Hunting, fishing and wildlife watching in Georgia generates billions of dollars in retail sales, salaries and tax revenues each year, according to the Georgia DNR Wildlife Resources Division.

Endangered Species at a Glance

The status of endangered or threatened species has remained pretty stable in the past five years. Since 2012:

- 5 new species have been listed
- 6 petitioned species have been withdrawn
- 2 candidate species do not need federal listing, according to U.S. Fish and Wildlife Service



BALD EAGLES SOAR IN GEORGIA

In 2016, DNR documented 201 bald eagle nesting territories and 240 young fledged. In 1980, there was only one known nest in the state.



GOPHER TORTOISES THRIVE ON 146K ACRES

Georgia's state reptile is expected to stay off the endangered list thanks to a multi-state effort to restore sandhill pine and upland pine habitats on 146,000 acres.

For more information about SFI, call 706-542-7691 or log on to www.sfi-georgia.org.

No state funds are used for this outreach project. All funding is provided by the Georgia SFI Implementation Committee. © 2016 Georgia SFI Implementation Committee.