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## Fire Risk and the Southeastern Drought

By Josh McDaniel  
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For Georgia forestry and fire officials, 2007 will also go down as one of the busiest in history. A complex of fires in and around the Okefenokee National Wildlife Refuge—eventually named the Georgia Bay Complex—consumed over 500,000 acres of pine uplands, industrial pine plantations, and forested wetlands or “cypress domes” across southern Georgia and northern Florida.

While state and federal officials are busy preparing for another active fire season they have implemented a number of programs to help recover from last year’s round of fires, and also to better prepare Georgia’s forests for the challenges it will face with a continuing drought.

Steve McNulty, a research ecologist with the USDA Forest Service, says that Forest Service models of both short-term and long-term projections are showing increased fire risk across the southern US. He says that the drought the region is currently experiencing is the result of a pronounced La Niña system (lower sea surface temperatures in the Pacific Ocean) that has reduced precipitation levels in the South for the last several years. “In La Niña, the tendency is for globally cooler temperatures. But, we are coming out on the upward trend of the mean—even the lows are highs. La Niña cooling is being compensated by a general trend of global warming,” states McNulty.



*The largest fire in Georgia history--  
The Georgia Bay Complex--burned  
over 500,000 acres across  
southern Georgia and northern  
Florida. Photo Credit: Jen Kolb.*

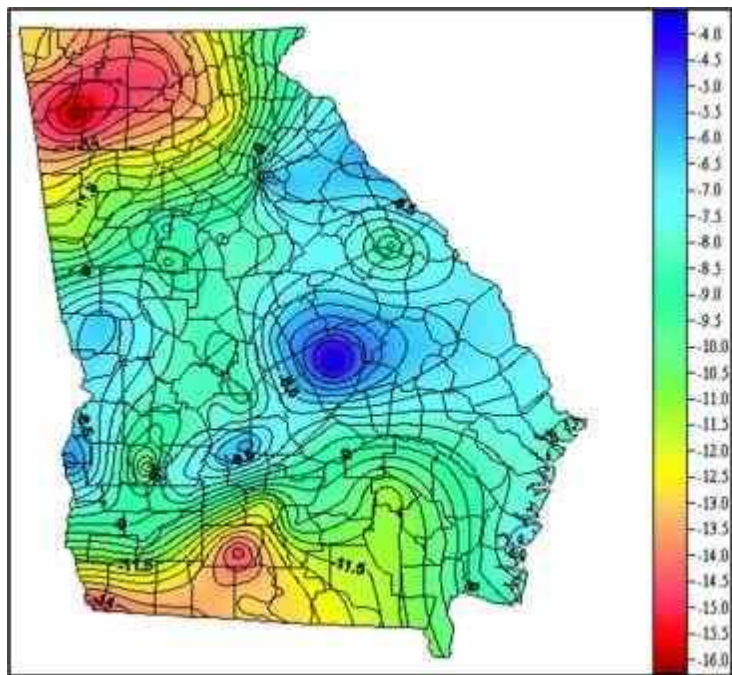
Meteorological models are predicting that the La Niña system will dissipate later this year, but not before the South and the east coast experience a dry spring and summer. “There has been some rain so far this spring, but we are expecting it to be dry as we move into the warmer months,” says McNulty.

The longer term projections are even more troubling. McNulty says that beginning in 2009 and through 2010; an El Niño pattern (higher sea surface temperatures in the Pacific Ocean) is predicted to dominate climate systems. For the South, this translates into higher temperatures, which could even be enhanced with climate change. Even though, El Niño normally means more precipitation for the South, the higher temperatures will mean faster evaporation. With increased precipitation driving “green-up” in the spring and higher temperatures drying fuels quicker—“Wildfires will be on the increase,” notes McNulty.

The State of Georgia is working to get increased fire protection in place to deal with the problem. Alan Dozier, the Georgia State Fire Chief, says that the state is restricting burn authorizations in areas of the state experiencing the worst impacts from the drought, particularly the northwest corner of the state.

The state is also working with timber companies and non-industrial private landowners to build and maintain firebreaks, reduce fuels, and create wider tree spacing in pine plantations to allow firefighting equipment to enter the stands (Dense plantation stands created enormous access challenges during the Georgia Bay Complex Fires of 2007). The state has also been encouraging landowners to harvest pine straw and in some cases treat fuels with herbicide.

*Departure from normal rainfall between January and April of 2007 before ignition of the Georgia Bay Complex Fires. Scale on right is measured in inches.*



Prescribed burns have been strategically implemented around the Okefenokee Swamp on 3,100 acres, and a 15-20 foot clearing has been established as a firebreak around the swamp. All of these projects have been done in cooperation with private landowners

The Greater Okefenokee Association of Landowners (GOAL), a collection of industrial and non-industrial private forest owners, Georgia and Florida forestry officials, and representatives from federal land management agencies, has been deeply involved in the preparation efforts. GOAL has been meeting three times per year to coordinate mitigation and preparation efforts, as well as establishing communication and coordination plans for potential suppression efforts. Dozier says that the cooperative plans set in place by GOAL—“Saved our bacon last year.”

Another encouraging effort in the recovery from the Georgia Bay Complex fires has been a Natural Resources Conservation Service (NRCS) cost-share program to assist landowners with replanting. For many private landowners who watched their entire timber investments literally go up in smoke, an alternative forest management approach is gaining traction. Frank Sorrells, a district manager in southeastern Georgia for the Georgia Forestry Commission, says that the cost-share program has been

encouraging landowners to replant with longleaf pine. “Longleaf is slower growing, but it does well in these soils. It is also more resistant to fire and drought.” Sorrells says that slash and loblolly pine provide a quicker return on the investment, but with recent depressions in chip and pulp markets, and the devastating impacts of the fire, many landowners are looking to longleaf pine as a more long-term, less risky investment in forestry. “People here invest their money in the land like other people invest in the stockmarket,” says Sorrells. “While slash and loblolly pine can provide a quicker return on investments, longleaf pine has a better chance of surviving a fire, and can provide big returns in the long-term.”

Sheila Walker was one of the landowners who decided to participate in the NRCS program. Along with her brother, she manages 300 acres of forestland as part of a larger holding that has been in the family for generations. During the 2007 fires, the family watched as a stand of 25 year old slash pine ready for harvesting was completely burned. The stand that would have brought the family close to \$500,000 and funded her children’s college education as well as her retirement was sold to salvagers for \$7 per trailer load.



*Prescribed burns have been strategically implemented around the Okefenokee Swamp on 3,100 acres. Photo Credit: Jen Kolb.*

“Those weren’t just trees—it was a heritage of forethought that had been passed on from one generation to the next. My father had taken care of the land, prepared it, and passed it on to us. The fire was a disaster

beyond our control, so our generation has been bypassed and won’t get a return. But, we know we have to get it back in production for the next generation.”

Under the NRCS program, Walker is replanting 50% of her land in longleaf. She is hoping to get some returns from pinestraw harvesting, a growing forest product market associated with longleaf, and she could get to harvest the trees in about 40 years.

So far, about 4,000 acres have been replanted in longleaf pine across southern Georgia under the NRCS program. Lynn Nichols, district conservationist with NRCS, says that increasing the amount of longleaf pine in the region provides opportunities for reintroducing prescribed fire to reduce fuels, a practice that has declined dramatically with the dominance of slash and loblolly pine plantation forestry.

Some unexpected rainfall this spring has eased the immediate crisis for Georgia fire and forestry officials.

Frank Sorrells says that the Okefenokee Swamp and other low lying areas in southern Georgia are actually full of water this year in comparison to last year when many were dry. When fires entered those areas there were abundant fuels to carry the fire and a layer of peat that allowed the fire to smolder for months. They aren’t expecting any fires in the swamp this year.

But, state forestry officials are not letting their guard down. Fire officials are watching the weather closely and putting an impressive set of programs in place to prepare for the next time “a fire comes out of the swamp.”

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