



USDA Regional Climate Hubs: Managing your risk in a changing climate.



Climate Risks in the Southeast

What type of agricultural production is in the Southeast?

Agriculture in the Southeastern states is some of the most diverse in the U.S. Over 55 percent by volume of the U.S. timber harvest comes from the Southeastern region, earning the area the nickname “the nation’s wood basket”. While the Southeastern U.S. has only two percent of the world’s forest cover, these states produce 25 percent of the world’s pulpwood and 18 percent of the world’s industrial timber. The Southeast is also a leading producer of food and fiber crops. Georgia leads the nation in peanut production, harvesting over two billion pounds annually, while Florida produces 70 percent of the nation’s citrus crop. The Southeast is also the leading producer of U.S. cotton, tobacco, rice, fruits, vegetables and broiler chickens—just a few of the products the region has to offer.

How are climate change and weather variability affecting Southeastern producers?

Farmers, ranchers, and foresters in the Southeast are feeling the pressures of a changing climate and weather variability. These stresses are influencing day to day management decisions. In 2007, farmers across much of the Southeast experienced crop losses due to drought. Impacts included:

- **Reduced Forage:** Regional pastures could not produce enough grass for livestock, resulting in an increased demand for corn for feed, and a sharp rise in corn prices. Many farmers sold their livestock to avoid the additional feed costs; this increase of livestock on the market lowered meat prices, but the decrease in available livestock resulted in long-term price increases.
- **Crop Losses:** Total crop losses due to the drought totaled \$1.3 billion with peanuts and corn most impacted.
- **Tree Mortality:** Forest trees were negatively impacted by the drought, with pine species experiencing large rates of mortality and other trees across the southeast having low growth rates for the year.

What is USDA doing about it?

USDA has established the Southeastern Regional Climate Hub (SERCH) in Raleigh, N.C. This multi-agency effort (Agricultural Research Service, Forest Service, Natural Resources Conservation Service) is being led by Steven McNulty, Supervisory Ecologist with the USDA Forest Service. The Hub will deliver science-based knowledge and practical information to farmers, ranchers, and forest landowners that will help them to adapt to climate change and weather variability by coordinating with local and regional partners in Federal and state agencies, universities, non-governmental organizations (NGO’s), private companies, and Tribes.

The Hub will provide:

- Technical support for land managers to respond to drought, heat stress, floods, pests, and changes in growing season.
- Regional assessments and forecasts for hazard and adaptation planning.
- Outreach and education for land managers on ways to mitigate risks and thrive despite change.

Building on success stories

Managing Soil Health: The Natural Resources Conservation Service (NRCS) promotes soil health management, such as no-till and cover crops to reduce soil erosion, loss of soil carbon, and the need for irrigation. Such practices can help farmers in the region cope with changing climate conditions and the related shifts in weather. NRCS provides incentives and **technical expertise to assist farmers** in adopting soil health management systems and other conservation practices that protect the nation's natural resources.

Modeling Climate Impacts at Local Scales: The Forest Service has developed a web-based Template for Assessing Climate Change Impacts and Management Options (**TACCIMO**) that allows land managers to determine which climate change impacts are most likely to affect their specific lands, and provides guidance on how to adapt to these impacts. The North Carolina Forest Service used TACCIMO to develop a **threats brochure** that is now routinely given to land managers during site visits.

Mitigating Rising Temperature Impacts on Aquaculture: Rising temperatures are a concern for catfish producers in the region. With higher temperatures, pond microorganism populations will grow more rapidly. The larger population of microorganisms will use more oxygen, leaving less for fish species, such as catfish. Traditionally, catfish farmers have relied on observing fish at the top of the ponds taking in air as an indicator for the need of pond aeration. The Agricultural Research Service has developed a monitoring system that automatically starts pond aeration when oxygen levels reach a minimum allowed level. This new monitoring system will turn on the aerators as often as needed to add more oxygen to the water which will significantly increase catfish growth rates.

Need more information?

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