

## UF researcher: Southeast must prepare for wild weather from climate change

November 14 2013, by Brad Buck

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People who live in the southeastern United States should begin to prepare for more drastically changing weather conditions—everything from heat waves to poorer air quality – caused by climate change, according to a new book, edited by a University of Florida researcher.

The book, which UF's Keith Ingram helped write, is titled *Climate Change of the Southeast United States: Variability, Change, Impacts and Vulnerability*. Ingram was the book's lead editor.

Principal authors and editors, including Ingram, unveiled the book Tuesday. Ingram is director of the Southeast Climate Consortium and an associate research scientist with UF's Institute of Food and Agricultural Sciences.

"The Southeast already experiences extreme weather events including floods, droughts, heat waves, cold outbreaks, winter storms, severe thunderstorms, tornadoes and tropical cyclones. In the future, these events are likely to become more frequent or more severe, causing damage to most of our region's agriculture, stressing our region's water resources and threatening human health," he said. "The sooner we make preparations, the better off we'll be."

As defined in the book, the Southeast includes Florida, Georgia, South Carolina, North Carolina, Virginia, Tennessee, Kentucky, Arkansas, Louisiana, Mississippi, Alabama, the Virgin Islands and Puerto Rico.

Specific findings include:

- Average annual temperatures are projected to increase through the 21st century, with the region's interior projected to warm by as much as 9 degrees Fahrenheit;
- Cold days will become less frequent and the freeze-free season will lengthen by up to a month;
- Temperatures exceeding 95 degrees are expected to increase across the Southeast and [heat waves](#) are expected to become longer by between 97 percent and 234 percent through the end of the century;
- Sea levels will likely rise by an average of 3 feet by the end of this century. Of particular concern is that storm surges will compound impacts of rising sea levels, Ingram said. People will have to raise existing structures and build new structures on filled soil, he said. Many cities and counties will have to build or refit water and sewer plants so they can survive rising waters caused by floods, Ingram said. Many builders, residents and governments are already doing these things, he said.
- While the number of tropical storms is projected to decrease slightly, the number of category 3 to category 5 hurricanes is expected to increase;
- High temperature stresses in summer will become more frequent and damaging to agriculture, and will possibly drive dairy and livestock production farther north. Warm weather during winter months reduces yields of blueberry, peach and other crops that need cool temperatures for flower buds to break, he said.
- Air quality is projected to decline and pollen counts will go up, damaging [human health](#).

Residents of the Southeast should begin to prepare for the likelihood of more frequent [extreme weather events](#), Ingram said.

With 26 percent of the U.S. population living in the Southeast, the region produces 25 percent of the country's carbon dioxide emissions, which are partly responsible for the climate change problem, Ingram said.

"We are a significant contributor, but we can help with the solution," he said.

The Southeast Climate Consortium works with extension agents and farmers to bring them valuable research.

"We work on how to adapt to or mitigate [climate change](#)," Ingram said.

Some local governments have agreed to reduce carbon emissions, the authors said Tuesday.

Several agencies helped produce the report. They include three NOAA-funded Regional Integrated Sciences and Assessments Centers: the Southeast Climate Consortium, the Carolinas Regional Integrated Sciences and Assessments and the Southern Climate Impacts Planning Program.

Provided by University of Florida

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