

It's getting hotter here

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BY CHARLES SOWELL | STAFF

THE AVERAGE NUMBER of extreme heat events has more than doubled in Greenville since 1962; for the five year period of 1962-66 averaged 8 extreme heat events and for the five years ending in 2005 the average had soared to 17, according to a comprehensive federal study of data.

This year is on track to be the warmest on record worldwide and local data indicate it will go down as one of the warmest on record, too. Climate change gets the blame for the overall rise, but the data for Greenville and 53 other cities indicate the trend is exacerbated by urban sprawl.

"It seems almost counterintuitive that a more spread out city would have more extreme heat events (EHEs) than a more compact urban core," said Brian Stone of the

Georgia Institute of Technology, one of the authors of the study for the National Institute of Environmental Health Sciences.

"But our data indicates that loss of tree cover and increasing the amount of impermeable surface (rooftops and parking lots) over a wide area actually causes heat to flow inward toward the urban core making for even higher temperatures in cities that sprawl," he said.

Stone said EHEs are measured based on historical maximum and minimum temperatures. A max temperature EHE occurs anytime the max temp for the day is greater than 94.2 degrees. A min temperature EHE occurs anytime the min temp for the day is greater than 75.7 degrees.

The number of EHEs is increasing, on average, by 0.6 days per year in Greenville, Stone said. "This ranks Greenville 16 out of 53 cities we >

> examined in terms of the rate of increase. Regions experiencing the most rapid rate of increase in EHEs over time include Greensboro, Raleigh and Tampa. Regions experiencing a reduction in EHEs

Health, and Emory University Schools of Medicine and Public Health also found a corresponding increase in the numbers of heat-related deaths, especially among vulnerable populations.

It is the largest study of its kind and was launched in an effort to understand the implications of climate change on public health nationwide.

Severe heat kills an average of 400 Americans each summer, the study said.

"Historically, in the South, we've combated extremely hot days with air conditioning which essentially transfers heat from inside to outside further increasing the intensity of EHEs," Stone said. "In areas where extremely hot days are uncommon and air conditioning is, too, there have been quite large death tolls from heat waves."

A heat wave that struck Europe earlier in the decade killed about 70,000 people, he said. The numbers still are not in on the unprecedented heat wave that hit Russia this

summer.

"There is the potential for some pretty high fatality rates should there be an extended widespread power outage here in the South during a period of extreme heat events," Stone said.

Greenville is the 4th most sprawling region in the study, Stone said and the EHE figures reflect that.

"This should serve as a wake-up call for us," said Nancy Fitzer, education coordinator for Upstate Forever. "There are things we can do locally to at least make sure the problem doesn't get worse like better land use planning and encouraging more concentrated development."

She said strategies like planting trees and increasing the amount of green space coupled with increased use of public transportation and walking or biking more often can also help by reducing the need for more heat-holding road surfaces.

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over time include Colorado Springs, San Francisco and Seattle."

The federal study was done by researchers from Georgia Tech, the National Center for Environmental