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Scientists with chain saws

By BETH GALLASPY
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If the estimated 2 million trees toppled across Southeast Texas by Hurricane Rita could talk, who knows what they might say?

They could tell of hurricanes from decades ago and surviving the heat of raging forest fires. Hidden under their bark exterior might be tales of tornadoes coinciding with the birth of Texas or drought that tested Big Thicket pines and the ragtag settlers scrounging a life among them.

Turns out those trees can talk -- to those who know their language.

Forests of destruction caused by Hurricane Rita more than two months ago have caught the attention of some scientists around the country who specialize in the study of tree rings, a field known as dendrochronology.

Jim Jordan, chair of the department of earth and space sciences at Lamar University, pointed out what he saw as a "gold mine for tree-ring research" on a computer listserv and received inquiries from several specialists interested in visiting the area for field study.



Scott Eslinger/The Enterprise
Lamar professor Jim Jordan picks at a knot on a large chunk of what remains of the Compton Oak in Old Town. Jordan has contacted tree experts from around the country who might be interested in studying some of the estimated 2 million trees blown down by Hurricane Rita in September.

"I do geology and I do history of the earth over longer periods of time," Jordan said. Part of what he studies is the way rocks and minerals record events. Trees do the same thing over centuries instead of millennia.

"It's kind of fascinating, the idea of telling the history of hurricanes from tree rings," Jordan said.

Jim Speer, assistant professor of geography and geology at Indiana State University in Terre Haute, plans to visit Southeast Texas with six students starting Saturday to gather samples from a few hundred trees.

"Those trees are recording everything that affects them. They record temperature, rainfall, fires, insect outbreaks, and they're putting that down as a record in the stem of the tree," Speer said.

"We can take a cross-section of the tree and look at that pattern of wide and narrow rings all the way from the bark to the inside and see the entire history of that tree, all the environmental factors that affect it," he said.

Wider rings indicate favorable growth conditions, while narrow rings would correlate to some type of disturbance, Speer said. Tree-ring researchers can compare the rings on cross-sections collected with the region's known climate history for the past 100 years or so to get an idea of how the tree recorded fires, hurricanes and other adverse conditions. Then, the scientists can read remaining rings to learn more about the region's climate and disturbances pre-dating the written record.

"This will hopefully preserve this history, even though the trees didn't survive," Speer said.

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Instead of test tubes and Bunsen burners, these scientists will visit Southeast Texas armed with chain saws (their largest is a Stihl with a 22-inch bar that can cut across a 4-foot diameter tree), hand saws, borers and sanders. Much of the work involves cutting across the bases of fallen trees to get cross-sections of oaks, pines and other species about an inch thick.

Speer said his team also plans to sample several randomly selected plots about 30 meters by 30 meters. In those stand-age studies, the team will take cross-sections of every fallen tree. The team bores out a core about the width of a pencil and as long as the tree is wide from the living specimens. The cores allow the team to learn something of the tree's environmental history without killing it, Speer said.

After a week of field work to collect the samples, laboratory analysis will probably take two years, Speer said. One of his graduate students plans to tackle the project in pursuit of his doctoral degree.

Speer said he hopes to leave behind a display with sections from some of the oldest and most significant trees in Beaumont. That likely would include the Compton oak, a fallen hulk estimated to have lived in what became the Old Town neighborhood for more than 270 years before Hurricane Rita.

Charles Lafon, assistant professor of geography at Texas A&M University, also said he sees research opportunities among Southeast Texas' damaged vegetation. He does not have a field research trip planned yet, but hopes to make some.

Lafon said he would like to sample Southeast Texas forests now and study how they rebound in the years and decades to come.

"We'll be able to find out something about the process of forest succession and forest recovery," he said.

Jordan said researchers at other universities, including Michigan State in East Lansing and the University of Tennessee in Knoxville, also have shown interest in visiting for field research, but so far have been hampered by lack of funding. He said he has found storage space on the Lamar campus for tree research projects and is working to meet researchers' requests for help as best he can.

"I'm finding it challenging to coordinate. At some point, I'll probably say, 'It's here if you want it,'" Jordan said.

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