



## In their study of tree rings, Indiana State students discover hurricane history

By Dave Taylor/Indiana State University  
CNHI News Service

— College students in Indiana don't often get the chance to study the effects of hurricanes. Tornadoes are the heartland's storms. But the path of destruction left by Midwestern cyclones is much different than that of a hurricane. Trees in the path of a tornado are often literally blown to smithereens, making it difficult to do a good post mortem examination of a maple, elm or poplar. Lacking the churning motion of a twister, the straight-on winds of a hurricane — while no less devastating to life and property — often just blow down the live oaks and cypresses common to the Gulf Coast.

So when students in the dendrochronology lab at Indiana State University were invited to Texas, they jumped at the chance — and it wasn't even spring break or on Padre Island. Their destinations were the Big Thicket National Preserve and Angelina National Forest near Beaumont, Texas. Packing chainsaws instead of swimwear, students under the direction of James H. Speer, assistant professor of geography and geology, headed south just before winter break and brought back a few things to work on during the spring semester — cross-sections of Texas trees whose lives were cut short by Hurricane Rita.

Dendrochronology is the study of climate changes and past events by comparing the successive annual growth rings of trees or old timber. Speer and his students hoped to document several centuries of climate change along the Texas Gulf Coast, but what they found was surprising.

"Most of the area was actually cut over in the early 1900s from logging, so a lot of the trees are around 100 years old. Some that we are finding are likely to go back to the 1800s and some past studies have actually found some trees as old as the 1700s, but those are kind of unique cases where the trees were left behind by the loggers," Speer said.

One of the biggest surprises was when researchers checked out the fallen Compton oak, which was believed to be up to 270 years old. It turned out that the Beaumont landmark was only about 80 years old. The tree's massive girth had lent credence to the widely held belief that it had been around since before Jim Bowie and Davy Crockett fought at the Alamo. But its rings didn't lie.

"Live oaks are unique because they keep leaves on throughout the year. It's so warm down there that the trees can grow rather quickly. We have some rings that are about an inch wide so it's an extremely fast rate of growth," Speer said.

"The growth that's put on by the trees in the first 20 years is astounding. I have never seen trees that have put on that much growth in that short a period of time," added Chris Gentry of Jeffersonville, who is pursuing a doctorate in geography. "People think that the biggest tree they have is the oldest tree that they have. In reality, environmental factors play a major role in how big the trees can get and how fast they grow."

Still, the area provided a rich variety of trees for students to study, Speer said. "It is the center for biodiversity in the United States. It is the area where there is the greatest mix for plants. It's a very unique place because of that. There are actually four separate ecosystems that are interacting in that area," he said.

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### Photos



Indiana State University student Brian Cox of Speedway carries a section of a 100-year-old pine tree that was blown down by Hurricane Rita near Beaumont, Texas. (Lamar University photo)