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What mysteries lie underground?

Little-known seismic zone an active fault

By Bo Petersen
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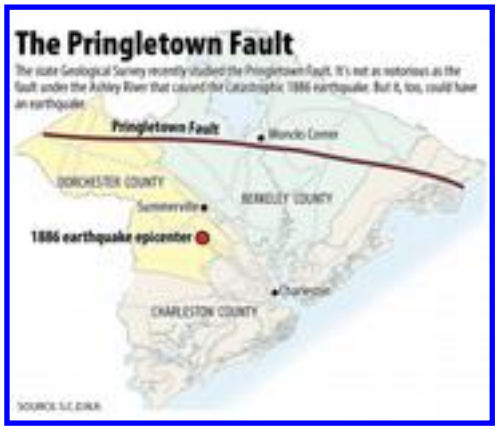
PRINGLETOWN — This quiet country crossroads has a rattling little secret: its own seismic fracture.

The Pringletown Fault runs from the mouth of the Santee River under Berkeley County near Moncks Corner and through upper Dorchester County all the way to Bamberg County. Not much is known about it or the hazards it might pose.



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That's partly why S.C. Geological Survey staffers recently "thumped" their way down S.C. Highway 27, dropping weights on the side of the road to read the echoes of their vibrations. They're looking for crumbles in the cracks, the weak points in rock fractures under the earth, the points where earthquakes happen.

The survey found evidence that Pringletown is an active fault.

The seismic survey was the first in agency's history, the beginning of the next stage of a

long-term project to map the subsurface of South Carolina.

"Where you have a fault, you have zones of weakness. Those zones of weakness have the potential to have earthquakes. ... (We want to find out) where is the potential for danger," said State Geologist C.W. Clendenin Jr.

Most people in the Lowcountry know about the catastrophic 1886 earthquake. That 7.3 magnitude temblor quavered from a point where two large faults intersect under the Ashley River near Middleton Place. Those two faults aren't alone down there.

"South Carolina is riddled with faults, based on the fact that we have had earthquakes throughout the state," said Erin Beutel, director of the S.C. Earthquake Education and Preparedness program at the College of Charleston. "But we don't have a lot of data on most of them from Columbia to the Lowcountry. The best way we know they're there is they shake and rattle."

The faults tend to produce minor temblors, nothing stronger than a magnitude 4 or so. But, "unfortunately, as with a lot of geology, until it happens once, we don't know the full extent of something. You don't know how strong a tornado can get until you see one," Beutel said.

Clendenin uses the disastrous 1995 Kobe, Japan, earthquake as an example; the 7.2 temblor occurred on a fault not known to be active.

The Pringletown Fault, like the other Lowcountry faults, likely is the consequence of a 200-million-year-old bump in the dark. The tectonic plate that is now Africa struck the plate that is now North America, then began pulling away, stretching both "like a brownie pulling apart, and you get all these cracks in the brownie," Beutel said.

The cracks are the fault lines. The Pringletown Fault is part of a larger sequence of cracks that for one reason or another quit cracking — in other words, as a fault, it failed.

"If it hadn't failed, Florida would no longer be part of North America," Clendenin said. Then, at one point or another, the fault began to crumble again, or "reactivated." Surveyors hope to chart the active and reactivated points in the faults, a big step toward getting a bead on where and when earthquakes happen.

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