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THE TEXAS TRIBUNE

Study: Oil Activity May Be Cause of East Texas Quakes

by Jim Malewitz | April 13, 2016 | 6 Comments

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Oil and gas activity may have triggered a 4.8 magnitude earthquake that shook East Texas in 2012, new research says.

In a peer-reviewed study made public Wednesday, University of Texas at Austin researchers call it “plausible” that underground injections of oil and gas waste triggered a series of temblors — including one of the strongest ever recorded in the area at 4.8 — that rattled Timpson residents in 2012.

The study, published in the *Journal of Geophysical Research: Solid Earth*, adds to the growing body of research linking wastewater disposal wells to earthquakes in drilling communities nationwide.

Texas, home to thousands of such wells, is the third-most at-risk state for man-made earthquakes, according to the U.S. Geological Survey, behind only Oklahoma and Kansas.

Earthquakes are generated by slipping faults, or fractures. Experts say that injecting fluids at high pressures can relieve pressure in some faults, causing them to slip.

Most earthquakes linked to Texas oilfields are too small to cause much, if any damage. But the Timpson quakes — felt as far away as Shreveport, La., according to media reports — were stronger than most, prompting reports of cracked fireplaces, chimneys and brick veneer siding.

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The quakes have been studied before. [Previous research](#), based on their timing and proximity to injection wells, had hypothesized a link. The latest study, the first to use computer models simulating the effects of fluid injections, added more evidence suggesting an oilfield link. The research was the first research to simulate those mechanics.

Still, Texas researchers could use some help — more data.

“We used a more rigorous approach than previous studies, but our analyses are limited by the availability of robust,

high-quality data sets that describe the conditions at depth at which water is injected and earthquakes occur,” Peter Eichhubl, a senior research scientist at the university’s Bureau of Economic Geology, said in a statement. “This study demonstrates the need for more and higher quality subsurface data to properly evaluate the hazards associated with wastewater injection in Texas.”

Texas lawmakers recently offered some help by earmarking about \$4.5 million for TexNet, a statewide network of seismic monitors that the bureau will oversee. That idea emerged after months of discussion about how the state should respond to the sudden increase in shaking — most prominently in North Texas.

The earthquakes have created political challenges for the Texas Railroad Commission, which oversees the powerful oil and gas industry. In the past two years, the agency has added a staff seismologist and passed regulations requiring disposal well operators to submit more geographical information. But the agency has refused to publically acknowledge the decades of research suggesting a link between human activity and earthquakes, saying the jury is still out.

Last November, the commissioners panned a Southern Methodist University study concluding that industry activity “most likely” shook towns atop North Texas’ Barnett Shale. Regulators [officially cleared two companies](#) named in the study of any wrongdoing.

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