

# Understanding Induced Seismicity

January 2025 | Barry Friedman, Explorer Correspondent

The debate, which began raging in the early 2000s, was being injected into subsurface reservoirs causing earthquakes in a specific region – has been largely set

“It really started to get settled by 2016 when, for a couple of years, the earthquake rates came down in Oklahoma, and the earthquake rates came down in the Fort Worth Basin at about the same time,” said Peter H. Ge, a senior investigator for the Center for Injection and Seismicity at the University of Texas’ Jackson School of Geoscience.

And the fact that those earthquake rates came down at the same time was as illuminating as any local relationship observed between the two.

More on that in a moment.

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The debate is settled, for the most part, but interest in the topic is still high. Hennings and his team published a series of papers on the relationship between wastewater injection and seismicity in the December issue of the AAPG Bulletin, which caught the attention of numerous publications – both popular science and peer-reviewed – last month.

## A Bad Rap for Frac'ing

Before the connection was made between injection and seismicity, many thought it was the actual drilling or hydraulic fracturing that was causing the earthquakes.

Hennings sympathized with the logic.

“It was understandable. And there are cases, pretty well-known cases, of hydraulic fracturing that triggered seismicity in places like the Alberta Basin in Canada, and in Texas, especially in the Eagle Ford region in south Texas. From a lay person’s perspective, that’s an easy thing to understand. You know, drill a well, and then you use this word ‘fracking’ and then that whole thing doesn’t sound all that far away from earthquakes conceptually,” he said.

It was discovered, though, that quakes were more from the aftereffects of drilling rather than anything specifically related to the drilling itself – and even that came with a caveat.

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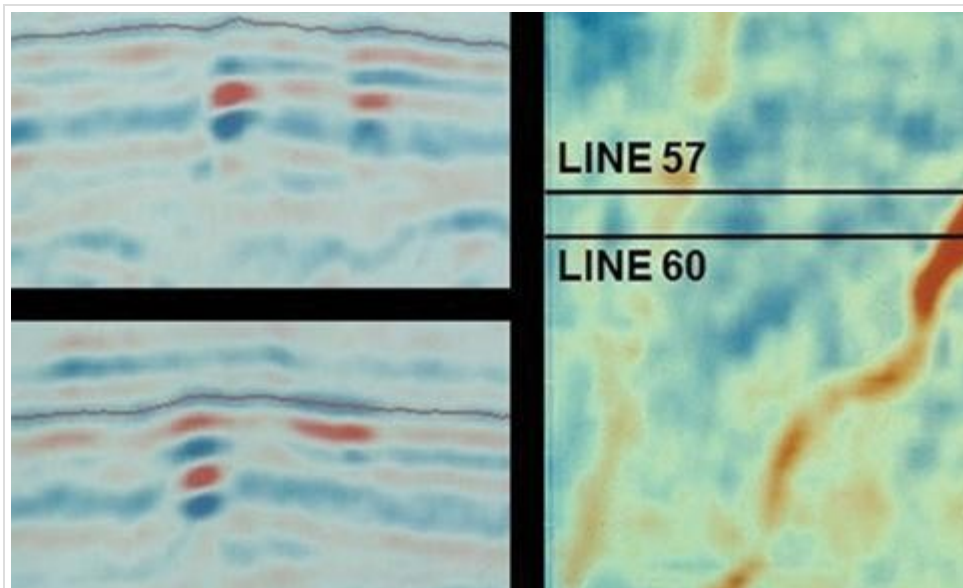


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