

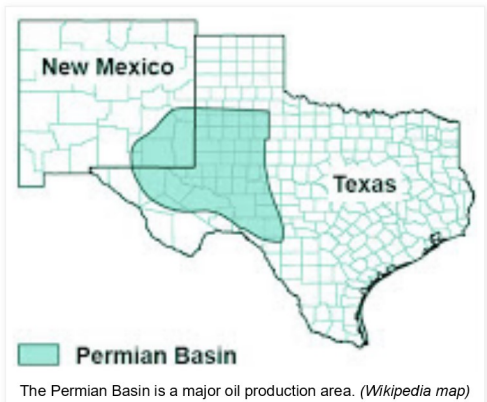
The Rural Blog

A digest of events, trends, issues, ideas and journalism from and about rural America, by the **Institute for Rural Journalism and Community Issues**, based at the **University of Kentucky**. Links may expire, require subscription or go behind pay walls. Please send news and knowledge you think would be useful to al.cross@uky.edu. Follow us on Twitter @RuralJournalism

Wednesday, February 01, 2023

As quakes in West Texas increase, some oil-wastewater disposal has changed, but preparedness questions remain

In 2017, the **National Aeronautics and Space Administration** said "Texas is ranked first in the U.S. in the variety and frequency of natural disasters. Flooding, wildfires, tornadoes, hurricanes Sometimes, even utilization of the state's natural reserves of oil, gas, and water can lead to subsidence and earthquakes." It's that last part, earthquakes, that has been increasing in number, and raising concerns: "In 2022, the state recorded more than 220 earthquakes of 3.0 magnitude or higher, up from 26 recorded in 2017, when the **Bureau of Economic Geology** at the **University of Texas** began close monitoring," reports David Goodman of **The New York Times**.



In oil-rich West Texas, two earthquakes were felt in late 2022, one in Pecos and the second in December near Odessa and Midland, all in the Permian Basin. Goodman writes: "The [November] tremor registered as a 5.4-magnitude earthquake, among the largest ever recorded in the state. Then, a month later, another of similar magnitude struck not far away. . . . The earthquakes, arriving in close succession, were the latest in what has been several years of surging seismic activity in Texas. . . . In 2022, the state recorded more than 220 earthquakes of 3.0 magnitude or higher, up from 26 recorded in 2017, when the **Bureau of Economic Geology** at the **University of Texas** began close monitoring."

The cause of the earthquakes is known. Goodman reports: "Dr. Peter Hennings, the principal investigator for the **Center for Integrated Seismicity Research** at the **University of Texas**, said that earthquakes can be induced through human activity: the injection of a large amount of water in a short period of time adds fluid pressure under the earth, which essentially decreases the 'clamping' between rocks along natural faults and allows them to slip, creating an earthquake. . . . seismologists have established a relationship between smaller earthquakes and larger ones, Dr. Hennings said: The more small earthquakes you have, the greater the likelihood of a bigger one."

Many Texas earthquakes "have been concentrated in the highly productive oil fields of the Permian Basin, particularly those in Reeves County, north and west of the city of Pecos," Goodman writes. "Where oil and gas production has increasingly meant hydraulic fracturing, a process of extraction that produces, as a byproduct, a huge amount of wastewater. Some of that wastewater is reused in fracking operations, but most of it is injected back under the ground."

And what about the quakes? Rod Ponton, a former Pecos city attorney, told Goodman, "In West Texas, you love the smell of the oil and gas patch because it's the smell of money. If you have to have the ground shaking every two or three months to make sure you have a good paycheck coming in every month, you're not going to think twice about it." But the area has made some changes. Goodman writes: "To address earthquakes outside of Odessa and Midland, state regulators

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This blog generally follows traditional journalistic standards. It's not about opinions, though you may read one here occasionally. It's about facts that we think will be useful to rural journalists, non-rural journalists who do rural stories, and others interested in rural issues. We don't try to be provocative, so we don't generate as many comments as most blogs with the level of traffic we have, but we certainly invite comments -- and contributions, to al.cross@uky.edu.

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An oil field near Pecos; Texas only recently began its statewide program of monitoring for earthquakes. (Photo by Paul Ratje, The New York Times)

suspended permits for deep disposal wells. . . . For local officials the earthquakes have presented new and unforeseen concerns about the structural integrity of buildings and buried pipes, as well as basic questions, such as, what are you supposed to do in an earthquake?"

Odessa Mayor Javier Joven told Goodman, "The big popular discussion out here is: Did you feel it? Did you feel it? And everyone goes on Facebook: I felt it. I felt it." Joven also noted that the city has yet to alter building safety codes to prepare for earthquakes.

Written by [Heather Close](#) Posted at [2/01/2023 10:27:00 AM](#)



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- State of Newspapers (Kevin Slimp)
- State of Mind (retired editor John Nelson on rural America)
- Rural Matters (Rural schools)
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- Rural Health Information Hub
- Rural Education (Education Week)
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- Farm and Food File (Alan Guebert)
- Elements of Journalism
- Dakotafire
- Daily Yonder
- Connecticut Examiner
- Community Journalism Interest Group of the Association for Education in Journalism and Mass Communications
- Common Sense Journalism (Doug Fisher, retired, University of South Carolina)
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