

US states confront worries about fracking, quakes

June 25 2014, by Emily Schmall



Barbara Brown poses for a photo by the front step of her home that now sits about one foot off the surface of her lawn, Saturday, June 21, 2014, in Reno, Texas. Brown said that the top of the step once sat about four inches off the surface of her lawn. Brown said she believes the sinkholes on her property and the drop of her lawn have to do with natural gas drilling. (AP Photo/Tony Gutierrez)

Earthquakes used to be almost unheard of on the vast stretches of prairie

that unfold across the U.S. Midwestern states of Texas, Kansas and Oklahoma.

But in recent years, they have become commonplace. Oklahoma recorded nearly 150 between January and the start of May. Most were too weak to cause serious damage or endanger lives. Yet they've rattled nerves and raised suspicions that the shaking might be connected to the [oil and gas drilling](#) method known as hydraulic fracturing, or fracking, especially the wells in which the industry disposes of its wastewater.

Now governments in all three states are confronting the issue, reviewing scientific data, holding public discussions and considering new regulations.

The latest example comes Thursday in Oklahoma, where hundreds of people are expected to turn out for a meeting that will include the state agency that regulates oil and gas drilling and the Oklahoma Geological Survey.

States with historically few earthquakes are trying to reconcile the [scientific data](#) with the interests of their citizens and the [oil and gas industry](#).

In recent weeks, nighttime shaking in Oklahoma City has been strong enough to wake residents. The state experienced 145 quakes of 3.0 magnitude or greater between January and May 2, 2014, according to the Oklahoma Geological Survey.

That compares with an average of two such quakes from 1978 to 2008.



Barbara Brown points to a one of several cracks on an exterior wall of her home, Saturday, June 21, 2014, in Reno, Texas. Brown said that she believes the cracks to her homes foundation and wall as related to the natural gas drilling in the area. (AP Photo/Tony Gutierrez)

North Texas has had 70 earthquakes since 2008 as reported by the U.S. Geological Survey, compared with a single [quake](#), in 1950, reported in the region before then.

Regulators from each state met for the first time in March in Oklahoma City to exchange information on the quakes and discuss toughening standards on the lightly regulated business of fracking wastewater disposal.

"This is all about managing risks," said Oklahoma Corporation Commission spokesman Matt Skinner. "It's a little more complicated than that because, of course, we're managing perceived risks."

In Texas, residents from the town of Azle, which has endured hundreds of [small quakes](#), went to the state Capitol earlier this year to demand action by the state's chief oil and gas regulator, known as the Railroad Commission. The commission hired the first-ever state seismologist, and lawmakers formed the House Subcommittee on Seismic Activity.

After Kansas recorded 56 earthquakes between last October and April, the governor appointed a three-member task force to address the issue.

Seismologists already know that hydraulic fracturing—which involves blasting water, sand and chemicals deep into underground rock formations to free oil and gas—can cause microquakes that are rarely strong enough to register on monitoring equipment.

However, fracking also generates vast amounts of wastewater, far more than traditional drilling methods. The water is discarded by pumping it into so-called injection wells, which send the waste deep underground. No one knows for certain exactly what happens to the liquids after that. Scientists wonder whether they could trigger quakes by increasing underground pressures and lubricating faults.



Barbara Brown poses for a photo outside an XTO Energy Inc. injection well site, Saturday, June 21, 2014, in Azle, Texas. Brown said that the sinkholes started appearing around her 3.5 acre lot shortly after the earthquakes began. Earthquakes used to be unheard of on the vast stretches of prairie that unroll across Texas and Oklahoma. But in recent years, temblors have become commonplace. (AP Photo/Tony Gutierrez)

Another concern is whether injection well operators could be pumping either too much water into the ground or pumping it at exceedingly high pressures.

Still, seismologists—and the oil and gas industry—have taken pains to point out that a clear correlation has not yet been established.

Nationwide, the United States has more than 150,000 injection wells, according to the Society of Petroleum Engineers, and only a handful

have been proven to induce quakes.



Signs warn against trespassing at a well injection site operated by Bridgeport Tank Trucks LTD., Saturday, June 21, 2014, in Azle, Texas. Earthquakes used to be unheard of on the vast stretches of prairie that unroll across Texas and Oklahoma. But in recent years, temblors have become commonplace. Oklahoma recorded 145 of them just between January and the start of May. (AP Photo/Tony Gutierrez)

Nonetheless, ExxonMobil is supporting a study by Southern Methodist University, company spokesman Richard Keil said.

"We're sort of in wait-and-see mode," he said.

© 2014 The Associated Press. All rights reserved.

Citation: US states confront worries about fracking, quakes (2014, June 25) retrieved 13 June 2024 from <https://phys.org/news/2014-06-states-fracking-quakes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.