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Texas sinkhole appears stable, but future collapse is possible, researchers say

The Daisetta sinkhole needs further evaluation, says the Texas Bureau of Economic Geology.



Several empty tanks and portions of a warehouse at a shuttered oil and gas waste well business could be seen slowing falling into a sinkhole in Daisetta on Tuesday. Earlier this month, Daisetta officials announced the sinkhole, which first emerged in 2008 but had been dormant since then, had started to again expand. (Juan A. Lozano / ASSOCIATED PRESS)



By <u>Sarah Bahari</u> 12:13 PM on Apr 13, 2023

A mammoth Texas sinkhole that has captured <u>national attention</u> appears to have largely stabilized for now, a state agency reported Thursday.

But a future collapse is possible and further investigations are needed to better understand the crater, according to a report by the Texas Bureau of Economic Geology at the University of Texas.

<u>The sinkhole in the southeast Texas town</u> of Daisetta first opened in 2008, swallowing oil tanks, trees, telephones poles and cars before finally stabilizing.

It appeared dormant for 15 years — until April 2, when a second hole collapsed next to it. The two sinkholes are connected, essentially creating one massive hole in the town about 55 miles northeast of Houston.



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Related: Texas town watches with dread as sinkhole continues to swell

A video posted by <u>Bluebonnet News</u> shows buildings, tanks and other structures swallowed by water, with deep cracks forming around the edges of the hole.

If the new hole behaves similarly to its predecessor, it could grow a little beyond the current water level to reach those fissures, said Jeffrey Paine, a senior research scientist with the bureau.

The entire area now spans roughly 8 acres.





Cracks and other damage caused by a sinkhole in Daisetta can be seen around a shuttered oil and gas waste well business located next to the opening in the ground Tuesday. (Juan A. Lozano / ASSOCIATED PRESS)

Residents have told local news outlets they were nervous and are prepared to flee, but no evacuations have been ordered yet.

"I was having a lot of trouble going to sleep last night because I didn't know if we were going to get swallowed up," Jordana Priessler, who lives near the sinkhole, told KTRK-TV. "My family told me it happened kind of fast before."

Sinkhole study

To study the sinkholes, researchers used high-resolution drones, ground observations and GPS measurements. They found the water depth in the newest collapse is roughly 30 feet, shallower than the 75-foot depth in the original sinkhole. The depth of the underground cavity that caused the collapse is not known, Paine added.

Houston geologist Richard Howe, who first evaluated the hole in 2008, returned to Daisetta over the weekend to conduct further studies. Working with state and local officials, Howe placed perimeters along the edges of the crater to record any movement. For now, he recommended the town monitor the hole and develop a plan in case it begins to shift.

"Sinkholes are unpredictable. There's really nothing we can do to stop them," he said. "We just monitor the ground and watch out."

Geologist Richard Howe sits at his home office in suburban Houston Tuesday as he discusses the history of a sinkhole in Daisetta. (Lekan Oyekanmi / ASSOCIATED PRESS)

What causes sinkholes?

With a population of fewer than 1,000, Daisetta is built entirely on a salt dome. Salt is particularly prone to dissolving, creating large, bowl-shaped sinkholes, <u>according to the U.S. Geological Survey</u>. Sinkholes occur when the ground below the surface can no longer support the land.

In Daisetta's case, oil well drilling dating back to the 1920s almost certainly contributed to the sinkhole, Howe said. The sinkhole sits on the former DeLoach Oil and Gas Waste Well.

Old oilfield production maps show as many as 15 wells on the site, Howe said. During drilling, wastewater is pumped underground, which can cause salt to dissolve.

"Daisetta was originally a boomtown," Howe said. "Wells were so closely spaced together then. On a map, it looks like a solid black ring."

A water tank floated at the bottom of the sinkhole in 2008. (Pat Sullivan / ASSOCIATED PRESS)

Wink Sinks

Daisetta's isn't Texas' only sinkhole. A pair of sinkholes in <u>West Texas called the</u> <u>Wink Sinks</u> have also expanded in recent years as oil and natural gas drilling have caused the land to buckle.

The first hole opened up about six miles south of Kermit in 1980 around an oil well first drilled in the 1920s. The second hole collapsed in 2002, roughly a mile away.

Researchers at SMU found some land in <u>West Texas' Permian Basin region</u> moved as much as 40 inches during a 2¹/2-year period.

"What we see is very alarming," Zhong Lu, a geophysics professor at SMU, said this week. "And there is still more movement."

Related: Massive Texas sinkhole is growing again, terrifying residents of a small town





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