

WHEN MASSIVE SINKHOLE THREATENS ROADWAY, AUTHORITIES MONITOR WITH SHAPEARRAY

Location: Bayou Corne, Assumption Parish, Louisiana

Residents of Bayou Corne, Louisiana, had to evacuate their homes on August 3, 2012, when a massive 4046-sq. metre (one acre) sinkhole opened less than a kilometre away from the township. Geologists discovered the sinkhole was a result of an underground structural failure. The affected area was located over a vast, cavernous, underground salt deposit, known as a salt dome. A fissure opened in the cavern's supporting wall, causing rock and sediment to fall into the void, which created the sinkhole on the surface. The sinkhole's edge lay only 275 m (900 ft) from LA 70, threatening an important part of the state's traffic infrastructure and the only entrance and exit to the town of Bayou Corne.

After further investigation, authorities discovered a second cavern located closer to LA 70, which prompted LA DOTD to adopt enhanced and automated, continuous monitoring of LA 70 for movement and subsidence.

As part of this monitoring program, LA DOTD installed two 50 m horizontal SAAFs between the sinkhole and the roadway, and several others around the slopes of three nearby bridges. These ShapeArrays continue to monitor the area for movement. To date, the monitoring data has not indicated the sinkhole currently poses a threat to the integrity of LA 70 or other surrounding infrastructure.