Huge sinkholes are now appearing in the wrong places

May 8 2017, by Roger Schneider

In this Jan. 17, 2017, file photo, a 55,000 pound excavation truck is partially swallowed by a sinkhole in Oakwood, Ga. Oakwood Public Works department officials said the sinkhole appears to have been caused by an old storm drain that caved in. Sinkholes are not a new phenomenon in the United States, but a recent spate of huge, sudden-appearing caverns is prompting alarm. The usual cause: crumbling water, drain and sewer pipes, often neglected by cities with budget problems. (Hailey Van Parys /The Times via AP, File)

Dora Linda Nishihara was driving in San Antonio one dark evening in early December when she suddenly disappeared from sight. Later, her car, with her body inside, was found at the bottom of a 12-foot-deep water-filled sinkhole that had swallowed the road ahead of her.

Two days later, a school bus driver in Brooklyn, New York, ran into a huge crater on his route. Luckily, no children were on board and the driver survived with minor injuries.

Just last week, massive holes opened up in New York City's lower Manhattan, suburban Atlanta and San Francisco.

Sinkholes are not a new phenomenon in the United States, especially in a half dozen states where the geology makes them more likely. But a recent spate of huge, sudden-appearing caverns is prompting alarm because they're happening in places where they shouldn't, and now seem to be proliferating nationwide. The usual cause: crumbling water, drain and sewer pipes, often neglected by cities with budget problems.

Some experts are calling now for a national study to assess the risk and potential remedies, which could involve high costs for many jurisdictions.

"The financial impact on cities is in the millions of dollars a year around the country," said Bob Brinkmann, a professor of geology, environment and sustainability at Hofstra University.

In this Jan. 9, 2017, file photo, workers inspect a sinkhole in Philadelphia. The Philadelphia Water Department said a water main break caused the sinkhole to open up on the street. Sinkholes are not a new phenomenon in the United States, but a recent spate of huge, sudden-appearing caverns is prompting alarm because they're happening in places where they were once rare. (AP Photo/Matt Rourke, File)

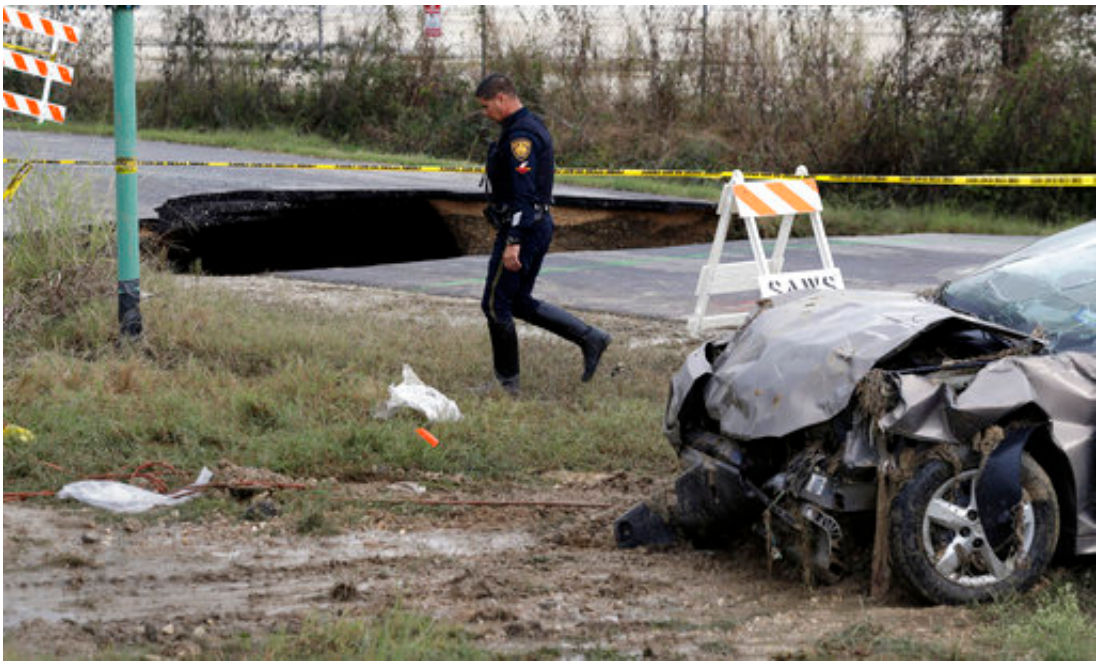
No government agency keeps track of sinkholes from man-made causes. Most of the scientific research has focused on areas where limestone, caves and natural springs create prime conditions for earthen collapses. Florida has the most.

But scientists who study natural sinkholes say the caverns from infrastructure failures are becoming a bigger problem.

From early December through April, according to a review by The Associated Press of media coverage, 39 significant sinkholes related to

failing infrastructure—a rate of about one every four days—struck across the country in places as varied as Chicago, Los Angeles, Hoboken, New Jersey, Sioux City, Iowa, and Seattle.

One person was killed and four were injured in the incidents, which also prompted extensive evacuations and disruption of utilities.



In this Monday, Dec. 5, 2016, file photo, a San Antonio police officer walks past a sinkhole and a vehicle that was pulled from it, in San Antonio. Sudden-appearing caverns are happening in places where they once were rare. Unlike most earthen collapses in the past, the new cave-ins are being caused by crumbling water and sewer pipes rather than unstable geology. (AP Photo/Eric Gay, File)

On Christmas Eve, a hole the size of a football field suddenly swallowed parts of three houses and a section of road in a Detroit suburb. The sudden crater in San Francisco last week, 20 feet long (6 meters), pulled

in a semi-truck. The cause of that one has not been determined.

The sinkhole that killed Nishihara, 68, in San Antonio was caused by a sewer line that ruptured during heavy rains. The break happened where a 50-year-old pipe scheduled for replacement joined a newer pipe. The city has been under a federal consent decree since 2013 to replace its aging sewer lines.

In a report last year, the American Society of Civil Engineers said that public spending is running far short of what's needed to replace water and wastewater systems that will be outmoded by 2025. The funding gap was estimated at $105 billion now, up from $55 billion in 2010.

"We're way underfunded on these systems," said Greg DiLoreto, who heads the group's infrastructure committee. "That's causing more and more of these pipe systems to fail. In Washington, D.C., for example, they're using pipes that were installed during the Civil War."

In a Dec. 28, 2016, file photo, a worker inspects a sinkhole that collapsed part of a street in Bethlehem, Pa. The sinkhole and a gas leak believed to be caused by a ruptured main forced the evacuation of a several homes. Sinkholes are not a new phenomenon in the United States but a recent spate of huge, sudden-appearing caverns is prompting alarm. (Sue Beyer/The Express-Times via AP, File)

Most water lines in the U.S. are at least 50 years old and many mains in urban areas date to the early 1900s, according to American Water Works Association, which warned recently that "the replacement era" had arrived. Obsolete cast iron and asbestos cement lines are now replaced with more durable ductile iron or plastic. Maintaining current service would require at least $1 trillion over the next 25 years.

Similar upgrades are needed for old concrete or clay tile sewer lines, DiLoreto said.

In the Detroit suburb of Fraser, no total damage estimate has yet been compiled for the huge sinkhole that suddenly routed 22 families after a 44-year-old sewer line collapsed at 6 a.m. on Christmas Eve. The cost of replacing the road and sewer line alone could exceed $70 million, and Macomb County has set aside $1 million for the three houses lost.

Officials are beginning a study of its entire pipeline system that serves 500,000 residents in 11 communities, said Macomb County Public Works chief Candice Miller.

In this March 8, 2017, file photo, officials stand outside a home near an area where a broken sewer line caused a football field-sized sinkhole in Fraser, Mich., a suburb of Detroit. Three houses in the area had to be condemned. Sinkholes are not a new phenomenon in the United States, especially in a half dozen states where the geology makes them more likely. But a recent spate of huge, sudden-appearing caverns is prompting alarm because they're happening in places where they shouldn't, and now seem to be proliferating nationwide. (AP Photo/Roger Schneider, File)

It can't wait any longer, Miller said. "We're going to manage our assets and the first way to do that you need to know what their condition is."

In a May 5, 2017, file photo, emergency crews work on removing a big rig truck stuck in a sinkhole in San Francisco. Sinkholes are not new, especially in Florida, but a recent spate of the sudden-appearing caverns is happening in places where they usually don't because of crumbling water, drain and sewer pipes. A review by The Associated Press of recent media coverage showed that sinkholes related to failing infrastructure occurred at a rate of one every four days in places as varied as Chicago, Los Angeles, Hoboken, New Jersey, Sioux City, Iowa and Seattle. (AP Photo/Jeff Chiu, File)