

Scientists to deploy seismic monitors near Azle in North Texas

December 11 2013, by Kim Cobb

Seismologists from SMU will deploy a variety of seismic monitors in and around Azle, Texas, to study the recent burst of small earthquakes that have been occurring in the area northwest of Fort Worth.

The first group of instruments, four digital monitors provided by the U.S. Geological Survey (USGS), will be deployed as early as this week to monitor the burst of seismicity that has been occurring in the area since early November. The USGS NetQuakes instruments are designed to be installed in private homes, businesses, public buildings and schools with an existing broadband connection to the internet, and data from those monitors will be available [online](#).

SMU's research team, led by Heather DeShon, associate professor of geophysics, also will deploy a group of 15, single-channel sensors provided by the Incorporated Research Institutions for Seismology (IRIS) Program for Array Seismic Studies of the Continental Lithosphere (PASSCAL) and another four or five broadband instruments from other sources. The additional monitors will allow researchers to study a broader area.

"We are first going to focus in on where the earthquakes have been occurring - about a five-to-six-mile area near Reno and Azle," DeShon said. "How long the monitors remain depends on continued seismicity. We're thinking a few months."

The locations of the monitors will remain confidential to preserve the

integrity of the data they will be collecting.

About 20 earthquakes have been recorded in North Texas since Nov. 1. Most recently, an earthquake registering 3.7 was recorded near Mineral Wells early Monday, about 24 hours after an earthquake registering 3.6 was recorded north of Azle.

North Texas is an area of extensive petroleum production – particularly natural gas drawn from the Barnett Shale formation in the Fort Worth Basin.

Two studies produced by a group of SMU and University of Texas at Austin seismologists since 2009, the most recent published this month, have indicated a possible linkage between seismicity and some [injection wells](#) drilled for the disposal of oil and gas production fluids. The Azle [monitors](#), however, will not be deliberately sited near injection wells.

"The first goal is to get a better handle on where these earthquakes are occurring," DeShon said. "If it turns out they are near injection wells, then we'll study that potential link. The primary goal is to provide better information for the public."

The USGS National Earthquake Information Center reports that in some regions, such as the south-central states of the U.S. (which includes the North Texas region) a significant majority of recent earthquakes are thought by many seismologists to have been human-induced.

"Even within areas with many human-induced earthquakes, however, the activity that seems to induce seismicity at one location may be taking place at many other locations without inducing felt earthquakes," reads the summary posted on a page spelling out the basic information stemming from Monday's Azle [earthquake](#). "In addition, regions with frequent induced earthquakes may also be subject to damaging

earthquakes that would have occurred independently of human activity. Making a strong scientific case for a causative link between a particular human activity and a particular sequence of earthquakes typically involves special studies devoted specifically to the question."

Provided by Southern Methodist University

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