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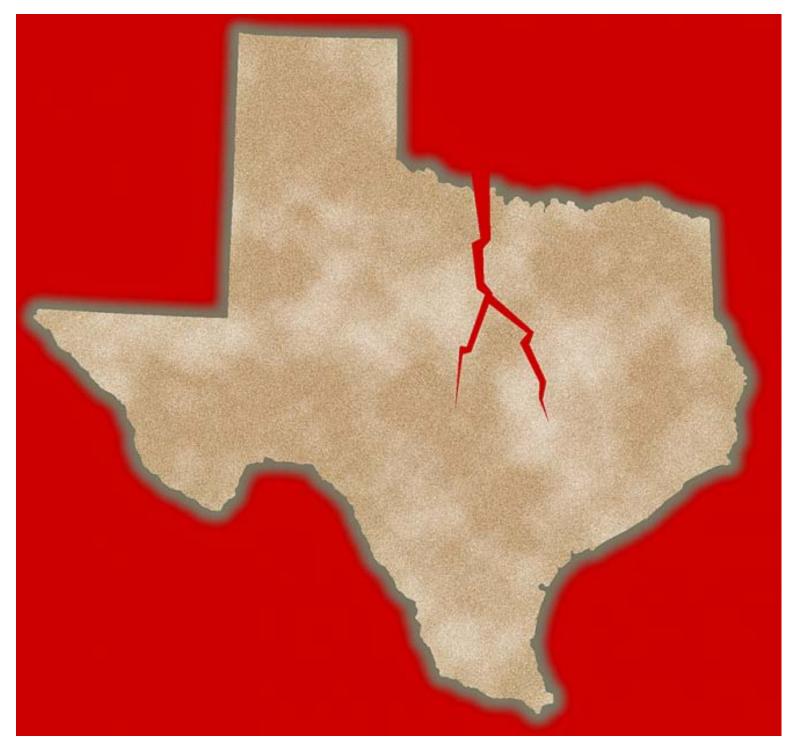


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BY JONATHAN VINEYARD

Two new programs are working on providing much-needed public data that will clarify scientists' shaky

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understanding of the increasing frequency of earthquakes in Texas.

The TexNet Seismic Monitoring Program, a network of planned and pre-existing earthquake detectors, and the Center for Integrated Seismicity Research are now in the initial stages of implementation. They will observe the locations and geological conditions of earthquakes consistently and closely enough to understand what is causing them to occur more frequently in Texas.

The collaborative nature of the project and the publicly available data it will produce is paramount to its success.

Ellen Rathje, co-principal investigator of the CISR program, said she believes that the transparency of the project is beneficial to its success.

"By making [the data] publically available, ... other seismologists will have access to it for their research, and it'll allow us, as well as the USGS — the U.S. Geological Survey — to better locate these events, which is important," Rathje said.

Rathje said that the program is aware that the link between the petroleum industry and these earthquakes is particularly subject to the well-known phenomenon of communication difficulties between scientists and the media, especially in relation to fracking.

"Our research is trying to look at those linkages between activities related to energy exploration, but there is also the chance that there could be just natural cycles in seismic activity that we could be observing," Rathje said.

In addition to researching seismic activity statewide, CISR plans to research how it can avoid public misconceptions about its geological findings. However, reservations about industry are not entirely unfounded.

"It's been widely known for decades that there are many anthropomorphic sources of seismicity," Peter Hennings, the other co-principal investigator of the CISR program, said.

These sources include mining and the geothermal industry,

Water disposal, the practice of injecting waste water deep into the earth, has been implicated in several earthquakes statewide. This practice is used to dispose of waste water from many different petroleum industrial processes, including fracking. Fracking refers to the process in which fluid is injected into natural-gas rich rock formations to then extract gas, but people often use the word to refer to related processes such as the creation of wells and the disposal of waste water as well.

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Hennings, who worked with ConocoPhillips for 13 years prior to starting on the CISR project, understands that companies have to be cautious about their role in environmental disturbances. Hennings said companies need to think about their societal impact as well as government regulations and profit.

"Companies take these types of issues very seriously because there's a need to maintain their license to operate. ...

There's a financial license to operate and a regulatory license to operate, and then there's also a social license to operate," Hennings said.

Petroleum companies often fund and conduct research of their own in order to prevent or minimize such hazards and maintain these licenses to operate, according to Hennings.

TexNet and CISR are both part of a \$4.5 million legislative fund authorized by Gov. Greg Abbott last summer. The two programs hope to address seismic issue as a middle ground, large-scale collaboration between government, academia and industry.

The Bureau of Economic Geology, UT's oldest research center and one of its largest, manages both programs. For future funding, the Bureau is in the process of courting petroleum prospecting and seismic research companies.

Supported by government, universities and industry, TexNet and CISR plan to work without interfering bias to benefit everyone in the struggle to understand, prevent and prepare for earthquakes statewide.

As Mark Blount, head of external affairs at the Bureau, put it, "We're going to go where the science leads us."	
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