



A Dallas Quake? New Mapping Outlines 251 Faults Across DFW Region

July 25, 2019 — Homeland Security Today

Scientists from SMU, The University of Texas at Austin and Stanford University found that the majority of faults underlying the Fort Worth Basin are as sensitive to forces that could cause them to slip as those that have hosted earthquakes in the past.

The new study, published July 23rd by the journal [Bulletin of the Seismological Society of America](#) (BSSA), provides the most comprehensive fault information for the region to date.

Fault slip potential modeling explores two scenarios: a model based on subsurface stress on the faults prior to high-volume wastewater injection and a model of those forces reflecting increase in fluid pressure due to injection.

None of the faults shown to have the highest potential for an earthquake are located in the most populous Dallas-Fort Worth urban area or in the areas where there are currently many wastewater disposal wells.

Yet, the study also found that the majority of faults underlying the Fort Worth Basin are as sensitive to forces that could cause them to slip and cause an earthquake as those that have hosted earthquakes in recent years.

Though the majority of the faults identified on this map have not produced an earthquake, understanding why some faults have slipped and others with similar fault slip potential have not continues to be researched, said SMU seismologist and study co-author [Heather DeShon](#), who has been the lead investigator of a series of other studies exploring the cause of the North Texas earthquakes.

Earthquakes were virtually unheard of in North Texas until slightly more than a decade ago. But more than 200 earthquakes have occurred in the region since late 2008, ranging in magnitude from 1.6 to 4.0. A series of studies have linked these events to the disposal of wastewater from oil and gas operations by injecting it deep into the earth at high volumes, triggering “dead” faults nearby.

A total of 251 faults have been identified in the Fort Worth Basin, but the researchers suspect that more exist that haven’t been identified.

The study found that the faults remained relatively stable if they were left undisturbed. However, wastewater injection sharply increased the chances of these faults slipping, if they weren’t managed properly.

“That means the whole system of faults is sensitive,” said the lead author of the study [Peter L. Hennings](#), a research scientist from UT Austin’s Bureau of Economic Geology and the principal investigator at the Center for Integrated Seismicity Research (CISR).

[Read more at SMU](#)



HOMELAND SECURITY TODAY LATEST POSTS

The Government Technology & Services Coalition's Homeland Security Today (HSToday) is the premier news and information resource for the homeland security community, dedicated to elevating the discussions and insights that can support a safe and

secure nation. A non-profit magazine and media platform, HSToday provides readers with the whole story, placing facts and comments in context to inform debate and drive realistic solutions to some of the nation's most vexing security challenges.



TAGS:

EARTHQUAKES

TEXAS

YOU MIGHT BE INTERESTED IN

JULY 25, 2019

A Dallas Quake? New Mapping Outlines 251 Faults Across DFW Region

The study found that the faults remained relatively stable if they were left undisturbed, but wastewater injection sharply increased slip...

JULY 18, 2019

CBP's Donations Partnership with GSA and City of Laredo Adds Roadway to World Trade Bridge

This temporary roadway donation will assist in the processing of northbound FAST empty trucks and decrease wait times at the...

JUNE 17, 2019

Gunman Shot Dead After Opening Fire on Federal Courthouse in Downtown Dallas

FBI Special Agent in Charge Matthew DeSarno identified the gunman as Brian Isaack Clyde, who died at the scene and was taken to...

LEAVE A REPLY

You must be [logged in](#) to post a comment.



Recent Posts

Honeywell Becomes Founding Member of Global Cybersecurity Alliance

Las Vegas' Grasshopper Invasion Is So Big You Can See It on Weather Radar

Thermo Fisher Scientific Establishes Rapid DNA Center at National Forensic Science Technology Center FIU

NACCHO Announces the 2019 National Health Security Award Winners

Battelle to Work with DARPA on WMD 'Fingerprint' Test

Subject Matter Areas

[Airport & Aviation Security](#)

[Biometrics & ID Management](#)

[Border Security](#)

[Counterterrorism](#)

[Customs & Immigration](#)

[Cybersecurity](#)

Education and Training

Emergency Preparedness

Emerging Innovation

Federal Government

Human Trafficking

Information Sharing

Information Technology

Infrastructure Security

Intelligence

Interoperable Communications

Law Enforcement and Public Safety

Leadership/Management

Maritime Security

Pandemic/Biohazard

State/Local Government

Strategic Communications

Surveillance, Protection & Detection

Terrorism Study

Transportation Security

WMD

[◀ PREVIOUS STORY](#)

Central African Republic 'Not Prepared' for Ebola Wave

[NEXT STORY ▶](#)

Senate Intel Report: Russia 'Exploited the Seams' Between Feds, States in Election Hacking Ops

LATEST FROM EMERGENCY PREPAREDNESS

Las Vegas' Grasshopper Invasion Is So Big You Can See It on Weather Radar

It looked like there were two storms over the Vegas area: one

GAO Tells DoJ to Improve Reporting on Public Safety Officers Benefits

The Public Safety Officers' Benefits (PSOB) program pays benefits to public safety

How Intelligence Can Map Wildfire Risk and Help Reduce Catastrophes

Managing wildfire risk requires actions at all phases: prevention, mitigation, preparedness, response,

A Dallas Quake? New Mapping Outlines 251 Faults Across DFW Region

The study found that the faults remained relatively stable if they were

Central African Republic 'Not Prepared' for Ebola Wave

The admission comes a week after WHO declared the Ebola outbreak in

ABOUT US CONTACT US ADVERTISE PRIVACY POLICY SITEMAP



All content copyright ©2019 Homeland Security Today. All rights reserved.

