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**Physics - Geophysics; Study Data from University of Texas Austin Provide New Insights into Geophysics (Pore Pressure Threshold and Fault Slip Potential for Induced Earthquakes In the Dallas-fort Worth Area of North Central Texas)**

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2021 SEP 21 (VerticalNews) -- By a News Reporter-Staff News Editor at Physics Week -- Current study results on Physics - Geophysics have been published. According to news reporting originating in Austin, Texas, by VerticalNews journalists, research stated, "Earthquakes were induced in the Fort Worth Basin from 2008 through 2020 by increase in pore pressure from injection of oilfield wastewater (SWD). In this region and elsewhere, a missing link in understanding the mechanics of causation has been a lack of comprehensive models of pore pressure evolution (Delta Pp) from SWD."

Financial supporters for this research include State of Texas through The University of Texas **Bureau of Economic Geology** TexNet Seismic Monitoring Program, Center for Integrated Seismicity Research, Stanford Center for Induced and Triggered Seismicity (SCITS), U.S. Geologic Survey National Earthquake Hazard Reduction Program.

The news reporters obtained a quote from the research from the University of Texas Austin, "We integrate detailed earthquake catalogs, Delta Pp, and probabilistic fault slip potential (FSP) and find that faults near large-scale SWD operations became unstable early, when Delta Pp reached similar to 0.31 MPa and FSP reached 0.24. Faults farther from SWD became unstable later, when FSP reached 0.17 and at much smaller Delta Pp. Earthquake sequences reactivated with mean Delta Pp of similar to 0.05 MPa. The response of faults shows strong variability, with many remaining stable at higher Delta Pp and few that became seismogenic at smaller changes."

According to the news reporters, the research concluded: "As Delta Pp spread regionally, an ever-increasing number of faults were impacted and the most sensitive became unstable."

This research has been peer-reviewed.

For more information on this research see: Pore Pressure Threshold and Fault Slip Potential for Induced Earthquakes In the Dallas-fort Worth Area of North Central Texas. Geophysical Research Letters, 2021;48(15). Geophysical Research Letters can be contacted at: Amer Geophysical Union, 2000 Florida Ave NW, Washington, DC 20009, USA. (American Geophysical Union - [www.agu.org](http://www.agu.org); Geophysical Research Letters - [www.agu.org/journals/gl/](http://www.agu.org/journals/gl/))

Our news correspondents report that additional information may be obtained by contacting P. H. Hennings, University of Texas Austin, Jackson School of Geosciences, Bur Econ Geol, Austin, TX 78712, United States. Additional authors for this research include J. P. Nicot, R. S. Gao, E. A. Horne, C. Breton, H. R. DeShon, J. E. Lund Snee, A. P. Morris and M. R. Brudzinski.

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