

Science - Earth Science; Study Results from University of Texas Austin Provide New Insights into Earth Science (A Texas-specific V-s30 Map Incorporating Geology and V-s30 Observations)

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2022 APR 1 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- Fresh data on Science - Earth Science are presented in a new report. According to news reporting from Austin, Texas, by NewsRx journalists, research stated, "A Texas-specific V-S30 map that uses geostatistical kriging integrated with a regionspecific geologic proxy, field measurements of V-S30, and P-wave seismogram estimates of V-S30 is developed. The region-specific geologic proxy is used first to predict V-S30 from the surface geologic conditions across the state, and then geostatistical kriging with an external drift is used to incorporate the local V-S30 measurements/estimates into the map."

Funders for this research include State of Texas through the Texas Department of Transportation, TexNet Seismic Monitoring Program at the **Bureau of Economic Geology** of the University of Texas.

The news correspondents obtained a quote from the research from the University of Texas Austin, "Compared with the V-S30 map of Texas developed from a topographic slope proxy, the Texas-specific V-S30 map predicts larger V-S30 values across much of Texas, except for the Gulf Coast region where the values are similar. The utilization of kriging brings the Texas-specific V-S30 map into better agreement with the in situ measurements and estimates of V-S30. The sensitivity of predicted ground motions by ShakeMap to changes in V-S30 values is evaluated with a scenario earthquake in the Dallas-Fort Worth area."

According to the news reporters, the research concluded: "The results suggest smaller predicted ground motions due to the generally larger values of V-S30 in the Texas-specific V-S30 map as compared to the V-S30 from the topographic proxy."

This research has been peer-reviewed.

For more information on this research see: A Texas-specific V-s30 Map Incorporating Geology and V-s30 Observations. Earthquake Spectra, 2022;38(1):521-542. Earthquake Spectra can be contacted at: Sage Publications Inc, 2455 Teller Rd, Thousand Oaks, CA 91320, USA.

Our news journalists report that additional information may be obtained by contacting Meibai Li, University of Texas Austin, Dept. of Civil Architectural and Environmental Engineering, Austin, TX 78712, United States. Additional authors for this research include Ellen M. Rathje, Michael Yust and Brady R. Cox.

Keywords for this news article include: Austin, Texas, United States, North and Central America, Earth Science, Science, University of Texas Austin.

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