
Climate Change; Study Results from University of Texas Austin Update Understanding of Climate Change (How Do Basin Margins Record Long-term Tectonic and Climatic Changes?)

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2020 OCT 19 (VerticalNews) -- By a News Reporter-Staff News Editor at Global Warming Focus -- Research findings on Climate Change are discussed in a new report. According to news reporting out of Austin, Texas, by VerticalNews editors, research stated, "A long-standing goal of sedimentary geoscience is to understand how tectonic and climatic changes are reflected in basin fill. Here, we use 14 numerical models of continental-scale sedimentrouting systems spanning millions of years to investigate the responses of sediment supply and basin sedimentation to changes in uplift and precipitation in the source area."

Financial supporters for this research include State of Texas Advanced Oil and Gas Resource Recovery (STARR) program, Quantitative Clastics Laboratory (QCL) consortium at the **Bureau of Economic Geology** (The University of Texas at Austin).

Our news journalists obtained a quote from the research from the University of Texas Austin, "We also investigate the extent to which these signals can be altered by relative sea level (the sum of subsidence and eustasy). In cases of constant relative sea level, sediment supply and margin progradation have similar responses because nearly all of the sediment is transported beyond the coastal plain and continental shelf to the basin margin. Thus, margin progradation can be used as a proxy for sediment supply. However, changes in uplift and precipitation result in different erosional patterns in the source area and different basin-margin depositional patterns. Changes in uplift result in gradual (over several million years) adjustment to new steady states of source-area erosion and margin progradation, whereas changes in precipitation result in abrupt changes in erosion and progradation followed by a return to the initial steady states. In cases of changing relative sea level, sediment storage on the shelf attenuates signals of uplift, but signals of precipitation change can be interpreted in the basin-margin record because climate-induced sediment supply changes are large enough to influence margin progradation."

According to the news editors, the research concluded: "Understanding the relationship between sediment supply and basin-margin progradation, and their linked responses to forcings, improves our ability to interpret signals of environmental change in the stratigraphic record."

This research has been peer-reviewed.

For more information on this research see: How Do Basin Margins Record Long-term Tectonic and Climatic Changes? *Geology*, 2020;48(9):893-897. *Geology* can be contacted at: Geological Soc Amer, Inc, PO Box 9140, Boulder, CO 80301-9140, USA.

Our news journalists report that additional information may be obtained by contacting Jinyu Zhang, University of Texas Austin, Jackson School of Geosciences, Bur Econ Geol, Austin, TX 78758, United States. Additional authors for this research include Zoltan Sylvester and Jacob Covault.

Keywords for this news article include: Austin, Texas, United States, North and Central America, Climate Change, Climatic Change, Global Warming, University of Texas Austin.

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