Global Warming and Climate Change; Researchers at University of Arkansas Target Global Warming and Climate Change (Coastal Response To Global Warming During the Paleocene-eocene Thermal Maximum)

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2023 SEP 25 (VerticalNews) -- By a News Reporter-Staff News Editor at Global Warming Focus -- Data detailed on Global Warming and Climate Change have been presented. According to news reporting out of Fayetteville, Arkansas, by VerticalNews editors, research stated, "Global warming during the Paleocene-Eocene Thermal Maximum (PETM) is hypothesized to have had a profound effect on the paleohydrologic cycle, including enhanced seasonality and increased water and sediment discharge. Although the PETM may represent the closest geologic analog for future global climate changes, the effects of this event on ancient coastal systems are poorly understood."

Financial supporters for this research include Seed Grant Program of the Jackson School of Geosciences at the University of Texas at Austin, Quantitative Clastics Laboratory at the **Bureau of Economic Geology**, State of Texas Advanced Resource Recovery (STARR) Program.

Our news journalists obtained a quote from the research from the University of Arkansas, "We examined drill core from two locations in eastern Texas that preserve a record of tidally influenced deltaic sedimentation associated with the paleo-Colorado River that drained up to 2 x 10(6) km(2) of central North America, approximately two-thirds of the area of the modern Mississippi River catchment. In these cores, the development of a regionally extensive sand-rich unit (the Carrizo Formation) at the onset of the PETM is identified from a negative carbon isotope excursion and supported by detrital zircon U-Pb geochronology and pollen occurrence data. The basal Carrizo Formation indicates that the onset of the PETM was characterized by an increase in the delivery of coarser-grained sediments and progradation of the coastline, which occurred despite rising sea level. Using a mass-balance framework for equilibrium deltaic systems, we estimate that sediment delivery to the coastline increased by ca. 46% (2-sigma: 13% to 167%). Our findings of enhanced sediment delivery to the coast are consistent with proxy climatic and sedimentologic data indicating heightened precipitation seasonality in the interior of North America during the PETM."

According to the news editors, the research concluded: "Thus, the effects of a regional change in climate forced by greenhouse events were transmitted downstream by large river systems to produce shifts in coastal sediment supply, progradation, and coastline evolution."

This research has been peer-reviewed.

For more information on this research see: Coastal Response To Global Warming During the Paleocene-eocene Thermal Maximum. Palaeogeography Palaeoclimatology Palaeoecology, 2023;625. Palaeogeography Palaeoclimatology Palaeoecology can be contacted at: Elsevier, Radarweg 29, 1043 Nx Amsterdam, Netherlands.

Our news journalists report that additional information may be obtained by contacting Glenn R. Sharman, University of Arkansas, Dept. of Geosciences, Fayetteville, AR 72701, United States. Additional authors for this research include Kalli Dubois, John B. Shaw, Jacob A. Covault, Peter P. Flaig, Toti E. Larson, Regan Dunn, Preston Fussee-Durham, Timothy M. Shanahan, James L. Crowley and Barry Shaulis.

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