
Geology - Structural Geology; Studies from University of Texas Austin in the Area of Structural Geology Reported (Salt Diapir Downbuilding: Fast Analytical Models Based On Rates of Salt Supply and Sedimentation)

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2021 JAN 29 (NewsRx) -- By a News Reporter-Staff News Editor at Science Letter -- Investigators publish new report on Geology - Structural Geology. According to news reporting out of Austin, Texas, by NewsRx editors, research stated, "Salt diapir shapes are influenced by the rate of salt supply into the base of the diapir, the rate of sedimentation, regional slope, local deformation around the salt body, and regional deformation. Prior graphical solutions to this complex problem consider only the salt supply and sediment aggradation rate; but there are major problems with these existing plots."

Financial support for this research came from **Bureau of Economic Geology** of the University of Texas at Austin.

Our news journalists obtained a quote from the research from the University of Texas Austin, "Precise computation of diapir shapes using a new, fast analytical approach reveals that the shapes shown in previous publications were incorrect. 'Rise rate', a proxy used for salt supply in previous models, was inconsistently defined. The fundamental controlling factors used in this study to predict salt diapir shapes are the volumetric rate of salt supply to the base of the diapir, and the rate of sediment aggradation. These are combined to create predictive charts of salt shapes for both radial and linear geometries. We discuss the strengths and limitations intrinsic to our fast analytical models, suggesting geological conditions where they may be appropriate. Simple downbuilding models may not be directly applicable to geological settings that involve subsequent deformation of the sediments or of the salt body."

According to the news editors, the research concluded: "However, the modified salt downbuilding concept as elaborated in our study can explain many real-world situations where the salt body flares or tapers upwards."

This research has been peer-reviewed.

For more information on this research see: Salt Diapir Downbuilding: Fast Analytical Models Based On Rates of Salt Supply and Sedimentation. Journal of Structural Geology, 2020;141. Journal of Structural Geology can be contacted at: Pergamon-elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, England. (Elsevier - www.elsevier.com; Journal of Structural Geology - www.journals.elsevier.com/journal-of-structural-geology/)

Our news journalists report that additional information may be obtained by contacting Frank J. Peel, University of Texas Austin, Bur Econ Geol, Appl Geodynam Lab, Pob 10, Univ Stn, Austin, TX 78713, United States. Additional authors for this research include Michael R. Hudec and Ruud Weijermars.

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

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