

## **4-D Evolution of Complex Structures in Rifts and Strike-Slip Systems**

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The 4-D structural evolution of complex structures such as accommodation zones in rift systems or in strike-slip pull-apart systems is poorly understood. The geometries of accommodation zone fault systems in rifts are usually complex and the structures are generally poorly imaged. Similarly strike-slip pull-apart basins are bound by steep segmented fault systems that are poorly imaged on seismic sections. In this paper we use scaled analogue models to simulate the evolution of these complex fault systems and compare the results with natural examples. Digital animations of model development and of fly-through serial sections are used to evaluate the 4-D evolution of these fault systems. Seismic volume visualisation and interpretation software is used to generate, visualise and structurally interpret volumes of the completed analogue models. This allows the stratal and fault geometries to be analysed in detail in their spatial context. The model results are compared to natural examples of fault systems in rift basins and pull-apart systems. New 4-D evolutionary models for these complex reservoir scale fault systems are evaluated.