



## **Lateral variations of salt tectonics patterns in the Angolan passive margin**

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Syn-sedimentary deformation above an inclined basal salt layer at passive margins mostly results from gravity spreading. Deformation usually leads to the formation of an upslope extensional domain and a downslope contractional domain. These domains are respectively characterized by tilted blocks, rollovers and extensional diapirs on the one hand, and by folds and thrusts on the other hand. Such zonations are widely described on passive margins, especially in Angola. However, lateral variations and overlapping of deformation domains occur that remain often misunderstood.

We achieved a precise structural zonation based on the interpretation of 11 regional 2D composite seismic sections, slope parallel and located between Congo and Kwanza Rivers. This zonation revealed three large domains with different structural trends, from north to south of Congo delta. The northern domain, with extremely thin salt, shows an early and major shortening (Albian) slightly reworked during Post-Oligocene deformation. In the central domain, a large Neogene depocenter is responsible for a shift of the underlying layers, upslope, and a strong shortening associated to large amounts of allochthonous salt, downslope. In the southern domain, post-salt deformations are moderate with thick autochthonous salt. The contractional domain contains some remarkable structures such as “muscle” shape-type sedimentary bodies and inflated salt plateaus. The contractional domain is everywhere bounded by a major flat lying thrust above a allochthonous salt tongue.

These lateral variations of structures and successive stages of deformation, resulting from gravity spreading above salt, are likely related to variations in initial thickness of the basal salt layer. Experiments on brittle-ductile models are presented to discuss some striking aspects.