

## **Interactions between Sedimentation and Salt Tectonics in Deepwater: Examples from West Africa**

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The temporal and spatial evolution of salt-cored fault, fold and salt wall arrays generates complex dip- and strike-variability on continental slopes that exerts a strong control on submarine slope channel routing, geometry and architecture. Utilising spectral decomposition of full frequency volumes and multi-attribute RGB color blending, we show detailed imaging of internal morphology, spatial extent and location of depositional elements. We illustrate the structural control of salt bodies on these slope depositional systems using a merged, 8,000 km<sup>2</sup> 3D seismic dataset from the deepwater region offshore West Africa.

Three end member tectono-stratigraphic responses can be identified:

1. Laterally linked salt walls that confine channel-lobe fairways within elongate mini-basins over distances >50 km. The resultant depositional systems flow axially with respect to local structure.
2. Segmented salt-walls, diapirs and fault arrays that cause local deflection (1-10 km) of main sediment fairways and give rise to repeated focusing of channel belts and lobes between mini-basins.
3. Shadow zones devoid of major channels and lobes caused by updip structural capture of the main transport fairways.

The tectono-sedimentary response is dynamic so a particular area of the slope may change from one end member to another during structural evolution with a tendency to evolve from end member 1 to 2 as structures grow and link.