

## **Three-Dimensional Seismic Geomorphology of Plio-Pleistocene Deposits Offshore Angola**

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A regionally extensive three-dimensional (3D) seismic dataset from the continental margin in deepwater offshore Angola has been utilized to analyse the seismic stratigraphy and geomorphology of Plio-Pleistocene deposits from a 8,000 km<sup>2</sup> portion of the Lower Congo Basin. Our study area lies in the translational domain within this salt influenced passive margin, with extensive deposition of salt during the Aptian.

The Plio-Pleistocene stratigraphic succession has been sub-divided into 3 seismic units S1, S2 and S3. After deposition of the basal unit S1, fold belt degradation resulted in the emplacement of frontally emergent mass transport deposits which are displaced for relatively short distances, and show marked topographic relief relative to the coeval undisturbed strata within the sequence. Populations of normal polygonal faults occur within unit S2, and are stratigraphically confined to this interval, suggesting the sediments are mud dominated.

Plio-Pleistocene sediment routing is influenced by a series of Cretaceous faults which detach off the Aptian salt, and propagate upwards through the stratigraphy into the Miocene interval. Subsidence on these faults, coupled with the bathymetric relief of the MTD's, and differential compaction of sediments above the mass wasting deposits in sequence S1 exerts a strong control on subsequent gravity flows and alter the continually evolving slope topography. Pronounced halokinetic activity within the study area is observed by the marked onlap of sediments within unit S3 onto growing limbs of salt cored fold-belts. In this study, we have utilized our analysis of the range of tectono-sedimentary interactions in the well imaged Post-Miocene deposits to create models which can be readily adapted to enhance exploration of reservoirs in deeper less illuminated stratigraphic levels.