



New Insights into SouthWest Africa Margin Evolution; Integrating Reconstructions and Restorations

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Over the last few years there has been a significant increase in the quality and availability of passive margin scale transect derived from new geophysical techniques. Coupled with plate reconstructions this has unquestionably led to a paradigm shift in our understanding of the architecture of conjugate passive continental margins and the transition from continental to oceanic lithosphere.

These sections, however, still commonly only consider architecture of the margin by placing conjugate sections together in their pre-break up position without considering realistic architecture of the margin at the time of deposition. In this study we use plate reconstructions to consider location of sections at a variety of time steps.

We then apply stratigraphic and structural techniques to determine the geometry of the depositional sequence to predict the architecture and water depth of the margin at the time of deposition. Our study focuses on the south-eastern Atlantic and we use these techniques to understand key time intervals, including the geometry at the end of the rift phase, the emplacement of seaward dipping reflections, the Barremian sag phase and early Cretaceous deltaic sequences.

This provides us with new insights into the Southern Atlantic basin evolution as well as providing better constraints for lithospheric processes and palaeogeographic reconstructions during these intervals that are fundamental to the hydrocarbon prospectivity of the region.