

SEISMO-GEOMORPHOLOGICAL CHARACTERIZATION OF AN ANCIENT CONTOURITE DEPOSIT ALONG THE SOUTH-ATLANTIC MARGIN

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Context

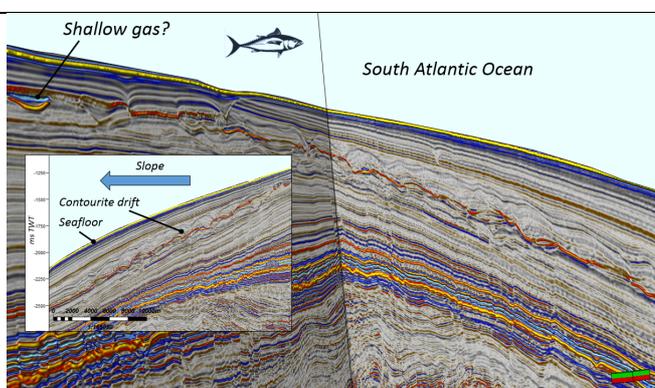
Contourite are important components of the deep-water environment because they archive paleo-climatic and paleo oceanographic information. Contourite develop on the seafloor from the interaction with bottom currents, which modulate its depositional architecture and complexity. However, the influence of bottom current in deep-sea sedimentation remains poorly constrained (*sensu Rebesco et al., 2014*). Here along the South-Atlantic margin, a new seismic reflection dataset revealed a well-developed contourite drifts system in the Cenozoic succession (Figure below). The proposed MSc thesis will examine the dataset in order to develop an evolutionary model for the contourite drift and its implication on the hydrocarbon plumbing system.

Objectives and Methods

The objectives of this proposed MSc thesis are to: (1) characterize the morphology of the drift system placing emphasis on the internal facies heterogeneity; (2) develop a depositional model for the evolution of the drift system with reference to paleo-bathymetric control and paleo oceanographic regime (3) unravel the interaction between the contourite system and underlying fluid plumbing system from the Cretaceous and superjacent fluid escape structures. The objective will be achieved by analyzing a high-resolution 3-D depth-migrated industry acquired seismic reflection data. The dataset is located along the inner slope of the Orange Margin, offshore South Africa. The findings from this study will provide new insights on deep-water processes along the Orange margin.

Literature

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- Nielsen, T., Knutz, P.C. and Kuijpers, A., 2008. Seismic expression of contourite depositional systems. *Developments in Sedimentology*, 60, pp.301-321.
- Rebesco, M., Hernández-Molina, F.J., Van Rooij, D. and Wåhlin, A., 2014. Contourites and associated sediments controlled by deep-water circulation processes: state-of-the-art and future considerations. *Marine Geology*, 352, pp.111-154.
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WEB sites

- <http://unige.ch/ge-rgba>
<https://www.uwc.ac.za/Biography/Pages/15Dr.-M.-Opuwari-.aspx>

Choice of orientation : (Supprimer les orientations qui ne conviendraient pas)

- 1) Sedimentary, Environmental and Reservoir Geology