

## Southern South Atlantic Conjugates Passive Volcanic Margins Reconstruction: Building on Geology, Geophysics and Geochemical Data

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**Abstract Body:** Our team has analysed a set of more than 1500 crude oil samples for African and South American basins, placed them in their tectono-structural setting and tested the resulting maps by comparing paleo-reconstructions of the region against the paleo-depositional settings inferred from the oils data. This poster has for its focus the southern South Atlantic conjugate basins. Of particular interest are plays related to Upper Jurassic-Neocomian syn-rift lacustrine source rocks.

Our tectono-structural interpretation uses recent compilations of geophysical data (bathymetry, gravity, magnetics, basement depth, sediment thickness) to direct and refine our mapping of the regional tectonic elements and basin features. We illustrate South Atlantic conjugate regions, namely the continental terraces from Southern Brazil across Argentina and from Namibia across South Africa. The northern segment, influenced by a Proterozoic craton, contains relatively shallow margin basins extending from Pelotas to the Salado-Colorado Mesozoic aulacogens and their counterparts the Namibia-Luderitz-Orange basins. The southern segment, Patagonia, extends from the Colorado Anomaly to the Malvinas (Falkland) Plateau where our magnetics displays help image the influence of Triassic and Jurassic volcanism (LIPS).

The geochemical point control has iterated through an expanding data volume (Schiefelbein & Dickson 2014) using a combination of multivariate statistical analysis (MSA) and spatial comparisons to tecto-structural mapping. Our poster illustrates examples of MSA significance, matching rift basin and sub-basin containers with inferred paleo-geographies and associated ages derived from the oils analysis.