



Comparative structural reconstruction of the post-breakup succession in conjugated salt and salt-free basins offshore South-America and South-Africa

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This project focuses on the post-breakup tectono-stratigraphic development of large offshore basins along the South American and African continental margins that record strongly varying post-rift sedimentary successions. The northernmost segment of the South Atlantic rift and salt basins is characterized by a pronounced asymmetry, with the Brazilian margin comprising narrower and deeper rift basins with less salt in comparison to the Congo–Gabon conjugate margin. Another important observation is that multiple phases of uplift and subsidence are recorded after the break-up of the southern South Atlantic on both sides of the Florianopolis-Walvis Ridge volcanic complex, features that are regarded as atypical when compared to published examples of other post-breakup margin successions. In this study we show a regional comparison between the large basins offshore southern Brazil (Espírito Santo Basin, Campos Basin, Santos Basin, Pelotas Basin) and southwest Africa (Lower Congo Basin, Kwanza Basin, Namibe Basin, Walvis Basin, etc). A sequential reconstruction of tectonic and stratigraphic elements of representative geological transects provides a comprehensive basin-to-basin documentation of the influence of key geological parameters controlling ocean and continental margin development. These include the subsidence development through time, sediment input, flux and storage patterns, salt vs. non-salt systems, carbonate-rich vs. clastics-dominated successions and finally major tectonic and magmatic events. Data from the salt basins indicate that salt-related tectonic deformation is amongst the prime controls for the non-uniform post-rift margin development.