



Post-breakup evolution of the Angolan margin in southwestern Africa: Long-term erosion or alternating burial and exhumation episodes?

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In the last years, there is a growing debate regarding how the so called elevated passive continental margins (EPCM) are formed. In southern Africa, most works suggest that the present-day landscape of the margins are the result of relatively low long-term erosion following abrupt exhumation events that occurred during Late Jurassic-Early Cretaceous rifting or Late Cretaceous times (e.g., 1, 4, 5). Alternatively, other works argue that the development of continental margins cannot be explained only by exhumation and erosion. However, it can result as well from alternating crustal subsidence/burial and uplift/exhumation events (e.g., 2, 3). To demonstrate that the EPCM of Angola is resulted from alternating burial and exhumation, we present here an overview by integrating previous onshore stratigraphic records, offshore geophysical data, and apatite fission track and (U-Th)/He data along the margin.

The review presented here also supports some important interpretations:

- The Angolan margin as a whole has developed similarly during post-rift times, suggesting that their uplift and subsidence episodes reached large areas of the crust, and probably have been driven by large-scale process;
- The large-scale post-rift subsidence probably influenced both the marginal Angolan Basin and its basement further inland. Despite several possible mechanisms, we propose that this post-rift subsidence could be explained by lithospheric stretching process supported by some modern rifting models.

Our overview shows that the models based on long-term erosion since Cretaceous cannot be used to explain the evolution of the Angolan margin.

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