



## **Geodynamics of passive margins: insights from the DFG Schwerpunktprogramm SAMPLE for the South Atlantic and beyond**

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The DFG Priority Program SAMPLE (South Atlantic Margin Processes and Links with onshore Evolution: <http://www.sample-spp.de/>), which is to be completed 2016, has studied the evolution of the South Atlantic from its Cretaceous inception to the present day. The program has an explicit interdisciplinary focus, drawing on constraints from deep Earth geophysics, lithosphere and basin dynamics, petrology, landscape evolution and geodesy, thus linking processes that are commonly studied in isolation. Starting from the premise that passive margins are first-order geo-archives, the program has placed the South Atlantic opening history into an observational and theoretical context that considers seismic imaging, plate motion histories, uplift and subsidence events, magmatic and surface evolution, together with models of mantle convection and lithosphere dynamics. A primary lesson is that passive margins are active, displaying a range of vertical motion (i.e. dynamic topography) events, apparently correlated with plate motion changes, that do not conform to traditional rifting models of passive margins. I will summarize some observational results of the program, and place them into a geodynamic context.