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Models and observations of vertical motion (MoveOn) associated with rifting to passive margins

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Two recent co-ordinated research programs - the SAMPLE (South Atlantic Margin Processes and Links with onshore Evolution) program of the German Science Foundation and the French Topo-Africa program - have focused attention on the interaction of the lithosphere with sublithospheric processes. With a main thrust on the West-Gondwana break up and the subsequent post-rift evolution of the South Atlantic passive margins and their hinterlands, SAMPLE and Topo-Africa made concerted efforts to advance models and observations of vertical motions (MoveOn) in the South Atlantic region as a probe into mantle convection/lithosphere interaction. While the contributions are presented in a special issue of Gondwana Research (2018), we here summarize some results that stem from these programs aimed to gain insights on rifting in a geodynamic context with a particular focus on models and observations of the vertical motions of the lithosphere induced by mantle flow.