



## **Salt roller growth as a controlling factors of the Albian rafts on Espírito Santo Basin, SE Brazil.**

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The SE Brazil continental margin is dominated by continental-slope embankment, incision of submarine channel system and significant mass-gravitational processes, with salt tectonics playing a significant role in upper-crust deformation. It is known to comprise a margin rich in oil and gas, in which raft tectonics plays an important role in their migration and accumulation.

A combination of 3D pre-stack and post-stack time-migrated (PSTM) data was used to interpret the evolution of the Albian rafts in Espírito Santo Basin, SE Brazil was used in this work to: a) investigate the impact of continuing halokinesis in raft movement and, b) critically assess the parameters considered to control raft tectonics. In the study area Albian rafts, which are laterally constrained by salt rollers that were reactivated during the Late Cretaceous-Cenozoic, are seen to be ramped over triangular salt structures, and rotated by growing salt pillows. As a result, we observe complex compartmentalization styles in the rafts, with three main types of faults being recognised in four distinct rafts: a) rollover faults formed axially to large N-S rafts, b) radial faults to segments of rafts that record torsion and enhanced downslope movement, c) reactivated crestal and keystone faults formed on the flanks of growing salt diapirs onto which rafts are ramped upon. The space between the rafts was also analysed and quantified and show to be influenced by the weight of the sediments overburden. This work shows that slope gradient and overburden thickness had little control on raft segmentation. We interpret these data as a proof that underlying salt was a primary control on raft tectonics in the study area, overriding the effect of overburden thickness and variable slope gradients on the rafts' internal compartmentalisation. This study will show different styles of compartmentalization observed in Albian rafts from SE Brazil.