



## **Mesozoic evolution of the Central European Basin System (CEBS): constraints from numerical modelling**

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The Mesozoic evolution of the Central European Basin System (CEBS) was characterized by a high grade differentiation due to contemporary differential uplift and subsidence developed in adjacent basin areas. This phase led to a complex deformation style within the CEBS. The kinematical setting can be related to regional and local variations in the rheological structure of the lithosphere together with minor angular changes of geodynamical forces active at the stress boundaries. All these interactions have been studied through the use of a large scale thin sheet approach. Results from previous models have demonstrated the importance of inherited crustal and deeper structures in controlling the evolution of complex basinal areas like the CEBS. Based on these results, new numerical models have been performed coupling lateral rheological contrasts and geodynamical boundary forces. The models outcomes have revealed that the overall evolution of major subsidence and uplift depocentres as well as more local features within the CEBS can be related to small changes in the direction of the principal regional stress field. The obtained results strongly suggest the close interplay between lithospheric structure and geodynamic forces in controlling basin evolution through time.