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3D data-derived structural, thermal and rheological configuration of Corinth Rift system

The main objective of the project is to develop an integrated digital twin of the Corinth Rift to test several hypotheses on localization of deformation in the present-day area. The distribution of sub-surface data available in the Corinth Rift and 3D potential field modelling using satellite gravity data will be used to build a 3D model of the subsurface. Tomography models of the upper mantle shear wave velocity field will be converted to temperature and density distributions to test different compositions of this part of the model. This integration of observations with physics-driven simulations will allow a 3D representation of the thermomechanical and isostatic state of the Corinth Rift. The 3D configuration resolving the first-order heterogeneity in physical properties will be compared to observed seismicity distribution. The obtained results will be used to design forward numerical experiments, in collaboration with partners from the University of Bergen.

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