

## **Tectonics of anomalous vertical movements during the Jurassic to Cretaceous evolution of NW Africa**

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Wide regions of Morocco, from the Meseta to the High Atlas, have experienced km-scale upward vertical movements during Middle Jurassic to Early Cretaceous times following the appearance of oceanic crust in the Central Atlantic. The area experiencing exhumation was flanked to the W by a domain of continuous subsidence, part of which is named the Essaouira-Agadir basin. Comparison with vertical movement curves predicted by lithospheric thinning models, shows that only 50-60% of the observed subsidence can be explained by post-rift thermal relaxation and that only <30-40% of the observed exhumation can be explained by processes (in)directly related to the evolution of the Central Atlantic rifted margin. Syn-sedimentary structures in Middle Jurassic to Lower Cretaceous formations of the Essaouira-Agadir basin are common and range from m-scale folds and thrusts to km-scale sedimentary wedges. They structures systematically document coeval shortening generally oriented at high angle to the present margin. It is suggested that regional shortening can explain the structural observations and the enigmatic vertical movements.