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Late Miocene to present-day tectonostratigraphy of the northern central Algerian Basin: Evidence of a contractional salt system from reprocessed seismic data

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This study presents the interpretation of reprocessed seismic data covering the southwestern Balearic promontory and the central Algerian basin. The new depth processing of 2D seismic lines dataset allows for the first time a good resolution on salt structures in the deep basin. Most of the salt structures result from active diapirism. In the deep basin, sedimentary loads and regional shortening are proposed to be the dominant driving forces, showing an overall contractional salt system. The north Algerian margin tectonic reactivation could have provoked a regional shortening of the salt structures and overburden. Identified unconformities suggest that this process probably started shortly after salt deposition and is still active nowadays. It is expressed by salt sheets, pinched diapirs and a décollement level. The African convergence and the narrowness of the western Algerian basin could be the explanation of an overall greater salt deformation intensity compared to the eastern Algerian basin. This demonstrates how in tectonic and sedimentary components appear to be dominant in salt deformation in the central Algerian basin compared to gravitational gliding, only localized in the proximal parts of the margin.