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Plio-Pleistocene rimobilization of a Mesozoic salt diapir in the Southern Adria Plate (Northern Ionian Sea, Central Mediterranean)

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It has long been recognized that the central Adria Plate, as well as the Dinaric-Hellenic sector, contains a vast volume of Triassic salt associated with diapirism and it is well know that Triassic evaporites developed in the Mediterranean Sea region over epicratonic platforms. Nearby the Apennines and Dinaric-Hellenic front, several authors highlighted the presence of Triassic salt structures such as pillows, diapirs and salt walls, mostly triggered by Neogene tectonic shortening associated with the accretion of these opposite Chains. Nevertheless, in the Apulian foreland, representing the southernmost termination of the Adria plate the Northern Ionian Sea, Triassic evaporitic deposits have never been mapped due to the lack of explorative wells in this deepwater offshore sector. Based on seismic reflection profiles, we illustrate new evidences of Triassic evaporites in the Apulian foreland subsurface associated with two squeezed diapirs as evidence of regional shortening episodes, probably enucleated from inherited Mesozoic salt structures such as pillows and/or salt domes, thus implying new constrains on the paleogeographic reconstruction of the Northern Ionian Sea. The identification of halokinetic-related sequences up to the Plio-Quaternary foreland shallow sediments allows to constrain the evolution of the two diapirs. It results that they are reactivated till Plio-Pleistocene times in response to the compressive stress trasmitted by the Southern Apennines/Calabrian Arc and Hellenides to the Apulian foreland. Later, after Middle Pleistocene, they were dismembered by extensional tectonics related to Adria plate flexuring, as they represent areas of weakness. These observations make the regional geological contest one of the foundamental features controlling the Plio-Pleistocene Triassic evaporitic squeezing in the southern Adria Plate.