



Identical seismic markers of the Messinian Salinity Crisis within the intermediate depth type basins (Valencia Basin and East-Corsica Basin)?

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The MSC affected the whole Mediterranean that was configured as an assemblage of deep oceanic and shallower margin basins. An integrated scenario of the crisis is difficult to provide because of the diachronic evaporite deposition between deep and marginal basins. Between these two types of basins, we define the intermediate depth basins, actually located offshore between 500 and 1500m depth. Because of their location in the transitional domain with relatively shallow water depths, the intermediate basins could register small sea-level variations and recorded MSC markers that are not present or poorly present in the deep basins. The comparison between to of them, located in each border of the western Mediterranean, allowed to identify common Messinian markers and to propose a coherent chronology of the Messinian events in these basins. The Valencia Basin is an elongate NE-SW-trending basin with a 1300 - 2000 m depth, that widens to the east into the abyssal plain of the Ligurian-Provençal Basin. The East Corsica basin is a narrow NNE-SSW oriented basin of 800m maximal depth. This basin is a perched basin with no connection to the Tyrrhenian deep basin and the Ligurian-Provençal Basin. Though their structural contexts are quite different (the Valencia basin is an aborted rift and the east-Corsica basin is a fore-arc basin below the appenninic prism), both basins show evidences of two major Messinian erosion surfaces located between the Pliocene-Quaternary sequence and the pre-Messinian Miocene sequence -a Basal Erosion Surface and -a Top Erosion Surface. The Basal Erosion Surface extends into the basins the polygenic erosion of

the margins and displays a gullied morphology: it records an important sea-level fall at the beginning of the Messinian Salinity Crisis. The Top Erosion Surface, exactly similar in both basins, consists of an almost flat-lying surface cut by a network of incisions, and records the end of the Messinian Salinity Crisis. Between the two erosion surfaces, syn-Messinian deposits show a variability of seismic facies, probably linked to the regional context, and can be locally interpreted as detritals, or as equivalent to the Upper evaporites of the deep basins, but in all cases are different from the complete deep offshore evaporite type sequence.