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Natural variability of the Mediterranean thermohaline circulation: a numerical modelling study.

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The variability of the Mediterranean thermohaline circulation has been investigated by means of an eddy-permitting OGCM. The model employed in this study is the MITgcm. Two climatological simulations were designed in order to correctly represent multi-decadal time scales, by forcing the model with different surface boundaries condition: mixed b.c. and perpetual climatological freshwater and heat fluxes. We used the EOF (Empirical Orthogonal Function) method to characterize meridional and zonal transport fields. We debate whether the existence of distinct circulation patterns influences the occurence of observed events such as the EMT. We also address the hypothesis that the variability in the Eastern Basin may drive the behaviour of the whole Mediterranean Sea.