



## **Flow structure and sub-inertial variability studies near the Strait of Gibraltar**

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The scales and complexity of the Strait of Gibraltar inflow/outflow processes make the development of realistic modelling studies of the zones adjacent to the Strait a difficult task. We present preliminary results of an ongoing modelling study aiming at an understanding of the structure and subinertial variability of the circulation near the Strait in the Eastern Gulf of Cadiz and Western Alboran Sea, focussing on questions like: i ) The coupling between the Mediterranean outflow and the surface circulation in the eastern Gulf of Cadiz; ii) The variability of the upper-slope current running all along the northern part of the Gulf; iii) The response of the inflow to recurrent gapwinds across the Strait which promote the development of a cold filament off the west side, and iv) the effects of a variable inflow upon the evolution of the eastern Alboran Sea Gyre. We use a complex set of ocean (ROMS) and Atmospheric (WRF) model configurations with both online and offline nesting to achieve realistic solutions for the region. Preliminary results show a very good comparison with the observed SST patterns, and a representation of all major features known in the zone.