

The 3D primitive-equation model of LODYC is used to represent the general circulation of the western Mediterranean sea from the strait of Gibraltar to the strait of Sicily. The model is initialized with the Levitus fields. The flux at the straits are not imposed, instead the Western Mediterranean Sea is linked to the Atlantic ocean and the Eastern Mediterranean Sea which are modelled by academic basins in which we use a newtonian relaxation to the initial density. We do not take in account atmospheric forcings. The results of this experiment show a realistic cyclonic circulation in the whole basin, the formation of intensified flows trapped to the coast. The instabilities of the Algerian current and the circulation of the Alboran sea are also well represented, and we can observe at intermediate depth a flow which at the exit of the Sicilian Strait turns right, enters into the Tyrrhenian sea following the Sicilian coast. This experiment also show that the Liguro-Provençal current appears without thermohaline forcing, it is created by the meeting of the western corsican current and the eastern one.

In further experiments we are going to introduce the atmospheric forcings, and to evaluate the influence of the different forcing: sensitivity experiments will be run.

All these experiments are made on a grid of $1/8^{\circ} \times 1/10^{\circ}$, sufficient to adequately represent mesoscale phenomena.