

## PHYSICAL OCEANOGRAPHIC GROUP OF THE UNIVERSITY OF MÁLAGA (GOFIMA)



### INTRODUCTION

Research group that studies the hydrodynamics of the Gibraltar Strait, the Alboran Sea and the Gulf of Cadiz. At present, these researchers develop an operational system for meteo-oceanic forecast based on a high resolution numerical model of the Strait of Gibraltar and neighbor basins, with higher detail in the Bay of Algeciras. Based on the same model they study the connectivity patterns of the main commercial species of fishes in the Alboran Sea - Strait of Gibraltar. Moreover they develop numerical models of the circulation in Guadiana and Guadalquivir estuaries.

### RESEARCH TOPICS

- Water exchange through the Strait of Gibraltar. Water mass circulation in the Andalusian Littoral.
- Mesoscale processes in the Alboran Sea and the Gulf of Cadiz.
- Biological and ecological implications of the near-surface circulation.
- Sea level variations in the Mediterranean Sea and climate forcing.
- Numerical modelling of internal waves in stratified straits.
- Numerical simulation of the water mass exchange as resource of renewable energies.
- Numerical modelling of estuaries.
- Numerical simulation of passive tracers for the estimation of the water quality of coastal and harbor areas.
- Operational oceanography.
- Connectivity of commercial species of fishes in Alboran Sea and Strait of Gibraltar.

### SCIENTIFIC-TECHNICAL SERVICES

- Characterization of marine processes important for the port activities.
- Analyze and anticipate the consequences of human activities in the Mediterranean Sea.
- Numerical simulation for the deployment of renewable energies in a marine environment.
- Oceanographic coupling between estuaries and continental shelf. Numerical models of estuaries.
- Visualization and computer graphic animation of environmental data. Observational oceanography.

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