

**CIESM Congress Session : Open ocean processes in the
Mediterranean and Black seas
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Moderator's Synthesis

Most of the processes prevailing in the open ocean can also be found in the Mediterranean and Black Sea (MBS). In fact, the MBS can be considered as a miniature ocean. These processes include deep convection and deep water formation, the mixing due to the meso and sub-mesoscale variability, the exchange of biogeochemical properties between the shelf and deep waters, extreme atmospheric forcing and climate change effects, such as the sea level rise, the increase of the water temperature and salinity, and the seawater acidification. Due to the limited geographical extent of the MBS, observations on these processes might be easier to collect, despite geopolitical restrictions, with respect to the World Ocean. Nevertheless, an international, multiplatform, multivariable (multi-model) approach is necessary, along with an integrated and harmonized monitoring system of systems. The communications presented in this session covered a variety of physical and biogeochemical processes prevailing in the MBS, including new research results on:

- Deep currents in the NW Mediterranean;
- Sinking particles and the biological carbon pump in the Ionian Sea;
- An important sub-surface mesoscale eddy in the Levantine basin;
- The hydrology, circulation, nutrients and carbonate properties in the Algerian basin;
- Simulations of circulation and sea surface temperature in the Black Sea;
- Simulations of deep convection in the NW Mediterranean;
- Organic matter (DOC and FDOM) in the Mediterranean Sea.

The debate which followed the presentations highlighted the fact that all the processes mentioned above are indeed related and that a multidisciplinary approach is preferable to study them thoroughly.

