



Cyclogenesis in the layers above the Mediterranean Undercurrent and its relation with the generation of meddies.

N. Serra (1), I. Ambar (1), R.H. Käse (2)

(1) Instituto de Oceanografia, Faculdade de Ciências da Universidade de Lisboa, Portugal, (2)
Institut für Meereskunde, Universität Hamburg, Germany

(nserra@fc.ul.pt / Phone: +351-21-7500318)

The generation of anticyclonic eddies in the Mediterranean Water Undercurrent (the so-called meddies) is crucially determined by bottom topography variations and is shown to involve the presence of cyclones. The cyclones are generated in the layers above the Mediterranean Undercurrent while this is still a bottom plume in the Gulf of Cadiz. The consequent downstream coupling of the cyclones and the anticyclones promotes the detachment of the latter and the consequent formation of vortex pairs (dipoles). Using in situ and remote sensing observations jointly with numerical model results, it is here shown that this coupling occurs in the first stages of the meddies life cycle and that it has clear consequences to the evolution of surface-intensified processes like the spring-summer Iberian coastal upwelling.