



Decadal trend of thermohaline properties in the Southern Adriatic and remote forcing

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In the last decade (1996-2005) in the South Adriatic Pit, the average winter temperature of the water column in the layer between 200 and 800 m have increased by about 0.5 C. In parallel, an increase in average salinity by about 0.12 has also been documented. The increase of both parameters, although weaker, started already in 1991. The buoyancy content in the pre-conditioning phase reveals an increase as well, suggesting the prevailing influence of temperature on the water column stability. The occurrence of the decadal trend in the intermediate and deeper layers suggests a possible influence of a remote forcing and not the local one. In addition, no prominent trend in the local winter air-sea heat fluxes has been evidenced. Thus, decadal variations of air-sea heat fluxes have been studied at two sites in the Eastern Mediterranean, possible sources of water masses that influence the Southern Adriatic. More specifically, we analysed winter air-sea heat fluxes in the Aegean Sea as a source of the Cretan Intermediate Water and Levantine Basin as a source of the Levantine Intermediate Water.

Previous studies didn't show any important relationship between NAO index and local climatic conditions in the Southern Adriatic and therefore in the intensity of the winter convection in the area. Thus, possible connection of the Levantine and the Cretan Sea water mass formation and the NAO index has been considered.