



## **Permanent changes in Western Mediterranean Deep Water after 2005 revealed by time series**

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Several authors have pointed out the occurrence of strong modifications of the Western Mediterranean Deep Water (WMDW) characteristics after winters 2005 and 2006, as seen in numerous CTD profiles. Time series of temperature and salinity in a deep mooring (1900 m) off the Catalan coast, revealed abrupt modifications of these variables in the WMDW during January-March 2005, presumably associated to changes in the water masses involved in the offshore dense water formation process and the occurrence of unusually strong events of dense water cascading from the Gulf of Lions and northern Catalan shelves. After this period, the WMDW temperature and salinity appeared to stabilise in significantly higher values than before. The continuation of the time series (last maintenance in March 2007) indicates that a similar, although less intense sequence of events, also occurred after winter 2006, but no major changes were detected in the WMDW after them. The full time series (October 2003 - March 2007) can then establish a shift in the WMDW characteristics from a state before January 2005 to a different one after March 2007.