

Deep and Intermediate Water in the Western Mediterranean under the influence of the Eastern Mediterranean Transient

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Abstract

The well known changes in the deep thermohaline circulation of the Eastern Mediterranean Sea, the so-called Eastern Mediterranean Transient (EMT), which modified the outflow characteristics through the Sicily Strait, led to significant changes in the Western Mediterranean Sea since the early 90's. In spring 2005 an oceanographic survey, carried out in the central part of the western basin, showed the presence of a recently formed layer of Western Mediterranean Deep Water, spreading at the bottom of the whole Algero-Provençal Basin. It was characterized by unusual θ - S shapes, as its temperature, salinity and density were higher with respect both to the resident deep waters and to the climatological values. The possible influence of the EMT on the deep water formation processes occurred in the Gulf of Lions in the previous winter is here evidenced, even taking into account other data sets previously collected in the Western Mediterranean.

Keywords: Hydrography, Water Masses, Western Mediterranean Sea, EMT, Gulf of Lions

Citation: Schroeder, K., G. P. Gasparini, M. Tangherlini, and M. Astraldi (2006), Deep and intermediate water in the western Mediterranean under the influence of the Eastern Mediterranean Transient, *Geophys. Res. Lett.*, 33, L21607, doi:10.1029/2006GL027121.

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