

{rokbox title=|Vertical profiles of the DO, fluorescence and practical salinity from the surface to the bottom :: Figure: Authors|

thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-jms-dissolved-oxygen-balbin-et-al-2014-thumb.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-jms-dissolved-oxygen-balbin-et-al-2014.jpg{/rokbox}

R. Balbín, J.L. López-Jurado, A. Aparicio-González, M. Serra, 2014. [Seasonal and interannual variability of dissolved oxygen around the Balearic Islands from hydrographic data](#)

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Abstract: Oceanographic data obtained between 2001 and 2011 by the Spanish Institute of Oceanography (IEO, Spain) have been used to characterise the spatial distribution and the temporal variability of the dissolved oxygen around the Balearic Islands (Mediterranean Sea). The study area includes most of the Western Mediterranean Sea, from the Alboran Sea to Cape Creus, at the border between France and Spain. Dissolved oxygen (DO) at the water surface is found to be in a state of equilibrium exchange with the atmosphere. In the spring and summer a subsurface oxygen supersaturation is observed due to the biological activity, above the subsurface fluorescence maximum. Minimum observed values of dissolved oxygen are related to the Levantine Intermediate Waters (LIW). An unusual minimum of dissolved oxygen concentrations was also recorded in the Alboran Sea Oxygen Minimum Zone. The Western Mediterranean Deep Waters (WMDW) and the Western Intermediate Waters (WIW) show higher values of dissolved oxygen than the Levantine Intermediate Waters due to their more recent formation. Using these dissolved oxygen concentrations it is possible to show that the Western Intermediate Waters move southwards across the Ibiza Channel and the deep water circulates around the Balearic Islands. It has also been possible to characterise the seasonal evolution of the different water masses and their dissolved oxygen content in a station in the Algerian sub-basin.

Keywords: Ocean circulation, Dissolved oxygen, Water masses, Western Mediterranean Sea, Balearic Sea