



IBAMar 2.0: 36 years sampling on the Western Mediterranean Sea

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IBAMar 2.0 is a new database created from the oceanographic data obtained during the development of different oceanographic projects by the Balearic Center of Spanish Institute of Oceanography (IEO) and conducted from 1974 and ongoing in the Western Mediterranean basin (Balearic Sea and Algerian Basin). This database collects data from 27 research projects with 134 oceanographic surveys and 6463 sampling stations. IBAMar 2.0 database covers 36 year sampling and approximately 210,846 km² in the Western Mediterranean Sea (WM). The effort applied for obtaining this data was growing from less than 100 station/year to more than 700 in the year 2009.

IBAMar 2.0 database includes main hydrographic parameters such as pressure, temperature, salinity and others as dissolved oxygen, turbidity, chlorophyll-a and nutrients (nitrates, nitrites, phosphates and silicates). Most of the data from 1990 until now were obtained with multiparametric CTDs, although earlier data corresponding to cast sampling with Niskin bottles were incorporated too.

The main goal of this database is to establish a climatology for the most significant variables to study the existence of decadal cycles or long-term trends, trying to better understand the behaviour of the hydrographic conditions of the Spanish Mediterranean coast, at both seasonal and interannual time scale and long term. From these studies is possible to provide answers on topical issues as the thermohaline anomaly of the deep waters of WM, the spatial distribution of dissolved oxygen minimum, or the effects of the Climate Change on the hydrodynamics characteristics of the study area [1].

Future work includes data quality control based on standard protocols like [2] and publishing IBAMar 2.0 (including next surveys) on the website of the Mediterranean Group on Climate Change of IEO (<http://www.ma.ieo.es/gcc/>). There, the data could be obtained summarized as seasonal climatology. These will include horizontal sections at standard depths and some representative vertical sections.

Spatial and temporal resolution as well as data quality control will be discussed. This contribution will also present some examples that may contribute to our understanding of hydrological changes and global warming in the Mediterranean Sea.

[1] M. Vargas-Yáñez, J. Salat, M. L. F. de Puellas, J. L. López-Jurado, J. Pascual, T. Ramírez, D. Cortés, and I. Franco. Trends and time variability in the northern continental shelf of the western mediterranean. *Journal of geophysical research*, 110(C10):C10019, 2005.

[2] C. Maillard, M. Fichaut, MEDAR/MEDATLAS Group, 2001. MEDAR-MEDATLAS Protocol (V3) Part I: Exchange Format and Quality Checks for Observed Profiles; Rap. Int. IFREMER, Brest. TMSI/IDM/SISMER/SIS00-084.