



Temperature and Salinity in the Mediterranean since 1950. Insights from a new gridded product and its associated uncertainties

Gabriel Jordà, Damià Gomis, and Josep Llasses
IMEDEA (UIB-CSIC), IMEDEA, Esporles, Spain (gabriel.jorda@uib.es)

Different hydrographic gridded products are available for the Mediterranean Sea (e.g. MEDATLAS, EN3 or Ishii). These products provide monthly temperature and salinity fields on regular grids that cover the whole basin from the sea surface to the bottom and span from 1950 to present. These features make these products very appealing and have been extensively used in the Mediterranean for a wide range of applications, from process-oriented studies to climate analysis. However, it is important to bear in mind that those products are generated from sparse in-situ observations characterized by a rather irregular coverage in space and time.

In this presentation we will introduce a new hydrographic gridded product for the Mediterranean Sea that shows better skills than the existing products when compared to independent observations. Moreover, we have performed a careful analysis in order to quantify the uncertainties associated with the monthly fields and averaged quantities. The new product explains up to 80% of the actual monthly variance for surface temperatures, but less than 40% for surface salinity. At intermediate and deeper levels the performance is even worse. In the light of these results we revisit previous analysis of the evolution of the temperature and salinity since 1950 in order to determine which features are robust and which are not.