



Changes in DOC and nutrients distribution in the Ionian Sea from 1999 to 2002

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Dissolved organic carbon (DOC) and nutrient data were collected during two multi-disciplinary cruises (January 1999 and April 2002) carried out in the Ionian Sea in the framework of the SINAPSI project. In the early 1990s, the hydrological characteristics of intermediate and deep waters of the Eastern Mediterranean (EM) were affected by substantial changes as a consequence of the major climatic event named Eastern Mediterranean Transient (EMT). This important event also influenced the biogeochemistry of the water column. A change in water masses characteristics and circulation was observed in the 2002 cruise and it was attributed to a return to pre-transient conditions. These changes clearly affected DOC and nutrient distribution, in particular in intermediate and deep waters. DOC has a central position in microbial loop, as it represents the main source of food for heterotrophic bacteria, moreover DOM mineralization determine the regeneration of nutrients, so a change in DOM distribution and quality may affect through microbial loop the functioning of marine ecosystems, in particular in the deep waters. DOC data were combined with nutrient and oxygen data to investigate the ratio P/N/Corg/O₂ and its changes from the surface to the bottom, in relation to the circulation changes observed in this area between the two cruises.