

INTER PHYTOPLANKTON COMPOSITION IN OFFSHORE WATERS OF SOUTH ADRIATIC

Ljubimir Stijepo & Nenad Jasprica

University of Dubrovnik, Institute for Marine and Coastal Research

Data on phytoplankton in open waters of the South Adriatic in winter period are very inadequate because the established offshore sampling station was not always reachable due to bad weather conditions during winter.

The South Adriatic has an important role in the Mediterranean deep circulation and it is considered a major source of Adriatic dense water (AdDW). The flow of the warm Levantine intermediate water (LIW) with a high salinity and the Ionian surface water (ISV) into the Adriatic is greater in winter but varies year-to-year due to climatic oscillations that occur from the Atlantic to the Southeast Mediterranean. Deep convection takes place in the winter period, when saltier water entering from the Ionian Sea is exposed to episodes of cold, dry northerly winds. Cooling of the surface waters results in mixing with deeper water masses, and causes transport of nutrients from the deep reservoir to the surface, thus making them available for primary producers.

Water masses entering from the Ionian Sea were detected by measuring salinity, temperature and density. Phytoplankton composition, structure and abundance were investigated with light microscope in two winter samplings at station p-1200 situated in the open waters of the South Adriatic (60 km southwest of Dubrovnik) in 2011 and 2012. One hundred and fourteen taxa of microphytoplankton were identified. Diatoms dominated microphytoplankton samples.