Algerian Basin Circulation Unmanned Survey –ABACUS: High resolution repeated glider missions to monitor Mediterranean water characteristics from basin- to mesoscale

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Since 2014 a series of deep glider cruises were conducted in autumn in the Western Mediterranean Sea between the Balearic Islands and the Algerian coast, in the framework of the "Algerian BAsin Circulation Unmanned Survey - ABACUS". The main objective of the project is to monitor the basin circulation, and to collect data on the physical and biological properties of the surface and intermediate water masses in an area that is historically undersampled and is one of the Mediterranean Sea circulation chokepoints. The glider missions allowed the realization of several repeated transects south of the island of Mallorca, and provided new insight into the regional mesoscale structures thanks to the adaptive sampling capabilities of the gliders. Measurements of temperature and salinity of the water masses in the first 975 m of the water column have proved their ability to describe the main characteristics and dynamics of the basin. A comparison with historical data collected in the same area has been performed to demonstrate the consistency and value of the glider data.

ABACUS datasets provide an important contribution to the data collection in the Algerian Basin and are publicly available through several web pages.