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Temporal variability of hydrographic conditions around the Balearic Islands from two mooring lines.

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Two mooring lines have been recently deployed in the north (Soller) and south (Cabrera) of Mallorca Island (Western Mediterranean) during the period November 2009-February 2011 in the framework of the IDEADOS research project. The main goal of this project is the study of the structure and dynamics of the bentopelagic ecosystem in these two oligotrophic zones.

Both moorings were placed in a depth of around 900m and were structurally identical. Each of them consists of four CTDs installed at the bottom, 700m, 500m and 300m, two currentmeters, at the bottom and 500 m, and a sediment trap at about 30 m above the bottom. The temporal sampling interval was 10 minutes for the CTD's and 15 min for the currentmeters. The sediment trap had a 10 days resolution.
A preliminary investigation reveals only small changes in the thermohaline properties in the Cabrera region during most of the observational period. During summer 2010 however, a significant decrease in salinity and temperature is observed in the upper waters (300m), likely related to the intrusion of fresher and colder AW in the area.

On the other hand, larger temperature and salinity variations are regularly observed in the northern region, at Soller mooring. An episode of significant salinity decrease, without a corresponding temperature change, occurred during January-March 2010 coinciding with a change of the predominant circulation in the region (the northwest Balearic current) towards a clear southeast current (measured at 500 m). Altimetry observations suggest that such event is related to the presence of an anticyclonic eddy in the region.