

Institute of Oceanology PAS and CNRS-LOCEAN

Agnieszka Beszczynska-Möller, abesz@iopan.pl
Marie-Noelle Houssais
marie-noelle.houssais@locean-ipsl.upmc.fr

Oceanographic moorings North of Svalbard

The main purpose of the INTAROS moored array north of Svalbard is to monitor the inflow of warm and salty Atlantic water into the Arctic Ocean in the key area where strong ocean-atmosphere-sea ice interactions result in significant heat loss and water mass transformations before Atlantic water continues to circumvent the Arctic Ocean.

The INTAROS array consists of 3-5 oceanographic moorings deployed since 2017 across the shelf break and continental slope north of Svalbard at 500, 850 and 1500 m depth (Fig 1). The mooring are equipped with Seabird and RBR instruments, McLane profiler and acoustic doppler current profilers (ADCP) for collecting measurements in the entire water column. Additional observations of sea ice drift and draft are obtained concurrently with the upper ocean currents with ADCP.

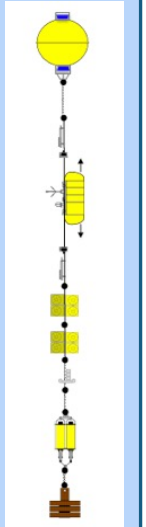
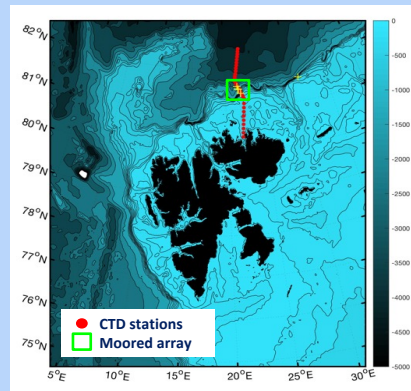


Figure 1. Location of the INTAROS moored array north of Svalbard along 22°E and complementary CTD section (left) and schematic drawing of mooring instrumentations (right).

Time series of temperature (Fig 2), salinity and ocean currents are needed to study Atlantic inflow and dynamic events in the entrance to the Arctic Ocean and understand their impact on ocean-air heat fluxes and sea ice cover. Mooring data are also used for studies of biogeochemical and biological processes.

Data from the moorings will be freely available from the eCUDO (IOPAN data base) and SEANOE data repository (LOCEAN data).

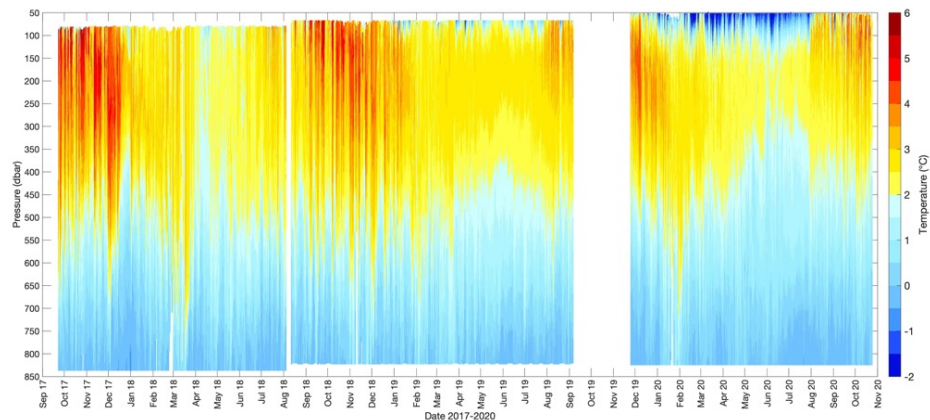


Figure 2. Time series ocean temperature from 2017-2020 at the INTAROS mooring at 850 m water depth.

