

MORSea - Marine Observatory in the Ross Sea

Principle Investigator

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Program Website

<http://morsea.uniparthenope.it/>

Project Description

The MORSea (Marine Observatory in the Ross Sea) project is funded by the Italian National Research Program in Antarctica (P.N.R.A.); it focuses on the management and implementation of the Italian marine observatory established "de facto" since 1994 in the Ross Sea in the framework of different PNRA projects.

The four active moorings up today, named B, D, G and L, are located in key areas of the Ross Sea to study the interannual variability of the physical and biogeochemical processes in the water column. Moorings are equipped with current meters, temperature - salinity - dissolved oxygen - turbidity recorders, and sediment traps.

Our main objective is to extend the existing time series, not only to study the annual variation, but also capture the interannual variability and climate trends. Such a long-term data series are currently not existing in the Ross Sea due to the well known logistical constraints and the discontinuity of the projects working in this area. The mooring task has been associated with other "ship of opportunity" oceanographic activities. Launches of XBT and XCTD probes (since 1994), measurements of sea surface temperature (SST) and salinity (SSS) (since 2006), deployment of drifters and floats (since 2010 in collaboration with the ARGO-Italy project) have been carried in the Antarctic Circumpolar Current along the track between New Zealand and the Ross Sea without any need of additional ship-time.

In Italy the project activities essentially concern the validation and analysis of the acquired data and the dissemination of the scientific results. Metadata and results are secured in online databases (<http://morsea.uniparthenope.it>).

Project Timeline

2016 – 2020

Key deliverables

- Moored time series (current, temperature, salinity, dissolved oxygen, turbidity, vertical fluxes of particulate organic and inorganic matter)
- XBT/XCTD data south of New Zealand from surface to 760 m depth
- Lagrangian data (floats and drifters)
- SST and SSS data along the ship track

Funding

Italian National Program for Antarctic Research - Programma Nazionale di Ricerche in Antartide (PNRA)

Data Management

Data will be distributed according to Italian PNRA policies. Meta data and plot of time series are available at the end of each cruise on line: <http://morsea.uniparthenope.it>.