

2. Study area

The Barents Sea is an arctoboreal, shallow sea. The water circulation is dominated by the Norwegian Atlantic Current, which enters the Barents Sea through the Bear Island Trough. After the current enters the Barents Sea it splits in two: some of the Atlantic Water flows eastward parallel to the coast towards Novaya Zemlya, while the other part flows north-eastwards and into the Hopen Deep (Figure 2.1). South of the Atlantic inflow, the Norwegian Coastal Current flows along the northern Norwegian and Kola coast. The southern part of the Barents Sea is relatively warm, because of the Atlantic and coastal inflows. In the northern area of the Barents Sea, cold Arctic Water flows south-westwards near the surface, which keeps the northern Barents Sea relatively cold. The border between the Arctic and Atlantic water masses is called the Polar Front (Figure 2.1), which is rather stationary and distinct in the west but more variable in the east.

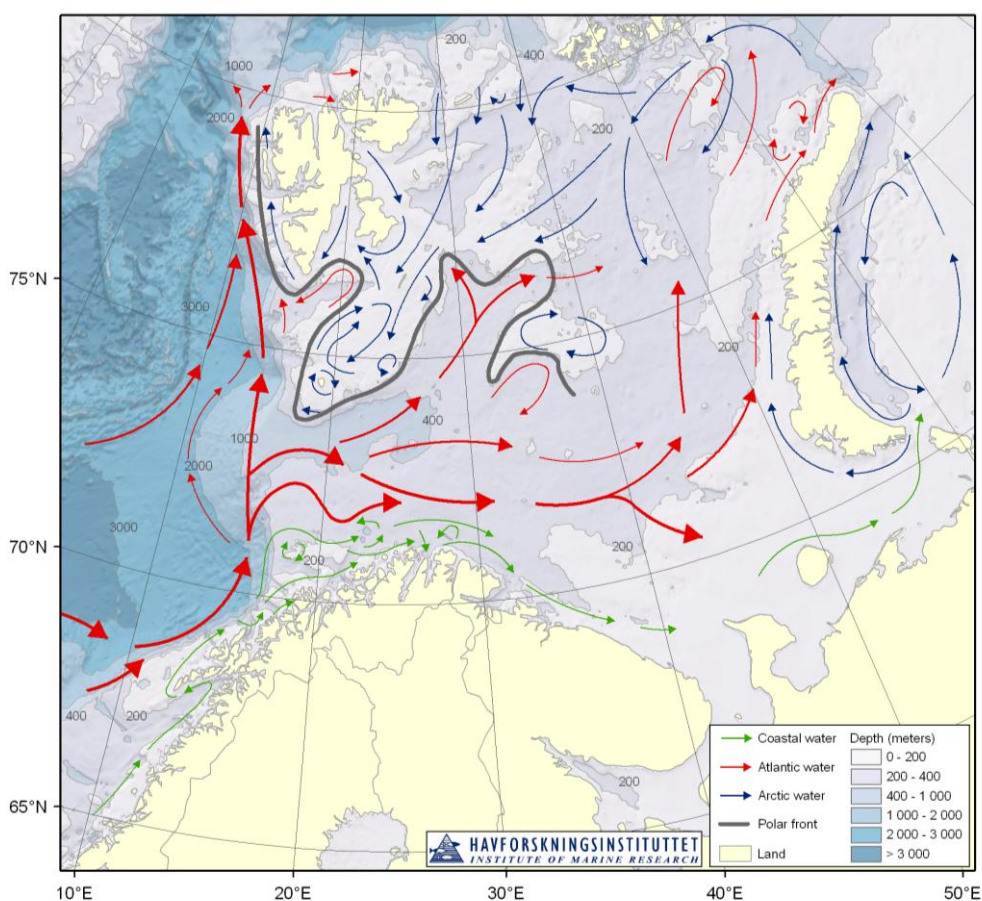


Figure 2.1. Map of the Barents Sea, showing oceanographic and topographic features.

SAMPLING MANUAL FOR THE BARENTS SEA ECOSYSTEM SURVEY (BESS)

The entire Barents Sea and adjacent areas of the Norwegian Sea are surveyed by Norwegian or Russian vessels. The vessels follow predefined cruise tracks along a grid of fixed “ecosystem stations”. The north-south and east-west distance between the grid points is 35nm. Usually sampling at an ecosystem station includes; a CTD-profile, an haul using WP2 net, an haul using a pelagic “Harstad” trawl (“0-group trawl”), and finally a bottom trawl haul with a “Campelen” trawl. At selected stations other gears are employed to collect samples such as; a grab, a box corer, a phytoplankton net, a MOCNESS sampler, a macro zooplankton trawl (“Krill trawl”). Data collected at an ecosystem station are considered to represent a snapshot in time of the physical and biological conditions at the station, even though sampling at a station may take hours, and the ship will move about somewhat due to trawling and drifting.