SJØMIL - The Utsira-West (Orkneys) transect

The transect Utsira-West is located along the 59º latitude between Norway and the Orkneys and then covers the northern North Sea. The transect is a remarkable indicator of changes in climate, nutrients and planktons associated with the waters flowing into the North Sea (southwards) or northwards. The transect covers The Norwegian Coastal Current off Utsira and the significant flow of Atlantic deep-water inflow along the western slope of the Norwegian Trench. In addition, the shelf area between the Trench and the Orkneys are monitored according to winter cooled Atlantic waters (the salinity conditions are relatively homogeneous).

The indices of temperature and salinity for the three listed water masses is calculated by averaging the values over an area within the routinely monitored hydrographical fixed section. The data are mainly from cruises in January/February, April, May, July and November, i.e., five times per year.

Water mass	Stations (longitude, degrees East)	Depth (m)
The Norwegian Coastal Current	3.53 - 5.03	0-20
Atlantic water	2.90 - 3.85	50-200
Bottom water at the shelf	-0.98 - 2.52	50-bottom

Table 1. Stations and depths applied in calculating the indices for temperature and salinity for the different water masses in the northern North Sea.

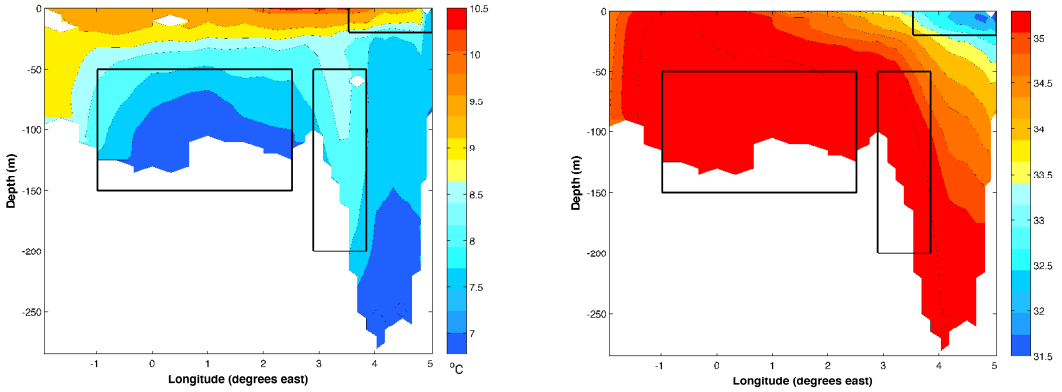

Figure 1. Mean temperature (left panel) and salinity (right panel) from the Utsira-West transect in the northern North Sea based on the period 1981-2010. The horizontal axis denotes longitude, and the vertical axis denotes depth. The black rectangles denote stations and depths for calculation of indices within the water masses.

Reference:

Falkenhaug T, Nash R, Gundersen K, Larsen S, Albretsen J, Heldal HE, Hosia A (2016) North Sea Ecosystem Cruise with RV “Johan Hjort” 9 April – 5 May 2015, Toktrapport/Cruise report, Havforskningsinstituttet, ISSN15036294, Nr. 13–2016, http://www.imr.no/filarkiv/2015/06/toktrapport_okosystemtokt_nordsjoen_2015.pdf/nb-no