



## **Evaluation of properties and transports of water north of the Fram Strait derived from CTD data**

**M. Marnela** (1), B. Rudels (1), A. Beszczynska-Möller (2), P. Eriksson (1)

(1) Finnish Institute of Marine Research, Helsinki, Finland, (2) Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany (marika.marnela@fimr.fi / Phone: +358 (0)9 61394483)

Fram Strait is an important pathway between the Arctic Ocean and the Nordic Seas. The exchanges through the strait have been monitored continuously since 1997 and irregularly for more than 25 years. The dynamic nature of the exchanges, with strong boundary currents on both sides of the strait, time variability, intense eddy activity and substantial recirculation makes it difficult to estimate the fluxes between the Nordic Seas and the Arctic Ocean. Only few complete oceanographic sections have been sampled between Greenland and Svalbard north of Fram Strait beyond the recirculation area, the Oden 1991 section and Polarstern 2004 section taken during the ASOF program being the most complete. Some less complete sections like the Polarstern VEINS section taken in 1997 and the Oden section from 2002 also exist. Here the characteristics of the water masses north of the Fram Strait are examined and compared with the properties observed in Fram Strait at 79°N as well as with the properties observed in the interior of the Arctic Ocean in order to determine the origin of the water masses. To separate the through flow from the recirculation a box is formed of the 2004 sections north of the strait and at 79°N. Geostrophic computations with conservation constraints are used to determine the fluxes of volume, heat and freshwater as well as the transports of different water masses.