

# **THE TEMPORAL VARIATION IN THE MEIOBENTHOS ALONG A BATHYMETRICAL GRADIENT ('HAUSGARTEN', ARCTICA'): IMPACT OF CLIMATE OSCILLATIONS**

Hoste Eveline<sup>1</sup>, Thomas Soltwedel<sup>2</sup>, Sandra Vanhove<sup>1</sup> and Ann Vanreusel<sup>1</sup>

<sup>1</sup> Section Marine Biology, Department of Biology, University of Ghent  
Krijgslaan 281 S8, B-9000 Ghent, Belgium  
E-mail: eveline.hoste@UGent.be

<sup>2</sup> Alfred-Wegener-Institut für Polar- und Meeresforschung in der Helmholtz-Gemeinschaft,  
PO Box 120161, D-27515 Bremerhaven, Germany

In 1999 the Alfred-Wegener institute started a long term (10 years) sampling campaign of the 'Hausgarten' site 79°N, North Pole. Meiobenthos samples are taken between 1000 and 5500m depth and the samples of the first five years will be analysed in this study. The aim is to make a statistical model that allows predictions of the changes in the meiobenthos ecosystem in relation to variation in environmental parameters linked to climate oscillations (e.g. NAO, ENSO) and global warming. Models will be adjusted according to the answers to following questions:

1. Are there annual differences in meiobenthos composition in the Arctic region and can these differences be linked to changes in physical and biological environmental parameters, such as oxygen concentration, temperature food supply?
2. Is there a relation between changes in meiofauna community structure and environmental parameters along the bathymetrical gradient?

Emphasis will be on nematodes and copepods, the most abundant meiofauna taxa, which will be identified up to species level. Density, biomass and productivity, diversity ( $\alpha$ -,  $\beta$ -  $\gamma$ -diversity) will be assessed. These data will be analysed using variance analysis, correlation and regression analysis and multivariate techniques.