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Title: *The temporal dynamics in the deep-sea nematodes community along a bathymetric gradient (Fram Strait): impact of climate changes*

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Although research over the past decades has significantly increased our knowledge about deep-sea ecosystem and discoveries revealing high biodiversity and dynamism of this ecosystem, much more needs to be learned. One of the general interests to ecologists is patterns of diversity, distribution and functioning of smaller infaunal species. The diversity of the small meiobenthic organisms living on or in the sediments of the deep seafloor is now believed to sometimes rival that of tropical forests or coral reefs, while reasons and our overall understanding of this high diversity remain scarce. Nowadays this problem is getting even more important, when worldwide changes in biodiversity are occurring.

Region, which is highly exposed to environmental changes, is Arctic. In this context, seasonally ice-covered areas are of special interest, since they are more productive than other regions, those almost permanently covered by multi-year ice. The Marginal Ice Zone, which is influenced by both Atlantic and Arctic waters, is the key productive area of Arctic seas. As part of multidisciplinary study at the Hausgarten site, coordinated by AWI, we focused on the impact of changes in food supply, in addition to other environmental variables, on the smallest sized bottom fauna- the meiobenthos, along a bathymetric transect from Vestnesa Ridge (1200m) up to Molloy Deep (5500m), over a period of 5 years. Since this transect is running parallel to the retreating Ice Margin it is expected that this area will be impacted by changing ice conditions. This study is emphasized on the deep-sea nematodes, which despite their unquestionable importance in deep sediments, are still rather a white spot in deep-sea research. During presentation structural and functional composition of nematodes will be discussed, based on data set covering five consecutive years, together with comparison with data from preceding years. Thus, we will be able to discuss the longest time-series results of nematofauna done in the deep sea.