

Interactive comment on “Spatial distribution of benthic foraminiferal stable isotopes and dinocyst assemblages in surface sediments of the Trondheimsfjord, central Norway” by G. Milzer et al.

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Before submitting the revised manuscript and according to my short comments to the reviewers' comments please find as follows the main modifications implemented in the final manuscript:

1) Due to limited access to published environmental data in the trondheimsfjord, I am not able to provide all the information that was asked for by G. Schmiedl. However, I added in the final version as much information as possible on temperature and salinity

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variability, primary production and surface circulation (Chapter 2: Physical settings and oceanography). In order to provide an overview on the seasonal average temperatures and salinities I added a table which displays the seasonal average temperature and salinity data with regard to each mooring station in the Trondheimsfjord (new table 1). Furthermore I added an additional image to figure 2 (B) which shows the general and simplified pattern of the surface circulation in the fjord during high and low tides.

2) The chapters (3.2; 4.2) dealing with the benthic carbon isotope ratios were extended with regard to the microhabitat of the foraminiferal species and changes induced by organic matter degradation and the related pore water chemistry.

3) Furthermore, the discussion section on the dinocyst assemblages (4.3) was modified with additional discussion on the species-specific preservation ability.

4) I added a fourth paragraph (4.4 Anthropogenic impact on the modern surface samples) in order to discuss a potential human impact on the proxies and to evaluate their ability to reflect modern natural environmental conditions. With regard to the one purpose of the manuscript (ie. Proxy validation for further research on Holocene climate variability), according to the review comments by G. Schmiedl we agree on the importance to discuss a potential impact of industrial and agricultural activities on the proxy signature.

5) Figure 4: I removed the sample numbers in the figure itself since they are displayed on both x-axis acc. to suggestions by G. Schmiedl.

6) I did not consider interpolation between the data points in figure 3 and 8 because I extensively discuss the spatial variability of both the benthic stable isotopes and the dinocyst assemblages in the fjord. I therefore consider that an interpolation between the data points is somehow contradictory to the spatial heterogeneity of the presented data sets.

7) I did take care of the formatting and missing references in the initial version according

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to the comments by reviewer 2

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