Dear Editor,

thank you for your helpful comments and suggestions. We added your suggested references and corrected errors and added information on the transfer function. We corrected the diatom grouping (*Neodenticula* was misinterpreted, it is *Denticulopsis* and now shifted to the reworked diatom group, although *Odontella weissflogii* is not a sea ice indicator it is known to appear in sea-ice covered areas). We decided to not go further into the details and speculate about the 3000 years cyclicity of the TEX86L data as we haven't seen this cycle in other proxies in our sediment core.

The arrangement of data in the figures was quite a challenge and we see that the reader must sometimes jump between figures. We have tried out all possibilities by arranging data in one mega-figure (very messy, 15-20 graphs in one figure) and splitting the data into numerous smaller figures (much more jumping between figures or doubling of data in several figures). By grouping the data into geochemical (Fig. 3), sea-ice related proxies (Fig. 4) and comparison with other temperature records (Fig. 5) we found that this arrangement is best to follow the discussion.

Kind regards in behalf of all authors, Maria-Elena Vorrath