

Interactive comment on “Late Glacial to Holocene environments in the present-day coldest region of the Northern Hemisphere inferred from a pollen record of Lake Billyakh, Verkhoyansk Mts, NE Siberia” by S. Müller et al.

S. Müller et al.

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We acknowledge the positive review of O. Peyron (Referee #2) regarding our submitted manuscript. All suggested changes are constructive and will be addressed in the revised version of the manuscript. Below we placed our reply to the questions raised by Referee #2.

General comments 1.more informative in the abstract (biomes, results and their interpretation) - We added the information according to the reconstructed biomes. We think the abstract is in the moment informative and short (315 words).

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Could you add a map with all the other sites mentioned in your discussion for comparison with Lake Billyakh? And also if possible, a table will be welcome including the major trends and patterns of the climate changes inferred from these different sites. The comparison with the Lake Billyakh results will be easier. - we indicated sites discussed in chapter 5 in the map - we added a table with major vegetation changes and climate trends (if available) in a table (Table 3) in the new version of the manuscript

At the end of you introduction, could you be more precise on which scientific questions you will answer with your study, especially on the lateglacial context? - accepted and added

Why the pollen percentages (fig. 3) are illustrated with unusual histogram bars, and not classical curves? A choice of curves-representation should be more appropriate, in particular to depict the short-term events of the Lateglacial in the curves. Also in Fig 3, could you add directly the Lateglacial different events (Younger Dryas, Bolling/Allerod, Holocene) mentioned in the text on the pollen diagram? - Wet hink for this resolution bars are much more precise, curves were used to present the sum of trees, shrubs and herbs - Events discussed in the paper are added in Fig. 3

In this pollen diagram (Fig3), the authors also show the NPP and Chironomids variations, which is quite exciting to compare with pollen changes. However, they not mention in the text how they did these analyses, why, the protocol, and the most important, how do they interpret these results? The NPP and the Chironomids taxa have been determined of not? The chironomids could help to the interpretation in terms of climate changes. Please could you add more information on these results, in the text and the discussion? - I counted chironomid remains directly in the pollen samples, but I cant identify them. Thus they havent been determined. Which NPP were identified you can find in the appendix A. Not all results could be included in the discussion. It is furthermore planned to publish the NPP results in detail together with the results from other two cores from Lake Billyakh.

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In the table 1, the same taxa seem to define the biomes TAIGA and COCO. How do you distinguish between these 2 biomes? -in the table only this taxa are listed which were actually found in the record; taxa like for instance Corylus and Carpinus, which contribute to the COCO biome havent been found (details, including the equation used to calculate biome scores and discussion of the taxa attribution to the PFTs and to biomes are provided in Tarasov et al., 1998)

In your text, you only mention the Allerod period as the first Lateglacial warming. Could you check you chronology, and mention better the Bolling/Allerod as in other terrestrial sequences? - accepted and changed

Technical points In the abstract, could you remove (1 kyr = 1000 cal.yr)? This precision is already mentioned in your introduction. - accepted and corrected p1241, line13, please check your sentence (181 mm? not clear). - accepted and corrected p.1250, line 25: BP and not PB - accepted and corrected

On behalf of all co-authors Stefanie Müller

Interactive comment on Clim. Past Discuss., 4, 1237, 2008.

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