

## ***Interactive comment on “Impacts of climate and humans on the vegetation in NW Turkey: palynological insights from Lake Iznik since the Last Glacial” by A. Miebach et al.***

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Dear Laura Sadori,

Thank you very much for your valuable comments and positive evaluation of our manuscript. We considered your suggestions and implemented them as follows:

1. We rephrased the final paragraph of the introduction to clearly separate it from the results.
2. We added radiocarbon dates and tephra positions to the pollen diagram with selected taxa (figure 4). Moreover, we indicated the dated material.

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3. We added information and literature as suggested in your attached file about the Avellino Pumice (AP) tephra. Furthermore, we clarified its important role for comparing different paleorecords.

4. We added a map with the archaeological sites mentioned in figure 7.

5. We added additional literature as suggested in your attached file regarding a) the evidence for olive cultivation, b) the climate event around 4.2 ka BP, and c) the possible indicative role of Asteraceae pollen for grazing.

6. We corrected spelling and grammar mistakes marked in your attached file, we rephrased unclear sentences, and we added the age interval for Dansgaard-Oeschger (DO) event 2.

Thank you for your contribution about the identification of *Arbutus* (Ericaceae). We evaluated the Ericaceae pollen again and identified them to a lower taxonomic level. We identified them as *Vaccinium* type according to Beug (2004), which includes several Ericaceae genera, e.g. *Vaccinium*, *Erica*, and *Rhododendron* but not *Arbutus*. However, *Rhododendron* species, which occur in Euxinian forests (Zohary 1973), can be excluded due to their pollen size. Whereas *Erica* is very likely represented in Lake Iznik's pollen record, because it is a common genus of the Mediterranean macchia vegetation (Kürschner et al. 1997). Therefore, we changed the respective text passages.

We appreciate your concerns that some slight mesophilous arboreal expansions can be ascribed to precise Dansgaard-Oeschger events. However, Roeser 2014 already identified and described different DO events based on multi proxy analyses (geochemistry, mineralogy, grain size). Thus, our observations complement and confirm former results. We strengthened this argument also in the manuscript.

Kind regards,

A. Miebach on behalf of all co-authors

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