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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.

Anonymous Referee #2

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General comments: This paper presents a paleoenvironmental study in the Marmara region in Turkey that is based on the pollen analyzes of a composite profile covering the last 31 ka cal BP. The manuscript provides very interesting details about the vegetation changes since the Last Glacial period until the more recently human-impacted Bronze and Hellenistic periods. The data shows these changes with a fairly high resolution. The chronology seems to be robust (published earlier).

My main concern is that the overall presentation and discussion of the data is rather focused on the vegetation changes (through the pollen assemblages) and the impact of environmental changes (catchment basin) than on quantified climate variables. The

authors propose correlations with well known climate events (Dansgaard-Oeschger events) which provides some hints on the past climate changes. However, it remains a "descriptive" correlation in terms of climate changes since it only discusses the inferred impact on the vegetation. The scope of the "Climate of the Past" journal is (1) the reconstructions of past climates; (2) development and validation of new proxies; (3) theoretical and empirical studies of processes in and feedback mechanisms; and (4)simulations of past climates. If I may, the topic of this paper (although very interesting) does not fit the scope of the journal. I let it to the editor to take this remark into account or not.

Specific comments: Having said this, I found the paper very interesting and provides a very nice and intergative view of the environmental and vegetation changes in the area. I have only very minor comments.

- page 5164, line 15 "The composite profiles IZN05/SC4E&LC1 and IZN09/LC2&LC3 could be clearly correlated through Ca=Ti ratios". I think that a figure showing the XRF data for correlating the different sections along with the position of the dates (both 14C and tephra) would be helpful for evaluating the robustness of the chronology of the three composite profiles.

- What is the significance of aquatic plants in these corings which are retrieved in the middle of the Marmara sea?

- Dinoflagellates are used in the interpretation/discussion but there is no figure that shows their countings/proportions in the composite record? Have they been published elsewhere, if so then please cite.

- page 5167, line 12: "These rapid vegetation changes can be correlated to Dansgaard–Oeschger (DO) events DO-4 and DO-3". Actually, figure 6 shows a rather mismatch between the pollen data and the NGRIP 18O record.

- page 5169, line 27: "Peaking values of the magnetic susceptibility are ascribed to

CPD
11, C2645–C2647, 2015

the deposition of the Y2 tephra" that is dated at about 22ka but there is an even more marked peak between 12ka and 13ka (figure 5). Does this peak also correspond to a tephra layer?

Interactive comment on Clim. Past Discuss., 11, 5157, 2015.