

Interactive comment on “Stratigraphic analysis of lake level fluctuations in Lake Ohrid: an integration of high resolution hydro-acoustic data and sediment cores” by K. Lindhorst et al.

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Comments on the manuscript “Stratigraphic analysis of lake level fluctuations in Lake Ohrid: an integration of high-resolution hydro-acoustic data and sediments cores”

General Starting from the impact of depth fluctuations on biodiversity – especially in coastal and shallow parts – K. Lindhorst and co-authors propose a convincing seismostratigraphic analysis of Lake Ohrid’s sedimentary fill. High resolution hydro-acoustic images are combined with gravity cores for the analysis of Late Quaternary

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sedimentation in one key-area of the lake. Powerfull and up-to-date tools for core analyses (including dating) have been used. Significant changes in Lake Ohrid’s area and depth could be detected applying concepts of marine sequence stratigraphy. Especially major events could be correlated to marine isotopic stages 5 and 6. Writing is concise and illustration adequate, references list is rich and adequate. One major point of uncertainty concerns the fact that Lake Ohrid corresponds to an active graben and tectonically-driven geometrical modifications cannot be ruled out. Generally speaking, paleo-precipitations reconstructions are very few with respect to paleo-temperature investigations; and long-lasting lacustrine systems – as Lakes Ohrid and Prespa – represent highly valuable records of hydrological changes.

Formal remarks - “karst lake” may not be the most adequate term as it suggests the lacustrine space/volume was created by karstic process (dissolution); Lake Ohrid depression seems basically from tectonic origin. As underlined by the authors, water supply, at Present, comes mainly (50 %) from karstic circulations - Suggested possible title: “Water level fluctuations in Lake Ohrid (F.R. of Macedonia): stratigraphic analysis based on high-resolution hydro-acoustic imagery and sediments cores” - p. 3662, line 14: I prefer “bio-induced calcite” rather than “authigenic” - p. 23-24, attributing mass movement (or deeper redeposition) to low stand situation is part of marine sequence stratigraphy concepts at large scale and I agree, for the described case, with the need to discuss a punctual sedimentary process. The lack of grain size vertical evolution may point out a temporal grain flow driven by bottom current if the sediment lacks fine matrix; if there is a fine grain matrix, an instantaneous event of reworking must be envisaged depending on content provenance. - Figure 7. I understand the presentation of B/C correlation is convenient as of reduced size. However, the major point to be demonstrated is the statement of these correlation, and may be the complete profile should be presented ? The possible deep prolongation of subaqueous landslides could be also checked.