

***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.***

M. Strasser (Referee)

mstrasser@uni-bremen.de

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This clearly and concisely written paper presents excellent new results from high-resolution acoustic data (parametric echosounder, multibeam, sidescan scan sonar and multichannel seismic) and core data (lithology, geochemistry and chronology) reconstructing past lake level changes in Lake Ohrid. The presented data and inferred lake level reconstructions allow the authors to convincingly link their findings to changing paleoclimate conditions and to discuss effects of lake level changes on the expansion of endemic species within ancient Lake Ohrid, which is known for its high

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degree of endemic diversity. This study thus makes some important new advancement on understanding and quantifying past hydrologic conditions of Lake Ohrid, how it related to paleoclimate and its effect on biodiversity. I thus think, the paper addresses relevant scientific questions within the scope of the special issue on Lake Ohrid in Biogeoscience.

The data presented are novel, the scientific methods used valid and clearly outlined, and results are sufficient to support the interpretation and substantial conclusion. The overall presentation of the study is well structured, clear and written in a fluent and precise English language. Both abstract and title provide a concise and complete summary and clearly reflect the content of paper. The authors give proper credit to related work and the number and quality of references is appropriate. Figures and Tables presented are in excellent quality.

Having said this generally very positive evaluation, I do have, however, several comments concerning details of data description and inferred interpretation (see specific comments #1-5 in the attached pdf file). In particular, what I have missed is a more objective discussion about uncertainties and possible alternative interpretation. Also, I challenge the authors interpretation of one of their seismic units and lithological facies (seismic unit G, lithofacies II). In fact, I think that a more thoughtful interpretation/discussion on this may allow the author to elaborated more on the early stage of the last glacial period providing additional strength to the paper. I do not think that a substantial amount of additional work is needed here; yet the authors may want to demonstrate that it is their careful evaluation of their data along with discussion of uncertainties and alternative interpretation that make the new scientific advancement of this paper to be sound and of high scientific standard.

In conclusion, I strongly recommend that this paper merits publication in Biogeoscience after revision. In the attached pdf-file, I have listed some specific comments and suggestions that should be addressed. There are also a number of minor comments, corrections and suggestions for improvement that I have listed line by line in the technical

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comments below.

Michi Strasser

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/7/C1437/2010/bgd-7-C1437-2010-supplement.pdf>

Interactive comment on Biogeosciences Discuss., 7, 3651, 2010.

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