Hydrol. Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/hess-2017-317-AC1, 2017

Hydrology and Earth System Sciences
Discussions
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Interactive comment on "Hydrogeological effects of dredging navigable canals through lagoon shallows. A case study in Venice" *by* Pietro Teatini et al.

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Received and published: 27 July 2017

We are grateful to Reviewer #2 for the generally positive evaluation of our work. To improve the quality of this manuscript, we carefully revised the text by incorporating the comments one by one. The detailed revisions are presented in the responses to each comment.

Comment 1: The manuscript is very extensive and its reading is complicated in the current format. I suggest clearly indicating the methodology, results, discussion and conclusion in separate items.

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Discussion paper

Response: The manuscript has been updated following this reviewer suggestion. The new structure comprises the following sections: available data, modelling, results, discussion and conclusion.

Comment 2: Add a more detailed description of the chemical results. I understand that labile oligoelement is that fraction of sediments that is readily transformed into soluble. But, is really soluble when the ship transits on the channel? Justify the desorption of these elements.

Response: Section 2.3 has been integrated with a more detailed description of the chemical characterization. It has been specified better that the labile fraction is readily exchangeable and therefore can be immediately moved as soon as the pressure wave generated by a ship transit increases the groundwater flow toward the channel. Two new references have been added to help keep the section with a length comparable with those of the other issues.

Comment 3: I suggest inserting the sediment chemistry data into the profiles of Figure 2 and deleting Tables 1 and 5.

Response: Table 1 has been removed with the profiles added in Figure 2 (new insets, Figure 2c). Conversely, we prefer to keep Table 5 for clearness.

Comment 4: Replace mg/l per mg/L.

Response: Done.

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