Hydrol. Earth Syst. Sci. Discuss.,
doi:10.5194/hess-2016-207-RC1, 2016

Hydrology and Earth System Sciences
Discussions

Interactive comment on "Determination of heavy metal fractions in the sediments of oxbow lakes to detect the human impact on the fluvial system (Tisza River, SE Hungary)" *by* M. Tamás and A. Farsang

Anonymous Referee #1

Received and published: 9 August 2016

This manuscript could be of interest to researchers within the field of environmental chemistry. The authors present a comparison of metal contamination of sediments in two types of oxbow lakes, with a detailed description of the sequential extraction methodology adopted in the analyses. However, I have some serious reservations of suggesting publication in its present form. There are two inherent weaknesses in this manuscript. First, the paper focuses too much on presenting the analytical results. There is almost no discussion about the environmental implications of the findings. This limited approach is also a major drawback due to the relative importance of some biogeochemical processes, which are not taken into account in this work. Second,

there are several language issues throughout the text, making it sometimes difficult to understand what the authors are attempting to say. There are also several spelling errors. The paper would thus benefit from a thorough revision.

There are also problems with the structure of the paper. The objectives are not clearly stated. Methods are described in the introduction and new results are presented in the discussion section.

Other minor problems include:

Abstract:

-lack of definition of BCR when it first appears.

Introduction:

-the description of oxbow lakes is not very clear, especially the ones "inside the dams", it took me a while to understand what were the dams;

-references are sometimes displayed incorrectly in the body of the text and do not correspond to what is listed in the respective section (ex. Tamás et al., 2012, instead of Tamás and Farsang, 2012).

Study area:

- for those unfamiliar with the study region, some descriptions are not very clear, for example, "cutoff number 84 in 1860"; the authors should provide some explanation;

-a description of Lower-Tisza area characteristics that could influence the findings should be presented, including factors leading to the contamination of the oxbow lakes;

- Figure 1, which illustrates the study area, needs to be improved. It lacks an overall reference of the study area location, a clear scale, and a legend indicating what the lines represent.

Results:

-results in paragraph 1 are associated to references of other studies. The results presented are not original? Or what is the innovative aspect of the work under review?

Discussion:

-as mentioned before, in the discussion section, processes that can influence the observed results and differences between oxbow lake types are very poorly explored.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-207, 2016.