

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 #2

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The topic of the paper is relevant for HESS. The title is not clearly reflecting to the contents: Title refers to the whole fluvial system of the River Tisza while paper focuses on the oxbow lakes in the Hungarian section of the river.

This paper provides new data about oxbow lakes of the River Tisza. Applied techniques are include standard procedures.

Formulae, symbols, abbreviations, and units are mostly correctly defined and used. (Exceptions are indicated in the pdf) Number and quality of references is appropriate. Amount and quality of supplementary materials are appropriate. Language is not fluent

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and precise.

Paper introduces a nice study. Authors have significantly new results but the conclusion is missing. Present manuscript should be complemented with a conclusion.

The aim and the assumption of the research is not clearly outlined. However these can be found in the text. Sampling strategy and sampling techniques are adequate. Analytical methods are conventional. Mathematical method is appropriate. Authors use a parameter (B value) of a Hungarian regulation legal rule (6/2009 KvVM-EüM-FVM) as a standard (5 page, line30). This kinds of measures are a compromise. This rule and value is primarily serves the activities of authorities and the administration but it is not for science. The application of the geochemical background would be more informative. Several papers published about determination of geochemical background of metals.

Results of the paper deepen knowledge about the status of the degree of (heavy) metal pollution in oxbow lakes along the River Tisza. But some of the observations are not explained and discussed. E.g.: page 8 lines 19-29: Observations: difference in mobility order in sediments between two kinds of oxbow lakes. Explanation of the phenomenon is missing.

The description of the methods and the scientific work is mostly complete and precise. Description of sampling is correct. Section of lab methods is more detailed than the required. Data processing is acceptable. The sequence of the methods is not appropriate (see in the pdf).

The paper is long-winded. There are some confusion within the chapters (e.g: sequence of methods) and some results appear in the discussion (page 8 lines 19-29).

Introduction is too long. Several lines deal with the history of sequential extraction methods. I recommend to eliminate: page 2. Lines 39-40, Page 3 lines 1-26.

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Please also note the supplement to this comment:
<http://www.hydrol-earth-syst-sci-discuss.net/hess-2016-207/hess-2016-207-RC2-supplement.pdf>

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