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MORPHOLOGICAL ALTERATIONS DUE TO CHANNELIZATION ALONG THE LOWER TISZA AND MAROS RIVERS (HUNGARY)

ABSTRACT: SIPOS GY., KISS T. & FIALA K., *Morphological alterations due to channelization along the lower Tisza and Maros rivers (Hungary)*. (IT ISSN 1724-4757, 2007).

The effects of the the 19th century river channelization were studied on approximately 20 km long sections of the Tisza and Maros Rivers. Large scale human impact on their morphology was almost simultaneous. Regulations of the 19th century followed uniform plans, but the response of the rivers was different. This can partly be explained by their different hydrological characteristics (slope, discharge, sediment) and partly by the differences in further human interventions of the 20th century. Engineering works were almost continuous in case of the Tisza, but the studied Maros reach became a border river at the end of World War I and it has remained untrained since then.

Human impact and its morphological results were divided into three phases along the Tisza (natural phase, post cutoff phase, post bank stabilisation phase) whereas in case of the Maros two phases were identified (natural phase, post cutoff phase). The different responses were also evaluated from the point of view of morphological stability. Based on the rates and direction of changes we found that subsequent to 19th century human impact the Tisza started to give a robust answer, however, by further interventions these answers have been blocked in the long run. In case of the Maros human impact induced a sensitive answer in the short run, which might gradually turn into a robust answer in the long run.

KEY WORDS: River channelization, River response, Channel morphometry, Tisza and Maros Rivers (Southeast-Hungary).

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