

Interactive comment on “Morphology of Tigris River within Baghdad City” by A. A. Ali et al.

Anonymous Referee #1

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General comments

The authors compared river cross-sectional data from three different surveys and carried out 1D steady-state hydraulic simulations using HEC-RAS. The work is rather standard, similar to technical work carried out routinely at river management authorities. There are no new concepts, ideas or methods that would carry any scientific significance. Potentially, the cross-sectional data could arouse some scientific interest if the data from all surveys would be made available to the scientific community, but the data have not been made available. This has led to the rating "poor" for scientific significance".

The approach and the methods applied are valid, but neither remarkable nor innovative. The results of the study confirm textbook knowledge or represent simple invento-

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ries (such as: "the number of obstacles is higher in 2008 than in 1976 and 1991"). The references to work on the Po, the Rhine and Polish mountain rivers are arbitrary and inappropriate. They are arbitrary because numerous studies on similar phenomena have been carried out well before 1996, 2002 and 2002. They are inappropriate because the hydraulic simulations for the Rhine using SOBEK were essentially unsteady, unlike the present work, and because the huge dams on the Tigris are quite different from the retention or storage polders along the Rhine and the Po. Taking all considerations together, this leads to the rating "fair" for scientific quality.

Line 5 of page 5673 refers to Figure 1 for the drainage area, but the figure shows only international state boundaries and main river courses, without delineating the river catchment boundaries. Section 2 on page 5674 discusses differences between 2000–2010 discharges and discharges prior to 2005 as well as flood discharges in 1971 and 1988, but the corresponding Figure 2 shows only data for the period 2000–2010. The use of the English language requires improvements of spelling and grammar (please pay attention to the use of "popular" in line 5 of page 5678: is the intended meaning really "popular" (= appreciated by many) or rather "populated" (= inhabited by many)?). These considerations lead to the rating "fair" for presentation quality.

The title is imprecise as it suggests a morphological study. However, the work does not present a solid study of bed evolution by erosion and sedimentation. The work consists basically of comparing old cross-sectional data with new ones and of calibrating and applying a hydraulic model. This should be reflected in the title by omitting the word "morphology".

The aforementioned points lead to the recommendation to reject the paper for publication.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 5671, 2012.

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