

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

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Received and published: 26 July 2012

Dear Dr. Paron Thank very much for your comments. We think they are very important to consider for improving our paper. We worked hardly to answer all your comments even they cost us to travel to Iraq to collect some data or conduct some measurements.

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

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Answers to the Comments of Paolo Paron
Dear Dr. Paron.

Thank you very much for your comments. We think they are very important to consider for improving our paper. We worked hardly to answer all your comments even they cost us to travel to Iraq to collect some data or conduct some measurements. Unfortunately, few of your comments we could not answer because we don't have answers for them now. The small highlighted questions and comments in yellow color were answered implicitly in the revised version of the paper by adding a text/figure or modified the text itself.

It seems that the authors here wanted to focus on the hydrologic (and hydraulic) part of the modeling more than on the morphological modeling.

When we submitted the paper for the journal, we don't have any information or data about the sediment in the river, these measurements had been stopped in 1985 and no more activities resumed due to various reasons and security reason is the most important one among them. Due to this yes we were inclined to give more importance to the hydrologic-hydraulic part. Now we were allowed to collect some samples from bed material to add a piece to the picture and we intend to do more measurements for the sediment in few coming months.

The classification of 'instable river' (chapter 4) is questionable: what is a 'stable river' according to the authors? Is it there any river -similar in size and discharge to the Tigris- that does not shows processes of deposition and erosion?

The term "instable river" was used by Geohydraulique (1977) and University of Technology-Iraq (1992) in their classification to Tigris River, and the historical behavior for the river along decades supports this classification. We agree with this classification.

the data series of discharge (liquid and solid) and of morphology are not consistent: the morphological data (1976, 1991, and 2006) and the discharge data (2000-2010) have different time windows making difficult if not impossible to correlate the cross sections of the year 1976 and 1991 with the discharge data here presented only for the interval 2000-2010.
In the revised version, we extended the discharge series starting from 1960 till 2010.

If allowed, an annex with the data used would improve a lot the paper and the reader in understanding the limitations and constrains of working in an environment like the Tigris River in Iraq.

We think that we presented enough information about the river by figures of average monthly discharge series, longitudinal river bed profile and the cross sections of the most important gauging station in Baghdad (Sarai Baghdad), more data it does not mean too much for the paper.

What do you want to highlight here? It is difficult to follow the relations between mean daily discharge and flood discharge

We want to highlight the dramatic drop in the discharge recently. We did that by comparing mean daily discharges and flood discharges for the past twenty years.

How have these survey been done? Are the data coming from: eco-sounder, ADCP, bathymetric survey... All of them have been recorded with the same method/equipment? or where they collected in different ways?

In 1991 and 2008, the surveys were conducted by levels or total station for the un-submerged land part and echo sounder for inundated part.

Fig. 1.

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