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www.hydrol-earth-syst-sci-discuss.net/8/C4344/2011/

Hydrology and Earth System Sciences Discussions

Interactive comment on "Spatial stochastic and analytical approaches to describe the complex hydraulic variability inherent channel geometry" *by* N. Hadadin

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Dear Reviewer 2

I would like to thank you for reviewing the article. Please find below your comment versus the correction made (Corrections are shown in a red-colored text).

Regards,

1)comment: it seems that the accuracy of the estimates of the flow discharge in the streams CEM Types IV and V is questionable, while the accuracy of the estimates of

the flow discharge in the streams CEM Types II and III is reasonable.

reply: the discrepancy ratio between (0.5-2) in some hydraulic research may be acceptable that is the ratio between measured and predicted value. The reviewer took only one example of Abiaca CEM Types IV and V, but, for example if he takes the (Huffman stream the measured Q is 32 m3/s and calculated Q is 30 m3/s) the result will be more reasonable. A discrepancy ratio between 0.5 and 2.0 was considered an acceptable range for determining the accuracy of computed flow depth and flow width to observed measurements (Julien and Wargadalam, 1995).

2)comment: I think the accuracy in predicting the hydraulic variables (flow discharge, width, depth, longitudinal slope... is more reasonable in the streams CEM Types II and III than the streams CEM Types IV and V, would the author consider that in his discussion.

reply: this finding will be presented in the revised paper

3)comment: The paper suggests a power relation between the drainage area and the average annual streamflow, however what would the case when one likes to estimate the annual streamflow given the drainage area in the case of low precipitation or high precipitation year.

reply: the power relation is used the flow discharge not rainfall, however there is the relation between stream flow and the precipitation and this need further research and this idea doesn't present in this study because its different from our scope and objective. You can present the same idea and conduct hydraulic relation for low stream flow and high stream flow if the data are available during wet and dry period.

4)comment: It seems that table 4 is a duplicate of table 3 or the other way around, would the author correct them.

reply: thanks for this comments, this mistake arise from journal team who prepare the manuscript, this is not my fault, however, these tables are corrected.

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5)comment: Moreover, in tables 1 and 2 the abbreviation A should be corrected to DA that refers to the drainage area.

reply: they are corrected

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/8/C4344/2011/hessd-8-C4344-2011-supplement.pdf

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 6967, 2011.