Hydrol. Earth Syst. Sci. Discuss., 5, S2670-S2671, 2009

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Interactive Comment

## Interactive comment on "Modeling for transboundary water resources planning and allocation" by D. Juízo and R. Lidén

D. Juízo and R. Lidén

Received and published: 14 April 2009

First we would like to apologize for this delayed response to comments presented by referees to our paper. However, issues out of our control have made it difficult for us to react on time.

We thank Prof. van der Zaag for the time spent reviewing our paper and the comments presented. Responses to comments, where appropriated, are given in following paragraphs. In general the comments presented do not require specific feedback. Therefore, we have accepted and updated our paper in line with these comments. However, there are few other comments that we would like to respond to as follows: The issue of model complexity can be seen in two ways (i) were we are looking at the type of interactions that are modeled and (ii) the way these interaction are mathematically

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modeled. In the first instance the model complexity is strictly related to the simplification/conceptualization of the process adopted by the modeler while in the second is the way he represents the relationship in his model. The author wanted to present the second instance of the two where we suggest that putting the mathematical formulation in macros results in some level of complexity since the calculation steps are moved far away from the user when compared to the case where the functions are embedded in the cells. To understand which cells are affected by a given macro it requires some higher level of understanding of programming and good knowledge of how macros operate. Having said this we do agree that WAFLEX can indeed model far more complex systems of feedbacks than it can be imagine at first and the current paper as attempted to demonstrate it partially. The role of macros in reducing transparence is also presented in line with the discussion in the previous paragraphs. It requires some level of understanding in order to know which cell is affected by each of the macros calculations. Overall, it is true that by resorting to formulae in each cell there is a greater risk of introducing many mistakes and can also lead to extreme difficult in correcting the mistakes in the model.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 475, 2008.

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