**Hydrology and Earth System Sciences Discussions**

# *Interactive comment on* "Process-based distributed modeling approach for analysis of sediment dynamics in a river basin" *by* M. A. Kabir et al.

**Anonymous Referee #1**

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Comments:

In general the paper presented interesting features of distributed hydrologic and sediment transport modelling. The paper presented model development in details and calibrated the model for two catchments. The paper warrants publication in the HESS journal, subject to following corrections:

1. Several equations were used; however parameters in the equations were not defined. A list of symbols is required to be appended with the text.

2. In Table 2, two parameters 'A' and '$A_s$' were used, however not defined. My understanding, these would be same, as in a sediment laden flow, area of the flow of water and area of the flow of sediment will be same, unless a stratified model is used (which is not in this case).

3. Sediment flow ($Q_s$) was defined as $m^3/s$. This is not a correct unit for sediment flow; it should be defined as Kg/s or some similar unit.

   (a) Figure 4 contains lots of clumsy parameters, which are inelegible. It should be presented in clearer format.

   (b) In Figure 18, simulated peak 'Q' value is out of the range of the graph. It should be fitted within the graph range.

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