

Interactive comment on “Numerical simulation of levee breach by overtopping in a flume with 180 bend” by S.-T. Dou et al.

Anonymous Referee #2

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The authors have presented a 2D SWE based model for dam/levee breaks while incorporating sediment transport. It has the capability of advancing State of the Science if the authors show certain capabilities listed in specific comments.

General Comment: 1) The introduction portion is unduly expanded. Researchers/practitioners reading this work can be expected to be familiar with most of the literature presented. I would recommend taking out most of the introductions and leaving the bare meat.

Specific Comments: 1) In section 2.1 Wu et al are credited (through a reference) for the SWE, citations must be from original work not from tertiary sources. Please include an original citation or reference a standard fluid text book. Wu et. al did not develop the

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SWE. 2) What eddy viscosity formulation is utilized in the model? 3) The advancement claimed by the authors is the inclusion of a bed scour model, however no details are provided on bed handling, sorting etc.. 4) Bed handling description is specially important in view of the semi-implicit scheme claimed by the authors. Does the model scour through a single layer time step, or can it scour multiple layers in a time step? 5) The results need to show how well the model reproduced the scour and expansion of the breach because sediment dynamics is the primary advancement in this paper. Section 3.3 hints at broad agreement but the agreement is not shown anywhere in the text.

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