



Interactive  
Comment

# ***Interactive comment on “Numerical modelling of tsunami wave run-up and breaking within a two-dimensional atmosphere–ocean two-layer model” by S. P. Kshevetskii and I. S. Vereschagina***

## **Anonymous Referee #2**

Received and published: 21 July 2014

The present manuscript is devoted to the study of tsunami wave run-up on a plane beach. Unfortunately, the Referee cannot recommend it for the publication for the following reasons.

First of all, the approach chosen by the authors seems to be an "overkill" for the problem in hand. The use of a two-fluid approach has to be properly justified. Moreover, the wave breaking process in numerical simulations was not highlighted at all. Consequently, the Referee doubts that it took place.

In general, it is difficult to reply on the question what is the contribution of this

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manuscript to the current knowledge on tsunami waves? Clearly, this manuscript is not a mathematical work. It is not numerical either. Is it physical? Perhaps no.

On Figures 2 & 3 one can see that a numerical tsunami wave during the propagation creates a huge disturbance in the air (up to 1km in the height). This prediction does not seem to correspond to the reality, unless the authors can provide some supporting real world data.

Finally, the use of a solitary wave paradigm for tsunami waves seems to be outdated. See, for example, the recent publications of H. Segur with his co-authors.

Consequently, the Referee has to ask the rejection of this manuscript.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 3397, 2014.

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