Natural Hazards and Earth System Sciences

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Discussions

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

S. Leble

leble@mif.pg.gda.pl

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\noindent{\bf General comments}

It's very interesting work. The problem statement is quite novell: the free surface of the fluid isn't introduced directly, but the problem is solved for a two-layer ocean-

atmosphere medium. The method of solution is very interesting: the ocean-atmosphere interface isn't introduced in an explicit form, but the medium density has a

discontinuity and the solution is searched for as generalized one. The result seems to

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be of very interest as well. Not only wave propagation is simulated, but the

evolution of a spatial structure of the velocity field is computed and wave breaking and arising of mixing effects within the fluid when the wave comes to a coast is

simulated.

Such result may naturally be applied to modeling of bottom-water boundary and description of their perturbations.

\noindent{\bf Specific comments} The paper is written in a good and transparent language.

\noindent{\bf Technical corrections} perhaps, the fiirst sentence of sec. 3 needs correction: numerical mode -> numeric code

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