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Interactive comment on "Simulation of tsunami generation, propagation and coastal inundation in the Eastern Mediterranean" *by* A. G. Samaras et al.

Anonymous Referee #3

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The manuscript presents an exhaustive quantitative and qualitative application of fully nonlinear model for the 2-DH simulation of the earthquake-induced tsunamis evolution. The authors use an application of a Boussinesq model, complemented by a tsunami generation model. This is a crucial topic, of safe interest for the readers of Ocean Science. The article presents original and relevant results and uses the appropriate approach. It is clear and sensibly arranged but there is one issue to be solved before the article can be accepted for final publication in Ocean Science. The model presented in the manuscript is a 2-DH and deals with both breaking and non-breaking waves. The authors use the experimental data of Synolakis (1987) to test the model's capability in representing swash zone hydrodynamics but the Synolakis' analytical model is a 1-DH model and it has been developed for non-breaking wave run-up. Nevertheless, due to the complex nature of the fluid motion during the process of wave breaking, and due

to the complex topographies (as the two zones of the Eastern Mediterranean taken in consideration in the chapter 3) I see the need to validate the model performances presented in the manuscript with a similar 2-DH test available in literature. This point would certainly give more significance to the scientific method presented in the manuscript as well as would make the results substantially more clearly defined.

Interactive comment on Ocean Sci. Discuss., 12, 673, 2015.