



## **Tsunami propagation on complex bathymetric features: Numerical studies**

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After the destructive event of December 26, 2004, many attempts have been made to simulate accurately the generation and the propagation of the tsunami waves in the Indian ocean. There are however many sources of uncertainty which derive, i.e., from a non-accurate knowledge about the initial surface displacement and from coarse spatial resolution. Here we investigate the role of non-hydrostatic terms for the formation initial conditions. On the basis of the very high resolution finite element model (TsunAWI) calculations of a tsunami in the Indian Ocean with various types of initial conditions are carried out. Special attention is given to grid resolution in the simulation of tsunami waves. The key moment of modelling of tsunami waves is wetting and drying. The original algorithm of the solution of this problem for finite element methods is discussed.