



Systematic approach of tsunami modelling in Western Mediterranean

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This study is part of the European project TRANSFER and has for main objective to realize a database of wave propagation and maximum water height (h_{max}) maps. Based on the work of Titov et al. (1999), in accordance with local geology and morphology of submarine structures, we firstly chose mechanisms for an $M_w=7.0$ earthquake as the “unit source” for the model database. All the unit sources have the following parameters length=50km, width=20km, slip=1m (in agreement with plate convergence rate of 5mm/yr and a recurrence period of 200-300 years). Depth is estimated between 5 and 10km, and dip and rake vary along the margin from East-Algeria, with a thrusting mechanism, to West (Morocco) with a strike-slip one. The sources are forming a continuous line of faults along the margin.

In a first attempt we concentrate on the North Algerian margin, which seems to be the only hazardous tsunamigenic area able to generate tsunami impact on Balearic regarding known past events and previous studies. Tsunami propagation is then performed on a set of imbricated grids for all the units, and h_{max} results on Balearic are presented with a special focus on the Palma harbour (Majorca).