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Tsunami hazard associated to earthquakes along the French coasts. A probabilistic approach (PTHA).

Viviane Souty and Audrey Gailler
CEA, DAM, DIF, 91297 Arpajon Cedex, France

Probabilistic Tsunami Hazard Assessment (PTHA) is a fundamental tool for producing time-independent forecasts of tsunami hazards at the coast using data from tsunami generated by local, regional and distant earthquake source. If high resolution bathymetry and topography data at the shoreline are available, local tsunami inundation models can be developed to identify the highest risk areas and derive evidence-based evacuation plans to improve community safety.
This study takes part of the H2020-Euratom NARSIS project (2017-2021), which aims at making significant scientific updates of some elements required for the Probabilistic Safety Assessment, focusing on external natural events (earthquake, tsunami, flooding, high speed winds...). In this framework, we are developing a PTHA approach to estimate the tsunami hazard along the French Mediterranean coasts at a local level. The probability of occurrence of tsunamigenic earthquakes is the foundation of our work as wrong probabilities would lead to a wrong evaluation of the tsunami hazard. We first discuss the various uncertainties from the determination of the tsunami sources to the simulation of the propagation of the tsunami to the coast. We then present the results of tsunami hazard in the city of Cannes (French Riviera).