



Tsunami Simulations for Regional Sources in the South China and Adjoining Seas

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The tsunami potential from sources located in the South China Sea and its adjoining basins, Sulu and Sulawesi Seas, is examined. Tsunami numerical modeling was performed using the MOST code [Titov and Synolakis, 1998] for a number of possible earthquake scenarios at the various local subduction zones. For the Sulawesi Sea, we consider the events of 1918 at the Mindanao subduction zone, and the 1996 at the Northern end of the Makassar Strait. For the Sulu Sea, we consider a scenario inspired by the 1948 Panay earthquake (because of the fractured nature of the plate system in those areas, it is not feasible to consider much larger earthquakes). Tsunami simulations of these events show that the tsunami is contained within the relevant marginal seas and does not penetrate significantly the greater South China Basin. However, tsunami hazard that could cause significant damage was found for the Eastern coast of Borneo. Farther North, we consider as worst case scenarios events reaching 10^{29} dyn*cm with rupture lengths of 400 km, both off Luzon Island and, under a slightly different geometry, off the Luzon Straits separating the Philippines and Taiwan. These scenarios show very significant hazard to all coastlines bordering the South China Sea, including Indochina and Borneo. Finally, two landslide-generated tsunami scenarios are presented, inspired from the event of 14 February 1934 off the Luzon Strait, and the presumably Holocene Brunei mega-slide.