



Tsunami risk in SW Iberia from near shore sources; implications on early warning

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Tsunami hazard and risk evaluation comprises the study of local, regional and trans-oceanic events that may affect a particular area. In the case of SW Iberia, a number of different scenarios are known to have occurred in the past, including local, regional and transoceanic tsunamis. The Portuguese tsunami database includes a number of catastrophic events, some local (e.g. 1722 December 22 near Tavira or 1531 January 31 near Lisbon) some regional (e.g. 382 BC, close to S Vicente Cap), and the large trans-oceanic event of 1755 November 1st that caused dramatic damage along the whole southern Iberian coast.

The proximity between southern Portugal and the Eurasia-Nubia plate boundary domain generates almost always short elapsed times between the earthquake generation and the tsunami arrival to the shore. This situation is even more critical in the case of local events, where available elapse time - 30 minutes or less - imposes constraints and demands for the design of an early warning system for the area.

The purpose of this work is the identification and characterisation of the most important source areas, according to the present knowledge of the active geological structures in the SW Iberian margin, and the results from recent modelling efforts of historical events. Using the set of candidate sources and numerical modelling we estimate the range of travel-times that must be considered for each segment of the Iberian coast

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