



Near-Field Tsunami Early Warning and Preparedness in the Mediterranean: the EU NEARTOWARN Project

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The Mediterranean Sea region is characterized by near-field tsunamis (travel times less than 30 min.). An efficient end-to-end warning system should fulfill the condition that the time needed from an earthquake detection to evacuation is less than the arrival time of the first wave, which is a very hard task in the Mediterranean. The project NEARTOWARN, which is supported by the EU DG-ECHO prevention program aims, among others, to establish a pilot system in Rhodes island, SE Aegean Sea, Greece, with the purpose to meet needs for local tsunami early warning but applicable in other coastal zones of the Mediterranean and beyond. To minimize emergency time in less than 30 sec, seismic alert devices (SEDs) make the core component of alerting. SEDs are activated and send alerting signals as soon as a P- phase of seismic wave is detected in the near-field domain and for a predetermined threshold of ground motion. Then, emergency starts while SEDs activate remotely other devices, such as computers with data bases of pre-calculated tsunami simulations, surveillance cameras etc. The system is completed with tide- gauges, simulated tsunami scenarios and emergency planning supported by a Geographical Management System. Rhodes island in Dodecanese, Greece, has been selected as a test- area for the development of the prototype system. To promote the future development of such local systems in other coastal zones of the Mediterranean the NEARTOWARN partners review current status of early warning systems, produce digital inventories of wave travel times from several tsunami sources to a number of forecasting points, standardize data bases for pre-simulated tsunami scenarios and optimize triggering thresholds for the SED alerting networks. A local system such as the one developed by NEARTOWARN is expected to function in synergy with national and regional warning systems such as the one coordinated NEAMTWS.