

Tsunami risk assessment in South-Eastern Mediterranean

Along with history, the southern-eastern Mediterranean coasts have experienced several historical tsunamis triggered by the earthquake from both far and near field sources (e.g., Hellenic, Cyprian arcs). The most hazardous tsunami events were 365 AD in Crete with Mw8.5, 1222 in Cyprus with Mw 7 - 7.5 and 1303 in Rhodes Island with Mw8.0. The tsunamis caused widespread destruction and victims along the coastal cities as evidenced by available historical reports, geomorphology and paleo-tsunami investigations accomplished recently. On the other side potential mechanisms to generate tsunami would be a local underwater landslide, mass movement due to Volcanic eruptions and local earthquakes. These potential sources pose a higher risk due to short travel times for tsunami waves that limits the alarming time. Furthermore, a case study for tsunami impact was applied in details in the city of Alexandria. By combining hazard and vulnerability levels for residential buildings, a qualitative risk assessment has been performed. The urge for the implementation of early warning system for the coast of eastern Mediterranean is becoming an essential and urgent need.

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