



High-resolution multi hazard scenarios along costal zones of the Mediterranean: results from the SAVEMEDCOASTS Project

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Here we show ultra high resolution multi hazard – multi temporal marine flooding scenarios expected up to 2100 AD in targeted zones of the Mediterranean basin, prone to be flooded in the next decades. To this goal, we used the following data sets: i) the IPCC projections for RCP4.5 and RCP8.5 climate change scenarios, calibrated for the Mediterranean region; ii) ultra-high resolution Marine and Terrain Digital Model, iii) rates of vertical land movements from instrumental data, iv) UAV, Lidar and v) bathymetric surveys; vi) surf-zone hydrodynamics, atmospheric and wave conditions.

From these data-sets we extracted and investigated detailed DTMs on which were projected the expected inland extension of marine flooding due to sea level rise, storm surges and tsunamis.

Particularly, we focus on the three Italian UNESCO sites of the Venice lagoon, Lipari Island and Monterosso and Vernazza (Cinque Terre), the Island of Lefkada (Greece) and the Rhone delta (France), which are highly exposed to coastal hazard due to climate change.

Finally, we provide an assessment of the direct and indirect economic impacts of coastal flood risk, for part of these areas.

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