



## **Expected sea level rise scenarios by 2100 along targeted coasts of the Mediterranean: new results from the SAVEMEDCOASTS project**

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In this study we show and discuss the first results arising from the SAVEMEDCOASTS Project (Sea Level Rise Scenarios along the Mediterranean Coasts, funded by the European Commission ECHO A.5), which aims to respond to the need for people and assets prevention from natural disasters in Mediterranean coastal zones placed at less than 1 m above sea level, which are vulnerable to increasing sea level rise under the climate change impacts. We use high resolution Digital Terrain Models, rates of land subsidence and IPCC projections of sea level rise, calibrated for vertical land movements, to realize marine flooding scenarios expected for 2100 AD in targeted areas. We provide an overview for the Mediterranean region, focusing on the three Italian UNESCO sites of the Venice lagoon, Lipari island and Cinque Terre (Monterosso and Vernazza) and the Island of Lefkada (Greece). In particular, the Venice lagoon and the volcanic island of Lipari are highly exposed to relative sea level rise being both subsiding at rates of up to several mm/yr. At Lipari, the high rate of land subsidence (up to ~11 mm/yr), is expected to cause a local sea level rise up to ~1.6 m for the next 82 years, that represents a critical issue for the local population and coastal infrastructures.

Through the implementation of a dedicated and structured method, local key actors become aware both of the extent and of the different aspects of the problem and are engaged in a process to identify solutions. Based on gaps/needs and perceptions analysis, policy tools targeting civil protection are produced. The hazard implications for the population living along the shore are considered to push land planners and decision makers to take into account scenarios similar to that reported in this study for cognizant coastal management.

Despite SAVEMEDCOAST is still ongoing, it is already improving governance and raising community awareness towards the impacts of sea level rise and related hazard, fostering the cooperation amongst science, affected communities and civil protection organizations for these high economic and environmental value zones of the Mediterranean coasts.