



## **Cultural heritage degradation and socioeconomics impacts due to coastal erosion. Evidence from Elounda, Crete Island.**

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### Abstract

Areas of cultural heritage (archaeological sites, monuments etc), apart from their pananthropic cultural value, constitute also a major, sensitive and non-renewable, factor of economic income for the stakeholders that exploit them. The majority of cultural and archaeological sites in the island of Crete, Greece are settled in coastal or near-coastal areas. Thus, they are constantly subjected to climate change effects, i.e. erosion due to sea-level rise and anthropogenic expansion in the coastal area, structural instability due to the alteration of local wave regime, corrosion of settlements etc. Furthermore, the areas surrounding the aforementioned sites are also profit-generating, since the visitors of the sites use the nearby tourism facilities (i.e. hotels, beaches, restaurants). The area under investigation for the present study is the bay of Elounda, which is a submarine archaeological site, while in its coastal area there are many cultural heritage areas from different historical periods. At the north-eastern part of the Elounda bay the Spinalonga islet is located, which hosts the Spinalonga fortress, constructed during the Venetian occupation of Crete (1574 A.C.), nominated to enter the UNESCO organization as a Natural Cultural Heritage. Moreover, in the southern part there are submerged remains of a Roman era fortress. The inhabitants of the area base their income almost entirely on tourism, by operating tourism facilities (luxury hotels, taverns, coffee shops, small ports serving the boats to Spinalonga etc.) as well as exploiting the nearby beaches, in a total length of about 7 km.. Almost the entire coastal area is under severe erosion due to various factors, not only climate related, causing the local population to an important loss of profit. Moreover the growing need of space for touristic facilities enhances the anthropogenic pressures on the cultural heritage sites in the bay.

The object of this study is to compute the overall land loss during the last 73 years, as well as to estimate the socioeconomic impact due to the aforementioned erosion.

Keywords: cultural heritage; climate change; socioeconomic impact; Elounda; Crete Island

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