



Coastal Geomorphology of Selinunte area

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Coast erosion is a widespread phenomenon, resulting a considerable issue for the dwellers of the coastal areas today. Our study is based on the archaeological area of Selinunte in which we have noticed a process of erosion in progress. Particularly, in this area we have considered a coast portion around 8 Km long, since our purpose is the individuation of anthropic elements as ports and natural elements as rivers. In this area we have set some point of reference using historical and recent cartography as paper in 1:25.000 scale dated back to 1971, regional technical paper in 1: 10.000 scale since 1994, and aerial pictures since 2000 and 2008, that we have geo-related starting from previously geo-related paper, locating some Ground Control Point visible in all the considered paper. We have used a GIS support and the software program ARCVIEW. We have done a comparison between the actual shoreline and its trend in the previous years. In fact we have measured the distance between the points considered stable in the space and traceable in every used graphic support and the shoreline, that is changing in the time. In this way we have noticed the course of the coastline, appraising its advancement or withdrawal. The obtained data show that considering 24 stable points, in the 70% of cases there has been coast withdrawal since 1994 to 2000; in the 60% there has been erosion since 2000 to 2008. From the administrative point of view, the studied area includes the territory of Castelvetrano (TP) and involves a coastline extending around 8 Km, from the beach of Triscina-Selinunte, fraction of Castelvetrano, until east of the river Belice's mouth. This extension has been defined as thoroughly as possible, in order to include the river Belice, east of the archaeological park. The two analyzed rivers are Belice and Modione, both belonging to the hydrographic basin River Modione and in the area between River Modione and River Belice. From the geo-morphological point of view two typologies of prevailing landscapes can be considered: an hilly one in the basin, in the most northern area and another one, characterizing the coastal band. The nature of the ground is predominantly clayey or clayey-marl with sand breakthroughs covered by calcarenites. In this area some marine terraces are present, for example the marine terrace beneath the Acropolis of Selinunte, situated at + 50 m u.s.l. Another helpful element for the study of coast erosion is the discovery of an ancient port around 1951, now buried under the sand.

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