

The MeTIBas project: an example of settlement continuity in a coastal changing landscape of southern Italy

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The MeTIBas (Italian acronym for Innovative Methods and Technologies for the Cultural Heritage in the Basilicata region) project aims to develop an innovative geoarchaeological investigation approach for large areas. Analyses of environmental dynamics, palaeoclimatic proxies, spatial and temporal evolution of settlements and, more in general, of the relationships between man and landscape have been carried also through the implementation of a Territorial Information System, drawing-up of an experimental digital geoarchaeological map, and creation of an open geoarchaeological database. The project methods have been applied in the coastal area of Metaponto, which roughly coincides with the ancient territory of the Greek settlement of Metapontum and its chora and includes a region of about 400 sq. km in the Ionian sector of the Basilicata region, southern Italy. The backshore area of the Metaponto coastal plain was characterized by the presence of wide limno-palustrine environments, reclaimed during the first decades of the last century. Geomorphological mapping, GIS-supported statistics, and analysis of the topographic features of the landforms represent the key to extract the settlement rules and the site dynamics of the study area. Site distribution and relationships with landscape elements allow us to investigate the settlement patterns and human activities and choices. A wide archive of archaeological data on the whole study area – from Prehistoric times to Roman age - has been therefore used to connect the wandering or persistence of the ancient sites in relation with different landforms and their changes during the last 5000 years. The layout of the site arrangement clearly traces the main geomorphological features of the area (i.e. settlements along fluvial scarps, sites on the flat surfaces of marine and fluvial terraces, main villages in the coastal plain). From a chronological viewpoint, after a progressive increase of the settlements and other archaeological elements – sometimes with changes in their function – the human presence becomes dramatically strong during the Greek colonization and the Roman period. Only few archaeological typologies remain the same through time, as for example the farms and their associated features, whilst several sites assume different intended use. From classical to Hellenistic time span, a significant increase of sites can be observed in both the coastal plain and in the intermediate orders of marine terraces, whose top surfaces range from 45 m to 110 m a.s.l.: this could mean that the pre-existing environmental setting of the coastal plain was preserved (i.e. no diffused presence of marshes and swamps) and the plain was not abandoned, but at the same time the terraced surfaces offered similar or better conditions for agricultural practices. From Hellenistic to Roman times, a dramatic collapse of the stable human presence occurred, probably due to historical causes coupled with a landscape deterioration (maybe linked to an increase in flooding occurrence in the coastal plain and in the floodplains of the lower reaches of the main rivers). Results indicate that an intrinsic geomorphological fragility of the territory has accompanied the strong agricultural vocation of the study area, persisting until now.