



## **Development of a web-based GIS promoting the natural and cultural heritage of the Karst Island of Gozo**

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### **Abstract**

The Maltese Islands, like many other countries in the Mediterranean, continue to experience rapid resource depletion and environmental deterioration due to demographic, social, cultural, political and economic pressures. Moreover, these pressures are immediately evident because of the fragility of the environment: karst landscapes are more prone to demonstrate negative impacts in the short term than other types of terrain. Continuing their active participation in a succession of EU sponsored research projects, the authors are currently in the process of developing a web-based GIS with the aim of promoting the natural and cultural heritage of the karst Island of Gozo to a widest possible audience. The web-based GIS will draw from a previous INCO-DC research project <sup>(1)</sup> which focused on the building of an extensive, digital database of all the environmental resources of Gozo. This was carried out in a systematic fashion through literature review, field surveys, as well as through interpretation of aerial photographs and satellite images. The compilation of all information into one single, coherent database provided an adequate basis for the production of an extensive set of ‘thematic covers’, i.e. maps depicting each of the individual resources, in terms of their physical characteristics, their intrinsic vulnerability to hazards, as well as their socio-economic use and/or potential use. Appropriately, the island’s karst features were mapped as an environmental resource in their own right. An in-depth assessment of these ‘thematic covers’ using the GIS functionalities of the Integrated Land and Water Information System (ILWIS), led to new insights into the interdependencies between the various resources. In several instances, it proved possible to define specific parameters which describe accurately these interdependencies, giving rise to additional ‘thematic covers’. Examples of the latter include a ‘Surficial Cover Infiltration’ map which draws on four contributing geomorphological factors. A particularly interesting diagnosis resulted from a cross-correlation of the physical condition of the island’s centuries’ old rubble walls and surface water induced land degradation features, both of which were plotted from individual field surveys. In EduNatHer <sup>(2)</sup>, the authors aspire to document the above findings on a dedicated web-GIS, enabling a widest possible audience to explore and discover for themselves the natural and cultural heritage of the Island of Gozo.

<sup>(1)</sup> Resource Management in Karstic Areas of Coastal Regions of the Mediterranean (ResManMed), INCO-DC Research Project ERBIC18CT970151

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