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Directions in Geoheritage Studies: Suggestions from the Italian Geomorphological Community

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More and more attention has been focused on geological and geomorphological heritage in the past years, leading to several researches in the framework of conservation projects, both at administrative and at scientific level, involving national and international research groups whose purposes are the promotion of Earth Sciences knowledge and the conservation of geological heritage. This paper presents an overview of research and conservation projects in Italy, mainly focused on the geomorphological heritage. Members of the AIGEO Working Group on geomorphosites and cultural landscape analyzed the historical development, methodological issues and main results of these research projects in order to identify possible innovation lines to improve the awareness and knowledge on geodiversity and geoheritage by a wide public, including education, tourism and conservation sectors.

In Italy numerous projects of research have been realized with the main aim of geomorphosites inventory and the proposal of assessment methodologies, and so to the improvement and to the analysis of risks and impacts related to their fruition. At an international level, many Italian researchers have also been involved in studies carried out in the Working Group "Geomorphological sites" of the International Association of Geomorphologists (IAG).

At a national level several research lines are under development, offering different responses to methodological issues within the general topic of geodiversity and geoheritage:

Geosites inventories and assessment activities are performed with powerful digital techniques and new reference models: among these, the investigation on the ecologic support role for increasing geomorphosites global value and the elaboration of quantitative assessment methods of the scientific quality of Geomorphosites, carried out specifically for territorial planning.

Improvements in field data collection and visual representation of landforms lead to new findings in geomorphological mapping; by making use of both traditional paper maps and computer-elaborated documents produced by GIS new visual products for geotourism have been created.

Geomorphological heritage is now analysed with a special focus on its relationships with cultural landscape and human history; integrated studies of natural and cultural landscapes allow development of better itineraries for geotourism.

Quantitative selection of geomorphosites and definition of global value of geotouristic trails according to dedicated relational database are performed with a focus on monitoring of evolution rates of active geomorphosites in different morphoclimatic contexts in order to evaluate the risk scenarios in touristic contexts.

Development of innovative educational strategies for the dissemination of scientific research results on geomorphosites includes extensive use of multimedia and Web technologies.

More and more detailed reconstruction of the recent evolutionary stages of the geomorphological landscape are performed by means of collaborative investigations performed by geomorphologists, geoarcheologists, archeologists.

Relationships between geomorphological heritage and parks are now a comprehensive development, including the proposal of interdisciplinary attractions such as geoarcheological parks, mining and other georesources thematic parks.

Geomorphosites are now selected with a particular attention to targeted climatic conditions and environments, such as glacial and periglacial environments, karsts lands.