Geoheritage Mapping issues and solutions for national official cartographic products: the Italian case study

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In the framework of territorial management, geomorphological mapping can be considered a fundamental activity because it offers a comprehensive source of information (morphogenetic, morphographic, morphometric, morphodynamic, morphocronological ones) and an explanatory presentation of landforms, including also data on bedrocks and structures. Compared with other research activities carried out in the field of geomorphosite identification, classification, and assessment, geomorphosite mapping has not received the same strong consideration in the past. A considerable impulse to this topic has been recently given by several authors in Europe, where some methods for the cartographic representation of geomorphosites have been proposed, aimed at Earth Heritage promotion and protection.

Starting from these premises, our paper illustrates a new methodology, developed by the Working Group "Geomorphosites and Geodiversity" of the Italian Association of Physical Geography and Geomorphology (AIGeo), for mapping geosites on geomorphological maps edited by the National Geological Survey, i.e. cartographic documents directed to public boards in territorial planning and sustainable management of a territory. The proposed legend and related symbols will be illustrated through examples developed at a different scale and within different geological and geomorphological contexts in the Italian territory.

The integration of geoheritage and geomorphological data in a single cartographic document can be considered an innovative and useful tool both for geoconservation and sustainable environmental management. Such a map shows several advantages: (i) it offers an overview of both landforms and processes and the main geoheritage peculiarities of a territory; (ii) it provides information on the state of activity of processes, which can help to evaluate the state of conservation and vulnerability of geosites or the degree of natural and anthropic risks; (iii) it highlights geosite boundaries useful for decision making in management; (iv) it represents a functional tool to optimise decisional processes within Territorial Planning, Environmental Impact Assessment procedures and Protection Actions of Natural Heritage.