

## Abstract

This paper is the result of research conducted in recent years after the presentation of my doctoral thesis, both individually and within some research teams (as a director or member). The research carried out have been connected to the working group of Geomorphosites within The International Association of Geomorphology (IAG), a group founded in 2001, which I am part of. My outlook and the research method in the domain of geomorphosites were crystallized by the participation to this working group and to the actions organised within IAG.

Our concern over the last period was represented by the study of geomorphosites (definition, inventory, assessment methodology, mapping, protection measures and capitalization). This direction of study is relatively new worldwide (2001) and it has been applied by us in Romania (2007 onwards) (there are few studies in this respect, which concern geomorphosites in the broader context of geosites, at the University of Oradea). This issue combined our main scientific and educational interest, namely Geomorphology (especially applied Geomorphology) and the Geography of tourism.

In the first part of the work is reviewed the issues we had in the framework of our research and the results obtained, of which:

- **Establishing/ explanation of theoretical and methodological concepts** on geomorphosites (starting from the existing referential in the specialized literature, there were introduced a number of new terms in the Romanian geographical literature – geomorphodiversity, geotourism),
- **Accomplishing** a model for the inventory fiche of geomorphosites (this covers both qualitative and quantitative analysis). Applying this fiche may carry out a comprehensive inventory of geomorphosites at the scale of different territorial units.
- **Establishing a digitized** database of the basic elements that characterise geomorphosites.
- **The analysis and comparison of the methods** for assessing geomorphosites in world literature (Italy, Switzerland, Spain, Portugal, Greece, Slovenia), to establish strengths and weaknesses, for the purpose of establishing a method of assessment. Evaluation methods were performed with different purposes, as we are paying greater attention to assessing the touristic value of geomorphosites, which shall respond the following desiderates:

- setting the basis of value and importance for tourism features which can be used as a yardstick in selecting geomorphosites from all the forms of relief irrespective of the area; among these, the most important are the appearance, the link with certain forms of tourism, innovation in a wide sense, accessibility, corroborated with the level of infrastructure development, the association with other types of geosites.

- appreciating geomorphosites based on some 'values': primary (scientific value) and secondary (cultural, economic, environmental, aesthetic value). When the evaluation takes place for the use in certain forms of tourism, one of the secondary values become primary (the cultural value if the aim is cultural tourism).

- **Establishing a proper method for assessing geomorphosites** on the basis of international experience in this field but adapting it to the specific context of the Romanian (infrastructure less developed, the lack of quantification of the number of tourists, the absence of promotional materials or geoproducts).
- **Determining the relationship** between geomorphosite, geo(morpho)diversity, natural heritage and the most appropriate ways of geomorphosites' management (which may be useful in territorial planning projects).
- **Establishing some geomorphosites' mapping methods and techniques** (classic mapping and in the digital environment, at different scales and for various purposes).
- **The determination and the application** of the formulae for calculating geomorphodiversity (based on the analysis of the types and forms of relief), geodiversity (based on the quantification of all abiotic elements in a given area) and geoattractiveness (an indicator first introduced by us) and their **mapping**.
- **Devising a questionnaire** on the perception of tourists on geomorphosites and its **application** in representative locations of study (to be applied on a representative sample in number and structure).
- **Correlating** the results of the specialists with the tourists' option in order to **determine** the best methods of touristic capitalization of geomorphosites, establishing some geotouristic routes and designing geotouristic products, all with the purpose of a superior management of the touristic area.
- **Mapping** of samples of representative geotouristic maps of Romania (for mountain massifs with high touristic potential and developed infrastructure such as Bucegi and Piatra Craiului).

*In the second part of the work* the main areas for future scientific development are presented, namely:

- **Assessing** geomorphosites' vulnerability and **establishing** practical **proposals** to alleviate those concerns.
- Appropriate **design and management** of geotouristic paths, of hazards which may affect them.
- **Implementation** of a method of assessing the accessibility of the relief to touristic activity.
- **Determining how** touristic attractiveness of landscape can be quantified;

- **Studying** geomorphosites within geoparks;
- **Explanation** of the relationship between geomorphosites and natural heritage/cultural heritage/ total heritage;
- **Application** of the heritage pyramid in Romania
- **Establishing the** structural and functional **relationship** between geomorphosite and (geo) landscape
- **Evaluation of hazards** affecting the natural heritage

The results obtained from the *scientific point of view* have been and will be used *in teaching aids*. The experience gained in this respect has led to the introduction in the curriculum of the specialisation Tourism Geography of subjects which can be also found in the curricula of European universities: *Geomorphology applied in tourism/Geotourism/Geomorphosites* and the publication of the course.