

Editorial

Editorial of Special Issue—“Geoheritage and Geotourism Resources: Education, Recreation, Sustainability”

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In recent years, the interest of society in the geoenvironment is constantly increasing. Concepts such as “geosites”, “geoparks”, and “geodiversity” are linked to new local economic and cultural growth of the areas. Significant geosites are recognized worldwide through the activity of geoparks and benefit from the exchange of information, skills, experience and staff between geoparks. Geotourism is a form of tourism that allows the discovery of the geological peculiarities of the visited territories, combined with other natural and human resources. Geo-education is at the core of the interest and operation of geoparks, which are considered as ideal destinations for educational activities.

Zafeiropoulos et al. [1] highlight the importance of geoenvironmental education in promoting and preserving geological heritage and geoethical values, and they present the current situation in Greece. Greece is known for its exceptional and rare natural beauty, abundance of natural resources, and remarkable geological features. As a result, this country has already established six global geoparks. The significance of establishing a legal framework for geotope protection is highlighted by the fact that the promotion and rational management of geological heritage create opportunities for sustainable development as well as quality tourism (geotourism) through nature protection and education. Such initiatives can not only improve geological heritage protection, but also play an important role in its sustainable development.

Pijet-Migoń and Migoń [2] identify the primary and secondary themes at the geoheritage—cultural heritage interface and offer examples of specific topics and approaches. Intangible cultural heritage is also examined in the context of geoheritage. In the final section of the paper, various classifications of geoheritage—cultural heritage linkages are proposed, but it is concluded that themes and fields of inquiry overlap and interlink, making a single classification system impractical. Instead, a mind map is provided to demonstrate these various connections. The article states recommendations for future research based on the findings of the review and the identification of research gaps and under-researched areas.

Mikhailenko et al. [3] introduce the concept of bridge-based geoheritage viewpoints in the geologically rich Western Caucasus region (southwestern Russia). Eleven bridges were evaluated semi-quantitatively using a new method. The findings indicated that bridges have varying but moderate utility as geoheritage perspectives. Bridges differ not only in terms of the quality of the views they provide, but also in terms of their accessibility. In some cases, mandatory permissions and entrance fees reduce this property. Bridge-based geoheritage viewpoints are important for geotourism development because they help to establish optimal and comfortable routes.

Evelpidou et al. [4] inventory the main geomorphosites of the islands of Paros and Naxos in the central Aegean Sea, evaluating their scientific and added values using qualitative and quantitative criteria. The findings revealed that, in addition to being of high scientific interest, most geomorphosites have high ecological value and could potentially lead to a significant increase in island tourism. The outcomes of this work aim to raise



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awareness about the geomorphological heritage of the central Cyclades and provide a framework for its promotion, protection, and management.

According to Bonali et al. [5], immersive virtual reality has the potential to introduce students, academics, and others to interesting geological sites that they may not have had the opportunity to visit previously. These authors demonstrate the importance of immersive VR as a tool for: popularizing Earth Sciences teaching and research by making geological key areas available to the public in the form of 3D models and scientific explanations of geological processes; including people with motor disabilities who would not otherwise have access to dangerous/remote areas (e.g., tectonically or volcanically active). As a result, immersive VR can be viewed as a game-changing tool for improving democratic access to information and experience, as well as for promoting inclusivity and accessibility in geoeeducation while reducing travel saving time, and carbon footprints.

Spyrou et al. [6] investigate and evaluate the scientific, environmental, cultural, economic, and aesthetic value of several geosites on the Greek islands of Lefkas, Meganisi, Kefalonia, and Ithaki. The most representative geological sites (e.g., geomorphology, tectonics, stratigraphy, and paleontology) have been chosen, mapped, and assessed, and indicative georoutes have been proposed, which could aid the island's geotouristic promotion to future geologist and non-geologist visitors.

Golfinopoulos et al. [7] evaluated the geosites of the Chelmos-Vouraikos UNESCO Global Geopark (UGGp) using a well-established methodology for evaluating geopark geosites. The assessment of the geopark's 40 geosites revealed geosites with high educational and touristic value, as well as geosites with high protection-need value. As a result, the assessment results will be used for the planning of the effective management of the geosites based on strengths and weaknesses, promoting the geopark and contributing to the sustainable development of local communities. These authors concluded that the use of such evaluation methodologies should be regarded as critical for the development, protection, and promotion of geoparks.

The study of Mendoza et al. [8] aimed to assess the geological features of the Linares-La Carolina mining district's northeastern sector and relate them with the mining activities of the district's main veins. This old mining region's educational and tourism potential is highlighted. Finally, points of special interest are noted in ways to construct a guided tour for the visitor.

Fassoulas et al. [9] present the benefits of new digital applications designed by Psilortitis UGGp in their study. These were created as part of the RURITAGE project, which puts an emphasis on rural revitalization through natural and cultural resources. The authors investigated the impact of this technology on geopark promotion and visibility, knowledge communication, local economic and tourism support, and its commitment to local sustainable development and growth in COVID-19 and post-pandemic times.

The main goal of Zafeiropoulos and Drinia [10] article is to evaluate geosites using two quantitative assessment methodologies that approach a geosite's geoeeducational value in different ways. The first method is a general-purpose method (G-P method) that is designed to assess any type of geosite while considering a wide range of criteria. It is one of the most widely used inventory methods. The second method, the M-GAM (Modified Geosite Assessment Model), incorporates the perspectives of both experts and visitors and is being used for the first time in Greece. The ultimate purpose is to analyze the results of the two methodologies and determine which method is best for determining a geosite's educational value. Nisyros Island was chosen as a case study.

The study of Filocamo et al. [11] is concerned with the enhancement of the geoheritage of the Matese Mountains, one of southern Italy's most suggestive and integral mountain areas. This mountain area shares many of the hardships and limitations that characterize other mountain regions and, more broadly, inner areas, such as land abandonment, population decline, marginality, mobility limitations, and inaccessibility. The authors propose a geoitinerary that could be used to promote geotourism in the Matese area. The authors propose a geoitinerary that could be used to promote geotourism in the Matese area. This

geoitinerary can help to develop sustainable geotourism and related associate activities within the nascent Matese National Park, assisting in the creation of a tourist offering capable of attracting visitors interested in geology and other natural or cultural resources. Future developments of this study will aim to connect the geoitinerary with visits to other sites of natural/cultural interest, as well as to create a network with other trails, in order to encourage tourists to stay for several days and favor overnight stays.

The paper of Vlachopoulos and Voudouris [12] focuses on Serifos' (Aegean Sea, Greece) geological and mining heritage, with the goal of integrating the island into the international geoparks environment in the near future. Six geotrails were created during this study to connect cultural and ecological sites with the geological heritage. The geodiversity is explained along the routes, as well as its relationship with the surrounding biodiversity and the region's historical and cultural aspects. Historical conditions determine the dialectic relationship between humans and nature in the proposed geocultural routes.

Hueso-Kortekaas and Iranzo-Garcia [13] state that saline and saline landscapes are geo-heritage sites that have significant socio-economic implications beyond salt production, particularly in tourism and education. They have implications for the identity of their communities as cultural landscapes.

Finally, Georgousis et al. [14] investigate students' perceptions of geodiversity, geoheritage, geoethics, and geotourism to design a geoeducation program within the constraints of an experimental school. They used the educational technique of creating cognitive conflicts in order to promote scientific perceptions of these concepts when designing this geoeducation program. Thus, research questions were identified, leading to the research assessing the current latent state of students' perceptions regarding thematic areas of concepts and identifying concepts whose perceptions can be used in the educational process to achieve effective cognitive conflicts to promote scientific perceptions of them. The qualitative research strategy approach, specifically the hybrid technique of semiotics content analysis in conjunction with thematic analysis, was chosen.

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