

THE GEODIVERSITY INDEX MAP AS A TOOL FOR GEOTOURISM PLANNING WITHIN THE SESIA VALGRANDEUGGP

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To ensure the conservation of geodiversity and geoheritage, UNESCO Global Geoparks are increasingly recognised as a good strategy. Geoheritage refers to the elements of the natural geodiversity with some value for humanity, while geodiversity refers to the range of geological features and processes within a given area.

Although there are links between the two concepts, the extent of their interrelationship has not been extensively researched. The purpose of this study is to investigate the relationship between geodiversity and geoheritage, focusing on the potential application of the geodiversity index map as a tool for geoheritage conservation and geotourism planning. The study area is located in the Sesia Val Grande UGGp, in the municipality of Alagna Valsesia, at the foot of the Monte Rosa massif (Western Alps). Alagna Valsesia is a mountainous area of great geological and geomorphological importance, with several geological features and geosites of scientific and cultural value.

Following a revised version of the methodology of Forte et al. (2018), a geodiversity index map was produced. The map was then overlaid with a map of the geosites in the area, which had been prepared previously. The geosites were identified and then mapped thanks to field surveys and literature review. The correlation between the geodiversity index values and the number of geosites was analysed using correlation statistical analysis, in particular the Pearson, Spearman and Kernel correlation tests were applied and compared.

The results of the analysis show that there is no significant correlation between the geodiversity index class and the number of geosites. This indicates that it may not be possible to use the geodiversity map as a tool for geotourism planning or geoheritage protection. This could be because the identified geosites represent a heritage based on factors such as natural, cultural, historical and educational significance, which are not necessarily related to the abundance of geological features themselves.

The results of the study suggest that in order to identify geoheritage sites, it is necessary to rely either on field trips and surveys or on a study of the area using new technologies such as remote sensing and Geographic Information Systems (GIS). In order to protect the geosites, it is also necessary to include them in an inventory or an active database in order to monitor the sites. This approach also allows greater attention to be paid to the social and cultural dimensions of geoheritage, such as how local communities value and use the geodiversity features available in the area. Although the geodiversity map could not be a useful tool for geotourism planning and geoheritage protection, it can show the richness of geodiversity within a given area and become a complementary tool in the study of biodiversity, given the relationship between geodiversity and biodiversity demonstrated in other studies.

In conclusion, this study provides important insights into the relationship between geoheritage and geodiversity, shows that the geodiversity map could not be a proper tool for the identification and protection of geoheritage, and highlights the need to better define standard criteria for using it to its full potential.