Geodiversity assessment in the Beigua UNESCO Global Geopark (Liguria, Italy): valuing geoheritage for education, tourism, and community engagement

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The Beigua Geopark extends over 42 376 hectares, and it comprises the provinces of Genova and Savona, including eleven municipalities. In 2005, it was acknowledged as member of the European Geopark Network (EGN) for its unique geological features and for the conservation, enhancement, and territorial development actions. Moreover, since 2015, it has been one of the eleven Italian geoparks included in the in the prestigious list of UNESCO Global Geoparks (UGGp).

The Beigua UGGp is mostly composed of metamorphosed ophiolites and their sedimentary cover, with minor occurrences of metamorphosed rocks of continental crust (gneiss and sedimentary carbonate successions). All the lithologies are capped by limited outcrops of clastic sedimentary rocks and Quaternary sediments. The Beigua UGGp meta-ophiolite (i.e., Voltri Massif Auct.) is among the remnants of the Tethyan ophiolites in the Mediterranean area, and one of the main ophiolitic complexes of the Italian Alps–Apennine system. The most distinctive feature of the Beigua UGGp is its geodiversity, which includes a large variety of geological environments, landscapes, rocks, minerals, fossils, and soils. The geodiversity of a territory is strictly integrated with people, their environment, and their culture, through interactions between biodiversity, agricultural soils, productive activities, and evolutionary phenomena with the surrounding environment, considered in its totality (Stanley, 2001). To represent the remarkable geodiversity of the Beigua UGGp, fifty-four geosites have been recognized in geopark territory, twelve of which already included in the National Inventory of ISPRA.

The goal of this work was to bring out, with a scientific approach, the value of geodiversity and geological heritage in the Beigua UGGp by i) assessing the geodiversity- and geoheritage-values and their potential impact on the local communities, ii) enhancing uniqueness and territoriality of local productions to promote sustainable development, and iii) engaging the local communities in geoconservation strategies and valorization actions.

The preliminary results comprise: i) the qualitative and quantitative assessment, based on Brilha's method obtained from ten selected geosites (Brilha, 2016; Marescotti et al., 2022); ii) the mineralogical, lithological, and geochemical characterization of geosites rocks and soils for the determination of the natural background as well as for the identification of potential markers of territoriality; iii) the realization of a three-steps model to assess the perception and the value of geodiversity to be applied to tourism, education and local products. The three-step model comprises i) the selection of a focus group with stakeholders, ii) the drafting of a national-scale survey, and iii) the planning of a field experiment based on the survey's results.

Brilha J. (2016) - Inventory and quantitative assessment of geosites and geodiversity sites: a review. Geoheritage, 8(2), 119-134, https://doi.org/10.1007/s12371-014-0139-3.

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