EuroGeoSurveys
European Geoscience for Society
The Geological Surveys of Europe

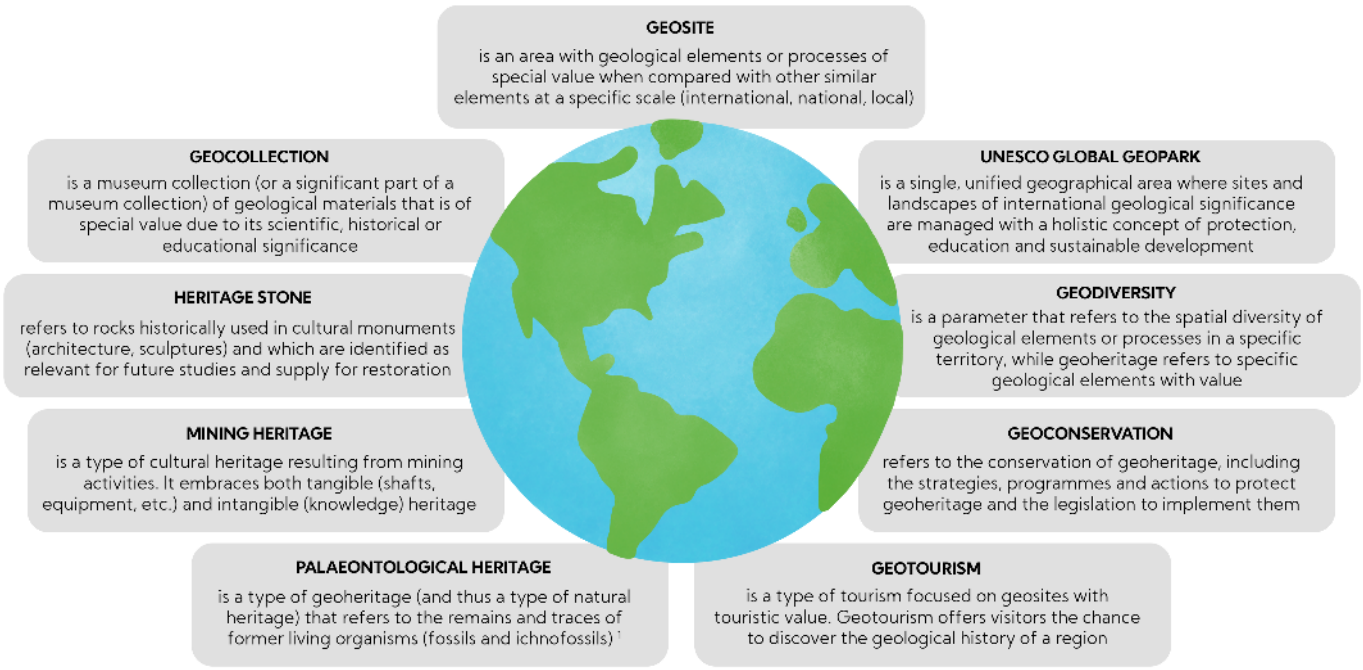
Geoheritage Expert Group

Geoheritage

What is Geoheritage?

Geoheritage, or geological heritage, integrates geological processes and elements – such as objects, features, landforms, and structures – that hold value for science, education and/or tourism, and therefore require appropriate and sustainable management to ensure their long-term conservation.

While the term geoheritage is often associated with related terms such as geodiversity, geoconservation, and geotourism, it is important to distinguish between these terms, as each carries specific definitions, scopes, and policy implications.



Why is Geoheritage important?

The conservation of geoheritage allows specific parts of Earth's history to be preserved for the potential use and benefit of future generations. Geosites with scientific value record past climate changes, the evolution of life or mineral development, and therefore provide knowledge for sound-based decision making.

Geosites with educational value provide excellent teaching resources. Geosites with touristic value provide opportunities for tourists to enjoy the beauty of geological landscapes around Europe, such as caves, volcanoes, fjords, mountains, hot springs, coastlines, river baselines, among many others[2].

Mines and kilns for mid-Cretaceous sands and clays, primarily used for brick and pottery production. Valdemorillo, Madrid, Spain.

One of only a few tetrapod trackways in the world made by land animals around 400 million years ago (Devonian Period). Valentia Island, Co. Kerry, Ireland.

Strombolian eruption, part of the long history of volcanic activity integral to the Mediterranean landscape. Aeolian Islands, Sicily, Italy.

Stevns Klint, Danish UNESCO World Heritage Site, a fossil-rich coastal cliff with evidence of the meteoritic impact that caused the extinction of the dinosaurs.

Geoheritage and Society

How is Geoheritage relevant to policy?

Society has a duty to transmit knowledge and culture to future generations. In this context, geoheritage represents a unique and non-renewable form of heritage that requires specific management measures. Unlike much of cultural heritage, once geoheritage is destroyed, it cannot be restored. Its conservation preserves the scientific record of our planet's evolution and helps us understand the past while informing our ability to anticipate future environmental and geological changes.

In addition to its scientific, educational and touristic use, geoheritage may also have spiritual or religious interest (for example, seidas of the Sámi in Lapland, and Massabielle Cave in France), or may be crucial for biodiversity and ecosystem services[3]. Geoheritage is also of economic interest, as geotourism contributes to the local socioeconomic development in rural areas[1].

The role of EuroGeoSurveys

We support the conservation of geoheritage through the Geoheritage Expert Group (GhEG) and the involvement of its members in international organisations (IUCN, IUGS, ProGEO, UNESCO, SCAR, etc.) and initiatives such as the PanAfGeo+ project and IGGP.

The GhEG works on the identification and inventory of geosites that require sustainable management, and on the elaboration of documents and legislation. By harmonising data collected by National Geological Surveys, GhEG provides a comprehensive and consistent overview of Europe's diverse geoheritage. Establishing robust geosite inventories demands investment, but yields significant long-term benefits, including improved geosite management and accessibility, effective conservation, and better land-use planning.

The promotion of geoheritage can generate broader societal value, stimulating responsible tourism, advancing scientific knowledge, and supporting educational activities.

Towards long-term impact

While biodiversity is well known to the general public, and measures are being taken by decision-makers to preserve it, recognition of geoheritage and its importance is yet to be fully developed[4].

We identify four priorities to properly manage geoheritage at the European level:

1. Inventories with assessment of value and vulnerability
2. Legislation towards its protection
3. Geosite conservation (geoconservation)
4. Education and public outreach

These steps are essential to preserve geoheritage as the scientific and cultural record of our planet's past, and to leverage its value for sustainable development.

The implementation and long-term success of these actions would be significantly enhanced by the establishment of a permanent **Geological Service for Europe**. This strategic vision aims to provide the essential coordination, scientific expertise, and institutional continuity required to harmonise geoheritage inventories, inform evidence-based policymaking, support conservation efforts, and foster public awareness and engagement across Europe.

Reference:

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