

Geodiversity, Geoheritage & Geoconservation

the ProGEO simple guide

Geodiversity what is its place within nature diversity?

Geodiversity is the variety of nature elements, such as minerals, rocks, fossils, landforms and their landscapes, soils, and active geological/geomorphological processes.



Together with biodiversity, geodiversity constitutes the natural diversity of planet Earth. Geodiversity underpins biodiversity and provides society with benefits based on regulating, supporting, provisioning, and cultural services.



Geoheritage what is it?

It is the abbreviated version of the term geological heritage. It is part of the natural heritage of a certain area constituted by geodiversity elements with particular geological value and hence worthy of safeguard for the benefit of present and future generations. Geoheritage can include both in situ elements (geosites) or ex situ elements (collections of geological specimens) with paleontological, geomorphological, mineralogical, petrological or stratigraphical significance, among others.



Geoconservation what is it?

Set of actions aimed at informing the management of geological sites comprising inventory and assessment, conservation, statutory protection, interpretation, and monitoring of sites.

The management of ex situ geoheritage is also a geoconservation action. Geoconservation is considered as an emerging discipline within geosciences.



Why is geoheritage at risk?

Geoheritage is a non-renewable natural resource that is affected by human and natural factors (for example, weathering, erosion, climate change). The former can lead to a partial or total loss of geological sites triggered by urban development, vandalism, smuggling, absence of a proper legal protection and international agreements, lack of expertise, and unawareness of international, national and local authorities.



Why does society need geoconservation?

The implementation of effective geoconservation strategies brings great advantages to society. Firstly, it raises awareness of the need to understand natural systems and the geological component of ecosystem services. Moreover, well-managed geological sites can support different types of sustainable use with clear benefits for the society, such as scientific, educational and economic use. This is already happening in many territories around the world such as with Global Geoparks which have been recently fully recognized by UNESCO.

Geotourism and recreational activities based on geodiversity elements are completely integrated in the aims of the International Year of Sustainable Tourism, proclaimed by the United Nations for 2017.



Geoconservation and the 2030 Agenda for Sustainable Development

The United Nations 2030 Agenda for Sustainable Development defines 17 Sustainable Development Goals to be universally applied in all countries. Many of these goals will demand proper management of nature, including both geodiversity and biodiversity.

Geoconservation may help to:

- increase the quality of education (Goal No 4)
- have clean water (Goal No 6)
- promote decent work and economic growth (Goal No 8)
- organize sustainable cities and communities (Goal No 11)
- understand climate change (Goal No 13)
- protect, restore and promote sustainable use of terrestrial ecosystems, combat desertification, and halt biodiversity loss (Goal No 15).



Geodiversity, geoheritage and geoconservation what are the challenges?

In general, society still does not fully recognize the importance of geoheritage and the need for its protection, particularly when compared to the existence of many international and national policies and strategies for the protection of biodiversity. Protected area managers need to understand that not only it is possible, but also desired that natural heritage should be managed, taking into consideration both geodiversity and biodiversity. International organizations need to be more active on the definition of geoconservation strategies and targets, hence influencing nature conservation policies of individual nations.



How does IUCN promote geoconservation?

IUCN – The International Union for Conservation of Nature – is the global authority on the status of the natural world and the measures needed to safeguard it. The interest of IUCN for geoconservation has increased in the last decade as revealed by the approval of three geoheritage-focused resolutions in 2008, 2012 and 2016, the creation in 2014 of the Geoheritage Specialist Group under the IUCN World Commission on Protected Areas, and the integration of a geoconservation chapter in the “Protected Area Governance and Management” handbook published in 2015.

IUCN is also responsible for the assessment of the “Outstanding Universal Value” of geoheritage included in new UNESCO World Heritage applications, together with a strong cooperation regarding UNESCO Global Geoparks.

ProGEO

what is it?

ProGEO is the name of The European Association for the Conservation of the Geological Heritage. This NGO started in 1993 following the establishment of the European Working Group on Earth Science

Conservation in 1988 in The Netherlands. In spite of being primarily focused on European countries, ProGEO today has members in all continents and a worldwide activity.

ProGEO is an IUCN member and an IUGS affiliate. ProGEO promotes the protection of important geological sites and landscapes, as well as the diverse heritage of geological features with scientific, educational, tourist and cultural relevance. ProGEO intends to give geoconservation a stronger voice, and to act as a forum for the discussion of significant nature conservation issues, advising and influencing policy makers.



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ProGEO is affiliated with the International Union of Geological Sciences (IUGS) and is a member of the International Union for Conservation of Nature (IUCN).

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