

GEOHERITAGE Newsletter



No. 9, February 2025



The Gunung Sewu UNESCO Global Geopark, Indonesia, is a classic tropical karst landscape (<http://www.globalgeopark.org/GeoparkMap/geoparks/Indonesia/12540.htm>). Geosite GK-07 is a viewpoint for part of the 20 km long Giritontro-Sadeng dry valley system. Surface rivers excavated the wide, deep, valley in which there are three terraces that relate to three episodes of tectonic uplift, following which the underground drainage system became sufficiently large to accommodate all flows. The valley floor has been used for agriculture since prehistoric times and there are important archaeological caves along the valley sides. The valley sides also have biodiversity value. (Photo: © John Gunn).

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Message from the Chair

Dear all,

As you may know, the Geoheritage Specialist Group (GSG) has been working very hard to establish a new IUCN program (Key Geoheritage Areas) for almost the past 10 years. The initial idea was discussed when I met our dear friend, Graeme Worboys, to prepare the establishment of the IUCN WCPA GSG because significant global geoheritage sites have been neglected and not properly conserved for future generations. Of course, both of us felt that this program would provide suitable candidates for potential World Heritage sites as well as aspiring UNESCO Global Geoparks. Also, this program would fill a gap for recognition and conservation of numerous geoheritage sites of national and international significance and should be able to provide a secured protection system at the national level. Then, I asked my former graduate student (Miss Ju) to work for her M.S. thesis on this topic. We proposed this idea at the [GSG Vilm Workshop](#) in 2018 under the title of 'Key Geoheritage Sites'. Numerous discussions were made between the WCPA GSG members and the IUCN officer (Tim Badman) who is the IUCN focal point for GSG. After discussion we decided to name this program, 'Key Geoheritage Areas', because there is already an existing IUCN program, Key Biodiversity Areas. After the Vilm meeting, I asked José Brilha to lead the Task Force team for this project, and I believe that he has made incredible achievements so far. Since the Vilm meeting I have made numerous presentations to promote this initiative at several international meetings in Taiwan (2018), Korea (2018, 2019, 2021), China (2019), Germany (2023) and Morocco (2023), as well as at meetings of ProGEO (International Association for the Conservation of Geoheritage, 2018, 2020, 2021), AMG (Asian Marine Geology, 2018), EGU (European Geosciences Union, 2019), ACKMA (Australasian Cave and Karst Management Association, 2021), GSA (Geological Society of America, 2021), ISV 21 (International Symposium on Vulcanospeleology, 2024) and IGC (International Geological Congress, 2024). The key step during this process was [IUCN Resolution 074](#) ('Geoheritage and protected areas') adopted at the last World Conservation Congress in 2020. Several IUCN members supported this resolution, and ProGEO and Sociedad Geológica de España (Spain) played a key role. All of us have tried very hard, and I hope our goal is getting close. A KGA motion for the 2025 WCC was submitted this January, and I am happy to tell you that Korea Heritage Service (the former Cultural Heritage Administration of Korea) may play a key role for potential support for the program in the future. All of us should do our best to ensure this motion is adopted at the 2025 WCC in Abu Dhabi. I am sure that the new IUCN KGA program should be a big breakthrough for geoheritage conservation in the world.

Since the Geoconservation and Climate Change Working Group (GCCWG) was established within the GSG structure in 2022, I have hoped that a great contribution can be made for our society by this working group because we have been suffering under serious threats for nature (geoheritage as well as biodiversity) conservation. GCCWG proposes to have a joint workshop with ProGEO in October 2025, and also it would be good to contribute to the UN International Geodiversity Day (6 October 2025).

Another significant achievement was made for improvement of the IUCN definition of nature by producing a significant publication and proposing a motion on this subject for the 2025 WCC (see below). I am especially grateful to Sophie Justice who took the lead on this project with support by Roger Crofts, John Gordon and Murray Gray.

The International Geological Congress was held in August 2024 in Busan, Korea, and I was able to meet numerous geoheritage colleagues there. The special workshop arranged by ProGEO was very successful and I was happy to contribute as an invited speaker and introduce past activities about cave conservation and management. It was also my great pleasure to meet my good friends on Jeju Island to have a wonderful time together.



Kyung-Sik Woo, GSG Chair

Key Geoheritage Areas Working Group

José Brilha (Chair) and Manu Monge-Ganuzas

The IUCN's WCC 2020 adopted [Resolution 074](#), which, amongst its operational paragraphs, requested the Director General of IUCN and WCPA to: "...support the development of a detailed study envisaging the establishment of a future IUCN initiative on Key Geoheritage Areas, as a complement to the existing Key Biodiversity Areas programme, in order to protect geoheritage sites of global conservation significance and move towards more integrated nature conservation".

The IUCN members who proposed the Resolution, along with the WCPA Geoheritage Specialist Group – with input from the IUCN Secretariat focal point for this Resolution – established a working group to develop this study. The requested study was drafted by the working group and submitted for consultation to gather feedback from across IUCN, particularly from IUCN members and Commissions, as well as from other geoheritage experts and organisations. The document, now being published in the IUCN WCPA Issues Paper Series, incorporates valuable comments and suggestions received during the consultation process, as well as amendments provided by two external scientific reviewers.

A KGA is defined as an "area with well-defined boundaries where significant geological features (including rocks, minerals, fossils, sediments, soils, landforms and landscapes) represent past or on-going Earth processes contributing substantially to the global understanding of the planet's history and its life-support systems and provide opportunities for increasing public awareness, knowledge and understanding of geoheritage conservation. In addition to their scientific value as geoheritage, KGA may also have supporting cultural, ecological, aesthetic, and/or educational values".

The primary aim of this initiative is to recognise and encourage countries to conserve geoheritage of international significance. It also seeks to communicate and promote this information to raise public awareness about the value of these sites, foster their conservation and advance geoconservation practices worldwide.

A motion asking for the establishment of the KGA initiative has been submitted to the IUCN World Conservation Congress, which will be held in October 2025 in Abu Dhabi, United Arab Emirates. Twenty-two IUCN members from almost all continents are co-sponsoring the motion. We look forward to having this motion approved and converted into an IUCN Resolution, enabling the initiation of this new international effort to support geoconservation worldwide.

Geoconservation and Climate Change Working Group

Wesley Hill (Chair)

The GCCWG plans to help protected area leaders to respond to climate change impacts by linking Earth science systems to ecological foundations, and to understand management of natural systems as a ‘whole’ for best practices in climate mitigation and adaptation efforts. With a focus on ‘nature-based solutions’, the GCCWG can contribute to action plans within IUCN Commissions and Specialist Groups.

The Working Group is currently organizing support for the First International Workshop on Geoconservation and Climate Change to be held in partnership with ProGEO (the International Association for the Conservation of Geological Heritage) at the XIIth International ProGEO Symposium in Romania, September 2025.

Caves and Karst Working Group (CKWG)

John Gunn (Chair) and **Baerbel Vogel** (Secretary)

The “Guidelines for Cave and Karst Protection” have now been translated into 9 languages with others in progress. The 76 individual guidelines have been translated into 21 languages. The Group continues to provide inputs to other Cave and Karst Conservation initiatives, most notably MIKAS (Most Important Karst Aquifer Springs) and GEO-7 (Global Environment Outlook 7). The MIKAS project is being led by the Karst Commission of the International Association of Hydrogeologists and aims to document the world’s most important karst springs based on five criteria: historic value; aesthetic value; economic value; scientific value and ecological value. Information is being gathered on existing protection of the spring catchment and one aim of the project is to ensure that those MIKAS not already in protected areas receive appropriate protection. As part of the GEO-7 project, cave and karst interests within two topic areas (land and soil; freshwater) are being reviewed.



The Castleton springs, Derbyshire, are one of four UK sites on the 'Most Important Karst Aquifer Springs' [MIKAS] list. The springs, and the cave system they drain, are within the Peak District National Park and receive additional protection as part of the Castleton Site of Special Scientific Interest (Photo: © John Gunn).

Members of the Group are also supporting efforts to obtain greater recognition and protection of geoheritage interest in the South Harz gypsum karst, Germany, which was visited by members of the GSG in 2018. Only a small proportion of the karst currently lies within protected areas, and other important sites are under threat from mining.



Interpretation board on a hiking trail (Karstwanderweg) in the Gypsum Karst Landscape Hainholz Nature Reserve (NSG Gipskarstlandschaft Hainholz). This is a good example of a protected area in which both geodiversity and biodiversity are recognized (Photo: © John Gunn).



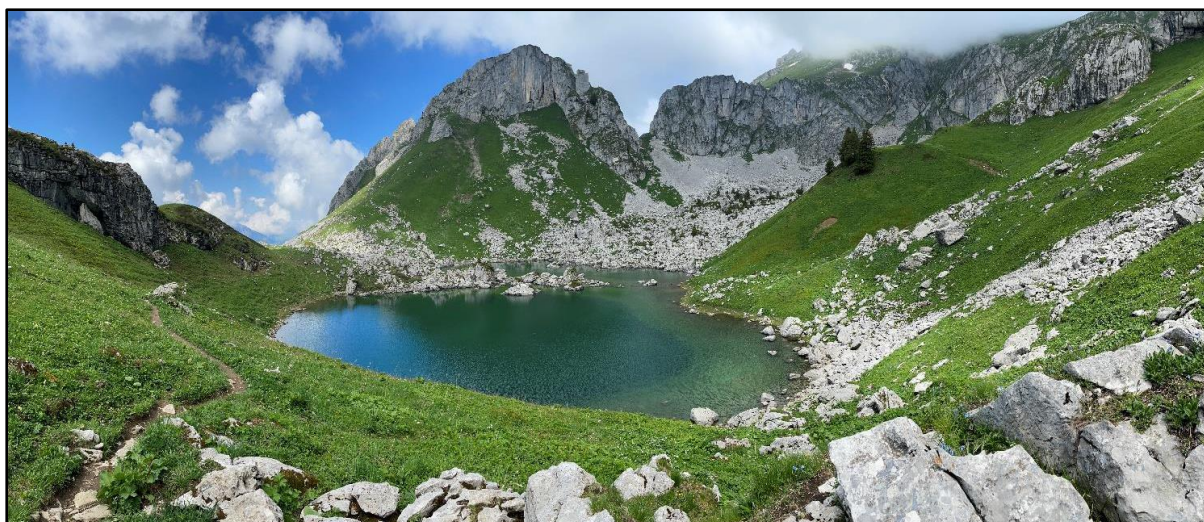
Members of the GSG at the Stags tongue fern collapse doline (Hirschzungenerdfall) in the Gypsum Karst Landscape Hainholz Nature Reserve. (Photo: © John Gunn).

STRENGTHENING THE INCLUSION OF GEODIVERSITY IN THE DEFINITION OF NATURE

Sophie Justice, Roger Crofts, John Gordon and Murray Gray

‘Nature’ is a term widely used amongst scientists, policy makers, business leaders and the public. It is central to many important international frameworks and conventions that, in turn, shape national policy and regulation towards the natural environment. Nature includes both geodiversity and biodiversity but is often equated exclusively with ‘biodiversity’. Indeed, the abiotic component is also often poorly understood and frequently overlooked to the detriment of nature conservation as a whole. For example, although the draft IUCN 20-year Strategic Vision to 2045 issued for member consultation in 2024 notes that nature is defined as “encompassing both the non-living components and the living components (i.e. biodiversity) of the natural world” (IUCN, 2024), the document makes no further reference to non-living nature, geodiversity or geoheritage.

Focusing on the biotic component alone, neglecting the all-important abiotic features and functions, such as those of the soil, water, geomorphological processes and biogeochemical systems, is no longer tenable. Geodiversity is not only inherently part of natural systems, but abiotic features and processes directly provide the key resources required for the maintenance of habitats and the functioning of healthy biota. Pursuit of aligned biotic and abiotic management and protection, informed by systems thinking and wider temporal insights from the geological record, is vital to ensure more resilient ecosystems in which all facets of nature can function fully and evolve in the face of accelerating climate change and other human impacts. More effective management and protection of the whole of the natural environment must be part of a just and sustainable future, in which humans are an integral player.



*The dynamic landscape of Lac Darbon where a glacial cirque and recent rock falls form a mosaic of habitats, Chablais UNESCO Global Geopark, France.
(Photo © Sophie Justice).*

In a recently published IUCN WCPA Issues Paper (Justice et al., 2025), we set out the case for a more integrated approach to nature conservation and the benefits arising from explicit recognition of geodiversity. They argue that a holistic definition of nature, explicitly including both geodiversity and biodiversity, would help to strengthen the whole-ecosystem approach to conservation, and improve not only conservation outcomes, but also wider positive environmental and societal outcomes on land and in the oceans. Consequently they recommend that all stakeholders define nature such that it *“refers to biodiversity at genetic, species and ecosystem level, to all the dynamic processes and features of geodiversity, and to all their interactions”*; and in shortened form, building on the definition used in the draft IUCN 20-year Strategic Vision to 2045, that nature is defined as *“encompassing both the non-living components (i.e. geodiversity) and the living components (i.e. biodiversity) of the natural world”*.

Pursuant to this, and with support from a number of co-sponsors, a motion has been submitted by ProGEO (International Association for the Conservation of Geological Heritage) for consideration at WCC 2025 at its session in Abu Dhabi, United Arab Emirates. The proposed Motion (SO62), ‘Defining nature for IUCN’s future’, requests the WCC 2025: (i) to add a small modification to the current short IUCN definition of nature to read: “nature is defined as encompassing both the non-living components (i.e. geodiversity) and the living components (i.e. biodiversity) of the natural world”; and (ii) to agree a small modification to the current IUCN definition of nature to read “nature refers to biodiversity at genetic, species and ecosystem level, to all the dynamic processes and features of geodiversity, and to all their interactions”

IUCN (2024). *Unite for Nature’ on the path to 2045: A 20-year Strategic Vision for the Union* (36 pp.) [Draft Strategic Vision, Congress Decision 147: 20 year Strategic Vision].

Justice, S., Crofts, R., Gordon, J.E., Gray, M. (2025). *The Meaning of Nature: Clarification for strengthened protection and management*, IUCN WCPA Issues Paper Series No. 5, Gland, Switzerland: IUCN. Available at: https://iucn.org/sites/default/files/2025-01/meaning-of-nature_pdf-final.pdf.

Report on UNESCO Global Geoparks and Global Geoparks Network Activities in 2024

Marie-Luise Frey

GSG Representative of the Global Geoparks Network Association, UNESCO Global Geoparks Executive Board Member

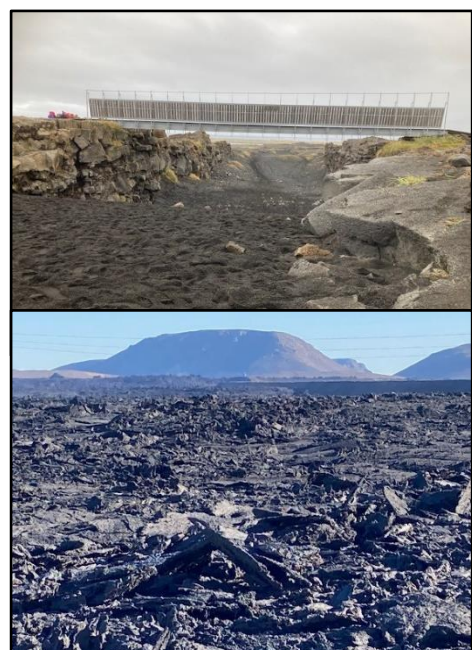
In April 2024, the UNESCO Executive Board approved the recommendations of the 8th UNESCO Global Geoparks Council in 2023 in Marrakesh (Morocco) and awarded the proposed “UNESCO Global Geoparks” certificate to 18 new UNESCO Global Geoparks (UGGps), in accordance with the Operational Guidelines of the International Geoscience and Earth Sciences Programme and on the basis of their international geoscientific significance (see: <https://unesdoc.unesco.org/ark:/48223/pf0000388581>). Four changes in size (more than 10% of the existing area) to existing UGGps were also confirmed. The new UNESCO Global Geoparks are located 6 in Asia-Pacific, 1 in South America and 11 in Europe. The Global Geoparks Network (GGN) (<https://www.globalgeoparksnetwork.org/>) now has 213 members in 48 nations with a total area of 486,709 km².

20th Global Geoparks Network Anniversary – 2004 - 2024

From spring 2024 onwards, the Global Geoparks Network celebrated the 20th Anniversary of its foundation in February 2004 at the 1st Global Geoparks Conference in Beijing (PR China) with numerous campaigns and activities (e.g. competitions for local people, schools etc). Numerous campaigns across Facebook etc helped to raise public awareness of the GGN, its working groups and high diversity of activities on climate change, sustainable development, geotourism, education and intangible heritage topics. Across regular GGN Facebook posts alone, ca. 200,000 people were engaged. Several workshops were held, and many United Nations days have been celebrated within activities of GGN members around the globe. At the 38th International Geological Conference in Busan (Republic of Korea) the GGN held a workshop in context of the 20th Anniversary of the GGN.

The UNESCO Global Geopark members, the GGN, the national Geopark Networks/Fora/Committees and the continental networks in Europe, Asia-Pacific, Latin America and Caribbean, in North America as well as in Africa have shared their experiences in their continental networks in working groups and at conferences, especially in Cao Bang UGGP (Vietnam, Asia) at the 8th Asia Pacific Network conference in September 2024 and in Reykjanes UGGp (Iceland, Europe) at the 17th European Geoparks Network Conference in October 2024.

*At the 11th EGN Conference in Reykjanes UGGp (Iceland).
Top: Continents on the move: America to the left and Europe to the right. Bottom: Recent lava flow close to Grindavik after volcanic activity shortly before the Conference. (Photos © Marie-Luise Frey).*



During the year, the GGN held several training events for members. The first International UNESCO Global Geoparks Management Course took place in June 2024 on Lesvos Island UGGp (Greece) and the second in Xangie UGGp, Province Hunan (PR China) in October 2024. The joint initiative launched by UNESCO and the Global Geoparks Network (GGN) in 2022 to promote the geopark concept in Africa and the Arab states was continued in 2024 (see below).

Report on the UNESCO International Geosciences and Global Geoparks Programme in 2024

Ozlem Adiyaman Lopes
UNESCO

Details of the UNESCO International Geoscience and Geoparks Programme milestones and support for Member States in geosciences and geoparks capacity building are available at: <https://www.unesco.org/en/iggp>

In 2024, as part of its International Geoscience and Geoparks Programme, UNESCO:

1. Funded 25 International Geoscience Programme (IGCP) research projects in collaboration with the International Union of Geological Sciences (IUGS).
2. Nominated 18 new UNESCO Global Geoparks in collaboration with the Global Geoparks Network (GGN) and organized the 9th session of the UNESCO Global Geoparks Council (see above).
3. Celebrated the 3rd International Geodiversity Day, inspiring children worldwide.
4. Organized regional Geopark workshops, conferences, and expert missions in Tanzania, South Africa, India, Brazil, Cuba, Botswana, Iceland, Vietnam, and Saudi Arabia, empowering hundreds of participants from Africa, Latin America and the Caribbean, and Asia to deepen understanding of the UNESCO Global Geopark concept in collaboration with UNESCO's partner institutions (IUCN, GGN and IUGS), UNESCO Chairs, and Category 2 Centers. The two examples below highlight the role of geoheritage in sustainable development.

Developing Geoparks in the Arab States and Middle East Region: Local Partnerships and Sustainable Practices

The Arab States and Middle East region offer striking geological features, shaped by millions of years of evolution. While geological heritage in the region is recognised through UNESCO World Heritage Sites, the concept of UNESCO Global Geoparks (UGGps)—which promotes holistic management of geological heritage—remains underdeveloped. Awareness of the geopark concept, however, is growing with many countries actively working to establish sites. Saudi Arabia has two aspiring geoparks - North Riyadh and Salma - nominated by the UNESCO Global Geoparks Council in 2024, pending endorsement in April 2025.

To address the gap, a workshop was organized through the collaboration of North Riyadh and Salma Aspiring UGGps, under the auspices of the National Center for Vegetation Cover and Combating Desertification (NCVC), in partnership with UNESCO and local stakeholders. The

event brought together 60 participants from across the region. For the first time, academic and private-sector representatives joined UNESCO experts and participants from 17 countries—including Bahrain, Jordan, Libya, Oman, Pakistan, and Palestine—to explore how geoparks promote sustainable development and empower communities.

The workshop highlighted the pivotal role of geoparks in promoting sustainable economic development. By integrating the management of geological, natural and cultural heritage, local communities are empowered to protect their landscapes and benefit from them. This concept was demonstrated during a two-day field trip to the North Riyadh aspiring UNESCO Global Geopark, 150 km from Riyadh. Since its creation, visitor numbers have increased by 30%,

driven by partnerships and businesses offering camping, hiking and guided tours, activities that connect visitors to the geological setting. Local communities play a key role in these efforts, demonstrating how geoparks can foster economic growth while preserving cultural traditions.

Education is another cornerstone of the geopark's mission. A section of the Mamalahat Al Qasab salt farm has been transformed into a visitor site where participants learned how salt—a key regional product—is extracted through brine evaporation in excavated pits. Located near the Ad Dahna sand dunes, this site showcases the ancient techniques for producing Al-Qasab's 'white gold', with its ties to geology, heritage and livelihoods.

Mamalahat Al Qasab, a commercial salt farm.
© UNESCO

The workshop demonstrated the region's commitment to advancing the geopark concept for sustainable development.

Saudi Arabia has made significant strides with ten geopark projects in progress, two of which are nominated for UNESCO designation in 2025. Pakistan launched its UNESCO Global Geoparks National Committee in January 2025, and Oman showcased plans to submit applications in the coming years. Meanwhile, Jordan presented innovative geoheritage approaches for urban revitalisation.

These efforts mark an important step in preserving the Arab States and Middle East region's



Thadiq Oasis in North Riyadh Aspiring Geopark. © UNESCO



rich geological heritage while fostering sustainable development and regional collaboration.

Challenges and Opportunities in Preserving Africa's Geological Heritage

The Blyde River Canyon is one of the largest canyons in the world, consisting of towering sandstone, quartzite hills and sheer cliffs reaching heights of over 1,000 m above the surrounding landscape. This remarkable setting hosted over 70 participants from 10 African countries for a workshop exploring the potential for new UNESCO designations in Southern Africa.

Despite immense geological and cultural diversity, the African continent has far fewer UNESCO-designated sites than other regions, and just 2 UNESCO Global Geoparks. The capacity building workshop aimed to equip stakeholders with the tools and knowledge needed to promote the geopark concept and to explore the potential for new UNESCO designations in Southern Africa (<https://unesdoc.unesco.org/ark:/48223/pf0000392201>).



The Blyde River Canyon, Mpumalanga province, South Africa © UNESCO

Early and sustained engagement with local communities is essential for a successful geopark initiative. As Mr. Narend Singh, Deputy Minister of the South African Ministry of Forestry, Fisheries and the Environment, stated in his keynote address: “All initiatives implemented on landscapes must have community benefits at their forefront.” However, implementing a ‘bottom-up’ approach in Africa can present unique challenges where there is insufficient resource mobilization and limited access to the training and expertise required for communities to effectively manage a geopark. Strong government support is essential. The workshop addressed these challenges, focusing on stakeholder collaboration, governance, and creating local opportunities.

Engaging local communities also involves leveraging their unique connection to intangible heritage, which is often intertwined with geological sites. In disseminating geological narratives and stories, local people serve as actors for their preservation.

Blyde River Canyon has significant potential as a future UGGp. It is a renowned tourist destination with cultural, ecological and geological significance. Its appeal is supported by

existing infrastructure, such as road networks and resorts, and strong ties with local communities and institutions. The area also benefits from prior research, educational initiatives, and exceptional geological diversity. Building awareness of the geopark concept among stakeholders and enhancing geological expertise on-site would help overcome key weaknesses. Additionally, mitigating threats like illegal artisanal mining and environmental impacts will be crucial to ensuring the long-term sustainability of the site.

Participants left the workshop with actionable plans, such as Nigeria's launch of a National Geopark Committee and South Africa's plans to establish one in 2025. Zambia, South Africa, and Nigeria have also secured high-level political support for the concept, a key step in driving momentum for geopark designations.

Geoheritage Activities in the USA, 2024

Tom Casadevall

USGS Geoheritage Sites of the Nation Project

The U.S. Geological Survey completed its second year of the Geoheritage Sites of the Nation project (GSNP), a multi-year project funded by the National Cooperative Geologic Mapping Program responsible for developing a geoheritage geospatial product to accompany the national seamless geologic map. The project is headed by Christina DeVera (USGS Reston, VA) and includes investigators from the USGS and collaborators from the National Park Service, American Geoscience Institute, and the Association of American State Geologists. A 2-day geoheritage seminar was held in Fort Collins, CO, bringing together USGS GSNP members, social scientists from the USGS Fort Collins Science Center, and the National Park Service Geologic Resources Inventory team to facilitate future internal and external collaborations and interdisciplinary research. In July 2024, GSNP members, Paco Van Sistine and Thomas Casadevall (USGS Denver, CO) along with the USGS National Uncrewed Aircraft Systems Office (NUSO) remote pilots, Victoria Scholl and Matthew Burgess (USGS Denver, CO) collected structure-from-motion data using a Skydio X10 uncrewed aircraft system (UAS) to develop a 3D model of the Marsh-Felch Quarry site at the Bureau of Land Management (BLM) Garden Park Fossil Area north of Cañon City, CO. The model was published in December 2024 and is available online. In September 2024, the project published the Geoheritage Sites of the Nation inventory which includes 55 sites across the United States, four U.S. territories, and Washington, D.C. Links are provided below for this and other publications including presented abstracts at conference meetings.

USGS Website: <https://www.usgs.gov/index.php/centers/geology-energy-and-minerals-science-center/science/geoheritage-sites-nation>

GSA Becomes Sponsoring Organization for the U.S. Geoheritage Committee

For the past decade the U.S. Advisory Group for Geoheritage has been housed with the U.S. National Academies of Sciences as part of the U.S. efforts to support the International Union of Geological Sciences (IUGS). In 2024, we began the move from the National Academies to our new host, the Geological Society of America. We plan to wrap up our integration efforts with GSA in 2025.

In November 2024, The Geological Society of America (GSA) announced its new role as the sponsoring organization for the U.S. Geoheritage Advisory Group / Committee. The GSA Council recently approved this motion, marking a significant transition from the U.S. National Committee for the International Union of Geological Sciences (USNC/IUGS) to GSA as the primary entity supporting U.S. geoheritage initiatives.

Under GSA's sponsorship, the U.S. Geoheritage Committee will benefit from enhanced support to advance geoheritage conservation and educational outreach. This partnership underscores GSA's long-standing commitment to the preservation of significant geologic features, landforms, and landscapes. These geoheritage sites hold value not only for their scientific and educational importance but also for their cultural, aesthetic, recreational, and economic contributions.

Since 2008, the U.S. Geoheritage Committee, initially an informal group of geoscience experts, has led efforts to promote geoheritage and support communities interested in establishing Global Geoparks. The group was formalized in 2016 to advise the USNC/IUGS on geoheritage issues and the UNESCO Global Geoparks program. With GSA's involvement, the committee will continue its mission to:

- Promote the recognition and conservation of nationally significant geoheritage sites within the U.S.;
- Develop and present educational workshops, meetings, and publications regarding America's geoheritage;
- Establish partnerships and collaborations to support a vibrant U.S. geoheritage program;
- Advise U.S. organizations on national and international geoheritage issues.

Housing the U.S. Geoheritage Committee under GSA aligns with GSA's dedication to conserving geoheritage sites to meet present and future educational, scientific, cultural, and economic needs. GSA has been a leader in promoting geoheritage through workshops, technical sessions, and publications, including GSA Today, the only U.S. geoscience journal to feature articles on geoheritage.

GSA Position Statement on Geoheritage:

<https://www.geosociety.org/GSA/gsa/positions/position20.aspx>

MOU between GSA and ProGEO

In December 2024, representatives of the Geological Society of America (GSA) and ProGEO signed an MOU to outline and guide future collaboration on geoheritage.

Chuck Bailey (President of GSA), Ester Sztein (Geological Society of America), Priscilla Grew (ProGEO), Terri Cook (Univ. Colorado and ProGEO), Christina DeVera (U.S. Geological Survey), William "Drew" Andrews (U.S. Geoheritage Committee). Portrait in the background is of John Wesley Powell, 2nd Director of the USGS).



International Geodiversity Day, 6 October 2024

Murray Gray

The third International Geodiversity Day (IGD), held on 6 October 2024, had the theme of 'Geodiversity: conserving the past, sustaining the future'. 250 events were registered on the IGD website, up from 170 in 2023 and almost the same as the 249 in 2022, though many events were held but not registered. Most of the increase was accounted for by a significant rise in the number of events registered in Iraq (56, up from 6 in 2023 and 0 in 2022). As the table below shows, European nations held the next highest number of events, with Spain, Portugal, UK, Italy and France taking the next five places behind Iraq, followed by India, then, surprisingly Luxembourg, and Poland. Significant increases in events occurred in Switzerland (on the list for the first time with 8 events), and Croatia (up from 1 to 8 events). Other good news is that the number of countries holding events was up from 39 in 2022 and 50 in 2023, to 56 in 2024. Apart from Switzerland, other new countries registering events included 3 African countries Kenya (2) plus Rwanda and Mozambique on 1 event each. On the other hand, among the countries we lost from the list this year were Ireland (5 in 2023), Indonesia (3 in 2023), Costa Rica (5 in 2022) and Sri Lanka (4 in 2022). Countries that have so far registered no events in the first three years include Australia, Germany, Russia and South Korea, and there are no events being registered in small island states. There was a significant decrease in the percentage of events held in person, down from 84% in 2022 and 80% in 2023, to 60% in 2024, the remainder being either online or hybrid sessions.

Countries with 3 or more registered events in 2024 and ordered as in 2024.

Country	2022	2023	2024
Iraq	0	6	56
Spain	26	19	28
Portugal	30	22	27
UK	29	34	18
Italy	11	4	10
France	4	14	9
India	52	5	9
Luxembourg	0	1	9
Poland	4	8	8
Switzerland	0	0	8
Croatia	3	1	8
Canada	6	6	6
Chile	2	3	5
Denmark	0	1	5
Peru	0	0	4
Brazil	5	11	4
Hungary	3	2	3
China	0	1	3
Romania	1	1	3
Japan	1	1	3

Meeting Report

ProGEO sessions at the 37th International Geological Congress, Busan, South Korea

Of interest from a geoheritage viewpoint, ProGEO (International Association for the Conservation of Geoheritage - <http://www.progeo.ngo/>) supported and funded two sessions at the the 37th International Geological Congress in Busan, South Korea, in August 2024. The first was a full-day session in the main programme on the theme, 'Geoconservation and Geoheritage: geodiversity underpinning natural systems'. Topics addressed in the oral and poster presentations addressed guidance for developing a geoconservation strategy for a territory, Key Geoheritage Areas, integrating geodiversity and sustainability, links between geodiversity and biodiversity, geohazards, and conservation of geoheritage interests in a mining area. They spanned geographical locations from the Basque Country to Korea, Latin America, the Caribbean, Saudi Arabia and Taiwan, Slovenia and Poland, demonstrating the increasing relevance, scope and global span of geoconservation activities.

The second session was a full-day short course on 'Geoheritage and geoconservation as applied geosciences: principles, methods, and challenges', with presentations from GSG members José Brilha, Maria da Glória Motta Garcia, John Gordon, Manuel Monge-Ganuzas, Kevin Page and Kyung Sik Woo. The course aimed to present and discuss the main concepts and methodologies related to geodiversity, geoheritage, and geoconservation, with particular emphasis on the management of UNESCO designated sites (World Heritage Sites, Biosphere Reserves, Global Geoparks), IUGS Geological Heritage Sites and nationally and regionally designated protected areas. The course was aimed both at participants with no previous knowledge or experience of geoheritage or geoconservation, as well as those wishing to consolidate their understanding of the concepts and principles. Topics covered were broadly based around the IUCN *Best Practice Guidelines for Geoconservation in Protected and Conserved Areas* (<https://portals.iucn.org/library/node/49132>) and included: key concepts, definitions and principles; establishing and conserving protected areas, including practical site conservation; wider values of geodiversity and geoheritage, including geosystem/ecosystem services and links with the UN Sustainable Development Goals; best practice in interpretation, education and communication. The session concluded with a case study of 'Geoheritage conservation in Korea'. Copies of the course presentations and various background publications are available at:

https://drive.google.com/drive/folders/17LWmVyWv2k5QFfm11hjutRSgWaF7BubW?usp=share_link.

The Second 100 IUGS Geological Heritage Sites

In 2021, under the International Geoscience Program of UNESCO, the IUGS initiated a rolling programme to establish a worldwide inventory of geological heritage of international value coordinated by the International Commission on Geoheritage (IUGS-ICG) and based on a set of global standards. "An IUGS Geological Heritage Site is a key place with extraordinary geological elements or processes of the highest scientific international relevance, used as a global reference, and/or with a substantial contribution to the development of geological sciences through history" (<https://iugs-geoheritage.org/selection-process/>). A list and

justification of the first 100 sites was presented at a meeting in Zumaia, Basque Coast UNESCO Global Geopark (Spain), in October 2022, and published in book form and online (https://iugs-geoheritage.org/videos-pdfs/iugs_first_100_book_v2.pdf) The meeting also adopted the IUGS Zumaia declaration (<https://iugs-geoheritage.org/the-iugs-zumaia-declaration/>), which includes recognizing geological heritage as part of the values that humanity must protect for future generations.

For the Second 100 Sites, 174 candidates from 65 nations were proposed. All were evaluated by a group of 85 experts from around the world and covering all geological disciplines. The final list of the Second 100 Sites, ratified by the IUGS Executive Committee in February 2024, is spread across 53 countries and was announced at a special event during the 37th International Geological Congress in Busan, Republic of Korea, on 27 August 2024 (<https://iugs-geoheritage.org/the-second-100-iugs-geological-heritage-sites-have-been-announced/>).

The process for the selection of the Third 100 Sites will be announced in spring 2025.

Publications of Geoheritage Interest

Justice, S., Crofts, R., Gordon, J.E. & Gray, M. (2025). *The Meaning of Nature: Clarification for strengthened protection and management*. IUCN WCPA Issues Paper Series No. 5. Gland, Switzerland: IUCN. Available at: https://iucn.org/sites/default/files/2025-01/meaning-of-nature_pdf-final.pdf

Lozano, G., Carcavilla, L., Finney, S., Hilario, A., Vegas, J., van Wyk de Vries, B., Zhang, J. (Eds.) (2024). *The Second 100 IUGS Geological Heritage Sites*. International Union of Geological Sciences. Available at: <https://iugs-geoheritage.org/publications-dl/IUGS-SECOND-100-SITES-WEB-BOOK.pdf>

Earth Heritage Magazine. Issues 60 and 61 of Earth Heritage Magazine were published during 2024. The magazine includes news and popular articles on geoconservation and is available free at: <https://www.earthheritage.org.uk/>

Forthcoming Meetings

- **Oxford Geoheritage Virtual Conference, March 10-12, 2025.** Contributions are welcome from all fields of geoheritage including geoconservation, management, classification, geodiversity, legislation, geoparks, geotourism, geoheritage and cultural heritage, and interpretation. Further information is available at: <https://www.oxgvc.co.uk/>
- **ProGEO SW Europe Regional Working Group. 2nd Virtual Conference on Geoconservation - Best practices for geoheritage protection and sustainable promotion in SW Europe. March 27th – 29th, 2025.** Further information is available at: https://www.geomorph.org/wp-content/uploads/2025/01/ProGEO_Workshop2025.pdf

- **European Geosciences Union (EGU) General Assembly, Vienna, 27 April–2 May 2025.**
The meeting includes Session GM4.5: “The Contribution of Geodiversity and Geoheritage to Society – Bridging Geoscience, Education, and Community Engagement”. This session aims to explore how geodiversity and geoheritage contribute to sustainable societies, education, and cultural identity. Further information is available at: <https://meetingorganizer.copernicus.org/EGU25/session/51781>

Also, this year a short course on "Geodiversity, geoheritage and geoconservation: tools to achieve a more sustainable world" will be offered. It will be an excellent opportunity for early career scientists and those interested in the interdisciplinary connections between geoscience, geoconservation, and sustainable development. Further information is available at: <https://meetingorganizer.copernicus.org/EGU25/session/53333>
- **International Association of Geomorphologists (IAG) Regional Conference on Geomorphology, 16-18 September 2025, Timisoara, Romania.** The theme of the Conference is ‘Geomorphology for Society: Challenges and Opportunities’. It includes session TS8: Geodiversity and Geoheritage for Sustainable Development (organized by the IAG WG on Geomorphosites and WG on Dynamic geodiversity of critical zones in mountain areas and polar regions DYNAGEOZONES). Further information is available at: <https://rcg2025.geomorphology.ro/programme/thematic-sessions/>
- **The 11th International Conference on UNESCO Global Geoparks and the 5th Ordinary General Assembly of the GGN, 8-12 September 2025,** will be held in the Kütralkura UNESCO Global Geopark in the Araucania Region, Chile. Further information is available at: <https://11thconferencegggn.kutralkura.cl/>
- **The XIIth International ProGEO Symposium, Tulcea and Cimmerian Dobrogea Geopark, Romania, 30 September - 2 October 2025.** The broad themes of the Conference are geoheritage management, geoheritage and mining heritage, geoheritage and cultural heritage, movable geoheritage, geoconservation and Geoparks, including methodologies, site management, interpretation, education and good practices. Further information is available at: <https://progeo2025.com/>

About the IUCN WCPA Geoheritage Specialist Group

Established in 2013, the Geoheritage Specialist Group (GSG) provides specialist advice and guidance on all aspects of geodiversity and geoheritage in relation to the establishment and effective management of protected areas, and to support the integration of geodiversity into all relevant IUCN programmes.

Further information about the GSG is available at:

<https://www.iucn.org/commissions/world-commission-protected-areas/our-work/geoheritage>

GSG Chair: Professor Kyung Sik Woo (happyman369@naver.com)

Secretary General: Wesley Hill (wesleymhill@gmail.com)

To become a member of GSG, geoheritage experts must be members of the WCPA.

GSG also maintains a list of 'advisors' in the wider geoheritage community, who are not WCPA/GSG members. If you would like to be included on this list and to receive details of announcements and copies of the Newsletter, please send an email to Wesley Hill, including your full contact details (address, email, country and your geoheritage interests).

WCPA and GSG Membership Update

Wesley Hill

If you know a Geoheritage or Geoconservation expert who works with protected areas and would like to invite them to be a member of our network, please email Wesley Hill (wesleymhill@gmail.com) and she can provide you with an official Letter of Invitation for them to join. You can then invite them directly by forwarding the Invitation Letter. <https://www.iucn.org/commissions/world-commission-protected-areas/get-involved>

To join the Geoheritage Specialist Group Member Network, click on the **WCPA Geoheritage, Geoconservation, Caves and Karst Network 2021-2025**. The first step is to become a member of IUCN World Commission on Protected Areas (WCPA), then the next step is to join our network of experts.

Useful Links

IUCN-WCPA Geoheritage Specialist Group: <https://www.iucn.org/commissions/world-commission-protected-areas/our-work/geoheritage>

The European Geoparks Network: <http://www.europeangeoparks.org/>

Asia Pacific Geoparks Network: <http://asiapacificgeoparks.org/>

Global Geoparks Network: <http://www.globalgeopark.org/>

UNESCO International Geoscience and Geoparks Programme:

<https://www.unesco.org/en/iggp/igcp>

ProGEO (The European Association for the Conservation of the Geological Heritage):

<http://www.progeo.ngo/>

International Union of Geological Sciences (IUGS): <https://www.iugs.org/commissions>

The GSG Newsletter is compiled by John Gordon. Contributions to future Newsletters are welcome from the wider GSG membership and others on IUCN-related geoconservation activities and issues in protected and conserved areas. Please send contributions to: jgordon0914@gmail.com.
