ProGEO NEWS
ProGEO 2023
n. 1-4
international association for the conservation of geological heritage
ISSN 2184-8300

Costa de Darwin

Proposal to create a interpretative trail on Santiago (Cabo Verde)

by: **Gordon Chancellor**
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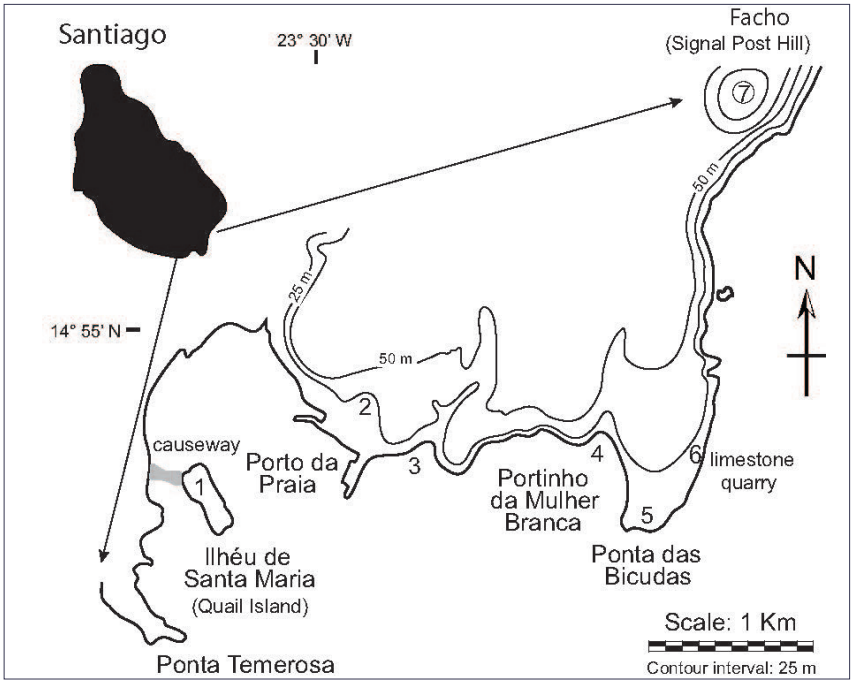
A proposal has been prepared by Gordon Chancellor, Markes Johnson and Paul Pearson, to be submitted to the Republic of the Cape Verdes for consideration. The proposal is for the establishment of a geological trail on the volcanic archipelago, situated off the Atlantic coast of Africa and visited by the naturalist Charles Darwin (1809-1882). We are very grateful for two letters of support which we are submitting with our proposal, one from the University of the Cabo Verde and the other from ProGEO.

As all geologists know, Darwin sailed around the world on HMS Beagle from 1831 to 1836 on the voyage which laid the foundation for his famous theory of evolution by natural selection. It is less well known that the first place he explored, in January 1832, was Santiago (Ilha de São Tiago) in the Cape Verdes. It was on Santiago, within days of his arrival, that Darwin realised he could make a significant contribution to geology. He returned to Santiago in September 1836, a few weeks before the end of the voyage, by which time he was already being talked about by the leading scientists of the day who by then were aware of many of his geological discoveries.



Map of the Cape Verdes showing Darwin's localities.
Courtesy of Markes Johnson

We believe that Darwin's observations, especially concerning the geology of Santiago, were crucial to his rapidly developing ability to seek explanations of the natural phenomena he observed. Each of us has been studying Darwin's research in Santiago for decades and we now believe the time is right to seek approval from the appropriate authorities to create an interpretive trail at the sites on Santiago studied by Darwin, to boost knowledge of his work there and help protect the sites.

Much development has occurred in recent years around the Porto da Praia area in the southeast part of Santiago, but Darwin would still be able to recognize the coastline he knew from his two visits to the Island at the start and finish of his voyage. During those visits, Darwin had several weeks to explore the coastline over a distance of 10km between what he called Quail Island (Ilhéu de Santa Maria) and Signal Post Hill (Monte Facho). A walking path along the coast between these two landmarks has the potential for promotion as a historical Darwin Trail (A Costa de Darwin) with proper support from the Cape Verde Republic, the seat of government of which is located in Praia. Darwin also made an excursion to Ribeira Grande, the original settlement on Santiago west of Praia, which is now protected as a UNESCO World Heritage Site.

As many as seven features, starting at Ilhéu de Santa Maria and ending at Facho across from the international airport, could be marked with appropriate signage to reflect the contributions to local geology made by Darwin. Fresh outcrops (numbers 2 and 3 on the map) underscore features that were first described by Darwin in his *Journal of Researches* (1839) regarding lava flows and beds rich in rhodoliths. The view from Portinho da Mulher Branca back towards the harbour area is essentially unchanged from Darwin's time and reflects changing sea levels on a former shoreline. The area around Ponta da Bicudas (5) is most likely where the young naturalist observed living corals for the first time and the northerly coast beyond the limestone quarry (6) is where he saw fossil-rich limestone that had been turned to marble by the heat of an overlying basalt flow.

Darwin stood atop Signal Post Hill (7) and somewhat beyond that point, it is possible to look back along the high cliffs to see the interbedded limestone and basalt flows deformed by the overlying volcano sketched in his 1844 book on *Volcanic Islands* (1844) visited during the Beagle's expedition. Darwin was sympathetic to Leopold von Buch's suggestion that some volcanic islands were not just lava accumulations but were what he called 'craters of elevation'. Charles Lyell rejected von Buch's idea in his *Principles of Geology* (1830-1833), as have most geologists then as now, but Darwin proposed Santiago as a possible example of von Buch's model.

Darwin's band of white limestone at the north limit of Signal Post Hill, Santiago.
Courtesy of Paul Pearson and Chris Nicholas

In his famous book The *Origin of Species* (1859) Darwin compared the Cape Verdes to the Galápagos Islands in the Pacific, stressing that both were volcanic and of similar latitudes and geological ages, one west of Africa, the other west of South America. Even though both archipelagos had very similar habitats Darwin realised that the first was populated by African plants and animals and the second by South American plants and animals. Darwin cited this as one of the clearest proofs that life evolves by migration and adaptation and is not created independently when islands emerge from the sea.

Relaunch of the Scottish Fossil Code

by: **Colin MacFadyen**
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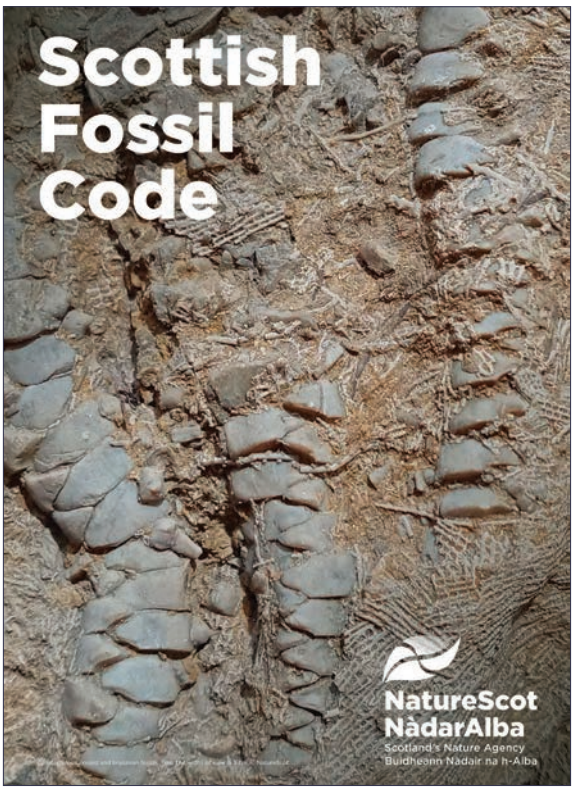

The front cover of the refreshed Scottish Fossil Code published in August 2023 and available as a downloadable pdf. At 54 pages it is a lengthy document but fulfils the duty given in the Nature Conservation (Scotland) Act 2004. Taking into account comments and experiences of users of the Code, as well as evidence of disengagement with the original Code, the refreshed Code takes a balanced and pragmatic approach to fossil collecting. The short Scottish Fossil Code Guidance document, available as a fully accessible HTML page on NatureScot's website, represents the summary 'must-read', or companion, version to the Code. © Colin MacFadyen/NatureScot.

The Scottish Fossil Code represents guidance for fossil collectors, and the owners of fossil localities, on the responsible collection and care of Scotland's fossil heritage.

First published in 2008, the 'Scottish Fossil Code', was relaunched in August 2023 after a period of consultation that highlighted the need for its updating and improvement. Refreshing the Code was necessary in the light of experience gained in palaeontological site management, since its original publication, and to accommodate comment from users of the Code's best practice guidance.

The principle change to the Code concerns messaging on its legal status and the legalities of land and fossil ownership which have been made clearer. There is the statement that although the Code is backed by national legislation the document is not a law just best practice guidance. Crucially, however, areas of the law are highlighted, relating particularly to property ownership and regulations affecting Sites of Special Scientific Interest (SSSI), that should not be ignored.

The Code now defines the different approaches and levels of collecting, namely: casual, minor, significant, large-scale, and commercial, in order that collectors are better able to appreciate how their collecting compares with others and what may reasonably be expected of them. In recognition that seeking permission to access, and collect fossils is difficult, there is the stated expectation that those undertaking significant, large-scale and commercial collecting are expected to adhere to the Code's highest standards.

For those that are minded to set aside the Code and persist to collect without heed, for the consequences of their actions, there is clear messaging that "due regard of compliance or otherwise, with the Code, may be given in the consideration of any offences and associated prosecution".

With clearer messaging the Code is now considered more impactful, balanced and pragmatic and is accompanied by the 'must-read' 'Scottish Fossil Code Guidance' summary version. It's hoped the Code will prove to be a 'can do' guidance that will find support amongst by all that have an interest in the collection and care of Scotland's fossil resources. However, the success of any code depends on its promotion and uptake. Therefore, NatureScot would appreciate advice and assistance in spreading word of the Code's existence particularly amongst the collector communities on the European Mainland.

The Scottish Fossil Code Guidance, is available as an accessible HTML page at: https://www.nature.scot/doc/scottish-fossil-code-and-guidance, the full Scottish Fossil Code being available as a downloadable pdf.

Online ProGEO Seminar

Geodiversity and Geoheritage

by: **Márton Pál**
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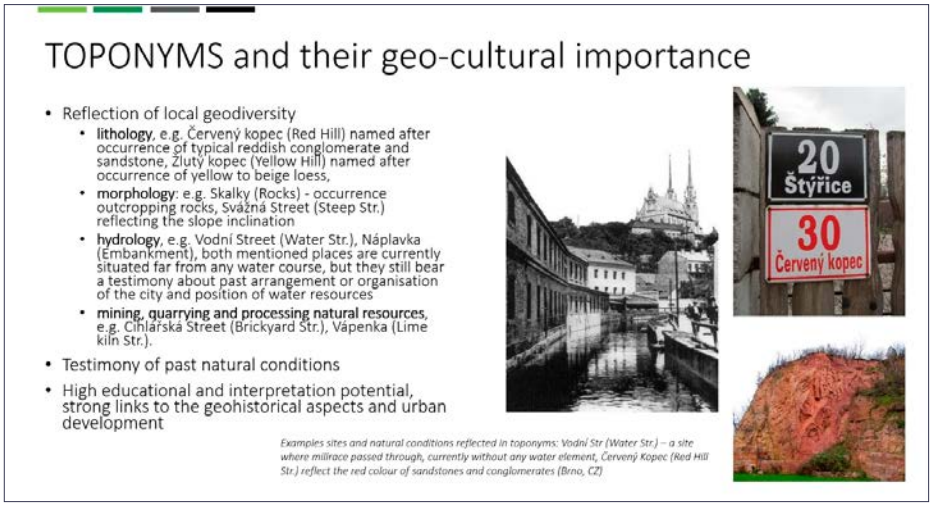
The Hungarian ProGEO group partly renewed its working strategy a few years ago. Besides the traditional scientific research and the in-person presentation meetings, new forms of communication have been introduced – partly due to the COVID. We have started to move to the online space: research and science promotion meetings have reached a wider audience through our internet channels. Presentations about the introduction of geoheritage in certain areas and seminars on concrete research results have also been organised accompanying the scientific event of the International Geodiversity Day and the Geosite Days which are held traditionally as well-established geoscience promotion events. We launched our podcast series in 2023 with which we would like to reach the younger generation.

In addition to the Hungarian language programmes, the WG decided to launch a series of online international events. The 1st Online ProGEO Seminar on Geodiversity and Geoheritage was on 29 November 2023 from 4:30–6:00 PM CET. The XIth International ProGEO Symposium in Loughborough (9–11th October 2023) was the event that gave the idea of the seminar. Lucie Kubalíková and Jack Matthews also participated in the conference, and they were glad to accept the invitation. The target group of the seminars is the rising number of international students in geosciences in Hungary and of course to provide an opportunity for science discussion.

The two invited talks were the following:

Lucie Kubalíková (The Czech Academy of Sciences, Institute of Geonics): Geoconservation and geotourism in urban areas. Geoconservation in urban areas has some specifics, as it needs to be balanced with higher pressure from human society, territorial development, and other demands on land use. In contrast, developing geotourist and geoeducational activities in urban areas sometimes seems easier than developing them in remote areas, primarily thanks to already existing infrastructure, better accessibility, or more diverse target groups. The essential role in designing such activities is represented by intense links between geodiversity and culture, which may contribute to a better understanding of geodiversity's importance, wider acceptance of geoconservation efforts, and better rational use of abiotic resources. These topics and issues will be presented and discussed within the context of the City of Brno (Czechia) and its close surroundings.



Jack Matthews (Charnwood Forest Geoheritage Conservation & Interpretation Officer): Exogeoconservation: A New Frontier for the Conservation of Geoheritage. Geoconservation is an increasingly widely adopted theoretical, practical and administrative approach to the protection of geological and geomorphological features of special scientific, functional, historic, cultural, aesthetic, or ecological value. Protected sites on Earth include natural rocky outcrops, shorelines, riverbanks, and landscapes, as well as human-made structures such as road cuts and quarries exposing geological phenomena. However, geoconservation has rarely been discussed in the context of other rocky and icy planets, rings, moons, dwarf planets, asteroids, or comets, which present extraordinarily diverse, beautiful, and culturally, historically and scientifically important geological phenomena.

With space exploration and exploitation likely to accelerate in the coming decades, a framework will be required that balances the aspirations of extraterrestrial developers with the need to conserve sites of significance. Here we propose to adapt geoconservation strategies for protecting the geological heritage of these celestial bodies and introduce the term 'exogeoconservation' and other associated terms for this purpose. We argue that exogeoconservation is acutely necessary for the scientific exploration and responsible stewardship of celestial bodies and suggest how this might be achieved and managed by means of international protocols. We stress that such protocols must be sensitive to the needs of scientific, industrial, and other human activities, and not unduly prohibitive. By modifying established practices on Earth, Exogeoconservation provides a roadmap forward that can potentially balance the competing interests as humanity increasingly turns its attention towards space exploration.

The presentations were followed by a discussion. On the one hand, the important role of field activities in education was mentioned. There is a need for volunteering geoscientists in science communication tasks as everyday people get less and less information about the nonliving environment. Regarding exogeodiversity there is a concern about the unformed legislative background of the geoheritage in space. Without it protection is very difficult – although these formations relating to natural processes or human activities may be the subject of our future life.

There were 30-35 participants during the meeting. The recorded version can be viewed on the YouTube channel of the Hungarian ProGEO Working Group: https://www.youtube.com/watch?v=g8zz0blvfZk. We plan to continue the seminar series – at least with one occasion per academic semester by inviting interesting topics dealing with geodiversity, geoheritage and geoconservation. This can be a good platform for not just experienced researchers but also for students and early career scientists to establish some scientific connections.

Kvitskriuprestein
a Norwegian Geosite

by: **Lars Erikstad**
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Management on active geomorphological Geosites is always a challenge. The processes will in many cases be destructive and threaten landforms made by the very same processes. In ProGEO NEWS No 1 2006 such a case was described and the rationale for a management strategy based on the acceptance that active processes would eventually destroy well developed landforms protected by law. "The white priests" (Kvitskriuprestein) in the Gudbrandsdalen valley, central south Norway was a small group of earth pyramids protected as a natural monument in 1977. It has for a long time been a major tourist attraction in the district of Northern Gudbrandsdalen and is visited by many people every summer. The aim of the legal protection is to "conserve a group of well-developed earth pyramids as an example of soil erosion which is rare in North-Europe ". Earth pyramids are only known in a few places in Norway, all in the area near to Kvitskriuprestein. The landform has been listed as Critically Endangered (CR) in the Norwegian red-list of landforms (artsdatabanken.no/rln/2018/207/jordpyramide?mode=headless).

Kvitskriuprestein 2008. It is clear that the erosion is about to reach a new phase

Kvitskriuprestein 2023

This summer the last group of large pyramids fell over, and the area no longer contains impressive pyramids as it had before. The erosion in the rather consolidated till does, however, continue and some few small pyramids do still exist. Maybe some new, smaller pyramids still can be formed, but the time of the big, impressing "priest" is certainly over. The scientific interest in the area can still be demonstrated, but the quality of it as a major tourist attraction is over. There have been several suggestions in the past to manage the site with interventions to secure the pyramids physically. This would, however, mean that the natural process had stopped. I still think that we in cases like this should have enough respect for the processes of nature and let them work as they should, even when landforms and structures like these transform and eventually will be lost.

Geoheritage management in UNESCO
a workshop with ProGEO support

by: **José Brilha**
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The UNESCO International Geoscience and Geoparks Programme Secretariat, in collaboration with the World Heritage Centre and experts from ProGEO and IUCN, conducted a workshop from November 3rd to 6th (2023) in the fascinating setting of the Azores UNESCO Global Geopark in Portugal.

Designed for the benefit of staff and managers responsible for World Heritage properties (designated under criterion viii) and other nationally or internationally designated areas (such as biosphere reserves, global geoparks, national parks, etc.), the workshop aimed to build the capacity of UNESCO designated site managers in several key areas:

1. Recent Developments in Geodiversity and Geoconservation: Participants were updated on the latest advancements in major concepts related to geodiversity and geoconservation methods and technologies.

2. Identification and Mitigation of Threats to Geoheritage: The workshop delved into the identification and adaptation of both natural and anthropic threats to geoheritage, providing strategies for effective mitigation.

3. Efficient Geoheritage Interpretation Strategies: Managers gained insights into developing effective strategies for interpreting and communicating the significance of geoheritage to diverse audiences.

4. Integration of Management Plans: The workshop emphasized the integration of geodiversity and geoconservation in management plans across different UNESCO designated sites within the same territories, fostering a holistic approach to conservation.

Furthermore, this workshop intended to help natural UNESCO designated sites managers for the development of new geoconservation strategies in their territories and improve existing strategies and to assist the nomination of new geological UNESCO designated sites.

A total of nineteen participants from 13 countries, including Argentina, Canada, Ecuador, Iraq, Mexico, the Philippines, Poland, Portugal, Saudi Arabia, South Africa, Spain, Tanzania, and Zambia, actively engaged in the workshop through both online sessions and in-person training on the Terceira and Graciosa islands. Twelve experts presented keynotes and case studies, enriching the learning experience for all involved.

As the inaugural edition of this workshop, its success sets the stage for future editions, with the expectation that similar training initiatives will be replicated across other continents. This expansion aims to provide more UNESCO designated site managers with the opportunity to benefit from this valuable capacity-building experience and to spread the word about ProGEO and its aims.

Report on activity in 2023

Regional Group - Latin America and the Caribbean

by: **Maria da Glória Garcia**
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In November 2022, a working group, comprising ProGEO members from Brazil, Chile, Colombia, and Uruguay (Maria da Glória Garcia, Brazil; Juan Esteban Quintero, Colombia; Mauricio Faraone, Uruguay; Tomás Martínez Ortega, Chile; Camilo Vergara Daskam - Chile), took the initiative to lay the groundwork for a regional branch in Latin America and the Caribbean (LAC). From then on, some initiatives started to be carried out:

1) As an initial step, a trilingual online survey was disseminated across the region, yielding nearly 230 responses (64.5% Portuguese, 34.6% Spanish, 0.9% English). The survey facilitated the creation of a database of individuals interested in engaging with the new network, expressing enthusiasm for the first online workshop (93.9% positive) and a future executive committee (60.5% positive).

2) On April 26th 2023, the ProGEO LAC workshop materialised. The morning session delved into ProGEO's history, its role in geoconservation, its connections with global conservation institutions, and the importance of regional groups, with invited talks by Ewa Głowniak (in English), Manu Monge Ganuzas (in Spanish) and José Brilha (in Portuguese).

The afternoon session featured participants from twelve countries who shared insights into the state-of-the-art of geoheritage and geoconservation in their respective territories, with talks by José Luis Sánchez (Ecuador), Dennis Pérez (Costa Rica), Camilo Vergara (Chile), María da Glória Garcia and Marcos Nascimento (Brazil), Grupo Museo Geológico e Investigaciones Asociadas (Colombia), Walter Hernández (El Salvador), Sherene James-Williamson (Jamaica), Mauricio Faraone (Uruguay), Rita Rodriguez (Panama), Emmaline M. Rosado González, and José Luis Palacio Prieto (Mexico), Fernando Miranda (Argentina), and César Augusto Chacaltana Budiel (Peru). Link to the presentations: (www.youtube.com/watch?v=xu_jEb6fsyw).

3) On October 2023, the ProGEO LAC regional group attended the XIth International ProGEO Symposium in Charnwood Forest, UK. In this meeting, Maria da Glória Garcia and Maurício Faraone presented the poster 'Towards the creation of the ProGEO Latin American and Caribbean regional group'. Apart from sharing advances on the creation of the LAC network, the event was an opportunity for networking and contacting colleagues from the region to collaborate with the ProGEO LAC working group.

4) On November 30th 2023, a second workshop with the theme "Geoheritage map of South America" was held. On the occasion, two presentations took place. The first, by Maria da Glória Garcia, introduced ProGEO´s method for geoheritage inventories and its application to the State of São Paulo, Brazil. The other, by Carlos Schobbenhaus, from the Geological Survey of Brazil and coordinator of the South American Platform branch, met the advances in the South America´s Geoheritage Map since its approval by the Commission of the World Geological Map, in 2018. Link to the presentations: https://www.youtube.com/watch?v=HhxvCvsG3e0&list=PLdqZRLFj_yRvmpvoRz_sPIZTQrYaxV4gS. Both workshops were broadcast in the YouTube channel of the Brazilian Association for the Defense of Geological and Mining Heritage (AGeoBR).

This working group signifies the initial strides toward integrating activities throughout geoconservation in Latin America and the Caribbean. It encompasses the development of inventories, the establishment of appropriate statutory frameworks, and the promotion of best practices for managing geodiversity and geoheritage to address society's most pertinent socio-environmental challenges. The formation of a diverse ProGEO LAC regional committee aims to consolidate efforts, encourage collaboration, and leverage the geological heritage of the region for sustainable development. The goal is to sustainably advance collaborative and coordinated actions among geoconservation professionals in the LAC region for the betterment of its communities and overall development.

Syn-genetic geological sites in Albania

by: **Afat Serjani**
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In some before papers on geological heritage, I have treated the geological context of geological sites. Commonly, geological sites represent rare, unique and pattern, unrepeatable geological phenomena. They reflect the history of the Earth Crust during a separate geological period. In continuation of the study on geological context of geosite (Serjani, 2020), here, for the first time have used new concepts and denominations, in accordance with the genesis of formation. In this paper we use below the concept: "syn-genetic geosite", or "syn-sedimentary geosite" in case of sedimentary rocks and 'syn-genetic" or 'primary geosite" in case of magmatic rocks.

Since the first European Meeting in Bulgaria, the group of researchers (W. A. P. Wimbledon et alt., 1996) have pointed that "A site' appearance often belies its significance and the information it can still provide (for research and education): it is the interpretation of events and processes in space and time, based on site information, that is at the heart of geological research and knowledge".

In this context, in Albania, it is studied geological story of geosites, including orogenesis, structural events, paleogeography, sedimentary sequences, magmatic and metamorphic processes, geomorphologic cycles and landscapes. Geology of the syn-sedimentary geosites it is studied in details, by sedimentology and by sequential stratigraphy.

There are done some classifications of geological sites (Anon, 1995, Zagorchev and Tzankov, 1996, Wimbledon et alt., 1998, Serjani A., 2014). In all these classifications there are presented commonly the groups of stratigraphical and magmatic geosites. Zagorchev I. and Tzankov Tz (1996), have proposed a separate group of geosites named: "Geological sites of the special scientific importance" (GSSI). In my opinion in such group of geosites can be included just the most part of the syn-sedimenary and syn-magmatic geosites,

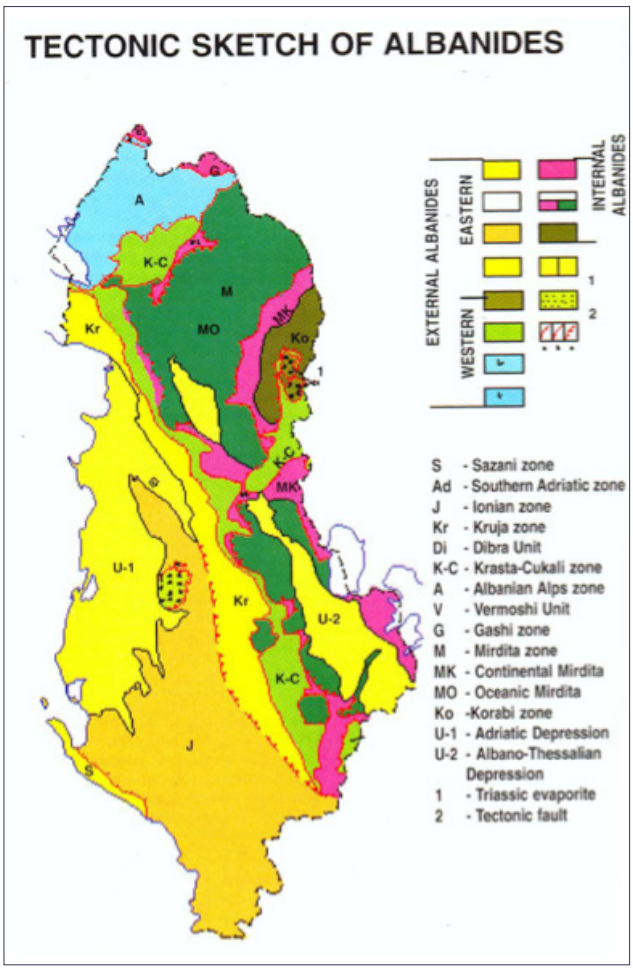
In this paper is presented the geology of Albania and the distribution of the sedimentary formations and sedimentary basins in external tectonic zones, in Albanian Alps and in Cukali tectonic zone, side by side with an overview of the distribution of magmatic rocks in Mirdita tectonic zone. An evaluation of geotourist values of geosites in Albania is presented along with four main geotourist trips all over country.

Albania is situated on the western side of the Balkan Peninsula. Albanian territory it is made up of sedimentary rocks: Mainly by carbonate, by flysch and molasse forma¬tions. In Mirdita zone there are formed magmatic rocks, (ophiolite rocks), and basic volcanics. The western part of the country, which belongs to the Pre-Adriatic Depres¬sion (PAD), is covered by molasse formation.

Albanian territory is part of the "Alpine, Mediterranean, folded Chain", and is placed in Dinaride-Albanides-Hellenides Arc. South-western part of the Albanian territory represents so called "Orogene", placed between African Plate (Adria Microplete) west, and Euro-Asian plate (Mirdita Ophiolite tectonic zone), east. The contact of Adria Microplate outcrops only in Llogara Pass, where shallow water limestone of Sazan-Karaborun platform west is plunged to the east, below the thick section of dolomites and carbonates of Ionian zone (Tectonic Map of Albania).

Albanides represent the most suitable territory to observe geological phenomena, some of them represent geological sites, such as: Mirdita ophiolite complex; thrust tectonics; the stratigraphy of sedimentary series starting from Ordovician-Silurian up to Pliocen-Quaternary. Some transgressions and break in sedimentations are formed as well.

The main contribution in geological heritage conservation, on geological sites and geotourism in Albania, is done by ProGEO-Albania and by Geological Survey of Albania. In external Ionian, Kruja and Krasta tectonic zones there are wide spred sedimentary rocks, mainly carbonate, flysh and molasse formation (Geological Map of Albania). In inner, Mirdita tectonic zone thera are widespread magmatic, ophiolite rocks, while in Korabi zone outcrop the oldest ordovician rocks. In southwestern part, in Sazan-Karaborun tectonic zone, which belongs to the African Plate (Adria Microplate) there are spread fine bedded limestone rocks of Cretaceos age. There are algal limestone full of macro faune, gastropods and rudists.



Magmatic rocks, ophiolite there are wide spread in Mirdita tectonic zone. They are placed in two main belts: Eastern and Western belt. Eastern Belt is constituted by peridotite basal massifs (myllonitic and porphiroclastic harzburgites of low content of T). Mantle section is followed by harzburgites and dunites, which predominete, and by low content of lhercolites and vherlites. Gabbro rocks are of three types: Layered, foliated and isotrope.

Many singenetig geosites are widesprea in layered gabbro section. Eastern ophiolite Belt has a high chromite potential formed in peridotite-dunite magmatic sequence.

Western Belt represents a deep mantle section of harzburgites followed upward by the plagioclase and hornblend peridotite, followed by gabbro section. There are also un-deformed gabbro inclusions, while the sheeted dyke complesx and pillow lawas there are best geosites in ofiolire rocks.

Sedimentary rocks in Albania there are widespread mainly in external zones and in Albanian Alps tectonic zone. They were formed in different geological periods from Ordovician up to Quaternary ones. Syn-sedimentary geosites there are formed in carbonate basins, in molasses of Pre-Adriatic Depression, in inner depressions, and in flysch formations. Geological sites formed during sedimentation of the sedimentary rocks we have named as "syn-sedimentary geosites", formed at the same time as the source rocks.

Many syn-genetic geosites there are formed in limestone and dolomite beds, intercalated with thin siliceous beds and concretions, in Ionian, Kruja and Krasta, tectonic zones.

In the most southwestern part of Albania it is Sazan-Karaborun Carbonate Platform, which is constituted by very clean, and fine bedded limestone of Cretaceous age. Nice bedding of the algal limestone full of macro-fauna of rudists and gastropods, which represent syn-sedimentary geosites are formed in limestone beds.

Syn-sedimentary geosite, Upper Cretaceous limestone, Muzina Northen slope

In Ionian Basin, carbonate rocks there are widespread. They are placed in anticline chains of southeast-northwest strike, divided mainly by thrust tectonics. There are intercalations of dolomite beds with limestone one. Many syn-genetic geosites there are formed in limestone and dolomite beds, intercalated with thin siliceous beds and concretions, in Ionian, Kruja and Krasta, tectonic zones.

After Lower-Middle Liass there were formed under water gaps in sedimentation, which are representing geosite, while during Palaeogene period, some transgressions happened.

In Ionian zone, in western part, there are widespread molasses, where there are intercalated clay beds and packets with sandstone beds and packets, forming original geological sections of regional importance. At the same time, there are formed some unique, full sections, which represent geological sites of regional importance, proposed to be as stratotype sections

Syn-sedimentsry geosite: Limestone beds intercalated with siliceous beds

Kruja zone it is constructed by thick dolomite and limestone rocks. Here, it is developed dolomitization process of primary limestone. At that time there are formed some nice outcrops of siliceous small pieces, formed in situ, during sedimentation of limestone.

In Mirdita zone as cover of ophiolite massifs it is formed thick packet of Cretaceous fine bedded limestone from Bitinca south up to Kruma north. It is named as ophiolite cover. They are bedded limestone everywhere, and in some places with bauxite beds.

Albanian Alps zone it is constructed by limestone and dolomite rocks. Especially, very nice and important there are thick limestone sections in Tamara and Curraj Region. Leqet e Hotit Mesozoic section is a stratotype section full of macro fauna of different ages.

Thick, fine bedded section of limestone rock there are formed in Cukali tectonic sub-zone. They form colored outcrops and very nice secondary geosites of different foldings.

Magmatic rocks in Albania, are wide spread in Mirdita tectonic zone and less in Korabi tectonic zone. Albanian ophiolite there are spread out over a 250 km long. Predominate ophiolite rocks, which are placed in two main belts from south-east to north-west. Based on ophiolite pseudo-stratigraphy, petrological, geochemical and metalogenic characteristics, two different ophiolite belts were distinguished: western and eastern-type ophiolite (Shallo et al., 2013).

Pillow lavas complex as primary geosite in volcanic rocks

Easterm Belt is represented by basal peridotite masifs (myllanocratic porphiroclastic harzburgites. Mantel section, is followed by large massive dunite, which predominates and less lhercolite, wherlite. Gabbro are of three types (layered, folded and isotropic). Eastern belt is rich in chromite deposits, which are concentrated in harzburgite-dunite sequence of the magmatic section.

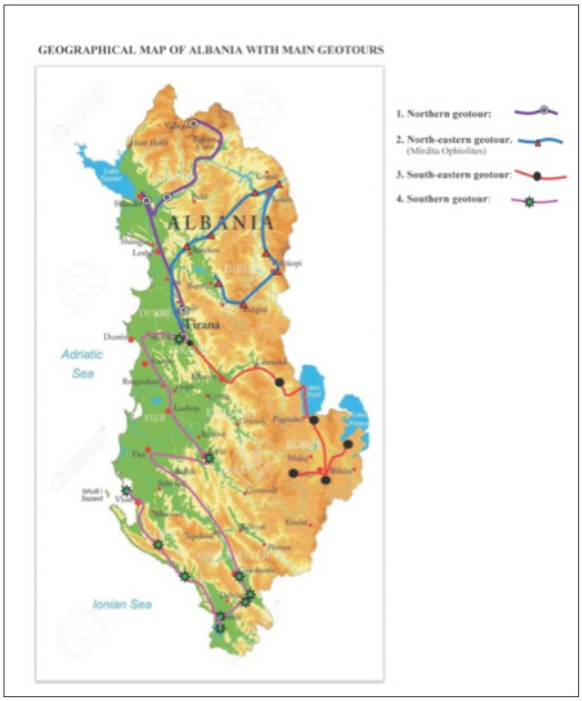
Western ophiolite Belt represent a deep mantle section of harzburgite followed upward by the plagioclase and hornblend peridotites, and gabbro section.

In ophiolites of both belts there are formed many primary syn-genetic geosites. It is determined the primary stratification of the ultrabasic massifs of Albania (Serjani, A. 1966). In peridotite sequence, during primary crystalization of the magmatic melt, there are formed a lot of primary geosites. The same happened with chromite crystals, which during magmatic segregation, they have formed primary ore bodies and banded poor concentration in dunite sequence. Pillow lavas and Sheeted dyke complex there are very interesting magmatic phenomena in ultrabasic rocks.

There are some secondary phenomena in ultrabasic rocks, such as magmatic folding in Krrabi ultrabasic massif in Puka region, and secondary, folded large ore body of Bulqiza large chromite ore deposit.

Due to its geological position and mountainous relief, in Albania can be observed several geological phenomena, most part of them represent geological sites.

The larde Geodiversity can be a very good base for development of geotourism all over Albania (Serjani A., et al. 2003, 2008, 2019, 2021). The current socio-economical conditions in Albania, central and local communities, are waiting for intensive development of tourist and geo-tourist industry. Geological sites in most cases there are near or next to the cultural heritage, some of them protected by UNESCO.



Geographical Map of Albania with the four main geotours

1. Northern geotour: Tirana-Shkodra-Bajram Curri-Valbona. Along with this geotour there are located Tirana molasse Basin, Kruja carbonate platform ridge, Rozafa Castle, Komani structural-folded site, Fierza lake (trip by ferryboat). The last stop is Valbona geopark.

2. Nort-eastern geotour (Ophiolites): Tirana-Kuksi-Peshkopi-Bulqiza Chromite deposit-Burreli-Skenderbeg ultrabasic massif and Shkopeti gorge. In this geotour, there are located Mirdita copper deposits, Kuksi stratified ultrabasic massiv, Bulqiza chromite deposit of folded morphology of ore body, Plani Bardhe glacial valley, Shkopeti Gorge and Skanderbeg ultrabasic massif.

3. Southeastern gotour: Tirana-Elbasani-Pogradeci-Korça-Prespa Lake-Voskopoja: Along which there are located Skanderbeg table, Pogradeci (Ohrid) lake Driloni and Tushemishti geotourist-rest spots, Kamja stone, Mborje-Drenova molasse section, Dardha and Voskopoja geotourist villages, and Prespa interborder lake.

4. Southern geotour: Tirana-Berati-Gjirokastra-Saranda-Vlora-Tirana.

This is the most interesting geotour, where is combined geoheritage with Cultural heritage. Along with this geotour there are located Berati; Gjirokastra museum cities, and Butrinti archeological center. There are molasse formations of Pre Adriatic Depression, Greshica transgression, Mali Gjere pattern stratigraphical section, Ksamili tourist spot Butrinti Archeological spot and the contact between African Plate (Adria Microplate) with Orogen in Llogara Pass.

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XI ProGEO Symposium in Loughborough
how we will remember it

by: **Ewa Głowniak**
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The 11th ProGEO International Symposium was held in Loughborough - a university town in Leicestershire, central England (UK) - from 9 to 11 October 2023. The theme was "Celebrating Geoheritage, Promoting Geoconservation". The conference was organised by a team of people working on a project for Charnwood Forest Geopark (Charnwood Forest Organizing Group for ProGEO). Charnwood Forest aspires to join the Global UNESCO Geoparks network.

The conference was held under the auspices and with the financial support of the International Association for the Conservation of Geological Heritage (ProGEO). The conference was attended by more than 100 people from twenty four countries, including seven countries outside Europe. For objective reasons, there were no representatives from the East European Working Group. The venue for the conference was Loughborough Town Hall. The Main Hall was the venue for oral presentations. Poster sessions were held in an adjacent Victoria Room. The scientific programme of the conference included three days of oral presentations and poster sessions.

The issue of preserving the paleontological heritage was addressed by the keynote entitled „England's National Nature Reserves: An Example in Telling a Country's Geological History", delivered by Dr. Jonathan Larwood (Principal Adviser – Geodiversity at Natural England, UK). In his talk, Dr. Larwood commemorated the achievements of Helen E. Boynton - an eminent English geologist who, with her tireless work, contributed to the discovery of many new paleontological sites bearing late Neoproterozoic (Ediacaran) biotas in Charnwood Forest. Her pioneering work in promoting the study of these palaeontological finds has brought worldwide recognition to the geosites of Charnwood Forest.

Victoria Room: poster sessions and refreshments

More than a dozen talks and posters were presented in the "Conservation of Palaeontology" thematic session, including those from Canada (Newfoundland), England, Poland, Romania and Scotland. One of them was on the development of the Scottish Fossil Code, which a team from NatureScot (UK) is working on. Its goal is to protect the non-renewable resources of Scotland's paleontological heritage, setting an example for other countries.

Geoconservation issues made up the bulk of the presentations. Among other things, it was discussed how ProGEO's geo-protection strategies integrate with similar activities undertaken in various committees in other scientific organisations: IUGS, IUCN or the European Federation of Geologists. An example of this was the scientific summary of the recent UNESCO IGCP-731 project "IUGS Geological Heritage Sites' led by IUGS Commission on Geoheritage. This was a project that reactivated in a modified form the earlier (completed in 2008) "Global Geosite Project "promoted by ProGEO, IUGS and UNESCO. In turn, UNESCO's role in creating and implementing geoheritage conservation was recalled in a talk focused on the initiative on Key Geoheritage Areas, co-authored by ProGEO and adapted by IUCN as Resolution 74 in 2020. The goal of this initiative is, among other things, to protect geoheritage sites of global conservation significance. Good and poor practice in spreading awareness of Geoheritage was presented in a contribution summarising 30 years of work with geosites at the IUCN World Commission on Protected Areas. Furthermore, the current status and future tasks of the IUGS Geo-Collections Subcommittee of the IUGS Geoheritage Commission established to identify and define what we should understand as "geological heritage" were discussed.

The state of geoconservation in Europe was discussed with examples from various European ProGEO Working Groups (SE, SW and Northern European WG). Legislative issues included a talk highlighting the impact of legislative diversity on geoconservation at the level of autonomous communities in Spain (SW European WG).

Noteworthy is the large number of talks and posters presented by conference participants from Latin America and the Caribbean (Brazil, Colombia, Mexico, Uruguay), Australia (Tasmania), North Africa (Morocco) and North America (Canada). Among the issues discussed were the initiatives taken in 2023 to establish the ProGEO Latin America and Caribbean (LAC) Regional Group, which has resulted in a sevenfold increase in the number of members this year, who are now recruited from five countries in the region.

Issues of geoconservation as a discipline just forming in universities, institutions and government in LAC countries were discussed using the example of Brazil. Colombia, in turn, presented the issue of strong social conflicts leading to internal wars is being faced by academia in this country. The "learning route on geodiversity" is an initiative launched to explore how geoconservation initiatives can help build peace in the interiors, and what educational activities to take to spread geoscience knowledge in Colombian society. From the area of Morocco, the issues of geotourism and its enablers for promoting the Beni Mellat Atlas Mountain Geoheritage were presented. In turn, the inclusion of post-mining areas associated with already-completed polymetallic deposits in geoconservation strategies is an issue that geoconservationists in Tasmania are working on.

An interesting theme appearing in many of the papers by geoconservationists especially of the younger generation was the importance of the use of advanced digital tools, 3D modelling for the presentation of sites, the use of virtual reality (VR) technology and artificial intelligence to enhance the educational effect of earth science students and the outdoor community, and for geoscientists with invisible illnesses and disabilities to integrate them into field work (presentations from Australia – Tasmania, Hungary, France, Canada and the UK).

Although not all submitted participants were ultimately able to come to Loughborough (e.g., Ukraine, India, Pakistan and Cameroon), the titles of their submitted abstracts nevertheless announced promising issues in geoheritage, geoconservation and geotourism being developed in these countries.

On the second day of the conference there was a half-day intra-conference field trip to Bradgate Park (a mediaeval deer park) to examples of the Neoproterozoic rocks Charnwood Forest is famous for. There, the landscape of gentle hills is varied by exposed rocks. Among others, there is an exposure of sandstones and siltstones that bear the Ediacara biota (562 Ma). From these rocks come the finds of the earliest tissues, discovered and first described in the 1950s, and studied in subsequent years, including by Helen E. Baynton. The Bradgate examples of Ediacaran animal tissue organisms include genera such as Bradgatia, Charniodiscus as well as Charnia. The locations from where these taxa were found are not made public to avoid acts of devastation of these sites.

The symposium concluded with a closing ceremony led by Dr Jack Matthews (Charnwood Forest Geopark). This was followed by a General Assembly, which was attended by ProGEO members. The General Assembly Minutes are printed further in this issue of ProGEO News.

In the evening, a Symposium Dinner was held, where only local produce from Charnwood Forest Geopark was served, including deer dishes and white and red wine produced at a local vineyard. A toast on the occasion of the 30th anniversary of ProGEO was given by outgoing President Lars Erikstad (Norway), who was one of the founding members of the organisation. Words in which one could sense the shadow of a farewell were also spoken by Tapio Kananoja (Finland) who has been involved in ProGEO for almost 30 years, acting as Vice-Secretary in the ProGEO Executive until October 2023.

The ProGEO Symposium will be remembered as a landmark scientific event, in which, from the perspective of thirty years, it is clear that the aims of the organisation are still important to people and increasingly younger generations want to engage with them.

We would like to thank Jack Matthews and the entire Charnwood Forest Organizing Group for ProGEO for the effort, time and heart put into organising the 11th International ProGEO Symposium in Loughborough.

Delegates to the 11th ProGEO Symposium at Bradgate Park, Charnwood Forest Geopark
Courtesy of Alicia O'Leary

XI International ProGEO Symposium
the pre symposium fieldtrip

by: **Lars Erikstad**
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The pre-symposium trip was a one-day excursion centred around Geosites in the Black Country UNESCO Global Geopark. It was led by Graham Worton, Geopark Lead and Keeper of Geology at Dudley Council, and Colin Prosser, Principal Specialist in Geodiversity at Natural England.

During the day we visited many of the sites that have gained the Black Country Geopark its reputation for exceptionally preserved Palaeozoic fossils and best practice in the management of urban geosites. The day started with a visit to the headquarters of the geopark where we got an introduction to the geology, mining heritage and palaeontology of the Black Country UNESCO Global Geopark. We toured a small, but very impressive museum and got a good glimpse of very well-preserved fossil specimens from the area.


On the way to an underground geological excursion by boat

The geology was presented with enthusiasm and gave us also good insight into the important role of the area in the Industrial Revolution. I will first and foremost mention three of these stops: The Dudley Canal & Tunnels, Wrens Nest and Saltwells National Nature reserve.

The first stop was where we visited the Dudley Canal & Tunnel Trust. Here we had an underground boat excursion into the Silurian limestone strata of the Castle Hill anticline – a palaeozoic inlier within the Coal Measures strata of the coalfield. The trust has done a great job opening up and restoring the old canal system and produced a geological attraction of the highest quality. The works here are still in progress. The underground canal system is closely linked to the next stop of the field trip which was the Wrens Nest National Nature reserve. Here we were presented with the famous geological Silurian Homerian strata. This is a classic palaeontological locality and a key locality associated with Murchison's definition of the Silurian System in 1839.

These Geosites are situated in an urban environment which give a lot of challenges for the management of the sites. I remember visiting the area many years ago and the issues then was how to establish a management system that could protect the valuable geoheritage but also be in balance with the needs and development of its urban communities. It was impressive to see how this has been developed and to experience the sites, their information posters, paths and the general positive interphase between the geology and the local communities. It is understandable that this area has been important in evolving many other urban Geoconservation practices in the UK. There is a lot to be learned here!

Another very important stop was in the Saltwells National Nature reserve. This was the newest geological National Nature Reserve in the UK. Saltwells Wood is the largest woodland in the area. Parts of it are designated as Ancient Woodland meaning they have been around since at least 1600. Today it is home to many species of wildlife and flora. The Doulton's ClayPit shows a section through the rocks of the Middle and Lower Coal Measures. It was abandoned in the 1940s, the clay pit has been reclaimed by nature and now has unusual plants including hundreds of common spotted and southern marsh orchids together with highly important geological sections. The managing of such combined sites can also be challenging, and it is important to learn from practical experiences. The combination of geo- and biodiversity as well as the dependence between them must be handled in a balanced management that requires good interdisciplinary understanding and cooperation between all involved interests and parties.

The management challenge of ongoing processes. This nicely rifled surface is gradually destroyed. But beneath new surfaces are exposed. Research has revealed several layers containing ripples below these two layers

The Black Country UNESCO Global Geopark is certainly worth a visit, and we are grateful to the park and the field trip leaders for an inspiring day exploring important parts of it!

ProGEO
Minutes of the X General Assembly

by: **Ewa Głowniak**
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The General Assembly was held on 11 October 2023, 4-6 pm, after the conclusion of the XI International ProGEO Symposium in Loughborough, UK. There were 77 ProGEO members present, including institutional members. The number of members participating in the online ballot was 201 members (57% out of a total of 357 members including institutional members). The minutes refer to "Documents for the ProGEO 2023 General Assembly", which will be distributed to all ProGEO members in due course or archived by the Executive Secretary.

The President of ProGEO, Lars Erikstad, opened the X ProGEO General Assembly. The reports were then read out.

1. Reports of the President, the Executive Secretary and the Treasurer for the years 2021-2022

The President, Lars Erikstad (Norway), summarised the past term 2021-2022, highlighting the particular social and political background of this term: the Covid-19 pandemic and the full-scale invasion of Ukraine by the Russian Federation in February 2022. He noted that the latter event met with strong opposition from ProGEO, as reflected in an open letter published on the ProGEO website. He expressed hope that the international cooperation carried out by ProGEO and other NGO organisations can contribute to positive change in the world. Among the major achievements, the President mentioned the following issues The organisation of the X ProGEO Symposium in Spain and the IX General Assembly - both for the first time fully online / electronic; the decision of the General Assembly 2021 to change the ProGEO Association from a European to an International Association for the Protection of Geological Heritage; the corresponding amendments to the ProGEO Statutes, which have been submitted to the vote for the current General Assembly 2023; Several meetings, webinars and other events organised or supported by ProGEO in 2021-2022; Participation of ProGEO in the newly established International Geodiversity Day and also in the International Year of Caves and Karst 2021; Activities in cooperation with IUGS (e.g. IUGS Global Geoheritage Sites); IUCN World Conservation Congress 2020, including the adoption of Resolution WCC-2020-Res-074 "Geoheritage and Protected Areas" with 97% in favour; IUCN World Commission on Protected Areas Geoheritage Specialist Group; and Key Geoheritage Sites. The full President's Report is archived by the Executive Secretary.

The Executive Secretary, Ewa Głowniak (Poland), began her address by recalling the names of all the members of the outgoing Executive Committee and the President. These were:

President: Lars Erikstad (Norway); Executive Secretary: Ewa Głowniak (Poland); Treasurer:

Sven Lundqvist (Sweden); Vice-Presidents: Lesley Dunlop (NW Europe Working Group), Ljerka Marjanac (SE Europe WG), Manu Monge Ganuzas (SW Europe WG), Vladimir Silantiev (Eastern Europe WG); Standing members: Anette Petersen (Denmark), Kevin Page (UK), Adil Neziraj (Albania), Joao Rocha (Portugal), Tapio Kananoja – II Secretary (Finland); Substitutive members: Margaret Brocx (Australia), Maria da Gloria García (Brazil) and Terri Cook (US).

She then presented the wide range of ProGEO activities during the reporting period, in the following order:

I. Day-to-day activities of the Executive Committee;

II. ProGEO's interaction with other international organisations and projects;

III. ProGEO's main achievements for 2021-2022 and plans for 2023-2024;

IV. ProGEO's main products for 2021-2022;

V. ProGEO's communication initiatives;

VI. Activities of the ProGEO Regional and National Groups (presented by the East European, SE and SW European Working Groups).

In each of these chapters she summarised the achievements of the ProGEO members and then of the working groups. She highlighted a new initiative in 2021 to create a new ProGEO website. She estimated that work on the new website was quite advanced. A full description of ProGEO's activities takes up four pages and can be found in the archived General Assembly documents (pp. 4-8).

Treasurer Sven Lundqvist (Sweden) summarised the ProGEO membership situation and finances for 2021-2022. Despite the pandemic, the general membership situation is stable. Applications from new members have to some extent offset the reduction in cash payments resulting from the global limits to be met. ProGEO's transformation into an international organisation is reflected in the number of new members from new countries. About 50 countries (out of a total of 65 registered) have fully paid-up members (10 more than in the previous period).

ProGEO's income is largely dependent on membership fees and an annual reimbursement from Springer for external subscriptions to Geoheritage (libraries, institutes).

The expenses of ProGEO mainly include support for the organisation of conferences, journal subscriptions and running costs.

The auditor of ProGEO, Dr. Jonas Satkunas (Lithuania), presented the audit report for the financial period 2021-2022 and confirmed that the financial decisions were in accordance with the objectives of the Association. He recommended that the General Assembly of ProGEO grant discharge to the members of the Executive Committee for the period covered by the accounts.

The General Assembly approved the reports of the President, the Executive Secretary and the Treasurer in an open vote.

2. Amendments of the ProGEO Articles

The Chairman of the Elections Committee, José Brilha (Portugal), presented the result of the online vote. 202 members voted. The General Assembly approved the amendments to the ProGEO Statutes 2023 with 170 votes in favour (84%), 1 vote against (0%) and 31 abstentions (15%).

3. Election of the President and the Executive Committee

The Chair of the Election Committee, José Brilha (Portugal), presented the result of the online voting. Members voted to elect the President, the Executive Secretary and the members of the Executive Committee from the list of candidates proposed by the Election Committee. 201 members (57% of the total of 357 members, including institutional members) voted. The results of the elections were as follows:

- President: Kevin Page, UK

- Executive Secretary: Ewa Głowniak, Poland

Permanent members: Irene Bollati (Italy); Jack Matthews (UK); Ledi Moisiu (Albania); Maria da Glória Motta García (Brazil); Paulo Pereira (Portugal); Sven Lundqvist – Treasurer (Sweden).

Substitute members: Anette Petersen (Denmark), Margaret Brocx (Australia), Terri Cook (US).

The one-off process for electing Vice-Presidents from each region for the 2023 elections will be conducted online after the General Assembly. The successful candidates will be ratified at the ProGEO Council meeting in early 2024.

4. Election of Elected Members to the Council

Fadil Bajraktari (Kosova) was re-elected to the Council as an elected member.

5. The next ProGEO International Symposium on the Conservation of the Geological Heritage

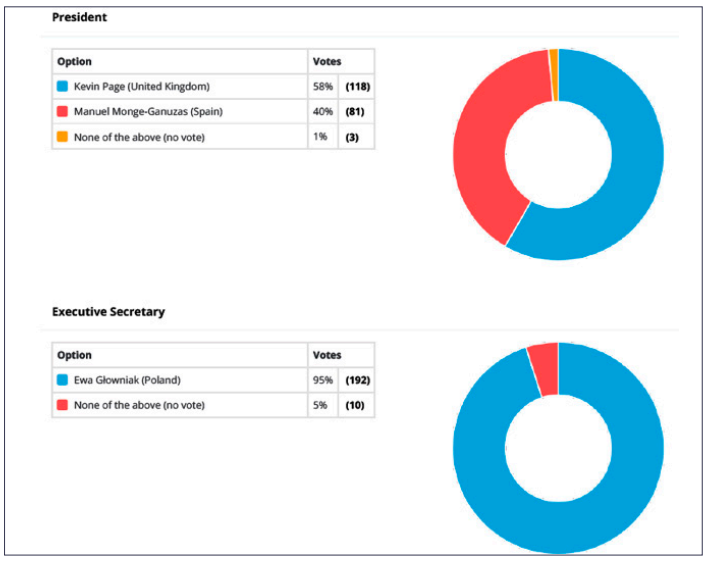
The ProGEO Executive is awaiting applications from countries whose members would like to host the next ProGEO Symposium in 2025 or 2026. An announcement and preliminary criteria will be sent out in 2023/24.

6. Any other business:

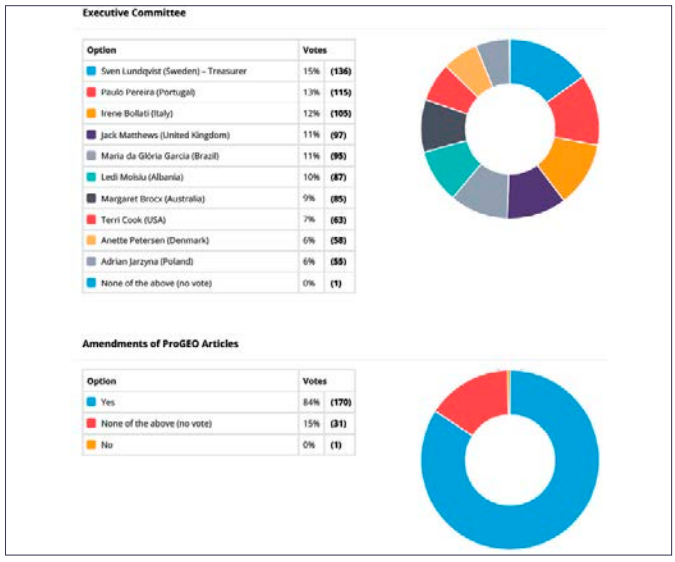
The Executive Secretary thanked the outgoing President and Board members for their many years of good cooperation, time and commitment. She expressed special thanks to the outgoing President Lars Erikstad, one of the founding members of ProGEO, and to Tapio Kananoja, the outgoing 2nd Secretary and a member of the Executive Committee with a comparable membership of almost 30 years in ProGEO.

She then reminded the participants of the General Assembly to elect a Vice President from each region with at least 10 members by 31 December 2023. She announced assistance in obtaining a list of members in the region and email addresses. The approval of the Vice Presidents will take place no later than the February 2024 online meeting of the Council. The Chair of the Elections Committee will also be elected at this time.

The minutes were signed by the President Lars Erikstad and the Executive Secretary Ewa Głowniak.



Results of voting for president and executive secretary



Results of voting on executive committee and amendments of ProGEO Articles

ProGEO President
Kevin Page

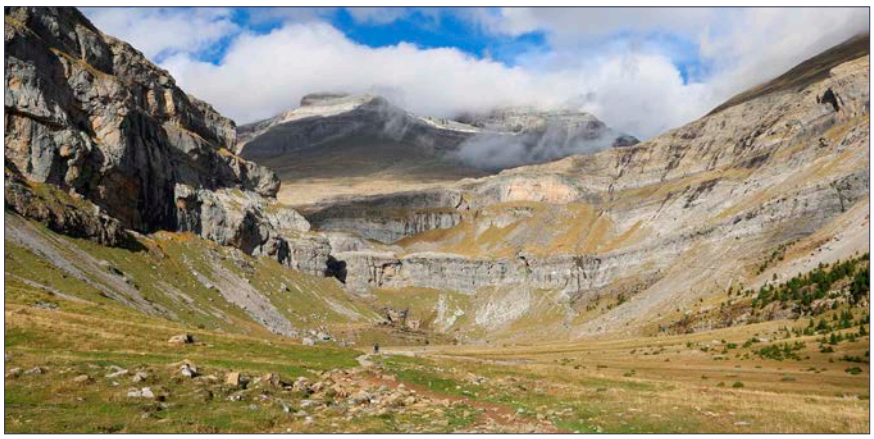
by: **Kevin Page**
[kevinnpage@gmail.com]

2024 is going to be an exciting year for ProGEO as it continues its development as a global NGO – or 'Non-Governmental Organisation' – with participation in a wide range of international meetings and projects, such as the European Geological Union symposium in Vienna, Austria in April (https://www.egu24.eu/) and the International Geological Congress to be held in Busan in Korea in August (https://www.igc2024korea.org/). These are key meetings on an international stage, with the global focus of the IGC and IUGS (International Union of Geological Sciences), enabling us to take the message of the importance of geodiversity and geoheritage to all societies to a truly global stage. Crucially, ProGEO's Executive Committee now also has a global character, with the recent election of Vice-Presidents for the Asia and Pacific, Latin America and Caribbean, North America and Europe regions. Although we currently do not have enough members across Africa to meet the minimum for a VP election, hopefully this will change very soon – but crucially we do have members across the continent to call on!

There are many challenges ahead of course, but one of the most exciting is the development of an awareness of a need for an international recognition of the importance of geological heritage through the establishment of a new international designation, currently under the 'working title' of 'Key Geoheritage Areas'. This new initiative is being developed under the auspices of the International Union for the Conservation of Nature (IUCN) and being led by four of its geoscientific members, ProGEO, the Geoheritage Commission of the Spanish Geological Society (SGE-CPG: https://sociedadgeologica.org/comisiones-sge/comision-de-patrimonio-geologico/), the Spanish Society for the Defence of Mining and Geological Heritage (SEDPGYM: https://www.sedpgym.es/), together with the IUCN's own Geoheritage Specialist Group (GSG: https://www.iucn.org/our-union/commissions/group/iucn-wcpa-geoheritage-specialist-group)- part of the World Commission for Protected Areas (WCPA). This conservation-focus makes the proposed designation quite different from UNESCO's World Heritage and Global Geoparks and IUGS's Geological Heritage Sites, which celebrate, respectively, the most exceptional places within our natural and cultural world, regions where a sustainable economic development strategy has been based on a rich geological heritage and globally iconic geoheritage sites. Towards this goal, ProGEO looks forward to working closely with UNESCO, the GGN (Global Geoparks Network) and IUGS's International Commission on Geoheritage to fully develop and share our visions for the future of our planet's geological heritage.


Global Stratotype Section and Point for the base of the Sinemurian Stage of the Jurassic System at East Quantoxhead, Somerset, England

To promote this new designation, ProGEO is collaborating with other geological-focussed member organisations within IUCN with the aim of formally establishing KGAs as an IUCN programme at the next World Conservation Congress (WCC2025) to be held in Abu Dhabi in 2025. Considerable preparatory work is still needed, however, to develop a framework within which the initiative can be developed, as well as to promote the proposals within IUCN at other key meetings to help before the WCC2025. To support this work, ProGEO and its partners are now actively looking for sponsors to help realise a vision which has been with the organisation since it was first established in 1993 . . .


The highest area of limestone karst in Europe around Monte Perdido, Pyrenees, Huesca, Aragón, Spain

Next ProGEO Symposium

Announcement

Dear Representatives and Members of ProGEO National groups

The ProGEO Executive welcomes applications from countries whose members would like to host the next ProGEO Symposium.

Entries should meet the following criteria:

1. Conference year: 2025 (or first half of 2026),
2. Dates that do not conflict with the dates of major international conferences announced on the IUGS website and with the dates of examination sessions at universities,
3. Suggest a venue and outline a programme for the conference and related excursions,
4. Plenary sessions and, if possible, separate the location of the poster sessions from that of the coffee breaks,
5. Reserving a time and place for the General Assembly,
6. Conference proceedings with ISBN or eISBN number,
7. Suggestions to reduce the cost of fees, accommodation and conference trips,
8. Group travel arrangements (charter flights) for southern hemisphere candidate countries are welcome.

Application deadline:
14th April 2024
Contact person:
Ewa Głowniak
ewa.glowniak.geo@gmail.com

Next issue of ProGEO NEWS (deadline)

March 12th, 2024

Please send contributions to ProGEO NEWS. Members are interested in things that happen all over the world, your experiences, activities, science, geosites, geoconservation and geotourism efforts!

march 12

ProGEO NEWS are available in the ProGEO site (under publications) www.progeo.ngo

ProGEO NEWS issued 4 times a year with information about ProGEO and its activities.

Editor: João Rocha • joaorocha@uc.pt • ISSN 2184-8300

Please send your contributions (unformatted word file 500 – 2000 words). Photographs, maps and figures should be sent as separated files (preferentially not included in the word file).

If longer texts are needed, please contact the editor.

ProGEO: international association for the conservation of geological heritage.

President: Kevin PAge • Executive Secretary: Ewa Głowniak • Treasurer: Sven Lundqvist.

Membership subscription: € 50 (including GEOHERITAGE journal), 25/yr.(without GEOHERITAGE journal). Institutional subscription: €185/yr.

ProGEO is affiliated with the IUGS and is a IUCN member

ProGEO NEWS produced with support from the Norwegian Environment Agency